

Low voltage

Acti 9

the efficiency you deserve

Catalogue
03/2014



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iID, iC60, Vigi iC60, Reflex iC60, switches

A9 R 15 2 63

| Range | Family | Code | Internal code | Poles | Code | Rating (A) | Code |
|-------------|-----------------------------|------|---------------|-----------|-----------|------------|-----------|
| Acti 9 (A9) | iID | R | | 0 | 0 | 0 | 00 |
| | Vigi iC60 | V | | 1P | 1 | 0.5 | 70 |
| | iC60 | F | | 2P | 2 | 0.75 | 71 |
| | iK60 | K | | 3P | 3 | 1 | 01 |
| | Auxiliaries and accessories | A | | 4P | 4 | 1.6 | 72 |
| | Switches | S | | 1N | 5 | 2 | 02 |
| | Reflex iC60 | C | | 1P+N | 6 | 2.5 | 73 |
| | | | 3P+N | 7 | 3 | 03 | |
| | | | | | 4 | | 04 |
| | | | | | 6 | | 06 |
| | | | | | 6.3 | | 76 |
| | | | | | 8 | | 08 |
| | | | | | 10 | | 10 |
| | | | | | 12.5 | | 82 |
| | | | | | 13 | | 13 |
| | | | | | 16 | | 16 |
| | | | | | 20 | | 20 |
| | | | | | 25 | | 25 |
| | | | | | 32 | | 32 |
| | | | | | 40 | | 40 |
| | | | | | 50 | | 50 |
| | | | | | 63 | | 63 |
| | | | | | 80 | | 80 |
| | | | | | 100 | | 91 |
| | | | | | 125 | | 92 |

Comb busbar and comb busbar accessories

A9 X P H 4 12

| Range | Family | Code | Type | Type of installation | Number of poles | Dimensioning | | |
|-------------|-------------|------|--------------------|----------------------|------------------|--|---|------------------------------|
| Acti 9 (A9) | Comb busbar | X | Comb busbar | | 1P | Comb busbar Number of 18 mm modules (approximately) Accessories Number of pieces per cat. no. | | |
| | | | Fork teeth | F | Horizontal | | H | 2P |
| | | | Pin teeth | P | | | | 3P |
| | | | Auxiliarisable | A | | | | 4P |
| | | | Accessories | | | | | 4P balanced, with neutral |
| | | | End-piece | E | Double terminals | | D | 3P balanced for single-poles |
| | | | Tooth cover | T | Single terminal | | M | |
| | | | Connector | C | | | | |
| | | | | | | | | |
| | | | | | | | | |



Protection of electrical connections against short circuits and overloads



Protection of loads against overloads



Protection of control devices



Protection for people against indirect contacts in IT and TN earthing systems

- Circuit breakers can:
 - break a faulty electrical circuit (short-circuit, overload, insulation fault), to prevent fires,
 - protect control devices,
 - increase the service life of the installation, thanks to its ability to limit the short-circuit current (see module CA908025),
 - in IT and TN systems, they ensure personal protection against electrocution in the event of indirect contacts.
- The choice of circuit breakers must be optimised to provide absolute protection while ensuring continuity of service.
- Although circuit breakers are sometimes used as control units, it is recommended to install separate control devices which are more suitable for frequent switching operations (switch, contactor, impulse relay).

Choice of protective circuit breakers

This depends on several criteria:

- prospective short-circuit current
- max. voltage rating
- planned amperage for the circuit to be protected
- nature and cross section of cables
- ambient temperature (possible derating)
- the network and neutral system, which determine the number of poles of the protective circuit breaker installed on their power supply circuit and the tripping curve
- coordination with the other electrical devices (protection, discrimination, cascading).

Choice of breaking capacity

- The breaking capacity must be greater than or equal to the prospective short-circuit current (Isc) upstream of the circuit-breaker (Isc depends on the length, type of conductor and cross section of the cable and the power of the source).
- However, in the event of use in combination with an upstream circuit-breaker limiting the current, this breaking capacity can possibly be reduced (cascading, see module 557E4200).

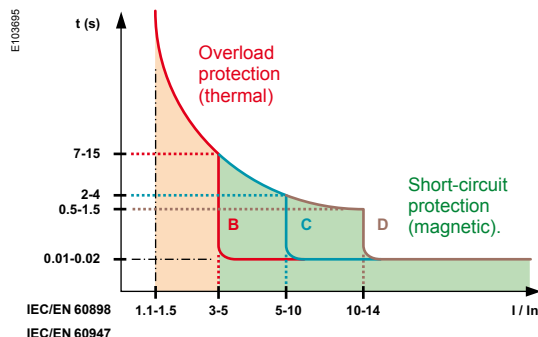
Choice of rating

- The rating (In) is chosen above all to protect the electrical connections:
 - for cables: it is chosen according to the cross section and type of conductor,
 - for Canalis prefabricated busbar trunking: it must be simply less than or equal to the rating of the busbar trunking.
- The rating should be greater than the nominal current of the loads.

Choice of tripping curve

The tripping curve makes the protection more or less sensitive to:

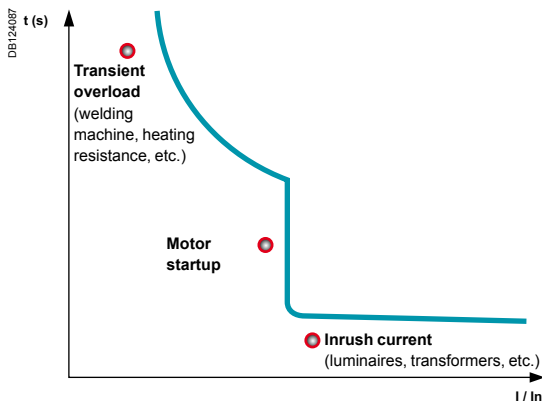
- the inrush current at power up
- the overload current.



Tripping thresholds ($\times I_n$)

| Curves | IEC /EN 60898 | IEC/EN 60947-2 |
|--------|-------------------------------|----------------|
| B | Between 3 I_n and 5 I_n | 4 $\pm 20\%$ |
| C | Between 5 I_n and 10 I_n | 8 $\pm 20\%$ |
| D or K | Between 10 I_n and 14 I_n | 12 $\pm 20\%$ |
| MA | - | 12 $\pm 20\%$ |
| Z | - | 3 $\pm 20\%$ |

- To prevent nuisance tripping, it may be advisable to choose a less sensitive curve, e.g. change from B to C (tripping curves, see module CA908024).



Continuity of service

- Nuisance tripping can be generated by:
 - the inrush current at circuit closure,
 - the overload current, and sometimes the harmonic current flowing through the neutral of three-phase circuits ⁽¹⁾,
 - motor startup currents.

Solutions

- **Choose a circuit breaker with a less sensitive curve:** change from B curve to C curve or from C curve to D curve ⁽²⁾.
- **Reduce the number of loads per circuit.**
- **Energize the circuits in succession,** using time delay auxiliaries on the control devices.
- **Under no circumstances may the circuit breaker rating be increased beyond the maximum constraints permitted by the cable as the electrical connections will no longer be protected.**
- **Ensure discrimination of the protective devices** (see modules **557E4300**).

Discrimination is the coordination of automatic breaking devices in such a way that a fault occurring at any point on the network is eliminated by the circuit breaker located immediately upstream of the fault, and by it alone.

Total discrimination

For all values of the fault, from overload to non-resistive short circuit, distribution is fully discriminating if D2 opens and if D1 remains closed.

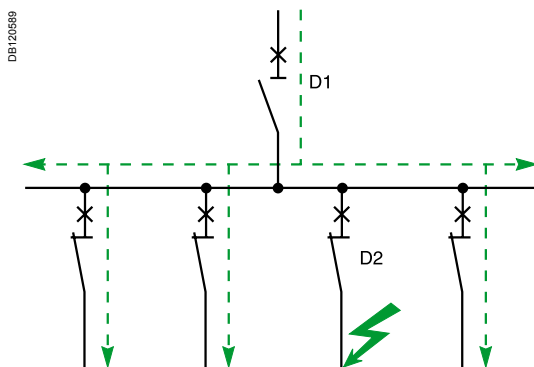
Partial discrimination

Discrimination is partial if the above condition is not complied with up to full short-circuit current, but only up to a lower value. This value is called the discrimination limit.

In the event of a fault exceeding this value, circuit breakers D1 and D2 open.

(1) In the case of three-phase circuits, third-order harmonic currents and harmonic currents that are multiples of three are generated by loads (discharge lamps with electronic ballast, etc.). The neutral cable must be sized to prevent it from overheating. The current flowing through the neutral conductor may become greater than the current of each phase and cause nuisance tripping.

(2) In the case of installations with very long cables in a TN or IT system, it may be necessary to add an earth leakage protection device to protect human life..



Circuit disconnection

Disconnection


The purpose of disconnection is to separate and isolate a circuit or a device from the rest of the electrical installation in order to ensure the safety of personnel having to work on the electrical installation for maintenance or repair.


- The circuit breaking must be omnipolar, i.e. the live conductors, including neutral ⁽³⁾, must be cut off (depending on country regulations).
- It must be lockable or padlockable in "open" position in order to prevent any unintentional reclosing, at least in industrial environments.
- It must be in compliance with a standard ensuring its suitability for isolation.

(3) With the exception of the PEN conductor which should never be cut off.

Selection guide



Circuit breakers

| | | | |
|---|---|-----------------------------|-----------------------------|
| Type | i DPN | | |
| |  | | |
| Standard | IEC/EN 60898-1 | | |
| Quality label | Country approval pictogram | | |
| Number of poles | 1P+N, 3P+N | | |
| Add-on residual current devices (Vigi) | ■ | | |
| Auxiliaries for remote tripping and indication | ■ | | |
| Electrical characteristics | | | |
| Curves | B, C | | |
| Ratings (A) | In | 1 to 40 | |
| Maximum operational voltage (V) | Ue | AC (50/60 Hz) | 230/400 |
| | max | DC | – |
| Minimum operational voltage (V) | Ue | AC (50/60 Hz) | – |
| | min | DC | – |
| Insulation voltage (V AC) | Ui | 440 | |
| Rated impulse withstand voltage (kV) | Uimp | 4 | |
| Limitation class 40 A (EN 60898) | 3 | | |
| Breaking capacity | | | |
| IEC/EN 60898 (A) | Icn | 240/415 V - 230/400 V | 4500 |
| AC-Breaking capacity | | Ue (50/60 Hz) | 1P+N, 3P+N |
| Ratings (A) | In | 1 to 40 | |
| IEC 60947-2 (kA) | Icu | 12...60 V | – |
| | | 12...133 V | – |
| | | 100...133 V | – |
| | | 220...240 V | 6 |
| | | 380...415 V | – |
| | | 440 V | – |
| | Ics | 75 % of Icu | |
| DC-Breaking capacity | | Ue | DC |
| IEC 60947-2 (kA) | Icu | 12...60 V (1P) | – |
| | | ≤ 72 V (1P) | – |
| | | ≤ 125 V (2P) | – |
| | | ≤ 180 V (3P) | – |
| | | ≤ 250 V (4P) | – |
| | | | Ics |
| Other characteristics | | | |
| Suitable for industrial isolation according to IEC/EN 60947-2 | – | | |
| Reference temperature IEC/EN 60947-2 | – | | |
| Fault tripping indication | – | | |
| Positive contact indication | ■ | | |
| Fast closing | ■ | | |
| Degree of protection | IP | Device only | IP20 |
| | | Device in modular enclosure | IP40 Insulation class II |
| For more detail, see module | | | |
| Accessories | LIN001 and CA907010 | | |
| Auxiliaries | CA907008 and CA907010 | | |
| Add-on residual current devices (Vigi) | CA902013 | | |

| iDPN N | |
|---|-------------|
|  | |
| IEC/EN 60898-1 | |
| Country approval pictogram | |
| 1P+N, 3P, 3P+N | |
| ■ | |
| ■ | |
| B, C, D | |
| 1 to 40 | |
| AC (50/60 Hz) | 230/400 |
| DC | – |
| AC (50/60 Hz) | – |
| DC | – |
| 440 | |
| 4 | |
| 3 | |
| 240/415 V - 230/400 V | |
| 6000 | |
| 1P+N | |
| 3P, 3P+N | |
| 1 to 40 | |
| 12...60 V | – |
| 12...133 V | – |
| 100...133 V | – |
| 220...240 V | 10 |
| 380...415 V | 15 |
| 440 V | 10 |
| – | – |
| 75 % of Icu | 75 % of Icu |
| 12...60 V (1P) | – |
| ≤ 72 V (1P) | – |
| ≤ 125 V (2P) | – |
| ≤ 180 V (3P) | – |
| ≤ 250 V (4P) | – |
| – | |
| – | |
| – | |
| ■ | |
| ■ | |
| IP20 | |
| IP40 | |
| Insulation class II | |
| CA901012 | |
| LIN001 and CA907010 | |
| CA907008 and CA907010 | |
| CA902013 | |

Selection guide

Circuit breakers



| Type | | iK60N | | iC60N | | | |
|---|--|---|--|--|--|---|--|
| | |  | |  | | | |
| Standard | | IEC/EN 60898-1 | | IEC/EN 60947-2, 60898-1 | | | |
| Quality label | | Country approval pictogram | | Country approval pictogram | | | |
| Number of poles | | 1P, 1P+N 2, 3, 4P | | 1P, 1P+N | | 2, 3, 4P | |
| Add-on residual current devices (Vigi) | | - | | ■ | | | |
| Auxiliaries for remote tripping and indication | | - | | ■ | | | |
| Electrical characteristics | | | | | | | |
| Curves | | B, C | | B, C, D | | | |
| Ratings (A) | | In 1 to 63 | | 0.5 to 63 (1 to 63 in DC) | | | |
| Maximum operational voltage (V) | | Ue AC (50/60 Hz) 230/400 DC - | | 240/415, 440 250 | | | |
| Minimum operational voltage (V) | | Ue AC (50/60 Hz) - DC - | | 12 12 | | | |
| Insulation voltage (V AC) | | Ui 400 | | 500 | | | |
| Rated impulse withstand voltage (kV) | | Uimp 4 | | 6 | | | |
| Limitation class 40 A (EN 60898) | | 3 | | 3 | | | |
| Breaking capacity | | | | | | | |
| IEC/EN 60898 (A) | | Icn 240/415 V - 230/400 V | | 6000 | | 6000 | |
| AC-Breaking capacity | | Ue (50/60 Hz) | | 1P, 1P+N | | 2, 3, 4P | |
| Ratings (A) | | In | | 1 to 63 | | 0.5 to 4 A 6 to 63 A | |
| IEC 60947-2 (kA) | | Icu | | - | | 50 36 50 20 50 10 50 10 | |
| | | 12...60 V | | - | | - | |
| | | 12...133 V | | - | | - | |
| | | 100...133 V | | - | | - | |
| | | 220...240 V | | - | | - | |
| | | 380...415 V | | - | | - | |
| | | 440 V | | - | | - | |
| | | Ics | | - | | 100 % of Icu 75 % of Icu 100 % of Icu 75 % of Icu | |
| DC-Breaking capacity | | Ue DC | | - | | - | |
| IEC 60947-2 (kA) | | Icu | | - | | 15 10 10 10 10 | |
| | | 12...60 V (1P) | | - | | - | |
| | | ≤ 72 V (1P) | | - | | - | |
| | | ≤ 125 V (2P) | | - | | - | |
| | | ≤ 180 V (3P) | | - | | - | |
| | | ≤ 250 V (4P) | | - | | - | |
| | | Ics | | - | | 100 % of Icu | |
| Other characteristics | | | | | | | |
| Suitable for industrial isolation according to IEC/EN 60947-2 | | - | | ■ | | | |
| Reference temperature IEC/EN 60947-2 | | - | | 50°C | | | |
| Fault tripping indication | | - | | Visi-trip window | | | |
| Positive contact indication | | - | | ■ | | | |
| Fast closing | | - | | ■ | | | |
| Degree of protection | | IP Device only Device in modular enclosure | | IP20 IP40 Insulation class II | | IP20 IP40 Insulation class II | |
| For more detail, see module | | - | | CA901006 and CA901007 | | CA901002 | |
| Accessories | | - | | CA907000 and CA907001 | | | |
| Auxiliaries | | - | | CA907000 and CA907002 | | | |
| Add-on residual current devices (Vigi) | | - | | CA902005 | | | |

| iC60H | | iC60L | | | | | | | | | | | |
|---|-----------------------|---|-----------------------|-----------------|--------------|----------------------------|-------------|-------------|-------------|-------------|----------------------------|-------------|-------------|
|  | |  | | | | | | | | | | | |
| IEC/EN 60947-2, 60898-1 | | IEC/EN 60947-2, 60898-1 | | | | | | | | | | | |
| Country approval pictogram | | Country approval pictogram | | | | | | | | | | | |
| 1P, 1P+N | 2, 3, 4P | 1P | 2, 3, 4P | | | | | | | | | | |
| ■ | ■ | ■ | ■ | | | | | | | | | | |
| B, C, D | B, C, K, Z | | | | | | | | | | | | |
| 0.5 to 63 (1 to 63 in DC) | | 0.5 to 63 (1 to 63 in DC) | | | | | | | | | | | |
| AC (50/60 Hz) | 240/415, 440 | 240/415, 440 | | | | | | | | | | | |
| DC | 250 | 250 | | | | | | | | | | | |
| AC (50/60 Hz) | 12 | 12 | | | | | | | | | | | |
| DC | 12 | 12 | | | | | | | | | | | |
| 500 | | 500 | | | | | | | | | | | |
| 6 | | 6 | | | | | | | | | | | |
| 3 | | 3 | | | | | | | | | | | |
| 240/415 V - 230/400 V | 10000 | 10000 | 15000 | 15000 | | | | | | | | | |
| | 1P, 1P+N | 2, 3, 4P | 1P | 2, 3, 4P | | | | | | | | | |
| | 0.5 to 4 A | 6 to 63 A | 0.5 to 4 A | 6 to 25 A | 32/40 A | 50/63 A | 0.5 to 4 A | 6 to 25 A | 32/40 A | 50/63 A | | | |
| 12...60 V | 70 | 42 | - | - | 100 | 70 | 70 | 70 | - | - | - | - | |
| 12...133 V | - | - | 70 | 42 | - | - | - | - | 100 | 70 | 70 | 70 | |
| 100...133 V | 70 | 30 | - | - | 100 | 50 | 36 | 30 | - | - | - | - | |
| 220...240 V | 70 | 15 | 70 | 30 | 100 | 25 | 20 | 15 | 100 | 50 | 36 | 30 | |
| 380...415 V | - | - | 70 | 15 | - | - | - | - | 100 | 25 | 20 | 15 | |
| 440 V | - | - | 50 | 10 | - | - | - | - | 70 | 20 | 15 | 10 | |
| | 100 % of Icu | 50 % of Icu | 100 % of Icu | 50 % of Icu | 100 % of Icu | 50 % of Icu ⁽¹⁾ | 50 % of Icu | 50 % of Icu | 50 % of Icu | 50 % of Icu | 50 % of Icu ⁽¹⁾ | 50 % of Icu | 50 % of Icu |
| 12...60 V (1P) | 20 | | 25 | | | | | | | | | | |
| ≤ 72 V (1P) | 15 | | 20 | | | | | | | | | | |
| ≤ 125 V (2P) | 15 | | 20 | | | | | | | | | | |
| ≤ 180 V (3P) | 15 | | 20 | | | | | | | | | | |
| ≤ 250 V (4P) | 15 | | 20 | | | | | | | | | | |
| | 100 % of Icu | | 100 % of Icu | | | | | | | | | | |
| ■ | 50°C | | 50°C | | | | | | | | | | |
| ■ | Visi-trip window | | Visi-trip window | | | | | | | | | | |
| ■ | IP20 | | IP20 | | | | | | | | | | |
| ■ | IP40 | | IP40 | | | | | | | | | | |
| ■ | Insulation class II | | Insulation class II | | | | | | | | | | |
| ■ | CA901003 | | CA901004 | | | | | | | | | | |
| ■ | CA907000 and CA907001 | | CA907000 and CA907001 | | | | | | | | | | |
| ■ | CA907000 and CA907002 | | CA907000 and CA907002 | | | | | | | | | | |
| ■ | CA902005 | | CA902005 | | | | | | | | | | |

(1) 100 % of Icu for ratings 6 to 25 A under Ue 100 to 133 V AC Ph/Ph and Ue 12 to 60 V AC Ph/N.

Selection guide (cont.)

Circuit breakers


| Type | | C120N | C120H | | | |
|---|-------------|---|---|------------------------------|--------------------------|-----------------|
| | |  |  | | | |
| Standard | | IEC/EN 60898-1 | | IEC/EN 60898-1 | | |
| Quality label | | Country approval pictogram | | Country approval pictogram | | |
| Number of poles | | 1P | 2, 3, 4P | 1P | 2, 3, 4P | |
| Add-on residual current devices (Vigi) | | ■ | | ■ | | |
| Auxiliaries for remote tripping and indication | | ■ | | ■ | | |
| Electrical characteristics | | | | | | |
| Curves | | B, C, D | | B, C, D | | |
| Ratings (A) | In | 63 to 125 | | 63 to 125 | | |
| Maximum operational voltage (V) | Ue max | AC (50/60 Hz) | 240/415, 440 | | | |
| | | DC | 125 per pole | | | |
| Minimum operational voltage (V) | Ue min | AC (50/60 Hz) | 12 | | | |
| | | DC | 12 | | | |
| Insulation voltage (V AC) | | Ui | | 500 | | |
| Rated impulse withstand voltage (kV) | | Uimp | | 6 | | |
| Breaking capacity | | | | | | |
| IEC/EN 60898 (A) | Icn | 230/400 V | 10000 | 10000 | 15000 | 15000 |
| AC-Breaking capacity | Ue | (50/60 Hz) | 1P | 2, 3, 4P | 1P | 2, 3, 4P |
| Ratings (A) | In | 63 to 125 | | 63 to 125 | | |
| IEC 60947-2 (kA) | Icu | 110...130 V | – | – | – | – |
| | | 12...130 V | 20 | – | 30 | – |
| | | 220...240 V | 10 | 20 | 15 | 30 |
| | | 380...415 V | 3⁽¹⁾ | 10 | 4.5⁽¹⁾ | 15 |
| | | 440 V | – | 6 | – | 10 |
| | | 500 V | – | – | – | – |
| Ics | 75 % of Icu | | 50 % of Icu | | | |
| DC-Breaking capacity | | | | | | |
| IEC 60947-2 (kA) | Icu | 12...125 V (1P) | 15 | 20 | | |
| | | ≤ 144 V (1P) | 10 | 15 | | |
| | | ≤ 250 V (2P) | 10 | 15 | | |
| | | ≤ 375 V (3P) | 10 | 15 | | |
| | | ≤ 500 V (4P) | 10 | 15 | | |
| | | Ics | 100 % of Icu | | 100 % of Icu | |
| Other characteristics | | | | | | |
| Suitable for industrial isolation according to IEC/EN 60947-2 | | ■ | | ■ | | |
| Reference temperature IEC/EN 60947-2 | | 50°C | | 50°C | | |
| Fault tripping indication | | – | | – | | |
| Positive contact indication | | ■ | | ■ | | |
| Fast closing | | ■ | | ■ | | |
| Degree of protection | IP | Device only | IP20 | | | |
| | | Device in modular enclosure | IP40 | | | |
| For more detail, see module | | CA901015 | | CA901016 | | |
| Accessories | | CA907012 and CA907013 | | CA907012 and CA907013 | | |
| Auxiliaries | | CA907008 and CA907013 | | CA907008 and CA907013 | | |
| Earth leakage module (Vigi) | | CA902016 | | CA902016 | | |

(1) Breaking capacity under 1 pole with IT isolated neutral system (case of double fault).

| | NG125a | NG125N | NG125H | NG125L |
|----------------------------|---|---|---|---|
| |  |  |  |  |
| | IEC/EN 60947-2 | IEC/EN 60947-2 | IEC/EN 60947-2 | IEC/EN 60947-2 |
| | Country approval pictogram | Country approval pictogram | Country approval pictogram | Country approval pictogram |
| | 3, 4P | 1P 2, 3P, 3P+N, 4P | 1P 2, 3, 4P | 1P 2, 3, 4P |
| | ■ | ■ | ■ | ■ |
| | ■ | ■ | ■ | ■ |
| | C | B, C, D | C | B, C, D |
| | 80 to 125 | 10 to 125 | 10 to 80 | 10 to 80 |
| AC (50/60 Hz) | 240/415, 500 | 240/415, 500 | 240/415, 500 | 240/415, 500 |
| DC | 125 per pole | 125 per pole | 125 per pole | 125 per pole |
| AC (50/60 Hz) | 12 | 12 | 12 | 12 |
| DC | 12 | 12 | 12 | 12 |
| | 690 | 690 | 690 | 690 |
| | 8 | 8 | 8 | 8 |
| 230/400 V | – | – | – | – |
| | 3, 4P | 1P 2, 3P, 3P+N, 4P | 1P 2, 3, 4P | 1P 2, 3, 4P |
| | 80 to 125 | 10 to 125 | 10 to 80 | 10 to 80 |
| 110...130 V | – | 50 | 70 | 100 |
| 12...130 V | – | – | – | – |
| 220...240 V | – | 25 | 36 | 50 |
| 380...415 V | 16 | 6⁽¹⁾ | 9⁽¹⁾ | 12.5⁽¹⁾ |
| 440 V | – | – | – | – |
| 500 V | 8 | – | – | – |
| | 75 % of Icu | 75 % of Icu | 75 % of Icu | 75 % of Icu |
| 12...125 V (1P) | – | 25 | 36 | 50 |
| ≤ 144 V (1P) | – | 20 | 25 | 36 |
| ≤ 250 V (2P) | – | 20 | 25 | 36 |
| ≤ 375 V (3P) | 20 | 20 | 25 | 36 |
| ≤ 500 V (4P) | 20 | 20 | 25 | 36 |
| | 100 % of Icu | 100 % of Icu | 100 % of Icu | 100 % of Icu |
| | ■ | ■ | ■ | ■ |
| 40°C | ■ | ■ | ■ | ■ |
| ■ Toggle position | ■ | ■ | ■ | ■ |
| ■ Red mechanical indicator | ■ | ■ | ■ | ■ |
| | ■ | ■ | ■ | ■ |
| | ■ | ■ | ■ | ■ |
| | IP20 | IP20 | IP20 | IP20 |
| | IP40 | IP40 | IP40 | IP40 |
| | CM901027 | CM901028 | CM901029 | CM901030 |
| | CM907004 and CM907006 | CM907004 and CM907006 | CM907004 and CM907006 | CM907004 and CM907006 |
| | CM907004 and CM907005 | CM907004 and CM907005 | CM907004 and CM907005 | CM907004 and CM907005 |
| | CM902008 | CM902008 | CM902008 | CM902008 |

(1) Breaking capacity under 1 pole with IT isolated neutral system (case of double fault).


Selection guide (cont.)

| Circuit breakers | | | | |
|---|---|-----------------------------|-----------------------------|----|
| Type | iC60a | | | |
| |  | | | |
| Standard | IEC/EN 60947-2, 60898-1 | | | |
| Quality label | Country approval pictogram | | | |
| Number of poles | 1P | 2, 3, 4P | | |
| Add-on residual current devices (Vigi) | ■ | | | |
| Auxiliaries for remote tripping and indication | ■ | | | |
| Electrical characteristics | | | | |
| Curves | C | | | |
| Ratings (A) | In | 1 to 63 | | |
| Maximum operational voltage (V) | Ue | AC (50/60 Hz) | 240/415 | |
| | max | DC | – | |
| Minimum operational voltage (V) | Ue | AC (50/60 Hz) | – | |
| | min | DC | – | |
| Insulation voltage (V AC) | Ui | 500 | | |
| Rated impulse withstand voltage (kV) | Uimp | 6 | | |
| Limitation class 40 A (EN 60898) | 3 | | | |
| Breaking capacity | | | | |
| IEC/EN 60898 (A) | Icn | 240/415 V - 230/400 V | 4500 | |
| AC-Breaking capacity | Ue | (50/60 Hz) | 1P | |
| Ratings (A) | In | 1 to 63 | | |
| IEC 60947-2 (kA) | Icu | 12...60 V | – | |
| | | 12...133 V | – | |
| | | 100...133 V | – | |
| | | 220...240 V | 6 | 10 |
| | | 380...415 V | – | 6 |
| | | 440 V | – | – |
| | Ics | 100 % of Icu | | |
| DC-Breaking capacity | Ue | DC | | |
| IEC 60947-2 (kA) | Icu | 12...48 V (1P) | – | |
| | | ≤ 72 V (1P) | – | |
| | | ≤ 125 V (2P) | – | |
| | | ≤ 180 V (3P) | – | |
| | | ≤ 250 V (4P) | – | |
| | | | Ics | – |
| Other characteristics | | | | |
| Suitable for industrial isolation according to IEC/EN 60947-2 | ■ | | | |
| Reference temperature IEC/EN 60947-2 | 50°C | | | |
| Fault tripping indication | Visi-trip window | | | |
| Positive contact indication | ■ | | | |
| Fast closing | ■ | | | |
| Degree of protection | IP | Device only | IP20 | |
| | | Device in modular enclosure | IP40 Insulation class II | |
| For more detail, see module | | | | |
| Accessories | CA907000 and CA907001 | | | |
| Auxiliaries | CA907000 and CA907002 | | | |
| Add-on residual current devices (Vigi) | CA902005 | | | |

Selection guide (cont.)

| Instantaneous circuit breakers (ICB) | | | |
|---|---|-----------------------------|---|
| Type | iC60LMA | | NG125LMA |
| |  | |  |
| Standard | IEC/EN 60947-2 | | IEC/EN 60947-2 |
| Quality label | Country approval pictogram | | Country approval pictogram |
| Number of poles | 2, 3P | | 2, 3P |
| Add-on residual current devices (Vigi) | ■ | | ■ |
| Auxiliaries for remote tripping and indication | ■ | | ■ |
| Electrical characteristics | | | |
| Curves | MA (li = 12 In ± 20 %) | | MA (li = 12 In ± 20 %) |
| Ratings (A) | In | 1.6 to 40 | 4 to 80 |
| Maximum operational voltage (V) | Ue | AC (50/60 Hz) | 440 |
| | max | DC | — |
| Minimum operational voltage (V) | Ue | AC (50/60 Hz) | 12 |
| | min | DC | — |
| Insulation voltage (V AC) | Ui | 500 | 690 |
| Rated impulse withstand voltage (kV) | Uimp | 6 | 8 |
| Breaking capacity | | | |
| IEC/EN 60898 (A) | Icn 230/400 V | — | — |
| AC-Breaking capacity | Ue (50/60 Hz) | 2, 3P | 2, 3P |
| Ratings (A) | In | 1.6 to 16 A | 25 to 40 A |
| IEC 60947-2 (kA) | Icu | 12...60 V | — |
| | | 12...133 V | — |
| | | 100...133 V | — |
| | | 110...130 V | — |
| | | 130 V | — |
| | | 220...240 V | 40 |
| | | 230/400 V | — |
| | | 380...415 V | 20 |
| | | 400/415 V | — |
| | | 440 V | 15 |
| | | 500 V | — |
| | Ics | 50 % of Icu | 75 % of Icu |
| Other characteristics | | | |
| Suitable for industrial isolation according to IEC/EN 60947-2 | ■ | | ■ |
| Reference temperature IEC/EN 60947-2 | 50°C | | 40°C |
| Fault tripping indication | Visi-trip window | | ■ Toggle position ■ Red mechanical indicator |
| Positive contact indication | ■ | | ■ |
| Fast closing | ■ | | ■ |
| Degree of protection | IP | Device only | IP20 |
| | | Device in modular enclosure | IP40 |
| For more detail, see module | | CA901005 | CM901031 |
| Accessories | CA907000 and CA907001 | | CM907004 and CM907006 |
| Auxiliaries | CA907000 and CA907002 | | CM907004 and CM907005 |
| Add-on residual current devices (Vigi) | CA902005 | | CM902008 |

Selection guide (cont.)

| P25M circuit breakers | | | | | | | | | | | |
|---|-----------------|---|-------------|--------------|----|-------------|-------------|----|-------------|--------------|----|
| Type | | P25M | | | | | | | | | |
| | |  | | | | | | | | | |
| Standard | | IEC 60947-2 and IEC 60947-4-1 | | | | | | | | | |
| Quality label | | CEBEC, DEMCO, NEMKO, SEMKO, FI | | | | | | | | | |
| Number of poles | | 3P | | | | | | | | | |
| Add-on residual current devices (Vigi) | | - | | | | | | | | | |
| Auxiliaries for remote tripping and indication | | ■ | | | | | | | | | |
| Electrical characteristics | | | | | | | | | | | |
| Magnetic tripping | | 12 In ($\pm 20\%$) | | | | | | | | | |
| Ratings (A) | | In 0.16 to 25 (63 A with limiter block) | | | | | | | | | |
| Maximum operational voltage (V) | Ue max | AC (50/60 Hz) | 690 | | | | | | | | |
| | | DC | - | | | | | | | | |
| Minimum operational voltage (V) | Ue min | AC (50/60 Hz) | 230 | | | | | | | | |
| | | DC | - | | | | | | | | |
| Insulation voltage (V AC) | | Ui 690 | | | | | | | | | |
| Rated impulse withstand voltage (kV) | | Uimp 6 | | | | | | | | | |
| Breaking capacity | | | | | | | | | | | |
| AC-Breaking capacity | | Ue (50/60 Hz) | 3P | | | | | | | | |
| Ratings (A) | In | | 0.16 to 1.6 | 2.5 | 4 | 6.3 | 10 | 14 | 18 | 23 | 25 |
| IEC 60947-2 (kA) | Icu 230...240 V | | Unlimited | | | | | | | 50 | 50 |
| | Ics | | - | | | | | | | 100 % of Icu | |
| Icu 400...415 V | Icu | | Unlimited | | | | 15 | 15 | 15 | 15 | |
| | Ics | | - | | | | 50 % of Icu | | 40 % of Icu | | |
| Icu 440 V | Icu | | Unlimited | 50 | 15 | 8 | 8 | 6 | 6 | | |
| | Ics | | - | 100 % of Icu | | 50 % of Icu | | | | | |
| Icu 500 V | Icu | | Unlimited | 50 | 10 | 6 | 6 | 4 | 4 | | |
| | Ics | | - | 100 % of Icu | | 75 % of Icu | | | | | |
| Icu 690 V | Icu | | Unlimited | 3 | 3 | 3 | 3 | 3 | 3 | | |
| | Ics | | - | 75 % of Icu | | | | | | | |
| Other characteristics | | | | | | | | | | | |
| Suitable for industrial isolation according to IEC/EN 60947-2 | | ■ | | | | | | | | | |
| Fault tripping indication | | Toggle position | | | | | | | | | |
| Positive contact indication | | - | | | | | | | | | |
| Fast closing | | - | | | | | | | | | |
| Degree of protection | IP | Device only | IP20 | | | | | | | | |
| | | Device in modular enclosure | IP40 | | | | | | | | |
| For more detail, see module | | CM901026 | | | | | | | | | |
| Accessories | | CM901026 | | | | | | | | | |
| Auxiliaries | | CM901026 | | | | | | | | | |
| Add-on residual current devices (Vigi) | | - | | | | | | | | | |

Selection guide (cont.)

| Circuit breakers | | | | |
|---|------------------------------|--|-----------------------------|-----------|
| Type | xC60 | | | |
| Standard | IEC/EN 60947-2, 60898-1 | | | |
| Quality label | Country approval pictogram | | | |
| Number of poles | 1P | 2, 3, 4P | | |
| Add-on residual current devices (Vigi) | ■ | | | |
| Auxiliaries for remote tripping and indication | ■ | | | |
| Electrical characteristics | | | | |
| Curves | B, C, D | | | |
| Ratings (A) | In | B curve: 6 to 63 - C curve: 0.5 to 63 - D curve: 1 to 63 | | |
| Maximum operational voltage (V) | Ue max | AC (50/60 Hz) | 240/415 | |
| | | DC | – | |
| Minimum operational voltage (V) | Ue min | AC (50/60 Hz) | – | |
| | | DC | – | |
| Insulation voltage (V AC) | Ui | 500 | | |
| Rated impulse withstand voltage (kV) | Uimp | 6 | | |
| Limitation class up to 40 A (EN 60898) | – | | | |
| Breaking capacity | | | | |
| AC-Breaking capacity | | Ue (50/60 Hz) | 1P 2, 3, 4P | |
| Ratings (A) | In | B curve: 6 to 63 - C curve: 0.5 to 63 - D curve: 1 to 63 | | |
| IEC 60947-2 (kA) | Icu | 12...133 V | – | |
| | | 220...240 V | ≤ 40 A Curves B, C, D | 15 |
| | | | 50-63 A Curves B, C | 10 |
| | 50-63 A Curve D | | 6 | |
| | 380...415 V | ≤ 40 A Curves B, C, D | – | 15 |
| | | 50-63 A Curves B, C | – | 10 |
| | | 50-63 A Curve D | – | 6 |
| | 440 V | – | | |
| | Ics | ≤ 40 A Curves B, C, D | 50 % Icu | |
| | | 50-63 A Curves B, C | 75 % Icu | |
| 50-63 A Curve D | | 100 % Icu | | |
| IEC/EN 60898 (A) | Icn | 240/415 V - 230/400 V | | |
| DC-Breaking capacity | | Ue DC | | |
| IEC 60947-2 (kA) | Icu | 12...48 V (1P) | 15 | |
| | | 60 V (1P) | 6 | |
| | | 100...125 V (2P in series) | 6 | |
| | | | (3P in series) | 15 |
| | | 220...250 V (4P in series) | 6 | |
| | Ics | 100 % Icu | | |
| Other characteristics | | | | |
| Suitable for industrial isolation according to IEC/EN 60947-2 | ■ | | | |
| Reference temperature IEC/EN 60947-2 | 50°C | | | |
| Fault tripping indication | ■ | | | |
| Positive contact indication | ■ | | | |
| Fast closing | ■ | | | |
| Degree of protection | IP | Device only | IP20 | |
| | | Device in modular enclosure | IP40 | |
| | | | Insulation class II | |
| For more detail, see module | | | | |
| Accessories | CA901029 | | | |
| Auxiliaries | CA907000 and CA907001 | | | |
| Add-on residual current devices (Vigi) | CA907000 and CA907002 | | | |
| | CA902029 | | | |



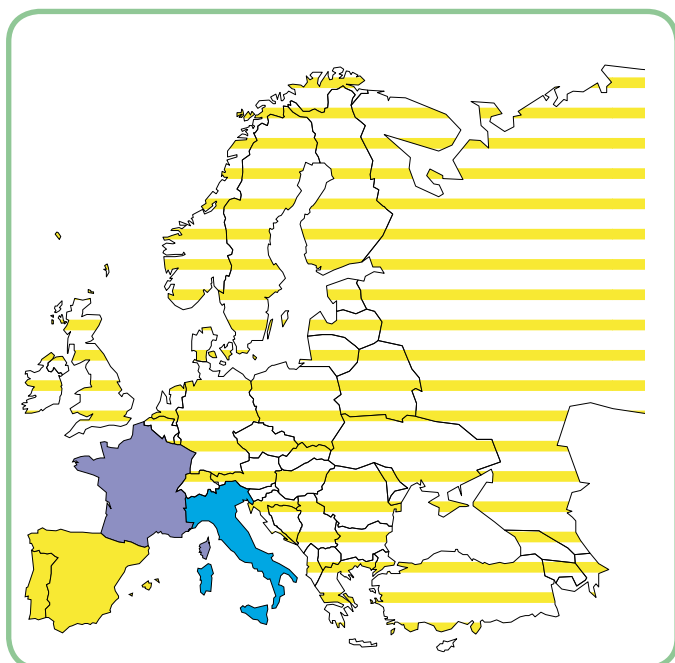


The Schneider Electric circuit breaker range comprises various offers (Clario, Prodis, Libro) so as to be as competitive as possible in each country, taking into account the specific features of each market:

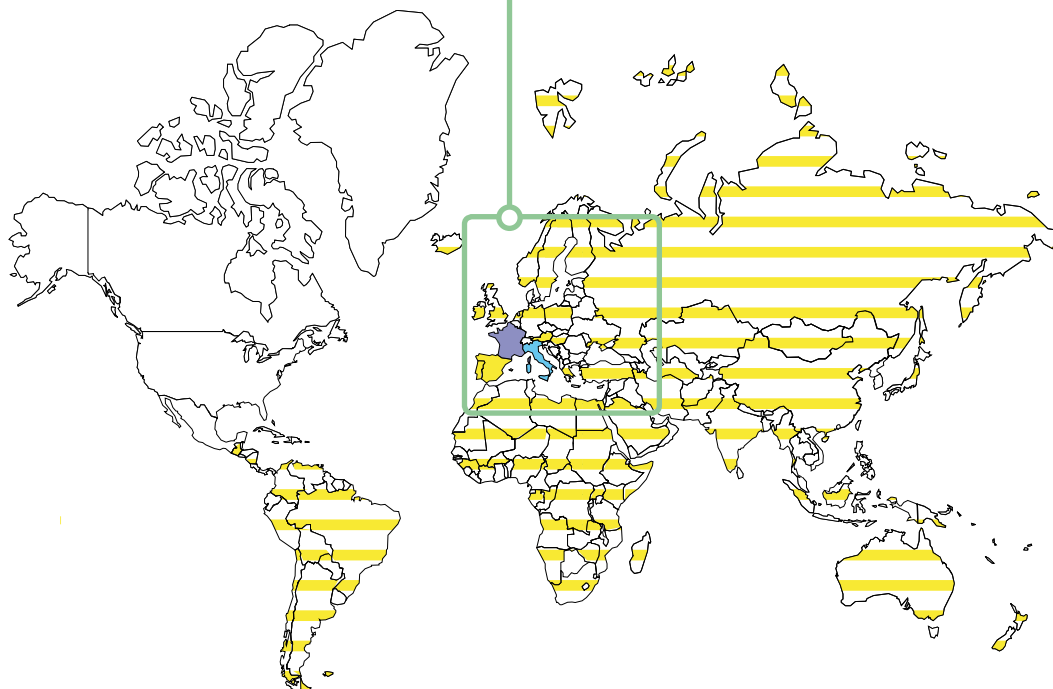
- installation customs
- price
- approval by local organizations.

Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Clario | Catalogue numbers | 15 |
| Prodis | Catalogue numbers | 19 |
| Libro | Catalogue numbers | 23 |
| Common pages | | 26 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.





Country approval pictograms

IEC/EN 60898-1

The protection of property and people against direct or indirect contacts, insulation faults and fire hazards is implemented by residual current devices obtained by the combination of a circuit breaker and an earth leakage module.

The circuit breakers are designed for protection against short-circuit and overload currents, for the control and disconnection of final distribution circuits in service sector, agricultural and industrial applications, in TT earthing system or with multiple earthed neutral (TN-S) requiring neutral cutoff without its protective device.



Catalogue numbers

| iDPN circuit breakers | | | | |
|-----------------------|-------------------------------|----------|-------------------------------|-----------|
| 4500 | | | | |
| Type | 1P+N | | 3P+N | |
| | | | | |
| Auxiliaries | Modules CA907008 and CA907010 | | Modules CA907008 and CA907010 | |
| Vigi | Module CA902013 | | Module CA902013 | |
| Rating (In) | B curve | C curve | B curve | C curve |
| 1 A | - | A9N21542 | - | - |
| 2 A | - | A9N21543 | - | - |
| 3 A | - | A9N21544 | - | - |
| 6 A | A9N21535 | A9N21545 | - | - |
| 10 A | A9N21536 | A9N21546 | A9N17489* | A9N17525* |
| 13 A | A9N21723 | A9N21724 | A9N21731 | A9N21732 |
| 16 A | A9N21537 | A9N21547 | A9N17491* | A9N17527* |
| 20 A | A9N21538 | A9N21548 | A9N17492* | A9N17528* |
| 25 A | A9N21539 | A9N21549 | A9N17493* | A9N17529* |
| 32 A | A9N21540 | A9N21550 | A9N17494 | A9N17530* |
| 40 A | A9N21541 | A9N21551 | A9N17495* | A9N17531* |
| Width in 9-mm modules | 2 | | 6 | |
| Accessories | Module LIN001 and CA907010 | | | |

(*) Libro catalogue number, IMQ approval

DB123400



Country approval pictograms

Offer selection see page 14

Clario

This sticker must be removed before publishing

PB1107140-32



Catalogue numbers

iDPN F circuit breakers

| | |
|-----------------------|-------------------------------|
| | 6000 |
| Type | 1P+N |
| | |
| Auxiliaries | Modules CA907008 and CA907010 |
| Vigi | Module CA902013 |
| Rating (In) | C curve |
| 1 A | A9N21638 |
| 2 A | A9N21641 |
| 3 A | A9N21642 |
| 6 A | A9N21643 |
| 10 A | A9N21644 |
| 16 A | A9N21645 |
| 20 A | A9N21646 |
| 25 A | A9N21647 |
| 32 A | A9N21648 |
| 40 A | A9N21649 |
| Width in 9-mm modules | 2 |
| Accessories | Module LIN001 and CA907010 |



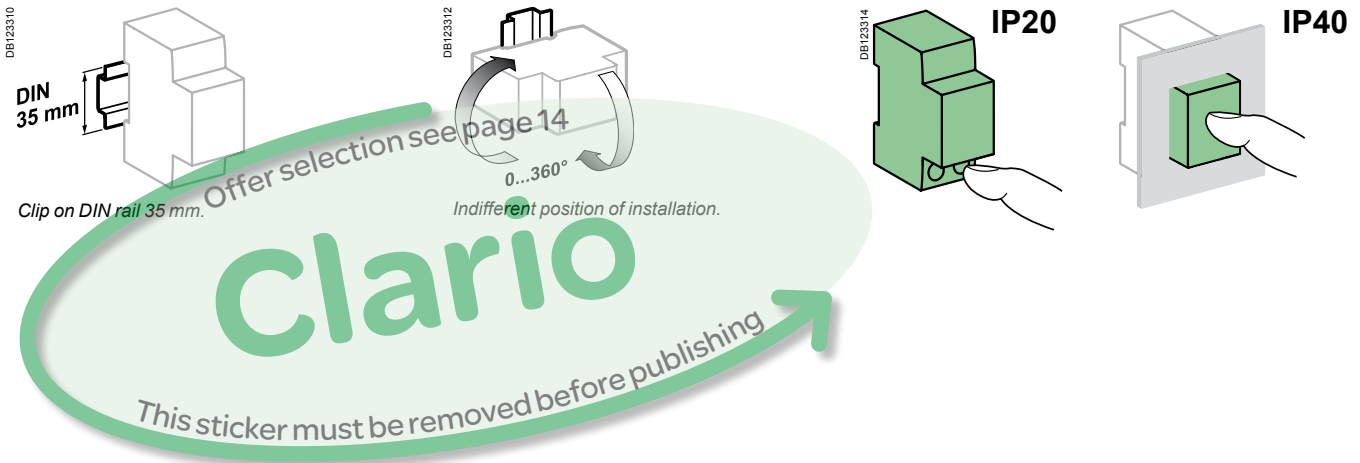
Catalogue numbers

| iDPN N circuit breakers | | | | | | | | |
|-------------------------|-------------------------------|----------|----------|-------------------------------|----------|-------------------------------|----------|----------|
| 6000 | | | | | | | | |
| Type | 1P+N | | | 3P | | 3P+N | | |
| | | | | | | | | |
| Auxiliaries | Modules CA907008 and CA907010 | | | Modules CA907008 and CA907010 | | Modules CA907008 and CA907010 | | |
| Vigi | Module CA902013 | | | Module CA902013 | | Module CA902013 | | |
| Rating (In) | B curve | C curve | D curve | C curve | D curve | B curve | C curve | D curve |
| 1 A | - | A9N21552 | - | - | - | - | - | - |
| 2 A | - | A9N21553 | - | - | - | - | - | - |
| 3 A | - | A9N21554 | - | - | - | - | - | - |
| 4 A | A9N17515 | A9N21722 | - | - | - | - | - | - |
| 6 A | A9N17516 | A9N21555 | A9N21565 | A9N21575 | A9N21585 | A9N17553* | A9N21595 | A9N21605 |
| 10 A | A9N17517 | A9N21556 | A9N21566 | A9N21576 | A9N21586 | A9N17554* | A9N21596 | A9N21606 |
| 13 A | A9N17518 | A9N21725 | A9N21726 | A9N21727 | A9N21728 | A9N17581 | A9N21729 | A9N21730 |
| 16 A | A9N17519 | A9N21557 | A9N21567 | A9N21577 | A9N21587 | A9N17555* | A9N21597 | A9N21607 |
| 20 A | A9N17520 | A9N21558 | A9N21568 | A9N21578 | A9N21588 | A9N17556* | A9N21598 | A9N21608 |
| 25 A | A9N17521 | A9N21559 | A9N21569 | A9N21579 | A9N21589 | A9N17557* | A9N21599 | A9N21609 |
| 32 A | A9N17522 | A9N21560 | A9N21570 | A9N21580 | A9N21590 | A9N17558* | A9N21600 | A9N21610 |
| 40 A | A9N17523 | A9N21561 | A9N21571 | A9N21581 | A9N21591 | A9N17559* | A9N21601 | A9N21611 |
| Width in 9-mm modules | 2 | | | 6 | | 6 | | |
| Accessories | Module LIN001 and CA907010 | | | | | | | |

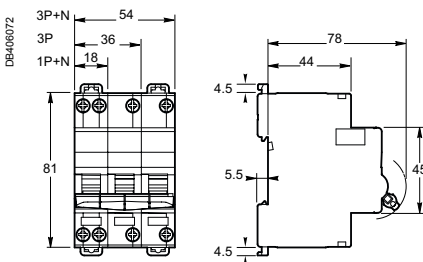
(*) Libro catalogue number, IMQ approval

Technical data

| Main characteristics | | iDPN | iDPN F | iDPN N |
|--|-----------------------------|---|--------------|------------|
| Insulation voltage (Ui) | Phase-to-neutral | 400 V | 400 V | 400 V |
| | Phase-to-phase | 440 V | - | 440 V |
| Voltage rating (Ue) | Phase-to-neutral | 230 V | 230 V | 230 V |
| | Phase-to-phase | 400 V | - | 400 V |
| Magnetic tripping | B curve | 3 to 5 In | - | ■ |
| | C curve | 5 to 10 In | ■ | ■ |
| | D curve | 10 to 14 In | - | ■ |
| According to IEC/EN 60898-1 | | | | |
| Limitation class | | 3 | 3 | 3 |
| Rated breaking capacity (Icn) | | 4500 A | 6000 A | 6000 A |
| Service breaking capacity (Ics) | | 100 % Icn | 100 % Icn | 100 % Icn |
| Rated breaking and making capacity on a single pole (Icn1) | | Icn1 = Icn | Icn1 = Icn | Icn1 = Icn |
| According to IEC 60947-2 | | | | |
| Rated impulse withstand voltage (Uimp) | | 4 kV | 4 kV | 4 kV |
| Breaking capacity (Icu) | | 6 kA | 6 kA | 10 kA |
| Service breaking capacity (Ics) | | 75 % Icu | 75 % Icu | 75 % Icu |
| Pollution degree | | 3 | | |
| Additional characteristics | | | | |
| Degree of protection (IEC 60529) | Device only | IP20 | | |
| | Device in modular enclosure | IP40 Insulation class II | | |
| Endurance (O-C) | Electrical | ≤ 20 A | 20000 cycles | |
| | | ≥ 25 A | 10000 cycles | |
| | Mechanical | 20000 cycles | | |
| Operating temperature | | -25°C to +70°C | | |
| Storage temperature | | -40°C to +70°C | | |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) | | |
| Neutral opening and closing shifted relative to phases | | No surge upon operation of the device | | |

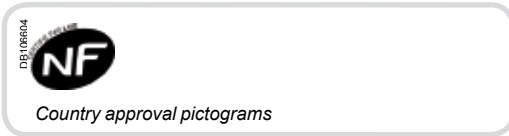


Dimensions (mm)



Weight (g)

| Circuit breakers | |
|------------------|----------------------|
| Type | iDPN, iDPN F, iDPN N |
| 1P+N | 115 |
| 3P | 310 |
| 3P+N | 322 |



IEC/EN 60947-2
IEC/EN 60898-1

The protection of property and people against direct or indirect contacts, insulation faults and fire hazards is implemented by residual current devices obtained by the combination of a circuit breaker and an earth leakage module.

The circuit breakers are designed for protection against short-circuit and overload currents, for the control and disconnection of final distribution circuits in service sector, agricultural and industrial applications, in TT earthing system or with multiple earthed neutral (TN-S) requiring neutral cutoff without its protective device.



Catalogue numbers

| DT40K circuit breakers | | |
|------------------------|----------------------------|-------------------|
| 4500 | | |
| Type | 1P+N | 3P+N |
| | | |
| Auxiliaries | Without auxiliary | Without auxiliary |
| Vigi | Without Vigi | Without Vigi |
| Rating (In) | C curve | C curve |
| 2 A | A9N21101 | - |
| 6 A | A9N21102 | - |
| 10 A | A9N21103 | A9N21113 |
| 16 A | A9N21104 | A9N21114 |
| 20 A | A9N21105 | A9N21115 |
| 25 A | A9N21106 | A9N21116 |
| 32 A | A9N21107 | A9N21117 |
| 40 A | A9N21108 | A9N21118 |
| Width in 9-mm modules | 2 | 6 |
| Accessories | Module LIN001 and CA907010 | |



IEC/EN 60898-1

The protection of property and people against direct or indirect contacts, insulation faults and fire hazards is implemented by residual current devices obtained by the combination of a circuit breaker and an earth leakage module.

The circuit breakers are designed for protection against short-circuit and overload currents, for the control and disconnection of final distribution circuits in service sector, agricultural and industrial applications, in TT earthing system or with multiple earthed neutral (TN-S) requiring neutral cutoff without its protective device.



Catalogue numbers

| DT40 circuit breakers | | | | | | |
|-----------------------|-------------------------------|----------|-------------------------------|----------|-------------------------------|----------|
| 4500 | | | | | | |
| Type | 1P+N | | 3P | | 3P+N | |
| | | | | | | |
| Auxiliaries | Modules CA907008 and CA907010 | | Modules CA907008 and CA907010 | | Modules CA907008 and CA907010 | |
| Vigi | Module CA902013 | | Module CA902013 | | Module CA902013 | |
| Rating (In) | B curve | C curve | C curve | D curve | C curve | D curve |
| 1 A | - | A9N21019 | - | - | - | - |
| 2 A | - | A9N21020 | - | - | - | - |
| 3 A | - | A9N21021 | - | - | - | - |
| 4 A | - | A9N21022 | - | - | - | - |
| 6 A | A9N21009 | A9N21023 | A9N21043 | A9N21053 | A9N21063 | A9N21073 |
| 10 A | A9N21010 | A9N21024 | A9N21044 | A9N21054 | A9N21064 | A9N21074 |
| 16 A | A9N21011 | A9N21025 | A9N21045 | A9N21055 | A9N21065 | A9N21075 |
| 20 A | A9N21012 | A9N21026 | A9N21046 | A9N21056 | A9N21066 | A9N21076 |
| 25 A | A9N21013 | A9N21027 | A9N21047 | A9N21057 | A9N21067 | A9N21077 |
| 32 A | A9N21014 | A9N21028 | A9N21048 | A9N21058 | A9N21068 | A9N21078 |
| 40 A | A9N21015 | A9N21029 | A9N21049 | A9N21059 | A9N21069 | A9N21079 |
| Width in 9-mm modules | 2 | | 6 | | 6 | |
| Accessories | Module LIN001 and CA907010 | | | | | |

Catalogue numbers

| DT40N circuit breakers | | | | | | |
|------------------------|-------------------------------|----------|-------------------------------|----------|-------------------------------|----------|
| 6000 | | | | | | |
| Type | 1P+N | | 3P | | 3P+N | |
| | | | | | | |
| Auxiliaries | Modules CA907008 and CA907010 | | Modules CA907008 and CA907010 | | Modules CA907008 and CA907010 | |
| Vigi | Module CA902013 | | Module CA902013 | | Module CA902013 | |
| Rating (In) | C curve | D curve | C curve | D curve | C curve | D curve |
| 1 A | A9N21360 | A9N21371 | - | - | - | - |
| 2 A | A9N21361 | A9N21372 | - | - | - | - |
| 3 A | A9N21362 | - | - | - | - | - |
| 4 A | A9N21363 | A9N21373 | - | - | - | - |
| 6 A | A9N21364 | A9N21374 | A9N21384 | A9N21394 | A9N21404 | A9N21414 |
| 10 A | A9N21365 | A9N21375 | A9N21385 | A9N21395 | A9N21405 | A9N21415 |
| 16 A | A9N21366 | A9N21376 | A9N21386 | A9N21396 | A9N21406 | A9N21416 |
| 20 A | A9N21367 | A9N21377 | A9N21387 | A9N21397 | A9N21407 | A9N21417 |
| 25 A | A9N21368 | A9N21378 | A9N21388 | A9N21398 | A9N21408 | A9N21418 |
| 32 A | A9N21369 | A9N21379 | A9N21389 | A9N21399 | A9N21409 | A9N21419 |
| 40 A | A9N21370 | A9N21380 | A9N21390 | A9N21400 | A9N21410 | A9N21420 |
| Width in 9-mm modules | 2 | | 6 | | 6 | |
| Accessories | Module LIN001 and CA907010 | | | | | |



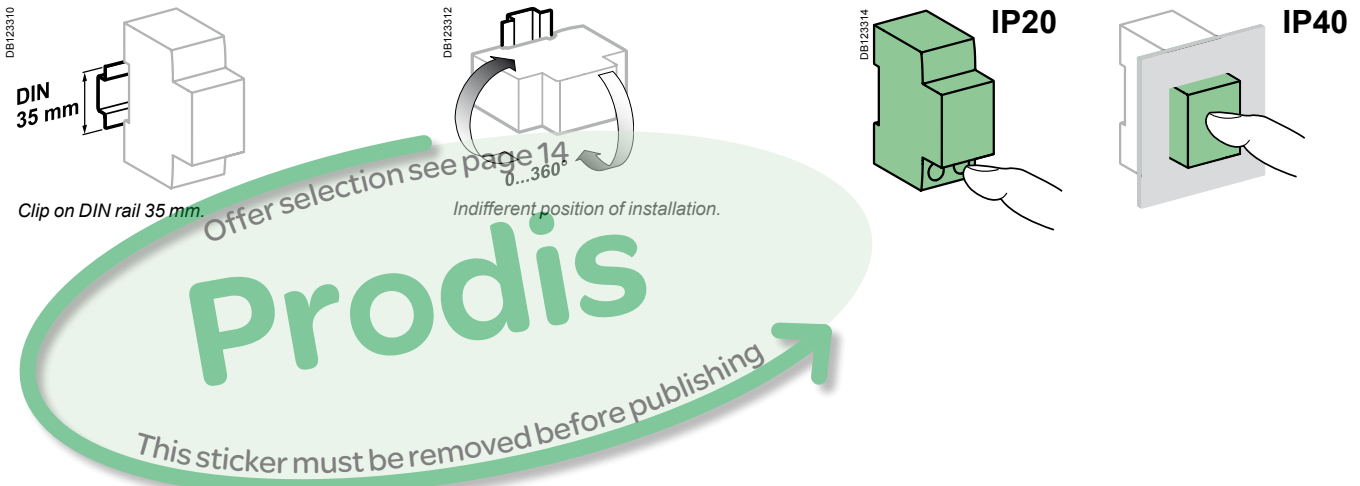
Catalogue numbers

| DT60 circuit breakers | | |
|-----------------------|-------------------------------|-------------|
| DT60N 6000 | | DT60H 10000 |
| Type | 3P+N | |
| | | |
| Auxiliaries | Modules CA907008 and CA907010 | |
| Vigi | Module CA902013 | |
| Rating (In) | C curve | |
| 40 A | A9N21030 | A9N21032 |
| 63 A | A9N21031 | - |
| Width in 9-mm modules | 8 | |
| Accessories | Module CA907010 and CA907011 | |

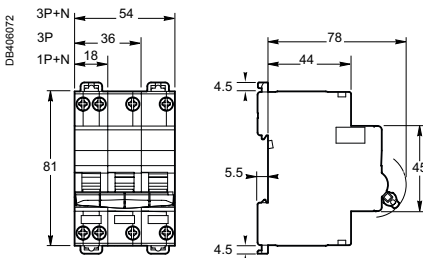


Technical data

| Main characteristics | | DT40K | DT40 | DT40N | DT60N | DT60H |
|--|-----------------------------|---|--------------|----------------|----------------|--------------|
| Insulation voltage (Ui) | Phase-to-neutral | 400 V | 400 V | 400 V | 500 V | 500 V |
| | Phase-to-phase | 440 V | 440 V | 440 V | 500 V | 500 V |
| Voltage rating (Ue) | Phase-to-neutral | 230 V | 230 V | 230 V | 230 V | 230 V |
| | Phase-to-phase | 400 V | 400 V | 400 V | 400 V | 400 V |
| Magnetic tripping | B curve | 3 to 5 In | ■ | ■ | - | - |
| | C curve | 5 to 10 In | ■ | ■ | ■ | ■ |
| | D curve | 10 to 14 In | - | ■ | ■ | - |
| According to IEC/EN 60898-1 | | | | | | |
| Limitation class | | 3 | 3 | 3 | | |
| Rated breaking capacity (Icn) | | 4500 A | 4500 A | 6000 A | 6000 A | 10000 A |
| Service breaking capacity (Ics) | | 100 % Icn | 100 % Icn | 100 % Icn | 100 % Icn | 75 % Icn |
| Rated breaking and making capacity on a single pole (Icn1) | | Icn1 = Icn | Icn1 = Icn | Icn1 = Icn | Icn1 = Icn | Icn1 = Icn |
| According to IEC 60947-2 | | | | | | |
| Rated impulse withstand voltage (Uimp) | | 4 kV | 4 kV | 4 kV | 6 kV | 6 kV |
| Breaking capacity (Icu) | | 4.5 kA | 6 kA | 10 kA | 10 kA | 15 kA |
| Service breaking capacity (Ics) | | 75 % Icu | 75 % Icu | 75 % Icu | 75 % Icu | 50 % Icu |
| Pollution degree | | 3 | | | 3 | |
| Additional characteristics | | | | | | |
| Degree of protection (IEC 60529) | Device only | IP20 | | | IP20 | |
| | Device in modular enclosure | IP40 | | | IP40 | |
| Endurance (O-C) | Electrical | ≤ 20 A | 20000 cycles | | - | - |
| | | ≥ 25 A | 10000 cycles | | 10000 cycles | 10000 cycles |
| | Mechanical | 20000 cycles | | 20000 cycles | 20000 cycles | |
| Operating temperature | | -25°C to +70°C | | -25°C to +70°C | -25°C to +70°C | |
| Storage temperature | | -40°C to +70°C | | -40°C to +70°C | -40°C to +70°C | |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) | | | | |
| Neutral opening and closing shifted relative to phases | | No surge upon operation of the device | | | | |

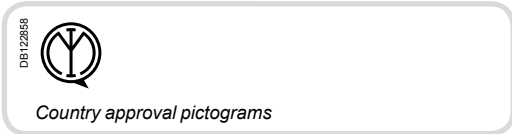


Dimensions (mm)



Weight (g)

| Circuit breakers | | | |
|------------------|-------|-------------|--------------|
| Type | DT40K | DT40, DT40N | DT60N, DT60H |
| 1P+N | 115 | 115 | - |
| 3P | - | 310 | - |
| 3P+N | 322 | 322 | 440 |



IEC/EN 60898-1

The protection of property and people against direct or indirect contacts, insulation faults and fire hazards is implemented by residual current devices obtained by the combination of a circuit breaker and an earth leakage module.

The circuit breakers are designed for protection against short-circuit and overload currents, for the control and disconnection of final distribution circuits in service sector, agricultural and industrial applications, in TT earthing system or with multiple earthed neutral (TN-S) requiring neutral cutoff without its protective device.



Catalogue numbers

| C40a circuit breakers | | | | |
|-----------------------|-------------------------------|----------|-------------------------------|----------|
| 4500 | | | | |
| Type | 1P+N | | 3P+N | |
| | | | | |
| Auxiliaries | Modules CA907008 and CA907010 | | Modules CA907008 and CA907010 | |
| Vigi | Module CA902013 | | Module CA902013 | |
| Rating (In) | B curve | C curve | B curve | C curve |
| 1 A | - | A9N17503 | - | - |
| 2 A | - | A9N17504 | - | - |
| 3 A | - | A9N17505 | - | - |
| 4 A | - | A9N17506 | - | - |
| 6 A | A9N17475 | A9N17507 | A9N17489 | A9N17525 |
| 10 A | A9N17476 | A9N17508 | A9N17490 | A9N17526 |
| 16 A | A9N17477 | A9N17509 | A9N17491 | A9N17527 |
| 20 A | A9N17478 | A9N17510 | A9N17492 | A9N17528 |
| 25 A | A9N17479 | A9N17511 | A9N17493 | A9N17529 |
| 32 A | A9N17480 | A9N17512 | A9N17494 | A9N17530 |
| 40 A | A9N17481 | A9N17513 | A9N17495 | A9N17531 |
| Width in 9-mm modules | 2 | | 6 | |
| Accessories | Module LIN001 and CA907010 | | | |



Offer selection see page 14

Librio

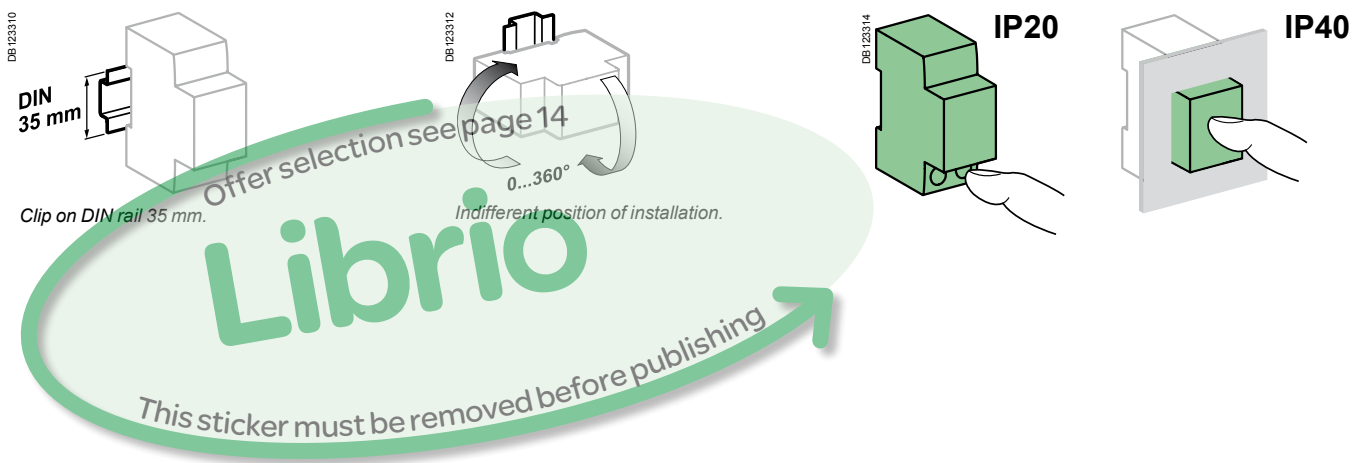
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Catalogue numbers

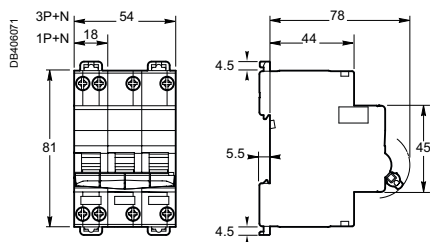
| C40N circuit breakers | | | | |
|-----------------------|-------------------------------|----------|-------------------------------|----------|
| 6000 | | | | |
| Type | 1P+N | | 3P+N | |
| | | | | |
| Auxiliaries | Modules CA907008 and CA907010 | | Modules CA907008 and CA907010 | |
| Vigi | Module CA902013 | | Module CA902013 | |
| Rating (In) | B curve | C curve | B curve | C curve |
| 1 A | - | A9N17567 | - | - |
| 2 A | - | A9N17568 | - | - |
| 3 A | - | A9N17569 | - | - |
| 4 A | - | A9N17570 | - | - |
| 6 A | A9N17539 | A9N17571 | A9N17553 | A9N17589 |
| 10 A | A9N17540 | A9N17572 | A9N17554 | A9N17590 |
| 16 A | A9N17541 | A9N17573 | A9N17555 | A9N17591 |
| 20 A | A9N17542 | A9N17574 | A9N17556 | A9N17592 |
| 25 A | A9N17543 | A9N17575 | A9N17557 | A9N17593 |
| 32 A | A9N17544 | A9N17576 | A9N17558 | A9N17594 |
| 40 A | A9N17545 | A9N17577 | A9N17559 | A9N17595 |
| Width in 9-mm modules | 2 | | 6 | |
| Accessories | Module LIN001 and CA907010 | | | |

Technical data

| Main characteristics | | C40a | C40N |
|--|-----------------------------|---|--------------|
| Insulation voltage (Ui) | Phase-to-neutral | 400 V | 400 V |
| | Phase-to-phase | 440 V | 440 V |
| Voltage rating (Ue) | Phase-to-neutral | 230 V | 230 V |
| | Phase-to-phase | 400 V | 400 V |
| Magnetic tripping | B curve | 3 to 5 In | ■ |
| | C curve | 5 to 10 In | ■ |
| According to IEC/EN 60898-1 | | | |
| Limitation class | | 3 | 3 |
| Rated breaking capacity (Icn) | | 4500 A | 6000 A |
| Service breaking capacity (Ics) | | 100 % Icn | 100 % Icn |
| Rated breaking and making capacity on a single pole (Icn1) | | Icn1 = Icn | Icn1 = Icn |
| According to IEC 60947-2 | | | |
| Rated impulse withstand voltage (Uimp) | | 4 kV | 4 kV |
| Breaking capacity (Icu) | | 6 kA | 10 kA |
| Service breaking capacity (Ics) | | 100 % Icu | 75 % Icu |
| Pollution degree | | 3 | |
| Additional characteristics | | | |
| Degree of protection (IEC 60529) | Device only | IP20 | |
| | Device in modular enclosure | IP40 | |
| | | Insulation class II | |
| Endurance (O-C) | Electrical | ≤ 20 A | 20000 cycles |
| | | ≥ 25 A | 10000 cycles |
| | Mechanical | | 20000 cycles |
| Operating temperature | | -25°C to +70°C | |
| Storage temperature | | -40°C to +70°C | |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) | |
| Neutral opening and closing shifted relative to phases | | No surge upon operation of the device | |

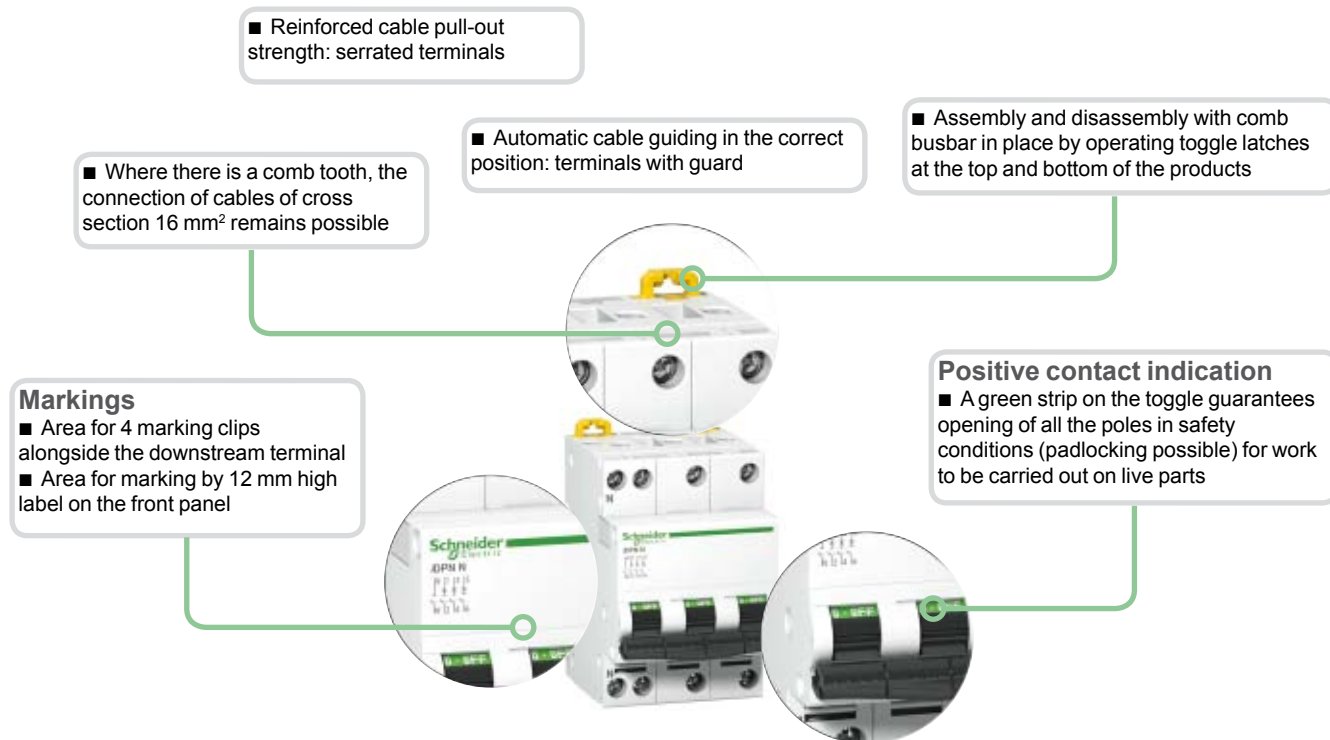


Dimensions (mm)

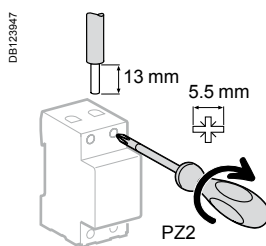


Weight (g)

| Circuit breakers | |
|------------------|------------|
| Type | C40a, C40N |
| 1P+N | 115 |
| 3P+N | 322 |

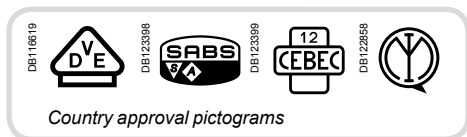


Connection



| Rating | Tightening torque | Copper cables | |
|------------------|-------------------|--|--|
| | | Rigid | Flexible or with ferrule |
| DT40, i DPN, C40 | 2 N.m | DB122945 0.75 to 16 mm ² | DB122946 0.33 to 10 mm ² |
| DT60 | 3.5 N.m | 0.5 to 35 mm ² | 0.5 to 25 mm ² |

■ Connection by comb busbar or cables (as per EN 50027).



IEC/EN 60947-2
IEC/EN 60898-1



- iC60a circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.

| Alternating current (AC) 50/60 Hz | | | |
|---|--------------|--------------|---------------------------------|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | Service breaking capacity (Ics) |
| | Voltage (Ue) | | |
| Ph/Ph (2P, 3P, 4P) | 220 to 240 V | 380 to 415 V | |
| Ph/N (1P) | | 220 to 240 V | |
| Rating (In) 1 to 63 A | 10 kA | 6 kA | 100 % of Icu |
| Breaking capacity (Icn) according to IEC/EN 60898-1 | | | |
| | Voltage (Ue) | | |
| Ph/Ph | 400 V | | |
| Ph/N | 230 V | | |
| Rating (In) 1 to 63 A | 4500 A | | |

Catalogue numbers

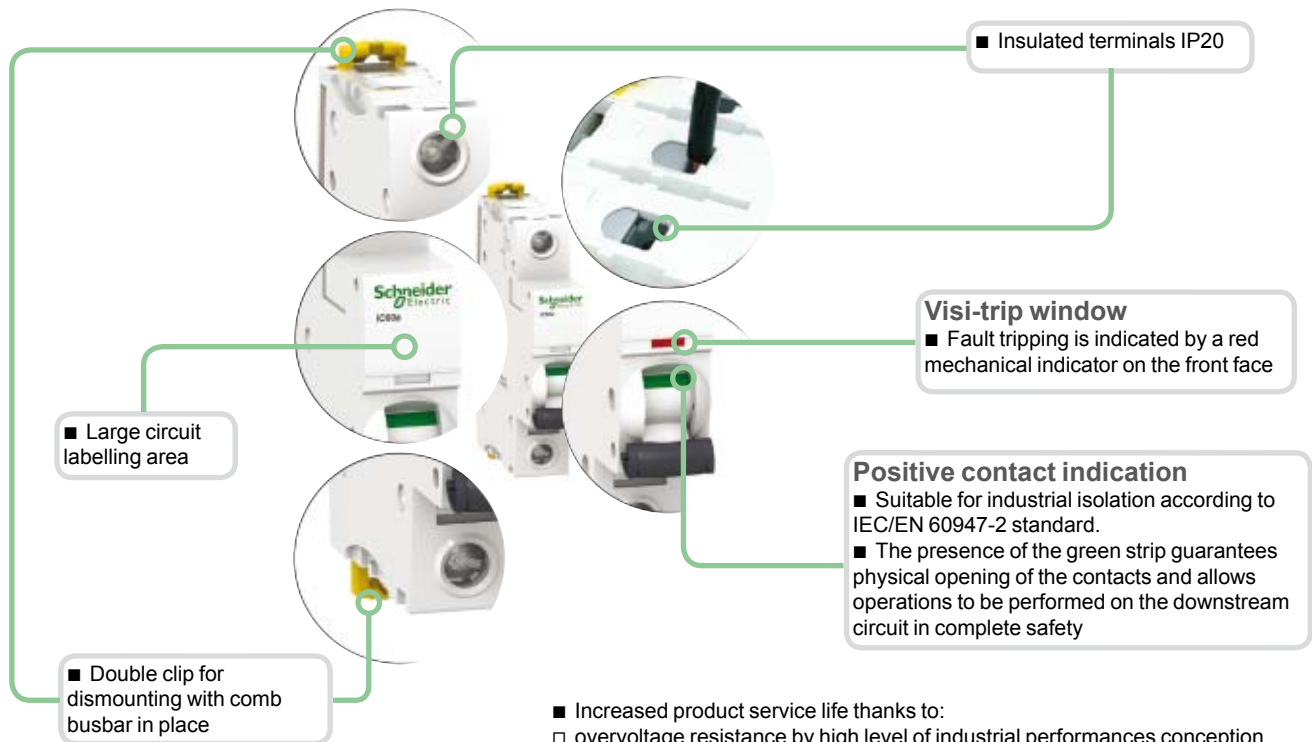
iC60a circuit breaker

| Type | | 1P | 2P |
|-----------------------|-------------------|--|--|
| | | | |
| Auxiliaries | | Remote tripping and indication, module CA907000 and CA907002 | Remote tripping and indication, module CA907000 and CA907002 |
| Vigi iC60 | | Vigi iC60 add-on residual current device, module CA902005 | Vigi iC60 add-on residual current device, module CA902005 |
| Rating (In) | Quality label (1) | Curve C | Curve C |
| 1 A | | A9F64101 | A9F64201 |
| 2 A | | A9F64102 | A9F64202 |
| 3 A | | A9F64103 | A9F64203 |
| 4 A | | A9F64104 | A9F64204 |
| 6 A | | A9F64106 | A9F64206 |
| 10 A | | A9F64110 | A9F64210 |
| 13 A | | A9F64113 | A9F64213 |
| 16 A | | A9F64116 | A9F64216 |
| 20 A | | A9F64120 | A9F64220 |
| 25 A | | A9F64125 | A9F64225 |
| 32 A | | A9F64132 | A9F64232 |
| 40 A | | A9F64140 | A9F64240 |
| 50 A | | A9F64150 | A9F64250 |
| 63 A | | A9F64163 | A9F64263 |
| Width in 9-mm modules | | 2 | 4 |
| Accessories | | Module CA907000 and CA907001 | Module CA907000 and CA907001 |

(1) Information to be provided by the country.

iC60a circuit breakers (curve C) (cont.)

PB104433-40

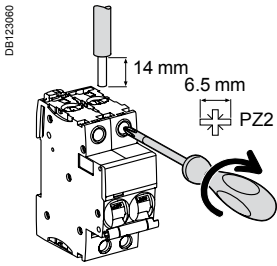


- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

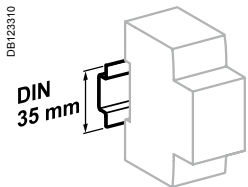
| 3P | 4P |
|--|--|
| | |
| Remote tripping and indication, module CA907000 and CA907002 | Remote tripping and indication, module CA907000 and CA907002 |
| Vigi iC60 add-on residual current device, module CA902005 | Vigi iC60 add-on residual current device, module CA902005 |
| Curve C | Curve C |
| A9F64301 | A9F64401 |
| A9F64302 | A9F64402 |
| A9F64303 | A9F64403 |
| A9F64304 | A9F64404 |
| A9F64306 | A9F64406 |
| A9F64310 | A9F64410 |
| A9F64313 | A9F64413 |
| A9F64316 | A9F64416 |
| A9F64320 | A9F64420 |
| A9F64325 | A9F64425 |
| A9F64332 | A9F64432 |
| A9F64340 | A9F64440 |
| A9F64350 | A9F64450 |
| A9F64363 | A9F64463 |
| 6 | 8 |
| Module CA907000 and CA907001 | Module CA907000 and CA907001 |

iC60a circuit breakers (curve C) (cont.)

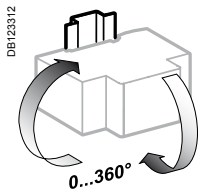
Connection



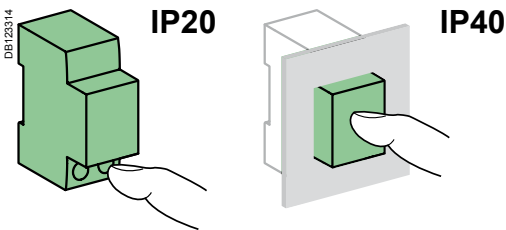
| Rating | Tightening torque | Without accessory | | With accessories | | |
|------------|-------------------|-------------------------|-------------------------|--------------------------------|---------------------------------------|------------------------|
| | | Rigid | Flexible or ferrule | 50 mm ² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal |
| 1 to 25 A | 2 N.m | DB122945 | DB122946 | DB122935 | DB118789 | DB118787 |
| 32 to 63 A | 3.5 N.m | 1 to 25 mm ² | 1 to 16 mm ² | - | Ø 5 mm | - |
| | | 1 to 35 mm ² | 1 to 25 mm ² | 50 mm ² | | 3 x 16 mm ² |
| | | | | | | 3 x 10 mm ² |



Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

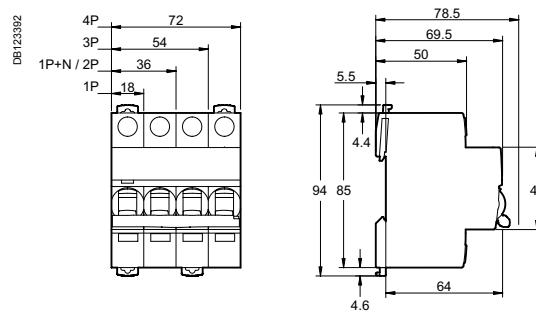
| Main characteristics | | |
|--|-----------------------------|--|
| According to IEC/EN 60947-2 | | |
| Insulation voltage (U _i) | | 500 V AC |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 6 kV |
| Thermal tripping | Reference temperature | 50 °C |
| | Temperature derating | See module CA908007 |
| Magnetic tripping | C curve | 8 I _n ± 20 % |
| Utilization category | | A |
| According to IEC/EN 60898-1 | | |
| Limitation class | | 3 |
| Rated making and breaking capacity of an individual pole (I _{cn1}) | | I _{cn1} = I _{cn} |
| Additional characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | IV |
| Operating temperature | | -35°C to +70°C |
| Storage temperature | | -40°C to +85°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity 95 % to 55°C) |

iC60a circuit breakers (curve C) (cont.)

Weight (g)

| Circuit-breaker | |
|-----------------|-------|
| Type | iC60a |
| 1P | 125 |
| 2P | 250 |
| 3P | 375 |
| 4P | 500 |

Dimensions (mm)





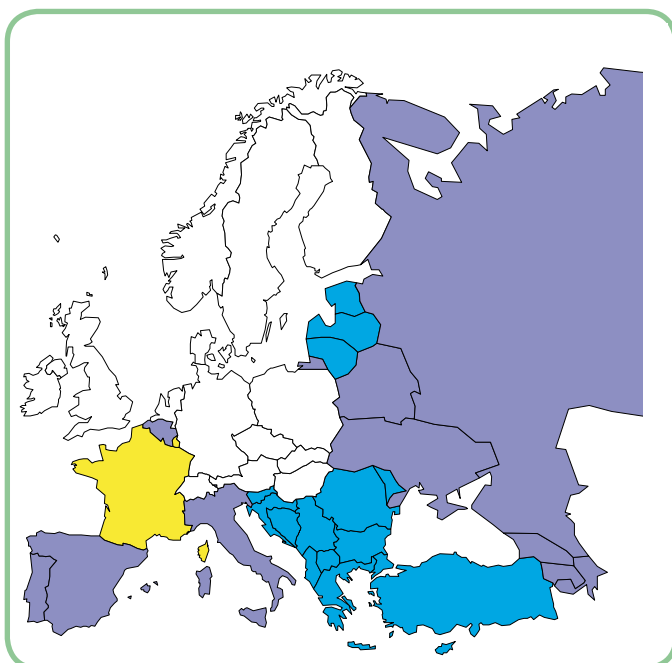


Schneider Electric's range of circuit breakers consists of different products (A, B, C) to enable it to be the most competitive range possible in each country, allowing for the special characteristics of each market:

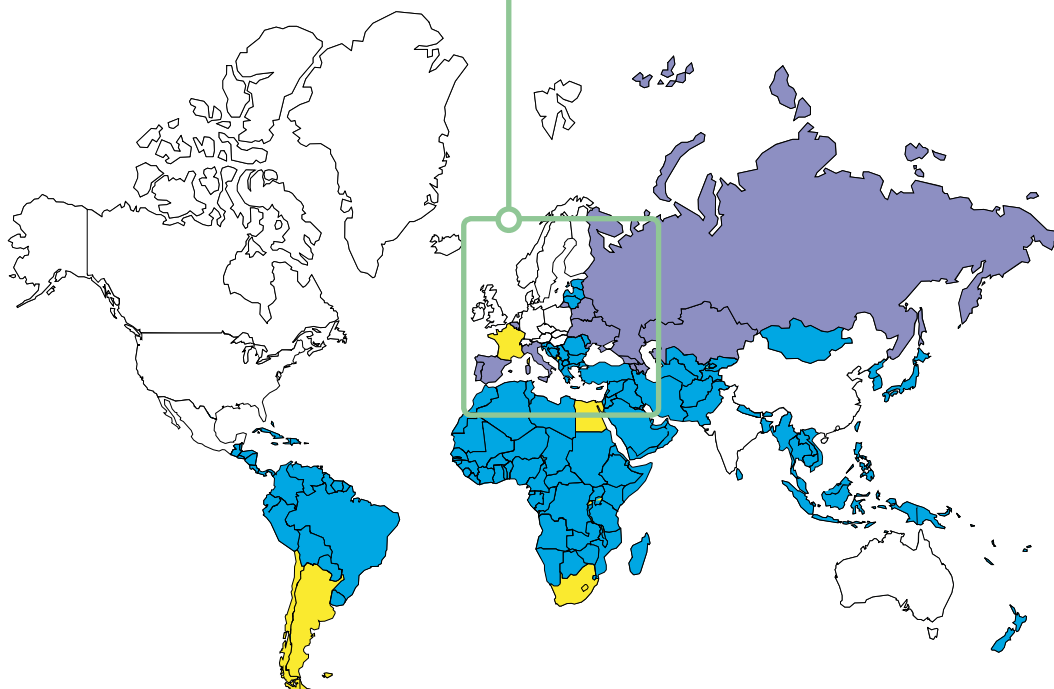
- usual installation procedure
- price
- accreditations by local bodies.

Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 34 |
| Offer B | Catalogue numbers | 36 |
| Offer C | Catalogue numbers | 38 |
| Common pages | | 40 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.



iC60N circuit breakers (curve B, C, D)



IEC/EN 60947-2 IEC/EN 60898-1

- iC60N circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.



Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | Service breaking capacity (Ics) |
|---|--------------|--------------|--------------|-------|---------------------------------|
| | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | |
| Ph/Ph (2P, 3P, 4P) | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | 100 % of Icu |
| Ph/N (1P, 2P) | 50 kA | 50 kA | 50 kA | 25 kA | |
| Rating (In) | 0.5 to 4 A | 50 kA | 50 kA | 50 kA | 25 kA |
| | 6 to 63 A | 36 kA | 20 kA | 10 kA | 6 kA |
| | | | | | 75 % of Icu |

| Breaking capacity (Icn) according to IEC/EN 60898-1 | |
|---|--------------|
| | Voltage (Ue) |
| Ph/Ph | 400 V |
| Ph/N | 230 V |
| Rating (In) | 0.5 to 63 A |
| | 6000 A |

Direct current (DC)

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | | Service breaking capacity (Ics) |
|---|--------------|--------|---------|---------|---------|---------------------------------|
| | 12 to 60 V | ≤ 72 V | ≤ 125 V | ≤ 180 V | ≤ 250 V | |
| Between +/- | 1P | 2P | 3P | 4P | | 100 % of Icu |
| Number of poles | 1P | 2P | 3P | 4P | | |
| Rating (In) | 1 to 63 A | 15 kA | 10 kA | 10 kA | 10 kA | |

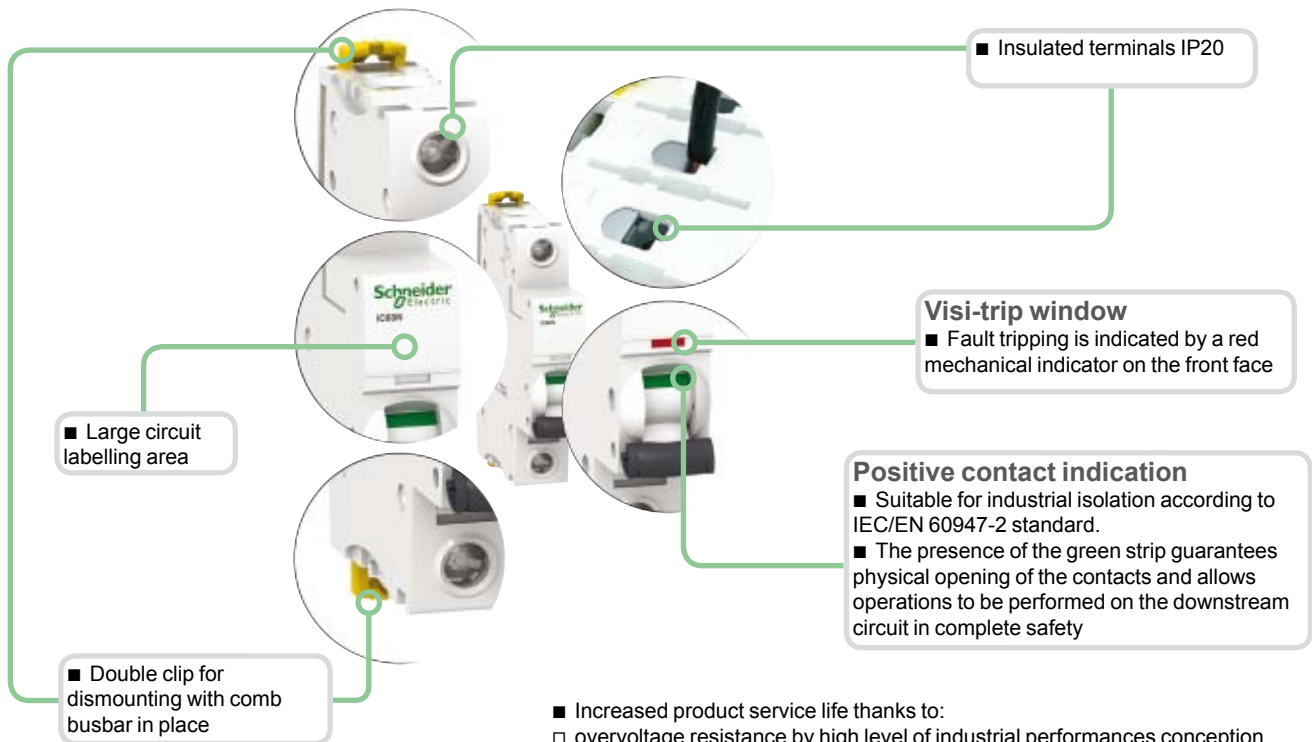
Catalogue numbers

| iC60N circuit breaker | | | | | | |
|-----------------------|--|----------|------------------|--|----------|------------------|
| Type | 1P | | | 1P+N | | |
| | | | | | | |
| Auxiliaries | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | |
| Rating (In) | Curve | | | Curve | | |
| | B | C | D ⁽¹⁾ | B | C | D ⁽¹⁾ |
| 0.5 A ⁽¹⁾ | A9F73170 | A9F74170 | A9F75170 | A9F73670 | A9F74670 | A9F75670 |
| 1 A ⁽¹⁾ | A9F73101 | A9F74101 | A9F75101 | A9F73601 | A9F74601 | A9F75601 |
| 2 A ⁽¹⁾ | A9F73102 | A9F74102 | A9F75102 | A9F73602 | A9F74602 | A9F75602 |
| 3 A ⁽¹⁾ | A9F73103 | A9F74103 | A9F75103 | A9F73603 | A9F74603 | A9F75603 |
| 4 A ⁽¹⁾ | A9F73104 | A9F74104 | A9F75104 | A9F73604 | A9F74604 | A9F75604 |
| 6 A | A9F76106 | A9F77106 | A9F75106 | A9F76606 | A9F77606 | A9F75606 |
| 10 A | A9F76110 | A9F77110 | A9F75110 | A9F76610 | A9F77610 | A9F75610 |
| 13 A ⁽¹⁾ | A9F73113 | A9F74113 | A9F75113 | A9F73613 | A9F74613 | A9F75613 |
| 16 A | A9F76116 | A9F77116 | A9F75116 | A9F76616 | A9F77616 | A9F75616 |
| 20 A | A9F76120 | A9F77120 | A9F75120 | A9F76620 | A9F77620 | A9F75620 |
| 25 A | A9F76125 | A9F77125 | A9F75125 | A9F76625 | A9F77625 | A9F75625 |
| 32 A | A9F76132 | A9F77132 | A9F75132 | A9F76632 | A9F77632 | A9F75632 |
| 40 A | A9F76140 | A9F77140 | A9F75140 | A9F76640 | A9F77640 | A9F75640 |
| 50 A | A9F76150 | A9F77150 | A9F75150 | A9F76650 | A9F77650 | A9F75650 |
| 63 A | A9F76163 | A9F77163 | A9F75163 | A9F76663 | A9F77663 | A9F75663 |
| Width in 9-mm modules | 2 | | | 4 | | |
| Accessories | Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | |

(1) VDE approved only.

iC60N circuit breakers (curve B, C, D) (cont.)

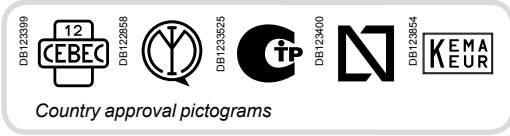
PB10434-40



- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

| | 2P | | | 3P | | | 4P | | | |
|--------|--|----------|------------------------|--|------------------------------|------------------------|--|----------|------------------------------|--|
| E45094 | | | | E46095 | | | E46097 | | | |
| | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | | |
| | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | |
| | Curve | | | Curve | | | Curve | | | |
| | B | C | D⁽¹⁾ | B | C | D⁽¹⁾ | B | C | D⁽¹⁾ | |
| | A9F73270 | A9F74270 | A9F75270 | A9F73370 | A9F74370 | A9F75370 | A9F73470 | A9F74470 | A9F75470 | |
| | A9F73201 | A9F74201 | A9F75201 | A9F73301 | A9F74301 | A9F75301 | A9F73401 | A9F74401 | A9F75401 | |
| | A9F73202 | A9F74202 | A9F75202 | A9F73302 | A9F74302 | A9F75302 | A9F73402 | A9F74402 | A9F75402 | |
| | A9F73203 | A9F74203 | A9F75203 | A9F73303 | A9F74303 | A9F75303 | A9F73403 | A9F74403 | A9F75403 | |
| | A9F73204 | A9F74204 | A9F75204 | A9F73304 | A9F74304 | A9F75304 | A9F73404 | A9F74404 | A9F75404 | |
| | A9F76206 | A9F77206 | A9F75206 | A9F76306 | A9F77306 | A9F75306 | A9F76406 | A9F77406 | A9F75406 | |
| | A9F76210 | A9F77210 | A9F75210 | A9F76310 | A9F77310 | A9F75310 | A9F76410 | A9F77410 | A9F75410 | |
| | A9F73213 | A9F74213 | A9F75213 | A9F73313 | A9F74313 | A9F75313 | A9F73413 | A9F74413 | A9F75413 | |
| | A9F76216 | A9F77216 | A9F75216 | A9F76316 | A9F77316 | A9F75316 | A9F76416 | A9F77416 | A9F75416 | |
| | A9F76220 | A9F77220 | A9F75220 | A9F76320 | A9F77320 | A9F75320 | A9F76420 | A9F77420 | A9F75420 | |
| | A9F76225 | A9F77225 | A9F75225 | A9F76325 | A9F77325 | A9F75325 | A9F76425 | A9F77425 | A9F75425 | |
| | A9F76232 | A9F77232 | A9F75232 | A9F76332 | A9F77332 | A9F75332 | A9F76432 | A9F77432 | A9F75432 | |
| | A9F76240 | A9F77240 | A9F75240 | A9F76340 | A9F77340 | A9F75340 | A9F76440 | A9F77440 | A9F75440 | |
| | A9F76250 | A9F77250 | A9F75250 | A9F76350 | A9F77350 | A9F75350 | A9F76450 | A9F77450 | A9F75450 | |
| | A9F76263 | A9F77263 | A9F75263 | A9F76363 | A9F77363 | A9F75363 | A9F76463 | A9F77463 | A9F75463 | |
| 4 | Module CA907000 and CA907001 | | | 6 | Module CA907000 and CA907001 | | | 8 | Module CA907000 and CA907001 | |

iC60N circuit breakers (curve B, C, D)



IEC/EN 60947-2 IEC/EN 60898-1

- iC60N circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.



Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | Service breaking capacity (Ics) |
|---|--------------|--------------|--------------|-------|---------------------------------|
| | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | |
| Ph/Ph (2P, 3P, 4P) | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | 100 % of Icu |
| Ph/N (1P, 2P) | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | |
| Rating (In) 0.5 to 4 A | 50 kA | 50 kA | 50 kA | 25 kA | 75 % of Icu |
| 6 to 63 A | 36 kA | 20 kA | 10 kA | 6 kA | |

| Breaking capacity (Icn) according to IEC/EN 60898-1 | |
|---|--------------|
| Ph/Ph | Voltage (Ue) |
| Ph/Ph | 400 V |
| Ph/N | 230 V |
| Rating (In) 0.5 to 63 A | 6000 A |

Direct current (DC)

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | | Service breaking capacity (Ics) |
|---|--------------|------------|--------|---------|---------|---------------------------------|
| | Between +/- | 12 to 60 V | ≤ 72 V | ≤ 125 V | ≤ 180 V | |
| Number of poles | 1P | 2P | 3P | 4P | | 100 % of Icu |
| Rating (In) 1 to 63 A | 15 kA | 10 kA | 10 kA | 10 kA | 10 kA | |

Catalogue numbers

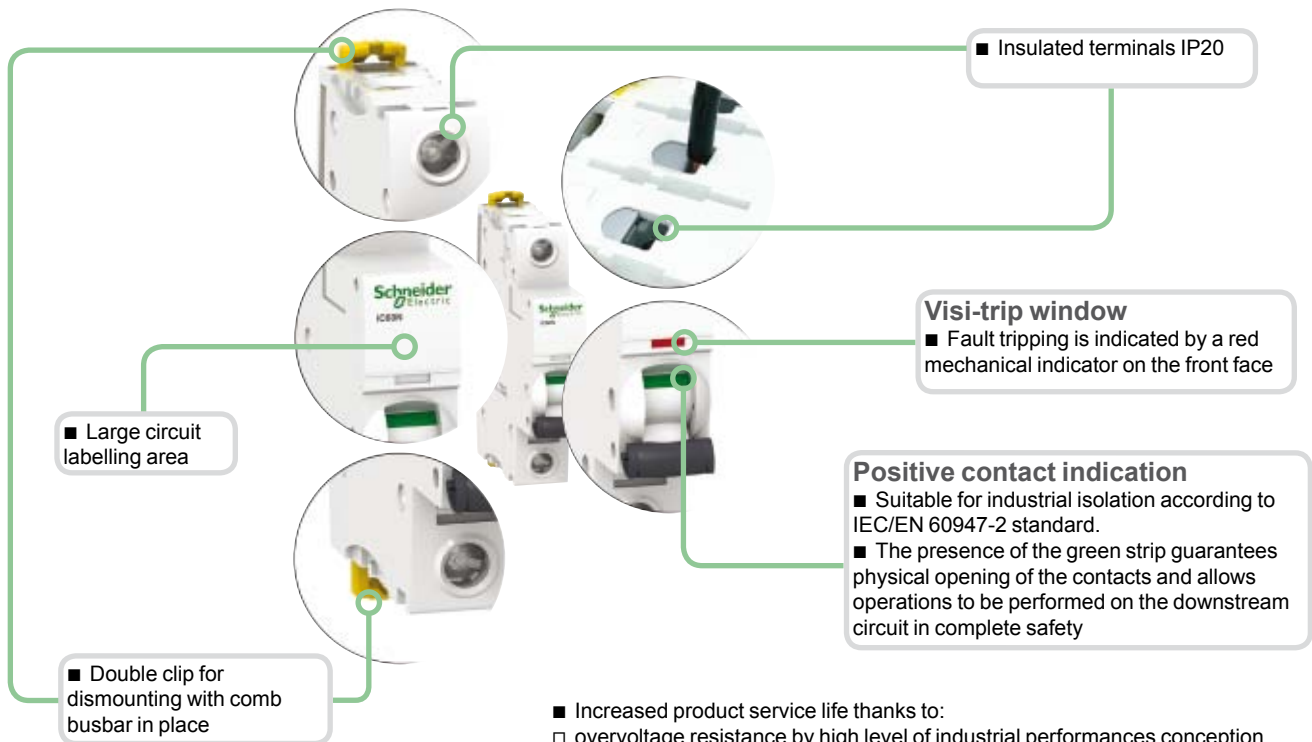
iC60N circuit breaker

| Type | 1P | | | 1P+N | | |
|-----------------------|--|----------|------------------|---|----------|------------------|
| | | | | | | |
| Auxiliaries | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current current device, module CA902005 | | |
| Rating (In) | Curve | | | Curve | | |
| | B | C | D ⁽¹⁾ | B | C | D ⁽¹⁾ |
| 0.5 A ⁽¹⁾ | A9F73170 | A9F74170 | A9F75170 | A9F73670 | A9F74670 | A9F75670 |
| 1 A ⁽¹⁾ | A9F73101 | A9F74101 | A9F75101 | A9F73601 | A9F74601 | A9F75601 |
| 2 A ⁽¹⁾ | A9F73102 | A9F74102 | A9F75102 | A9F73602 | A9F74602 | A9F75602 |
| 3 A ⁽¹⁾ | A9F73103 | A9F74103 | A9F75103 | A9F73603 | A9F74603 | A9F75603 |
| 4 A ⁽¹⁾ | A9F73104 | A9F74104 | A9F75104 | A9F73604 | A9F74604 | A9F75604 |
| 6 A | A9F78106 | A9F79106 | A9F75106 | A9F78606 | A9F79606 | A9F75606 |
| 10 A | A9F78110 | A9F79110 | A9F75110 | A9F78610 | A9F79610 | A9F75610 |
| 13 A ⁽¹⁾ | A9F73113 | A9F74113 | A9F75113 | A9F73613 | A9F74613 | A9F75613 |
| 16 A | A9F78116 | A9F79116 | A9F75116 | A9F78616 | A9F79616 | A9F75616 |
| 20 A | A9F78120 | A9F79120 | A9F75120 | A9F78620 | A9F79620 | A9F75620 |
| 25 A | A9F78125 | A9F79125 | A9F75125 | A9F78625 | A9F79625 | A9F75625 |
| 32 A | A9F78132 | A9F79132 | A9F75132 | A9F78632 | A9F79632 | A9F75632 |
| 40 A | A9F78140 | A9F79140 | A9F75140 | A9F78640 | A9F79640 | A9F75640 |
| 50 A | A9F78150 | A9F79150 | A9F75150 | A9F78650 | A9F79650 | A9F75650 |
| 63 A | A9F78163 | A9F79163 | A9F75163 | A9F78663 | A9F79663 | A9F75663 |
| Width in 9-mm modules | 2 | | | 4 | | |
| Accessories | Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | |

(1) VDE approved only.

iC60N circuit breakers (curve B, C, D) (cont.)

PB10434-40



- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

| 2P | | | | 3P | | | 4P | | | |
|--|----------|----------|----------|--|----------|----------|--|----------|--|------------------|
| E46094 | | | | E46095 | | | E46097 | | | |
| | | | | | | | | | | |
| Remote tripping and indication, module CA907000 and CA907002 | | | | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | | |
| Vigi iC60 add-on residual current device, module CA902005 | | | | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | |
| Curve | | | | Curve | | | Curve | | | |
| B | | C | | D ⁽¹⁾ | | B | | C | | D ⁽¹⁾ |
| A9F73270 | A9F74270 | A9F75270 | A9F73370 | A9F74370 | A9F75370 | A9F73470 | A9F74470 | A9F75470 | | |
| A9F73201 | A9F74201 | A9F75201 | A9F73301 | A9F74301 | A9F75301 | A9F73401 | A9F74401 | A9F75401 | | |
| A9F73202 | A9F74202 | A9F75202 | A9F73302 | A9F74302 | A9F75302 | A9F73402 | A9F74402 | A9F75402 | | |
| A9F73203 | A9F74203 | A9F75203 | A9F73303 | A9F74303 | A9F75303 | A9F73403 | A9F74403 | A9F75403 | | |
| A9F73204 | A9F74204 | A9F75204 | A9F73304 | A9F74304 | A9F75304 | A9F73404 | A9F74404 | A9F75404 | | |
| A9F78206 | A9F79206 | A9F75206 | A9F78306 | A9F79306 | A9F75306 | A9F78406 | A9F79406 | A9F75406 | | |
| A9F78210 | A9F79210 | A9F75210 | A9F78310 | A9F79310 | A9F75310 | A9F78410 | A9F79410 | A9F75410 | | |
| A9F73213 | A9F74213 | A9F75213 | A9F73313 | A9F74313 | A9F75313 | A9F73413 | A9F74413 | A9F75413 | | |
| A9F78216 | A9F79216 | A9F75216 | A9F78316 | A9F79316 | A9F75316 | A9F78416 | A9F79416 | A9F75416 | | |
| A9F78220 | A9F79220 | A9F75220 | A9F78320 | A9F79320 | A9F75320 | A9F78420 | A9F79420 | A9F75420 | | |
| A9F78225 | A9F79225 | A9F75225 | A9F78325 | A9F79325 | A9F75325 | A9F78425 | A9F79425 | A9F75425 | | |
| A9F78232 | A9F79232 | A9F75232 | A9F78332 | A9F79332 | A9F75332 | A9F78432 | A9F79432 | A9F75432 | | |
| A9F78240 | A9F79240 | A9F75240 | A9F78340 | A9F79340 | A9F75340 | A9F78440 | A9F79440 | A9F75440 | | |
| A9F78250 | A9F79250 | A9F75250 | A9F78350 | A9F79350 | A9F75350 | A9F78450 | A9F79450 | A9F75450 | | |
| A9F78263 | A9F79263 | A9F75263 | A9F78363 | A9F79363 | A9F75363 | A9F78463 | A9F79463 | A9F75463 | | |
| 4 | | | | 6 | | | 8 | | | |
| Module CA907000 and CA907001 | | | | Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | | |

iC60N circuit breakers (curve B, C, D)



IEC/EN 60947-2
IEC/EN 60898-1

- iC60N circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.



Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | Service breaking capacity (Ics) |
|---|--------------|--------------|--------------|-------|---------------------------------|
| | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | |
| Ph/Ph (2P, 3P, 4P) | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | 100 % of Icu |
| Ph/N (1P, 2P) | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | |
| Rating (In) | 0.5 to 4 A | 50 kA | 50 kA | 50 kA | 25 kA |
| | 6 to 63 A | 36 kA | 20 kA | 10 kA | 6 kA |
| | | | | | 75 % of Icu |

| Breaking capacity (Icn) according to IEC/EN 60898-1 | Voltage (Ue) | |
|---|--------------|--------|
| | Ph/Ph | Ph/N |
| | 400 V | 230 V |
| Rating (In) | 0.5 to 63 A | 6000 A |

Direct current (DC)

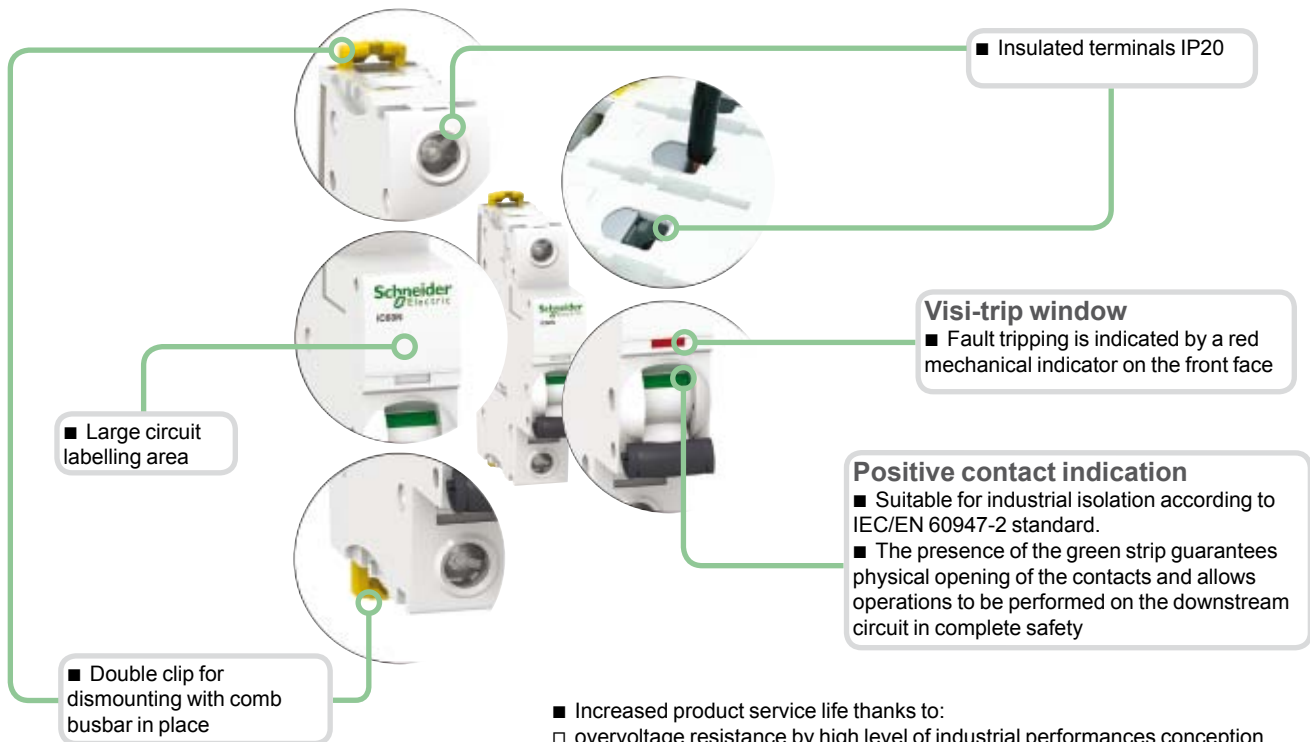
| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | | Service breaking capacity (Ics) |
|---|--------------|------------|--------|---------|---------|---------------------------------|
| | Between +/- | 12 to 60 V | ≤ 72 V | ≤ 125 V | ≤ 180 V | |
| Number of poles | 1P | | | 2P | 3P | 4P |
| Rating (In) | 1 to 63 A | 15 kA | 10 kA | 10 kA | 10 kA | 10 kA |
| | | | | | | 100 % of Icu |

Catalogue numbers

| iC60N circuit breaker | | | | | | |
|-----------------------|--|----------|----------|--|----------|----------|
| Type | 1P | | | 1P+N | | |
| | | | | | | |
| Auxiliaries | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | |
| Rating (In) | Curve | | | Curve | | |
| | B | C | D | B | C | D |
| 0.5 A | A9F73170 | A9F74170 | A9F75170 | A9F73670 | A9F74670 | A9F75670 |
| 1 A | A9F73101 | A9F74101 | A9F75101 | A9F73601 | A9F74601 | A9F75601 |
| 2 A | A9F73102 | A9F74102 | A9F75102 | A9F73602 | A9F74602 | A9F75602 |
| 3 A | A9F73103 | A9F74103 | A9F75103 | A9F73603 | A9F74603 | A9F75603 |
| 4 A | A9F73104 | A9F74104 | A9F75104 | A9F73604 | A9F74604 | A9F75604 |
| 6 A | A9F73106 | A9F74106 | A9F75106 | A9F73606 | A9F74606 | A9F75606 |
| 10 A | A9F73110 | A9F74110 | A9F75110 | A9F73610 | A9F74610 | A9F75610 |
| 13 A | A9F73113 | A9F74113 | A9F75113 | A9F73613 | A9F74613 | A9F75613 |
| 16 A | A9F73116 | A9F74116 | A9F75116 | A9F73616 | A9F74616 | A9F75616 |
| 20 A | A9F73120 | A9F74120 | A9F75120 | A9F73620 | A9F74620 | A9F75620 |
| 25 A | A9F73125 | A9F74125 | A9F75125 | A9F73625 | A9F74625 | A9F75625 |
| 32 A | A9F73132 | A9F74132 | A9F75132 | A9F73632 | A9F74632 | A9F75632 |
| 40 A | A9F73140 | A9F74140 | A9F75140 | A9F73640 | A9F74640 | A9F75640 |
| 50 A | A9F73150 | A9F74150 | A9F75150 | A9F73650 | A9F74650 | A9F75650 |
| 63 A | A9F73163 | A9F74163 | A9F75163 | A9F73663 | A9F74663 | A9F75663 |
| Width in 9-mm modules | 2 | | | 4 | | |
| Accessories | Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | |

iC60N circuit breakers (curve B, C, D) (cont.)

PB10434-40

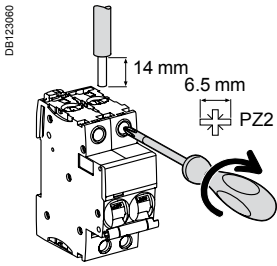


- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

| 2P | | | | 3P | | | 4P | | | | | | | |
|--|------------|----------|----------|--|----------|----------------|--|----------|--|--------|--------------------|--|--|--|
| E46094 | 1 3 ✱ ✱ | | | | E46095 | 1 3 5 ✱ ✱ ✱ | | | | E46097 | 1 3 5 7 ✱ ✱ ✱ ✱ | | | |
| | 2 4 | | | | | 2 4 6 | | | | | 2 4 6 8 | | | |
| Remote tripping and indication, module CA907000 and CA907002 | | | | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | | | | | | |
| Vigi iC60 add-on residual current device, module CA902005 | | | | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | | | | | |
| Curve | | | | Curve | | | Curve | | | | | | | |
| B | | C | | D | | B | | C | | D | | | | |
| A9F73270 | A9F74270 | A9F75270 | A9F73370 | A9F74370 | A9F75370 | A9F73470 | A9F74470 | A9F75470 | | | | | | |
| A9F73201 | A9F74201 | A9F75201 | A9F73301 | A9F74301 | A9F75301 | A9F73401 | A9F74401 | A9F75401 | | | | | | |
| A9F73202 | A9F74202 | A9F75202 | A9F73302 | A9F74302 | A9F75302 | A9F73402 | A9F74402 | A9F75402 | | | | | | |
| A9F73203 | A9F74203 | A9F75203 | A9F73303 | A9F74303 | A9F75303 | A9F73403 | A9F74403 | A9F75403 | | | | | | |
| A9F73204 | A9F74204 | A9F75204 | A9F73304 | A9F74304 | A9F75304 | A9F73404 | A9F74404 | A9F75404 | | | | | | |
| A9F73206 | A9F74206 | A9F75206 | A9F73306 | A9F74306 | A9F75306 | A9F73406 | A9F74406 | A9F75406 | | | | | | |
| A9F73210 | A9F74210 | A9F75210 | A9F73310 | A9F74310 | A9F75310 | A9F73410 | A9F74410 | A9F75410 | | | | | | |
| A9F73213 | A9F74213 | A9F75213 | A9F73313 | A9F74313 | A9F75313 | A9F73413 | A9F74413 | A9F75413 | | | | | | |
| A9F73216 | A9F74216 | A9F75216 | A9F73316 | A9F74316 | A9F75316 | A9F73416 | A9F74416 | A9F75416 | | | | | | |
| A9F73220 | A9F74220 | A9F75220 | A9F73320 | A9F74320 | A9F75320 | A9F73420 | A9F74420 | A9F75420 | | | | | | |
| A9F73225 | A9F74225 | A9F75225 | A9F73325 | A9F74325 | A9F75325 | A9F73425 | A9F74425 | A9F75425 | | | | | | |
| A9F73232 | A9F74232 | A9F75232 | A9F73332 | A9F74332 | A9F75332 | A9F73432 | A9F74432 | A9F75432 | | | | | | |
| A9F73240 | A9F74240 | A9F75240 | A9F73340 | A9F74340 | A9F75340 | A9F73440 | A9F74440 | A9F75440 | | | | | | |
| A9F73250 | A9F74250 | A9F75250 | A9F73350 | A9F74350 | A9F75350 | A9F73450 | A9F74450 | A9F75450 | | | | | | |
| A9F73263 | A9F74263 | A9F75263 | A9F73363 | A9F74363 | A9F75363 | A9F73463 | A9F74463 | A9F75463 | | | | | | |
| 4 | | | | 6 | | | 8 | | | | | | | |
| Module CA907000 and CA907001 | | | | Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | | | | | | |

iC60N circuit breakers (curve B, C, D) (cont.)

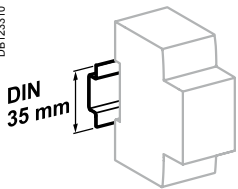
Connection



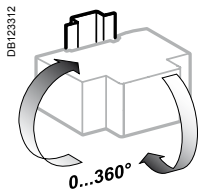
| Rating | Tightening torque | Without accessory | | With accessories | | |
|-------------|-------------------|-------------------------|-------------------------|--------------------------------|---------------------------------------|------------------------|
| | | Rigid | Flexible or ferrule | 50 mm ² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal |
| 0.5 to 25 A | 2 N.m | DB1122945 | DB1122946 | DB1122945 | DB118789 | DB118787 |
| 32 to 63 A | 3.5 N.m | 1 to 25 mm ² | 1 to 16 mm ² | - | Ø 5 mm | - |
| | | 1 to 35 mm ² | 1 to 25 mm ² | 50 mm ² | | 3 x 16 mm ² |
| | | | | | | 3 x 10 mm ² |

Technical data

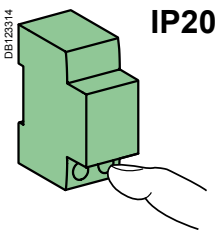
| Main characteristics | |
|---|--|
| According to IEC/EN 60947-2 | |
| Insulation voltage (U _i) | 500 V AC |
| Pollution degree | 3 |
| Rated impulse withstand voltage (U _{imp}) | 6 kV |
| Thermal tripping | Reference temperature 50 °C |
| | Temperature derating See module CA908007 |
| Magnetic tripping | B curve 4 I _n ± 20 % |
| | C curve 8 I _n ± 20 % |
| | D curve 12 I _n ± 20 % |
| Utilization category | A |
| According to IEC/EN 60898-1 | |
| Limitation class | 3 |
| Rated making and breaking capacity of an individual pole (I _{cn1}) | I _{cn1} = I _{cn} |
| Additional characteristics | |
| Breaking capacity under 1 pole with IT 380-415 V isolated neutral system (case of double fault) | 40 A 4 kA 50/63 A 3 kA |
| Degree of protection (IEC 60529) | Device only IP20 Device in modular enclosure IP40 Insulation classe II |
| Endurance (O-C) | Electrical 10,000 cycles Mechanical 20,000 cycles |
| Overvoltage category (IEC 60364) | IV |
| Operating temperature | -35°C to +70°C |
| Storage temperature | -40°C to +85°C |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity 95 % to 55°C) |



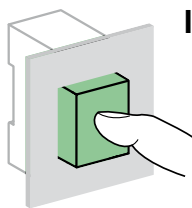
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20

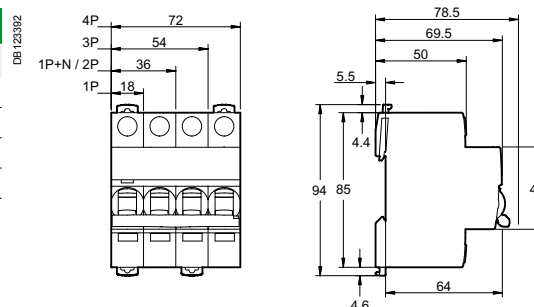


IP40

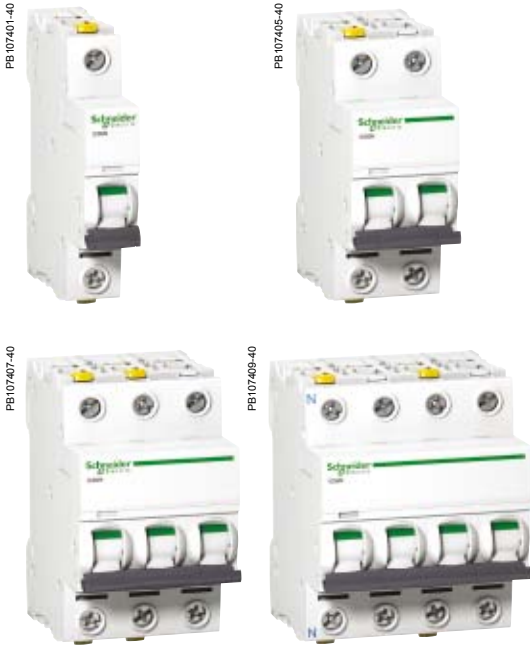
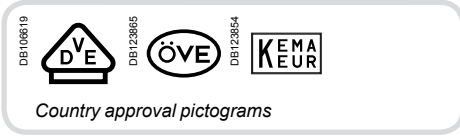
Weight (g)

| Circuit-breaker | |
|-----------------|-------|
| Type | iC60N |
| 1P | 125 |
| 2P | 250 |
| 3P | 375 |
| 4P | 500 |

Dimensions (mm)



iC60N double terminals circuit breakers (curve B, C, D)



IEC/EN 60947-2 IEC/EN 60898-1

- iC60N double terminal terminals circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.

Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | Service breaking capacity (Ics) |
|---|-------------------------|----------------|----------------|----------------|---------------------------------|
| | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | |
| Ph/Ph (2P, 3P, 3P+N, 4P) | | | | | 100 % of Icu 75 % of Icu |
| Ph/N (1P, 1P+N) | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | |
| Rating (In) | 0.5 to 4 A 6 to 63 A | 50 kA 36 kA | 50 kA 20 kA | 50 kA 10 kA | 25 kA 6 kA |

Breaking capacity (Icn) according to IEC/EN 60898-1

| Breaking capacity (Icn) according to IEC/EN 60898-1 | Voltage (Ue) | |
|---|--------------|--------|
| | Ph/Ph | Ph/N |
| Rating (In) | 0.5 to 63 A | 6000 A |

Direct current (DC)

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | | Service breaking capacity (Ics) |
|---|--------------|------------|--------|---------|---------|---------------------------------|
| | Between +/- | 12 to 60 V | ≤ 72 V | ≤ 125 V | ≤ 180 V | |
| Number of poles | 1P | | 2P | 3P | 4P | 100 % of Icu |
| Rating (In) | 1 to 63 A | 15 kA | 10 kA | 10 kA | 10 kA | |

Catalogue numbers

iC60N double terminals circuit breaker

| Type | 1P | 1P+N | 2P |
|-----------------------|--|--|--|
| Auxiliaries | Remote tripping and indication, module CA907000 and CA907002 | Remote tripping and indication, module CA907000 and CA907002 | Remote tripping and indication, module CA907000 and CA907002 |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | Vigi iC60 add-on residual current device, module CA902005 | Vigi iC60 add-on residual current device, module CA902005 |
| Rating (In) | Curve B C D | Curve B C | Curve B C D |
| 0.5 A | - A9F04170 A9F05170 | - A9F04670 | - A9F04270 A9F05270 |
| 1 A | A9F03101 A9F04101 A9F05101 | - A9F04601 | - A9F04201 A9F05201 |
| 2 A | A9F03102 A9F04102 A9F05102 | - A9F04602 | A9F03202 A9F04202 A9F05202 |
| 3 A | - A9F04103 A9F05103 | - A9F04603 | - A9F04203 A9F05203 |
| 4 A | A9F03104 A9F04104 A9F05104 | - A9F04604 | A9F03204 A9F04204 A9F05204 |
| 6 A | A9F03106 A9F04106 A9F05106 | A9F03606 A9F04606 | A9F03206 A9F04206 A9F05206 |
| 10 A | A9F03110 A9F04110 A9F05110 | A9F03610 A9F04610 | A9F03210 A9F04210 A9F05210 |
| 13 A | A9F03113 A9F04113 A9F05113 | A9F03613 A9F04613 | A9F03213 A9F04213 A9F05213 |
| 16 A | A9F03116 A9F04116 A9F05116 | A9F03616 A9F04616 | A9F03216 A9F04216 A9F05216 |
| 20 A | A9F03120 A9F04120 A9F05120 | A9F03620 A9F04620 | A9F03220 A9F04220 A9F05220 |
| 25 A | A9F03125 A9F04125 A9F05125 | A9F03625 A9F04625 | A9F03225 A9F04225 A9F05225 |
| 32 A | A9F03132 A9F04132 A9F05132 | A9F03632 A9F04632 | A9F03232 A9F04232 A9F05232 |
| 40 A | A9F03140 A9F04140 A9F05140 | A9F03640 A9F04640 | A9F03240 A9F04240 A9F05240 |
| 50 A | A9F03150 A9F04150 A9F05150 | A9F03650 A9F04650 | A9F03250 A9F04250 A9F05250 |
| 63 A | A9F03163 A9F04163 A9F05163 | A9F03663 A9F04663 | A9F03263 A9F04263 A9F05263 |
| Width in 9-mm modules | 2 | 4 | 4 |
| Accessories | Modules CA907000 and CA907001 | Modules CA907000 and CA907001 | Modules CA907000 and CA907001 |

iC60N double terminals circuit breakers (curve B, C, D) (cont.)

- Insulated terminals IP20
- Large circuit labelling area
- Double clip locking allowing tool-free removal, front panel side, with the comb busbar in position
- Double terminals
 - For top or bottom connections:
 - by cable,
 - by comb busbar
- Visi-trip window
 - Fault tripping is indicated by a red mechanical indicator on the front face
- Positive contact indication
 - Suitable for industrial isolation according to IEC/EN 60947-2 standard
 - The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety
- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

| 3P | | | 3P+N | | | 4P | | |
|--|----------|----------|--|----------|--|--|----------|----------|
| | | | | | | | | |
| Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | |
| Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | |
| Curve | | | Curve | | | Curve | | |
| B | C | D | B | C | | B | C | D |
| - | A9F04370 | A9F05370 | - | A9F04770 | | - | A9F04470 | A9F05470 |
| - | A9F04301 | A9F05301 | - | A9F04701 | | - | A9F04401 | A9F05401 |
| A9F03302 | A9F04302 | A9F05302 | - | A9F04702 | | - | A9F04402 | A9F05402 |
| - | A9F04303 | A9F05303 | - | A9F04703 | | - | A9F04403 | A9F05403 |
| - | A9F04304 | A9F05304 | - | A9F04704 | | - | A9F04404 | A9F05404 |
| A9F03306 | A9F04306 | A9F05306 | A9F03706 | A9F04706 | | A9F03406 | A9F04406 | A9F05406 |
| A9F03310 | A9F04310 | A9F05310 | A9F03710 | A9F04710 | | A9F03410 | A9F04410 | A9F05410 |
| A9F03313 | A9F04313 | A9F05313 | A9F03713 | A9F04713 | | A9F03413 | A9F04413 | A9F05413 |
| A9F03316 | A9F04316 | A9F05316 | A9F03716 | A9F04716 | | A9F03416 | A9F04416 | A9F05416 |
| A9F03320 | A9F04320 | A9F05320 | A9F03720 | A9F04720 | | A9F03420 | A9F04420 | A9F05420 |
| A9F03325 | A9F04325 | A9F05325 | A9F03725 | A9F04725 | | A9F03425 | A9F04425 | A9F05425 |
| A9F03332 | A9F04332 | A9F05332 | A9F03732 | A9F04732 | | A9F03432 | A9F04432 | A9F05432 |
| A9F03340 | A9F04340 | A9F05340 | A9F03740 | A9F04740 | | A9F03440 | A9F04440 | A9F05440 |
| A9F03350 | A9F04350 | A9F05350 | A9F03750 | A9F04750 | | A9F03450 | A9F04450 | A9F05450 |
| A9F03363 | A9F04363 | A9F05363 | A9F03763 | A9F04763 | | A9F03463 | A9F04463 | A9F05463 |
| 6 | | | 8 | | | 8 | | |
| Modules CA907000 and CA907001 | | | Modules CA907000 and CA907001 | | | Modules CA907000 and CA907001 | | |

iC60N double terminals circuit breakers (curve B, C, D) (cont.)

Connection between double terminal circuit breakers

With comb busbar at the back/cables at the front

Without comb busbar at the back/cables at the front

DBA04815



| | | Back | Front | |
|-------------|-------------------|------------------------|-------------------------|-------------------------|
| Rating | Tightening torque | Comb busbar | Copper cables | |
| | | Thickness of the teeth | Rigid | Flexible or ferrule |
| | | | DB122945 | DB122946 |
| 0.5 to 25 A | 2 N.m | 1.5 mm | 1 to 25 mm ² | 1 to 16 mm ² |
| 32 to 63 A | 3.5 N.m | 1.5 mm | 1 to 25 mm ² | 1 to 25 mm ² |

Between double terminal circuit breakers and single-terminal circuit breakers

Cables at the back/comb busbar at the front

DBA04817

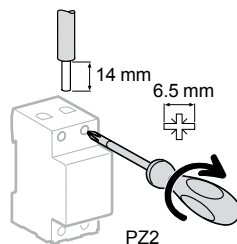


| | | Back | Front | |
|-------------|-------------------|-------------------------|-------------------------|------------------------|
| Rating | Tightening torque | Copper cables | | Comb busbar |
| | | Rigid | Flexible or ferrule | Thickness of the teeth |
| | | DB122945 | DB122946 | |
| 0.5 to 25 A | 2 N.m | 1 to 16 mm ² | 1 to 10 mm ² | 1.5 mm |
| 32 to 63 A | 3.5 N.m | 1 to 16 mm ² | 1 to 10 mm ² | 1.5 mm |

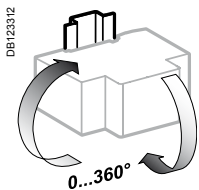
- Connection by comb busbar or by cable (according to EN 50027).

Connection

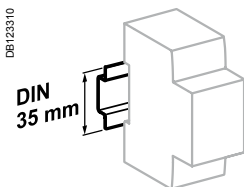
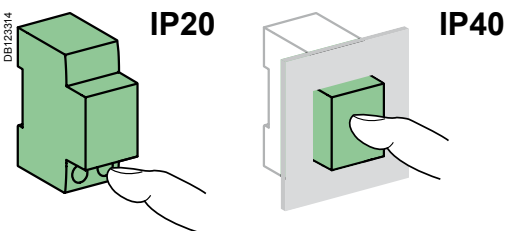
DB123847



| | | With accessories | | |
|-------------|--------------------------------|---------------------------------------|------------------------|------------------------|
| Rating | 50 mm ² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal | |
| | | | Rigid cables | Flexible cables |
| | | DB122935 | DB118787 | |
| 0.5 to 25 A | - | Ø 5 mm | - | - |
| 32 to 63 A | 50 mm ² | | 3 x 16 mm ² | 3 x 10 mm ² |



Indifferent position of installation.



Clip on DIN rail 35 mm.

Technical data

Main characteristics

According to IEC/EN 60947-2

| | | |
|---|-----------------------|--------------------------|
| Insulation voltage (U _i) | 500 V AC | |
| Pollution degree | 3 | |
| Rated impulse withstand voltage (U _{imp}) | 6 kV | |
| Thermal tripping | Reference temperature | 50°C |
| | Temperature derating | See module CA908007 |
| Magnetic tripping | B curve | 4 I _n ± 20 % |
| | C curve | 8 I _n ± 20 % |
| | D curve | 12 I _n ± 20 % |
| Utilization category | A | |

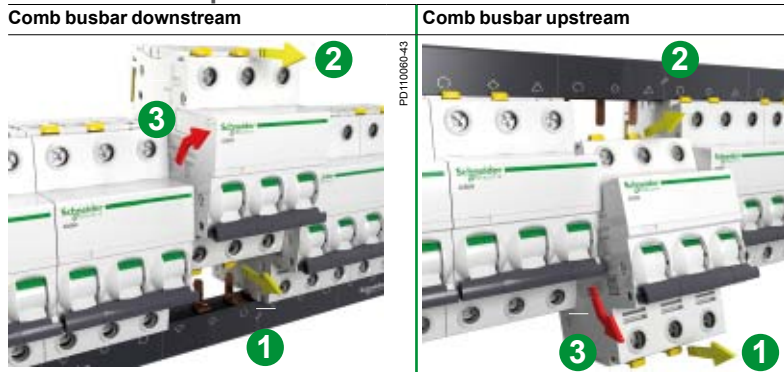
According to IEC/EN 60898-1

| | |
|--|------------------------------------|
| Limitation class | 3 |
| Rated making and breaking capacity of an individual pole (I _{cn1}) | I _{cn1} = I _{cn} |

Additional characteristics

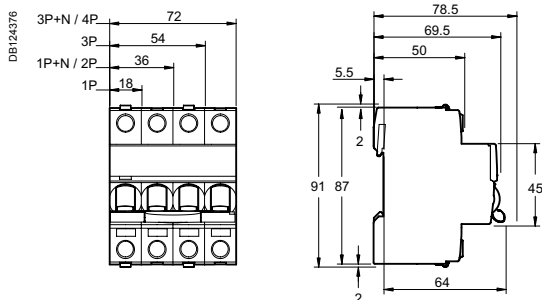
| | | |
|----------------------------------|--|------------------------------|
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 Insulation classe II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | IV | |
| Operating temperature | -35°C to +70°C | |
| Storage temperature | -40°C to +85°C | |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity 95 % to 55°C) | |

Disassembly double terminals iC60 circuit breaker with the comb busbar in position



- 1- Pull lower "clip locking"
- 2- Pull upper "clip locking"
- 3- Remove the circuit breaker

Dimensions (mm)



Weight (g)

Circuit-breaker

| Type | iC60N |
|-----------|-------|
| 1P | 125 |
| 2P (1P+N) | 250 |
| 3P | 375 |
| 4P (3P+N) | 500 |

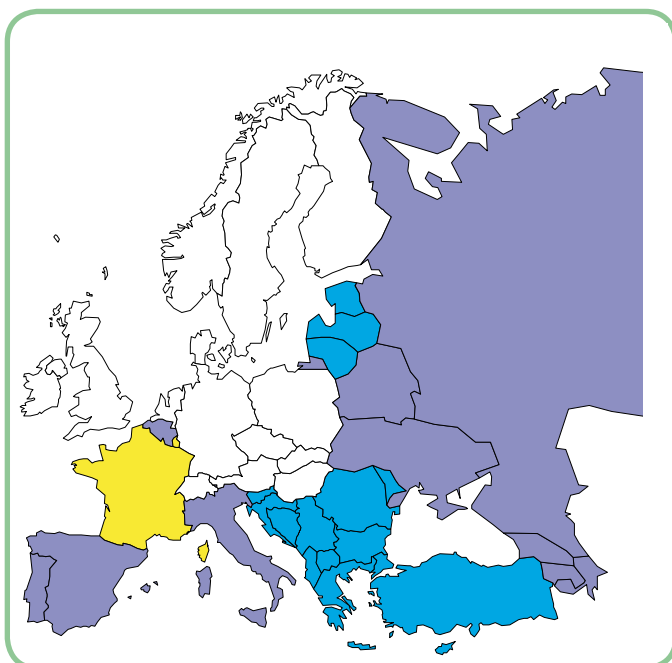


Schneider Electric's range of circuit breakers consists of different products (A, B, C) to enable it to be the most competitive range possible in each country, allowing for the special characteristics of each market:

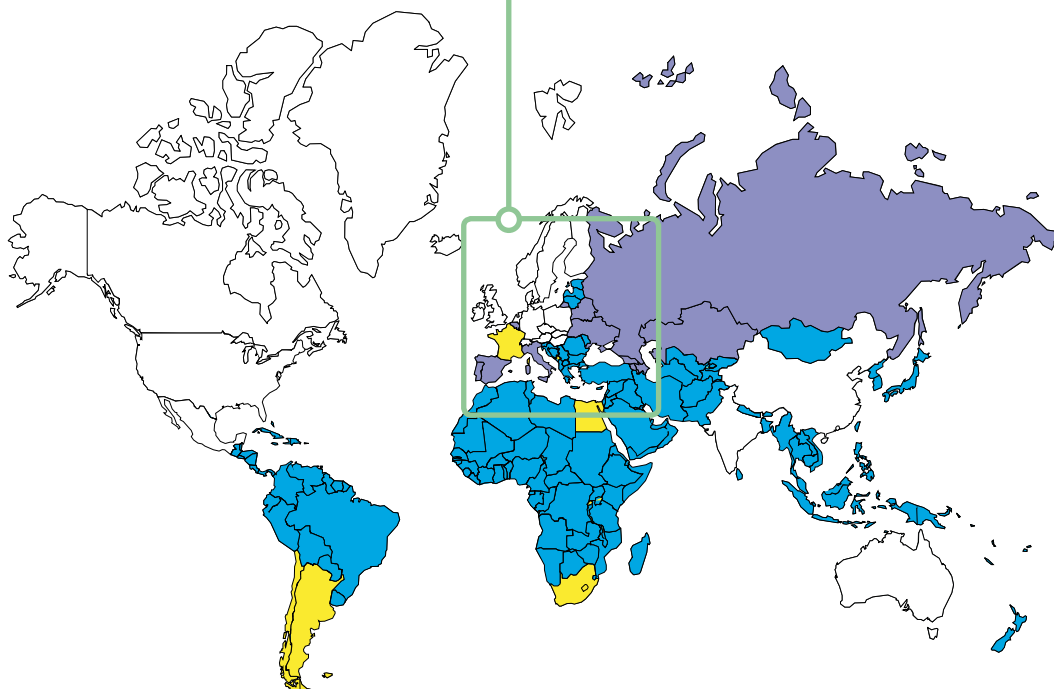
- usual installation procedure
- price
- accreditations by local bodies.

Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 48 |
| Offer B | Catalogue numbers | 50 |
| Offer C | Catalogue numbers | 52 |
| Common pages | | 54 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.



iC60H circuit breakers (curve B, C, D)



IEC/EN 60947-2 IEC/EN 60898-1

- iC60H circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.



| Alternating current (AC) 50/60 Hz | | | | | | |
|---|--------------|--------------|--------------|-------|--------|---------------------------------|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
| | Voltage (Ue) | | | | | |
| Ph/Ph (2P, 3P, 4P) | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | | 100 % of Icu |
| Ph/N (1P, 1P+N) | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | | |
| Rating (In) 0.5 to 4 A | 70 kA | 70 kA | 70 kA | 50 kA | 100 kA | 50 % of Icu |
| 6 to 63 A | 42 kA | 30 kA | 15 kA | 10 kA | | |
| Breaking capacity (Icn) according to IEC/EN 60898-1 | | | | | | |
| | Voltage (Ue) | | | | | |
| Ph/Ph | 400 V | | | | | |
| Ph/N | 230 V | | | | | |
| Rating (In) 0.5 to 63 A | 10000 A | | | | | |

| Direct current (DC) | | | | | | |
|---|--------------|--------|---------|---------|---------|---------------------------------|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
| | Voltage (Ue) | | | | | |
| Between +/- | 12 to 60 V | ≤ 72 V | ≤ 125 V | ≤ 180 V | ≤ 250 V | 100 % of Icu |
| Number of poles | 1P | | 2P | 3P | 4P | |
| Rating (In) 1 to 63 A | 20 kA | 15 kA | 15 kA | 15 kA | 15 kA | |

Catalogue numbers

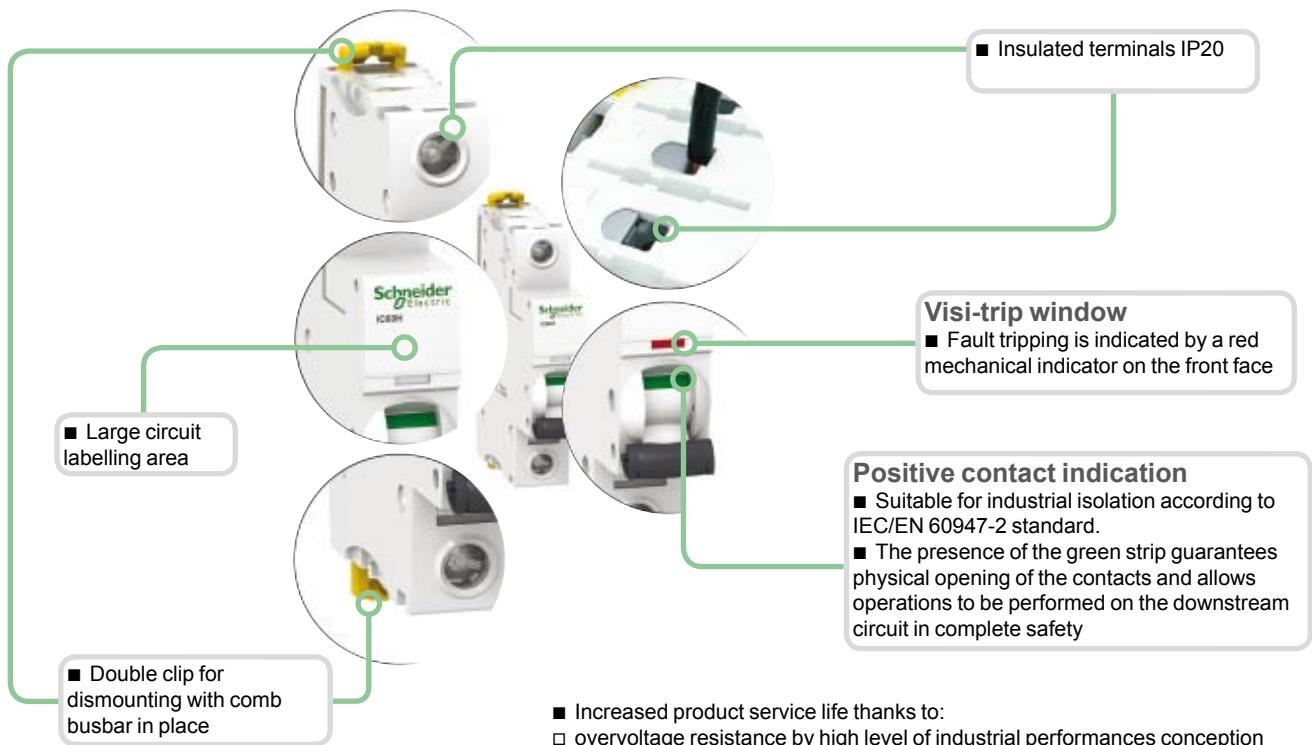
iC60H circuit breaker

| Type | 1P | | | 1P+N | | |
|-----------------------|--|----------|------------------|--|----------|------------------|
| | | | | | | |
| Auxiliaries | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | |
| Rating (In) | Curve | | | Curve | | |
| | B | C | D ⁽¹⁾ | B | C | D ⁽¹⁾ |
| 0.5 A ⁽¹⁾ | A9F83170 | A9F84170 | A9F85170 | A9F83670 | A9F84670 | A9F85670 |
| 1 A ⁽¹⁾ | A9F83101 | A9F84101 | A9F85101 | A9F83601 | A9F84601 | A9F85601 |
| 2 A ⁽¹⁾ | A9F83102 | A9F84102 | A9F85102 | A9F83602 | A9F84602 | A9F85602 |
| 3 A ⁽¹⁾ | A9F83103 | A9F84103 | A9F85103 | A9F83603 | A9F84603 | A9F85603 |
| 4 A ⁽¹⁾ | A9F83104 | A9F84104 | A9F85104 | A9F83604 | A9F84604 | A9F85604 |
| 6 A | A9F86106 | A9F87106 | A9F85106 | A9F86606 | A9F87606 | A9F85606 |
| 10 A | A9F86110 | A9F87110 | A9F85110 | A9F86610 | A9F87610 | A9F85610 |
| 13 A ⁽¹⁾ | A9F83113 | A9F84113 | A9F85113 | A9F83613 | A9F84613 | A9F85613 |
| 16 A | A9F86116 | A9F87116 | A9F85116 | A9F86616 | A9F87616 | A9F85616 |
| 20 A | A9F86120 | A9F87120 | A9F85120 | A9F86620 | A9F87620 | A9F85620 |
| 25 A | A9F86125 | A9F87125 | A9F85125 | A9F86625 | A9F87625 | A9F85625 |
| 32 A | A9F86132 | A9F87132 | A9F85132 | A9F86632 | A9F87632 | A9F85632 |
| 40 A | A9F86140 | A9F87140 | A9F85140 | A9F86640 | A9F87640 | A9F85640 |
| 50 A | A9F86150 | A9F87150 | A9F85150 | A9F86650 | A9F87650 | A9F85650 |
| 63 A | A9F86163 | A9F87163 | A9F85163 | A9F86663 | A9F87663 | A9F85663 |
| Width in 9-mm modules | 2 | | | 4 | | |
| Accessories | Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | |

(1) VDE approved only.

iC60H circuit breakers (curve B, C, D) (cont.)

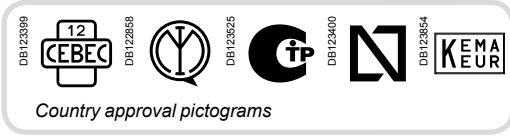
PB104495-40



- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

| 2P | | | 3P | | | 4P | | | | |
|--|------------------------------|----------|--|----------|------------------------------|--|----------|----------|------------------------------|--|
| E-6094 | | | E-6095 | | | E-6097 | | | | |
| | | | | | | | | | | |
| Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | | | |
| Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | | |
| Curve | | | Curve | | | Curve | | | | |
| | B | C | D ⁽¹⁾ | B | C | D ⁽¹⁾ | B | C | D ⁽¹⁾ | |
| | A9F83270 | A9F84270 | A9F85270 | A9F83370 | A9F84370 | A9F85370 | A9F83470 | A9F84470 | A9F85470 | |
| | A9F83201 | A9F84201 | A9F85201 | A9F83301 | A9F84301 | A9F85301 | A9F83401 | A9F84401 | A9F85401 | |
| | A9F83202 | A9F84202 | A9F85202 | A9F83302 | A9F84302 | A9F85302 | A9F83402 | A9F84402 | A9F85402 | |
| | A9F83203 | A9F84203 | A9F85203 | A9F83303 | A9F84303 | A9F85303 | A9F83403 | A9F84403 | A9F85403 | |
| | A9F83204 | A9F84204 | A9F85204 | A9F83304 | A9F84304 | A9F85304 | A9F83404 | A9F84404 | A9F85404 | |
| | A9F86206 | A9F87206 | A9F85206 | A9F86306 | A9F87306 | A9F85306 | A9F86406 | A9F87406 | A9F85406 | |
| | A9F86210 | A9F87210 | A9F85210 | A9F86310 | A9F87310 | A9F85310 | A9F86410 | A9F87410 | A9F85410 | |
| | A9F83213 | A9F84213 | A9F85213 | A9F83313 | A9F84313 | A9F85313 | A9F83413 | A9F84413 | A9F85413 | |
| | A9F86216 | A9F87216 | A9F85216 | A9F86316 | A9F87316 | A9F85316 | A9F86416 | A9F87416 | A9F85416 | |
| | A9F86220 | A9F87220 | A9F85220 | A9F86320 | A9F87320 | A9F85320 | A9F86420 | A9F87420 | A9F85420 | |
| | A9F86225 | A9F87225 | A9F85225 | A9F86325 | A9F87325 | A9F85325 | A9F86425 | A9F87425 | A9F85425 | |
| | A9F86232 | A9F87232 | A9F85232 | A9F86332 | A9F87332 | A9F85332 | A9F86432 | A9F87432 | A9F85432 | |
| | A9F86240 | A9F87240 | A9F85240 | A9F86340 | A9F87340 | A9F85340 | A9F86440 | A9F87440 | A9F85440 | |
| | A9F86250 | A9F87250 | A9F85250 | A9F86350 | A9F87350 | A9F85350 | A9F86450 | A9F87450 | A9F85450 | |
| | A9F86263 | A9F87263 | A9F85263 | A9F86363 | A9F87363 | A9F85363 | A9F86463 | A9F87463 | A9F85463 | |
| 4 | Module CA907000 and CA907001 | | | 6 | Module CA907000 and CA907001 | | | 8 | Module CA907000 and CA907001 | |

iC60H circuit breakers (curve B, C, D)



IEC/EN 60947-2 IEC/EN 60898-1

- iC60H circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.

PB 004441-40





| Alternating current (AC) 50/60 Hz | | | | | | |
|---|--------------|--------------|--------------|-------|--|---------------------------------|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
| | Voltage (Ue) | | | | | |
| Ph/Ph (2P, 3P, 4P) | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | | 100 % of Icu |
| Ph/N (1P, 1P+N) | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | | |
| Rating (In) 0.5 to 4 A | 70 kA | 70 kA | 70 kA | 50 kA | | 50 % of Icu |
| 6 to 63 A | 42 kA | 30 kA | 15 kA | 10 kA | | |
| Breaking capacity (Icn) according to IEC/EN 60898-1 | | | | | | |
| | Voltage (Ue) | | | | | |
| Ph/Ph | 400 V | | | | | |
| Ph/N | 230 V | | | | | |
| Rating (In) 0.5 to 63 A | 10000 A | | | | | |

| Direct current (DC) | | | | | | |
|---|--------------|--------|---------|---------|---------|---------------------------------|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
| | Voltage (Ue) | | | | | |
| Between +/- | 12 to 60 V | ≤ 72 V | ≤ 125 V | ≤ 180 V | ≤ 250 V | 100 % of Icu |
| Number of poles | 1P | | 2P | 3P | 4P | |
| Rating (In) 1 to 63 A | 20 kA | 15 kA | 15 kA | 15 kA | 15 kA | |

Catalogue numbers

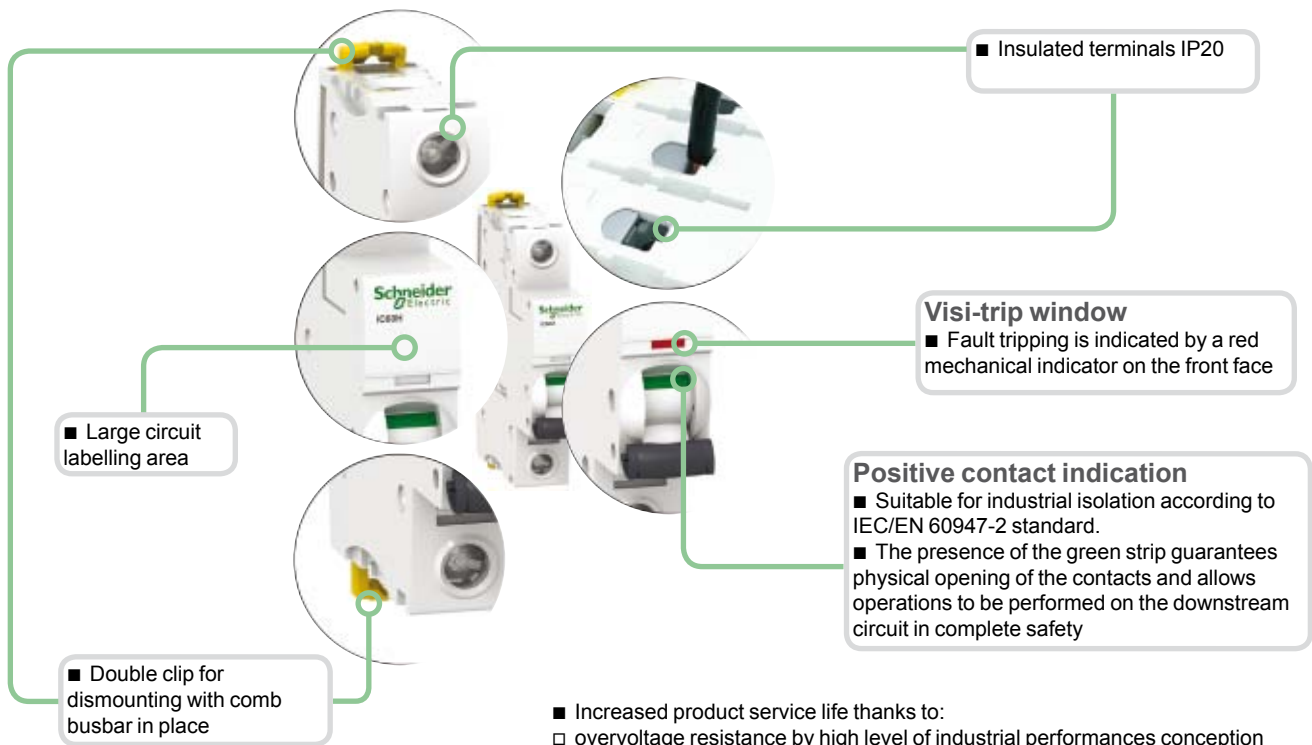
iC60H circuit breaker

| Type | 1P | | | 1P+N | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------|--|----------|------------------|---|---|---|------------------|----------------------|----------|----------|----------|--------------------|----------|----------|----------|--------------------|----------|----------|----------|--------------------|----------|----------|----------|--------------------|----------|----------|----------|-----|----------|----------|----------|------|----------|----------|----------|---------------------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|--|--|--|-------|---|---|------------------|----------------------|----------|----------|----------|--------------------|----------|----------|----------|--------------------|----------|----------|----------|--------------------|----------|----------|----------|--------------------|----------|----------|----------|-----|----------|----------|----------|------|----------|----------|----------|---------------------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|------|----------|----------|----------|
| |  | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Auxiliaries | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rating (In) | <table border="1"> <thead> <tr> <th>Curve</th> <th>B</th> <th>C</th> <th>D⁽¹⁾</th> </tr> </thead> <tbody> <tr><td>0.5 A⁽¹⁾</td><td>A9F83170</td><td>A9F84170</td><td>A9F85170</td></tr> <tr><td>1 A⁽¹⁾</td><td>A9F83101</td><td>A9F84101</td><td>A9F85101</td></tr> <tr><td>2 A⁽¹⁾</td><td>A9F83102</td><td>A9F84102</td><td>A9F85102</td></tr> <tr><td>3 A⁽¹⁾</td><td>A9F83103</td><td>A9F84103</td><td>A9F85103</td></tr> <tr><td>4 A⁽¹⁾</td><td>A9F83104</td><td>A9F84104</td><td>A9F85104</td></tr> <tr><td>6 A</td><td>A9F88106</td><td>A9F89106</td><td>A9F85106</td></tr> <tr><td>10 A</td><td>A9F88110</td><td>A9F89110</td><td>A9F85110</td></tr> <tr><td>13 A⁽¹⁾</td><td>A9F83113</td><td>A9F84113</td><td>A9F85113</td></tr> <tr><td>16 A</td><td>A9F88116</td><td>A9F89116</td><td>A9F85116</td></tr> <tr><td>20 A</td><td>A9F88120</td><td>A9F89120</td><td>A9F85120</td></tr> <tr><td>25 A</td><td>A9F88125</td><td>A9F89125</td><td>A9F85125</td></tr> <tr><td>32 A</td><td>A9F88132</td><td>A9F89132</td><td>A9F85132</td></tr> <tr><td>40 A</td><td>A9F88140</td><td>A9F89140</td><td>A9F85140</td></tr> <tr><td>50 A</td><td>A9F88150</td><td>A9F89150</td><td>A9F85150</td></tr> <tr><td>63 A</td><td>A9F88163</td><td>A9F89163</td><td>A9F85163</td></tr> </tbody> </table> | | | Curve | B | C | D ⁽¹⁾ | 0.5 A ⁽¹⁾ | A9F83170 | A9F84170 | A9F85170 | 1 A ⁽¹⁾ | A9F83101 | A9F84101 | A9F85101 | 2 A ⁽¹⁾ | A9F83102 | A9F84102 | A9F85102 | 3 A ⁽¹⁾ | A9F83103 | A9F84103 | A9F85103 | 4 A ⁽¹⁾ | A9F83104 | A9F84104 | A9F85104 | 6 A | A9F88106 | A9F89106 | A9F85106 | 10 A | A9F88110 | A9F89110 | A9F85110 | 13 A ⁽¹⁾ | A9F83113 | A9F84113 | A9F85113 | 16 A | A9F88116 | A9F89116 | A9F85116 | 20 A | A9F88120 | A9F89120 | A9F85120 | 25 A | A9F88125 | A9F89125 | A9F85125 | 32 A | A9F88132 | A9F89132 | A9F85132 | 40 A | A9F88140 | A9F89140 | A9F85140 | 50 A | A9F88150 | A9F89150 | A9F85150 | 63 A | A9F88163 | A9F89163 | A9F85163 | <table border="1"> <thead> <tr> <th>Curve</th> <th>B</th> <th>C</th> <th>D⁽¹⁾</th> </tr> </thead> <tbody> <tr><td>0.5 A⁽¹⁾</td><td>A9F83670</td><td>A9F84670</td><td>A9F85670</td></tr> <tr><td>1 A⁽¹⁾</td><td>A9F83601</td><td>A9F84601</td><td>A9F85601</td></tr> <tr><td>2 A⁽¹⁾</td><td>A9F83602</td><td>A9F84602</td><td>A9F85602</td></tr> <tr><td>3 A⁽¹⁾</td><td>A9F83603</td><td>A9F84603</td><td>A9F85603</td></tr> <tr><td>4 A⁽¹⁾</td><td>A9F83604</td><td>A9F84604</td><td>A9F85604</td></tr> <tr><td>6 A</td><td>A9F88606</td><td>A9F89606</td><td>A9F85606</td></tr> <tr><td>10 A</td><td>A9F88610</td><td>A9F89610</td><td>A9F85610</td></tr> <tr><td>13 A⁽¹⁾</td><td>A9F83613</td><td>A9F84613</td><td>A9F85613</td></tr> <tr><td>16 A</td><td>A9F88616</td><td>A9F89616</td><td>A9F85616</td></tr> <tr><td>20 A</td><td>A9F88620</td><td>A9F89620</td><td>A9F85620</td></tr> <tr><td>25 A</td><td>A9F88625</td><td>A9F89625</td><td>A9F85625</td></tr> <tr><td>32 A</td><td>A9F88632</td><td>A9F89632</td><td>A9F85632</td></tr> <tr><td>40 A</td><td>A9F88640</td><td>A9F89640</td><td>A9F85640</td></tr> <tr><td>50 A</td><td>A9F88650</td><td>A9F89650</td><td>A9F85650</td></tr> <tr><td>63 A</td><td>A9F88663</td><td>A9F89663</td><td>A9F85663</td></tr> </tbody> </table> | | | Curve | B | C | D ⁽¹⁾ | 0.5 A ⁽¹⁾ | A9F83670 | A9F84670 | A9F85670 | 1 A ⁽¹⁾ | A9F83601 | A9F84601 | A9F85601 | 2 A ⁽¹⁾ | A9F83602 | A9F84602 | A9F85602 | 3 A ⁽¹⁾ | A9F83603 | A9F84603 | A9F85603 | 4 A ⁽¹⁾ | A9F83604 | A9F84604 | A9F85604 | 6 A | A9F88606 | A9F89606 | A9F85606 | 10 A | A9F88610 | A9F89610 | A9F85610 | 13 A ⁽¹⁾ | A9F83613 | A9F84613 | A9F85613 | 16 A | A9F88616 | A9F89616 | A9F85616 | 20 A | A9F88620 | A9F89620 | A9F85620 | 25 A | A9F88625 | A9F89625 | A9F85625 | 32 A | A9F88632 | A9F89632 | A9F85632 | 40 A | A9F88640 | A9F89640 | A9F85640 | 50 A | A9F88650 | A9F89650 | A9F85650 | 63 A | A9F88663 | A9F89663 | A9F85663 |
| Curve | B | C | D ⁽¹⁾ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.5 A ⁽¹⁾ | A9F83170 | A9F84170 | A9F85170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 A ⁽¹⁾ | A9F83101 | A9F84101 | A9F85101 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 A ⁽¹⁾ | A9F83102 | A9F84102 | A9F85102 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 A ⁽¹⁾ | A9F83103 | A9F84103 | A9F85103 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 A ⁽¹⁾ | A9F83104 | A9F84104 | A9F85104 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 A | A9F88106 | A9F89106 | A9F85106 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 A | A9F88110 | A9F89110 | A9F85110 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 A ⁽¹⁾ | A9F83113 | A9F84113 | A9F85113 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 A | A9F88116 | A9F89116 | A9F85116 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 A | A9F88120 | A9F89120 | A9F85120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 A | A9F88125 | A9F89125 | A9F85125 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 A | A9F88132 | A9F89132 | A9F85132 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 A | A9F88140 | A9F89140 | A9F85140 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 A | A9F88150 | A9F89150 | A9F85150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 63 A | A9F88163 | A9F89163 | A9F85163 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Curve | B | C | D ⁽¹⁾ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.5 A ⁽¹⁾ | A9F83670 | A9F84670 | A9F85670 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 A ⁽¹⁾ | A9F83601 | A9F84601 | A9F85601 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 A ⁽¹⁾ | A9F83602 | A9F84602 | A9F85602 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 A ⁽¹⁾ | A9F83603 | A9F84603 | A9F85603 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 A ⁽¹⁾ | A9F83604 | A9F84604 | A9F85604 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 A | A9F88606 | A9F89606 | A9F85606 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 A | A9F88610 | A9F89610 | A9F85610 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 A ⁽¹⁾ | A9F83613 | A9F84613 | A9F85613 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 A | A9F88616 | A9F89616 | A9F85616 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 A | A9F88620 | A9F89620 | A9F85620 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 A | A9F88625 | A9F89625 | A9F85625 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 A | A9F88632 | A9F89632 | A9F85632 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 A | A9F88640 | A9F89640 | A9F85640 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 A | A9F88650 | A9F89650 | A9F85650 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 63 A | A9F88663 | A9F89663 | A9F85663 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Width in 9-mm modules | 2 | | | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

(1) VDE approved only.

iC60H circuit breakers (curve B, C, D) (cont.)

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- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

| 2P | | | 3P | | | 4P | | |
|--|----------|------------------|--|----------|------------------|--|----------|------------------|
| E-46904 | | | E-46905 | | | E-46907 | | |
| | | | | | | | | |
| Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | |
| Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | |
| Curve | | | Curve | | | Curve | | |
| B | C | D ⁽¹⁾ | B | C | D ⁽¹⁾ | B | C | D ⁽¹⁾ |
| A9F83270 | A9F84270 | A9F85270 | A9F83370 | A9F84370 | A9F85370 | A9F83470 | A9F84470 | A9F85470 |
| A9F83201 | A9F84201 | A9F85201 | A9F83301 | A9F84301 | A9F85301 | A9F83401 | A9F84401 | A9F85401 |
| A9F83202 | A9F84202 | A9F85202 | A9F83302 | A9F84302 | A9F85302 | A9F83402 | A9F84402 | A9F85402 |
| A9F83203 | A9F84203 | A9F85203 | A9F83303 | A9F84303 | A9F85303 | A9F83403 | A9F84403 | A9F85403 |
| A9F83204 | A9F84204 | A9F85204 | A9F83304 | A9F84304 | A9F85304 | A9F83404 | A9F84404 | A9F85404 |
| A9F88206 | A9F89206 | A9F85206 | A9F88306 | A9F89306 | A9F85306 | A9F88406 | A9F89406 | A9F85406 |
| A9F88210 | A9F89210 | A9F85210 | A9F88310 | A9F89310 | A9F85310 | A9F88410 | A9F89410 | A9F85410 |
| A9F83213 | A9F84213 | A9F85213 | A9F83313 | A9F84313 | A9F85313 | A9F83413 | A9F84413 | A9F85413 |
| A9F88216 | A9F89216 | A9F85216 | A9F88316 | A9F89316 | A9F85316 | A9F88416 | A9F89416 | A9F85416 |
| A9F88220 | A9F89220 | A9F85220 | A9F88320 | A9F89320 | A9F85320 | A9F88420 | A9F89420 | A9F85420 |
| A9F88225 | A9F89225 | A9F85225 | A9F88325 | A9F89325 | A9F85325 | A9F88425 | A9F89425 | A9F85425 |
| A9F88232 | A9F89232 | A9F85232 | A9F88332 | A9F89332 | A9F85332 | A9F88432 | A9F89432 | A9F85432 |
| A9F88240 | A9F89240 | A9F85240 | A9F88340 | A9F89340 | A9F85340 | A9F88440 | A9F89440 | A9F85440 |
| A9F88250 | A9F89250 | A9F85250 | A9F88350 | A9F89350 | A9F85350 | A9F88450 | A9F89450 | A9F85450 |
| A9F88263 | A9F89263 | A9F85263 | A9F88363 | A9F89363 | A9F85363 | A9F88463 | A9F89463 | A9F85463 |
| 4 | | | 6 | | | 8 | | |
| Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | |

iC60H circuit breakers (curve B, C, D)



Country approval pictograms

IEC/EN 60947-2 IEC/EN 60898-1

- iC60H circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.



Alternating current (AC) 50/60 Hz

Breaking capacity (Icu) according to IEC/EN 60947-2

| | Voltage (Ue) | | | | Service breaking capacity (Ics) |
|------------------------|--------------|--------------|--------------|-------|---------------------------------|
| | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | |
| Ph/Ph (2P, 3P, 4P) | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | 100 % of Icu |
| Ph/N (1P, 1P+N) | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | |
| Rating (In) 0.5 to 4 A | 70 kA | 70 kA | 70 kA | 50 kA | 50 % of Icu |
| 6 to 63 A | 42 kA | 30 kA | 15 kA | 10 kA | |

Breaking capacity (Icn) according to IEC/EN 60898-1

| | Voltage (Ue) |
|-------------------------|--------------|
| Ph/Ph | 400 V |
| Ph/N | 230 V |
| Rating (In) 0.5 to 63 A | 10000 A |

Direct current (DC)

Breaking capacity (Icu) according to IEC/EN 60947-2

| | Voltage (Ue) | | | | | Service breaking capacity (Ics) |
|-----------------------|--------------|------------|--------|---------|---------|---------------------------------|
| | Between +/- | 12 to 60 V | ≤ 72 V | ≤ 125 V | ≤ 180 V | |
| Number of poles | 1P | | 2P | 3P | 4P | 100 % of Icu |
| Rating (In) 1 to 63 A | 20 kA | 15 kA | 15 kA | 15 kA | 15 kA | |

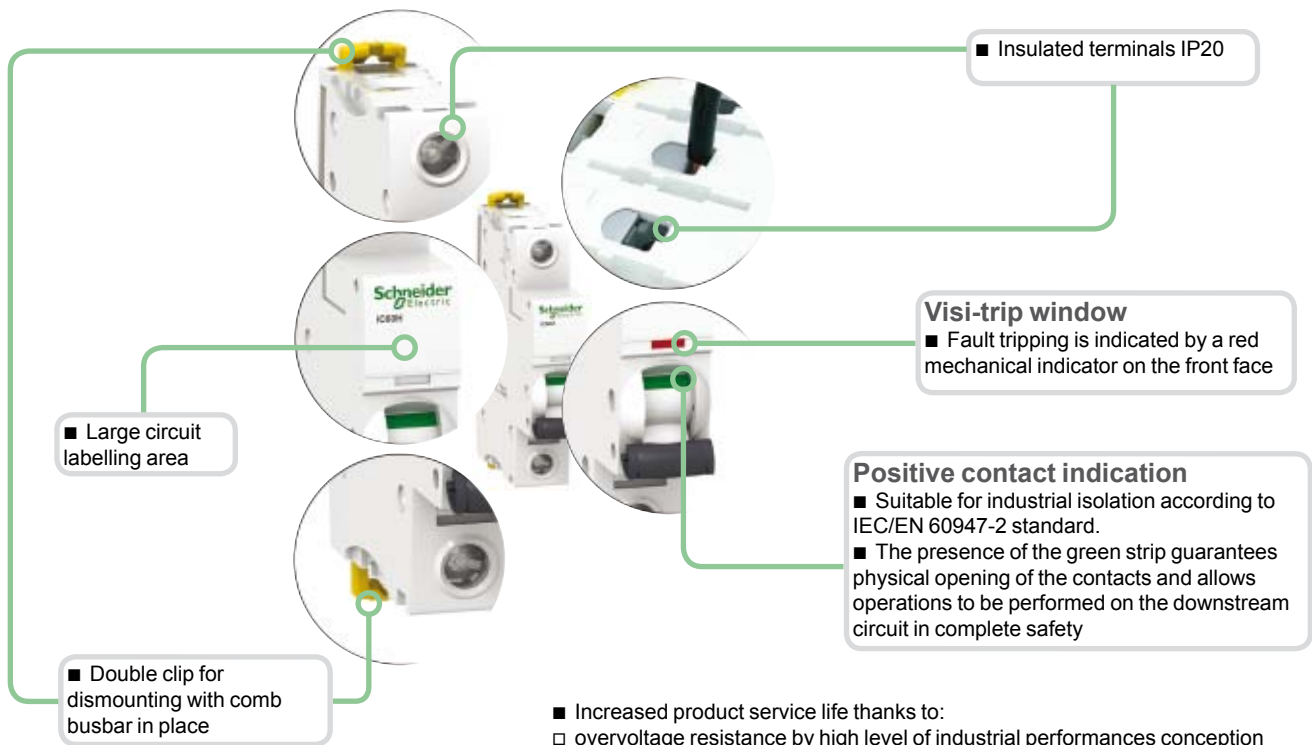
Catalogue numbers

iC60H circuit breaker

| Type | 1P | | | 1P+N | | |
|-----------------------|--|----------|----------|--|----------|----------|
| | | | | | | |
| Auxiliaries | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | |
| Rating (In) | Curve | | | Curve | | |
| | B | C | D | B | C | D |
| 0.5 A | A9F83170 | A9F84170 | A9F85170 | A9F83670 | A9F84670 | A9F85670 |
| 1 A | A9F83101 | A9F84101 | A9F85101 | A9F83601 | A9F84601 | A9F85601 |
| 2 A | A9F83102 | A9F84102 | A9F85102 | A9F83602 | A9F84602 | A9F85602 |
| 3 A | A9F83103 | A9F84103 | A9F85103 | A9F83603 | A9F84603 | A9F85603 |
| 4 A | A9F83104 | A9F84104 | A9F85104 | A9F83604 | A9F84604 | A9F85604 |
| 6 A | A9F83106 | A9F84106 | A9F85106 | A9F83606 | A9F84606 | A9F85606 |
| 10 A | A9F83110 | A9F84110 | A9F85110 | A9F83610 | A9F84610 | A9F85610 |
| 13 A | A9F83113 | A9F84113 | A9F85113 | A9F83613 | A9F84613 | A9F85613 |
| 16 A | A9F83116 | A9F84116 | A9F85116 | A9F83616 | A9F84616 | A9F85616 |
| 20 A | A9F83120 | A9F84120 | A9F85120 | A9F83620 | A9F84620 | A9F85620 |
| 25 A | A9F83125 | A9F84125 | A9F85125 | A9F83625 | A9F84625 | A9F85625 |
| 32 A | A9F83132 | A9F84132 | A9F85132 | A9F83632 | A9F84632 | A9F85632 |
| 40 A | A9F83140 | A9F84140 | A9F85140 | A9F83640 | A9F84640 | A9F85640 |
| 50 A | A9F83150 | A9F84150 | A9F85150 | A9F83650 | A9F84650 | A9F85650 |
| 63 A | A9F83163 | A9F84163 | A9F85163 | A9F83663 | A9F84663 | A9F85663 |
| Width in 9-mm modules | 2 | | | 4 | | |
| Accessories | Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | |

iC60H circuit breakers (curve B, C, D) (cont.)

PB104495-40

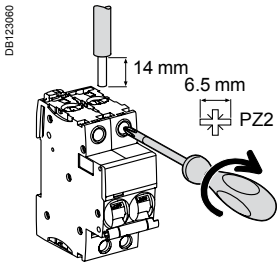


- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

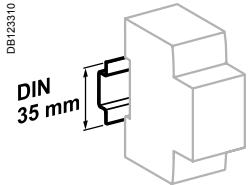
| 2P | | | 3P | | | 4P | | |
|--|----------|----------|--|----------|----------|--|----------|----------|
| E46004 | | | E46006 | | | E46007 | | |
| | | | | | | | | |
| Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | | Remote tripping and indication, module CA907000 and CA907002 | | |
| Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | |
| Curve | | | Curve | | | Curve | | |
| B | C | D | B | C | D | B | C | D |
| A9F83270 | A9F84270 | A9F85270 | A9F83370 | A9F84370 | A9F85370 | A9F83470 | A9F84470 | A9F85470 |
| A9F83201 | A9F84201 | A9F85201 | A9F83301 | A9F84301 | A9F85301 | A9F83401 | A9F84401 | A9F85401 |
| A9F83202 | A9F84202 | A9F85202 | A9F83302 | A9F84302 | A9F85302 | A9F83402 | A9F84402 | A9F85402 |
| A9F83203 | A9F84203 | A9F85203 | A9F83303 | A9F84303 | A9F85303 | A9F83403 | A9F84403 | A9F85403 |
| A9F83204 | A9F84204 | A9F85204 | A9F83304 | A9F84304 | A9F85304 | A9F83404 | A9F84404 | A9F85404 |
| A9F83206 | A9F84206 | A9F85206 | A9F83306 | A9F84306 | A9F85306 | A9F83406 | A9F84406 | A9F85406 |
| A9F83210 | A9F84210 | A9F85210 | A9F83310 | A9F84310 | A9F85310 | A9F83410 | A9F84410 | A9F85410 |
| A9F83213 | A9F84213 | A9F85213 | A9F83313 | A9F84313 | A9F85313 | A9F83413 | A9F84413 | A9F85413 |
| A9F83216 | A9F84216 | A9F85216 | A9F83316 | A9F84316 | A9F85316 | A9F83416 | A9F84416 | A9F85416 |
| A9F83220 | A9F84220 | A9F85220 | A9F83320 | A9F84320 | A9F85320 | A9F83420 | A9F84420 | A9F85420 |
| A9F83225 | A9F84225 | A9F85225 | A9F83325 | A9F84325 | A9F85325 | A9F83425 | A9F84425 | A9F85425 |
| A9F83232 | A9F84232 | A9F85232 | A9F83332 | A9F84332 | A9F85332 | A9F83432 | A9F84432 | A9F85432 |
| A9F83240 | A9F84240 | A9F85240 | A9F83340 | A9F84340 | A9F85340 | A9F83440 | A9F84440 | A9F85440 |
| A9F83250 | A9F84250 | A9F85250 | A9F83350 | A9F84350 | A9F85350 | A9F83450 | A9F84450 | A9F85450 |
| A9F83263 | A9F84263 | A9F85263 | A9F83363 | A9F84363 | A9F85363 | A9F83463 | A9F84463 | A9F85463 |
| 4 | | | 6 | | | 8 | | |
| Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | | Module CA907000 and CA907001 | | |

iC60H circuit breakers (curve B, C, D) (cont.)

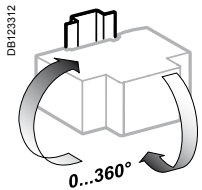
Connection



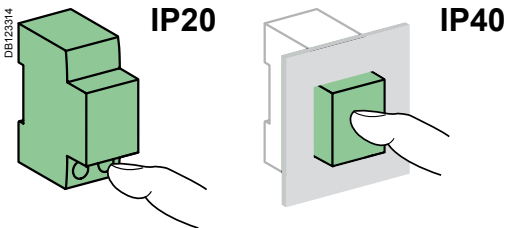
| Rating | Tightening torque | Without accessory | | With accessories | | |
|-------------|-------------------|-------------------------|-------------------------|--------------------------------|---------------------------------------|------------------------|
| | | Rigid | Flexible or ferrule | 50 mm ² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal |
| 0.5 to 25 A | 2 N.m | DB122945 | DB122946 | DB122945 | DB118789 | DB118787 |
| 32 to 63 A | 3.5 N.m | 1 to 25 mm ² | 1 to 16 mm ² | - | Ø 5 mm | - |
| | | 1 to 35 mm ² | 1 to 25 mm ² | 50 mm ² | | 3 x 16 mm ² |
| | | | | | | 3 x 10 mm ² |



Clip on DIN rail 35 mm.



Indifferent position of installation.



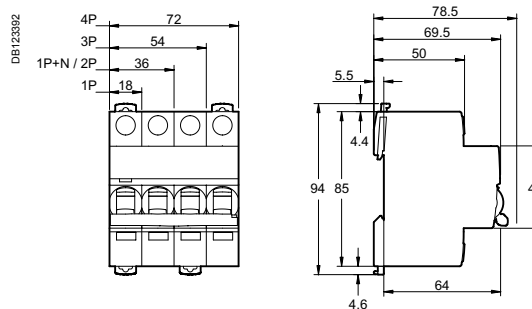
Technical data

| Main characteristics | | |
|---|-----------------------------|--|
| According to IEC/EN 60947-2 | | |
| Insulation voltage (U _i) | | 500 V AC |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 6 kV |
| Thermal tripping | Reference temperature | 50 °C |
| | Temperature derating | See module CA908007 |
| Magnetic tripping | B curve | 4 I _n ± 20 % |
| | C curve | 8 I _n ± 20 % |
| | D curve | 12 I _n ± 20 % |
| Utilization category | | A |
| According to IEC/EN 60898-1 | | |
| Limitation class | | 3 |
| Rated making and breaking capacity of an individual pole (I _{cn1}) | | I _{cn1} = I _{cn} |
| Additional characteristics | | |
| Breaking capacity under 1 pole with IT 380-415 V isolated neutral system (case of double fault) | 40 A | 4 kA |
| | 50/63 A | 3 kA |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | IV |
| Operating temperature | | -35°C to +70°C |
| Storage temperature | | -40°C to +85°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity 95 % to 55°C) |

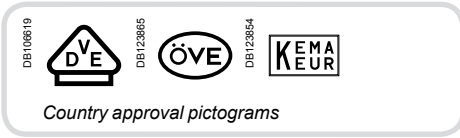
Weight (g)

| Circuit-breaker | |
|-----------------|-------|
| Type | iC60H |
| 1P | 125 |
| 2P | 250 |
| 3P | 375 |
| 4P | 500 |

Dimensions (mm)



iC60H double terminals circuit breakers (curve B, C, D)



IEC/EN 60947-2 IEC/EN 60898-1

- iC60H double terminals circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.

Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | Service breaking capacity (Ics) |
|---|--------------------|--------------|--------------|--------------------|---------------------------------|
| | Ph/Ph (2P, 3P, 4P) | 12 to 133 V | 220 to 240 V | 380 to 415 V 440 V | |
| Ph/N (1P, 1P+N) | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | |
| Rating (In) | 0.5 to 4 A | 70 kA | 70 kA | 70 kA | 50 kA |
| | 6 to 40 A | 42 kA | 30 kA | 15 kA | 10 kA |
| | 50/63 A | 42 kA | 30 kA | 15 kA | 10 kA |

Breaking capacity (Icn) according to IEC/EN 60898-1

| Breaking capacity (Icn) according to IEC/EN 60898-1 | Voltage (Ue) | |
|---|--------------|---------|
| | Ph/Ph | Ph/N |
| | 400 V | 230 V |
| Rating (In) | 0.5 to 63 A | 10000 A |

Direct current (DC)

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | | Service breaking capacity (Ics) |
|---|--------------|------------|--------|---------|-----------------|---------------------------------|
| | Between +/- | 12 to 60 V | ≤ 72 V | ≤ 125 V | ≤ 180 V ≤ 250 V | |
| Number of poles | 1P | | 2P | 3P | 4P | |
| Rating (In) | 1 to 63 A | 20 kA | 15 kA | 15 kA | 15 kA | 100 % of Icu |

Catalogue numbers

iC60H double terminals circuit breaker

| Type | 1P | 1P+N | 2P |
|-----------------------|--|--|--|
| | | | |
| Auxiliaries | Remote tripping and indication, module CA907000 and CA907002 | Remote tripping and indication, module CA907000 and CA907002 | Remote tripping and indication, module CA907000 and CA907002 |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | Vigi iC60 add-on residual current device, module CA902005 | Vigi iC60 add-on residual current device, module CA902005 |
| Rating (In) | Curve | | |
| | B | C | D |
| 0.5 A | - | A9F07170 | A9F08170 |
| 1 A | - | A9F07101 | A9F08101 |
| 2 A | - | A9F07102 | A9F08102 |
| 3 A | - | A9F07103 | A9F08103 |
| 4 A | - | A9F07104 | A9F08104 |
| 6 A | A9F06106 | A9F07106 | A9F08106 |
| 10 A | A9F06110 | A9F07110 | A9F08110 |
| 13 A | A9F06113 | A9F07113 | A9F08113 |
| 16 A | A9F06116 | A9F07116 | A9F08116 |
| 20 A | A9F06120 | A9F07120 | A9F08120 |
| 25 A | A9F06125 | A9F07125 | A9F08125 |
| 32 A | A9F06132 | A9F07132 | A9F08132 |
| 40 A | A9F06140 | A9F07140 | A9F08140 |
| 50 A | A9F06150 | A9F07150 | A9F08150 |
| 63 A | A9F06163 | A9F07163 | A9F08163 |
| Width in 9-mm modules | 2 | | 4 |
| Accessories | Modules CA907000 and CA907001 | | Modules CA907000 and CA907001 |

iC60H double terminals circuit breakers (curve B, C, D) (cont.)

- Insulated terminals IP20
- Large circuit labelling area
- Double clip locking allowing tool-free removal, front panel side, with the comb busbar in position
- Double terminals
 - For top or bottom connections:
 - by cable,
 - by comb busbar
- Visi-trip window
 - Fault tripping is indicated by a red mechanical indicator on the front face
- Positive contact indication
 - Suitable for industrial isolation according to IEC/EN 60947-2 standard
 - The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety
- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

| 3P | | | | 4P | | | |
|--|----------|----------|----------|--|----------|-------|----------|
| | | | | | | | |
| Remote tripping and indication, module CA907000 and CA907002 | | | | Remote tripping and indication, module CA907000 and CA907002 | | | |
| Vigi iC60 add-on residual current device, module CA902005 | | | | Vigi iC60 add-on residual current device, module CA902005 | | | |
| Curve | | Curve | | Curve | | Curve | |
| B | C | D | B | C | D | D | D |
| - | A9F07370 | A9F08370 | - | A9F07470 | A9F08470 | - | A9F08470 |
| - | A9F07301 | A9F08301 | - | A9F07401 | A9F08401 | - | A9F08401 |
| - | A9F07302 | A9F08302 | - | A9F07402 | A9F08402 | - | A9F08402 |
| - | A9F07303 | A9F08303 | - | A9F07403 | A9F08403 | - | A9F08403 |
| - | A9F07304 | A9F08304 | - | A9F07404 | A9F08404 | - | A9F08404 |
| A9F06306 | A9F07306 | A9F08306 | A9F06406 | A9F07406 | A9F08406 | - | A9F08406 |
| A9F06310 | A9F07310 | A9F08310 | A9F06410 | A9F07410 | A9F08410 | - | A9F08410 |
| A9F06313 | A9F07313 | A9F08313 | A9F06413 | A9F07413 | A9F08413 | - | A9F08413 |
| A9F06316 | A9F07316 | A9F08316 | A9F06416 | A9F07416 | A9F08416 | - | A9F08416 |
| A9F06320 | A9F07320 | A9F08320 | A9F06420 | A9F07420 | A9F08420 | - | A9F08420 |
| A9F06325 | A9F07325 | A9F08325 | A9F06425 | A9F07425 | A9F08425 | - | A9F08425 |
| A9F06332 | A9F07332 | A9F08332 | A9F06432 | A9F07432 | A9F08432 | - | A9F08432 |
| A9F06340 | A9F07340 | A9F08340 | A9F06440 | A9F07440 | A9F08440 | - | A9F08440 |
| A9F06350 | A9F07350 | A9F08350 | A9F06450 | A9F07450 | A9F08450 | - | A9F08450 |
| A9F06363 | A9F07363 | A9F08363 | A9F06463 | A9F07463 | A9F08463 | - | A9F08463 |
| 6 | | | 8 | | | | |
| Modules CA907000 and CA907001 | | | | Modules CA907000 and CA907001 | | | |

iC60H double terminals circuit breakers (curve B, C, D) (cont.)

Connection between double terminal circuit breakers

With comb busbar at the back/cables at the front

Without comb busbar at the back/cables at the front

DB404815



| | | Back | Front | |
|-------------|-------------------|------------------------|-------------------------|-------------------------|
| Rating | Tightening torque | Comb busbar | Copper cables | |
| | | Thickness of the teeth | Rigid | Flexible or ferrule |
| 0.5 to 25 A | 2 N.m | 1.5 mm | 1 to 25 mm ² | 1 to 16 mm ² |
| 32 to 63 A | 3.5 N.m | 1.5 mm | 1 to 25 mm ² | 1 to 25 mm ² |

Between double terminal circuit breakers and single-terminal circuit breakers

Cables at the back/comb busbar at the front

DB404817

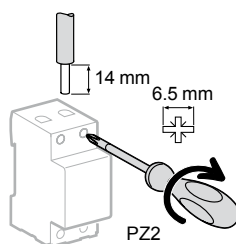


| | | Back | Front | |
|-------------|-------------------|-------------------------|-------------------------|------------------------|
| Rating | Tightening torque | Copper cables | | Thickness of the teeth |
| | | Rigid | Flexible or ferrule | |
| 0.5 to 25 A | 2 N.m | 1 to 16 mm ² | 1 to 10 mm ² | 1.5 mm |
| 32 to 63 A | 3.5 N.m | 1 to 16 mm ² | 1 to 10 mm ² | 1.5 mm |

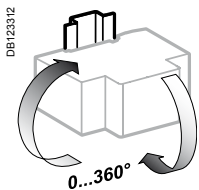
- Connection by comb busbar or by cable (according to EN 50027).

Connection

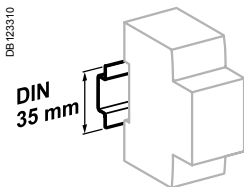
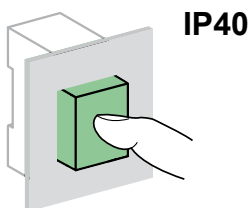
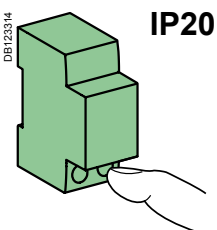
DB123847



| | | With accessories | | |
|-------------|--------------------------------|---------------------------------------|------------------------|------------------------|
| Rating | 50 mm ² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal | |
| | | | Rigid cables | Flexible cables |
| 0.5 to 25 A | - | Ø 5 mm | - | - |
| 32 to 63 A | 50 mm ² | | 3 x 16 mm ² | 3 x 10 mm ² |



Indifferent position of installation.



Clip on DIN rail 35 mm.

Technical data

Main characteristics

According to IEC/EN 60947-2

| | | |
|--|-----------------------|---------------------|
| Insulation voltage (Ui) | 500 V AC | |
| Pollution degree | 3 | |
| Rated impulse withstand voltage (Uimp) | 6 kV | |
| Thermal tripping | Reference temperature | 50°C |
| | Temperature derating | See module CA908007 |
| Magnetic tripping | B curve | 4 In ± 20 % |
| | C curve | 8 In ± 20 % |
| | D curve | 12 In ± 20 % |
| Utilization category | A | |

According to IEC/EN 60898-1

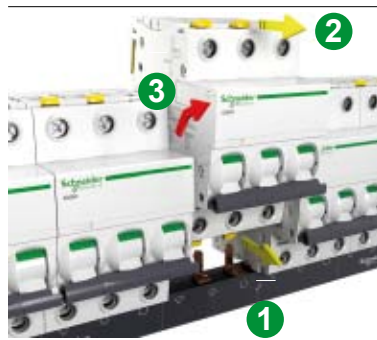
| | |
|---|------------|
| Limitation class | 3 |
| Rated making and breaking capacity of an individual pole (Icn1) | Icn1 = Icn |

Additional characteristics

| | | |
|----------------------------------|--|---------------|
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | IV | |
| Operating temperature | -35°C to +70°C | |
| Storage temperature | -40°C to +85°C | |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity 95 % to 55°C) | |

Disassembly double terminals iC60 circuit breaker with the comb busbar in position

Comb busbar downstream

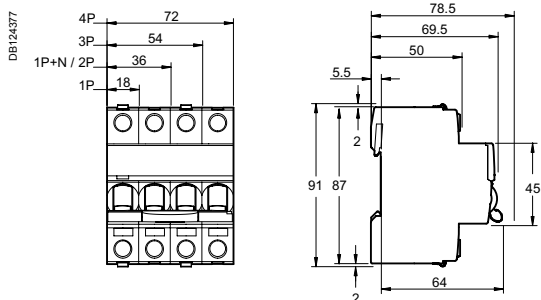


Comb busbar upstream



- 1- Pull lower "clip locking"
- 2- Pull upper "clip locking"
- 3- Remove the circuit breaker

Dimensions (mm)



Weight (g)

Circuit-breaker

| Type | iC60H |
|-----------|-------|
| 1P | 125 |
| 2P (1P+N) | 250 |
| 3P | 375 |
| 4P | 500 |

iC60L circuit breakers (curve B, C, K, Z)



IEC/EN 60947-2 IEC/EN 60898-1 up to 40 A

- iC60L circuit breakers are multi-standard circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - suitable for industrial isolation according to IEC/EN 60947-2, standard.
 - fault tripping indication by a red mechanical indicator in circuit breaker front face.

Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
|---|------------|--------------|--------------|--------------|-------|---------------------------------|
| | | Voltage (Ue) | | | | |
| Ph/Ph (2P, 3P, 4P) | | 12 to 133 V | 220 to 240 V | 380 to 415 V | 440 V | 100 % of Icu |
| Ph/N (1P) | | 12 to 60 V | 100 to 133 V | 220 to 240 V | - | |
| Rating (In) | 0.5 to 4 A | 100 kA | 100 kA | 100 kA | 70 kA | 100 % of Icu |
| | 6 to 25 A | 70 kA | 50 kA | 25 kA | 20 kA | 50 % of Icu ⁽¹⁾ |
| | 32 / 40 A | 70 kA | 36 kA | 20 kA | 15 kA | 50 % of Icu |
| | 50 / 63 A | 70 kA | 30 kA | 15 kA | 10 kA | 50 % of Icu |

| Breaking capacity (Icn) according to IEC/EN 60898-1 | |
|---|---------------------|
| Voltage (Ue) | |
| Ph/Ph | 400 V |
| Ph/N | 230 V |
| Rating (In) | 0.5 to 40 A 15000 A |

Direct current (DC)

| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) | |
|---|-----------|--------------|--------|---------|---------|---------------------------------|--------------|
| | | Voltage (Ue) | | | | | |
| Between +/- | | 12 to 60 V | ≤ 72 V | ≤ 125 V | ≤ 180 V | ≤ 250 V | 100 % of Icu |
| Number of poles | | 1P | | 2P | 3P | 4P | |
| Rating (In) | 1 to 63 A | 25 kA | 20 kA | 20 kA | 20 kA | 20 kA | |

Catalogue numbers

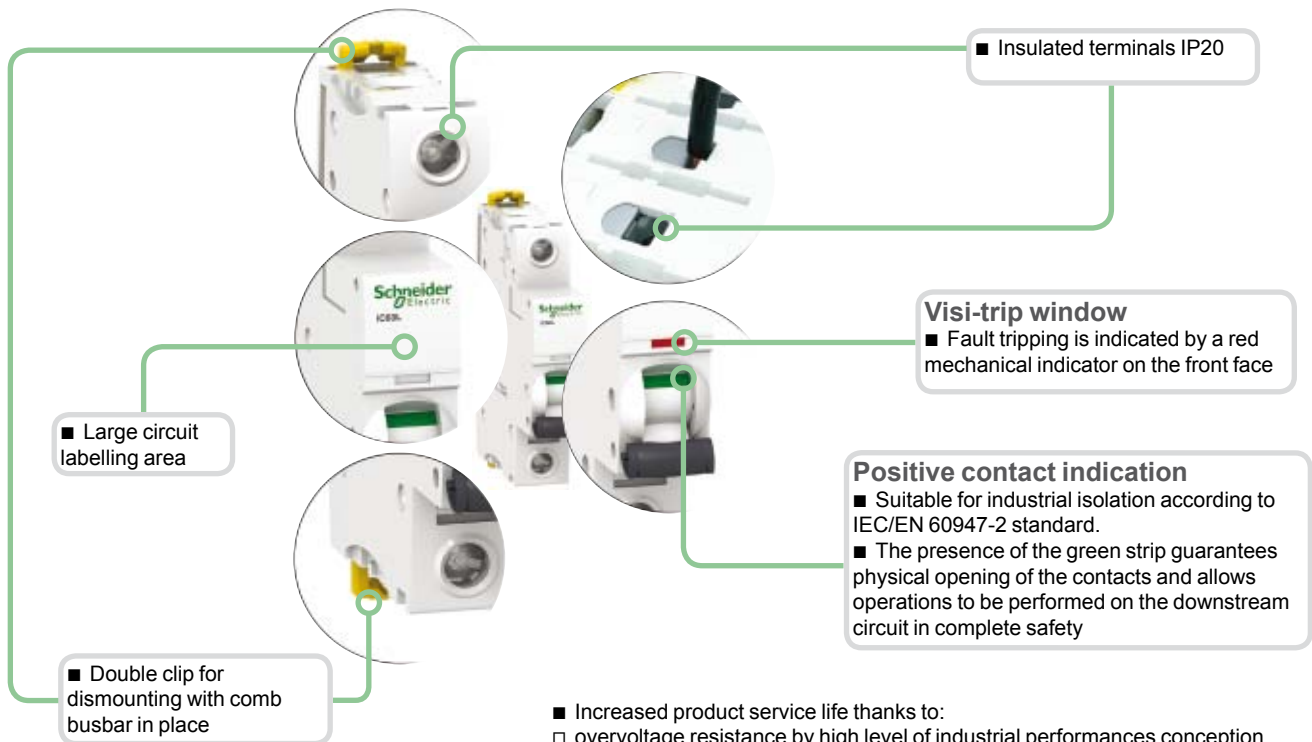
iC60L circuit breaker

| Type | 1P | 2P | | | | | | |
|-----------------------|--|--|-------------------------|----------|------------------------------|----------|----------|----------|
| | | | | | | | | |
| Auxiliaries | Remote tripping and indication, module CA907000 and CA907002 | Remote tripping and indication, module CA907000 and CA907002 | | | | | | |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | Vigi iC60 add-on residual current device, module CA902005 | | | | | | |
| Rating (In) | Curve | | | | Curve | | | |
| Quality label (2) | B | C | K | Z | B | C | K | Z |
| 0.5 A | A9F93170 | A9F94170 | A9F95170 | A9F92170 | A9F93270 | A9F94270 | A9F95270 | A9F92270 |
| 1 A | A9F93101 | A9F94101 | A9F95101 | A9F92101 | A9F93201 | A9F94201 | A9F95201 | A9F92201 |
| 1.6 A | - | - | A9F95172 | A9F92172 | - | - | A9F95272 | A9F92272 |
| 2 A | A9F93102 | A9F94102 | A9F95102 | A9F92102 | A9F93202 | A9F94202 | A9F95202 | A9F92202 |
| 3 A | A9F93103 | A9F94103 | A9F95103 | A9F92103 | A9F93203 | A9F94203 | A9F95203 | A9F92203 |
| 4 A | A9F93104 | A9F94104 | A9F95104 | A9F92104 | A9F93204 | A9F94204 | A9F95204 | A9F92204 |
| 6 A | A9F93106 | A9F94106 | A9F95106 | A9F92106 | A9F93206 | A9F94206 | A9F95206 | A9F92206 |
| 10 A | A9F93110 | A9F94110 | A9F95110 | A9F92110 | A9F93210 | A9F94210 | A9F95210 | A9F92210 |
| 16 A | A9F93116 | A9F94116 | A9F95116 | A9F92116 | A9F93216 | A9F94216 | A9F95216 | A9F92216 |
| 20 A | A9F93120 | A9F94120 | A9F95120 | A9F92120 | A9F93220 | A9F94220 | A9F95220 | A9F92220 |
| 25 A | A9F93125 | A9F94125 | A9F95125 | A9F92125 | A9F93225 | A9F94225 | A9F95225 | A9F92225 |
| 32 A | A9F93132 | A9F94132 | A9F95132 | A9F92132 | A9F93232 | A9F94232 | A9F95232 | A9F92232 |
| 40 A | A9F93140 | A9F94140 | A9F95140 | A9F92140 | A9F93240 | A9F94240 | A9F95240 | A9F92240 |
| 50 A | A9F93150 | A9F94150 | A9F95150 ⁽³⁾ | A9F92150 | A9F93250 | A9F94250 | A9F95250 | A9F92250 |
| 63 A | A9F93163 | A9F94163 | A9F95163 ⁽³⁾ | A9F92163 | A9F93263 | A9F94263 | A9F95263 | A9F92263 |
| Width in 9-mm modules | 2 | | | | 4 | | | |
| Accessories | Module CA907000 and CA907001 | | | | Module CA907000 and CA907001 | | | |

(1) 100 % of Icu for ratings 6 to 25 A under Ue 100 to 133 V AC Ph/Ph and Ue 12 to 60 V AC Ph/N.
 (2) Information to be provided by the country.
 (3) Without approval.

iC60L circuit breakers (curve B, C, K, Z) (cont.)

PB104496-40

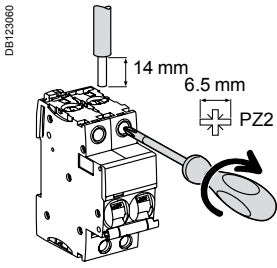


- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

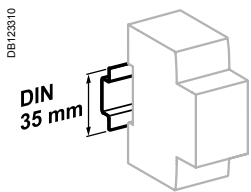
| 3P | | | | | 4P | | | | |
|--|----------|----------|----------|----------|--|----------|----------|--|--|
| E-6095 | | | | | E-6097 | | | | |
| | | | | | | | | | |
| Remote tripping and indication, module CA907000 and CA907002 | | | | | Remote tripping and indication, module CA907000 and CA907002 | | | | |
| Vigi iC60 add-on residual current device, module CA902005 | | | | | Vigi iC60 add-on residual current device, module CA902005 | | | | |
| Curve | | | | | Curve | | | | |
| B | | C | | K | | Z | | | |
| A9F93370 | A9F94370 | A9F95370 | A9F92370 | A9F93470 | A9F94470 | A9F95470 | A9F92470 | | |
| A9F93301 | A9F94301 | A9F95301 | A9F92301 | A9F93401 | A9F94401 | A9F95401 | A9F92401 | | |
| - | - | A9F95372 | A9F92372 | - | - | A9F95472 | A9F92472 | | |
| A9F93302 | A9F94302 | A9F95302 | A9F92302 | A9F93402 | A9F94402 | A9F95402 | A9F92402 | | |
| A9F93303 | A9F94303 | A9F95303 | A9F92303 | A9F93403 | A9F94403 | A9F95403 | A9F92403 | | |
| A9F93304 | A9F94304 | A9F95304 | A9F92304 | A9F93404 | A9F94404 | A9F95404 | A9F92404 | | |
| A9F93306 | A9F94306 | A9F95306 | A9F92306 | A9F93406 | A9F94406 | A9F95406 | A9F92406 | | |
| A9F93310 | A9F94310 | A9F95310 | A9F92310 | A9F93410 | A9F94410 | A9F95410 | A9F92410 | | |
| A9F93316 | A9F94316 | A9F95316 | A9F92316 | A9F93416 | A9F94416 | A9F95416 | A9F92416 | | |
| A9F93320 | A9F94320 | A9F95320 | A9F92320 | A9F93420 | A9F94420 | A9F95420 | A9F92420 | | |
| A9F93325 | A9F94325 | A9F95325 | A9F92325 | A9F93425 | A9F94425 | A9F95425 | A9F92425 | | |
| A9F93332 | A9F94332 | A9F95332 | A9F92332 | A9F93432 | A9F94432 | A9F95432 | A9F92432 | | |
| A9F93340 | A9F94340 | A9F95340 | A9F92340 | A9F93440 | A9F94440 | A9F95440 | A9F92440 | | |
| A9F93350 | A9F94350 | A9F95350 | A9F92350 | A9F93450 | A9F94450 | A9F95450 | A9F92450 | | |
| A9F93363 | A9F94363 | A9F95363 | A9F92363 | A9F93463 | A9F94463 | A9F95463 | A9F92463 | | |
| 4 | | | | | 6 | | | | |
| Module CA907000 and CA907001 | | | | | Module CA907000 and CA907001 | | | | |

iC60L circuit breakers (curve B, C, K, Z) (cont.)

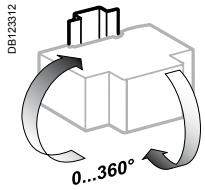
Connection



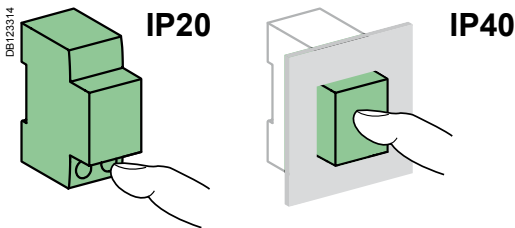
| Rating | Tightening torque | Without accessory | | With accessories | | |
|-------------|-------------------|-------------------------|-------------------------|--------------------------------|---------------------------------------|------------------------|
| | | Rigid | Flexible or ferrule | 50 mm ² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal |
| 0.5 to 25 A | 2 N.m | DB122945 | DB122946 | DB122935 | DB118789 | DB118787 |
| 32 to 63 A | 3.5 N.m | 1 to 25 mm ² | 1 to 16 mm ² | - | Ø 5 mm | - |
| | | 1 to 35 mm ² | 1 to 25 mm ² | 50 mm ² | | 3 x 16 mm ² |
| | | | | | | 3 x 10 mm ² |



Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

Main characteristics

According to IEC/EN 60947-2

| | | |
|---|-----------------------|--------------------------|
| Insulation voltage (U _i) | 500 V AC | |
| Pollution degree | 3 | |
| Rated impulse withstand voltage (U _{imp}) | 6 kV | |
| Thermal tripping | Reference temperature | 50 °C |
| | Temperature derating | See module CA908007 |
| Magnetic tripping | B curve | 4 I _n ± 20 % |
| | C curve | 8 I _n ± 20 % |
| | K curve | 12 I _n ± 20 % |
| | Z curve | 3 I _n ± 20 % |
| Utilization category | A | |

According to IEC/EN 60898-1

| | | |
|--|------------------------------------|--|
| Rated making and breaking capacity of an individual pole (I _{cn1}) | I _{cn1} = I _{cn} | |
|--|------------------------------------|--|

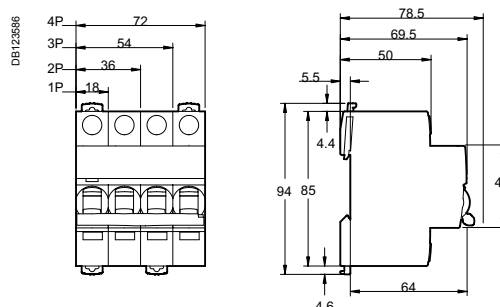
Additional characteristics

| | | |
|---|--|----------------------|
| Breaking capacity under 1 pole with IT 380-415 V isolated neutral system (case of double fault) | 40 A | 4 kA |
| | 50/63 A | 3 kA |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| | | Insulation classe II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | IV | |
| Operating temperature | -35°C to +70°C | |
| Storage temperature | -40°C to +85°C | |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity 95 % to 55°C) | |

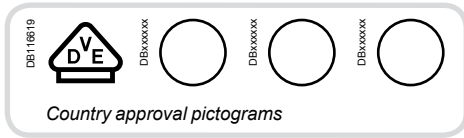
Weight (g)

| Circuit-breaker | |
|-----------------|-------|
| Type | iC60L |
| 1P | 125 |
| 2P | 250 |
| 3P | 375 |
| 4P | 500 |

Dimensions (mm)



iK60N circuit breakers (curve B)



IEC/EN 60898-1



- iK60N circuit breakers are circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - disconnection, opening and closing.

iK60N circuit breaker 50/60 Hz

| Breaking capacity in short circuit (Icn) as per IEC/EN 60898-1 | | Service breaking capacity (Ics) 100 % of Icn |
|--|--------|---|
| Ph/Ph | 400 V | |
| Ph/N | 230 V | |
| Rating (In) 1 to 63 A | 6000 A | |

Catalogue numbers

| iK60N circuit breaker | | | | | |
|-----------------------|-------------------------------------|---------------------|---------------------|---------------------|---------------------|
| Type | 1P | 1P+N | 2P | 3P | 4P |
| | | | | | |
| Auxiliaries | Without auxiliaries | Without auxiliaries | Without auxiliaries | Without auxiliaries | Without auxiliaries |
| Vigi iC60 | Without Vigi iC60 | Without Vigi iC60 | Without Vigi iC60 | Without Vigi iC60 | Without Vigi iC60 |
| Rating (In) | Curve B | Curve B | Curve B | Curve B | Curve B |
| 1 A | A9K23101 | A9K23601 | A9K23201 | - | - |
| 2 A | A9K23102 | A9K23602 | A9K23202 | - | - |
| 3 A | A9K23103 | A9K23603 | A9K23203 | - | - |
| 4 A | A9K23104 | A9K23604 | A9K23204 | - | - |
| 6 A | A9K23106 | A9K23606 | A9K23206 | A9K23306 | A9K23406 |
| 10 A | A9K23110 | A9K23610 | A9K23210 | A9K23310 | A9K23410 |
| 16 A | A9K23116 | A9K23616 | A9K23216 | A9K23316 | A9K23416 |
| 20 A | A9K23120 | A9K23620 | A9K23220 | A9K23320 | A9K23420 |
| 25 A | A9K23125 | A9K23625 | A9K23225 | A9K23325 | A9K23425 |
| 32 A | A9K23132 | A9K23632 | A9K23232 | A9K23332 | A9K23432 |
| 40 A | A9K23140 | A9K23640 | A9K23240 | A9K23340 | A9K23440 |
| 50 A | A9K23150 | A9K23650 | A9K23250 | A9K23350 | A9K23450 |
| 63 A | A9K23163 | A9K23663 | A9K23263 | A9K23363 | A9K23463 |
| Operating frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Width in 9-mm modules | 2 | 4 | 4 | 6 | 8 |
| Accessories | Padlocking device cat. no. A9A26970 | | | | |

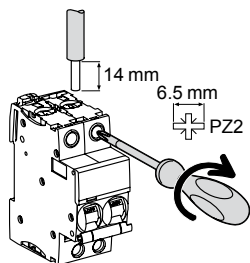
iK60N circuit breakers (curve B) (cont.)



PB104434-40



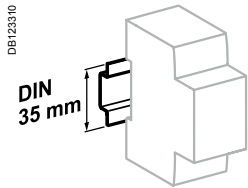
Connection

DB122960

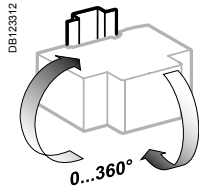


| Type | Rating | Tightening torque | Copper cables | |
|---------|------------|-------------------|--|---|
| | | | Rigid | Flexible or with ferrule |
| B curve | 1 to 25 A | 2 N.m |  DB122945 |  DB122946 |
| | 32 to 63 A | 3.5 N.m | | |
| | | | 1 to 35 mm ² | 1 to 25 mm ² |

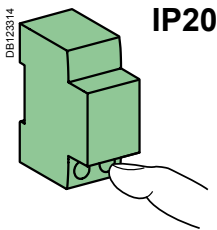
iK60N circuit breakers (curve B) (cont.)



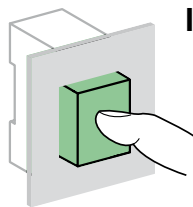
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



IP40

Technical data

Main characteristics

According to IEC/EN 60898-1

| | | |
|---|-----------------------|---------------------|
| Insulation voltage (Ui) | | 440 V AC |
| Pollution degree | | 2 |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| Thermal tripping | Reference temperature | 30°C |
| | Temperature derating | See module CA908007 |
| Magnetic tripping | B curve | 3 to 5 In |
| Limitation class | | 3 |
| Rated making and breaking capacity of an individual pole (Icn1) | | Icn1 = Icn |

Additional characteristics

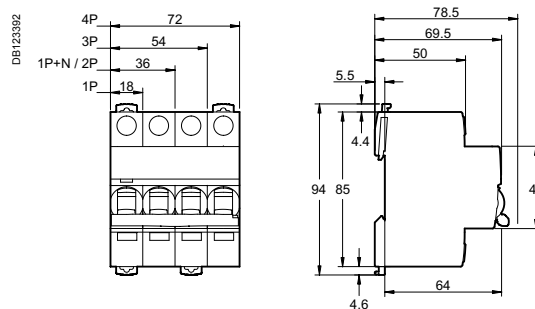
| | | |
|----------------------------------|-----------------------------|------------------------------|
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 Insulation classe II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | III |
| Operating temperature | | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |

Weight (g)

Circuit-breaker

| Type | iK60N |
|------|-------|
| 1P | 100 |
| 2P | 200 |
| 3P | 300 |
| 4P | 400 |

Dimensions (mm)



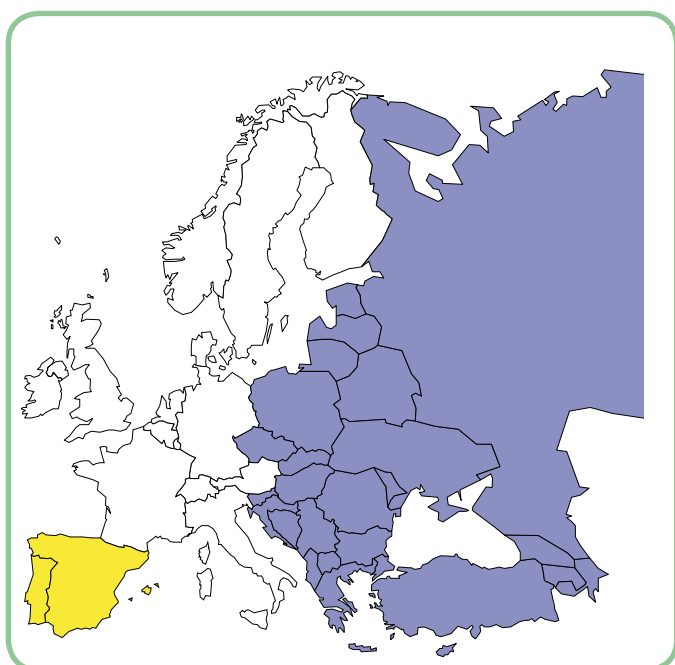


Schneider Electric's range of circuit breakers consists of different products (A, B, C) to enable it to be the most competitive range possible in each country, allowing for the special characteristics of each market:

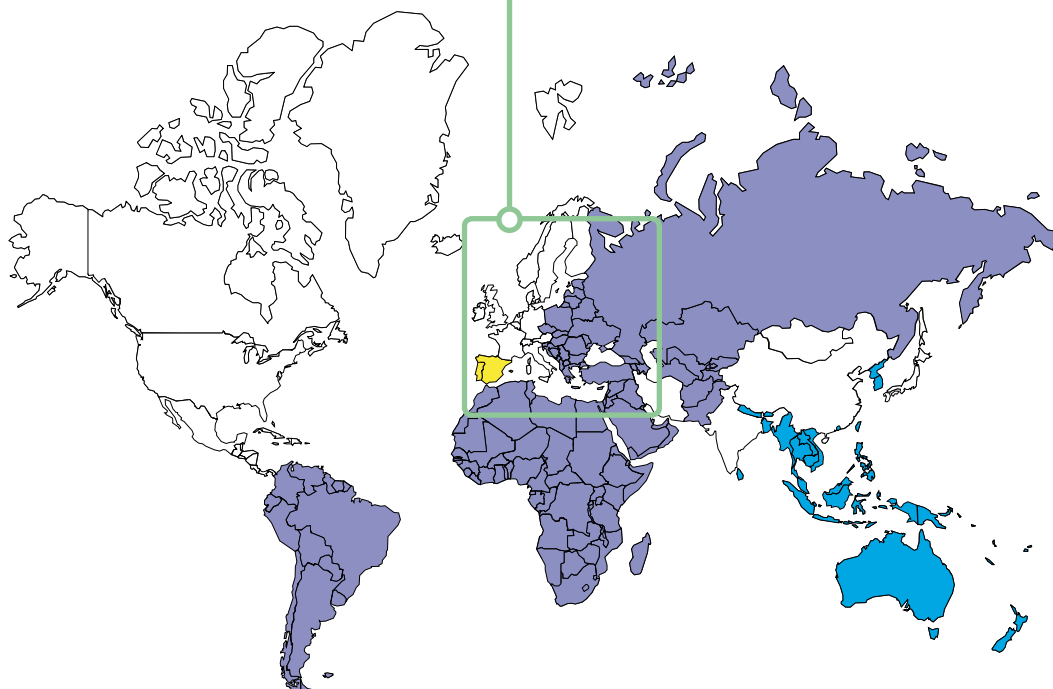
- usual installation procedure
- price
- accreditations by local bodies.

Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 67 |
| Offer B | Catalogue numbers | 68 |
| Offer C | Catalogue numbers | 69 |
| Common pages | | 70 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.





IEC/EN 60898-1

PB104459-40



- iK60N circuit breakers are circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - disconnection, opening and closing.

| iK60N circuit breaker 50/60 Hz | | Service breaking capacity (Ics) |
|--|--------|---------------------------------|
| Breaking capacity in short circuit (Icn) as per IEC/EN 60898-1 | | |
| Ph/Ph | 400 V | 100 % of Icn |
| Ph/N | 230 V | |
| Rating (In) 1 to 63 A | 6000 A | |

Catalogue numbers

| iK60N circuit breakers | | | | | | |
|------------------------|-------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Type | 1P | 1P+N | 2P | 3P | 3P+N | 4P |
| | | | | | | |
| Auxiliaries | Without auxiliaries | | | | | |
| Vigi iC60 | Without Vigi iC60 | | | | | |
| Rating (In) | Curve | Curve | Curve | Curve | Curve | Curve |
| | C | C | C | C | C | C |
| 1 A ⁽¹⁾ | A9K24101 | A9K24601 | A9K24201 | - | - | - |
| 2 A ⁽¹⁾ | A9K24102 | A9K24602 | A9K24202 | - | - | - |
| 3 A ⁽¹⁾ | A9K24103 | A9K24603 | A9K24203 | - | - | - |
| 4 A ⁽¹⁾ | A9K24104 | A9K24604 | A9K24204 | - | - | - |
| 6 A | A9K17106 | A9K17606 | A9K17206 | A9K17306 | A9K24706 | A9K17406 |
| 10 A | A9K17110 | A9K17610 | A9K17210 | A9K17310 | A9K24710 | A9K17410 |
| 16 A | A9K17116 | A9K17616 | A9K17216 | A9K17316 | A9K24716 | A9K17416 |
| 20 A | A9K17120 | A9K17620 | A9K17220 | A9K17320 | A9K24720 | A9K17420 |
| 25 A | A9K17125 | A9K17625 | A9K17225 | A9K17325 | A9K24725 | A9K17425 |
| 32 A | A9K17132 | A9K17632 | A9K17232 | A9K17332 | A9K24732 | A9K17432 |
| 40 A ⁽¹⁾ | A9K24140 | A9K24640 | A9K24240 | A9K24340 | A9K24740 | A9K24440 |
| 50 A ⁽¹⁾ | A9K24150 | A9K24650 | A9K24250 | A9K24350 | A9K24750 | A9K24450 |
| 63 A ⁽¹⁾ | A9K24163 | A9K24663 | A9K24263 | A9K24363 | A9K24763 | A9K24463 |
| Operating frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz |
| Width in 9-mm modules | 2 | 4 | 4 | 6 | 8 | 8 |
| Accessories | Padlocking device cat. no. A9A26970 | | | | | |

(1) VDE and RT approved, excepted 3P+N products.



IEC/EN 60898-1

PE104459-40

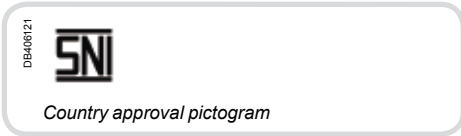


- iK60N circuit breakers are circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - disconnection, opening and closing.

| iK60N circuit breaker 50/60 Hz | | |
|---|--------|--|
| Breaking capacity in short circuit (I _{cn}) as per IEC/EN 60898-1 | | Service breaking capacity (I _{cs}) |
| Ph/Ph | 400 V | 100 % of I _{cn} |
| Ph/N | 230 V | |
| Rating (I _n) 1 to 63 A | 6000 A | |

Catalogue numbers

| iK60N circuit breakers | | | | | |
|--------------------------|-------------------------------------|------------|------------|------------|------------|
| Type | 1P | 1P+N | 2P | 3P | 4P |
| | | | | | |
| Auxiliaries | Without auxiliaries | | | | |
| Vigi iC60 | Without Vigi iC60 | | | | |
| Rating (I _n) | Curve C | Curve C | Curve C | Curve C | Curve C |
| 1 A | A9K24101 | A9K24601 | A9K24201 | - | - |
| 2 A | A9K24102 | A9K24602 | A9K24202 | - | - |
| 3 A | A9K24103 | A9K24603 | A9K24203 | - | - |
| 4 A | A9K24104 | A9K24604 | A9K24204 | - | - |
| 6 A | A9K24106 | A9K24606 | A9K24206 | A9K24306 | A9K24406 |
| 10 A | A9K24110 | A9K24610 | A9K24210 | A9K24310 | A9K24410 |
| 16 A | A9K24116 | A9K24616 | A9K24216 | A9K24316 | A9K24416 |
| 20 A | A9K24120 | A9K24620 | A9K24220 | A9K24320 | A9K24420 |
| 25 A | A9K24125 | A9K24625 | A9K24225 | A9K24325 | A9K24425 |
| 32 A | A9K24132 | A9K24632 | A9K24232 | A9K24332 | A9K24432 |
| 40 A | A9K24140 | A9K24640 | A9K24240 | A9K24340 | A9K24440 |
| 50 A | A9K24150 | A9K24650 | A9K24250 | A9K24350 | A9K24450 |
| 63 A | A9K24163 | A9K24663 | A9K24263 | A9K24363 | A9K24463 |
| Operating frequency | 50/60 Hz | | | | |
| Width in 9-mm modules | 2 | 4 | 4 | 6 | 8 |
| Accessories | Padlocking device cat. no. A9A26970 | | | | |



IEC/EN 60898-1



- iK60N circuit breakers are circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - disconnection, opening and closing.

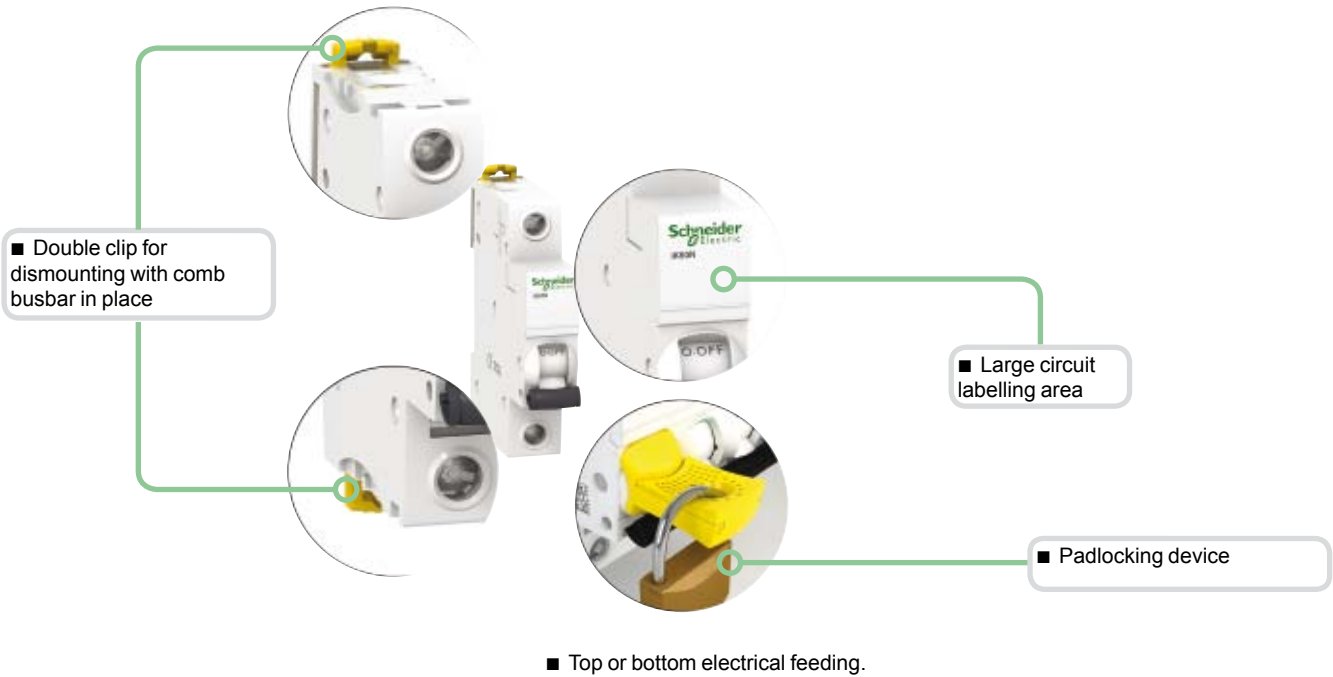
| iK60N circuit breaker 50/60 Hz | | Service breaking capacity (Ics) 100 % of Icn |
|--|--------|---|
| Breaking capacity in short circuit (Icn) as per IEC/EN 60898-1 | | |
| Ph/Ph | 400 V | |
| Ph/N | 230 V | |
| Rating (In) 6 to 63 A | 6000 A | |

Catalogue numbers

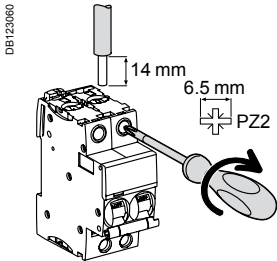
| iK60N circuit breakers | | | | |
|------------------------|-------------------------------------|------------|------------|------------|
| Type | 1P | 2P | 3P | 4P |
| | | | | |
| Auxiliaries | Without auxiliaries | | | |
| Vigi IC60 | Without Vigi IC60 | | | |
| Rating (In) | Curve C | Curve C | Curve C | Curve C |
| 1 A | A9K24101 | - | - | - |
| 2 A | A9K24102 | - | - | - |
| 3 A | A9K24103 | - | - | - |
| 4 A | A9K24104 | - | - | - |
| 6 A | A9K27106 | A9K27206 | A9K24306 | A9K24406 |
| 10 A | A9K27110 | A9K27210 | A9K24310 | A9K24410 |
| 16 A | A9K27116 | A9K27216 | A9K24316 | A9K24416 |
| 20 A | A9K27120 | A9K27220 | A9K24320 | A9K24420 |
| 25 A | A9K27125 | A9K27225 | A9K24325 | A9K24425 |
| 32 A | A9K27132 | A9K27232 | A9K24332 | A9K24432 |
| 40 A | A9K24140 | A9K24240 | A9K24340 | A9K24440 |
| Operating frequency | 50/60 Hz | | | |
| Width in 9-mm modules | 2 | 4 | 6 | 8 |
| Accessories | Padlocking device cat. no. A9A26970 | | | |



iK60N circuit breakers (curve C) (cont.)

PB10434-40

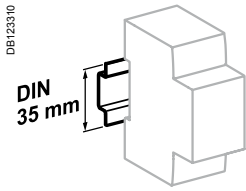


Connection

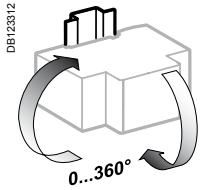


| Type | Rating | Tightening torque | Copper cables | |
|---------|------------|-------------------|---|---|
| | | | Rigid | Flexible or with ferrule |
| C curve | 1 to 32 A | 2 N.m |  DB122865 |  DB122866 |
| | 40 to 63 A | 3.5 N.m | | |
| | | | 1 to 35 mm ² | 1 to 25 mm ² |

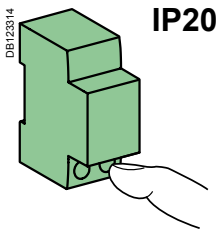
iK60N circuit breakers (curve C) (cont.)



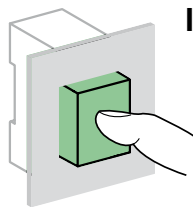
Clip on DIN rail 35 mm.



Position d'installation indifférente.



IP20



IP40

Technical data

Main characteristics

According to IEC/EN 60898-1

| | | |
|---|-----------------------|---------------------|
| Insulation voltage (Ui) | | 440 V AC |
| Pollution degree | | 2 |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| Thermal tripping | Reference temperature | 30°C |
| | Temperature derating | See module CA908007 |
| Magnetic tripping | C curve | 5 to 10 In |
| Limitation class | | 3 |
| Rated making and breaking capacity of an individual pole (Icn1) | | Icn1 = Icn |

Additional characteristics

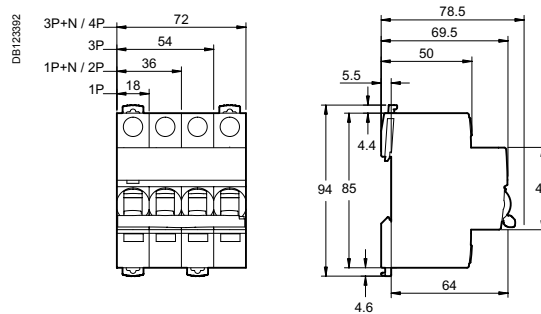
| | | |
|----------------------------------|-----------------------------|-------------------------------|
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 Classe d'isolement II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | III |
| Operating temperature | | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |

Weight (g)

Circuit-breaker

| Type | iK60N |
|-----------|-------|
| 1P | 100 |
| 2P (1P+N) | 200 |
| 3P | 300 |
| 4P (3P+N) | 400 |

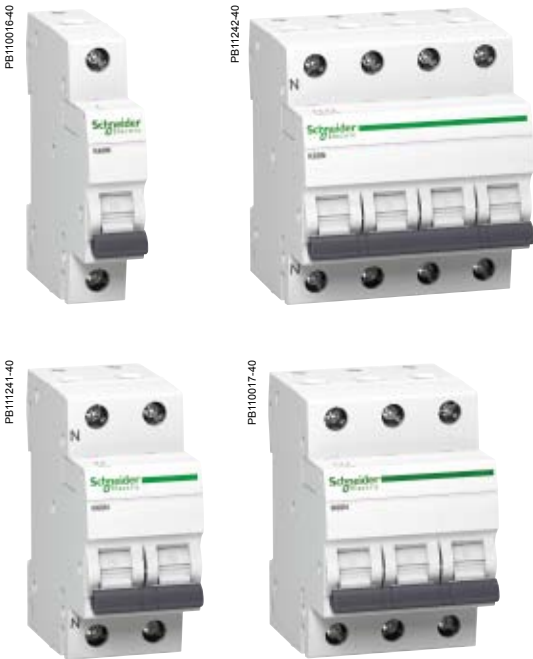
Dimensions (mm)





IEC/EN 60898-1

- K60N Biconnect circuit breakers are circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - disconnection, opening and closing.



K60N Biconnect circuit breaker 50/60 Hz

| Breaking capacity in short circuit (I _{cn}) as per IEC/EN 60898-1 | | Service breaking capacity (I _{cs}) 100 % of I _{cn} |
|---|-----------|--|
| Ph/Ph | 400 V | |
| Ph/N | 230 V | |
| Rating (I _n) | 2 to 40 A | 6000 A |

Catalogue numbers

| K60N Biconnect circuit breaker | | | | | | | | |
|--------------------------------|----------------------------------|----------|---------------------|----------|---------------------|----------|---------------------|---|
| Type | 1P | | 1P+N | | 3P | | 3P+N | |
| | | | | | | | | |
| Auxiliaries | Without auxiliaries | | Without auxiliaries | | Without auxiliaries | | Without auxiliaries | |
| Rating (In) | Curve | | Curve | | Curve | | Curve | |
| | B | C | B | C | B | C | C | |
| 2 A | - | A9K02102 | - | - | - | - | - | - |
| 4 A | - | A9K02104 | - | - | - | - | - | - |
| 6 A | A9K01106 | A9K02106 | - | - | A9K01306 | A9K02306 | - | - |
| 10 A | A9K01110 | A9K02110 | - | - | A9K01310 | A9K02310 | - | - |
| 13 A | A9K01113 | A9K02113 | A9K01613 | A9K02613 | - | A9K02313 | A9K02713 | - |
| 16 A | A9K01116 | A9K02116 | A9K01616 | A9K02616 | A9K01316 | A9K02316 | A9K02716 | - |
| 20 A | A9K01120 | A9K02120 | - | - | A9K01320 | A9K02320 | - | - |
| 25 A | A9K01125 | A9K02125 | - | - | A9K01325 | A9K02325 | - | - |
| 32 A | A9K01132 | A9K02132 | - | - | A9K01332 | A9K02332 | - | - |
| 40 A | A9K01140 | A9K02140 | - | - | A9K01340 | A9K02340 | - | - |
| Operating frequency | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | 50/60 Hz | |
| Width in 9-mm modules | 2 | 2 | 4 | 4 | 6 | 6 | 8 | |
| Accessories | Padlocking device cat. no. 26970 | | | | | | | |

PB110016-60

■ Reinforced cable pull-out strength: serrated terminals

■ Fast closing independent of the speed of actuation of the toggle.



0572091_SE-33



Padlocking device

■ Padlocking possible for work to be carried out on live parts

Connection

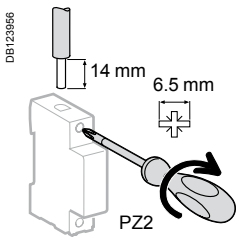
- Downstream by Biconnect comb busbar
- Upstream/downstream by tunnel terminals

DB404823

DB405041



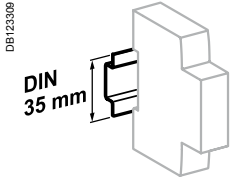
Connection



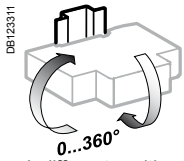
| Type | Rating | Tightening torque | Copper cables | |
|----------------|-----------|-------------------|---------------------------|---------------------------|
| | | | Rigid | Flexible or ferrule |
| K60N Biconnect | 2 to 25 A | 2 N.m | DB1223M45 | DB1223M46 |
| | 32 - 40 A | 3.5 N.m | 0.5 to 35 mm ² | 0.5 to 25 mm ² |

■ Connection by comb busbar or cables (conforms to EN 50027).

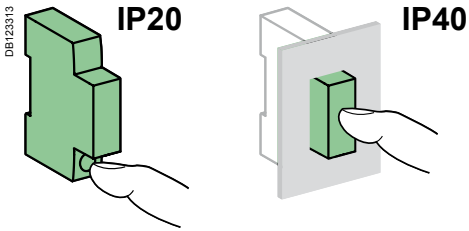
K60N circuit breakers Biconnect (cont.)



Clip on DIN rail 35 mm.



Indifferent position of installation.



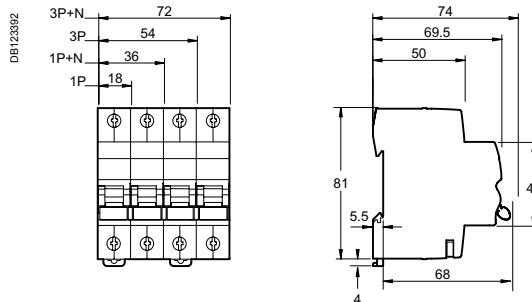
Technical data

| Main characteristics | | |
|--|-----------------------------|--|
| Insulation voltage (Ui) | Phase-to-phase | 440 V AC |
| Voltage rating (Ue) | Phase-to-neutral | 230 V AC |
| | Phase-to-phase | 400 V AC |
| Magnetic tripping | B curve | 3 to 5 In ■ |
| | C curve | 5 to 10 In ■ |
| According to EN 60898-1 | | |
| Limitation class | | 3 |
| Rated breaking capacity (Icn) | | 6000 A |
| Service breaking capacity (Ics) | | 100 % Icn |
| Rated breaking and making capacity on a single pole (Icn1) | | Icn1 = Icn |
| Additional characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 Insulation classe II |
| Endurance (O-C) | Electrical | ≤ 20 A 20,000 cycles |
| | ≥ 25 A | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -25 °C to +70 °C |
| Storage temperature | | -40 °C to +70 °C |
| Tropicalization (IEC 60068-1) | | Exécution 2 (humidité relative de 95 % à 55 °C) |

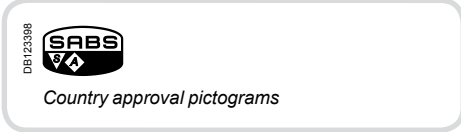
Weight (g)

| Circuit-breaker | |
|-----------------|----------------|
| Type | K60N Biconnect |
| 1P | 120 |
| 1P+N | 240 |
| 3P | 360 |
| 3P+N | 480 |

Dimensions (mm)



C120a circuit breakers (curves C, D)



IEC/EN 60947-2

C120a circuit breakers are multistandard circuit breakers that combine the following functions:

- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- suitability for isolation in the industrial sector to IEC/EN 60947-2,
- fault tripping and indication by adding auxiliaries.

| Alternating current (AC) 50/60 Hz | | |
|---|--------------|---------------------------------|
| Breaking capacity (Icu) to IEC/EN 60947-2 | | Service breaking capacity (Ics) |
| Type | Voltage (V) | |
| 1P, 2P, 3P, 4P | 230 to 400 V | |
| Rating (In) 80 and 100 A | 5 kA | 100 % of Icu |

Catalogue numbers

| C120a circuit breaker | | | | | | |
|-----------------------|--|----------|--|----------|--|----------|
| Type | 1P | 2P | 3P | 4P | | |
| | | | | | | |
| Auxiliaries | Remote indication and tripping, module CA907008 and CA907013 | | Remote indication and tripping, module CA907008 and CA907013 | | Remote indication and tripping, module CA907008 and CA907013 | |
| Vigi C120 | Vigi C120 add-on residual current device, module CA902016 | | Vigi C120 add-on residual current device, module CA902016 | | Vigi C120 add-on residual current device, module CA902016 | |
| Rating (In) | Curve C D | | Curve C D | | Curve C | |
| 80 A | A9N60708 | A9N60720 | A9N60711 | A9N60714 | A9N60723 | A9N60717 |
| 100 A | A9N60709 | A9N60721 | A9N60712 | A9N60715 | A9N60724 | A9N60718 |
| Width in 9-mm modules | 3 | | 6 | | 12 | |
| Accessories | Module CA907012 and CA907013 | | Module CA907012 and CA907013 | | Module CA907012 and CA907013 | |

C120N circuit breakers (curves C, D)



Country approval pictograms



IEC/EN 60947-2

C120N circuit breakers are multistandard circuit breakers that combine the following functions:

- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- suitability for isolation in the industrial sector to IEC/EN 60947-2,
- fault tripping and indication by adding auxiliaries.

Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) to IEC/EN 60947-2 | | Service breaking capacity (Ics) |
|---|--------------|---------------------------------|
| Type | Voltage (V) | |
| 1P, 2P, 3P, 4P | 230 to 400 V | 75 % of Icu |
| Rating (In) | 80 and 100 A | |

Direct current (DC)

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | | Service breaking capacity (Ics) |
|---|-----------------|--------------|---------|---------|---------|---------------------------------|
| | Between +/- | ≤ 144 V | ≤ 250 V | ≤ 375 V | ≤ 500 V | |
| | Number of poles | 1P | 2P | 3P | 4P | 100 % of Icu |
| | Rating (In) | 80 and 100 A | 15 kA | 10 kA | 10 kA | |

Catalogue numbers

C120N circuit breaker

| Type | 1P | 2P | 3P | 4P |
|-----------------------|--|--|--|--|
| | | | | |
| Auxiliaries | Remote indication and tripping, module CA907008 and CA907013 | Remote indication and tripping, module CA907008 and CA907013 | Remote indication and tripping, module CA907008 and CA907013 | Remote indication and tripping, module CA907008 and CA907013 |
| Vigi C120 | Vigi C120 add-on residual current device, module CA902016 | Vigi C120 add-on residual current device, module CA902016 | Vigi C120 add-on residual current device, module CA902016 | Vigi C120 add-on residual current device, module CA902016 |
| Rating (In) | Curve C D | Curve C D | Curve C D | Curve C D |
| 80 A | A9N60729 A9N60745 | A9N60733 A9N60749 | A9N60737 A9N60753 | A9N60741 A9N60757 |
| 100 A | A9N60730 A9N60746 | A9N60734 A9N60750 | A9N60738 A9N60754 | A9N60742 A9N60758 |
| Width in 9-mm modules | 3 | 6 | 9 | 12 |
| Accessories | Module CA907012 and CA907013 | Module CA907012 and CA907013 | Module CA907012 and CA907013 | Module CA907012 and CA907013 |

C120H circuit breakers (curve C)



Country approval pictograms



IEC/EN 60947-2

C120H circuit breakers are multistandard circuit breakers that combine the following functions:

- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- suitability for isolation in the industrial sector to IEC/EN 60947-2,
- fault tripping and indication by adding auxiliaries.

Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) to IEC/EN 60947-2 | | Service breaking capacity (Ics) |
|---|--------------|---------------------------------|
| Type | Voltage (V) | |
| 1P | 230 to 400 V | 50 % of Icu |
| Rating (In) | 80 and 100 A | |

Direct current (DC)

| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | | Service breaking capacity (Ics) |
|---|--------------|---------------------|---------|---------|---------|---------------------------------|
| | Between +/- | 12 to 125 V ≤ 144 V | ≤ 250 V | ≤ 375 V | ≤ 500 V | |
| Number of poles | 1P | 2P | 3P | 4P | | 100 % of Icu |
| Rating (In) | 80 and 100 A | 20 kA | 15 kA | 15 kA | 15 kA | |

Catalogue numbers

C120H circuit breaker

| Type | 1P | 2P | 3P | 4P |
|-----------------------|--|--|--|--|
| | | | | |
| Auxiliaries | Remote indication and tripping, module CA907008 and CA907013 | Remote indication and tripping, module CA907008 and CA907013 | Remote indication and tripping, module CA907008 and CA907013 | Remote indication and tripping, module CA907008 and CA907013 |
| Vigi C120 | Vigi C120 add-on residual current device, module CA902016 | Vigi C120 add-on residual current device, module CA902016 | Vigi C120 add-on residual current device, module CA902016 | Vigi C120 add-on residual current device, module CA902016 |
| Rating (In) | Curve C | Curve C | Curve C | Curve C |
| 80 A | A9N60777 | A9N60781 | A9N60785 | A9N60789 |
| 100 A | A9N60778 | A9N60782 | A9N60786 | A9N60790 |
| Width in 9-mm modules | 3 | 6 | 9 | 12 |
| Accessories | Module CA907012 and CA907013 | Module CA907012 and CA907013 | Module CA907012 and CA907013 | Module CA907012 and CA907013 |

PB107917-40

■ Terminals insulated to IP20



■ Location for 4 clip-on terminal markers

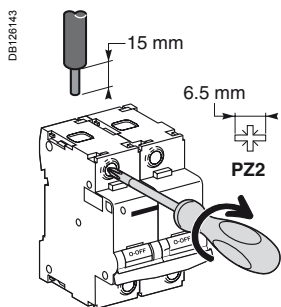


Positive contact indication

- Suitability for isolation in the industrial sector to IEC/EN 60947-2.
- The presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit.

- Longer product service life thanks to:
 - good overvoltage withstand capacity: products designed to offer a high industrial performance level (degree of pollution, rated impulse withstand voltage and insulation voltage).
 - high limitation performances (see limitation curves).
 - fast closure independent of toggle operating speed.
- Remote indication of the open/closed/tripped state by auxiliary contacts (optional).
- Power supply from above or below.

Connection



| Rating | Tightening torque | Without access. | | With accessories | | | |
|---------------------|-------------------|-------------------------|---------------------------|--------------------------------|--|------------------------|------------------------|
| | | Rigid/semi-rigid | Flexible or with ferrule | 50 mm ² Al Terminal | Screw-on connection for ring terminal ⁽¹⁾ | Rigid cables | Flexible cables |
| | | DB122845 | DB122846 | DB122835 | DB118789 | DB118787 | |
| 80 and 100 A | 3.5 N.m | 1 to 50 mm ² | 1.5 to 35 mm ² | 16 to 50 mm ² | Ø 5 mm | 3 x 16 mm ² | 3 x 10 mm ² |

(1) For lugs up to 63 A, front or rear access.

Technical data

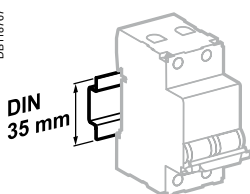
Main characteristics

To IEC/EN 60947-2

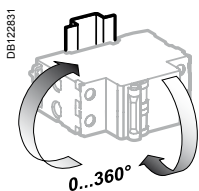
| | | |
|---|-----------------------|--------------------------|
| Insulation voltage (U _i) | 500 V AC | |
| Degree of pollution | 3 | |
| Rated impulse withstand voltage (U _{imp}) | 6 kV | |
| Thermal tripping | Reference temperature | 50°C |
| Magnetic tripping | Curve C | 8 I _n ± 20 % |
| | Curve D | 12 I _n ± 20 % |
| Limitation class | 3 | |

Additional characteristics

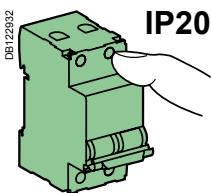
| | | |
|----------------------------------|--|-------------------|
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in a modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 5000 cycles (O-C) |
| | Mechanical | 20000 cycles |
| Operating temperature | -30°C to +70°C | |
| Storage temperature | -40°C to +80°C | |
| Tropicalisation (IEC 60068-1) | Treatment 2 (relative humidity 95 % at 55°C) | |



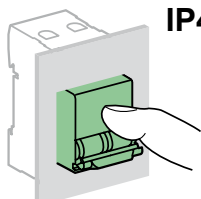
Clips onto 35 mm DIN rail.



Any installation position.



IP20



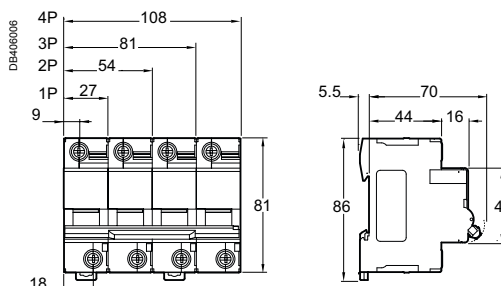
IP40

Weight (g)

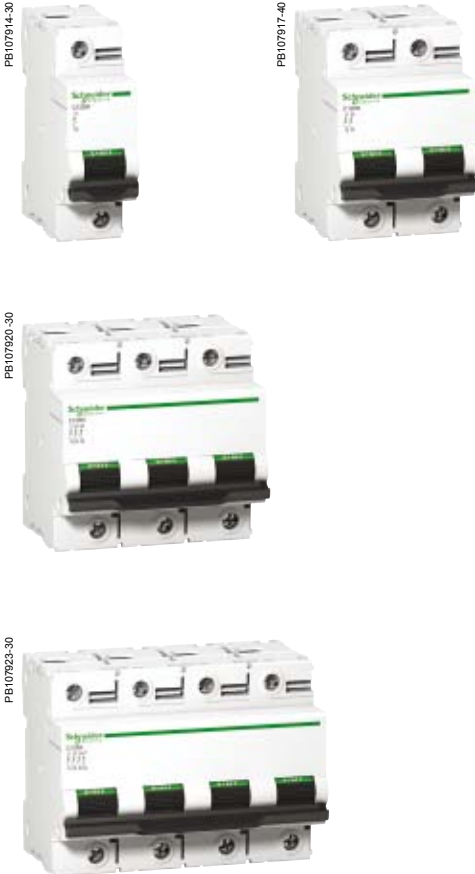
Circuit breaker

| Type | C120 |
|------|------|
| 1P | 205 |
| 2P | 410 |
| 3P | 615 |
| 4P | 820 |

Dimensions (mm)



C120N circuit breakers (curves B, C, D)



IEC/EN 60898-1, IEC 60947-2

C120N circuit breakers are multistandard circuit breakers that combine the following functions:

- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- suitability for isolation in the industrial sector to IEC/EN 60947-2,
- fault tripping and indication by adding auxiliaries.

Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
|---|-------------|--------------|---------------------|-------|--|---------------------------------|
| Type | Voltage (V) | | | | | |
| 1P | 12 to 130 V | 220 to 240 V | 380 to 415 V | 440 V | | 75 % of Icu |
| Rating (In) 63 to 125 A | 20 kA | 10 kA | 3 kA ⁽¹⁾ | - | | |
| 2P/3P/4P | 12 to 130 V | 220 to 240 V | 380 to 415 V | 440 V | | 75 % of Icu |
| 63 to 125 A | - | 20 kA | 10 kA | 6 kA | | |

| Breaking capacity (Icn) to IEC/EN 60898-1 | | |
|---|--------------|--|
| Type | Voltage (V) | |
| 1P, 2P, 3P, 4P | 230 to 400 V | |
| Rating (In) 63 to 125 A | 10000 A | |
| | 75 % of Icn | |

⁽¹⁾ One-pole breaking capacity in IT isolated neutral system (double fault).

Direct current (DC)

| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | | Service breaking capacity (Ics) |
|---|--------------|---------|---------|---------|---------|--------------|---------------------------------|
| Between +/- | Voltage (Ue) | | | | | | |
| | 12 to 125 V | ≤ 144 V | ≤ 250 V | ≤ 375 V | ≤ 500 V | | |
| Number of poles | 1P | 2P | 3P | 4P | | | |
| Rating (In) 63 to 125 A | 15 kA | 10 kA | 10 kA | 10 kA | 10 kA | 100 % of Icu | |

Catalogue numbers

C120N circuit breaker

| Type | 1P | 2P |
|-----------------------|--|--|
| | | |
| Auxiliaries | Remote indication and tripping, module CA907008 and CA907013 | Remote indication and tripping, module CA907008 and CA907013 |
| Vigi C120 | Vigi C120 add-on residual current device, module CA902016 | Vigi C120 add-on residual current device, module CA902016 |
| Rating (In) | Curve | Curve |
| | B C D | B C D |
| 63 A | A9N18340 A9N18356 A9N18378 | A9N18344 A9N18360 A9N18382 |
| 80 A | A9N18341 A9N18357 A9N18379 | A9N18345 A9N18361 A9N18383 |
| 100 A | A9N18342 A9N18358 A9N18380 | A9N18346 A9N18362 A9N18384 |
| 125 A | A9N18343 A9N18359 A9N18381 | A9N18347 A9N18363 A9N18385 |
| Width in 9-mm modules | 3 | 6 |
| Accessories | Module CA907012 and CA907013 | Module CA907012 and CA907013 |

⁽¹⁾ Country France only

C120N circuit breakers (curves B, C, D) (cont.)

PB107817-40

■ Terminals insulated to IP20



■ Location for 4 clip-on terminal markers

Positive contact indication

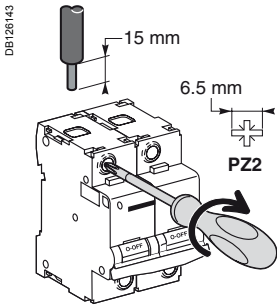
- Suitability for isolation in the industrial sector to IEC/EN 60947-2.
- The presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit.

- Longer product service life thanks to:
 - good overvoltage withstand capacity: products designed to offer a high industrial performance level (degree of pollution, rated impulse withstand voltage and insulation voltage).
 - high limitation performances (see limitation curves).
 - fast closure independent of toggle operating speed.
- Remote indication of the open/closed/tripped state by auxiliary contacts (optional).
- Power supply from above or below.

| 3P | | | | 4P | | |
|--|----------|----------|--|--|-------------|----------|
| | | | | | | |
| Remote indication and tripping, module CA907008 and CA907013 | | | | Remote indication and tripping, module CA907008 and CA907013 | | |
| Vigi C120 add-on residual current device, module CA902016 | | | | Vigi C120 add-on residual current device, module CA902016 | | |
| Curve | | | | Curve | | |
| B | C | D | | B | C | D |
| A9N18348 | A9N18364 | A9N18386 | | A9N18352 | A9N18371 | A9N18390 |
| A9N18349 | A9N18365 | A9N18387 | | A9N18353 | A9N18372 | A9N18391 |
| | | | | | A9N18373(1) | |
| A9N18350 | A9N18367 | A9N18388 | | A9N18354 | A9N18374 | A9N18392 |
| | | | | | A9N18375(1) | |
| A9N18351 | A9N18369 | A9N18389 | | A9N18355 | A9N18376 | A9N18393 |
| | | | | | A9N18377(1) | |
| 9 | | | | 12 | | |
| Module CA907012 and CA907013 | | | | Module CA907012 and CA907013 | | |

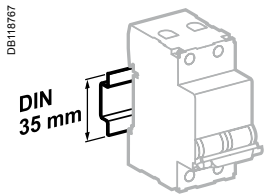
C120N circuit breakers (curves B, C, D) (cont.)

Connection

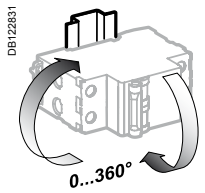


| Rating | Tightening torque | Without access. | | With accessories | | |
|--------------------|-------------------|-------------------------|---------------------------|--------------------------------|--|---|
| | | Rigid/semi-rigid | Flexible or with ferrule | 50 mm ² Al Terminal | Screw-on connection for ring terminal ⁽¹⁾ | Multi-cable terminal |
| | | DB1228445 | DB1228446 | DB1228335 | DB1187789 | DB1187897 |
| | | | | | | |
| 63 to 125 A | 3.5 N.m | 1 to 50 mm ² | 1.5 to 35 mm ² | 16 to 50 mm ² | Ø 5 mm | 3 x 16 mm ² / 3 x 10 mm ² |

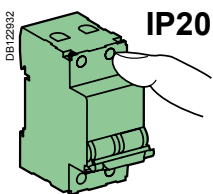
(1) For lugs up to 63 A, front or rear access.



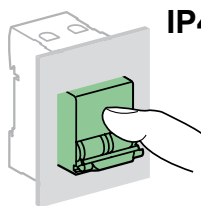
Clips onto 35 mm DIN rail.



Any installation position.



IP20



IP40

Technical data

Main characteristics

To IEC/EN 60947-2

| | |
|---|----------|
| Insulation voltage (U _i) | 500 V AC |
| Degree of pollution | 3 |
| Rated impulse withstand voltage (U _{imp}) | 6 kV |
| Thermal tripping Reference temperature | 50°C |

To IEC/EN 60898-1

| | | |
|-------------------|---------|--------------------------|
| Magnetic tripping | Curve B | 3 and 5 I _n |
| | Curve C | 5 and 10 I _n |
| | Curve D | 10 and 14 I _n |
| Limitation class | 3 | |

Additional characteristics

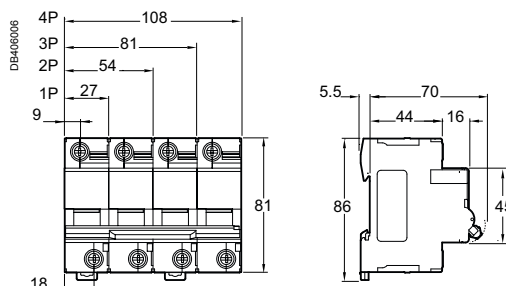
| | | | |
|----------------------------------|--|--------------|--------------------|
| Degree of protection (IEC 60529) | Device only | IP20 | |
| | Device in a modular enclosure | IP40 | |
| Endurance (O-C) | Electrical | 63 A | 10000 cycles (O-C) |
| | | 80...125 A | 5000 cycles (O-C) |
| | Mechanical | 20000 cycles | |
| Operating temperature | -30°C to +70°C | | |
| Storage temperature | -40°C to +80°C | | |
| Tropicalisation (IEC 60068-1) | Treatment 2 (relative humidity 95 % at 55°C) | | |

Weight (g)

Circuit breaker

| Type | C120N |
|------|-------|
| 1P | 205 |
| 2P | 410 |
| 3P | 615 |
| 4P | 820 |

Dimensions (mm)



C120H circuit breakers (curves B, C, D)



IEC/EN 60898-1, IEC 60947-2

C120H circuit breakers are multistandard circuit breakers that combine the following functions:

- circuit protection against short-circuit currents
- circuit protection against overload currents
- suitability for isolation in the industrial sector to IEC/EN 60947-2
- fault tripping and indication by adding auxiliaries.

Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
|---|-------------|--------------|-----------------------|-------|--|---------------------------------|
| Type | Voltage (V) | | | | | |
| 1P | 12 to 130 V | 220 to 240 V | 380 to 415 V | 440 V | | 50 % of Icu |
| Rating (In) 63 to 125 A | 30 kA | 15 kA | 4,5 kA ⁽¹⁾ | - | | |
| 2P, 3P, 4P | 12 to 130 V | 220 to 240 V | 380 to 415 V | 440 V | | 50 % of Icu |
| 63 to 125 A | - | 30 kA | 15 kA | 10 kA | | |

Breaking capacity (Icn) to IEC/EN 60898-1

| Type | Voltage (V) | | Service breaking capacity (Ics) |
|-------------------------|--------------|--|---------------------------------|
| 1P, 2P, 3P, 4P | 230 to 400 V | | |
| Rating (In) 63 to 125 A | 15000 A | | |

⁽¹⁾ One-pole breaking capacity in IT isolated neutral system (double fault).

Direct current (DC)

| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | | Service breaking capacity (Ics) |
|---|-----------------|---------|---------|---------|---------|--|---------------------------------|
| Between +/- | Voltage (Ue) | | | | | | |
| | Number of poles | 1P | 2P | 3P | 4P | | |
| Between +/- | 12 to 125 V | ≤ 144 V | ≤ 250 V | ≤ 375 V | ≤ 500 V | | 100 % of Icu |
| Rating (In) 63 to 125 A | 20 kA | 15 kA | 15 kA | 15 kA | 15 kA | | |

Catalogue numbers

C120H circuit breaker

| Type | 1P | 2P |
|-----------------------|--|--|
| Auxiliaries | Remote indication and tripping, module CA907008 and CA907013 | Remote indication and tripping, module CA907008 and CA907013 |
| Vigi C120 | Vigi C120 add-on residual current device, module CA902016 | Vigi C120 add-on residual current device, module CA902016 |
| Rating (In) | Curve B C D | Curve B C D |
| 63 A | A9N18401 A9N18445 A9N18489 | A9N18412 A9N18456 A9N18500 |
| 80 A | A9N18402 A9N18446 A9N18490 | A9N18413 A9N18457 A9N18501 |
| 100 A | A9N18403 A9N18447 A9N18491 | A9N18414 A9N18458 A9N18502 |
| 125 A | A9N18404 A9N18448 A9N18492 | A9N18415 A9N18459 A9N18503 |
| Width in 9 mm modules | 3 | 6 |
| Accessories | Module CA907012 and CA907013 | Module CA907012 and CA907013 |

C120H circuit breakers (curves B, C, D) (cont.)

PB107916-40

■ Terminals insulated to IP20



■ Location for 4 clip-on terminal markers



Positive contact indication

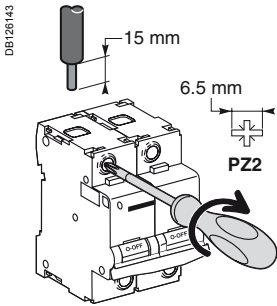
- Suitability for isolation in the industrial sector to IEC/EN 60947-2.
- The presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit.

- Longer product service life thanks to:
 - good overvoltage withstand capacity: products designed to provide a high industrial performance level (degree of pollution, rated impulse withstand voltage and insulation voltage).
 - high limitation performances (see limitation curves).
 - fast closure independent of toggle operating speed.
- Remote indication of the open/closed/tripped state by auxiliary contacts (optional).
- Power supply from above or below.

| 3P | | | 4P | | |
|--|----------|----------|--|----------|----------|
| | | | | | |
| Remote indication and tripping, module CA907008 and CA907013 | | | Remote indication and tripping, module CA907008 and CA907013 | | |
| Vigi C120 add-on residual current device, module CA902016 | | | Vigi C120 add-on residual current device, module CA902016 | | |
| Curve | | | Curve | | |
| B | C | D | B | C | D |
| A9N18423 | A9N18467 | A9N18511 | A9N18434 | A9N18478 | A9N18522 |
| A9N18424 | A9N18468 | A9N18512 | A9N18435 | A9N18479 | A9N18523 |
| A9N18425 | A9N18469 | A9N18513 | A9N18436 | A9N18480 | A9N18524 |
| A9N18426 | A9N18470 | A9N18514 | A9N18437 | A9N18481 | A9N18525 |
| 9 | | | 12 | | |
| Module CA907012 and CA907013 | | | Module CA907012 and CA907013 | | |

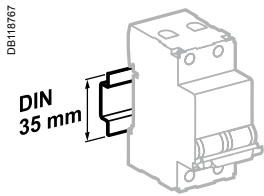
C120H circuit breakers (curves B, C, D) (cont.)

Connection

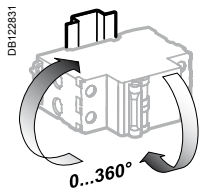


| Rating | Tightening torque | Without access. | | With accessories | | | |
|-------------|-------------------|-------------------------|---------------------------|-----------------------------|--|------------------------|------------------------|
| | | Rigid | Flexible or with ferrule | 50 mm ² Al term. | Screw-on connection for ring terminal ⁽¹⁾ | Rigid cables | Flexible cables |
| 63 to 125 A | 3.5 N.m | DB122945 | DB122946 | DB122935 | DB118769 | DB118767 | |
| | | 1 to 50 mm ² | 1.5 to 35 mm ² | 16 to 50 mm ² | Ø 5 mm | 3 x 16 mm ² | 3 x 10 mm ² |

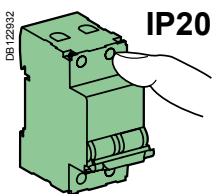
(1) For lugs up to 63 A, front or rear accessories.



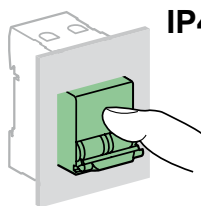
Clips onto 35 mm DIN rail.



Any installation position.



IP20



IP40

Technical data

Main characteristics

To IEC/EN 60947-2

| | |
|---|-----------------------|
| Insulation voltage (U _i) | 500 V AC |
| Degree of pollution | 3 |
| Rated impulse withstand voltage (U _{imp}) | 6 kV |
| Thermal tripping | Reference temperature |
| | 50°C |

To IEC/EN 60898-1

| | | |
|-------------------|---------|--------------------------|
| Magnetic tripping | Curve B | 3 and 5 I _n |
| | Curve C | 5 and 10 I _n |
| | Curve D | 10 and 14 I _n |
| Limitation class | | 3 |

Additional characteristics

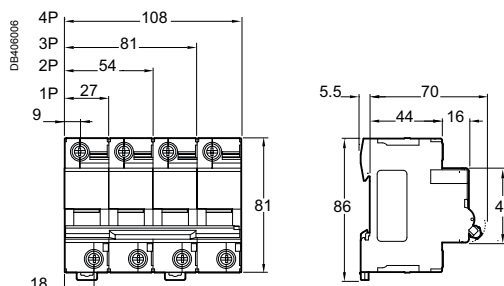
| | | | |
|----------------------------------|-------------------------------|---|--------------------|
| Degree of protection (IEC 60529) | Device only | IP20 | |
| | Device in a modular enclosure | IP40 (IPXXD) | |
| Endurance (O-C) | Electrical | 63 A | 10000 cycles (O-C) |
| | | 80...125 A | 5000 cycles (O-C) |
| | Mechanical | | 20000 cycles |
| Operating temperature | | -30°C to +70°C | |
| Storage temperature | | -40°C to +80°C | |
| Tropicalisation (IEC 60068-1) | | Treatment 2 (relative humidity 95% at 55°C) | |

Weight (g)

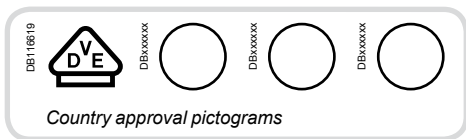
Circuit breaker

| Type | C120H |
|------|-------|
| 1P | 205 |
| 2P | 410 |
| 3P | 615 |
| 4P | 820 |

Dimensions (mm)



NG125a circuit breakers (curve C)



IEC/EN 60947-2

■ NG125a circuit breakers are circuit breakers which combine the following functions:

- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- suitability for isolation in the industrial sector to IEC/EN 60947-2,
- tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.



NG125a 3P



NG125a 4P

Alternating current (AC) 50/60 Hz

| Breaking capacity (Icu) to IEC/EN 60947-2 | | | Service breaking capacity (Ics) |
|---|--------------|-------|---------------------------------|
| Ph/Ph (3P, 4P) | Voltage (Ue) | | |
| Rating (In) 80 to 125 A | 380 to 415 V | 500 V | 75 % of Icu |
| | 16 kA | 8 kA | |

Direct current (DC)

| Breaking capacity (Icu) to IEC/EN 60947-2 | | | Service breaking capacity (Ics) |
|---|--------------|---------|---------------------------------|
| | Voltage (Ue) | | |
| | ≤ 375 V | ≤ 500 V | 100 % of Icu |
| Number of poles | 3P | 4P | |
| Rating (In) 80 to 125 A | 20 kA | 20 kA | |

Catalogue numbers

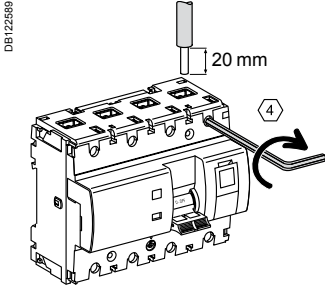
NG125a circuit breaker

| Type | 3P | 4P |
|-----------------------|--|---------|
| | | |
| Auxiliaries | Remote indication and tripping, module CM907004 and CM907005 | |
| Vigi NG125 | Vigi NG125 add-on residual current device, module CM902008 | |
| Rating (In) | Quality label ⁽¹⁾ | Curve C |
| 80 A | | 18603 |
| 100 A | | 18604 |
| 125 A | | 18605 |
| Width in 9 mm modules | 9 | 12 |
| Accessories | Module CM907004 and CM907006 | |

(1) Information to be supplied by the country concerned.

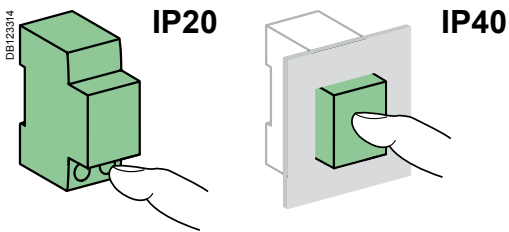
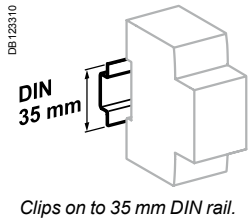
NG125a circuit breakers (curve C) (cont.)

Connection



| Rating | Tightening torque | Without accessories | | With accessories | | | | | |
|-------------|-------------------|---------------------|--------------------------|--------------------------------|---------------------------------------|---------------------|----------------------|-----------------|--|
| | | Copper cables | | 70 mm ² Al terminal | Screw-on connection for ring terminal | Small ring terminal | Multi-cable terminal | | |
| | | Rigid | Flexible or with ferrule | | | | Rigid cables | Flexible cables | |
| 80 to 125 A | 6 N.m | DB122945 | DB122946 | DB123410 | DB123488 | DB118789 | DB118787 | | |

■ Upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.



Technical data

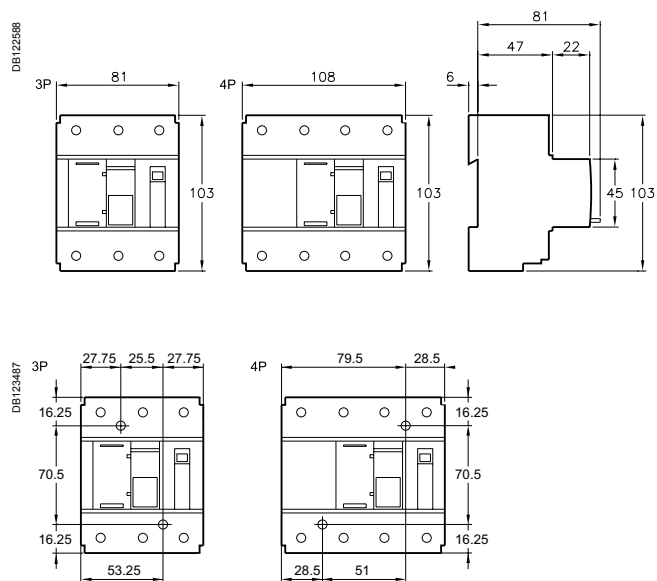
| Main characteristics | | |
|---|-----------------------------|---|
| According to IEC/EN 60947-2 | | |
| Insulation voltage (U _i) | | 690 V AC |
| Degree of pollution | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 8 kV |
| Thermal tripping | Reference temperature | 40°C |
| Magnetic tripping (I _i) | Curve C | 8 I _n ± 20 % |
| Utilization category | | A |
| Additional characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 5000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -30°C to +70°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

NG125a circuit breakers (curve C) (cont.)

Weight (g)

| Circuit breaker | |
|-----------------|--------|
| Type | NG125a |
| 3P | 720 |
| 4P | 960 |

Dimensions (mm)



Spacing for mounting on panel

NG125a circuit breakers (curve C) (cont.)

068914N_SE-90

DB122493

- Voltage taps:
 - auxiliaries power supply
 - measurement
 - emergency stop
 - remote reporting



- Cable strength:
 - ribbed cage
 - terminal depth
 - tightening by Allen hex key

- Integrated padlocking device

- Test button to check satisfactory operation of the tripping mechanism



- Pull-out strength:
 - metallic lock



- Impact and vibration resistance:
 - high-strength enclosure
 - IK 05

- Central manual control, 3 positions:
 - ON
 - tripped on fault
 - open

- Circuit breaker tripped indicator

- Electric power supply through the top or bottom



- Positive contact indication:
 - suitability for isolation in the industrial sector to IEC/EN 60947-2
 - she presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit

- Longer product service life due to:
 - good overvoltage withstand capacity,
 - high limitation performances,
 - fast closure independent of the speed of actuation of the toggle.



The Schneider Electric circuit breaker range comprises various offers (A, B) so as to be as competitive as possible in each country, taking into account the specific features of each market:

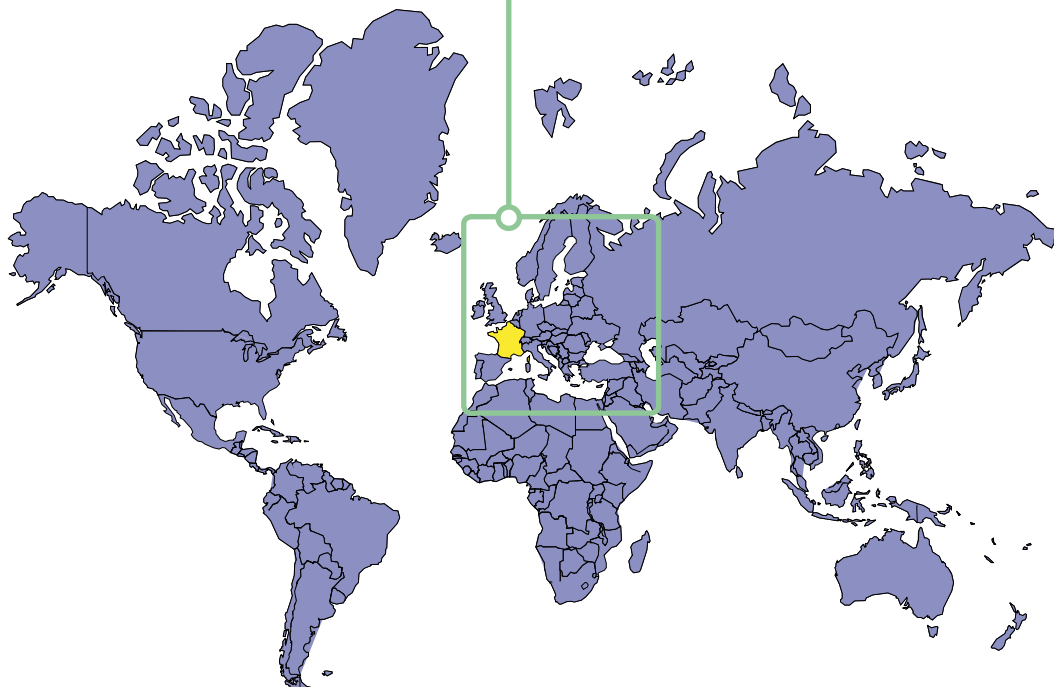
- Installation customs
- Price
- Approval by local organizations.

Variants

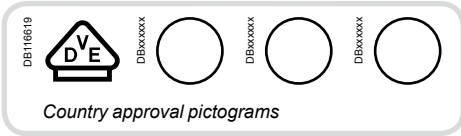
| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 92 |
| Offer B | Catalogue numbers | 93 |
| Common pages | | 94 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.



NG125N circuit breakers (curves B, C, D)



IEC/EN 60947-2

■ NG125N circuit breakers are circuit breakers which combine the following functions:

- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- stability for isolation in the industrial sector to IEC/EN 60947-2,
- tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.



NG125N 1P

NG125N 2P



NG125N 3P



NG125N 4P

| Alternating current (AC) 50/60 Hz | | | | | | | Service breaking capacity (Ics) | | |
|---|--------------|--------------|-------|-------|---------------------|---------------------------------|---------------------------------|-------|-------------|
| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | | | | | |
| Ph/Ph (2P, 3P, 3P+N, 4P) | Voltage (Ue) | | | | | Service breaking capacity (Ics) | | | |
| | 220 to 240 V | 380 to 415 V | 440 V | 500 V | | | | | |
| Rating (In) | 10 to 125 A | 50 kA | 25 kA | 50 kA | 6 kA ⁽²⁾ | 25 kA | 20 kA | 10 kA | 75 % of Icu |

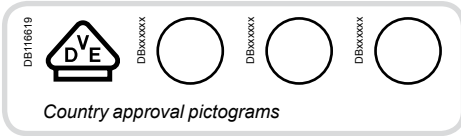
| Direct current (DC) | | | | | | Service breaking capacity (Ics) | |
|---|--------------|---------|---------|---------|---------|---------------------------------|--------------|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | | |
| | Voltage (Ue) | | | | | Service breaking capacity (Ics) | |
| | 12 to 125 V | ≤ 144 V | ≤ 250 V | ≤ 375 V | ≤ 500 V | | |
| Number of poles | 1P | 2P | 3P | 4P | | | |
| Rating (In) | 10 to 125 A | 25 kA | 20 kA | 20 kA | 20 kA | 20 kA | 100 % of Icu |

Catalogue numbers

| NG125N circuit breaker | | | | | | | | | | |
|------------------------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Type | 1P | 2P | 3P | 3P+N | 4P | | | | | |
| | | | | | | | | | | |
| Auxiliaries | Remote indication and tripping, module CM907004 and CM907005 | | | | | | | | | |
| Vigi NG125 | Vigi NG125 add-on residual current device, module CM902008 | | | | | | | | | |
| Rating (In) | Quality label (1) | Curve C | Curve C | Curve B | Curve C | Curve D | Curve C | Curve B | Curve C | Curve D |
| 10 A | | 18610 | 18621 | - | 18632 | - | - | - | 18649 | - |
| 16 A | | 18611 | 18622 | - | 18633 | - | - | - | 18650 | - |
| 20 A | | 18612 | 18623 | - | 18634 | - | - | - | 18651 | - |
| 25 A | | 18613 | 18624 | - | 18635 | - | - | - | 18652 | - |
| 32 A | | 18614 | 18625 | - | 18636 | - | - | - | 18653 | - |
| 40 A | | 18615 | 18626 | - | 18637 | - | - | - | 18654 | - |
| 50 A | | 18616 | 18627 | - | 18638 | - | - | - | 18655 | - |
| 63 A | | 18617 | 18628 | - | 18639 | - | - | - | 18656 | - |
| 80 A | | 18618 | 18629 | 18663 | 18641 | 18669 | 18646 | 18666 | 18657 | 18672 |
| 100 A | | - | - | 18664 | 18643 | 18670 | 18647 | 18667 | 18659 | 18673 |
| 125 A | | - | - | 18665 | 18645 | 18671 | 18648 | 18668 | 18661 | 18674 |
| Width in 9 mm modules | 3 | 6 | 9 | 12 | 12 | | | | | |
| Accessories | Module CM907004 and CM907006 | | | | | | | | | |

(1) Information to be supplied by the country concerned.

(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).



IEC/EN 60947-2

■ NG125N circuit breakers are circuit breakers which combine the following functions:

- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- stability for isolation in the industrial sector to IEC/EN 60947-2,
- tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.



NG125N 1P

NG125N 2P



NG125N 3P



NG125N 4P

| Alternating current (AC) 50/60 Hz | | | | | | | | | |
|--|---------------------------|--------------|--------------|--------------|--|-------|-------|-------|-------------------------|
| Breaking capacity (I _{cu}) to IEC/EN 60947-2 | | | | | | | | | |
| Ph/Ph (2P, 3P, 3P+N, 4P) | Voltage (U _e) | | | | Service breaking capacity (I _{cs}) | | | | |
| | 110 to 130 V | 220 to 240 V | 220 to 240 V | 380 to 415 V | 440 V | 500 V | | | |
| Rating (In) | 10 to 125 A | 50 kA | 25 kA | 50 kA | 6 kA ⁽²⁾ | 25 kA | 20 kA | 10 kA | 75 % of I _{cu} |

| Direct current (DC) | | | | | | | |
|--|---------------------------|---------|---------|---------|--|-------|--------------------------|
| Breaking capacity (I _{cu}) according to IEC/EN 60947-2 | | | | | | | |
| | Voltage (U _e) | | | | Service breaking capacity (I _{cs}) | | |
| | 12 to 125 V | ≤ 144 V | ≤ 250 V | ≤ 375 V | ≤ 500 V | | |
| Number of poles | 1P | 2P | 3P | 4P | | | |
| Rating (In) | 10 to 125 A | 25 kA | 20 kA | 20 kA | 20 kA | 20 kA | 100 % of I _{cu} |

Catalogue numbers

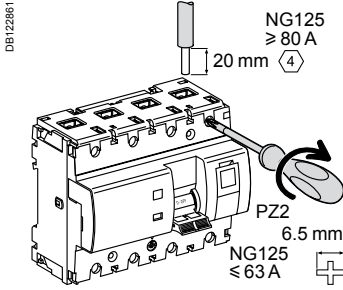
| NG125N circuit breaker | | | | | | | | | | |
|------------------------|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Type | 1P | 2P | 3P | | | 3P+N | 4P | | | |
| | | | | | | | | | | |
| Auxiliaries | Remote indication and tripping, module CM907004 and CM907005 | | | | | | | | | |
| Vigi NG125 | Vigi NG125 add-on residual current device, module CM902008 | | | | | | | | | |
| Rating (In) | Quality label ⁽¹⁾ | Curve C | Curve C | Curve B | Curve C | Curve D | Curve C | Curve B | Curve C | Curve D |
| 10 A | | 18610 | 18621 | - | 18632 | - | - | - | 18649 | - |
| 16 A | | 18611 | 18622 | - | 18633 | - | - | - | 18650 | - |
| 20 A | | 18612 | 18623 | - | 18634 | - | - | - | 18651 | - |
| 25 A | | 18613 | 18624 | - | 18635 | - | - | - | 18652 | - |
| 32 A | | 18614 | 18625 | - | 18636 | - | - | - | 18653 | - |
| 40 A | | 18615 | 18626 | - | 18637 | - | - | - | 18654 | - |
| 50 A | | 18616 | 18627 | - | 18638 | - | - | - | 18655 | - |
| 63 A | | 18617 | 18628 | - | 18639 | - | - | - | 18656 | - |
| 80 A | | 18618 | 18629 | 18663 | 18640 | 18669 | 18646 | 18666 | 18658 | 18672 |
| 100 A | | - | - | 18664 | 18642 | 18670 | 18647 | 18667 | 18660 | 18673 |
| 125 A | | - | - | 18665 | 18644 | 18671 | 18648 | 18668 | 18662 | 18674 |
| Width in 9 mm modules | 3 | 6 | 9 | | | | 12 | 12 | | |
| Accessories | Module CM907004 and CM907006 | | | | | | | | | |

(1) Information to be supplied by the country concerned.

(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).

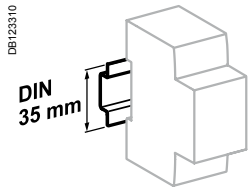
NG125N circuit breakers (curves B, C, D) (cont.)

Connection

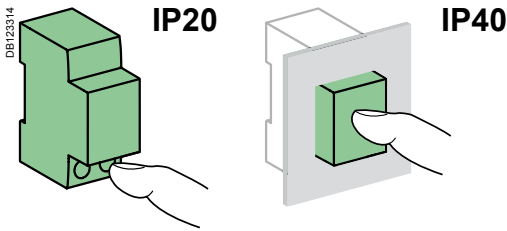


| Rating | Tightening torque | Without accessories | | With accessories | | | | | |
|-------------|-------------------|---------------------------|--------------------------|--------------------------------|--|------------------------|----------------------|------------------------|------------------------|
| | | Copper cables | | 70 mm ² Al terminal | Screw-on connection for ring terminal | Small ring terminal | Multi-cable terminal | | |
| | | Rigid | Flexible or with ferrule | | | | Rigid cables | Flexible cables | |
| 10 to 63 A | 3.5 N.m | DB1122945 | DB1122946 | DB1123410 | DB1123488 | DB118789 | DB118787 | 3 x 16 mm ² | 3 x 10 mm ² |
| | | 1.5 to 50 mm ² | 1 to 35 mm ² | - | - | - | | | |
| 80 to 125 A | 6 N.m | 16 to 70 mm ² | 10 to 50 mm ² | 25 to 70 mm ² | 2 x 35 mm ² 1 x 50 mm ² | 1 x 70 mm ² | | | |

■ On 3P, 3P+N and 4P ≥ 80 A: upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.



Clips on to 35 mm DIN rail.



Technical data

Main characteristics

According to IEC/EN 60947-2

| | | |
|---|-----------------------|--------------------------|
| Insulation voltage (U _i) | 690 V AC | |
| Degree of pollution | 3 | |
| Rated impulse withstand voltage (U _{imp}) | 8 kV | |
| Thermal tripping | Reference temperature | 40°C |
| Magnetic tripping (I _i) | Curve B | 4 I _n ± 20 % |
| | Curve C | 8 I _n ± 20 % |
| | Curve D | 12 I _n ± 20 % |
| Utilization category | A | |

Additional characteristics

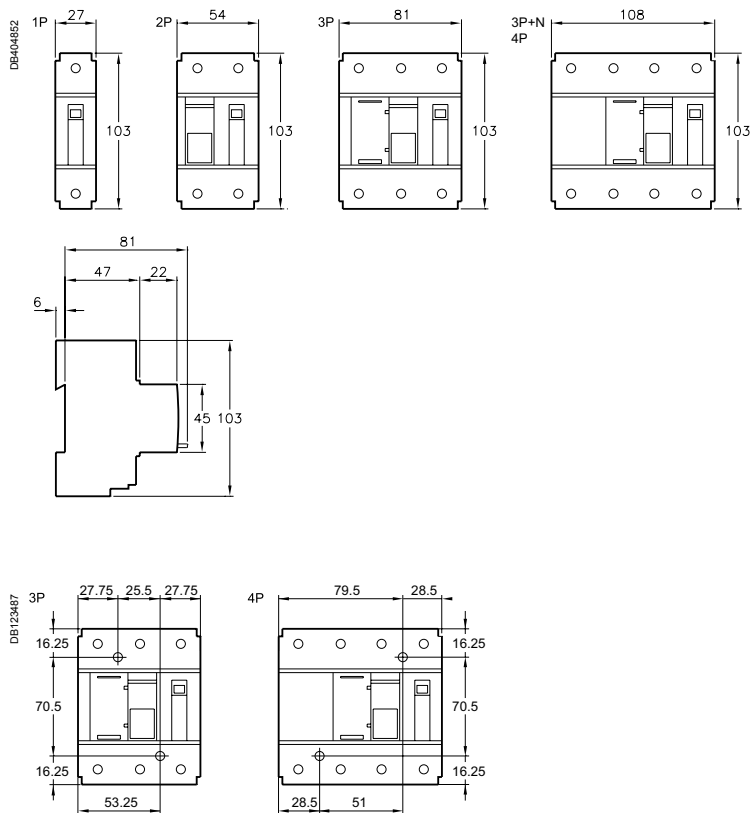
| | | |
|----------------------------------|-----------------------------|---|
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | ≤ 63 A: 10,000 cycles ≥ 63 A: 5000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -30°C to +70°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

NG125N circuit breakers (curves B, C, D) (cont.)

Weight (g)

| Circuit breaker | |
|-----------------|--------|
| Type | NG125N |
| 1P | 240 |
| 2P | 480 |
| 3P | 720 |
| 3P+N | 960 |
| 4P | 960 |

Dimensions (mm)

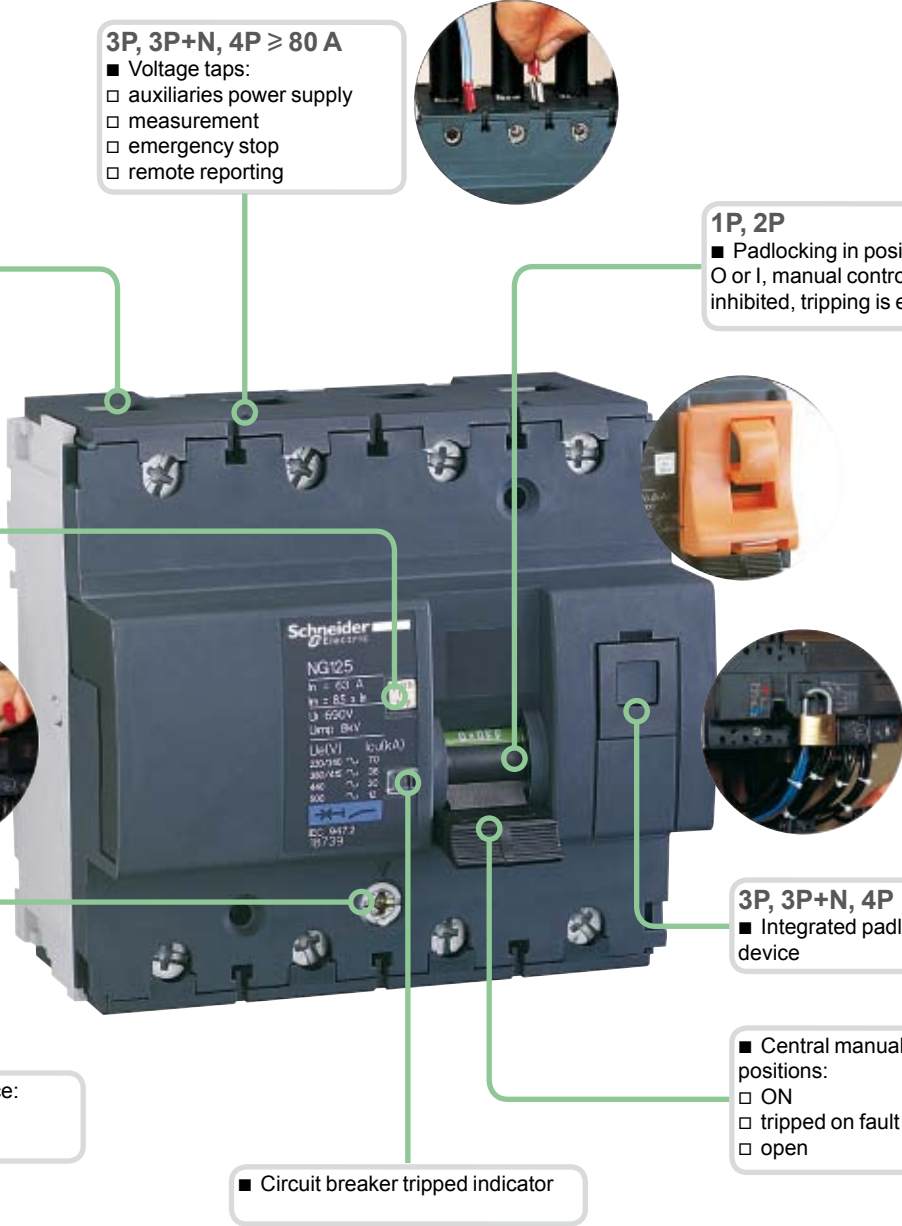


Spacing for mounting on panel

NG125N circuit breakers (curves B, C, D) (cont.)

056918N_SE-90

0612493



3P, 3P+N, 4P ≥ 80 A
 ■ Voltage taps:
 auxiliaries power supply
 measurement
 emergency stop
 remote reporting

■ Cable strength:
 ribbed cage
 terminal depth
 tightening by Allen hex key (NG125 ≥ 80 A)

1P, 2P
 ■ Padlocking in position:
 O or I, manual control is inhibited, tripping is enabled

■ Test button to check satisfactory operation of the tripping mechanism

■ Pull-out strength
 metallic lock

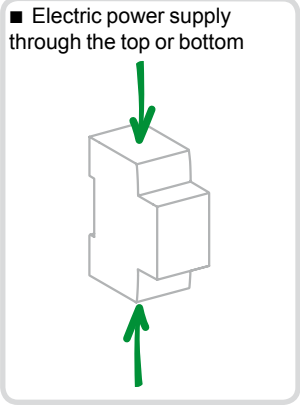
3P, 3P+N, 4P
 ■ Integrated padlocking device

■ Impact and vibration resistance:
 high-strength enclosure
 IK 05

■ Central manual control, 3 positions:
 ON
 tripped on fault
 open

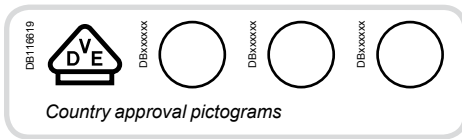
■ Circuit breaker tripped indicator

■ Positive contact indication:
 suitability for isolation in the industrial sector to IEC/EN 60947-2
 the presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit



■ Longer product service life due to:
 good overvoltage withstand capacity,
 high limitation performances,
 fast closure independent of the speed of actuation of the toggle.

NG125H circuit breakers (curve C)



IEC/EN 60947-2

■ NG125H circuit breakers are circuit breakers which combine the following functions:

- circuit protection against short circuit currents,
- circuit protection against overload currents,
- suitability for isolation in the industrial sector to IEC/EN 60947-2,
- tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.



NG125H 1P



NG125H 2P



NG125H 3P



NG125H 4P

| Alternating current (AC) 50/60 Hz | | | | | | | |
|---|--------------|--------------|--------------|--------------|---------------------|-------|---------------------------------|
| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | | | Service breaking capacity (Ics) |
| Ph/Ph (2P, 3P, 4P) | Voltage (Ue) | | | | | | |
| | - | - | 220 to 240 V | - | 380 to 415 V | 440 V | 500 V |
| Ph/N (1P) | 110 to 130 V | 220 to 240 V | - | 380 to 415 V | - | - | - |
| Rating (In) | 10 to 80 A | 70 kA | 36 kA | 70 kA | 9 kA ⁽²⁾ | 36 kA | 30 kA |
| | | | | | | 12 kA | 75 % of Icu |

| Direct current (DC) | | | | | | |
|---|-------------|---------|---------|---------|---------|---------------------------------|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Service breaking capacity (Ics) |
| Voltage (Ue) | | | | | | |
| | 12 to 125 V | ≤ 144 V | ≤ 250 V | ≤ 375 V | ≤ 500 V | |
| Number of poles | 1P | | 2P | 3P | 4P | |
| Rating (In) | 10 to 80 A | 36 kA | 25 kA | 25 kA | 25 kA | 100 % of Icu |

Catalogue numbers

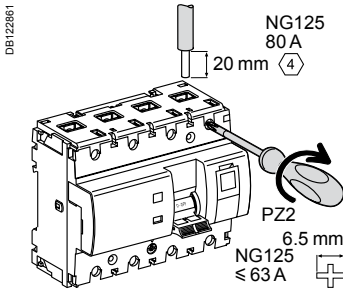
| NG125H circuit breaker | | | | |
|------------------------|--|-----------------------|---------------------------|-------------------------------|
| Type | 1P | 2P | 3P | 4P |
| | E-46902 1 2 | E-46904 1 3 2 4 | E-46905 1 3 5 2 4 6 | E-46907 1 3 5 7 2 4 6 8 |
| Auxiliaries | Remote indication and tripping, module CM907004 and CM907005 | | | |
| Vigi NG125 | Vigi NG125 add-on residual current device, module CM902008 | | | |
| Rating (In) | Quality label ⁽¹⁾ | Curve C | Curve C | Curve C |
| 10 A | | 18705 | 18714 | 18723 |
| 16 A | | 18706 | 18715 | 18724 |
| 20 A | | 18707 | 18716 | 18725 |
| 25 A | | 18708 | 18717 | 18726 |
| 32 A | | 18709 | 18718 | 18727 |
| 40 A | | 18710 | 18719 | 18728 |
| 50 A | | 18711 | 18720 | 18729 |
| 63 A | | 18712 | 18721 | 18730 |
| 80 A | | 18713 | 18722 | 18731 |
| Width in 9 mm modules | | 3 | 6 | 9 |
| Accessories | Module CM907004 and CM907006 | | | |

(1) Information to be supplied by the country concerned.

(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).

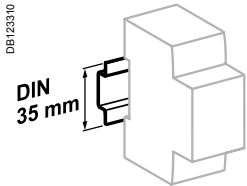
NG125H circuit breakers (curve C) (cont.)

Connection

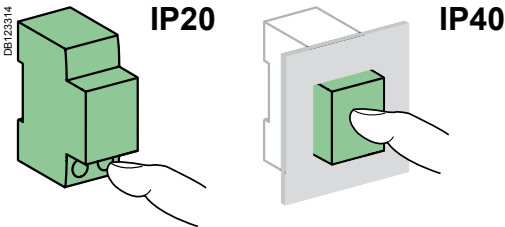


| Rating | Tightening torque | Without accessories | | With accessories | | | | |
|------------|-------------------|--|--------------------------------------|--------------------------------|--|------------------------|------------------------|------------------------|
| | | Copper cables | | 70 mm ² Al terminal | Screw-on connection for ring terminal | Small ring terminal | Multi-cable terminal | |
| | | Rigid | Flexible or with ferrule | | | | Rigid cables | Flexible cables |
| 10 to 63 A | 3.5 N.m | DB1122945 1.5 to 50 mm ² | DB1122946 1 to 35 mm ² | - | - | - | 3 x 16 mm ² | 3 x 10 mm ² |
| 80 A | 6 N.m | 16 to 70 mm ² | 10 to 50 mm ² | 25 to 70 mm ² | 2 x 35 mm ² 1 x 50 mm ² | 1 x 70 mm ² | | |

■ On 3P and 4P 80 A: upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.



Clips on to 35 mm DIN rail.



Technical data

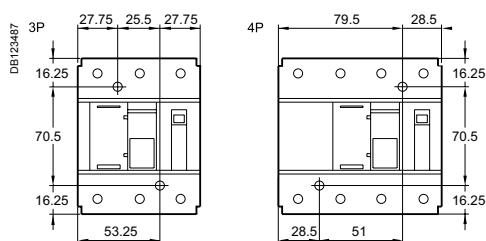
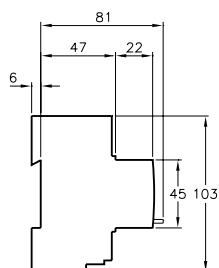
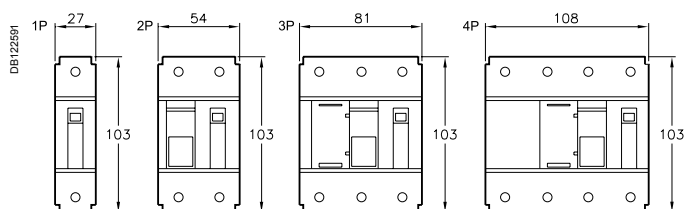
| Main characteristics | | |
|---|-----------------------------|---|
| According to IEC/EN 60947-2 | | |
| Insulation voltage (U _i) | | 690 V AC |
| Degree of pollution | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 8 kV |
| Thermal tripping | Reference temperature | 40°C |
| Magnetic tripping (I _i) | Curve C | 8 I _n ± 20 % |
| Utilization category | | A |
| Additional characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 Insulation class II |
| Endurance (O-C) | Electrical | ≤ 63 A: 10,000 cycles ≥ 63 A: 5000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -30°C to +70°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

NG125H circuit breakers (curve C) (cont.)

Weight (g)

| Circuit breaker | |
|-----------------|--------|
| Type | NG125H |
| 1P | 240 |
| 2P | 480 |
| 3P | 720 |
| 4P | 960 |

Dimensions (mm)



Spacing for mounting on panel

NG125H circuit breakers (curve C) (cont.)

056918N_SE-90

3P, 4P 80 A

- Voltage taps:
 - auxiliaries power supply
 - measurement
 - emergency stop
 - remote reporting



- Cable strength:
 - ribbed cage
 - terminal depth
 - tightening by Allen hex key (NG125 80 A)

- 1P, 2P**
 - Padlocking in position:
 - O or I, manual control is inhibited, tripping is enabled

- Test button to check satisfactory operation of the tripping mechanism



- Pull-out strength:
 - metallic lock



- 3P, 4P**
 - Integrated padlocking device



- Impact and vibration resistance:
 - high-strength enclosure
 - IK 05

- Circuit breaker tripped indicator

- Central manual control, 3 positions:
 - ON
 - tripped on fault
 - open

- Electric power supply through the top or bottom



- Positive contact indication:
 - suitability for isolation in the industrial sector to IEC/EN 60947-2
 - the presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit

- Longer product service life due to:
 - good overvoltage withstand capacity,
 - high limitation performances,
 - fast closure independent of the speed of actuation of the toggle.

DB 125483

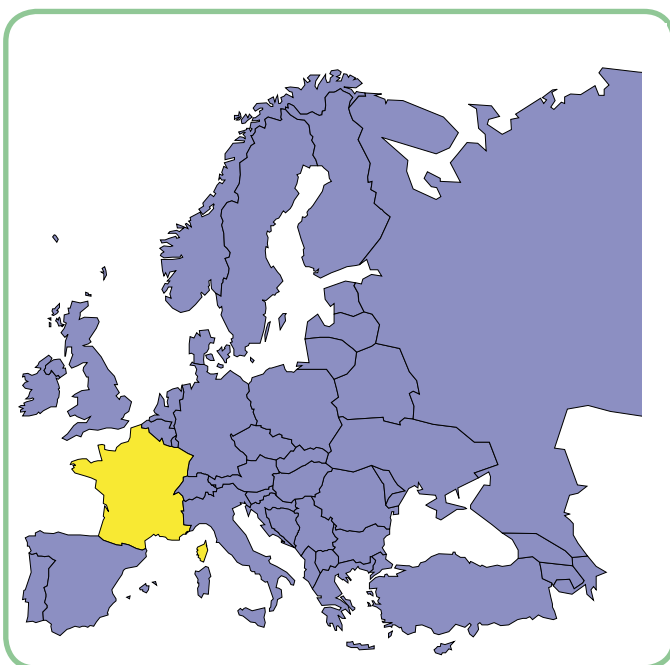


The Schneider Electric circuit breaker range comprises various offers (A, B) so as to be as competitive as possible in each country, taking into account the specific features of each market:

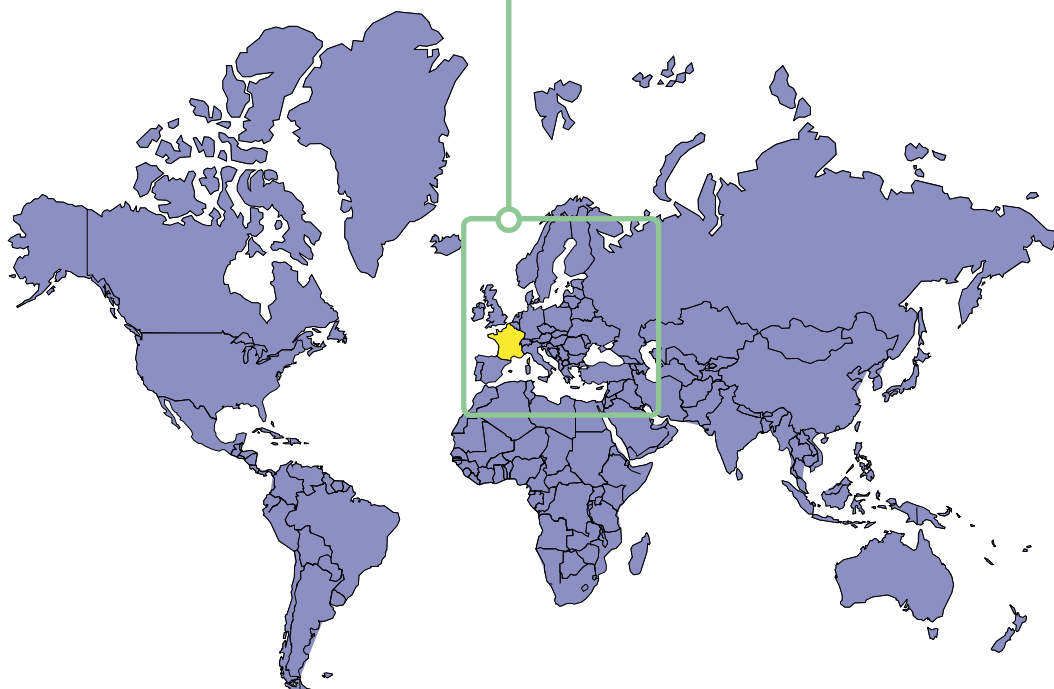
- Installation customs
- Price
- Approval by local organizations.

Variants

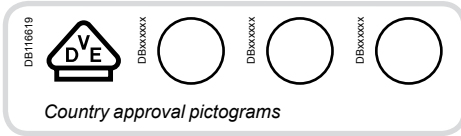
| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 102 |
| Offer B | Catalogue numbers | 103 |
| Common pages | | 104 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.



NG125L circuit breakers (curves B, C, D) (cont.)



IEC/EN 60947-2

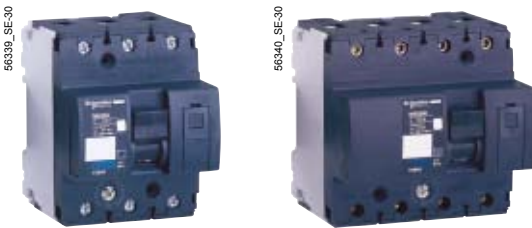
- NG125L circuit breakers are circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents;
 - circuit protection against overload currents;
 - suitability for isolation in the industrial sector to IEC/EN 60947-2;
 - tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.

Offer selection see page 101



NG125L 1P

NG125L 2P



NG125L 3P

NG125L 4P

Alternating current (AC) 50/60 Hz

Breaking capacity (Icu) to IEC/EN 60947-2

| Ph/Ph (2P, 3P, 4P) | Voltage (Ue) | | | | | | Service breaking capacity (Ics) |
|-----------------------|-----------------|-----------------|-----------------|---------------------------------|-----------------|----------------|--|
| | - | - | 220 to 240 V | - | 380 to 415 V | 440 V 500 V | |
| Ph/N (1P) | 110 to 130 V | 220 to 240 V | - | 380 to 415 V | - | - | - |
| Rating (In) | 10 to 80 A | 100 kA 50 kA | 100 kA | 12.5 kA ⁽²⁾ 50 kA | 40 kA | 15 kA | 75 % of Icu |

Direct current (DC)

Breaking capacity (Icu) according to IEC/EN 60947-2

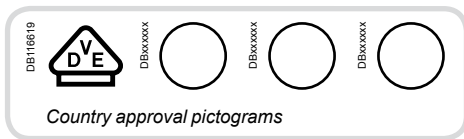
| Number of poles | Voltage (Ue) | | | | | Service breaking capacity (Ics) | |
|-----------------|---------------|---------|---------|---------|---------|--|--------------|
| | 12 to 125 V | ≤ 144 V | ≤ 250 V | ≤ 375 V | ≤ 500 V | | |
| Rating (In) | 10 to 80 A | 50 kA | 36 kA | 36 kA | 36 kA | 36 kA | 100 % of Icu |

Catalogue numbers

| NG125L circuit breaker | | | | | | | | | | | | | |
|------------------------|--|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Type | 1P | | | 2P | | | 3P | | | 4P | | | |
| | | | | | | | | | | | | | |
| Auxiliaries | Remote indication and tripping, module CM907004 and CM907005 | | | | | | | | | | | | |
| Vigi NG125 | Vigi NG125 add-on residual current device, module CM902008 | | | | | | | | | | | | |
| Rating (In) | Quality label (1) | Curve | | | Curve | | | Curve | | | Curve | | |
| | | B | C | D | B | C | D | B | C | D | B | C | D |
| 10 A | | 18741 | 18777 | 18830 | 18750 | 18788 | 18839 | 18759 | 18799 | 18848 | 18768 | 18821 | 18857 |
| 16 A | | 18742 | 18778 | 18831 | 18751 | 18789 | 18840 | 18760 | 18800 | 18849 | 18769 | 18822 | 18858 |
| 20 A | | 18743 | 18779 | 18832 | 18752 | 18790 | 18841 | 18761 | 18801 | 18850 | 18770 | 18823 | 18859 |
| 25 A | | 18744 | 18780 | 18833 | 18753 | 18791 | 18842 | 18762 | 18802 | 18851 | 18771 | 18824 | 18860 |
| 32 A | | 18745 | 18781 | 18834 | 18754 | 18792 | 18843 | 18763 | 18803 | 18852 | 18772 | 18825 | 18861 |
| 40 A | | 18746 | 18782 | 18835 | 18755 | 18793 | 18844 | 18764 | 18804 | 18853 | 18773 | 18826 | 18862 |
| 50 A | | 18747 | 18783 | 18836 | 18756 | 18794 | 18845 | 18765 | 18805 | 18854 | 18774 | 18827 | 18863 |
| 63 A | | 18748 | 18784 | 18837 | 18757 | 18795 | 18846 | 18766 | 18806 | 18855 | 18775 | 18828 | 18864 |
| 80 A | | 18749 | 18785 | 18838 | 18758 | 18796 | 18847 | 18767 | 18807 | 18856 | 18776 | 18829 | 18865 |
| Width in 9 mm modules | | 3 | | | 6 | | | 9 | | | 12 | | |
| Accessories | | Module CM907004 and CM907006 | | | | | | | | | | | |

(1) Information to be supplied by the country concerned.

(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).



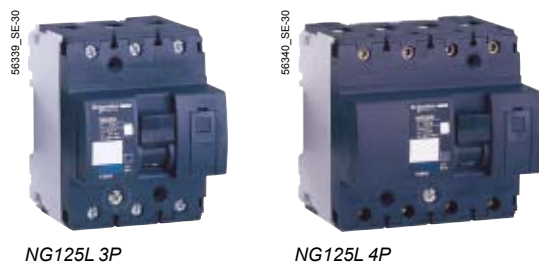
IEC/EN 60947-2

■ NG125L circuit breakers are circuit breakers which combine the following functions:

- circuit protection against short-circuit currents;
- circuit protection against overload currents;
- suitability for isolation in the industrial sector to IEC/EN 60947-2;
- tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.



| Alternating current (AC) 50/60 Hz | | | | | | | |
|---|--------------|--------------|--------------|--------------|------------------------|-------|---------------------------------|
| Breaking capacity (Icu) to IEC/EN 60947-2 | Voltage (Ue) | | | | | | Service breaking capacity (Ics) |
| | 110 to 130 V | 220 to 240 V | 220 to 240 V | 380 to 415 V | 440 V | 500 V | |
| Ph/Ph (2P, 3P, 4P) | - | - | - | - | - | - | |
| Ph/N (1P) | 110 to 130 V | 220 to 240 V | 380 to 415 V | - | - | - | |
| Rating (In) | 10 to 80 A | 100 kA | 50 kA | 100 kA | 12.5 kA ⁽²⁾ | 50 kA | 40 kA |
| | | | | | | | 15 kA |
| | | | | | | | 75 % of Icu |



| Direct current (DC) | | | | | | |
|---|--------------|---------|---------|---------|---------|---------------------------------|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | Voltage (Ue) | | | | | Service breaking capacity (Ics) |
| | 12 to 125 V | ≤ 144 V | ≤ 250 V | ≤ 375 V | ≤ 500 V | |
| Number of poles | 1P | 2P | 3P | 4P | | |
| Rating (In) | 10 to 80 A | 50 kA | 36 kA | 36 kA | 36 kA | 36 kA |
| | | | | | | 100 % of Icu |

Catalogue numbers

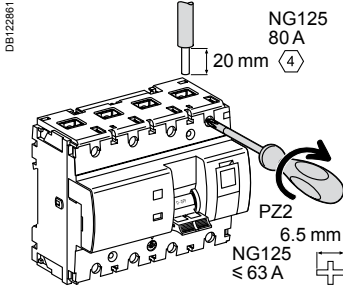
| NG125L circuit breaker | | | | | | | | | | | | | |
|------------------------|--|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Type | 1P | | | 2P | | | 3P | | | 4P | | | |
| | | | | | | | | | | | | | |
| Auxiliaries | Remote indication and tripping, module CM907004 and CM907005 | | | | | | | | | | | | |
| Vigi NG125 | Vigi NG125 add-on residual current device, module CM902008 | | | | | | | | | | | | |
| Rating (In) | Quality label ⁽¹⁾ | Curve | | | Curve | | | Curve | | | Curve | | |
| | | B | C | D | B | C | D | B | C | D | B | C | D |
| 10 A | | 18741 | 18777 | 18830 | 18750 | 18788 | 18839 | 18759 | 18799 | 18848 | 18768 | 18810 | 18857 |
| 16 A | | 18742 | 18778 | 18831 | 18751 | 18789 | 18840 | 18760 | 18800 | 18849 | 18769 | 18811 | 18858 |
| 20 A | | 18743 | 18779 | 18832 | 18752 | 18790 | 18841 | 18761 | 18801 | 18850 | 18770 | 18812 | 18859 |
| 25 A | | 18744 | 18780 | 18833 | 18753 | 18791 | 18842 | 18762 | 18802 | 18851 | 18771 | 18813 | 18860 |
| 32 A | | 18745 | 18781 | 18834 | 18754 | 18792 | 18843 | 18763 | 18803 | 18852 | 18772 | 18814 | 18861 |
| 40 A | | 18746 | 18782 | 18835 | 18755 | 18793 | 18844 | 18764 | 18804 | 18853 | 18773 | 18815 | 18862 |
| 50 A | | 18747 | 18783 | 18836 | 18756 | 18794 | 18845 | 18765 | 18805 | 18854 | 18774 | 18816 | 18863 |
| 63 A | | 18748 | 18784 | 18837 | 18757 | 18795 | 18846 | 18766 | 18806 | 18855 | 18775 | 18817 | 18864 |
| 80 A | | 18749 | 18785 | 18838 | 18758 | 18796 | 18847 | 18767 | 18807 | 18856 | 18776 | 18818 | 18865 |
| Width in 9 mm modules | | 3 | | | 6 | | | 9 | | | 12 | | |
| Accessories | | Module CM907004 and CM907006 | | | | | | | | | | | |

(1) Information to be supplied by the country concerned.

(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).

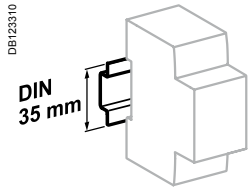
NG125L circuit breakers (curves B, C, D) (cont.)

Connection

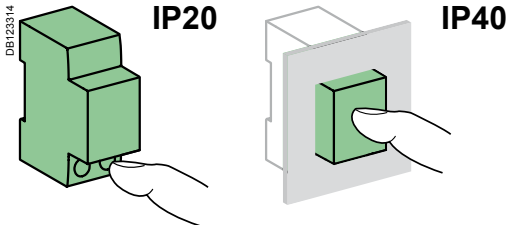


| Rating | Tightening torque | Without accessories | | With accessories | | | | |
|--------------------|-------------------|---------------------------------------|-------------------------------------|--------------------------------|--|------------------------|------------------------|------------------------|
| | | Copper cables | | 70 mm ² Al terminal | Screw-on connection for ring terminal | Small ring terminal | Multi-cable terminal | |
| | | Rigid | Flexible or with ferrule | | | | Rigid cables | Flexible cables |
| 10 to 63 A 80 A | 3.5 N.m | DB122945 1.5 to 50 mm ² | DB122946 1 to 35 mm ² | - | - | - | 3 x 16 mm ² | 3 x 10 mm ² |
| | 6 N.m | 16 to 70 mm ² | 10 to 50 mm ² | 25 to 70 mm ² | 2 x 35 mm ² 1 x 50 mm ² | 1 x 70 mm ² | | |

■ On 3P and 4P 80 A: upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.



Clips on to 35 mm DIN rail.



Technical data

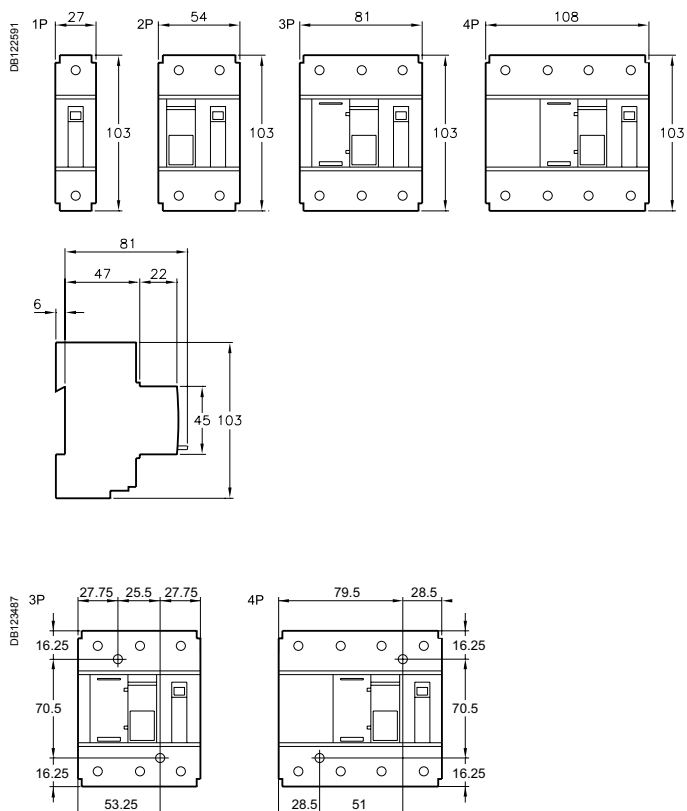
| Main characteristics | | |
|---|-----------------------------|---|
| According to IEC/EN 60947-2 | | |
| Insulation voltage (U _i) | | 690 V AC |
| Degree of pollution | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 8 kV |
| Thermal tripping | Reference temperature | 40°C |
| Magnetic tripping (I _i) | Curve B | 4 I _n ± 20 % |
| | Curve C | 8 I _n ± 20 % |
| | Curve D | 12 I _n ± 20 % |
| Utilization category | | A |
| Additional characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | ≤ 63 A: 10,000 cycles ≥ 63 A: 5000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -30°C to +70°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

NG125L circuit breakers (curves B, C, D) (cont.)

Weight (g)

| Circuit breaker | |
|-----------------|--------|
| Type | NG125L |
| 1P | 240 |
| 2P | 480 |
| 3P | 720 |
| 4P | 960 |

Dimensions (mm)



Spacing for mounting on panel

NG125L circuit breakers (curves B, C, D) (cont.)

06691BN_SE-90

DB123493

- Cable strength:
 - ribbed cage
 - terminal depth
 - tightening by Allen hex key (NG125 80 A)

- 3P, 4P 80 A**
- Voltage taps:
 - auxiliaries power supply
 - measurement
 - emergency stop
 - remote reporting



- 1P, 2P**
- Padlocking in position:
 - O or I, manual control is inhibited, tripping is enabled

- Test button to check satisfactory operation of the tripping mechanism



- Pull-out strength
 - metallic lock



- Impact and vibration resistance:
 - high-strength enclosure
 - IK 05

- 3P, 4P**
- Integrated padlocking device

- Central manual control, 3 positions:
 - ON
 - tripped on fault
 - open

- Circuit breaker tripped indicator

- Electric power supply through the top or bottom



- Positive contact indication:
 - suitability for isolation in the industrial sector to IEC/EN 60947-2
 - the presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit

- Longer product service life due to:
 - good overvoltage withstand capacity,
 - high limitation performances,
 - fast closure independent of the speed of actuation of the toggle.



PB107193-34.eps



PB107194-34.eps



CE

IEC/EN 60947-2

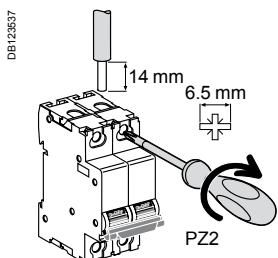
The C60H-DC supplementary protectors are used in direct current circuits (Industrial control and automations, transport, renewable energy...). They combine the following functions of circuit protection against short-circuit and overload currents, control and isolation.

| Direct current (DC) | | | | | | |
|---|-------|-------|-------|-------|-------|---------------------------------------|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | | | Rated service breaking capacity (Ics) |
| Type | 110 V | 220 V | 250 V | 440 V | 500 V | |
| 1P | 20 kA | 10 kA | 6 kA | - | - | 75 % Icu |
| Rating 0.5 to 63 A (In) | | | | | | |
| 2P (in series) | 20 kA | 10 kA | 6 kA | - | - | 75 % Icu |
| Rating 0.5 to 63 A | | | | | | |

Catalogue numbers

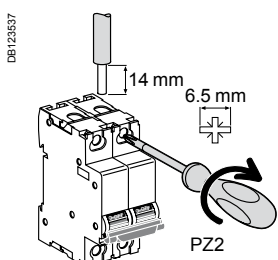
| C60H-DC | | |
|---------------------------|---|---|
| Type | 1P | 2P |
| | <p>Supply from above or below, observing the polarity</p> | <p>Supply from above Supply from below</p> |
| Auxiliaries | Remote signalisation and tripping, module CA907008 | |
| Rating (In) | Curve C | Curve C |
| 0.5 A | A9N61500 | A9N61520 |
| 1 A | A9N61501 | A9N61521 |
| 2 A | A9N61502 | A9N61522 |
| 3 A | A9N61503 | A9N61523 |
| 4 A | A9N61504 | A9N61524 |
| 5 A | A9N61505 | A9N61525 |
| 6 A | A9N61506 | A9N61526 |
| 10 A | A9N61508 | A9N61528 |
| 13 A | A9N61509 | A9N61529 |
| 15 A | A9N61510 | A9N61530 |
| 16 A | A9N61511 | A9N61531 |
| 20 A | A9N61512 | A9N61532 |
| 25 A | A9N61513 | A9N61533 |
| 30 A | A9N61514 | A9N61534 |
| 32 A | A9N61515 | A9N61535 |
| 40 A | A9N61517 | A9N61537 |
| 50 A | A9N61518 | A9N61538 |
| 63 A | A9N61519 | A9N61539 |
| Number of modules of 9 mm | 2 | 4 |
| Accessories | Modules LIN001 and CA907012 | |

Connection

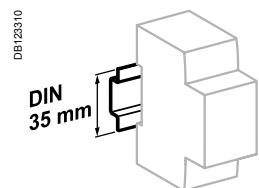


| Rating | Tightening torque | Without accessory | | With accessories | | | |
|--------|-------------------|-------------------------|-------------------------|--------------------------------|---------------------------------------|------------------------|------------------------|
| | | Copper cables | | 50 mm ² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal | |
| | | Rigid / Stranded | Flexible or ferrule | | | Rigid cables | Flexible cables |
| ≤ 25 A | 2.5 N.m | DBI122045 | DBI122046 | DBI122035 | DBI118789 | DBI118787 | |
| > 25 A | 3.5 N.m / | 1 to 25 mm ² | 1 to 16 mm ² | 50 mm ² | ∅ 5 mm | 3 x 16 mm ² | 3 x 10 mm ² |
| | | 1 to 35 mm ² | 1 to 25 mm ² | - | | | |

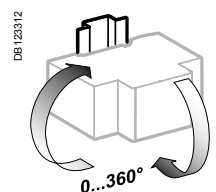
Multi-cables connection



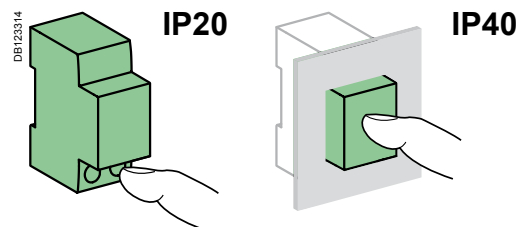
| Rating | Tightening torque | Without accessory | | With accessories | |
|--------|-------------------|---|---|----------------------------------|---|
| | | 2 Copper cables | | 3 Multi-cables / Different wires | |
| | | Rigid / Stranded | Flexible or ferrule | Flexible / Stranded | Flexible / Stranded / Rigid |
| ≤ 25 A | 2.5 N.m | DBI122045 | DBI122046 | DBI118787 | |
| > 25 A | 3.5 N.m | 2 x 1 mm ² to 2 x 10 mm ² | 2 x 1 mm ² to 2 x 16 mm ² | 3 x 1 mm ² | 2 x 2.5 mm ² + 1 x 1.5 mm ² |
| | | | | 3 x 4 mm ² | 2 x 10 mm ² + 1 x 6 mm ² |



Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

- Tripping curves: C curve - Overcurrent protection for any type of application.
- Positive break indication - the green strip indicates that all the poles are open and allows work to be carried out on the downstream circuit in complete safety.
- Suitable for isolation as defined in IEC / EN 60947-2.
- Increase in the service life of the product: thanks to fast closure independent of the speed of action on the handle.
- Current limitation in the event of a fault: fast opening of the contacts prevents the loads from being destroyed in the event of a short-circuit.

| Main characteristics | |
|--|---|
| According to IEC/EN 60947-2 | |
| Insulation voltage (Ui) | 500 V DC |
| Rated voltage (Un) | 1P 250 V DC 2P 500 V DC |
| Operating voltage (Ue) | 1P 24...250 V DC 2P 24...500 V DC |
| Pollution degree | 3 |
| Rated impulse withstand voltage (Uimp) under frame | 6 kV |
| Magnetic tripping (Ii) | 8.5 In (± 20 %) (compatible with curve C) |
| Additional characteristics | |
| Degree of protection (IEC 60529) | Device only IP20 Device in modular enclosure IP40 |
| Utilization category | A (no delay in accordance with IEC/EN 60947-2 standards) |
| Endurance (O-C) | Electrical 3,000 cycles (where L/R=2 ms) 6,000 cycles where the circuit is resistive Mechanical 20,000 cycles |
| Tropicalization (IEC 60068-2) | Treatment 2 (relative humidity 95 % at 55°C) |
| Operating temperature | -25°C to 70°C |
| Storage temperature | -40°C to 85°C |



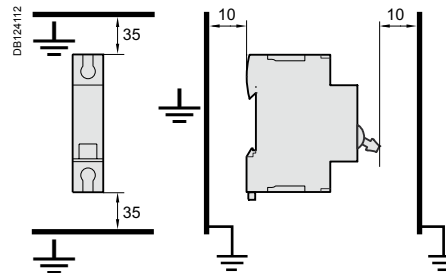
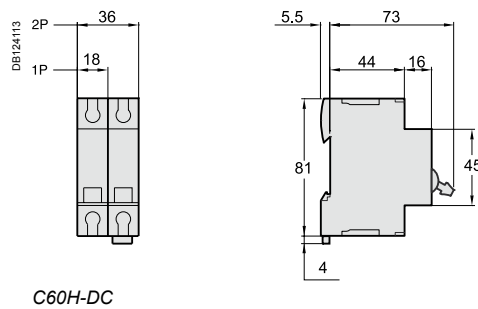
Failure to match polarity during connection may lead to a fire hazard and/or serious injury.

- The connection polarity must be observed (marked on the front panel).
- Use only with direct current.

Weight (g)

| Circuit-breaker | |
|-----------------|---------|
| Type | C60H-DC |
| 1P | 128 g |
| 2P | 256 g |

Dimensions (mm)



Details of minimum distance between circuit-breaker and earthed metal parts for circuit-breaker intended for use without enclosure.

PB109403-50



The C60PV-DC is a DC circuit breaker dedicated to multi string photovoltaic installations.

This circuit breaker is designed to protect the cables located between each string of photovoltaic modules and the photovoltaic inverter against overloads and short circuits (see application diagram).

Combined with a switch (of the C60NA-DC type, for example), the C60PV-DC will be installed in a string PV protection enclosure at the end of each string of photovoltaic modules.

It can be locked (by a padlocking device) in OFF position as a safety measure for removal of the PV inverter.

Since a fault current can flow in the reverse direction to the operating current, the C60PV-DC can detect and protect against any bidirectional current.

To ensure the safety of the installation, it is necessary, depending on the various types of application, to combine the C60PV-DC with:

- a residual current device at the AC end,
- a fault passage detector (insulation monitoring device) at the DC end
- an earth protection circuit breaker at the DC end (see Practical Advice CA908035).

In all cases, fast action on site will be required to clear the fault (protection not ensured in the event of a double fault).

C60PV-DC is not polarity sensitive: (+) and (-) wires can be inverted without any risk.

The C60PV-DC is delivered with three inter-pole barriers to provide increased isolation distance between two adjacent connectors.

IEC / EN 60947-2



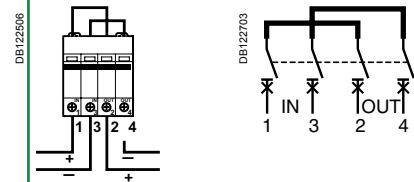
DB404840



Main characteristics

| | |
|-------------------------------|------------------------------|
| Operating voltage (Ue) | 800 V DC |
| Rated insulation voltage (Ui) | 1,000 V DC |
| Breaking capacity (Icu) | 1.5 kA |
| Impulse voltage (Uimp) | 6 kV |
| Electrical connection | By the bottom for In and Out |
| Number of poles | 2P |
| Number of modules of 9 mm | 8 |

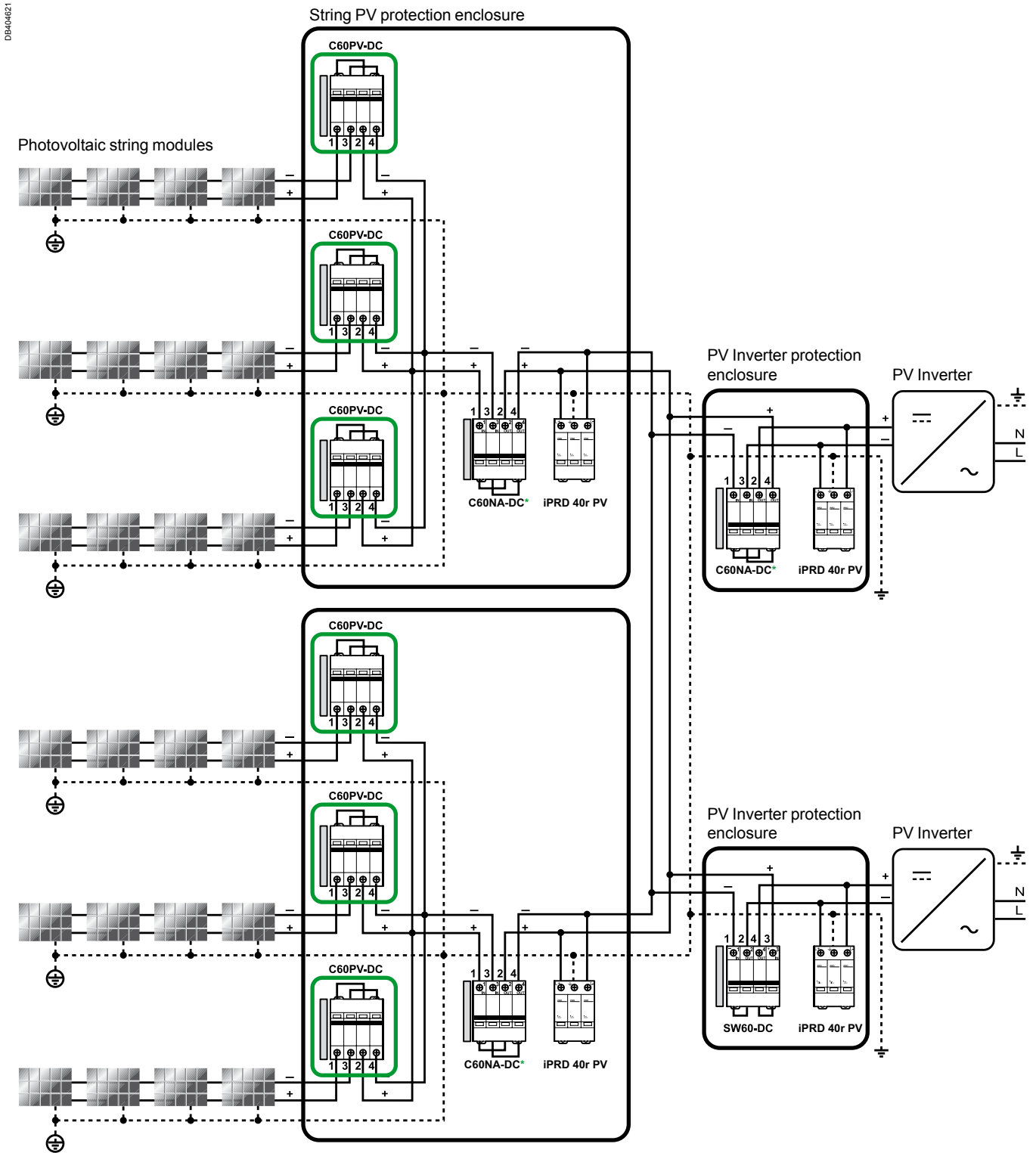
Diagrams



| | |
|-----------|---------------------------|
| Standards | IEC 60947-2 EN 60947-2 |
|-----------|---------------------------|

| Rating (A) | Catalogue numbers |
|-------------|-----------------------------------|
| 1 | A9N61653 |
| 2 | A9N61654 |
| 3 | A9N61655 |
| 5 | A9N61656 |
| 8 | A9N61657 |
| 10 | A9N61650 |
| 13 | A9N61658 |
| 15 | A9N61659 |
| 16 | A9N61651 |
| 20 | A9N61652 |
| 25 | A9N61660 |
| Auxiliaries | See modules CA907008 and CA907013 |

Application diagram



MN, MX, MNx, MN \square , MX+OF, OF, SD, OF+SD/OF

*C60NA-DC:
20 A/1000 V DC or
32 A/800 V DC or
50 A/700 V DC

Technical data

- Position contact indication - suitability for isolation according to IEC/EN 60947-2 standard.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.
- Increased product service life thanks to fast closing independent of the speed of actuation of the toggle.
- Pre-wired product: Input / Output on the same side.

Main characteristics

| | | |
|---------------------------------------|------------|---|
| Rated service breaking capacity (Ics) | | 100 % of the Icu |
| Endurance (O-C) | Electrical | 1,500 cycles (where L/R=2 ms) |
| | Mechanical | 20,000 cycles |
| Mechanical | | 20,000 cycles |
| Degree of pollution | | 2 |
| Category | | A (no delay in accordance with IEC / EN 60947-2 standards) |
| Tropicalisation | | Relative humidity: 95 % at 55°C in accordance with IEC 60068-2 and GB 14048.2 standards |
| Temperature | Operating | -25°C to 70 °C |
| | Storage | -40°C to 85°C |

Additional characteristics

| Rating (A) | Voltage drop (mV) | Impedance (mΩ) | Power loss (W) |
|------------|-------------------|----------------|----------------|
| 1 | 9200 | 9200 | 9.2 |
| 2 | 5104 | 2552 | 10.2 |
| 3 | 2980 | 993.3 | 8.9 |
| 5 | 2000 | 400 | 10 |
| 8 | 1384 | 173 | 11.1 |
| 10 | 680 | 68 | 6.8 |
| 13 | 572 | 44 | 7.4 |
| 15 | 600 | 40 | 9 |
| 16 | 648 | 40.5 | 10.4 |
| 20 | 588 | 29.4 | 11.8 |
| 25 | 488 | 19.5 | 12.2 |

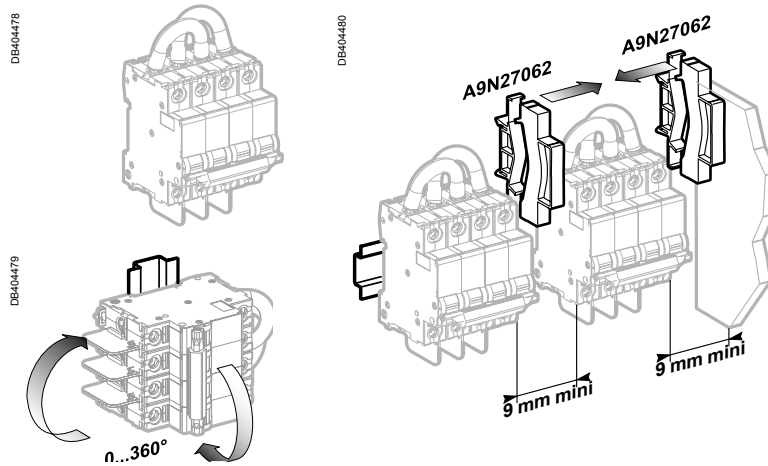
Derating table (A)

| C60PV-DC Rating | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | |
|--------------------|--------------------------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|
| | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 1 A | 1.18 | 1.17 | 1.15 | 1.14 | 1.12 | 1.1 | 1.09 | 1.07 | 1.05 | 1.04 | 1.02 | 1 | 0.98 | 0.96 | 0.94 | 0.92 | 0.9 | 0.88 | 0.86 | 0.84 | 0.82 |
| 2 A | 2.54 | 2.5 | 2.45 | 2.41 | 2.36 | 2.31 | 2.26 | 2.21 | 2.16 | 2.11 | 2.06 | 2 | 1.94 | 1.88 | 1.82 | 1.76 | 1.7 | 1.63 | 1.56 | 1.48 | 1.41 |
| 3 A | 3.78 | 3.71 | 3.65 | 3.58 | 3.51 | 3.45 | 3.38 | 3.3 | 3.23 | 3.16 | 3.08 | 3 | 2.92 | 2.84 | 2.75 | 2.66 | 2.57 | 2.48 | 2.38 | 2.27 | 2.17 |
| 5 A | 6 | 5.92 | 5.83 | 5.74 | 5.66 | 5.57 | 5.48 | 5.39 | 5.29 | 5.2 | 5.1 | 5 | 4.9 | 4.8 | 4.69 | 4.58 | 4.47 | 4.36 | 4.24 | 4.12 | 4 |
| 8 A | 9.64 | 9.5 | 9.36 | 9.22 | 9.08 | 8.93 | 8.78 | 8.63 | 8.48 | 8.32 | 8.16 | 8 | 7.83 | 7.67 | 7.49 | 7.31 | 7.13 | 6.95 | 6.76 | 6.56 | 6.36 |
| 10 A | 12.6 | 12.4 | 12.2 | 11.9 | 11.7 | 11.5 | 11.2 | 11 | 10.8 | 10.5 | 10.3 | 10 | 9.7 | 9.4 | 9.2 | 8.9 | 8.6 | 8.2 | 7.9 | 7.6 | 7.2 |
| 13 A | 15.5 | 15.3 | 15.1 | 14.8 | 14.6 | 14.4 | 14.2 | 14 | 13.7 | 13.5 | 13.2 | 13 | 12.7 | 12.5 | 12.2 | 12 | 11.7 | 11.4 | 11.1 | 10.8 | 10.5 |
| 15 A | 18.6 | 18.3 | 18 | 17.7 | 17.4 | 17.1 | 16.7 | 16.4 | 16.1 | 15.7 | 15.4 | 15 | 14.6 | 14.3 | 13.9 | 13.5 | 13.0 | 12.6 | 12.2 | 11.7 | 11.2 |
| 16 A | 19.4 | 19.1 | 18.9 | 18.6 | 18.3 | 18.0 | 17.6 | 17.3 | 17.0 | 16.7 | 16.3 | 16 | 15.7 | 15.3 | 14.9 | 14.6 | 14.2 | 13.8 | 13.4 | 13.0 | 12.5 |
| 20 A | 24.1 | 23.7 | 23.4 | 23.0 | 22.7 | 22.3 | 21.9 | 21.6 | 21.2 | 20.8 | 20.4 | 20 | 19.6 | 19.2 | 18.7 | 18.3 | 17.9 | 17.4 | 16.9 | 16.4 | 15.9 |
| 25 A | 30.4 | 29.9 | 29.5 | 29.0 | 28.5 | 28.1 | 27.6 | 27.1 | 26.6 | 26.1 | 25.5 | 25 | 24.5 | 23.9 | 23.3 | 22.7 | 22.1 | 21.5 | 20.9 | 20.2 | 19.6 |

Technical data (cont.)

Moreover it is recommended to use:

- a terminal Screw Shield snaps onto the front of the C60PV-DC protective devices to provide greater insulation of the terminal screws
- a spacer clips 9 mm in each side to provide isolation.

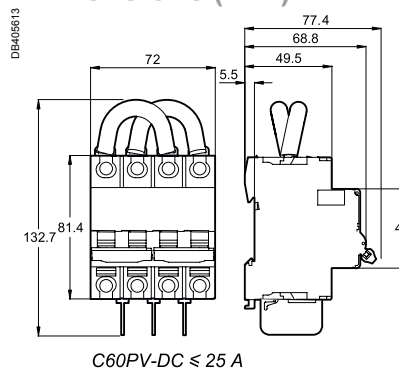


⚠ Required to have a 9 mm space isolation in each side"

Weight (g)

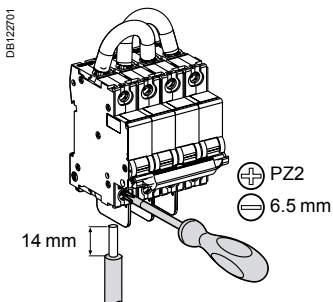
| Circuit breaker | |
|-----------------|----------|
| Type | C60PV-DC |
| | 545 |

Dimensions (mm)



C60PV-DC ≤ 25 A

Connection



| Rating | Tightening torque | Without accessory | | With accessories | |
|--------|-------------------|---|-------------------------|-----------------------------------|---------------------------------------|
| | | Copper cables UL 486A file no. #E216919 | | 50 mm ² Cu/Al Terminal | Ring tongue terminal screw connection |
| | | Rigids | Flexibles with ferrule | | |
| ≤ 25 A | 2.5 N.m | DB112804 | DB112805 | DB118755 | DB118756 |
| | | 1 to 25 mm ² | 1 to 16 mm ² | 50 mm ² | Ø 5 mm |

DC main switch for photovoltaic installations **C60NA-DC**

PB109404-50



The C60NA-DC is a direct current switch-disconnector dedicated to disconnection of the string of photovoltaic modules and the PV inverter.

It is designed to isolate the string of photovoltaic modules and the inverter from the rest of the photovoltaic installation for maintenance operations in complete safety.

Combined with a circuit breaker (of the C60PV-DC type, for example), the C60NA-DC will be installed in a string PV protection enclosure close to the strings of photovoltaic modules. It can also be installed near the PV inverter.

It can be locked (by a padlocking device) in OFF position to ensure safety during maintenance operations.

Since a fault current can flow in the reverse direction to the normal operating current, the C60NA-DC can switch a multi-directional current.

C60NA-DC is not polarity sensitive: (+) and (-) wires can be inverted without any risk.

The C60NA-DC is delivered with three inter-pole barriers to provide increased isolation distance between two adjacent connectors.

IEC / EN 60947-3



DB6404541



Main characteristics

| | |
|---|-----------------------------------|
| Operating voltage (Ue) | 20 A: 1000 V CC |
| | 32 A: 800 V CC |
| | 50 A: 700 V CC |
| Rated insulation voltage (Ui) | 1,000 V DC |
| Rated operational current (Ie) | 50 A |
| Impulse voltage (Uimp) | 6 kV |
| Permissible rated short-time withstand current (Icw) | 600 A |
| Rated short-circuit closing current (Icm) | 1 kA |
| Electrical connection | By the top for In and Out |
| Number of poles | 2P |
| Number of modules of 9 mm | 8 |
| Diagrams | |
| Standards | IEC 60947-3 EN 60947-3 |
| Catalogue number | A9N61690 |
| Auxiliaries | See modules CA907008 and CA907013 |

DC main switch for photovoltaic installations **C60NA-DC (cont.)**

Application diagram

DB404622

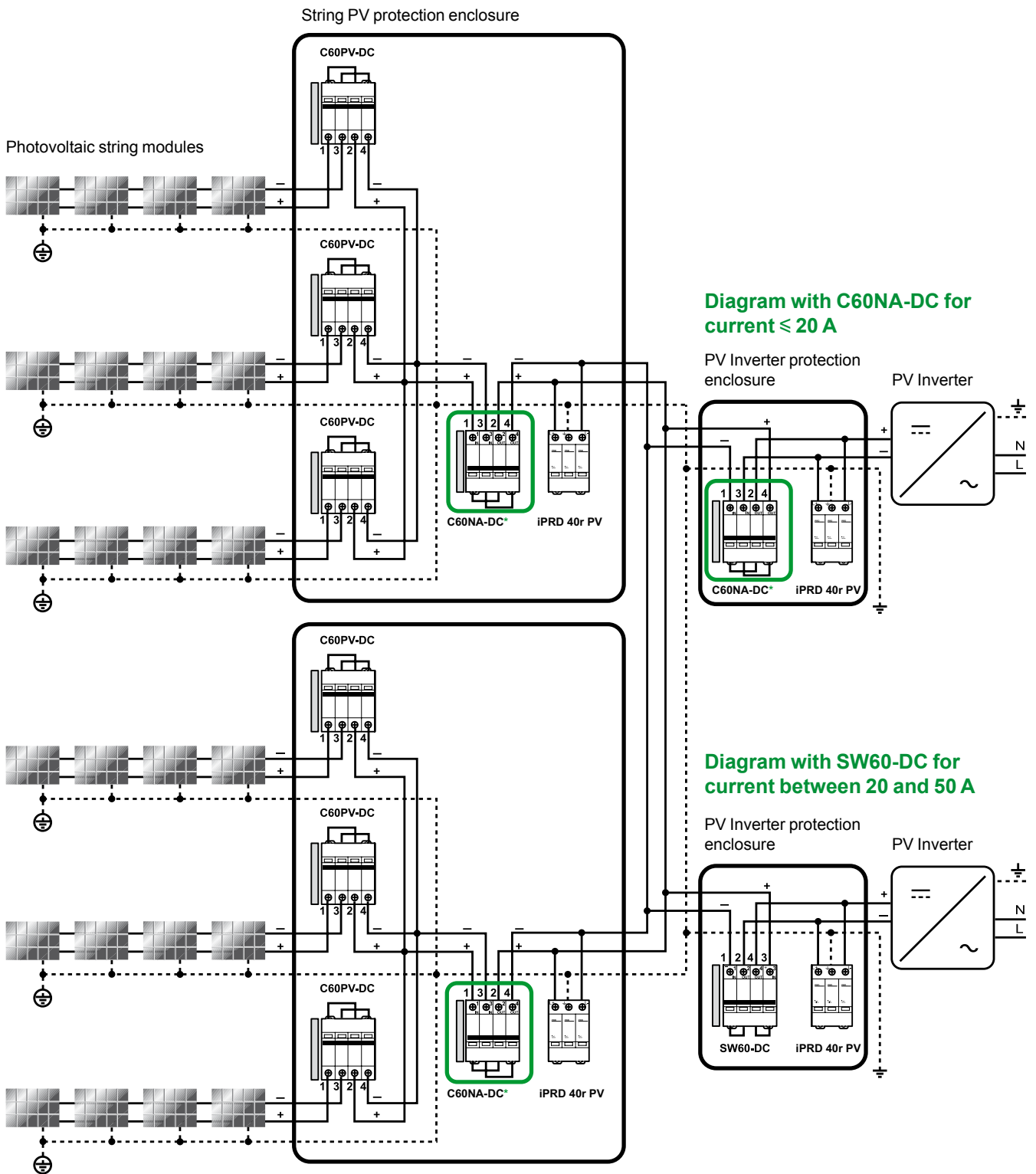


Diagram with C60NA-DC for current ≤ 20 A

Diagram with SW60-DC for current between 20 and 50 A

*C60NA-DC:
20 A/1000 V DC or
32 A/800 V DC or
50 A/700 V DC

MN, MX, MNx, MN \oplus , MX+OF,
OF, SD, OF+SD/OF, OF+SD24

DC main switch for photovoltaic installations **C60NA-DC (cont.)**

Technical data

- Position contact indication - suitability for isolation according to IEC/EN 60947-3 standard.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.
- Increased product service life thanks to fast closing independent of the speed of actuation of the toggle.
- Pre-wired product: Input / Output on the same side.

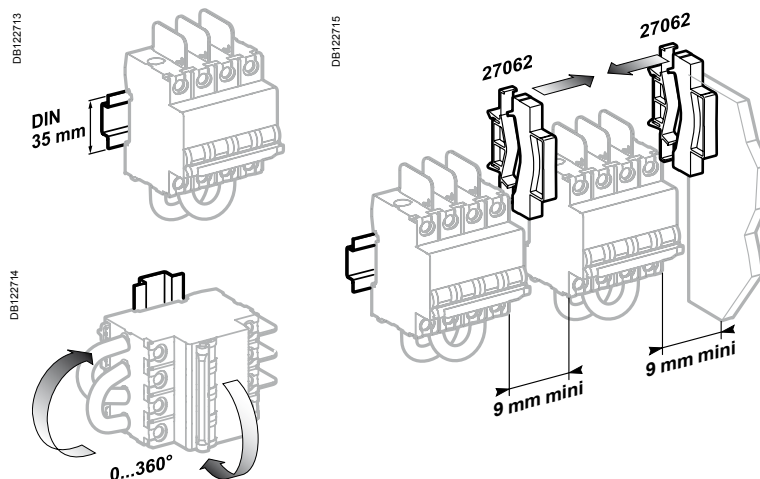
| | | |
|---------------------|------------|---|
| Endurance (O-C) | Electrical | 1,500 cycles |
| | Mechanical | 20,000 cycles |
| Degree of pollution | | 2 |
| Category | | DC21B |
| Tropicalisation | | Relative humidity: 95 % at 55°C in accordance with IEC 60068-2 and GB 14048.2 standards |
| Temperature | Operating | -25°C to 70 °C |
| | Storage | -40°C to 85°C |

Derating table (A)

| C60NA-DC | Ambient temperature (°C) | | | | | | | | | | | |
|----------|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Rating | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +60 | +70 |
| 50 A | 63 | 61 | 60 | 58 | 56 | 54 | 52 | 50 | 48 | 46 | 41 | 35 |

Moreover it is recommended to use:

- a terminal Screw Shield snaps onto the front of the C60NA-DC protective devices to provide greater insulation of the terminal screws
- a Spacer clips 9 mm in each side to provide isolation.



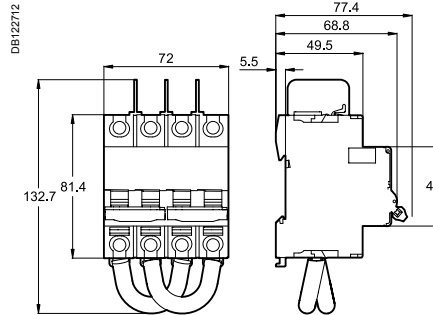
⚠ Required to have a 9 mm space isolation in each side"

Technical data (cont.)

Weight (g)

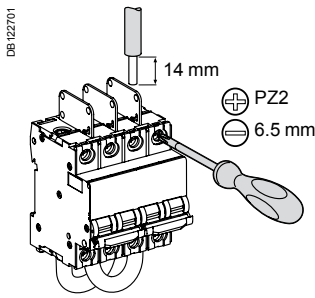
| Switch disconnecter | |
|---------------------|----------|
| Type | C60NA-DC |
| | 530 |

Dimensions (mm)



C60NA-DC

Connection



| Rating | Tightening torque | Without accessory | | With accessories | | Multi-cables terminal | |
|--------|-------------------|-------------------------|-------------------------|-----------------------------------|---------------------------------------|------------------------|------------------------|
| | | Rigids | Flexibles with ferrule | 50 mm ² Cu/Al Terminal | Screw on connection for ring terminal | Rigid cables | Flexible cables |
| 50 A | 3.5 N.m | DB112804 | DB112805 | DB118755 | DB118756 | DB118757 | |
| | | 1 to 35 mm ² | 1 to 25 mm ² | 50 mm ² | Ø 5 mm | 3 x 16 mm ² | 3 x 10 mm ² |

PB109406-50



The SW60-DC is a direct current switch-disconnector dedicated to disconnection of the string of photovoltaic modules and the PV inverter.

It is designed to isolate the inverter from the rest of the photovoltaic installation for maintenance operations in complete safety.

Combined with a circuit breaker (of the C60PV-DC type, for example) and a switch (of the C60NA-DC type, for example), the SW60-DC will be installed in the string PV protection enclosure close to the PV inverter (see application diagram).

It can be locked (by a padlocking device) in OFF position to ensure safety when removing the PV inverter.

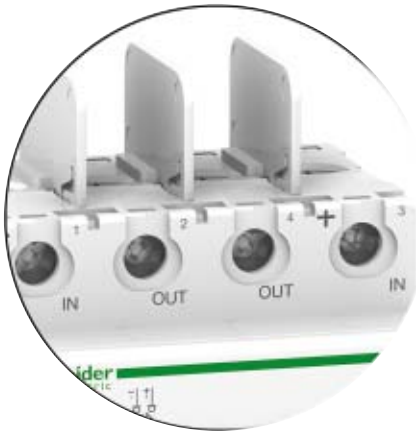
SW60-DC is polarity sensitive: (+) and (-) has to be respected for connection.

The SW60-DC is delivered with three inter-pole barrier to provide increased isolation distance between two adjacent connectors.

IEC / EN 60947-3



DB404942



General technical data

| | |
|---|---------------------------|
| Operating voltage (Ue) | 1000 V DC |
| Rated insulation voltage (Ui) | 1000 V DC |
| Rated operational current (Ie) | 50 A |
| Impulse voltage (Uimp) | 6 kV |
| Permissible rated short-time withstand current (Icw) | 600 A |
| Rated short-circuit closing current (Icm) | 1 kA |
| Electrical connection | By the top for In and Out |
| Number of poles | 2P |
| Number of modules of 9 mm | 8 |
| Diagrams | |
| Standards | IEC 60947-3 EN 60947-3 |
| Catalogue number | A9N61699 |

Applications

DE940639

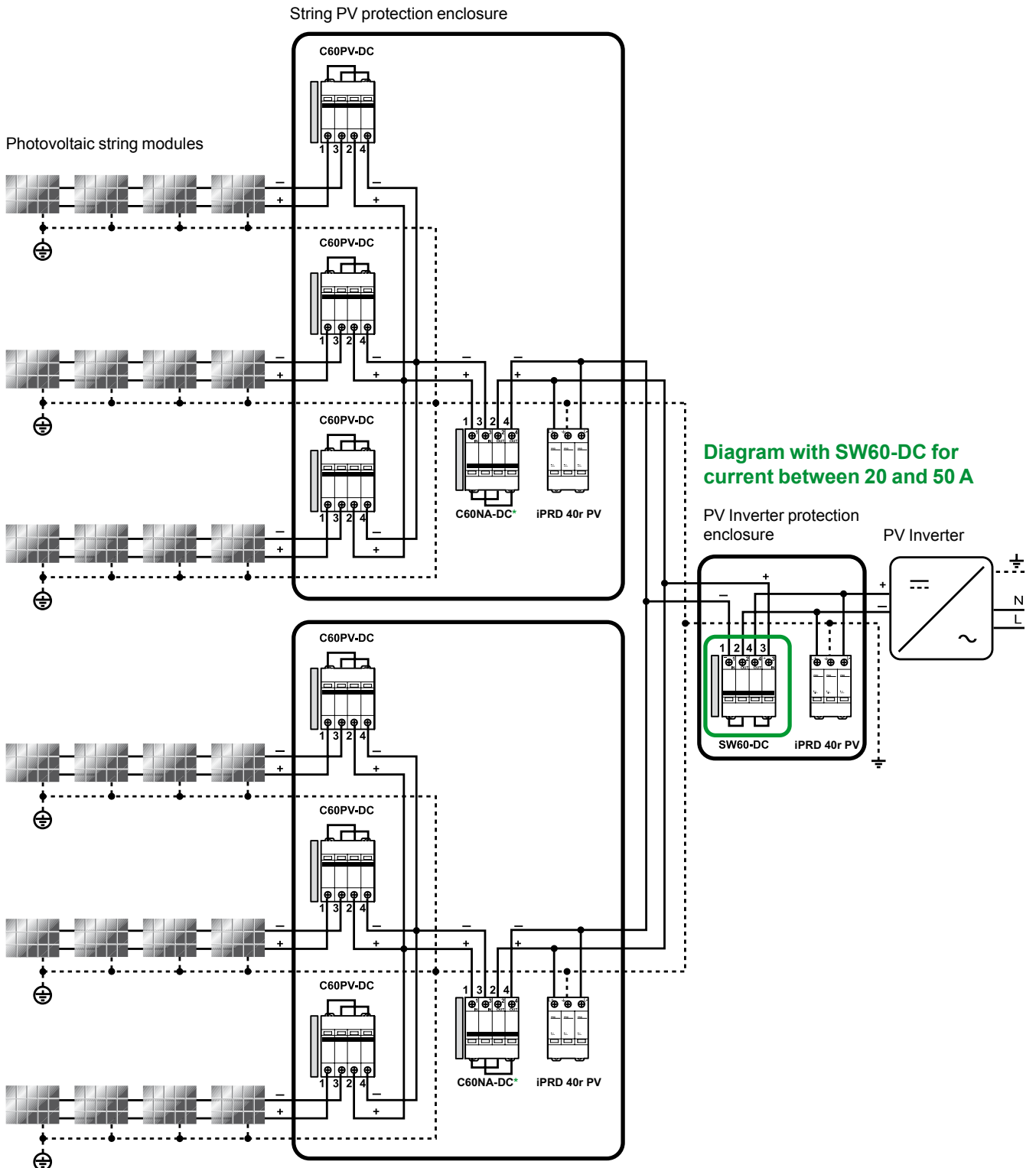


Diagram with SW60-DC for current between 20 and 50 A

*C60NA-DC:
20 A/1000 V DC or
32 A/800 V DC or
50 A/700 V DC

MN, MX, MNx, MN \square , MX+OF,
OF, SD, OF+SD/OF, OF+SD24

DC main switch for photovoltaic installations **Switch SW60-DC (cont.)**

Technical data

- Position contact indication - suitability for isolation according to IEC/EN 60947-3 standard.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.
- Increased product service life thanks to fast closing independent of the speed of actuation of the toggle.
- Pre-wired product: Input / Output on the same side.

Main characteristics

| | | |
|---------------------|-------------------|---|
| Endurance (O-C) | Electrical | 1,500 cycles |
| | Mechanical | 20,000 cycles |
| Degree of pollution | | 2 |
| Category | | DC21A |
| Tropicalisation | | Relative humidity: 95 % at 55°C in accordance with IEC 60068-2 and GB 14048.2 standards |
| Temperature | Operating | -25°C to 70°C |
| | Storage | -40°C to 85°C |
| | Rating adjustment | 40°C |

Additional characteristics

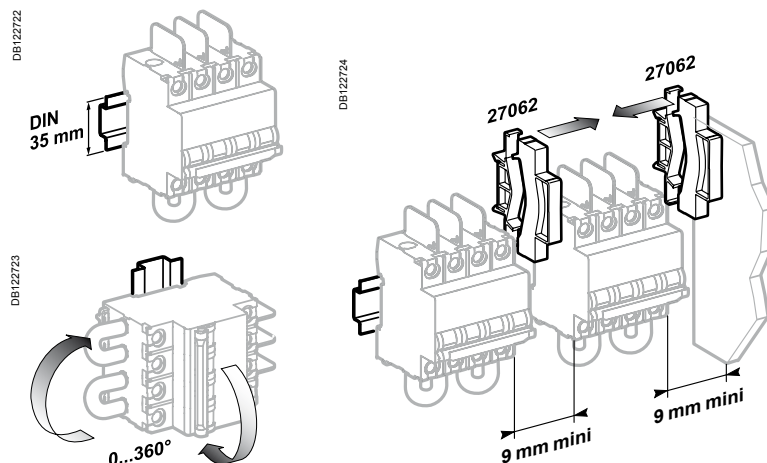
| Rating (A) | Voltage drop (mV) | Impedance (mΩ) | Power loss (W) |
|------------|-------------------|----------------|----------------|
| 50 A | 251 | 5.02 | 12.54 |

Derating table (A)

| SW60PV-DC | Ambient temperature (°C) | | | | | | | | | | | |
|-----------|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Rating | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +60 | +70 |
| 50 A | 63 | 61 | 60 | 58 | 56 | 54 | 52 | 50 | 48 | 46 | 41 | 35 |

Moreover it is recommended to use:

- a terminal Screw Shield snaps onto the front of the SW60-DC protective devices to provide greater insulation of the terminal screws.
- a Spacer clips 9 mm in each side to provide isolation.



⚠ 9 mm spacers must be used on both sides of the device to create a local ventilation space around the product.

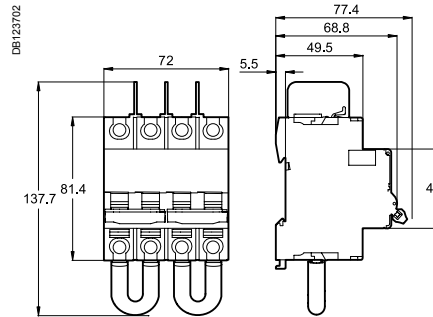
⚠ Failure to match polarity during connection may lead to a fire hazard and/or serious injury. The connection polarity must be observed (marked on the front panel). Use only with direct current.

Technical data (cont.)

Weight (g)

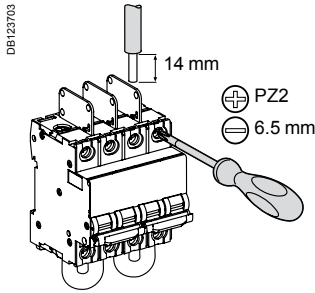
| | |
|----------------------------|----------------|
| Switch disconnecter | |
| Type | SW60-DC |
| | 530 |

Dimensions (mm)



SW60-DC

Connection



| Rating | Tightening torque | Without accessory | | With accessories | | Multi-cables terminal | |
|--------|-------------------|---|-------------------------|-----------------------------------|---------------------------------------|------------------------|------------------------|
| | | Copper cables UL 486A file no. #E216919 | | 50 mm ² Cu/Al Terminal | screw on connection for ring terminal | Rigid cables | Flexible cables |
| | | Rigids | Flexibles with ferrule | | | | |
| 50 A | 3.5 N.m | DB112804 | DB112805 | DB118755 | DB118756 | DB118757 | |
| | | 1 to 35 mm ² | 1 to 25 mm ² | 50 mm ² | Ø 5 mm | 3 x 16 mm ² | 3 x 10 mm ² |



Country approval pictograms

IEC / EN 60947-3

PB113148-50



The C120NA-DC is a direct current switch-disconnector dedicated to disconnection of the string of photovoltaic modules and the PV inverter.

It is designed to isolate the string of photovoltaic modules and the inverter from the rest of the photovoltaic installation for maintenance operations in complete safety.

The C120NA-DC will be installed in a string PV protection enclosure close to the strings of photovoltaic modules. It can also be installed near the PV inverter.

It can be locked (by a padlocking device) in OFF position to ensure safety during maintenance operations.
Since a fault current can flow in the reverse direction to the normal operating current, the C120NA-DC can switch a multi-directional current.

Connection

■ The C120NA-DC is not polarity sensitive: (+) and (-) wires can be inverted without any risk.

Isolation distance

■ The C120NA-DC is delivered with three inter-pole barriers to provide increased isolation distance between two adjacent connectors

Prewired

■ The cables cross-section is suitable
■ The tightening torque is mastered



Main characteristics

| | |
|--|-----------------------------------|
| Operating voltage (Ue) | 1000 V DC |
| Rated insulation voltage (Ui) | 1000 V DC |
| Rated operational current (Ie) | 100 A |
| Impulse voltage (Uimp) | 6 kV |
| Permissible rated short-time withstand current (Icw) | 1.5 kA / 500 ms |
| Rated short-circuit closing current (Icm) | 1 kA |
| Electrical connection | By the top for In and Out |
| Number of poles | 2P |
| Number of modules of 9 mm | 12 |
| Diagrams | |
| Standards | IEC 60947-3 EN 60947-3 |
| Catalogue number | A9N61701 |
| Auxiliaries | See modules CA907008 and CA907013 |

Additional technical data

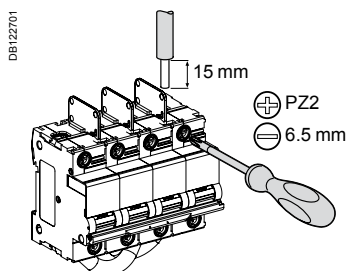
- Position contact indication - suitability for isolation according to IEC/EN 60947-3 standard.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.
- Increased product service life thanks to fast closing independent of the speed of actuation of the toggle.
- Prewired product: Input / Output on the same side.

| | | |
|---------------------|------------|---|
| Endurance (O-C) | Electrical | 300 cycles |
| | Mechanical | 20,000 cycles |
| Degree of pollution | | 2 |
| Category | | DC21B |
| Tropicalisation | | Relative humidity: 95 % at 55°C in accordance with IEC 60068-2 and GB 14048.2 standards |
| Temperature | Operating | -25°C to 70 °C |
| | Storage | -40°C to 85°C |

Derating table (A)

| C120NA-DC | Ambient temperature (°C) | | | | | | | | | | | |
|-----------|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Rating | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +60 | +70 |
| 100 A | 113 | 111 | 110 | 108 | 106 | 104 | 102 | 100 | 98 | 96 | 91 | 85 |

Upstream connection



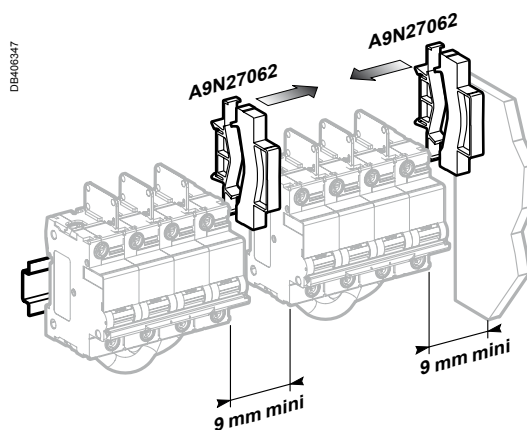
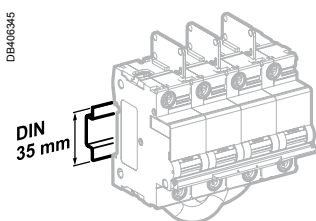
| Tightening torque | Without accessory | | With accessories | | | |
|-------------------|--------------------------|--------------------------|-----------------------------------|---------------------------------------|------------------------|------------------------|
| | Copper cables | | 50 mm ² Cu/Al Terminal | Screw on connection for ring terminal | Multi-cables terminal | |
| | Rigids | Flexibles with ferrule | | | Rigid cables | Flexible cables |
| 3.5 N.m | DB112845 | DB112846 | DB118755 | DB118756 | DB118757 | |
| | 35 to 50 mm ² | 25 to 35 mm ² | 50 mm ² | Ø 5 mm | 3 x 16 mm ² | 3 x 10 mm ² |

Downstream connection

Prewired delivered product: **Do not remove**

Moreover it is recommended to use:

- a terminal Screw Shield snaps onto the front of the C120NA-DC protective devices to provide greater insulation of the terminal screws
- a Spacer clips 9 mm in each side to provide isolation.

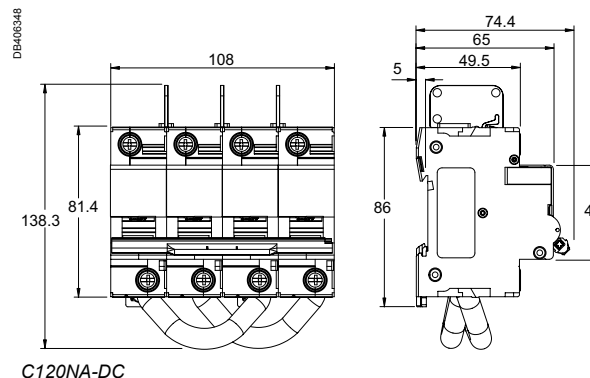


Required: to have a 9 mm space isolation in each side"

Weight (g)

| Switch disconnecter | |
|---------------------|------------------|
| Type | C120NA-DC 910 |

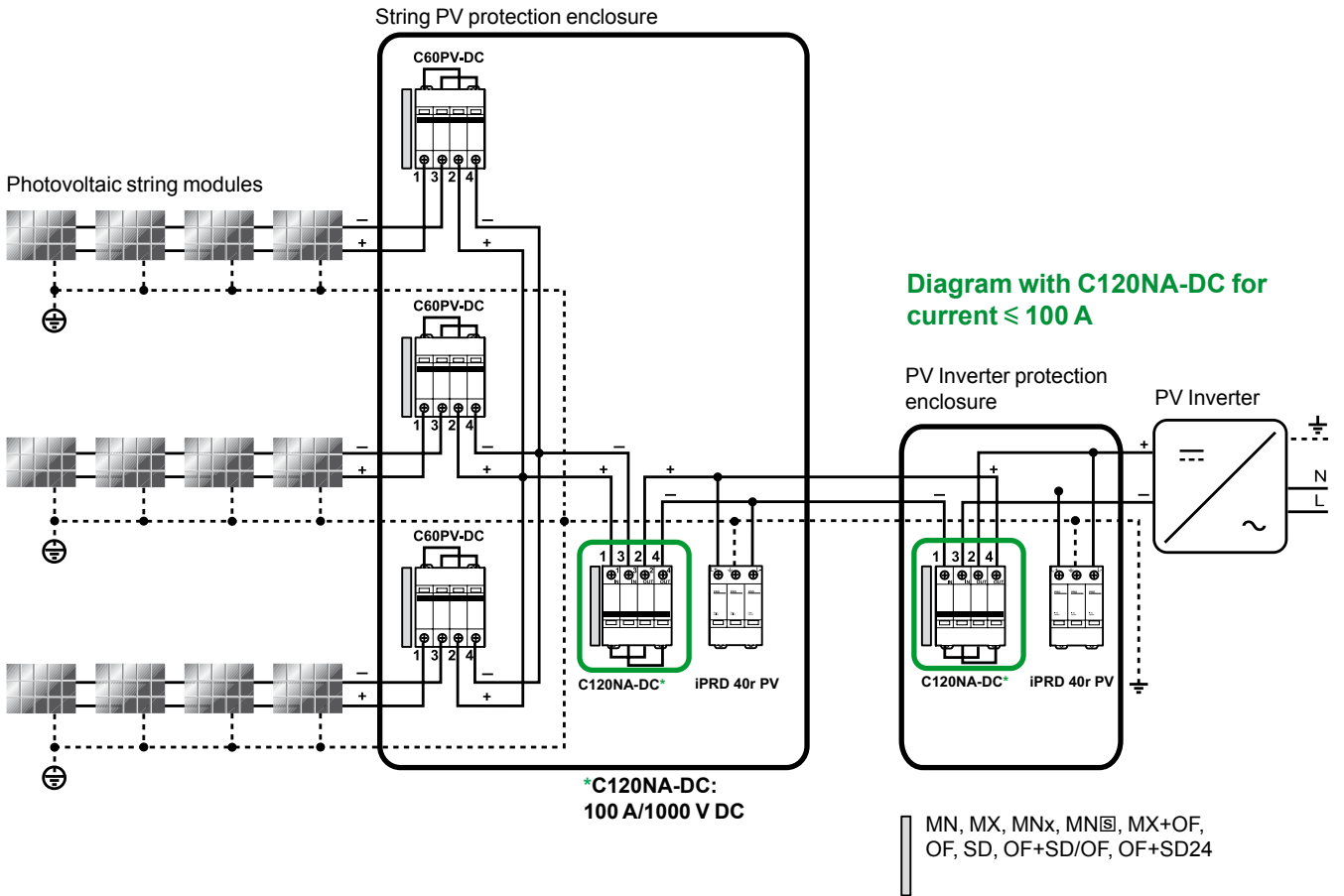
Dimensions (mm)

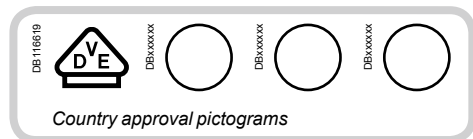


DC main switch for photovoltaic installations **C120NA-DC (cont.)**

Application diagram

DE940328





IEC 60947-2 and IEC 60947-4-1 (in combination)

They protect single-phase or three-phase motors with manual local control.
This protection includes:

- isolation
- manual or remote control
- short-circuit protection (magnetic)
- overload protection (thermal).



Breaking capacity to IEC 60947-2

| Rating (A) | Voltage (V) | | | | | | | | | | | | | | | | | | | |
|-------------|-------------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|--|--|--|--|----|-----|----|-----|---|----|
| | 230...240 | | 400...415 | | 440 | | 500 | | 690 | | | | | | | | | | | |
| | Icu kA | Ics % | Icu kA | Ics % | Icu kA | Ics % | Icu kA | Ics % | Icu kA | Ics % | | | | | | | | | | |
| 0.16 to 1.6 | Unlimited | | | | | | | | | | | | | | | | | | | |
| 2.5 | | | | | | | | | | | | | | | | | | | 3 | 75 |
| 4 | | | | | | | | | | | | | | | | | | | 3 | 75 |
| 6.3 | | | | | | | | | | | | | | | 50 | 100 | 50 | 100 | 3 | 75 |
| 10 | | | | | 15 | 100 | 10 | 100 | 3 | 75 | | | | | | | | | | |
| 14 | | | 15 | 50 | 8 | 50 | 6 | 75 | 3 | 75 | | | | | | | | | | |
| 18 | | | 15 | 50 | 8 | 50 | 6 | 75 | 3 | 75 | | | | | | | | | | |
| 23 | 50 | 100 | 15 | 40 | 6 | 50 | 4 | 75 | 3 | 75 | | | | | | | | | | |
| 25 | 50 | 100 | 15 | 40 | 6 | 50 | 4 | 75 | 3 | 75 | | | | | | | | | | |

The limiting unit increases the breaking capacity up to 100 kA at 415 V.

Catalogue numbers

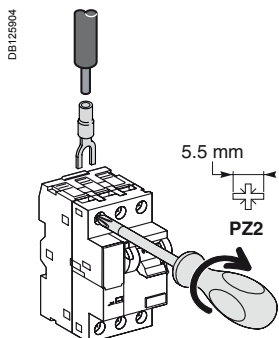
| Motor characteristics | | | | | | | P25M circuit breaker | | | |
|-----------------------|--|------|-----|------|------|------|----------------------|--------------|--------------|-----------------------|
| Type | Standardised power (kW) of three-phase 50/60 Hz motors in category AC3 | | | | | | Rating In (A) | Setting | Cat. no. | Width in 9 mm modules |
| | Voltage (V AC) | | | | | | | | | |
| | 230 | 400 | 415 | 440 | 500 | 690 | | | | |
| 3P | | | | | | | | | | |
| | - | - | - | - | - | - | 0.16 | 0.1-0.16 | 21100 | 5 |
| | - | - | - | - | - | - | 0.25 | 0.16-0.25 | 21101 | 5 |
| | - | - | - | - | - | - | 0.40 | 0.25-0.40 | 21102 | 5 |
| | - | - | - | - | - | 0.37 | 0.63 | 0.40-0.63 | 21103 | 5 |
| | - | - | - | 0.37 | 0.37 | 0.55 | 1.0 | 0.63-1 | 21104 | 5 |
| | - | 0.37 | - | 0.55 | 0.75 | 1.1 | 1.6 | 1-1.6 | 21105 | 5 |
| | 0.37 | 0.75 | 1.1 | 1.1 | 1.1 | 1.5 | 2.5 | 1.6-2.5 | 21106 | 5 |
| | 0.75 | 1.5 | 1.5 | 1.5 | 2.2 | 3 | 4.0 | 2.5-4 | 21107 | 5 |
| | 1.1 | 2.2 | 2.2 | 3 | 3.7 | 4 | 6.3 | 4-6.3 | 21108 | 5 |
| | 2.2 | 4 | 4 | 4 | 5.5 | 7.5 | 10 | 6-10 | 21109 | 5 |
| | 3 | 5.5 | 5.5 | 7.5 | 9 | 11 | 14 | 9-14 | 21110 | 5 |
| | 4 | 7.5 | 9 | 9 | 10 | 15 | 18 | 13-18 | 21111 | 5 |
| 5.5 | 9 | 11 | 11 | 11 | 18.5 | 23 | 17-23 | 21112 | 5 | |
| 5.5 | 11 | 11 | 11 | 15 | 22 | 25 | 20-25 | 21113 | 5 | |



Limiting unit

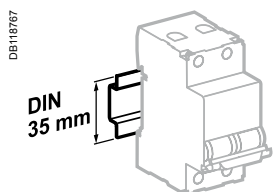
| Type | Rating In (A) | Cat. no. | Width in 9 mm modules |
|-----------|---------------|--------------|-----------------------|
| 3P | 63 | 21115 | 5 |

Connection

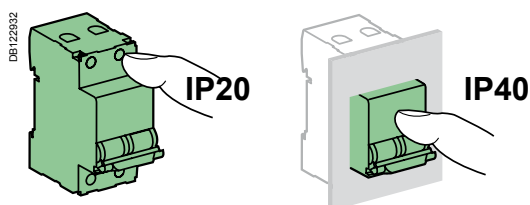
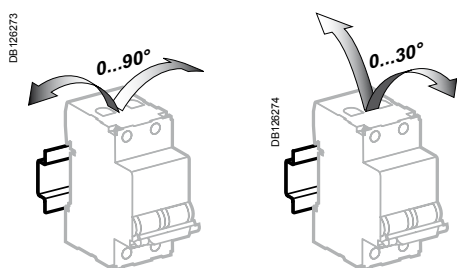


P25M

| Tightening torque | Terminal clamps | | With insulated connector | Limiting unit |
|-------------------|-----------------------------|-------------|-------------------------------|--|
| | Rigid Cu | Flexible Cu | Flexible Cu | Tunnel terminals |
| 1.7 N.m. | 2 x 1 ... 6 mm ² | | 2 x 1.5 ... 6 mm ² | 1 x 25 mm ² or 2 x 10 mm ² |



Mounted on 35 mm DIN rail.



Weight (g)

| | |
|---------------|-----|
| P25M | 260 |
| Limiting unit | 130 |

Technical data

Electrical characteristics

| | |
|--|---------------------------------------|
| Operating voltage (Ue) | 690 V AC |
| Insulation voltage (Ui) | 690 V |
| Rated impulse withstand voltage (Uimp) | 6 kV |
| Endurance (O-C) | Electrical AC3 |
| Thermal trip unit | 100,000 cycles |
| Settings | Sensitive to missing phase |
| | Factory < settings range |
| | Simultaneously on the front face |
| | On current drawn in nominal operation |
| Ratings (In) | 0.16 to 25 A adjustable |
| Temperature compensation | -20 °C to +40 °C in an enclosure |
| Magnetic trip unit | 12 x the In rating (±20 %) |

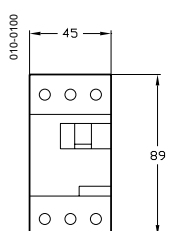
Other characteristics

| | |
|-------------------------------------|---|
| Padlocking device on the front face | |
| Tropicalisation | Treatment 2 (relative humidity 95 % at 55 °C) |
| Operating temperature | -20 ...+60 °C |
| Storage temperature | -40 ...+80 °C |

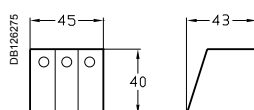
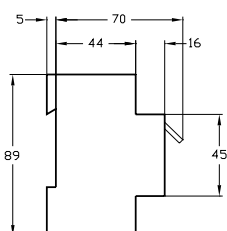
Rated operating current (Ie) of auxiliary contacts under the rated operating voltage (Ue)

| Operating voltage (Ue) | | Operating current | | | |
|------------------------|--------|-------------------|--------------|------------------------|--------------|
| (V AC) | (V DC) | Position contact | | fault tripping contact | |
| | | AC 15 (AAC) | DC 13 (A DC) | AC 14 (AAC) | DC 13 (A DC) |
| 415 | 220 | 2.2 | 0.5 | - | - |
| 240 | 110 | 3.3 | 1.3 | - | - |
| 130 | 60 | 4.5 | 3 | 0.5 | 0.15 |
| 48 | 48 | 6 | 5 | 1 | 0.3 |
| 24 | 24 | - | 6 | 1.5 | 1 |

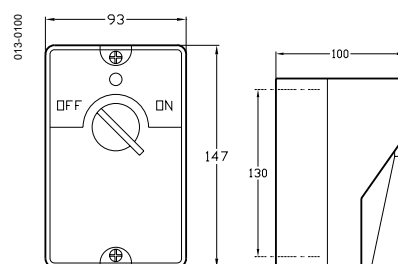
Dimensions (mm)



Circuit breaker



Limiting unit only

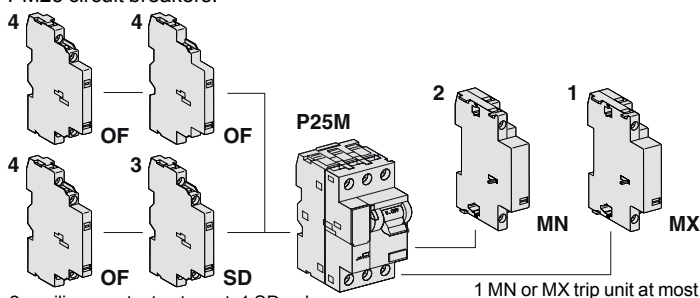


Insulating enclosure

Connection

| Cables | | | |
|-------------------|------------------------------|---------------------------------|---------------------------------|
| | Rigid | Flexible | Flexible with ferrule |
| Mini | 1 x 1 to 2.5 mm ² | 1 x 0.75 to 2.5 mm ² | 1 x 0.75 to 1.5 mm ² |
| Maxi | 2 x 1 to 2.5 mm ² | 2 x 0.75 to 2.5 mm ² | 2 x 0.75 to 1.5 mm ² |
| Tightening torque | 1.4 N.m | | |

The electrical auxiliaries allow remote tripping or position or fault indication of the PM25 circuit breakers.



2 auxiliary contacts at most, 1 SD only.
SD is always mounted next to the P25M.

Catalogue numbers

Trip units

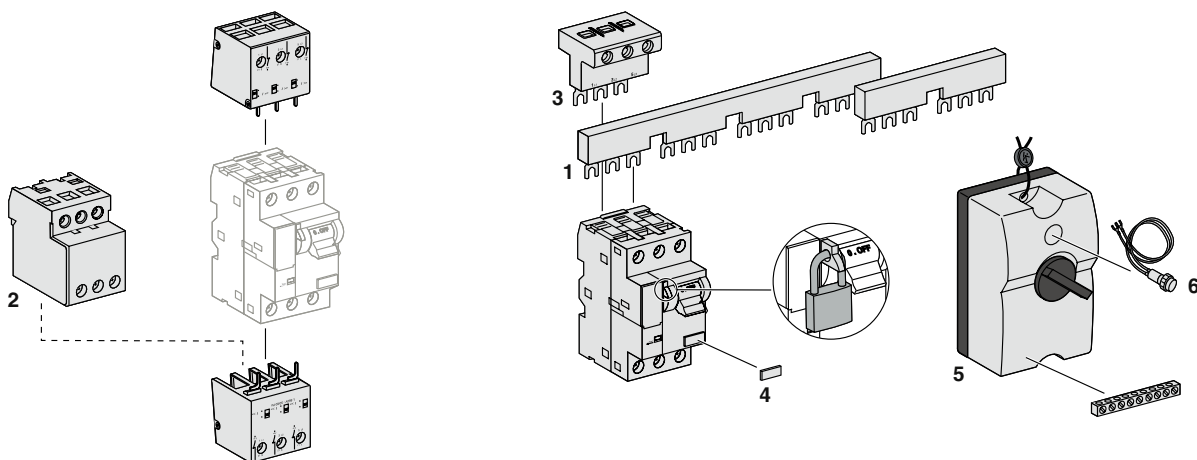
| | Type | Control voltage (V AC) | Width in 9 mm modules | Cat. no. |
|--|------|------------------------|-----------------------|----------|
| 1 MX shunt release | | | | |
| <ul style="list-style-type: none"> Emergency stoppage by normally open push button Causes tripping of the associated device when powered | | 220...240 | 2 | 21127 |
| | | 380...415 | 2 | 21128 |
| 2 MN undervoltage release | | | | |
| <ul style="list-style-type: none"> Emergency stoppage by normally closed push button Ensures the safety of power supply circuits for several machines by preventing untimely restarting Causes tripping of the circuit breaker with which it is associated when its input voltage decreases (between 70% and 35% of Un) Prevents closing of the device until its input voltage has been restored | | 220...240 | 2 | 21129 |
| | | 380...415 | 2 | 21130 |

Auxiliary contacts

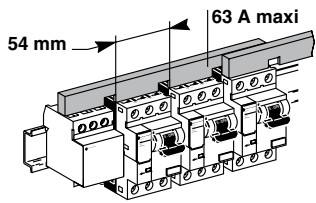
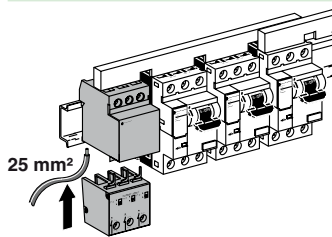
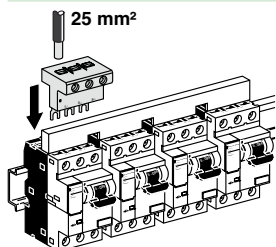
| | Type | Width in 9 mm modules | Cat. no. |
|--|------|-----------------------|----------|
| 3 Position and fault tripping indication contacts | | | |
| F + SD.F | | 1 | 21118 |
| O + SD.F | | 1 | 21119 |
| F + SD.O | | 1 | 21120 |
| O + SD.O | | 1 | 21121 |
| 4 Position contacts | | | |
| O + F | | 1 | 21117 |
| F + F | | 1 | 21116 |

"O ": normally closed contact
 "F ": normally open contact
 SD: contact indicating the position of the associated device in the event of an electrical fault
 SD.F: to indicate a closed contact fault
 SD.O: to indicate an open contact fault

Accessories make it easier to integrate the circuit breakers and extend their use.



Catalogue numbers

| | Type | Cat. no. |
|---|--|----------------------|
| 1 Comb busbars  | 2 P25M feeders | GV2G254 |
| | 4 P25M feeders | GV2G454 |
| | Protection end-piece | GV2G10 |
| | | |
| 2 Downstream terminal block  | | GV2G05+LA9E07 |
| | GV2G05: Downstream terminal block LA9E07: Cover for downstream terminal block | |
| 3 Insulated connector  | | GV2G09 |
| | | |
| 4 Clip-on terminal markers | see module CM907003E | |
| 5 Insulating enclosure Individual installation of a P25M circuit breaker with an auxiliary contact block and trip unit. Double insulation \square and sealed to IP55. L = 93, H = 147, P = 100 (mm) | | 21133 |
| 6 Neon indicator light 230-240 V AC 400-415 V AC | Green | GV2SN23 |
| | Red | GV2SN24 |
| | Green | GV2SN33 |
| | Red | GV2SN34 |

Choice of motor supply cable cross-section

- The motor starting current and permissible voltage drop must be taken into account when choosing the cross-section.
- The cable must accept a current at least equal, when used continuously, to the sum of $I_n + I_d/3$ where:
 - I_n : rated current,
 - I_d : starting current (4 to 8 I_n), depending on the motors.

Voltage drop

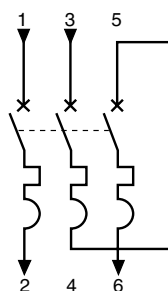
- The voltage drop permitted between the source and the motor concerned is 5% for public distribution networks and 8% for subscriber or transformer substations.
- If the torque of the machine to be driven is low at startup, simply check the voltage drop for the rated current of the motor.
- If the startup torque is high (grain crushers, goods lift, etc.), check the voltage drop for the starting current.

Protection of the motor supply line

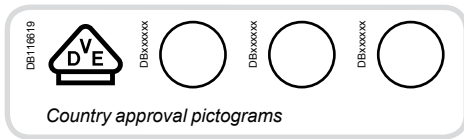
- All circuits and motors must be protected against overloads and short-circuits.

Connecting the circuit breaker for use with a single-phase motor

- Two circuit breaker poles must be connected in series.



iC60L circuit breakers instantaneous circuit breakers (ICB) (curve MA)



IEC/EN 60947-2



- iC60L curve MA circuit breakers combine the following functions:
 - circuit protection against short-circuit currents,
 - suitability for industrial isolation according to IEC/EN 60947-2, standard,
 - fault tripping indication by a red mechanical indicator in circuit breaker front face,
 - to be associated with overload protection for motor.

| Alternating current (AC) 50/60 Hz | | | | | |
|---|--------------|-------|-------|---------------------------------|-------------|
| Breaking capacity (Icu) according to IEC/EN 60947-2 | | | | Service breaking capacity (Ics) | |
| Ph/Ph (2P, 3P) | Voltage (Ue) | | | | |
| Rating (In) | 1.6 to 16 A | 40 kA | 20 kA | 15 kA | 50 % of Icu |
| | 25 à 40 A | 30 kA | 15 kA | 10 kA | 50 % of Icu |

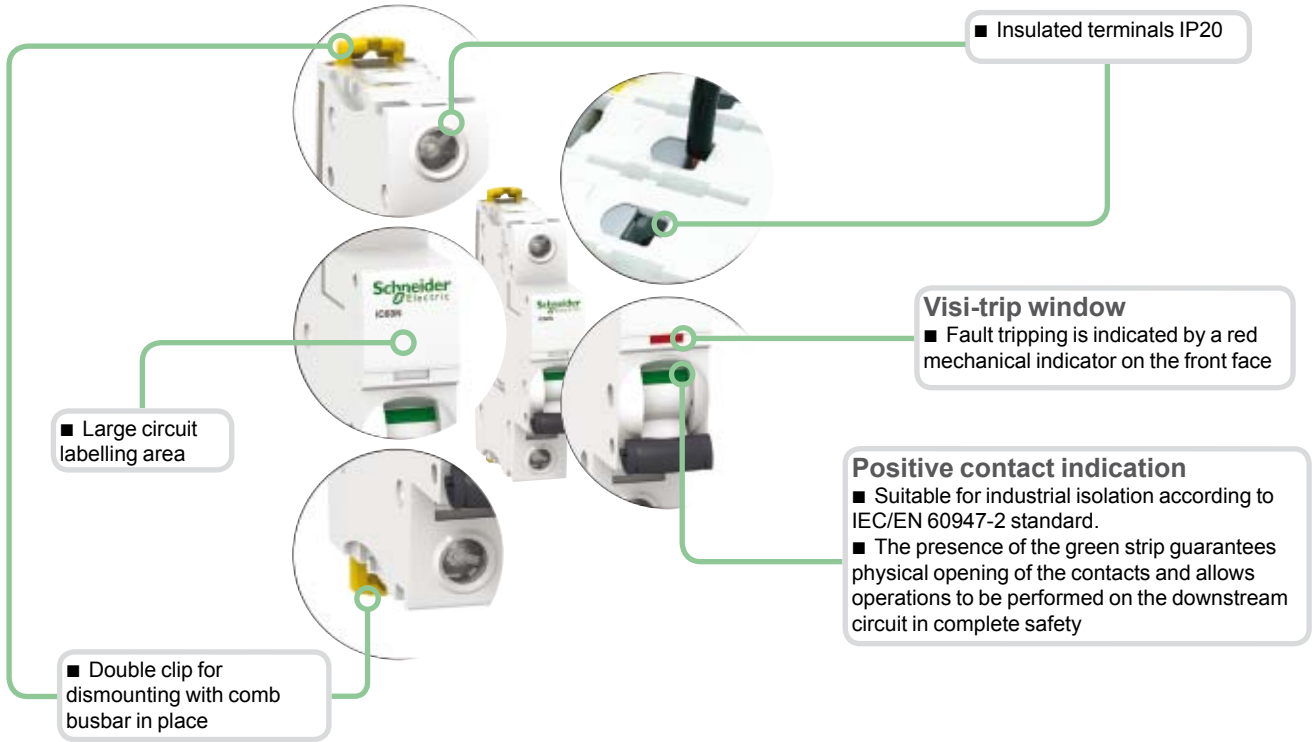
Catalogue numbers

| iC60L instantaneous trip circuit breaker | | |
|--|--|--|
| Type | 2P | 3P |
| | <p>DB123810</p> | <p>DB123811</p> |
| Auxiliaries | Remote tripping and indication, module CA907000 and CA907002 | Remote tripping and indication, module CA907000 and CA907002 |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | Vigi iC60 add-on residual current device, module CA902005 |
| Rating (In) | Curve MA | Curve MA |
| Quality label (1) | | |
| 1.6 A | A9F90272 | A9F90372 |
| 2.5 A | A9F90273 | A9F90373 |
| 4 A | A9F90204 | A9F90304 |
| 6.3 A | A9F90276 | A9F90376 |
| 10 A | A9F90210 | A9F90310 |
| 12.5 A | A9F90282 | A9F90382 |
| 16 A | A9F90216 | A9F90316 |
| 25 A | A9F90225 | A9F90325 |
| 40 A | A9F90240 | A9F90340 |
| Width in 9-mm modules | 4 | 6 |
| Accessories | Module CA907000 and CA907001 | Module CA907000 and CA907001 |

(1) Information to be provided by the country.

iC60L circuit breakers instantaneous circuit breakers (ICB) (curve MA) (cont.)

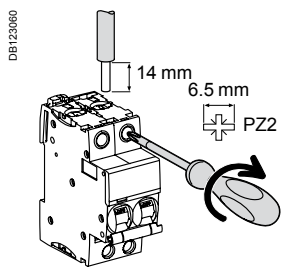
PB10434-40



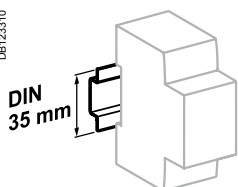
- Increased product service life thanks to:
 - overvoltage resistance by high level of industrial performances conception (pollution degree, rated impulse withstand voltage and insulation voltage),
 - high performance limitation (see limitation curves),
 - fast closing independent of the speed of actuation of the toggle.
- Remote indication, open/closed/tripped, by optional auxiliary contacts.
- Top or bottom electrical feeding.

iC60L circuit breakers instantaneous circuit breakers (ICB) (curve MA) (cont.)

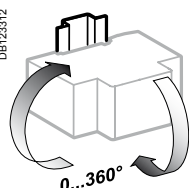
Connection



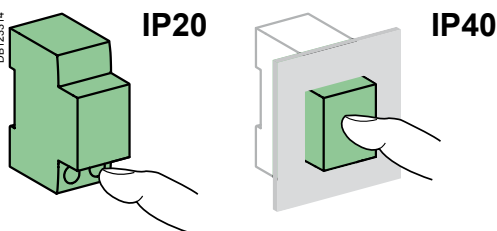
| Rating | Tightening torque | Without accessory | | With accessories | | |
|-------------|-------------------|-------------------------|-------------------------|--------------------------------|---------------------------------------|---|
| | | Rigid | Flexible or ferrule | 50 mm ² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal |
| | | DB122945 | DB122946 | DB122935 | DB118789 | DB118787 |
| 1.6 to 16 A | 2 N.m | 1 to 25 mm ² | 1 to 16 mm ² | - | ∅ 5 mm | - |
| 25 to 40 A | 3.5 N.m | 1 to 35 mm ² | 1 to 25 mm ² | 50 mm ² | - | 3 x 16 mm ² / 3 x 10 mm ² |



Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

Main characteristics

According to IEC/EN 60947-2

| | |
|---|--------------------------|
| Insulation voltage (U _i) | 500 V AC |
| Pollution degree | 3 |
| Rated impulse withstand voltage (U _{imp}) | 6 kV |
| Thermal tripping | Reference temperature |
| | Temperature derating |
| | 50 °C |
| | See module CA908007 |
| Magnetic tripping | MA curve |
| | 12 I _n ± 20 % |
| Utilization category | A |

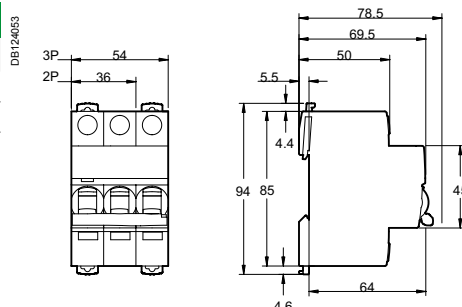
Additional characteristics

| | | |
|----------------------------------|-----------------------------|--|
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| | | Insulation classe II |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | | IV |
| Operating temperature | | -35°C to +70°C |
| Storage temperature | | -40°C to +85°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity 95 % to 55°C) |

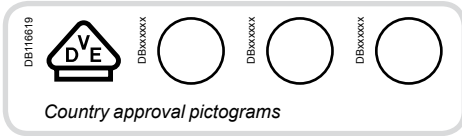
Weight (g)

| Circuit-breaker | |
|-----------------|-------|
| Type | iC60L |
| 2P | 250 |
| 3P | 375 |

Dimensions (mm)



NG125LMA circuit breakers (curve MA)



IEC/EN 60947-2

■ NG125LMA circuit breakers are circuit breakers which combine the following functions:

- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- suitability for isolation in the industrial sector to IEC/EN 60947-2,
- tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.



NG125LMA 2P



NG125LMA 3P

| Alternating current (AC) 50/60 Hz | | | | | |
|---|--------------|--------------|-------|-------|---------------------------------|
| Breaking capacity (Icu) to IEC/EN 60947-2 | | | | | |
| Ph/Ph (2P, 3P) | Voltage (Ue) | | | | Service breaking capacity (Ics) |
| | 220 to 240 V | 380 to 415 V | 440 V | 500 V | |
| Rating (In) 4 to 80 A (trip units) | 100 kA | 50 kA | 40 kA | 15 kA | 75 % of Icu |

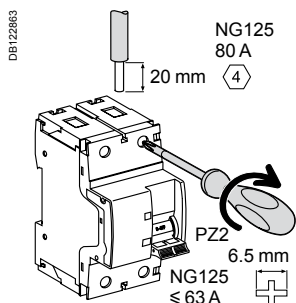
Catalogue numbers

| NG125LMA circuit breaker | | | | | |
|--------------------------|--|-------------|------------------------------|----------|--|
| Type | 2P | | 3P | | |
| | | | | | |
| Auxiliaries | Remote indication and tripping, module CM907004 and CM907005 | | | | |
| Vigi NG125 | Vigi NG125 add-on residual current device, module CM902008 | | | | |
| Rating (In) | Quality label ⁽¹⁾ | Magn. I (A) | Curve MA | Curve MA | |
| 4 A | | 50 | 18868 | 18879 | |
| 6.3 A | | 75 | 18869 | 18880 | |
| 10 A | | 120 | 18870 | 18881 | |
| 12.5 A | | 150 | 18871 | 18882 | |
| 16 A | | 190 | 18872 | 18883 | |
| 25 A | | 300 | 18873 | 18884 | |
| 40 A | | 480 | 18874 | 18885 | |
| 63 A | | 750 | 18875 | 18886 | |
| 80 A | | 960 | 18876 | 18887 | |
| Width in 9 mm modules | | | 6 | 9 | |
| Accessories | | | Module CM907004 and CM907006 | | |

(1) Information to be supplied by the country concerned.

NG125LMA circuit breakers (curve MA) (cont.)

Connection

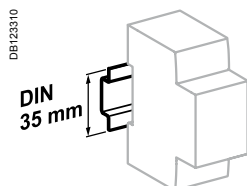


| Rating | Tightening torque | Without accessories | | With accessories | | | | |
|-------------------|-------------------|---------------------------------------|---|--------------------------------------|--|------------------------------------|------------------------------------|------------------------|
| | | Copper cables | | 70 mm ² Al terminal | Screw-on connection for ring terminal | Small ring terminal | Multi-cable terminal | |
| | | Rigid | Flexible or with ferrule | | | | Rigid cables | Flexible cables |
| 4 to 63 A 80 A | 3.5 N.m 6 N.m | DB122945 1.5 to 50 mm ² | DB122946 1 to 35 mm ² 10 to 50 mm ² | DB123410 25 to 70 mm ² | DB123488 2 x 35 mm ² 1 x 50 mm ² | DB118789 1 x 70 mm ² | DB118787 3 x 16 mm ² | 3 x 10 mm ² |

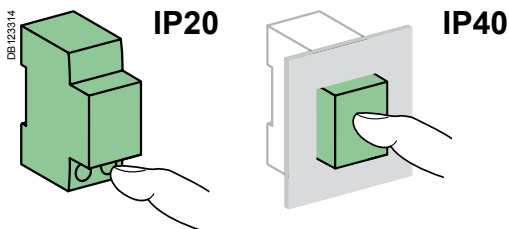
■ On 3P 80 A: upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.

Technical data

| Main characteristics | | |
|---|-----------------------------|---|
| According to IEC/EN 60947-2 | | |
| Insulation voltage (U _i) | | 690 V AC |
| Degree of pollution | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 8 kV |
| Thermal tripping | Reference temperature | 40°C |
| Magnetic tripping (I _n) | MA curve | 12 I _n ± 20 % |
| Utilization category | | A |
| Additional characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | | -30°C to +70°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |



Clips on to 35 mm DIN rail.

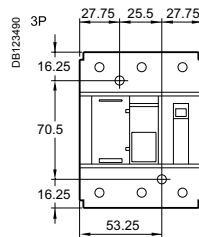
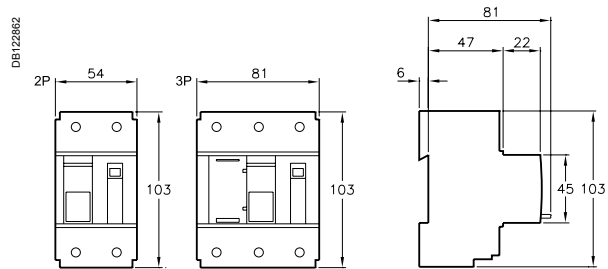


NG125LMA circuit breakers (curve MA) (cont.)

Weight (g)

| Circuit breaker | |
|-----------------|----------|
| Type | NG125LMA |
| 2P | 480 |
| 3P | 720 |

Dimensions (mm)

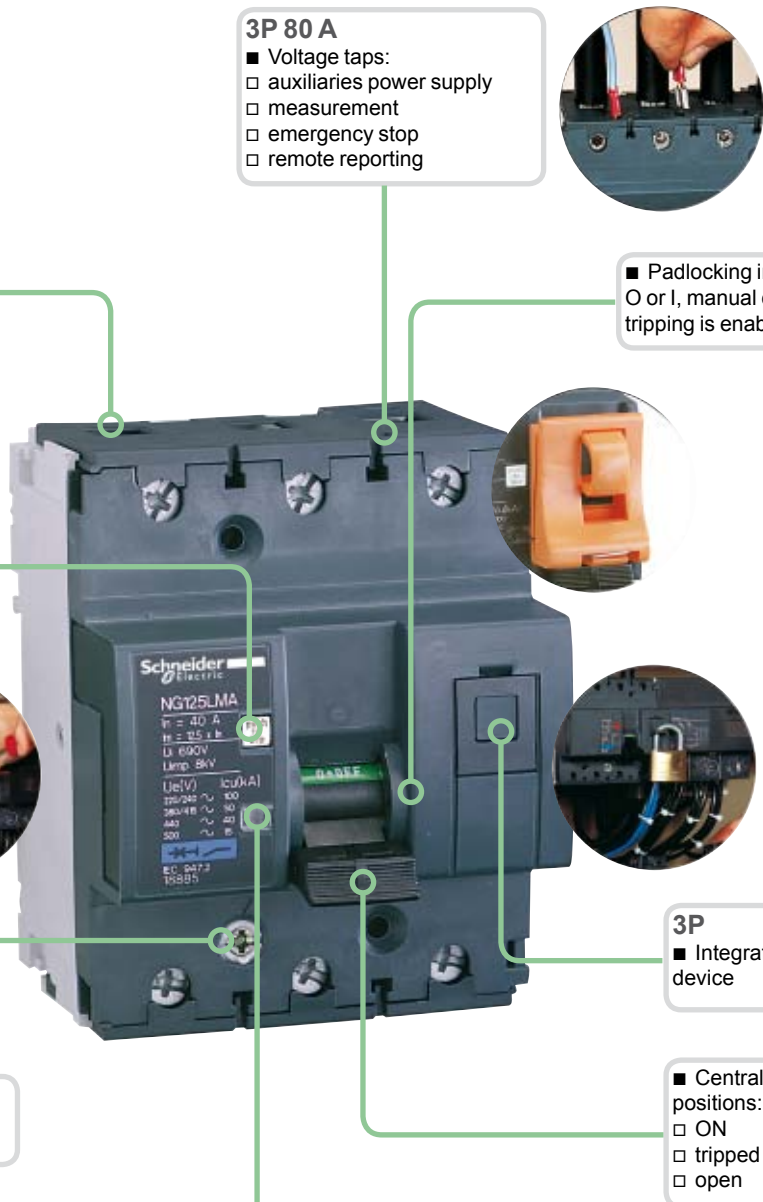


Spacing for mounting on panel

NG125LMA circuit breakers (curve MA) (cont.)

056P16N_SE-90

DB124483



3P 80 A
 ■ Voltage taps:
 auxiliaries power supply
 measurement
 emergency stop
 remote reporting



■ Cable strength:
 ribbed cage
 terminal depth
 tightening by Allen hex key (NG125 80 A)

■ Padlocking in position:
 O or I, manual control is inhibited, tripping is enabled

■ Test button to check satisfactory operation of the tripping mechanism



3P
 ■ Pull-out strength:
 metallic lock

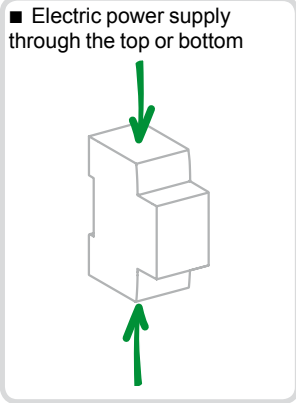


3P
 ■ Integrated padlocking device

■ Impact and vibration resistance:
 high-strength enclosure
 IK 05

■ Central manual control, 3 positions:
 ON
 tripped on fault
 open

■ Circuit breaker tripped indicator



■ Positive contact indication:
 suitability for isolation in the industrial sector to IEC/EN 60947-2
 the presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit

■ Longer product service life due to:
 good overvoltage withstand capacity,
 high limitation performances,
 fast closure independent of the speed of actuation of the toggle.



15646



15668

| STI | Cartridges |
|----------------|--|
| IEC EN 60947-3 | NF C 60-200, NF C 63-210 and IEC 60269-1/2 |

- The STI isolatable fuse-carriers provide overload and short-circuit protection.
- They are used for industrial applications requiring a high breaking capacity.
- They perform the isolation function and must not be used as switches.
- They can be equipped with an indicator light indicating blowing of the fuse cartridge.

■ Isolation of all poles is guaranteed for the 2P, 3P, and 3P+N versions during factory assembly.

The general purpose fuse (gG fuse) provides overload and short-circuit protection. The fuse for motor application (**aM fuse**) only provides short-circuit protection. It is used for protection of loads with a high peak current (motors, transformer primaries, etc.).

Accessories

Comb busbar

- Used to quickly bridge several STI of the same kind.

Busbar connectors

- Used to supply the busbar.
- For 25 mm² cable.

230 V neon indicator light

- Indicates fuse blowing (off in normal operation and lit red after fuse blowing).
- 400 V maxi.







Padlocking device

- Locks the toggle in the "open" or "closed" position. Used with an 8 mm max. diameter padlock (not supplied).

Clip-on markers (C60 type)

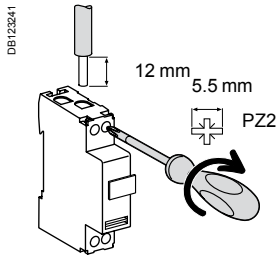
- Used to identify:
 - either on the front face of the device
 - or on the downstream terminals.

Catalogue numbers

| Fuse cartridge (Type F) | | | | | STI fuse holder | | | | | | |
|---|----------|---------------------|-----------------------------|---------|-----------------|-----------|--|--|--|--|--|
| Type | Rating | Voltage rating (Ue) | Short-circuit current (Isc) | | Network type | | | | | | |
| | | | aM | gG | aM | gG | 1P | 1P+N ⁽¹⁾ | 2P | 3P | 3P+N ⁽¹⁾ |
|  8.5 x 31.5 | 2 A | 400 V AC | 20 kA | 20 kA | DF2BA0200 | DF2BN0200 |  15635 |  15645 |  15650 |  15655 |  15657 |
| | 4 A | 400 V AC | 20 kA | 20 kA | DF2BA0400 | DF2BN0400 | 2 modules of 9 mm | 2 modules of 9 mm | 4 modules of 9 mm | 6 modules of 9 mm | 6 modules of 9 mm |
| | 6 A | 400 V AC | 20 kA | 20 kA | DF2BA0600 | DF2BN0600 | | | | | |
| | 8 A | 400 V AC | 20 kA | 20 kA | DF2BA0800 | DF2BN0800 | | | | | |
| | 10 A | 400 V AC | 20 kA | 20 kA | DF2BA1000 | DF2BN1000 | | | | | |
| 10.3 x 38 | 2 A | 500 V AC | 120 kA | 120 kA | DF2CA02 | DF2CN02 | 15636 | 15646 | 15651 | 15656 | 15658 |
| | 4 A | 500 V AC | 120 kA | 120 kA | DF2CA04 | DF2CN04 | 2 modules of 9 mm | 2 modules of 9 mm | 4 modules of 9 mm | 6 modules of 9 mm | 6 modules of 9 mm |
| | 6 A | 500 V AC | 120 kA | 120 kA | DF2CA06 | DF2CN06 | | | | | |
| | 10 A | 500 V AC | 120 kA | 120 kA | DF2CA10 | DF2CN10 | | | | | |
| | 16 A | 500 V AC | 120 kA | 120 kA | DF2CA16 | DF2CN16 | | | | | |
| | 20 A | 500 V AC | 120 kA | 120 kA | DF2CA20 | DF2CN20 | | | | | |
| 25 A | 400 V AC | 120 kA | 120 kA | DF2CA25 | DF2CN25 | | | | | | |
| Operating frequency : 50/60 Hz | | | | | | | | | | | |

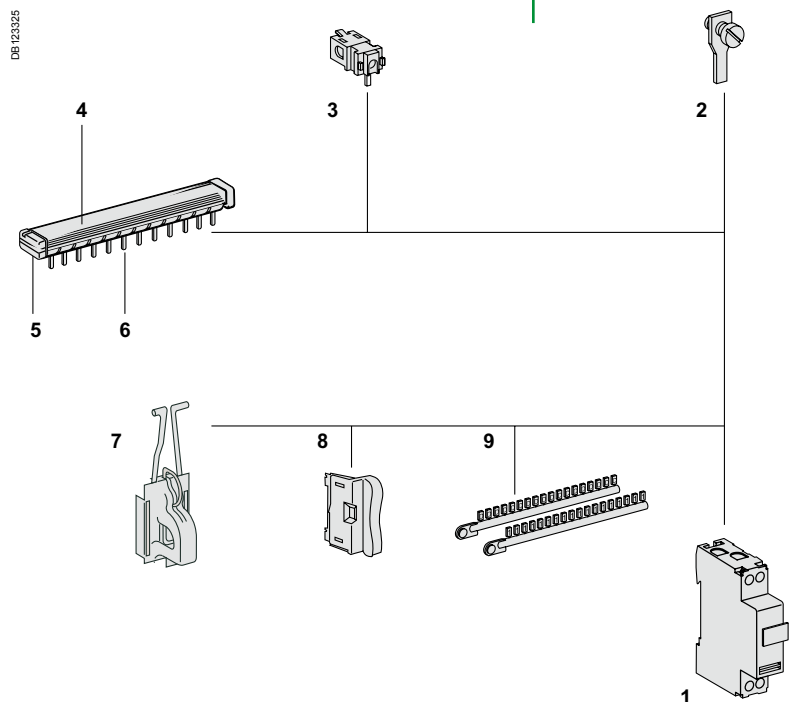
(1) The neutral pole comes equipped with a locked tube.

Connection



| Type | Rating | Tightening torque | Without accessory | | With accessories |
|------|--------|-------------------|----------------------------|---------------------------|---------------------------------------|
| | | | Copper cables | | Screw-on connection for ring terminal |
| | | | Rigid | Flexible or ferrule | |
| STI | All | 2 N.m | 0.75 to 10 mm ² | 0.33 to 6 mm ² | Ø 5 mm |

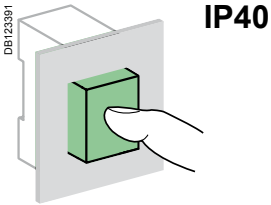
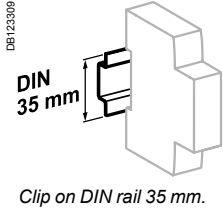
| | | | |
|---|---------------------------------------|------------|--------------|
| 2 | Screw-on connection for ring terminal | | 27053 |
| 3 | Insulated connectors (set of 4) | | 14885 |
| 4 | Comb busbar 24 pas 1P | | 14881 |
| | 26 pas 1P+N | | 14880 |
| | 24 pas 2P | | 14882 |
| | 24 pas 3P | | 14883 |
| | 24 pas 4P | | 14884 |
| 5 | Flange for comb busbars (set of 40) | For 1P, 2P | 14886 |
| | | For 3P, 4P | 14887 |
| 6 | Teeth shield (set of 40) | | 14888 |



Mounting accessories

| | | | |
|---|--------------------------|-----------------|-----------------|
| 7 | Padlocking device | | 15669 |
| 8 | Neon indicator light | 1 piece blister | 15668 |
| 9 | Clip-on terminal markers | See module | CA907001 |

STI isolatable fuse-carriers (cont.)



Technical data

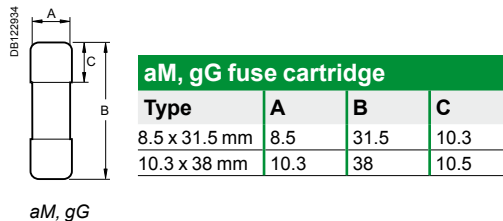
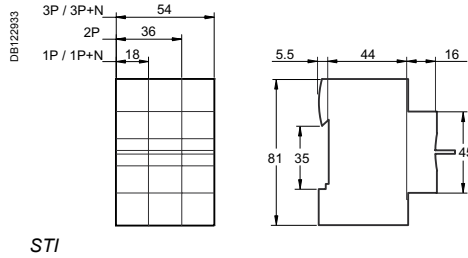
| Main characteristics | | |
|--|-----------------------------|---|
| Insulation voltage (Ui) | | 500 V |
| Pollution degree | | 3 |
| Additional characteristics | | |
| Degree of protection | Device in modular enclosure | IP40 Insulation classe II |
| Operating temperature | | -20°C to +60°C |
| Storage temperature | | -40°C to +80°C |
| Isolation with positive contact indication by tilting the fuse-carrier | | Captive fuse-carrier Additional housing is provided for a spare fuse |
| Cartridge blowing signalling (option) | | By indicator light ON after blowing |
| To be equipped with aM or gG (gL - gl) type fuse cartridge without striker, with or without fuse blowing indicator | | |

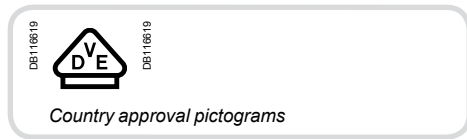
| Maximum dissipated power per pole of STI isolatable fuse-carriers | | | |
|---|----|------|-------|
| Fuse cartridge type | | Ith | Pmax |
| 8.5 x 31 mm | aM | 10 A | 2.5 W |
| | gG | 20 A | 2.5 W |
| 10.3 x 38 mm | aM | 16 A | 3 W |
| | gG | 25 A | 3 W |

| Maximum dissipated power per fuse cartridges | | | |
|--|----|-----------|-------|
| Fuse cartridge type | | Ith | Pmax |
| 8.5 x 31 mm | aM | 2 to 10 A | 0.9 W |
| | gG | 2 to 10 A | 2.5 W |
| 10.3 x 38 mm | aM | 2 to 25 A | 1.2 W |
| | gG | 2 to 25 A | 3 W |

| Specific technical data STI 1P+N and 3P+N | |
|---|--|
| Disconnection of the phase and neutral in the normal dimensions of the phase (2 mod. of 9 mm) | |
| Phase opening causes compulsory opening of the neutral | |
| The phase opens before the neutral on isolation and closes after the neutral on circuit closing | |

Dimensions (mm)





IEC/EN 60947-1, IEC/EN 60947-3, IEC 60269-1,
IEC 60269-3,
VDE 0660-100, VDE 0660-107



- The plug-in fuse switches disconnectors D01 and the switches disconnectors fuse D02 provide protection against overloads and short circuits.
- They are used for service sector and industrial applications.
- Depending on the versions, they should be provided with D01 or D02 type cartridges.

Accessories

- The D02 gauges allow you to limit the rating of the fuses, depending on the model used, from 20 A to 50 A.

Catalogue numbers

| Fuse disconnectors switches | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|
| Type | 1P | 1P+N | 2P | 3P | 3P+N | | | |
| | D01 | D01 | D02 | D02 | D01 | D02 | D01 | D02 |
| | | | | | | | | |
| | DB405042 | DB405043 | DB405438 | DB405044 | DB405045 | DB405439 | DB405046 | DB405440 |
| D01 fuse switches disconnectors | | | | | | | | |
| Rating (In) | | | | | | | | |
| 10 A | - | MGN01610 | - | - | - | - | MGN01710 | |
| 13 A | - | MGN01613 | - | - | - | - | MGN01713 | |
| 16 A | - | MGN01616 | - | - | MGN01316 | - | MGN01716 | |
| D02 switches disconnectors fuse | | | | | | | | |
| Rating (In) | | | | | | | | |
| 63 A | MGN02163 | MGN02663 | MGN02263 | MGN02363 | | | MGN02763 | |
| Width in 9 mm modules | 2 | 4 | 4 | 6 | | | 8 | |

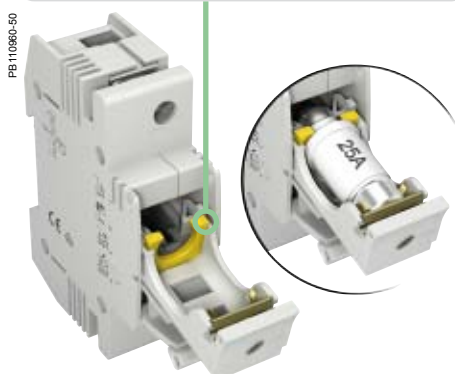


Accessories for D02 switches disconnectors fuse

| Type | Rating | Colour | |
|------------|------------|--------|----------|
| Fuse gauge | 20 A | Blue | MGN09120 |
| | 25 A | Yellow | MGN09125 |
| | 32-35-40 A | Black | MGN09135 |
| | 50 A | White | MGN09150 |

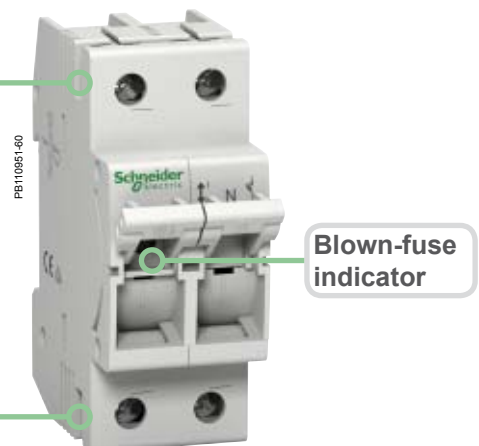
D02 : Gauges

- These allow fitting of fuses from 20 A to 50 A



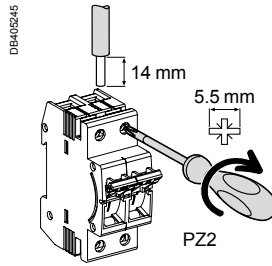
Connection

- Upstream/downstream by tunnel terminals
- For D01: by 18 mm forked comb busbar

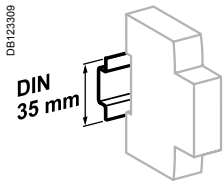


D0 fuse disconnectors switches (cont.)

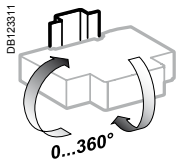
Connection



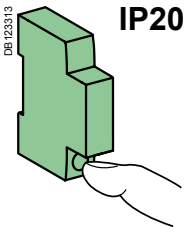
| Type | Tightening torque | Copper cables | |
|------|-------------------|---------------------------|---------------------------|
| | | Rigid | Flexible or with ferrule |
| D01 | 2 N.m | 1.5 to 25 mm ² | 1.5 to 16 mm ² |
| D02 | 3 N.m | 1.5 to 35 mm ² | 1.5 to 25 mm ² |



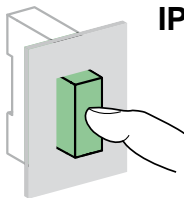
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



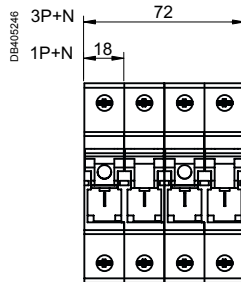
IP40

Technical data

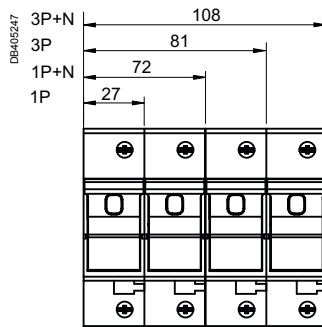
| Main characteristics | | D01 | D02 |
|--------------------------------------|--|----------------|-------------------------------|
| Operating voltage (Ue) | | 230/400 V AC | 230/400 V AC 110 V DC (2P) |
| Operating frequency (Hz) | | 45-62 Hz | 45-62 Hz |
| Service breaking capacity (Isc) | | AC | 50 kA |
| | | DC | - 8 kA |
| Rated insulation voltage (Ui) | | 400 V | 400 V |
| Rated impulse withstand voltage (Ui) | | 6000 V | 6000 V |
| Utilization category (IEC 60947-3) | | 400 V AC | AC-22A |
| | | 110 V DC (2P) | - DC-22B (63 A) |
| | | 48 V DC (1P) | - DC-22A (63 A) |
| Endurance (O-C) | | Electrical | 1500 cycles |
| | | Mechanical | 10,000 cycles |
| Degree of protection | | IP20 | |
| Device only | | IP40 | |
| Device in modular enclosure | | IP40 | |
| Operating temperature | | -5°C to +40°C | |
| Storage temperature | | -25°C to +55°C | |

Additional characteristics

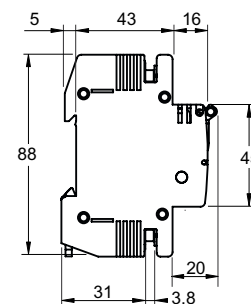
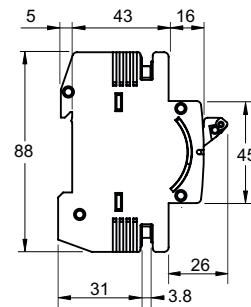
Dimensions (mm)



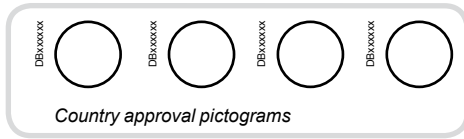
D01 fuse switches disconnectors



D02 switches disconnectors fuse



SBI fuse holder with indicator light



IEC EN 60947-3



MGN15707



MGN15712



MGN15714



MGN15718

- SBI fuse holders provide overload and short-circuit protection.
- They are used for industrial applications requiring a high breaking capacity.
- They perform the isolation function and must not be used as switches.
- They are equipped with an indicator light indicating blowing of the fuse cartridge: to be equipped with aM or gG (gL-gl) type fuse cartridge without striker. The general purpose fuse (gG fuse) provides overload and short-circuit protection. The fuse for motor application (**aM fuse**) only provides short-circuit protection. It is used for protection of loads with a high peak current (motors, transformer primaries, etc.).

Catalogue numbers

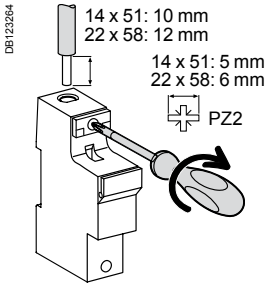
| Fuse cartridge | | | | | | SBI fuse holder | | | | | | |
|----------------|--------|---------------------|-----------------------------|--------|--------------|-----------------|----------|----------|---------------------|----------|----------|---------------------|
| Type | Rating | Voltage rating (Ue) | Short-circuit current (Isc) | | Network type | | | | | | | |
| | | | aM | gG | aM | gG | N | 1P | 1P+N ⁽¹⁾ | 2P | 3P | 3P+N ⁽¹⁾ |
| 14 x 51 mm | 10 A | 690 V CA | 120 kA | 120 kA | DF2EA10 | DF2EN10 | MGN15708 | MGN15707 | MGN15709 | MGN15710 | MGN15711 | MGN15712 |
| | 12 A | 690 V CA | 120 kA | - | DF2EA12 | - | | | | | | |
| | 16 A | 690 V CA | 120 kA | 120 kA | DF2EA16 | DF2EN16 | | | | | | |
| | 20 A | 690 V CA | 120 kA | 120 kA | DF2EA20 | DF2EN20 | | | | | | |
| | 25 A | 690 V CA | 120 kA | 120 kA | DF2EA25 | DF2EN25 | | | | | | |
| | 32 A | 500 V CA | 120 kA | 120 kA | DF2EA32 | DF2EN32 | | | | | | |
| | 40 A | 500 V CA | 120 kA | 120 kA | DF2EA40 | DF2EN40 | | | | | | |
| | 50 A | 400 V CA | 120 kA | 120 kA | DF2EA50 | DF2EN50 | | | | | | |
| 22 x 58 mm | 32 A | 690 V CA | 80 kA | 80 kA | DF2FA32 | DF2FN32 | MGN15714 | MGN15713 | MGN15715 | MGN15716 | MGN15717 | MGN15718 |
| | 40 A | 690 V CA | 80 kA | 80 kA | DF2FA40 | DF2FN40 | | | | | | |
| | 50 A | 690 V CA | 80 kA | 80 kA | DF2FA50 | DF2FN50 | | | | | | |
| | 63 A | 690 V CA | 80 kA | 80 kA | DF2FA63 | DF2FN63 | | | | | | |
| | 80 A | 690 V CA | 80 kA | 80 kA | DF2FA80 | DF2FN80 | | | | | | |
| | 100 A | 400 V CA | 120 kA | 120 kA | DF2FA100 | DF2FN100 | | | | | | |
| | 125 A | 400 V CA | 120 kA | - | DF2FA125 | - | | | | | | |




Operating frequency: 50/60 Hz

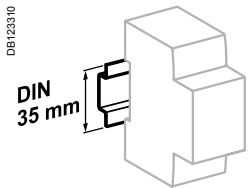
(1) The neutral pole comes equipped with a locked tube.

SBI fuse holder with indicator light (cont.)

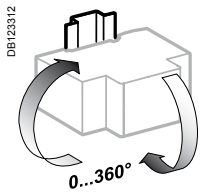
Connection



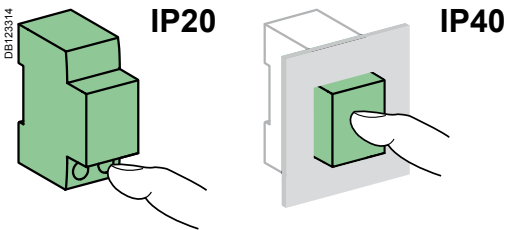
| Type of fuse cartridge | Tightening torque | Copper cables | | Multi-cables terminal | |
|------------------------|-------------------|---|---|---|---------------------------|
| | | Rigid | Flexible or ferrule | Rigid cables | Flexible cables |
| 14 x 51 mm | 3.5 N.m |  2.5 to 25 mm ² |  2.5 to 25 mm ² |  2.5 to 10 mm ² | 2.5 to 10 mm ² |
| 22 x 58 mm | 3.5 N.m | 2.5 to 35 mm ² | 2.5 to 35 mm ² | 2.5 to 25 mm ² | 2.5 to 16 mm ² |



Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

| Main characteristics | |
|--------------------------------------|--|
| Insulation voltage (U _i) | 690 V |
| Utilization category | AC20B isolation by switching the drawer, must not be operated under load |

| Additional characteristics | |
|------------------------------|--|
| Degree of protection | Device only: IP20 Device in modular enclosure: IP40 |
| Operating temperature | -20°C to +60°C |
| Storage temperature | -40°C to +80°C |
| Cartridge blowing signalling | By indicator light ON (neon) |

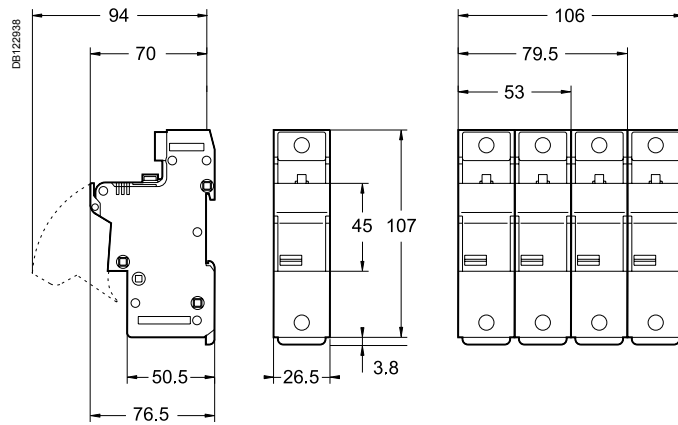
Maximum permissible characteristics of the fuse cartridges:

| Fuse cartridge type | I _{th} | P _{max} * | |
|---------------------|-----------------|--------------------|-------|
| 14 x 51 mm | aM | 50 A | 3 W |
| | gG | 50 A | 5 W |
| 22 x 58 mm | aM | 125 A | 9.5 W |
| | gG | 100 A | 9.5 W |

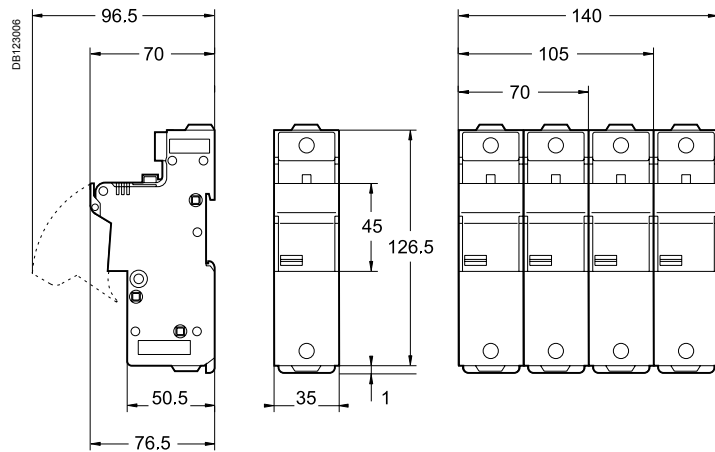
*P_{max}: maximum dissipated power per fuse cartridge.

SBI fuse holder with indicator light (cont.)

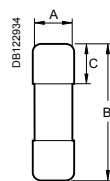
Dimensions (mm)



14 x 51 mm



22 x 58 mm



aM, gG fuse cartridge

| Type | A | B | C |
|------------|------|----|------|
| 14 x 51 mm | 14.3 | 51 | 13.8 |
| 22 x 58 mm | 22.2 | 58 | 16.2 |

aM, gG




Choice of sensitivity

The sensitivity of an earth leakage protection device depends mainly on the function it has to perform:

- Protection from electric shock by direct contact.
- Protection from electric shock by indirect contact.
- Protection from fire due to current leakage.

The following table gives a reminder of:








- The circuits that must be protected against these various risks (obligation or recommendation).
- The type of earth leakage protection device to be used in each case, its sensitivity, and its location in the distribution diagram.

| Type of protection | Obligations | | Recommended by Schneider Electric | Sensitivity (I Δ n) | | |
|--|---|---|--|--|---|---|
| | National standard <i>To be filled in according to the country standard</i> | International standard IEC 60364 | | 30 mA (*) | 100 mA to 3000 mA (depending on the earthing system) | 300 mA (or 500 mA) |
| Protection from electric shock by direct contact | | | | | | |
|  <small>DB123167</small> | <i>To be filled in according to the country standard</i> | Power supply for <ul style="list-style-type: none"> ■ General-purpose power sockets, up to 20 A ■ Appliances in the vicinity of a bathtub, shower, pond or swimming pool ■ Portable appliances for outdoor use, up to 32 A ■ Lighting for exhibition stands and shows ■ Outdoor lighting <i>To be modified according to national obligations (above)</i> | <ul style="list-style-type: none"> ■ Lighting in the home | Setup in final distribution switchboard <ul style="list-style-type: none"> ■ Residual current device protecting a circuit ■ Residual current circuit breaker protecting a group of circuits | | |
| Protection from electric shock by indirect contact | | | | | | |
|  <small>DB123168</small> | <i>To be filled in according to the country standard</i> | The entire power distribution system, except for devices: <ul style="list-style-type: none"> ■ With class II insulation ■ Operating at Safety Extra Low Voltage (class III) <i>To be modified according to national obligations (above)</i> | — | Setup in final distribution switchboard <ul style="list-style-type: none"> ■ Residual current circuit breaker or device, on incoming feeder Setup in subdistribution board or main switchboard <ul style="list-style-type: none"> ■ Residual current device protecting a circuit ■ Residual current device or circuit breaker protecting a group of circuits ■ On incoming feeder: residual current circuit breaker or device | | |
| Protection from fire due to current leakage | | | | | | |
|  <small>DB123169</small> | <i>To be filled in according to the country standard</i> | <ul style="list-style-type: none"> ■ High-risk premises: <ul style="list-style-type: none"> □ explosion (BE3) □ fire (BE2) ■ Agricultural and horticultural buildings ■ Equipment for fairs, exhibitions and shows ■ Temporary outdoor recreational installations <i>To be modified according to national obligations (above)</i> | <ul style="list-style-type: none"> ■ Dilapidated buildings or electrical installations ■ Humid atmospheres: agricultural buildings, public swimming pools ■ Presence of chemical agents | | | Setup in final distribution switchboard <ul style="list-style-type: none"> ■ Residual current circuit breaker or device, on incoming feeder Setup in subdistribution board or main switchboard <ul style="list-style-type: none"> ■ Residual current device protecting each circuit to a high-risk zone ■ Residual current device or circuit breaker protecting a group of circuits ■ On incoming feeder: residual current circuit breaker or device |

(*) The 10 mA sensitivity is useful for certain very specific applications, where there is a risk that someone could sustain a non-dangerous current (10 to 30 mA) without being able to get free. Example: healthcare equipment for hospital beds. Generally, devices with this very high sensitivity are liable to cause frequent tripping, due to the natural leakage currents of the installation.

Interference immunity

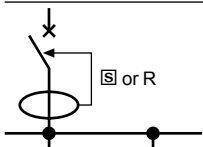
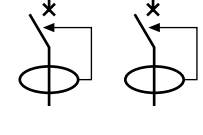

Schneider Electric provides various equipment technologies capable of overcoming the consequences of interference of all kinds.

| Operating conditions | | Examples | Types | | | | |
|---|---|---|---|--|---|--|---|
| | | | AC  | A  | SI  | B  | |
| Loads | | | | | | | |
|  | With no special characteristics | <ul style="list-style-type: none"> General-purpose power sockets Incandescent lighting Household appliances: microwave oven, dishwasher, clothes dryer Electric heating, water heater | ■ | ■ | ■ | ■ | |
| | Including a rectifier | Single phase | <ul style="list-style-type: none"> Household appliances: induction cooking appliances, washing machines (variable speed) Single-phase variable speed drives | - | ■ | ■ | - |
| | | Three phase | <ul style="list-style-type: none"> Three-phase variable speed industrial drives Three-phase uninterruptible power supplies | - | - | - | ■ |
| | Generating high-frequency interference (current peaks, harmonics) | <ul style="list-style-type: none"> Fluorescent lighting powered by extra low voltage transformer, by electronic ballast Variable luminosity lighting Powerful IT equipment Single-phase variable speed industrial drives Air conditioning Telecommunications equipment Capacitor banks | - | - | ■ | ■ | |
| | Including an anti-harmonic filter in the power supply | <ul style="list-style-type: none"> Microcomputer systems Computer peripherals (printers, scanners, etc.) | - | - | ■ | ■ | |
| Electrical environment | | | | | | | |
|  | Vicinity of equipment generating transient overvoltages | <ul style="list-style-type: none"> High-powered switching devices Reactive energy compensation banks | - | - | ■ | ■ | |
| | Circuits powered by an uninterruptible power supply "Isolated neutral" (IT) earthing system | <ul style="list-style-type: none"> Backed-up networks | - | - | ■ | ■ | |
| | Major risk of lightning strokes | <ul style="list-style-type: none"> Buildings protected by a lightning protection system Mountainous or humid regions Regions with high keraunic level | - | - | ■ | ■ | |
| Atmosphere | | | | | | | |
|  | Ambient temperature which could be less than -5°C | - | - | ■ | ■ | ■ | |
| | Presence of corrosive agents (AF2 to AF4) or dust | <ul style="list-style-type: none"> Indoor swimming pools Yacht harbours, marinas, camping grounds Water treatment Chemical industries, heavy industries, paper mills Mines and cellars, road tunnels Markets, stock raising, food processing industries | - | - | ■ (1) | - | |

(1) SiE for C120 and NG125 circuit-breakers

Discrimination

Residual current devices of average sensitivity (100 mA and more) are available in a selective (S) and delayed (R) version. This option ensures that, in the event of an earth fault downstream of the installation, only the defective part is switched off. The table below shows (in green) which upstream/downstream equipment combinations provide this discrimination.

| Sensitivity (mA) - Downstream | | Sensitivity (mA) - Upstream | | | | | | | | | | | | |
|---|---------------|-----------------------------|-----|-----|-----|------|------|-------------|-----|-----|-----------|------|------|------|
| | | Instantaneous | | | | | | Selective S | | | Delayed R | | | |
| | | 30 | 100 | 300 | 500 | 1000 | 3000 | 100 | 300 | 500 | 1000 | 3000 | 1000 | 3000 |
|  | Instantaneous | 30 | - | - | - | - | - | - | - | - | - | - | - | - |
| | | 100 | - | - | - | - | - | - | - | - | - | - | - | - |
| | | 300 | - | - | - | - | - | - | - | - | - | - | - | - |
| | | 500 | - | - | - | - | - | - | - | - | - | - | - | - |
| | | 1000 | - | - | - | - | - | - | - | - | - | - | - | - |
| | | 3000 | - | - | - | - | - | - | - | - | - | - | - | - |
|  | Selective S | 100 | - | - | - | - | - | - | - | - | - | - | - | |
| | | 300 | - | - | - | - | - | - | - | - | - | - | - | |
| | | 500 | - | - | - | - | - | - | - | - | - | - | - | |
| | | 1000 | - | - | - | - | - | - | - | - | - | - | - | |
| | | 3000 | - | - | - | - | - | - | - | - | - | - | - | |
| | | 3000 | - | - | - | - | - | - | - | - | - | - | - | |
|  | Delayed R | 1000 | - | - | - | - | - | - | - | - | - | - | - | |
| | | 3000 | - | - | - | - | - | - | - | - | - | - | | |

Selection guide

| Type | | Residual current circuit breakers | | | |
|--|---|---|---|--|---|
| | | iID K | iID | RCCB-ID 125 A | RCCB-ID type B |
| | |  |  |  |  |
| Standards | | IEC/EN 61008 | IEC/EN 61008 | IEC/EN 61008-1 and VDE 0664 | IEC/EN 61008 and VDE 0664 |
| Number of poles | 1P+N | – | – | – | – |
| | 2P | ■ | ■ | ■ | – |
| | 3P | – | – | – | – |
| | 4P | ■ | ■ | ■ | ■ |
| Type | AC | ■ | ■ | ■ | – |
| | A | – | ■ | ■ | – |
| | S/I | – | ■ | ■ | – |
| | B | – | – | – | ■ |
| Voltage (V) | Ue | 230/400 | 230/400 | 230/400 | 230/400 |
| Impulse voltage (kV) | Uimp | 4 | 6 | 4 | 4 |
| Insulation voltage (V) | Ui | 440 | 500 | 400 | 400 |
| Current rating (A) | In | 25 - 40 - 63 | 16 to 100 | 125 | 25 to 125 |
| Frequency (Hz) | | 50/60 | 50 | 50 | 50 |
| Rated breaking capacity (A) | Icn | – | – | – | – |
| Rated conditional short-circuit current | Icn | 4500 | 10000 | 10000 | 10000 |
| Rated residual breaking and making capacity (A) | (IΔm) | 10 In (500 A min.) | 1500 | 1250 | 10 In (500 A min.) |
| Sensitivity (mA) | (IΔn) | | | | |
| | 10 | – | ■ | – | – |
| | 30 | ■ | ■ | ■ | ■ |
| | 100 | – | ■ | ■ | – |
| | 300 | ■ | ■ | ■ | ■ |
| | 500 | – | ■ | ■ | ■ |
| | 1000 | – | – | – | – |
| | 3000 | – | – | – | – |
| | 300  | – | ■ | ■ | ■ |
| | 500  | – | ■ | – | – |
| 1000  | – | – | – | – | |
| 3000  | – | – | – | – | |
| Electrical characteristics | | | | | |
| Curves | B | – | – | – | – |
| | C | – | – | – | – |
| | D | – | – | – | – |
| | L | – | – | – | – |
| | K | – | – | – | – |
| | | – | – | – | – |
| | MA | – | – | – | – |
| For more details, see module | | CA902007 | CA902002 | CM902001 | CM902002 |
| Accessories | | – | CA907000, CA907001 | CM902001 | CM902002 |
| Auxiliaries | | – | CA907000, CA907002 | CM902001 | CM902002 |

I_{nc}: rated conditional short-circuit current

Value of the alternating component of the prospective current that a residual current circuit breaker protected by an appropriate short-circuit protective device (SCPD) mounted in series can withstand in specified conditions of use.

I_{Δc}: rated residual short-circuit current

Value of the alternating component of the prospective residual current that a residual current circuit breaker protected by an appropriate short-circuit protective device (SCPD) mounted in series can withstand in specified conditions of use.

I_m: rated making and breaking capacity


Value of the alternating component of the prospective current that a residual current circuit breaker is capable of establishing or interrupting in specified conditions of use.

I_{Δm}: rated making and breaking capacity







Value of the alternating component of the prospective residual current that a residual current circuit breaker is capable of establishing and withstanding during its opening time and interrupting in specified conditions of use and behaviour.

SCPD

Short-circuit protective device (a fuse in the case of our markings): this is the max. fuse that can be used to resist the value $I_{nc} = I_{Δc}$.

| Add-on residual current devices | | | Residual current devices RCBO | | |
|---------------------------------|---|-----------------------------------|-----------------------------------|--------------------|--------------------|
| | Vigi iC60 | Vigi C120 | Vigi NG125 | DPNa Vigi | DPN N Vigi |
| PB10446E-40 |  | PB107824-40 | 05894N_LSE-35 | PB104341E-35 | PB104341E-35 |
| | IEC/EN 61009 | IEC/EN 61009 | IEC/EN 61009 | IEC/EN 61009 | IEC/EN 61009 |
| | - | - | - | ■ | ■ |
| | ■ | ■ | ■ | - | - |
| | ■ | ■ | ■ | - | - |
| | ■ | ■ | ■ | - | - |
| | ■ | ■ | ■ | ■ | ■ |
| | ■ | ■ | ■ | - | - |
| | - | - | - | - | - |
| | 230/400 | 230/400 | 230/400 | 230 | 230 |
| | 6 | 6 | 8 | 4 | 4 |
| | 500 | 500 | 690 | 400 | 400 |
| | 25 - 40 - 63 | 10 - 125 | 63 - 125 | 10 - 16 | 4 to 40 |
| | 50/60 | 50/60 | 50/60 | 50/60 | 50/60 |
| | - | - | - | 4500 | 6000 |
| | - | - | - | - | - |
| | - | - | - | 4500 | 6000 |
| | ■ | - | - | ■ | - |
| | ■ | ■ | ■ | - | ■ |
| | ■ | - | - | - | - |
| | ■ | ■ | ■ | - | ■ |
| | ■ | ■ | ■ | - | - |
| | - | - | ■ | - | - |
| | - | - | ■ | - | - |
| | ■ | ■ | ■ | - | - |
| | ■ | ■ | ■ | - | - |
| | - | - | ■ | - | - |
| | - | - | ■ | - | - |
| | Depending on circuit breaker used | Depending on circuit breaker used | Depending on circuit breaker used | - | ■ |
| | | | | ■ | ■ |
| | | | | - | - |
| | | | | - | - |
| | | | | - | - |
| | | | | - | - |
| | | | | - | - |
| | | | | - | - |
| | | | | - | - |
| | | | | - | - |
| | CA902005 | CA902016 | CM902008 | CA902014 | CA902014 |
| | CA907000, CA907001 | CA907012, CA907013 | CM907004, CM907006 | CA907013, CA907012 | CA907013, CA907012 |
| | CA907000, CA907002 | CA907008, CA907013 | CM907004, CM907005 | CA907013, CA907008 | CA907013, CA907008 |

Selection guide

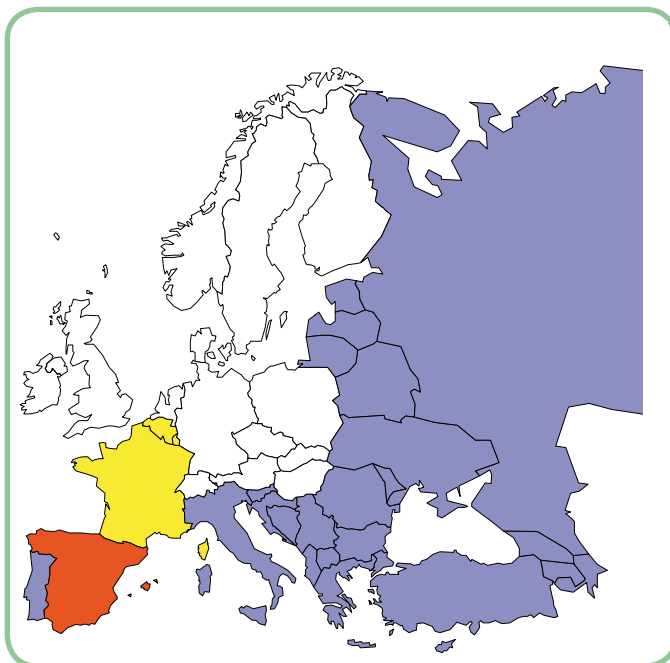
| Type | | Residual current circuit breakers | Add-on residual current devices |
|--|--|---|---|
| | | xID | Vigi xC60 |
| | |  |  |
| | | PB11081F-35 | PB11082F-40 |
| Standards | | IEC/EN 61008 | IEC/EN 61009 |
| Number of poles | 1P+N | – | – |
| | 2P | ■ | ■ |
| | 3P | – | – |
| | 4P | ■ | ■ |
| Type | AC | ■ | ■ |
| | A | – | – |
| | S/I | ■ | – |
| | B | – | – |
| Voltage (V) | Ue | 230/400 | 230/400 |
| Impulse voltage (kV) | Uimp | 6 | 6 |
| Insulation voltage (V) | Ui | 440 | 500 |
| Current rating (A) | In | 25 - 40 - 63 - 80 | 25 - 63 |
| Frequency (Hz) | | 50/60 | 50/60 |
| Rated breaking capacity (A) | Icn | – | – |
| Rated conditional short-circuit current | Icn | 10,000 | – |
| Rated residual breaking and making capacity (A) | (IΔm) | 10 In (500 A min.) | – |
| Curve | | – | – |
| Sensitivity (mA) | (IΔn) 10 | – | – |
| | 30 | ■ | ■ |
| | 100 | ■ | ■ |
| | 300 | ■ | ■ |
| | 500 | – | – |
| | 1000 | – | – |
| | 3000 | – | – |
| | 300  | ■ | – |
| | 500  | – | – |
| | 1000  | – | – |
| 3000  | – | – | |
| Electrical characteristics | | | |
| Curves | B | – | Depending on circuit breaker used |
| | C | – | |
| | D | – | |
| | L | – | |
| | K | – | |
| | MA | – | |
| For more details, see module | | CA902028 | CA902029 |
| Accessories | | CA907012 | CA907012 |
| Auxiliaries | | CA907008 | CA907008 |

Schneider Electric's range of residual current circuit breakers consists of different products (A, B, C, D) to enable it to be the most competitive range possible in each country, allowing for the special characteristics of each market:

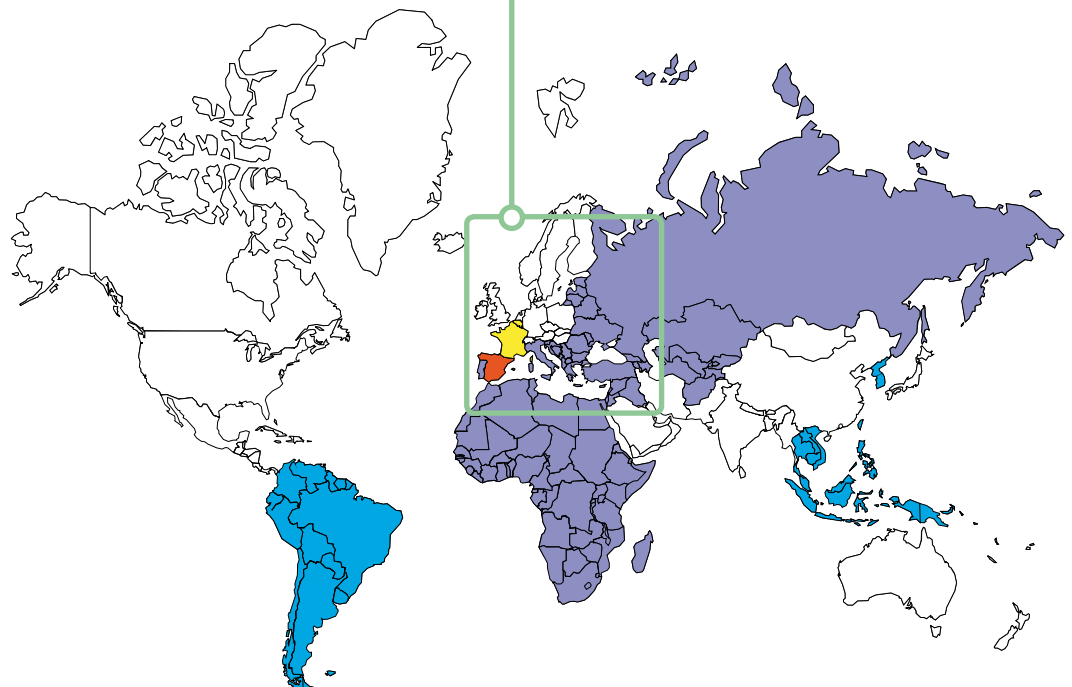
- usual installation procedure
- price
- accreditations by local bodies.

Variants

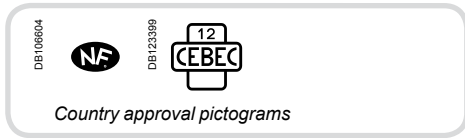
| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 152 |
| Offer B | Catalogue numbers | 155 |
| Offer C | Catalogue numbers | 158 |
| Offer D | Catalogue numbers | 161 |
| Common pages | | 164 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.



iID residual current circuit breakers (AC type)



IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent



- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Offer selection see page 151

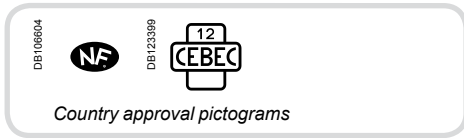
Offer A

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Catalogue numbers

| iID residual current circuit breakers | | | | | | | | | |
|---------------------------------------|------------------------------|-------------|----------|----------|----------|----------|----------|----------------------|--|
| Type | AC | | | | | | | Width in 9 mm module | |
| Auxiliaries | Module CA907002 | | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 500 mA | |
| | Rating | 16 A | A9R10216 | - | - | - | - | - | |
| | | 25 A | A9R10225 | A9R11225 | - | A9R14225 | A9R16225 | - | |
| | | 40 A | - | A9R11240 | A9R12240 | A9R14240 | A9R16240 | - | |
| | | 63 A | - | A9R11263 | A9R12263 | A9R14263 | A9R16263 | A9R15263 | |
| | | 80 A | - | A9R11280 | A9R12280 | A9R14280 | - | A9R15280 | |
| | | 100 A | - | A9R11291 | A9R12291 | A9R14291 | - | A9R15291 | |
| | Rating | 25 A | - | A9R11425 | - | A9R14425 | A9R16425 | - | |
| | | 40 A | - | A9R11440 | A9R12440 | A9R14440 | A9R16440 | A9R15440 | |
| | | 63 A | - | A9R11463 | A9R12463 | A9R14463 | A9R16463 | A9R15463 | |
| | | 80 A | - | A9R11480 | A9R12480 | A9R14480 | A9R16480 | A9R15480 | |
| | | 100 A | - | A9R11491 | A9R12491 | A9R14491 | - | A9R15491 | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | | |
| | 4P | 400 - 415 V | | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | | | |

iID residual current circuit breakers (A type)



IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent

- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| iID residual current circuit breakers | | | |
|---------------------------------------|------------------------------|----------------------|---|
| Type | A | Width in 9 mm module | |
| Auxiliaries | | Module CA907002 | |
| 2P | Sensitivity 30 mA | | |
| DB122476 | Rating 63 A | A9R08263 | 4 |
| | | | |
| 4P | Sensitivity 30 mA | | |
| DB122477 | Rating 63 A | A9R08463 | 8 |
| | | | |
| Voltage rating (Ue) | 2P | 110 V | |
| | 4P | 230 V | |
| Operating frequency | 50/60 Hz | | |
| Accessories | Module CA907000 and CA907001 | | |

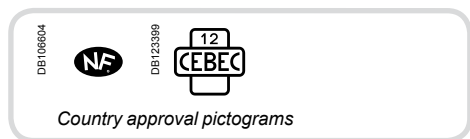
Offer selection see page 151

Offer A

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| iID residual current circuit breakers | | | | | | | | |
|---------------------------------------|------------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Type | A | Width in 9 mm module | | | | | | |
| Auxiliaries | | Module CA907002 | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | |
| DB122476 | Rating | 16 A | A9R20216 | - | - | - | - | |
| | | 25 A | A9R20225 | A9R01225 | - | A9R04225 | - | |
| | | 40 A | - | A9R01240 | - | A9R04240 | - | A9R05240 |
| | | 63 A | - | A9R01263 | - | A9R04263 | - | A9R05263 |
| | | 100 A | - | A9R01291 | - | A9R04291 | - | A9R05291 |
| 4P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | |
| DB122477 | Rating | 25 A | A9R01425 | - | A9R04425 | - | - | |
| | | 40 A | - | A9R01440 | A9R22440 | A9R04440 | A9R26440 | A9R05440 |
| | | 63 A | - | A9R01463 | A9R22463 | A9R04463 | A9R26463 | A9R05463 |
| | | 80 A | - | A9R21480 | - | A9R24480 | - | A9R25480 |
| | | 100 A | - | A9R01491 | - | A9R04491 | A9R26491 | A9R05491 |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | |
| | 4P | 400 - 415 V | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | | |

iID residual current circuit breakers (SI type)



IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent



- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 300 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The **SI** type provides increased immunity from electrical interference and polluted or corrosive environments.

Offer selection see page 151

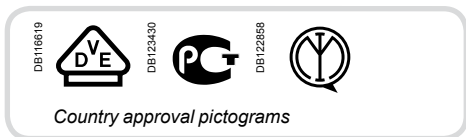
Offer A

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Catalogue numbers

iID residual current circuit breakers

| Type | SI | | | | | | Width in 9 mm module |
|---------------------|------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------|
| Auxiliaries | Module CA907002 | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 300 mA | 300 mA | 500 mA | |
| | Rating | 16 A | - | - | - | - | 4 |
| | 25 A | A9R30225 | A9R31225 | - | - | - | |
| | 40 A | - | A9R31240 | - | A9R35240 | - | |
| | 63 A | - | A9R31263 | - | A9R35263 | - | |
| | 100 A | - | - | - | A9R35291 | - | |
| 4P | Sensitivity | 10 mA | 30 mA | 300 mA | 300 mA | 500 mA | |
| | Rating | 25 A | - | A9R31425 | - | - | 8 |
| | 40 A | - | A9R31440 | - | A9R35440 | A9R37440 | |
| | 63 A | - | A9R31463 | A9R34463 | A9R35463 | A9R37463 | |
| | 80 A | - | A9R31480 | - | A9R35480 | A9R37480 | |
| | 100 A | - | A9R31491 | A9R34491 | A9R35491 | - | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | |
| | 4P | 400 - 415 V | | | | | |
| Operating frequency | 50/60 Hz | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | |



IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent



- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Offer selection see page 151

Offer B

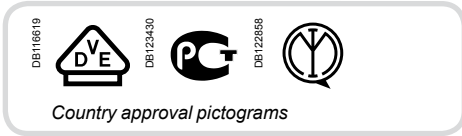
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Catalogue numbers

iID residual current circuit breakers

| Type | AC | | | | | | | | Width in 9 mm module | |
|---------------------|------------------------------|-------------|----------|----------|----------|----------|----------|----------|----------------------|--|
| Auxiliaries | Module CA907002 | | | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 500 mA | | |
| | Rating | 16 A | A9R10216 | - | - | - | - | - | 4 | |
| | | 25 A | A9R10225 | A9R41225 | - | A9R44225 | A9R16225 | - | | |
| | | 40 A | - | A9R41240 | A9R12240 | A9R44240 | A9R16240 | - | | |
| | | 63 A | - | A9R41263 | A9R12263 | A9R44263 | A9R16263 | A9R15263 | | |
| | | 80 A | - | A9R11280 | A9R12280 | A9R14280 | - | A9R15280 | | |
| | | 100 A | - | A9R11291 | A9R12291 | A9R14291 | - | A9R15291 | | |
| | Rating | 25 A | - | A9R41425 | - | A9R44425 | A9R16425 | - | 8 | |
| | | 40 A | - | A9R41440 | A9R12440 | A9R44440 | A9R16440 | A9R15440 | | |
| | | 63 A | - | A9R41463 | A9R12463 | A9R44463 | A9R16463 | A9R15463 | | |
| | | 80 A | - | A9R11480 | A9R12480 | A9R14480 | A9R16480 | A9R15480 | | |
| | | 100 A | - | A9R11491 | A9R12491 | A9R14491 | - | A9R15491 | | |
| | | | | | | | | | | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | | | |
| | 4P | 400 - 415 V | | | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | | | | |

iID residual current circuit breakers (A type)



IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent



- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| iID residual current circuit breakers | | | |
|---------------------------------------|-------------------------------------|--------------|----------------------|
| Type | A | | Width in 9 mm module |
| Auxiliaries | Module CA907002 | | |
| 2P | Sensitivity | 30 mA | |
| | Rating | 63 A | A9R08263 |
| | | | 4 |
| 4P | Sensitivity | 30 mA | |
| | Rating | 63 A | A9R08463 |
| | | | 8 |
| Voltage rating (Ue) | 2P | 110 V | |
| | 4P | 230 V | |
| Operating frequency | 50/60 Hz | | |
| Accessories | Module CA907000 and CA907001 | | |

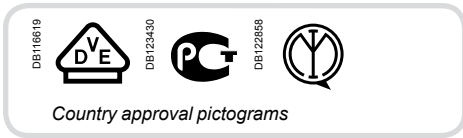
Offer selection see page 151

Offer B

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iID residual current circuit breakers

| Type | A | | | | | | | Width in 9 mm module | |
|---------------------|-------------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------|--|
| Auxiliaries | Module CA907002 | | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | | |
| | Rating | 16 A | A9R20216 | - | - | - | - | 4 | |
| | | 25 A | A9R20225 | A9R21225 | - | A9R24225 | - | | |
| | | 40 A | - | A9R21240 | - | A9R24240 | - | A9R25240 | |
| | | 63 A | - | A9R21263 | - | A9R24263 | - | A9R25263 | |
| | | 100 A | - | A9R21291 | - | A9R24291 | - | A9R25291 | |
| 4P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | | |
| | Rating | 25 A | - | A9R21425 | - | A9R24425 | - | 8 | |
| | | 40 A | - | A9R21440 | A9R22440 | A9R24440 | A9R26440 | A9R25440 | |
| | | 63 A | - | A9R21463 | A9R22463 | A9R24463 | A9R26463 | A9R25463 | |
| | | 80 A | - | A9R21480 | - | A9R24480 | - | A9R25480 | |
| | | 100 A | - | A9R21491 | - | A9R24491 | A9R26491 | A9R25491 | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | | |
| | 4P | 400 - 415 V | | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | | | |



IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent



- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 300 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The **SI** type provides increased immunity from electrical interference and polluted or corrosive environments.



Catalogue numbers

| iID residual current circuit breakers | | | | | | | |
|---------------------------------------|------------------------------|-------------|----------|----------|----------|----------|----------------------|
| Type | SI | | | | | | Width in 9 mm module |
| Auxiliaries | Module CA907002 | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 300 mA | 300 mA | 500 mA | |
| | Rating | 16 A | - | - | - | - | 4 |
| | | 25 A | A9R30225 | A9R61225 | - | - | |
| | | 40 A | - | A9R61240 | - | A9R35240 | |
| | | 63 A | - | A9R61263 | - | A9R35263 | |
| | | 100 A | - | - | - | A9R35291 | |
| 4P | Sensitivity | 10 mA | 30 mA | 300 mA | 300 mA | 500 mA | |
| | Rating | 25 A | - | A9R61425 | - | - | 8 |
| | | 40 A | - | A9R61440 | - | A9R35440 | |
| | | 63 A | - | A9R61463 | A9R34463 | A9R35463 | |
| | | 80 A | - | A9R31480 | - | A9R35480 | |
| | | 100 A | - | A9R31491 | A9R34491 | A9R35491 | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | |
| | 4P | 400 - 415 V | | | | | |
| Operating frequency | 50/60 Hz | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | |



IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent



- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Offer selection see page 151

offer C

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Catalogue numbers

iID residual current circuit breakers

| Type | | AC | | | | | | | Width in 9 mm module | |
|---------------------|--------|------------------------------|-------------|----------|-------------|----------|----------|----------|----------------------|---|
| Auxiliaries | | Module CA907002 | | | | | | | | |
| 2P | | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 500 mA | |
| | Rating | 16 A | A9R10216 | - | - | - | - | - | - | 4 |
| | | 25 A | A9R10225 | A9R71225 | - | A9R74225 | A9R16225 | - | - | |
| | | 40 A | - | A9R71240 | A9R12240 | A9R74240 | A9R16240 | - | - | |
| | | 63 A | - | A9R71263 | A9R12263 | A9R74263 | A9R16263 | A9R15263 | - | |
| | | 80 A | - | A9R11280 | A9R12280 | A9R14280 | - | A9R15280 | - | |
| | | 100 A | - | A9R11291 | A9R12291 | A9R14291 | - | A9R15291 | - | |
| | Rating | 25 A | - | A9R71425 | - | A9R74425 | A9R16425 | - | - | 8 |
| | | 40 A | - | A9R71440 | A9R12440 | A9R74440 | A9R16440 | A9R15440 | A9R17440 | |
| | | 63 A | - | A9R71463 | A9R12463 | A9R74463 | A9R16463 | A9R15463 | A9R17463 | |
| | | 80 A | - | A9R11480 | A9R12480 | A9R14480 | A9R16480 | A9R15480 | A9R17480 | |
| | | 100 A | - | A9R11491 | A9R12491 | A9R14491 | - | A9R15491 | - | |
| | | Voltage rating (Ue) | | 2P | 230 - 240 V | | | | | |
| | | 4P | 400 - 415 V | | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | | | |
| Accessories | | Module CA907000 and CA907001 | | | | | | | | |

iID residual current circuit breakers (A type)



Country approval pictograms



IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent

- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

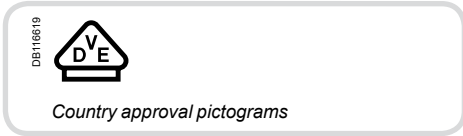
| iID residual current circuit breakers | | | | |
|---------------------------------------|-------------------------------------|--------------|-----------------|----------------------|
| Type | A | | | Width in 9 mm module |
| Auxiliaries | Module CA907002 | | | |
| 2P | Sensitivity | 30 mA | | |
| | Rating | 63 A | A9R08263 | 4 |
| 4P | Sensitivity | 30 mA | | |
| | Rating | 63 A | A9R08463 | 8 |
| Voltage rating (Ue) | 2P | 110 V | | |
| | 4P | 230 V | | |
| Operating frequency | 50/60 Hz | | | |
| Accessories | Module CA907000 and CA907001 | | | |

Offer selection see page 151

offer C

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| iID residual current circuit breakers | | | | | | | | |
|---------------------------------------|-------------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------|
| Type | A | | | | | | | Width in 9 mm module |
| Auxiliaries | Module CA907002 | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | |
| | Rating | 16 A | A9R20216 | - | - | - | - | 4 |
| | | 25 A | A9R20225 | - | - | A9R54225 | - | |
| | | 40 A | - | A9R51225 | - | A9R54240 | - | |
| | | 63 A | - | A9R51263 | - | A9R54263 | - | A9R25240 |
| | | 100 A | - | A9R21291 | - | A9R24291 | - | A9R25263 |
| | | | | | | | | A9R25291 |
| 4P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | |
| | Rating | 25 A | - | A9R51425 | - | A9R54425 | - | 8 |
| | | 40 A | - | A9R51440 | A9R22440 | A9R54440 | A9R26440 | A9R25440 |
| | | 63 A | - | A9R51463 | A9R22463 | A9R54463 | A9R26463 | A9R25463 |
| | | 80 A | - | A9R21480 | - | A9R24480 | - | A9R25480 |
| | | 100 A | - | A9R21491 | - | A9R24491 | A9R26491 | A9R25491 |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | |
| | 4P | 400 - 415 V | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | | |



IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent



- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 300 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.




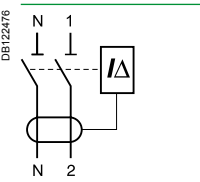


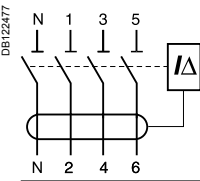
Offer selection see page 151

Offer C

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Catalogue numbers

iID residual current circuit breakers

| Type | SI  | | | | | | Width in 9 mm module | |
|--|--|------------------------|-----------------|-----------------|---|---|----------------------|-----------------|
| Auxiliaries | | Module CA907002 | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 300 mA | 300 mA  | 500 mA  | | |
|  | Rating | 16 A | - | - | - | - | 4 | |
| | | 25 A | A9R30225 | A9R91225 | - | - | | - |
| | | 40 A | - | A9R91240 | - | A9R35240 | | - |
| | | 63 A | - | A9R91263 | - | A9R35263 | | - |
| | | 100 A | - | - | - | A9R35291 | | - |
| 4P | Sensitivity | 10 mA | 30 mA | 300 mA | 300 mA  | 500 mA  | | |
|  | Rating | 25 A | - | A9R91425 | - | - | 8 | |
| | | 40 A | - | A9R91440 | - | A9R35440 | | A9R37440 |
| | | 63 A | - | A9R91463 | A9R34463 | A9R35463 | | A9R37463 |
| | | 80 A | - | A9R31480 | - | A9R35480 | | A9R37480 |
| | | 100 A | - | A9R31491 | A9R34491 | A9R35491 | | - |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | |
| | 4P | 400 - 415 V | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | | |

DB123400



Country approval pictograms

IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent

PB10472-40



PB10473-40



- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Offer selection see page 151

Offer D

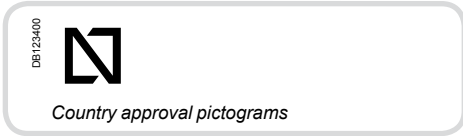
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Catalogue numbers

iID residual current circuit breakers

| Type | AC | | | | | | | | Width in 9 mm module | |
|---------------------|------------------------------|-------------|----------|----------|----------|----------|----------|----------|----------------------|----------|
| Auxiliaries | Module CA907002 | | | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 500 mA | | |
| <p>DB12476</p> | Rating | 16 A | A9R10216 | - | - | - | - | - | 4 | |
| | | 25 A | A9R10225 | A9R81225 | - | A9R84225 | A9R16225 | - | | |
| | | 40 A | - | A9R81240 | A9R12240 | A9R84240 | A9R16240 | - | | |
| | | 63 A | - | A9R81263 | A9R12263 | A9R84263 | A9R16263 | A9R15263 | | |
| | | 80 A | - | A9R11280 | A9R12280 | A9R14280 | - | A9R15280 | | |
| | | 100 A | - | A9R11291 | A9R12291 | A9R14291 | - | A9R15291 | | |
| <p>DB12477</p> | Rating | 25 A | - | A9R81425 | - | A9R84425 | A9R16425 | - | 8 | |
| | | 40 A | - | A9R81440 | A9R12440 | A9R84440 | A9R16440 | A9R15440 | | A9R17440 |
| | | 63 A | - | A9R81463 | A9R12463 | A9R84463 | A9R16463 | A9R15463 | | A9R17463 |
| | | 80 A | - | A9R11480 | A9R12480 | A9R14480 | A9R16480 | A9R15480 | | A9R17480 |
| | | 100 A | - | A9R11491 | A9R12491 | A9R14491 | - | A9R15491 | | - |
| | | | | | | | | | | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | | | |
| | 4P | 400 - 415 V | | | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | | | | |

iID residual current circuit breakers (A type)



IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent

- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| iID residual current circuit breakers | | | | |
|---------------------------------------|------------------------------|--------------|-----------------|----------------------|
| Type | A | | | Width in 9 mm module |
| Auxiliaries | Module CA907002 | | | |
| 2P | Sensitivity | 30 mA | | |
| | Rating | 63 A | A9R08263 | 4 |
| | | | | |
| 4P | Sensitivity | 30 mA | | |
| | Rating | 63 A | A9R08463 | 8 |
| | | | | |
| Voltage rating (Ue) | 2P | 110 V | | |
| | 4P | 230 V | | |
| Operating frequency | 50/60 Hz | | | |
| Accessories | Module CA907000 and CA907001 | | | |

Offer selection see page 151

Offer D

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| iID residual current circuit breakers | | | | | | | | |
|---------------------------------------|------------------------------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------------|
| Type | A | | | | | | | Width in 9 mm module |
| Auxiliaries | Module CA907002 | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | |
| | Rating | 16 A | A9R20216 | - | - | - | - | 4 |
| | | 25 A | A9R20225 | A9R21225 | - | A9R24225 | - | |
| | | 40 A | - | A9R21240 | - | A9R24240 | - | A9R25240 |
| | | 63 A | - | A9R21263 | - | A9R24263 | - | A9R25263 |
| | | 100 A | - | A9R21291 | - | A9R24291 | - | A9R25291 |
| 4P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | |
| | Rating | 25 A | - | A9R21425 | - | A9R24425 | - | 8 |
| | | 40 A | - | A9R21440 | A9R22440 | A9R24440 | A9R26440 | A9R25440 |
| | | 63 A | - | A9R21463 | A9R22463 | A9R24463 | A9R26463 | A9R25463 |
| | | 80 A | - | A9R21480 | - | A9R24480 | - | A9R25480 |
| | | 100 A | - | A9R21491 | - | A9R24491 | A9R26491 | A9R25491 |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | |
| | 4P | 400 - 415 V | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | | |

DB123400



Country approval pictograms

IEC/EN 61008-1
IEC/EN 61008-2-1

Voltage Independent

PB10472-40



PB10473-40



- The iID residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 300 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The **SI** type provides increased immunity from electrical interference and polluted or corrosive environments.

Offer selection see page 151

Offer D

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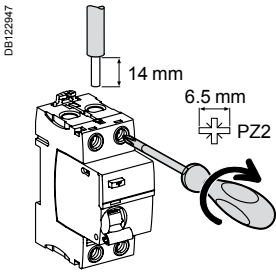
Catalogue numbers

iID residual current circuit breakers

| Type | SI | | | | | | Width in 9 mm module |
|---------------------|------------------------------|--------------|--------------|---------------|----------------|----------------|----------------------|
| Auxiliaries | Module CA907002 | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 300 mA | 300 mA | 500 mA | |
| <p>DB122476</p> | Rating | 16 A | - | - | - | - | 4 |
| | | 25 A | A9R30225 | A9R61225 | - | - | |
| | | 40 A | - | A9R61240 | - | A9R35240 | |
| | | 63 A | - | A9R61263 | - | A9R35263 | |
| | | 100 A | - | - | - | A9R35291 | |
| 4P | Sensitivity | 10 mA | 30 mA | 300 mA | 300 mA | 500 mA | |
| <p>DB122477</p> | Rating | 25 A | - | A9R61425 | - | - | 8 |
| | | 40 A | - | A9R61440 | - | A9R35440 | |
| | | 63 A | - | A9R61463 | A9R34463 | A9R35463 | |
| | | 80 A | - | A9R31480 | - | A9R35480 | |
| | | 100 A | - | A9R31491 | A9R34491 | A9R35491 | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | |
| | 4P | 400 - 415 V | | | | | |
| Operating frequency | 50/60 Hz | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | |

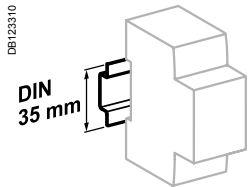
iID residual current circuit breakers (AC, A, SI types)

Connection

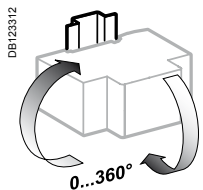


| Type | Tightening torque | Without accessory | | With accessories* | | | |
|------|-------------------|-------------------------|--------------------------|--------------------|---------------------------------------|------------------------|------------------------|
| | | Copper cables | | 50 mm ² | Screw-on connection for ring terminal | Multi-cables terminal | |
| | | Rigid | Flexible or with ferrule | Al terminal | | Rigid cables | Flexible cables |
| iID | 3.5 N.m | 1 to 35 mm ² | 1 to 25 mm ² | 50 mm ² | ∅ 5 mm | 3 x 16 mm ² | 3 x 10 mm ² |

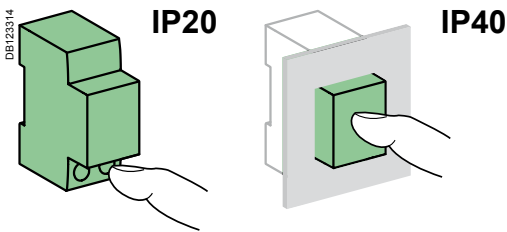
* See module CA907000







Clip on DIN rail 35 mm.



Indifferent position of installation.



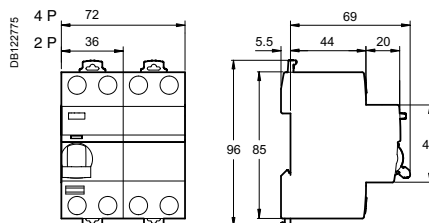
Technical data

| Main characteristics | | | |
|---|--|--|---------------|
| Insulation voltage (U _i) | | 500 V | |
| Pollution degree | | 3 | |
| Rated impulse withstand voltage (U _{imp}) | | 6 kV | |
| According to IEC/EN 61008-1 and IEC/EN 61008-2-1 | | | |
| Making and breaking capacity (I _m /I _{Δm}) | | 1500 A | |
| Surge current withstand (8/20 μs) without tripping | AC and A types (no selective ) | 250 Å | |
| | AC, A types (selective ) | 3 kÅ | |
| | SI type | 3 kÅ | |
| Conditional rated short circuit current (I _{nc} /I _{Δc}) | With iC60N/H/L | Equal to breaking capacity of iC60 | |
| | With fuse  | 10,000 A | |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V | |
| Additional characteristics | | | |
| Degree of protection | Device only | IP20 | |
| | Device in modular enclosure | IP40 | |
| Endurance (O-C) | Electrical (AC1) | 16 to 63 A | 15,000 cycles |
| | | 80 to 100 A | 10,000 cycles |
| | Mechanical | 20,000 cycles | |
| Operating temperature | AC type | -5°C to +60°C | |
| | A and SI types  | -25°C to +60°C | |
| Storage temperature | | -40°C to +85°C | |

Weight (g)

| Residual current circuit breakers | |
|-----------------------------------|-----|
| Type | iID |
| 2P | 210 |
| 4P | 370 |

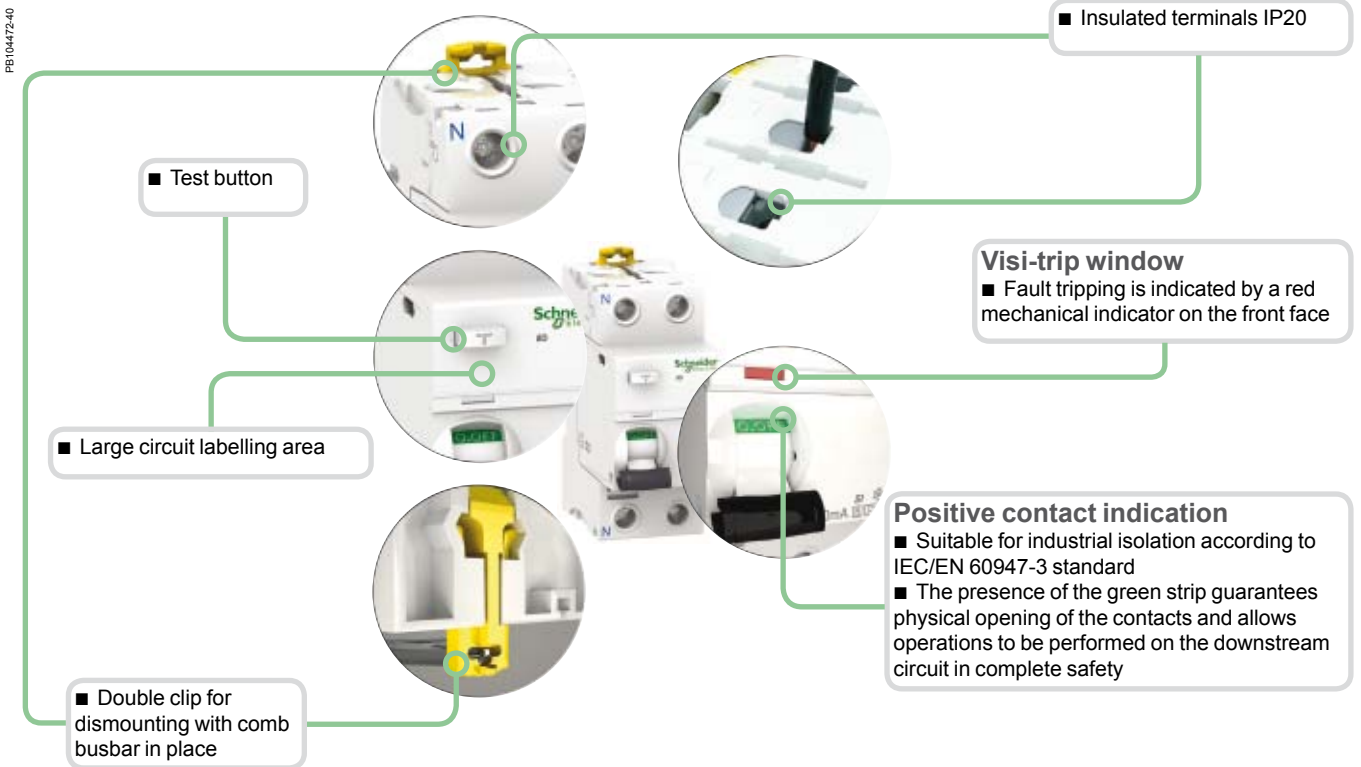
Dimensions (mm)



iLD residual current circuit breakers (AC, A, *SI* types) (cont.)



PB104548-40

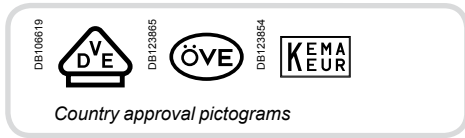


PB104472-40

SI type

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.

iID double terminals residual current circuit breakers (AC type)



KEMA KEUR approval, only for 2P/4P 25 A to 63 A catalogue numbers.

IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent

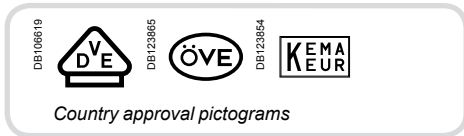


- The iID double tunnel terminals residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| iID double terminals residual current circuit breakers | | | | | | | | | | | |
|--|---|-------------|----------|--------------|----------|----------|---------------|----------|----------|----------------------|---|
| Type | AC | | | | | | | | | Width in 9 mm module | |
| Product | iID | | | | | | | | | | |
| Auxiliaries | Can accept auxiliaries, module CA907002 | | | | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 30 mA Type G | 100 mA | 100 mA | 100 mA Type G | 300 mA | 300 mA | | |
| | Rating | 25 A | A9Z11225 | A9Z11225 | - | - | - | A9Z14225 | - | 4 | |
| | | 40 A | - | A9Z11240 | A9Z76240 | A9Z12240 | - | A9Z77240 | A9Z14240 | A9Z15240 | |
| | | 63 A | - | A9Z11263 | A9Z76263 | A9Z12263 | - | A9Z77263 | A9Z14263 | A9Z15263 | |
| | | 80 A | - | A9Z11280 | - | A9Z12280 | - | - | A9Z14280 | A9Z15280 | |
| | | 100 A | - | A9Z11291 | - | A9Z12291 | - | - | A9Z14291 | A9Z15291 | |
| | Rating | 25 A | - | A9Z11425 | - | - | - | A9Z14425 | - | 8 | |
| | | 40 A | - | A9Z11440 | - | A9Z12440 | - | - | A9Z14440 | A9Z15440 | |
| | | 63 A | - | A9Z11463 | - | A9Z12463 | - | - | A9Z14463 | A9Z15463 | |
| | | 80 A | - | A9Z11480 | A9Z76480 | A9Z12480 | - | A9Z77480 | A9Z14480 | A9Z15480 | |
| | | 100 A | - | A9Z11491 | A9Z76491 | A9Z12491 | - | A9Z77491 | A9Z14491 | A9Z15491 | |
| | Rating | 40 A | - | A9Z71440 | A9Z78440 | A9Z72440 | A9Z73440 | A9Z79440 | A9Z74440 | A9Z75440 | 8 |
| | | 63 A | - | A9Z71463 | A9Z78463 | A9Z72463 | A9Z73463 | A9Z79463 | A9Z74463 | A9Z75463 | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | | | | |
| | 4P | 400 - 415 V | | | | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | | | | | |

iID double terminals residual current circuit breakers (A type)



Country approval pictograms

KEMA KEUR approval, only for 2P/4P 25 A to 63 A catalogue numbers.



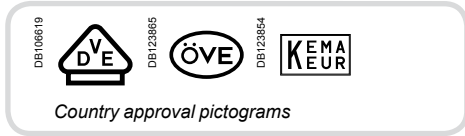
IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent

- The iID double tunnel terminals residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| iID double terminals residual current circuit breakers | | | | | | | | | | |
|--|---|-------------|----------|----------|----------|----------|----------|----------|----------------------|---|
| Type | A | | | | | | | | Width in 9 mm module | |
| Product | iID | | | | | | | | | |
| Auxiliaries | Can accept auxiliaries, module CA907002 | | | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 100 mA | 300 mA | 300 mA | 500 mA | | |
| | Rating | 16 A | A9Z20216 | - | - | - | - | - | 4 | |
| | | 25 A | A9Z20225 | A9Z21225 | - | - | A9Z24225 | - | | |
| | | 40 A | - | A9Z21240 | A9Z22240 | - | A9Z24240 | A9Z25240 | | |
| | | 63 A | - | A9Z21263 | A9Z22263 | - | A9Z24263 | A9Z25263 | | |
| | | 80 A | - | A9Z21280 | A9Z22280 | - | A9Z24280 | A9Z25280 | | |
| | | 100 A | - | A9Z21291 | A9Z22291 | - | A9Z24291 | A9Z25291 | | |
| | Rating | 25 A | - | A9Z21425 | - | - | A9Z24425 | - | A9Z26425 | 8 |
| | | 40 A | - | A9Z21440 | A9Z22440 | - | A9Z24440 | A9Z25440 | A9Z26440 | |
| | | 63 A | - | A9Z21463 | A9Z22463 | - | A9Z24463 | A9Z25463 | A9Z26463 | |
| | | 80 A | - | A9Z21480 | A9Z22480 | - | A9Z24480 | A9Z25480 | A9Z26480 | |
| | | 100 A | - | A9Z21491 | A9Z22491 | - | A9Z24491 | A9Z25491 | A9Z26491 | |
| | Rating | 40 A | - | A9Z81440 | A9Z82440 | A9Z83440 | - | - | - | 8 |
| | | 63 A | - | A9Z81463 | A9Z82463 | A9Z83463 | - | - | - | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | | | |
| | 4P | 400 - 415 V | | | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | | | |
| Accessories | Module CA907000 and CA907001 | | | | | | | | | |

iID double terminals residual current circuit breakers (SI type)



KEMA KEUR approval, only for 2P/4P 25 A to 63 A catalogue numbers.



IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent

- The iID double tunnel terminals residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The **SI** type provides increased immunity from electrical interference and polluted or corrosive environments.

Catalogue numbers

| iID double terminals residual current circuit breakers | | | | | | | | |
|--|---|-------------|----------|----------|----------|----------|----------------------|----------|
| Type | SI | | | | | | Width in 9 mm module | |
| Product | iID | | | | | | | |
| Auxiliaries | Can accept auxiliaries, module CA907002 | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 100 mA | 300 mA | | |
| | Rating | 25 A | A9Z30225 | A9Z31225 | - | - | 4 | |
| | | 40 A | - | A9Z31240 | A9Z32240 | - | | A9Z35240 |
| | | 63 A | - | A9Z31263 | A9Z32263 | - | | A9Z35263 |
| | | 80 A | - | A9Z31280 | A9Z32280 | - | | A9Z35280 |
| | | 100 A | - | A9Z31291 | A9Z32291 | - | | A9Z35291 |
| | Rating | 25 A | - | A9Z31425 | - | - | 8 | |
| | | 40 A | - | A9Z31440 | A9Z32440 | - | | A9Z35440 |
| | | 63 A | - | A9Z31463 | A9Z32463 | - | | A9Z35463 |
| | | 80 A | - | A9Z31480 | A9Z32480 | - | | A9Z35480 |
| | | 100 A | - | A9Z31491 | A9Z32491 | - | | A9Z35491 |
| | Rating | 40 A | - | - | - | A9Z93440 | A9Z95440 | |
| | | 63 A | - | - | - | A9Z93463 | A9Z95463 | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | | | | |
| | 4P | 400 - 415 V | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | |
| Accessoires | Module CA907000 and CA907001 | | | | | | | |

iID double terminals residual current circuit breakers (AC, A, S/ types) (cont.)

Connection between double-terminal protection devices

With comb busbar at the back/cables at the front

Without comb busbar at the back/cables at the front

DB404815



| Rating | Tightening torque | Back | | Front | |
|--------|-------------------|------------------------|--|-------------------------|--------------------------|
| | | Comb busbar | | Copper cables | |
| | | Thickness of the teeth | | Rigid | Flexible or with ferrule |
| | | | | DB122945 | DB122946 |
| All | 3.5 N.m | 1.5 mm | | 1 to 35 mm ² | 1 to 25 mm ² |

Connection between double-terminal and single-terminal protection devices

Cables at the back/comb busbar at the front

DB404817

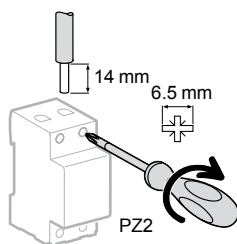


| Rating | Tightening torque | Back | | Front |
|--------|-------------------|-------------------------|--------------------------|------------------------|
| | | Copper cables | | Comb busbar |
| | | Rigid | Flexible or with ferrule | Thickness of the teeth |
| | | DB122945 | DB122946 | |
| All | 3.5 N.m | 1 to 25 mm ² | 1 to 16 mm ² | 1.5 mm |

■ Connection by comb busbar or by cable (according to EN 50027).

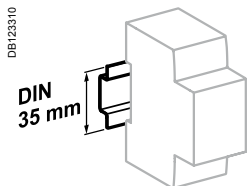
Connection

DB123947

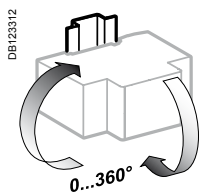


| Rating | With accessories | | | |
|--------|--------------------------------|---------------------------------------|------------------------|------------------------|
| | 50 mm ² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal | |
| | | | Rigid cables | Flexible cables |
| | DB122935 | DB118769 | DB118767 | |
| All | 50 mm ² | Ø 5 mm | 3 x 16 mm ² | 3 x 10 mm ² |

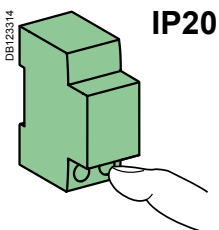
iID double terminals residual current circuit breakers (AC, A, *S*/types)



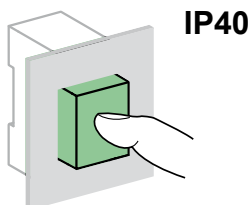
Clip on DIN rail 35 mm.



Indifferent position of installation.

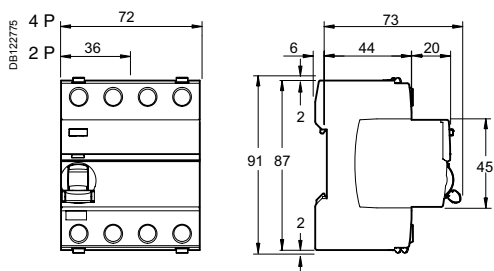


IP20



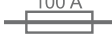



IP40

Dimensions (mm)



Technical data

| Main characteristics | | |
|---|--|--|
| Insulation voltage (U _i) | | 500 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 6 kV |
| According to IEC/EN 61008-1 and IEC/EN 61008-2-1 | | |
| Making and breaking capacity (I _m /I _{Δm}) | | 1500 A |
| Surge current withstand (8/20 μs) without tripping | AC and A types (no selective ) | 250 Å |
| | AC, A types (selective ) | 3 kÅ |
| | <i>S</i> /type | 3 kÅ |
| Conditional rated short circuit current (I _{nc} /I _{Δc}) | With iC60N/H/L | Equal to breaking capacity of iC60 |
| | With fuse  | 10,000 A |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 Insulation classe II |
| Endurance (O-C) | Electrical (AC1) 16 to 63 A | 15,000 cycles |
| | | 80 to 100 A |
| | Mechanical | 20,000 cycles |
| Operating temperature | AC type | -5°C to +60°C |
| | A and <i>S</i> /types  | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |

Weight (g)

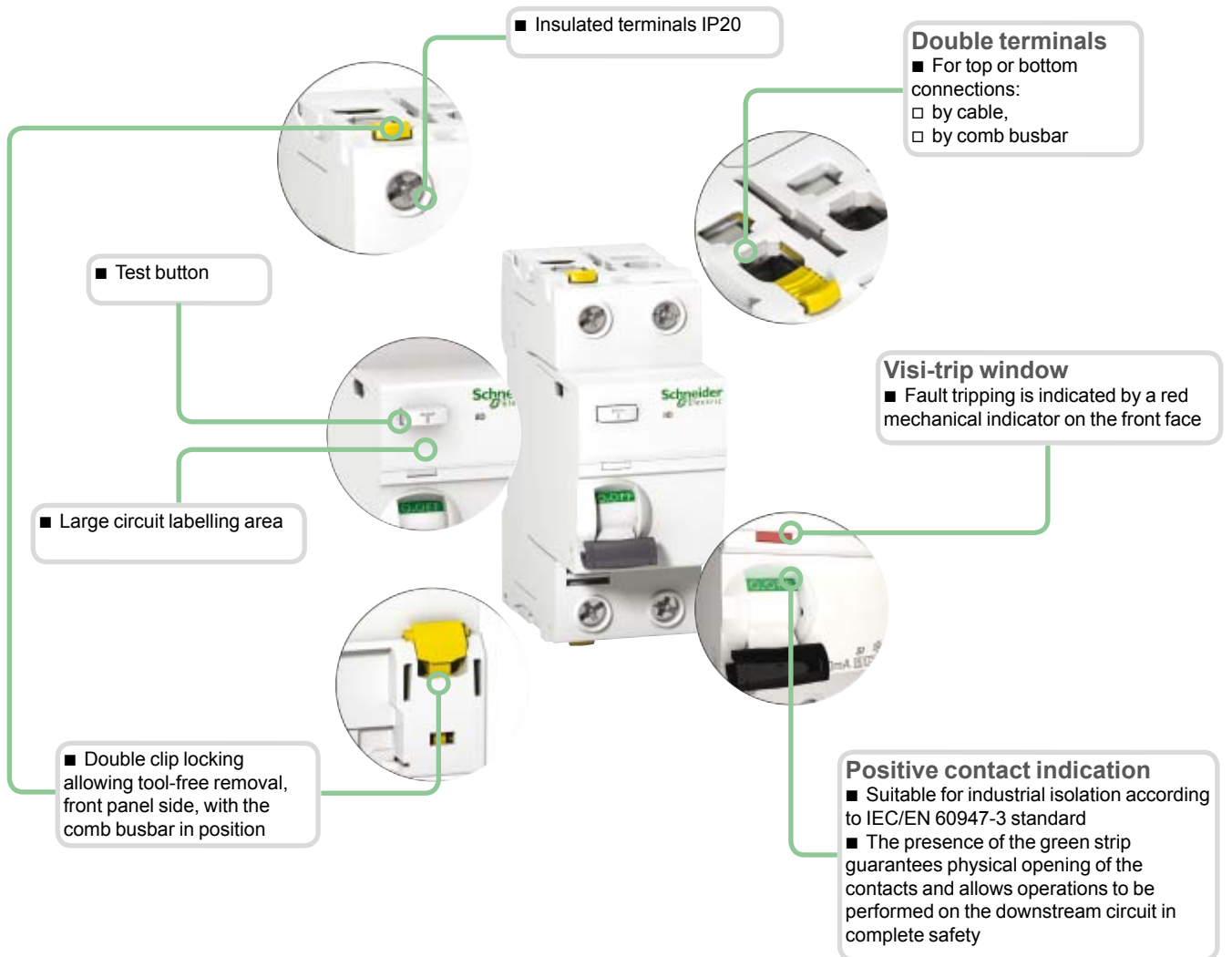
| iID double terminals residual current circuit breakers | |
|--|-----|
| Type | iID |
| 2P | 210 |
| 4P | 370 |

iID double terminals residual current circuit breakers (AC, A, *SI* types) (cont.)

PB107414-40



PB107413-60



SI type

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.



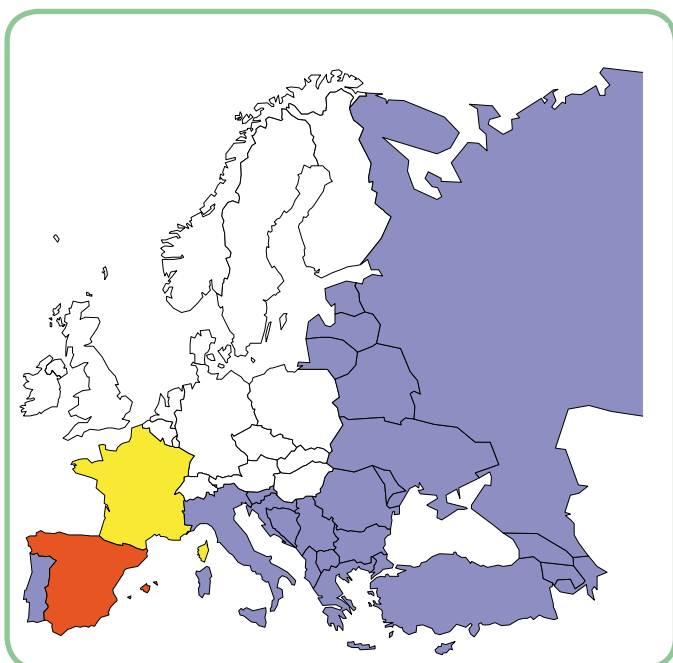
Schneider Electric's range of residual current circuit breakers consists of different products (A, B, C, D) to enable it to be the most competitive range possible in each country, allowing for the special characteristics of each market:

- usual installation procedure
- price
- accreditations by local bodies.

Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 173 |
| Offer B/C | Catalogue numbers | 174 |
| Offer D | Catalogue numbers | 175 |
| Common pages | | 176 |

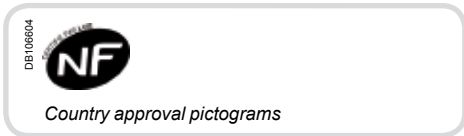
DB400490



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.

DB400491





IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent



- The iID K residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact,
 - protection of installations against the risk of fire.
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

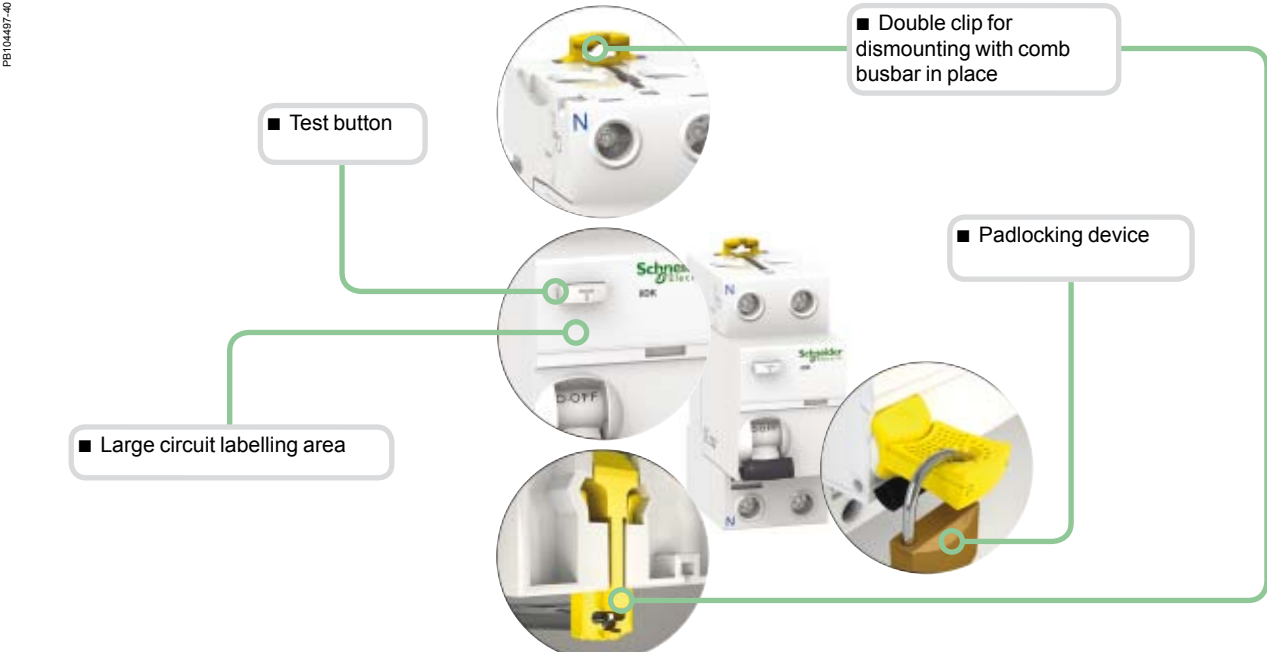
Catalogue numbers

| iID K residual current circuit breakers | | | | | |
|---|---------------------|-------------|----------|-----------------------|---|
| Type | AC | | | Width in 9-mm modules | |
| Product | iID K | | | | |
| Auxiliaries | Without auxiliaries | | | | |
| | Sensitivity | 30 mA | 300 mA | | |
| 2P | Rating | 25 A | A9R55225 | A9R56225 | 4 |
| | | 40 A | A9R55240 | A9R56240 | |
| 4P | Rating | 25 A | A9R55425 | A9R56425 | 8 |
| | | 40 A | A9R55440 | A9R56440 | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | |
| | 4P | 400 - 415 V | | | |
| Operating frequency | 50/60 Hz | | | | |

Offer A

Offer selection see page 172

This sticker must be removed before publishing





IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent



- The iID K residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact,
 - protection of installations against the risk of fire.
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

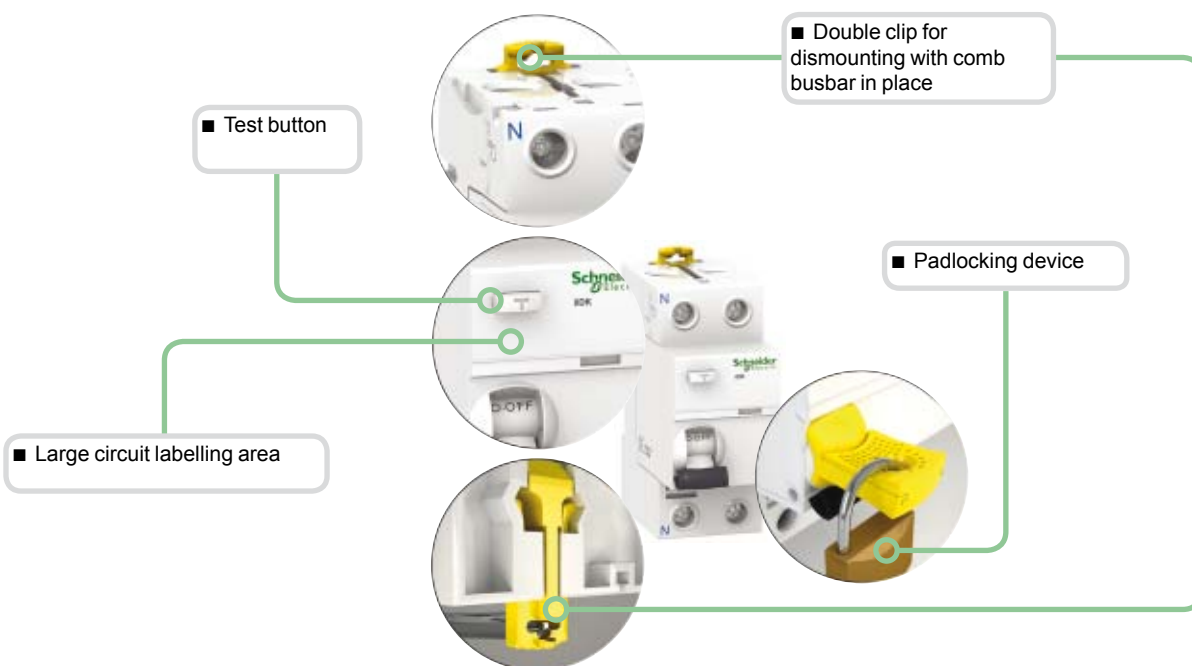
| iID K residual current circuit breakers | | | | |
|---|-------------|---------------------|-------------------|-----------------------|
| Type | | AC | | Width in 9-mm modules |
| Product | | iID K | | |
| Auxiliaries | | Without auxiliaries | | |
| 2P | Sensitivity | 30 mA | 300 mA | |
| <p>DB1122476</p> | Rating | 25 A | A9R50225 A9R75225 | 4 |
| | | 40 A | A9R50240 A9R75240 | |
| <p>DB1122477</p> | Sensitivity | 30 mA | 300 mA | 8 |
| | Rating | 25 A | A9R50425 A9R75425 | |
| | | 40 A | A9R50440 A9R75440 | |
| | | 63 A | A9R70463 A9R75463 | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | |
| | 4P | 400 - 415 V | | |
| Operating frequency | 50/60 Hz | | | |

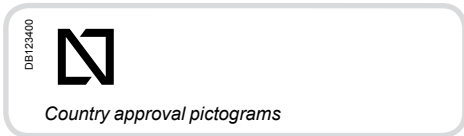
Offer selection see page 172

Offer B, C

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PB104487-40



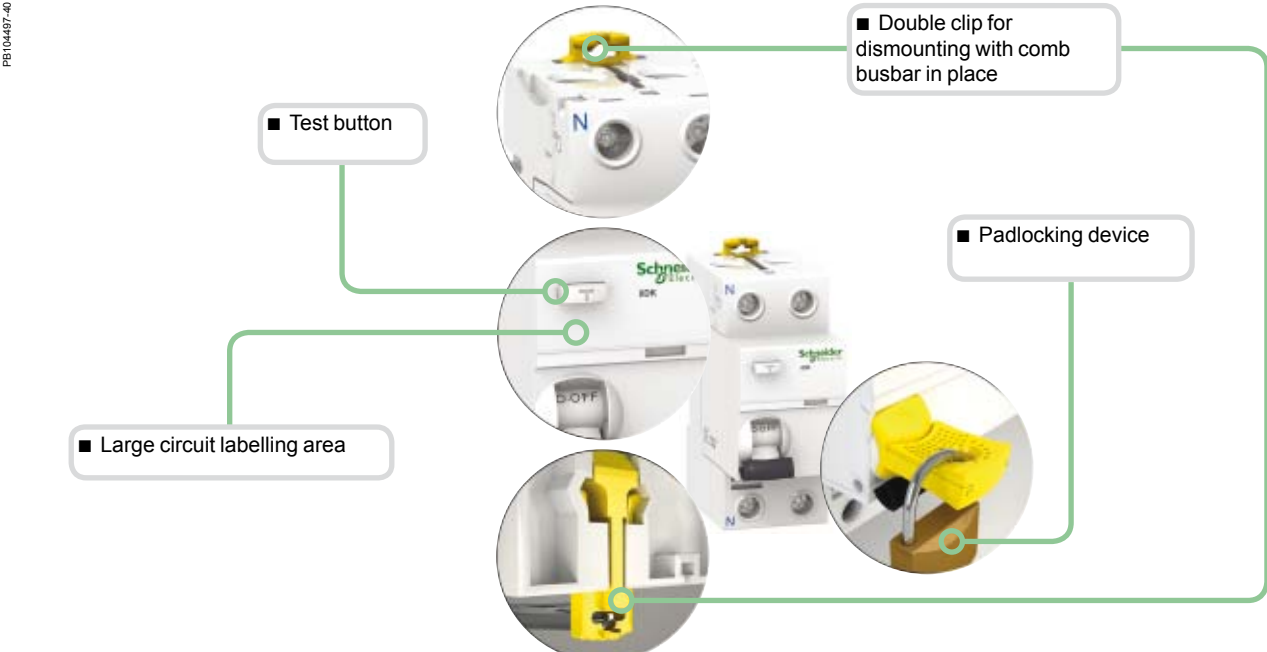


IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent

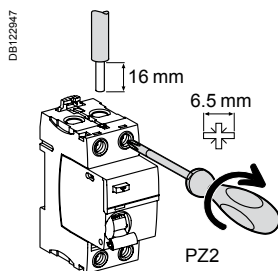
- The iID K residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact,
 - protection of installations against the risk of fire.
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

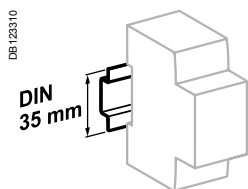
| iID K residual current circuit breakers | | | | | |
|---|-------------|-------------|-----------------------|----------|---|
| Type | Product | AC | Width in 9-mm modules | | |
| Auxiliaries | iID K | | Without auxiliaries | | |
| | Sensitivity | 30 mA | 300 mA | | |
| 2P DB122476 | Rating | 25 A | A9R60225 | A9R75225 | 4 |
| | | 40 A | A9R60240 | A9R75240 | |
| 4P DB122477 | Rating | 25 A | A9R50425 | A9R75425 | 8 |
| | | 40 A | A9R50440 | A9R75440 | |
| | | 63 A | A9R70463 | A9R75463 | |
| Voltage rating (Ue) | 2P | 230 - 240 V | | | |
| | 4P | 400 - 415 V | | | |
| Operating frequency | 50/60 Hz | | | | |



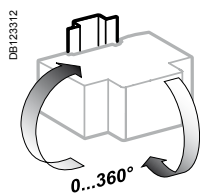
Connection



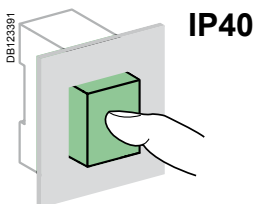
| Type | Tightening torque | Copper cables | |
|-------|-------------------|-------------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| iID K | 3.5 N.m | 1 to 35 mm ² | 1 to 25 mm ² |



Clip on DIN rail 35 mm.




Indifferent position of installation.



Technical data

Main characteristics

According to IEC/EN 61008-1 and IEC/EN 61008-2-1

| | |
|---|---|
| Insulation voltage (U _i) | 440 V |
| Pollution degree | 2 |
| Rated impulse withstand voltage (U _{imp}) | 4 kV |
| Making and breaking capacity (I _m /I _{Δm}) | 25 to 40 A 63 A |
| Surge current withstand (8/20 μs) without tripping | Up to 200 Å |
| Conditional rated short circuit current (I _{nc} /I _{Δc}) | With iC60N/H/L, iK60N 6000 A |
| | With fuse  4500 A |
| Behaviour in case of voltage drop | Ensure residual current protection down to 0 V |

Additional characteristics

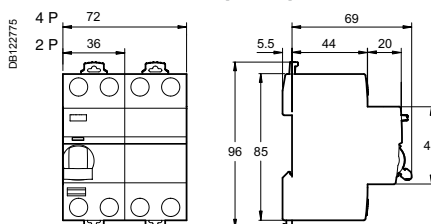
| | | |
|-----------------------|-----------------------------|-------------------|
| Degree of protection | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 2000 cycles (AC1) |
| | Mechanical | 5000 cycles |
| Operating temperature | | -5°C to +60°C |
| Storage temperature | | -40°C to +85°C |

Weight (g)

Residual current circuit breakers

| Type | iID K |
|------|-------|
| 2P | 210 |
| 4P | 370 |

Dimensions (mm)





IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent



- The ID K Biconnect residual current circuit breakers offer the following functions:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (300 mA),
 - protection of installations against the risks of fire (300 mA). protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

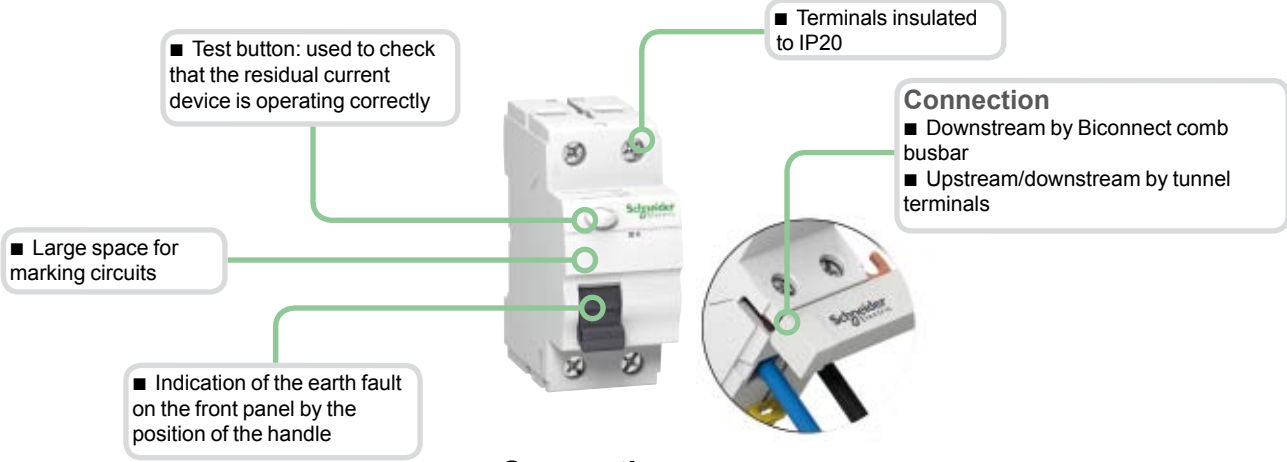
| ID K Biconnect residual current circuit breakers | | | | | | |
|--|--------------------|----------------------|-----------------|-----------------|-----------------|-----------------------|
| Type | | AC | | | A | Width in 9 mm modules |
| 2P | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | 4 |
| | Rating | 25 A A9Z05225 | - | A9Z01225 | - | |
| | | 40 A A9Z05240 | - | A9Z01240 | - | |
| 4P | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | 8 |
| | Rating | 25 A A9Z05425 | - | A9Z01425 | - | |
| | | 40 A A9Z05440 | A9Z06440 | A9Z01440 | A9Z04440 | |
| | | 63 A A9Z05463 | A9Z06463 | A9Z01463 | A9Z04463 | |
| Operating voltage (Ue) | 2P | 230 - 240 V | | | | |
| | 4P | 400 - 415 V | | | | |
| Operating frequency | 50 Hz | | | | | |

Catalogue numbers

| ID K Biconnect residual current circuit breakers Type G | | | | |
|---|--------------------|----------------------|---------------------|-----------------------|
| Type | | AC | AC THV | Width in 9 mm modules |
| 4P | Sensitivity | 30 mA Type G | 30 mA Type G | 8 |
| | Rating | 40 A A9Z07440 | A9Z08440 | |
| Operating voltage (Ue) | 400 - 415 V | | | |
| Operating frequency | 50 Hz | | | |

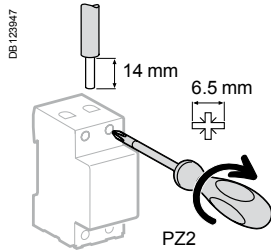
ID K Biconnect residual current circuit breakers (cont.)

PE110018-40



- Test button: used to check that the residual current device is operating correctly
- Large space for marking circuits
- Indication of the earth fault on the front panel by the position of the handle
- Terminals insulated to IP20
- Connection**
 - Downstream by Biconnect comb busbar
 - Upstream/downstream by tunnel terminals

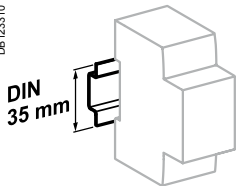
Connection



| Type | Tightening torque | Copper cables | |
|----------------|-------------------|-------------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| ID K Biconnect | 3.5 N.m | 1 to 35 mm ² | 1 to 25 mm ² |

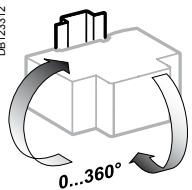
■ Connection by comb busbar or cables (conforms to EN 50027).

DB123310



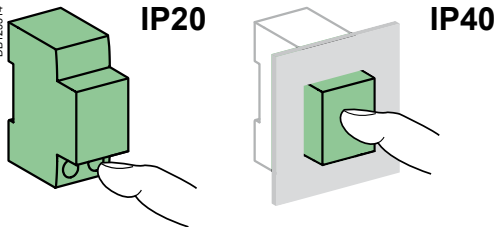
Clip on DIN rail 35 mm.

DB123312



Indifferent position of installation.

DB123314



Technical data

Main characteristics

| | |
|---|---|
| Insulation voltage (U _i) | 440 V |
| Degree of pollution | 2 |
| Rated impulse withstand voltage (U _{imp}) | 4 kV |
| Making and breaking capacity (I _m /I _{Δm}) | 500 A |
| Impulse current withstand (8/20 μs) without tripping | Up to 200 Å |
| Conditional rated short-circuit current (I _{nc} /I _{Δc}) | With circuit breaker: 6000 A With fuse: 4500 A |
| Behaviour in case of voltage drop | Ensure residual current protection down to 0 V |

Additional characteristics

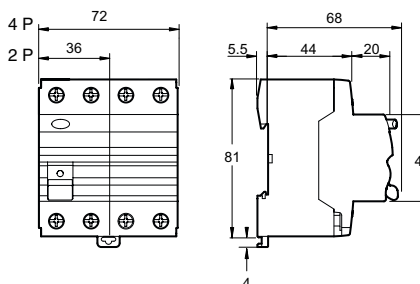
| | |
|-----------------------|--|
| Degree of protection | Device only: IP20 Device in a modular enclosure: IP40 |
| Endurance (O-C) | Electrical: 2000 cycles (AC1) Mechanical: 5000 cycles |
| Operating temperature | AC type: -5°C to +40°C A type: -25°C to +40°C |
| Storage temperature | -30°C to +70°C |

Weight (g)

Residual current circuit breakers

| Type | ID K Biconnect |
|------|----------------|
| 2P | 180 |
| 4P | 350 |

DB122775



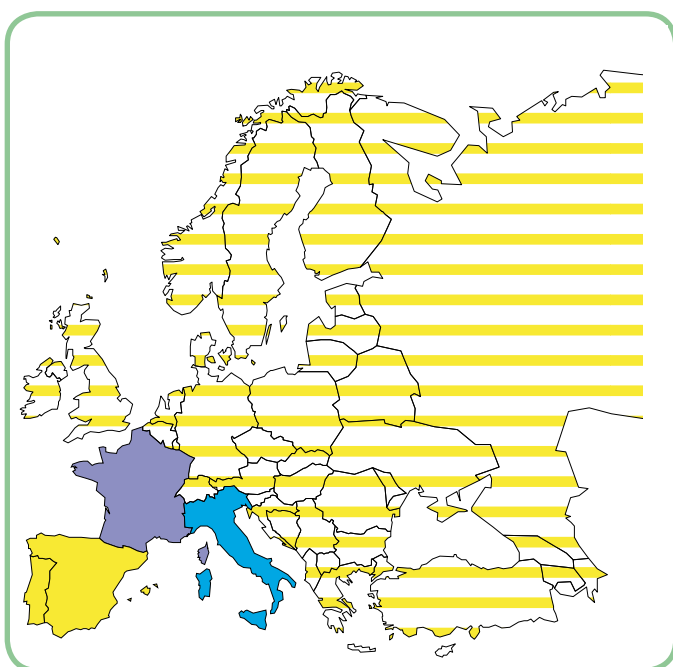


The Schneider Electric range of residual current circuit breakers comprises various offers (Clario, Prodis, Libro) so as to be as competitive as possible in each country, taking into account the specific features of each market:

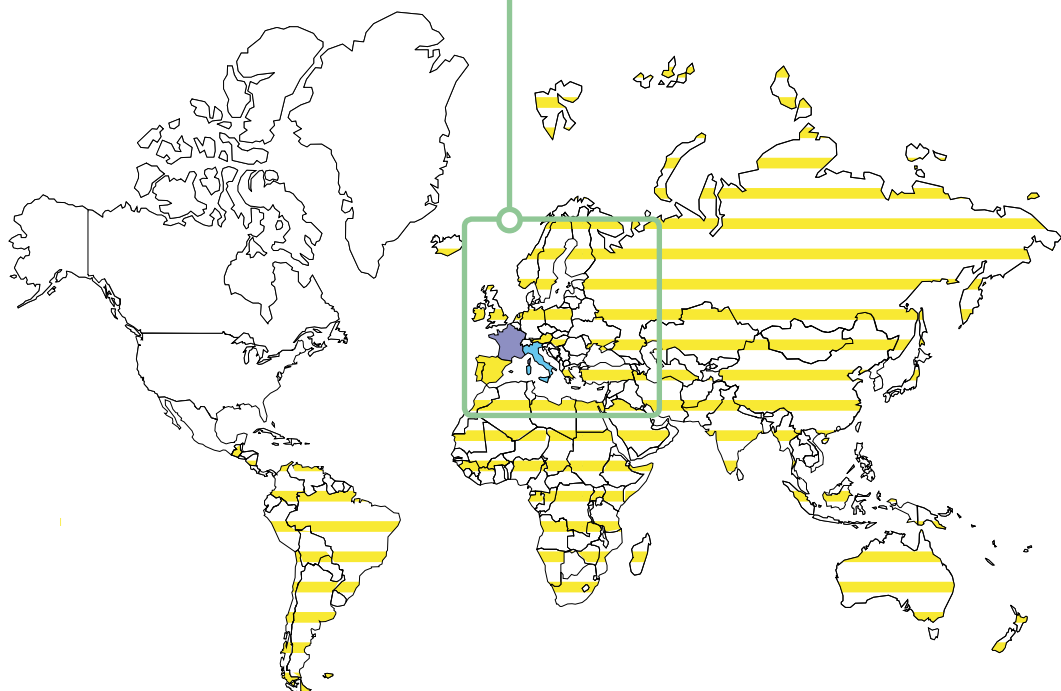
- installation customs
- price
- approval by local organizations.

Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Clario | Catalogue numbers | 180 |
| Prodis | Catalogue numbers | 181 |
| Librio | Catalogue numbers | 182 |
| Common pages | | 183 |

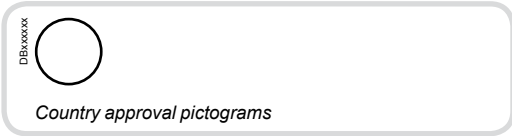


Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.



IDc residual current circuit breakers

Clario
Group Feeder



IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent

Adapted to the needs of service sector and industrial building installations, residual current circuit breakers ensure:

- earth leakage protection of final distribution circuits.
- disconnection.

In accordance with the IEC 61008 standard for residual current devices, a residual current circuit breaker also performs the function of disconnection of electrical circuits.

Residual current circuit breakers include in their enclosure the residual current relay and the toroid. The residual current tripping device is electromechanical and operates without an auxiliary source.

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Operation

- When an earth fault occurs, the residual current circuit breaker uses the energy of the fault to perform tripping. Fault indication is performed on the front panel by a mechanical indicator.
- Resetting is performed using the reset handle.

PB107117-32



Catalogue numbers

Residual current circuit breakers

| Type | AC | SI | Width in 9-mm modules | | | |
|---------------------|-------------------------------|-------------------------------|-----------------------|----------|----------|---|
| Auxiliaries | Modules CA907008 and CA907010 | Modules CA907008 and CA907010 | | | | |
| 1P+N | Sensitivity 30 mA | 300 mA | 30 mA | 300 mA | | |
| | Rating 25 A | A9N21780 | A9N21781 | A9N21784 | - | 4 |
| | 40 A | A9N21782 | A9N21783 | A9N21786 | A9N21785 | |
| Voltage rating (Ue) | 230 V AC | 230 V AC | | | | |
| Operating frequency | 50 Hz | 50 Hz | | | | |
| Accessories | Modules CA907010 and CA907012 | Modules CA907010 and CA907012 | | | | |

DB123685

"Group Feeder"

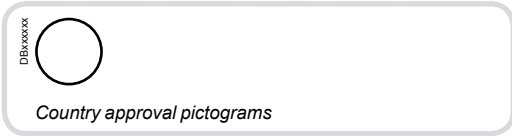
- Residual current circuit breakers are especially suitable for "Group Feeder" protection: the downstream terminals are located in the upper part of the device for direct connection to the comb busbar.



Terminals with guard

- Automatic cable guiding in the correct position

PB107117-40



IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent

Adapted to the needs of service sector and industrial building installations, residual current circuit breakers ensure:

- earth leakage protection of final distribution circuits.
- disconnection.

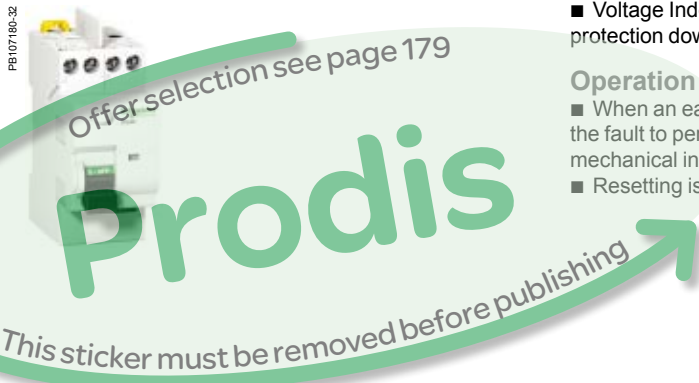
In accordance with the IEC 61008 standard for residual current devices, a residual current circuit breaker also performs the function of disconnection of electrical circuits.

Residual current circuit breakers include in their enclosure the residual current relay and the toroid. The residual current tripping device is electromechanical and operates without an auxiliary source.

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Operation

- When an earth fault occurs, the residual current circuit breaker uses the energy of the fault to perform tripping. Fault indication is performed on the front panel by a mechanical indicator.
- Resetting is performed using the reset handle.



Catalogue numbers

| Residual current circuit breakers | | | | | | |
|-----------------------------------|--------|-------------------------------|----------|-------------------------------|----------|-----------------------|
| Type | | AC | | SI | | Width in 9-mm modules |
| Auxiliaries | | Modules CA907008 and CA907010 | | Modules CA907008 and CA907010 | | |
| 1P+N | | Sensitivity | | 30 mA | 300 mA | |
| | Rating | 25 A | A9N21520 | A9N21522 | A9N21524 | 4 |
| | | 40 A | A9N21521 | A9N21523 | A9N21526 | |
| Voltage rating (Ue) | | 230 V AC | | 230 V AC | | |
| Operating frequency | | 50 Hz | | 50 Hz | | |
| Accessories | | Modules CA907010 and CA907012 | | Modules CA907010 and CA907012 | | |

"Group Feeder"

- Residual current circuit breakers are especially suitable for "Group Feeder" protection: the downstream terminals are located in the upper part of the device for direct connection to the comb busbar

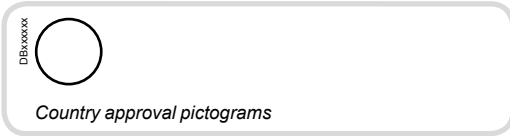


Terminals with guard

- Automatic cable guiding in the correct position

ID C40 residual current circuit breakers

Librio
Group Feeder



IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent

Adapted to the needs of service sector and industrial building installations, residual current circuit breakers ensure:

- earth leakage protection of final distribution circuits.
- disconnection.

In accordance with the IEC 61008 standard for residual current devices, a residual current circuit breaker also performs the function of disconnection of electrical circuits.

Residual current circuit breakers include in their enclosure the residual current relay and the toroid. The residual current tripping device is electromechanical and operates without an auxiliary source.

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Operation

- When an earth fault occurs, the residual current circuit breaker uses the energy of the fault to perform tripping. Fault indication is performed on the front panel by a mechanical indicator.
- Resetting is performed using the reset handle.

PEI 07910-32



Offer selection see page 179

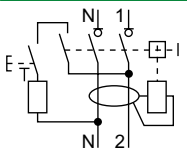
Librio

This sticker must be removed before publishing
Catalogue numbers

Residual current circuit breakers

| Type | AC | A | S/ | Width in 9-mm modules |
|---------------------|-------------------------------|--|--|------------------------------|
| Auxiliaries | Modules CA907008 and CA907010 | | Modules CA907008 and CA907010 | |
| 1P+N | Sensitivity 30 mA, 300 mA | | Sensitivity 30 mA, 300 mA | |
| Rating | 25 A, 40 A | A9N19410, A9N19411, A9N19412, A9N19413 | A9N19414, A9N19415, A9N19416, A9N19417 | A9N19418, A9N19420, A9N19423 |
| Voltage rating (Ue) | 230 V AC | | 230 V AC | |
| Operating frequency | 50 Hz | | 50 Hz | |
| Accessories | Modules CA907010 and CA907012 | | Modules CA907010 and CA907012 | |

DB123685

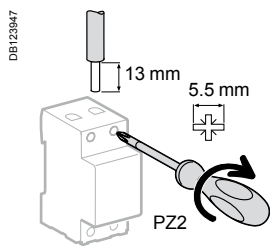


"Group Feeder"
 ■ Residual current circuit breakers are especially suitable for "Group Feeder" protection: the downstream terminals are located in the upper part of the device for direct connection to the comb busbar



Terminals with guard
 ■ Automatic cable guiding in the correct position

Connection



| Rating | Tightening torque | Copper cables | |
|-------------|-------------------|-------------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| 25 and 40 A | 2 N.m | 1 to 16 mm ² | 1 to 10 mm ² |

- Where there is a comb busbar tooth, the connection of cables of cross section 16 mm² remains possible.
- Connection by comb busbar** or cables (as per EN 50027).

“Group Feeder” connection:

- Upstream: by cables.
- Downstream: direct by comb busbar.

Technical data

Main characteristics

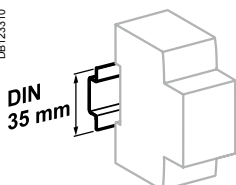
| | | |
|--|------------------|---|
| Insulation voltage (Ui) | | 440 V AC |
| Voltage rating (Ue) | Phase-to-neutral | 230 V AC |
| | Phase-to-phase | 400 V AC |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| Positive contact indication | | A green strip on the operating handle guarantees opening of all the poles in safety conditions for work to be carried out on live parts |

According to EN 61008 and IEC/EN 61008-2-1

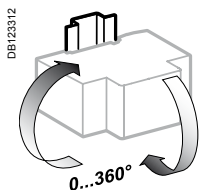
| | | |
|---|---------------|--|
| Rated residual breaking and making capacity (IΔm) | | 1 kA |
| Rated breaking and making capacity (Im) | Instantaneous | 1 kA |
| | Selective | 630 A |
| Rated conditional short-circuit current (Inc) identical to the rated residual short-circuit current (IΔc) | Instantaneous | 6 kA |
| | Selective | 630 A |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |

Additional characteristics

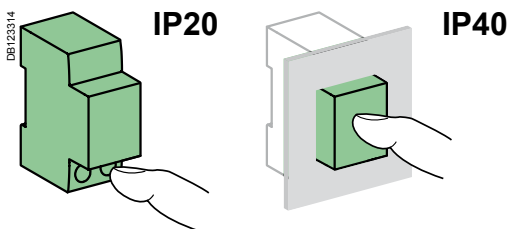
| | | |
|----------------------------------|-----------------------------|---|
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | AC Types | -5°C to +40°C |
| | A, SI types | -25°C to +40°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |



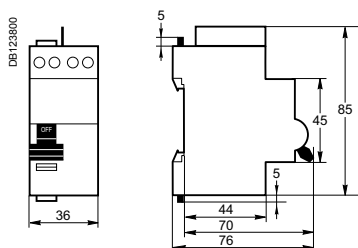
Clip on DIN rail 35 mm.



Indifferent position of installation.



Dimensions (mm)



Weight (g)

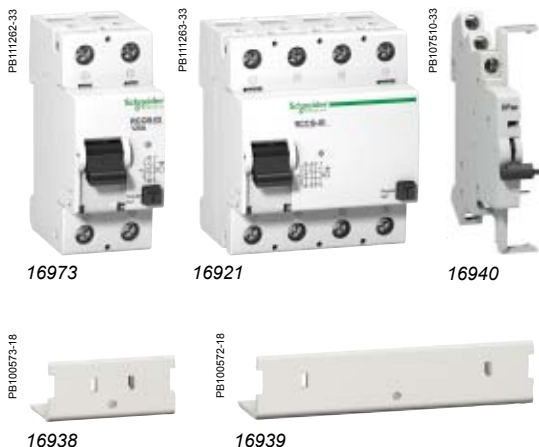
Residual current circuit breakers

Type

| | |
|------|-----|
| 1P+N | 205 |
|------|-----|

RCCB-ID 125 A residual current circuit breaker (AC, A, SI types)

IEC/EN 61008-1
IEC/EN 61008-2-1: Voltage Independent
VDE 0664



- The RCCB-ID 125 A residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.

OFsp auxiliary

- Electrical indication: by OFsp auxiliary mounted to the left, it has a double changeover switch indicating the "open" or "closed" position of the RCCB-ID 125 A.

Accessories

- 2P and 4P sealable screw shield.

Catalogue numbers

| RCCB-ID 125 A residual current circuit breakers | | | | | | | | | | | | | |
|---|-------------|-------|--------|--------|--------|-------|--------|--------|--------|-------|----------------------|-------|---|
| Type | | AC | A | | | | SI | | | | Width in 9 mm module | | |
| 2P | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 30 mA | 300 mA | 300 mA | 500 mA | 30 mA | 300 mA | | |
| | Rating | 125 A | 16966 | - | 16967 | - | 16970 | 16971 | - | - | 16972 | 16973 | 4 |
| | | | | | | | | | | | | | |
| 4P | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 30 mA | 300 mA | 300 mA | 500 mA | 30 mA | 300 mA | | |
| | Rating | 125 A | 16905 | 16906 | 16907 | 16908 | 16924 | 16926 | 16925 | 16927 | 16920 | 16921 | 8 |
| | | | | | | | | | | | | | |
| Voltage rating (Ue) | 2P | 230 V | | | | | | | | | | | |
| | 4P | 400 V | | | | | | | | | | | |
| Operating frequency | 50 Hz | | | | | | | | | | | | |

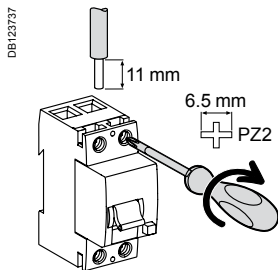
| Auxiliary | | | | |
|--------------|---------|-----------------|--|----------------------|
| Type | | | | Width in 9 mm module |
| Contact OFsp | Contact | Voltage | | |
| | 1 A | 110 V DC | | 16940 |
| | 6 A | 230 V AC (AC15) | | |

| Accessory | | |
|---|----------------|-------|
| Type | Number of pole | |
| Screw shield (set of 10) for upstream or downstream | 2P | 16938 |
| | 4P | 16939 |

RCCB-ID 125 A residual current circuit breaker (AC, A, S/I types) (cont.)

Connection

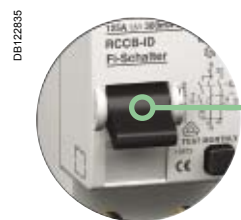
■ By tunnel terminals for:



| Type | Tightening torque | Copper cables | |
|---------|-------------------|--|--|
| | | Rigid | Flexible or with ferrule |
| RCCB-ID | 3 N.m | DB112804 | DB112805 |
| | | 1 x 1.5 to 50 mm ² 2 x 1.5 to 16 mm ² | 1 x 1.5 to 35 mm ² 2 x 1.5 to 16 mm ² |
| OFsp | 0.8 N.m | 1 to 1.5 mm ² | 1 to 1.5 mm ² |

OFsp contact status, depending on the position of the residual current circuit breaker

| Type | | | | |
|---------------|------------------|--------|--------|--------|
| RCCB-ID 125 A | Closed | ■ | - | - |
| | Open | - | ■ | - |
| | Tripped on fault | - | - | ■ |
| Contact OFsp | 22/21 | Open | Closed | Closed |
| | 12/11 | | | |
| | 14/11 | Closed | Open | Open |



Indication of the status of the RCCB-ID via the 3-position toggle and front panel indicator

- Closed (red indicator)
- Tripped on fault (green indicator)
- Open (green indicator)

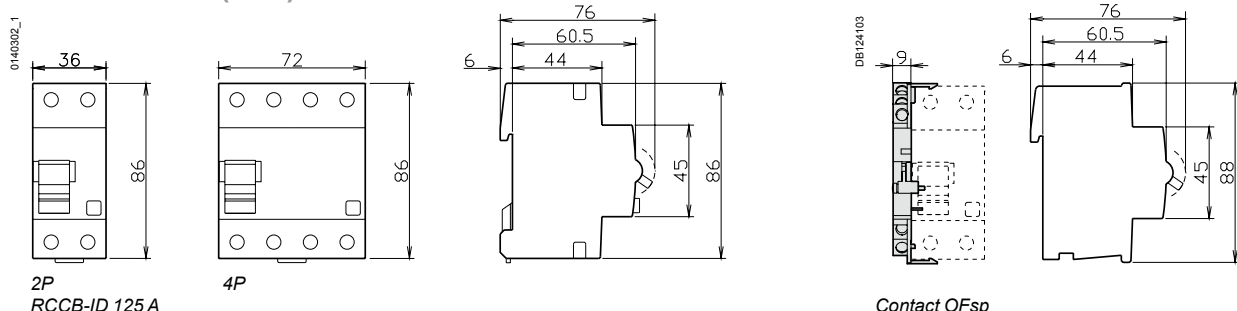
Technical data

| Electrical characteristics | | |
|---|----------------------------------|--|
| Insulation voltage (U _i) | 400 V | |
| Pollution degree | 3 | |
| Rated impulse withstand voltage (U _{imp}) | 4 kV | |
| According to IEC/EN 61008-1 and IEC/EN 61008-2-1 | | |
| Making and breaking capacity (I _m /I _{Δm}) | 1250 A | |
| Surge current withstand (8/20 μs) without tripping | AC and A types (no selective) | 250 Å |
| | S/I type (no selective) | 3 kÅ |
| | AC, A and S/I types (selective) | 3 kÅ |
| Conditional rated short circuit current (I _{nc} /I _{Δc}) | With FU 125 A gG fuse | 10,000 A |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 IP40 with screw shield |
| | Device in modular enclosure | IP40 Insulation classe II |
| Endurance (O-C) | Electrical | > 2 000 cycles |
| | Mechanical | > 5 000 cycles |
| Operating temperature | | -25°C to +40°C |
| Storage temperature | | -40°C to +85°C |

Weight (g)

| Residual current circuit breakers and auxiliary | | |
|---|---------------|------|
| Type | RCCB-ID 125 A | OFsp |
| 2P | 230 | 40 |
| 4P | 420 | |

Dimensions (mm)





16766



16940



16939

IEC/EN 61008-1 IEC/EN 61008-2-1: Voltage Independent VDE 0664

- The RCCB-ID 125 A residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact (≥ 300 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

B type

The RCCB-ID B type residual current circuit breakers provide:

- protection in the event of a continuous fault current on three-phase networks generated by:
 - controllers and variable speed drives,
 - battery chargers and inverters,
 - backed-up power supplies.

- They include and also guarantee protection against fault currents:

- sinusoidal AC residual currents (AC type),
- pulsed DC residual currents (A type).

They can be adapted to all the application cases defined in standards IEC 60364 and EN 50178.

- Schneider Electric guarantees that the type B RCCB-ID works correctly in combination with the variable speed drives manufactured by Schneider Electric.

OFsp auxiliary

- Electrical indication: by OFsp auxiliary mounted to the left.

It has a double changeover switch indicating the "open" or "closed" position of the RCCB-ID B type .

Accessories

- 4P sealable screw shield.

Catalogue numbers

RCCB-ID B type residual current circuit breakers

| Type | | B | | | | Width in 9 mm module | |
|---------------------|-------------|-----------|--------|--------|--------|----------------------|---|
| 4P | Sensitivity | 30 mA | 300 mA | 300 mA | 500 mA | | |
| | Rating | 25 A | 40 A | 63 A | 80 A | 125 A | 8 |
| | | 16750 | 16751 | - | - | - | |
| | | 16752 | 16753 | 16754 | 16755 | 16756 | |
| | | 16756 | 16757 | 16758 | 16759 | 16760 | |
| | | 16760 | 16761 | 16762 | - | 16763 | |
| | | 16763 | 16764 | 16765 | 16766 | 16766 | |
| Voltage rating (Ue) | | 230/400 V | | | | | |
| Operating frequency | | 50 Hz | | | | | |

Auxiliary

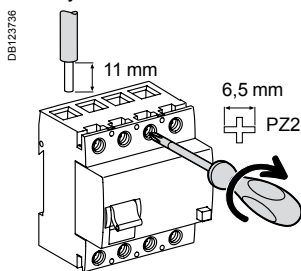
| Type | | Contact OFsp | | Width in 9 mm module |
|--------------|---------|-----------------|-------|----------------------|
| Contact OFsp | Contact | Voltage | | |
| | 1 A | 110 V DC | 16940 | 1 |
| | 6 A | 230 V AC (AC15) | | |

Accessory

| Type | Number of pole | |
|---|----------------|-------|
| Screw shield (set of 10) for upstream or downstream | 4P | 16939 |

Connection

■ By tunnel terminals for:



| Type | Tightening torque | Copper cables | |
|----------------|-------------------|--|--|
| | | Rigid | Flexible or with ferrule |
| RCCB-ID B type | 3 N.m | 1 x 1.5 to 50 mm ² 2 x 1.5 to 16 mm ² | 1 x 1.5 to 35 mm ² 2 x 1.5 to 16 mm ² |
| OFsp | 0.8 N.m | 1 to 1.5 mm ² | 1 to 1.5 mm ² |

OFsp contact status, depending on the position of the residual current circuit breaker

| Type | | | | |
|----------------|------------------|--------|--------|--------|
| RCCB-ID B type | Closed | ■ | - | - |
| | Open | - | ■ | - |
| | Tripped on fault | - | - | ■ |
| Contact OFsp | 22/21 12/11 | Open | Closed | Closed |
| | 14/11 | Closed | Open | Open |

Technical data

| Electrical characteristics | | |
|---|--------------------------------|--|
| Insulation voltage (U _i) | | 400 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 4 kV |
| According to IEC/EN 61008-1 and IEC/EN 61008-2-1 | | |
| Making and breaking capacity (I _m /I _{Δm}) | 25/40 A | 500 A |
| | 63/80 A | 800 A |
| | 125 A | 1250 A |
| Surge current withstand (8/20 μs) without tripping | No selective ☒ | 250 Å |
| | Selective ☒ | 3 kÅ |
| Conditional rated short circuit current (I _{nc} /I _{Δc}) | 25/40 A with FU 80 A gG fuse | 10,000 A |
| | 63 A with FU 100 A gG fuse | 10,000 A |
| | 80/125 A with FU 125 A gG fuse | 10,000 A |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 IP40 with screw shield |
| | Device in modular enclosure | IP40 Insulation classe II |
| Endurance (O-C) | Electrical | > 2 000 cycles |
| | Mechanical | > 5 000 cycles |
| Operating temperature | | -25°C to +40°C |
| Storage temperature | | -40°C to +85°C |



Indication of the status of the RCCB-ID B type via the 3-position toggle and front panel indicator

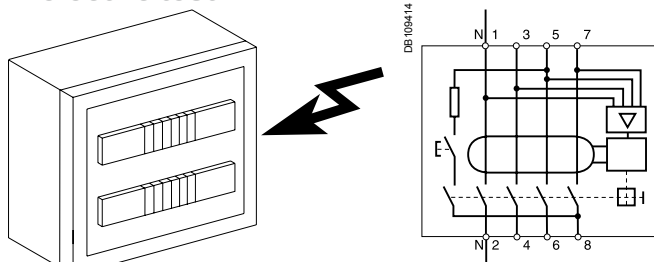
- Closed (red indicator)
- Tripped on fault (green indicator)
- Open (green indicator)

Weight (g)

Residual current circuit breakers and auxiliary

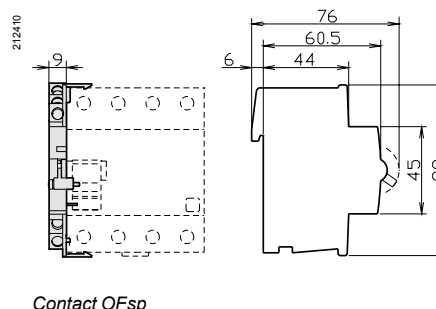
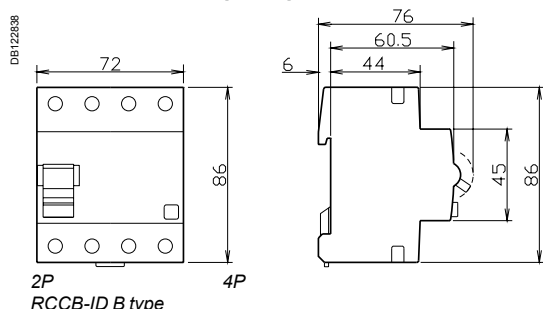
| Type | RCCB-ID B type | OFsp |
|------|----------------|------|
| 4P | 450 | 40 |

Dielectric test



⚠ To perform the dielectric test, disconnect terminals 3, 5, 7 and 4, 6, 8.

Dimensions (mm)





Schneider Electric's range of add-on residual current devices (A, B, C, D, E) to enable it to be the most competitive range possible in each country, allowing for the special characteristics of each market:

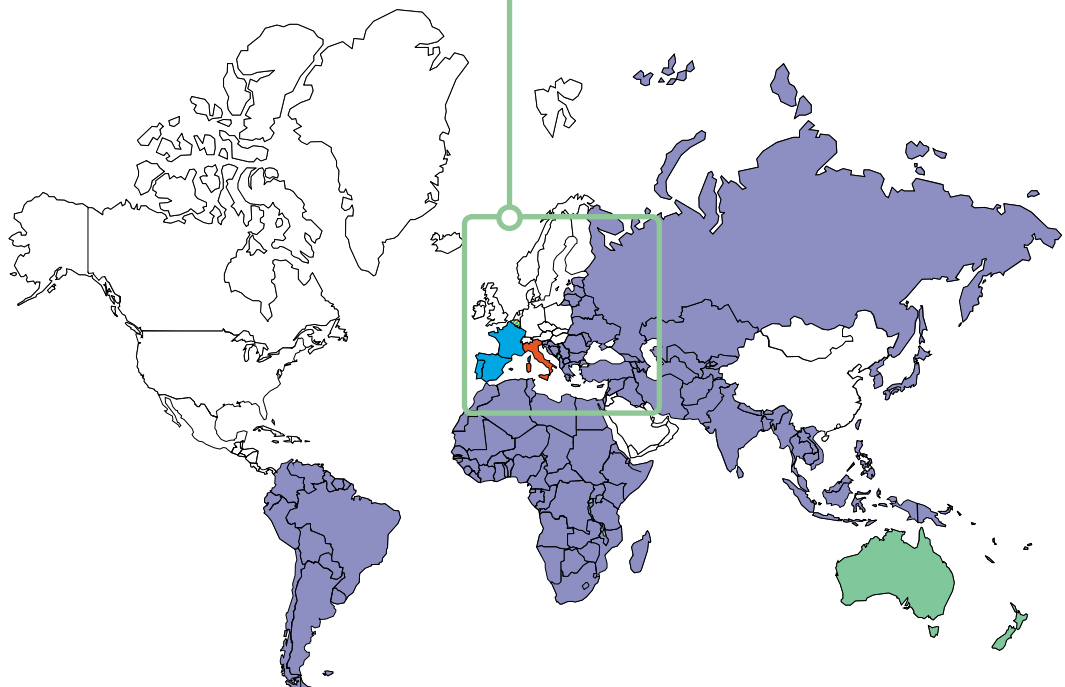
- usual installation procedure
- price
- accreditations by local bodies.

Variants

| Offers | Catalogue numbers | Pages |
|--------------------|-------------------|-------------|
| Offer A | Catalogue numbers | 189 and 196 |
| Offer B | Catalogue numbers | 192 and 196 |
| Offer C | Catalogue numbers | 195 and 196 |
| Offer D Quick Vigi | Catalogue numbers | 197 and 203 |
| Offer E Quick Vigi | Catalogue numbers | 200 and 203 |
| Common pages | | 204 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.



Vigi iC60 add-on residual current devices (AC type)



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | |
|---|-------------|---------------------|----------|-----------------------|
| Type | AC | | | Width in 9 mm modules |
| Auxiliaries | | Without auxiliaries | | |
| 2P | Sensitivity | 30 mA | 300 mA | |
| | Rating 25 A | A9V01225 | A9V04225 | 3 |
| | 40 A | A9V01240 | A9V04240 | 4 |
| | 63 A | A9V01263 | A9V04263 | 4 |
| Voltage rating (Ue) | | 130 V | | |
| Operating frequency | | 50/60 Hz | | |
| Accessories | | Module CA907000 | | |

| Vigi iC60 add-on residual current devices | | | | | | | | | |
|---|-------------|--------------------------|----------|----------|----------|----------|----------|----------|-----------------------|
| Type | AC | | | | | | | | Width in 9 mm modules |
| Auxiliaries | | Without auxiliaries | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | |
| | Rating 25 A | A9V10225 | A9V11225 | A9V12225 | A9V14225 | A9V16225 | - | - | 3 |
| | 40 A | - | A9V11240 | - | A9V14240 | A9V16240 | - | - | 4 |
| | 63 A | - | A9V11263 | A9V12263 | A9V14263 | A9V16263 | A9V15263 | A9V19263 | 4 |
| 3P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | |
| | Rating 25 A | - | A9V11325 | - | A9V14325 | A9V16325 | - | - | 6 |
| | 40 A | - | A9V11340 | - | A9V14340 | A9V16340 | - | - | 7 |
| | 63 A | - | A9V11363 | - | A9V14363 | A9V16363 | A9V15363 | A9V19363 | 7 |
| 4P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | |
| | Rating 25 A | - | A9V11425 | A9V12425 | A9V14425 | A9V16425 | - | - | 6 |
| | 40 A | - | A9V11440 | - | A9V14440 | A9V16440 | - | - | 7 |
| | 63 A | - | A9V11463 | A9V12463 | A9V14463 | A9V16463 | A9V15463 | A9V19463 | 7 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | | |
| Accessories | | Module CA907000 | | | | | | | |

Vigi iC60 add-on residual current devices (A type)



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent

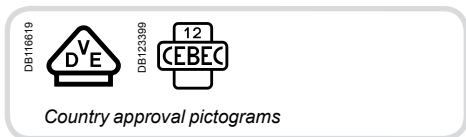


- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

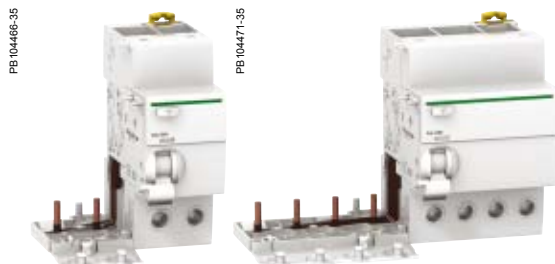
| Vigi iC60 add-on residual current devices | | | | |
|---|---------------------|-------------|------------------------|-----------------------|
| Type | A | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | |
| 2P | Sensitivity | 30 mA | | |
| | Rating | 63 A | A9V07263 | 4 |
| | Voltage rating (Ue) | 400 - 415 V | | |
| Operating frequency | | 50/60 Hz | | |
| Accessories | | | Module CA907000 | |

| Vigi iC60 add-on residual current devices | | | | | | | | | |
|---|---------------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------|
| Type | A | | | | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | | | | |
| 2P | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | | |
| | Rating | 25 A | A9V21225 | A9V22225 | A9V24225 | A9V26225 | - | - | 3 |
| | | 63 A | A9V21263 | A9V22263 | A9V24263 | A9V26263 | A9V25263 | A9V29263 | 4 |
| 3P | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | | |
| | Rating | 25 A | A9V21325 | A9V22325 | A9V24325 | A9V26325 | - | - | 6 |
| | | 63 A | A9V21363 | - | A9V24363 | A9V26363 | A9V25363 | A9V29363 | 7 |
| 4P | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | | |
| | Rating | 25 A | A9V21425 | A9V22425 | A9V24425 | A9V26425 | - | - | 6 |
| | | 63 A | A9V21463 | A9V22463 | A9V24463 | A9V26463 | A9V25463 | A9V29463 | 7 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | | |
| Accessories | | Module CA907000 | | | | | | | |



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 300 mA),
 - protection of installations against the risk of fire (300 mA).

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.

Offer selection see page 188

Offer A

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Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | | | |
|---|---------------------|--------------------------|----------|----------|----------|-----------------------|
| Type | SI | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | |
| | Sensitivity | 10 mA | 30 mA | 300 mA | 1000 mA | |
| 2P DB122462 | Rating | 25 A | A9V30225 | A9V31225 | - | 3 |
| | | 40 A | - | A9V31240 | - | 4 |
| | | 63 A | - | A9V31263 | A9V35263 | A9V39263 |
| 3P DB122463 | Rating | 25 A | - | A9V31325 | - | 6 |
| | | 40 A | - | A9V31340 | - | 7 |
| | | 63 A | - | A9V31363 | A9V35363 | A9V39363 |
| 4P DB122464 | Rating | 25 A | - | A9V31425 | - | 6 |
| | | 40 A | - | A9V31440 | - | 7 |
| | | 63 A | - | A9V31463 | A9V35463 | A9V39463 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | |
| Operating frequency | | 50/60 Hz | | | | |
| Accessories | | Module CA907000 | | | | |

Vigi iC60 add-on residual current devices (AC type)



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | | |
|---|---------------------|------------------------|-----------------|-----------------|-----------------------|
| Type | AC | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | |
| 2P | Sensitivity | 30 mA | 300 mA | | |
| | Rating | 25 A | A9V01225 | A9V04225 | 3 |
| | | 40 A | A9V01240 | A9V04240 | 4 |
| | | 63 A | A9V01263 | A9V04263 | 4 |
| Voltage rating (Ue) | | 130 V | | | |
| Operating frequency | | 50/60 Hz | | | |
| Accessories | | Module CA907000 | | | |

| Vigi iC60 add-on residual current devices | | | | | | | | | |
|---|---------------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------|
| Type | AC | | | | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | |
| | Rating | 25 A | A9V10225 | A9V41225 | A9V12225 | A9V44225 | A9V16225 | - | 3 |
| | | 40 A | - | A9V41240 | - | A9V44240 | A9V16240 | - | 4 |
| | | 63 A | - | A9V41263 | A9V12263 | A9V44263 | A9V16263 | A9V15263 | A9V19263 |
| | Rating | 25 A | - | A9V41325 | - | A9V44325 | A9V16325 | - | 6 |
| | | 40 A | - | A9V41340 | - | A9V44340 | A9V16340 | - | 7 |
| | | 63 A | - | A9V41363 | - | A9V44363 | A9V16363 | A9V15363 | A9V19363 |
| | Rating | 25 A | - | A9V41425 | A9V12425 | A9V44425 | A9V16425 | - | 6 |
| | | 40 A | - | A9V41440 | - | A9V44440 | A9V16440 | - | 7 |
| | | 63 A | - | A9V41463 | A9V12463 | A9V44463 | A9V16463 | A9V15463 | A9V19463 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | | |
| Accessories | | Module CA907000 | | | | | | | |



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

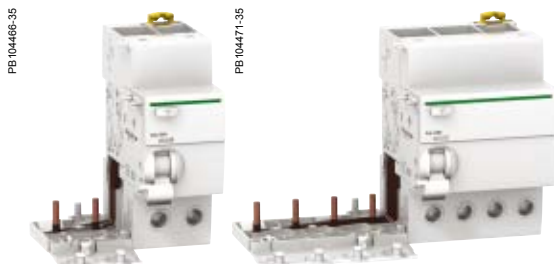
| Vigi iC60 add-on residual current devices | | | |
|---|---------------------|-----------------|-----------------------|
| Type | A | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | |
| 2P | Sensitivity | 30 mA | |
| | Rating | 63 A | A9V07263 |
| | | | |
| Voltage rating (Ue) | | 400 - 415 V | |
| Operating frequency | | 50/60 Hz | |
| Accessories | | Module CA907000 | |

| Vigi iC60 add-on residual current devices | | | | | | | | |
|---|---------------------|--------------------------|----------|----------|----------|----------|----------|-----------------------|
| Type | A | | | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | | | |
| 2P | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | |
| | Rating | 25 A | A9V51225 | A9V22225 | A9V54225 | A9V26225 | - | - |
| | | 63 A | A9V51263 | A9V22263 | A9V54263 | A9V26263 | A9V25263 | A9V29263 |
| 3P | | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA |
| | Rating | 25 A | A9V51325 | A9V22325 | A9V54325 | A9V26325 | - | - |
| | | 63 A | A9V51363 | - | A9V54363 | A9V26363 | A9V25363 | A9V29363 |
| 4P | | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA |
| | Rating | 25 A | A9V51425 | A9V22425 | A9V54425 | A9V26425 | - | - |
| | | 63 A | A9V51463 | A9V22463 | A9V54463 | A9V26463 | A9V25463 | A9V29463 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | |
| Accessories | | Module CA907000 | | | | | | |



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent



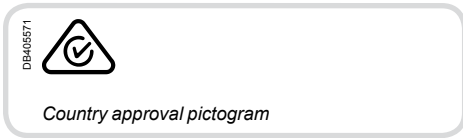
- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 300 mA),
 - protection of installations against the risk of fire (300 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.



Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | | | |
|---|---------------------|--------------------------|----------|----------|----------|-----------------------|
| Type | SI | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 300 mA | 1000 mA | |
| DB122482 | Rating | 25 A | A9V30225 | A9V61225 | - | 3 |
| | | 40 A | - | A9V61240 | - | 4 |
| | | 63 A | - | A9V61263 | A9V65263 | A9V39263 |
| DB122483 | Rating | 25 A | - | A9V61325 | - | 6 |
| | | 40 A | - | A9V61340 | - | 7 |
| | | 63 A | - | A9V61363 | A9V65363 | A9V39363 |
| DB122484 | Rating | 25 A | - | A9V61425 | - | 6 |
| | | 40 A | - | A9V61440 | - | 7 |
| | | 63 A | - | A9V61463 | A9V65463 | A9V39463 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | |
| Operating frequency | | 50/60 Hz | | | | |
| Accessories | | Module CA907000 | | | | |



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA).

■ Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| Vigi iC60 add-on residual current devices | | | |
|---|--------------------|----------------------------|-----------------------|
| Type | A | | Width in 9 mm modules |
| Auxiliaries | | Without auxiliaries | |
| 2P | Sensitivity | 30 mA | |
| | Rating | 63 A | A9V01663 |
| | | | 4 |
| Voltage rating (Ue) | | 130 V | |
| Operating frequency | | 50/60 Hz | |
| Accessories | | Module CA907000 | |

| Vigi iC60 add-on residual current devices | | | | |
|---|--------------------|----------------------------|-----------------|------------------------------------|
| Type | A | | | Width in 9 mm modules |
| Auxiliaries | | Without auxiliaries | | |
| 2P | Sensitivity | 30 mA | 100 mA | 300 mA |
| | Rating | 25 A 63 A | A9V02663 | A9V03663 A9V06663 |
| | | | | 3 4 |
| 4P | Sensitivity | 30 mA | 100 mA | 300 mA |
| | Rating | 63 A | A9V02763 | A9V06763 |
| | | | | 7 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | |
| Operating frequency | | 50/60 Hz | | |
| Accessories | | Module CA907000 | | |

Vigi iC60 add-on residual current devices (AC, A, S/I types) (cont.)

PE10456-51



Offer selection see page 188

Offer A, B, C

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Association iC60a, N, H, L + Vigi iC60

| iC60 | Vigi iC60 25 A | Vigi iC60 40 A | Vigi iC60 63 A |
|---------------|----------------|----------------|----------------|
| 0.5 A to 25 A | ■ | ■ | ■ |
| 32 A - 40 A | NO | ■ | ■ |
| 50 A - 63 A | NO | NO | ■ |

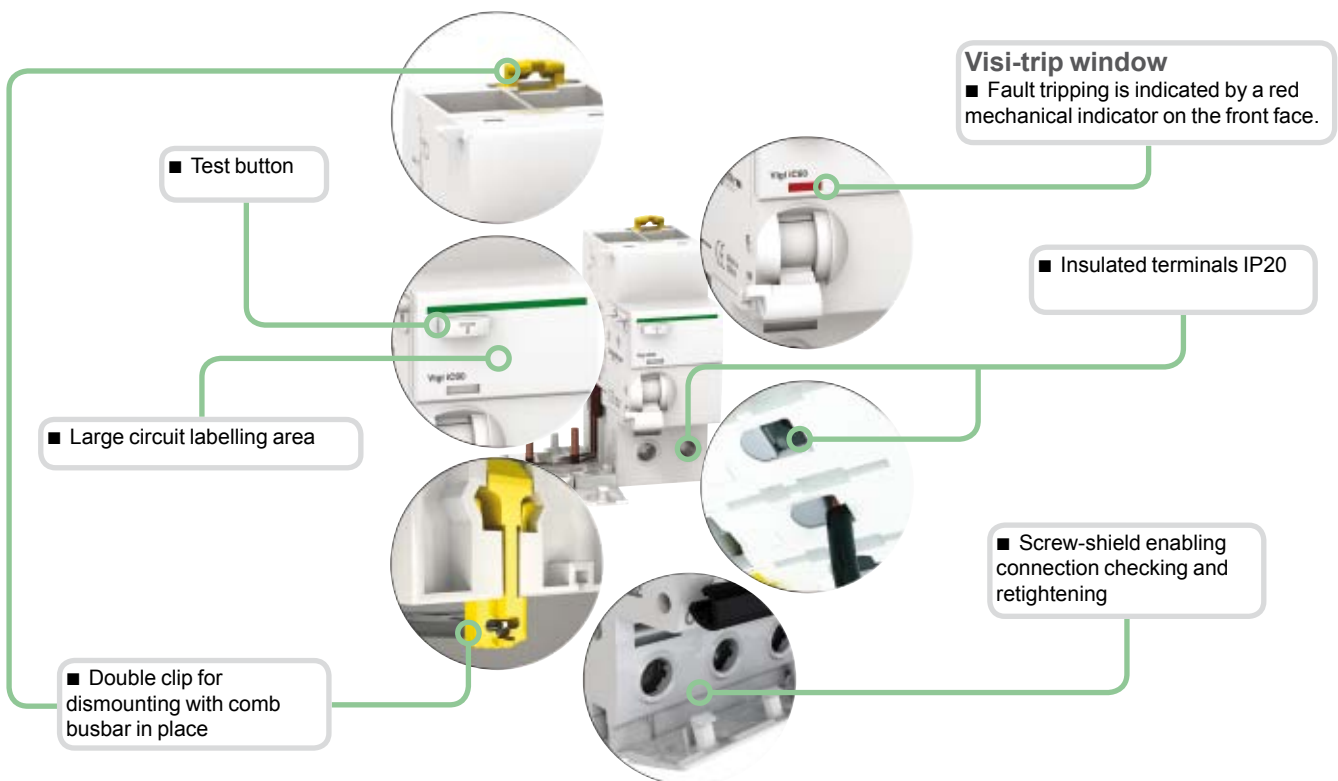
Association iC60L-MA + Vigi iC60

| iC60 | Vigi iC60 25 A | Vigi iC60 40 A | Vigi iC60 63 A |
|---------------|----------------|----------------|----------------|
| 1.6 A to 16 A | ■ | ■ | ■ |
| 25 A | NO | ■ | ■ |
| 40 A | NO | NO | ■ |



Combining iC60 L-MA units with Vigi modules of higher rating.

PE10466-40



S/I type

The S/I type provides increased immunity from electrical interference and polluted or corrosive environments.



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent

- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | | | |
|---|---------------------|---------------------|----------|----------|---|-----------------------|
| Type | AC | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | |
| 2P | Sensitivity | 30 mA | 300 mA | | | |
| | Rating | 25 A | A9Q01225 | A9Q04225 | 3 | |
| | | 40 A | A9Q01240 | A9Q04240 | 4 | |
| | | 63 A ⁽¹⁾ | A9V01263 | A9V04263 | 4 | |
| Voltage rating (Ue) | | 130 V | | | | |
| Operating frequency | | 50/60 Hz | | | | |
| Accessories | | Module CA907000 | | | | |

(1) Vigi iC60 add-on residual current devices rated at 63 A are VDE approved.

| Vigi iC60 add-on residual current devices | | | | | | | | | | |
|---|---------------------|--------------------------|----------|----------|----------|----------|----------|----------|----------|-----------------------|
| Type | AC | | | | | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | | |
| | Rating | 25 A | A9Q10225 | A9Q11225 | A9Q12225 | A9Q14225 | A9Q16225 | - | - | 3 |
| | | 40 A | - | A9Q11240 | - | A9Q14240 | A9Q16240 | - | - | 4 |
| | | 63 A ⁽¹⁾ | - | A9V11263 | A9V12263 | A9V14263 | A9V16263 | A9V15263 | A9V19263 | 4 |
| | Rating | 25 A | - | A9Q11325 | - | A9Q14325 | A9Q16325 | - | - | 6 |
| | | 40 A | - | A9Q11340 | - | A9Q14340 | A9Q16340 | - | - | 7 |
| | | 63 A ⁽¹⁾ | - | A9V11363 | - | A9V14363 | A9V16363 | A9V15363 | A9V19363 | 7 |
| | Rating | 25 A | - | A9Q11425 | A9Q12425 | A9Q14425 | A9Q16425 | - | - | 6 |
| | | 40 A | - | A9Q11440 | - | A9Q14440 | A9Q16440 | - | - | 7 |
| | | 63 A ⁽¹⁾ | - | A9V11463 | A9V12463 | A9V14463 | A9V16463 | A9V15463 | A9V19463 | 7 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | | | |
| Accessories | | Module CA907000 | | | | | | | | |

(1) Vigi iC60 add-on residual current devices rated at 63 A are VDE approved.



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent

DB123811



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Offer selection see page 188

Offer D Quick

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Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | | | | | | |
|---|---------------------|--------------------------|----------|----------|----------|----------|----------|-----------------------|---|
| Type | A | | | | | | | Width in 9 mm modules | |
| Auxiliaries | Without auxiliaries | | | | | | | | |
| 2P | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | | |
| DB122462 | Rating | 25 A | A9Q21225 | A9Q22225 | A9Q24225 | A9Q26225 | - | 3 | |
| | | 63 A ⁽¹⁾ | A9V21263 | A9V22263 | A9V24263 | A9V26263 | A9V25263 | A9V29263 | 4 |
| DB122463 | Rating | 25 A | A9Q21325 | A9Q22325 | A9Q24325 | A9Q26325 | - | 6 | |
| | | 63 A ⁽¹⁾ | A9V21363 | - | A9V24363 | A9V26363 | A9V25363 | A9V29363 | 7 |
| DB122464 | Rating | 25 A | A9Q21425 | A9Q22425 | A9Q24425 | A9Q26425 | - | 6 | |
| | | 63 A ⁽¹⁾ | A9V21463 | A9V22463 | A9V24463 | A9V26463 | A9V25463 | A9V29463 | 7 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | | |
| Accessories | | Module CA907000 | | | | | | | |

(1) Vigi iC60 add-on residual current devices rated at 63 A are VDE approved.



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent

DB123811



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 300 mA),
 - protection of installations against the risk of fire (300 mA).

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.

Offer selection see page 188

Offer D Quick

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Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | | | |
|---|---------------------|--------------------------|-----------------|-----------------|-----------------|-----------------------|
| Type | SI | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | |
| | Sensitivity | 10 mA | 30 mA | 300 mA | 1000 mA | |
| 2P DB122462 | Rating | 25 A | A9Q30225 | A9Q31225 | - | 3 |
| | | 40 A | - | A9Q31240 | - | 4 |
| | | 63 A ⁽¹⁾ | - | A9V31263 | A9V35263 | A9V39263 |
| 3P DB122463 | Rating | 25 A | - | A9Q31325 | - | 6 |
| | | 40 A | - | A9Q31340 | - | 7 |
| | | 63 A ⁽¹⁾ | - | A9V31363 | A9V35363 | A9V39363 |
| 4P DB122464 | Rating | 25 A | - | A9Q31425 | - | 6 |
| | | 40 A | - | A9Q31440 | - | 7 |
| | | 63 A ⁽¹⁾ | - | A9V31463 | A9V35463 | A9V39463 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | |
| Operating frequency | | 50/60 Hz | | | | |
| Accessories | | Module CA907000 | | | | |

(1) Vigi iC60 add-on residual current devices rated at 63 A are VDE approved.



IEC/EN 61009-1
IEC/EN 61009-2-1*

Voltage Independent

Offer selection see page 188

- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.



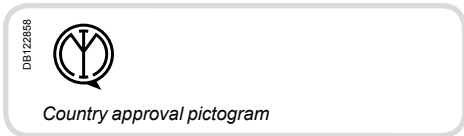
Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | | | |
|---|---------------------|---------------------|----------|----------|---|-----------------------|
| Type | AC | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | |
| 2P | Sensitivity | 30 mA | 300 mA | | | |
| | Rating | 25 A | A9Q01225 | A9Q04225 | 3 | |
| | | 40 A | A9Q01240 | A9Q04240 | 4 | |
| | | 63 A ⁽¹⁾ | A9V01263 | A9V04263 | 4 | |
| Voltage rating (Ue) | | 130 V | | | | |
| Operating frequency | | 50/60 Hz | | | | |
| Accessories | | Module CA907000 | | | | |

(1) Vigi iC60 add-on residual current devices rated at 63 A are VDE approved.

| Vigi iC60 add-on residual current devices | | | | | | | | | | |
|---|---------------------|--------------------------|----------|----------|----------|----------|----------|----------|----------|-----------------------|
| Type | AC | | | | | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | | |
| | Rating | 25 A | A9Q10225 | A9Q41225 | A9Q12225 | A9Q44225 | A9Q16225 | - | - | 3 |
| | | 40 A | - | A9Q41240 | - | A9Q44240 | A9Q16240 | - | - | 4 |
| | | 63 A ⁽¹⁾ | - | A9V41263 | A9V12263 | A9V44263 | A9V16263 | A9V15263 | A9V19263 | 4 |
| | Rating | 25 A | - | A9Q41325 | - | A9Q44325 | A9Q16325 | - | - | 6 |
| | | 40 A | - | A9Q41340 | - | A9Q44340 | A9Q16340 | - | - | 7 |
| | | 63 A ⁽¹⁾ | - | A9V41363 | - | A9V44363 | A9V16363 | A9V15363 | A9V19363 | 7 |
| | Rating | 25 A | - | A9Q41425 | A9Q12425 | A9Q44425 | A9Q16425 | - | - | 6 |
| | | 40 A | - | A9Q41440 | - | A9Q44440 | A9Q16440 | - | - | 7 |
| | | 63 A ⁽¹⁾ | - | A9V41463 | A9V12463 | A9V44463 | A9V16463 | A9V15463 | A9V19463 | 7 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | | | |
| Accessories | | Module CA907000 | | | | | | | | |

(1) Vigi iC60 add-on residual current devices rated at 63 A are VDE approved.



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent

DB123811



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Offer selection see page 188

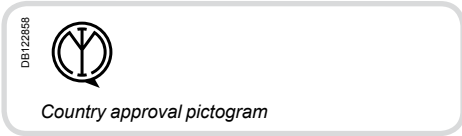
Offer E Quick

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Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | | | | | | |
|---|---------------------|--------------------------|----------|----------|----------|----------|----------|-----------------------|---|
| Type | A | | | | | | | Width in 9 mm modules | |
| Auxiliaries | Without auxiliaries | | | | | | | | |
| 2P | Sensitivity | 30 mA | 100 mA | 300 mA | 500 mA | 300 mA | 1000 mA | | |
| DB122462 | Rating | 25 A | A9Q51225 | A9Q22225 | A9Q54225 | A9Q26225 | - | 3 | |
| | | 63 A ⁽¹⁾ | A9V51263 | A9V22263 | A9V54263 | A9V26263 | A9V25263 | A9V29263 | 4 |
| DB122463 | Rating | 25 A | A9Q51325 | A9Q22325 | A9Q54325 | A9Q26325 | - | 6 | |
| | | 63 A ⁽¹⁾ | A9V51363 | - | A9V54363 | A9V26363 | A9V25363 | A9V29363 | 7 |
| DB122464 | Rating | 25 A | A9Q51425 | A9Q22425 | A9Q54425 | A9Q26425 | - | 6 | |
| | | 63 A ⁽¹⁾ | A9V51463 | A9V22463 | A9V54463 | A9V26463 | A9V25463 | A9V29463 | 7 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | | |
| Accessories | | Module CA907000 | | | | | | | |

(1) Vigi iC60 add-on residual current devices rated at 63 A are VDE approved.



IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent

DB123811



- Combined with iC60 circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 300 mA),
 - protection of installations against the risk of fire (300 mA).

■ Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The **SI** type provides increased immunity from electrical interference and polluted or corrosive environments.

Offer selection see page 188

Offer E Quick
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Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | | | |
|---|---------------------|--------------------------|----------|----------|----------|-----------------------|
| Type | SI | | | | | Width in 9 mm modules |
| Auxiliaries | Without auxiliaries | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 300 mA | 1000 mA | |
| | Rating | 25 A | A9Q30225 | A9Q61225 | - | 3 |
| | | 40 A | - | A9Q61240 | - | 4 |
| | | 63 A ⁽¹⁾ | - | A9V61263 | A9V65263 | A9V39263 |
| | Rating | 25 A | - | A9Q61325 | - | 6 |
| | | 40 A | - | A9Q61340 | - | 7 |
| | | 63 A ⁽¹⁾ | - | A9V61363 | A9V65363 | A9V39363 |
| | Rating | 25 A | - | A9Q61425 | - | 6 |
| | | 40 A | - | A9Q61440 | - | 7 |
| | | 63 A ⁽¹⁾ | - | A9V61463 | A9V65463 | A9V39463 |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | | |
| Operating frequency | | 50/60 Hz | | | | |
| Accessories | | Module CA907000 | | | | |
| (1) Vigi iC60 add-on residual current devices rated at 63 A are VDE approved. | | | | | | |

Vigi iC60 add-on residual current devices (AC, A, S/I types) (cont.)

DB128612

Offer selection see page 188

Association iC60a, N, H, L + Vigi iC60

| iC60 | Vigi iC60 25 A | Vigi iC60 40 A | Vigi iC60 63 A |
|---------------|----------------|----------------|----------------|
| 0.5 A to 25 A | ■ | ■ | ■ |
| 32 A - 40 A | NO | ■ | ■ |
| 50 A - 63 A | NO | NO | ■ |

Association iC60L-MA + Vigi iC60

| iC60 | Vigi iC60 25 A | Vigi iC60 40 A | Vigi iC60 63 A |
|---------------|----------------|----------------|----------------|
| 1.6 A to 16 A | ■ | ■ | ■ |
| 25 A | NO | ■ | ■ |
| 40 A | NO | NO | ■ |

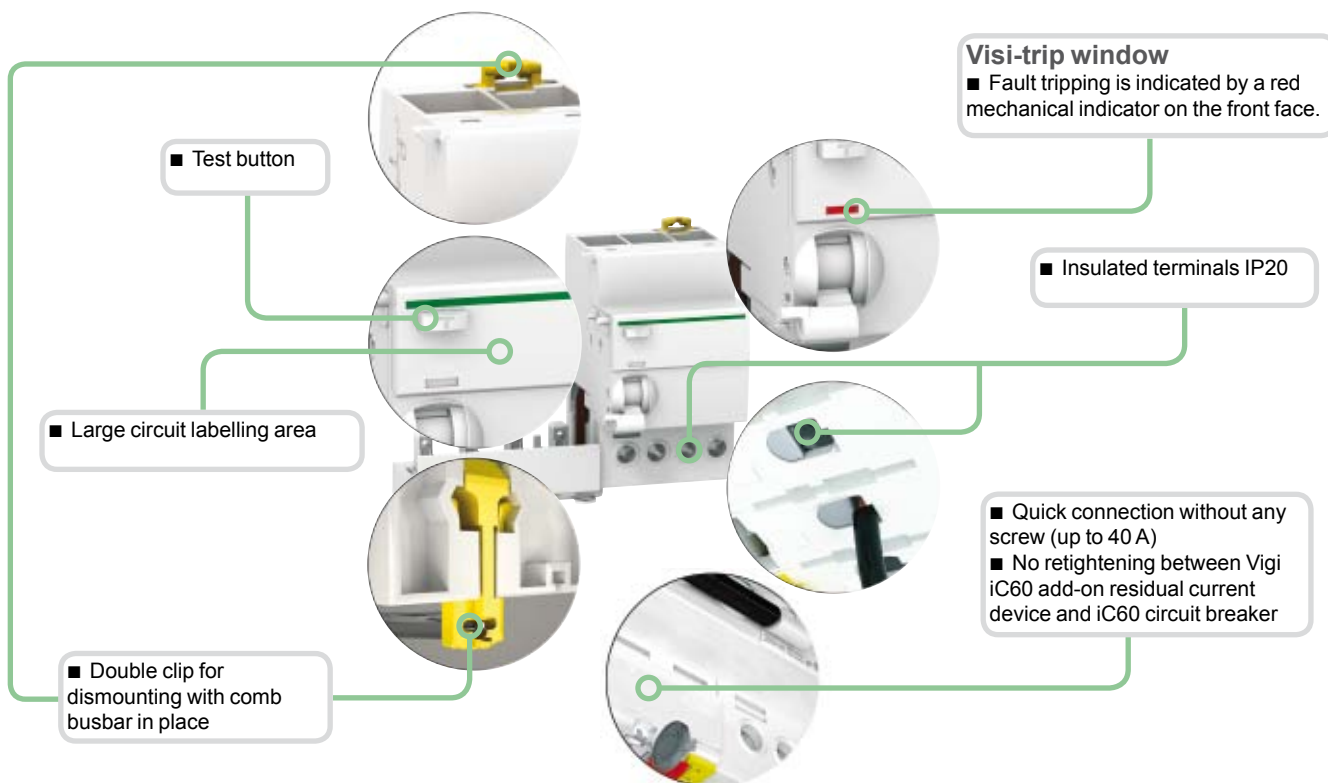


Combining iC60 L-MA units with Vigi modules of higher rating.

Offer D, E Quick

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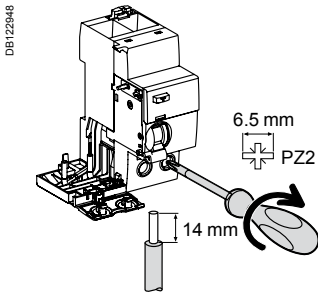
DB123515



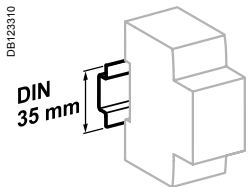
S/I type

The S/I type provides increased immunity from electrical interference and polluted or corrosive environments.

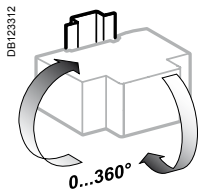
Connection



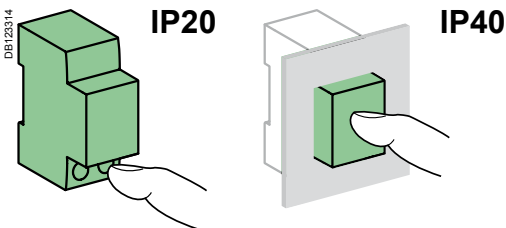
| Type | Rating | Tightening torque | Copper cables | |
|-----------|------------|-------------------|-------------------------|--------------------------|
| | | | Rigid | Flexible or with ferrule |
| Vigi iC60 | 25 A | 2 N.m | 1 to 25 mm ² | 1 to 16 mm ² |
| | 40 to 63 A | 3.5 N.m | 1 to 35 mm ² | 1 to 25 mm ² |






Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

| Main characteristics | | |
|---|--|--|
| Insulation voltage (U _i) | | 500 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 6 kV |
| According to IEC/EN 61009-1 and IEC/EN 61009-2-1 | | |
| Surge current withstand (8/20 μs) without tripping | AC and A types (no selective ) | 250 Å |
| | AC, A types (selective ) | 3 kÅ |
| | <i>SI</i> type | 3 kÅ |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | AC type | -5°C to +60°C |
| | A and <i>SI</i> types  | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |

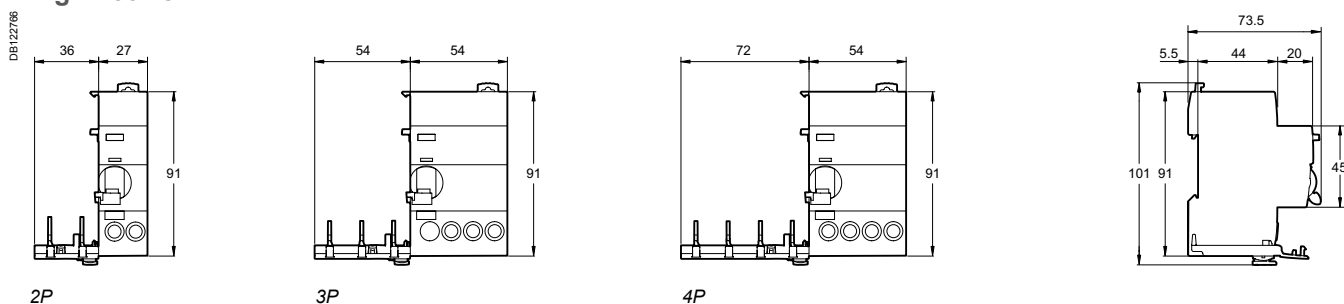
Vigi iC60 add-on residual current devices (AC, A, S/I types) (cont.)

Weight (g)

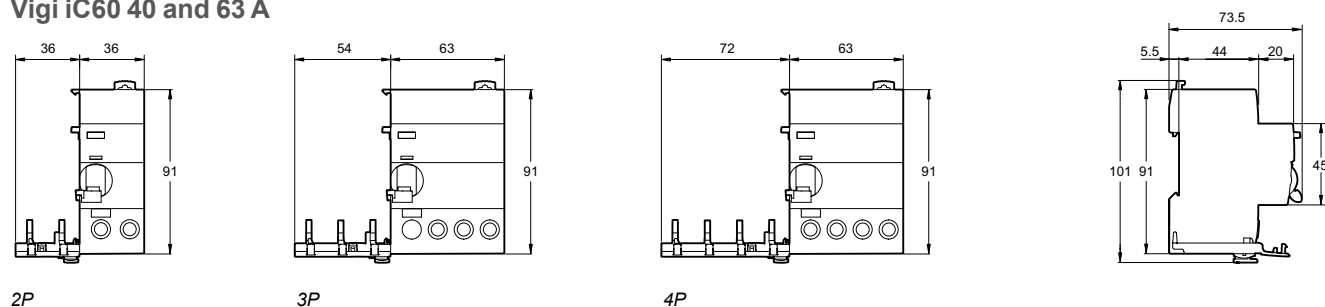
| Add-on residual current devices | |
|---------------------------------|-----------|
| Type | Vigi iC60 |
| 2P | 165 |
| 3P | 210 |
| 4P | 245 |

Dimensions (mm)

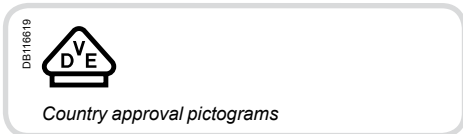
Vigi iC60 25 A



Vigi iC60 40 and 63 A



Vigi iC60 add-on residual current devices for iC60 double terminals (AC type)



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

- Combined with iC60 double tunnel terminals circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

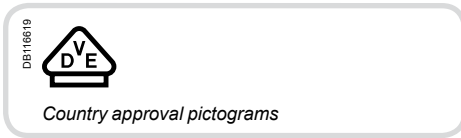


Catalogue numbers

Vigi iC60 add-on residual current devices

| Type | AC | | | | | Width in 9 mm modules | |
|---------------------|---------------------|-------------------------------|--------------|-----------------------|---------------|-----------------------|---|
| Product | Vigi iC60 | | | | | | |
| Auxiliaries | Without auxiliaries | | | | | | |
| 2P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | | |
| | Rating | 25 A | A9W10225 | A9W11225 A9W01225* | A9W12225 | A9W14225 | 3 |
| | | 63 A | - | A9W11263 | A9W12263 | A9W14263 | 4 |
| 3P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | | |
| | Rating | 25 A | - | A9W11325 | - | A9W14325 | 6 |
| | | 63 A | - | A9W11363 | - | A9W14363 | 7 |
| 4P | Sensitivity | 10 mA | 30 mA | 100 mA | 300 mA | | |
| | Rating | 25 A | - | A9W11425 | A9W12425 | A9W14425 | 6 |
| | | 63 A | - | A9W11463 | A9W12463 | A9W14463 | 7 |
| Voltage rating (Ue) | | 400 - 415 V Except * 130 V | | | | | |
| Operating frequency | | 50/60 Hz | | | | | |
| Accessories | | Module CA907000 | | | | | |

Vigi iC60 add-on residual current devices for iC60 double terminals (A type)



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

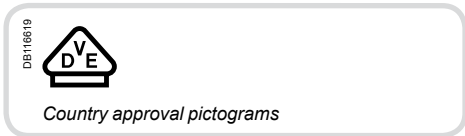
- Combined with iC60 double tunnel terminals circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.



Catalogue numbers

| Vigi iC60 add-on residual current devices | | | | | | | | |
|---|---------------------|-----------------|----------|----------|----------|----------|-----------------------|---|
| Type | A | | | | | | Width in 9 mm modules | |
| Product | Vigi iC60 | | | | | | | |
| Auxiliaries | Without auxiliaries | | | | | | | |
| 2P | Sensitivity | 30 mA | 100 mA | 300 mA | 300 mA | 500 mA | | |
| | Rating | 25 A | A9W21225 | A9W22225 | A9W24225 | - | A9W26225 | 3 |
| | | 63 A | A9W21263 | A9W22263 | A9W24263 | A9W25263 | A9W26263 | 4 |
| | Rating | 25 A | A9W21325 | - | A9W24325 | - | A9W26325 | 6 |
| | | 63 A | A9W21363 | - | A9W24363 | A9W25363 | A9W26363 | 7 |
| | Rating | 25 A | A9W21425 | A9W22425 | A9W24425 | - | A9W26425 | 6 |
| | | 63 A | A9W21463 | A9W22463 | A9W24463 | A9W25463 | A9W26463 | 7 |
| Voltage rating (Ue) | | 400 - 415 V | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | |
| Accessories | | Module CA907000 | | | | | | |

Vigi iC60 add-on residual current devices for iC60 double terminals (*SI* type)



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

- Combined with iC60 double tunnel terminals circuit breaker, the Vigi iC60 provide:
 - protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 300 mA),
 - protection of installations against the risk of fire (300 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.



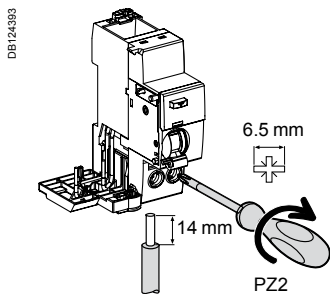
Catalogue numbers

Vigi iC60 add-on residual current devices

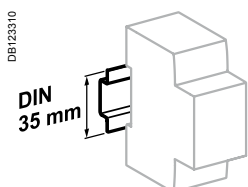
| Type | <i>SI</i> | | | Width in 9 mm modules |
|----------------------------|---------------------------------------|-----------------|----------------------|-----------------------|
| Product | Vigi iC60 | | | |
| Auxiliaries | Auxiliaries | | | |
| 2P DB1040510 | Sensitivity Rating 25 A 63 A | 10 mA | 30 mA | 300 mA |
| | | A9W30225 | A9W31225 | A9W35263 |
| 3P DB122463 | Sensitivity Rating 25 A 63 A | 10 mA | 30 mA | 300 mA |
| | | - | A9W31325 A9W31363 | - A9W35363 |
| 4P DB1040511 | Sensitivity Rating 25 A 63 A | 10 mA | 30 mA | 300 mA |
| | | - | A9W31425 A9W31463 | - A9W35463 |
| Voltage rating (Ue) | | 400 - 415 V | | |
| Operating frequency | | 50/60 Hz | | |
| Accessories | | Module CA907000 | | |

Vigi iC60 add-on residual current devices for iC60 double terminals (AC, A, *SI* types)

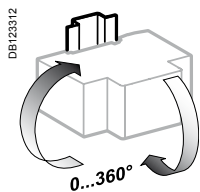
Connection



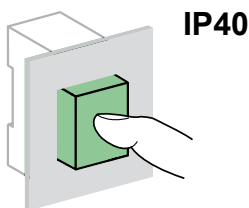
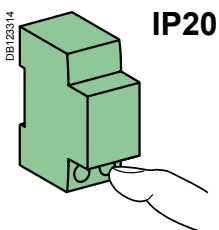
| Type | Rating | Tightening torque | Copper cables | |
|-----------|--------|-------------------|-------------------------|--------------------------|
| | | | Rigid | Flexible or with ferrule |
| Vigi iC60 | 25 A | 2 N.m | 1 to 25 mm ² | 1 to 16 mm ² |
| | 63 A | 3.5 N.m | 1 to 35 mm ² | 1 to 25 mm ² |



Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

| Main characteristics | | |
|---|------------------------------------|--|
| Insulation voltage (U _i) | | 500 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 6 kV |
| According to IEC/EN 61009-1 and IEC/EN 61009-2-1 | | |
| Surge current withstand (8/20 μs) without tripping | AC and A types (no selective) | 250 Å |
| | AC, A types (selective \square) | 3 kÅ |
| | <i>SI</i> type | 3 kÅ |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | AC type | -5°C to +60°C |
| | A and <i>SI</i> types | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |

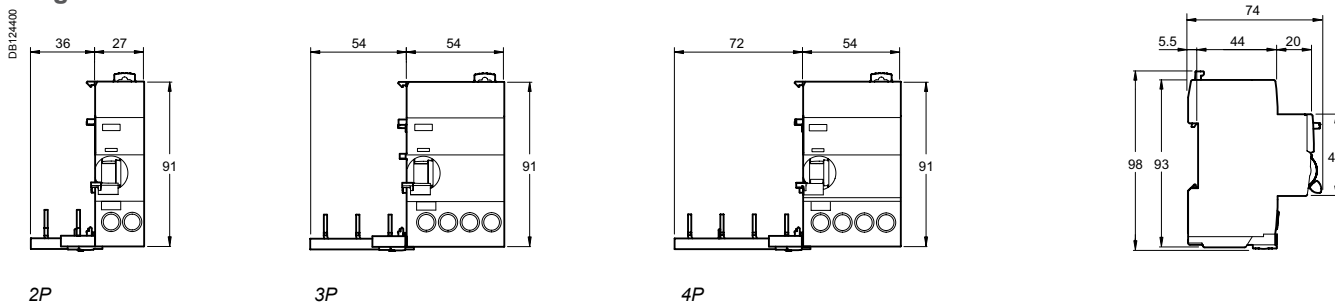
Vigi iC60 add-on residual current devices for iC60 double terminals (AC, A, S/I types) (cont.)

Weight (g)

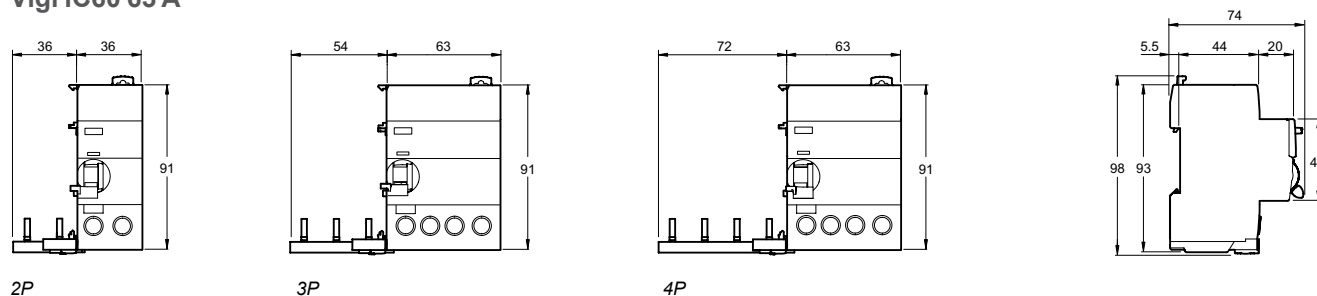
| Add-on residual current devices | |
|---------------------------------|-----------|
| Type | Vigi iC60 |
| 2P | 165 |
| 3P | 210 |
| 4P | 245 |

Dimensions (mm)

Vigi iC60 25 A



Vigi iC60 63 A



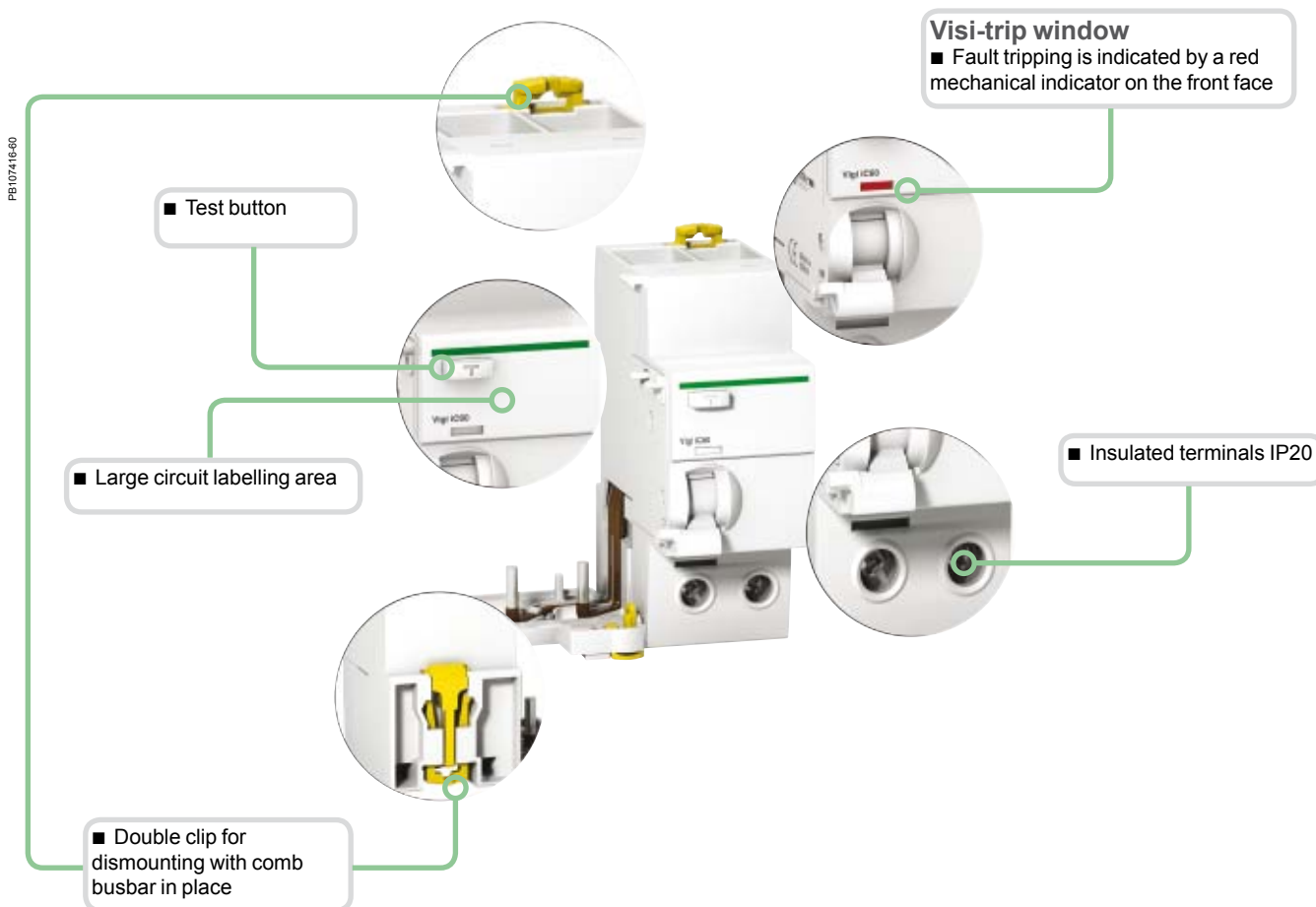
Vigi iC60 add-on residual current devices for iC60 double terminals (AC, A, S/ types) (cont.)

DE124384



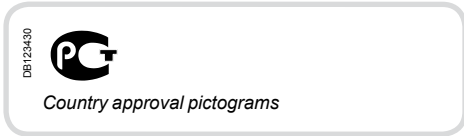
Association iC60N, H, L + Vigi iC60

| iC60 | Vigi iC60 25 A | Vigi iC60 63 A |
|---------------|-------------------|-------------------|
| 0.5 A to 25 A | ■ | ■ |
| 32 A - 40 A | NO | ■ |
| 50 A - 63 A | NO | ■ |



Type S/

The *S/* type provides increased immunity from electrical interference and polluted or corrosive environments.



EN 61009

When a Vigi C120 device is combined with a C120 circuit breaker, it provides the following functions:

- protection of persons against electric shock by direct contact (30 mA),
- protection of persons against electric shock by indirect contact (≥ 300 mA),
- protection of installations against fire hazards (300 mA to 1000 mA).



2P



3P

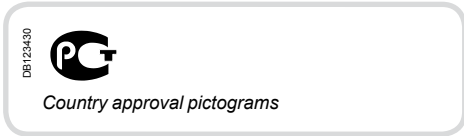


4P

Catalogue numbers

| Vigi C120 add-on residual current devices | | | | | | | |
|---|------------------------------|-------------------------------------|-------------------------------------|----------|----------|----------|-----------------------|
| Type | AC | | | | | | Width in 9 mm modules |
| Product | Vigi C120 | | | | | | |
| Auxiliaries | Without auxiliary | | | | | | |
| 2P | Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA | 1000 mA | 7 |
| | | A9N18563 | A9N18564 | A9N18565 | A9N18544 | A9N18545 | |
| 3P | Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA | 1000 mA | 10 |
| | | A9N18566 | A9N18567 | A9N18568 | A9N18546 | A9N18547 | |
| 4P | Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA | 1000 mA | 10 |
| | | A9N18569 A9N18542 ⁽¹⁾ | A9N18570 A9N18543 ⁽¹⁾ | A9N18571 | A9N18548 | A9N18549 | |
| Operating voltage (Ue) | 230...415 V | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | |
| Accessories | Module CA907012 and CA907013 | | | | | | |

(1) specific offer for France



EN 61009

When a Vigi C120 device is combined with a C120 circuit breaker, it provides the following functions:

- protection of persons against electric shock by direct contact (30 mA),
- protection of persons against electric shock by indirect contact (≥ 300 mA),
- protection of installations against fire hazards (300 mA to 1000 mA).



PB 107924-30

2P



PB 107925-30

3P

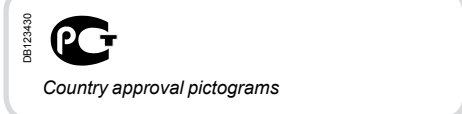


PB 107926-30

4P

Catalogue numbers

| Vigi C120 add-on residual current devices | | | | | | | | |
|---|-------------------|------------------------------|----------|----------|----------|----------|----------|-----------------------|
| Type | A | | | | | | | Width in 9 mm modules |
| Product | Vigi C120 | | | | | | | |
| Auxiliaries | Without auxiliary | | | | | | | |
| 2P | Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA | 500 mA | 1000 mA | |
| | | A9N18572 | A9N18573 | A9N18574 | - | - | - | 7 |
| 3P | Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA | 500 mA | 1000 mA | |
| | | A9N18575 | A9N18576 | A9N18577 | - | - | - | 10 |
| 4P | Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA | 500 mA | 1000 mA | |
| | | A9N18578 | A9N18579 | A9N18580 | A9N18587 | A9N18588 | A9N18589 | 10 |
| Operating voltage (U _e) | | 230...415 V | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | |
| Accessories | | Module CA907012 and CA907013 | | | | | | |



EN 61009

When a Vigi C120 device is combined with a C120 circuit breaker, it provides the following functions:

- protection of persons against electric shock by direct contact (30 mA),
- protection of persons against electric shock by indirect contact (≥ 300 mA),
- protection of installations against fire hazards (300 mA to 1000 mA).

Special feature of type SI

They are appropriate for operating in environments with:

- high risk of nuisance tripping: frequent lightning strikes, IT system, presence of electronic ballasts, frequency converters, presence of switchgear incorporating lighting type interference filters, computer system, etc.
- blind sources:
 - presence of harmonics or high frequency rejections
 - presence of DC components: diodes, diode bridges, switch-mode power supplies, etc.
- protected against nuisance tripping caused by transient voltage surges (lightning strike, operation of switchgear on the network, etc.)



2P



3P



4P

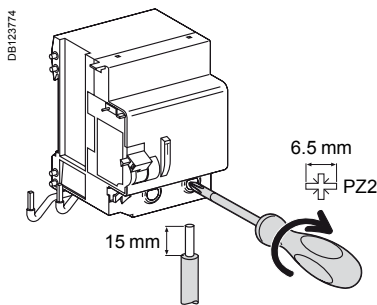
Catalogue numbers

| Vigi C120 add-on residual current devices | | | | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|---------------|----------------|-----------------|-----------------------|
| Type | SI | | | | | | Width in 9 mm modules |
| Product | Vigi C120 | | | | | | |
| Auxiliaries | Without auxiliary | | | | | | |
| 2P | Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA | 1000 mA | |
| | | A9N18591 | A9N18592 | - | A9N18556 | A9N18557 | 7 |
| 3P | Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA | 1000 mA | |
| | | A9N18594 | A9N18595 | - | A9N18558 | A9N18559 | 10 |
| 4P | Sensitivity | 30 mA | 300 mA | 500 mA | 300 mA | 1000 mA | |
| | | A9N18597 A9N18554 ⁽¹⁾ | A9N18598 A9N18555 ⁽¹⁾ | A9N18599 | A9N18560 | A9N18561 | 10 |
| Operating voltage (Ue) | 230...415 V | | | | | | |
| Operating frequency | 50 Hz | | | | | | |
| Accessories | Module CA907012 and CA907013 | | | | | | |

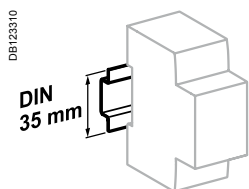
(1) specific offer for France

Vigi C120 add-on residual current devices (types AC, A and SI)

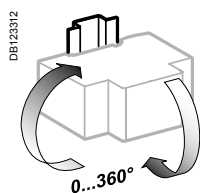
Connection



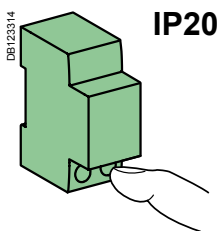
| Type | Sensitivity | Tightening torque | Copper cables | |
|-----------|--------------|-------------------|-------------------------|--------------------------|
| | | | Rigid | Flexible or with ferrule |
| Vigi C120 | 30...1000 mA | 3.5 N.m | 1 to 50 mm ² | 1 to 35 mm ² |



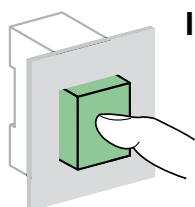
Clips onto 35 mm DIN rail.



Any installation position.



IP20



IP40

Technical data

Main characteristics

To IEC 60947-2

| | |
|---|----------|
| Insulation voltage (U _i) | 500 V AC |
| Degree of pollution | 3 |
| Rated impulse withstand voltage (U _{imp}) | 6 kV |

To EN 61009

| | | |
|--|----------------------------------|-------|
| Impulse current withstand (8/20 μs) without tripping | Types AC and A (non-selective ☒) | 250 Å |
| | Types AC and A (selective ☒) | 3 kÅ |
| | Types SI (non-selective ☒) | 3 kÅ |
| | Types SI (selective ☒) | 5 kÅ |

Additional characteristics

| | | |
|-----------------------|-------------------------------|------------------|
| Degree of protection | Device only | IP20 |
| | Device in a modular enclosure | IP40 |
| Operating temperature | Type AC | -5 °C to +60 °C |
| | Types A and SI | -25 °C to +60 °C |
| Storage temperature | | -40 °C to +85 °C |

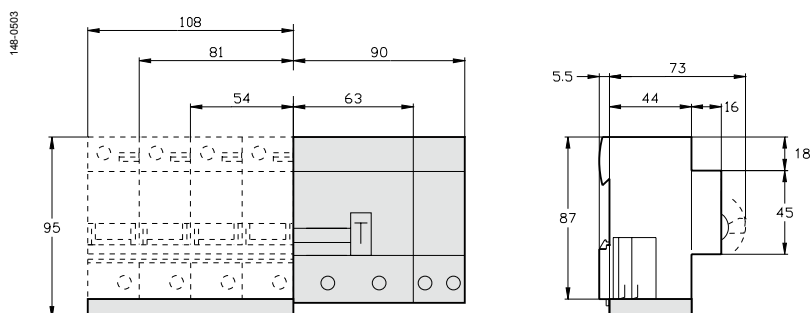
Weight (g)

Add-on residual current devices

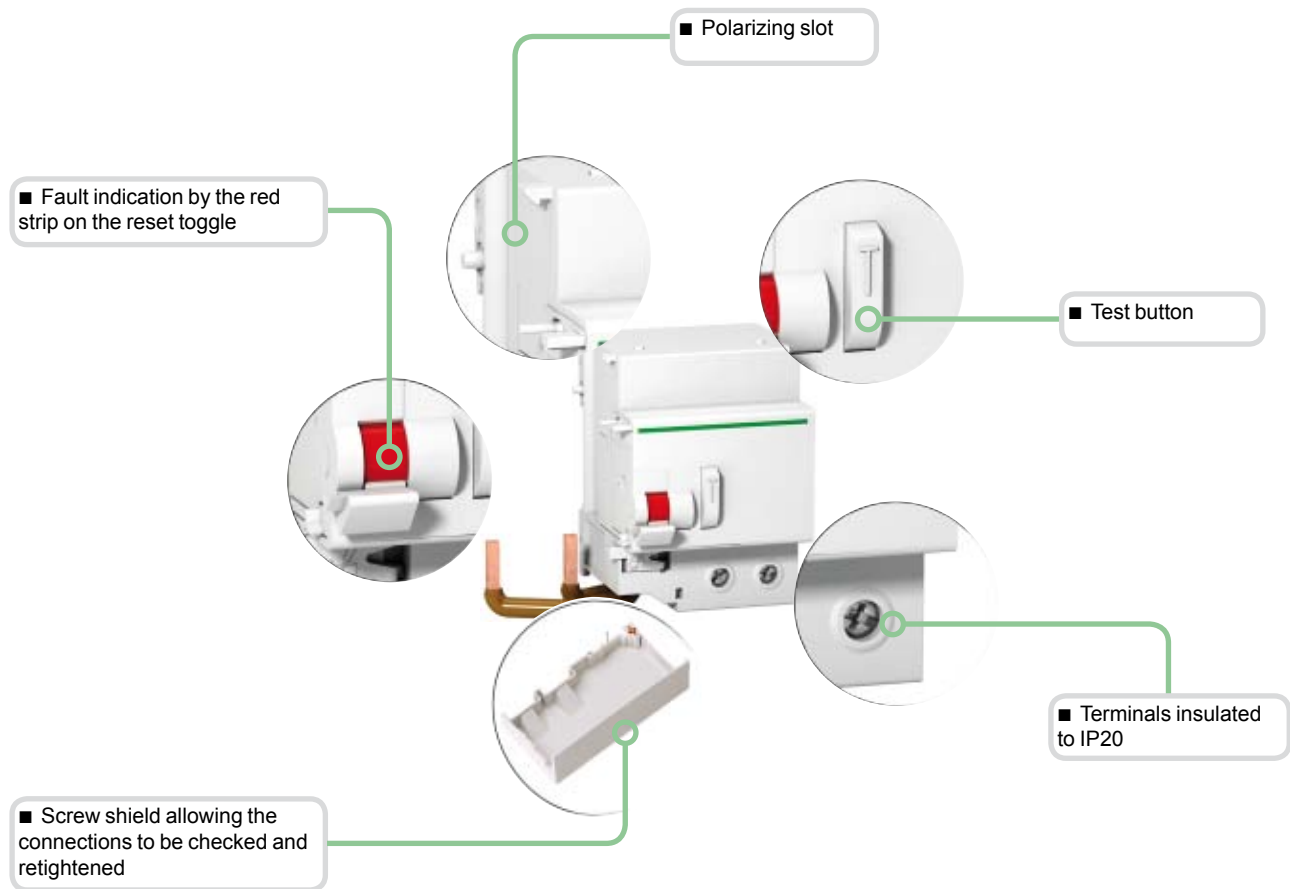
| Type | Vigi C120 |
|------|-----------|
| 2P | 325 |
| 3P | 500 |
| 4P | 580 |

Dimensions (mm)

C120 + Vigi C120



Vigi C120 add-on residual current devices (types AC, A and SI) (cont.)



Type SI

The *SI* type provides increased immunity from electrical interference and polluted or corrosive environments.



Schneider Electric's range of add-on residual current devices consists of different products (A, B) to enable it to be the most competitive range possible in each country, allowing for the special characteristics of each market:

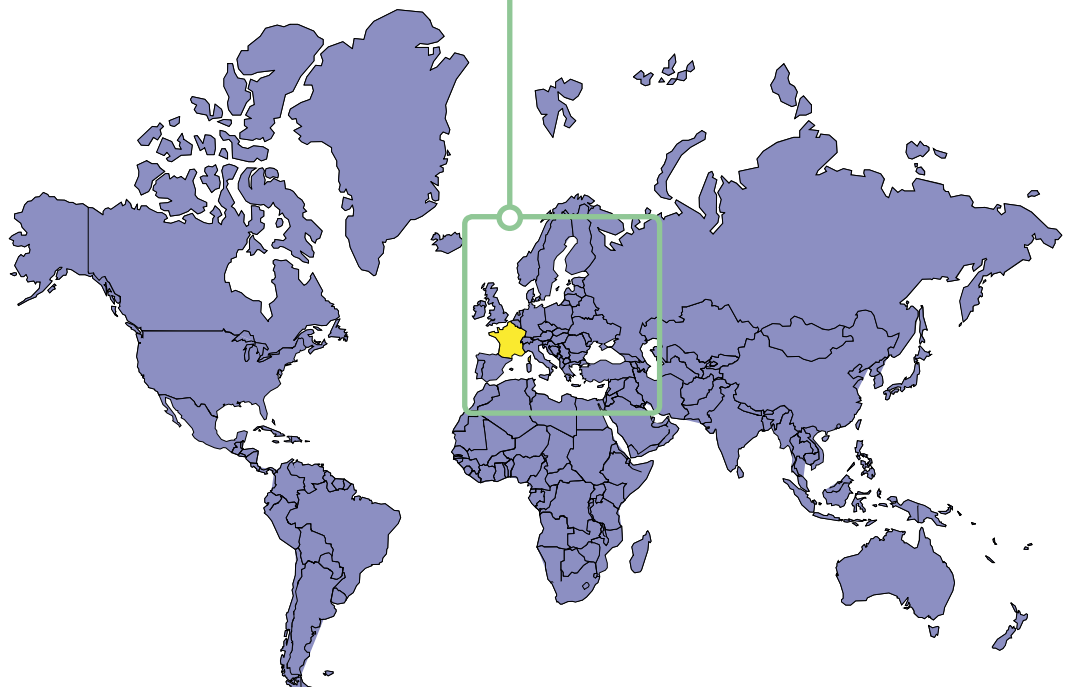
- usual installation procedure
- price
- accreditations by local bodies.

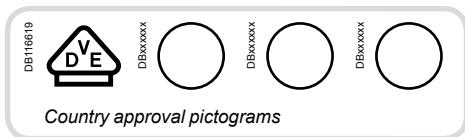
Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 218 |
| Offer B | Catalogue numbers | 221 |
| Common pages | | 224 |

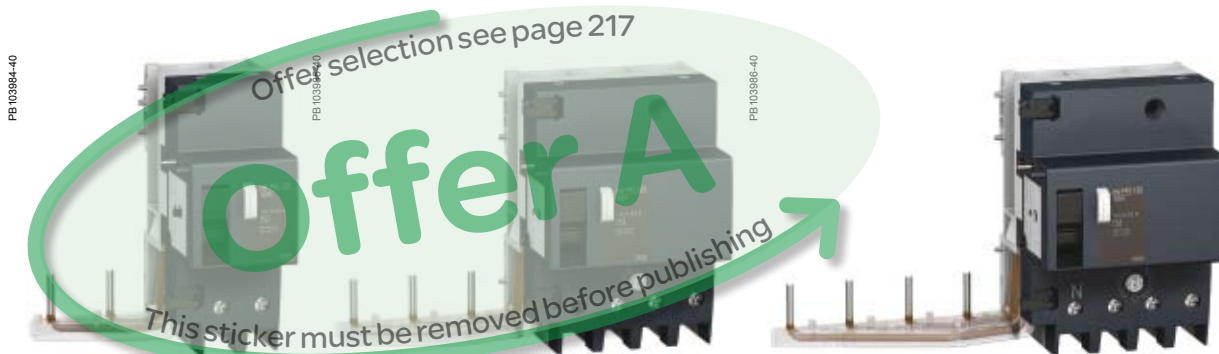


Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.





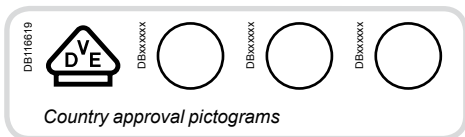
IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent



- When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:
 - protection of persons against electric shocks by direct contact (30 mA),
 - protection of persons against electric shocks by indirect contact (300 mA),
 - protection of installations against fire risks (300 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| Vigi NG125 add-on residual current devices | | | | | |
|--|---------------------|--------------------------|-----------------------|---|--|
| Type | AC | | Width in 9 mm modules | | |
| Product | Vigi NG125 | | | | |
| Auxiliaries | Without auxiliaries | | | | |
| 2P | Sensitivity | 30 mA | 300 mA | | |
| | Rating 63 A | 19000 | 19001 | 5 | |
| 3P | Sensitivity | 30 mA | 300 mA | | |
| | Rating 63 A | 19002 | 19003 | 9 | |
| 4P | Sensitivity | 30 mA | 300 mA | | |
| | Rating 63 A | 19004 | 19005 | 9 | |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V | | | |
| Operating frequency | | 50/60 Hz | | | |
| Accessories | | Module CM907006 | | | |



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent



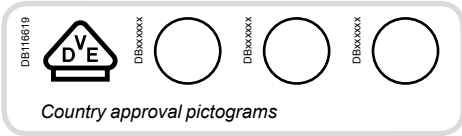
- When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:
 - protection of persons against electric shocks by direct contact (30 mA),
 - protection of persons against electric shocks by indirect contact (≥ 300 mA),
 - protection of installations against fire risks (300 mA or 500 mA).

■ Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| Vigi NG125 add-on residual current devices | | | | | | | | |
|--|---|--------------------|--------------------|--------|---------|----------------|--------------------|-----------------------|
| Type | A | | | | | | | Width in 9 mm modules |
| Product | Vigi NG125 | | | | | | | |
| Auxiliaries | Module CM907005 | | | | | | | |
| 2P | Sensitivity | 30 mA | 300 mA | 300 mA | 1000 mA | 300...1000 I/S | 300...3000 I/S/R | |
| DB122462 | Rating 63 A | 19011 19008 (1) | 19012 19009 (1) | 19030 | 19031 | - | - | 5 |
| | | | | | | | | |
| 3P | Sensitivity | 30 mA | 300 mA | 300 mA | 1000 mA | 300...1000 I/S | 300...3000 I/S/R | |
| DB122463 | Rating 63 A | 19013 | 19014 | 19032 | 19033 | - | - | 9 |
| | 125 A | 19039 19050 (2) | - | - | - | 19044 | 19036 19053 (2) | 11 |
| | | | | | | | | |
| | | | | | | | | |
| 4P | Sensitivity | 30 mA | 300 mA | 300 mA | 1000 mA | 300...1000 I/S | 300...3000 I/S/R | |
| DB122464 | Rating 63 A | 19017 | 19018 | 19034 | 19035 | - | - | 9 |
| | 125 A | 19041 19051 (2) | 19042 | - | - | 19045 | 19037 19054 (2) | 11 |
| | | | | | | | | |
| | | | | | | | | |
| Voltage rating (Ue) | 230 - 240 V, 400 - 415 V Except: (1) 110...220 V and (2) 440...500 V | | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | | |
| Accessories | Module CM907006 | | | | | | | |

Vigi NG125 add-on residual current devices (S/I type)



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

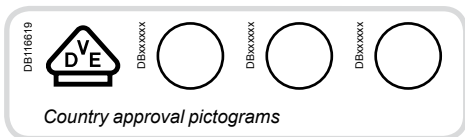
067484-40



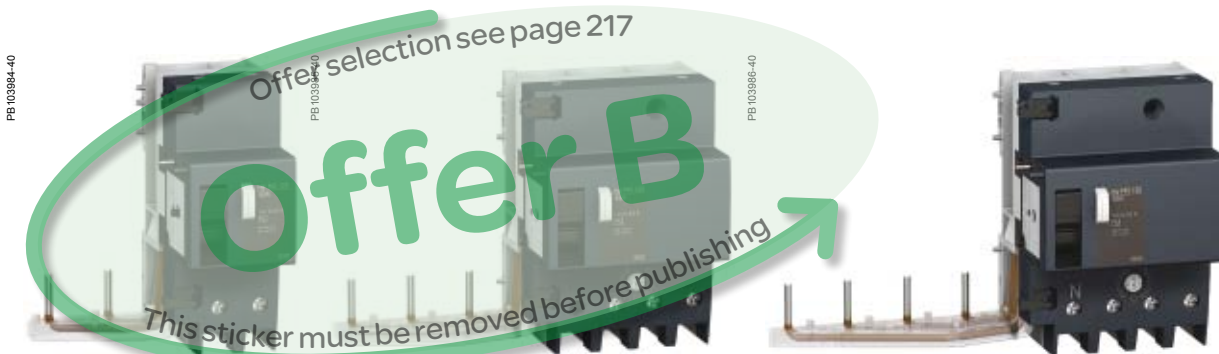
- When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:
 - protection of persons against electric shocks by direct contact (30 mA),
 - protection of persons against electric shocks by indirect contact (≥ 300 mA),
 - protection of installations against fire risks (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.
- The following types are appropriate for operating in environments with:
 - High risk of nuisance tripping: frequent lightning strikes, IT system, presence of electronic ballasts, frequency converters, presence of switchgear incorporating lighting type interference filters, computer system, etc.
 - Blind sources
 - presence of harmonics or high frequency rejections,
 - presence of DC components: diodes, diode bridges, switch-mode power supplies, etc.
 - Protected against nuisance tripping caused by transient voltage surges (lightning strike, operation of switchgear on the network, etc.).

Catalogue numbers

| Vigi NG125 add-on residual current devices | | | | | |
|--|--------------------|--------------|--------------------------|--------------|-----------------------|
| Type | | | S/I | | Width in 9 mm modules |
| Product | | | Vigi NG125 | | |
| Auxiliaries | | | Module CM907005 | | |
| 3P | Sensitivity | 30 mA | 300...3000 I/S/R | | |
| | Rating | 125 A | 19100 | 19106 | 11 |
| 4P | Sensitivity | 30 mA | 300...3000 I/S/R | | |
| | Rating | 125 A | 19101 | 19107 | 11 |
| Voltage rating (Ue) | | | 230 - 240 V, 400 - 415 V | | |
| Operating frequency | | | 50/60 Hz | | |
| Accessories | | | Module CM907006 | | |



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

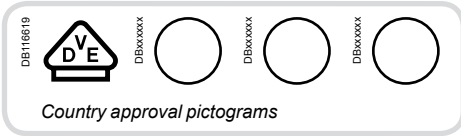


- When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:
 - protection of persons against electric shocks by direct contact (30 mA),
 - protection of persons against electric shocks by indirect contact (300 mA),
 - protection of installations against fire risks (300 mA).

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| Vigi NG125 add-on residual current devices | | | | | |
|--|---------------------|------|--------------------------|--------|-----------------------|
| Type | AC | | Vigi NG125 | | Width in 9 mm modules |
| Product | Without auxiliaries | | | | |
| Auxiliaries | Sensitivity | | 30 mA | 300 mA | |
| 2P DB122462 | Rating | 63 A | 19000 | 19001 | 5 |
| 3P DB122463 | Rating | 63 A | 19002 | 19003 | 9 |
| 4P DB122464 | Rating | 63 A | 19004 | 19005 | 9 |
| Voltage rating (Ue) | | | 230 - 240 V, 400 - 415 V | | |
| Operating frequency | | | 50/60 Hz | | |
| Accessories | | | Module CM907006 | | |



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

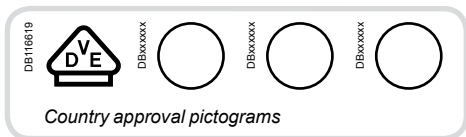


- When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:
 - protection of persons against electric shocks by direct contact (30 mA),
 - protection of persons against electric shocks by indirect contact (≥ 300 mA),
 - protection of installations against fire risks (300 mA or 500 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| Vigi NG125 add-on residual current devices | | | | | | | | | |
|--|-----------------|--|----------------------------------|----------------------------------|--------------|----------------|----------------------------------|----------------------------------|-----------------------|
| Type | A | | | | | | | | Width in 9 mm modules |
| Product | Vigi NG125 | | | | | | | | |
| Auxiliaries | Module CM907005 | | | | | | | | |
| 2P | Sensitivity | 30 mA | 300 mA | 300 mA | 1000 mA | 300...1000 I/S | 300...3000 I/S/R | | |
| DB122462 | Rating | 63 A | 19010 <i>19008 (1)</i> | 19012 <i>19009 (1)</i> | 19030 | 19031 | - | - | 5 |
| | | | | | | | | | |
| DB122463 | Rating | 63 A | 19013 | 19014 | 19032 | 19033 | - | - | 9 |
| | | | - | - | - | - | - | 19036 <i>19053 (2)</i> | 11 |
| | 125 A | 19039 | - | - | - | 19044 | 19047 <i>19055 (2)</i> | 11 | |
| DB122464 | Rating | 63 A | 19015 | 19016 | 19034 | 19035 | - | - | 9 |
| | | | - | - | - | - | - | 19037 <i>19054 (2)</i> | 11 |
| | 125 A | 19041 | 19042 | - | - | 19046 | 19049 <i>19056 (2)</i> | 11 | |
| Voltage rating (Ue) | | 230 - 240 V, 400 - 415 V <i>Except: (1) 110...220 V and (2) 440...500 V</i> | | | | | | | |
| Operating frequency | | 50/60 Hz | | | | | | | |
| Accessories | | Module CM907006 | | | | | | | |

Vigi NG125 add-on residual current devices (S/I type)



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

Offer selection see page 217

■ When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:

- protection of persons against electric shocks by direct contact (30 mA),
- protection of persons against electric shocks by indirect contact (≥ 300 mA),
- protection of installations against fire risks (300 mA or 500 mA).

■ Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

■ It is appropriate for operating in environments with:

■ High risk of nuisance tripping: frequent lightning strikes, IT system, presence of electronic ballasts, frequency converters, presence of switchgear incorporating lighting type interference filters, computer system, etc.

■ Blind sources

- presence of harmonics or high frequency rejections,
- presence of DC components: diodes, diode bridges, switch-mode power supplies, etc.

■ Protected against nuisance tripping caused by transient voltage surges (lightning strike, operation of switchgear on the network, etc.).

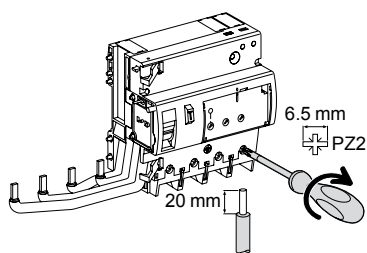
Catalogue numbers

| Vigi NG125 add-on residual current devices | | | | | |
|--|-------------|-------|--------------------------|------------------|-----------------------|
| Type | | | S/I | | Width in 9 mm modules |
| Product | | | Vigi NG125 | | |
| Auxiliaries | | | Module CM907005 | | |
| 3P | Sensitivity | | 30 mA | 300...3000 I/S/R | |
| <p>DB122463</p> | Rating | 125 A | 19100 | 19106 | 11 |
| | | | | | |
| <p>DB122464</p> | Rating | 125 A | 19101 | 19107 | 11 |
| | | | | | |
| Voltage rating (Ue) | | | 230 - 240 V, 400 - 415 V | | |
| Operating frequency | | | 50/60 Hz | | |
| Accessories | | | Module CM907006 | | |

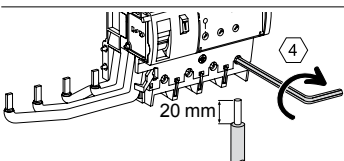
Vigi NG125 add-on residual current devices (AC, A, S/I types)

Connection

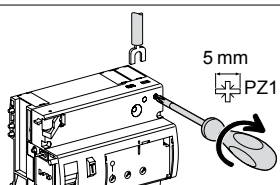
DB123404



DB123405

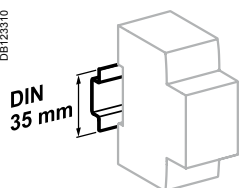


DB123406



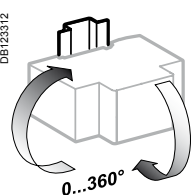
| Rating | Tightening torque | Without accessories | | | With accessories | |
|------------------|-------------------|---------------------------|--------------------------|-------------------------|--------------------------------|--|
| | | Copper cables Rigid | Flexible or with ferrule | Screw clamp terminal | 70 mm ² Al terminal | Screw-on connection for ring terminal |
| 63 A | 3.5 N.m | 1.5 to 50 mm ² | 1 to 35 mm ² | - | - | - |
| 125 A | 6 N.m | 16 to 70 mm ² | 10 to 50 mm ² | - | 25 to 70 mm ² | 2 x 35 mm ² 1 x 50 mm ² |
| Pre-alarm | 1 N.m | 2 x 2.5 mm ² | 2 x 1.5 mm ² | 2 x 1.5 mm ² | - | - |

DB12310



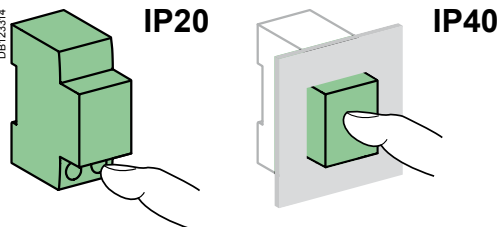
Clip on DIN rail 35 mm.

DB12312



Indifferent position of installation.

DB12314



Technical data

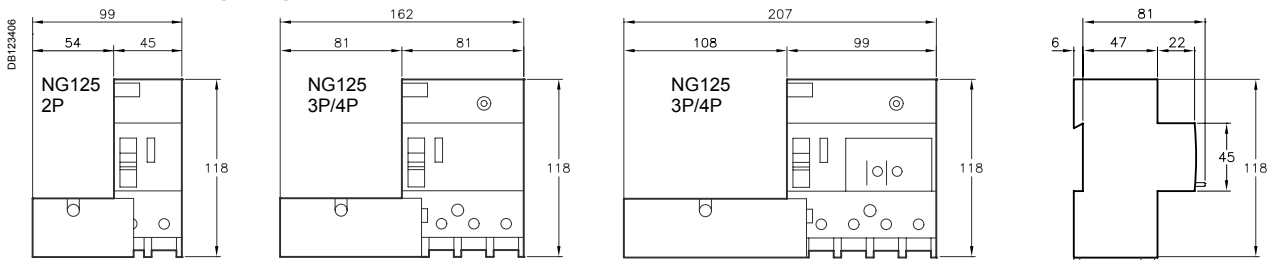
| Main characteristics | | |
|--|---|--|
| Insulation voltage (U _i) | | 690 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (U _{imp}) | | 8 kV |
| According to IEC/EN 61009-1 and IEC/EN 61009-2-1 | | |
| Surge current withstand (8/20 μs) without tripping | Selective <input type="checkbox"/> or R | 5 kA |
| | Instantaneous | 3 kA |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | AC type | -5°C to +60°C |
| | A and S/I types | -25°C to +60°C |
| | | |
| Storage temperature | | -40°C to +85°C |
| Additional characteristics | | |
| Vigi 125 A and adjustable | | |
| Plug-in auxiliaries | MXV | Remote tripping |
| | SDV | Indication of tripping upon earth fault |
| Adjustable Vigi | | |
| Sensitivity adjustable by notch (I _{Δn}) | | 300, 500, 1000, 3000 mA |
| Tripping time | Instantaneous | |
| | Selective <input type="checkbox"/> | 60 ms |
| | Time-delayed | 150 ms |
| Leakage current indication on 3P and 4P 300...3000 I/S/R (pre-alarm) | | On front face by LED Remote, by potential-free normally-open contact 250 V - 1 A (low level) Threshold setting by potentiometer from 10 % to 50 % of I _{Δn} |
| Disconnection essential for dielectric test | | By integral pushbutton |

Vigi NG125 add-on residual current devices (AC, A, S/ types) (cont.)

Weight (g)

| Add-on residual current devices | | | |
|---------------------------------|-----|-----|-----|
| Number of 9 mm modules | 2P | 3P | 4P |
| 5 modules | 250 | - | - |
| 9 modules | - | 410 | 450 |
| 11 modules | - | 750 | 800 |

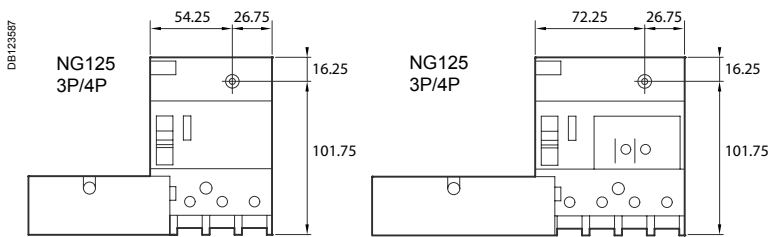
Dimensions (mm)



2P (5 modules)

63, 125 A (9 modules)

63, 125 A (11 modules)



Spacing for mounting on panel

Vigi NG125 add-on residual current devices (AC, A, S/I types) (cont.)

058341_SE-50

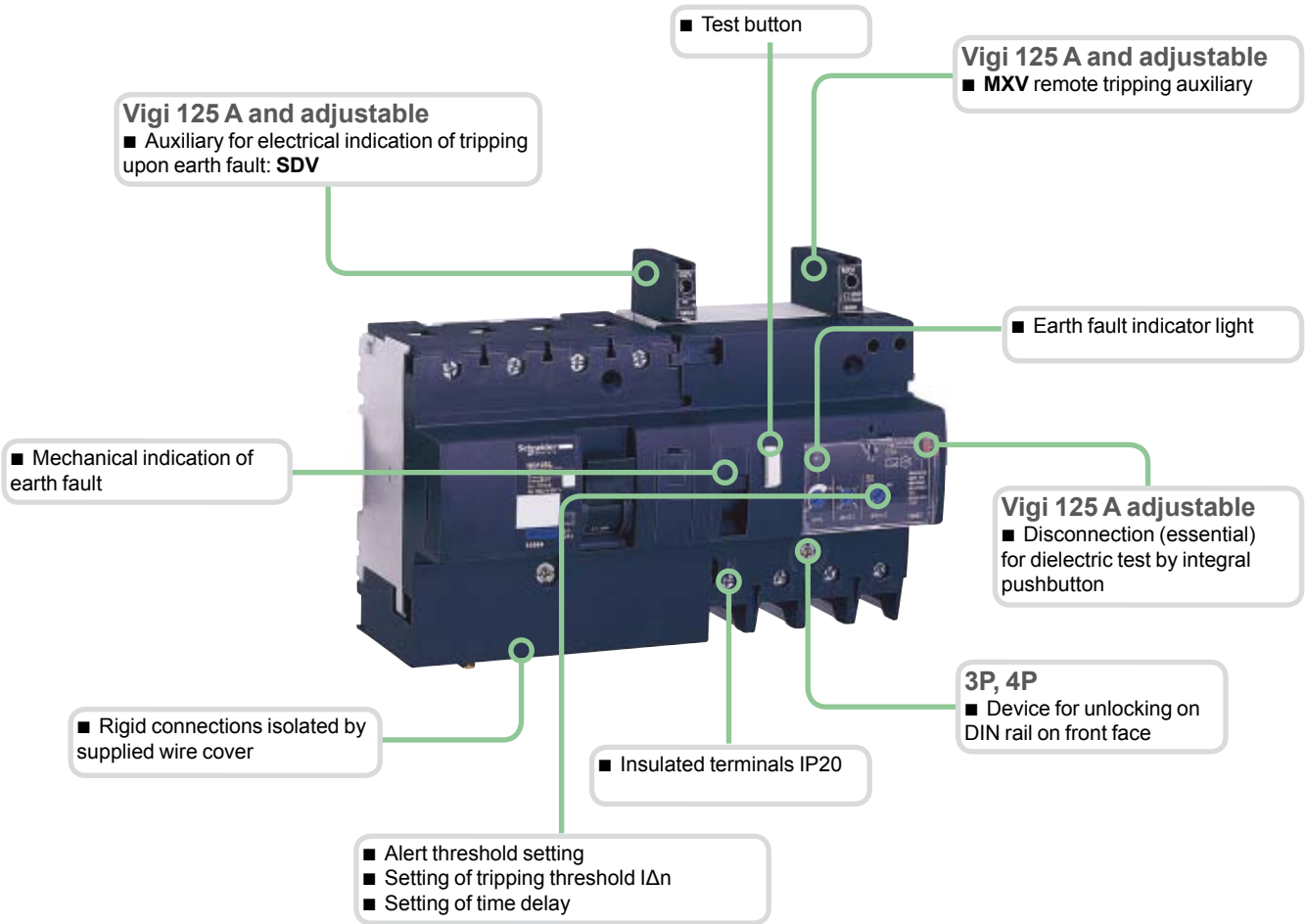


Association NG125 + Vigi NG125

| | Vigi NG125 63 A | Vigi NG125 125 A |
|-------------------|--------------------|---------------------|
| NG125 ≤ 63 A | ■ | NO |
| NG125 80...125 A* | NO | ■ |

(*) No Vigi add-on residual current device for 2P circuit breakers of rating 80 A.

FB104466-40



S/I type

S/I types are appropriate for operating in environments with:

- High risk of nuisance tripping: frequent lightning strikes, IT system, presence of electronic ballasts, frequency converters, presence of switchgear incorporating lighting type interference filters, computer system, etc.
- Blind sources
 - presence of harmonics or high frequency rejections,
 - presence of DC components: diodes, diode bridges, switch-mode power supplies, etc.
- Protected against nuisance tripping caused by transient voltage surges (lightning strike, operation of switchgear on the network, etc.).



Schneider Electric's range of residual current devices consists of different products (A, B) to enable it to be the most competitive range possible in each country, allowing for the special characteristics of each market:

- usual installation procedure
- price
- accreditations by local bodies.

Variants

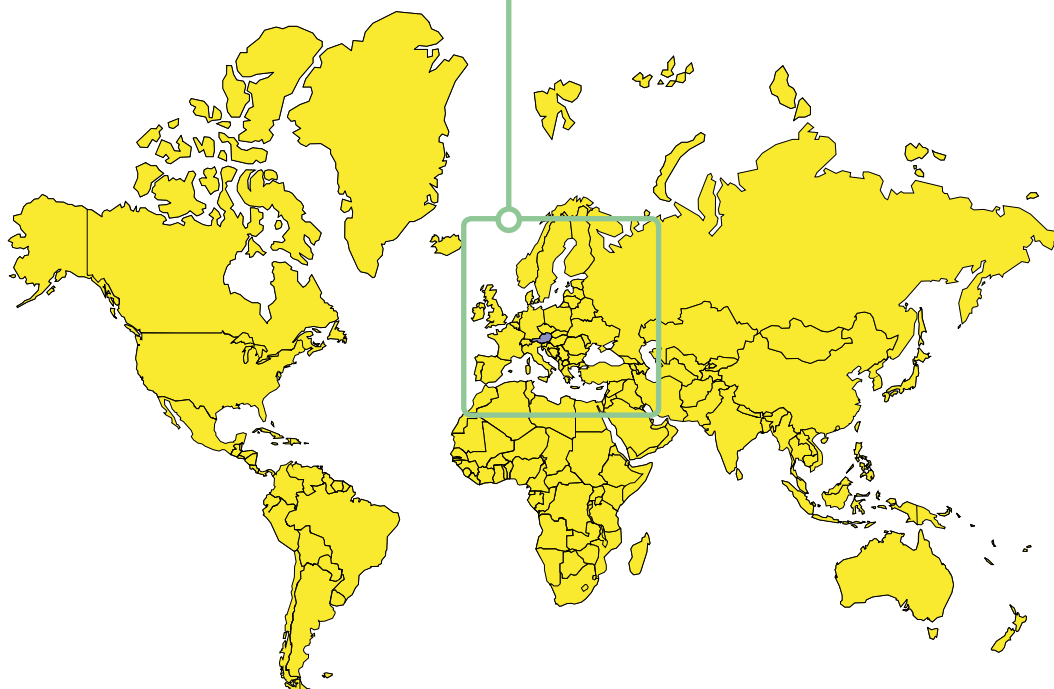
| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 229 |
| Offer B | Catalogue numbers | 231 |
| Common pages | | 232 |

DE406602



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.

DE406601





IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent



- The iDPN Vigi residual current device provide complete protection for final circuits (against overcurrents and insulation faults):
 - protection for users against electric shocks by direct contacts (≤ 30 mA),
 - protection for users against electric shocks by indirect contacts (300 mA),
 - protection of the installations against fire risks (300 mA).

- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

- The *SI* range has been designed to maintain a network with optimum safety and continuity of service in installations disturbed by:
 - extreme atmospheric conditions,
 - harmonic generating loads,
 - transient operating currents.

Offer selection see page 227

Offer A


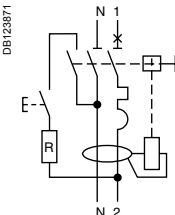
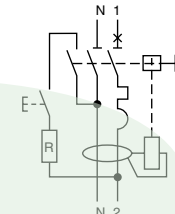
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iDPN N Vigi

Catalogue numbers

| iDPNa Vigi 4500 | | | | | | | |
|---------------------|---|------------------------------|---------------|--------------|-----------------------|----------|--|
| Type | AC | A | | | Width in 9 mm modules | | |
| Auxiliaries | | Module CA907000 and CA907002 | | | | | |
| 1P+N Curve B | Sensitivity | 30 mA | 300 mA | 10 mA | 30 mA | | |
| | Rating (In) | 6 A | A9D51606 | - | A9D54606 | 4 | |
| | | 10 A | A9D51610 | - | A9D54610 | | |
| | | 13 A | - | - | - | A9D54613 | |
| | | 16 A | A9D51616 | - | - | A9D54616 | |
| | | 20 A | A9D51620 | - | - | A9D54620 | |
| | | 25 A | A9D51625 | - | - | A9D54625 | |
| | | 32 A | A9D51632 | - | - | A9D54632 | |
| | | 40 A | A9D51640 | - | - | A9D54640 | |
| 1P+N Curve C | Sensitivity | 30 mA | 300 mA | 10 mA | 30 mA | | |
| | Rating (In) | 6 A | A9D34606 | A9D44606 | A9D35606 | 4 | |
| | | 10 A | A9D34610 | A9D44610 | A9D05610 | A9D35610 | |
| | | 13 A | - | - | - | A9D35613 | |
| | | 16 A | A9D34616 | A9D44616 | A9D05616 | A9D35616 | |
| | | 20 A | A9D34620 | A9D44620 | - | A9D35620 | |
| | | 25 A | A9D34625 | A9D44625 | - | A9D35625 | |
| | | 32 A | A9D34632 | A9D44632 | - | A9D35632 | |
| | | 40 A | A9D34640 | A9D44640 | - | A9D35640 | |
| Voltage rating (Ue) | 230 V AC | | | | | | |
| Operating frequency | 50 Hz | | | | | | |
| Accessories | Module CA907000 and CA907001, comb busbars LIN001 | | | | | | |




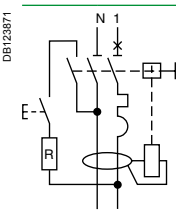
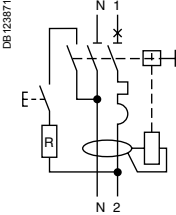
Catalogue numbers

| iDPN N Vigi 6000 | | | | |
|--|---|---|-----------------------|----------|
| Type | A  | | Width in 9 mm modules | |
| Auxiliaries | | Module CA907000 and CA907002 | | |
| 1P+N Curve B | Sensitivity | 30 mA | 4 | |
|  | Rating (In) | 10 A | | A9D06610 |
| | | 16 A | | A9D06616 |
| | | 20 A | | A9D06620 |
| 1P+N Curve C | Sensitivity | 30 mA | 4 | |
|  | Rating (In) | 10 A | | A9D01610 |
| | | 16 A | | A9D01616 |
| | | 20 A | | A9D01620 |
| Voltage rating (Ue) | | 110 V AC | | |
| Operating frequency | | 50 Hz | | |
| Accessories | | Module CA907000 and CA907001, comb busbars LIN001 | | |



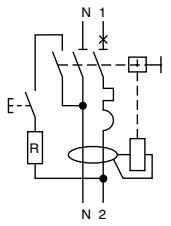
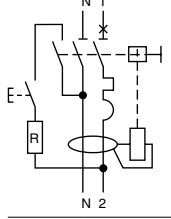
Offer selection see page 227

Offer A

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| iDPN N Vigi 6000 | | | | | | | | | | | | | |
|---|--|---|----------|---|----------|----------|----------|----------|----------|--|---|----------|-----------------------|
| Type | AC  | | | A  | | | | | | SI  | | | Width in 9 mm modules |
| Auxiliaries | | Module CA907000 and CA907002 | | | | | | | | | | | |
| 1P+N Curve B | Sensitivity | 30 mA | 300 mA | 10 mA | 30 mA | 100 mA | 300 mA | 30 mA | 100 mA | 300 mA | 4 | | |
|  | Rating (In) | 4 A | A9D55604 | A9D68604 | - | A9D56604 | A9D60604 | A9D69604 | - | - | | - | |
| | | 6 A | A9D55606 | A9D68606 | - | A9D56606 | A9D60606 | A9D69606 | - | - | | - | |
| | | 10 A | A9D55610 | A9D68610 | A9D08610 | A9D56610 | A9D60610 | A9D69610 | - | - | | - | |
| | | 13 A | - | - | - | A9D56613 | A9D60613 | A9D69613 | - | - | | - | |
| | | 16 A | A9D55616 | A9D68616 | A9D08616 | A9D56616 | A9D60616 | A9D69616 | - | - | | - | |
| | | 20 A | A9D55620 | A9D68620 | - | A9D56620 | A9D60620 | A9D69620 | - | - | | - | |
| | | 25 A | A9D55625 | A9D68625 | - | A9D56625 | A9D60625 | A9D69625 | - | - | | - | |
| | | 32 A | A9D55632 | A9D68632 | - | A9D56632 | A9D60632 | A9D69632 | - | - | | - | |
| | | 40 A | A9D55640 | A9D68640 | - | A9D56640 | A9D60640 | A9D69640 | - | - | - | | |
| 1P+N Curve C | Sensitivity | 30 mA | 300 mA | 10 mA | 30 mA | 100 mA | 300 mA | 30 mA | 100 mA | 300 mA | 4 | | |
|  | Rating (In) | 6 A | A9D31606 | A9D41606 | - | A9D32606 | A9D52606 | A9D42606 | A9D33606 | A9D53606 | | A9D43606 | |
| | | 10 A | A9D31610 | A9D41610 | A9D02610 | A9D32610 | A9D52610 | A9D42610 | A9D33610 | A9D53610 | | A9D43610 | |
| | | 13 A | - | - | - | A9D32613 | A9D52613 | A9D42613 | A9D33613 | A9D53613 | | A9D43613 | |
| | | 16 A | A9D31616 | A9D41616 | A9D02616 | A9D32616 | A9D52616 | A9D42616 | A9D33616 | A9D53616 | | A9D43616 | |
| | | 20 A | A9D31620 | A9D41620 | - | A9D32620 | A9D52620 | A9D42620 | A9D33620 | A9D53620 | | A9D43620 | |
| | | 25 A | A9D31625 | A9D41625 | - | A9D32625 | A9D52625 | A9D42625 | A9D33625 | A9D53625 | | A9D43625 | |
| | | 32 A | A9D31632 | A9D41632 | - | A9D32632 | A9D52632 | A9D42632 | A9D33632 | A9D53632 | | A9D43632 | |
| | | 40 A | A9D31640 | A9D41640 | - | A9D32640 | A9D52640 | A9D42640 | A9D33640 | A9D53640 | | A9D43640 | |
| | Voltage rating (Ue) | | 230 V AC | | | | | | | | | | |
| Operating frequency | | 50 Hz | | | | | | | | | | | |
| Accessories | | Module CA907000 and CA907001, comb busbars LIN001 | | | | | | | | | | | |

Catalogue numbers

| iDPN H Vigi 10000 | | | | | | | |
|---|-------------|---|----------|--|----------|-----------------------|---|
| Type | | A  | | SI  | | Width in 9 mm modules | |
| Auxiliaries | | Module CA907000 and CA907002 | | | | | |
| 1P+N | Curve B | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | |
|  | Rating (In) | 6 A | A9D07606 | - | - | - | 4 |
| | | 10 A | A9D07610 | - | - | - | |
| | | 16 A | A9D07616 | - | - | - | |
| | | 20 A | A9D07620 | - | - | - | |
| | | 25 A | A9D07625 | - | - | - | |
| | | 32 A | A9D07632 | - | - | - | |
|  | Rating (In) | 6 A | A9D37606 | A9D47606 | A9D38606 | A9D48606 | 4 |
| | | 10 A | A9D37610 | A9D47610 | A9D38610 | A9D48610 | |
| | | 16 A | A9D37616 | A9D47616 | A9D38616 | A9D48616 | |
| | | 20 A | A9D37620 | A9D47620 | A9D38620 | A9D48620 | |
| | | 25 A | A9D37625 | A9D47625 | A9D38625 | A9D48625 | |
| | | 32 A | A9D37632 | A9D47632 | A9D38632 | A9D48632 | |
| Voltage rating (Ue) | | 230 V AC | | | | | |
| Operating frequency | | 50 Hz | | | | | |
| Accessories | | Module CA907000 and CA907001, comb busbars LIN001 | | | | | |

Offer selection see page 227

offer A

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iDPN N Vigi

Offer selection see page 227

Offer B

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IEC/EN 61009-1
IEC/EN 61009-2-1

Voltage Independent

- The iDPN Vigi residual current device provide complete protection for final circuits (against overcurrents and insulation faults):
 - protection for users against electric shocks by direct contacts (30 mA),
 - protection for users against electric shocks by indirect contacts (100 mA),
 - protection of the installations against fire risks (100 mA).
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| iDPN N Vigi G Type 6000 | | | | |
|-------------------------|----------------|---|--------------|-----------------------|
| Type | | AC | A | Width in 9 mm modules |
| Auxiliaries | | Module CA907000 and CA907002 | | |
| 1P+N | Curve C | Sensitivity | 30 mA | 100 mA |
| | Rating (In) | 6 A | A9D62606 | A9D72606 |
| | | 10 A | A9D62610 | A9D72610 |
| | | 13 A | A9D62613 | A9D72613 |
| | | 16 A | A9D62616 | A9D72616 |
| Voltage rating (Ue) | | 230 V AC | | |
| Operating frequency | | 50 Hz | | |
| Accessories | | Module CA907000 and CA907001, comb busbars LIN001 | | |

DB40596-40

■ Fast contact closure

■ Insulated terminals IP20

Visi-trip double window

- Fault tripping circuit breaker is indicated by a red mechanical indicator on the front face.
- Earth fault is indicated by a red mechanical indicator on the front face

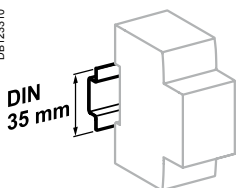


■ Test button

Positive contact indication

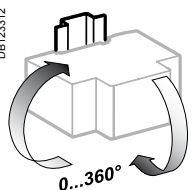
- A green strip on the toggle guarantees opening of all the poles in safety conditions (padlocking possible) for work to be carried out on live parts

DB123310



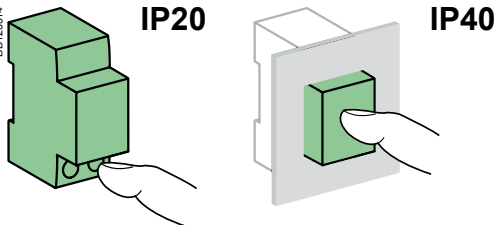
Clip on DIN rail 35 mm.

DB123312



Indifferent position of installation.

DB123314



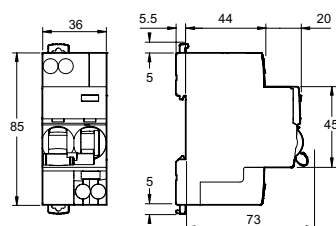
Weight (g)

Residual current device

| Type | iDPN Vigi |
|------|-----------|
| 1P+N | 125 |

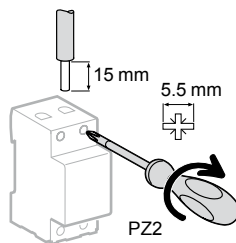
Dimensions (mm)

DB124454



Connection

DB123947



| Rating | Tightening torque | Copper cables | |
|-----------|-------------------|-------------------------------------|-------------------------------------|
| | | Rigid | Flexible or with ferrule |
| 4 to 40 A | 2 N.m | DB122845 1 to 16 mm ² | DB122846 1 to 10 mm ² |

Technical data

| Main characteristics | | | |
|--|--|---------------------|---------------|
| Type | iDPNa Vigi | iDPN N Vigi | iDPN H Vigi |
| Insulation voltage (Ui) | 400 V AC | | |
| Pollution degree | 3 | | |
| Rated impulse withstand voltage (Uimp) | 4 kV | | |
| Setting temperature for ratings | 30°C | | |
| Magnetic tripping | Curve B | Between 3 and 5 In | |
| | Curve C | Between 5 and 10 In | |
| According to IEC/EN 61009-1 and IEC/EN 61009-2-1 | | | |
| Limitation class | 3 | | |
| Rated breaking capacity (Icn) | 4500 A | 6000 A | 10,000 A |
| Rated residual breaking and making capacity (IΔm) | 4500 A | 6000 A | 10,000 A |
| 8/20 μs impulse withstand | Type AC | 250 Å | 250 Å |
| | Type A | 250 Å | 250 Å |
| | Type S/I | - | 3 kÅ |
| Behaviour in case of voltage drop | Ensure residual current protection down to 0 V | | |
| Additional characteristics | | | |
| Earth leakage protection with instantaneous tripping | 10, 30, 300 mA | 10, 30, 100, 300 mA | 30, 300 mA |
| Degree of protection (IEC 60529) | Device only | IP20 | |
| | Device in modular enclosure | IP40 | |
| Endurance (O-C) | Electrical | ≤ 20 A | 20,000 cycles |
| | | ≥ 25 A | 10,000 cycles |
| | Mechanical | 20,000 cycles | |
| Overvoltage category (IEC 60364) | III | | |
| Operating temperature | Type AC | -5°C to +60°C | |
| | Type A, S/I | -25°C to +60°C | |
| Storage temperature | -40°C to +85°C | | |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity 95 % to 55°C) | | |

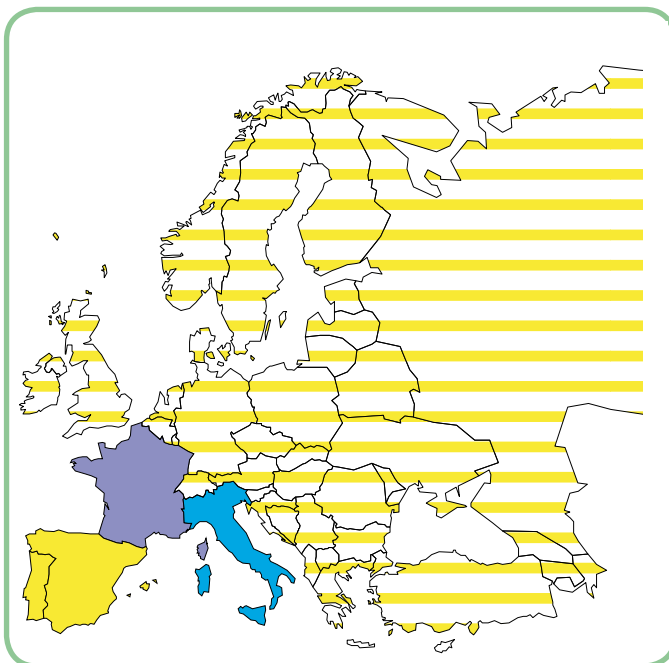


The Schneider Electric residual current device range comprises various offers (Clario, Prodis, Libro) so as to be as competitive as possible in each country, taking into account the specific features of each market:

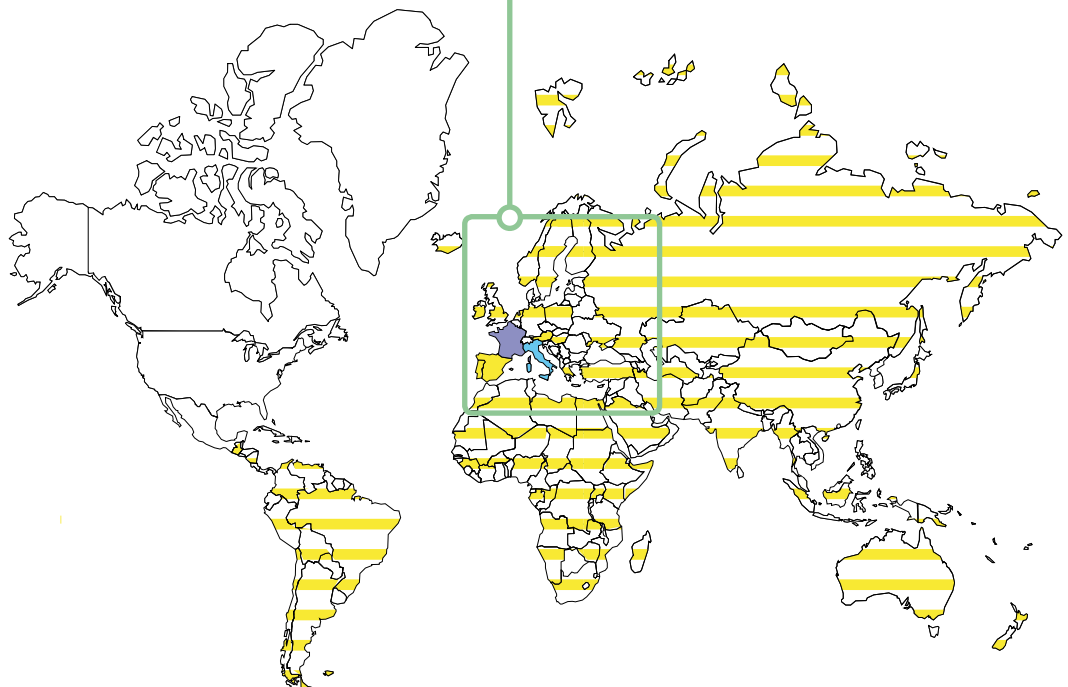
- installation customs
- price
- approval by local organizations.

Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Common pages | | 234 |
| Clario | Catalogue numbers | 235 |
| Prodis | Catalogue numbers | 238 |
| Librio | Catalogue numbers | 242 |
| Common pages | | 245 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.



Adapted to the needs of service sector and industrial building installations, earth leakage protection devices can ensure:

- protection of electrical installations against insulation faults
- protection for people against direct and indirect contact
- protection of the installations against fire risks.

The range of earth leakage modules adaptable to the circuit breakers consists of:

- Vigi modules for protection of "outgoers"
- Vigi modules for protection of "Group Feeders".

"Outgoer" and "Group Feeder" residual current devices are also available in "monobloc" version.

The Vigi modules, to be combined with or already combined with a circuit breaker, incorporate in a single enclosure the residual current relay and the toroid.

- The residual current tripping device is electromechanical and operates without an auxiliary source.
- A homogeneous unit in compliance with the EN 61009-1 and EN 61009-2-1 standards, a residual current device retains all the characteristics of the circuit breaker alone; in particular, the thermal tripping threshold of the circuit breaker is retained in the presence of the earth leakage module.
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Operation

- When an earth fault occurs, the Vigi module causes automatic opening of the circuit breaker with which it is combined. Fault indication is performed by a red strip on the operating handle for Vigi module resetting.
- Resetting of the earth leakage module is performed, at the user's choice:
 - either by the reset handle of the circuit breaker (in one operation),
 - or independently of the circuit breaker (in 2 operations).

Earth leakage protection is provided:

- either by earth leakage modules adaptable to circuit breakers
- or by monobloc residual current devices.



Earth leakage protection

"Group Feeder"



"Outgoers"



Monobloc

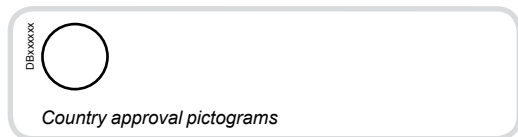
"Group Feeder"



"Outgoers"



Add-on modules



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

Earth leakage protection for "Group Feeders" is performed:
 ■ either by a monobloc residual current device
 ■ or by a circuit breaker combined with a Vigi module.



Catalogue numbers

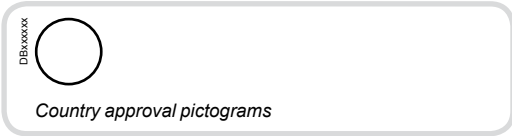
| iDPN Vigi residual current devices 4500 EN 61009 - C curve | | | AC | | | Width in 9-mm modules | | | | | | | | |
|--|--------|------|---|----------|----------|-----------------------|--|--|--------|--|--|--------|--|--|
| Auxiliaries | | | Add-on auxiliaries: see modules CA907008 and CA907010 | | | | | | | | | | | |
| 3P+N | | | Sensitivity | | | 30 mA | | | 300 mA | | | 300 mA | | |
| | Rating | 25 A | A9N21771 | A9N21775 | A9N21772 | 12 | | | | | | | | |
| | | 40 A | A9N21773 | A9N21776 | A9N21774 | | | | | | | | | |



Catalogue numbers

| "Group Feeder" Vigi iDPN modules | | | | | | | | | | | Width in 9-mm modules | | | |
|----------------------------------|--------|------|-------------|----------|---|----------|----------|----------|----------|----------|-----------------------|--------|--|--|
| Type | | | AC | | | A | | | SI | | | | | |
| 1P+N | | | Sensitivity | | | 30 mA | | | 300 mA | | | 300 mA | | |
| | Rating | 25 A | A9N21741 | A9N21742 | - | A9N21745 | A9N21746 | A9N21749 | A9N21750 | - | 2 | | | |
| | | 40 A | A9N21743 | A9N21744 | - | A9N21747 | A9N21748 | A9N21751 | A9N21752 | A9N21753 | | | | |
| 3P+N | | | Sensitivity | | | 30 mA | | | 300 mA | | | 300 mA | | |
| | Rating | 25 A | A9N21755 | A9N21756 | - | A9N21759 | A9N21760 | A9N21763 | A9N21764 | - | 6 | | | |
| | | 40 A | A9N21757 | A9N21758 | - | A9N21761 | A9N21762 | A9N21765 | A9N21766 | A9N21767 | | | | |

Vigi modules and residual current devices *i*DPN "Outgoer"



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

For the earth leakage protection of "outgoers", a residual current device is built by combining a circuit breaker and a Vigi module. "Outgoer" residual current devices are also available in monobloc version.



Catalogue numbers

| <i>i</i> DPN Vigi residual current devices 4500 EN 61009 - C curve | | | | | |
|--|---|-------|----------|-----------------------|---|
| Type | AC | | | Width in 9-mm modules | |
| Auxiliaries | Add-on auxiliaries: see modules CA907008 and CA907010 | | | | |
| 1P+N | Sensitivity | 30 mA | 300 mA | | |
| | Rating | 6 A | A9N21614 | A9N21624 | 4 |
| | | 10 A | A9N21615 | A9N21625 | |
| | | 16 A | A9N21616 | A9N21626 | |
| | | 20 A | A9N21617 | A9N21627 | |
| | | 25 A | A9N21618 | A9N21628 | |
| | | 32 A | A9N21619 | A9N21629 | |
| | | 40 A | A9N21620 | A9N21630 | |



Offer selection see page 233

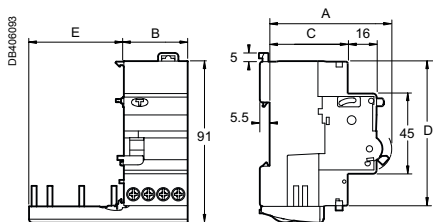
Clarío

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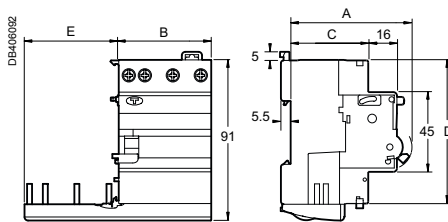
Catalogue numbers

| "Outgoer" Vigi <i>i</i> DPN modules | | | | | | | | | | |
|-------------------------------------|-------------|-------|----------|----------|----------|----------|----------|-----------------------|----------|---|
| Type | AC | | | A | | SI | | Width in 9-mm modules | | |
| 1P+N | Sensitivity | 30 mA | 100 mA | 300 mA | 30 mA | 300 mA | 30 mA | 300 mA | | |
| | Rating | 25 A | A9N21681 | A9N21678 | A9N21682 | A9N21685 | A9N21686 | A9N21689 | A9N21690 | 2 |
| | | | A9N21680 | A9N21679 | | | | | | |
| | | 40 A | | A9N21683 | - | A9N21684 | A9N21687 | A9N21688 | A9N21691 | |
| | Rating | 25 A | A9N21695 | - | A9N21696 | A9N21699 | A9N21700 | A9N21703 | A9N21704 | 4 |
| | | | | | | | | | | |
| | | 40 A | | A9N21697 | - | A9N21698 | A9N21701 | A9N21702 | A9N21705 | |
| | Rating | 25 A | A9N21709 | - | A9N21710 | A9N21713 | A9N21714 | A9N21717 | A9N21718 | 4 |
| | | | | | | | | | | |
| | | 40 A | | A9N21711 | - | A9N21712 | A9N21715 | A9N21716 | A9N21719 | |

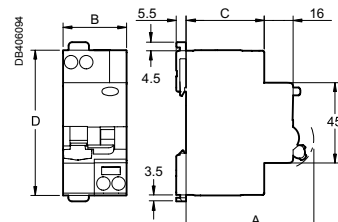
Dimensions (mm)



"Outgoer" Vigi modules



"Group Feeder" Vigi modules



Residual current devices

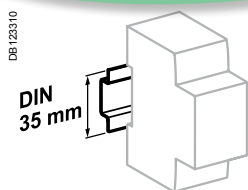
Earth leakage protection

| Type | Number of poles | A | B | C | D | E |
|--|-----------------|----|-----|----|----|----|
| "Outgoer" Vigi / DPN modules | 1P+N | 69 | 18 | 44 | 81 | 18 |
| | 3P | 69 | 36 | 44 | 81 | 54 |
| | 3P+N | 69 | 36 | 44 | 81 | 54 |
| "Group Feeder" Vigi / DPN modules | 1P+N | 70 | 18 | 44 | 82 | 18 |
| | 3P+N | 70 | 54 | 44 | 82 | 54 |
| Residual current devices / DPN Vigi | 1P+N | 71 | 36 | 44 | 81 | - |
| | 3P+N | 71 | 108 | 44 | 81 | - |

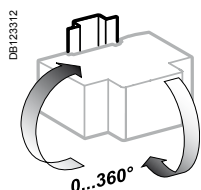
Offer selection see page 233

Clario

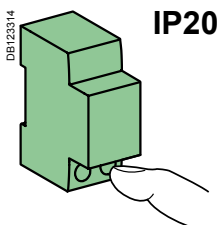
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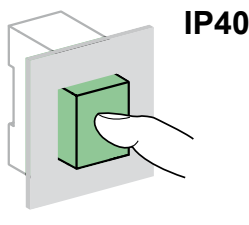
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



IP40

Technical data

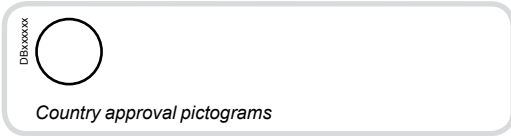
Main characteristics

According to IEC/EN 61009-1 and IEC/EN 61009-2-1

| | | |
|--|------------------|---|
| Insulation voltage (Ui) | Phase-to-phase | 440 V AC |
| Voltage rating (Ue) | Phase-to-neutral | 230 V AC |
| | Phase-to-phase | 400 V AC |
| Operating frequency | | 50 Hz |
| Pollution degree | | 3 as per IEC 61009 (for installation in industrial environment) |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| Behaviour in the event of a phase-to-earth fault in TN-S earthing system | | Residual breaking and making capacity (I Δ m) identical to the rated breaking capacity (Icn) |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |

Additional characteristics

| | | |
|---|-----------------------------|---|
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | A and SI types | -25°C to +60°C |
| | AC type | -5°C...+60°C |
| Storage temperature | | -40°C to +60°C |
| Tropicalization | | Treatment 2 (relative humidity of 95 % at 55°C) |
| Reinforced cable pull-out strength | | Serrated terminals |
| Automatic cable guiding in the correct position | | Terminals with guard |



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

Earth leakage protection for "Group Feeders" is performed by a circuit breaker combined with a Vigi module.



Catalogue numbers

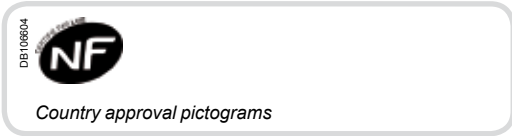
"Group Feeder" Vigi TG40 modules

| Type | | AC | SI | | | | Width in 9-mm modules | |
|-----------------------------|-------------|-------|----------|----------|----------|----------|-----------------------|---|
| 1P+N DB406483 | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | 300 mA | 2 | |
| | Rating | 25 A | A9N21480 | A9N21481 | A9N21484 | A9N21485 | | - |
| | | 40 A | A9N21482 | A9N21483 | A9N21486 | A9N21487 | A9N21489 | |
| 3P+N DB406484 | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | 300 mA | 6 | |
| | Rating | 25 A | A9N21490 | A9N21491 | A9N21494 | A9N21495 | | - |
| | | 40 A | A9N21492 | A9N21493 | A9N21496 | A9N21497 | A9N21499 | |

"Group Feeder" Vigi TG60 modules

| Type | | AC | SI | | | | Width in 9-mm modules | |
|---------------------------|-------------|-------|----------|----------|----------|----------|-----------------------|----------|
| 4P DB406485 | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | 300 mA | 6 | |
| | Rating | 40 A | A9N21511 | A9N21512 | A9N21513 | A9N21514 | | A9N21518 |
| | | 63 A | A9N21562 | A9N21563 | A9N21564 | A9N21572 | A9N21573 | |

Residual current devices DT40 Vigi K "Outgoer"



Earth leakage protection for "Outgoer" is performed by a monobloc residual current device.

1P+N
IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

3P+N
IEC/EN 60898-1 and 60947-2
IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

Offer selection see page 233

Prodis

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Catalogue numbers

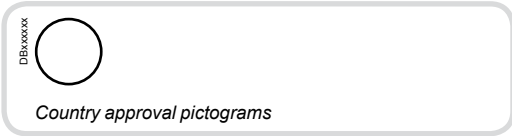
DT40 Vigi K residual current devices 4500 EN 61009 - C curve



| Type | AC | | Width in 9-mm modules | | |
|-----------------------------|-------------|-------|-----------------------|----------|----|
| | Sensitivity | 30 mA | | 300 mA | |
| 1P+N DB406480 | Rating | 10 A | A9N21201 | A9N21207 | 4 |
| | | 16 A | A9N21202 | A9N21208 | |
| | | 20 A | A9N21203 | A9N21209 | |
| | | 25 A | A9N21204 | A9N21210 | |
| | | 32 A | A9N21205 | A9N21211 | |
| | | 40 A | A9N21206 | A9N21212 | |
| 3P+N DB406134 | Rating | 10 A | A9N21221 | A9N21227 | 10 |
| | | 16 A | A9N21222 | A9N21228 | |
| | | 20 A | A9N21223 | A9N21229 | |
| | | 25 A | A9N21224 | A9N21230 | |
| | | 32 A | A9N21225 | A9N21231 | |
| | | 40 A | A9N21226 | A9N21232 | |

Vigi modules and residual current devices DT40

"Outgoer"



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

For the earth leakage protection of "outgoers", a residual current device is built by combining a circuit breaker and a Vigi module. "Outgoer" residual current devices are also available in monobloc version.

Catalogue numbers

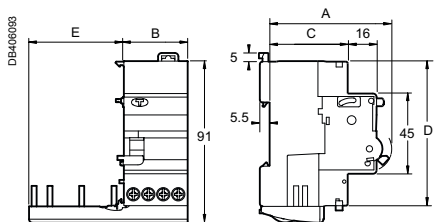
| DT40 Vigi residual current devices 4500 EN 61009 - C curve | | | | | |
|--|---|--------------|-----------------------|----------|---|
| Type | AC | | Width in 9-mm modules | | |
| Auxiliaries | Add-on auxiliaries: see modules CA907008 and CA907010 | | | | |
| 1P+N | Sensitivity | 30 mA | 300 mA | | |
| | Rating | 10 A | A9N21442 | A9N21443 | 4 |
| | | 16 A | A9N21444 | A9N21445 | |



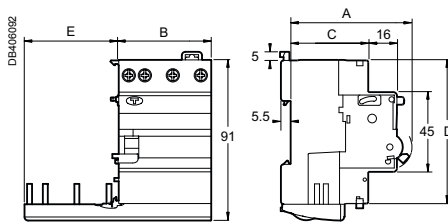
Catalogue numbers

| "Outgoer" Vigi DT40 modules | | | | | | | |
|-----------------------------|--------------------|--------------|---------------|--------------|-----------------------|----------|---|
| Type | AC | | SI | | Width in 9-mm modules | | |
| 1P+N | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | | |
| | Rating | 25 A | A9N21450 | A9N21451 | A9N21454 | A9N21455 | 2 |
| | | 40 A | A9N21452 | A9N21453 | A9N21456 | A9N21457 | |
| 3P | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | | |
| | Rating | 25 A | A9N21460 | A9N21461 | A9N21464 | A9N21465 | 4 |
| | | 40 A | A9N21462 | A9N21463 | A9N21466 | A9N21467 | |
| 3P+N | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | | |
| | Rating | 25 A | A9N21470 | A9N21471 | A9N21474 | A9N21475 | 4 |
| | | 40 A | A9N21472 | A9N21473 | A9N21476 | A9N21477 | |

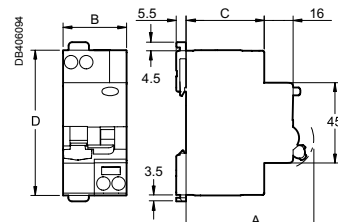
Dimensions (mm)



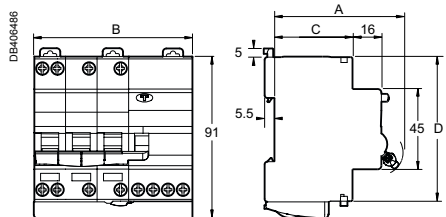
"Outgoer" Vigi modules



"Group Feeder" Vigi modules



Residual current devices



DT40 Vigi K 3P+N Residual current devices

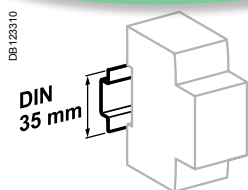
Earth leakage protection

| Type | Number of poles | A | B | C | D | E |
|---|-----------------|----|----|----|----|----|
| "Outgoer" Vigi DT40 modules | 1P+N | 69 | 18 | 44 | 81 | 18 |
| | 3P | 69 | 36 | 44 | 81 | 54 |
| | 3P+N | 69 | 36 | 44 | 81 | 54 |
| "Group Feeder" Vigi TG40, Vigi TG60 modules | 1P+N | 70 | 18 | 44 | 82 | 18 |
| | 3P+N | 70 | 54 | 44 | 82 | 54 |
| | 4P | 70 | 54 | 44 | 82 | 72 |
| Residual current devices DT40 Vigi, DT40 Vigi K | 1P+N | 71 | 36 | 44 | 81 | - |
| | 3P+N | 73 | 90 | 44 | 81 | - |

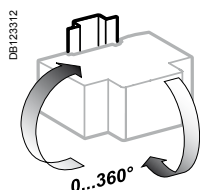
Offer selection see page 233

Prodis

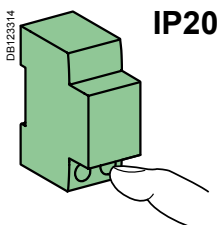
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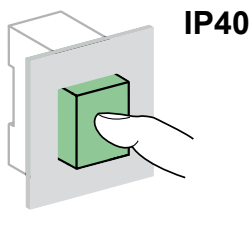
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



IP40

Technical data

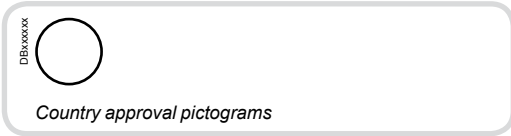
Main characteristics

According to IEC/EN 61009-1 and IEC/EN 61009-2-1

| | | |
|--|------------------|---|
| Insulation voltage (Ui) | Phase-to-phase | 440 V AC |
| Voltage rating (Ue) | Phase-to-neutral | 230 V AC |
| | Phase-to-phase | 400 V AC |
| Operating frequency | | 50 Hz |
| Pollution degree | | 3 as per IEC 61009 (for installation in industrial environment) |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| Behaviour in the event of a phase-to-earth fault in TN-S earthing system | | Residual breaking and making capacity (I Δ m) identical to the rated breaking capacity (Icn) |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |

Additional characteristics

| | | |
|---|-----------------------------|---|
| Breaking capacity (Icu) | | 4.5 kA |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | A and SI types | -25°C to +60°C |
| | AC type | -5°C...+60°C |
| Storage temperature | | -40°C to +60°C |
| Tropicalization | | Treatment 2 (relative humidity of 95 % at 55°C) |
| Reinforced cable pull-out strength | | Serrated terminals |
| Automatic cable guiding in the correct position | | Terminals with guard |



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

Earth leakage protection for "Group Feeders" is performed by a circuit breaker combined with a Vigi module.

Offer selection see page 233

Librio

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PB107904-32

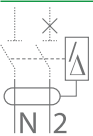
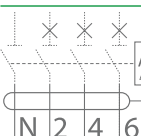


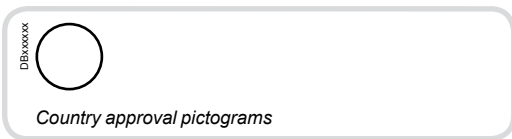
PB107905-32



Catalogue numbers

"Group Feeder" Vigi C40 modules

| Type | | AC | A | | SI | | Width in 9-mm modules | |
|--|-------------|--------------|----------------------|----------------------|----------------------|----------------------|-----------------------|---|
| 1P+N  | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | 30 mA | 300 mA | 2 |
| | Rating | 25 A 40 A | A9N19470 A9N19474 | A9N19471 A9N19475 | A9N19480 A9N19484 | A9N19481 A9N19485 | A9N19490 A9N19494 | |
| 3P+N  | Sensitivity | 30 mA | 300 mA | 30 mA | 300 mA | 30 mA | 300 mA | 6 |
| | Rating | 25 A 40 A | A9N19472 A9N19476 | A9N19473 A9N19477 | A9N19482 A9N19486 | A9N19483 A9N19487 | A9N19492 A9N19496 | |



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent

For the earth leakage protection of "outgoers", a residual current device is built by combining a circuit breaker and a Vigi module. "Outgoer" residual current devices are also available in monobloc version.

Catalogue numbers

| C40 Vigi residual current devices 4500 EN 61009 - C curve | | | |
|--|---|-----------------------|----------|
| Type | AC | Width in 9-mm modules | |
| Auxiliaries | Add-on auxiliaries: see modules CA907008 and CA907010 | | |
| 1P+N | Sensitivity 30 mA | | |
| | Rating | 6 A | A9N19275 |
| | | 10 A | A9N19276 |
| | | 16 A | A9N19277 |
| | | 20 A | A9N19278 |
| | | 25 A | A9N19279 |
| | | 32 A | A9N19280 |
| | | 40 A | A9N19281 |
| | | 4 | |

| C40 Vigi residual current devices 6000 EN 60898/61009 - C curve | | | |
|--|---|-----------------------|----------|
| Type | AC | Width in 9-mm modules | |
| Auxiliaries | Add-on auxiliaries: see modules CA907008 and CA907010 | | |
| 1P+N | Sensitivity 30 mA | | |
| | Rating | 6 A | A9N19285 |
| | | 10 A | A9N19286 |
| | | 16 A | A9N19287 |
| | | 20 A | A9N19288 |
| | | 25 A | A9N19289 |
| | | 32 A | A9N19290 |
| | | 40 A | A9N19291 |
| | | 4 | |



Offer selection see page 233

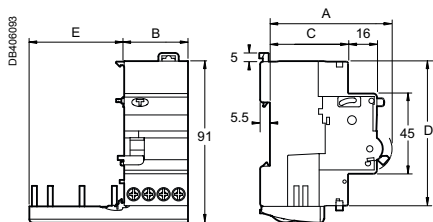
Librio

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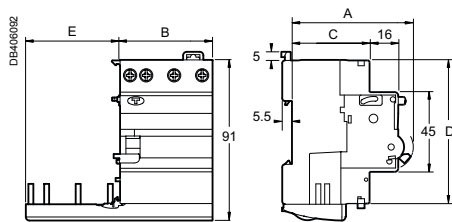
Catalogue numbers

| "Outgoer" Vigi C40 modules | | | | | | | |
|----------------------------|-------------------|-------|----------|----------|-----------------------|----------|----------|
| Type | AC | A | | SI | Width in 9-mm modules | | |
| 1P+N | Sensitivity 30 mA | 30 mA | 300 mA | 30 mA | 300 mA | 30 mA | |
| | Rating | 25 A | A9N19440 | A9N19441 | A9N19450 | A9N19451 | A9N19460 |
| | | 40 A | A9N19444 | A9N19445 | A9N19454 | A9N19455 | A9N19464 |
| 3P+N | Sensitivity 30 mA | 30 mA | 300 mA | 30 mA | 300 mA | 30 mA | |
| | Rating | 25 A | A9N19442 | A9N19443 | A9N19452 | A9N19453 | A9N19462 |
| | | 40 A | A9N19446 | A9N19447 | A9N19456 | A9N19457 | A9N19466 |

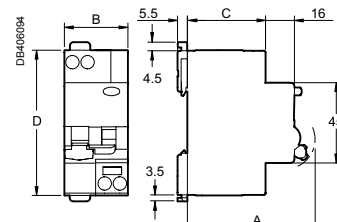
Dimensions (mm)



"Outgoer" Vigi modules



"Group Feeder" Vigi modules



Residual current devices

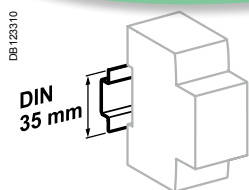
Earth leakage protection

| Type | Number of poles | A | B | C | D | E |
|------------------------------------|-----------------|----|----|----|----|----|
| "Outgoer" Vigi C40 modules | 1P+N | 69 | 18 | 44 | 81 | 18 |
| | 3P | 69 | 36 | 44 | 81 | 54 |
| | 3P+N | 69 | 36 | 44 | 81 | 54 |
| "Group Feeder" Vigi C40 modules | 1P+N | 70 | 18 | 44 | 82 | 18 |
| | 3P+N | 70 | 54 | 44 | 82 | 54 |
| Residual current devices C40 Vigi | 1P+N | 71 | 36 | 44 | 81 | - |

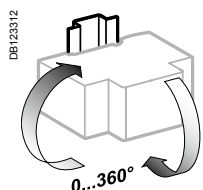
Offer selection see page 233

Librio

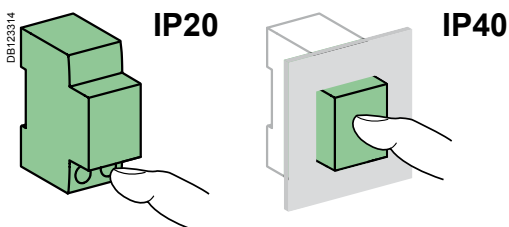
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Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

Main characteristics

According to IEC/EN 61009-1 and IEC/EN 61009-2-1

| | | |
|--|------------------|--|
| Insulation voltage (Ui) | Phase-to-phase | 440 V AC |
| Voltage rating (Ue) | Phase-to-neutral | 230 V AC |
| | Phase-to-phase | 400 V AC |
| Operating frequency | | 50 Hz |
| Pollution degree | | 3 as per IEC 61009 (for installation in industrial environment) |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| Behaviour in the event of a phase-to-earth fault in TN-S earthing system | | Residual breaking and making capacity (IΔm) identical to the rated breaking capacity (Icn) |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |

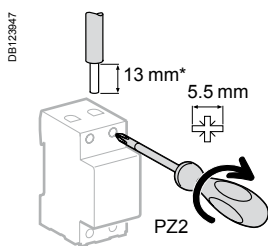
Additional characteristics

| | | |
|---|-----------------------------|---|
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | A and SI types | -25°C to +60°C |
| | AC type | -5°C...+60°C |
| Storage temperature | | -40°C to +60°C |
| Tropicalization | | Treatment 2 (relative humidity of 95 % at 55°C) |
| Reinforced cable pull-out strength | | Serrated terminals |
| Automatic cable guiding in the correct position | | Terminals with guard |

Vigi modules and residual current devices

Clario, Prodis, Libro

Connection



| Tightening torque | Copper cables | |
|-------------------|----------------------------|----------------------------|
| | Rigid | Flexible or with ferrule |
| 2 N.m | DB123945 | DB123946 |
| | 0.75 to 16 mm ² | 0.33 to 10 mm ² |

(*) 15 mm for DT40 Vigi K 3P+N (Prodis)

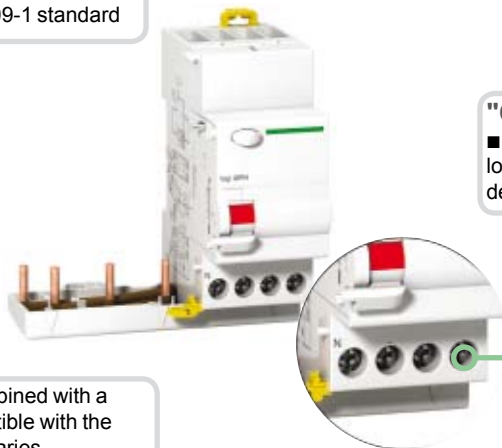
- Where there is a comb busbar tooth, the connection of cables of cross section 16 mm² remains possible.
- Outgoer connection:
 - upstream: direct by comb busbar,
 - downstream: by cables.
- Group Feeder connection:
 - upstream: by cables,
 - downstream: direct by comb busbar.

■ All Vigi modules that can be combined with circuit breakers have a rating foolproofing element preventing any combination on an inappropriate circuit breaker: in accordance with Annex G of the EN 61009-1 standard

"Group Feeder" Vigi modules
 ■ The downstream terminals are located in the upper part of the device for direct connection to the comb busbar

"Outgoer" Vigi modules
 ■ The downstream terminals are located in the lower part of the device

■ Every circuit breaker combined with a Vigi module remains compatible with the indication and tripping auxiliaries



Weight (g)

| Type | Vigi modules | Residual current devices |
|---------------------------|--------------|--------------------------|
| 1P+N | 90 | 210 |
| 3P | 165 | - |
| 3P+N | 210 | 520 |
| 3P+N DT40 Vigi K (Prodis) | - | 498 |
| 4P | 210 | - |



The Schneider Electric residual current device range comprises various offers (A, B) to enable it to be the most competitive range possible in each country, allowing for the special characteristics of each market:

- usual installation procedure
- price
- accreditations by local bodies.

Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 247 |
| Offer B | Catalogue numbers | 248 |
| Common pages | | 249 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.





Country approval pictograms



IEC/EN 61009-1

IEC/EN 61009-2-1: Voltage Independent

■ The DPN Vigi residual current device provides complete protection for final circuits (against overcurrents and insulation faults):

- protection for people against electric shocks by direct contacts (≤ 30 mA),
- protection for people against electric shocks by indirect contacts (300 mA),
- protection of installations against risk of fire (300 mA).

■ Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

■ The *SI* range has been designed to maintain a network with optimum safety and continuity of service in installations disturbed by:

- extreme atmospheric conditions,
- harmonic generating loads,
- transient switching currents.

Catalogue numbers

DPNa Vigi 4500

| Type | A | | Width in 9-mm modules |
|---------------------|------------------------------|------|-----------------------|
| Auxiliaries | Module CA907013 and CA907008 | | |
| 1P+N C curve | Sensitivity 10 mA | | |
| | Rating (In) | 10 A | A9N19304 |
| | | 16 A | A9N19305 |
| Voltage rating (Ue) | 230 V AC | | |
| Operating frequency | 50/60 Hz | | |
| Accessories | Module CA907013 and CA907012 | | |

Catalogue numbers

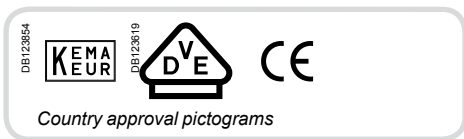
DPN N Vigi 6000

| Type | AC | SI | | Width in 9-mm modules | | | |
|---------------------|------------------------------|----------|----------|-----------------------|----------|----------|---|
| Auxiliaries | Module CA907013 and CA907008 | | | | | | |
| 1P+N B curve | Sensitivity 30 mA | | 300 mA | | | | |
| | Rating (In) | 4 A | A9N19650 | - | 4 | | |
| | | 6 A | A9N19651 | A9N19671 | - | | |
| | | 10 A | A9N19653 | A9N19673 | - | | |
| | | 13 A | - | - | - | | |
| | | 16 A | A9N19655 | A9N19675 | - | | |
| | | 20 A | A9N19656 | A9N19676 | - | | |
| | | 25 A | A9N19657 | A9N19677 | - | | |
| | | 32 A | A9N19658 | A9N19678 | - | | |
| | 40 A | A9N19659 | A9N19679 | - | | | |
| 1P+N C curve | Sensitivity 30 mA | | 300 mA | | | | |
| | Rating (In) | 6 A | A9N19661 | A9N19681 | A9N19631 | A9N19641 | 4 |
| | | 10 A | A9N19663 | A9N19683 | A9N19632 | A9N19642 | |
| | | 13 A | - | - | A9N19633 | A9N19643 | |
| | | 16 A | A9N19665 | A9N19685 | A9N19634 | A9N19644 | |
| | | 20 A | A9N19666 | A9N19686 | A9N19635 | A9N19645 | |
| | | 25 A | A9N19667 | A9N19687 | A9N19636 | A9N19646 | |
| | | 32 A | A9N19668 | A9N19688 | A9N19637 | A9N19647 | |
| | | 40 A | A9N19669 | A9N19689 | A9N19638 | A9N19648 | |
| Voltage rating (Ue) | 230 V AC | | | | | | |
| Operating frequency | 50/60 Hz | | | | | | |
| Accessories | Module CA907013 and CA907012 | | | | | | |

Offer selection see page 246

Offer A

This sticker must be removed before publishing



IEC/EN 61009-1 IEC/EN 61009-2-1: Voltage Independent

- The DPN Vigi residual current device provides complete protection for final circuits (against overcurrents and insulation faults) it ensure the protection for people against electric shocks by direct contacts.
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

Catalogue numbers

| DPNa Vigi 4500 | | | | |
|---------------------|------------------------------|----------|-----------------------|----------|
| Type | A | | Width in 9-mm modules | |
| Auxiliaries | Module CA907013 and CA907008 | | | |
| 1P+N C curve | Sensitivity | 30 mA | | |
| | Rating (In) | 10 A | 4 | |
| | | 13 A | | A9N19533 |
| | | 16 A | | A9N19534 |
| Voltage rating (Ue) | | 230 V AC | | |
| Operating frequency | | 50/60 Hz | | |
| Auxiliaries | Module CA907013 and CA907012 | | | |

Offer selection see page 246

Offer B

This sticker must be removed before publishing

Catalogue numbers

| DPN N Vigi 6000 | | | | |
|---------------------|------------------------------|----------|-----------------------|----------|
| Type | A | | Width in 9-mm modules | |
| Auxiliaries | Module CA907013 and CA907008 | | | |
| 1P+N B curve | Sensitivity | 30 mA | | |
| | Rating (In) | 6 A | 4 | |
| | | 10 A | | A9N19754 |
| | | 13 A | | A9N19755 |
| | | 16 A | | A9N19756 |
| | | 20 A | | A9N19757 |
| | | 25 A | | A9N19758 |
| | | 32 A | | A9N19759 |
| | 40 A | A9N19760 | | |
| 1P+N C curve | Sensitivity | 30 mA | | |
| | Rating (In) | 6 A | 4 | |
| | | 10 A | | A9N19772 |
| | | 13 A | | A9N19773 |
| | | 16 A | | A9N19774 |
| | | 20 A | | A9N19775 |
| | | 25 A | | A9N19780 |
| | | 32 A | | A9N19777 |
| | 40 A | A9N19778 | | |
| Voltage rating (Ue) | | 230 V AC | | |
| Operating frequency | | 50/60 Hz | | |
| Auxiliaries | Module CA907013 and CA907012 | | | |

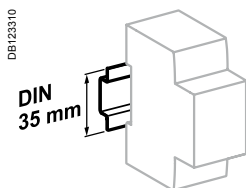
Positive contact indication

■ A green strip on the toggle guarantees opening of all the poles in safety conditions (padlocking possible) for work to be carried out on live parts

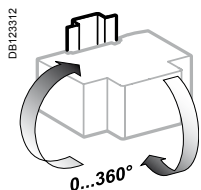


■ Fast closing

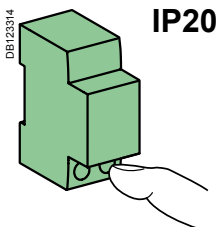
■ Display of earth fault on the front panel by position of toggle



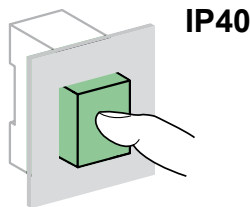
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20

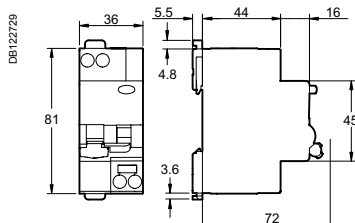


IP40

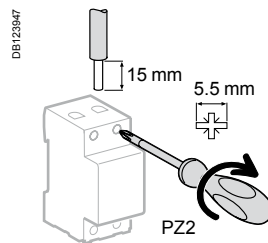
Weight (g)

| Residual current device | | |
|-------------------------|-----------|------------|
| Type | DPNa Vigi | DPN N Vigi |
| 1P+N | 125 | 125 |

Dimensions (mm)



Connection



| Rating | Tightening torque | Copper cables | |
|-----------|-------------------|-------------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| 4 to 40 A | 2 N.m | 1 to 16 mm ² | 1 to 10 mm ² |

Technical data

| Main characteristics | | |
|--|--|--------------------------------|
| Type | DPNa Vigi | DPN N Vigi |
| Insulation voltage (U _i) | 400 V AC | |
| Pollution degree | 3 | |
| Rated impulse withstand voltage (U _{imp}) | 4 kV | |
| Setting temperature for ratings | 30°C | |
| Earth leakage protection with instantaneous tripping | 10, 30 mA | 30, 300 mA |
| Magnetic tripping | B curve | - |
| | C curve | Between 3 and 5 I _n |
| Utilization category | A | |
| Insulation class | 2 | |
| 8/20 μs impulse withstand current | AC type | 250 Å |
| | A type | 250 Å |
| | S/I type | 3 kÅ |
| According to IEC/EN 61009-1 and IEC/EN 61009-2-1 | | |
| Limitation class | 3 | |
| Rated breaking capacity (I _{cn}) | 4500 A | 6000 A |
| Rated residual breaking and making capacity (IΔm) | 4500 A | 6000 A |
| Behaviour in case of voltage drop | Ensure residual current protection down to 0 V | |
| Additional characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| | | Classe d'isolement II |
| Endurance (O-C) | Electrical | 20,000 cycles |
| | | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Overvoltage category (IEC 60364) | IV | |
| Operating temperature | AC type | -5°C to +60°C |
| | A, S/I type | -25°C to +60°C |
| Storage temperature | -30°C to +70°C | |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity of 95% at 55°C) | |



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent



DPN Vigi K

■ The residual current devices DPN Vigi K provides complete protection of final circuits (overcurrents and insulation faults) and the protection of people against electric shocks by direct contacts (30 mA).

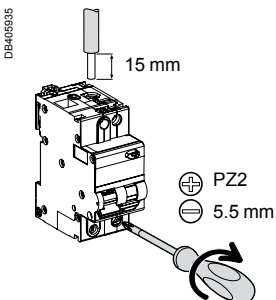
■ Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

- Fast closing.
- Positive break indication.
- Display of earth fault on the front panel by position of toggle.

Catalogue numbers

| DPN Vigi K | | | | | |
|-------------------------|--------|-----------------|-----------------|-----------------------|---|
| Type | | AC | A | Width in 9-mm modules | |
| 1P+N Curve B | Rating | Sensitivity | 30 mA | 30 mA | 4 |
| | | 10 A | A9D22610 | A9D23610 | |
| | | 16 A | A9D22616 | A9D23616 | |
| | 20 A | A9D22620 | A9D23620 | | |
| 1P+N Curve C | Rating | Sensitivity | 30 mA | 30 mA | 4 |
| | | 10 A | A9D20610 | A9D21610 | |
| | | 16 A | A9D20616 | A9D21616 | |
| | 20 A | A9D20620 | A9D21620 | | |
| Voltage rating (Ue) | | 230 V AC | | | |
| Operating frequency | | 50 Hz | | | |

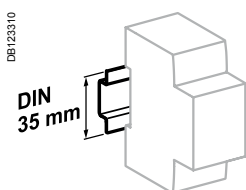
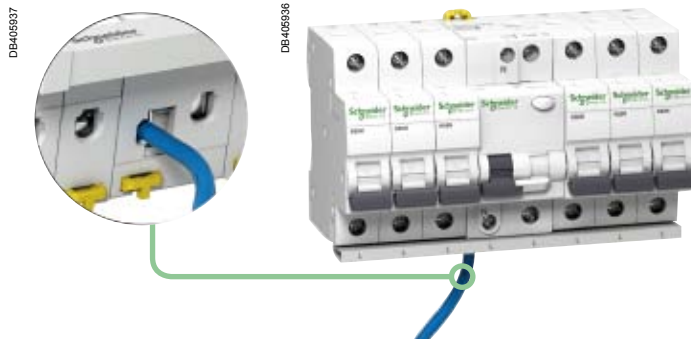
Connection



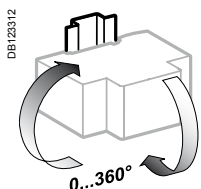
| Type | Rating | Tightening torque | Copper cables | | |
|------------|------------|-------------------|---------------|--------------------------|-------------------------|
| | | | Rigid | Flexible or with ferrule | |
| DPN Vigi K | 10 to 20 A | Phase | 2 N.m | 1 to 25 mm ² | 1 to 16 mm ² |
| | | Neutral | 2 N.m | 1 to 16 mm ² | 1 to 10 mm ² |

Residual current devices DPN Vigi K (cont.)

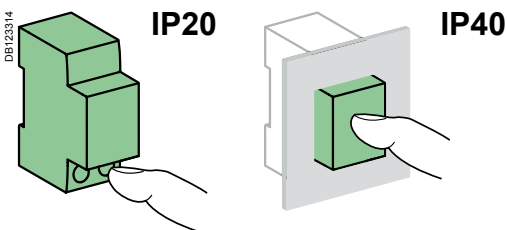
The DPN Vigi K residual current device can be installed in the middle of a line of K60 circuit breakers. The phase can be powered via the biconnect comb busbar, the neutral is powered via a cable.



Clip on DIN rail 35 mm.



Indifferent position of installation.



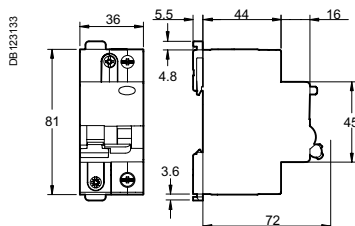
Technical data

| Main characteristics | | |
|---|-----------------------------|--|
| Insulation voltage (Ui) | | 400 V |
| Pollution degree | | 3 |
| Rated impulse withstand voltage (Uimp) | | 4 kV |
| Setting temperature for ratings | | 30°C |
| Tripping curve | Curve B | Between 3 and 5 In |
| | Curve C | Between 5 and 10 In |
| According to IEC/EN 61009-1 and IEC/EN 61009-2-1 | | |
| Limitation class | | 3 |
| Rated breaking capacity (Icn) | | 6000 A |
| Rated residual breaking and making capacity (IΔm) | | 4500 A |
| 8/20 μs impulse withstand without tripping | AC type | 250 Å |
| | A type | 250 Å |
| Behaviour in case of voltage drop | | Ensure residual current protection down to 0 V |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 Insulation class II |
| Endurance (O-C) | Electrical | 20000 cycles |
| | Mechanical | 20000 cycles |
| Overvoltage category (O-C) | | III |
| Service temperature | AC type | -5°C to +40°C |
| | A type | -25°C to +40°C |
| Storage temperature | | -30°C to +70°C |
| Tropicalization | | Treatment 2 (relative humidity 95 % at 55°C) |

Weight (g)

| Residual current device | |
|-------------------------|------------|
| Type | DPN Vigi K |
| 1P+N | 125 |

Dimensions (mm)



DPN Vigi K

SPN N Vigi

30 mA instantaneous, C curve
IEC 61009-2-2, AS/NZS 61009-1: 6000 A



Standards: IEC 61009-2-2, AS/NZS 61009-1.

- The single-phase SPN N Vigi self-contained residual current device carries out:
 - protection of persons against direct and indirect contacts (30 mA)
 - complete protection of final circuits (overcurrents and insulation faults)
 - safety device to switch both of active and neutral
- A class SPN N Vigi are sensitive to the pulsed type DC component.
- Overload, short circuit and earth fault currents are indicated by location of the handle in the OFF position.
- A push-test button "T" is positioned on the front of the device for testing that product is operational.

Accessories

Padlocking device


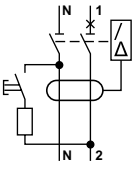
- Used to lock the toggle in the "open" or "closed" position by 8 mm diameter padlock (not supplied).

1P+N comb busbars

- The comb busbars make it easier to install Schneider Electric products.

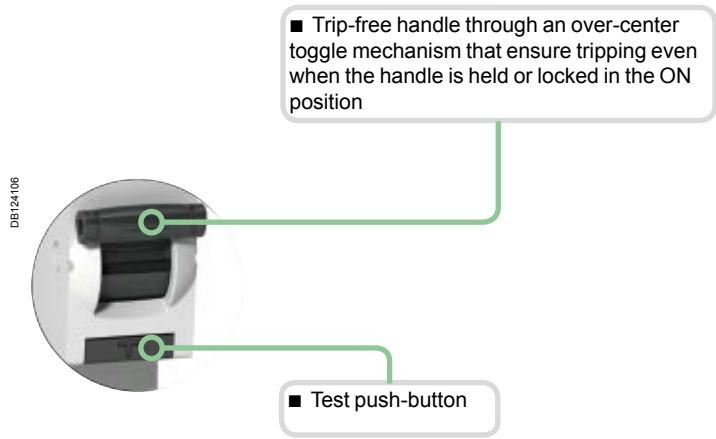
Catalogue numbers

SPN N Vigi

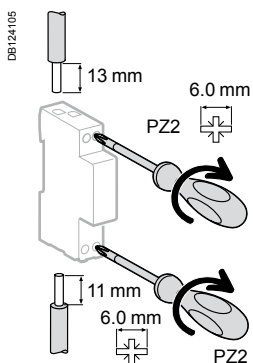
| Type | | | A  | Width in 9-mm modules | |
|---|--------------------|-------------|---|-----------------------|-------|
|  | Voltage rating (V) | Rating (In) | Sensitivity (IΔn) | 2 | |
| | | | 30 mA | | |
| | | | 10 A | | 19583 |
| | | | 16 A | | 19584 |
| | | | 20 A | | 19585 |
| 25 A | 19586 | | | | |
| Operating frequency | | | 50 Hz | | |

Accessories

| Type | |
|--|-------|
| Padlocking device (bag of 2 pieces) | 26970 |
| 1P+N comb busbar 26 modules of 9-mm | 14880 |
| 1P+N comb busbar 48 modules of 9-mm | 14890 |
| Side-plates (bag of 40 pieces) | 14886 |
| Tooth cover end-piece (bag of 40 pieces) | 14888 |

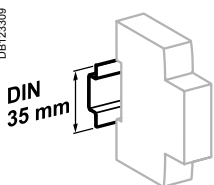


Connection

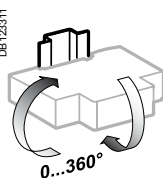


| Type | Rating | Tightening torque | Copper cables | |
|--------------------|------------|-------------------|-------------------------|-------------------------|
| | | | Rigid | Flexible |
| L and N upstream | 10 to 25 A | 2 N.m | 1 to 16 mm ² | 1 to 16 mm ² |
| L and N downstream | | 2 N.m | 1 to 10 mm ² | 1 to 10 mm ² |

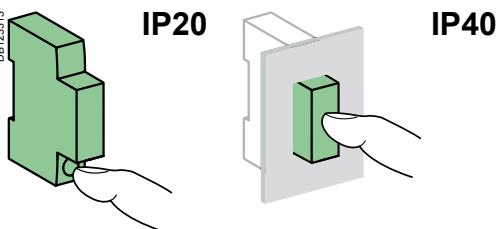
Note: for any case, isolate power before installation. Wire neutral prior to installing active.



Clip on DIN rail 35 mm.



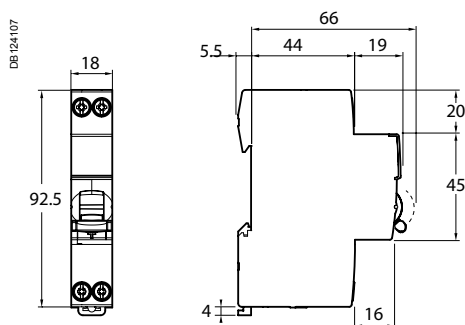
Indifferent position of installation.



Technical data

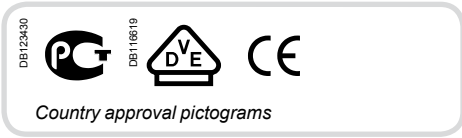
| Main characteristics | | |
|--|---|---------------------------------|
| Voltage rating (U _e) | 240 V + 10 %, -15 % | |
| Insulation voltage (U _i) | 400 V | |
| Rated impulse withstand voltage (U _{imp}) | 4 kV | |
| Rated residual operating current (I _{Δn}) | 30 mA | |
| Thermal tripping | Reference temperature | 30°C |
| Magnetic tripping | C curve | Between 5 and 10 I _n |
| Limitation class | 3 | |
| Surge current withstand (8/20 μs) without tripping | 3000 A | |
| Rated nominal breaking capacity (I _{cn}) | 6000 A | |
| Phase/earth rated residual breaking and making capacity (I _{Δm}) | 500 A | |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Electrical | 10,000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | -5°C to +40°C | |
| Storage temperature | -25°C to +70°C | |
| Tropicalization | Treatment 2 (relative humidity: 95 % at 55°C) | |

Dimensions (mm)



Weight (g)

| Residual current device | |
|-------------------------|------------|
| Type | SPN N Vigi |
| 1P+N | 136 |



IEC/EN 61009-1
IEC/EN 61009-2-1: Voltage Independent



DPN N Vigi

- The DPN N Vigi residual current device provide complete protection for final circuits (against overcurrents and insulation faults):
 - protection for users against electric shocks by direct contacts (30 mA),
 - protection for users against electric shocks by indirect contacts (300 mA),
 - protection of the installations against fire risks (300 mA).

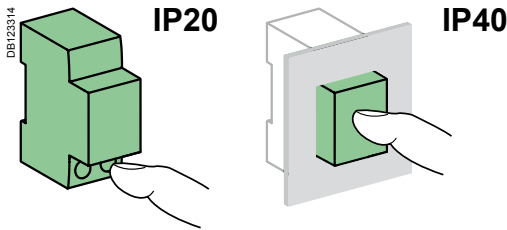
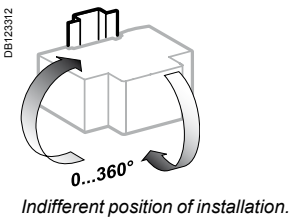
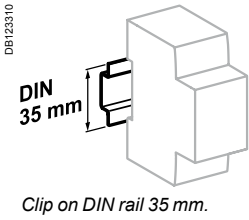
- Voltage Independent: electromechanical technology, ensure residual current protection down to 0 V.

- The **SI** range has been designed to maintain a network with optimum safety and continuity of service in installations disturbed by:
 - extreme atmospheric conditions,
 - harmonic generating loads,
 - transient operating currents.

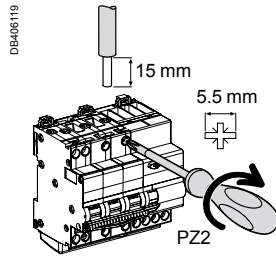
Catalogue numbers

| DPN N Vigi 6000 | | | | | | | | |
|---------------------|---|------|----------|----------|----------|-----------------------|----------|----|
| Type | AC | A | | SI | | Width in 9 mm modules | | |
| Auxiliaries | Module CA907013 and CA907008 | | | | | | | |
| 3P+N Curve B | Sensitivity | | 30 mA | 300 mA | 30 mA | 300 mA | 30 mA | |
| | Rating (In) | 6 A | A9D55706 | - | A9D56706 | - | - | 10 |
| | | 10 A | A9D55710 | - | A9D56710 | - | - | |
| | | 13 A | - | - | A9D56713 | - | - | |
| | | 16 A | A9D55716 | - | A9D56716 | - | - | |
| | | 20 A | A9D55720 | - | A9D56720 | - | - | |
| | | 25 A | A9D55725 | - | A9D56725 | - | - | |
| | | 32 A | A9D55732 | - | A9D56732 | - | - | |
| | | 40 A | A9D55740 | - | A9D56740 | - | - | |
| | Rating (In) | 6 A | A9D31706 | - | A9D32706 | - | - | 10 |
| | | 10 A | A9D31710 | A9D41710 | A9D32710 | A9D42710 | A9D33710 | |
| | | 13 A | - | - | A9D32713 | - | A9D33713 | |
| | | 16 A | A9D31716 | A9D41716 | A9D32716 | A9D42716 | A9D33716 | |
| | | 20 A | A9D31720 | A9D41720 | A9D32720 | A9D42720 | A9D33720 | |
| | | 25 A | A9D31725 | A9D41725 | A9D32725 | A9D42725 | A9D33725 | |
| | | 32 A | A9D31732 | A9D41732 | A9D32732 | A9D42732 | A9D33732 | |
| | | 40 A | A9D31740 | A9D41740 | A9D32740 | A9D42740 | A9D33740 | |
| Voltage rating (Ue) | 400 V AC | | | | | | | |
| Operating frequency | 50 Hz | | | | | | | |
| Accessories | Module CA907013 and CA907012, Comb busbars LIN001 | | | | | | | |

- Fast contact closure
- Possibility of mixing iDPN Vigi 1P+N and DPN Vigi 3P+N devices on the same row and on the same comb busbar.
- Insulated terminals IP20
- Double clip for dismounting with comb busbar in place
- Test button
- Positive contact indication
 - A green strip on the toggle guarantees opening of all the poles in safety conditions (padlocking possible) for work to be carried out on live parts



Connection



| Rating | Tightening torque | Copper cables | |
|-----------|-------------------|---|---|
| | | Rigid | Flexible or with ferrule |
| 6 to 40 A | 2 N.m | DB 122545 0.75 to 16 mm ² | DB 122546 0.33 to 10 mm ² |

Technical data

Main characteristics

| Type | DPN N Vigi |
|---|---|
| Insulation voltage (U _i) | 440 V AC |
| Pollution degree | 3 |
| Rated impulse withstand voltage (U _{imp}) | 4 kV |
| Setting temperature for ratings | 30°C |
| Magnetic tripping | Curve B Curve C |
| | Between 3 and 5 In Between 5 and 10 In |

According to IEC/EN 61009-1 and IEC/EN 61009-2-1

| | |
|--|--|
| Limitation class | 3 |
| Rated breaking capacity (I _{cn}) | 6000 A |
| Rated residual breaking and making capacity (I _{Δm}) | 6000 A |
| 8/20 μs impulse withstand | Type AC: 250 Å Type A: 250 Å Type SI: - |
| Behaviour in case of voltage drop | Ensure residual current protection down to 0 V |

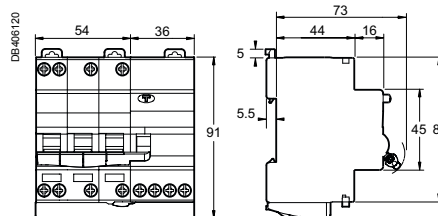
Additional characteristics

| | |
|--|--|
| Earth leakage protection with instantaneous tripping | 30, 300 mA |
| Degree of protection (IEC 60529) | Device only: IP20 Device in modular enclosure: IP40 Insulation classe II |
| Endurance (O-C) | Electrical ≤ 20 A: 20,000 cycles ≥ 25 A: 10,000 cycles Mechanical: 20,000 cycles |
| Overvoltage category (IEC 60364) | III |
| Operating temperature | Type AC: -5°C to +60°C Type A, SI: -25°C to +60°C |
| Storage temperature | -40°C to +70°C |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity 95 % to 55°C) |

Weight (g)

| Residual current device | |
|-------------------------|------------|
| Type | DPN N Vigi |
| 3P+N | 498 |

Dimensions (mm)





IMQ only for REDs,
cat. no. 18687 and 18689

Country approval pictograms

IEC 61008, EN 61008

The REDs and the REDtest, **RE**sidual current **D**evice recloser, is made up of a residual current device and a recloser.

The **REDs** and **REDtest Residual current Devices** offer the following functions:

- protection of people against direct and indirect contacts
- protection of installations against insulation faults
- disconnection of on-load electric circuits, already protected against overloads and short-circuits
- automatic restart after insulation monitoring of the downstream circuit.

REDtest provides the following additional functions:

- automatic and periodical test of the device, without breaking downstream circuit (REDtest).

Only used on TT and TN-S earthing grounding systems.

PB101780_SE-40



REDs 2P

PB104000_SE-40



REDs 4P

PB101788_SE-40

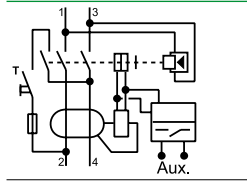
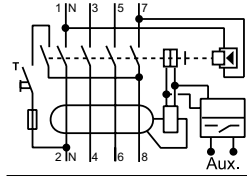


REDtest

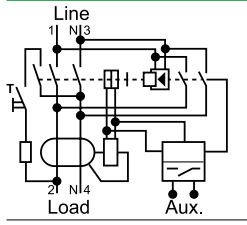
| Residual current circuit breakers | 2P | 4P |
|---|------------------|--------------------|
| Making and breaking capacity, rated residual current ($I_{\Delta m} = I_m$) | 630 A | 630 A |
| Breaking capacity in association with protection device | 6000 A (gL 63 A) | 10,000 A (gL 80 A) |

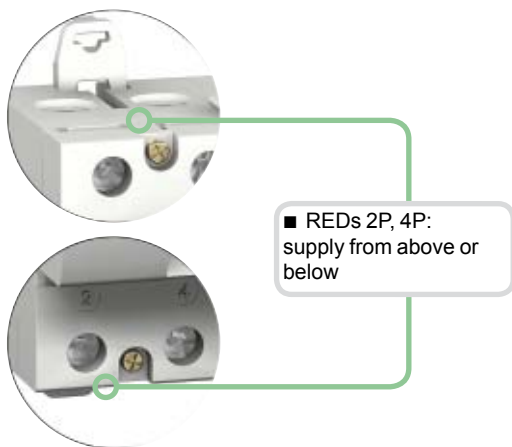
Catalogue numbers

REDs residual current circuit breakers REDs

| A type | | | | Width in mod. of 9 mm |
|---|--------------------|--------------|---------------|-----------------------|
| 2P | Sensitivity | 30 mA | 300 mA | |
|  | Rating | 25 A | 18687 | 8 |
| | | 40 A | 18689 | |
| | | 63 A | 18691 | |
| Voltage rating (Ue) | | 230 V | | |
| Frequency rating | | 50 Hz | | |
| 4P | Sensitivity | 30 mA | 300 mA | |
|  | Rating | 25 A | 18264 | 14 |
| | | 40 A | 18266 | |
| | | 63 A | 18268 | |
| Voltage rating (Ue) | | 400 V | | |
| Frequency rating | | 50 Hz | | |

REDtest residual current circuit breakers

| A Type | | | Width in mod. of 9 mm |
|---|--------------------|--------------|-----------------------|
| 2P | Sensitivity | 30 mA | |
|  | Rating | 25 A | 18280 |
| | | 40 A | 18281 |
| Voltage rating (Ue) | | 230 V | |
| Frequency rating | | 50 Hz | |

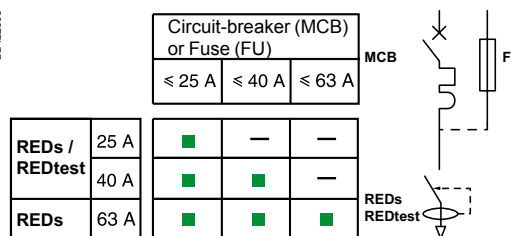


Coordination table, max short-circuit current (kA rms)

Circuit-breakers, fuse / A type REDs, REDtest coordination

| | Circuit-breakers | | | | | Fuse | | |
|--------------------------|------------------|-------|------|------|-------|-------|-------|----|
| | DPN | DPN N | iC60 | C120 | NG125 | gL 63 | gL 80 | |
| REDs A type 2P | | | | | | | | |
| Network | 25 A | 6 | 6 | 10 | 10 | 10 | 6 | - |
| 230 V | 40 A | 6 | 6 | 10 | 10 | 10 | 6 | - |
| L/N | 63 A | - | - | 10 | 10 | 10 | 6 | - |
| REDs A type 4P | | | | | | | | |
| Network | 25 A | 6 | 10 | 10 | 10 | 10 | - | 10 |
| 400 V | 40 A | 6 | 10 | 10 | 10 | 10 | - | 10 |
| L/N | 63 A | - | 10 | 10 | 10 | 10 | - | 10 |
| REDtest A type 2P | | | | | | | | |
| Network | 25 A | 6 | 6 | 6 | 6 | 6 | 6 | - |
| 230 V | 40 A | 6 | 6 | 6 | 6 | 6 | 6 | - |
| L/N | | | | | | | | |

DB122893



DB404526

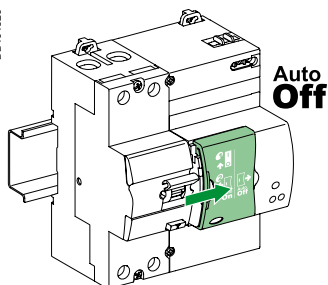


Fig. 1

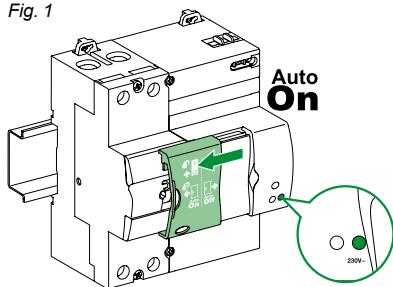


Fig. 2

Operation

REDs

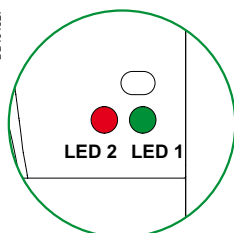
The REDs operates in the residual current device mode, without automatic restart, when the sliding cover is open, i.e. to the right in the Auto Off position (Fig. 1).

The automatic restart mode and the Autotest are activated, when the sliding cover is closed, i.e. to the left in the Auto On position (Fig. 2).

Test

⚠ This is only possible in manual mode, i.e. sliding cover open in the Auto Off position. You can then manually test the device by pressing the Test key. The downstream installation is then temporarily broken. You must then manually reclose the RED by activating the O-I lever to power supply the downstream circuit.

DB404527



REDtest

■ The REDtest carries out automatic testing of earth leakage protection every months.

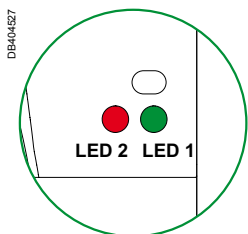
The test consists in opening and reclosing the REDtest, during which time continuity of supply of the downstream installation is guaranteed.

Autotest: after checking installation insulation, the REDtest monitors its residual current device, without breaking the downstream power supply (bypass by bypass contact).

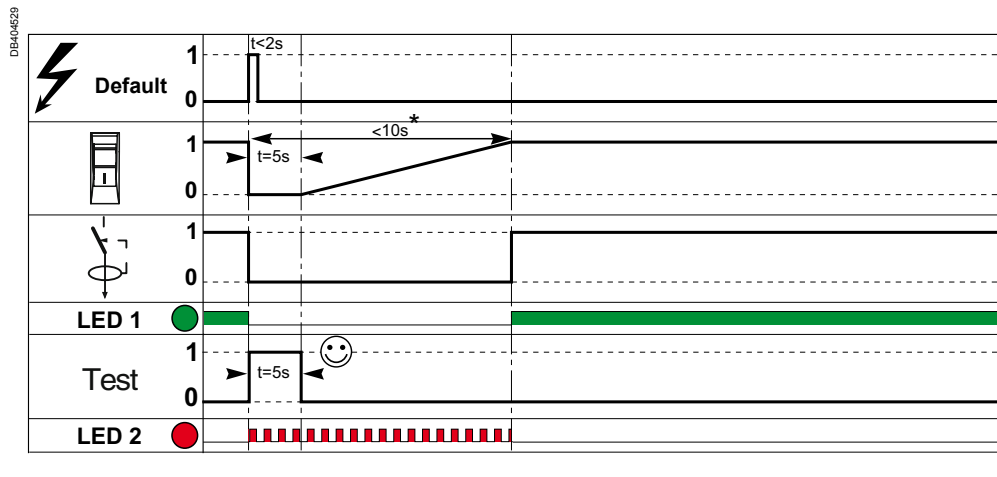
| | LED 1 | LED 2 |
|-----------------|----------|-------|
| Test good | Green ON | OFF |
| Fault yellow ON | OFF | - |

Operation ON mode: temporary network fault

REDs, REDtest



(*) Reclosing time.



The built-in automatic recloser automatically recloses the residual current device after checking insulation of the downstream circuit.

Rd: lower level of insulation resistance, if $R < R_d$ = no reclose

Rdo: higher level of insulation resistance, if $R > R_{do}$ = reclose

| $I\Delta n$ | 30 mA | 300 mA |
|-------------|---------------|----------------|
| Rd | 8 k Ω | 2.5 k Ω |
| Rdo | 16 k Ω | 5 k Ω |

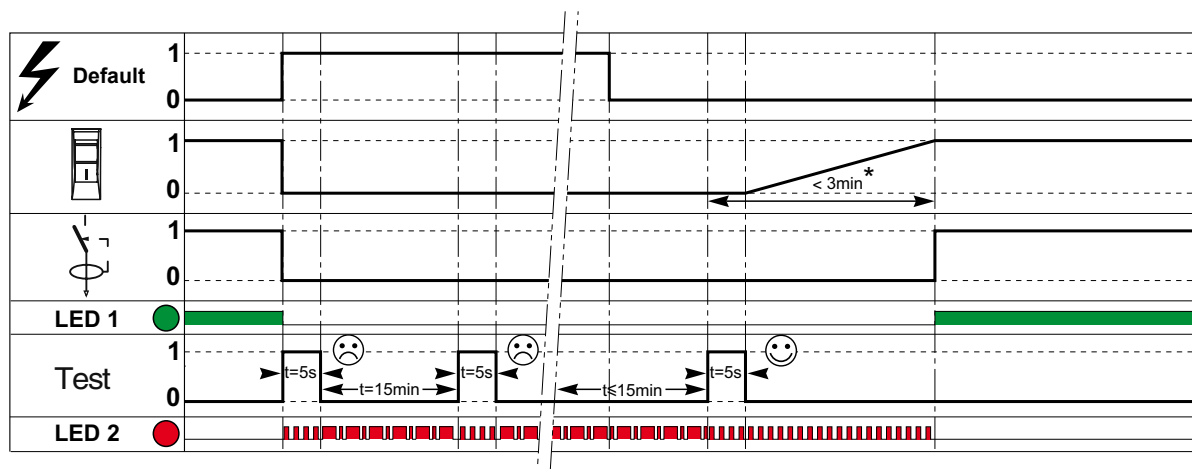
Operation ON mode: long network fault

REDs

If the circuit is faulty, the switch is prohibited from reclosing. After a time delay of 15 minutes, the downstream circuit insulation is rechecked.

There are then two possibilities:

- the installation is still faulty (the resistance to earth is lower than Rd): in this case a new check will be carried out in 15 minutes.
- the fault was temporary and has disappeared (the resistance to earth is higher than Rdo): the recloser automatically recloses the REDs.



(*) Reclosing time.

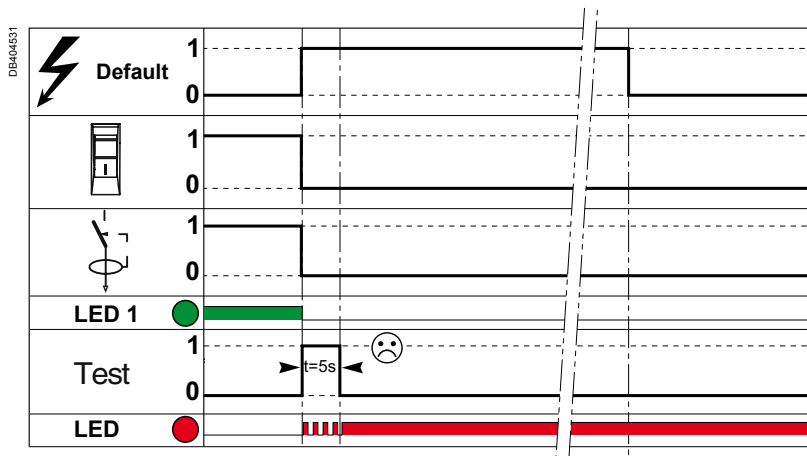
| | |
|------------|--------------|
| IΔn | 30 mA |
| Rd | 30 kΩ |
| Rdo | 70 kΩ |

Operation ON mode: long network fault (cont.)

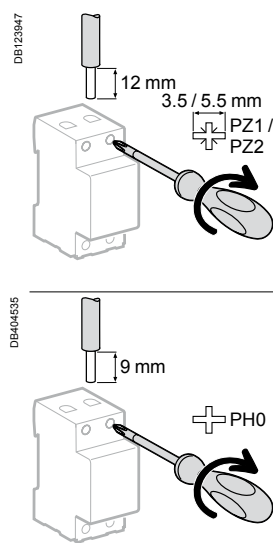
REDtest

If the circuit is faulty for a length of time "greater than 5 seconds", the switch is prohibited from reclosing.

- The installation is faulty: the earth resistance is lower than Rd.

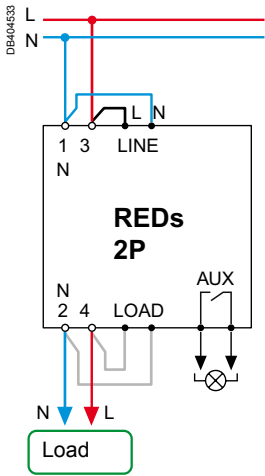


Connection

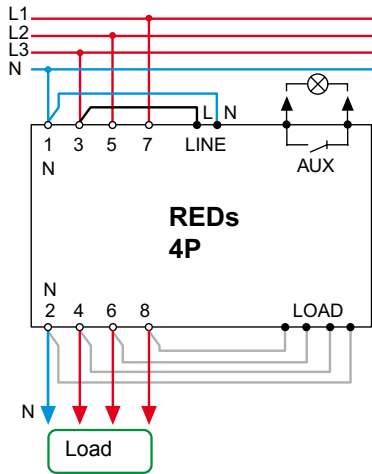


| Type | Tightening torque | Copper cables | |
|------|-------------------|---------------------|---------------------|
| | | Rigid | Flexible or ferrule |
| N, L | 2 N.m | 35 mm ² | 35 mm ² |
| AUX | 0.4 N.m | 2.5 mm ² | 2.5 mm ² |

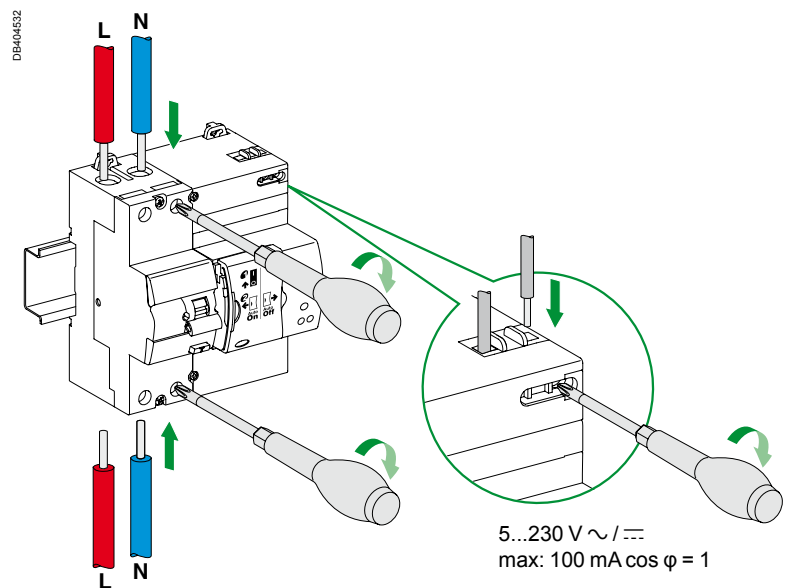
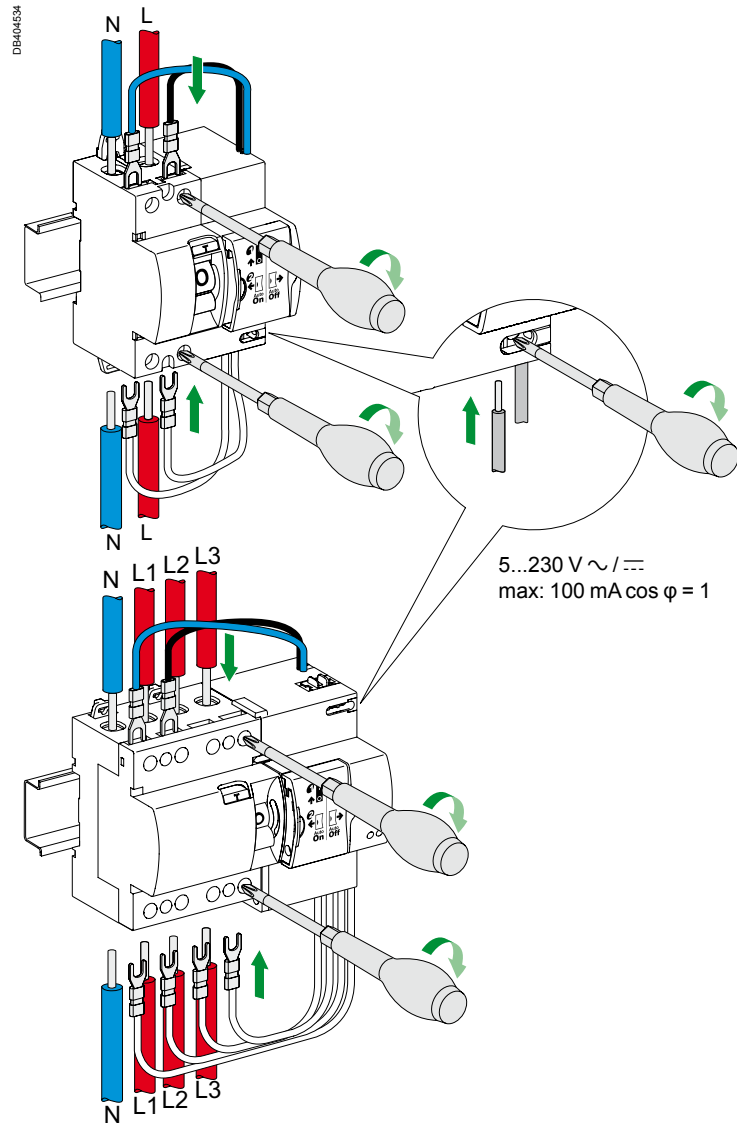
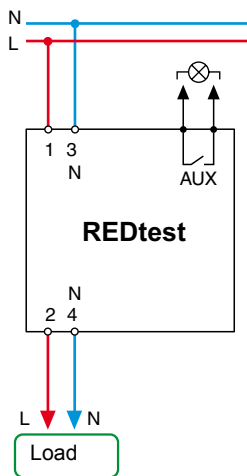
Connection by tunnel terminal with guard

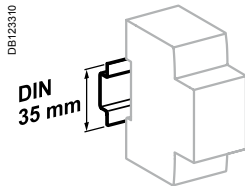


Wiring of non-polarized white wires

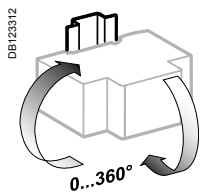


Wiring of non-polarized white wires

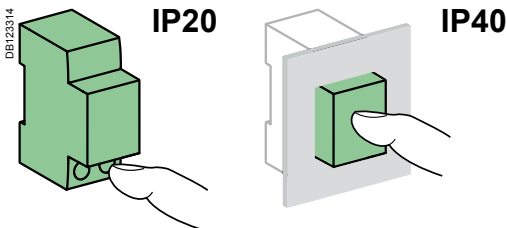




Clip on DIN rail 35 mm.



Indifferent position of installation.



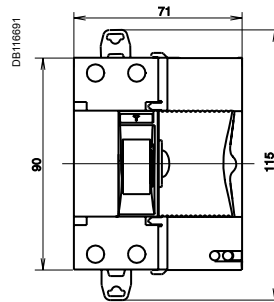
Technical data.

| Main characteristics | 2P | 4P |
|--|--|-------------|
| Common technical data | REDs, REDtest | REDs |
| Earthing grounding systems | TT and TN-S only | |
| Impulse withstand voltage (Uimp) | 4 kV | |
| Insulation voltage (Ui) | 500 V | |
| 8/20 µs wave immunity level | 250 Å | |
| Tropicalisation | Treatment 2 (relative humidity: 95 % at 55°C) | |
| Operating temperature | -5°C to +40°C | |
| Storage temperature | -20°C to +60°C | |
| Protection class | IP20 at terminals | |
| Additional characteristics | | |
| Residual current device | | |
| Tripping time | IΔn: ≤ 300 ms 5 IΔn: ≤ 40 ms | |
| Number of cycles (O-C) | 1 000 | 4 000 |
| Fixed sensitivity releases for all ratings | Instantaneous release | |
| Test button min operating voltage | ■ 100 V ■ 195 V (REDtest) | 170 V |
| Recloser | | |
| Max duration of a restart cycle | 90 s | < 10 s |
| Maximum number of consecutive restart attempts (if no earth fault) | 3 | |
| Min interval between 2 closings | 180 s | 30 s |
| Insulation fault presence monitoring | Yes | |
| Restart in event of transient insulation fault | Yes | |
| Stopping restart cycle if insulation fault present | ■ Yes, during 15 minutes ■ Yes (REDtest) | |
| Not operating resistance to earth (Rd) | 8 kΩ (30 mA), 2.5 kΩ (300 mA) | |
| Operating resistance to earth (Rdo) | 16 kΩ (30 mA), 5 kΩ (300 mA) | |
| Power consumed by the electronics | ■ REDs: 0 VA ■ REDtest: 8 VA | |
| Indication | | |
| REDs status indication | Mechanical: by O-I (open-closed) 2-position lever ■ Electrical: by 2 indicator lights on the front panel: □ left: red/yellow LED □ right: green LED Remote: by 1 built-in auxiliary contact | |
| Auxiliary contact | | |
| Voltage rating (Ue) | 5...230 V AC/DC | |
| Insulation voltage (Ui) | 350 V | |
| Current rating (In) | Min: 0.6 mA Max: 100 mA, power factor = 1 | |
| Type | Configurable: intermittent 1 Hz or NO | |
| Connection by tunnel terminal | Flexible or rigid cable: max 2.5 mm ² | |

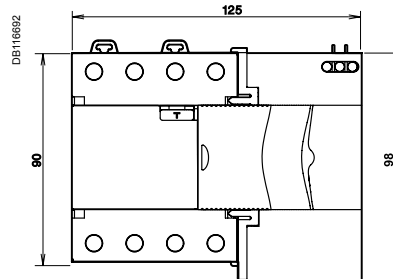
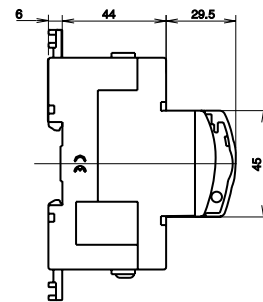
Weight (g)

| Reclosers | 2P | 4P |
|-----------|-----|--|
| REDs | 360 | <ul style="list-style-type: none"> ■ 25/40 A: 670 ■ 63 A: □ 30 mA: 720 □ 300 mA: 680 |
| REDtest | 370 | - |

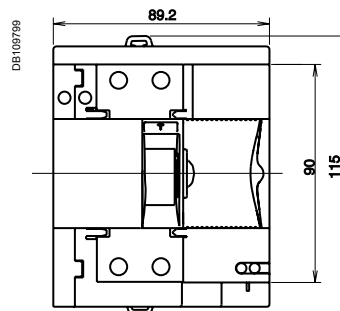
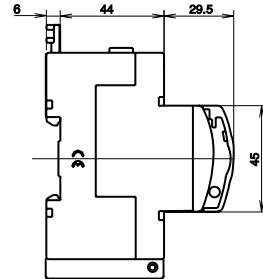
Dimensions (mm)



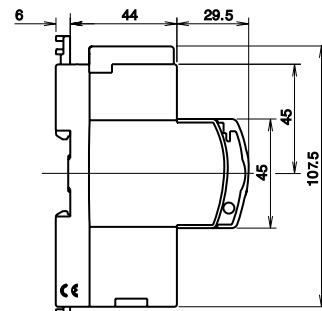
REDs 2P



REDs 4P



REDtest





Fire prevention



Country approval pictograms

iARC reduces the risk of electrical fires. By continuously analysing a large number of electrical parameters, it detects the appearance of electric arcs that are responsible for starting fires.

It automatically isolates the circuit concerned before the first flame appears.

In residential installations, iARC is particularly suitable for protecting circuits where the risk of fire is highest:

- bedroom and living room socket circuits that are live, unattended power outlets
- circuits susceptible to attack (surface-mounted, outdoor installation, etc.).

IEC 62606

General requirements for arc detection devices.

■ iARC monitors electric arcs that occur in cables and connections and cause a fire. These arcs are the result of localised cable deterioration or loose connections

■ It is used for three types of situations that can result in a fire:

- insulation problems between two live conductors that cause a resistive short-circuit, too weak to be detected by a circuit breaker and with no earth leakage that would be detected by an earth-leakage protection device (parallel arc detection),
- a damaged conductor or connection that causes part of the current to pass into its carbonised insulation due to a local rise in temperature (serial arc detection),
- overheating of electronic components in loads, when exposed to an overvoltage for several seconds.

■ It combines the following functions:

- protection against fire hazards by detection of abnormal electric arcs,
- protection against load fire hazards due to slow overvoltages,
- circuit opening and positive break indication (green strip),
- fire hazard tripping indication via the front panel indicator,
- device self-diagnostics via the test button.

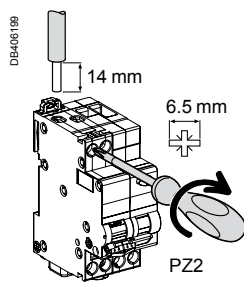
■ Installed in series with a circuit breaker or RCBO (DPC Vigi), max. 25 A, it protects Phase-Neutral or Phase-Phase circuits, in full coordination under short-circuit conditions up to a rated breaking capacity (Inc) of 10,000 A.



Catalogue numbers

| iARC | | | |
|--|------------------|-----------------|-----------------------|
| Arc Fault Detection Device (AFDD) to IEC 62606 | | | Width in 9 mm modules |
| 1P+N | | | |
| | Rating 25 A (In) | A9FDD225 | 4 |
| Operating voltage | | 230 V CA | |
| Operating frequency | | 50 Hz | |

Connection



| Tightening torque | Copper cables | |
|-------------------|---|---|
| | Rigid | Flexible or with ferrule |
| 2 N.m | 1 x 1 to 16 mm ² 2 x 1 to 2.5 mm ² | 1 x 1 to 10 mm ² 2 x 1 to 2.5 mm ² |



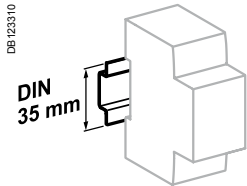
FB111222-50



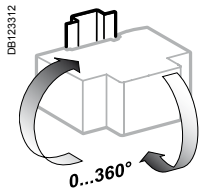
Positive break indication
 ■ A green strip on the handle ensures that all the poles are open under safe conditions

■ Device self-diagnostics test button

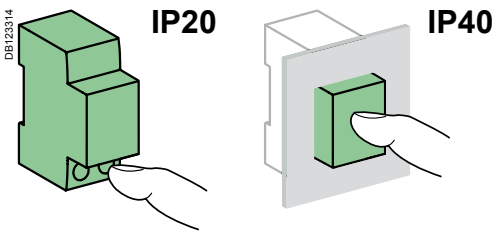
■ Fire hazard tripping indication via a "red" status indicator



Clip on DIN rail 35 mm.



Indifferent position of installation.



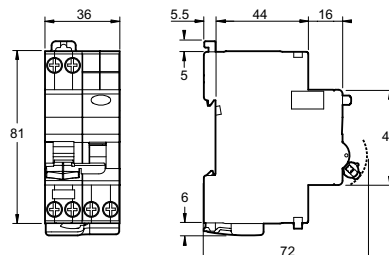
Technical data

| Main characteristics | | | | | | |
|--|---|-----------------------------|---------------|--------|--------|--------|
| Tripping time/arc current value with $U_n = 230 \text{ V AC}$ (to IEC 62606) | Arc current | 2.5 A | 5 A | 10 A | 16 A | 25 A |
| | Max. operating time | 1 s | 0.5 s | 0.25 s | 0.15 s | 0.14 s |
| Overvoltage tripping time (neutral conductor break) | 400 V AC, 200 ms | | | | | |
| Insulation voltage (U_i) | 400 V AC | | | | | |
| Degree of pollution | 2 | | | | | |
| Rated impulse withstand voltage (U_{imp}) | 4 kV | | | | | |
| Rated making and breaking capacity (I_m) | 500 A | | | | | |
| Overvoltage category | III | | | | | |
| Coordinated with an upstream circuit breaker | Max. rating | 25 A | | | | |
| | Curve | B or C | | | | |
| | Rated breaking capacity (I_{nc}) | Up to 10,000 A | | | | |
| Additional characteristics | | | | | | |
| Degree of protection | Device alone | IP20 | | | | |
| | Device in a modular enclosure | IP40 Insulation class II | | | | |
| Endurance (O-C) | Electrical | $\leq 20 \text{ A}$ | 20,000 cycles | | | |
| | | 25 A | 10,000 cycles | | | |
| | Mechanical | 20,000 cycles | | | | |
| Operating temperature | -25°C to +60°C | | | | | |
| Storage temperature | -40°C to +85°C | | | | | |
| Tropicalization (to IEC 62606) | Severity B (to IEC 60068-2-30) during 28 days | | | | | |

Weight (g)

| Arc detection device | |
|----------------------|------|
| Type | iARC |
| 1P+N | 198 |

Dimensions (mm)



With Schneider Electric, lightning protection is easily integrated in the power distribution system



For all low voltage switchboards and electrical enclosures:

a comprehensive range

- To ensure the protection of equipment connected to:
 - low voltage networks,
 - telecommunications networks,
 - computer networks.
- Easy to implement and use.
- Compatibility with all earthing systems (TT, TNS, TNC, IT).
- Technical and aesthetic consistency.

Continuity of service and certified safety

Schneider Electric certified coordination between the surge arrester and its disconnection circuit breaker.

Compliance with standards: IEC/EN 61643-11.



More and more electrical equipment today is sensitive to overvoltages caused by lightning.



90%

of power outlets supply equipment incorporating electronic devices.



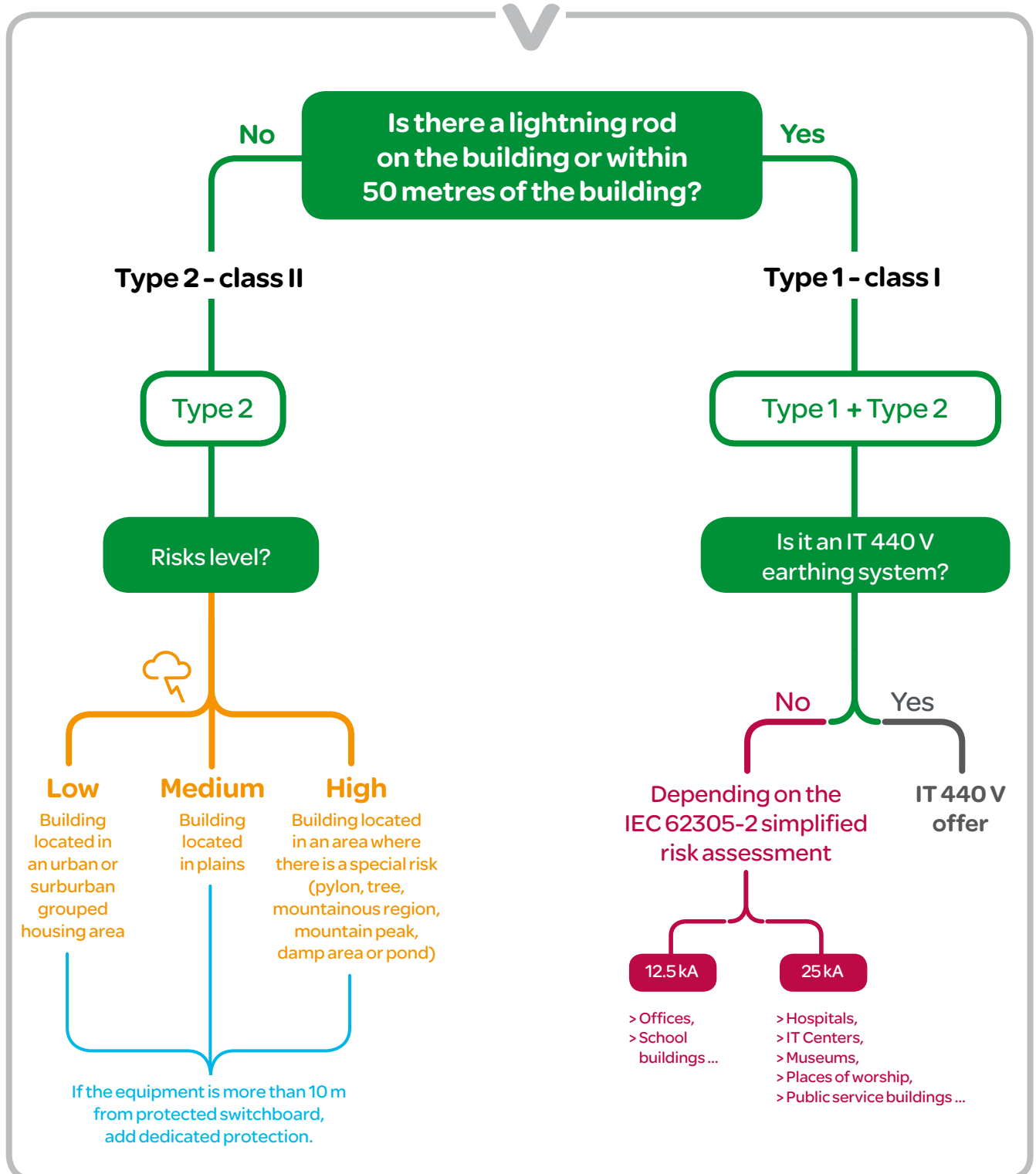
iQuick PRD "built-in" technology surge arresters, a Schneider Electric innovation, incorporate their own disconnection circuit breaker: easy to choose and simple to install for greater effectiveness.



Up to **30%** of installation time saved.

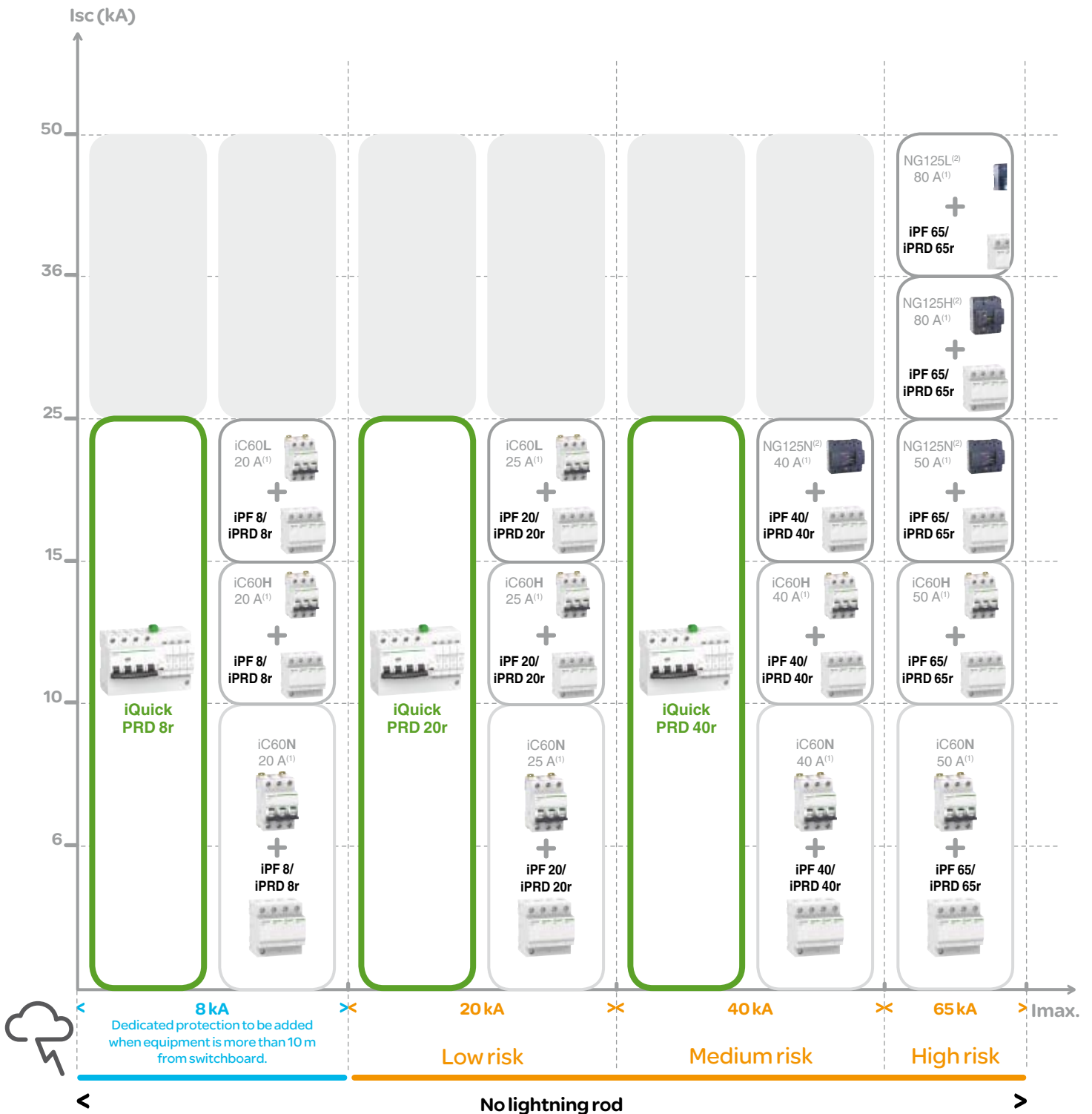
Simple and effective selection method:

You need to install a surge arrester in a switchboard



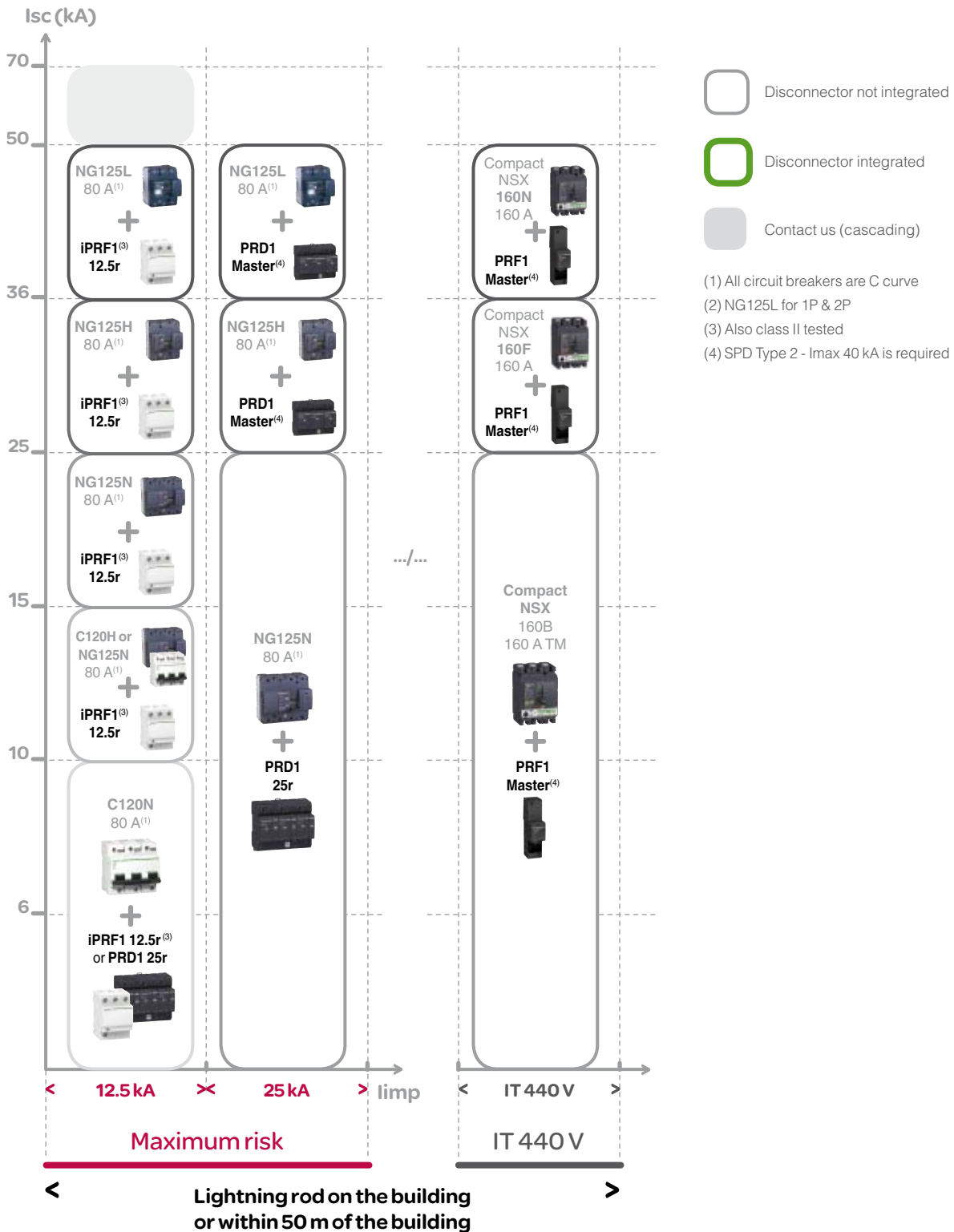
> Coordination table between SPD and its

Type 2 - Class II



Short-circuit disconnectors

Type 1 - Class I



iPRF1 12.5r/PRF1 Master/ PRD1 25r/PRD1 Master Type 1 and 2 LV surge arresters

The Type 1 range of surge arresters meets the normative withstand capability of current wave type 10/350 μ s (8/20 μ s for Type 2 surge arresters).

It is suitable for use with TT, TN-S, TN-C and IT earthing connection systems (neutral point connection).

In addition, the PRF1 Master surge arrester covers the 400 V IT system.

iPRF1 12.5r and PRD1 surge arresters are fitted with a remote transfer contact to send "end-of-life indication" information.

PRD1 surge arresters are fitted with easy-to-replace withdrawable cartridges.

iPRF1 12.5r/PRF1 Master/PRD1 25r/PRD1 Master

The Type 1 surge arrester is recommended for electrical installations in the service sector and industrial buildings protected by a lightning conductor or by a meshed cage.

It protects electrical installations against direct lightning strikes.

It is used to conduct the direct lightning current, propagating from the earth conductor to the network conductors.

It must be installed with an upstream disconnection device, such as a fuse or circuit-breaker, whose breaking capacity must be at least equal to the maximum prospective short-circuit current at the installation point.

iPRF1 12.5r and PRD1 25r surge arresters also provide Type 2 protection and protect the electrical installation by finely clipping the lightning wave overvoltages.



iPRF1 12.5r (3P+N)

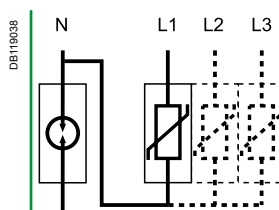
PRF1 Master (1P)



PRD1 25r (3P+N)

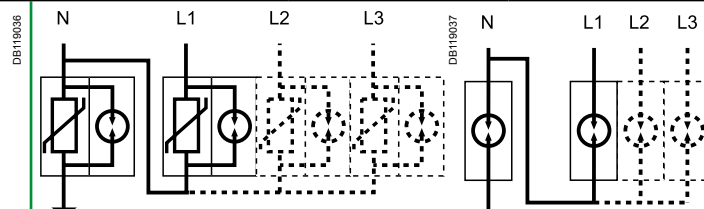


PRD1 Master (3P+N)



iPRF1 12.5r (1P+N, 3P+N)

| Type | Product solution | |
|-----------------------------|------------------|-------------|
| Fixed surge arrester | 1P+N | 3P+N |
| iPRF1 12.5r T1, T2 | A9L16632 | A9L16634 |
| PRF1 Master T1 | | |



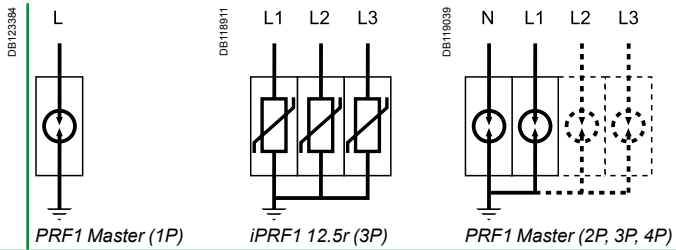
PRD1 25r (1P+N, 3P+N)

PRD1 Master (1P+N, 3P+N)

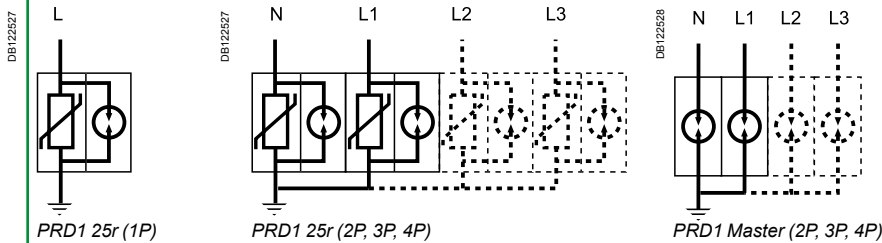
| | | |
|---------------------------------|-------------|-------------|
| Cartridge surge arrester | 1P+N | 3P+N |
| PRD1 25r T1 + T2 | 16330 | 16332 |
| PRD1 Master T1 | 16361 | 16363 |

iPRF1 12.5r/PRF1 Master/ PRD1 25r/PRD1 Master

Type 1 and 2 LV surge arresters (cont.)



| | | | | Neutral point connection | Recommended accessory |
|-------|-----------|-----------|-----------|----------------------------|-----------------------|
| 1P | 2P | 3P | 4P | TT, TN-S | |
| | | A9L16633 | | TN-C | |
| | 2 x 16630 | | | IT distributed neutral | 16643 |
| 16630 | | 3 x 16630 | | IT non-distributed neutral | 16644 |
| | | | 4 x 16630 | IT distributed neutral | 16645 |



| | | | | Neutral point connection | Recommended accessory |
|-------|-----------|-------|-----------|--------------------------|-----------------------|
| 1P | 2P | 3P | 4P | TT, TN-S | |
| 16329 | 2 x 16329 | | 4 x 16329 | TT, TN-C | |
| | | 16331 | | TN-C | |
| | | | | TT, TN-S | |
| 16360 | 2 x 16360 | | 4 x 16360 | TT, TN-C | |
| | | 16362 | | TN-C | |

iPRF1 12.5r/PRF1 Master/ PRD1 25r/PRD1 Master

Type 1 and 2 LV surge arresters (cont.)

| Type | Nb. of poles | Width modules | I imp (kA) (10/350) Impulse current | | I max (kA) (8/20) Maximal discharge current | In - kA Rated discharge current | Up - kV Degree of protection | Un - V Nominal line voltage | Uc - V Maximum steady state voltage | |
|------------------------------------|--------------------------|---------------------|--|--------------------------------------|--|------------------------------------|---------------------------------|--------------------------------|--|-----------------|
| Fixed surge arrester | | 9 mm modules | Surge arrester | Surge arrester + disconnecter | | | | | (L-N)/(N-PE) | |
| iPRF1 12.5r | Type 1 + 2 | | | | | | | | | |
| | 1P+N | 4 | 12.5 (L-N)/50 (N-PE) | | 50 | 25 | ≤ 1.5 | 230 | 350/255 | A9L16632 |
| | 3P | 8 | 12.5 | | 50 | 25 | ≤ 1.5 | 230/400 | 350 | A9L16633 |
| | 3P+N | 8 | 12.5 (L-N)/50 (N-PE) | | 50 | 25 | ≤ 1.5 | 230/400 | 350/255 | A9L16634 |
| PRF1 Master | Type 1 | | | | | | | | | |
| | 1P | 4 | 50 | 35 | - | 50 | ≤ 1.5 | 230 | 440 | 16630 |
| Withdrawable surge arrester | | | | | | | | | | |
| PRD1 25r | Type 1 + 2 | | | | | | | | | |
| | 1P | 4 | 25 | | 40 | 25 | ≤ 1.5 | 230 | 350 | 16329 |
| | 1P+N | 8 | 25 (L-N)/100 (N-PE) | | 40 | 25 | ≤ 1.5 | 230 | 350/350 | 16330 |
| | 3P | 12 | 25 | | 40 | 25 | ≤ 1.5 | 230/400 | 350 | 16331 |
| | 3P+N | 16 | 25 (L-N)/100 (N-PE) | | 40 | 25 | ≤ 1.5 | 230/400 | 350/350 | 16332 |
| PRD1 Master | Type 1 | | | | | | | | | |
| | 1P | 4 | 25 | | - | 25 | ≤ 1.5 | 230 | 350 | 16360 |
| | 1P+N | 8 | 25 (L-N)/100 (N-PE) | | - | 25 | ≤ 1.5 | 230 | 350/350 | 16361 |
| | 3P | 12 | 25 | | - | 25 | ≤ 1.5 | 230/400 | 350 | 16362 |
| | 3P+N | 16 | 25 (L-N)/100 (N-PE) | | - | 25 | ≤ 1.5 | 230/400 | 350/350 | 16363 |
| Spare cartridge | | | | | | | | | | |
| C1 Master-350 | - | 4 | - | - | - | 25 | ≤ 1.5 | - | 350 | 16314 |
| C1 25-350 | - | 23 mm | - | - | - | 25 | ≤ 1.5 | - | 350 | 16315 |
| C2 40-350 | - | 12 mm | - | - | - | 20 | ≤ 1.5 | - | 350 | 16316 |
| C1 Neutral-350 | - | 4 | - | - | - | - | - | - | 350 | 16317 |

PB10426E-30



C1 Neutral-350

DB123370



| Surge arresters | Spare cartridge | | |
|--------------------|------------------|------------------|--------------|
| | Phase | | Neutral |
| | Type 1 | Type 2 | |
| PRD1 25r | | | |
| PRD1 25r 1P | 16315 | 16316 | - |
| PRD1 25r 1P+N | 16315 | 16316 | 16317 |
| PRD1 25r 3P | 3 x 16315 | 3 x 16316 | - |
| PRD1 25r 3P+N | 3 x 16315 | 3 x 16316 | 16317 |
| PRD1 Master | | | |
| PRD1 Master 1P | 16314 | - | - |
| PRD1 Master 1P+N | 16314 | - | 16317 |
| PRD1 Master 3P | 3 x 16314 | - | - |
| PRD1 Master 3P+N | 3 x 16314 | - | 16317 |

| Accessories | | |
|-------------------------------------|-----------------|--------------|
| Type | Number of poles | |
| 4P Wiring comb busbars | 4 | 16643 |
| 6P Wiring comb busbars | 6 | 16644 |
| Peignes de câblage 8P | 8 | 16645 |
| 200 mm flexible cable (PRF1 Master) | | 16646 |

iPRF1 12.5r/PRF1 Master/ PRD1 25r/PRD1 Master

Type 1 and 2 LV surge arresters (cont.)

Technical data

| | | iPRF1 12.5r | PRF1 Master | PRD1 25r | PRD1 Master |
|--|------------------------|---|---|--|--|
| Operating frequency | | 50 Hz | 50/60 Hz | 50 Hz | 50 Hz |
| Degree of protection | Front panel | IP40 | IP40 | IP40 | IP40 |
| | Terminals | IP20 | IP20 | IP20 | IP20 |
| | Impacts | IK05 | IK05 | IK05 | IK05 |
| Response time | | ≤ 25 ns | ≤ 1 μs | ≤ 25 ns | ≤ 100 ns |
| Short circuit withstand (I _{sc}) | | - | - | 25 kA | 50 kA |
| Temporary overvoltage withstand (U _T) | U _T (L-N) | - | - | 415 V AC/5 s | 415 V AC/5 s |
| | U _T (N-PE) | - | - | 1200 V AC/200 ms | 1200 V AC/200 ms |
| Temporary overvoltage Safe failure mode (U _T) | | U _T (L-N) | - | 440 V AC/120 min | 440 V AC/120 min |
| Ground residual current (I _{PE}) | | I _{PE} (N-PE) | - | ≤ 0.01 mA for 1P+N, 3P+N | ≤ 0.01 mA for 1P+N, 3P+N |
| Follow current interrupting rating (I _{fi}) | I _{fi} (L-N) | - | - | 25 kA/264 V AC 3 kA/350 V AC | 25 kA/264 V AC 3 kA/350 V AC |
| | I _{fi} (N-PE) | - | - | 100 A | 100 A |
| End-of-life indication | | Green: correct operation Red: at end of life | - | White: correct operation Red: at end of life | White: correct operation Red: at end of life |
| | Remote notification | 1.5 A/250 V AC | - | 1 A/250 V AC ≤ 1 A/30 V DC | 1 A/250 V AC ≤ 1 A/30 V DC |
| By tunnel terminal | Rigid cable | 10...35 mm ² | 10...50 mm ² | 2.5...35 mm ² | 10...35 mm ² |
| | Flexible cable | 10...25 mm ² | 10...35 mm ² | 2.5...25 mm ² | 10...25 mm ² |
| Operating temperature | | -25°C to +60°C | -40°C to +85°C | -40°C to +80°C | -40°C to +80°C |
| Standards | Type 1 | IEC 61643-1 <u>T1</u> EN 61643-11 Type 1 | IEC 61643-1 <u>T1</u> EN 61643-11 Type 1 | IEC 61643-11: 2011 <u>T1</u> EN 61643-11: 2012 Type 1 | IEC 61643-11: 2011 <u>T1</u> EN 61643-11: 2012 Type 1 |
| | Type 2 | IEC 61643-1 <u>T2</u> EN 61643-11 Type 2 | - | IEC 61643-11: 2011 <u>T2</u> EN 61643-11: 2012 Type 2 | - |

Choice of disconnector / surge arrester

| Type | Iimp: impulse current | Isc: prospective short-circuit current at the installation point | | | | |
|-------------|-----------------------|--|--|-----------------------|-----------------------|---------------------|
| | | 10 kA | 15 kA | 25 kA | 36 kA | 50 kA |
| iPRF1 12.5r | 12.5 kA | C120N 80 A curve C | C120H 80 A curve C or NG125N 80 A curve C | NG125N 80 A curve C | NG125H 80 A curve C | NG125L 80 A curve C |
| PRF1 Master | 35 kA | Compact NSX160B 160 A TM | | Compact NSX160F 160 A | Compact NSX160N 160 A | |
| PRD1 25r | 25 kA | NG125N 80 A curve C | | - | | |
| PRD1 Master | 25 kA | NG125N 80 A curve C | | NG125H 80 A curve C | NG125L 80 A curve C | |

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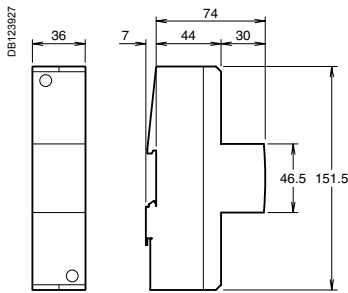
PRD1 25r/PRD1 Master Reversible

■ The surge arrester base can be turned over to allow the phase/neutral/earth cables to enter through either the top or the bottom

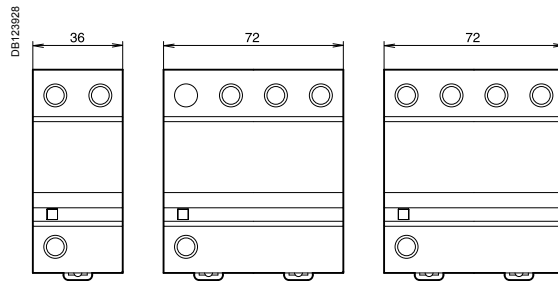


iPRF1 12.5r/PRF1 Master/ PRD1 25r/PRD1 Master Type 1 and 2 LV surge arresters (cont.)

Dimensions (mm)



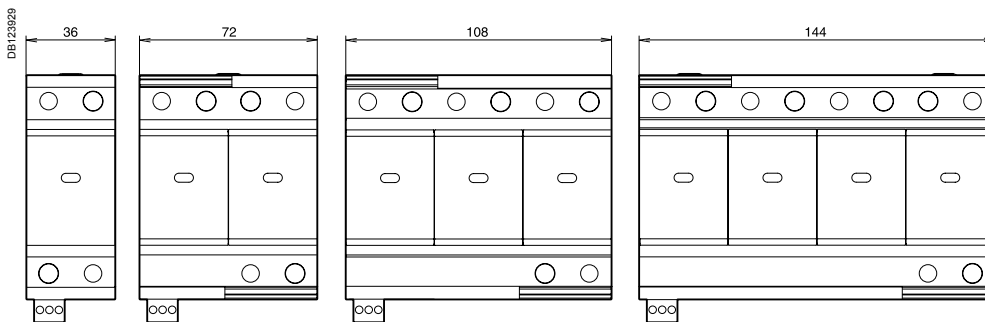
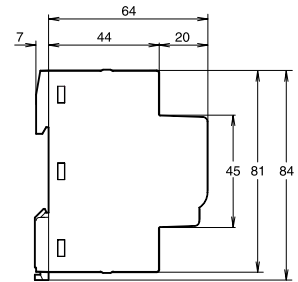
PRF1 Master



1P + N
iPRF1 12.5r

3P

3P + N

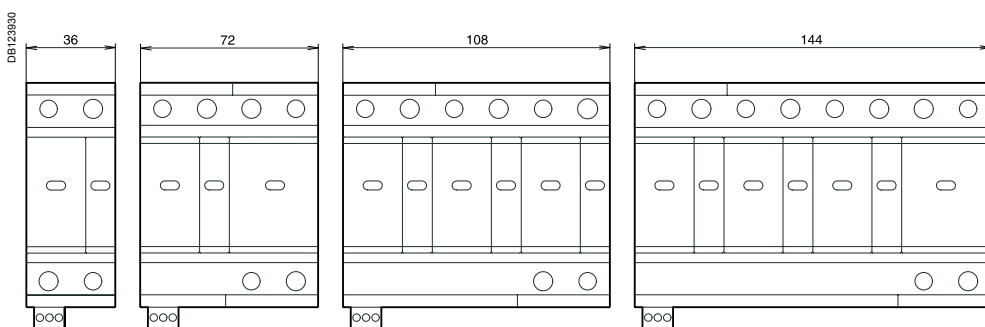
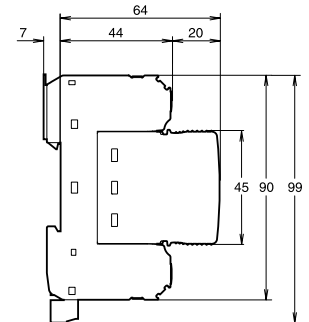


1P
PRD1 Master

1P + N

3P

3P + N

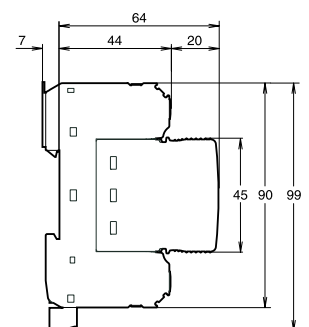


1P
PRD1 25r

1P + N

3P

3P + N



The iPF multi-pole single-piece surge arrester range is adapted for earthing systems: TT, TN-S, TN-C.

Type 2 surge arresters are tested with a 8/20 μ s current wave.

Type 3 surge arresters are tested with a 12/50 μ s and 8/20 μ s combined wave.

Each surge arrester in the range has a specific application:

■ **incoming protection (type 2):**

- the iPF65(r) is recommended for a very high risk level (strongly exposed site)
- the iPF40(r) is recommended for a high risk level
- the iPF20 is recommended for a medium risk level

■ **secondary protection (type 2 or 3):**

- the iPF8 ensures secondary protection of loads to be protected and is placed in cascade with the incoming surge arresters. This surge arrester is required when the loads to be protected are at a distance of more than 30 m from the incoming surge arrester.

The iPF surge arresters with “r” indication have remote transfer of the information: “surge arrester to be replaced”.

| Rated discharge current (I _{max}) / Nominal discharge current (I _n) | Type of protection | | Network | | | | | | | | |
|--|--------------------|-------------------------|----------|--|----------|--|----------|----------|----------|----------|----------|
| | Incoming | Secondary (type 2 or 3) | 1P+N | | 3P+N | | 1P | 2P | 3P | 4P | |
| 65 kA / 20 kA | | | | | | | | | | | |
| | iPF65 | | A9L15684 | | A9L15685 | | A9L15683 | | | | |
| | | | | | A9L15586 | | | A9L15584 | | | |
| | | | | | | | | | A9L15581 | | |
| | | | | | | | | | | | A9L15585 |
| 40 kA / 15 kA | | | | | | | | | | | |
| High risk level | iPF40 | | A9L15687 | | | | A9L15686 | | | | |
| | | | | | | | | A9L15587 | | | |
| | | | | | A9L15690 | | | | | A9L15582 | |
| | | | | | A9L15688 | | | | | | A9L15590 |
| | | | | | | | | | | | A9L15588 |
| 20 kA / 5 kA | | | | | | | | | | | |
| Medium risk level | iPF20 | | A9L15692 | | | | A9L15691 | | | | |
| | | | | | | | | A9L15592 | | | |
| | | | | | A9L15693 | | | | | A9L15597 | |
| | | | | | | | | | | | A9L15593 |
| 8 kA / 2.5 kA | | | | | | | | | | | |
| Secondary protection: placed near the loads to be protected when they are at a distance of more than 30 m from the incoming surge arrester | | iPF8 | A9L15695 | | | | A9L15694 | | | | |
| | | | | | | | | A9L15595 | | | |
| | | | | | A9L15696 | | | | | A9L15598 | |
| | | | | | | | | | | | A9L15596 |



1P+N.



3P+N.

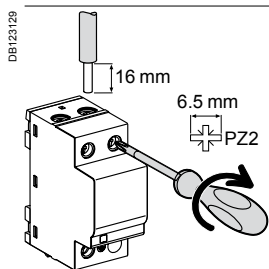
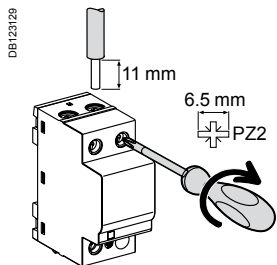
Surge arrester/circuit breaker association





| Type of surge arrester | Associated circuit breaker |
|------------------------|----------------------------|
| iPF65 | Curve C 50 A |
| iPF40 | Curve C 40 A |
| iPF20 | Curve C 25 A |
| iPF8 | Curve C 20 A |

| | Earthing system | Transfer | Surge arrester name | Width in mod. of 9 mm | Up - (kV) Voltage protection level | | | Un - (V) Rated voltage network | Uc - (V) Maximum continuous operating voltage | | |
|---------------------------------|-----------------|----------|---------------------|-----------------------|---------------------------------------|---------------|-------------|-----------------------------------|--|-----|-----|
| | | | | | CM* | | DM* | | CM* | | DM* |
| | | | | | L/± | N/± | L/N | | L/± | N/± | L/N |
| iPF65 | | | | | | | | | | | |
| | TT & TN | | iPF65 1P | 2 | ≤ 1.5 | - | - | 230 | 340 | - | - |
| | TT & TN-S | | iPF65 1P+N | 4 | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TN-C | | iPF65 2P | | ≤ 1.5 | ≤ 1.5 | - | | 340 | 340 | - |
| | TN-C | | iPF65 3P | 8 | ≤ 1.5 | - | - | 230/400 | 340 | - | - |
| | TT & TN-S | ■ | iPF65r 3P+N | | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TT & TN-S | | iPF65 3P+N | | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TN-C | ■ | iPF65r 4P | | ≤ 1.5 | ≤ 1.5 | - | | 340 | 340 | - |
| iPF40 | | | | | | | | | | | |
| | TT & TN | | iPF40 1P | 2 | ≤ 1.5 | - | - | 230 | 340 | - | - |
| | TT & TN-S | | iPF40 1P+N | 4 | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TN-C | | iPF40 2P | | ≤ 1.5 | ≤ 1.5 | - | | 340 | 340 | - |
| | TN-C | | iPF40 3P | 8 | ≤ 1.5 | - | - | 230/400 | 340 | - | - |
| | TT & TN-S | ■ | iPF40r 3P+N | | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TT & TN-S | | iPF40 3P+N | | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TN-C | ■ | iPF40r 4P | | ≤ 1.5 | ≤ 1.5 | - | | 340 | 340 | - |
| | TN-C | | iPF40 4P | | ≤ 1.5 | ≤ 1.5 | - | | 340 | 340 | - |
| iPF20 | | | | | | | | | | | |
| | TT & TN | | iPF20 1P | 2 | ≤ 1.1 | - | - | 230 | 340 | - | - |
| | TT & TN-S | | iPF20 1P+N | 4 | - | ≤ 1.5 | ≤ 1.1 | | - | 260 | 340 |
| | TN-C | | iPF20 2P | | ≤ 1.1 | ≤ 1.1 | - | | 340 | 340 | - |
| | TN-C | | iPF20 3P | 8 | ≤ 1.1 | - | - | 230/400 | 340 | - | - |
| | TT & TN-S | | iPF20 3P+N | | - | ≤ 1.5 | ≤ 1.1 | | - | 260 | 340 |
| | TN-C | | iPF20 4P | | ≤ 1.1 | ≤ 1.1 | - | | 340 | 340 | - |
| iPF8 (1) Type 2 / Type 3 | | | | | | | | | | | |
| | TT & TN | | iPF8 1P | 2 | ≤ 1 / ≤ 1.1 | - | - | 230 | 340 | - | - |
| | TT & TN-S | | iPF8 1P+N | 4 | - | ≤ 1.5 / ≤ 1.2 | ≤ 1 / ≤ 1.1 | | - | 260 | 340 |
| | TN-C | | iPF8 2P | | ≤ 1 / ≤ 1.1 | ≤ 1 / ≤ 1.1 | - | | 340 | 340 | - |
| | TN-C | | iPF8 3P | 8 | ≤ 1 / ≤ 1.1 | - | - | 230/400 | 340 | - | - |
| | TT & TN-S | | iPF8 3P+N | | - | ≤ 1.5 / ≤ 1.2 | ≤ 1 / ≤ 1.1 | | - | 260 | 340 |
| | TN-C | | iPF8 4P | | ≤ 1 / ≤ 1.1 | ≤ 1 / ≤ 1.1 | - | | 340 | 340 | - |

* **CM**: common mode (phase to earth and neutral to earth). * **DM**: differential mode (phase to neutral). (1) **Uoc**: combined waveform voltage: 10 kV.

Connection



| Type | Tightening torque | Copper cables | |
|------------|-------------------|---|---|
| | | Rigid | Flexible or ferrule |
| iPF8 / 20 | Ph / N |  |  |
| | ⊥ | | |
| iPF40 / 65 | Ph / N |  |  |
| | ⊥ | | |

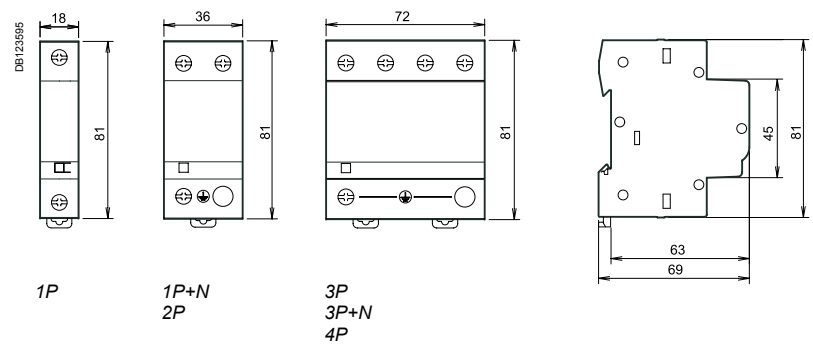
Technical data

| Main characteristics | |
|-----------------------------------|---|
| Operating frequency | 50/60 Hz |
| Operating voltage (Ue) | 230/400 V AC |
| Permanent operating current (Ic) | < 1 mA |
| Response time | < 25 ns |
| End of life indication: | Green |
| by green/red mechanical indicator | Red |
| End of life remote indication | By contact NO, NC 250 V / 0.25 A |
| Additional characteristics | |
| Operating temperature | -25°C to +60°C |
| Type of connection terminals | Tunnel terminals, 2.5 to 35 mm ² |
| Standards | IEC 61643-1 [T2] and EN 61643-11 Type 2 |

Weight (g)

| Surge arrester | |
|----------------|-----|
| Type | iPF |
| 1P | 125 |
| 2P | 210 |
| 3P | 335 |
| 4P | 420 |

Dimensions (mm)



iPRD surge arresters

Type 2 or 3 LV withdrawable surge arresters

iPRD withdrawable surge arresters allow quick replacement of damaged cartridges.

Type 2 surge arresters are tested with a 8/20 μ s current wave.

Type 3 surge arresters are tested with a 1.2/50 μ s and 8/20 μ s combined wave.

Each surge arrester in the range has a specific application:

■ **incoming protection (type 2):**

- the iPRD65r is recommended for a very high risk level (strongly exposed site)
- the iPRD40(r) is recommended for a high risk level
- the iPRD20(r) is recommended for a medium risk level

■ **secondary protection (type 2 or 3):**

□ the iPRD8(r) ensures secondary protection of loads to be protected and is placed in cascade with the incoming surge arresters. This surge arrester is required when the loads to be protected are at a distance of more than 10 m from the incoming surge arrester.

The iPRD surge arresters with “r” indication have remote transfer of the information: “cartridge to be replaced”.

Catalogue number iPRD surge arresters

| Rated discharge current (Imax) | Nominal discharge current (In) | Type of protection | | Network | | | | | | | |
|--|--------------------------------|--------------------|-----------|----------|------|----------|----------|----------|----------|----------|--|
| | | Incoming | Secondary | 1P+N | 3P+N | 1P | 2P | 3P | 4P | | |
| iPRD65 65 kA Very high risk level (strongly exposed site) | 20 kA | iPRD65 | | | | | | | | | |
| | | | | A9L65501 | | A9L65101 | | | | | |
| | | | | | | | A9L65201 | | | | |
| | | | | | | A9L65601 | | | | A9L65301 | |
| | | | | | | | | A9L65401 | | | |
| iPRD40 40 kA High risk level | 15 kA | iPRD40 | | | | | | | | | |
| | | | | | | A9L40101 | | | | | |
| | | | | | | A9L40100 | | | | | |
| | | | | A9L40501 | | | | | | | |
| | | | | A9L40500 | | | | | A9L40201 | | |
| | | | | | | | | | A9L40200 | | |
| | | | | | | | | | | A9L40301 | |
| | | | | | | | | | | A9L40300 | |
| | | | | | | | | A9L40401 | | | |
| | | | | | | | | A9L40400 | | | |
| iPRD20 20 kA Medium risk level | 5 kA | iPRD20 | | | | | | | | | |
| | | | | | | A9L20100 | | | | | |
| | | | | A9L20501 | | | | | | | |
| | | | | A9L20500 | | | | | A9L20200 | | |
| | | | | | | | | | | A9L20300 | |
| | | | | | | A9L20601 | | | | | |
| | | A9L20600 | | | | | | | | | |
| | | | | | | | | A9L20400 | | | |
| iPRD8 8 kA Secondary protection: placed near the loads to be protected when they are at a distance of more than 10 m from the incoming surge arrester | 2.5 kA | iPRD8 | | | | | | | | | |
| | | | | | | A9L08100 | | | | | |
| | | | | A9L08501 | | | | | | | |
| | | | | A9L08500 | | | | | A9L08200 | | |
| | | | | | | | | | | A9L08300 | |
| | | | | | | A9L08601 | | | | | |
| | | A9L08600 | | | | | | | | | |
| | | | | | | | | A9L08400 | | | |

PB110274-35



2P

PB110280-35



4P

iPRD surge arresters

Type 2 or 3 LV withdrawable surge arresters (cont.)



Cartridge

Spare cartridges iPRD

| Type | Spare cartridges for | Cat. no |
|--------------|---------------------------|----------|
| iPRD 65-350 | iPRD65r | A9L65102 |
| iPRD 40-350 | iPRD40, iPRD40r | A9L40102 |
| iPRD 20-350 | iPRD20, iPRD20r | A9L20102 |
| iPRD 8-350 | iPRD8, iPRD8r | A9L08102 |
| iPRD Neutral | All products (1P+N, 3P+N) | A9L00002 |

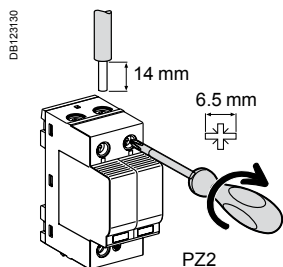
| | Earthing system | Transfer | Surge arrester name | Width in mod. of 9 mm | Up - (kV) Voltage protection level | | | Un - (V) Rated voltage network | Uc - (V) Maximum continuous operating voltage | | |
|--------------------------------------|-----------------|----------|---------------------|-----------------------|---------------------------------------|-------|-------|-----------------------------------|--|-----|-----|
| | | | | | CM* | | DM* | | CM* | | DM* |
| | | | | | L/± | N/± | L/N | | L/± | N/± | L/N |
| iPRD65 | | | | | | | | | | | |
| A9L65101 | TT & TN | ■ | iPRD65r 1P | 2 | ≤ 1.5 | - | - | 230 | 350 | - | - |
| A9L65501 | TT & TN-S | ■ | iPRD65r 1P+N | 4 | - | ≤ 1.4 | ≤ 1.5 | | - | 260 | 350 |
| A9L65201 | TN-C-S | ■ | iPRD65r 2P | | ≤ 1.5 | ≤ 1.5 | - | | 350 | 350 | - |
| A9L65301 | TN-C | ■ | iPRD65r 3P | 6 | ≤ 1.5 | - | - | 230/400 | 350 | - | - |
| A9L65601 | TT & TN-S | ■ | iPRD65r 3P+N | 8 | - | ≤ 1.4 | ≤ 1.5 | | - | 260 | 350 |
| A9L65401 | TN-C-S | ■ | iPRD65r 4P | | ≤ 1.5 | ≤ 1.5 | - | | 350 | 350 | - |
| iPRD40 | | | | | | | | | | | |
| A9L40101 | TT & TN | ■ | iPRD40r 1P | 2 | ≤ 1.6 | - | - | 230 | 350 | - | - |
| A9L40100 | TT & TN | ■ | iPRD40 1P | | ≤ 1.6 | - | - | | 350 | - | - |
| A9L40501 | TT & TN-S | ■ | iPRD40r 1P+N | 4 | - | ≤ 1.4 | ≤ 1.6 | | - | 260 | 350 |
| A9L40500 | TT & TN-S | ■ | iPRD40 1P+N | | - | ≤ 1.4 | ≤ 1.6 | | - | 260 | 350 |
| A9L40201 | TN-C-S | ■ | iPRD40r 2P | | ≤ 1.6 | ≤ 1.6 | - | | 350 | 350 | - |
| A9L40200 | TN-C-S | ■ | iPRD40 2P | | ≤ 1.6 | ≤ 1.6 | - | | 350 | 350 | - |
| A9L40301 | TN-C | ■ | iPRD40r 3P | 6 | ≤ 1.6 | - | - | 230/400 | 350 | - | - |
| A9L40300 | TN-C | ■ | iPRD40 3P | | ≤ 1.6 | - | - | | 350 | - | - |
| A9L40601 | TT & TN-S | ■ | iPRD40r 3P+N | 8 | - | ≤ 1.4 | ≤ 1.6 | | - | 260 | 350 |
| A9L40600 | TT & TN-S | ■ | iPRD40 3P+N | | - | ≤ 1.4 | ≤ 1.6 | | - | 260 | 350 |
| A9L40401 | TN-C-S | ■ | iPRD40r 4P | | ≤ 1.6 | ≤ 1.6 | - | | 350 | 350 | - |
| A9L40400 | TN-C-S | ■ | iPRD40 4P | | ≤ 1.6 | ≤ 1.6 | - | | 350 | 350 | - |
| iPRD20 | | | | | | | | | | | |
| A9L20100 | TT & TN | ■ | iPRD20 1P | 2 | ≤ 1.2 | - | - | 230 | 350 | - | - |
| A9L20501 | TT & TN-S | ■ | iPRD20r 1P+N | 4 | - | ≤ 1.4 | ≤ 1.2 | | - | 260 | 350 |
| A9L20500 | TT & TN-S | ■ | iPRD20 1P+N | | - | ≤ 1.4 | ≤ 1.2 | | - | 260 | 350 |
| A9L20200 | TN-C-S | ■ | iPRD20 2P | | ≤ 1.2 | ≤ 1.2 | - | | 350 | 350 | - |
| A9L20300 | TN-C | ■ | iPRD20 3P | 6 | ≤ 1.2 | - | - | 230/400 | 350 | - | - |
| A9L20601 | TT & TN-S | ■ | iPRD20r 3P+N | 8 | - | ≤ 1.4 | ≤ 1.2 | | - | 260 | 350 |
| A9L20600 | TT & TN-S | ■ | iPRD20 3P+N | | - | ≤ 1.4 | ≤ 1.2 | | - | 260 | 350 |
| A9L20400 | TN-C-S | ■ | iPRD20 4P | | ≤ 1.2 | ≤ 1.2 | - | | 350 | 350 | - |
| iPRD8 (1) Type 2 / Type 3 (1) | | | | | | | | | | | |
| A9L08100 | TT & TN | ■ | iPRD8 1P | 2 | ≤ 1.2 | - | - | 230 | 350 | - | - |
| A9L08501 | TT & TN-S | ■ | iPRD8r 1P+N | 4 | - | ≤ 1.4 | ≤ 1.2 | | - | 260 | 350 |
| A9L08500 | TT & TN-S | ■ | iPRD8 1P+N | | - | ≤ 1.4 | ≤ 1.2 | | - | 260 | 350 |
| A9L08200 | TN-C-S | ■ | iPRD8 2P | | ≤ 1.2 | ≤ 1.2 | - | | 350 | 350 | - |
| A9L08300 | TN-C | ■ | iPRD8 3P | 6 | ≤ 1.2 | - | - | 230/400 | 350 | - | - |
| A9L08601 | TT & TN-S | ■ | iPRD8r 3P+N | 8 | - | ≤ 1.4 | ≤ 1.2 | | - | 260 | 350 |
| A9L08600 | TT & TN-S | ■ | iPRD8 3P+N | | - | ≤ 1.4 | ≤ 1.2 | | - | 260 | 350 |
| A9L08400 | TN-C-S | ■ | iPRD8 4P | | ≤ 1.2 | ≤ 1.2 | - | | 350 | 350 | - |

* CM: common mode (phase to earth and neutral to earth). * DM: differential mode (phase to neutral). (1) Uoc: combined waveform voltage: 10 kV.

iPRD surge arresters

Type 2 or 3 LV withdrawable surge arresters

Connection iPRD surge arresters



| Type | Tightening torque | Copper cables | |
|------|-------------------|---------------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| iPRD | 3.5 N.m | 2.5 to 25 mm ² | 4 to 16 mm ² |

Technical data iPRD surge arresters

Main characteristics

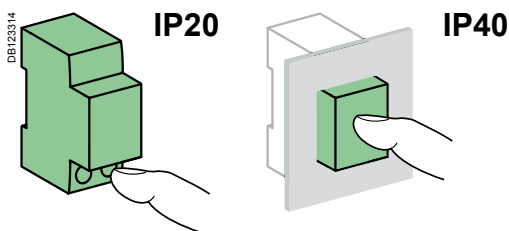
| | | |
|--|----------------------------------|----------------------------|
| Operating frequency | 50/60 Hz | |
| Operating voltage (U _e) | 230/400 V AC ±10 % | |
| Permanent operating current (I _c) | < 1 mA | |
| Response time | < 25 ns | |
| Short circuit withstand (I _{sc}) | 50 kA (50 Hz) | |
| Temporary overvoltage withstand (U _T) | U _T (L-N) | 337 V AC / 5 s |
| | U _T (L-PE) | 442 V AC / 5 s |
| Temporary overvoltage Safe failure mode (U _T) | U _T (N-PE) | 1200 V AC / 200 ms |
| | U _T (L-PE) | 1453 V AC / 200 ms |
| Ground residual current (I _{PE}) | I _{PE} (L-PE) | 600 µA for 1P, 2P, 3P, 4P |
| | I _{PE} (N-PE) | 3 µA for 1P+N, 3P+N |
| Satisfactory operation indication: by mechanical indicator | White | In operation |
| | Red | Cartridge must be replaced |
| Remote indication of satisfactory operation | By contact NO, NC 250 V / 0.25 A | |

Additional characteristics

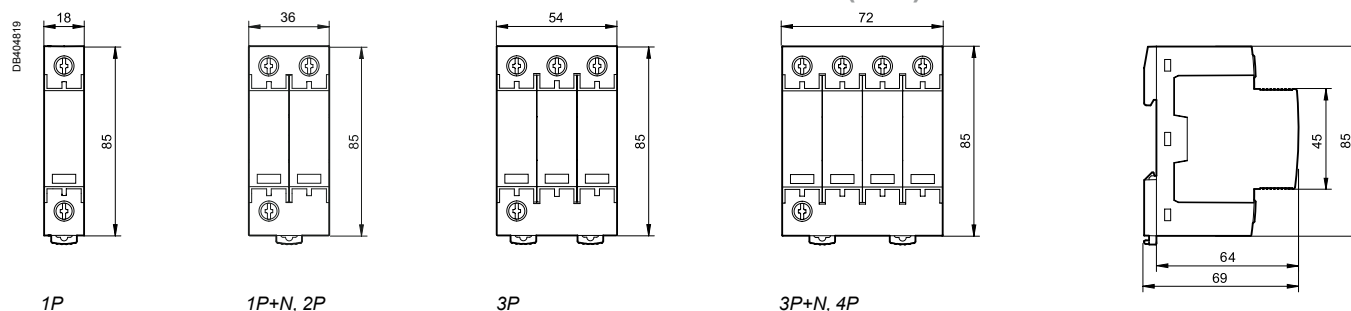
| | | |
|----------------------------------|---|-----------------|
| Degree of protection (IEC 60529) | Device only | IP20 (built-in) |
| | Device in modular enclosure | IP40 |
| Operating temperature | -25°C to +60°C | |
| Humidity range | 5 % to 95 % | |
| Type of connection terminals | Tunnel terminals, 2.5 to 35 mm ² | |
| Standards | IEC 61643-11: 2011 <u>T2</u> , <u>T3</u> and EN 61643-11: 2012 Type 2, Type 3 | |

Surge arrester/circuit breaker association

| Type of surge arrester | Associated circuit breaker (1 to 4 poles protected) |
|------------------------|---|
| iPRD65 | Curve C 50 A |
| iPRD40 | Curve C 40 A |
| iPRD20 | Curve C 25 A |
| iPRD8 | Curve C 20 A |



iPRD dimensions (mm)



Weight (g)

Surge arrester

| Type | iPRD |
|----------|------|
| 1P | 115 |
| 1P+N, 2P | 220 |
| 3P | 340 |
| 3P+N, 4P | 450 |

iPRD surge arresters

Type 2 or 3 LV withdrawable surge arresters (cont.)

iPRD surge arresters

PB1102281-80

Satisfactory operation indication

- By mechanical indicator
- white: operating
- red: cartridge must be replaced



Connection iPRD surge arrester with its short circuit disconnecter

TT / TN-S

Power supply through the top
Connection with cables

PB1102289-50



Surge arrester iPRD 3P+N + iC60N 3P+N

Reversible

■ The surge arrester base can be turned over to allow the phase/neutral/earth cables to enter through either the top or the bottom

TT / TN-S

Power supply through the bottom
Connection with comb busbar

PB110783-50



Surge arrester iPRD 3P+N + iC60N 3P+N

TNC-S with neutral

Power supply through the top
Connection with comb busbar

PB1102287-50



Surge arrester iPRD 4P + iC60N 4P

TNC-S with neutral

Power supply through the bottom
Connection with comb busbar

PB110794-50



Surge arrester iPRD 4P + iC60N 4P

iPRD IT surge arresters

Type 2 or 3 LV withdrawable surge arresters

Catalogue number iPRD IT surge arresters



3P



4P

| Rated discharge current (I _{max}) | Nominal discharge current (I _n) | Type of protection | | DB122942 | | |
|---|---|--------------------|-----------|----------|----------|----------|
| | | Incoming | Secondary | 1P | 3P | 4P |
| iPRD65 IT | | | | | | |
| 65 kA Very high risk level (strongly exposed site) | 20 kA | iPRD65 | | A9L16555 | A9L16558 | |
| iPRD40 IT | | | | | | |
| 40 kA High risk level | 15 kA | iPRD40 | | | A9L16563 | A9L16597 |
| iPRD20 IT | | | | | | |
| 20 kA Medium risk level | 5 kA | iPRD20 | | | A9L16573 | A9L16599 |
| iPRD8 IT | | | | | | |
| 8 kA Secondary protection: placed near the loads to be protected when they are at a distance of more than 10 m from the incoming surge arrester | 2.5 kA | | iPRD8 | | A9L16578 | A9L16678 |

Technical data iPRD IT surge arresters

| Main characteristics | |
|--|--|
| Operating frequency | 50/60 Hz |
| Operating voltage (U _e) | 230/400 V AC |
| Permanent operating current (I _c) | < 1 mA |
| Response time | < 25 ns |
| Satisfactory operation indication: by mechanical indicator | White Red |
| Remote indication of satisfactory operation | In operation Cartridge must be replaced |
| | By contact NO, NC 250 V / 0.25 A |
| Additional characteristics | |
| Operating temperature | -25°C to +60°C |
| Type of connection terminals | Tunnel terminals, 2.5 to 35 mm ² |
| Standards | IEC 61643-11 [T2], [T3] and EN 61643-11 Type 2, Type 3 |
| Surge arrester/circuit breaker association | |
| Type of surge arrester | Associated circuit breaker (1 to 4 poles protected) |
| iPRD65 | Curve C 50 A |
| iPRD40 | Curve C 40 A |
| iPRD20 | Curve C 25 A |
| iPRD8 | Curve C 20 A |

Spare cartridges iPRD IT

| Type | Spare cartridges for | Cat. no |
|----------|----------------------|----------|
| C 65-460 | iPRD65r IT | A9L16682 |
| C 40-460 | iPRD40r IT | A9L16684 |
| C 20-460 | iPRD20r IT | A9L16686 |
| C 8-460 | iPRD8r IT | A9L16688 |



Cartridge

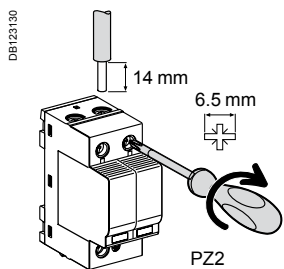
iPRD IT surge arresters

Type 2 or 3 LV withdrawable surge arresters (cont.)

| | Earthing system | Transfer | Surge arrester name | Width in mod. of 9 mm | Up - (kV) Protection level | | | Un - (V) Rated voltage network | Uc - (V) Maximum continuous operating voltage | | |
|---------------------|-----------------|----------|---------------------|-----------------------|----------------------------|---------------|-----|--------------------------------|---|-----|-----|
| | | | | | CM* | | DM* | | CM* | | DM* |
| | | | | | L/± | N/± | L/N | | L/± | N/± | L/N |
| iPRD65 IT | | | | | | | | | | | |
| A9L16555 | IT | ■ | iPRD65r 1P IT | 2 | ≤ 2 | - | - | 230 | 460 | - | - |
| A9L16558 | IT | ■ | iPRD65r 3P IT | 6 | ≤ 2 | - | - | 230/400 | 460 | - | - |
| iPRD40 IT | | | | | | | | | | | |
| A9L16563 | IT | ■ | iPRD40r 3P IT | 6 | ≤ 2 | - | - | 230/400 | 460 | - | - |
| A9L16597 | IT | ■ | iPRD40r 4P IT | 8 | ≤ 2 | ≤ 2 | - | | 460 | 460 | - |
| iPRD20 IT | | | | | | | | | | | |
| A9L16573 | IT | ■ | iPRD20r 3P IT | 6 | ≤ 1.6 | - | - | 230/400 | 460 | - | - |
| A9L16599 | IT | ■ | iPRD20r 4P IT | 8 | ≤ 1.6 | ≤ 1.6 | - | | 460 | 460 | - |
| iPRD8 IT (1) | | | | | Type 2 / Type 3 (1) | | | | | | |
| A9L16578 | IT | ■ | iPRD8r 3P IT | 6 | ≤ 1.4 / ≤ 1.6 | - | - | 230/400 | 460 | - | - |
| A9L16678 | IT | ■ | iPRD8r 4P IT | 8 | ≤ 1.4 / ≤ 1.6 | ≤ 1.4 / ≤ 1.6 | - | | 460 | 460 | - |

* CM: common mode (phase to earth and neutral to earth). * DM: differential mode (phase to neutral). (1) Uoc: combined waveform voltage: 10 kV.

Connection iPRD IT surge arresters

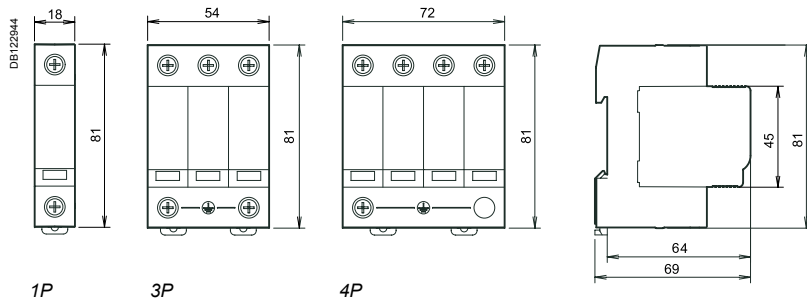


| Type | Tightening torque | Copper cables | |
|---------|-------------------|---------------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| iPRD IT | 2 N.m | 2.5 to 25 mm ² | 4 to 16 mm ² |

Weight (g)

| Surge arrester | |
|----------------|---------|
| Type | iPRD IT |
| 1P | 115 |
| 1P+N, 2P | 220 |
| 3P | 340 |
| 3P+N, 4P | 450 |

iPRD IT dimensions (mm)



iPRD surge arresters

Type 2 or 3 LV withdrawable surge arresters

iPRD withdrawable surge arresters allow quick replacement of damaged cartridges.



1P+N



3P



3P+N



Cartridge

| Rated discharge current (I _{max}) / Nominal discharge current (I _n) | Type of protection | Network | | | | | | | |
|---|--|----------|-----------|----------|----------|----------|----------|----------|----------|
| | | Incoming | Secondary | 1P+N | 3P+N | 1P | 2P | 3P | 4P |
| 65 kA / 20 kA | iPRD65 <small>Very high risk level (strongly exposed site)</small> | | | | | A9L16555 | | | |
| | | | | A9L16557 | | | A9L16556 | | |
| | | | | | | | | A9L16442 | |
| | | | | | | | | | A9L16558 |
| | | | | | A9L16559 | | | | A9L16443 |
| | | | | | | | | | |
| | | | | | | | | | A9L16659 |
| 40 kA / 15 kA | iPRD40 <small>High risk level</small> | | | | | A9L16561 | | | |
| | | | | | | A9L16566 | | | |
| | | | | A9L16562 | | | | | |
| | | | | A9L16567 | | | | A9L16444 | |
| | | | | | | | | A9L16667 | |
| | | | | | | | | | A9L16445 |
| | | | | | | | | | A9L16568 |
| | | | | | | | | | A9L16563 |
| | | | | | A9L16564 | | | | |
| | | | | | A9L16569 | | | | |
| 20 kA / 5 kA | iPRD20 <small>Medium risk level</small> | | | | | A9L16571 | | | |
| | | | | A9L16672 | | | | | |
| | | | | A9L16572 | | | | | |
| | | | | | | | | A9L16446 | |
| | | | | | | | | | A9L16447 |
| | | | | | | | | | A9L16573 |
| | | | | | | A9L16674 | | | |
| 8 kA / 2.5 kA | iPRD8 <small>Secondary protection: placed near the loads to be protected when they are at a distance of more than 30 m from the incoming surge arrester</small> | | | | | A9L16576 | | | |
| | | | | A9L16677 | | | | | |
| | | | | A9L16577 | | | | | |
| | | | | | | | | A9L16448 | |
| | | | | | | | | | A9L16449 |
| | | | | | | | | | A9L16578 |
| | | | | | | A9L16679 | | | |
| | | | | | A9L16579 | | | | |
| | | | | | | | | A9L16678 | |
| | | | | | | | | A9L16680 | |

| Spare cartridges | | |
|------------------|----------------------|----------|
| Type | Spare cartridges for | Cat. no |
| C 65-460 | iPRD65r IT | A9L16682 |
| C 65-340 | iPRD65r | A9L16681 |
| C 40-460 | iPRD40r IT | A9L16684 |
| C 40-340 | iPRD40, iPRD40r | A9L16685 |
| C 20-460 | iPRD20r IT | A9L16686 |
| C 20-340 | iPRD20, iPRD20r | A9L16687 |
| C 8-460 | iPRD8r IT | A9L16688 |
| C 8-340 | iPRD8, iPRD8r | A9L16689 |
| C neutral | All products | A9L16691 |

| Surge arrester/circuit breaker association | |
|--|----------------------------|
| Type of surge arrester | Associated circuit breaker |
| iPRD65 | Curve C 50 A |
| iPRD40 | Curve C 40 A |
| iPRD20 | Curve C 25 A |
| iPRD8 | Curve C 20 A |

iPRD surge arresters

Type 2 or 3 LV withdrawable surge arresters (cont.)

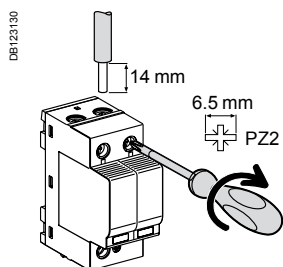
| | Earthing system | Transfer | Surge arrester name | Width in mod. of 9 mm | Up - (kV) Voltage protection level | | | Un - (V) Rated voltage network | Uc - (V) Maximum continuous operating voltage | | |
|----------------------------------|-----------------|----------|---------------------|-----------------------|---------------------------------------|---------------|-------------|-----------------------------------|--|-----|-----|
| | | | | | CM* | | DM* | | CM* | | DM* |
| | | | | | L/± | N/± | L/N | | L/± | N/± | L/N |
| iPRD65 | | | | | | | | | | | |
| | IT | ■ | iPRD65r 1P IT | 2 | ≤ 2 | - | - | 230 | 460 | - | - |
| | TT & TN | ■ | iPRD65r 1P | | ≤ 1.5 | - | - | | 340 | - | - |
| | TT & TN-S | ■ | iPRD65r 1P+N | 4 | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TN-C | ■ | iPRD65r 2P | | ≤ 1.5 | ≤ 1.5 | - | 340 | 340 | - | |
| | IT | ■ | iPRD65r 3P IT | 6 | ≤ 2 | - | - | 230/400 | 460 | - | - |
| | TN-C | ■ | iPRD65r 3P | | ≤ 1.5 | - | - | | 340 | - | - |
| | TT & TN-S | ■ | iPRD65r 3P+N | 8 | - | ≤ 1.5 | ≤ 1.5 | | - | 260 | 340 |
| | TN-C | ■ | iPRD65r 4P | | ≤ 1.5 | ≤ 1.5 | - | 340 | 340 | - | |
| iPRD40 | | | | | | | | | | | |
| | TT & TN | ■ | iPRD40r 1P | 2 | ≤ 1.4 | - | - | 230 | 340 | - | - |
| | TT & TN | | iPRD40 1P | | ≤ 1.4 | - | - | | 340 | - | - |
| | TT & TN-S | ■ | iPRD40r 1P+N | 4 | - | ≤ 1.4 | ≤ 1.4 | | - | 260 | 340 |
| | TT & TN-S | | iPRD40 1P+N | | - | ≤ 1.4 | ≤ 1.4 | - | 260 | 340 | |
| | TN-C | ■ | iPRD40r 2P | | ≤ 1.4 | ≤ 1.4 | - | 340 | 340 | - | |
| | TN-C | | iPRD40 2P | | ≤ 1.4 | ≤ 1.4 | - | 340 | 340 | - | |
| | TN-C | ■ | iPRD40r 3P | 6 | ≤ 1.4 | - | - | 230/400 | 340 | - | - |
| | TN-C | | iPRD40 3P | | ≤ 1.4 | - | - | | 340 | - | - |
| | IT | ■ | iPRD40r 3P IT | | ≤ 2 | - | - | | 460 | - | - |
| | TT & TN-S | ■ | iPRD40r 3P+N | 8 | - | ≤ 1.4 | ≤ 1.4 | - | 260 | 340 | |
| | TT & TN-S | | iPRD40 3P+N | | - | ≤ 1.4 | ≤ 1.4 | - | 260 | 340 | |
| | IT | ■ | iPRD40r 4P IT | | ≤ 2 | ≤ 2 | - | 460 | 460 | - | |
| | TN-C | ■ | iPRD40r 4P | | ≤ 1.4 | ≤ 1.4 | - | 340 | 340 | - | |
| | TN-C | | iPRD40 4P | | ≤ 1.4 | ≤ 1.4 | - | 340 | 340 | - | |
| iPRD20 | | | | | | | | | | | |
| | TT & TN | | iPRD20 1P | 2 | ≤ 1.1 | - | - | 230 | 340 | - | - |
| | TT & TN-S | ■ | iPRD20r 1P+N | 4 | - | ≤ 1.4 | ≤ 1.1 | | - | 260 | 340 |
| | TT & TN-S | | iPRD20 1P+N | | - | ≤ 1.4 | ≤ 1.1 | | - | 260 | 340 |
| | TN-C | | iPRD20 2P | | ≤ 1.1 | ≤ 1.1 | - | 340 | 340 | - | |
| | TN-C | | iPRD20 3P | 6 | ≤ 1.1 | - | - | 230/400 | 340 | - | - |
| | IT | ■ | iPRD20r 3P IT | | ≤ 1.6 | - | - | | 460 | - | - |
| | TT & TN-S | ■ | iPRD20r 3P+N | 8 | - | ≤ 1.4 | ≤ 1.1 | | - | 260 | 340 |
| | TT & TN-S | | iPRD20 3P+N | | - | ≤ 1.4 | ≤ 1.1 | - | 260 | 340 | |
| | IT | ■ | iPRD20r 4P IT | | ≤ 1.6 | ≤ 1.6 | - | 460 | 460 | - | |
| | TN-C | | iPRD20 4P | | ≤ 1.1 | ≤ 1.1 | - | 340 | 340 | - | |
| iPRD8 (1) Type 2 / Type 3 | | | | | | | | | | | |
| | TT & TN | | iPRD8 1P | 2 | ≤ 1 / ≤ 1 | - | - | 230 | 340 | - | - |
| | TT & TN-S | ■ | iPRD8r 1P+N | 4 | - | ≤ 1.4 / ≤ 1 | ≤ 1 / ≤ 1.1 | | - | 260 | 340 |
| | TT & TN-S | | iPRD8 1P+N | | - | ≤ 1.4 / ≤ 1 | ≤ 1 / ≤ 1.1 | | - | 260 | 340 |
| | TN-C | | iPRD8 2P | | ≤ 1 / ≤ 1 | ≤ 1 / ≤ 1 | - | 340 | 340 | - | |
| | TN-C | | iPRD8 3P | 6 | ≤ 1 / ≤ 1 | - | - | 230/400 | 340 | - | - |
| | IT | ■ | iPRD8r 3P IT | | ≤ 1.4 / ≤ 1.6 | - | - | | 460 | - | - |
| | TT & TN-S | ■ | iPRD8r 3P+N | 8 | - | ≤ 1.4 / ≤ 1 | ≤ 1 / ≤ 1.1 | | - | 260 | 340 |
| | TT & TN-S | | iPRD8 3P+N | | - | ≤ 1.4 / ≤ 1 | ≤ 1 / ≤ 1.1 | - | 260 | 340 | |
| | IT | ■ | iPRD8r 4P IT | | ≤ 1.4 / ≤ 1.6 | ≤ 1.4 / ≤ 1.6 | - | 460 | 460 | - | |
| | TN-C | | iPRD8 4P | | ≤ 1 / ≤ 1 | ≤ 1 / ≤ 1 | - | 340 | 340 | - | |

* **CM**: common mode (phase to earth and neutral to earth). * **DM**: differential mode (phase to neutral). (1) **Uoc**: combined waveform voltage: 10 kV.

iPRD surge arresters

Type 2 or 3 LV withdrawable surge arresters (cont.)

Connection



| Type | Tightening torque | Copper cables | |
|------|-------------------|---------------------------|---------------------------|
| | | Rigid | Flexible or with ferrule |
| iPRD | 2 N.m | 2.5 to 25 mm ² | 2.5 to 16 mm ² |

Technical data

Main characteristics

| | | |
|---|----------------------------------|----------------|
| Operating frequency | 50/60 Hz | |
| Operating voltage (Ue) | 230/400 V AC | |
| Permanent operating current (Ic) | < 1 mA | |
| Response time | < 25 ns | |
| End of life indication: by mechanical indicator | White | In operation |
| | Red | At end of life |
| End of life remote indication | By contact NO, NC 250 V / 0.25 A | |

Additional characteristics

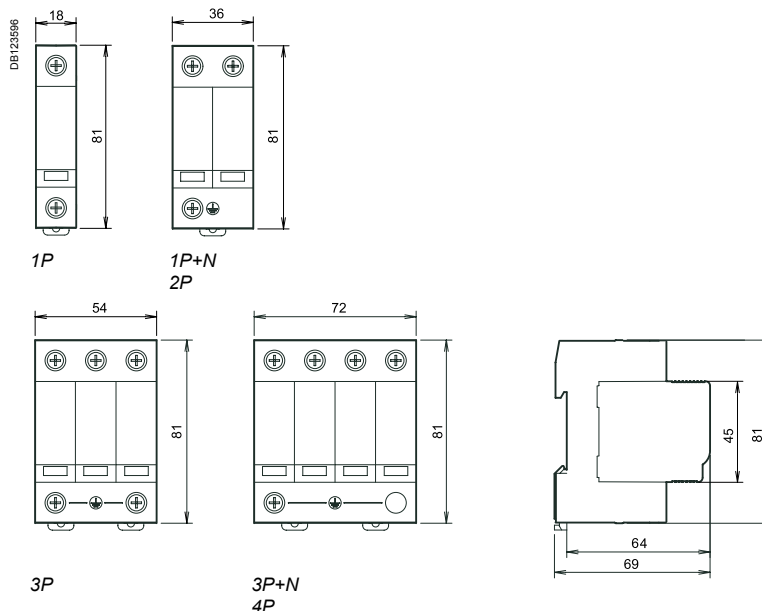
| | |
|------------------------------|---|
| Operating temperature | -25°C to +60°C |
| Type of connection terminals | Tunnel terminals, 2.5 to 35 mm ² |
| Standards | IEC 61643-1 [T2] and EN 61643-11 Type 2 |

Weight (g)

Surge arrester

| Type | iPRD |
|------|------|
| 1P | 115 |
| 2P | 220 |
| 3P | 340 |
| 4P | 450 |

Dimensions (mm)



Withdrawable surge arrester iQuick PRD Type 2 or Type 3

Withdrawable surge arrester iQuick PRD allow damaged cartridges to be replaced quickly. They offer remote reporting of the "cartridge must be changed" message.



EN 61643-11: 2012 Type 2, IEC 61643-11: 2011 T2

They protect electrical and electronic equipment against lightning-induced surges. Withdrawable surge arrester iQuick PRD surge arresters are prewired, incorporating their end-of-life disconnecter.

Each surge arrester in the range has a specific use:

■ **incoming protection (type 2):**

- iQuick PRD40r is recommended for a high risk level
- iQuick PRD20r is recommended for a moderate risk level

■ **secondary protection (type 2 or 3):**

- iQuick PRD8r provides secondary protection for the loads to be protected and is cascade-mounted with the incoming surge arresters. This surge arrester is required as close as possible to the loads to be protected when they are located more than 30 metres away from the incoming surge arrester.



Replacement cartridges.

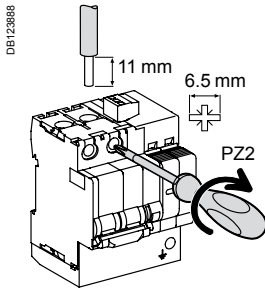
| Maximum discharge current (I _{max}) / Nominal discharge current (I _n) | Type of protection | | Network | | |
|--|---------------------|----------------------|----------|----------|----------|
| | Incoming protection | Secondary protection | 1P+N | 3P+N | 3P |
| 40 kA / 20 kA | | | | | |
| High risk level | iQuick PRD40r | | A9L16292 | | A9L16293 |
| | | | | A9L16294 | |
| 20 kA / 5 kA | | | | | |
| Moderate risk level | iQuick PRD20r | | A9L16295 | | A9L16296 |
| | | | | A9L16297 | |
| 8 kA / 2 kA | | | | | |
| Secondary protection: placed near the loads to be protected when they are at a distance of more than 30 m from the incoming surge arrester | | iQuick PRD8r | A9L16298 | | A9L16299 |
| | | | | A9L16300 | |



Replacement cartridges

| Type | Replacement cartridges for | Cat. no. |
|---------------|----------------------------|----------|
| C 40-350 | iQuick PRD40r | A9L16310 |
| C 20-350 | iQuick PRD20r | A9L16311 |
| C 8-350 | iQuick PRD8r | A9L16312 |
| C neutral-350 | All products | A9L16313 |

Withdrawable surge arrester iQuick PRD Type 2 or Type 3 (cont.)

Connection



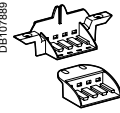

| Type | Tightening torque | Copper cables | |
|--|-------------------|---|---|
| | | Rigid | Flexible or with ferrule |
| iQuick PRD Ph / N 8r/20r Ph / N 40r ⊕ | 2.5 N.m |  |  |
| | | 2.5 to 25 mm ² | 2.5 to 25 mm ² |
| | | 2.5 to 35 mm ² 25 mm ² max. | 2.5 to 35 mm ² 25 mm ² max. |

| | Earthing system | Transfert | Name of surge arrester | Width in 9 mm modules | Up – (kV) Voltage protection level | | Un – (V) Nominal mains voltage | Uc – (V) Maximum continuous operating voltage | |
|-------------------------|-----------------|-----------|------------------------|-----------------------|---------------------------------------|-----------|-----------------------------------|--|-----|
| | | | | | CM* | DM* | | CM* | DM* |
| | | | | | N/⊕ | L/N | | N/⊕ | L/N |
| iQuick PRD40r | | | | | | | | | |
| | TT & TN-S | ■ | 1P+N | 8 | ≤ 1.7 | ≤ 2.5 | 230 | 264 | 350 |
| | TN-C | ■ | 3P | 13 | - | ≤ 2.5 | 230/400 | - | - |
| | TT & TN-S | ■ | 3P+N | 15 | ≤ 1.7 | ≤ 2.5 | | 264 | 350 |
| iQuick PRD20r | | | | | | | | | |
| | TT & TN-S | ■ | 1P+N | 8 | ≤ 1.7 | ≤ 1.7 | 230 | 264 | 350 |
| | TN-C | ■ | 3P | 13 | - | ≤ 1.5 | 230/400 | - | - |
| | TT & TN-S | ■ | 3P+N | 15 | ≤ 1.5 | ≤ 1.5 | | 264 | 350 |
| iQuick PRD8r (2) | | | | | Type 2 / Type 3 | | | | |
| | TT & TN-S | ■ | 1P+N | 8 | ≤ 1.7/1,5 | ≤ 1.2/1.4 | 230 | 264 | 350 |
| | TN-C | ■ | 3P | 13 | - | ≤ 1.2/1.4 | 230/400 | - | - |
| | TT & TN-S | ■ | 3P+N | 15 | ≤ 1.7/1,5 | ≤ 1.2/1.4 | | 264 | 350 |

* **CM** common mode (between neutral and earth). * **DM**: differential mode (between phase and neutral).
(1) Up (MCB + SPD): total value measured between Modular Circuit Breaker (MCB) terminal block and PE surge arrester device terminal block (SPD).
(2) Uoc: open-circuit voltage in combined wave: 10 kV.

Accessories

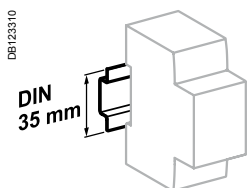
Earth terminal block support

| Type | | | Cat. no. |
|---|--------------|------------|-----------------|
| Support kit | L = 4 blocks | Batch of 1 | PRA90053 |
|  | | | |
| 25 mm ² terminal block kit | L = 1 block | Batch of 5 | PRA90046 |
|  | | | |

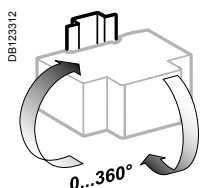


Pragma: the earth terminal block needs 1 support kit and 1 terminal block kit.

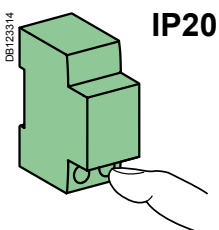
Withdrawable surge arrester iQuick PRD Type 2 or Type 3 (cont.)



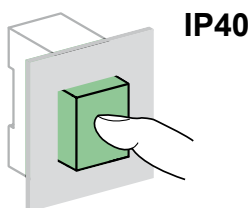
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



IP40

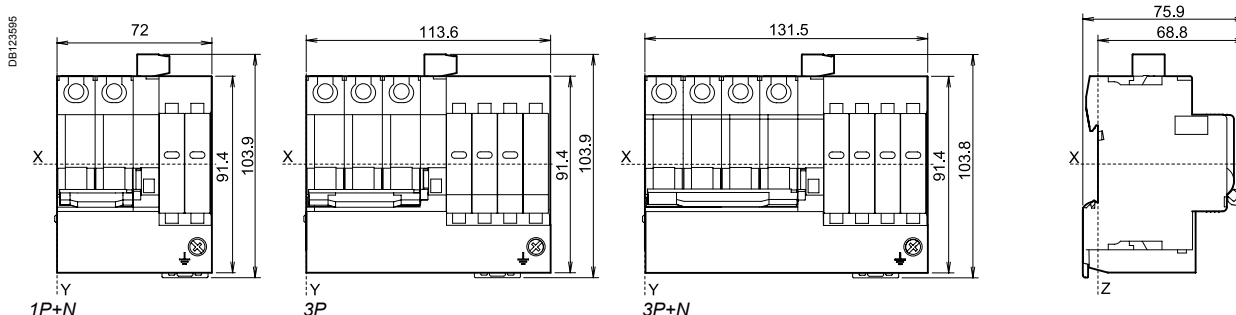
Technical data

| Main characteristics | | |
|--|--|--------------------|
| Operating frequency | 50/60 Hz | |
| Operating voltage (Ue) | 230/400 V AC | |
| Disconnecter short-circuit withstand (Isc) | iQuick PRD 8r/20r | 20 kA (50 Hz) |
| | iQuick PRD 40r | 25 kA (50 Hz) |
| Temporary overvoltage withstand (U _r) | U _r (L-N) | 415 V AC / 5 s |
| | U _r (N-PE) | 1200 V AC / 200 ms |
| Temporary overvoltage withstand Safe failure mode (U _r) | U _r (L-N) | 440 V AC / 120 min |
| Permanent operating current (Ic) | < 1 mA | |
| Response time | < 25 ns | |
| Status indication | By the cartridges | White Red |
| | By white mechanical indicator/handle ON | Operational |
| | By red mechanical indicator/handle OFF | At end of life |
| Remote indication end of life | By the NO/NC remote indication contact 250 V AC / 2 A | |
| Additional characteristics | | |
| Degree of protection | Device only | IP20, IK05 |
| | Device in modular enclosure | IP40 |
| Operating temperature | -25°C to +60°C | |
| Storage temperature | -40°C to +80°C | |
| Certifications | NF, KEMA KEUR | |

Weight (g)

| Surge arresters | | |
|-----------------|------------------|---------------|
| Type | iQuick PRD8r/20r | iQuick PRD40r |
| 1P+N | 435 | 445 |
| 3P | 665 | 700 |
| 3P+N | 810 | 850 |

Dimensions (mm)





The iQuick PF multi-pole single-piece surge arrester range is adapted for earthing systems: TT, TN-S. Type 2 surge arresters are tested with a 8/20 μ s current wave.

EN 61643-11: 2012 Type 2, IEC 61643-11: 2011 **T2**

Protects electrical and electronic equipment against indirect overvoltage due to the lightning effect.

Coordination with selective version "SI" and **SI** types.

The iQuick PF is precabled. It incorporates its end of life safety disconnecter and an earthing terminal block.

Accessories supplied

- Terminal and 16 mm² cable for connection to the earth bar of the enclosure (supplied mounted).
- 1 lug to crimp for 16 mm² earthing cable.
- iQuick PF 1P+N: 2 connection accessories for the electrical link between the surge arrester and the incoming residual current circuit breaker:
 - 1 mounted, centre distance between axes: 9 mm,
 - 1 supplied, centre distance between axes: 18 mm.



| Maximum discharge current (I _{max}) / Nominal discharge current (I _n) | Network | | Earthing system | Width in 9 mm modules | U _p – (kV) Voltage protection level (*) | U _n – (V) Nominal mains voltage | U _c – (V) Maximum continuous operating voltage |
|---|----------|----------|-----------------|-----------------------|--|--|---|
| 10 kA / 5 kA | | | | | | | |
| | 1P+N | 3P+N | | | | | |
| iQuick PF | A9L16617 | A9L16618 | TT & TN-S | 4 | 1.5 | 230 | 275 |
| | | | TT & TN-S | 10 | 1.5 | 230/400 | 275 |

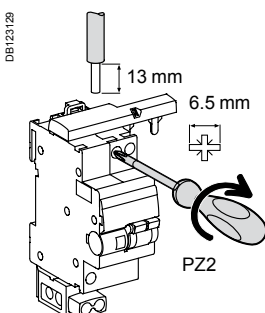
(*) common mode of protection (between phase/earth and neutral/earth) and differential mode of protection (between phase and neutral).

Remote auxiliary IEC 60947-5-1

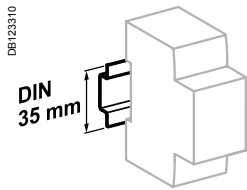
The remote auxiliary iSR allows to remote the iQuick PF operating status.

| Auxiliary | | | | Width in mod. of 9 mm |
|-----------|---------|---------------------------|----------|-----------------------|
| Type | Contact | Voltage (U _e) | | |
| iSR | 3A | 415 V CA | A9L16619 | 1 |

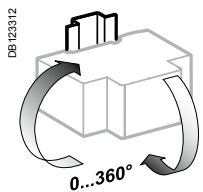
Connection



| Type | Tightening torque | Copper cables | | |
|-----------|-------------------|---------------|--------------------------|--------------------------|
| | | Rigid | Flexible or with ferrule | |
| iQuick PF | Ph / N ⊥ | 2 N.m | 1 to 16 mm ² | 1 to 16 mm ² |
| | | | 10 to 25 mm ² | 10 to 25 mm ² |
| iSR | | 1.2 N.m | 16 mm ² max. | 16 mm ² max. |



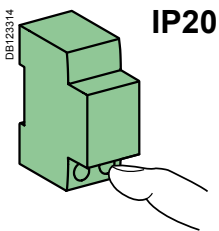
Clip on DIN rail 35 mm.



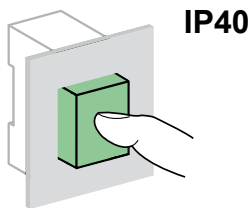
Indifferent position of installation.

Technical data

| Main characteristics | | |
|--|--------------------------------------|--------------------|
| Operating frequency | | 50 Hz |
| Operating voltage (U _e) | | 230/400 V AC |
| Integrated breaking capacity (I _{sc} at 50 Hz) | | 6 kA |
| Temporary overvoltage withstand (U _T) | U _T (L-N) | 337 V AC / 5 s |
| | U _T (L-PE) | 442 V AC / 5 s |
| Temporary overvoltage withstand Safe failure mode (U _T) | U _T (N-PE) | 1200 V AC / 200 ms |
| | | |
| Ground residual current (I _{PE}) | I _{PE} (N-PE) | 30 µA |
| Status indication: | Mechanical indicator white/handle ON | Operational |
| | Mechanical indicator red/handle OFF | At end of life |
| Remote indication end of life | | By iSR auxiliary |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | | -25°C to +70°C |
| Storage temperature | | -40°C to +80°C |



IP20

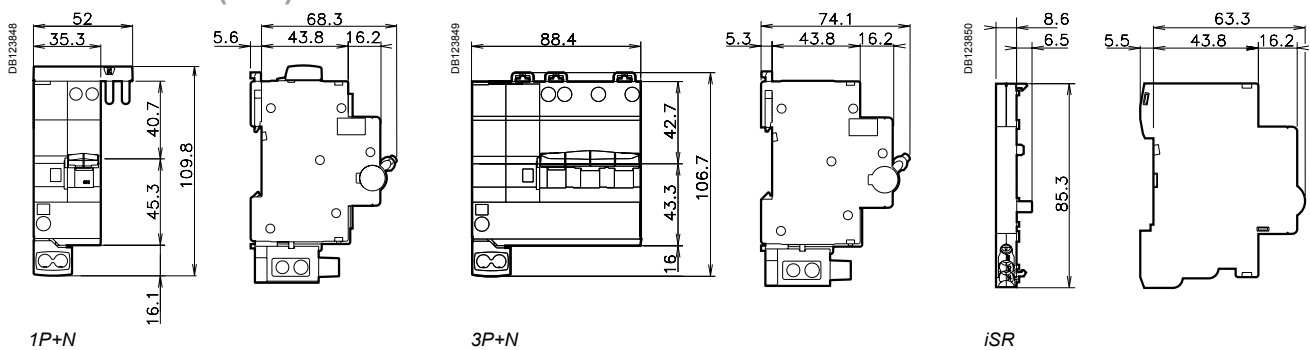


IP40

Weight (g)

| Surge arresters | |
|-----------------|-----------|
| Type | iQuick PF |
| 1P+N | 370 |
| 3P+N | 640 |

Dimensions (mm)



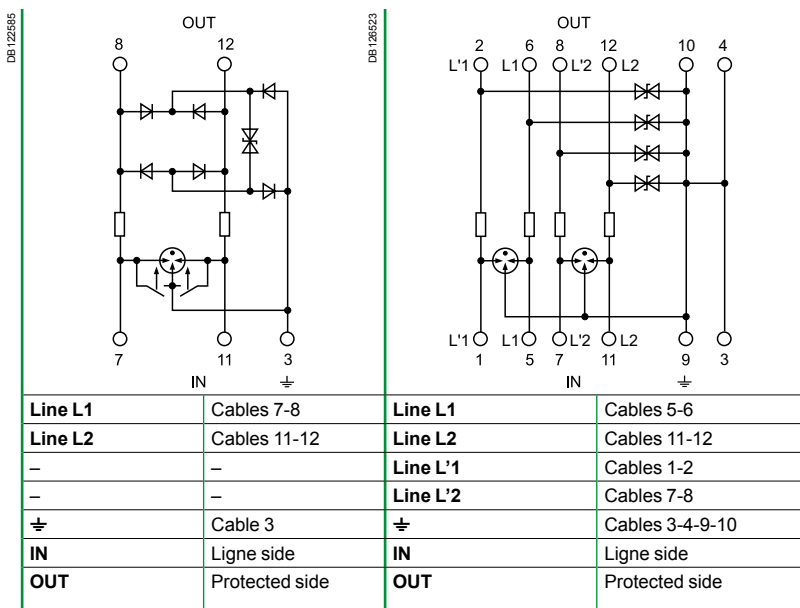
Country approval pictograms

Protection against overvoltages related to lightning strikes.



Analogue telephone line protection: the iPRC surge arrester wired in series to the private installation input protects the telephones, the PABX, the modems (including ADSL), etc.

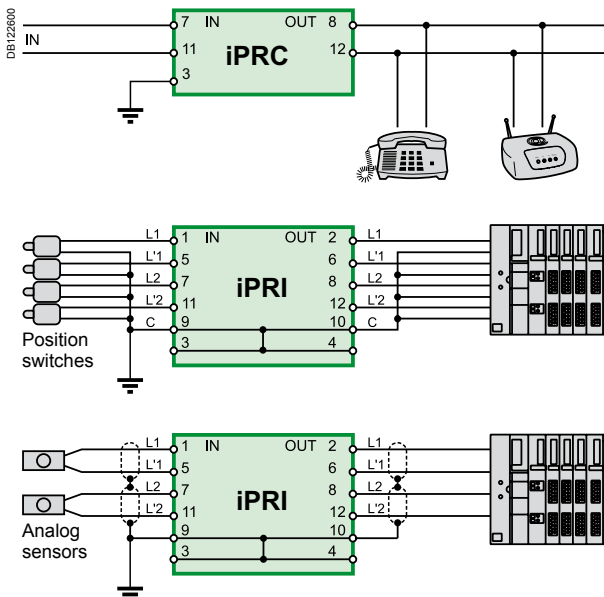
Protection for 2 low-current lines without common potential or 4 lines with common reference potential: the iPRI protects the measuring instrument and PLC "sensor" inputs and the DC power supply inputs up to 53 V and AC power supply inputs up to 37 V. The input current must not exceed 300 mA.



Catalogue numbers

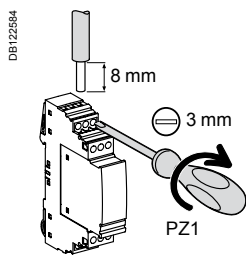
| Surge arresters | iPRC | iPRI |
|-----------------------------------|-----------------|-----------------|
| Mains voltage (Un) | <130 V AC | 48 V DC |
| Analogue telephone system | ■ | – |
| Telephone transmitter | ■ | – |
| Digital telephone system | – | ■ |
| Automation network | – | ■ |
| VLV load power supply (12...48 V) | – | ■ |
| xDSL compatibility | ■ | – |
| Cat. no.. | A9L16337 | A9L16339 |
| Width in 9 mm modules | 2 | 2 |



Diagrams

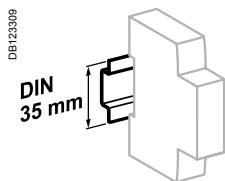


iPRC, iPRI surge arresters (cont.)

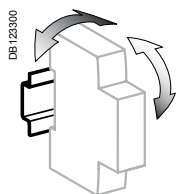
Connection



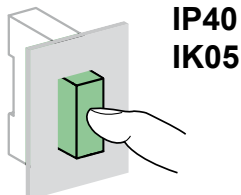
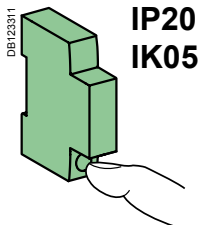
| Tightening torque | Copper cables | |
|-------------------|---|---|
| | Rigid | Flexible or with ferrule |
| 0.8 N.m | DB122945  0.2 to 4 mm ² | DB122946  0.2 to 2,5 mm ² |



Clip on DIN rail 35 mm.



± 30° vertical.



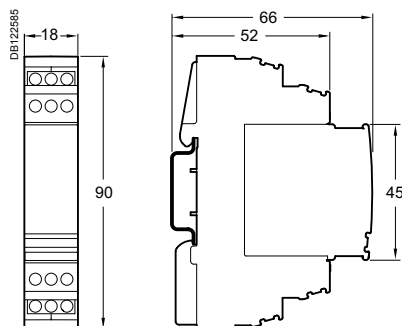
Technical data

| Main characteristics | | | |
|---|-----------------------------|-----------------------|----------------------|
| | | iPRC | iPRI |
| Number of protected lines | | 2 | 2 |
| Test category | IEC/EN | C1, C2, C3, D1, B2 | C1, C2, C3, D1, B2 |
| Maximum continuous voltage (Uc) | | 180 V DC, 130 V AC | 53 V DC, 37 V AC |
| Limitation voltage (Up) | | 300 V | 70 V |
| Rated discharge current (8/20) (In) | | 10 kA | 10 kA |
| Maximum discharge current (8/20) (Imax) | | 18 kA | 10 kA |
| Response time | | < 500 ns | ≤ 1 ns |
| Nominal impulse current | | 100 A | 70 A |
| Rated current (I _N) | | 450 mA (up to 45°C) | 300 mA (up to 45°C) |
| Series resistor | | 2.2 Ω | 4.7 Ω |
| End-of-life information by | | Loss of dialling tone | Loss of transmission |
| Additional characteristics | | | |
| Degree of protection | Device only | IP20 | IP20 |
| | Device in modular enclosure | IP40 | IP40 |
| | IK | 05 | 05 |
| Operating temperature | | -25°C to +60°C | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C | -40°C to +85°C |

Weight (g)

| Surge arresters | | |
|-----------------|------|------|
| Type | iPRC | iPRI |
| | 25 | 65 |

Dimensions (mm)



iPRD-DC surge arresters

Withdrawable surge arresters type 2 for photovoltaic applications



Country approval pictograms

IEC 61643-1 T_2
EN 61643-11 Type 2
UTE C 61740-51 T_2
prEN 50539-11 T_2



iPRD-DC40r 600PV

iPRD-DC direct current surge arresters are designed to protect against overvoltages due to a lightning strike: of the "DC" input to the inverter and of photovoltaic panels.

It should be installed in a switchboard inside the building. If the switchboard is located outside, it must be weatherproof.

Withdrawable iPRD-DC surge arresters allow damaged cartridges to be replaced quickly. They offer remote reporting of the "cartridge must be changed" message.

Catalogue numbers

| Internal diagram | Imax (kA) Maximum discharge current | In (kA) Nominal discharge current | Up (kV) Protection level | | | U _{CPV} (V) ⁽¹⁾ Maximum steady state voltage | | | Width in module of 9 mm | Cat. no. |
|--------------------------|--|--------------------------------------|-----------------------------|--------------|-------|---|--------------|-------|-------------------------|----------|
| | | | L+/ \equiv | L-/ \equiv | L+/L- | L+/ \equiv | L-/ \equiv | L+/L- | | |
| iPRD-DC40r 600PV | | | | | | | | | | |
| | 40 | 15 | 1.6 | 1.6 | 2.8 | 600 | 600 | 840 | 6 | A9L16434 |
| iPRD-DC40r 1000PV | | | | | | | | | | |
| | 40 | 15 | 3.9 | 3.9 | 3.9 | 1000 | 1000 | 1000 | 6 | A9L16436 |

(1) $U_{cpv} \geq 1.2 \times U_{oc\ stc}$ ($U_{oc\ stc}$: maximum no-load voltage of the photovoltaic generator "photovoltaic module manufacturer's data")



Replacement cartridges



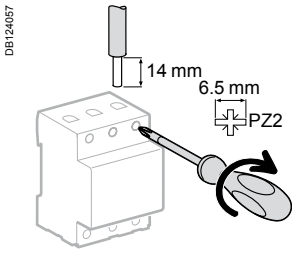
Replacement cartridges

| Type | Replacement cartridges for | Cat. no. |
|--------------|----------------------------|----------|
| C 40-600PV | iPRD-DC40r 600PV | A9L16683 |
| C 40-1000PV | iPRD-DC40r 1000PV | A9L16692 |
| C neutral PV | iPRD-DC40r 600PV | A9L16690 |

iPRD-DC surge arresters

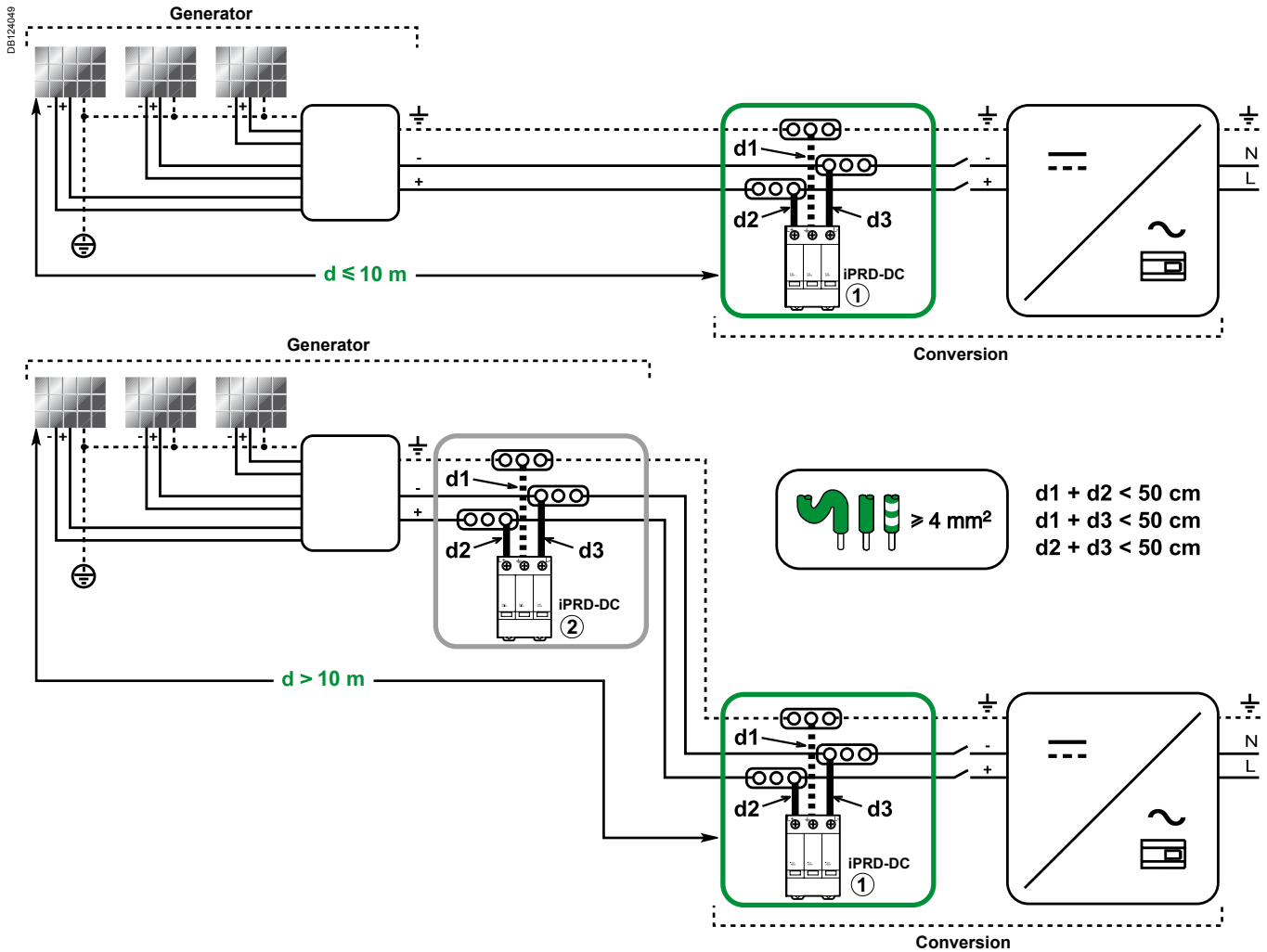
Withdrawable surge arresters type 2 for photovoltaic applications (cont.)

Connection



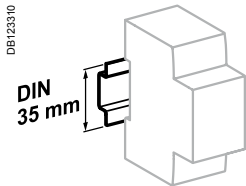
| Type | Tightening torque | Copper cables | |
|---------|-------------------|---------------------------|---------------------------|
| | | Rigid | Flexible or ferrule |
| iPRD-DC | 2 N.m | 2.5 to 25 mm ² | 2.5 to 16 mm ² |

Depending on the distance between the "generator" part and the "conversion" part, it may be necessary to install two surge arresters or more, to ensure protection of each of the two parts.

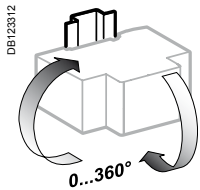


iPRD-DC surge arresters

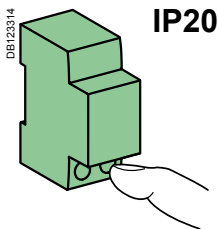
Withdrawable surge arresters type 2 for photovoltaic applications (cont.)



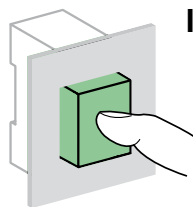
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



IP40

Technical data

Main characteristics

| | |
|-------------------------------------|---|
| Type of network | Isolated direct current |
| Temps de réponse | < 25 ns |
| Short circuit current (I_{SCP}) | 30 A |
| Type of surge arresters | Type 2 |
| End-of-life indication mode | Circuit opened by integrated thermal disconnecter |

Additional characteristics

| | | | |
|----------------------------------|---|--|----------------|
| Degree of protection (IEC 60529) | Device only | IP20 | |
| | Device in modular enclosure | IP40 | |
| | Chocs | IK03 | |
| End-of-life indication | By the cartridges | White | Operational |
| | | Red | At end of life |
| | | By the NO/NC remote indication contact 250 V AC / 0.25 A | |
| Operating temperature | -25°C to +60°C | | |
| Storage temperature | -40°C to +85°C | | |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity of 95 % at 55°C) | | |

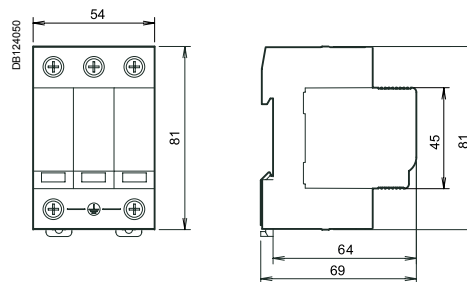
Weight (g)

Surge arresters

Type

| | |
|-------------------|-----|
| iPRD-DC40r 600PV | 400 |
| iPRD-DC40r 1000PV | 400 |

Dimensions (mm)



iPRD PV-DC surge arresters

Withdrawable surge arresters type 2 for photovoltaic applications



Country approval pictograms

IEC 61643-1 **T2**
EN 61643-11 Type 2
UTE C 61740-51 **T2**
prEN 50539-11 **T2**



iPRD 40r 600PV

iPRD PV-DC direct current surge arresters are designed to protect against overvoltages due to a lightning strike: of the "DC" input to the inverter and of photovoltaic panels.

It should be installed in a switchboard inside the building. If the switchboard is located outside, it must be weatherproof.

Withdrawable iPRD PV-DC surge arresters allow damaged cartridges to be replaced quickly.

The surge arrester base can be turned over to allow the phase/neutral/earth cables to enter through either the top or the bottom

They offer remote reporting of the "cartridge must be changed" message.

Catalogue numbers

| Internal diagram | Imax (kA) Maximum discharge current | In (kA) Nominal discharge current | Up (kV) Protection level | | | U _{CPV} (V) ⁽¹⁾ Maximum steady state voltage | | | Width in module of 9 mm | Cat. no. |
|------------------------|--|--------------------------------------|-----------------------------|----------------------|-------|---|----------------------|-------|-------------------------|-----------------|
| | | | L+/ $\bar{\text{e}}$ | L-/ $\bar{\text{e}}$ | L+/L- | L+/ $\bar{\text{e}}$ | L-/ $\bar{\text{e}}$ | L+/L- | | |
| iPRD 40r 600PV | | | | | | | | | | |
| | 40 | 15 | 2.9 | 2.9 | 2.9 | 860 | 860 | 860 | 6 | A9L40271 |
| iPRD 40r 1000PV | | | | | | | | | | |
| | 40 | 15 | 3.9 | 3.9 | 3.9 | 1000 | 1000 | 1000 | 6 | A9L40281 |

(1) $U_{cpv} \geq 1.2 \times U_{oc\ stc}$ ($U_{oc\ stc}$: maximum no-load voltage of the photovoltaic generator "photovoltaic module manufacturer's data")



Replacement cartridges

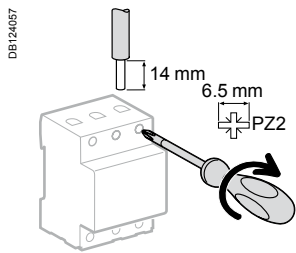
Replacement cartridges

| Type | Replacement cartridges for | Cat. no. |
|-------------|----------------------------|-----------------|
| C 40-600PV | iPRD 40r 600PV | A9L40172 |
| C 40-1000PV | iPRD 40r 1000PV | A9L40182 |

iPRD PV-DC surge arresters

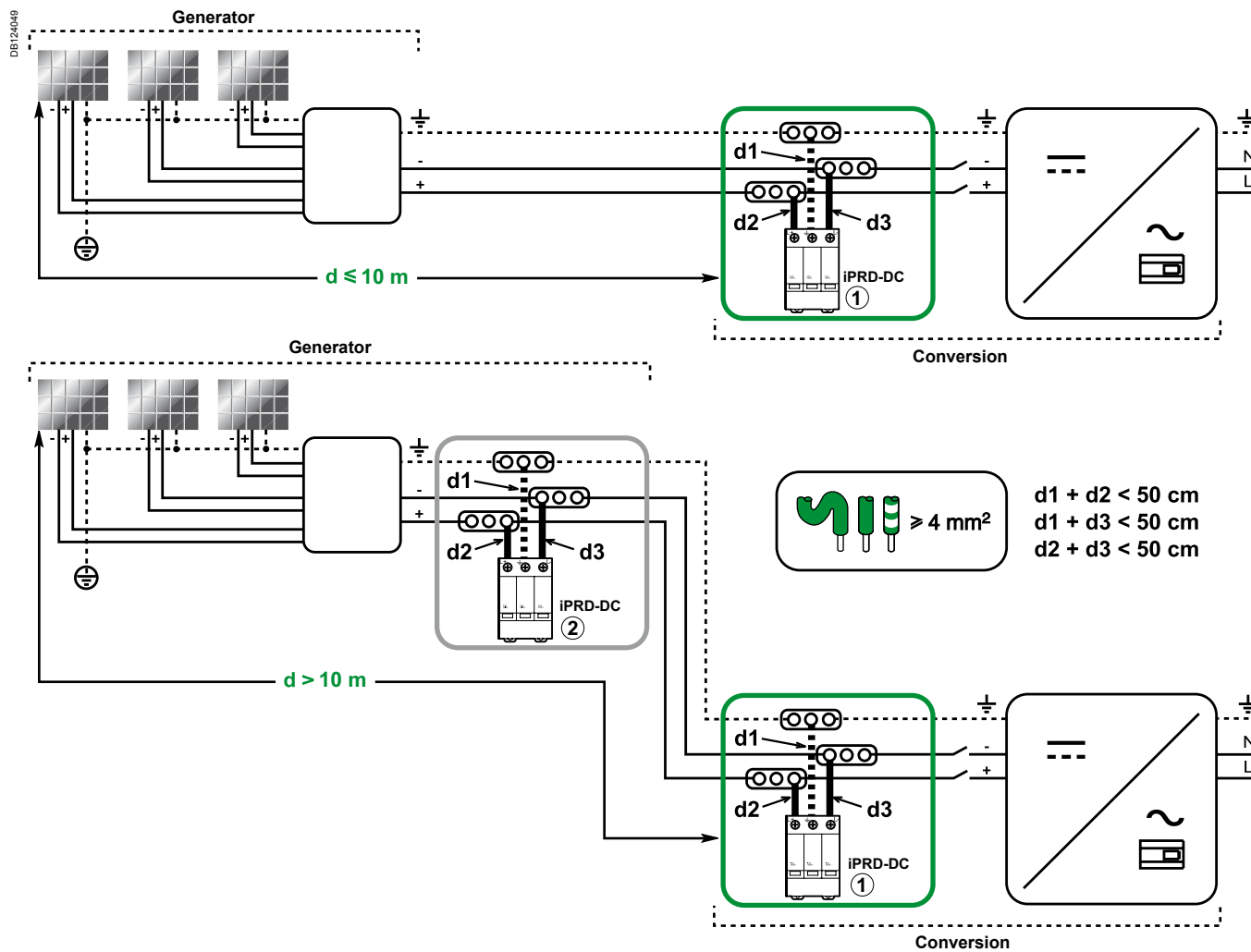
Withdrawable surge arresters type 2 for photovoltaic applications (cont.)

Connection



| Type | Tightening torque | Copper cables | |
|------------|-------------------|---------------------------|---------------------------|
| | | Rigid | Flexible or ferrule |
| iPRD PV-DC | 2 N.m | 2.5 to 25 mm ² | 2.5 to 16 mm ² |

Depending on the distance between the "generator" part and the "conversion" part, it may be necessary to install two surge arresters or more, to ensure protection of each of the two parts.



iPRD PV-DC surge arresters

Withdrawable surge arresters type 2 for photovoltaic applications

Application diagram

DE123607

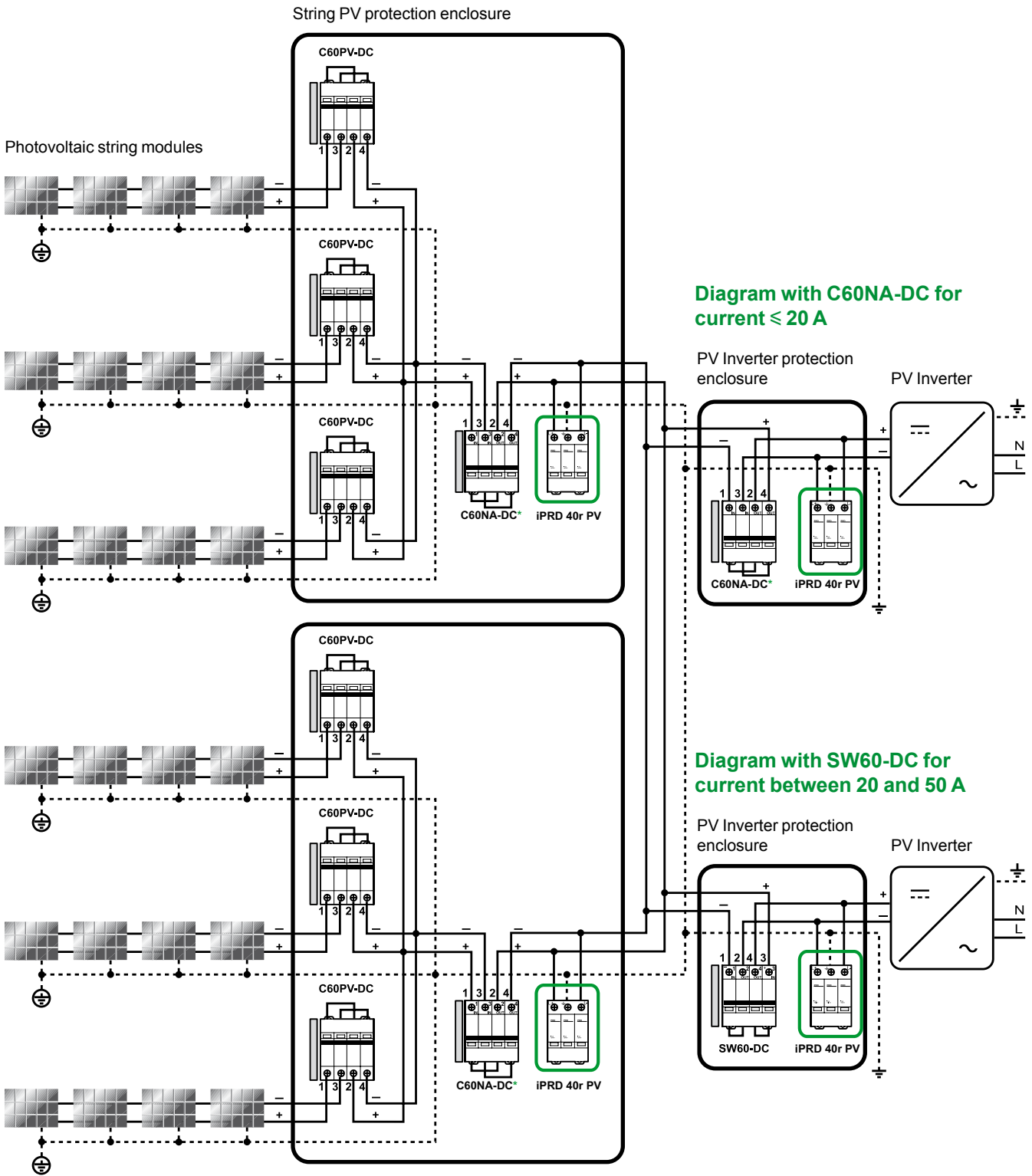


Diagram with C60NA-DC for current ≤ 20 A

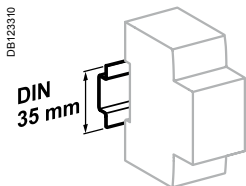
Diagram with SW60-DC for current between 20 and 50 A

*C60NA-DC :
20 A/1000 V DC or
32 A/800 V DC or
50 A/700 V DC

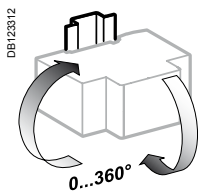
MN, MX, MNx, MN \square , MX+OF,
OF, SD, OF+SD/OF, OF+SD24

iPRD PV-DC surge arresters

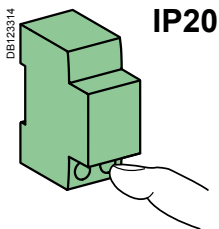
Withdrawable surge arresters type 2 for photovoltaic applications (cont.)



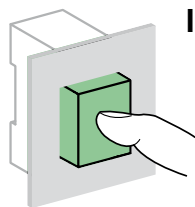
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



IP40

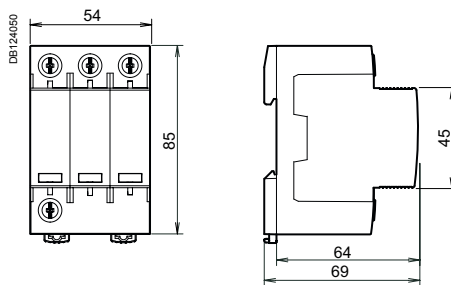
Technical data

| Main characteristics | | | |
|-------------------------------------|---|--|----------------------------|
| Type of network | Isolated direct current | | |
| Response time | < 25 ns | | |
| Short circuit current (I_{SCP}) | 30 A | | |
| Type of surge arresters | Type 2 | | |
| End-of-life indication mode | Circuit opened by integrated thermal disconnecter | | |
| Additional characteristics | | | |
| Degree of protection (IEC 60529) | Device only | IP20 | |
| | Device in modular enclosure | IP40 | |
| | Chocs | IK03 | |
| Satisfactory operation indication | By the cartridges | White | Operational |
| | | Red | Cartridge must be replaced |
| | | By the NO/NC remote indication contact 250 V AC / 0.25 A | |
| Operating temperature | -25°C to +60°C | | |
| Storage temperature | -40°C to +85°C | | |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity of 95 % at 55°C) | | |

Weight (g)

| Surge arresters | |
|-----------------|-----|
| Type | |
| iPRD 40r 600PV | 400 |
| iPRD 40r 1000PV | 400 |

Dimensions (mm)



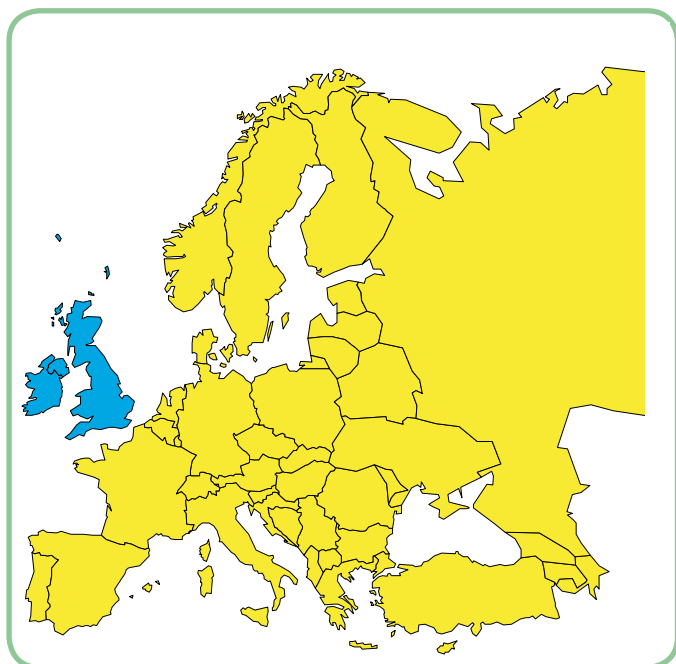


Schneider Electric's range of switches consists of different products (A, B) to enable it to be the most competitive range possible in each country, allowing for the special characteristics of each market:

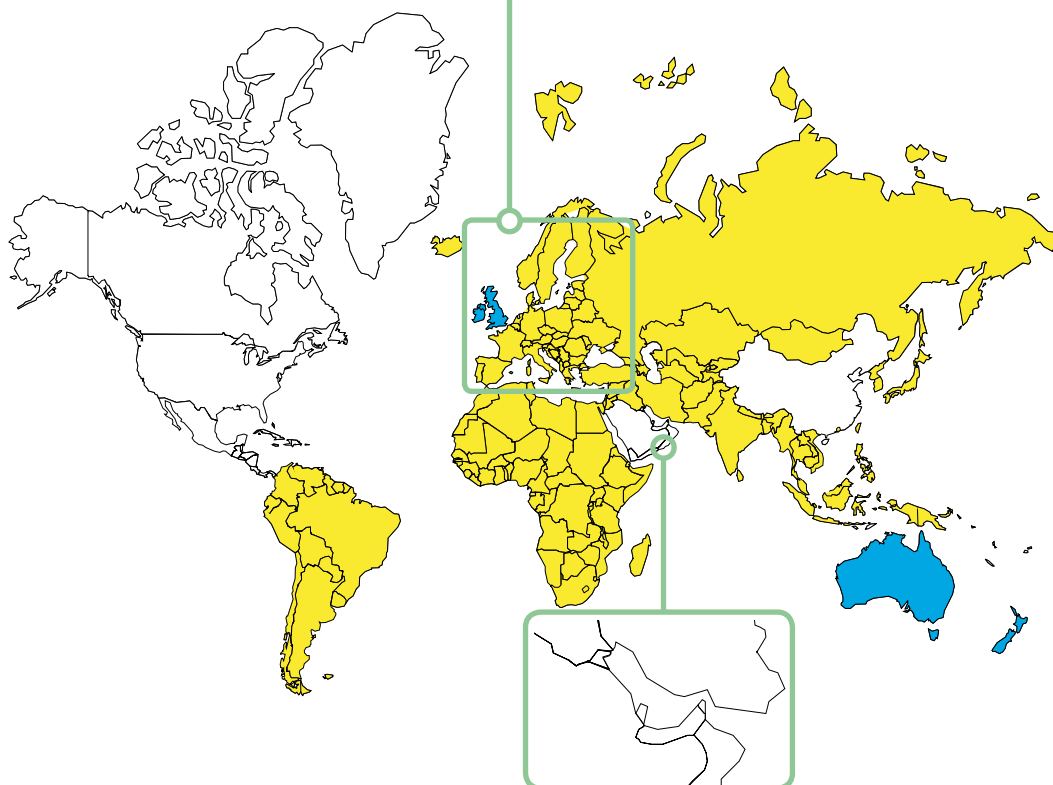
- usual installation procedure
- price
- accreditations by local bodies.

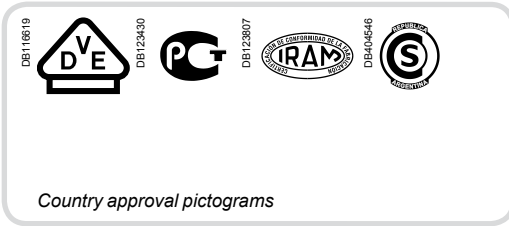
Variants

| Offers | | Pages |
|--------------|-------------------|----------|
| Offer A | Catalogue numbers | 305, 307 |
| Offer B | Catalogue numbers | 306, 308 |
| Common pages | | 309 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.





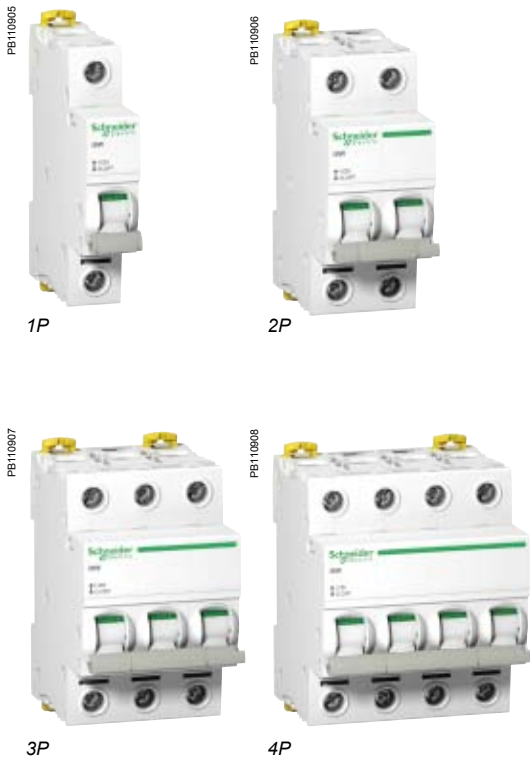
IEC/EN 60947-3

The switch-disconnectors combine the following functions:

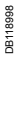
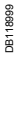
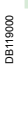

- Control (opening and closing of circuits under load).

iOF auxiliary

- Mounted on the left, it indicates the "open" or "closed" position of the switch and has a normally open (NO) or normally closed (NC) contact.



Catalogue numbers


| 40 to 125 A iSW switch-disconnectors | | | | |
|---|-----------|---------------|-------------------------------------|-----------------------|
| Type | | | | Width in 9 mm modules |
|  DB118998 | 1P | Rating | Voltage (Ue) | |
| | 1 | 40 A | 240 V AC | A9S65140 |
| | | 63 A | 240 V AC | A9S65163 |
| | 2 | 100 A | 240 V AC | A9S65191 |
| | | 125 A | 240 V AC | A9S65192 |
|  DB118999 | 2P | | | |
| | 1 3 | 40 A | 415 V AC | A9S65240 |
| | | 63 A | 415 V AC | A9S65263 |
| | 2 4 | 100 A | 415 V AC | A9S65291 |
| | | 125 A | 415 V AC | A9S65292 |
|  DB119000 | 3P | | | |
| | 1 3 5 | 40 A | 415 V AC | A9S65340 |
| | | 63 A | 415 V AC | A9S65363 |
| | 2 4 6 | 100 A | 415 V AC | A9S65391 |
| | | 125 A | 415 V AC | A9S65392 |
|  DB119001 | 4P | | | |
| | 1 3 5 7 | 40 A | 415 V AC | A9S65440 |
| | | 63 A | 415 V AC | A9S65463 |
| | 2 4 6 8 | 100 A | 415 V AC | A9S65491 |
| | | 125 A | 415 V AC | A9S65492 |
| Operating frequency | | | 50/60 Hz | |
| Accessories | | | Module CA907000 and CA907001 | |

Offer selection see page 304

Offer A

This sticker must be removed before publishing



| Auxiliary | | | |
|---|------------|---------------------|-----------------------|
| Type | | | Width in 9 mm modules |
|  DB118810 | iOF | Voltage (Ue) | |
| | | 240...415 V AC | A9A26924 |
| | | 24...130 V DC | |



IEC/EN 60947-3
BSEN 60947-3
AS/NZS 60947-3

The switch-disconnectors combine the following functions:
 ■ Control (opening and closing of circuits under load).

iOF auxiliary

■ Mounted on the left, it indicates the "open" or "closed" position of the switch and has a normally open (NO) or normally closed (NC) contact.



Catalogue numbers

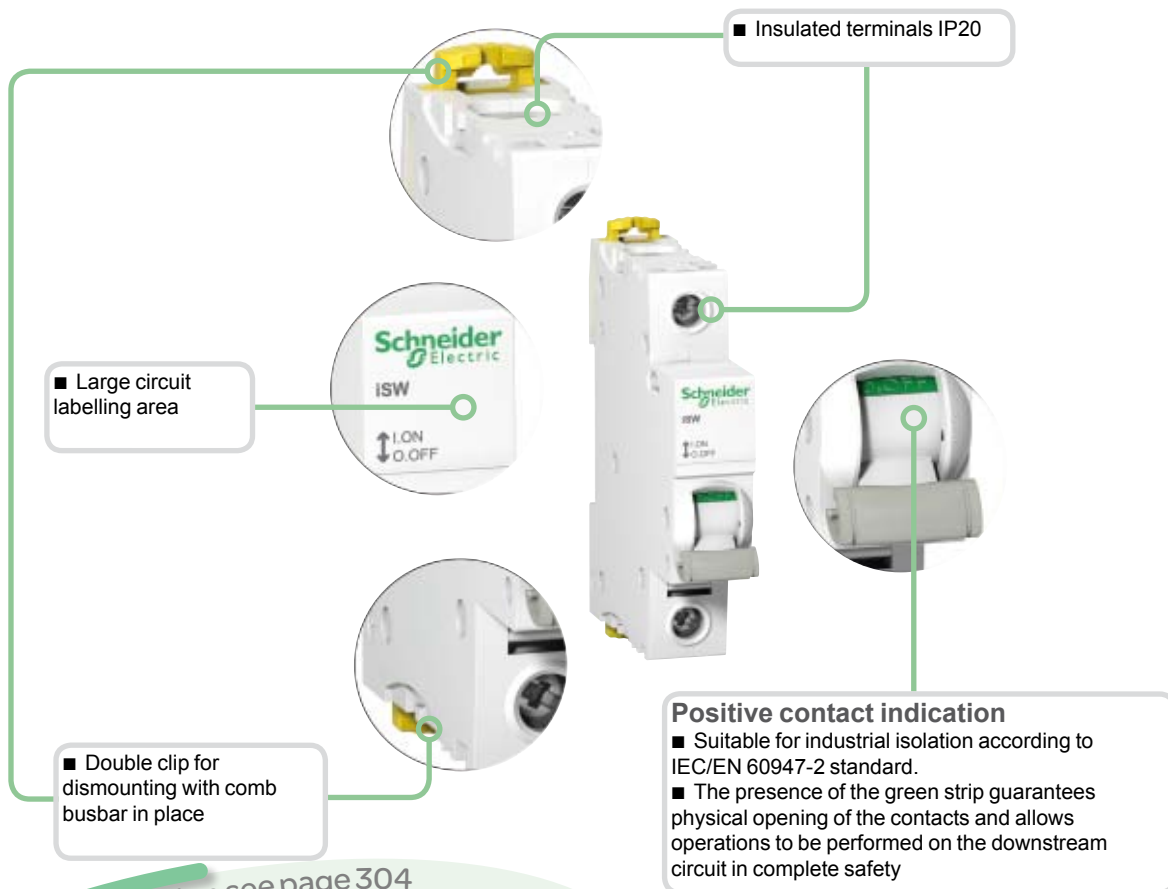
| 40 to 125 A iSW switch-disconnectors | | | | | |
|--------------------------------------|---------|------------------------------|----------|-----------------------|----------|
| Type | | | | Width in 9 mm modules | |
| 1P | | | | | |
| DB118998 | Rating | Voltage (Ue) | | 2 | |
| | 1 | 40 A | 240 V AC | | A9S66140 |
| | | 63 A | 240 V AC | | A9S66163 |
| | | 100 A | 240 V AC | | A9S66191 |
| 2 | 125 A | 240 V AC | A9S66192 | | |
| 2P | | | | | |
| DB118999 | Rating | Voltage (Ue) | | 4 | |
| | 1 3 | 40 A | 415 V AC | | A9S66240 |
| | | 63 A | 415 V AC | | A9S66263 |
| | | 100 A | 415 V AC | | A9S66291 |
| 2 4 | 125 A | 415 V AC | A9S66292 | | |
| 3P | | | | | |
| DB119000 | Rating | Voltage (Ue) | | 6 | |
| | 1 3 5 | 40 A | 415 V AC | | A9S66340 |
| | | 63 A | 415 V AC | | A9S66363 |
| | | 100 A | 415 V AC | | A9S66391 |
| 2 4 6 | 125 A | 415 V AC | A9S66392 | | |
| 3P+N | | | | | |
| DB404563 | Rating | Voltage (Ue) | | 8 | |
| N 1 3 5 | 125 A | 415 V AC | A9S66792 | | |
| N 2 4 6 | | | | | |
| 4P | | | | | |
| DB119001 | Rating | Voltage (Ue) | | 8 | |
| | 1 3 5 7 | 40 A | 415 V AC | | A9S66440 |
| | | 63 A | 415 V AC | | A9S66463 |
| | | 100 A | 415 V AC | | A9S66491 |
| 2 4 6 8 | 125 A | 415 V AC | A9S66492 | | |
| Operating frequency | | 50/60 Hz | | | |
| Accessories | | Module CA907000 and CA907001 | | | |

| Auxiliary | | | |
|---------------|----------------|---|-----------------------|
| Type | | | Width in 9 mm modules |
| iOF | | | |
| DB118810 | Voltage (Ue) | | A9A26924 |
| | 240...415 V AC | | |
| 24...130 V DC | | 1 | |

Offer selection see page 304

Offer B

This sticker must be removed before publishing

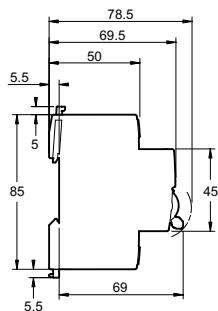
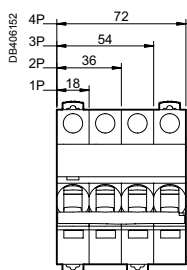


Offer A

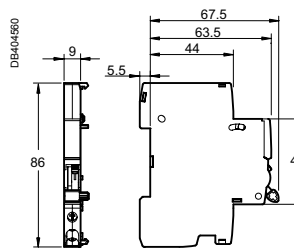
Offer selection see page 304

This sticker must be removed before publishing

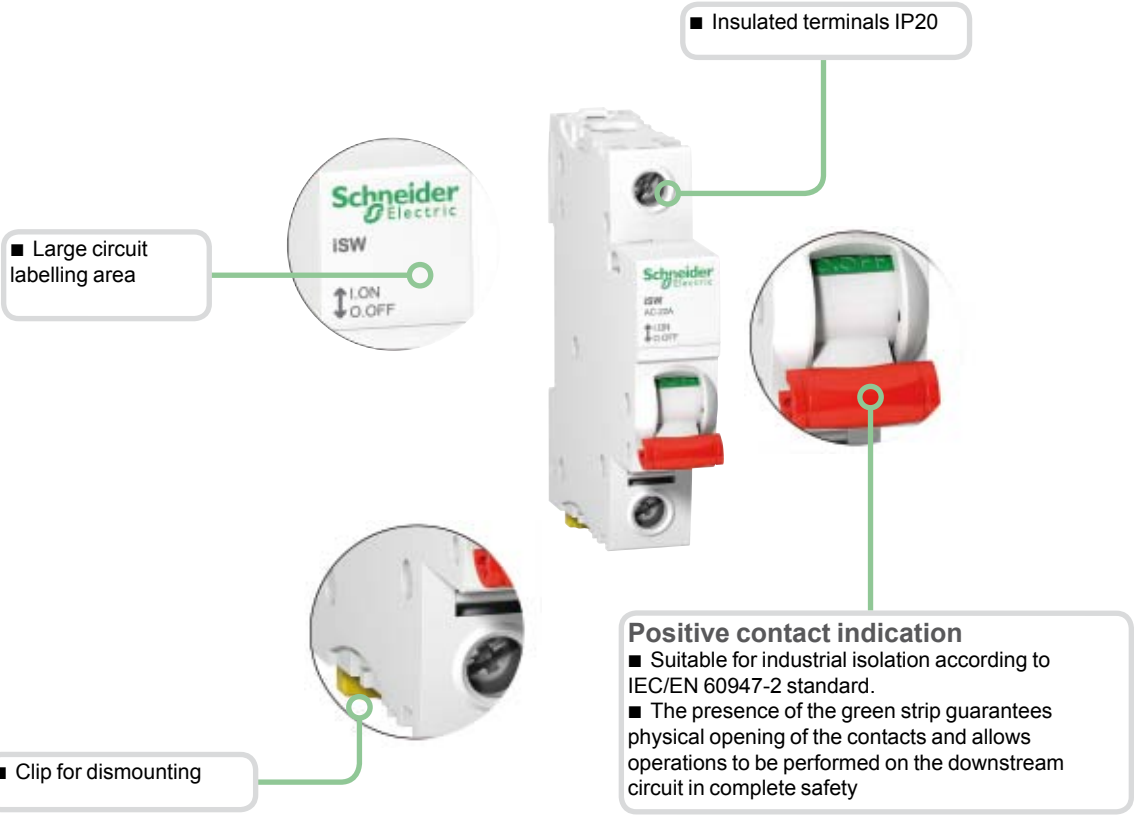
Dimensions (mm)



iSW



iOF

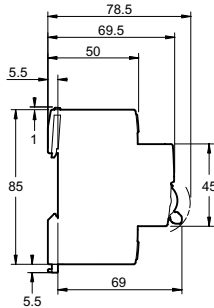
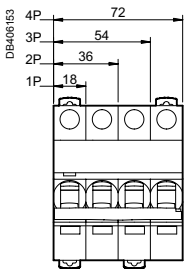


Offer selection see page 304

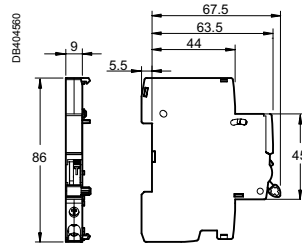
Offer B

This sticker must be removed before publishing

Dimensions (mm)

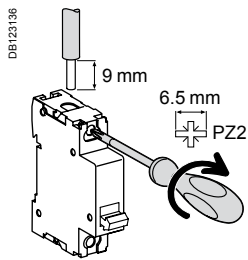


iSW

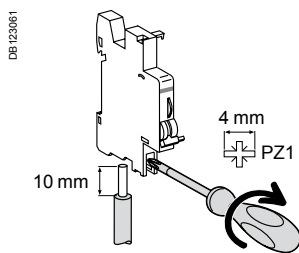


iOF

Connection



| Type | Rating | Tightening torque | Copper cables | |
|------|-------------|-------------------|----------------------------------|----------------------------------|
| | | | Rigid | Flexible or with ferrule |
| iSW | 40 to 125 A | 3.5 N.m | DB123145 ≤ 50 mm ² | DB123146 ≤ 35 mm ² |



| Type | Tightening torque | Copper cables | | Multi-cables terminal | |
|------|-------------------|------------------------------------|--|-------------------------------------|-------------------------------------|
| | | Rigid | Flexible | Rigid cables | Cables with ferrule |
| iOF | 1 N.m | DB123045 1 to 4 mm ² | DB123007 0.5 to 2.5 mm ² | DB123011 2 x 2.5 mm ² | DB123008 2 x 1.5 mm ² |

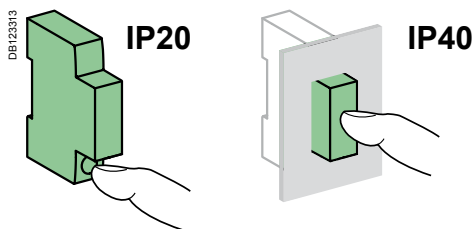
Technical data

Main characteristics

| | |
|--|--------------------------------------|
| Insulation voltage (Ui) | 1P: 250 V AC 2P, 3P, 4P: 500 V AC |
| Pollution degree | 3 |
| Power circuit | |
| Rated impulse withstand voltage (Uimp) | 6 kV |
| Operating category | AC - 22A |
| Permissible rated short-time withstand current (Icw) | 1500 A |
| Conditional rated short-circuit current (Icn) | 10 kA according to IEC 60947-3 |
| Rated short-circuit closing current (Icm) | 5 kA |

Additional characteristics

| | | | |
|-----------------------|---|-----------------------------|---------------|
| Degree of protection | Device only | IP20 | |
| | Device in modular enclosure | IP40 Insulation class II | |
| Endurance (O-C) | Mechanical | 20,000 cycles | |
| | Electrical | 40 A - 63 A | 15,000 cycles |
| | | 80 A - 100 A | 10,000 cycles |
| | 125 A | 2 500 cycles | |
| Operating temperature | -25°C to +60°C | | |
| Storage temperature | -40°C to +85°C | | |
| Tropicalization | Treatment 2 (relative humidity 95% at 55°C) | | |



iOF characteristics

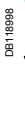
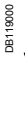
| | | |
|-----------------------|----------------|-------|
| Rated voltage (Ue) | 240...415 V AC | |
| | 24...130 V DC | |
| Operating frequency | 50/60 Hz | |
| Operating current | 24 V DC | 6 A |
| | 48 V DC | 2 A |
| | 60 V DC | 1.5 A |
| | 130 V DC | 1 A |
| | 240 V AC | 6 A |
| | 415 V AC | 3 A |
| Number of contacts | 1 NO/NC | |
| Operating temperature | -35°C to +70°C | |
| Storage temperature | -40°C to +85°C | |

Country approval pictograms

IEC 60947-3

Control and disconnection of on-load electrical circuits already protected against overloads and short-circuits.

Catalogue numbers

| Biconnect switch-disconnectors | | | | Width in 9 mm modules |
|--|--------|--------------|-----------------|-----------------------|
| Type | Rating | Voltage (Ue) | | |
| 1P  | 63 A | 240 V AC | A9S62163 | 2 |
| 3P  | 63 A | 415 V AC | A9S62363 | 6 |
| Operating frequency | | | 50/60 Hz | |



- Cable automatically guided to the correct position: terminals with guard
- Insulated terminals IP20

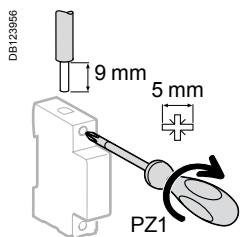
- Manual control on front face by O-I lever



Connection

- Downstream by Biconnect comb busbar
- Upstream/downstream by tunnel terminals



Connection

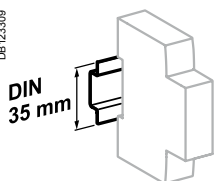


| Type | Rating | Tightening torque | Copper cables | |
|--------------|-------------|-------------------|---|---|
| | | | Rigid | Flexible or with ferrule |
| SW Biconnect | 63 A | 3.5 N.m |  DB122945 ≤ 50 mm ² |  DB122946 ≤ 35 mm ² |

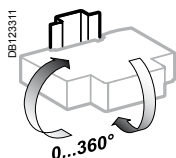
■ Connection by comb busbar or cables (as per EN 50027).

Technical data

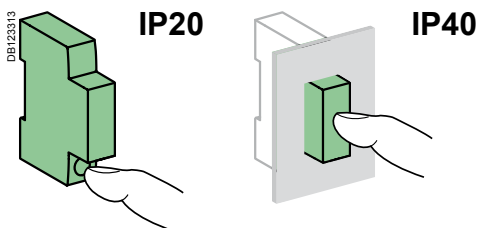
| Main characteristics | | |
|--|---|---------------|
| Insulation voltage (Ui) | 500 V AC | |
| Pollution degree | 3 | |
| Power circuit | | |
| Rated impulse withstand voltage (Uimp) | 6 kV | |
| Operating category | AC - 22 A | |
| Permissible rated short-time withstand current (Icw) | 1260 A | |
| Conditional rated short-circuit current (Inc) | 6 kA according to IEC 60947-3 | |
| Rated short-circuit closing current (Icm) | 4.2 kA | |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | Mechanical | 50,000 cycles |
| | Electrical | 20,000 cycles |
| Operating temperature | -20°C to +50°C | |
| Storage temperature | -40°C to +70°C | |
| Tropicalization | Treatment 2 (relative humidity 95% at 55°C) | |



Clip on DIN rail 35 mm.



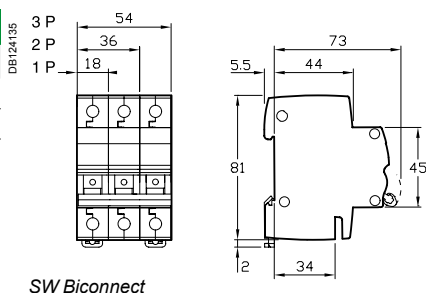
Indifferent position of installation.



Weight (g)



| Biconnect switch-disconnectors | |
|--------------------------------|--------------|
| Type | SW Biconnect |
| 1P | 75 |
| 3P | 230 |

Dimensions (mm)



SW Biconnect

Switch-disconnectors remote tripping types iSW-NA

DB110604  DB110619 

Country approval pictograms

Positive break indication

- Suitability for isolation in the industrial sector to IEC/EN 60947-3.
- The presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit.




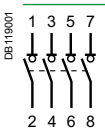
IEC/EN 60947-3


The iSW-NA trip switch-disconnectors combine the following functions:

- control (opening and closing of circuits under load)
- isolation.

They are designed for switchboard or cubicle incoming units in the tertiary and industry sectors, with the possibility of remote tripping via a coil.

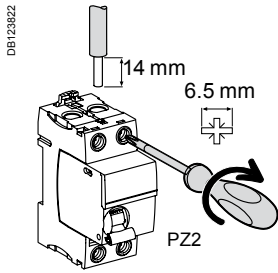
Catalogue numbers

| iSW-NA | | | Width in 9 mm modules |
|---|--------|-------------------------------------|-----------------------|
| Type | Rating | | |
| 1P+N | | | |
|  | 40 A | A9S70640 | 4 |
| | 63 A | A9S70663 | |
| | 80 A | A9S70680 | |
| | 100 A | A9S70690 | |
| 3P+N | | | |
|  | 40 A | A9S70740 | 8 |
| | 63 A | A9S70763 | |
| | 80 A | A9S70780 | |
| | 100 A | A9S70790 | |
| Voltage rating (Ue) | 1P+N | 230-240 V AC | |
| | 3P+N | 400-415 V AC | |
| Operating frequency | | 50/60 Hz | |
| Auxiliaries* | | Module CA907000 and CA907002 | |
| Accessories | | Module CA907000 and CA907001 | |

 * Electrical auxiliaries must be installed to the left of the switch-disconnector. The iSD auxiliary contact must be combined with an auxiliary device (iMN, iMX, iMX+OF): it indicates that the switch-disconnector has been tripped open..

Switch-disconnectors remote tripping types iSW-NA (cont.)

Connection

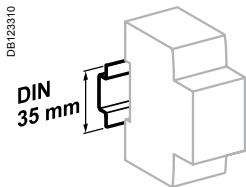


| Type | Tightening torque | Without accessory | | With accessories* | | | |
|--------|-------------------|-------------------------|-------------------------|--------------------------------|---------------------------------------|---|-----------------|
| | | Copper cables | | 50 mm ² Al terminal | Screw-on connection for ring terminal | Multi-cables terminal | |
| | | Rigid | Flexible or ferrule | | | Rigid cables | Flexible cables |
| iSW-NA | 3.5 N.m | 1 to 35 mm ² | 1 to 25 mm ² | 50 mm ² | Ø 5 mm | 3 x 16 mm ² / 3 x 10 mm ² | |

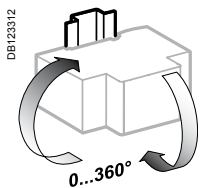
* See module CA907000

Technical data

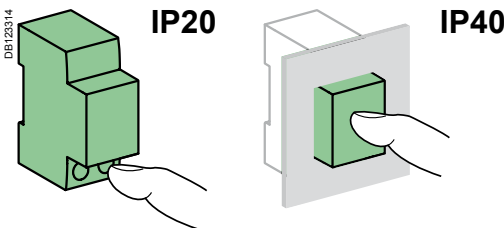
| Main characteristics | iSW-NA | |
|---|--|---------------------|
| | 40/63 A | 80/100 A |
| According to IEC 60947-3 | | |
| Insulation voltage (U _i) | 500 V AC | |
| Pollution degree | 3 | |
| Rated impulse withstand voltage (U _{imp}) | 6 kV | |
| Operating category | AC22A | |
| Permissible rated short-time withstand current (I _{cw}) | 20 In/1s | 15 In/1s |
| Rated short-circuit making (I _{cm}) | 5 kA | |
| Conditional rated short circuit current (I _{nc} /I _{Δc}) | Equal to breaking capacity of iC60 | |
| | With iC60N/H/L | With fuse |
| | 6000 A | |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| | | Insulation class II |
| Endurance (O-C) | Electrical | 15,000 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | -35°C to +70°C | |
| Storage temperature | -40°C to +85°C | |
| Tropicalization | Treatment 2 (relative humidity 95 % at 55°C) | |



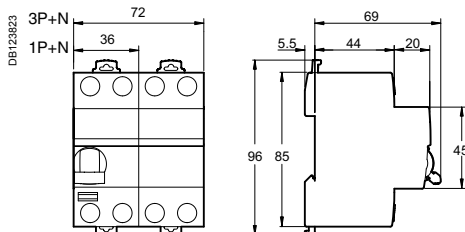
Clip on DIN rail 35 mm.



Indifferent position of installation.



Dimensions (mm)



Weight (g)

| Switch-disconnectors | |
|----------------------|--------|
| Type | iSW-NA |
| 1P+N | 170 |
| 3P+N | 300 |

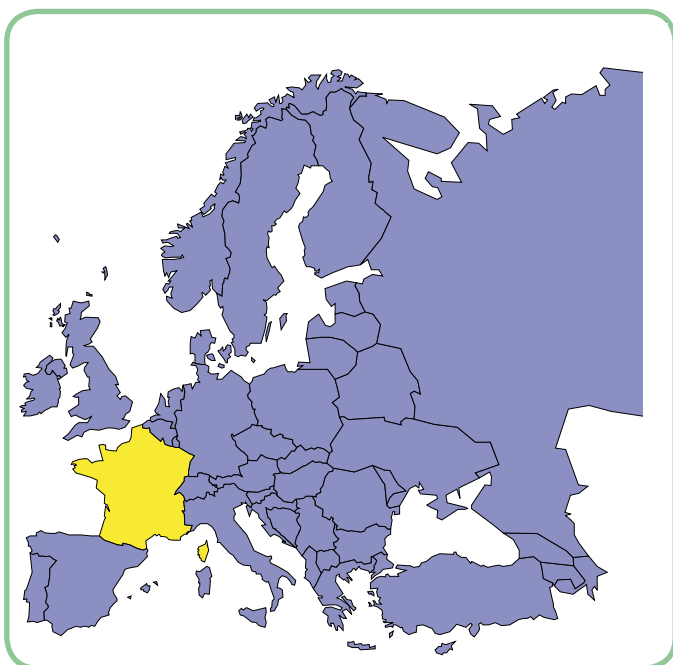


The Schneider Electric range of switches up to 125 A comprises various offers (A, B) so as to be as competitive as possible in each country, taking into account the specific features of each market:

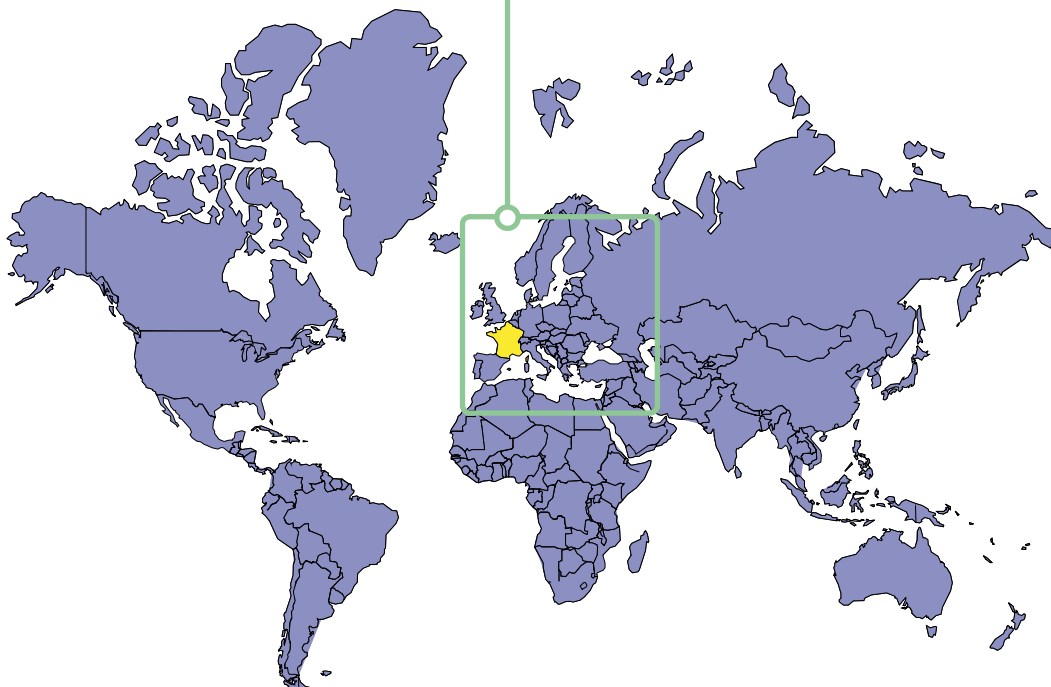
- installation customs
- price
- approval by local organizations.

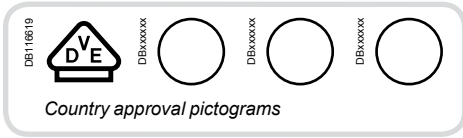
Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Offer A | Catalogue numbers | 315 |
| Offer B | Catalogue numbers | 316 |
| Common pages | | 317 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.





IEC/EN 60947-3

- The NG125NA is a switch-disconnector with free tripping for making and breaking under load.
- It is especially suitable for the modular enclosure incoming feeder with remote breaking (e.g. emergency cutoff).



NG125NA 3P



NG125NA 4P

Offer selection see page 314

offer A

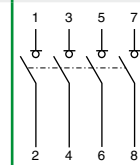
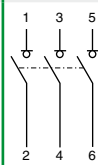
Catalogue numbers

NG125NA switches

Type

3P

3P+N



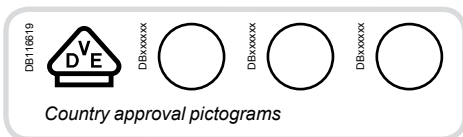
Auxiliaries

Remote indication and tripping, module CM907004 and CM907005

Rating (In) Quality label (1)

| Rating (In) | Quality label (1) | 3P | 3P+N |
|-----------------------|-------------------|-------------------------------------|-------|
| 63 A | | 18889 | 18897 |
| 80 A | | 18890 | 18898 |
| 100 A | | 18891 | 18899 |
| 125 A | | 18892 | 18900 |
| Width in 9 mm modules | | 9 | 12 |
| Accessories | | Module CM907004 and CM907006 | |

(1) Information to be supplied by the country concerned.



IEC/EN 60947-3

- The NG125NA is a switch-disconnector with free tripping for making and breaking under load.
- It is especially suitable for the modular enclosure incoming feeder with remote breaking (e.g. emergency cutoff).

066908N_SE-2011-35



NG125NA 3P

066909N_SE-2011-35



NG125NA 4P

Offer selection see page 314

offer B

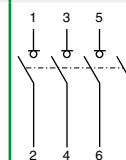
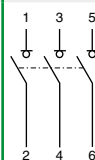
Catalogue numbers

NG125NA switches

Type

3P

3P+N



Auxiliaries

Remote indication and tripping, module CM907005

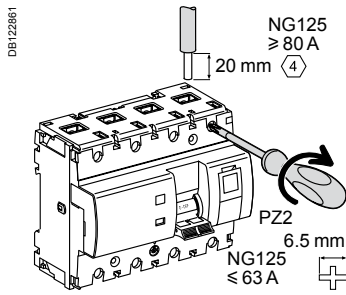
Rating (In)

Quality label (1)

| Rating (In) | Quality label (1) | 3P | 3P+N |
|-----------------------|-------------------|------------------------|-------|
| 63 A | | 18889 | 18893 |
| 80 A | | 18890 | 18894 |
| 100 A | | 18891 | 18895 |
| 125 A | | 18892 | 18896 |
| Width in 9 mm modules | | 9 | 12 |
| Accessories | | Module CM907006 | |

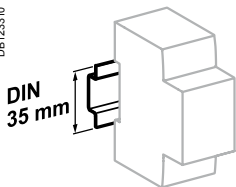
(1) Information to be supplied by the country concerned.

Connection

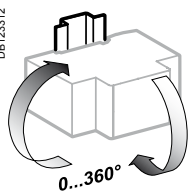


| Rating | Tightening torque | Without accessories | | With accessories | | | | |
|---------------------|-------------------|---------------------------------------|--|--------------------------------------|--|------------------------------------|------------------------------------|------------------------|
| | | Copper cables | | 70 mm ² Al terminal | Screw-on connection for ring terminal | Small ring terminal | Multi-cable terminal | |
| | | Rigid | Flexible or with ferrule | | | | Rigid cables | Flexible cables |
| 63 A 80 to 125 A | 3.5 N.m 6 N.m | DB122945 1.5 to 50 mm ² | DB122946 10 to 35 mm ² 16 to 70 mm ² 10 to 50 mm ² | DB123410 25 to 70 mm ² | DB123488 2 x 35 mm ² 1 x 50 mm ² | DB118789 1 x 70 mm ² | DB118787 3 x 16 mm ² | 3 x 10 mm ² |

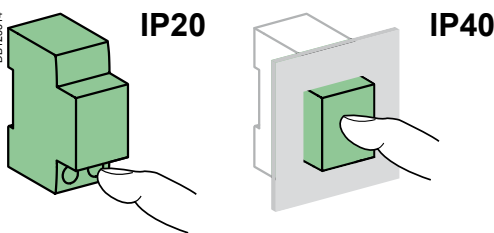
■ For rating ≥ 80 A: upstream voltage taps for each pole, by 6.35 mm Fast-on terminal.



Clips onto 35 mm DIN rail.



Any installation position.



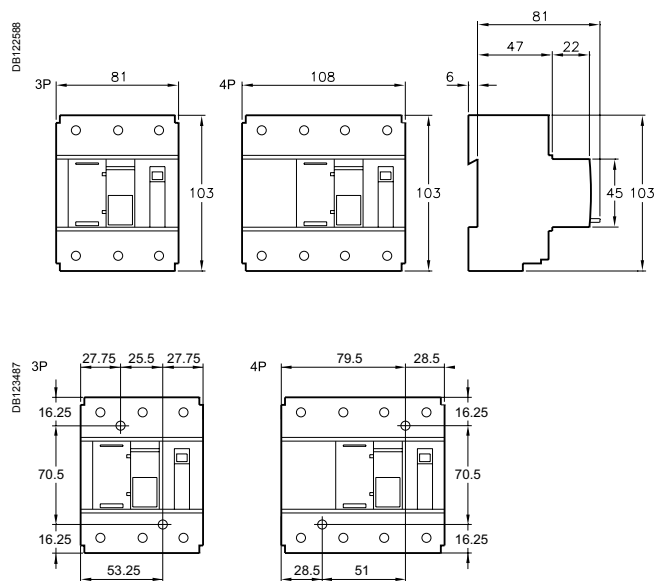
Technical data

| Main characteristics | | |
|--|--|---------------|
| According to IEC/EN 60947-3 | | |
| Max. voltage rating (U _e) | 500 V AC | |
| Insulation voltage (U _i) | 690 V AC | |
| Degree of pollution | 3 | |
| Rated impulse withstand voltage (U _{imp}) | 8 kV | |
| Short time withstand current (50 ms) I _{cw} | 1.5 kA | |
| Rated short-circuit closing current (I _{cm}) | 2 kA | |
| Utilization category | AC22A/B - AC23B | |
| Additional characteristics | | |
| Degree of protection | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Endurance (O-C) | | Category A |
| Electrical (except AC20 and DC20) | ≤ 100 A | 1500 cycles |
| | 125 A | 1000 cycles |
| | | Category B |
| | | 300 cycles |
| | | 200 cycles |
| | Mechanical | 20,000 cycles |
| Operating temperature | -30°C to +70°C | |
| Storage temperature | -40°C to +70°C | |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity of 95% at 55°C) | |

Weight (g)

| Switch | |
|--------|---------|
| Type | NG125NA |
| 3P | 720 |
| 4P | 960 |

Dimensions (mm)



Spacing for mounting on panel

056909N_SE-2011-90

DB123493



Connection accessories

See module CA907001

| | | | | |
|----|---------------------------------------|------------|------------|--------|
| 9 | Splitter blocks | Linergy FM | See module | LIN022 |
| | | Linergy DX | See module | LIN003 |
| 10 | 50 mm ² Al terminal | | | 27060 |
| 11 | Screw-on connection for ring terminal | | | 27053 |
| 12 | Multi-cables terminal | 4 parts | | 19091 |
| | | 3 parts | | 19096 |
| 13 | Comb busbar | | See module | LIN001 |

Mounting accessories

See module CA907001

| | | | |
|-----|---|-----------------------|---------------------|
| 14 | Sealable terminal shields for top and bottom connection | 1P (set of 2) | A9A26975 |
| | | 2P (set of 2) | A9A26976 |
| | | 3P | 1P + 2P |
| | | 4P | 2P + 2P |
| 15 | Interpole barrier | (set of 10) | A9A27001 |
| 16 | Screw shields | 4P (set of 20) | A9A26981 |
| 16" | Screw shields | Vigi iC60 (set of 12) | A9A26982 |
| 17 | Clip-on terminal markers | | See module CA907001 |
| 18 | 9 mm spacer | | A9A27062 |
| 19 | Padlocking device | (set of 10) | A9A26970 |
| 20 | Plug-in base | | A9A27003 |
| 21 | Rotary handle | Black handle | A9A27005 |
| | | Red handle | A9A27006 |
| | | No handle | A9A27008 |
| | | | |

Electrical auxiliaries

See module CA907002

Indication

| | | |
|---|---|----------|
| 4 | iOF/SD+OF auxiliary contact (OF+SD or OF+OF combination switch) | A9A26929 |
| 5 | iSD fault indicating contact | A9A26927 |
| 6 | iOF open/close auxiliary contact | A9A26924 |
| 7 | iOF+SD24 auxiliary contact | A9A26897 |

Control

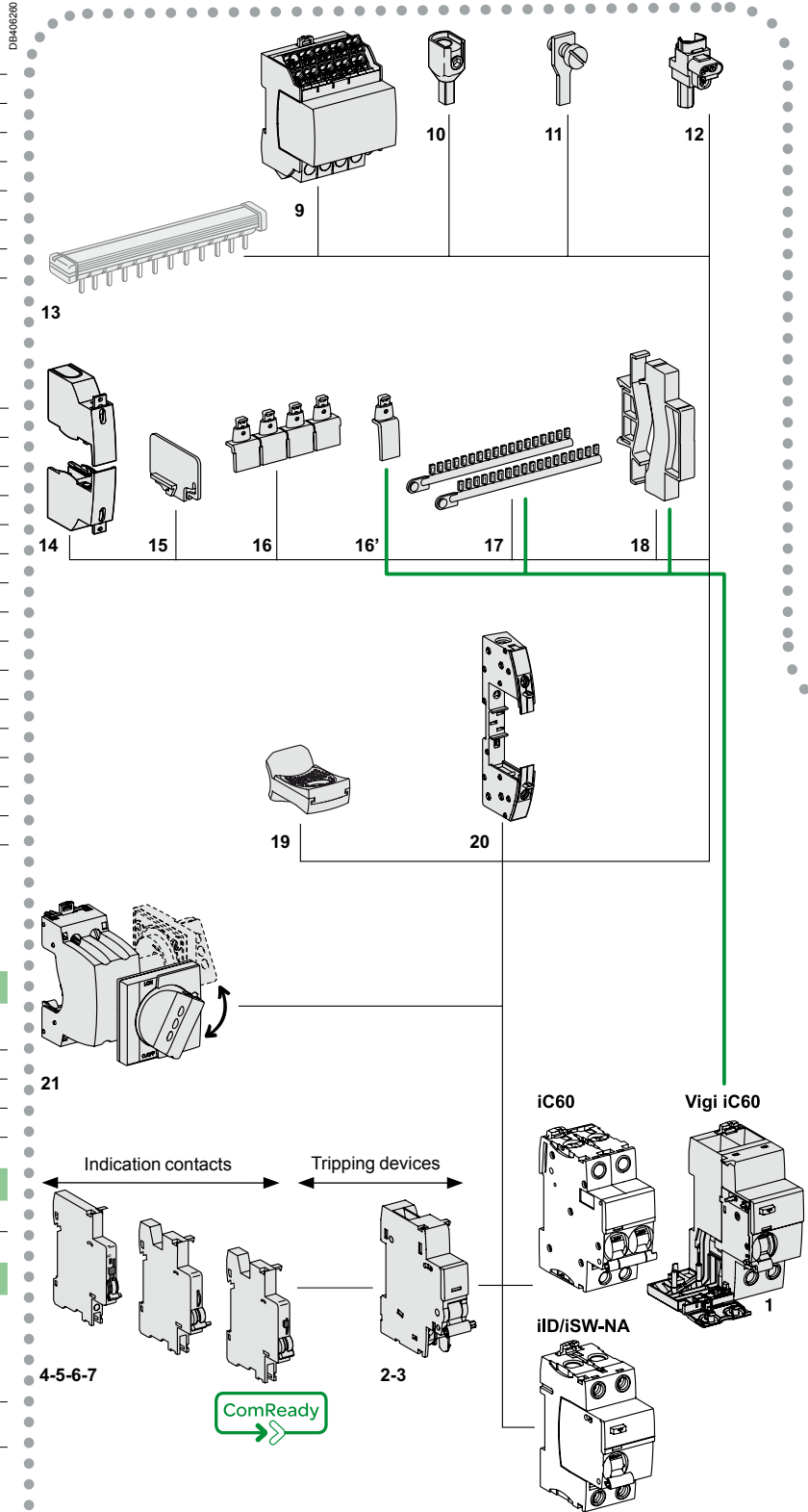
| | | |
|---|---------------------------------|----------|
| 8 | iMDU voltage matching auxiliary | A9C18195 |
|---|---------------------------------|----------|

Tripping devices

| | | | |
|---|--|------------|----------|
| 2 | iMN undervoltage release or iMNs undervoltage release delayed or iMNx undervoltage release with external feeding | See module | CA907002 |
| | | | |
| 3 | Shunt release iMX, iMX+OF overvoltage release iMSU | See module | CA907002 |

Vigi iC60

| | | | |
|---|---|------------|----------|
| 1 | Vigi iC60 add-on residual current device | See module | CA902005 |
| | Double terminals Vigi iC60 add-on residual current device | See module | CA902019 |



Tripping devices must be installed first.

If two tripping devices are used: the iMN must be installed first

Indication auxiliaries: respect specified position for SD functions.

iSW-NA: when installing a tripping device (iMN, iMX, iMSU...), an iSD auxiliary contact must be associated, which indicates that the iSW-NA has been tripped open.

Assembly rule

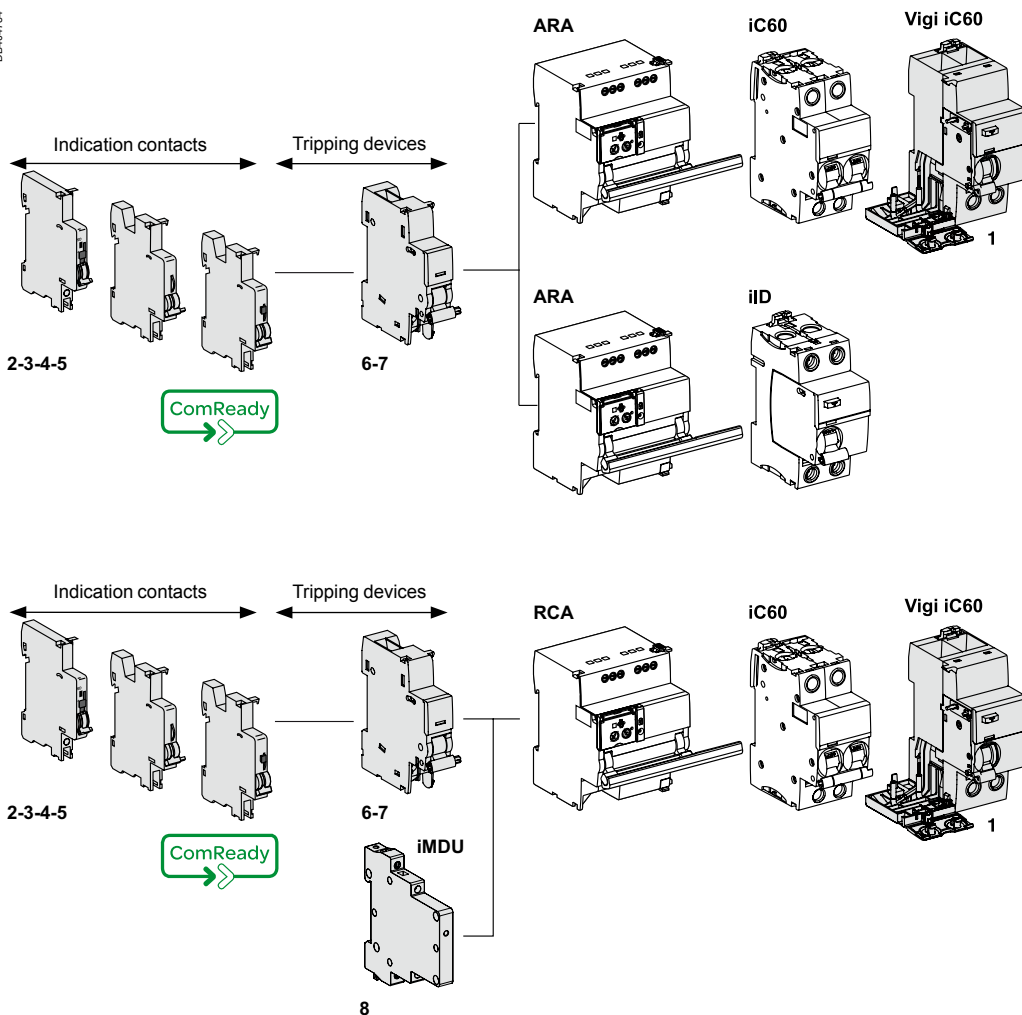
The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries (iMN, iMX, iMSU...) should be mounted first **1** as close as possible to the main device.

Then at the left, the indicating auxiliaries (iOF, iSD) should be mounted **2** then **3** complying with the following association table.

| Indicating auxiliaries 3 | + 2 | Tripping auxiliaries + 1 | Remote control | Device | Vigi iC60 |
|------------------------------------|---|---|-----------------|----------------------------------|------------------|
| 1 (iOF/SD+OF or iOF+SD24 or iSD) | 1 iOF/SD+OF | 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | – | iC60, iID, iSW-NA | <i>Vigi iC60</i> |
| 1 iOF | 1 (iSD or iOF or iOF/SD+OF) | 2 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | | | |
| – | 1 iOF+SD24 | 2 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | | | |
| – | – | 3 iMSU | | | |
| 1 iSD | 1 iSD | 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | | | |
| – | 1 (iSD or iOF or iOF/SD+OF or iOF+SD24) | 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | ARA, RCA | <i>iC60</i> | <i>Vigi iC60</i> |
| 1 iOF | 1 (iSD or iOF or iOF/SD+OF) | – | | | |
| – | 1 (iSD or iOF or iOF/SD+OF or iOF+SD24) | 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) maxi | ARA | <i>iID</i> | – |
| 1 iOF | 1 (iSD or iOF or iOF/SD+OF) | – | | | |

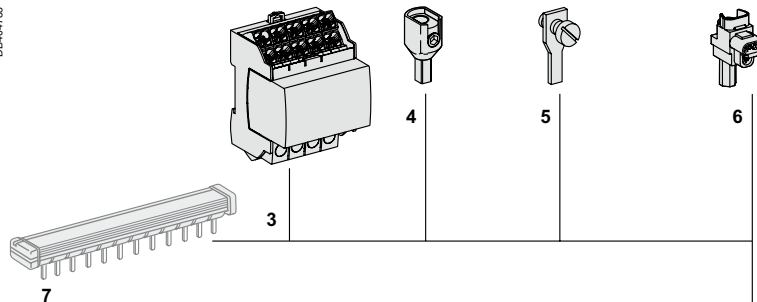
DB-04784



Connection accessories

See module CA907001

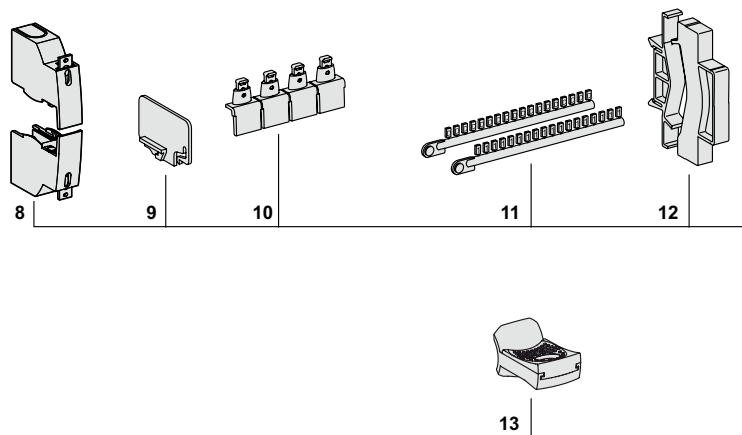
| | | | | |
|---|---------------------------------------|------------|------------|--------|
| 3 | Splitter blocks | Linergy FM | See module | LIN022 |
| | | Linergy DX | See module | LIN003 |
| 4 | 50 mm ² Al terminal | | | 27060 |
| 5 | Screw-on connection for ring terminal | | | 27053 |
| 6 | Multi-cables terminal | 4 parts | | 19091 |
| | | 3 parts | | 19096 |
| 7 | Comb busbar | | See module | LIN001 |



Mounting accessories

See module CA907001

| | | | |
|----|---|----------------|---------------------|
| 8 | Sealable terminal shields for top and bottom connection | 1P (set of 2) | A9A26975 |
| | | 2P (set of 2) | A9A26976 |
| | | 3P | 1P + 2P |
| | | 4P | 2P + 2P |
| 9 | Interpole barrier | (set of 10) | A9A27001 |
| 10 | Screw shields | 4P (set of 20) | A9A26981 |
| 11 | Clip-on terminal markers | | See module CA907001 |
| 12 | 9 mm spacer | | A9A27062 |
| 13 | Padlocking device | (set of 10) | A9A26970 |



Electrical auxiliary

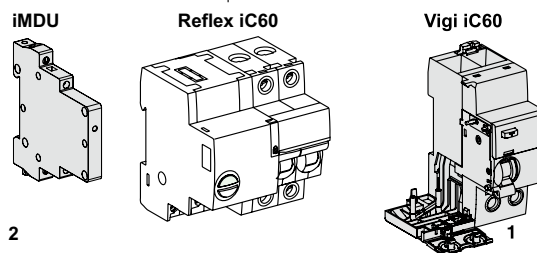
See module CA907002

| Control | | |
|---------|---------------------------------|----------|
| 2 | iMDU voltage matching auxiliary | A9C18195 |

Vigi iC60

See module CA907005

| | | | |
|---|--|------------|----------|
| 1 | Vigi iC60 add-on residual current device | See module | CA902005 |
|---|--|------------|----------|

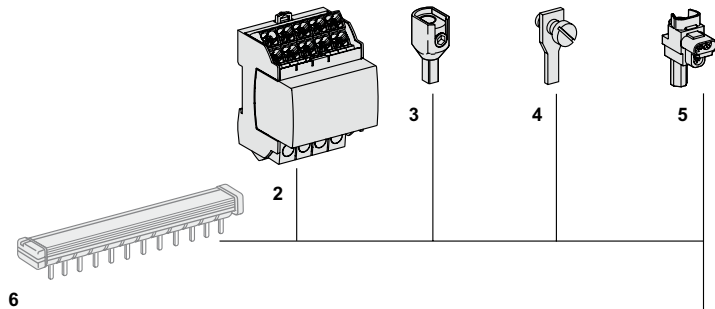


Connection accessories

See module CA907001

| | | | | |
|---|---------------------------------------|------------|------------|--------|
| 2 | Splitter blocks | Linergy FM | See module | LIN022 |
| | | Linergy DX | See module | LIN003 |
| 3 | 50 mm² Al terminal | | | 27060 |
| 4 | Screw-on connection for ring terminal | | | 27053 |
| 5 | Multi-cables terminal | 4 parts | | 19091 |
| | | 3 parts | | 19096 |
| 6 | Comb busbar | | See module | LIN001 |

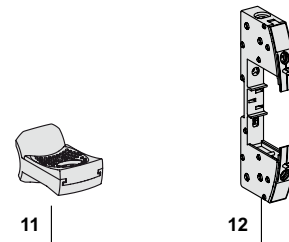
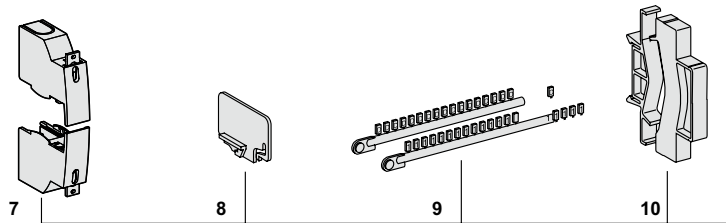
DB44785



Mounting accessories

See module CA907001

| | | | |
|----|--|---------------|---------------------|
| 7 | Sealable terminal shields for top and bottom connection | 1P (set of 2) | A9A26975 |
| | | 2P (set of 2) | A9A26976 |
| | | 3P | 1P + 2P |
| | | 4P | 2P + 2P |
| 8 | Interpole barrier | (set of 10) | A9A27001 |
| 9 | Clip-on terminal markers | | See module CA907001 |
| 10 | 9 mm spacer | | A9A27062 |
| 11 | Padlocking device | (set of 10) | A9A26970 |
| 12 | Plug-in base | | A9A27003 |
| 13 | Rotary handle | Black handle | A9A27005 |
| | | Red handle | A9A27006 |
| | | No handle | A9A27008 |

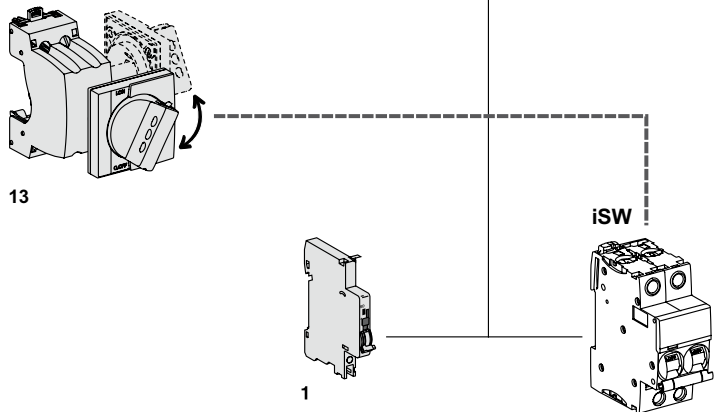


Electrical auxiliaries

See module CA907002

Indication

| | | |
|---|----------------------------------|----------|
| 1 | iOF open/close auxiliary contact | A9A26924 |
|---|----------------------------------|----------|



Connection accessories

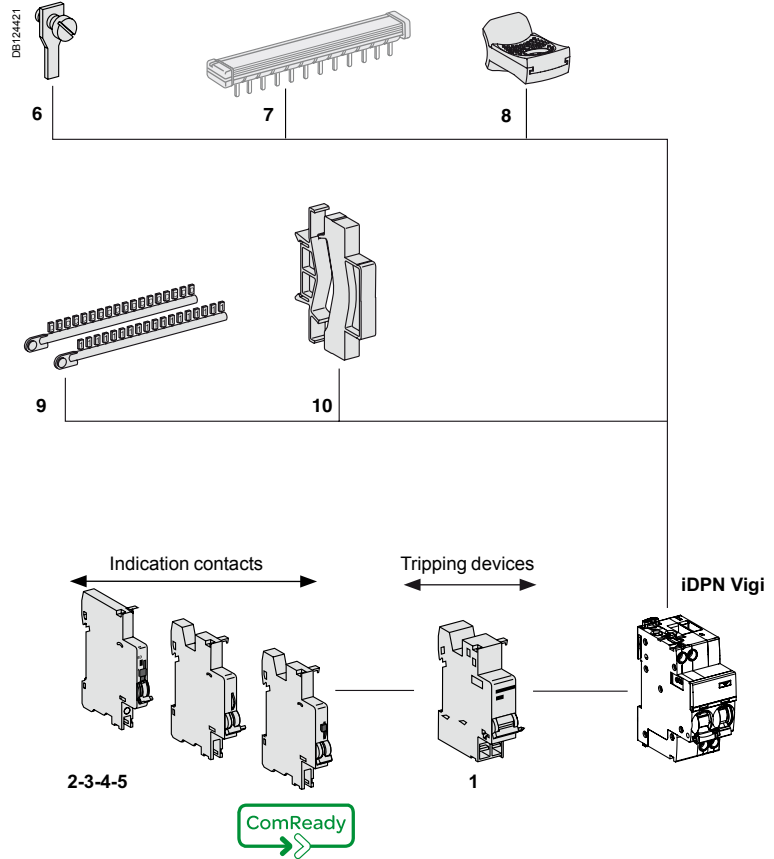
See module CA907001

| | | |
|---|---------------------------------------|-------------------|
| 6 | Screw-on connection for ring terminal | 27053 |
| 7 | Comb busbar | See module LIN001 |

Mounting accessories

See module CA907001

| | | |
|----|-------------------------------|---------------------|
| 8 | Padlocking device (set of 10) | A9A26970 |
| 9 | Clip-on terminal markers | See module CA907001 |
| 10 | 9 mm spacer | A9A27062 |



Electrical auxiliaries

See module CA907002

Indication

| | | |
|---|---|----------|
| 2 | iOF/SD+OF auxiliary contact (OF+SD or OF+OF combination switch) | A9A26929 |
| 3 | iSD fault indicating contact | A9A26927 |
| 4 | iOF open/close auxiliary contact | A9A26924 |
| 5 | iOF+SD24 auxiliary contact | A9A26897 |

Tripping devices

| | | |
|---|--|---------------------|
| 1 | iMN undervoltage release or iMNs undervoltage release delayed or iMNx undervoltage release with external feeding or shunt release iMX, iMX+OF overvoltage release iMSU | See module CA907002 |
|---|--|---------------------|



Tripping devices must be installed first.
If two tripping devices are used: the iMN must be installed first
Indication auxiliaries: respect specified position for SD functions.

Assembly rule

The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries (iMN, iMX, iMSU...) should be mounted first **1** as close as possible to the main device.

Then at the left, the indicating auxiliaries (iOF, iSD) should be mounted **2** then **3** complying with the following association table.

| Indicating auxiliaries | | Tripping auxiliaries | | Device |
|----------------------------------|-----------------------------|--|-----------|--------|
| 3 | + 2 | + 1 | | |
| 1 (iOF/SD+OF or iOF+SD24 or iSD) | 1 iOF/SD+OF | 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | iDPN Vigi | |
| 1 iOF | 1 (iSD or iOF or iOF/SD+OF) | 2 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | | |
| - | 1 iOF+SD24 | 2 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | | |
| - | - | 3 iMSU | | |
| 1 iSD | 1 iSD | 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | | |

Connection accessories

See module CA907021

| | | |
|---|---------------------------------------|---------------|
| 6 | 50 mm ² Al terminal | 27060 |
| 7 | Screw-on connection for ring terminal | 27053 |
| 8 | Multi-cables terminal | 4 parts 19091 |
| | | 3 parts 19096 |

Mounting accessories

See module CA907021

| | | |
|-----|---|-------------------------|
| 9 | Sealable terminal shields for top and bottom connection | 1P (set of 2) A9A26975 |
| | | 2P (set of 2) A9A26976 |
| | | 3P 1P + 2P |
| | | 4P 2P + 2P |
| 10 | Screw shields | 4P (set of 20) A9A26981 |
| 10" | Screw shields Vigi iC60 | (set of 12) A9A26982 |
| 11 | Clip-on terminal markers | See module CA907021 |
| 12 | 9 mm spacer | A9A27063 |
| 13 | Padlocking device | (set of 10) A9A26970 |
| 14 | Padlocking device for Isobar enclosure | (set of 10) A9A26972 |
| 15 | Interpole barrier | (set of 10) A9A27001 |

Electrical auxiliaries

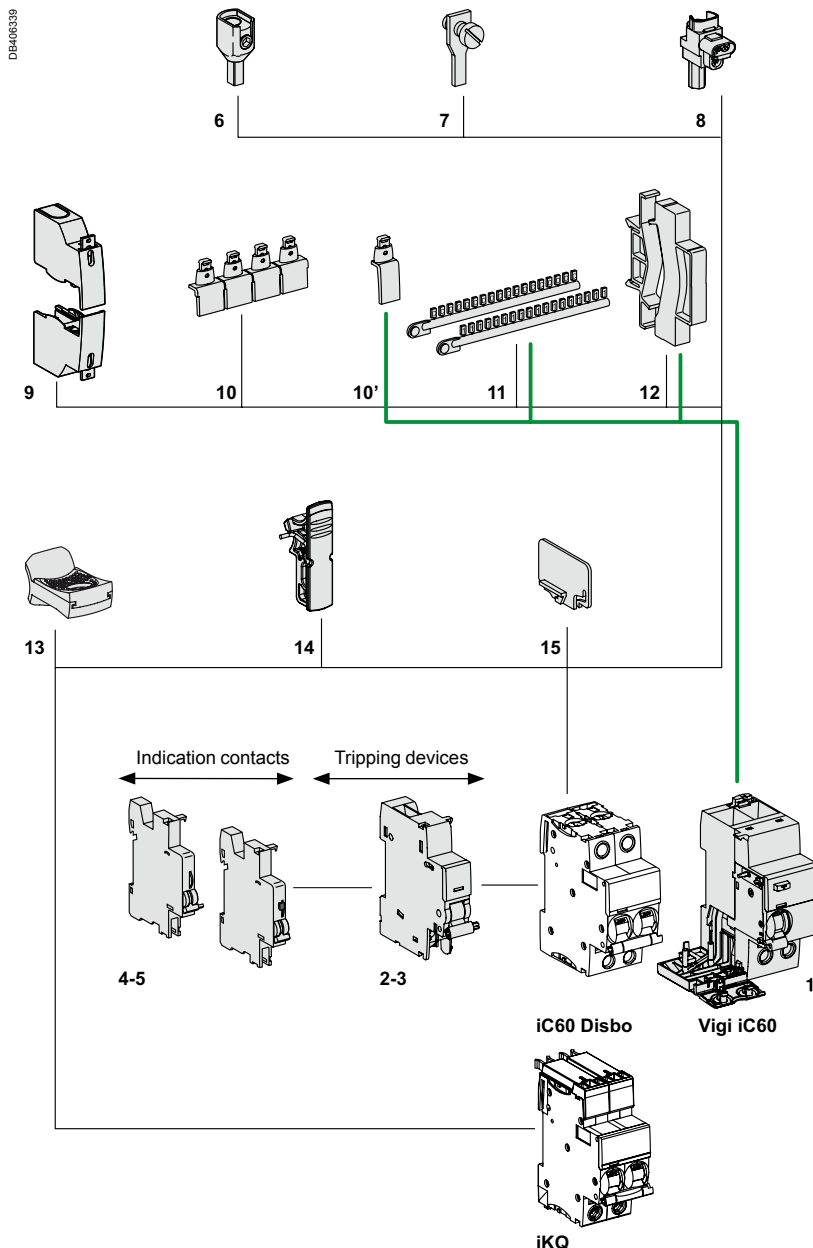
See module CA907002

Indication

| | | |
|---|----------------------------------|----------|
| 4 | iSD fault indicating contact | A9A26927 |
| 5 | iOF open/close auxiliary contact | A9A26924 |

Tripping devices

| | | |
|---|--|---------------------|
| 2 | iMN undervoltage release or iMNs undervoltage release delayed or iMNx undervoltage release with external feeding | See module CA907002 |
| 3 | Shunt release iMX, iMX+OF overvoltage release iMSU | See module CA907002 |



Vigi iC60

| | | |
|---|--|---------------------|
| 1 | Vigi iC60 add-on residual current device | See module CA902005 |
|---|--|---------------------|



Tripping devices must be installed first.

If two tripping devices are used: the iMN must be installed first
Indication auxiliaries: respect specified position for SD functions.

Assembly rule

The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries iMN, iMX, iMSU... should be mounted first **1** as close as possible to the main device.

Then at the left, the indicating auxiliaries (iOF, iSD) should be mounted **2** then **3** complying with the following association table.

| Indicating auxiliaries | | Tripping auxiliaries | | Device | Vigi iC60 |
|------------------------|----------------|--|--|--------|-----------|
| 3 | + 2 | + 1 | | | |
| 1 iOF | 1 (iSD or iOF) | 2 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | | iC60 | Vigi iC60 |
| - | - | 3 iMSU | | Disbo | |

Connection accessories

See module CA907021

| | | |
|---|---------------------------------------|-------|
| 5 | Screw-on connection for ring terminal | 27053 |
|---|---------------------------------------|-------|

Mounting accessories

See module CA907021

| | | |
|---|-------------------------------|---------------------|
| 6 | Padlocking device (set of 10) | A9A27049 |
| 7 | Clip-on terminal markers | See module CA907021 |
| 8 | 9 mm spacer | A9A27063 |

Electrical auxiliaries

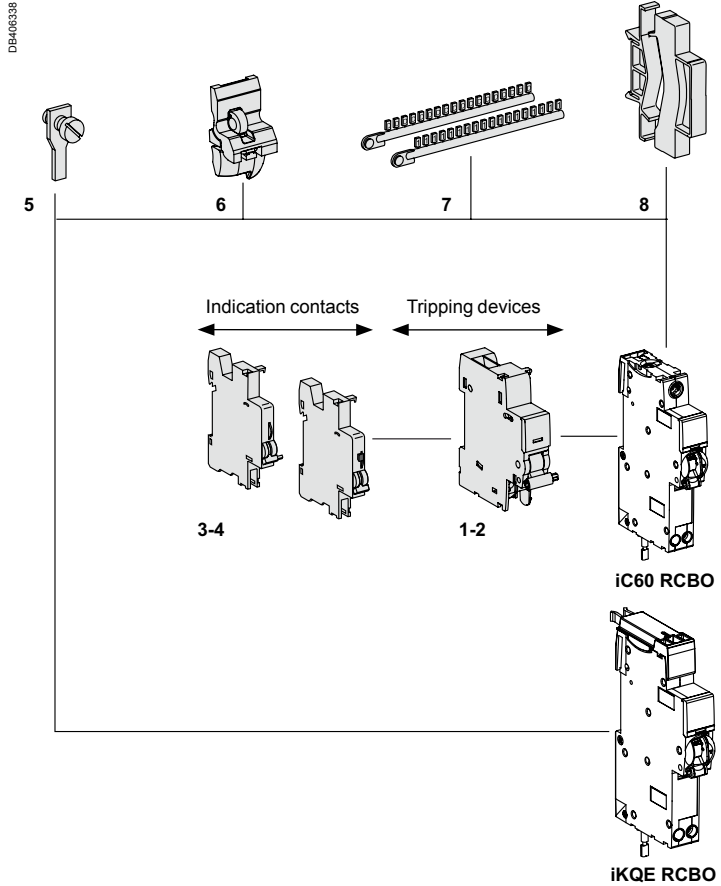
See module CA907002

Indication

| | | |
|---|----------------------------------|----------|
| 3 | iSD fault indicating contact | A9A26927 |
| 4 | iOF open/close auxiliary contact | A9A26924 |

Tripping devices

| | | |
|---|--|---------------------|
| 1 | iMN undervoltage release or iMNs undervoltage release delayed or iMNx undervoltage release with external feeding | See module CA907002 |
| 2 | Shunt release iMX, iMX+OF overvoltage release iMSU | See module CA907002 |



Tripping devices must be installed first.
If two tripping devices are used: the iMN must be installed first
Indication auxiliaries: respect specified position for SD functions.

Assembly rule

The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries (iMN, iMX, iMSU...) should be mounted first **1** as close as possible to the main device.

Then at the left, the indicating auxiliaries (iOF, iSD) should be mounted **2** then **3** complying with the following association table.

| Indicating auxiliaries | | Tripping auxiliaries | | Device |
|------------------------|----------------|--|--|------------|
| 3 | + 2 | + 1 | | |
| 1 iOF | 1 (iSD or iOF) | 2 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) | | iC60 Disbo |
| - | - | 1 iMSU | | |

Connection accessories

See module CA907012

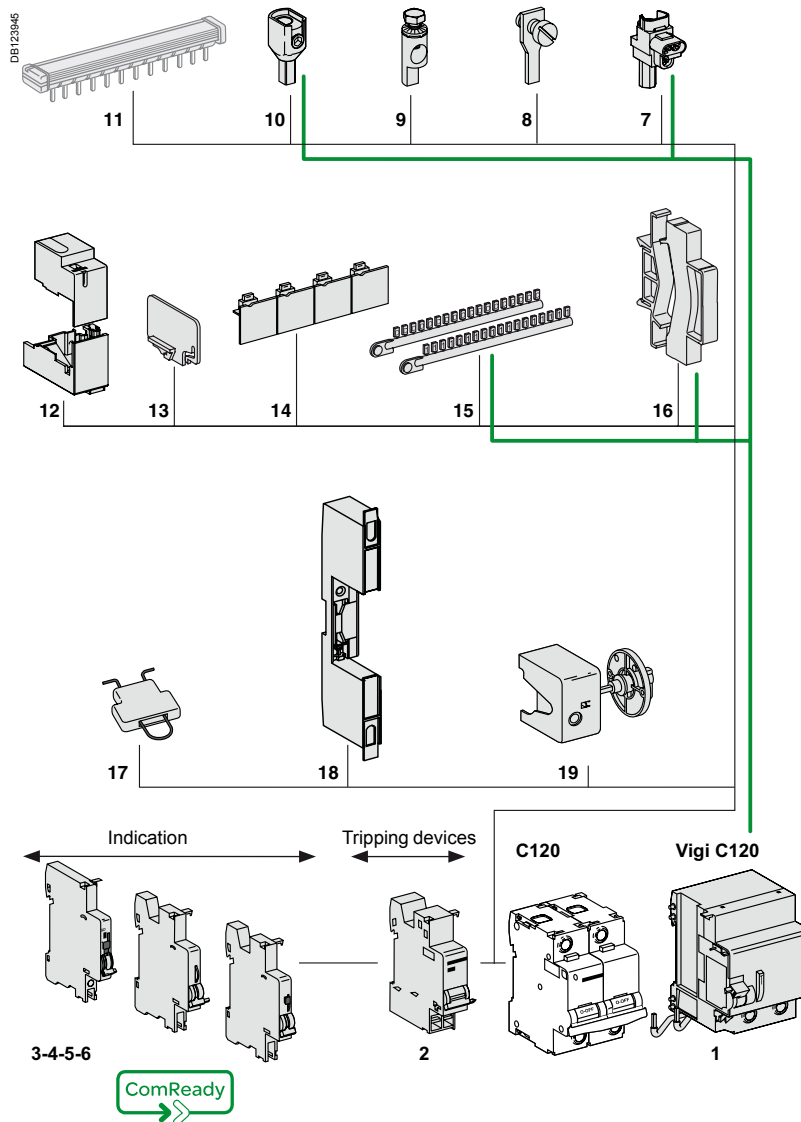
| | | | |
|----|---------------------------------------|------------|--------|
| 7 | Multi-cable terminal | 4 parts | 19091 |
| | | 3 parts | 19096 |
| 8 | Screw-on connection for ring terminal | 8 parts | 27053 |
| 9 | Terminal for rear connector | | 18528 |
| 10 | 50 mm ² Al terminal | | 27060 |
| 11 | Comb busbar | See module | LIN001 |

Mounting accessories

See module CA907012

| | | | |
|----|---|---------------------------------------|----------|
| 12 | Sealable terminal shields for top and bottom connection | 1P (set of 2) | 18526 |
| 13 | Interpole barrier | (set of 10) | 27001 |
| 14 | Screw shields | 4P (set of 2) | 18527 |
| 15 | Clip-on terminal markers | See module | CA907012 |
| 16 | 9 mm spacer | | A9N27062 |
| 17 | Padlocking device | | 27145 |
| 18 | Plug-in base ⁽¹⁾ | | 26997 |
| 19 | Rotary handle | Removable extended handle | 27047 |
| | | Fixed handle | 27048 |
| | | Operating sub-assembly ⁽²⁾ | 27046 |

(1) For 1P, centreline between two rows: 200 mm
(2) A complete rotary handle consists of a circuit-breaker operating sub-assembly, cat. no. 27046, a handle cat. no. 27047 or a handle cat. no. 27048.



Electrical auxiliaries

See module CA907008

Indication

| | | |
|---|--|----------|
| 3 | SD fault indicating contact | A9N26927 |
| 4 | OF+SD24 auxiliary contact | A9N26899 |
| 5 | OF open/close auxiliary contact | A9N26924 |
| 6 | OF+SD/OF auxiliary contact (OF+SD or OF+OF combination switch) | A9N26929 |

Tripping

| | | |
|---|--|---------------------|
| 2 | MN, MNx, MN \square undervoltage release, MSU overvoltage release or MX, MX + OF shunt release | See module CA907008 |
|---|--|---------------------|

Vigi C120

See module CA902016

| | | |
|---|--|---------------------|
| 1 | Vigi C120 add-on residual current device | See module CA902016 |
|---|--|---------------------|

Assembly rule

The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries MN, MX, MSU... should be mounted first **1** as close as possible to the main device.

Then at the left, the indicating auxiliaries (OF, SD) should be mounted **2** then **3** complying with the following association table.

| Indicating auxiliaries | | Tripping auxiliaries | | Device | Vigi C120 |
|-------------------------|--------------------------|---|------|--------|-----------|
| 3 | + 2 | + 1 | | | |
| 1 (OF+SD/OF or OF+SD24) | 1 OF+SD/OF | 1 (MN, MNx, MN \square or MX, MX+OF or MSU) | C120 | | Vigi C120 |
| 1 OF | 1 (OF+SD/OF or SD or OF) | 2 (MN, MNx, MN \square or MX, MX+OF or MSU) | | | |
| - | 1 OF+SD24 | 2 (MN, MNx, MN \square or MX, MX+OF or MSU) | | | |
| - | - | 3 MSU | | | |

⚠ Tripping devices must be installed first.
If two tripping devices are used: the MN must be installed first
Indication auxiliaries: respect specified position for SD functions.

Connection accessories

See module CA907012

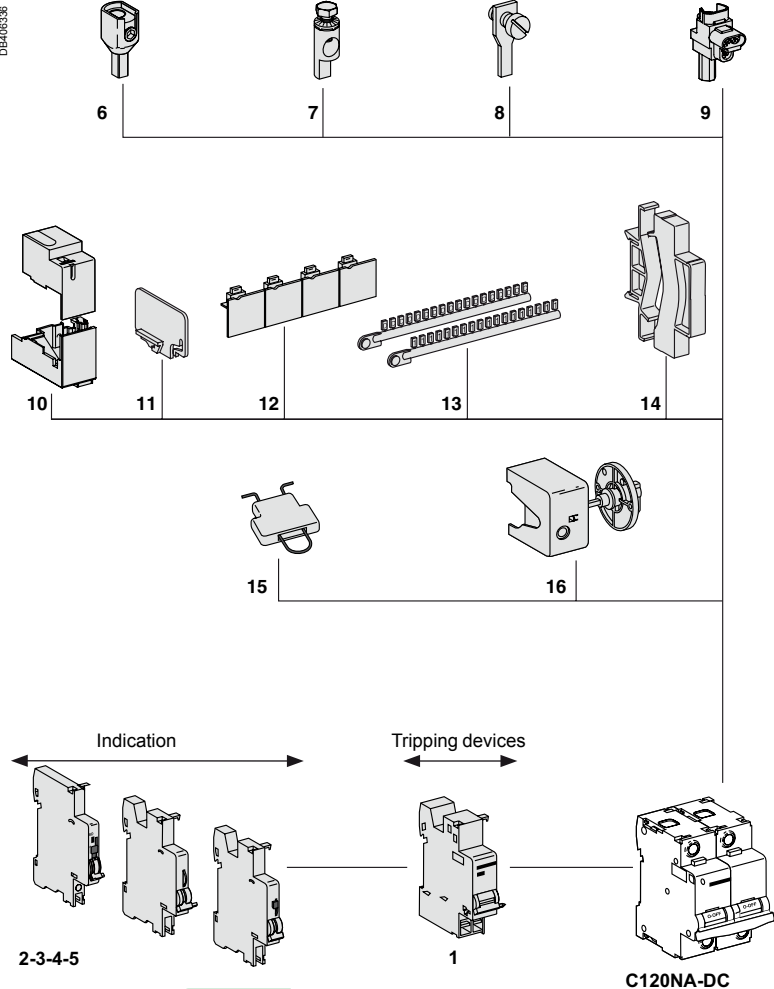
| | | |
|---|---------------------------------------|---------------|
| 6 | 50 mm ² Al terminal | 27060 |
| 7 | Terminal for rear connector | 18528 |
| 8 | Screw-on connection for ring terminal | 8 parts 27053 |
| 9 | Multi-cable terminal | 4 parts 19091 |
| | | 3 parts 19096 |

Mounting accessories

See module CA907012

| | | | |
|----|---|---------------|----------|
| 10 | Sealable terminal shields for top and bottom connection | 1P (set of 2) | 18526 |
| 11 | Interpole barrier | (set of 10) | 27001 |
| 12 | Screw shields | 4P (set of 2) | 18527 |
| 13 | Clip-on terminal markers | See module | CA907012 |
| 14 | 9 mm spacer | | A9N27062 |
| 15 | Padlocking device | | 27145 |
| 16 | Rotary handle | | |
| | Removable extended handle | | 27047 |
| | Fixed handle | | 27048 |
| | Operating sub-assembly ⁽¹⁾ | | 27046 |

(1) A complete rotary handle consists of a circuit-breaker operating sub-assembly, cat. no. 27046, a handle cat. no. 27047 or a handle cat. no. 27048.



Electrical auxiliaries

See module CA907008

| Indication | | |
|------------|--|----------|
| 2 | SD fault indicating contact | A9N26927 |
| 3 | OF+SD24 auxiliary contact | A9N26899 |
| 4 | OF open/close auxiliary contact | A9N26924 |
| 5 | OF+SD/OF auxiliary contact (OF+SD or OF+OF combination switch) | A9N26929 |

| Tripping | | |
|----------|---|---------------------|
| 1 | MN, MNx, MN \square undervoltage release or MX, MX + OF shunt release | See module CA907008 |



Tripping devices must be installed first.
If two tripping devices are used: the MN must be installed first
Indication auxiliaries: respect specified position for SD functions.

Assembly rule

The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries (MN, MX...) should be mounted first **1** as close as possible to the main device.

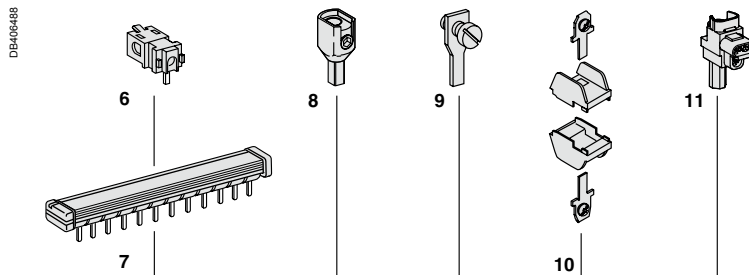
Then at the left, the indicating auxiliaries (OF, SD) should be mounted **2** then **3** complying with the following association table.

| Indicating auxiliaries 3 | | Indicating auxiliaries + 2 | | Indicating auxiliaries + 1 | | Device |
|---------------------------------|--|-----------------------------------|--|--|--|--------|
| 1 (OF+SD/OF or OF+SD24) | | 1 OF+SD/OF | | 1 (MN, MNx, MN \square or MX, MX+OF) | | |
| 1 OF | | 1 (OF+SD/OF or SD or OF) | | 2 (MN, MNx, MN \square or MX, MX+OF) | | |
| - | | 1 OF+SD24 | | 2 (MN, MNx, MN \square or MX, MX+OF) | | |

Connection accessories

See module CA907012

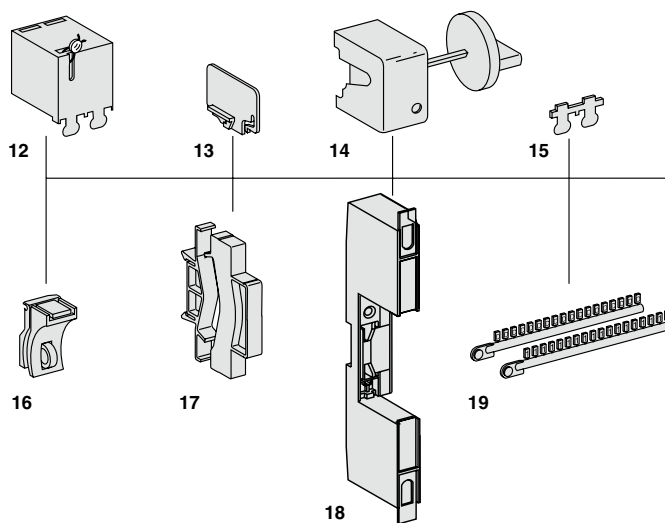
| | | | |
|----|---|--------------------|----------------|
| 6 | Insulated connector | See module | LIN001 |
| 7 | Comb busbar | See module | LIN001 |
| 8 | 50 mm ² Al terminal | | 27060 |
| 9 | Ring tongue terminal screw connection | | 27053 |
| 10 | Ring tongue terminal connections kit Ø 5 mm, (upstream/downstream) | | 17400 |
| 11 | Insulated distribution terminal | 4 parts 3 parts | 19091 19096 |



Mounting accessories

See module CA907012

| | | | |
|----|---|------------|----------|
| 12 | Sealable terminal shield | See module | CA907012 |
| 13 | Inter-pole barrier | | 27001 |
| 14 | Rotary handle | | |
| | Switching sub-assembly | | 27046 |
| | Disconnectable handle | | 27047 |
| | Fixed handle | | 27048 |
| 15 | Screw shield | See module | 26981 |
| 16 | Padlocking accessory (to be locked in the "open" position) | | 26970 |
| 17 | Spacer | | A9N27062 |
| 18 | Plug-in base | | 26996 |
| 19 | Marker strip | See module | CA907012 |



(1) A complete rotary handle consists of a circuit-breaker operating sub-assembly, cat. no. 27046, a handle cat. no. 27047 or a handle cat. no. 27048.

Electrical auxiliaries

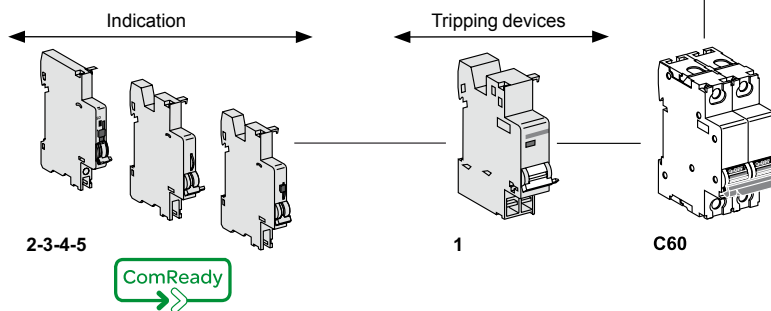
See module CA907008

Indication

| | | | |
|---|---|--|----------|
| 2 | SD fault indicating contact | | A9N26927 |
| 3 | OF+SD24 auxiliary contact | | A9N26899 |
| 4 | OF open/close auxiliary contact | | A9N26924 |
| 5 | OF+SD/OF auxiliary contact (OF+SD or OF+OF combination switch) | | A9N26929 |

Tripping

| | | | |
|---|---|------------|----------|
| 1 | MN, MNx, MN [⊗] undervoltage release, MSU overvoltage release or MX, MX + OF shunt release | See module | CA907008 |
|---|---|------------|----------|



Tripping devices must be installed first.
If two tripping devices are used: the MN must be installed first
Indication auxiliaries: respect specified position for SD functions.

Assembly rule

The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries (MN, MX...) should be mounted first **1** as close as possible to the main device.

Then at the left, the indicating auxiliaries (OF, SD) should be mounted **2** then **3** complying with the following association table.

| Indicating auxiliaries 3 | | Indicating auxiliaries + 2 | | Indicating auxiliaries + 1 | | Device |
|---------------------------------|--------------------------|--|-----|-----------------------------------|--|--------|
| 1 (OF+SD/OF or OF+SD24) | 1 OF+SD/OF | 1 (MN, MNx, MN [⊗] or MX, MX+OF or MSU) | C60 | | | |
| 1 OF | 1 (OF+SD/OF or SD or OF) | 2 (MN, MNx, MN [⊗] or MX, MX+OF or MSU) | | | | |
| - | 1 OF+SD24 | 2 (MN, MNx, MN [⊗] or MX, MX+OF or MSU) | | | | |
| - | - | 3 MSU | | | | |

Connection accessories

See module CA907012

| | | | |
|----|---|------------|--------|
| 7 | Insulated connector | See module | LIN001 |
| 8 | Comb busbar | See module | LIN001 |
| 9 | 50 mm ² Al terminal | | 27060 |
| 10 | Ring tongue terminal screw connection | | 27053 |
| 11 | Ring tongue terminal connections kit Ø 5 mm, (upstream/downstream) | | 17400 |
| 12 | Insulated distribution terminal | 4 parts | 19091 |
| | | 3 parts | 19096 |

Mounting accessories

See module CA907012

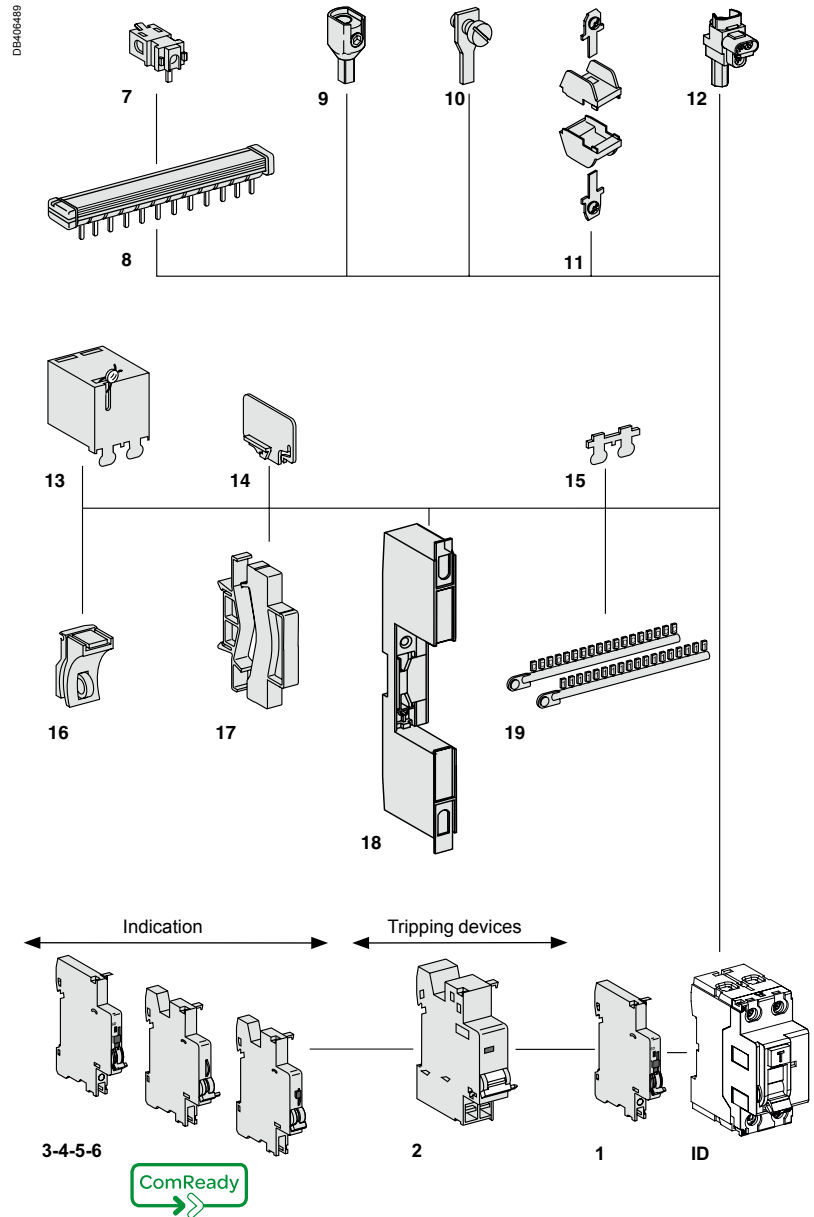
| | | | |
|----|---|------------|----------|
| 13 | Sealable terminal shield | See module | CA907012 |
| 14 | Inter-pole barrier | | 27001 |
| 15 | Screw shield | | 26981 |
| 16 | Padlocking accessory (to be locked in the "open" position) | | 26970 |
| 17 | Spacer | | A9N27062 |
| 18 | Plug-in base | | 26996 |
| 19 | Marker strip | See module | CA907012 |

Electrical auxiliaries

See module CA907008

| Indication | | |
|------------|---|----------|
| 1 | OF.S auxiliary contact | A9N26923 |
| 3 | SD fault indicating contact | A9N26927 |
| 4 | OF+SD24 auxiliary contact | A9N26899 |
| 5 | OF open/close auxiliary contact | A9N26924 |
| 6 | OF+SD/OF auxiliary contact (OF+SD or OF+OF combination switch) | A9N26929 |

| Tripping | | |
|----------|---|---------------------|
| 2 | MN, MNx, MN [⊗] undervoltage release, MSU overvoltage release or MX, MX + OF shunt release | See module CA907008 |



Tripping devices must be installed first.
If two tripping devices are used: the MN must be installed first
Indication auxiliaries: respect specified position for SD functions.

Assembly rule

The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries MN, MX...) should be mounted first **1** as close as possible to the main device.

Then at the left, the indicating auxiliaries (OF, SD) should be mounted **2** then **3** complying with the following association table.

| Indicating auxiliaries 3 | | Indicating auxiliaries + 2 | | Indicating auxiliaries + 1 | | Device |
|---------------------------------|--|-----------------------------------|--|--|--|--------|
| - | | 1 (OF+SD/OF or OF or OF+SD24) | | 2 (MN, MNx, MN [⊗] or MX, MX+OF or MSU) | | |
| 1 OF | | 1 OF | | 1 (MN, MNx, MN [⊗] or MX, MX+OF or MSU) | | |

Connection accessories

See module CA907012

| | | | |
|---|---------------------------------------|------------|--------|
| 6 | Screw-on connection for ring terminal | 8 parts | 27053 |
| 7 | Comb busbar | See module | LIN001 |

Mounting accessories

See module CA907012

| | | |
|----|--|---------------------|
| 8 | Padlocking device | 26970 |
| 9 | Clip-on terminal markers | See module CA907012 |
| 10 | 9 mm spacer | A9N27062 |
| 11 | Rotary handle for DPN, DPN Vigi 3P, 4P | |
| | Removable extended handle | 27047 |
| | Fixed handle | 27048 |
| | Operating sub-assembly ⁽¹⁾ | 27046 |

⁽¹⁾ A complete rotary handle consists of a circuit-breaker operating sub-assembly, cat. no. 27046, a handle cat. no. 27047 or a handle cat. no. 27048.

Electrical auxiliaries

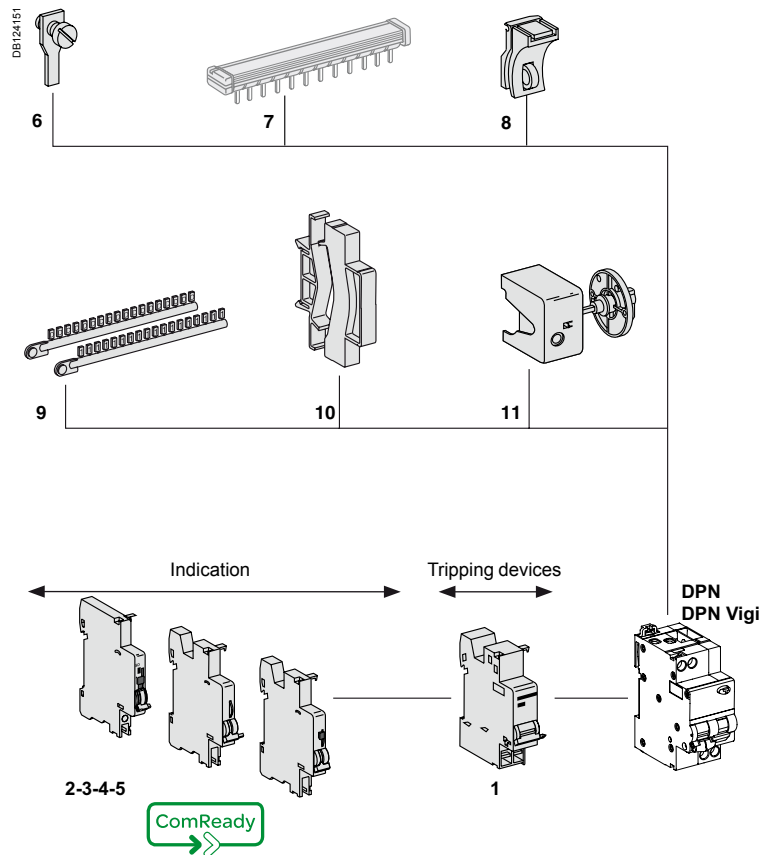
See module CA907008

Indication

| | | |
|---|--|----------|
| 2 | SD fault indicating contact | A9N26927 |
| 3 | OF+SD24 auxiliary contact | A9N26899 |
| 4 | OF open/close auxiliary contact | A9N26924 |
| 5 | OF+SD/OF auxiliary contact (OF+SD or OF+OF combination switch) | A9N26929 |

Tripping

| | | |
|---|--|---------------------|
| 1 | MN, MNx, MN \square undervoltage release, MSU overvoltage release or MX, MX + OF shunt release | See module CA907008 |
|---|--|---------------------|



! Tripping devices must be installed first.
If two tripping devices are used: the MN must be installed first
Indication auxiliaries: respect specified position for SD functions.

Assembly rule

The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries MN, MX, MSU...) should be mounted first **1** as close as possible to the main device.

Then at the left, the indicating auxiliaries (OF, SD) should be mounted **2** then **3** complying with the following association table.

| Indicating auxiliaries 3 | | Indicating auxiliaries + 2 | | Indicating auxiliaries + 1 | | Device |
|---------------------------------|--|-----------------------------------|--|---|--|--------|
| 1 (OF+SD/OF or OF+SD24) | | 1 OF+SD/OF | | 1 (MN, MNx, MN \square or MX, MX+OF or MSU) | | |
| 1 OF | | 1 (OF+SD/OF or SD or OF) | | 2 (MN, MNx, MN \square or MX, MX+OF or MSU) | | |
| - | | 1 OF+SD24 | | 2 (MN, MNx, MN \square or MX, MX+OF or MSU) | | |
| - | | - | | 3 MSU | | |

Connection accessories

See module CA907012

| | | |
|----|---|--------------------------------|
| 7 | Insulated connector | See module LIN001 |
| 8 | Comb busbar | See module LIN001 |
| 9 | 50 mm ² Al terminal | 27060 |
| 10 | Ring tongue terminal screw connection | 27053 |
| 11 | Ring tongue terminal connections kit Ø 5 mm, (upstream/downstream) | 17400 |
| 12 | Insulated distribution terminal | 4 parts 19091 3 parts 19096 |

Mounting accessories

See module CA907012

| | | |
|----|---|---------------------|
| 13 | Sealable terminal shield | See module CA907012 |
| 14 | Inter-pole barrier | 27001 |
| 15 | Rotary handle | |
| | Switching sub-assembly | 27046 |
| | Disconnectable handle | 27047 |
| | Fixed handle | 27048 |
| 16 | Screw shield | See module CA907012 |
| 17 | Padlocking accessory (to be locked in the "open" position) | 26970 |
| 18 | Spacer | A9N27062 |
| 19 | Plug-in base | 26996 |
| 20 | Marker strip | See module CA907012 |

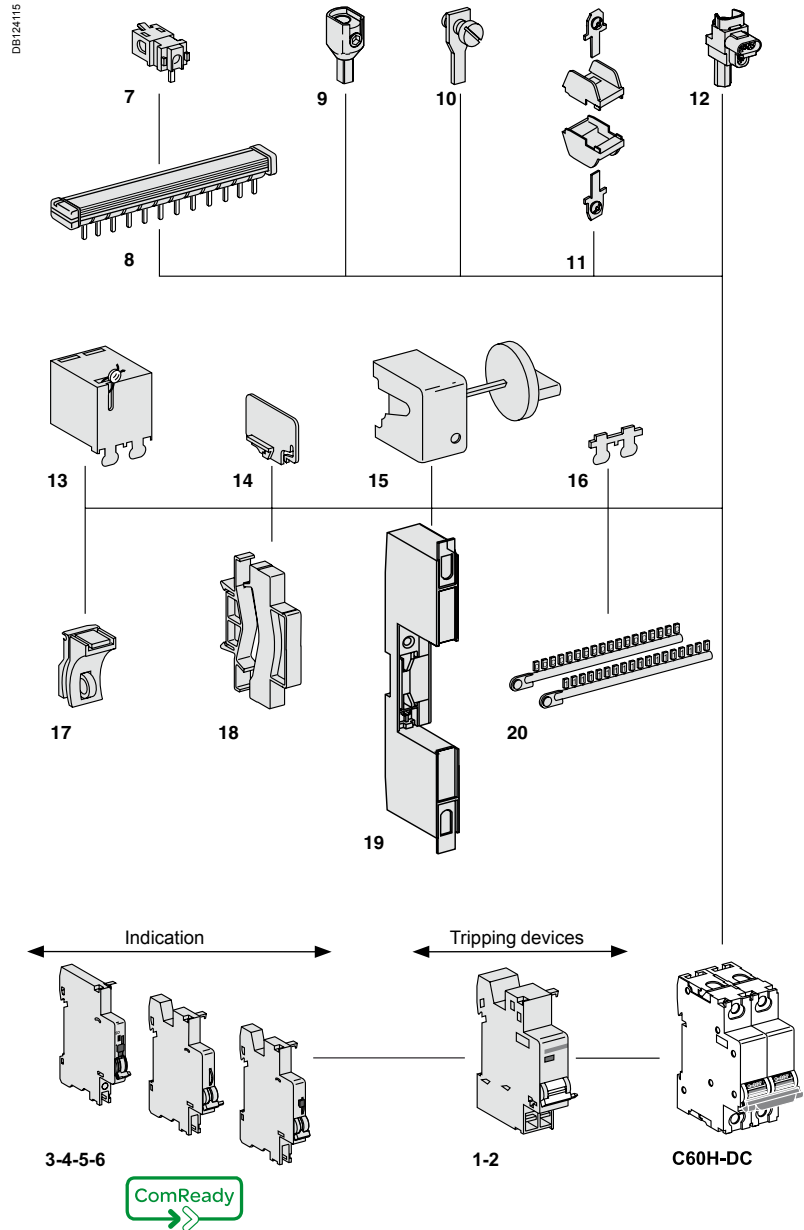
(1) A complete rotary handle consists of a circuit-breaker operating sub-assembly, cat. no. 27046, a handle cat. no. 27047 or a handle cat. no. 27048.

Electrical auxiliaries

See module CA907008

| Indication | | |
|------------|---|----------|
| 3 | SD fault indicating switch | A9N26927 |
| 4 | OF+SD24 auxiliary contact | A9N26899 |
| 5 | OF open/closed contact | A9N26924 |
| 6 | OF+SD/OF auxiliary contact (OF+SD or OF+OF combination switch) | A9N26929 |

| Tripping | | |
|----------|---|---------------------|
| 1 | MN, MNx, MN \square undervoltage release | See module CA907008 |
| 2 | MX, MX + OF shunt release | See module CA907008 |



! Tripping devices must be installed first.
If two tripping devices are used: the MN must be installed first
Indication auxiliaries: respect specified position for SD functions.

Assembly rule

The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries MN, MX...) should be mounted first **1** as close as possible to the main device.

Then at the left, the indicating auxiliaries (OF, SD) should be mounted **2** then **3** complying with the following association table.

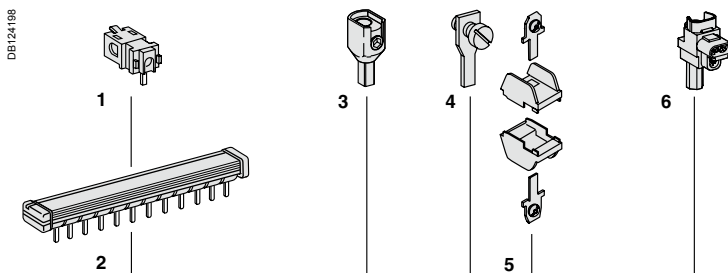
| Indicating auxiliaries 3 | | Indicating auxiliaries + 2 | | Indicating auxiliaries + 1 | | Device |
|---------------------------------|--|-----------------------------------|--|--|--|--------|
| 1 (OF+SD/OF or OF+SD24) | | 1 OF+SD/OF | | 1 (MN, MNx, MN \square or MX, MX+OF) | | |
| 1 OF | | 1 (OF+SD/OF or SD or OF) | | 2 (MN, MNx, MN \square or MX, MX+OF) | | |
| - | | 1 OF+SD24 | | 2 (MN, MNx, MN \square or MX, MX+OF) | | |

Connection accessories

See module CA907012

| | | |
|---|---|--------------------------------|
| 1 | Insulated connector | See module LIN001 |
| 2 | Comb busbar | See module LIN001 |
| 3 | 50 mm ² Al terminal | 27060 |
| 4 | Ring tongue terminal screw connection | 27053 |
| 5 | Ring tongue terminal connections kit Ø 5 mm, (upstream/downstream) | 17400 |
| 6 | Insulated distribution terminal | 4 parts 19091 3 parts 19096 |

iSW 40...125 A

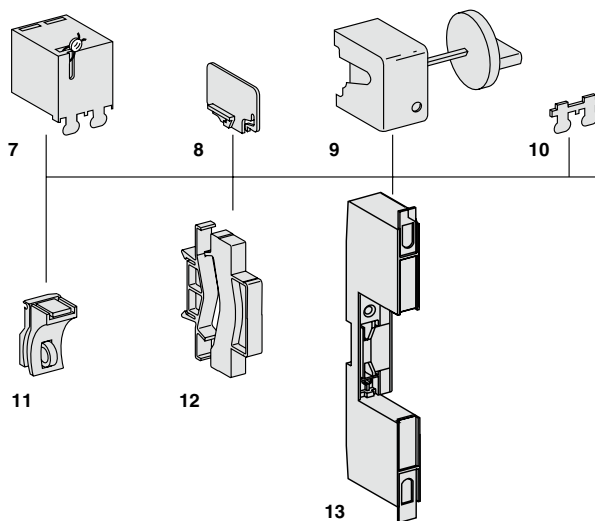


Mounting accessories

See module CA907012

| | | |
|----|---|---------------------|
| 7 | Sealable terminal shield | See module CA907012 |
| 8 | Inter-pole barrier | 27001 |
| 9 | Rotary handle | |
| | Switching sub-assembly | 27046 |
| | Disconnectable handle | 27047 |
| | Fixed handle | 27048 |
| 10 | Screw shield | See module CA907012 |
| 11 | Padlocking accessory (to be locked in the "open" position) | 26970 |
| 12 | Spacer | A9N27062 |
| 13 | Plug-in base | 26996 |

(1) A complete rotary handle consists of a circuit-breaker operating sub-assembly, cat. no. 27046, a handle cat. no. 27047 or a handle cat. no. 27048.

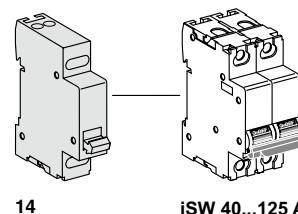


Electrical auxiliary

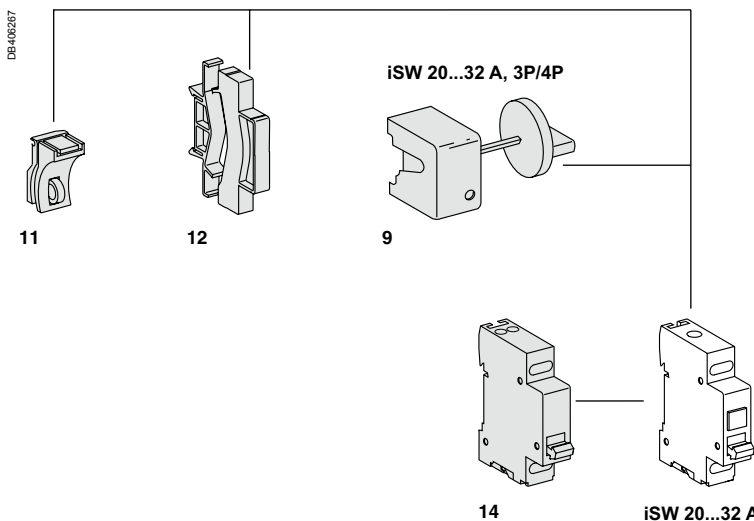
See module iSW CA904005

Indication

| | | |
|----|----------------------------|----------|
| 14 | OF iSW open/closed contact | A9A15096 |
|----|----------------------------|----------|



iSW 20...32 A



Accessories and Auxiliaries for SW60-DC, C60NA-DC, C60PV-DC devices

Connection accessories

See module CA907012

| | | |
|---|---------------------------------------|-------|
| 7 | 50 mm ² Al terminal | 27060 |
| 8 | Ring tongue terminal screw connection | 27053 |
| 9 | Insulated distribution terminal | 19091 |
| | 3 parts | 19096 |

Mounting accessories

See module CA907012

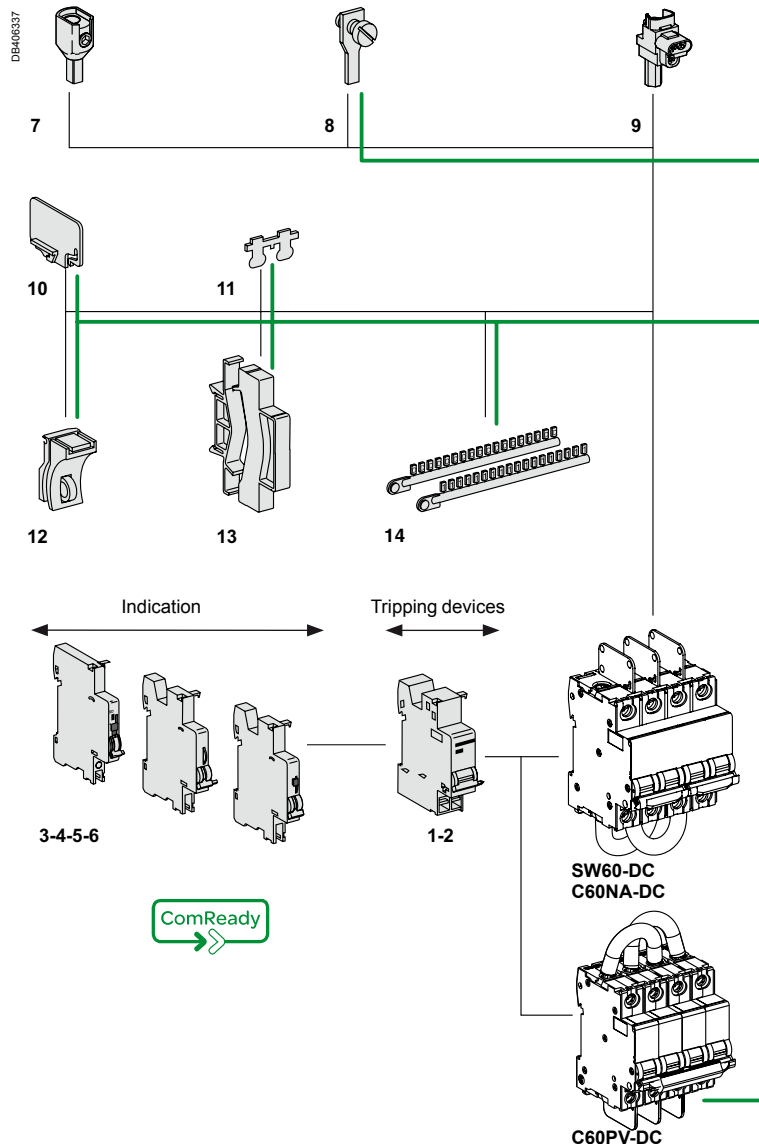
| | | |
|----|---|---------------------|
| 10 | Inter-pole barrier | 27001 |
| 11 | Screw shield | 26981 |
| 12 | Padlocking accessory (to be locked in the "open" position) | 26970 |
| 13 | Spacer | A9N27062 |
| 14 | Marker strip | See module CA907012 |

Electrical auxiliaries

See module CA907008

| Indication | | |
|------------|---|----------|
| 3 | SD fault indicating switch | A9N26927 |
| 4 | OF+SD24 auxiliary contact | A9N26899 |
| 5 | OF open/closed contact | A9N26924 |
| 6 | OF+SD/OF auxiliary contact (OF+SD or OF+OF combination switch) | A9N26929 |

| Tripping | | |
|----------|---|---------------------|
| 1 | MN, MNx, MN \square undervoltage release | See module CA907008 |
| 2 | MX, MX + OF shunt release | See module CA907008 |



Tripping devices must be installed first.
If two tripping devices are used: the MN must be installed first
Indication auxiliaries: respect specified position for SD functions.

Assembly rule

The mounting order and the number for the various auxiliaries must be complied with.

The tripping auxiliaries MN, MX...) should be mounted first **1** as close as possible to the main device.

Then at the left, the indicating auxiliaries (OF, SD) should be mounted **2** then **3** complying with the following association table.

| Indicating auxiliaries 3 | | Indicating auxiliaries + 2 | | Indicating auxiliaries + 1 | | Device |
|---------------------------------|--|-----------------------------------|--|--|--|--------|
| 1 (OF+SD/OF or OF+SD24) | | 1 OF+SD/OF | | 1 (MN, MNx, MN \square or MX, MX+OF) | | |
| 1 OF | | 1 (OF+SD/OF or SD or OF) | | 2 (MN, MNx, MN \square or MX, MX+OF) | | |
| - | | 1 OF+SD24 | | 2 (MN, MNx, MN \square or MX, MX+OF) | | |

Connection

| | | | |
|----|--------------------------------|----------------------------|---------------|
| 6 | Comb busbar | see module | LIN001 |
| 7 | Splitter blocks | Linery DX see module 125 A | LIN003 |
| 8 | 70 mm ² Al terminal | | 19095 |
| 9 | Multi-cable terminal | 4 parts | 19091 |
| | | 3 parts | 19096 |
| 10 | Screw-on connection for ring | 125 A (pack of 4) | 19093 |
| 11 | Small ring terminal | (pack of 4) | 19094 |

Mounting accessories

| | | | |
|----|---|---|--------------|
| 12 | Sealable terminal shield (upstream/downstream) | 1P | 19080 |
| | | 2P | 19081 |
| | | 3P | 19082 |
| | | 4P | 19083 |
| 13 | Residual current device terminal shield (upstream of circuit breaker / downstream of Vigi device) | 63 A 2P | 19074 |
| | | 3P | 19075 |
| | | 3P adjustable | 19077 |
| | | 4P | 19076 |
| | | 4P adjustable | 19078 |
| 14 | Circuit breaker screw shield | 125 A 3P | 19077 |
| | | 4P | 19078 |
| | | 1P (pack of 10) | 19084 |
| | | 2P | 19085 |
| 15 | Rotary handle | 3P | 19086 |
| | | 4P | 19087 |
| | | Extended standard Black | 19088 |
| | | Extended safety Red handle, yellow | 19089 |
| 16 | Padlocking device | Direct standard Black | 19092 |
| | | Direct safety Red handle, yellow background | 19097 |
| 17 | White toggle | (pack of 10) | 19099 |

Electrical auxiliaries

Indication

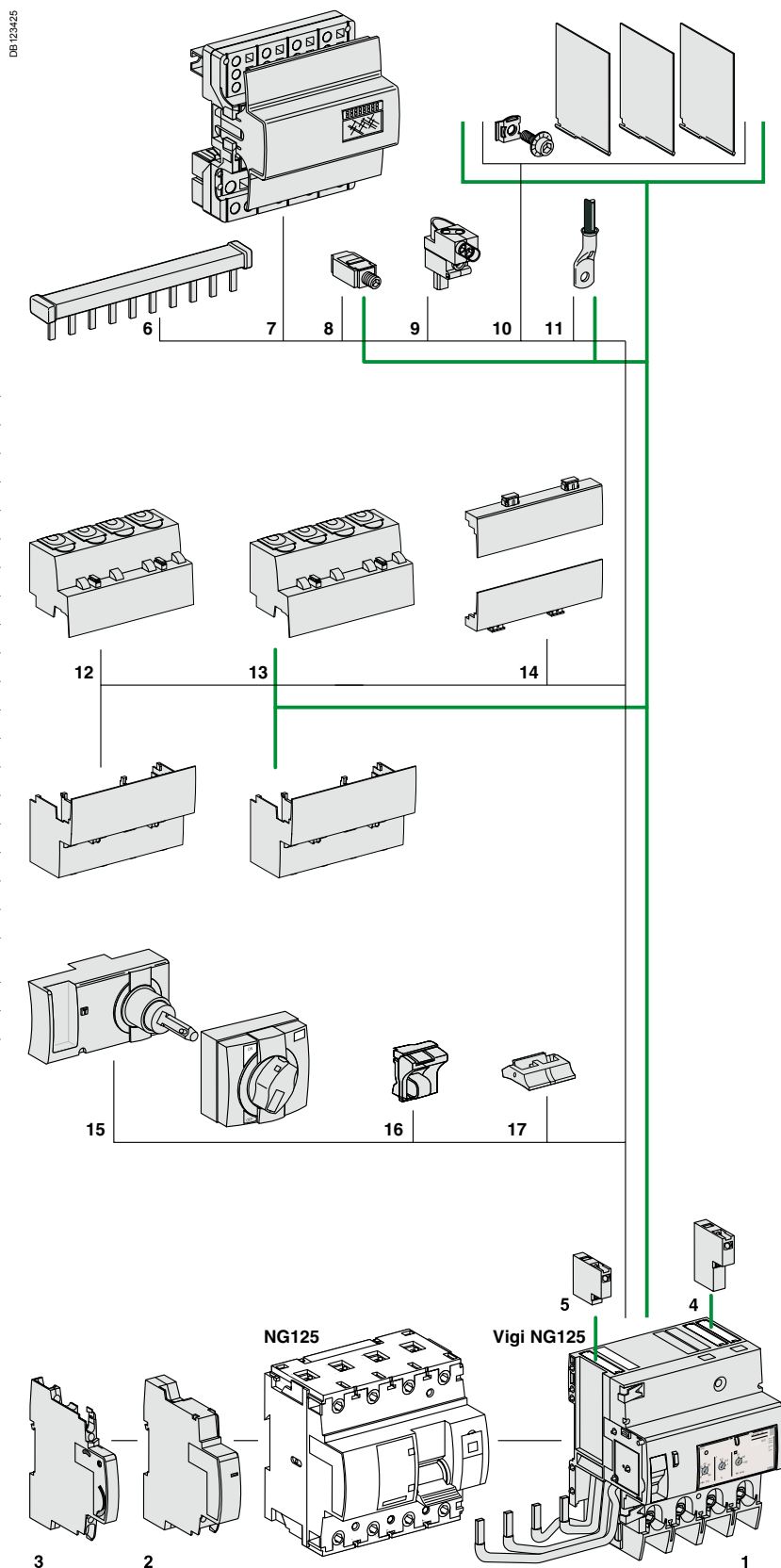
| | | |
|---|--|--------------|
| 3 | Fault indicating auxiliary contact OF+SD | 19071 |
| | Open/closed auxiliary contact OF+OF | 19072 |




Tripping devices


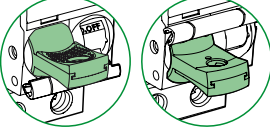

| | | | |
|---|--|------------|-----------------|
| 2 | Undervoltage release MN or undervoltage release with external power supply MNx | see module | CM907005 |
| | Shunt release MX+OF | see module | CM907005 |







Vigi NG125

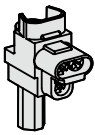





| | | | |
|---|--|------------|-----------------|
| 1 | Vigi NG125 add-on residual current device ⁵ | see module | CM902008 |
| 4 | MXV | see module | CM907005 |
| 5 | SDV | see module | CM907005 |

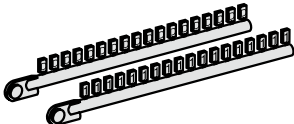


| Mounting | | | | | | | | | |
|-------------------------------------|--|------------|-----------|--|---|---|--|--|--|
| Accessories | Rotary handle | | | Plug-in base | | | | | |
| PB104509-35 |  | | | PB104509-35 |  | | | | |
| | PB104509-10 | | | |  | | | | |
| Function | | | | | | | | | |
| | Front or side-mounted control <ul style="list-style-type: none"> ■ Degree of protection: IP55 rotary handle ■ Installation: <ul style="list-style-type: none"> □ the control mechanism is mounted on the device □ the rotary handle is fixed to the front or side of the enclosure ■ Front-mounted (on door or faceplate) <ul style="list-style-type: none"> ■ Prevents the door from opening when the device is in the ON position (can be deactivated) ■ Can be padlocked when the device is in the "open" position (can be padlocked with the device in the "closed" position subject to adaptation) ■ Can be locked by padlock of (dia. 5 to 8 mm), not supplied with the device ■ Pushbutton: iID test available in the front face of the rotary handle | | | <ul style="list-style-type: none"> ■ The Laser Square tool brings the accuracy to align the circuit breaker and the rotary handle | | Allows a breaker to be removed or replaced quickly, without handling the connections <ul style="list-style-type: none"> ■ Degree of protection: IP20 ■ Consists of: <ul style="list-style-type: none"> □ a base to be fastened on a rail (or panel) □ 2 "blades" to be fastened in the device's terminals ■ Connection: tunnel terminals for cable up to 35 mm² rigid, 25 mm² flexible, ■ Installation: <ul style="list-style-type: none"> □ in universal enclosure □ on horizontal rail ■ Height: 178 mm ■ Not compatible with Vigi iC60 and auxiliaries ■ Can be locked by padlock of (dia. 6 mm), not supplied with the device | | | |
| Catalogue numbers | A9A27005 | A9A27006 | A9A27008 | GVAPL01 | A9A27003 (1 per pole) | | | | |
| | Operating sub-assembly | | | | | | | | |
| | + | + | | | | | | | |
| | Black handle | Red handle | No handle | | | | | | |
| Set of | 1 | 1 | 1 | 1 | 1 | | | | |
| Suitability | | | | | | | | | |
| iC60 | ■ 2P, 3P, 4P | | | | ■ | | | | |
| iSW | ■ 2P, 3P, 4P | | | | ■ | | | | |
| iC60 + Vigi iC60 | ■ 2P, 3P, 4P | | | | - | | | | |
| iID | ■ | | | | ■ ≤ 63 A | | | | |
| iDPN Vigi | - | | | | - | | | | |
| Reflex iC60 or RCA+iC60 or ARA+iC60 | - | | | | - | | | | |
| ARA+iID | - | | | | - | | | | |
| iSW-NA | ■ | | | | ■ | | | | |

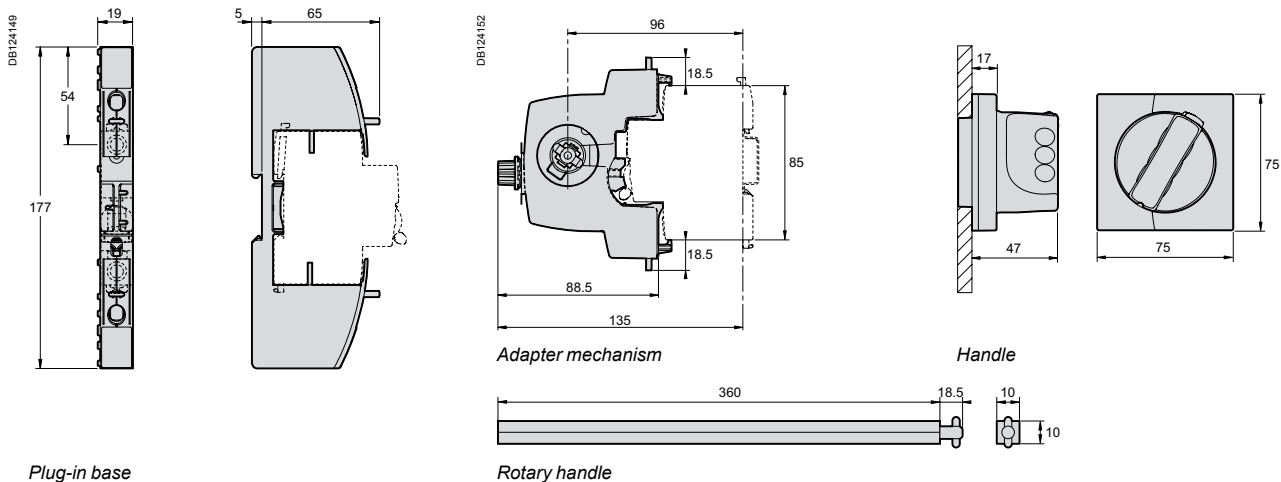
| Padlocking device | | Wall mounting | |
|--|--|---|---|
| <p>PB104492-15</p>  <p>DB123999</p>  | <p>P135169-40</p>  | <p>Used to padlock breaker in open or closed position</p> <ul style="list-style-type: none"> ■ Padlock diameter: 3 to 6 mm ■ Sealable (max. diameter: 1.2 mm) ■ Locking in ON position does not prevent tripping of the breaker in the event of faults ■ Suitable for IEC/EN 60947-2 compliant disconnection | <p>Can be used for wall mounted installation of any 18 mm DIN rail devices</p> <ul style="list-style-type: none"> ■ Degree of protection: IP40 ■ Sealable: (max. diameter: 1.5 mm) |
| A9A26970 | | 15359 | |
| 10 | | 1 | |
| <ul style="list-style-type: none"> ■ ■ ■ ■ ■ | | <ul style="list-style-type: none"> ■ All products up to 18 mm ■ Except iCT | |

| Security | | | | | | |
|-------------------------------------|---|---|---|---|---|---|
| Accessories | Screw shield | | Terminal shield | | Inter-pole barrier | Spacer |
| |  |  |  |  |  |  |
| Function | Prevents any contact with the connecting screws <ul style="list-style-type: none"> Upgrades degree of protection to IP20D Sealable, max. diameter 1.2 mm | | Prevents any contact with the terminals <ul style="list-style-type: none"> Upgrades degree of protection to IP20D Sealable, max. diameter 1.2 mm Set of two, for upstream and downstream terminals For 3 poles: A9A26975 + A9A26976 For 4 poles: 2 X A9A26976 | | Enhances insulation between connections: cables, terminals, lugs, etc | <ul style="list-style-type: none"> Used to: <ul style="list-style-type: none"> complete rows separate devices. Width: 1 x 9 mm module Allows cable routing from one row to another, (above and below), up to 6 mm² |
| Catalogue numbers | A9A26982 | A9A26981 | A9A26975 | A9A26976 | A9A27001 | A9A27062 |
| Set of | 12 x 1 pole | 20 x 4 poles (splittable) | 2 x 1 pole | 2 x 2 poles | 10 | 5 |
| Suitability | | | | | | |
| iC60 | – | ■ | ■ | ■ | ■ | ■ |
| iSW | – | – | ■ | ■ | ■ | ■ |
| Vigi iC60 | ■ | – | – | – | – | – |
| iID | – | ■ | – | ■ | ■ | ■ |
| iDPN Vigi | – | – | – | – | – | ■ |
| Reflex iC60 or RCA+iC60 or ARA+iC60 | – | ■ | ■ | ■ | ■ | ■ |
| ARA+iID | – | ■ | – | ■ | ■ | ■ |
| iSW-NA | – | ■ | – | ■ | ■ | ■ |

| | | Connection | | |
|---|---|---|---|----------|
| Accessories | Multi-cable terminal | 50 mm ² terminal Al | Screw-on connection for ring terminal | |
| |  |  |  | |
| Function | | | | |
| | For 3 copper cables: ■ Rigid up to 16 mm ² ■ Flexible up to 10 mm ² | For aluminium cables from 16 to 50 mm ² | For lug tipped cables, front or rear mounting | |
| |  |  |  | Ø 5 mm |
| Catalogue numbers | 19091 | 19096 | 27060 | 27053 |
| Set of | 4 | 3 | 1 | 8 |
| iC60 ≤ 25 A Reflex iC60 ≤ 25 A | – | – | – | ■ |
| iC60 > 25 A Reflex iC60 40 A, iSW | ■ | ■ | ■ | ■ |
| Vigi iC60 | – | – | – | – |
| iID | ■ | ■ | ■ | ■ |
| iDPN Vigi | – | – | – | ■ |
| iSW-NA | ■ | ■ | ■ | ■ |
| Tightening torque | 2 N.m | | 10 N.m | 2 N.m |
| Length stripping | 11 mm | | 13 mm | – |
| Tools to use | Dia. 5 mm or PZ2 | | Hc 1/5" or 5 mm | Dia. 5mm |

| | | Marking | | | | | |
|---|---|---|---|---|--|---|--|
| Accessories | Marker strip | | | | | | |
| |  | | | | | | |
| Used for connection identification | | | | | | | |
| Catalogue numbers | 0: AB1-R0 1: AB1-R1 2: AB1-R2 3: AB1-R3 4: AB1-R4 | 5: AB1-R5 6: AB1-R6 7: AB1-R7 8: AB1-R8 9: AB1-R9 | A: AB1-GA B: AB1-GB C: AB1-GC D: AB1-GD E: AB1-GE F: AB1-GF G: AB1-GG H: AB1-GH I: AB1-GI | J: AB1-GJ K: AB1-GK L: AB1-GL M: AB1-GM N: AB1-GN O: AB1-GO P: AB1-GP Q: AB1-GQ R: AB1-GR | S: AB1-GS T: AB1-GT U: AB1-GU V: AB1-GV W: AB1-GW X: AB1-GX Y: AB1-GY Z: AB1-GZ | + : AB1-R12 - : AB1-R13 blank: AB1-RV | |
| Set of | 250 | | | | | | |
| iC60, Reflex iC60, iSW | ■ 4 markers max. per pole | | | | | | |
| Vigi iC60 | ■ 4 markers max. per device | | | | | | |
| iID | ■ 4 markers max. per device | | | | | | |
| iDPN Vigi | ■ 4 markers max. per device | | | | | | |
| iSW-NA | ■ 4 markers max. per device | | | | | | |

Dimensions (mm)

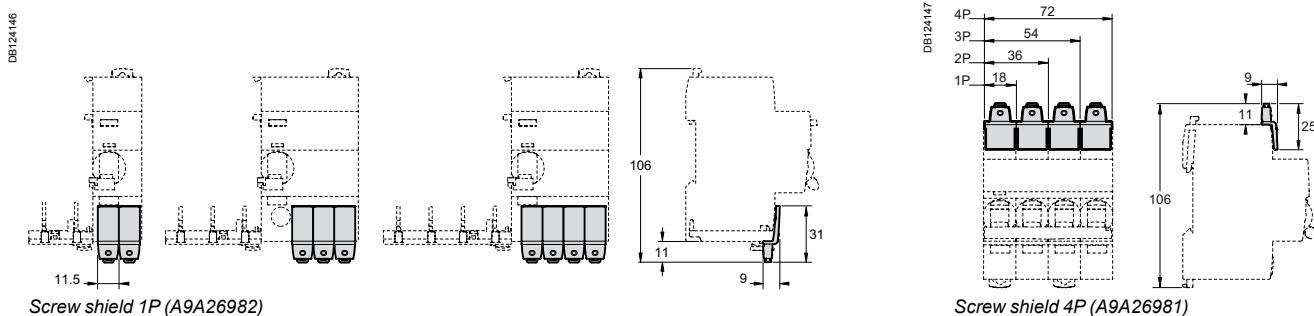


Plug-in base

Adapter mechanism

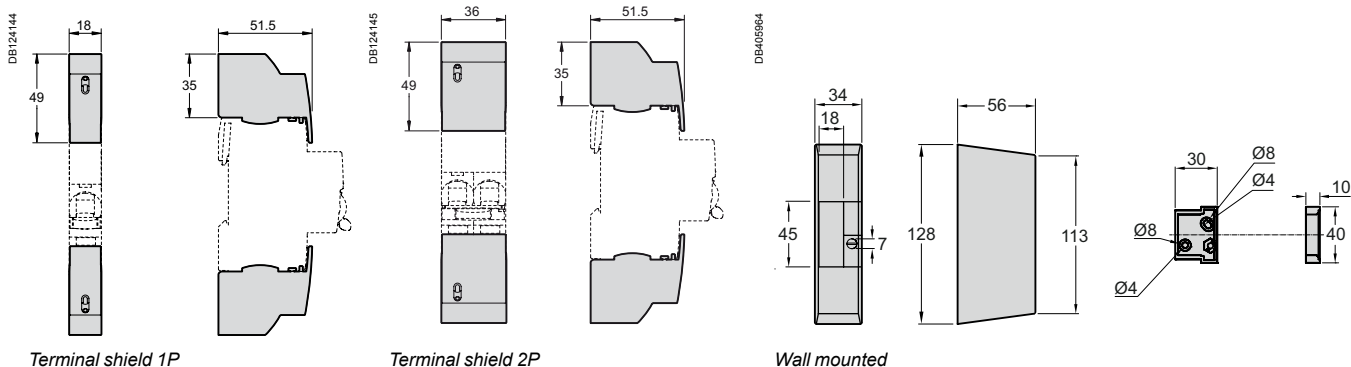
Handle

Rotary handle



Screw shield 1P (A9A26982)

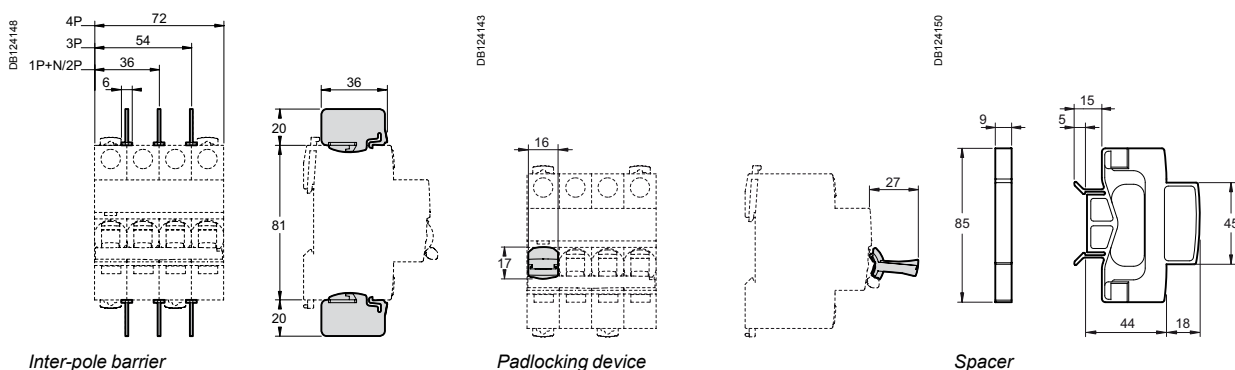
Screw shield 4P (A9A26981)



Terminal shield 1P

Terminal shield 2P

Wall mounted



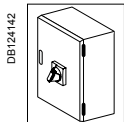
Inter-pole barrier

Padlocking device

Spacer

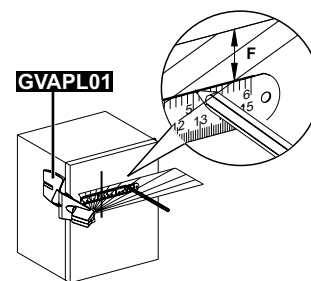
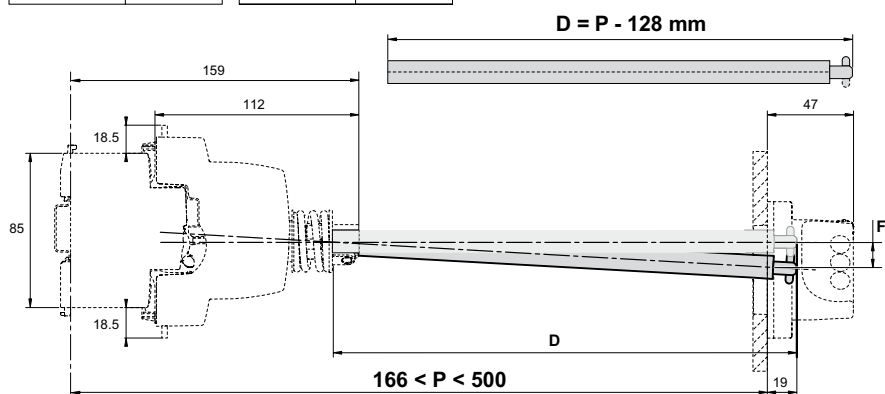
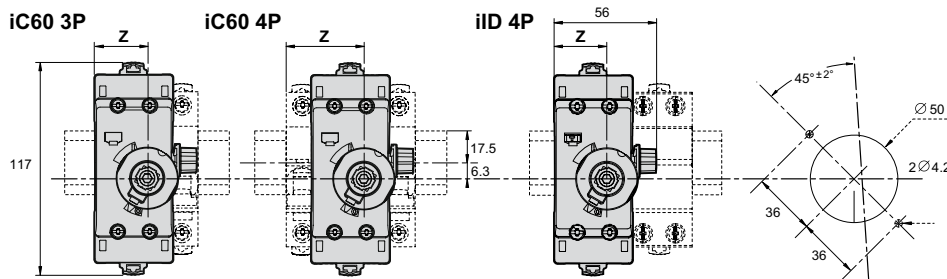
Rotary handle installation

Dimensions (mm)



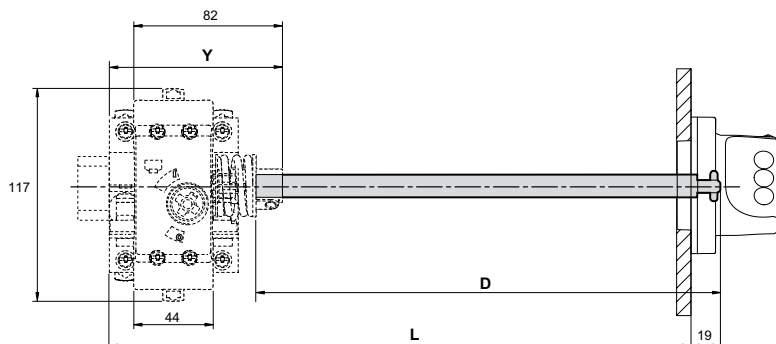
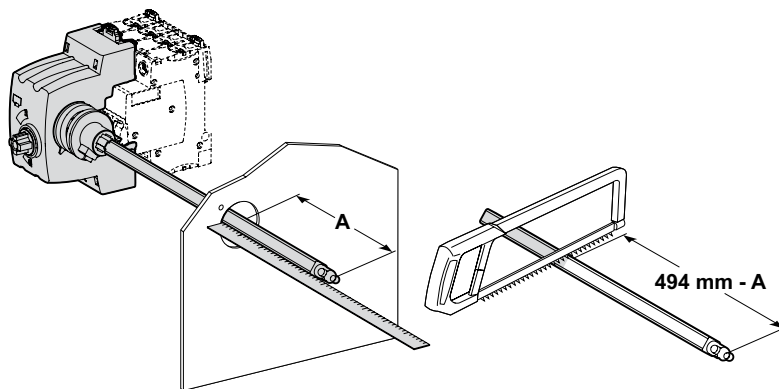
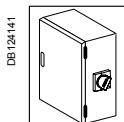
| iC60 | Z (mm) |
|-----------|--------|
| 2P | 25.3 |
| 2P + Vigi | 25.3 |
| 3P | 25.3 |
| 3P + Vigi | 43 |
| 4P | 43 |
| 4P + Vigi | 43 |

| iID | Z (mm) |
|-----|--------|
| 2P | 25.3 |
| 4P | 25.3 |



| P (mm) | F (mm) |
|--------|--------|
| 300 | 5 |
| 500 | 11 |

Rotary handle: front mounted control

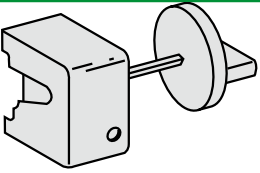
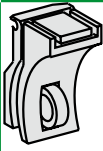


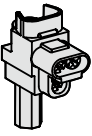
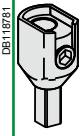
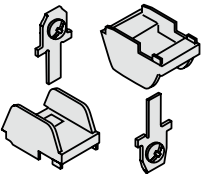


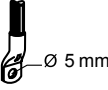
| iC60 | X (mm) | Y (mm) |
|-----------|--------|--------|
| 2P | 44.5 | 76.8 |
| 2P + Vigi | 44.5 | 76.8 |
| 3P | 44.5 | 76.8 |
| 3P + Vigi | 62 | 94.5 |
| 4P | 62 | 94.5 |
| 4P + Vigi | 62 | 94.5 |

| iID/iSW-NA | X (mm) | Y (mm) |
|------------|--------|--------|
| 2P | 44.5 | 76.8 |
| 4P | 44.5 | 76.8 |

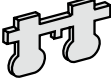
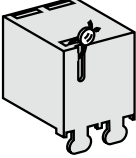
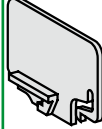
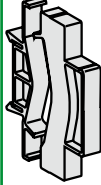


Rotary handle: side mounted control

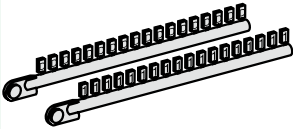
| Installation | | | | | |
|-----------------------|---|--------------|--------------|---|--|
| Accessories | Rotary handle | | | Padlocking device | |
| |  | | |  | |
| Function | | | | | |
| | Front or side control of circuit breakers <ul style="list-style-type: none"> ■ Degree of protection: IP40, IK10 ■ A complete rotary handle consists of: <ul style="list-style-type: none"> □ a circuit-breaker operating sub-assembly, cat. no. 27046, □ a handle cat. no. 27047 or a handle cat. no. 27048 ■ Installation: <ul style="list-style-type: none"> □ the circuit-breaker operating sub-assembly cat. no. 27046 is fixed to the circuit breaker □ the removable handle cat. no. 27047 is mounted on the removable front panel or on the enclosure door □ the fixed handle cat. no. 27048 is fixed to the front or side panel of the enclosure | | | Used to padlock a circuit breaker in the "open" or "closed" position <ul style="list-style-type: none"> ■ Diameter of the padlock: 8 mm max. ■ Locking in the ON position does not prevent the circuit breaker from tripping in the event of a fault ■ Isolation: in conformity with IEC/EN 60947-2 | |
| Cat. numbers | 27046 | 27047 | 27048 | 26970 | |
| Set of | 1 | 1 | 1 | 2 | |
| Number of pôle | - | - | - | - | |
| DT60 | ■ | ■ | ■ | ■ | |




| Connection | | | | |
|--------------------------|---|--------------|---|---|
| Accessories | Multi-cable terminal | | 50 mm ² Al terminal | Connection kit for ring terminals |
| |  | |  |  |
| Function | | | | |
| | For 3 copper cables: <ul style="list-style-type: none"> ■ Rigid up to 16 mm² ■ Flexible up to 10 mm² | | For 16 to 50 mm² aluminium cables | For terminal up to 63 A, front or rear access (screw Ø 5 mm) <ul style="list-style-type: none"> ■ It incorporates a "conductive" part and an "insulating" part which ensures the phase-to-phase clearance |
| |  | |  |  |
| Cat. numbers | 19091 | 19096 | 27060 | 17400 |
| Set of | 4 | 3 | 1 | 2 |
| DT60 | ■ | ■ | ■ | ■ |
| Tightening torque | 2 N.m | | 10 N.m | 2 N.m |
| Stripping length | 11 mm | | 13 mm | - |
| Tools to be used | Diameter 5 mm or PZ2 | | Hc 1/5" or 5 mm | Diameter 5 mm |

Safety






| Screw shield | Terminal shield | Interpole barrier | Spacer |
|--|---|---|---|
|  <p>DB118776</p> |  <p>DB118777</p> |  <p>DB118728</p> |  <p>DB118779</p> |
| <p>Prevents all contact with the fixing screws</p> <ul style="list-style-type: none"> ■ The degree of protection becomes IP40 ■ Sealable ■ Dividable | <p>Prevents all contact with the terminals</p> <ul style="list-style-type: none"> ■ Degree of protection IP40 ■ Sealable, max. diameter 1.2 mm | <p>Improves the insulation between the connections: cables, terminals, lugs, etc.</p> | <ul style="list-style-type: none"> ■ Used to: <ul style="list-style-type: none"> <input type="checkbox"/> complete the rows <input type="checkbox"/> separate the devices ■ Width: 1 x 9 mm module ■ Allows cables to be routed from one row to another (above and below), up to 6 mm² |
| 26981 | 26978 | 27001 | A9N27062 |
| 2 | 2 | 10 | 1 |
| 4P | 4P | - | - |
| ■ | ■ | ■ | ■ |

Identification









| Accessories | Clip-on terminal marker strip | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|---|-----------|-----------|-----------|---------------|-----------|------------|-----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|--|-----------|-----------|-----------|-----------|-----------|--|--|--|-----------|-----------|-----------|--|--|--|-----------|-----------|-----------|--|--|--|-----------|-----------|-----------|--|--|--|-----------|-----------|--|--|
| |  <p>DB118785</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Function | For connection identification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cat. numbers | <table border="0"> <tr> <td>0: AB1-R0</td> <td>5: AB1-R5</td> <td>A: AB1-GA</td> <td>J: AB1-GJ</td> <td>S: AB1-GS</td> <td>+: AB1-R12</td> </tr> <tr> <td>1: AB1-R1</td> <td>6: AB1-R6</td> <td>B: AB1-GB</td> <td>K: AB1-GK</td> <td>T: AB1-GT</td> <td>-: AB1-R13</td> </tr> <tr> <td>2: AB1-R2</td> <td>7: AB1-R7</td> <td>C: AB1-GC</td> <td>L: AB1-GL</td> <td>U: AB1-GU</td> <td>Blank: AB1-RV</td> </tr> <tr> <td>3: AB1-R3</td> <td>8: AB1-R8</td> <td>D: AB1-GD</td> <td>M: AB1-GM</td> <td>V: AB1-GV</td> <td></td> </tr> <tr> <td>4: AB1-R4</td> <td>9: AB1-R9</td> <td>E: AB1-GE</td> <td>N: AB1-GN</td> <td>W: AB1-GW</td> <td></td> </tr> <tr> <td></td> <td></td> <td>F: AB1-GF</td> <td>O: AB1-GO</td> <td>X: AB1-GX</td> <td></td> </tr> <tr> <td></td> <td></td> <td>G: AB1-GG</td> <td>P: AB1-GP</td> <td>Y: AB1-GY</td> <td></td> </tr> <tr> <td></td> <td></td> <td>H: AB1-GH</td> <td>Q: AB1-GQ</td> <td>Z: AB1-GZ</td> <td></td> </tr> <tr> <td></td> <td></td> <td>I: AB1-GI</td> <td>R: AB1-GR</td> <td></td> <td></td> </tr> </table> | 0: AB1-R0 | 5: AB1-R5 | A: AB1-GA | J: AB1-GJ | S: AB1-GS | +: AB1-R12 | 1: AB1-R1 | 6: AB1-R6 | B: AB1-GB | K: AB1-GK | T: AB1-GT | -: AB1-R13 | 2: AB1-R2 | 7: AB1-R7 | C: AB1-GC | L: AB1-GL | U: AB1-GU | Blank: AB1-RV | 3: AB1-R3 | 8: AB1-R8 | D: AB1-GD | M: AB1-GM | V: AB1-GV | | 4: AB1-R4 | 9: AB1-R9 | E: AB1-GE | N: AB1-GN | W: AB1-GW | | | | F: AB1-GF | O: AB1-GO | X: AB1-GX | | | | G: AB1-GG | P: AB1-GP | Y: AB1-GY | | | | H: AB1-GH | Q: AB1-GQ | Z: AB1-GZ | | | | I: AB1-GI | R: AB1-GR | | |
| 0: AB1-R0 | 5: AB1-R5 | A: AB1-GA | J: AB1-GJ | S: AB1-GS | +: AB1-R12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1: AB1-R1 | 6: AB1-R6 | B: AB1-GB | K: AB1-GK | T: AB1-GT | -: AB1-R13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2: AB1-R2 | 7: AB1-R7 | C: AB1-GC | L: AB1-GL | U: AB1-GU | Blank: AB1-RV | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3: AB1-R3 | 8: AB1-R8 | D: AB1-GD | M: AB1-GM | V: AB1-GV | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4: AB1-R4 | 9: AB1-R9 | E: AB1-GE | N: AB1-GN | W: AB1-GW | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | F: AB1-GF | O: AB1-GO | X: AB1-GX | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | G: AB1-GG | P: AB1-GP | Y: AB1-GY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | H: AB1-GH | Q: AB1-GQ | Z: AB1-GZ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | I: AB1-GI | R: AB1-GR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Set of | 250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT60 | ■ 6 markers max. on front face | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |


| | | Installation | | | | | |
|--|---|--|--|---|------------------------------|---|--------------|
| Accessories | | Rotary handle | | Plug-in base | | Padlocking device | |
| | |  | |  | |  | |
| Function | | <p>Front or side control of 2, 3 and 4-pole circuit breakers</p> <ul style="list-style-type: none"> ■ Degree of protection: IP40 ■ A complete rotary handle consists of: <ul style="list-style-type: none"> □ a circuit-breaker operating sub-assembly, cat. no. 27046, □ a handle cat. no. 27047 or a handle cat. no. 27048 ■ Installation: <ul style="list-style-type: none"> □ the circuit-breaker operating sub-assembly cat. no. 27046 is fixed to the circuit breaker □ the removable handle cat. no. 27047 is mounted on the removable front panel or on the enclosure door □ the fixed handle cat. no. 27048 is fixed to the front or side panel of the enclosure | | <p>Allows a circuit breaker to be quickly removed or replaced, without touching the connections</p> <ul style="list-style-type: none"> ■ Degree of protection: IP20 ■ It consists of: <ul style="list-style-type: none"> □ a base to be fixed to a rail (or panel) □ 2 "blades" to be fixed in the device terminals ■ Connection: tunnel terminals for cables up to 50 mm² (rigid) or 35 mm² (flexible) ■ Installation: <ul style="list-style-type: none"> □ on backplate □ on a horizontal rail ■ Centreline between two rows: 200 mm ■ Only on the circuit breaker, without a Vigi device or auxiliary ■ Padlocking option (8 mm dia. padlock not supplied) | | <p>Used to padlock a circuit breaker in the "open" or "closed" position</p> <ul style="list-style-type: none"> ■ Diameter of the padlock: 8 mm max. ■ Locking in the ON position does not prevent the circuit breaker from tripping in the event of a fault ■ Isolation: in conformity with IEC/EN 60947-2. | |
| Cat. numbers | 27047 Removable extended handle | 27048 Fixed handle | 27046 Operating sub-assembly | 26996 (1 per pole) | 26997 (1 per pole) | 27145 | 26970 |
| Set of | 1 | 1 | 1 | 1 | 1 | 4 | 2 |
| Suitable for the following devices: | | | | | | | |
| C60 | ■ 2P, 3P, 4P | | | ■ | – | – | ■ |
| C120, C120NA-DC | ■ 2P, 3P, 4P | | | – | ■ ≤ 63 A | ■ | – |
| C120 + Vigi C120 | ■ 2P, 3P, 4P | | | – | – | ■ | – |
| DPN, DPN Vigi | ■ 3P, 4P | | | – | – | – | ■ |
| C60H-DC | ■ 2P | | | ■ | – | – | ■ |
| SW60-DC, C60NA-DC, C60PV-DC | – | | | – | – | – | ■ |
| ID | – | | | ■ ≤ 63 A | – | – | ■ |
| iSW | ■ iSW ≥ 4 modules of 9 mm | | | ■ iSW 40 to 63 A | – | – | ■ |

Accessories for C60, C120, DPN, DPN Vigi, C60H-DC, SW60-DC, C60NA-DC, C60PV-DC, ID, iSW devices (cont.)

| Safety | | | | | | | | |
|--|---|---|--|-------------------|---|---|----------|--|
| Accessories | Screw shield | | Terminal shield | | | Interpole barrier | Spacer | |
| |  |  |  | |  |  | | |
| | 056870_SE-33 | PE124114 | 056889_SE-38 | | DE123898 | PE104485-35 | | |
| Function | Prevents all contact with the fixing screws <ul style="list-style-type: none"> The degree of protection becomes IP40 Sealable, max. diameter 1.2 mm Dividable | | Prevents all contact with the terminals <ul style="list-style-type: none"> Degree of protection becomes IP40 Sealable, max. diameter 1.2 mm | | | Improves the insulation between the connections: cables, terminals, lugs, etc. | | <ul style="list-style-type: none"> Used to: <ul style="list-style-type: none"> complete the rows separate the devices Width: 1 x 9 mm module Allows that 2 cables are routed from one row to another (above and below), up to 6 mm² |
| | | | <ul style="list-style-type: none"> 1P 1P 2P 3P: 1 x 26975 + 1 x 26976 4P: 2 x 26976 | | | | | |
| Cat. numbers | 18527 | 26981 | 18526 | 26975 | 26976 | 27001 | A9N27062 | |
| Set of | 2 (4P dividable) | | 2 (for upstream/downstream terminal) | | | 10 | 1 | |
| Suitable for the following devices: | | | | | | | | |
| C60 | – | ■ | – | ■ | ■ | ■ | ■ | |
| C120, C120NA-DC | ■ | – | ■ | – | – | ■ | ■ | |
| Vigi C120 | – | – | – | – | – | – | ■ | |
| DPN, DPN Vigi | – | – | – | – | – | – | ■ | |
| C60H-DC | – | ■ | – | ■ | ■ | ■ | ■ | |
| SW60-DC, C60NA-DC, C60PV-DC | – | ■ | – | – | – | ■ | ■ | |
| ID | – | ■ | – | ■ | ■ | ■ | ■ | |
| iSW | – | ■ iSW 40 to 125 A | – | ■ iSW 40 to 125 A | ■ iSW 40 to 125 A | ■ iSW 40 to 125 A | ■ | |

Accessories for C60, C120, DPN, DPN Vigi, C60H-DC, SW60-DC, C60NA-DC, C60PV-DC, ID, iSW devices (cont.)

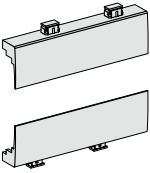
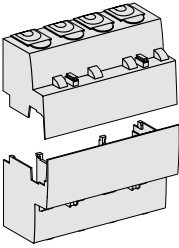
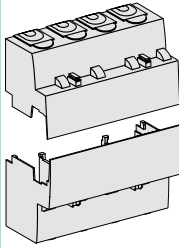
| | | Connection | | | | |
|-------------------------------------|---|---|---|--|---|---|
| Accessories | Multi-cable terminal | 50 mm ² Al terminal | Screw-on connection for ring terminal | Connection kit for ring terminals | Terminal for rear connector | |
| |  |  |  |  |  | |
| Function | | For 3 copper cables: ■ Rigid up to 16 mm ² ■ Flexible up to 10 mm ² | For 16 to 50 mm ² aluminium cables | For lug tipped cables, front or rear mounting | For terminal up to 63 A, front or rear access (screw Ø 5 mm) ■ It incorporates a "conductive" part and an "insulating" part which ensures the phase-to-phase clearance | For cable up to 50 mm ² or by terminal ■ Supplied with a 1P terminal shield |
| |  |  |  | | | |
| Cat. numbers | 19091 | 19096 | 27060 | 27053 | 17400 | 18528 |
| Set of | 4 | 3 | 1 | 8 | 2 | 2 |
| Suitable for the following devices: | | | | | | |
| C60 ≤ 25 A | – | – | – | ■ | ■ | – |
| C60 > 25 A | ■ | ■ | ■ | ■ | ■ | – |
| C120, C120NA-DC | ■ | ■ | ■ | ■ | – | ■ |
| Vigi C120 | ■ | ■ | ■ | – | – | – |
| DPN, DPN Vigi | – | – | – | ■ | – | – |
| C60H-DC, ID | ■ | ■ | ■ | ■ | ■ | – |
| iSW 40 to 125 A | ■ | ■ | ■ | ■ | – | – |
| SW60-DC, C60NA-DC | ■ | ■ | ■ | ■ | – | – |
| C60PV-DC | – | – | – | ■ | – | – |
| Tightening torque | 2 N.m | | 10 N.m | 2 N.m | – | – |
| Stripping length | 11 mm | | 13 mm | – | – | – |
| Tools to be used | Diameter 5 mm or PZ2 | | Hc 1/5" or 5 mm | Diameter 5 mm | Diameter 5 mm | 13 mm spanner |

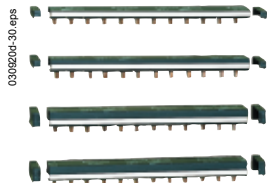
| | | Identification | |
|--------------------------------------|--|--|--|
| Accessories | Clip-on terminal marker strip | | |
| |  | | |
| Function | | For connection identification | |
| Cat. numbers | | 0: AB1-R0 1: AB1-R1 2: AB1-R2 3: AB1-R3 4: AB1-R4 5: AB1-R5 6: AB1-R6 7: AB1-R7 8: AB1-R8 9: AB1-R9 | A: AB1-GA B: AB1-GB C: AB1-GC D: AB1-GD E: AB1-GE F: AB1-GF G: AB1-GG H: AB1-GH I: AB1-GI J: AB1-GJ |
| | | K: AB1-GK L: AB1-GL M: AB1-GM N: AB1-GN O: AB1-GO P: AB1-GP Q: AB1-GQ R: AB1-GR S: AB1-GS T: AB1-GT | U: AB1-GU V: AB1-GV W: AB1-GW X: AB1-GX Y: AB1-GY Z: AB1-GZ +: AB1-R12 -: AB1-R13 Blank : AB1-RV |
| Set of | 250 | | |
| Suitable for the following devices: | | | |
| C60, ID | ■ 4 markers max. per pole | | |
| C120, C120NA-DC | ■ 4 markers max. per pole | | |
| Vigi C120 | ■ 4 markers max. per device | | |
| DPN, DPN Vigi | ■ 4 markers max. per pole | | |
| C60H-DC, SW60-DC, C60NA-DC, C60PV-DC | ■ 4 markers max. per pole | | |

| | | Mounting | | | | | |
|--|--|--|--|---|--|-------|--|
| Accessories | Rotary handle | | Toggle | | Padlocking device | | |
| | | | | | | | |
| Function | | | | | | | |
| | | Extended rotary handle <ul style="list-style-type: none"> Degree of protection: rotary button IP55 Front installation: Prevents door opening when the circuit breaker is in position O Keeps disconnection Padlocking possible when the device is in position O Padlock diameter: 3 to 6 mm | Direct rotary handle <ul style="list-style-type: none"> Front installation Keeps disconnection Padlocking possible when the device is in position O Padlock diameter: 3 to 6 mm | | White toggle <ul style="list-style-type: none"> Allows visual distinction of a switchboard incoming device | | Allows padlocking: <ul style="list-style-type: none"> In position I or O of NG125 1P or 2P circuit breakers In position I of NG125 3P or 4P circuit breakers or switches Padlock: dia. 5 to 8 mm (not supplied) <p><i>Note: NG125 3P/4P circuit breakers and switches are provided with padlocking in position O (disconnected) as original equipment.</i></p> |
| | | <ul style="list-style-type: none"> Two versions: <input type="checkbox"/> standard black <input type="checkbox"/> red handle and yellow front plate for machine tool control | | | | | |
| Catalogue numbers | 19088 Extended standard black | 19089 Extended safety | 19092 Direct standard black | 19097 Direct safety red handle yellow background | 19099 White toggle | 19090 | |
| Pack of | 1 | | 1 | 1 | 10 | 1 | |
| Suitable for the following devices: | | | | | | | |
| NG125 | <ul style="list-style-type: none"> 3P, 4P | | | | <ul style="list-style-type: none"> 3P, 4P | | |
| Vigi NG125 | - | | - | | - | | - |

| | | Connection | | | | | |
|--------------------------|----------------------|---|--|---|------------------|--|--|
| Accessories | Multi-cable terminal | 70 mm ² Al terminal | Screw-on connection for ring terminal | Small ring terminal | | | |
| | | | | | | | |
| Function | | | | | | | |
| | | For 3 copper cables: <ul style="list-style-type: none"> Rigid up to 16 mm² Flexible up to 10 mm² | For aluminium cables from 25 to 70 mm² | Installation: <ul style="list-style-type: none"> Upstream or downstream Connection ratings 80 to 125 A: <ul style="list-style-type: none"> <input type="checkbox"/> copper terminal: <ul style="list-style-type: none"> flexible cable up to 35 mm² rigid cable up to 50 mm² <input type="checkbox"/> bars: 16 x 3 mm, 15 x 4 mm, 16 x 4 mm <input type="checkbox"/> small ring terminal Phase-to-phase insulation voltage: U_i = 1000 V | | Connection ratings 80 to 125 A: <ul style="list-style-type: none"> Flexible copper cable: 50 mm² Rigid copper cable: 70 mm² | |
| | | | | | | | |
| Cat. nos. | 19091 | 19096 | 19095 | 19093 | 19094 | | |
| Pack of | 4 | 3 | 4 | 4 | 4 | | |
| NG125 | ■ | ■ | ■ 80, 100, 125 A | ■ 80, 100, 125 A | ■ 80, 100, 125 A | | |
| Vigi NG125 | - | - | ■ 125 A | ■ 125 A | ■ 125 A | | |
| Tightening torque | 2 N.m | | 6 N.m | 6 N.m | 6 N.m | | |
| Stripping length | 11 mm | | - | - | - | | |
| Tools to be used | Diameter 5 mm or PZ2 | | Hc 4 mm | Hc 4 mm | - | | |

Safety

| Accessories | Screw shield | | | | Circuit breaker terminal shield | | | | RCD terminal shield | | | | | | |
|--|--|-------|-------|-------|--|-------|-------|-------|--|-------|---------------|-------|---------------|-------|-------|
| |  | | | |  | | | |  | | | | | | |
| Function | <ul style="list-style-type: none"> ■ Prevents any contact with the connection screws ■ Protection against direct contact: <ul style="list-style-type: none"> □ IP40: on front panel □ IP20: at the connection level ■ Class II in steel or plastic enclosures ■ Sealing possible (max. diameter: 1.2 mm). | | | | <ul style="list-style-type: none"> ■ Prevents any contact with the terminals ■ Installation: mounted upstream and downstream of circuit breaker ■ Phase-to-phase insulation voltage $U_i = 1000\text{ V}$ ■ Protection against direct contact IP40 ■ Class II in steel or plastic enclosures (up to 440 V) ■ Sealing possible (max. diameter: 1.2 mm) | | | | <ul style="list-style-type: none"> ■ Installation: is mounted upstream of the circuit breaker and downstream of the Vigi device ■ Phase-to-phase insulation voltage $U_i = 1000\text{ V}$ ■ Protection against direct contact: IP40 ■ Class II in steel or plastic enclosures (up to 440 V) ■ Sealing possible (max. diameter: 1.2 mm) | | | | | | |
| | 1P | 2P | 3P | 4P | 1P | 2P | 3P | 4P | 63 A | | | | 125 A | | |
| | | | | | | | | | 2P | 3P | 3P adjustable | 4P | 4P adjustable | 3P | 4P |
| Catalogue numbers | 19084 | 19085 | 19086 | 19087 | 19080 | 19081 | 19082 | 19083 | 19074 | 19075 | 19077 | 19076 | 19078 | 19077 | 19078 |
| Pack of | 10 | | | | Set of 1 upstream / 1 downstream | | | | Set of 1 upstream / 1 downstream | | | | | | |
| Suitable for the following devices: | | | | | | | | | | | | | | | |
| NG125 | ■ | | | | ■ | | | | ■ | | | | | | |
| Vigi NG125 | - | | | | - | | | | ■ | | | | | | |



IEC 60664-1

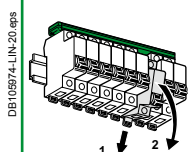
Description

Comb busbars make it easier to install Schneider Electric products.

- Supplied with 2 side plates, IP2.
- Outgoing feeders can be marked.
- Cutting markings on the copper bars and the insulating material.

| C120, NG125 | | 27 mm poles, cuttable | | | |
|--|-----------------|---|--------------|--------------|--------------|
| Number of poles | | 1P | 2P | 3P | 4P |
| | 0309220d-60.eps | | | | |
| | | Supplied with 2 side plates, IP2 and 4 tooth cover end-pieces Outgoing feeders can be marked Cutting markings on the copper bars and the insulating material Unused teeth can be insulated with tooth covers | | | |
| Rated operational current at 40 °C | (Ie) | 125 A | | | |
| Rated conditional short-circuit current of an assembly | (Isc) | Compatible with the breaking capacity of Schneider Electric circuit breakers | | | |
| Rated insulation voltage | (Ui) | 620 V AC | | | |
| Rated operational voltage | (Ue) | 500 V AC | | | |
| Pollution degree | | 3 | | | |
| Fire resistance to IEC 695-2-1 | | Self-extinguishing 960 °C 30 s | | | |
| Colour | | RAL 7016 (anthracite grey) | | | |
| Use | | | | | |
| | | Power supply by connector recommended | | | |
| Number of 27 mm modules | | 16 | 16 | 15 | 16 |
| Set of | | 1 | | | |
| Cat. no. | | 14811 | 14812 | 14813 | 14814 |

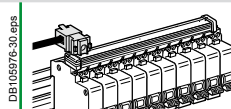
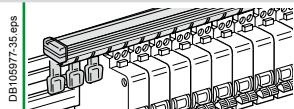
Installation



Comb busbars allow dismantability (1-2)

Accessories

| Number of poles | | 1P, 2P, 3P, 4P | |
|-----------------|--------------|---------------------|--|
| | PB502505.eps | | 030921d-15.eps |
| | | Tooth covers | |
| | | | Insulated connector |
| | | | Compatible with all Schneider Electric comb busbars Clip onto the comb busbar's insulating material, which gives them very great stability Receive clip-on markers allowing circuit identification |
| Use | | | |
| | | | For 25 mm ² semi-rigid cable |
| Set of | | 20 | 4 |
| Cat. no. | | 14818 | 14885 |



PB00279-30.eps




IEC 60947-7-1, IEC 61439-2

Description

Comb busbars make it easier to install Schneider Electric products.

- Can be sawn and cut in a single pass.
- Supplied with two IP20 lateral end-pieces except for 57 module references.
- The end-pieces are compulsory after cutting.
- The phases are identified by symbols on each side of the comb busbar for installation in all positions.
- Cutting marks on the insulating material.
- The special comb busbars for circuit breakers with 9 mm auxiliaries have a 9 mm gap for inserting iOF and iSD.

| Acti 9 / Multi 9 | | 18 mm poles, cuttable | | | | | | | | | | |
|--|--|---|-----------------|-----------------|-----------------|--------------------------------|-----------------|-----------------|-----------------|----------------------|-------------------------------------|-------------------------------------|
| Number of poles | | 1P | 2P | 3P | 4P | 3 (N+P) | Aux+1P | Aux+2P | Aux+3P | Aux+4P | 3 (Aux+1P) | 3 (Aux+N+1P) |
| | |  | | | | | | | | | | |
| Rated operational current at 40 °C (Ie) | | 100 A | | | | | | | | | | |
| Rated conditional short-circuit current of an assembly (Isc) | | Compatible with the breaking capacity of Schneider Electric circuit breakers | | | | | | | | | | |
| Rated insulation voltage (Ui) | | 500 V AC | | | | | | | | | | |
| Rated operational voltage (Ue) | | 415 V AC | | | | | | | | | | |
| Pollution degree | | 3 | | | | | | | | | | |
| Fire resistance to IEC 695-2-1 | | Self-extinguishing 960 °C 30 s | | | | | | | | | | |
| Colour | | RAL 7016 (anthracite grey) | | | | | | | | | | |
| Use | | | | | | | | | | | | |
| | | Power supply by connector recommended | | | | | | | | | | |
| Type | | L1... | L1L2... | L1L2L3... | NL1L2L3... | NL1NL2... ...NL3 | AuxL1... | AuxL1L2... | AuxL1L2L3 | AuxNL1... ...L2L3 | AuxL1... ...AuxL2... ...AuxL3 | AuxL1... ...AuxL2... ...AuxL3 |
| Set of | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Cat. no. | | | | | | | | | | | | |
| 6 modules of 18 mm | | A9XPH106 | - | - | - | - | - | - | - | - | - | - |
| 12 modules of 18 mm | | A9XPH112 | A9XPH212 | A9XPH312 | A9XPH412 | A9XPH512 ⁽¹⁾ | - | - | - | - | - | - |
| 18 modules of 18 mm | | - | - | - | - | A9XPH518 ⁽¹⁾ | - | - | - | - | - | - |
| 24 modules of 18 mm | | A9XPH124 | A9XPH224 | A9XPH324 | A9XPH424 | A9XPH524 ⁽¹⁾ | - | - | - | - | - | - |
| 57 modules of 18 mm | | A9XPH157 | A9XPH257 | A9XPH357 | A9XPH457 | A9XPH557 ⁽¹⁾ | A9XAH157 | A9XAH257 | A9XAH357 | A9XAH457 | A9XAH657 | A9XAH557 ⁽¹⁾ |

⁽¹⁾ This comb busbar is only compatible in top feeding for simple lug devices and bottom feeding on double lug devices.

Installation





PB110290-20.eps



PB110795-20.eps



Accessories

| Number of poles | 1P | 2P | 3P | 4P | - | - | - | |
|-----------------|---|-----------------|-----------------|-----------------|---|---|--|--|
| |  | | | |  |  |  | |
| | End-pieces | | | | Tooth covers | | Connectors | |
| | Lateral end-pieces providing IP20 protection | | | | Insulate teeth that have been left free | | Comb busbar power supply. Horizontal in-come on each side. For 35 mm ² cable. Tightening torque 4 N.m | |
| Set of | 10 | 10 | 10 | 10 | 20 | 4 | 4 | |
| Cat. no. | A9XPE110 | A9XPE210 | A9XPE310 | A9XPE410 | A9XPT920 | A9XPCM04 | A9XPCD04 | |

IEC 60947-7-1, IEC 61439-2

Description

Comb busbars make it easier to install Schneider Electric products. The phases are identified by symbols on each side of the comb busbar. Dismountability of devices with Acti 9.



| Acti 9 / Multi 9 | | 18 mm poles, not cuttable | | | | |
|--|-----------------|--|-----------------|-----------------|-----------------|--------------------------------|
| Number of poles | | 1P | 2P | 3P | 4P | 3 (N+P) |
| | PB110231-15.eps | | | | | |
| Rated operational current at 40 °C (Ie) | | 100 A | | | | |
| Rated conditional short-circuit current of an assembly (Isc) | | Compatible with the breaking capacity of Schneider Electric circuit breakers | | | | |
| Rated insulation voltage (Ui) | | 500 V AC | | | | |
| Rated operational voltage (Ue) | | 415 V AC | | | | |
| Pollution degree | | 3 | | | | |
| Fire resistance to IEC 695-2-1 | | Self-extinguishing 960 °C 30 s | | | | |
| Colour | | RAL 7016 (anthracite grey) | | | | |
| Use | | | | | | |
| | | Power supply by connector recommended | | | | |
| Type | | L1 | L1L2 | L1L2L3 | NL1L2L3 | NL1NL2NL3 |
| Set of | | 1 | 1 | 1 | 1 | 1 |
| Cat. no. | | | | | | |
| 12 modules of 18 mm | | A9XPM112 | A9XPM212 | A9XPM312 | A9XPM412 | A9XPM512 ⁽¹⁾ |

⁽¹⁾ This comb busbar is only compatible in top feeding for simple lug devices and bottom feeding on double lug devices.

Installation



PB110260-25.eps



PB110793-25.eps

Accessories

| | | | | | | |
|-----------------|---|--|--|--|-------------------------|--|
| | PB110257-10.eps | | PB110258-7.eps | | PB110259-7.eps | |
| | Tooth covers | | Connectors | | Double terminals | |
| | Insulate teeth that have been left free | | Monoconnect | | Double terminals | |
| Use | | | Horizontal incomer on each side For 35 mm ² cable Tightening torque 4 N.m | | | |
| Set of | 20 | | 4 | | 4 | |
| Cat. no. | A9XPT920 | | A9XPCM04 | | A9XPCD04 | |

Installation



PB1108162-35.eps



PB1108164-35.eps

IEC 60439-1

Description

Comb busbars ensure:

- easy, reliable mounting of 1P + N and 3P + N, TL, CT, ID, V, BP and Cm switchgear: tooth positioning opposite the device terminals is ensured by indexing of copper parts.



C60/ID Group Feeder comb busbars contain two different parts:


- connection of Group Feeder switchgear: C60 (3P + N) or ID (3P + N) circuit breaker in 18 mm modules, powered by cables, through the bottom, directly by the terminals

- connection of Clario, Prodis and Libro switchgear in 9 mm modules.

PB502382-70eps



| Acti 9 L + N | | 9 mm poles, cuttable | | | | | |
|--|--------------|---|--------------|--------------|--|--------------|--------------|
| Number of poles | | 1P + N | | | 3P + N | | |
| | |  | | |  | | |
| | | 21501 | | | 21505 | | |
| | | Complete comb busbars (supplied with 4 side plates and 1 tooth cover) | | | | | |
| Rated operational current at 40 °C (Ie) | | 80 A | | | | | |
| Rated conditional short-circuit current of an assembly (Isc) | | Compatible with the breaking capacity of Schneider Electric circuit breakers | | | | | |
| Rated insulation voltage (Ui) | | 440 V AC | | | | | |
| Rated operational voltage (Ue) | | 230 V AC (P + N) - 400 V AC (3P + N) | | | | | |
| Rated impulse withstand voltage (Uimp) | | 6 kV | | | | | |
| Degree of protection | | IP20 | | | | | |
| Pollution degree | | 3 | | | | | |
| Fire resistance to IEC 695-2-1 | | Self-extinguishing 960 °C 30 s | | | | | |
| Colour | | RAL 7035 | | | | | |
| Number of 18 mm modules | Comb busbar | 12 | 18 | 24 | 12 | 18 | 24 |
| | Tooth covers | 3 | 3 | 6 | 3 | 3 | 6 |
| Cat. no. | | 21501 | 19512 | 21503 | 21505 | 19516 | 21507 |
| Comb busbars alone | | | | | | | |
| Number of 18 mm modules | Comb busbar | 48 | | | 48 | | |
| Cat. no. | | 21089 | | | 21093 | | |

| C60/ID Group Feeder comb busbars alone | | | |
|--|--|---|--------------------|
| Number of poles | | 3P + N | |
| | |  | |
| | | 80 A | |
| Rated conditional short-circuit current of an assembly (Isc) | | Compatible with the breaking capacity of Schneider Electric circuit breakers | |
| Rated insulation voltage (Ui) | | 440 V AC | |
| Rated operational voltage (Ue) | | 230 V AC (P + N) - 400 V AC (3P + N) | |
| Rated impulse withstand voltage (Uimp) | | 6 kV | |
| Degree of protection | | IP20 | |
| Pollution degree | | 3 | |
| Fire resistance to IEC 695-2-1 | | Self-extinguishing 960 °C 30 s | |
| Colour | | RAL 7035 | |
| Number of 18-mm modules | | 12 | 48 |
| Power supply | | Through left-hand | Through right-hand |
| Cat. no. | | 10545 | 10547 |

| Accessories | | | | |
|-----------------|---|---|--|---|
| Number of poles | 1P + N | 3P + N | | |
| |  |  |  |  |
| | End-pieces | Tooth covers (3 x 18-mm modules) | End-pieces (4 phases) | Connectors (grey) |
| Set of | 40 | 12 | 10 | 4 |
| Cat. no. | 21094 | 21095 | 21096 | 21098 |


IEC 60439-1

Description

- Connection of Clario, Prodis and Librio switchgear in 9 mm modules.
- The special comb busbars for circuit breaker have a gap of 9 mm for inserting OF, SD, OF-SD/OF auxiliaries.
- The comb busbars for 3P + N circuit breakers and auxiliaries are compatible with Prisma switchboard.
- 1P + N comb busbars with Prisma and Pragma 24.





PB10901-10.eps



| Acti 9 | | 9 mm poles, cuttable | | | |
|--|--|---|----------|------------------------------|----------|
| Number of poles | | 1P + N | 3P + N | 1P + N | 3P + N |
| | |  | | | |
| | | A9N21036 | | | |
| | | Comb busbars | | Comb busbars DPN Vigi | |
| Rated operational current at 40 °C (Ie) | | 63 A | | | |
| Rated conditional short-circuit current of an assembly (Isc) | | Compatible with the breaking capacity of Schneider Electric circuit breakers | | | |
| Rated insulation voltage (Ui) | | 500 V AC | | | |
| Rated operational voltage (Ue) | | 230 V AC (P + N) - 400 V AC (3P + N) | | | |
| Degree of protection | | IP20 | | | |
| Pollution degree | | 3 | | | |
| Fire resistance to IEC 695-2-1 | | Self-extinguishing 960 °C 30 s | | | |
| Colour | | RAL 7035 | | | |
| Number of 18-mm modules | | 56 | 56 | 56 | 56 |
| Cat. no. | | A9N21035 | A9N21036 | A9N21037 | A9N21038 |

PB110901-10.eps

Accessories

| Number of poles | 1P + N | 3P + N | | | | |
|-----------------|---|----------|---|----------|---|--|
| |  | |  | |  | |
| |  | | | | | |
| | End-pieces | | Connectors (grey) | | Neutral connectors (blue) | |
| Set of | 20 | | 10 | | 10 | |
| Cat. no. | A9N21039 | A9N21040 | A9N21041 | A9N21042 | A9N21050 | |

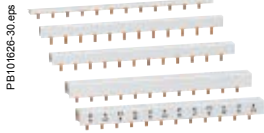
PB110904-10.eps

PB110905-10.eps

PB110906-10.eps

PB110907-10.eps

IEC 60439-1, IEC60664



Description

Comb busbars:

- Ensure easy reliable mounting of switchgear: tooth positioning opposite the device terminals is ensured by indexing of copper parts.
- Can be sawn and cut.
- Are supplied with two IP20 lateral end-pieces (the end-pieces are compulsory).
- Unused teeth can be insulated with tooth covers.

| Domae | | 18 mm poles, cuttable | | | | | | | | |
|--|-----|--|-------|-------|-------|-------|-------|-------|-------|------------|
| Number of poles | | 1P | 2P | 3P | 4P | 5P | 6P | 7P | 8P | 3P (N + P) |
| | | | | | | | | | | |
| Rated operational current at 40 °C (Ie) | | 63 A | | | | | | | | |
| Rated conditional short-circuit current of an assembly (Isc) | | Compatible with the breaking capacity of Schneider Electric circuit breakers | | | | | | | | |
| Rated insulation voltage (Ui) | | 500 V | | | | | | | | |
| Rated operational voltage (Ue) | L/N | 230 V AC | | | | | | | | |
| | L/L | 400 V AC | | | | | | | | |
| Pollution degree | | 3 | | | | | | | | |
| Fire resistance to IEC 695-2-1 | | Self-extinguishing 850 °C 30 s | | | | | | | | |
| Colour | | RAL 7035 | | | | | | | | |
| Power supply | | By 16 mm ² semi-rigid or 10 mm ² flexible cable | | | | | | | | |
| | | With connector | | | | | | | | |
| Number of 18 mm modules | | 12 | 57 | 12 | 57 | 12 | 57 | 12 | 57 | 57 |
| Cat. no. | | 10387 | 10388 | 10389 | 10390 | 10391 | 10392 | 10393 | 10394 | 10395 |

Installation

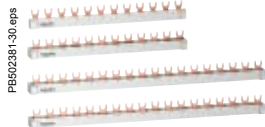


Accessories

| Type | Connectors (4 x 35 mm ²) | End-pieces (2 phases) | End-pieces (3 phases) | End-pieces (4 phases) | Tooth covers |
|----------|--------------------------------------|-----------------------|-----------------------|-----------------------|--------------|
| Set of | 1 | 10 | 10 | 10 | 10 |
| Cat. no. | 10397 | 10398 | 10399 | 10405 | 10396 |

Lineryg FH






Horizontal biconnect comb busbar for 18 mm pitch



IEC 60664-1





Description

Distribution and sub-distribution of the electric power supply.
Fast assembly and disassembly of connected devices.

| Horizontal biconnect comb busbar | | 18 mm poles, cuttable | | | | | | | | | | | |
|--|---|---|--|---|---|---|---|---|---|---|---|---|--|
| Number of poles | 1P | 2P | | | 3P | | | 4P | | | | | |
| |  |  |  |  |  | | | | | | | | |
| Rated operational current at 40 °C (Ie) | 63 A | | | | | | | | | | | | |
| Rated conditional short-circuit current of an assembly (Isc) | Compatible with the breaking capacity of Schneider Electric circuit breakers | | | | | | | | | | | | |
| Rated insulation voltage (Ui) | 500 V AC | | | | | | | | | | | | |
| Rated operational voltage (Ue) L/N | 230 V AC | | | | | | | | | | | | |
| | L/L 400 V AC | | | | | | | | | | | | |
| Pollution degree | 3 | | | | | | | | | | | | |
| Fire resistance to IEC 695-2-1 | Self-extinguishing 960 °C 30 s | | | | | | | | | | | | |
| Colour | RAL 7035 (grey) | | | | | | | | | | | | |
| Use | Power supply: into box lug (25 mm ² rigid or 16 mm ² flexible) or by connector (35 mm ² rigid or 25 mm ² flexible with ferrule) | | | | | | | | | | | | |
| Type | L1 | | | L1L2 | | | L1L2L3 | | | L1L2L3L4 | | | |
| Number 18-mm modules | 12 | 18 | 57 | 12 | 18 | 57 | 12 | 18 | 57 | 12 | 18 | 57 | |
| Set of | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Cat. no. | R9XFH112 | R9XFH118 | R9XFH157 | R9XFH212 | R9XFH218 | R9XFH257 | R9XFH312 | R9XFH318 | R9XFH357 | R9XFH412 | R9XFH418 | R9XFH457 | |




Installation



| Horizontal biconnect comb busbar | | 18 mm poles, cuttable | | |
|--|---|--|---|---|
| Number of poles | 4P | | | |
| |  |  |  |  |
| Rated operational current at 40 °C (Ie) | 63 A | | | |
| Rated conditional short-circuit current of an assembly (Isc) | Compatible with the breaking capacity of Schneider Electric circuit breakers | | | |
| Rated insulation voltage (Ui) | 500 V AC | | | |
| Rated operational voltage (Ue) L/N | 230 V AC | | | |
| | L/L 400 V AC | | | |
| Pollution degree | 3 | | | |
| Fire resistance to IEC 695-2-1 | Self-extinguishing 960 °C 30 s | | | |
| Colour | RAL 7035 (grey) | | | |
| Use | NL1L2L3L4 - NL1NL2NL3 | | | |
| Type | NL1L2L3L4 - NL1NL2NL3 | | NL1NL2NL3 | |
| Number 18 mm, modules | 18 | | 57 | |
| Set of | 1 | | 1 | |
| Cat. no. | R9XFH518G | | R9XFH518 | |
| | | | R9XFH557 | |

Installation



| Accessories | | | | | | |
|-----------------|---|---------|---------|---------|--|---|
| Number of poles | 1P | 2P | 3P | 4P | | |
| |  | | | |  |  |
| | End-pieces | | | | Tooth covers | |
| Set of | 10 | | | | 20 | |
| Cat. no. | R9XE110 | R9XE210 | R9XE310 | R9XE410 | R9XT20 | R9XFC04 |

PB502304-35.eps



IEC 60664-1

Description

Provide a 2P supply to the main incomers from one row to the next:

- centre line between rows: 125 mm or 150 mm
- distances between terminals: 9 mm or 18 mm pitch.

Vertical comb busbars

PB108071-10.eps



DB124283-10.eps



PB108072-10.eps



PB108073-40.eps



PB108074-40.eps

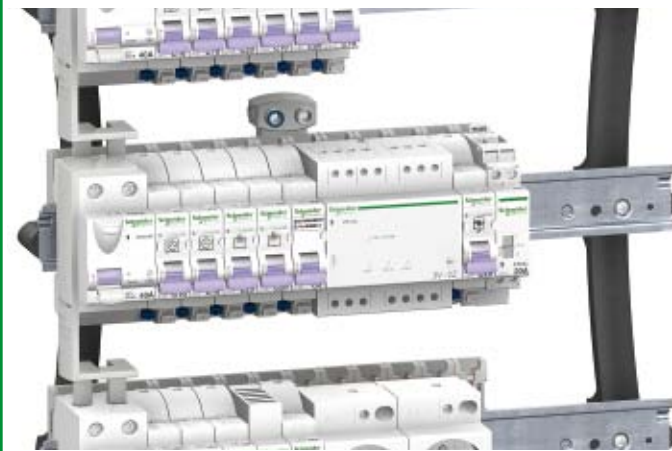


Direct power supply to circuit breaker or residual current circuit breaker terminals

| | | | | | |
|--|--|-------|-------|----------------------------|-------|
| Rated operational current at 40 °C (Ie) | 80 A | | | | |
| Rated conditional short-circuit current of an assembly (Isc) | Compatible with the breaking capacity of Schneider Electric circuit breakers | | | | |
| Rated insulation voltage (Ui) | 500 V AC | | | | |
| Rated operational voltage (Ue) | 415 V AC | | | | |
| Pollution degree | 3 | | | | |
| Fire resistance to IEC 695-2-1 | Self-extinguishing 850 °C 30 s | | | | |
| Distance between upstream terminals | 9 mm | 18 mm | 18 mm | 9 mm | 18 mm |
| Distance between downstream terminals | 9 mm | 9 mm | 18 mm | 9 mm | 18 mm |
| Centre line between rows | 125 mm | | | 150 mm | |
| Colour | RAL 7035 (light grey) | | | RAL 7016 (anthracite grey) | |
| Cat. no. | 14900 | 14909 | 14910 | 14901 | 14911 |

Installation

PB502377-90.eps



IEC 60947-7-1, IEC 61439-2



Description

- Downstream circuits are connected from the front, to spring terminals.
- Contact pressure automatically adapts to the size of the conductor.
- Contacts are insensitive to vibrations and thermal variations.
- Only one cable (flexible or rigid) can be inserted per terminal.

Quick distribution blocks




| Number of poles | | 4P, incomers from top | 4P, incomers from bottom |
|--|--------|--|--|
| | | | |
| Rated operational current at 40 °C | (Ie) | 63 A | 63 A |
| Rated conditional short-circuit current of an assembly | (Isc) | The reinforced breaking capacity due to cascading in circuit breaker combinations is maintained. The worst-case situations have been tested. | The reinforced breaking capacity due to cascading in circuit breaker combinations is maintained. The worst-case situations have been tested. |
| Rated insulation voltage | (Ui) | 500 V AC | 500 V AC |
| Rated operational voltage | (Ue) | 440 V AC | 440 V AC |
| Rated impulse withstand voltage | (Uimp) | 6 kV | 6 kV |
| Rated short-time withstand current | (Icw) | - | - |
| Rated operational frequency | | 50/60 Hz | 50/60 Hz |
| Degree of protection | | IPxxB | IPxxB |
| Incoming terminals | | 1 tunnel terminal 25 ² /phase | 1 tunnel terminal 25 ² /phase |
| Total connection capacity, outgoing terminals | | 24 connections: 4 x 6 ² /phase 12 x 6 ² /neutral | 24 connections: 4 x 6 ² /phase 12 x 6 ² /neutral |
| Dimensions (H x W x D) | | 96.5 x 72 x 62 8 x 9 mm pitch | 96.5 x 72 x 62 8 x 9 mm pitch |
| Installation | | Clipped onto a DIN rail | Clipped onto a DIN rail |
| Other | | | |
| Standard for installation inside Prisma | | IEC 61439-2 | IEC 61439-2 |
| Glow-wire 60695-2-11 | | 960 °C | 960 °C |
| Degree of pollution | | 3 | 3 |
| References | | 04040 | 04041 |

Accessories

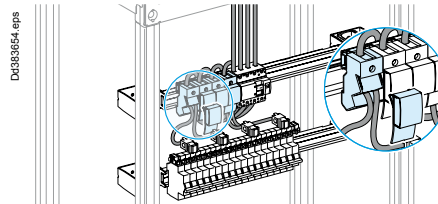
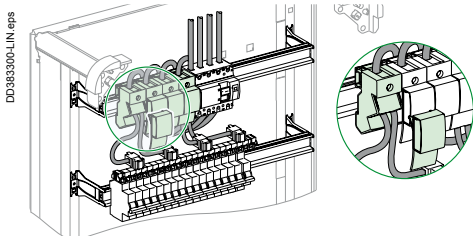
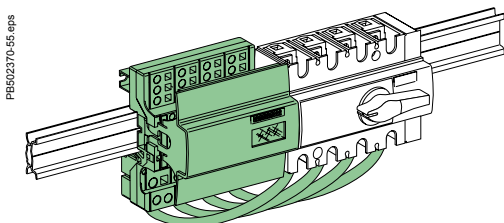
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|-------------------|---|---|
| References | - | - |
|-------------------|---|---|

Advantages

- A reliable electrical connection, no maintenance required (tightness guaranteed over time).
- Quick connection.
- Easy phase balancing.
- Ease of rewiring if the switchboard is expanded or modified.

| 4P | | 1P |
|--|--|---|
|  |  |  |
| 125 A | 160 A | 160 A |
| 20 kA/60 ms max according to IEC 61439-1 | 20 kA/60 ms max according to IEC 61439-1 | 32 kA |
| 750 V AC | 750 V AC | 750 V AC |
| 690 V AC | 690 V AC | 690 V AC |
| 8 kV | 8 kV | 8 kV |
| 4.5 kA rms/1 s | 4.5 kA rms/1 s | |
| 50/60 Hz | 50/60 Hz | 50/60 Hz |
| IPxxB | IPxxB | IPxxB |
| 1 tunnel terminal 35 ² /phase | 1 tunnel terminal 35 ² /phase | 1 tunnel terminal 70 ² /phase |
| 52 connections: 7 x 4 ² /phase 3 x 6 ² /phase 2 x 10 ² /phase 1 x 16 ² /phase (screw terminal) | 52 connections: 7 x 4 ² /phase 3 x 6 ² /phase 2 x 10 ² /phase 1 x 16 ² /phase (screw terminal) | 6 connections: 6 x 16 ² /phase |
| 127 x 108 x 48 8 x 9 mm pitch | 127 x 108 x 48 8 x 9 mm pitch | 95 x 36 x 70 4 x 9 mm pitch |
| Screwed to plain or slotted backplate or onto DIN rail | Screwed to plain or slotted backplate or onto DIN rail | Onto DIN rail |
| Possible to combine 2 terminal blocks (2 nd terminal block supplied from enclosed terminals in the 1 st , I _{max} of 2 nd terminal block: 80 A) | Possible to combine 2 terminal blocks (2 nd terminal block supplied from enclosed terminals in the 1 st , I _{max} of 2 nd terminal block: 80 A) | |
| IEC 61439-2 | IEC 61439-2 | IEC 61439-2 |
| 960 °C | 960 °C | 960 °C |
| 3 | 3 | 3 |
| 04045 | 04046 | 04031 |

| | | |
|-------------------------------|---|----------------------------|
| 125 A flexible connectors (4) | | Copper spacer (batch of 4) |
| 04047 | - | 04037 |



IEC 60947-7-1, IEC 61439-2



Description

- Distribution over full rows of modular devices.
- The distribution block is generally supplied by busbars in enclosures and cubicles.
- Easy phase balancing.
- Mix of devices and functions in the same row.
- Installation ≥ 160 A: clipped onto the back of a modular rail or screwed onto a solid or pre-slotted plate.

Distribution blocks

| Number of poles | | 4P | 4P | |
|---|---------------------------------|--|--------------|--------------------|
| | | | | |
| | | 63 A | 80 A | |
| Rated peak withstand current (Ipk) | | 15 kA | 15 kA | |
| Rated conditional short-circuit current of an assembly (Isc) | | The cascading reinforced breaking capacity when combining circuit breakers is maintained. The worst-case scenarios have been tested. The characteristics are exactly right for the connected devices. Circuit breakers and switches still have their temperature derating curves, and their whole performance is maintained. | | |
| Rated insulation voltage (Ui) | | 500 V AC | 500 V AC | |
| Rated operational voltage (Ue) | | 440 V AC | 440 V AC | |
| Rated impulse withstand voltage (Uimp) | | 6 kV | 6 kV | |
| Maximum current (Imax) | | - | - | |
| Rated operational frequency | | 50/60 Hz | | |
| Degree of protection | | IPxxB | IP20 | |
| Length | In 9 mm modules | 24 | 48 | |
| | In 18 mm modules | 12 | 24 | |
| Upstream connection capacity | | Tunnel terminals for cables up to 25 mm ² | | |
| Downstream connection capacity, cable to be used without ferrules | Max. 4 mm ² | Phase | 2 | - |
| | | Neutral | 4 | - |
| | Max. 6 mm ² | Phase | 2 | - |
| Neutral | | 4 | - | - |
| Max. 10 mm ² | Phasesw | - | 18 | 18 |
| | Neutral | - | 18 | 18 |
| Accessories included | Pre-stripped copper connections | 10 of 4 mm ² + 6 of 6 mm ² (L = 100 mm) | | 12 blue + 12 black |
| | Protective cover | | | |
| | Screws and nuts | | | |
| References | | 04008 | 04000 | |

Installation

DD381664-LIN.eps

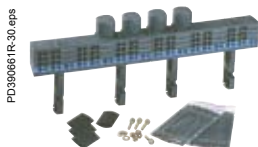
Clipped onto the back of a modular rail, or screw fixing

DB124195-LIN.eps

Clipped onto the back of a modular rail, or screw fixing

DB124196-LIN.eps

Can be mounted in Pragma Evolution enclosures and in Prisma Pack 160



| 4P | 2P | 3P | 4P | 4P |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| | | | | |
| 160 A 27 kA | 200 A 25 kA | 200 A 25 kA | 200 A 30 kA | 200 A 27 kA |
| The cascading reinforced breaking capacity when combining circuit breakers is maintained. The worst-case scenarios have been tested. | | | | |
| 750 V AC | 750 V AC | 750 V AC | 750 V AC | 750 V AC |
| 690 V AC | 690 V AC | 690 V AC | 690 V AC | 690 V AC |
| 8 kV | 8 kV | 8 kV | 8 kV | 8 kV |
| 50 A for feeder for 10 mm ² cable/63 A for feeder for 2 cables of 10 mm ² | | | | |
| 50/60 Hz | | | | |
| IPxxB | | | | |
| 24 | 48 | | | 72 |
| 12 | 24 | | | 36 |
| Direct on directing pads by 50 mm ² cables or by 20 x 3 flexible bar with a prefabricated connection from busbar | | | | |
| - | - | | | |
| - | - | | | |
| 6 | 12 | | | |
| 6 | 18 | | | |
| 20 of 4 mm ² + 6 of 6 mm ² (L = 100 mm) | | | | |
| For pads (IPxxB) | | | | |
| For pads | | | | |
| 04018 | 04012 | 04013 | 04014 | 04026 |

Connections to the distribution block

| | | | | |
|--------------------------|--|--|--|--|
| | | | | |
| | 4P 200 A connection (supplied with fixing accessories) | 4P 200 A connection (supplied with fixing accessories) | 4P 200 A connection (supplied with fixing accessories) | 4P 160 A connection for Linergy FM 1/2 row |
| Allows power supply from | Linergy BW busbar | Linergy BS busbar | Linergy BS rear busbar | Switchgear |
| References | 04021 | 04024 | 04029 | 04030 |

Spare parts

| | |
|------------------|--|
| | |
| | 4 covers for 160/200 A Linergy FM rows |
| Reference | 01202 |

PB111254-30_1.eps



PB111253-30_1.eps



IEC/EN 60947-7-1, IEC/EN 61439-1 & 2





Description

- Single-pole or four-pole distribution block that can be installed on a standard DIN rail or on a mounting plate.
- Compatible with Prisma G and P, Pragma, Mini Pragma and Resbo series switchboards.
- Incomers and feeders are connected to screw terminals that accept rigid or flexible cables with ferrule.
- Optional: additional neutral terminal strip for four-pole distribution block.

Advantages

- Simplified power supply for main incomers.
- Easy phase balancing.
- Easy, effortless cabling due to excellent accessibility.
- Visible cabling.
- Insulation between phases.
- The single-pole distribution blocks are adjacent and bridgeable via the second incoming hole for parallel connection.

Screw distribution blocks

| Number of poles | 1P | | | 4P |
|--|--|--|---|--|
| |  |  |  |  |
| Rated operational current | 125 A | 160 A | 250 A | 100 A |
| Total connections capacity | 10 | 13 | 14 | 4 x 7 |
| Terminal capacity | | | | |
| Diameter | 2 x Ø 9.5 mm | 2 x Ø 12 mm | 1 x Ø 15.3 mm | 2 x Ø 7.5 mm |
| | 2 x Ø 7.5 mm | 3 x Ø 7.5 mm | 1 x Ø 10 mm | 5 x Ø 5.5 mm |
| | 6 x Ø 5.8 mm | 8 x Ø 5.8 mm | 4 x Ø 6 mm | - |
| | - | - | 8 x Ø 7.5 mm | - |
| Rated peak withstand current (I _{pk} /60 ms) | 25 kÅ | 36 kÅ | 60 kÅ | 14 kÅ |
| | I _{pk} /6 ms | - | - | 24 kÅ |
| Rated short-time withstand current (I _{cw}) (IEC/EN 60947-7-1) | 4.2 kA rms/1 s | 8.4 kA rms/1 s | 14.4 kA rms/1 s | 3 kA rms/1 s |
| Width (number of 9 mm pitches) | 3 | 4 | 5 | 8 |
| Dimension (H x W x D) | 85 x 27 x 50.5 | 85 x 36 x 50.5 | 85 x 45 x 50.5 | 100 x 71 x 50.5 |
| Weight (g) | 125 | 163 | 239 | 210 |
| Neutral terminal strip (optional) | - | - | - | LGYN1007 |
| References | LGY112510 | LGY116013 | LGY125014 | LGY410028 |

Technical data

Common characteristics

To IEC/EN 60947-7-1 and IEC/EN 61439-1 & 2

| | |
|--|--|
| Rated insulation voltage (Ui) | 500 V AC |
| Rated operational voltage (Ue) | 230 V AC (Ph/N) 440 V AC (Ph/Ph) |
| Rated impulse withstand voltage (Uimp) | 8 kV |
| Rated conditional short-circuit current of an assembly | Up to the breaking capacity of Schneider Electric feeder circuit breakers, even in cascading configuration |
| Network frequency | 50/60 Hz |
| Pollution degree | 3 |
| Overvoltage category | III |



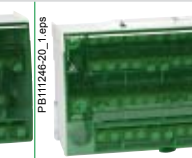



Additional technical characteristics

| | |
|---------------------------------------|-----------------|
| Reference temperature | 40 °C |
| Operating temperature | -25 °C to 55 °C |
| Dielectric withstand (IEC/EN 60947-1) | 2500 V AC |

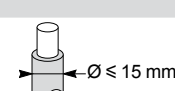
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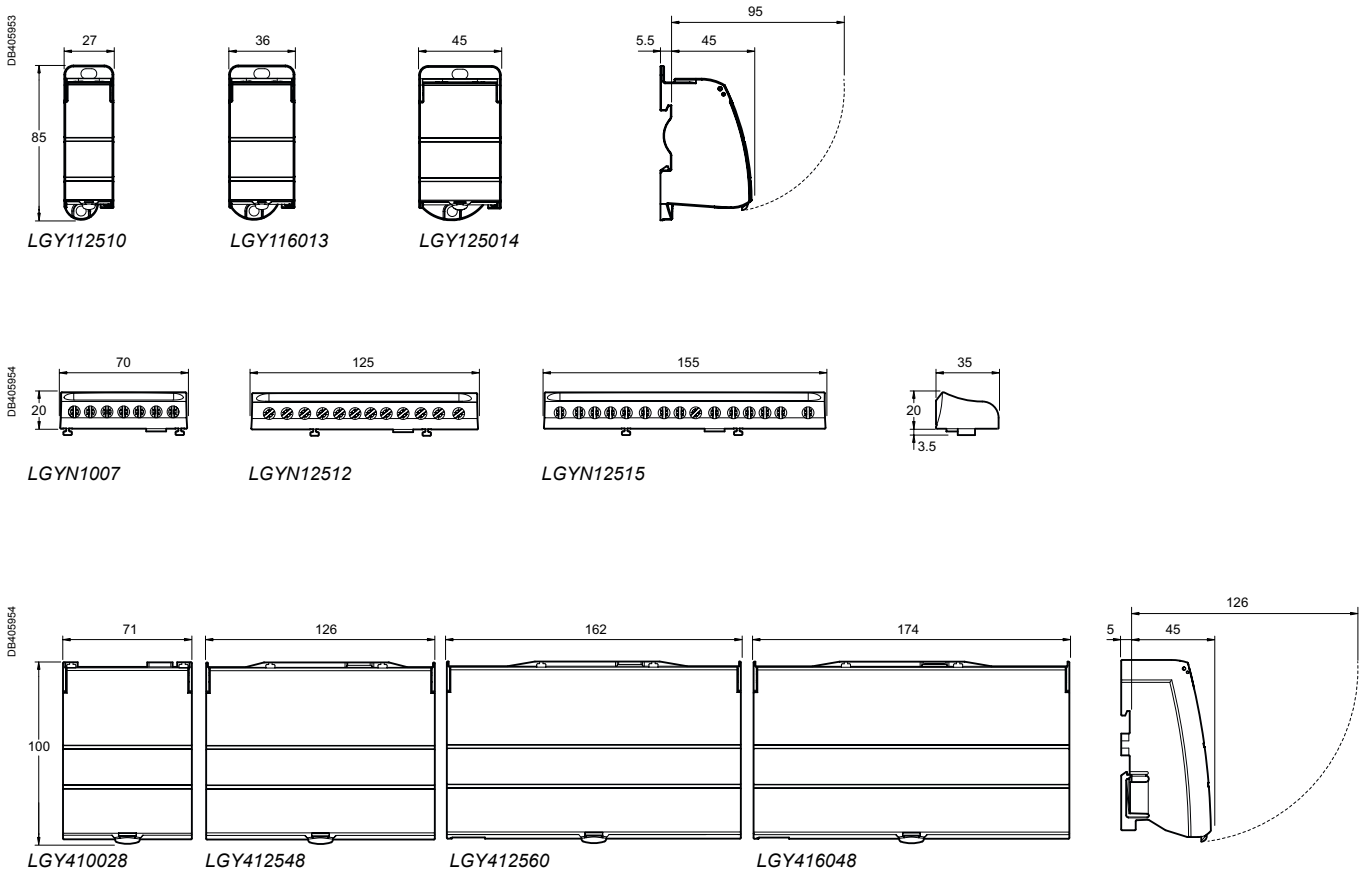
On LGY412560 and LGY416048 references.
Input cabling facilitated by side terminals.

| | | | Neutral terminal strip | | |
|--|--|--|---|--|--|
|  |  |  |  |  |  |
| 125 A | | 160 A | 100 A | 125 A | |
| 4 x 12 | 4 x 15 | 4 x 12 | 7 | 12 | 15 |
| 1 x Ø 9 mm | 1 x Ø 9.5 mm | 1 x Ø 12 mm | 2 x Ø 7.5 mm | 1 x Ø 9 mm | 1 x Ø 9.5 mm |
| 7 x Ø 7.5 mm | 3 x Ø 8.5 mm | 3 x Ø 9 mm | 5 x Ø 5.5 mm | 7 x Ø 7.5 mm | 3 x Ø 8.5 mm |
| 4 x Ø 6.5 mm | 11 x Ø 6.5 mm | 8 x Ø 7.5 mm | - | 4 x Ø 6.5 mm | 11 x Ø 6.5 mm |
| - | - | - | - | - | - |
| 18 kA | 18 kA | 22 kA | - | - | - |
| 26 kA | 28 kA | 36 kA | - | - | - |
| 4.2 kA rms/1 s | 4.2 kA rms/1 s | 8.4 kA rms/1 s | - | - | - |
| 14 | 20 | 18 | 7 | 14 | 17 |
| 100 x 126 x 50.5 | 100 x 162 x 50.5 | 100 x 174 x 50.5 | 20 x 70 x 35 | 20 x 125 x 35 | 20 x 155 x 35 |
| 390 | 559 | 567 | 63 | 111 | 149 |
| LGYN12512 | LGYN12515 | LGYN12512 | - | - | - |
| LGY412548 | LGY412560 | LGY416048 | LGYN1007 | LGYN12512 | LGYN12515 |

Terminal technical data

| Type | PZ2 screw | | | | | | | |
|--|---------------------------|---------------------------|---|---------------------------|---------------------------|-------------------------|--------------------------|--------------------------|
| Diameter | Ø 5.5 mm | Ø 5.8 mm | Ø 6 mm | Ø 6.5 mm | Ø 7.5 mm | Ø 8.5 mm | Ø 9 mm | Ø 9.5 mm |
| Section rigid cable | 1.5 to 16 mm ² | 1.5 to 16 mm ² | 1.5 to 16 mm ² | 1.5 to 16 mm ² | 2.5 to 25 mm ² | 6 to 35 mm ² | 10 to 35 mm ² | 10 to 35 mm ² |
| Section flexible cable or with ferrule | 1.5 to 10 mm ² | 1.5 to 10 mm ² | 1.5 to 10 mm ² | 1.5 to 10 mm ² | 1.5 to 16 mm ² | 4 to 25 mm ² | 4 to 25 mm ² | 6 to 35 mm ² |
| Tightening torque | 2 N.m | 2 N.m | 2 N.m | 2 N.m | 2 N.m | 2 N.m | 2.5 N.m | 2.5 N.m |
| Type | Hc screw | | | | | | | |
| Diameter | Ø 9.5 mm | Ø 10 mm | Ø 12 mm | | Ø 15.3 mm | | | |
| Section rigid cable | 10 to 35 mm ² | 1.5 to 50 mm ² | 25 to 70 mm ² | | 35 to 120 mm ² | | | |
| | | |  | | | | | |
| Section flexible cable or with ferrule | 6 to 35 mm ² | 1.5 to 35 mm ² | 16 to 50 mm ² | | 25 to 95 mm ² | | | |
| Tightening torque | 8 N.m | 4 N.m | 1P: 9 N.m | 4P: 5 N.m | 14 N.m | | | |

Dimensions (mm)





IEC/EN 61131-2

Acti 9 Smartlink Modbus Slave and Acti 9 Smartlink Ethernet are used to transfer data from Acti 9 devices to a PLC or monitoring system via the communication system:

- Modbus serial line for Acti 9 Smartlink Modbus Slave
- Modbus Ethernet TCP/IP or http for Acti 9 Smartlink Ethernet.

Functions

Data transmission between the network and Acti 9 devices

- Circuit breakers, residual current circuit breakers, residual current devices:
 - open/closed state
 - tripped state
 - number of opening/closing cycles
 - number of tripping actions.
- Contactors, impulse relays:
 - opening control
 - closing control
 - open/closed state
 - number of opening/closing cycles
 - total period of operation of the load (device closed).
- Remote controlled circuit breaker/Reflex iC60:
 - opening control
 - closing control
 - open/closed state
 - tripped state
 - number of opening/closing cycles
 - total period of operation of the load.
- Power meters:
 - number of pulses recorded
 - pulse value setting (e.g. kWh)
 - total consumption recorded
 - estimate of power consumption.
- Analog sensors only for Acti 9 Smartlink Ethernet:
 - temperature sensor
 - humidity sensor,
 - CO₂ detector,
 - optical detector
 - ...

All the data are stored in memory: number of cycles, consumption, period of operation, even in the event of a power failure.

Acti 9 Smartlink can also exchange data with any device having 24 V DC digital inputs/outputs.

No configuration of the connected products is required.

When Acti 9 Smartlink is switched on, communication automatically adjusts to the Modbus Master or Ethernet (PLC, control station) communication parameters.

Installation

- Mounting in switchboards:
 - width 24 modules per row
 - minimum spacing between rails 150 mm.
- Mounting on
 - DIN rail, with mounting kit **A9XMFA04**
 - Linergy FM 80 A, with locking clips supplied
 - Linergy FM 200 A, with mounting kit **A9XM2B04**.

Test

- The communication and cabling test for the connected devices can be performed using Acti 9 Smart Test software

PB107797-47



DB404802



DB405140

Acti 9 Smart Test software

- Electrical continuity test
- Functional testing of the devices
- Report printing
- Printing of a simplified diagram
- Project archiving
- Compatible with Windows XP, Windows 7, Windows 8
- To be download on: Schneider Electric web sites:
 - schneider-electric.com or
 - schneider-electric country web site



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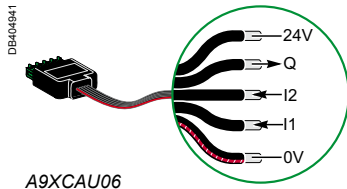




Acti 9 Smartlink Modbus Slave



Acti 9 Smartlink Ethernet



A9XCAU06



PB107804-43

Catalogue numbers

| Acti 9 Smartlink | | | |
|---|---|--------|-----------------|
| Type | | Set of | |
| Acti 9 Smartlink Modbus Slave | | 1 | A9XMSB11 |
| Supplied with | Modbus connector | 1 | |
| | 24 V DC power supply connector | 1 | |
| | Locking clips for mounting on Linergy FM 80 | 2 | |
| Acti 9 Smartlink Ethernet | | 1 | A9XMEA08 |
| Supplied with | Connector for 4-point analog output | 1 | |
| | Modbus connector | 1 | |
| | 24 V DC power supply connector | 1 | |
| | Locking clips for mounting on Linergy FM 80 | 2 | |
| Accessories | | | |
| USB cable link / Modbus for Acti 9 Smartlink test | | 1 | A9XCATM1 |
| Prefabricated cables | | | |
| With 2 connectors | Short: 100 mm | 6 | A9XCAS06 |
| | Medium-sized: 160 mm | 6 | A9XCAM06 |
| | Long: 870 mm | 6 | A9XCAL06 |
| With 1 connector | Long: 870 mm | 6 | A9XCAU06 |
| Connectors | 5-pin connectors (Ti24) | 12 | A9XC2412 |
| Mounting kit | DIN rail (4 feet, 4 straps, 4 adapters) | 1 | A9XMFA04 |
| | Linergy FM 200 A (4 adapters) | 1 | A9XM2B04 |
| Spare parts | Lock for Linergy FM 80 A (2 clips) | 1 | A9XMLA02 |

Connectable devices

| With Ti24 interface | | |
|--|---------------------|---|
| Type | Reference | Description |
| iACT24 | A9C15924 | Low-level control and indication auxiliary for iCT contactors |
| iATL24 | A9C15424 | Low-level control and indication auxiliary for iTL impulse relays |
| iOF+SD24 | A9A26897 | Low-level indication auxiliary for iC60, iD, ARA, RCA, iSW-NA |
| OF+SD24 | A9N26899 | Low-level indication auxiliary for C60, C120, DPN, RCCB/iD, C60H-DC |
| RCA | See module CA904011 | Remote control with Ti24 interface |
| Reflex iC60 | See module CA904012 | Reflex iC60 with Ti24 interface |
| Without Ti24 interface | | |
| Power meters with pulse output, e.g. IEM2000T | | |
| Impulse meters complying with the IEC 62053-21 standard | | |
| 24 V DC indicator lamps, Harmony XVL range | | |
| All loads not exceeding 100 mA, 24 V DC | | |
| Light sensitive switches: example IC2000 | | |
| Timers, thermostats, time switches, load shedding devices | | |
| All 24 V DC auxiliary contacts, IEC 61131-2 type 1 | | |
| With analog outputs | | |
| Temperature and humidity sensors, with a 0-10 V or 4-20 mA output | | |
| CO ₂ and optical detectors, with a 0-10 V or 4-20 mA output | | |

Example of an installation

Ethernet link
 ■ 10/100 MB Ethernet, Modbus TCP server

1 analog input channel
 ■ Example: temperature sensor connection

Modbus Communication
 ■ Up to 8 Acti 9 Smartlink Modbus Slave or others slaves Modbus connected

Prefabricated cables
 ■ Simplified cabling
 ■ Fast and safe

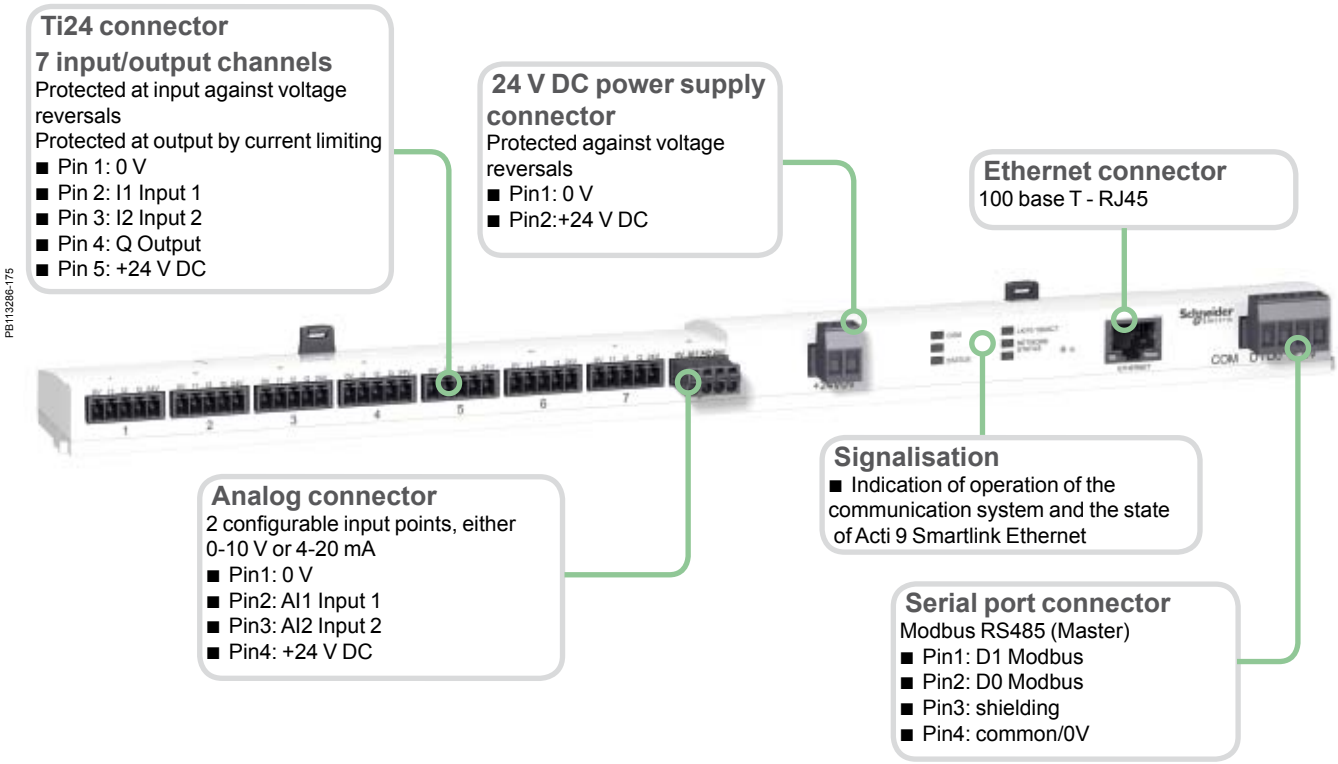
Connection to the Ethernet network

Acti 9 Smartlink Ethernet has an embedded web server that can be used to configure the connection to the Ethernet network

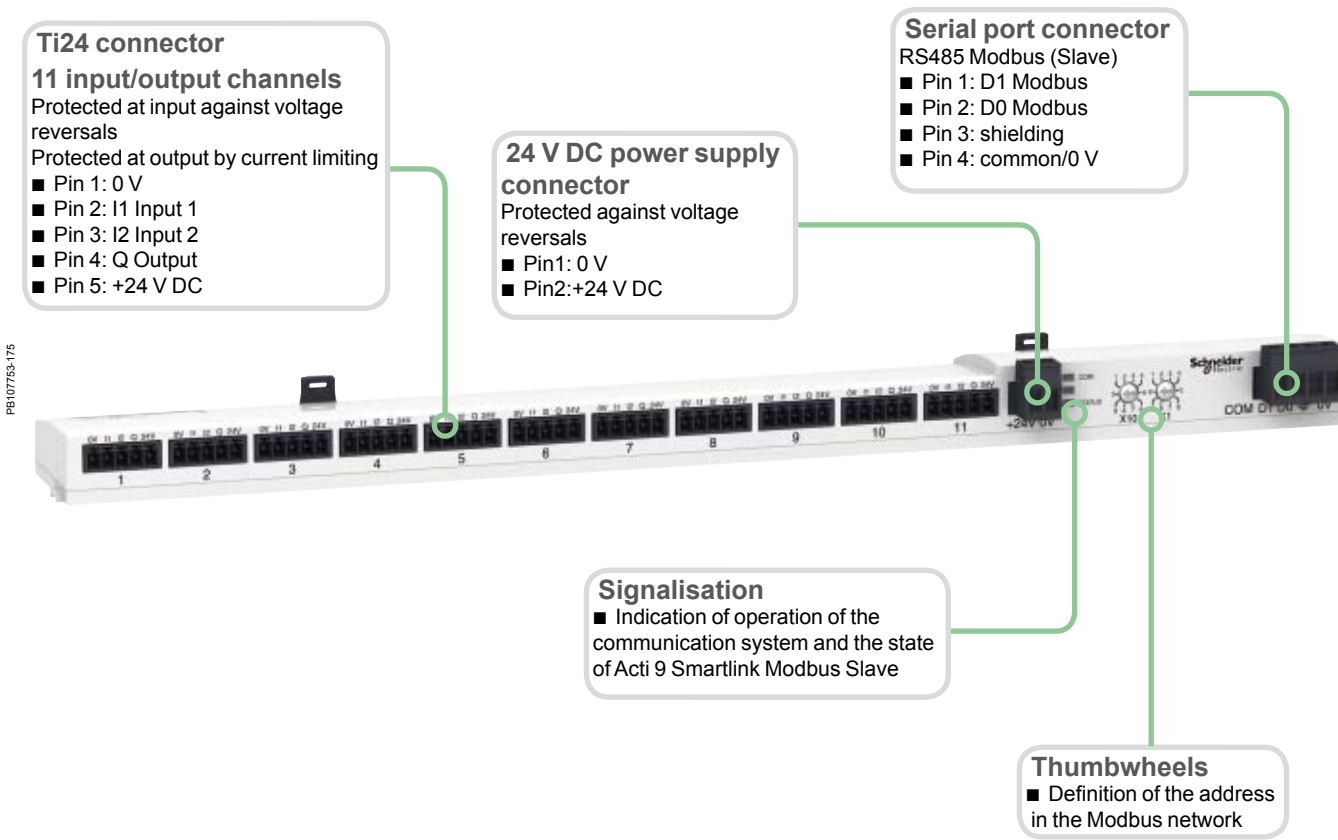
Web page

■ Web Page available, to configure Acti 9 Smartlink Ethernet communication Ethernet parameter, to visualize or control data

Acti 9 Smartlink Ethernet



Acti 9 Smartlink Modbus Slave



Common technical characteristics

| Power supply | | |
|--|-------------------------------|--|
| Rated | | 24 V DC \pm 20 % |
| Maximum input current | | 1.5 A |
| Maximum inrush current | | 3 A |
| Meter | | |
| Capacity | | 2 ³² pulses per input |
| Input characteristics | | |
| Number of channels | Acti 9 Smartlink Modbus Slave | 11 of 2-input channels |
| | Acti 9 Smartlink Ethernet | 7 of 2-input channels |
| Type of input | | Current collector Type 1 IEC 61131-2 |
| Maximum cable length | | 500 m |
| Rated voltage | | 24 V DC |
| Voltage limits | | 24 V DC \pm 20 % |
| Rated current | | 2.5 mA |
| Maximum current | | 5 mA |
| Filtering time | In state 1 | 2 ms |
| | In state 0 | 2 ms |
| Isolation | | No isolation between channels |
| Negative sequence voltage protection | | Yes |
| Output characteristics | | |
| Number of output channels | Acti 9 Smartlink Modbus Slave | 11 |
| | Acti 9 Smartlink Ethernet | 7 |
| Type of output | | 24 V DC 0.1 A current source |
| Maximum cable length | | 500 m |
| Rated voltage | Voltage | 24 V DC |
| | Maximum current | 100 mA |
| Filtering time | In state 1 | 2 ms |
| | In state 0 | 2 ms |
| Voltage drop (voltage in state 1) | | 1 V max |
| Maximum inrush current | | 500 mA |
| Leakage current | | 0.1 mA |
| Overvoltage protection | | 33 V DC |
| Environmental characteristics | | |
| Temperature | Operating | -25°C ... +60°C (if vertical mounting, limited to 50°C) |
| | Storage | -40°C...+80°C |
| Tropicalization | | Treatment 2 (relative humidity of 93% at 40°C) |
| Resistance to voltage dips | | 10 ms, class 3 as per IEC 61000-4-29 |
| Degree of protection | | IP20 |
| Pollution degree | | 3 |
| Altitude | Operating | 0 ... 2000 m |
| Vibration resistance | As per IEC 60068.2.6 | 1 g / \pm 3.5 mm - 5 Hz to 300 Hz - 10 cycles |
| Shock resistance | As per IEC 60068.2.2 7 | 15 g / 11 ms |
| Immunity to electrostatic discharge | As per IEC 61000-4-2 | Air: 8 kV Contact: 4 kV |
| Immunity to radiated magnetic fields | As per IEC 61000-4-3 | 10 V/m - 80 MHz to 3 GHz |
| Immunity to fast transients | As per IEC 61000-4-4 | 1 kV for inputs/outputs and Modbus communication. 2 kV for 24 DC power supply - 5 kHz - 100 kHz |
| Immunity to conducted magnetic fields | As per IEC 61000-4-6 | 10 V from 150 kHz to 80 MHz |
| Immunity to magnetic fields at mains frequency | As per IEC 61000-4-8 | 30 A/m |
| Resistance to corrosive atmospheres | As per IEC 60721-3-3 | Level 3C2 on H ₂ S / SO ₂ / NO ₂ / Cl ₂ |
| Fire resistance | For live parts | At 960°C 30 s / 30 s as per IEC 60 695-2-10 and IEC 60 695-2-11 |
| | For other parts | At 650°C 30 s / 30 s as per IEC 60 695-2-10 and IEC 60 695-2-11 |
| Salt spray test | As per IEC 60068.2.52 | Severity 2 |
| Environment | | In compliance with the RoHS directive |
| Additional characteristics | | |
| Duration of saving memory | | 10 years |
| Prefabricated cables characteristics | | |
| Dielectric resistance | | 1 kV / 5 min |
| Minimum draw-out resistance | | 20 N |

Acti 9 Smartlink Modbus Slave technical characteristics

| Characteristics of the Modbus link | | |
|------------------------------------|---------------|--|
| Link | | Modbus, RTU, RS485 serial connection |
| Transmission | Transfer rate | 9600 baud ... 19200 baud, self-adaptable |
| | Medium | Shielded cable, double twisted pair |
| Protocol | | Master/Slave |
| Type of device | | Slave |
| Modbus addressing range | | 1 to 99 |
| Maximum length of the bus | | 1000 m |
| Type of bus connector | | 4-pin connector |

Acti 9 Smartlink Ethernet technical characteristics

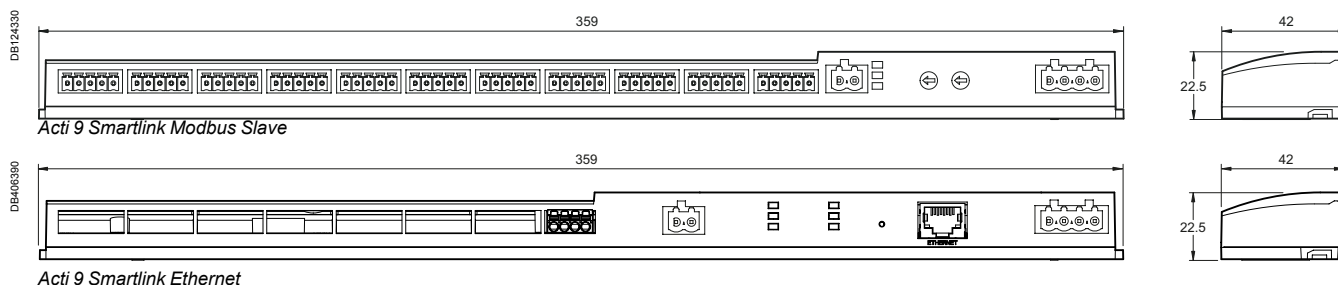
| Characteristics of the Ethernet link | |
|--------------------------------------|--|
| Link | 10/100 MB Ethernet |
| Protocol | Modbus TCP server http (Web pages) |
| Address mode | Static and dynamic (supplied, by default, in dynamic mode) |

| Characteristics of Gateway | |
|----------------------------|----------------------------|
| Protocol | Modbus TCP/IP -> Modbus SL |
| Modbus slave number | 8 |
| Modbus addressing range | 1 to 247 |

| Characteristics of the Modbus Master link | | |
|---|---------------|--|
| Link | | Modbus serial connection, RTU, RS485 |
| Transmission | Transfer rate | 9600 baud ... 19200 baud, self-adaptable |
| | Support | Shielded cable, double twisted pair |
| Maximum length of the bus | | 1000 m |
| Type of bus connector | | 4-pin connector |

| Characteristics of the analog inputs | |
|--------------------------------------|---|
| Number | 2 |
| Type | Separate configuration for each input, either 0-10 V or 4-20 mA |
| Measuring accuracy | 1/100 full scale |
| Resolution | 12 bits |
| Acquisition time | 500 ms |
| Isolation | No isolation between channels |
| Power supply | 0-24 V DC |
| Type of cable | Shielded cable, double twisted pair |
| Maximum cable length | 30 m |
| Protection | Short-circuit protection |

Dimensions (mm)



Weight (g)

| Acti 9 Smartlink | |
|-------------------------------|-----|
| Type | |
| Acti 9 Smartlink Modbus Slave | 195 |
| Acti 9 Smartlink Ethernet | 180 |

Connection

| | Terminal | Tightening torque | Copper cables | | |
|--|------------------------|------------------------|----------------------------|----------------------------|----------------------------|
| | | | Rigid | Flexible | Flexible with ferrule |
| <p>DB123560</p> <p>Connector cat. no: A9XC2412</p> | Ti24 interface | Spring loaded terminal | DB123545 | DB123553 | DB123554 |
| <p>DB40517</p> | Analog connector | 0.8 N.m | 0.1 to 1.5 mm ² | 0.1 to 1.5 mm ² | 0.1 to 1.5 mm ² |
| <p>DB124331</p> | Power supply connector | 0.8 N.m | 0.2 to 1.5 mm ² | 0.2 to 1.5 mm ² | 0.2 to 1.5 mm ² |
| <p>DB405141</p> | Modbus connector | 0.8 N.m | 0.25 mm ² | 0.25 mm ² | 0.25 mm ² |
| <p>DB405142</p> | | | | | |



■ The electrical auxiliaries are combined with iC60 circuit breakers, iID residual current circuit breakers, remote tripping switch disconnectors iSW-NA, RCA remote controls and ARA automatic reclosers; they enable tripping or remote indication of their position (open/closed/tripped) upon a fault.

■ They are fastened by clips (without tools) to the left side of the breaker.

■ The iOF/SD+OF auxiliary is a 2-in-1 product: via a mechanical selector switch, it provides two contacts, OF+SD or OF+OF.

■ The iOF+SD24 auxiliary can report open/closed (OF) status information and intentional or fault tripping of the associated device (SD) to the Acti9 Smartlink or a programmable logic controller via the Ti24 interface (24 V DC).

Tripping auxiliaries:

IEC/EN 60947-1

- iMN: undervoltage release
- iMNs: delayed undervoltage release
- iMNx: undervoltage release, independant from supply voltage
- iMX: shunt release
- iMX+OF: shunt release with open/close contact.

EN 50550

- iMSU: overvoltage release.

Indication auxiliaries:

IEC/EN 60947-5-1

- iOF: open/close contact
- iSD: fault indicating contact
- iOF/SD+OF: open/close contact and switchable OF or SD contact
- iOF+SD24: open/close contact OF and default indicating contact SD with Ti24 interface.

IEC/EN 60947-5-4

- iOF+SD24: open/close contact OF and default indicating contact SD with Ti24 interface.

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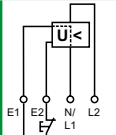


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Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA (cont.)



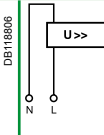
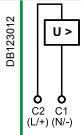
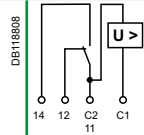
Tripping

| Auxiliaries | iMN | iMNs | iMNx | | | | |
|--|---|---|--|----------|---------------|-----------|---------------|
| Type | Undervoltage release | | | | | | |
| | Instantaneous | Delayed | Independent of the supply voltage | | | | |
| |  |  |  | | | | |
| Function | <ul style="list-style-type: none"> Trips the device with which it is combined when its input voltage decreases (between 70 % and 35 % U_n). Prevents device closing again until its input voltage is restored | | <ul style="list-style-type: none"> Tripping of the associated device by opening of the control circuit (e.g. push-button, dry contact) | | | | |
| | | <ul style="list-style-type: none"> Not tripping on transient voltage dip (up to 0.2 s) | <ul style="list-style-type: none"> A drop in the supply voltage does not trip the associated device A locking push-button control allows the circuit protected (e.g. machine control) to be placed in safety configuration | | | | |
| Wiring diagrams |  | |  | | | | |
| Use | <ul style="list-style-type: none"> Emergency stoppage by normally closed push button Ensures the safety of power supply circuits for several machines by preventing "uncontrolled" restarting | | <ul style="list-style-type: none"> Emergency stoppage with fail-safe principle Insensitive to control circuit voltage variation to increase service continuity Important: Before any servicing operation switch off the mains power supply (voltage presence at terminals E1/E2) | | | | |
| Catalogue numbers | A9A26960 | A9A26961 | A9A26959 | A9A26963 | A9A26969 | A9A26971 | |
| iC60, iID, iDPN Vigi, iSW-NA, RCA et ARA | ■ | ■ | ■ | ■ | ■ | ■ | |
| iC60, iID double terminals | ■ | ■ | ■ | ■ | ■ | ■ | |
| Technical specifications | | | | | | | |
| Rated voltage (Ue) | V AC | 220...240 | 48 | 115 | 220...240 | 220...240 | 380...415 |
| | V DC | — | 48 | — | — | — | — |
| Standardised operating and non-response to voltage times (Ua)* | | — | — | — | — | — | — |
| Maximum operating time | | — | — | — | — | — | — |
| Minimum non-response time | | — | — | — | — | — | — |
| Operating frequency | Hz | 50/60 | — | 400 | 50/60 | 50/60 | — |
| Red mechanical indicator | | On front face | | | On front face | | On front face |
| Test function | | — | | | — | | — |
| Width in 9 mm modules | | 2 | | | 2 | | 2 |
| Operating current | | — | | | — | | — |
| Number of contacts | | — | | | — | | — |
| Operating temperature | °C | -35...+70 | | | -35...+70 | | -35...+70 |
| Storage temperature | °C | -40...+85 | | | -40...+85 | | -40...+85 |






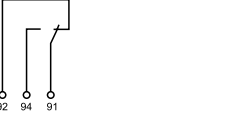
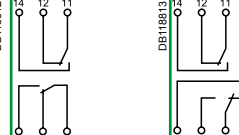
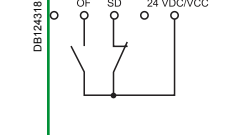
*(Ua)

Voltages measured between the phase and the neutral conductor, at which the IMSU device must control the associated protective device.

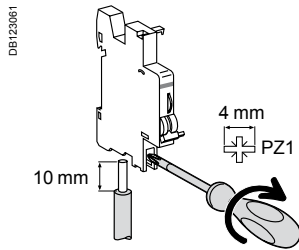
Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA (cont.)

| iMSU | | | | | iMX | | | iMX+OF | | | |
|--|--|--|--|--|---|-----------------|-----------------|--|-----------------|-----------------|---|
| Overvoltage release | | | | | Shunt release | | | With Open/Close auxiliary contact | | | |
|  | | | | |  | | |  | | | |
| <ul style="list-style-type: none"> Switches off the power supply by opening the breaker with which it is combined, in the event that the phase/neutral voltage is exceeded (loss of neutral). For a four-phase network, use three iMSU tripping auxiliaries | | | | | <ul style="list-style-type: none"> Trips the breaker when powered | | | <ul style="list-style-type: none"> Includes an open/close contact (OF) to indicate the "open" or "closed" position of the breaker | | | |
|  | | | | |  | | |  | | | |
| <ul style="list-style-type: none"> Protection of equipment against overvoltages on the electrical network (neutral conductor break) Voltage monitoring between phase and neutral conductors | | | | | <ul style="list-style-type: none"> Emergency stoppage by normally open push button | | | <ul style="list-style-type: none"> Emergency stoppage by normally open push button Remote indication of the position of the associated breaker | | | |
| A9A26500 | | | | | A9A26476 | A9A26477 | A9A26478 | A9A26946 | A9A26947 | A9A26948 | |
| ■ | | | | | ■ | ■ | ■ | ■ | ■ | ■ | |
| ■ | | | | | ■ | ■ | ■ | ■ | ■ | ■ | |
| 230 | | | | | 100...415 | 48 | 12...24 | 100...415 | 48 | 12...24 | |
| - | | | | | 110...130 | 48 | 12...24 | 110...130 | 48 | 12...24 | |
| 255 V AC | | | | | 275 V AC | 300 V AC | 350 V AC | 400 V AC | - | - | - |
| No tripping | | | | | 15 s | 5 s | 0.75 s | 0.20 s | - | - | - |
| | | | | | 3 s | 1 s | 0.25 s | 0.07 s | - | - | |
| 50/60 | | | | | 50/60 | | | 50/60 | | | |
| On front face | | | | | On front face | | | On front face | | | |
| - | | | | | - | | | - | | | |
| 2 | | | | | 2 | | | 2 | | | |
| - | | | | | - | | | ≤ 24 V DC 10 mA mini, 6 A maxi 48 V DC 2 A ≤ 130 V DC 1 A ≤ 240 V AC 6 A 415 V AC 3 A 1 NO/NC | | | |
| -35...+70 | | | | | -35...+70 | | | -35...+70 | | | |
| -40...+85 | | | | | -40...+85 | | | -40...+85 | | | |

Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA (cont.)

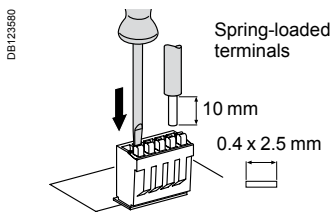
| | | Indication | | | | | | |
|--|----------|---|---|---|--|----------------------|-----------------|------------------------|
| Auxiliaries | | iOF | iSD | iOF/SD+OF | iOF+SD24 | | | |
| Type | | Open/close auxiliary contact | Fault indicating contact | Double open/close or fault indicating contact | Double open/close and fault indicating contact | | | |
| | |  <p>PB104474-35</p> |  <p>PB104476-35</p> |  <p>PB104475-35</p> |  <p>PB107750-35</p> <p>ComReady</p> | | | |
| Function | | <ul style="list-style-type: none"> Changeover contact indicates "open" or "closed" position of the breaker | <ul style="list-style-type: none"> Changeover contact indicates position of the breaker; upon: <ul style="list-style-type: none"> electrical fault action on tripping auxiliary Same indication as VISI-TRIP | <ul style="list-style-type: none"> The iOF/SD+OF auxiliary is a 2-in-1 product: via a mechanical selector switch, it provides two contacts, OF+SD or OF+OF | <ul style="list-style-type: none"> 2 contacts (1 NO + 1 NC) can report the signalling information of the associated device to the Acti 9 Smartlink or a programmable logic controller: <ul style="list-style-type: none"> electrical fault actuation of the tripping auxiliary "Open" or "Closed" position of the associated device | | | |
| Wiring diagrams | |  <p>DB11881/0</p> |  <p>DB11881/1</p> |  <p>DB11881/2 (OF position) DB11881/3 (SD position)</p> |  <p>DB12451/6</p> | | | |
| Use | | <ul style="list-style-type: none"> Remote indication of the position of the associated breaker | <ul style="list-style-type: none"> Remote indication of tripping upon a fault of the associated breaker | <ul style="list-style-type: none"> Remote indication of position and/or tripping upon a fault of the associated breaker | <ul style="list-style-type: none"> Remote indication of position and tripping upon a fault of the associated breaker | | | |
| Catalogue numbers | | A9A26924 | A9A26869 | A9A26927 | A9A26855 | A9A26929 | A9A26897 | |
| iC60, iID, iDPN Vigi, iSW-NA, RCA et ARA | | ■ | – | ■ | – | ■ | ■ | |
| iC60, iID double terminals | | – | ■ | – | ■ | ■ | ■ | |
| Technical specifications | | | | | | | | |
| Rated voltage (Ue) | V AC | 240...415 | | 240...415 | | 240...415 | | – |
| | V DC | 24...130 | | 24...130 | | 24...130 | | 24 |
| Operating frequency | Hz | 50/60 | | 50/60 | | 50/60 | | – |
| Red mechanical indicator | | – | | On front face | | On front face | | On front face |
| Test function | | On toggle | | On toggle | | On toggle | | On toggle |
| Width in 9 mm modules | | 1 | | 1 | | 1 | | 1 |
| Operating current | 24 V DC | 10 mA mini, 6 A maxi | | 10 mA mini, 6 A maxi | | 10 mA mini, 6 A maxi | | 2 mA mini, 100 mA maxi |
| | 48 V DC | 2 A | | 2 A | | 2 A | | – |
| | 60 V DC | 1.5 A | | 1.5 A | | 1.5 A | | – |
| | 130 V DC | 1 A | | 1 A | | 1 A | | – |
| | 240 V AC | 6 A | | 6 A | | 6 A | | – |
| | 415 V AC | 3 A | | 3 A | | 3 A | | – |
| Number of contacts | | 1 NO/NC | | 1 NO/NC | | 1 NO/NC + 1 NO/NC | | 1 NO/NC |
| Operating temperature | °C | -35...+70 | | -35...+70 | | -35...+70 | | -25...+70 |
| Storage temperature | °C | -40...+85 | | -40...+85 | | -40...+85 | | -40...+85 |

Connection



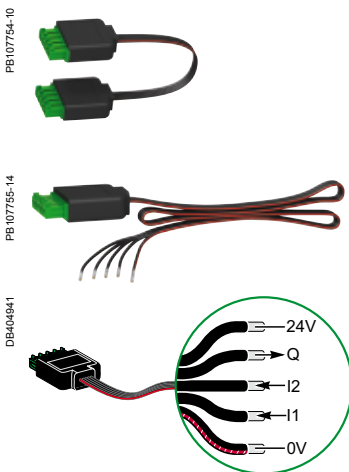
| Type | Tightening torque | Copper cables | | Multi-cables | |
|------------------------|-------------------|------------------------|----------------------------|-------------------------|-------------------------|
| | | Rigid | Flexible | Rigid | Cables with ferrule |
| Indication auxiliaries | 1 N.m | 1 to 4 mm ² | 0.5 to 2.5 mm ² | 2 x 2.5 mm ² | 2 x 1.5 mm ² |
| Tripping auxiliaries | 1 N.m | 1 to 6 mm ² | 0.5 to 4 mm ² | 2 x 2.5 mm ² | 2 x 2.5 mm ² |

Ti24 connector connection



| Type | Catalogue numbers | Copper cables | |
|----------------|-------------------|-------------------------------|-------------------------------|
| | | Rigid | Flexible |
| Ti24 interface | A9XC2412 | 1 x 0,5 à 1,5 mm ² | 1 x 0,5 à 1,5 mm ² |

Ti24 prefabricated cables connection



| Type | Catalogue numbers | Length |
|--|-------------------|--------|
| Connection for Acti 9 Smartlink | | |
| 6 short prefabricated | A9XCAS06 | 100 mm |
| 6 medium-sized prefabricated | A9XCAM06 | 160 mm |
| 6 long prefabricated | A9XCAL06 | 870 mm |
| Connection for PLC type terminals | | |
| 6 long prefabricated on a single side | A9XCAU06 | 870 mm |

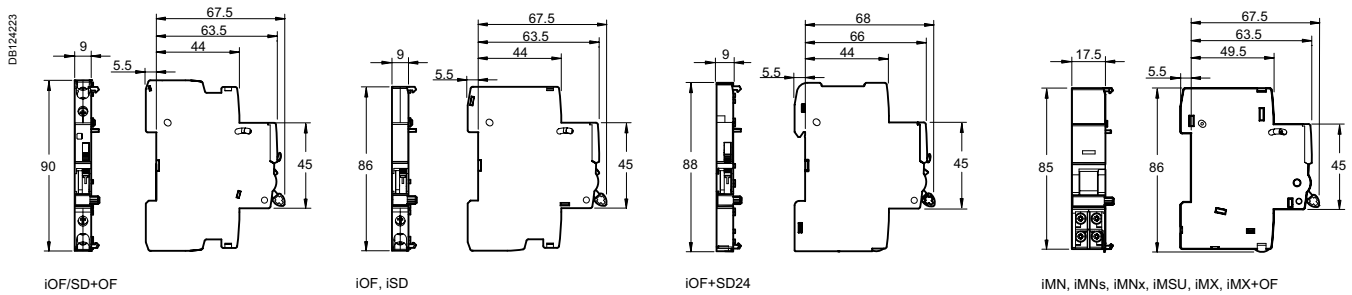
Electrical auxiliaries for iC60, iID, iDPN Vigi, iSW-NA, RCA and ARA (cont.)

Technical data

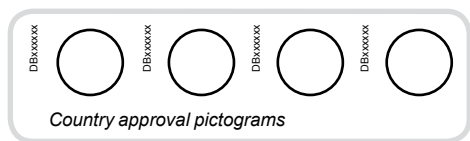
Weight (g)

| Electrical auxiliaries | |
|------------------------|----|
| Type | |
| iMN | 69 |
| iMNs | 72 |
| iMNx | 79 |
| iMSU | 68 |
| iMX | 64 |
| iMX+OF | 68 |
| iOF | 32 |
| iSD | 33 |
| iOF/SD+OF | 43 |
| iOF+SD24 | 25 |

Dimensions (mm)



iMDU electrical auxiliary for Reflex iC60



A9C18195

The voltage matching module allows safety voltages of 24 and 48 V AC/DC to be used on the control inputs.

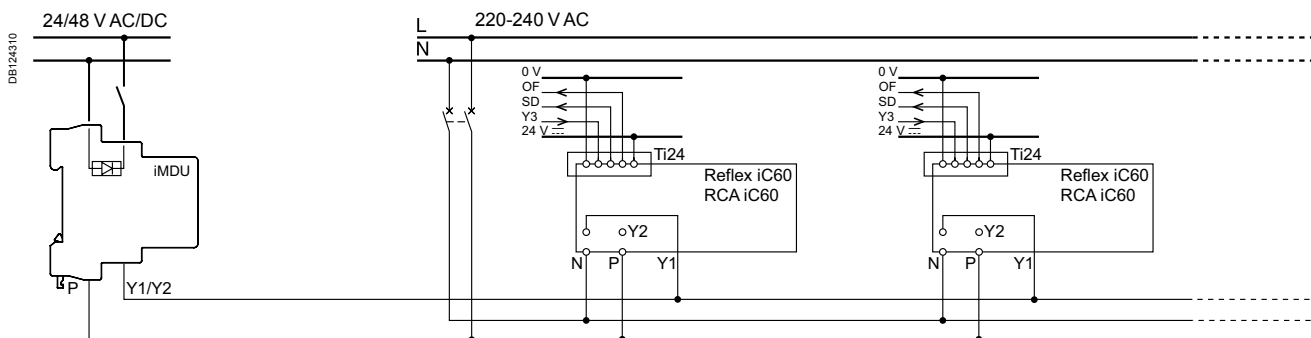
- Only connects to the Reflex iC60 circuit breakers remote controlled by a 220-240 V control voltage
- Galvanic isolation 6000 V
- Maximum combined power between terminals P and Y1/Y2: 100 mA at 230 V and 25°C.

Catalogue numbers

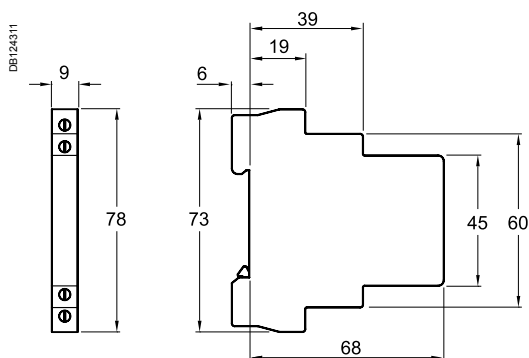
| Electrical auxiliary for Reflex iC60 | | |
|--------------------------------------|----------|-----------------------|
| Type | | Width in 9 mm modules |
| iMDU | A9C18195 | 1 |

Diagram

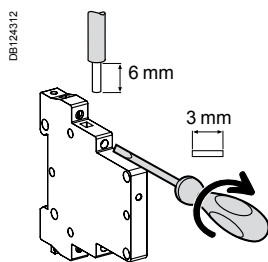
An iMDU electrical auxiliary allows up to a maximum of five Reflex iC60 to be controlled simultaneously at the same input Y1 or Y2.



Dimensions (mm)



Connection



| Type | Tightening torque | Copper cables | |
|------|-------------------|---------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| iMDU | 1 N.m | 1.5 mm ² | 1.5 mm ² |

Technical data

| Main characteristics | | |
|----------------------------------|-----------------------------|--|
| Control circuit voltage | | 24...48 V AC/DC |
| Insulation voltage (Ui) | | 500 V |
| Additional characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | | -20°C to +60°C |
| Storage temperature | | -40°C to +80°C |
| Tropicalisation | | Treatment 2 (relative humidity 95 % at 55°C) |
| Weight | | 53 g |



Electrical auxiliaries for C60, C120, DPN, DPN Vigi, ID, C60H-DC, SW60-DC, C60PV-DC, C60NA-DC, C120NA-DC devices

- The electrical auxiliaries provide the remote tripping or position (open/closed/tripped) indication functions of these devices in the event of a fault.
- They clip on (no tool required) to the left-hand side of the associated device.
- The OF+SD/OF auxiliary is a two-in-one product: a mechanical selector switch is used to select one of two contacts: OF+SD or OF+OF.
- The OF+SD24 auxiliary can report open/closed (OF) status information and intentional or fault tripping of the associated device (SD) to the Acti9 Smartlink or a programmable logic controller via the Ti24 interface (24 V DC).



- The electrical auxiliaries are not compatible with ID residual current circuit breakers of type B.

Tripping auxiliaries:

IEC/EN 60947-1

- MN: undervoltage release
- MNs: delayed undervoltage release
- MNx: undervoltage release, independent of the supply voltage
- MX: shunt release
- MX+OF: shunt release with open/closed contact.

EN 50550

- MSU: overvoltage release.

Indication auxiliaries:




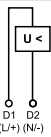
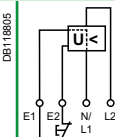
IEC/EN 60947-5-1

- OF.S: open/closed contact for ID
- OF: open/closed contact
- SD: fault indicating contact
- OF+SD/OF: choice of open/closed contact and OF or SD contact via the selector switch
- OF+SD24: open/close contact OF and cfault indicating contact SD with Ti24 interface.

IEC/EN 60947-5-4

- OF+SD24: open/close contact OF and cfault indicating contact SD with Ti24 interface.




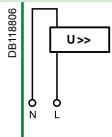
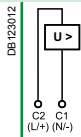
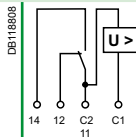
Electrical auxiliaries for C60, C120, DPN, DPN Vigi, ID, C60H-DC, SW60-DC, C60PV-DC, C60NA-DC, C120NA-DC devices

| | | Tripping | | | | | |
|---|------|--|-----------------|--|-----------------|--|-----------------|
| Auxiliaries | | MN | | MNs | | MNx | |
| Type | | Undervoltage release | | | | | |
| | | Instantaneous | | Delayed | | Independent of the supply voltage | |
| | |  | |  | |  | |
| Function | | <ul style="list-style-type: none"> Causes the device with which it is associated to trip when its input voltage decreases (between 70 % and 35 % of U_n). Prevents the device from closing until its input voltage has been restored | | | | <ul style="list-style-type: none"> Tripping of the associated device by opening of the control circuit (e.g. push-button, dry contact) | |
| | | <ul style="list-style-type: none"> No tripping in the event of transient voltage dips (up to 0.2 s) | | | | <ul style="list-style-type: none"> A drop in the supply voltage does not trip the associated device A locking push-button control allows the circuit protected (e.g. machine control) to be placed in safety configuration | |
| Wiring diagrams | |  | |  | | | |
| Utilization | | <ul style="list-style-type: none"> Emergency stop via a normally-closed pushbutton Ensures the safety of the power supply circuits of several machines by preventing accidental startups | | | | <ul style="list-style-type: none"> Fail-safe emergency stop Insensitive to the variation in the control circuit voltage to improve continuity of service Important: Before any servicing operation switch off the mains power supply (voltage presence at terminals E1/E2) | |
| Catalogue numbers | | A9N26960 | A9N26961 | A9N26959 | A9N26963 | A9N26969 | A9N26971 |
| C60, C120, DPN, DPN Vigi, ID | | ■ | ■ | ■ | ■ | ■ | ■ |
| C60H-DC, SW60-DC, C60PV-DC, C60NA-DC, C120NA-DC | | ■ | ■ | ■ | ■ | ■ | ■ |
| Technical specifications | | | | | | | |
| Rated voltage (U _e) | V AC | 220...240 | 48 | 115 | 220...240 | 230 | 400 |
| | V DC | – | 48 | – | – | – | – |
| Standardised operating and non-response to voltage times (U _a)* | | – | – | – | – | – | – |
| Maximum operating time | | – | – | – | – | – | – |
| Minimum non-response time | | – | – | – | – | – | – |
| Operating frequency | Hz | 50/60 | | 400 | 50/60 | | 50/60 |
| Mechanical state indicator light, red | | On front face | | | On front face | | On front face |
| Test function | | – | | | | | |
| Width in 9 mm modules | | 2 | | | 2 | | 2 |
| Operating current | | – | | | | | |
| Number of contacts | | – | | | | | |
| Operating temperature | °C | -25...+50 | | | -25...+50 | | -25...+50 |
| Storage temperature | °C | -40...+85 | | | -40...+85 | | -40...+85 |
| Standards | | | | | | | |
| IEC/EN 60947-1 | | ■ | | ■ | | ■ | |
| IEC/EN 60947-5-1 | | – | | – | | – | |
| EN 60947-2 | | ■ | | ■ | | – | |
| EN 62019-2 ⁽¹⁾ | | – | | – | | – | |

(1) For C120, DPN.

*(U_a): Voltages measured between the phase and the neutral conductor, at which the MSU device must control the associated protective device.

Electrical auxiliaries for C60, C120, DPN, DPN Vigi, ID, C60H-DC, SW60-DC, C60PV-DC, C60NA-DC, C120NA-DC devices

| MSU | | | | | MX | | | MX+OF | | |
|--|--|--|--|--|---|-----------------|-----------------|---|-----------------|-----------------|
| Voltage threshold release | | | | | Shunt release | | | With Open/Close auxiliary contact | | |
|  | | | | |  | | |  | | |
| <ul style="list-style-type: none"> Cuts off the power supply by opening the device with which it is associated when the phase/neutral voltage is exceeded (loss of neutral). For a four-phase network, use three MSU tripping auxiliaries | | | | | <ul style="list-style-type: none"> Trips the associated device when it is powered on | | | <ul style="list-style-type: none"> Includes an open/close contact (OF) to indicate the "open" or "closed" position of the breaker | | |
|  | | | | |  | | |  | | |
| <ul style="list-style-type: none"> Protection of the devices against overvoltages on the electrical network (break in the neutral conductor) Monitoring the voltage between the phase conductor and the neutral conductor | | | | | <ul style="list-style-type: none"> Emergency stop via a normally-open pushbutton. | | | <ul style="list-style-type: none"> Emergency stop via a normally-open pushbutton Remote indication of the position of the associated device | | |
| A9N26500 | | | | | A9N26476 | A9N26477 | A9N26478 | A9N26946 | A9N26947 | A9N26948 |
| ■ | | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| - | | | | | ■ | ■ | ■ | ■ | ■ | ■ |
| 230 | | | | | 100...415 | 48 | 12...24 | 100...415 | 48 | 12...24 |
| - | | | | | 110...130 | 48 | 12...24 | 110...130 | 48 | 12...24 |
| 255 V AC | | | | | | | | | | |
| 275 V AC | | | | | | | | | | |
| 300 V AC | | | | | | | | | | |
| 350 V AC | | | | | | | | | | |
| 400 V AC | | | | | | | | | | |
| No tripping | | | | | | | | | | |
| 15 s | | | | | | | | | | |
| 5 s | | | | | | | | | | |
| 0.75 s | | | | | | | | | | |
| 0.20 s | | | | | | | | | | |
| 3 s | | | | | | | | | | |
| 1 s | | | | | | | | | | |
| 0.25 s | | | | | | | | | | |
| 0.07 s | | | | | | | | | | |
| 50/60 | | | | | 50/60 | | | 50/60 | | |
| On front face | | | | | On front face | | | On front face | | |
| - | | | | | - | | | - | | |
| 2 | | | | | 2 | | | 2 | | |
| - | | | | | - | | | 3 A / 415 V AC | | |
| - | | | | | - | | | 6 A / ≤ 240 V AC | | |
| - | | | | | - | | | 1 NO/NC | | |
| -25...+50 | | | | | -25...+50 | | | -25...+50 | | |
| -40...+85 | | | | | -40...+85 | | | -40...+85 | | |
| ■ | | | | | ■ | | | ■ | | |
| - | | | | | - | | | - | | |
| - | | | | | - | | | - | | |
| - | | | | | - | | | - | | |

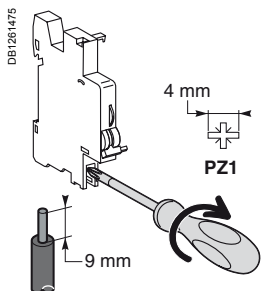
Electrical auxiliaries for C60, C120, DPN, DPN Vigi, ID, C60H-DC, SW60-DC, C60PV-DC, C60NA-DC, C120NA-DC devices

| | | Indication | | | | |
|--|------|---|--|--|--|--|
| Auxiliaries | | OF.S | OF | SD | OF+SD/OF | OF+SD24 |
| Type | | Open/closed auxiliary contact | Open/closed auxiliary contact | Fault indicating contact | Double open/closed or fault indicating contact | Double open/close and fault indicating contact |
| | | | | | | |
| Function | | <ul style="list-style-type: none"> Changeover contact indicating the "open" or "closed" position of the associated device <p>⚠ Compulsory for the addition of tripping or indication auxiliaries on a residual current circuit breaker ID</p> | <ul style="list-style-type: none"> Changeover contact indicating the "open" or "closed" position of the associated device | <ul style="list-style-type: none"> Changeover contact indicating the position of the associated device in the event of: <ul style="list-style-type: none"> electrical fault action on the tripping auxiliary <p>⚠ Not compatible with a ID residual current circuit breaker, use an OF+SD/OF in the SD position</p> | <ul style="list-style-type: none"> The OF+SD/OF auxiliary is a two-in-one product: choice of OF + SD or OF + OF contact via the selector switch | <ul style="list-style-type: none"> 2 contacts (1 NO + 1 NC) can report the signalling information of the associated device to the Acti 9 Smartlink or a programmable logic controller: <ul style="list-style-type: none"> electrical fault actuation of the tripping auxiliary "Open" or "Closed" position of the associated device |
| Wiring diagrams | | | | | | |
| | | | | OF position | SD position | |
| Utilization | | <ul style="list-style-type: none"> Remote indication of the position of the associated device | <ul style="list-style-type: none"> Remote indication of the position of the associated device | <ul style="list-style-type: none"> Remote fault tripping indication of the associated device | <ul style="list-style-type: none"> Remote position and/or fault tripping indication of the associated device | <ul style="list-style-type: none"> Remote indication of position and tripping upon a fault of the associated breaker |
| Catalogue numbers | | A9N26923 | A9N26924 | A9N26927 | A9N26929 | A9N26899 |
| ID | | ■ | ■ | ■ | ■ | ■ |
| C60, C120, DPN, DPN Vigi, C60H-DC, C60H-DC, SW60-DC, C60PV-DC, C60NA-DC, C120NA-DC | | – | ■ | ■ | ■ | ■ |
| Technical specifications | | | | | | |
| Rated voltage (Ue) | V AC | 24...415 | 24...415 | 24...415 | 24...415 | – |
| | V DC | 24...130 | 24...130 | 24...130 | 24...130 | 24 |
| Operating frequency | Hz | 50/60 | 50/60 | 50/60 | 50/60 | – |
| | | | | | | |
| Mechanical state indicator | | – | – | On front face | On front face | On front face |
| Test function | | – | On front face | On front face | On front face | On toggle |
| Width in 9 mm modules | | 1 | 1 | 1 | 1 | 1 |
| Operating current | | 3 A / 415 V AC 6 A / ≤ 240 V AC | | | | 2 mA mini, 100 mA maxi |
| Number of contacts | | 1 NO/NC | 1 NO/NC | 1 NO/NC | 1 NO/NC + 1 NO/NC | 1 NO + 1 NC |
| Operating temperature | °C | -25...+50 | -25...+50 | -25...+50 | -25...+50 | -25...+70 |
| Storage temperature | °C | -40...+85 | -40...+85 | -40...+85 | -40...+85 | -40...+85 |
| Standards | | | | | | |
| IEC/EN 60947-1 | | – | – | – | – | – |
| IEC/EN 60947-5-1 | | ■ | ■ | ■ | ■ | ■ IEC 60947-5-4 |
| EN 60947-2 | | – | – | – | – | – |
| EN 62019-2 ⁽¹⁾ | | ■ | ■ | ■ | ■ | – |

(1) For C120, DPN.

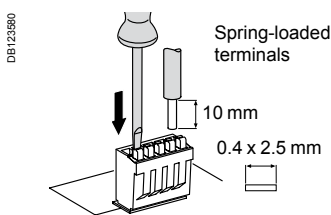
Electrical auxiliaries for C60, C120, DPN, DPN Vigi, ID, C60H-DC, SW60-DC, C60PV-DC, C60NA-DC, C120NA-DC devices

Connection



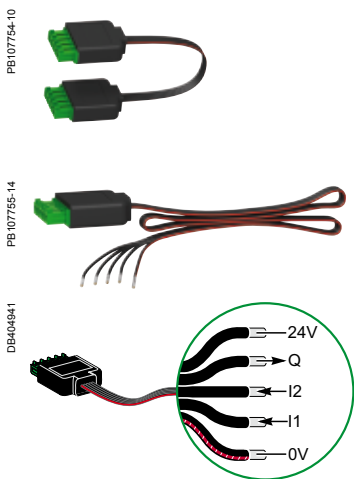
| Type | Tightening torque | Copper cables | |
|-------------------------------------|-------------------|----------------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| Indication and tripping auxiliaries | 1 N.m | 0.5 to 2.5 mm ² | 2 x 1.5 mm ² |

Ti24 connector connection



| Type | Catalogue numbers | Copper cables | |
|----------------|-------------------|--------------------------------|--------------------------------|
| | | Rigid | Flexible |
| Ti24 interface | A9XC2412 | 1 x 0.5 to 1.5 mm ² | 1 x 0.5 to 1.5 mm ² |

Ti24 prefabricated cables connection

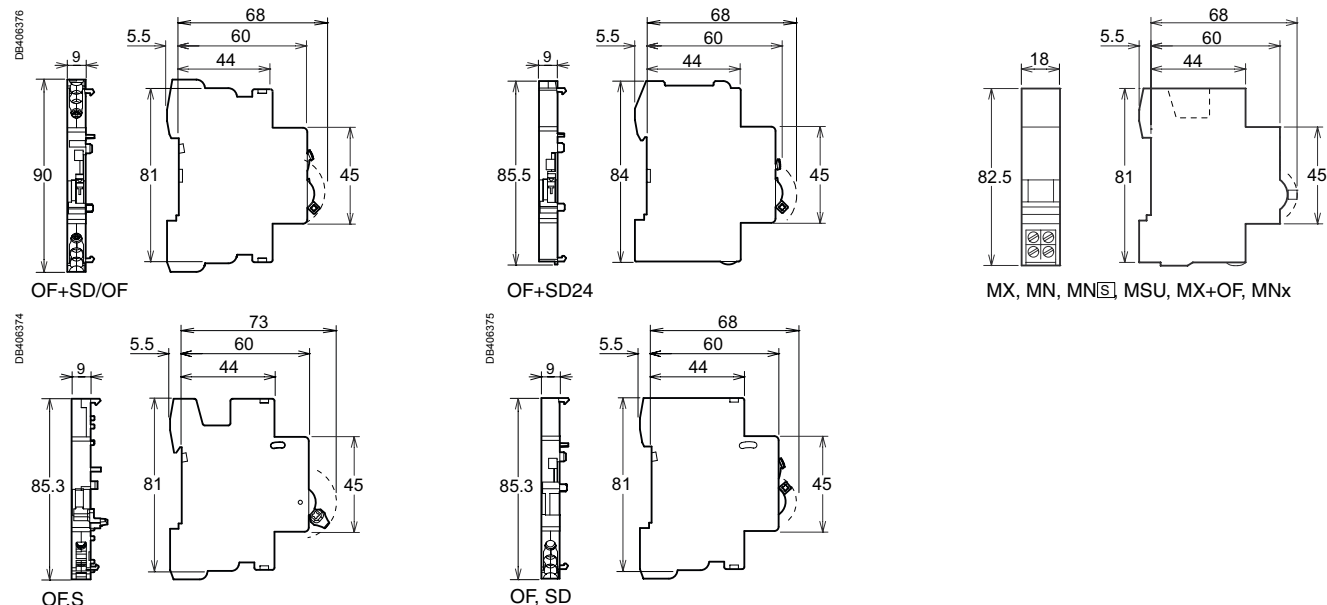


| Type | Cat. no. | Length |
|--|----------|--------|
| Connection for Acti 9 Smartlink | | |
| 6 short prefabricated | A9XCAS06 | 100 mm |
| 6 medium-sized prefabricated | A9XCAM06 | 160 mm |
| 6 long prefabricated | A9XCAL06 | 870 mm |
| Connection for PLC type terminals | | |
| 6 long prefabricated on a single side | A9XCAU06 | 870 mm |

Weight (g)

| Electrical auxiliaries | |
|------------------------|------------|
| Type | Weight (g) |
| MN | 66 |
| MNs | 66 |
| MNx | 73 |
| MSU | 66 |
| MX | 60 |
| MX+OF | 65 |
| OF.S | 33 |
| OF | 30 |
| SD | 30 |
| OF+SD/OF | 38 |
| OF+SD24 | 28 |

Dimensions





- The electrical auxiliaries are combined with NG125 circuit breakers and NG125 switch-disconnectors; they provide the remote tripping or position (open/closed/tripped) indication functions of these devices in the event of a fault.
- They clip on (no tool required) to the left-hand side of the associated device.

IEC/EN 60947-2

- Tripping auxiliaries:
 - MN: undervoltage release
 - MNx: undervoltage release, independent of the supply voltage
 - MX+OF: shunt release with open/closed contact
 - MXV: shunt release for Vigi add-on residual current device.


IEC/EN 60947-5-1

- Indication contacts:
 - OF+OF: open/closed contact
 - OF+SD: fault indicating contact
 - MX+OF: shunt release with open/closed contact
 - SDV: fault indicating contact for Vigi add-on residual current device.

DB123424

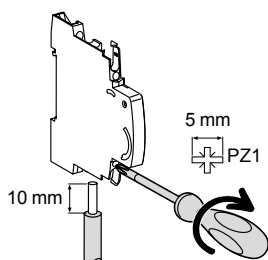



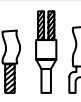


Combination table

| Electrical auxiliaries | | Device |
|------------------------|---|---|
| Indication auxiliaries | Tripping auxiliaries |  088602N SE-30 NG125 |
| 2 (OF+OF or OF+SD) | Max. quantity + 1 (MX+OF or MN or MNx) | |




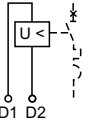
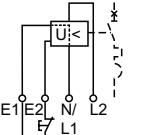
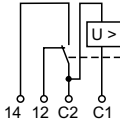
Connection

DB123413



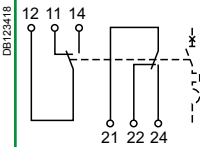
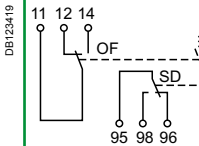


| Type | Tightening torque | Copper cables | | Multi-cable terminal | |
|----------------------|-------------------|---|---|--|--|
| | | Rigid | Flexible or with ferrule | Flexible or rigid cables | Cables with ferrule |
| Indication contacts | 1 N.m |  DB122845 0.5 to 2.5 mm ² |  DB123411 0.5 to 1.5 mm ² |  DB123011 2 x 2.5 mm ² |  DB123412 2 x 1.5 mm ² |
| Tripping auxiliaries | 1 N.m | 0.5 to 2.5 mm ² | 0.5 to 1.5 mm ² | 2 x 2.5 mm ² | 2 x 1.5 mm ² |



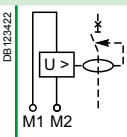
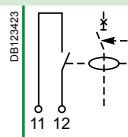
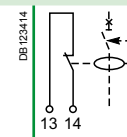
Electrical auxiliaries for NG125 devices and for Vigi NG125 add-on residual current devices (cont.)

| | | Tripping | | | | | | | | |
|---------------------------------------|---------------------|--|-----------|-------|---|---------------|--|------------------------------------|-------|--|
| Auxiliaries | | MN | | | MNx | | MX+OF | | | |
| Type | | Undervoltage release | | | | | | Shunt release | | |
| | | Instantaneous | | | Independent of the supply voltage | | | With open/closed auxiliary contact | | |
| | |  | | |  | |  | | | |
| Function | | <ul style="list-style-type: none"> Causes tripping of the device with which it is combined when its input voltage decreases (between 70% and 35% of U_n). Prevents closing of the device until its input voltage has been restored | | | <ul style="list-style-type: none"> Tripping of the associated device by opening of the control circuit (e.g. push-button, dry contact) A drop in the supply voltage does not trip the associated device A locking push-button control allows the circuit protected (e.g. machine control) to be placed in safety configuration | | <ul style="list-style-type: none"> Causes tripping of the associated device when powered Includes an open/closed contact (OF) to indicate the "open" or "closed" position of the associated device | | | |
| Wiring diagrams | |  | | |  | |  | | | |
| Utilization | | <ul style="list-style-type: none"> Emergency stop by normally-closed pushbutton Ensures safety of the power supply circuits for several machines by preventing untimely restarting | | | <ul style="list-style-type: none"> Fail-safe emergency stop Insensitive to variations in the control circuit voltage for improved continuity of service Important: Before any servicing operation switch off the mains power supply (voltage presence at terminals E1/E2) | | <ul style="list-style-type: none"> Provided with a self-interrupting contact | | | |
| Catalogue numbers | | 19067 | 19069 | 19070 | 19061 | 19064 | 19065 | 19066 | 19063 | |
| Technical specifications | | | | | | | | | | |
| Rated voltage (U_e) | V AC | 230...240 | 48 | – | 220...240 | 230...415 | 48...130 | 24 | 12 | |
| | V DC | – | – | 48 | – | 110...130 | 48 | 24 | 12 | |
| Operating frequency | Hz | 50/60 | | | 50/60 | 50/60 | | | | |
| Mechanical state indicator light, red | | On front face | | | On front face | On front face | | | | |
| Width in 9 mm modules | | 2 | | | 4 | 2 | | | | |
| Current rating | | – | | | – | ≥ 240 V AC | 3 A | | | |
| | | – | | | – | < 240 V AC | 6 A | | | |
| | | – | | | – | 130 V CC | 1 A | | | |
| | | – | | | – | ≤ 48 V CC | 2 A | | | |
| | | – | | | – | ≤ 24 V CC | 6 A | | | |
| Number of contacts | | – | | | – | – | | | | |
| Operating temperature | °C | -25...+60 | | | -25...+60 | -25...+60 | | | | |
| | Storage temperature | °C | -40...+85 | | | -40...+85 | -40...+85 | | | |

Indication

| OF+OF | OF+SD |
|--|--|
| Auxiliary contact | Fault indicating contact |
|  |  |
| <p>■ Double changeover contact indicating "open" or "closed" position of the associated device</p> | <p>■ Double changeover contact indicating:</p> <ul style="list-style-type: none"> <input type="checkbox"/> the position of the associated device in the event of: <ul style="list-style-type: none"> - electrical fault - actuation of the tripping auxiliary <input type="checkbox"/> the "open" or "closed" position of the associated device |
|  |  |
| <p>■ Remote indication of the position of the associated device</p> | <p>■ Remote indication of tripping upon a fault of the associated device</p> |
| 19071 | 19072 |
| - | - |
| - | - |
| 50/60 | 50/60 |
| - | - |
| 1 | 1 |
| 240 V AC 6 A | 240 V AC 6 A |
| 415 V AC 3 A | 415 V AC 3 A |
| 2 NO/NC | 2 NO/NC |
| -25...+60 | -25...+60 |
| -40...+85 | -40...+85 |

Electrical auxiliaries for NG125 devices and for Vigi NG125 add-on residual current devices (cont.)

| | | Indication | |
|-------------------------------------|---|---|---|
| Auxiliaries | MXV | SDV | |
| Type | Shunt release | Vigi fault indicating contact | |
| |  |  | |
| Function | <ul style="list-style-type: none"> At power up, actuates tripping of a circuit breaker or residual current circuit breaker It is provided with a self-interrupting contact | <ul style="list-style-type: none"> Normally-closed or normally-open contact indicating tripping upon an earth fault (including tripped by MXV) | |
| Wiring diagrams |  |  |  |
| Utilization | <ul style="list-style-type: none"> Adaptable to 125 A Vigi add-on residual current device, all types, and to 63 A Vigi add-on residual current device, adjustable Impulse withstand voltage: 6 kV High-impedance input: use an iACTp if the leakage current in the control unit exceeds 1 mA (e.g. illuminated pushbutton) | | |
| Catalogue numbers | 19060 | 19058 | 19059 |
| Suitable for the following devices: | | | |
| NG125 | – | – | |
| Vigi NG125 | ■ | ■ | |
| Technical specifications | | | |
| Rated voltage (Ue) | V AC | 110...240 | 250 |
| | V DC | 110 | – |
| Operating frequency | Hz | 50/60 | 50/60 |
| Number of contacts | | – | 1 NO 1 NC |
| Current rating | | – | 0.1 to 1 A (AC14) |
| Operating temperature | °C | -25...+60 | -25...+60 |
| Storage temperature | °C | -40...+85 | -40...+85 |



The RCA remote control system allows:

- Remote electrical control (opening and closing) of circuit breakers with or without Vigi add-on RCD, with or without auxiliary.
- Circuit-breaker resetting after tripping, in accordance with safety principles and the regulations in force.
- Local control by operating handle.
- Circuit placing in safety configuration by padlocking.

2 choices of operation after tripping:

- A: Enabling of remote circuit-breaker resetting;
- B: Inhibition of remote resetting.

The version with Ti24 interface allows:

- Direct interfacing of remote control with a programmable logic controller (PLC), a supervision system and any other communication device, having inputs/outputs in 24 V DC (control, OF and SD indications).
- Fast, reliable connection of the remote control to the Acti 9 Smartlink thanks to the prefabricated cables.
- Remote indication by "OF" potential-free contact.
- Provision of 2 operating modes, "1 and 3".

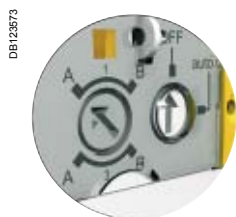
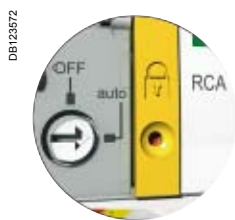
The iMDU auxiliary allows RCA control in 24/48 V AC/DC.

Catalogue numbers

| RCA remote control | | | |
|--|--------------------|---|-----------------------|
| Type | | | Width in 9 mm modules |
| For circuit breakers 1P, 1P+N, 2P | Voltage | | |
| Without Ti24 interface | 230 V AC, 50/60 Hz | A9C70112 | 7 |
| With Ti24 interface | 230 V AC, 50/60 Hz | A9C70122 | 7 |
| For 3P, 4P circuit breakers | | | |
| Without Ti24 interface | 230 V AC, 50/60 Hz | A9C70114 | 7 |
| With Ti24 interface | 230 V AC, 50/60 Hz | A9C70124 | 7 |
| Auxiliaries | | See module CA907000 and CA907002 | |



Without Ti24 interface

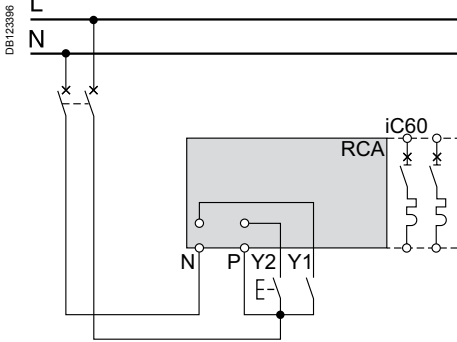


With Ti24 interface

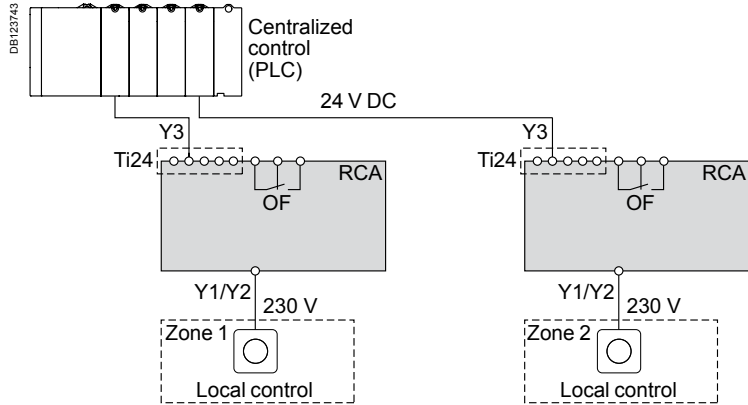
| Type | | Application |
|------------------------------|----------|---|
| OFF | | All remote control inhibited |
| auto | A | Circuit breaker remote reclosing after tripping allowed |
| | B | Circuit breaker remote reclosing after tripping inhibited |
| Green indicator lamp | | Remote control possible |
| Orange indicator lamp | | Remote control impossible |
| 1 (Ti24) | | Mode 1 |
| 3 (Ti24) | | Mode 3 |
| Y1 | | Latched order local control |
| Y2 | | Impulse-type or latched order local control (depending on mode) |
| Y3 | | Latched order centralized control |

Standard RCA

■ The orders received on terminals Y1 and Y2 are taken into account progressively in their order of arrival.



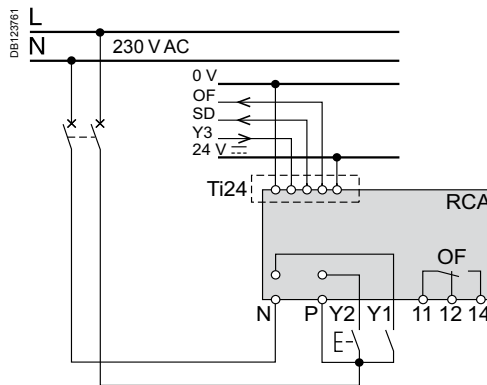
RCA Ti24



Mode 1: Locally or centrally controlled circuit-breaker opening/closing

- The orders come from various control points, and they are taken into account in their order of arrival
- Y1: Latched order local control
- Y2: Impulse-type local control
- Y3: Latched order centralized control

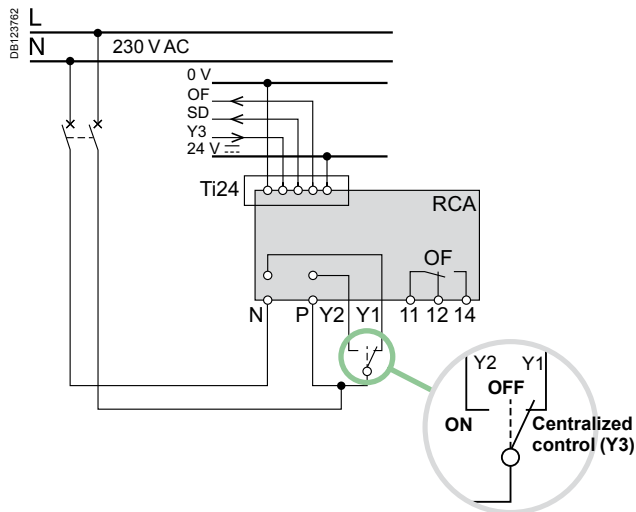
RCA Ti24 mode 1



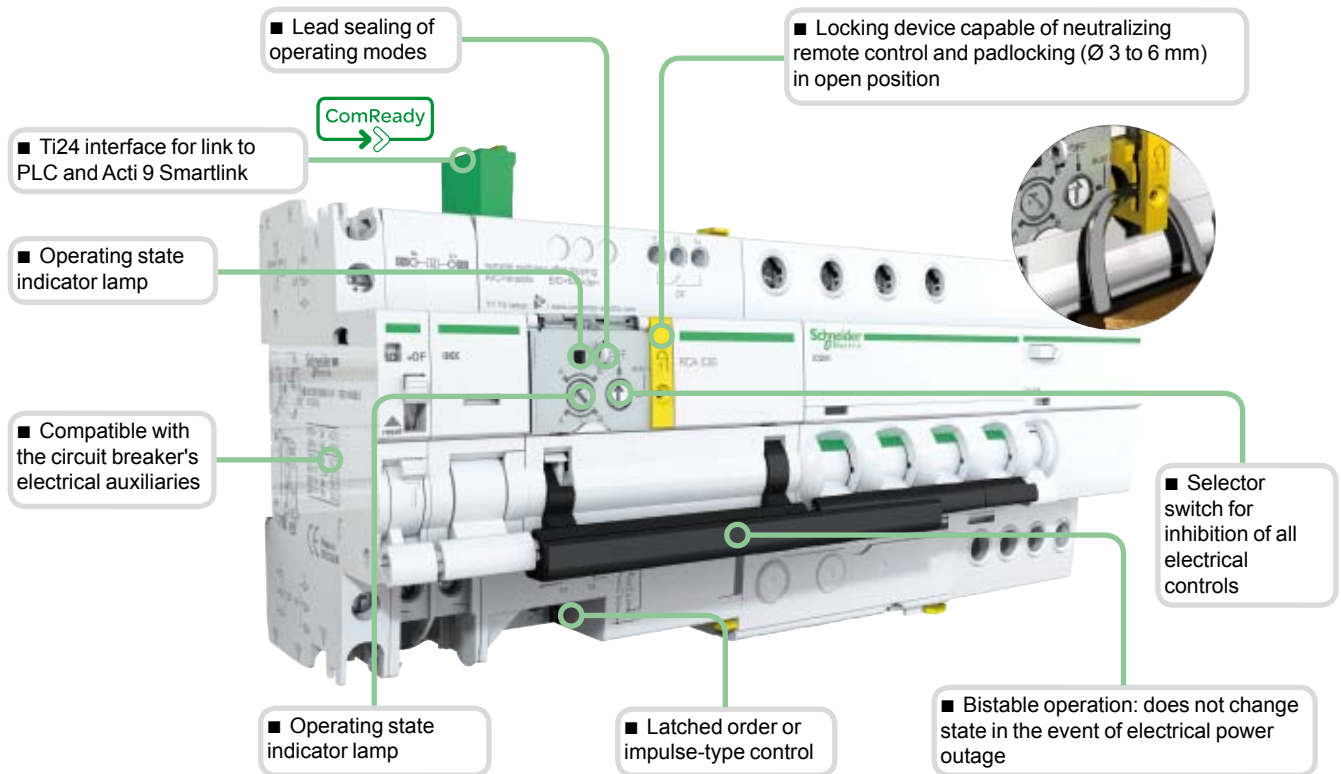
Mode 3: Centrally controlled opening/closing + local override

- 3 positions allowing a choice between override and centralized control:
- Y1: Latched order local control
- Y2: Latched order local control
- Y3: Latched order centralized control

RCA Ti24 mode 3



DB123576



DB123763



DB123578



DB123579

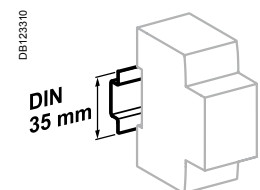
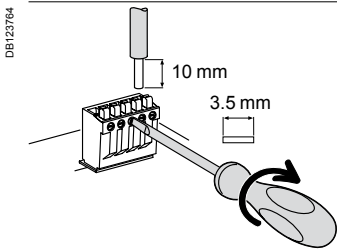
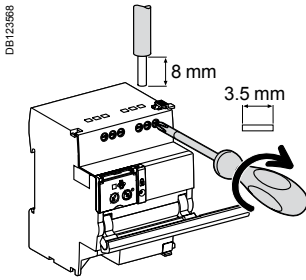
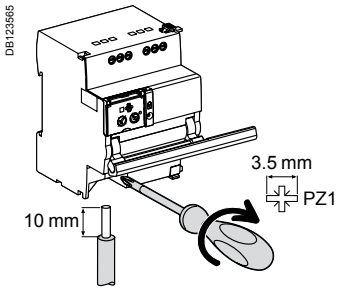


Legend

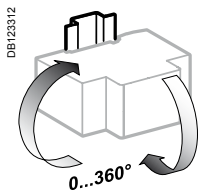
| Type | Application |
|--------|---|
| +24VDC | V DC power supply |
| Y3 | Latched order centralized control |
| SD | Circuit-breaker tripping information |
| OF | Control circuit state information (open/closed) |
| 0 V | V DC power supply |
| Y1 | Latched order local control |
| Y2 | Impulse-type or latched order local control (depending on mode) |
| N | 230 V AC power supply |
| P | |
| OF | Circuit-breaker state indication contact (open/closed) |



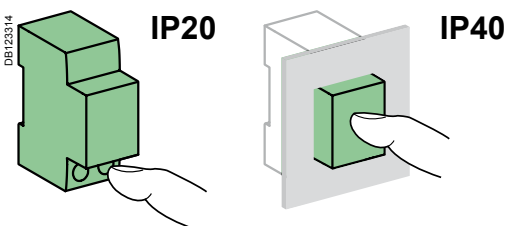
Connection



Clip on DIN rail 35 mm.



Indifferent position of installation.



Without accessories

| Terminal | Tightening torque | Copper cables | | |
|--|-------------------------|--|--|--|
| | | Rigid | Flexible | Flexible with ferrule |
| Power supply (N/P) Inputs (Y1/Y2) | 1 N.m | 0.5 to 10 mm ² 2 x 0.5 to 2 x 2.5 mm ² | 0.5 to 6 mm ² 2 x 0.5 to 2 x 2.5 mm ² | 0.5 to 4 mm ² 2 x 0.5 to 2 x 2.5 mm ² |
| Outputs (OF) | 0.7 N.m | 0.5 to 2.5 mm ² 2 x 0.5 to 2 x 1.5 mm ² | 0.5 to 2.5 mm ² 2 x 0.5 to 2 x 1.5 mm ² | 0.5 to 1.5 mm ² 2 x 0.5 to 2 x 1.5 mm ² |
| Ti24 interface | Spring-loaded terminals | 0.5 to 1.5 mm ² | 0.5 to 1.5 mm ² | - |

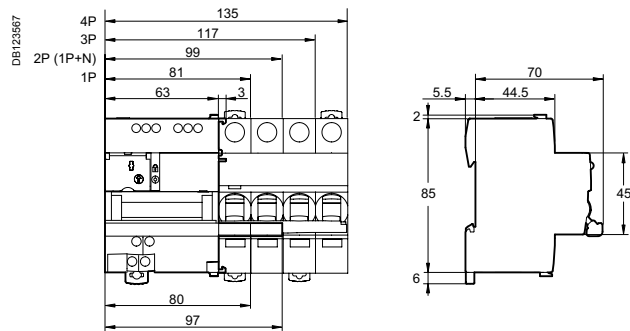
Technical data

| Control circuit | | |
|---|-------------------------------|---|
| Supply voltage (Ue) (N/P) | | 230 V AC, 50/60 Hz |
| Control voltage (Uc) | Type 1 inputs (Y1/Y2) | 230 V AC (as per IEC 61131-2) |
| Min. duration of control order (Y2) | | ≥ 200 ms |
| Response time (Y2) | | < 500 ms |
| Consumption | | ≤ 1 W |
| Thermal self-protection with automatic Reset against overheating of the control circuit due to an abnormal number of operations | | |
| Endurance (O-C) (RCA combined with a circuit breaker) | | |
| Electrical/Mechanical | | 10,000 cycles |
| Indication / Remote control | | |
| Potential free changeover contact output (OF) | Min. | 24 V AC/DC, 10 mA |
| | Max. | 230 V AC, 1 A |
| Input (Y1/Y2) | 230 V AC | 5 mA |
| Ti24 interface (as per IEC 61131) | | |
| Type 1 input (Y3) | 24 V DC | 5.5 mA |
| Output (OF and SD) | 24 V DC | In max.: 100 mA |
| Additional characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in a modular enclosure | IP40 Insulation class II |
| Insulation voltage (Ui) | | 400 V |
| Degree of pollution (IEC 60947) | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| Operating temperature | | -25°C to +60°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization | | Treatment 2 (relative humidity of 93 % at +40°C) |

Weight (g)

| Remote controls | |
|-----------------------------------|-----|
| Type | RCA |
| For 1P, 1P+N, 2P circuit breakers | 400 |
| For 3P, 3P+N, 4P circuit breakers | 430 |

Dimensions (mm)



ARA automatic reclosers

For iC60 circuit breakers
and iID residual current circuit breakers



ARA iC60



ARA iID

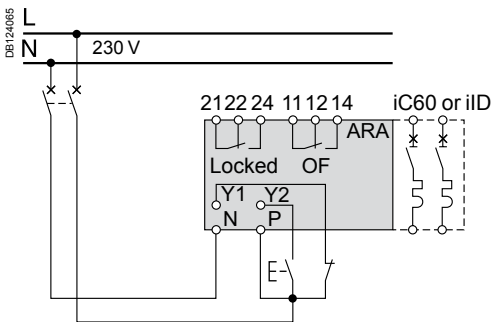
The ARA reclosing auxiliary can:

- Perform automatic reclosing of the associated protection device, after tripping.
- Increase the availability of installations without supervision, isolated, hard of access and demanding very great availability (mobile telephony systems, motorways, pumping stations, airports, railways, meteorological stations, service stations, automatic teller machines, public lighting, tunnels, etc.), by restoring them to operation without intervention by personnel in the event of a transient fault (atmospheric disturbances, industrial overvoltages, etc.).
- For the ARA iC60, the operator can choose predefined reclosing program which allows the safety and availability of facilities to be reconciled taking into account the facility's environment.
- The circuit is placed in safety configuration by the padlocking device.

Catalogue numbers

| ARA iC60 | | | | |
|--------------------------------------|--------------------|--------------------|---|-----------------------|
| For circuit breaker | | | | Width in 9 mm modules |
| 1P, 1P+N, 2P | Number of programs | Voltage | | |
| | 4 | 230 V AC, 50/60 Hz | A9C70132 | 7 |
| 3P, 4P | | | | |
| | 4 | 230 V AC, 50/60 Hz | A9C70134 | 7 |
| ARA iID | | | | |
| For residual current circuit breaker | | | | Width in 9 mm modules |
| 2P | Number of programs | Voltage | | |
| | 1 | 230 V AC, 50/60 Hz | A9C70342 | 7 |
| 4P | | | | |
| | 1 | 230 V AC, 50/60 Hz | A9C70344 | 7 |
| Auxiliaries | | | See module CA907000 and CA907002 | |

Diagram



| Legend | | |
|----------------|---|---|
| Type | Application | |
| 1 | Choice of program (ARA iC60) | |
| 2 | | |
| 3 | | |
| 4 | | |
| Y1 | "Remote" inhibition of automatic reclosing | |
| Y2 | Remote control of final reclosing | |
| N | 230 V power supply | |
| P | | |
| Locked | Automatic recloser inhibition indication contact | |
| OF | Indicates the state of the circuit breaker or residual current circuit breaker (opened or closed) | |
| Indicator lamp | Flashing green | ARA automatic recloser operational |
| | Flashing red | Reclosing cycle in progress |
| | Fixed red | ARA automatic recloser locked at end of reclosing cycle: circuit breaker or residual current circuit breaker tripped (open) |
| | Flashing orange | ARA automatic recloser not operational |

ARA automatic reclosers (cont.)

For iC60 circuit breakers

and iID residual current circuit breakers





Operating principle

The ARA automatic recloser makes a number of attempts at reclosing depending on the program chosen by the user.

The program includes the following settings:

- A time delay before reclosing (TA).
- A reinitialization time delay (TB).
- A maximum number of reclosing attempts.

If, following these attempts, the fault is still present, the device places itself in waiting for manual reclosing, or final remote reclosing (Y2).

| ARA iC60 | | Number of reclosing attempts | Delay before reclosing | Check time | Final reclosing Y2 |
|--|---|--|--|-----------------------|--------------------|
| | | | TA | TB | |
| Program | | | | | |
| DB124061  DB124062  DB124063  DB124064  | 1 | 60 s | 6 min. | Once after inhibition | |
| | 3 | 60 s 3 min. 3 min. | 2 min. 6 min. 6 min. | | |
| | 5 | 60 s 3 min. 3 min. 3 min. 3 min. | 2 min. 6 min. 6 min. 6 min. 6 min. | | |
| | 5 | 60 s 3 min. 4 min. 5 min. 6 min. | 2 min. 6 min. 8 min. 10 min. 12 min. | | |

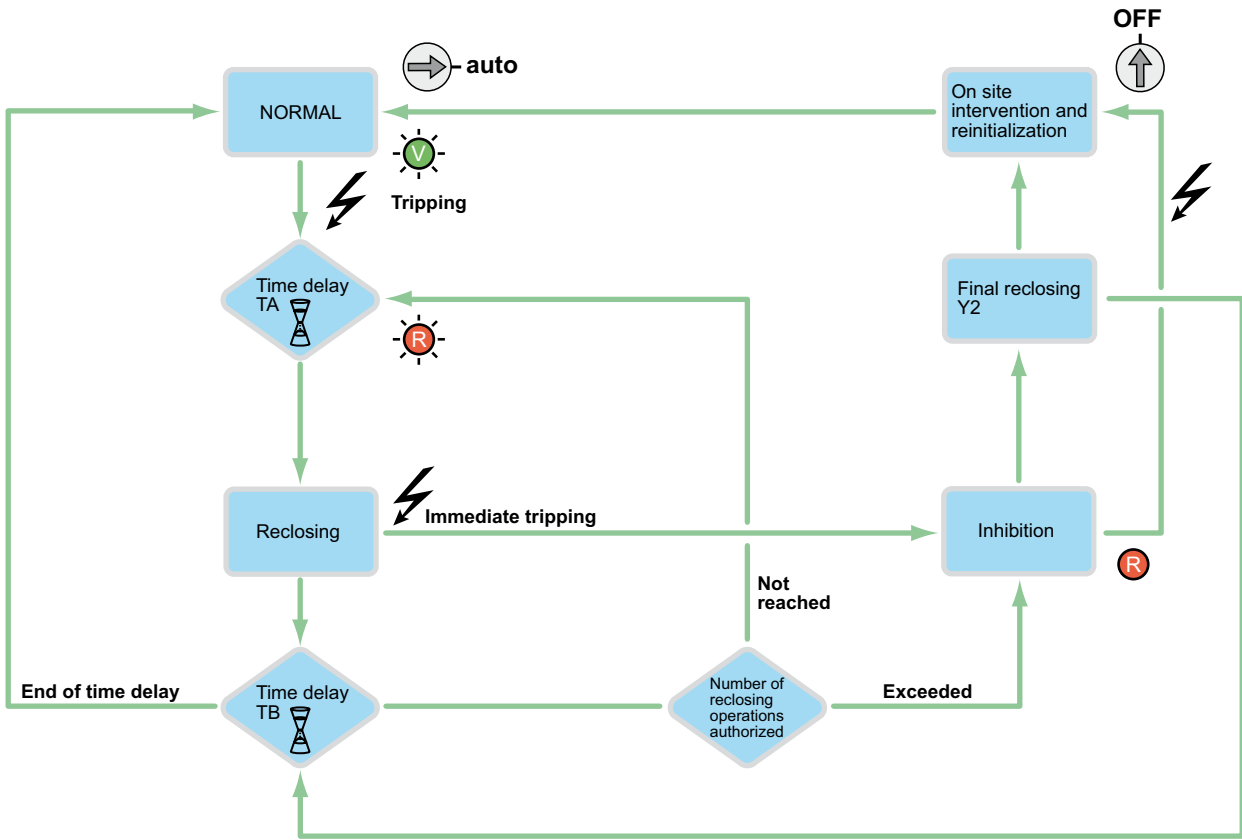
| ARA iID | | Number of reclosing attempts | Delay before reclosing | Check time | Final reclosing Y2 |
|--------------------------|----|---|---------------------------|----------------|--------------------|
| | | | TA | TB | |
| Only 1 program available | 15 | 20 s 40 s 3 min. 3 min. ... | 30 min. 30 min. ... | Once per cycle | |

ARA automatic reclosers (cont.)

For iC60 circuit breakers
and iID residual current circuit breakers

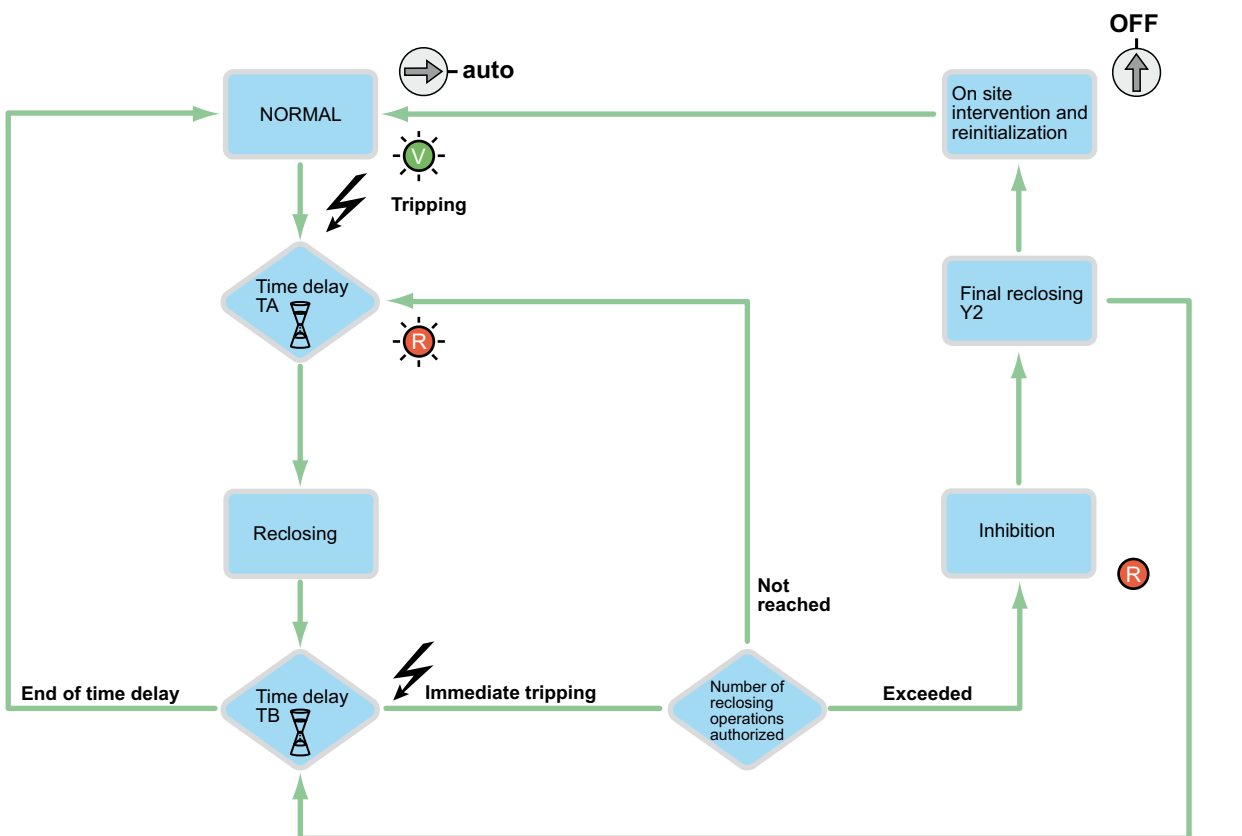
ARA iC60 operating diagram

DB404539



ARA iID operating diagram

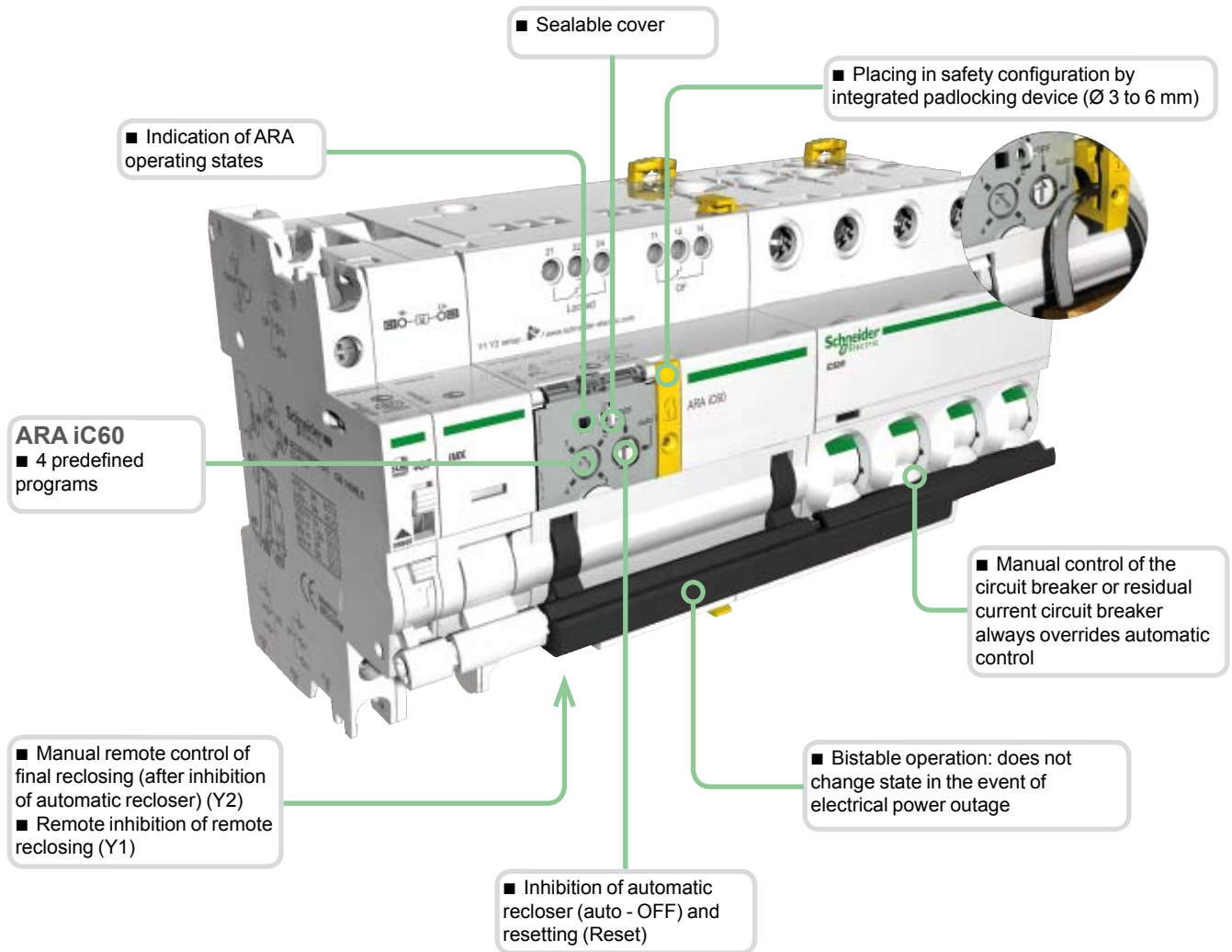
DB404538



ARA automatic reclosers (cont.)

For iC60 circuit breakers
and iID residual current circuit breakers

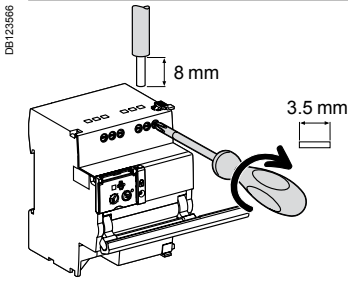
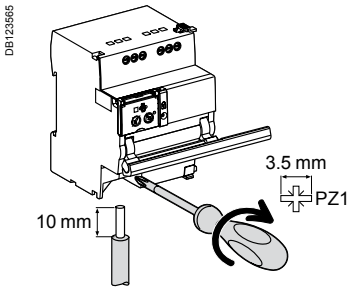
PB 00095-104



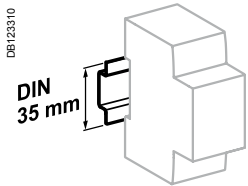
ARA automatic reclosers (cont.)

For iC60 circuit breakers
and iLD residual current circuit breakers

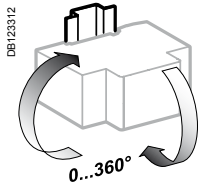
Connection



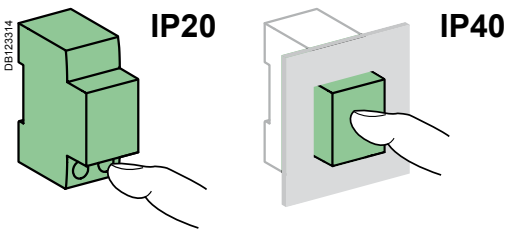
| Terminal | Tightening torque | Copper cables | | |
|--------------------------------------|-------------------|--|--|--|
| | | Rigid | Flexible | Flexible with ferrule |
| Power supply (N/P) Inputs (Y1/Y2) | 1 N.m | 0.5 to 10 mm ² 2 x 0.5 to 2 x 2.5 mm ² | 0.5 to 6 mm ² 2 x 0.5 to 2 x 2.5 mm ² | 0.5 to 4 mm ² 2 x 0.5 to 2 x 2.5 mm ² |
| Outputs (OF/Locked) | 0.7 N.m | 0.5 to 2.5 mm ² 2 x 0.5 to 2 x 1.5 mm ² | 0.5 to 2.5 mm ² 2 x 0.5 to 2 x 1.5 mm ² | 0.5 to 1.5 mm ² 2 x 0.5 to 2 x 1.5 mm ² |



Clip on DIN rail 35 mm.



Indifferent position of installation.



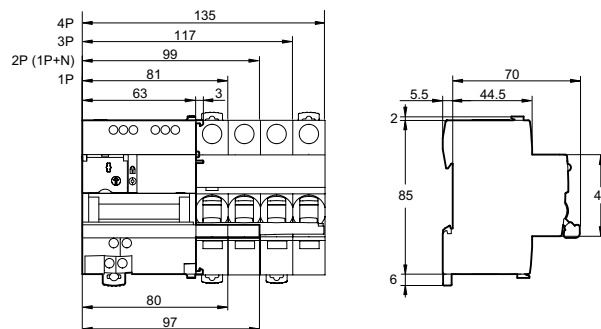
Technical data

| Control circuit | | |
|---|-------------------------------|--|
| Supply voltage (Ue) (N/P) | | 230 V AC, 50/60 Hz |
| Control voltage (Uc) | Type 1 inputs (Y1/Y2) | 230 V AC (as per IEC 61131-2) |
| Min. duration of control order (Y2) | | ≥ 200 ms |
| Response time (Y2) | | < 500 ms |
| Consumption | | < 2 W |
| Endurance (O-C) (ARA combined with a circuit breaker) | | |
| Electrical | | 5000 cycles |
| Indication / Remote control | | |
| Potential-free changeover contact output (OF/Locked) | Min. | 24 V AC/DC, 10 mA |
| | Max. | 230 V AC, 1 A |
| Input (Y1/Y2) | 230 V AC | 5 mA |
| Additional characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in a modular enclosure | IP40 |
| Insulation voltage (Ui) | | 400 V |
| Degree of pollution (IEC 60947) | | 3 |
| Rated impulse withstand voltage (Uimp) | | 6 kV |
| Operating temperature | | -25°C to +60°C |
| Storage temperature | | -40°C to +70°C |
| Tropicalization | | Treatment 2 (relative humidity of 93 % at +40°C) |

Weight (g)

| Automatic reclosers | |
|---|-----|
| Type | ARA |
| For 1P, 1P+N, 2P circuit breakers or iLD residual current circuit breaker | 440 |
| For 3P, 4P circuit breakers | 470 |

Dimensions (mm)



IEC 60669-1 and IEC 60947-5-1

■ iPB pushbuttons are used to control electric circuits by means of pulses.

Catalogue numbers

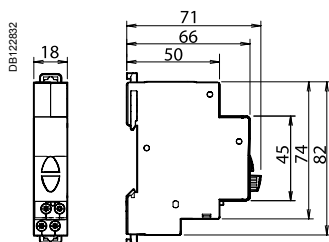
| iPB pushbuttons | | | | | | | | | | | | | | |
|-------------------------------------|-----------------------|----------|-----------------------|----------|----------------------------------|-----------|--------------------------------------|----------|--------------------------------------|----------|---|------|--|--|
| Type | Single | | | | Double | | Single + indicator light | | | | | | | |
| | | | | | | | | | | | | | | |
| Diagram | 1 NC 3 E-7 4 | | 1 NO 1 E-7 2 | | 1 NO + 1 NC 1 3 E-7 2 4 | | 1 NO / 1 NC 1 3 E-7 E-7 2 4 | | 1 NO / 1 NO 1 3 E-7 E-7 2 4 | | 1 NO 1 NC 1 X1 3 X1 E-7 X1 2 X2 4 X2 | | 1 NO 1 NC 1 X1- 3 X1 E-7 X1 2 X2+ 4 X2+ | |
| Pushbutton Colour | Grey | Red | Grey | Grey | Green/red | Grey/grey | Grey | Grey | Grey | Grey | Grey | Grey | | |
| Indicator light Power supply Colour | - | - | - | - | - | - | 110...230 V AC | | 12...48 V AC/DC | | | | | |
| | | | | | | | Green | Red | Green | Red | | | | |
| Cat. no. | A9E18030 | A9E18031 | A9E18032 | A9E18033 | A9E18034 | A9E18035 | A9E18036 | A9E18037 | A9E18038 | A9E18039 | | | | |
| Width in 9 mm modules | 2 | | | | 2 | | 2 | | | | | | | |

Connection

| Tightening torque | Copper cables | |
|-------------------|--|--|
| | Rigid | Flexible or ferrule |
| 1 N.m | DB122945 0.5 mm ² min. 2 x 2.5 mm ² max. | DB122946 0.5 mm ² min. 2 x 2.5 mm ² max. |

- Phase-separated wall that can be divided to allow the teeth of all types of comb busbar to pass through.
- Staggered terminals to simplify connection.

Dimensions (mm)





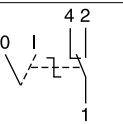
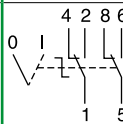
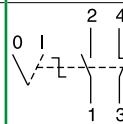
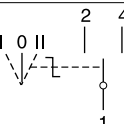
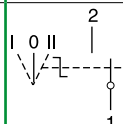
Technical data

| Main characteristics | |
|----------------------------|--|
| Pollution degree | 3 |
| Power circuit | |
| Voltage rating (Ue) | 250 V AC |
| Current rating (Ie) | 20 A |
| Additional characteristics | |
| Endurance (O-C) | 30,000 operations AC22 (cos φ = 0.8) |
| Operating temperature | -35°C... +70°C |
| Storage temperature | -40°C... +80°C |
| Tropicalization | Treatment 2 (relative humidity 95 % at 55°C) |
| LED indicator light | Consumption: 0.3 W Service life: 100,000 hours of constant lighting efficiency Maintenance-free indicator light (non-interchangeable LEDs) |

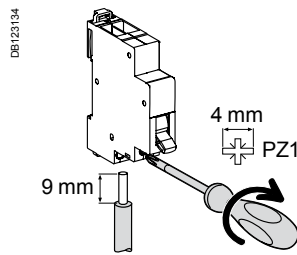
IEC 60669-1 and IEC 60947-5-1



■ ISSW linear switches are used for the manual control of electric circuits.

Catalogue numbers

| ISSW linear switches | | | | | |
|-----------------------|--|--|--|--|--|
| Type | 2 positions | | | 3 positions | |
| |  | | |  | |
| Contact | 1 changeover switch | 2 changeover switches | 1 NO + 1NC | 1 changeover switch | 2 changeover switches |
| Diagram |  |  |  |  |  |
| Cat. no. | A9E18070 | A9E18071 | A9E18072 | A9E18073 | A9E18074 |
| Width in 9 mm modules | 2 | 4 | 2 | 2 | 4 |

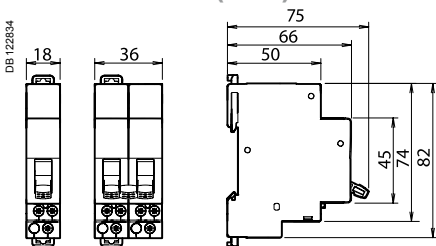
Connection



| Tightening torque | Copper cables | |
|-------------------|---|---|
| | Rigid | Flexible or ferrule |
| 1 N.m |  |  |
| | 0.5 mm ² min. 2 x 2.5 mm ² max. | 0.5 mm ² min. 2 x 2.5 mm ² max. |

- Phase-separated wall that can be divided to allow the teeth of all types of comb busbar to pass through.
- Staggered terminals to simplify connection.




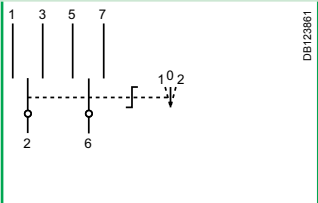
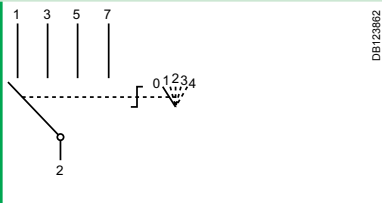

Dimensions (mm)






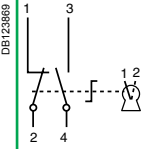
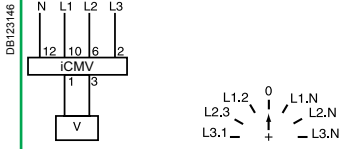
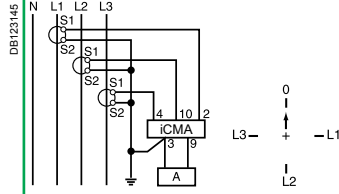
Technical data

| Main characteristics | |
|----------------------------|--|
| Pollution degree | 3 |
| Power circuit | |
| Voltage rating (Ue) | 250 V AC |
| Current rating (Ie) | 20 A |
| Additional characteristics | |
| Endurance (O-C) | 30,000 cycles AC22 (cos φ = 0.8) |
| Operating temperature | -20°C... +50°C |
| Storage temperature | -40°C... +70°C |
| Tropicalization | Treatment 2 (relative humidity 95 % at 55°C) |

DIN rail selector switches iCMB, iCMD, iCME, iCMC, iCMV and iCMA

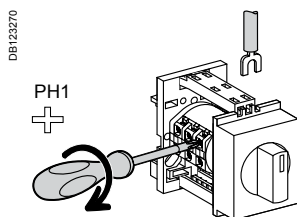
| | | Control | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|--------|---|--|--|--|------|------|-----|-----|-----|------|-------|-------|------|-------|-------|------|--------|--------|-------|--------|--------|-------|--------|--------|-------|--------|--------|-------|-------|--------|
| Selector switches | | iCMB | iCMD | iCME | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type | | Two-pole with zero setting | 4-way | 2-way for electronic circuits | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| In compliance with standards | | IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL | IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL | IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | |  |  |  | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Function | | <ul style="list-style-type: none"> This two-pole selector switch with zero setting allows manual control of a circuit with 2-way operation with a stop position | <ul style="list-style-type: none"> This 4-way selector switch allows control of a circuit with operating priorities | <ul style="list-style-type: none"> This 2-way selector switch is used specially for the control of electronic circuits of low voltage and current level | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Wiring diagrams | |  |  |  | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Use | | Example: electrically controlled metal screen: <ul style="list-style-type: none"> position 1 = raising position 0 = stop position 2 = lowering | Example: fan control: <ul style="list-style-type: none"> position 0 = stop position 1 = override operation, slow speed position 2 = override operation, high speed position 3 = remote control position 4 = automatic operation | <ul style="list-style-type: none"> Voltage range from 30 mV to 600 V AC | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Catalogue numbers | | A9E15120 | A9E15121 | A9E15122 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical specifications | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rated voltage (Ue) | V AC | 415 | 415 | See following table | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum operating voltage | V | 440 | 440 | 440 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rating | A | 10 | 10 | See following table | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating frequency | Hz | 50/60 | 50/60 | 50/60 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Width in 9-mm modules | | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Breaking capacity (resistive load) | | – | – | <table border="1"> <thead> <tr> <th></th> <th>V AC</th> <th>V DC</th> </tr> </thead> <tbody> <tr> <td>1 V</td> <td>5 A</td> <td>3 A</td> </tr> <tr> <td>12 V</td> <td>1.2 A</td> <td>0.7 A</td> </tr> <tr> <td>24 V</td> <td>0.7 A</td> <td>0.4 A</td> </tr> <tr> <td>48 V</td> <td>0.45 A</td> <td>0.25 A</td> </tr> <tr> <td>110 V</td> <td>0.25 A</td> <td>0.13 A</td> </tr> <tr> <td>240 V</td> <td>0.15 A</td> <td>0.08 A</td> </tr> <tr> <td>300 V</td> <td>0.13 A</td> <td>0.07 A</td> </tr> <tr> <td>440 V</td> <td>0.1 A</td> <td>0.05 A</td> </tr> </tbody> </table> | | V AC | V DC | 1 V | 5 A | 3 A | 12 V | 1.2 A | 0.7 A | 24 V | 0.7 A | 0.4 A | 48 V | 0.45 A | 0.25 A | 110 V | 0.25 A | 0.13 A | 240 V | 0.15 A | 0.08 A | 300 V | 0.13 A | 0.07 A | 440 V | 0.1 A | 0.05 A |
| | V AC | V DC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 V | 5 A | 3 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 V | 1.2 A | 0.7 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 V | 0.7 A | 0.4 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 V | 0.45 A | 0.25 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 V | 0.25 A | 0.13 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 240 V | 0.15 A | 0.08 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 V | 0.13 A | 0.07 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 440 V | 0.1 A | 0.05 A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating temperature | °C | -20...+55 | -20...+55 | -20...+55 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Storage temperature | °C | -25...+80 | -25...+80 | -25...+80 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

DIN rail selector switches iCMB, iCMD, iCME, iCMC, iCMV and iCMA (cont.)

| iCMC | iCMV | iCMA |
|---|---|--|
| 2-way key-actuated | 7-position voltmeter | 4-position ammeter |
| IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL | IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL | IEC 60947-3 (EN 60947-3) VDE 0660 part. 107 UL |
|  |  |  |
| <p>■ 2-way key-actuated selector switch with locking in one or the other position</p> | <p>■ This 7-position voltmeter selector switch makes it possible, with a single voltmeter, to measure in succession the voltages (phase-to-phase and phase-to-neutral) of a three-phase circuit</p> | <p>■ This 4-position ammeter selector switch makes it possible, with a single ammeter (using current transformers), to measure in succession the currents of a three-phase circuit</p> |
|  |  |  |
| - | - | - |
| A9E15123 | 15125 | 15126 |
| 415 | 415 | 415 |
| 440 | 440 | 440 |
| 10 | 10 | 10 |
| 50/60 | 50/60 | |
| 4 | 4 | 4 |
| - | - | - |
| -20...+55 | -20...+55 | -20...+55 |
| -25...+80 | -25...+80 | -25...+80 |

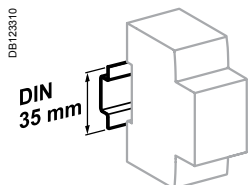
DIN rail selector switches iCMB, iCMD, iCME, iCMC, iCMV and iCMA (cont.)

Connection



| Tightening torque | Copper cables |
|-------------------|--------------------------------|
| 0.35 N.m | Flexible or rigid with ferrule |
| | < 1.5 mm ² |

■ Connection by jumper terminals with captive screws.



Clip on DIN rail 35 mm.

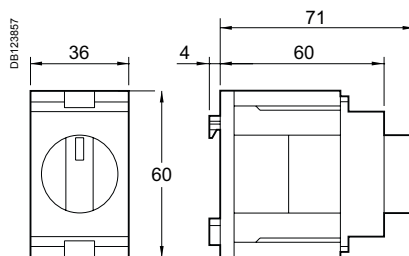
Technical data

| Additional characteristics | | |
|----------------------------|-------------|--|
| Degree of protection | Device only | IP20 |
| Endurance (O-C) | Electrical | 1,000,000 switching operations |
| | Mechanical | 2,000,000 switching operations (AC21A-3 x 440 V) |

Weight (g)

| Selector switches | |
|-------------------|------------|
| Type | Weight (g) |
| iCMA | 58 |
| iCMB | 58 |
| iCMC | 70 |
| iCMD | 58 |
| iCME | 44 |
| iCMV | 58 |

Dimensions (mm)



They can be attached to a symmetrical 35 mm rail, in modular cabinets or enclosures, for control and indications auxiliaries: push-buttons, emergency stops, switches, light indicators; for tertiary and industrial applications.



A9A15151



A9A15152

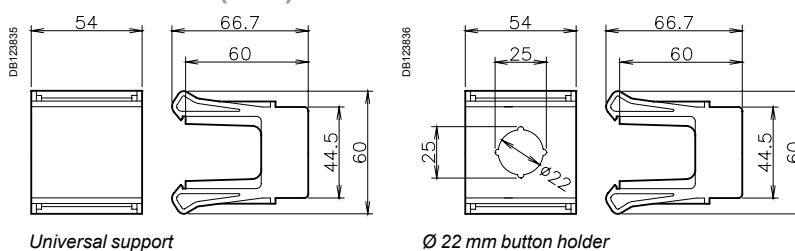
Catalogue numbers

| Button holders | | |
|-----------------------|----------|-----------------------|
| Type | | Width in 9 mm modules |
| Ø 22 mm button holder | A9A15151 | 6 |
| Universal support | A9A15152 | 6 |

Technical data

| Main characteristics | Button holder | Universal support |
|---|----------------|---|
| For buttons, switches and indicators with metal or plastic flange Ø 22 of the Schneider Electric XB4 / XB5 type | ■ | - |
| For buttons, indicators, light emitting diodes (LED), potentiometers | - | ■ |
| Drilling diameter | Ø 22.3 mm | Easy drilling, to be adapted depending on use |
| Colour | White RAL 9003 | |
| Self-extinguishing insulating material | | |
| Depth under rail 60 mm (same as products) | | |

Dimensions (mm)



Country approval pictograms

IEC/EN 60947-2

The Reflex iC60 devices are integrated control circuit breakers which combine the following main functions in a single device:

- Remote control by latched and/or impulse-type order according to the 3 operating modes to be chosen by the user.
- Circuit breaker, to provide:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - disconnection in the industrial sector.

Resetting after a fault is performed manually, by the resetting handle.

The version with Ti24 allows direct interfacing of the Reflex iC60 with a PLC, to:

- Execute remote control (Y3).
- Indicate the state of the control circuit (O/C) and circuit-breaker state information (auto/OFF).

The Ti24 interface also allows fast, reliable connection of the Reflex iC60 to the Acti 9 Smartlink thanks to the prefabricated cables.

The iMDU auxiliary allows the Reflex iC60 to be controlled in 24/48 V AC/DC.

ComReady



Alternating current (AC) 50/60 Hz

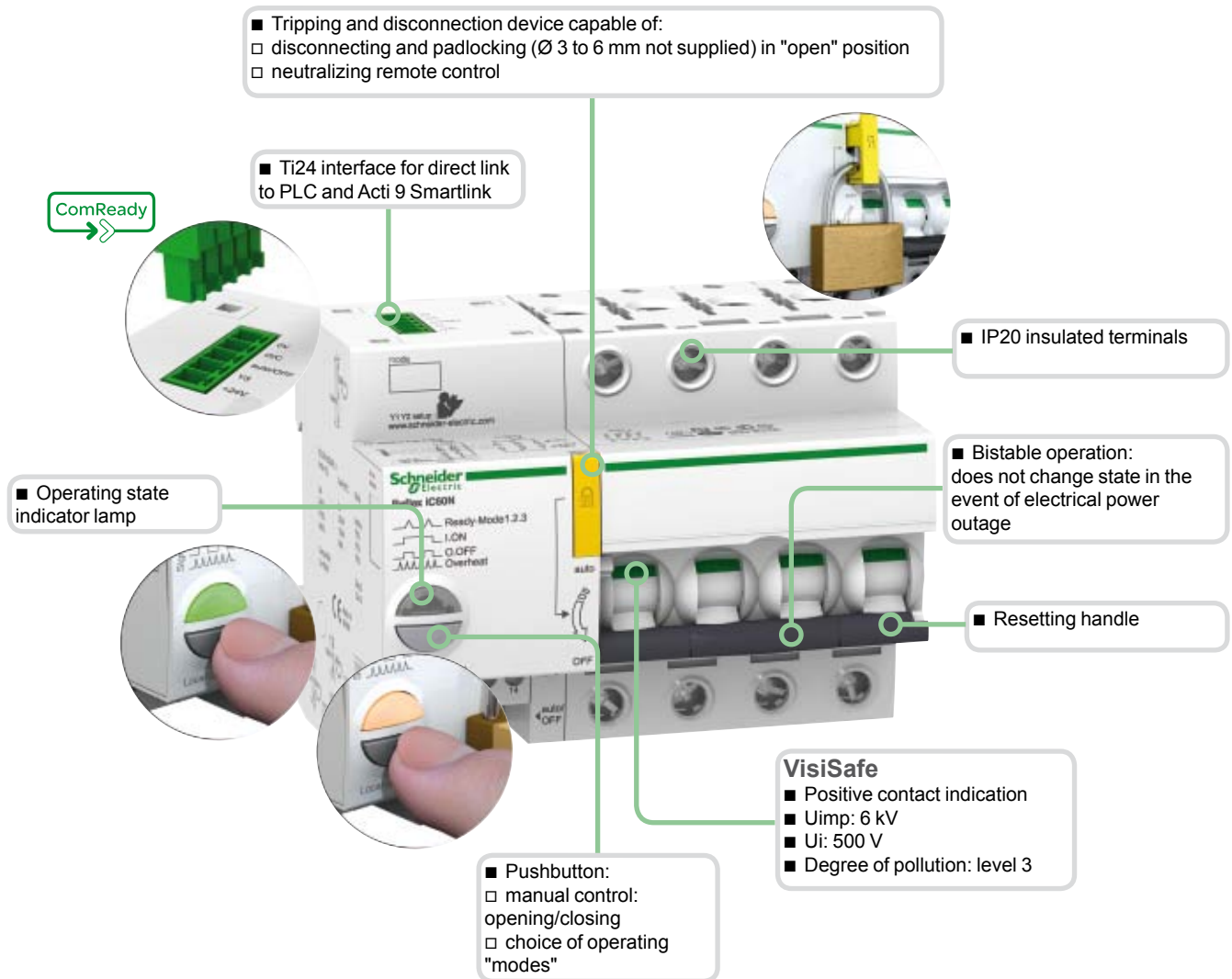
| Ultimate breaking capacity (Icu) as per IEC/EN 60947-2 | | | | Service breaking capacity (Ics) |
|--|------------|--------------|--------------|---------------------------------|
| | | Voltage (Ue) | | |
| Ph/Ph (2P, 3P, 4P) | | 220 to 240 V | 380 to 415 V | |
| Reflex iC60N | | | | |
| Rating (In) | 10 to 40 A | 20 kA | 10 kA | 75 % of Icu |
| | 63 A | 20 kA | 10 kA | 50 % of Icu |
| Reflex iC60H | | | | |
| Rating (In) | 10 to 40 A | 30 kA | 15 kA | 50 % of Icu |

Catalogue numbers

Reflex iC60 circuit breaker

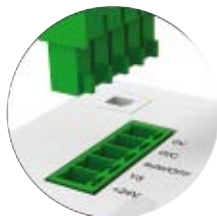
| Type | 2P | | | 3P | | | 4P | | |
|-------------------------------|---|----------|----------|---|----------|----------|---|----------|----------|
| | Curve | | | Curve | | | Curve | | |
| Rating (In) for AC1 use | B | C | D | B | C | D | B | C | D |
| Reflex iC60N | | | | | | | | | |
| With Ti24 interface | | | | | | | | | |
| 10 A | A9C61210 | A9C62210 | A9C63210 | A9C61310 | A9C62310 | A9C63310 | A9C61410 | A9C62410 | A9C63410 |
| 16 A | A9C61216 | A9C62216 | A9C63216 | A9C61316 | A9C62316 | A9C63316 | A9C61416 | A9C62416 | A9C63416 |
| 25 A | A9C61225 | A9C62225 | A9C63225 | A9C61325 | A9C62325 | A9C63325 | A9C61425 | A9C62425 | A9C63425 |
| 40 A | A9C61240 | A9C62240 | - | A9C61340 | A9C62340 | - | A9C61440 | A9C62440 | - |
| 63 A | A9C61263 | A9C62263 | - | A9C61363 | A9C62363 | - | A9C61463 | A9C62463 | - |
| Without Ti24 interface | | | | | | | | | |
| 10 A | - | A9C52210 | - | - | A9C52310 | - | - | A9C52410 | - |
| 16 A | - | A9C52216 | - | - | A9C52316 | - | - | A9C52416 | - |
| 25 A | - | A9C52225 | - | - | A9C52325 | - | - | A9C52425 | - |
| 40 A | - | A9C52240 | - | - | A9C52340 | - | - | A9C52440 | - |
| 63 A | - | A9C52263 | - | - | A9C52363 | - | - | A9C52463 | - |
| Reflex iC60H | | | | | | | | | |
| With Ti24 interface | | | | | | | | | |
| 10 A | A9C64210 | A9C65210 | A9C66210 | A9C64310 | A9C65310 | A9C66310 | A9C64410 | A9C65410 | A9C66410 |
| 16 A | A9C64216 | A9C65216 | A9C66216 | A9C64316 | A9C65316 | A9C66316 | A9C64416 | A9C65416 | A9C66416 |
| 25 A | A9C64225 | A9C65225 | A9C66225 | A9C64325 | A9C65325 | A9C66325 | A9C64425 | A9C65425 | A9C66425 |
| 40 A | A9C64240 | A9C65240 | - | A9C64340 | A9C65340 | - | A9C64440 | A9C65440 | - |
| Width in 9 mm modules | 9 | | | 11 | | | 13 | | |
| Vigi iC60 | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | | Vigi iC60 add-on residual current device, module CA902005 | | |
| iMDU auxiliary | See module CA907000 and CA907002 | | | See module CA907000 and CA907002 | | | See module CA907000 and CA907002 | | |
| Accessories | See module CA907000 and CA907001 | | | See module CA907000 and CA907001 | | | See module CA907000 and CA907001 | | |

PE105980-70



- Longer product service life thanks to:
 - good overvoltage withstand capacity: products designed to provide a high industrial performance level (degree of pollution, rated impulse withstand voltage and insulation voltage),
 - high limitation performances,
 - fast closure independent of the speed of resetting of the operating handle.

DB123765



DB123516



Legend

| Ti24 interface | |
|----------------|---|
| +24VDC | V DC power supply |
| Y3 | Remote control by latched order |
| auto/OFF | Circuit-breaker state information |
| O/C | Control circuit state information (open/closed) |
| 0 V | V DC power supply |
| Y1 | Latched order control |
| Y2 | Control by impulse-type |
| N | 230 V AC power supply |
| P | |
| O/C | Control circuit state indication contact |
| | 11 12 14 |
| auto/OFF | Circuit-breaker tripping indication contact |
| | 21 22 24 |

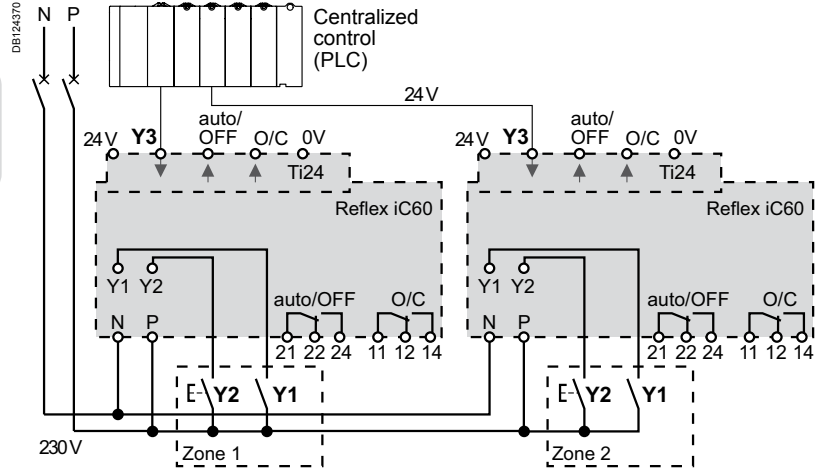
DBI123517



- Operating state indicator lamp
- Pushbutton for:
 - "mode" selection
 - opening/closing manual control

Remote control is possible by 3 operating modes to be set using the pushbutton on the front panel.

Three types of control: Y1, Y2, Y3



Operating modes

Mode 1: Reflex iC60 opening/closing, locally or centrally controlled

- The opening/closing orders come from various control points, and they are taken into account in their order of arrival
- Y1: latched order local control
- Y2: impulse-type local control
- Y3: latched order centralized control

Mode 2: Reflex iC60 opening/closing, possible inhibition of local impulse-type control

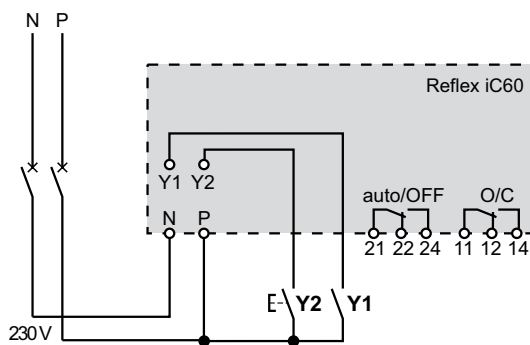
- Y1 is used to inhibit Y2
- Y1: local opening/Y2 inhibition latched order control
- Y2: impulse-type local opening/closing control
- Y3: latched order centralized opening/closing control

Mode 3: Reflex iC60 opening/closing, possible inhibition of centralised latched order control

- Y1 is used to inhibit Y3
- Y3 inhibition local latched order control
- Y2: impulse-type local opening/closing control
- Y3: latched order centralized opening/closing control

Reflex iC60 without Ti24 interface

- Mode 1
- Mode 2



Reflex iC60 with Ti24 interface

- Mode 1
- Mode 2
- Mode 3

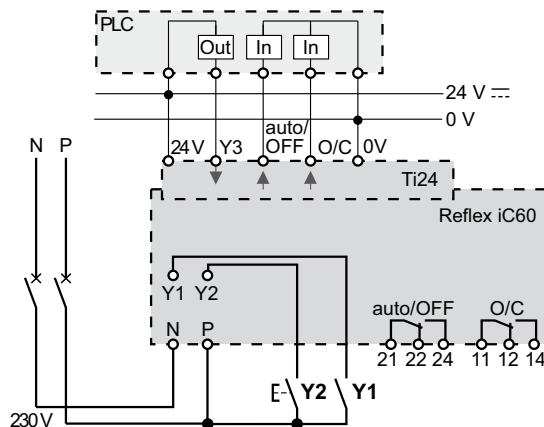
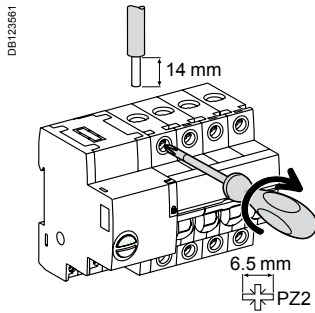


Table of modes

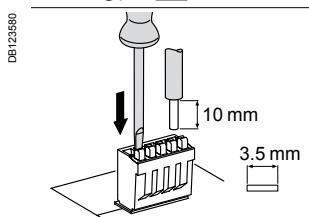
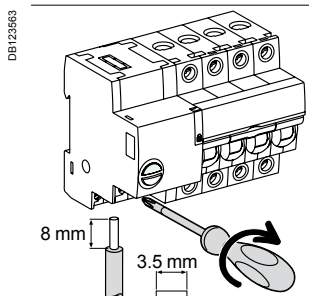
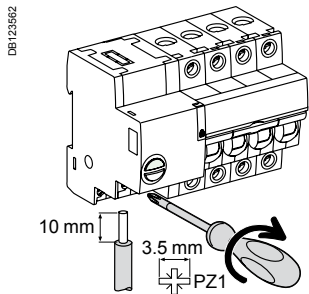
| | Mode 1 | Mode 2 | Mode 3 |
|------------------------------------|-----------------|-----------------|----------------|
| Reflex iC60 without interface Ti24 | ■ Default mode | ■ Possible mode | – |
| Reflex iC60 with interface Ti24 | ■ Possible mode | ■ Possible mode | ■ Default mode |

Power connection

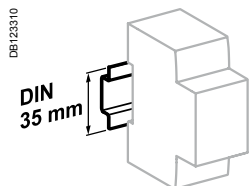


| Terminal | Rating | Tightening torque | Without accessories | | With accessories | | | |
|----------|------------|-------------------|--|--|-----------------------------------|--|-----------------------------|-----------------------------|
| | | | Copper cables | | Al terminal 50 mm ² | Screw-on connection for ring terminal | Multi-cable terminal | |
| | | | Rigid | Flexible or with ferrule | | | Rigid cables | Flexible cables |
| Power | 10 to 25 A | 2 N.m | | | | | | |
| | 40 to 63 A | 3.5 N.m | 1 to 25 mm ² 1 to 35 mm ² | 1 to 16 mm ² 1 to 25 mm ² | - 50 mm ² | ∅ 5 mm | - 3 x 16 mm ² | - 3 x 10 mm ² |

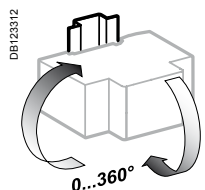
Control connection



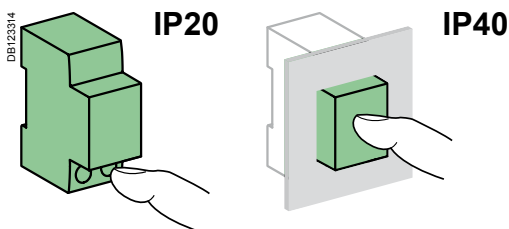
| Terminal | Tightening torque | Without accessories | | |
|--------------------------------------|-------------------------|----------------------------|----------------------------|----------------------------|
| | | Copper cables | | |
| | | Rigid | Flexible | Flexible with ferrule |
| Power supply (N/P) Inputs (Y1/Y2) | 1 N.m | | | |
| | | 1 to 10 mm ² | 1 to 6 mm ² | 1 to 4 mm ² |
| Outputs (O/C, auto/OFF) | 0.7 N.m | 1 to 2.5 mm ² | 1 to 2.5 mm ² | 1 to 1.5 mm ² |
| Ti24 interface | Spring-loaded terminals | 0.5 to 1.5 mm ² | 0.5 to 1.5 mm ² | 0.5 to 1.5 mm ² |



Clip on DIN rail 35 mm.



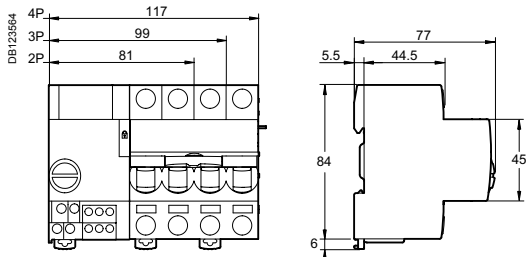
Indifferent position of installation.



Weight (g)

| Circuit breaker | |
|-----------------|-------------|
| Type | Reflex iC60 |
| 2P | 480 |
| 3P | 620 |
| 4P | 750 |

Dimensions (mm)



Technical data

Control circuit

| | | | |
|---------------------------------------|---------------------|--|-------------------------|
| Supply voltage (Ue) (N/P) | 230 V AC - 50/60 Hz | | |
| Control voltage (Uc) | Inputs (Y1/Y2) | 230 V AC - 23 mA (24...48 V AC/DC, with iMDU auxiliary) | |
| | Input (Y3) | 24 V DC - 5.5 mA | |
| Min. duration of control impulse (Y2) | ≥ 250 ms | | |
| Response time (Y2) | ≤ 250 ms | | |
| Maximum continuous apparent power | Inputs (Y1/Y2) | 5.3 VA | |
| | Input Y3 | 0.12 VA | |
| Length of control wires | Inputs (Y1/Y2/Y3) | 500 m | |
| Inrush current at 230 V - 50/60 Hz | | Measured peak current | Peak current duration |
| | 2P | 11.4 Å | 11 ms |
| | 3P | 21.8 Å | 11 ms |
| | 4P | 21.8 Å | 11 ms |
| | | | Rms current measurement |
| | | | 7.6 A |
| | | | 14.5 A |
| | | | 14.5 A |

The inrush currents are added in the event of simultaneous control of several Reflex iC60. The controls should therefore be offset by 10 ms (by automaton or time-delay relays).

Power circuit

| | | | |
|--|-----------------------|--------------|--|
| Max. working voltage (Ue) | 400 V AC | | |
| Insulation voltage (Ui) | 500 V | | |
| Rated impulse withstand voltage (Uimp) | Set to disconnected | 6 kV | |
| | Set to Ready | 4 kV | |
| Thermal tripping | Reference temperature | 50°C | |
| Magnetic tripping | Curve B | 4 In ± 20 % | |
| | Curve C | 8 In ± 20 % | |
| | Curve D | 12 In ± 20 % | |
| Overvoltage category (IEC 60364) | IV | | |
| Temperature derating | See module CA908007 | | |

Indication / Remote control

| | | |
|---|------|------------------|
| Potential-free changeover contact outputs (O/C, auto/OFF) | Min. | 24 V DC - 100 mA |
| | Max | 230 V AC - 1 A |

Ti24 interface (as per IEC 61131)

| | | |
|-------------------------|----------------|----------------------|
| Outputs (O/C, auto/OFF) | Ti24 interface | 24 V DC - 100 mA max |
|-------------------------|----------------|----------------------|

Endurance (O-C)

| | | |
|------------|-------------|---------------------|
| Electrical | AC1 - AC7a | Up to 50,000 cycles |
| | AC5a - AC5b | Up to 15,000 cycles |
| | AC7c | Up to 20,000 cycles |
| Mechanical | | 50,000 cycles |

Additional characteristics

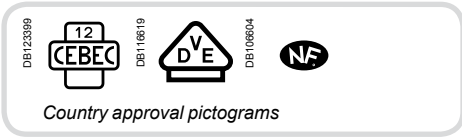
| | | |
|--|-------------------------------|--|
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in a modular enclosure | IP40 |
| | | Insulation class II |
| Degree of pollution | | 3 |
| Operating temperature | | -25°C to +60°C |
| Storage temperature | | -40°C to +85°C |
| Tropicalization | | Treatment 2 (relative humidity of 93 % at 40°C) |
| Immunity to voltage dips | | IEC 61000-4-11 class III |
| Immunity to power supply frequency variations | | IEC 61000-4-28 and IACS E10 |
| Immunity to harmonics | | IEC 61000-4-13 class 2 |
| Immunity to electrostatic discharges | Air | 8 kV, IEC 61 000-4-2 |
| | Contacts | 4 kV, IEC 61 000-4-2 |
| Immunity to stray magnetic fields | | 10 V/m up to 3 GHz, IEC 61000-4-3 |
| Immunity to fast transients | | 4 kV from 5 to 100 kHz, IEC 61000-4-4 |
| Immunity to shock waves | | IEC 61000-4-5 |
| Immunity to power frequency magnetic fields | | 10 V from 150 kHz to 80 MHz, IEC 61000-4-6 |
| Immunité aux champs magnétiques à la fréquence du réseau | | Level 4 30 A/m to IEC 61000-4-8 and IEC 61000-4-9 |
| Conducted emissions | | CISPR 11/22 |
| Radiated emissions | | CISPR 11/22 |



**For the realization of the catalogue France,
replace following catalogue numbers:**

- A9C20834 by A9C24834.
- A9C20732 by A9C24732.
- A9C21732 by A9C25732.

Pages 416, 417 and 426, 427.



EN 61095, IEC 1095

iCT contactors are available in two versions:

- Contactors without manually-operated
- Contactors with manually-operated.

The breadth of the iCT contactor range satisfies most application cases.
iCT contactors can be combined with auxiliary control, protection and indication functions.

Contactors

iCT 2P



manual control

iCT 4P



- iCT contactors can be used to remote control applications in alternative networks:
 - lighting, heating, ventilation, roller blinds, sanitary hot water
 - mechanical ventilation systems, etc
 - load-shedding of non-priority circuits

Indication iACTs

- This auxiliary allows indication or control of the "open" or "closed" position of the contactor power contacts

Interference filtering iACTp

- This auxiliary is an interference suppressor which limits overvoltages on the control circuit

Dual control iACTc

- Used to control a contactor in impulse-type mode or to combine latched or impulse-type control orders

Control and indication 24 V DC iACT24

- Allows control and indication of a 230 Vac contactor from the Acti 9 Smartlink or by a PLC, by 24 V DC signals
- Also allows control by a maintained signal

Time delay iATEt

- This auxiliary is used to time delay for iCT and iTL. According to cabling, there are 5 possible time delay types:
 - 1 for iTL
 - 4 for iCT

Function type A: late closing
Delay energizing of contactor

Function type B: time delay

- Energize the contactor by closing a push button
- The time delay starts as soon as the control contacts are closed

Function type C: late opening

- Energize the contactor by closing a push button
- The time delay starts when the control contacts are opened

Function type H: fixed time operation

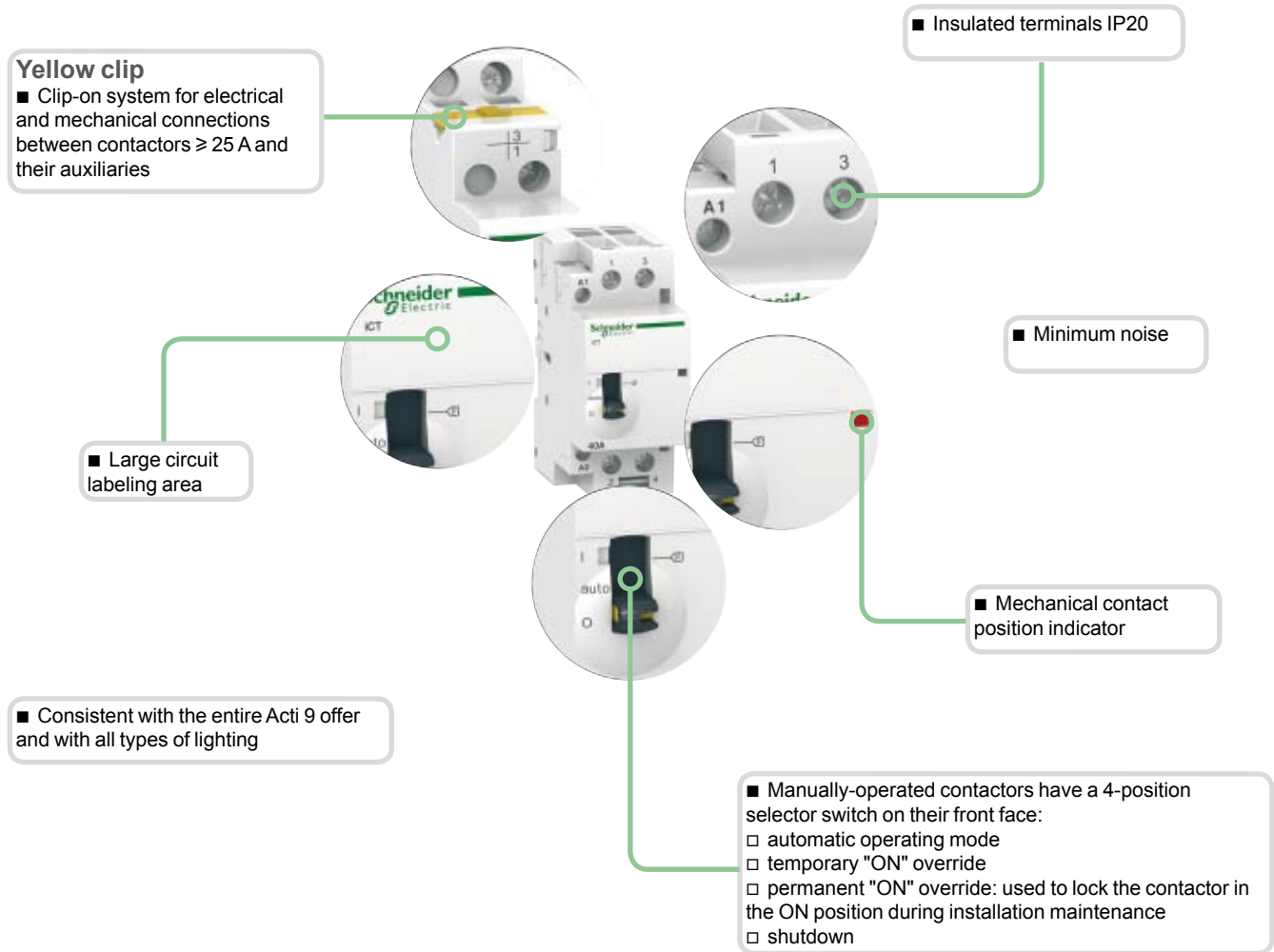
- Operate the contactor for a pre-determined time from the moment of energizing

Contactors

Contactors auxiliaries

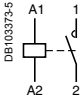
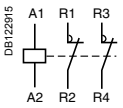
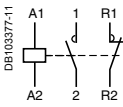
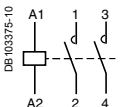
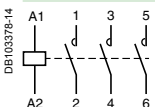
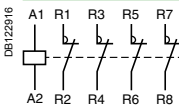
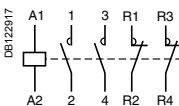
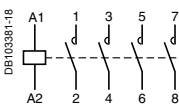
| Choice of 50 Hz contactors | | | | | | | | | | | |
|--------------------------------|-----------------|-----------|-----|------------------------------------|----|----|-----|---|------------------------------------|----|----|
| Type | | Contactor | | | | | | Manually-operated contactors | | | |
| Rating | A | 16 | 20 | 25 | 40 | 63 | 100 | 16 | 25 | 40 | 63 |
| Auxiliaries | | | | | | | | Contactors that can be equipped with auxiliaries | | | |
| iACTs indication auxiliary | | Yes | Yes | Yes | | | | Yes | | | |
| iACTp protection auxiliary | By yellow clips | No | No | Yes | | | | No | Yes | | |
| iACTc, iATEt control auxiliary | By yellow clips | No | No | Yes | | | | No | Yes | | |
| iACT24 control auxiliary | | Non | No | Yes (for contactors 230 V - 50 Hz) | | | | No | Yes (for contactors 230 V - 50 Hz) | | |

PE10611E-39



| Choice of 60 Hz contactors | | | | |
|--|-----|----|----|------------------------------|
| Contactor | | | | Manually-operated contactors |
| 16 | 25 | 40 | 63 | 40 |
| Contactors that can be equipped with auxiliaries | | | | |
| Yes | | | | Yes |
| No | Yes | | | Yes |
| No | Yes | | | Yes |
| No | Yes | | | No |

Catalogue numbers

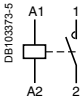
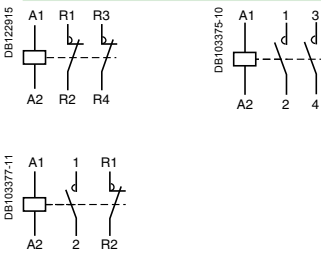
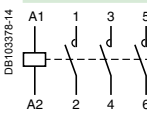
| iCT contactors - 50 Hz | | | | | | |
|---|-----------------------|-----------|--------------------------------|----------|-----------|-----|
| Type | Width in 9 mm modules | | | | | |
| 1P | Rating (In) | | Control voltage (V AC) (50 Hz) | Contact | | |
| | AC7a | AC7b | | | | |
|  DB103373-5 | 16 A | 6 A | 12 | 1NO | A9C22011 | 2 |
| | | | 24 | 1NO | A9C22111 | 2 |
| | | | 48 | 1NO | A9C22211 | 2 |
| | | | 220 | 1NO | A9C22511 | 2 |
| | | | 230...240 | 1NO | A9C22711 | 2 |
| | | | 25 A | 8.5 A | 220 | 1NO |
| 230...240 | 1NO | A9C20731 | 2 | | | |
| 2P | | | | | | |
|  DB122915 | 16 A | 6 A | 12 | 2NO | A9C22012 | 2 |
| | | | 24 | 2NO | A9C22112 | 2 |
| | | | 48 | 2NO | A9C22212 | 2 |
| | | | 220 | 2NO | A9C22512 | 2 |
| | | | 230...240 | 2NO | A9C22712 | 2 |
|  DB103377-11 | 16 A | 6 A | 12 | 1NO+1NC | A9C22015 | 2 |
| | | | 24 | 1NO+1NC | A9C22115 | 2 |
| | | | 220 | 1NO+1NC | A9C22515 | 2 |
| | | | 230...240 | 1NO+1NC | A9C22715 | 2 |
| | | | 20 A | - | 230...240 | 2NO |
|  DB103375-10 | 25 A | 8.5 A | 24 | 2NO | A9C20132 | 2 |
| | | | 48 | 2NO | A9C20232 | 2 |
| | | | 220 | 2NO | A9C20532 | 2 |
| | | | 230...240 | 2NO | A9C20732 | 2 |
| | | | 220 | 2NC | A9C20536 | 2 |
| | | | 230...240 | 2NC | A9C20736 | 2 |
| | | | 40 A | 15 A | 220...240 | 2NO |
| 63 A | 20 A | 24 | 2NO | A9C20162 | 4 | |
| | | 220...240 | 2NO | A9C20862 | 4 | |
| 100 A | - | 220...240 | 2NO | A9C20882 | 6 | |
| 3P | | | | | | |
|  DB103376-14 | 16 A | 6 A | 220...240 | 3NO | A9C22813 | 4 |
| | 25 A | 8.5 A | 220...240 | 3NO | A9C20833 | 4 |
| | 40 A | 15 A | 220...240 | 3NO | A9C20843 | 6 |
| | 63 A | 20 A | 220...240 | 3NO | A9C20863 | 6 |
| 4P | | | | | | |
|  DB122916 | 16 A | 6 A | 24 | 4NO | A9C22114 | 4 |
| | 20 A | - | 220...240 | 4NO | A9C22814 | 4 |
| | | | 220...240 | 2NO+2NC | A9C22818 | 4 |
| 25 A | 8.5 A | 220...240 | 4NO | A9C22824 | 4 | |
| | | 24 | 4NO | A9C20134 | 4 | |
|  DB122917 | 40 A | 15 A | 220...240 | 4NO | A9C20834 | 4 |
| | | | 24 | 4NC | A9C20137 | 4 |
| | | | 220...240 | 4NC | A9C20837 | 4 |
| | | | 220...240 | 2NO+2NC | A9C20838 | 4 |
| 63 A | 20 A | 220...240 | 4NO | A9C20844 | 6 | |
| | | 220...240 | 4NC | A9C20847 | 6 | |
|  DB103381-18 | 25 A | 8.5 A | 24 | 4NO | A9C20164 | 6 |
| | | | 220...240 | 4NO | A9C20864 | 6 |
| | | | 24 | 4NC | A9C20167 | 6 |
| | | | 220...240 | 4NC | A9C20867 | 6 |
| 100 A | - | 220...240 | 2NO+2NC | A9C20868 | 6 | |
| | | 220...240 | 3NO+1NC | A9C20869 | 6 | |
| | | 220...240 | 4NO | A9C20884 | 12 | |

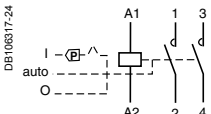
Catalogue numbers

ICT manual control contactor 50 Hz

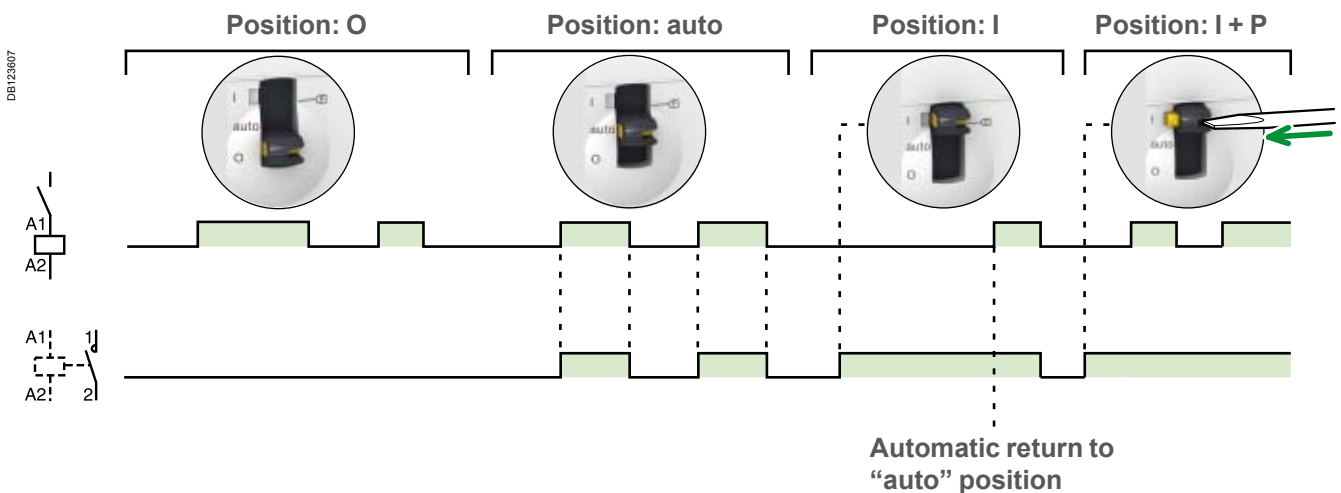
| Type | | | | | | Width in 9 mm modules | |
|--------------------|-------------|-----------|-----------------------------------|----------|----------|-----------------------|--|
| 2P | Rating (In) | | Control voltage (V AC) (50/60 Hz) | Contact | | | |
| | AC7a | AC7b | | | | | |
| <p>DB108317-24</p> | 16 A | 6 A | 220 | 2NO | A9C23512 | 2 | |
| | | | 230...240 | 2NO | A9C23712 | 2 | |
| | | | 220 | 1NO+1NC | A9C23515 | 2 | |
| | | | 230...240 | 1NO+1NC | A9C23715 | 2 | |
| | 25 A | 8,5 A | 24 | 2NO | A9C21132 | 2 | |
| | | | 220 | 2NO | A9C21532 | 2 | |
| | | | 230...240 | 2NO | A9C21732 | 2 | |
| | | | 24 | 2NO | A9C21142 | 2 | |
| | | | 220...240 | 2NO | A9C21842 | 4 | |
| | | | 24 | 2NO | A9C21162 | 4 | |
| 40 A | 15 A | 24 | 2NO | A9C21862 | 4 | | |
| | | 220...240 | 2NO | | | | |
| 63 A | 20 A | 24 | 2NO | | | | |
| | | 220...240 | 2NO | | | | |
| <p>DB108319-27</p> | 25 A | 8,5 A | 220...240 | 3NO | A9C21833 | 4 | |
| | 40 A | 15 A | 220...240 | 3NO | A9C21843 | 6 | |
| | | | | | | | |
| | | | | | | | |
| <p>DB108320-31</p> | 25 A | 8,5 A | 24 | 4NO | A9C21134 | 4 | |
| | | | 220...240 | 4NO | A9C21834 | 4 | |
| | 40 A | 15 A | 24 | 4NO | A9C21144 | 6 | |
| | | | 220...240 | 4NO | A9C21844 | 6 | |
| | 63 A | 20 A | 24 | 4NO | A9C21164 | 6 | |
| | | | 220...240 | 4NO | A9C21864 | 6 | |

Catalogue numbers

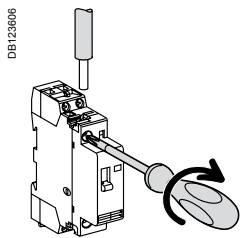
| iCT contactors - 60 Hz | | | | | | |
|--|-------------|-----------|--------------------------------|-----------|----------|-----------------------|
| Type | Rating (In) | | Control voltage (V AC) (60 Hz) | Contact | | Width in 9 mm modules |
| | AC7a | AC7b | | | | |
| 1P  | 25 A | 8.5 A | 127 | 1NO | A9C20431 | 2 |
| | | | 220...240 | 1NO | A9C20631 | 2 |
| 2P  | 16 A | 6 A | 127 | 1NO+1NC | A9C22415 | 2 |
| | | | 220...240 | 1NO+1NC | A9C22615 | 2 |
| | 25 A | 8.5 A | 127 | 2NO | A9C20432 | 2 |
| | | | 220...240 | 2NO | A9C20632 | 2 |
| | | | 127 | 2NC | A9C20436 | 2 |
| | 40 A | 15 A | 220...240 | 2NC | A9C20636 | 2 |
| | | | 127 | 2NO | A9C20442 | 4 |
| | | | | 220...240 | 2NO | A9C20642 |
| 3P  | 25 A | 8.5 A | 127 | 3NO | A9C20433 | 4 |
| | | | 220...240 | 3NO | A9C20633 | 4 |
| | 40 A | 15 A | 127 | 3NO | A9C20443 | 6 |
| | | | 220...240 | 3NO | A9C20643 | 6 |
| | 63 A | 20 A | 127 | 3NO | A9C20463 | 6 |
| | | 220...240 | 3NO | A9C20663 | 6 | |

| iCT manual control contactor 60 Hz | | | | | | |
|---|-------------|------|--------------------------------|---------|----------|-----------------------|
| Type | Rating (In) | | Control voltage (V AC) (60 Hz) | Contact | | Width in 9 mm modules |
| | AC7a | AC7b | | | | |
| 2P  | 40 A | 15 A | 127 | 2NO | A9C21442 | 4 |
| | | | 220...240 | 2NO | A9C21642 | 4 |

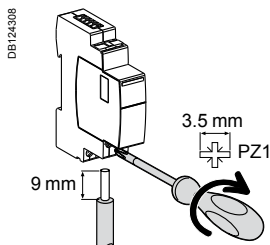
Operation (Manual control contactor)



Connection

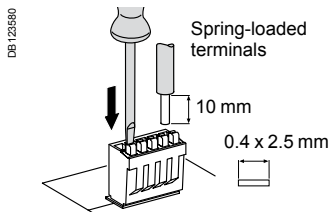


| Type | Rating | Length tripping | Circuit | Tightening torque | Copper cables | | |
|-------------------------------|-----------|-----------------|---------|-------------------|---------------|---|---|
| | | | | | Rigid | Flexible or ferrule | |
| iCT | PZ1: 4 mm | 16 - 100 A | 9 mm | Control | 0.8 N.m | 1.5 to 2.5 mm: 2 x 1.5 mm ² | 1.5 to 2.5 mm: 2 x 2.5 mm ² |
| | | | | | | | |
| | PZ2: 6 mm | 40 A - 63 A | 14 mm | - | 3.5 N.m | 6 to 25 mm ² | 6 to 16 mm ² |
| | | 100 A | | | | 6 to 35 mm ² | 6 to 35 mm ² |
| iACTs, iACTp, iACTc, iATEt | PZ1: 4 mm | - | 9 mm | - | 0.8 N.m | 1.5 to 2.5 mm: 2 x 1.5 mm ² | 1.5 to 2.5 mm: 2 x 2.5 mm ² |



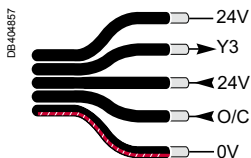
| Type | Terminals | Tightening torque | Copper cables | | |
|--------|-------------------------------------|-------------------|--|---|---|
| | | | Rigid | Flexible | Flexible or ferrule |
| iACT24 | Power supply (N/P) Input (Y1/Y2) | 1 N.m | 0.5 to 10 mm ² 2 x 0.5 to 2 x 2.5 mm ² | 0.5 to 6 mm ² 2 x 0.5 to 2 x 2.5 mm ² | 0.5 to 4 mm ² 2 x 0.5 to 2 x 2.5 mm ² |

Ti24 connector connection

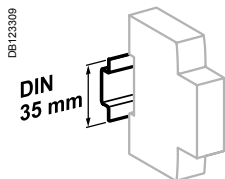


| Type | Catalogue numbers | Copper cables | |
|----------------|-------------------|--------------------------------|--------------------------------|
| | | Rigid | Flexible |
| Ti24 Interface | A9XC2412 | 1 x 0.5 to 1.5 mm ² | 1 x 0.5 to 1.5 mm ² |

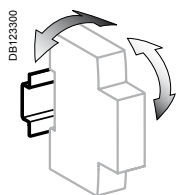
Ti24 prefabricated cables connection



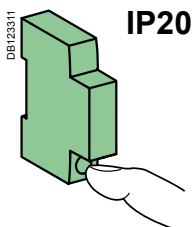
| Type | Catalogue numbers | Length |
|--|-------------------|--------|
| Connection for Acti 9 Smartlink | | |
| 6 short prefabricated | A9XCAS06 | 100 mm |
| 6 medium-sized prefabricated | A9XCAM06 | 160 mm |
| 6 long prefabricated | A9XCAL06 | 870 mm |
| Connection for PLC type terminals | | |
| 6 long prefabricated on a single side | A9XCAU06 | 870 mm |



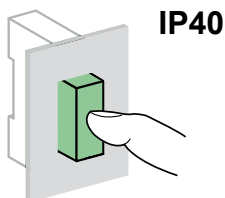
Clip on DIN rail 35 mm.



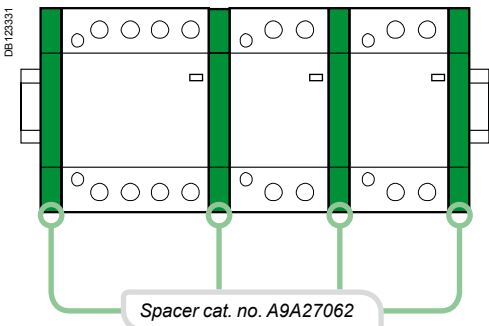
± 30° vertical.



IP20



IP40



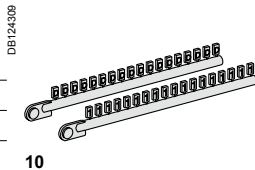
Technical data

| Power circuit | | |
|--|--|----------|
| Voltage rating (Ue) | 1P, 2P | 250 V AC |
| | 3P, 4P | 400 V AC |
| Frequency | 50 Hz or 60 Hz | |
| Type of load | See module CA908026 | |
| Endurance (O-C) | | |
| Electrical | 100,000 cycles | |
| Maximum number of switching operation a day | 100 | |
| Additional characteristics | | |
| Insulation voltage (Ui) | 500 V AC | |
| Pollution degree | 2 | |
| Rated impulse withstand voltage (Uimp) | 2.5 kV (4 kV for 12/24/48 V AC) | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 |
| Operating temperature | -5°C to +60°C ⁽¹⁾ | |
| Storage temperature | -40°C to +70°C | |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity 95 % at 55°C) | |
| ELSV compliance (Extra Low Safety Voltage) for 12/24/48 V AC versions | | |
| The product control conforms to the SELV (safety extra low voltage) requirements | | |

(1) In the case of contactor mounting in a enclosure for which the interior temperature is in range between 50°C and 60°C, it is necessary to use a spacer, cat. no. A9A27062, between each contactor

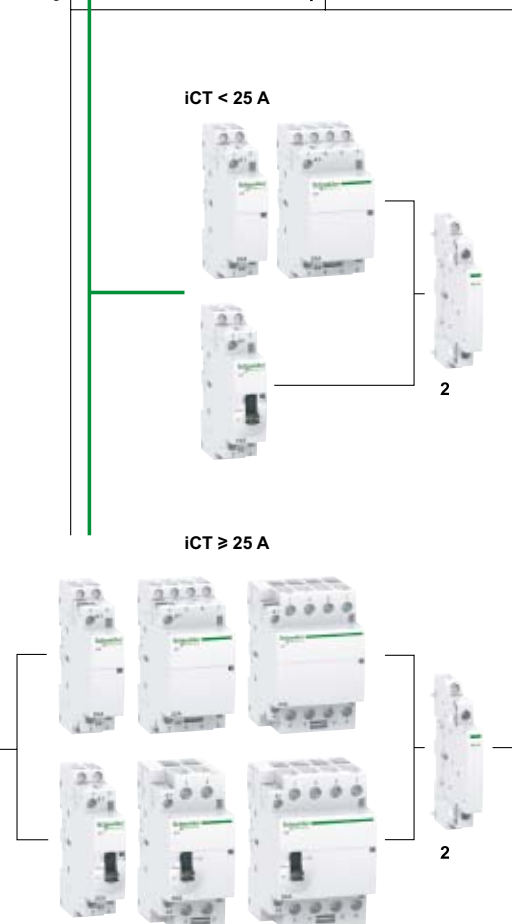
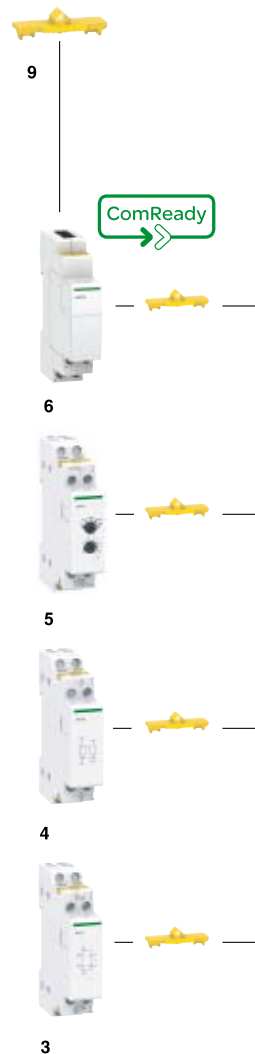
Mounting accessories

| | | | |
|----|--|----------------|-----------------|
| 7 | Sealable screw shields for top and bottom | 3P, 4P 25 A | A9A15921 |
| | | 2P 40/63 A | A9A15922 |
| | | 3P, 4P 40/63 A | A9A15923 |
| 8 | 9 mm spacer | | A9A27062 |
| 9 | Yellow clips | | A9C15415 |
| 10 | Clip-on terminal markers | see module | CA907001 |






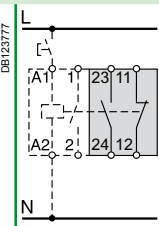
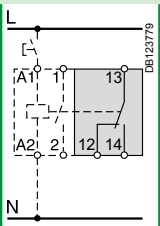
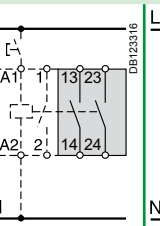
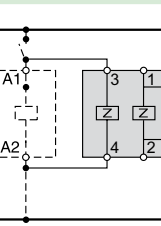
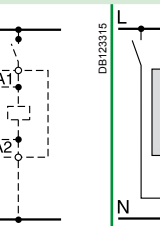
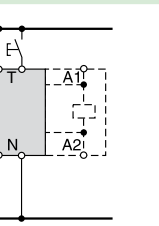
Auxiliaries

| Indication | | | |
|------------------------|--------|----------------|-----------------|
| 2 | iACTs | 1NO + 1NC | A9C15914 |
| | | 1CO | A9C15915 |
| | | 2NO | A9C15916 |
| Double control inputs | | | |
| 3 | iACTc | 230 V AC | A9C18308 |
| | | 24 V AC | A9C18309 |
| Coil suppression blocs | | | |
| 4 | iACTp | 12...48 V AC | A9C15919 |
| | | 48...127 V AC | A9C15918 |
| | | 220...240 V AC | A9C15920 |
| Time delay | | | |
| 5 | iATEt | 24...240 V AC | A9C15419 |
| Control and indication | | | |
| 6 | iACT24 | 230 V AC | A9C15924 |



ICT contactors

Electrical auxiliaries for iCT

| | Indication | | | Protection | | | Control | | |
|---------------------------------------|---|--|----------|--|----------|-----------|---|---|--|
| Auxiliaries | iACTs | | | iACTp | | | iACTc | | |
| Type | Indication | | | Interference filtering | | | Impulse/latched control | | |
| | With Open/Close auxiliary contact | | | 2 protection circuits | | | Impulse/latched control | | |
| |  | | |  | | |  | | |
| Function | <ul style="list-style-type: none"> This auxiliary allows indication of the "open" or "closed" position of the contactor power contacts | | | <ul style="list-style-type: none"> This auxiliary is an interference suppressor which limits overvoltages on the control circuit | | | <ul style="list-style-type: none"> This auxiliary, combined with contactors, enables them to be controlled by 2 order types: <ul style="list-style-type: none"> impulse order for local control (input T) latched order for centralised control (input X) the last order received takes priority | | |
| Wiring diagrams |  | | |  | | |  | | |
| |  | | |  | | |  | | |
| Mounting | <ul style="list-style-type: none"> Mounted to the right of iCT | | | <ul style="list-style-type: none"> Mounted to the left of iCT by yellow clips⁽¹⁾ By wires | | | <ul style="list-style-type: none"> Mounted to the left of iCT by yellow clips⁽¹⁾ | | |
| Use | - | | | <ul style="list-style-type: none"> The iACTp has 2 separate and identical circuits, allowing it to be combined with 2 different one on the iCT the other by wires | | | <ul style="list-style-type: none"> Mains power outages: <ul style="list-style-type: none"> < 70 ms: keeps its initial status > 80 ms: reset put back into operation by manual operation on input X or T. Minimum impulse duration: 250 ms | | |
| Catalogue numbers | A9C15914 | A9C15915 | A9C15916 | A9C15918 | A9C15919 | A9C15920 | A9C18308 | A9C18309 | |
| Technical specifications | | | | | | | | | |
| Control voltage (Ue) | V AC | 24...240 | | 48...127 | 12...48 | 220...240 | 230...240 | 24...48 | |
| | V DC | 24...130 | | - | | - | | | |
| Control voltage frequency | Hz | 50/60 | | 50/60 | | | 50/60 | | |
| Width in 9 mm modules | | 1 | | 2 | | | 2 | | |
| Auxiliary contact (breaking capacity) | | <ul style="list-style-type: none"> Minimum: 10 mA at 24 V DC/AC - cos φ = 1 Maximum: <ul style="list-style-type: none"> 5 A at 240 V AC - cos φ = 1 1 A at 130 V DC | | - | | | - | | |
| Number of contacts | | 1NO + 1NC | 1CO | 2NO | | - | | | |
| Operating temperature | °C | -5°C to +50°C | | | | | | | |
| Storage temperature | °C | -40°C to +70°C | | | | | | | |
| Consumption | | - | | | - | | | OFF load: 3 VA Inrush ⁽²⁾ : 2 VA Holding ⁽²⁾ : 0.2 VA | |

(1) Electrical and mechanical link.

(2) Maximum consumption of all contactors controlled.

iCT contactors

Electrical auxiliaries for iCT (cont.)

Control (cont.)

iATEt

Time delay

PB106125-34



- This auxiliary is used to time delay for iCT and iTL. According to cabling, there are 5 possible time delay types:
- 1 for iTL
- 4 for iCT.

Function type A: late closing

- Delay energizing of contactor.

Function type B: time delay

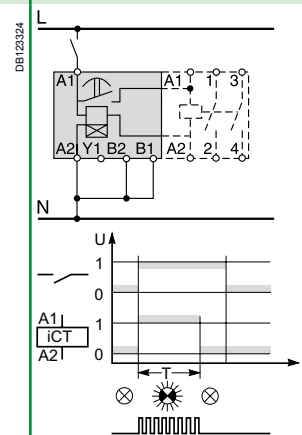
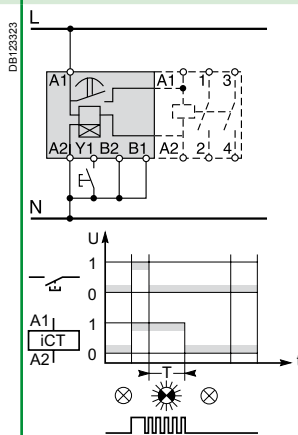
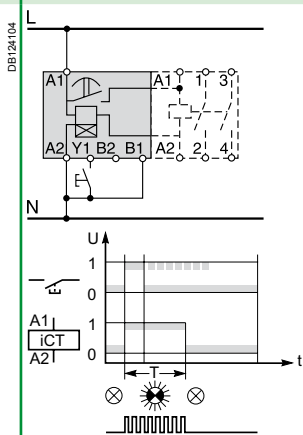
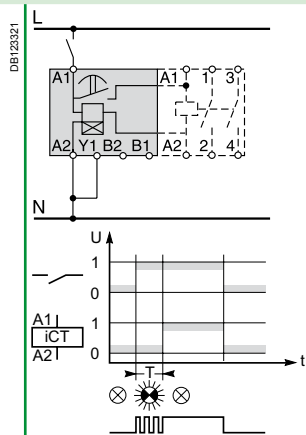
- Energize the contactor by closing a push button.
- The time delay starts as soon as the control contacts are closed.

Function type C: late opening

- Energize the contactor by closing a push button.
- The time delay starts when the control contacts are opened.

Function type H: fixed time operation

- Operate the contactor for a pre-determined time from the moment of energizing.



- Mounted to the left of iCT by yellow clips⁽¹⁾

A9C15419

24...240

24...110

50/60

2


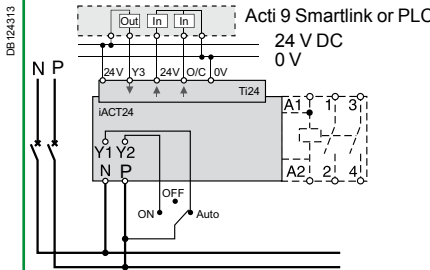
-20°C to +50°C

-40°C to +80°C






Off-load: 5 VA
Inrush⁽²⁾: 3 A
Holding⁽²⁾: 0.2 A

iCT contactors

Electrical auxiliaries for iCT (cont.)

| | | | |
|--|------|--|--|
| | | Control and indication | |
| Auxiliary | | iACT24 | |
| Type | | Control and indication 24 V DC | |
| | | With Ti24 connector | |
| | |  | |
| Function | | <ul style="list-style-type: none"> ■ This auxiliary allows a contactor to be interfaced with the Acti 9 Smartlink interface or a programmable logic controller (PLC) in 24 V DC (control, O/C indication) ■ 230 V AC control | |
| Wiring diagrams | |  <p>Wiring with exclusive selector 230 V AC control (Y1 = 0) / 24 V DC control (Y1 = 1)</p> <p>Wiring for non-exclusive 230 V AC and 24 V DC controls</p> | |
| Mounting | | <ul style="list-style-type: none"> ■ To the left of the iCT contactor using the yellow clips ⁽¹⁾. ■ When an iACT24 is used, the A1/A2 terminals of the contactors should not be wired. Only the yellow clips integral with the iACT24 should be used for connection to the coil. | |
| Utilization | | <ul style="list-style-type: none"> ■ 230 V AC interface: <ul style="list-style-type: none"> □ Y1: enabling of 24 V DC control (Y1 = 1) or inhibition of 24 V DC control (Y1 = 0). □ Y2: 230 V pulse control ■ "Ti24" 24 V DC interface: <ul style="list-style-type: none"> □ Y3: 24 V DC control of iCT closing on rising edge and opening on falling edge □ reading of the contactor status (opened or closed) from the position of the integrated O/C auxiliary contact □ monitoring of connection of the "Ti24" terminal block by the upstream system (PLC, supervision system) via the 24 V terminal (in the centre of the Ti24 terminal block) | |
| Catalogue numbers | | A9C15924 | |
| Technical specifications | | | |
| Control voltage (Ue) | V AC | 230, +10 %, -15 % (Y2) | |
| | V DC | 24, ± 20 % (Y3) | |
| Control voltage frequency | Hz | 50/60 | |
| Insulation voltage (Ui) | V AC | 250 | |
| Rated impulse withstand voltage (Uimp) | kV | 8 (OVC IV) | |
| Pollution degree | | 3 | |
| Degree of protection | | IP20B device only | |
| | | IP40 device in modular enclosure | |
| Width in 9 mm modules | | 2 | |
| Auxiliary contact (O/C) Ti24 | | 24 V DC protected output, min. 2 mA, max. 100 mA | |
| Contact | | 1 O/C operating category AC 14 | |
| Operating temperature | °C | -25°C to +60°C | |
| Storage temperature | °C | -40°C to +80°C | |
| Consumption | | <1 W | |
| Standard | | IEC/EN 60947-5-1 | |

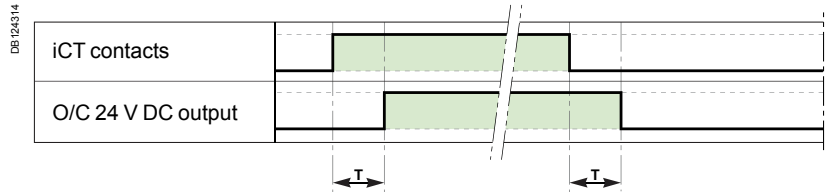
(1) Mechanical and electrical link.

| Security | | | | | |
|---------------------------------|---|--|--|--|--|
| Accessories | Sealable screw shields | | | Yellow clips | Spacer |
| |  PE104485-15 |  PE104486-15 |  PE104487-15 |  PE108143-10 |  PE104483-40 |
| Function | <ul style="list-style-type: none"> ■ Designed to cover terminals to avoid contact with device screws. ■ Allow sealing | | | <ul style="list-style-type: none"> ■ Ensure the mechanical and/or electrical link between contactors and their auxiliaries. | <ul style="list-style-type: none"> ■ Required to reduce temperature rise of modular devices installed side by side. ■ Recommended to separate electronic devices (thermostat, programmable clock, etc.) from electromechanical devices (relays, contactors). |
| | ■ For iCT: 3P, 4P - 25 A | ■ For iCT: 2P - 40/63 A | ■ For iCT: 3P, 4P - 40/63 A | ■ For iCT: ≥ 25 A | |
| Use | ■ Bag of 10 upstream/10 downstream | | | ■ Bag of 10 | ■ Bag of 5 |
| Catalogue numbers | A9A15921 | A9A15922 | A9A15923 | A9C15415 | A9A27062 |
| Technical specifications | | | | | |
| Width in 9 mm modules | 4 | 4 | 6 | – | 1 |
| Number of poles | 3P, 4P | 2P | 3P | – | – |



Operation of the iACT24

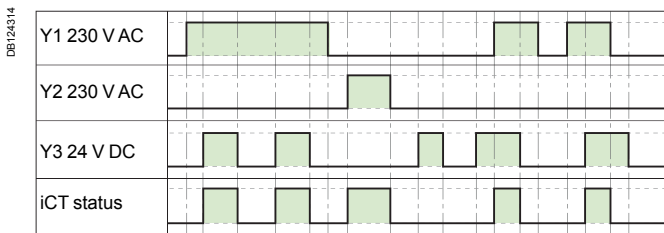
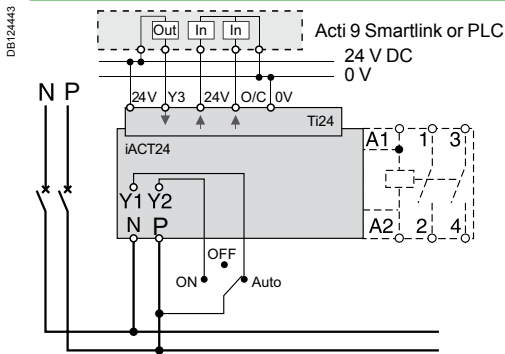
O/C 24 V DC output



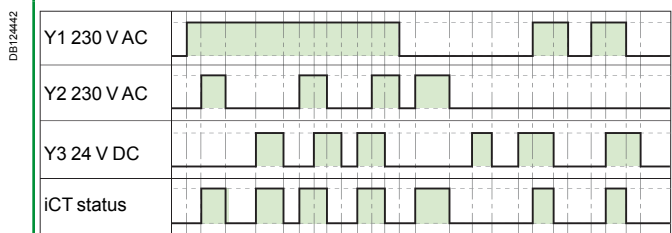
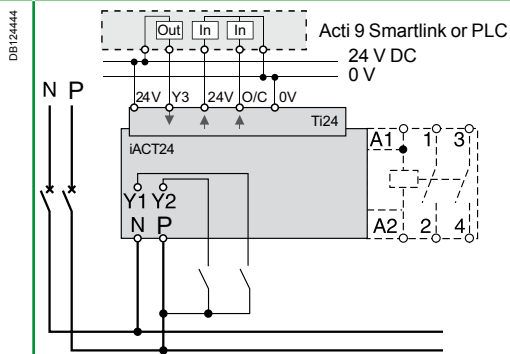
| Parameter | Min | Max |
|-----------|--------|--------|
| T | 100 ms | 200 ms |

- Minimum duration of 230 V AC pulse (Y2): 200 ms.
- 30 iACT24 closing or opening actuations are authorized per minute: Minimum time delay between 2 actuations on the iACT4 via Y1, Y2, Y3 (closing or opening of the iCT coil): 220 ms.
- 10 closing or opening actuations spaced 440 milliseconds apart are authorized following no loading of the iACT24 during a period of 20 seconds.

Wiring with exclusive selector 230 V AC control (Y1 = 0) / 24 V DC control (Y1 = 1)



Wiring for non-exclusive 230 V AC and 24 V DC controls



Consumption

| iCT contactors - 50 Hz | | | | | | | | | | |
|------------------------|-------------|-----------|--------------------------------|-------------|--------|------------|----------|-------|-------|----------|
| Type | | | | | | | | | | |
| 1P | Rating (In) | | Control voltage (V AC) (50 Hz) | Consumption | | Max. power | | | | |
| | AC7a | AC7b | | Holding | Inrush | | | | | |
| 16 A | 5 A | 12 | 3.8 VA | 15 VA | 1.3 W | A9C22011 | | | | |
| | | | 3.8 VA | 15 VA | 1.3 W | A9C22111 | | | | |
| | | | 3.8 VA | 15 VA | 1.3 W | A9C22211 | | | | |
| | | | 3.8 VA | 15 VA | 1.3 W | A9C22511 | | | | |
| | 25 A | 8.5 A | 220...240 | 2.7 VA | 9.2 VA | 1.2 W | A9C22711 | | | |
| | | | | 3.8 VA | 15 VA | 1.3 W | A9C20531 | | | |
| | | | | 2.7 VA | 9.2 VA | 1.2 W | A9C20731 | | | |
| | | | | | | | | | | |
| 2P | | | | | | | | | | |
| 16 A | 5 A | 12 | 3.8 VA | 15 VA | 1.3 W | A9C22012 | | | | |
| | | | 3.8 VA | 15 VA | 1.3 W | A9C22112 | | | | |
| | | 48 | 3.8 VA | 15 VA | 1.3 W | A9C22212 | | | | |
| | | | 3.8 VA | 15 VA | 1.3 W | A9C22512 | | | | |
| | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | A9C22712 | | | | |
| | | | | | | | | | | |
| | 20 A | 6.4 A | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | A9C22722 | | | |
| | | | | | | | | | | |
| | | | | 25 A | 8.5 A | 24 | 3.8 VA | 15 VA | 1.3 W | A9C20132 |
| | | | | | | | 3.8 VA | 15 VA | 1.3 W | A9C20232 |
| | | | | | | 220 | 3.8 VA | 15 VA | 1.3 W | A9C20532 |
| | | | | | | | 3.8 VA | 15 VA | 1.3 W | A9C20536 |
| 230...240 | 2.7 VA | 9.2 VA | 1.2 W | A9C20736 | | | | | | |
| | | | | | | | | | | |
| 40 A | 15 A | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C20842 | | | | |
| 63 A | 20 A | 24 | 4.6 VA | 34 VA | 1.6 W | A9C20162 | | | | |
| | | | 4.6 VA | 34 VA | 1.6 W | A9C20862 | | | | |
| 100 A | - | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C20882 | | | | |
| 3P | | | | | | | | | | |
| 16 A | 5 A | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C22813 | | | | |
| 25 A | 8.5 A | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C20833 | | | | |
| 40 A | 15 A | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C20843 | | | | |
| 63 A | 20 A | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C20863 | | | | |
| 4P | | | | | | | | | | |
| 16 A | 5 A | 24 | 4.6 VA | 34 VA | 1.6 W | A9C22114 | | | | |
| | | | 4.6 VA | 34 VA | 1.6 W | A9C22814 | | | | |
| | | | 4.6 VA | 34 VA | 1.6 W | A9C22818 | | | | |
| 20 A | 6.4 A | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C22824 | | | | |
| 25 A | 8.5 A | 24 | 4.6 VA | 34 VA | 1.6 W | A9C20134 | | | | |
| | | | 4.6 VA | 34 VA | 1.6 W | A9C20834 | | | | |
| | | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C20137 | | | | |
| | | | 4.6 VA | 34 VA | 1.6 W | A9C20837 | | | | |
| | | | 4.6 VA | 34 VA | 1.6 W | A9C20838 | | | | |
| 40 A | 15 A | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C20844 | | | | |
| | | | 6.5 VA | 53 VA | 2.1 W | A9C20847 | | | | |
| 63 A | 20 A | 24 | 6.5 VA | 53 VA | 2.1 W | A9C20164 | | | | |
| | | | 6.5 VA | 53 VA | 2.1 W | A9C20864 | | | | |
| | | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C20167 | | | | |
| | | | 6.5 VA | 53 VA | 2.1 W | A9C20867 | | | | |
| | | | 6.5 VA | 53 VA | 2.1 W | A9C20868 | | | | |
| 100 A | - | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C20869 | | | | |
| | | | 13 VA | 106 VA | 4.2 W | A9C20884 | | | | |

Consumption (cont.)

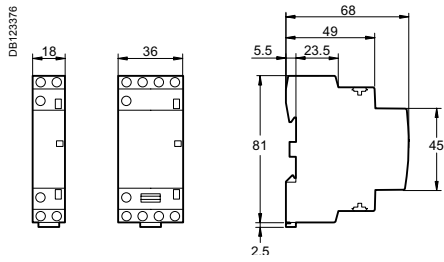
iCT manual control contactor 50 Hz

| Type | | | | | | | |
|------|-------------|------|--------------------------------|-------------|--------|------------|----------|
| 2P | Rating (In) | | Control voltage (V AC) (50 Hz) | Consumption | | Max. power | |
| | AC7a | AC7b | | Holding | Inrush | | |
| 16 A | 5 A | | 220 | 2.7 VA | 9.2 VA | 1.2 W | A9C23512 |
| | | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | A9C23712 |
| | | | 220 | 3.8 VA | 15 VA | 1.3 W | A9C23515 |
| | | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | A9C23715 |
| 25 A | 8.5 A | | 24 | 3.8 VA | 15 VA | 1.3 W | A9C21132 |
| | | | 220 | 2.7 VA | 9.2 VA | 1.2 W | A9C21532 |
| | | | 230...240 | 2.7 VA | 9.2 VA | 1.2 W | A9C21732 |
| 40 A | 15 A | | 24 | 4.6 VA | 34 VA | 1.6 W | A9C21142 |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C21842 |
| 63 A | 20 A | | 24 | 4.6 VA | 34 VA | 1.6 W | A9C21162 |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C21862 |
| 3P | | | | | | | |
| 25 A | 8.5 A | | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C21833 |
| 40 A | 15 A | | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C21843 |
| 4P | | | | | | | |
| 25 A | 8.5 A | | 24 | 4.6 VA | 34 VA | 1.6 W | A9C21134 |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C21834 |
| 40 A | 15 A | | 24 | 6.5 VA | 53 VA | 2.1 W | A9C21144 |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C21844 |
| 63 A | 20 A | | 24 | 6.5 VA | 53 VA | 2.1 W | A9C21164 |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C21864 |

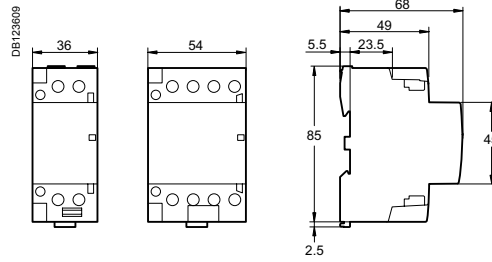
iCT contactors - 60 Hz

| Type | | | | | | | |
|------|-------------|------|--------------------------------|-------------|--------|------------|----------|
| 1P | Rating (In) | | Control voltage (V AC) (60 Hz) | Consumption | | Max. power | |
| | AC7a | AC7b | | Holding | Inrush | | |
| 25 A | 8.5 A | | 127 | 3.8 VA | 15 VA | 1.3 W | A9C20431 |
| | | | 220 ...240 | 2.7 VA | 9.2 VA | 0.9 W | A9C20631 |
| 2P | | | | | | | |
| 16 A | 5 A | | 127 | 3.8 VA | 15 VA | 1.3 W | A9C22415 |
| | | | 220...240 | 2.7 VA | 9.2 VA | 0.9 W | A9C22615 |
| 25 A | 8.5 A | | 127 | 3.8 VA | 15 VA | 1.3 W | A9C20432 |
| | | | 220...240 | 2.7 VA | 9.2 VA | 0.9 W | A9C20632 |
| | | | 127 | 3.8 VA | 15 VA | 1.3 W | A9C20436 |
| | | | 220...240 | 2.7 VA | 9.2 VA | 0.9 W | A9C20636 |
| 40 A | 15 A | | 127 | 4.6 VA | 34 VA | 1.6 W | A9C20442 |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C20642 |
| 3P | | | | | | | |
| 25 A | 8.5 A | | 127 | 4.6 VA | 34 VA | 1.6 W | A9C20433 |
| | | | 220...240 | 4.6 VA | 34 VA | 1.6 W | A9C20633 |
| 40 A | 15 A | | 127 | 6.5 VA | 53 VA | 2.1 W | A9C20443 |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C20643 |
| 63 A | 20 A | | 127 | 6.5 VA | 53 VA | 2.1 W | A9C20463 |
| | | | 220...240 | 6.5 VA | 53 VA | 2.1 W | A9C20663 |

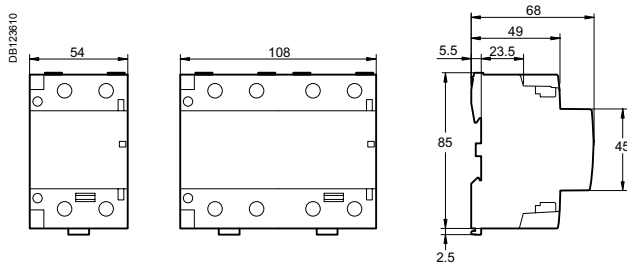
Dimensions (mm)



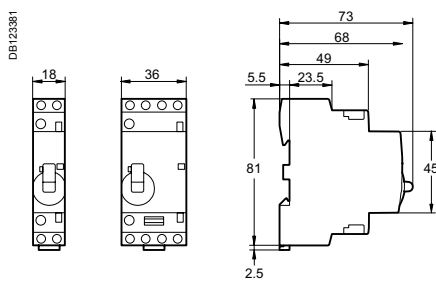
iCT 16/25 A



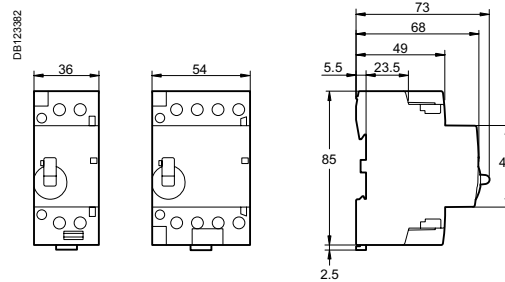
iCT 40/63 A



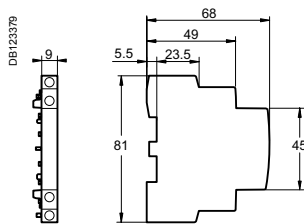
iCT 100 A



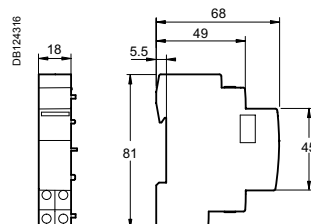
iCT manual control contactor 16/25 A



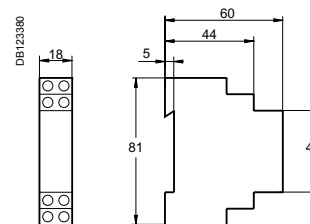
iCT manual control contactor 40/63 A





iACTs



iACT24



iATEt
iACTp
iACTc

DB12399  DB116819  iTL, iTLl, iTLs, iTLc, iTLm
Country approval pictograms

IEC/EN 60669-2-2
iTLs: IEC/EN 60947-5-1

> Impulse relays



iTL
 ■ The impulse relays are used to control, by means of pushbuttons, lighting circuits consisting of:
 □ incandescent lamps, low-voltage halogen lamps, etc. (resistive loads)
 □ fluorescent lamps, discharge lamps, etc. (inductive loads)

> Remote indication



iTLs
 ■ Allows remote indication of its operating state (open/closed)



Indication iATLs
 ■ Allows remote indication of the associated impulse relay

> Centralised control



iTLC
 ■ Allows centralised control of a group of iTL impulse relays, whilst at the same time retaining local impulse-type control



Centralised control iATLc
 ■ Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate circuit, while at the same time maintaining local individual control of each impulse relay

> Latched control



iTLM
 ■ Operated by latched orders from a changeover contact (switch, time switch, thermostat). Manual control does not work



Latched control iATLm
 ■ Controls the associated impulse relay by latched orders from a changeover contact

Impulse relays are used:

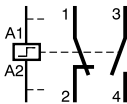
- Closing of the impulse relay pole(s) is triggered by an impulse on the coil.
- Having two stable mechanical positions, the pole(s) will be opened by the next impulse. Each impulse received by the coil reverses the position of the pole(s).
- Can be controlled by an unlimited number of pushbuttons.
- Zero energy consumption.

PB106131-34



Changeover contact iTLi

- This impulse relay has a changeover contact

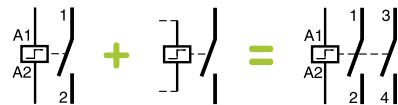


PB106134-34



Extensions iETL

- Used to increase the number of impulse relay poles
- Can be installed on the iTL, iTLi, iTLc, iTLm and iTLs



PB106140-34



Centralised control + indication iATLc+s

- Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate circuit, while at the same time maintaining local individual control of each impulse relay
- Remote indication of the mechanical status of each relay

PB106136-34



Multi-level centralised control iATLc+c

- Allows centralised control of a group of iTLc or "iTL + ATLc" impulse relays

PB107742-34



Control and indication 24 V DC iATL24

- Allows control and indication of a 230 V AC impulse relay from the Acti 9 Smartlink or by a PLC, by 24 V DC signals
- Also allows control by a pulsed signal

PB106125-34



Time delay iATEt

- Combined with an impulse relay, it automatically disconnects the circuit after a preset time

PB106141-34



Control iATLz

- Must be used when installing several illuminated PBs in parallel to control an impulse relay (prevents operating malfunctions)

PB106142-63



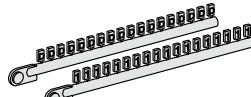
Step by step control iATL4

- Allows step-by-step control of two circuits via a single pushbutton

Mounting accessories

| | | |
|----|--------------------------|---------------------|
| 11 | Yellow clips | A9C15415 |
| 12 | 9 mm spacer | A9A27062 |
| 13 | Clip-on terminal markers | see module CA907001 |

DB 123631



13



12



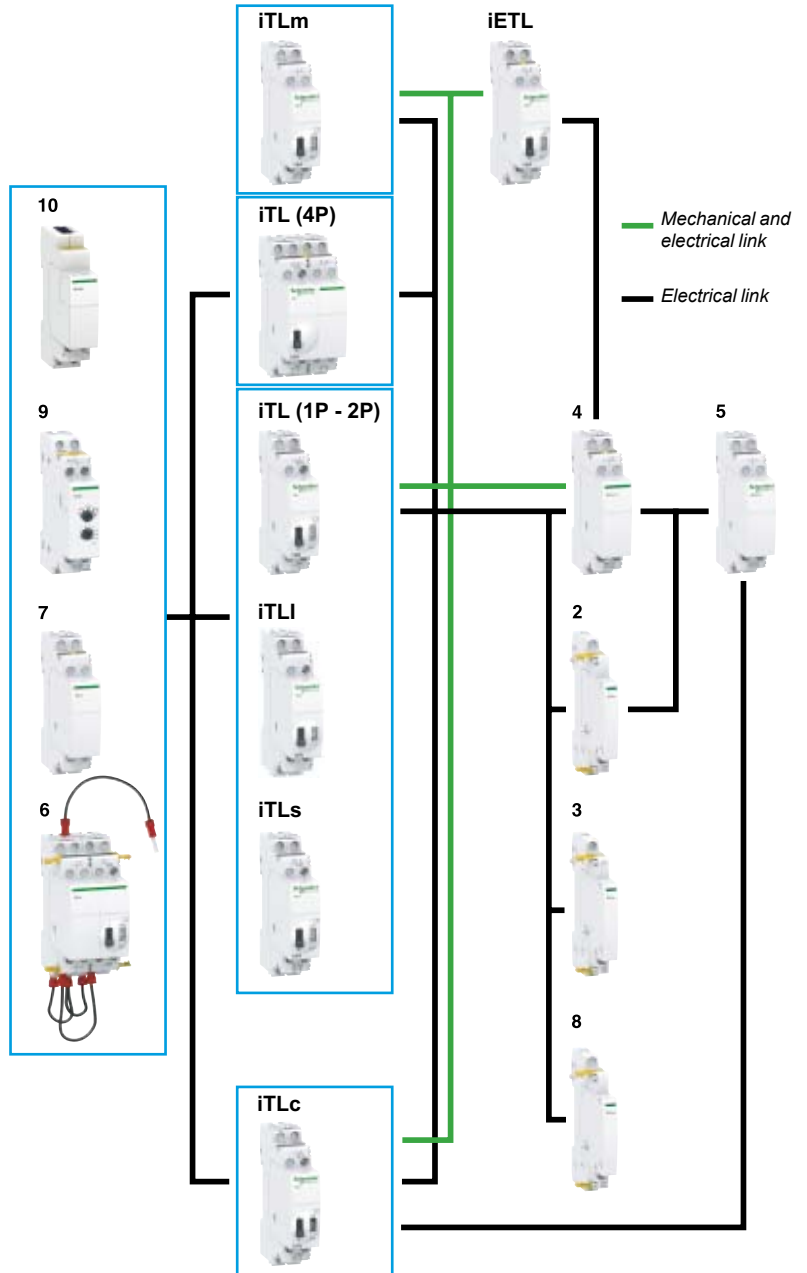
11

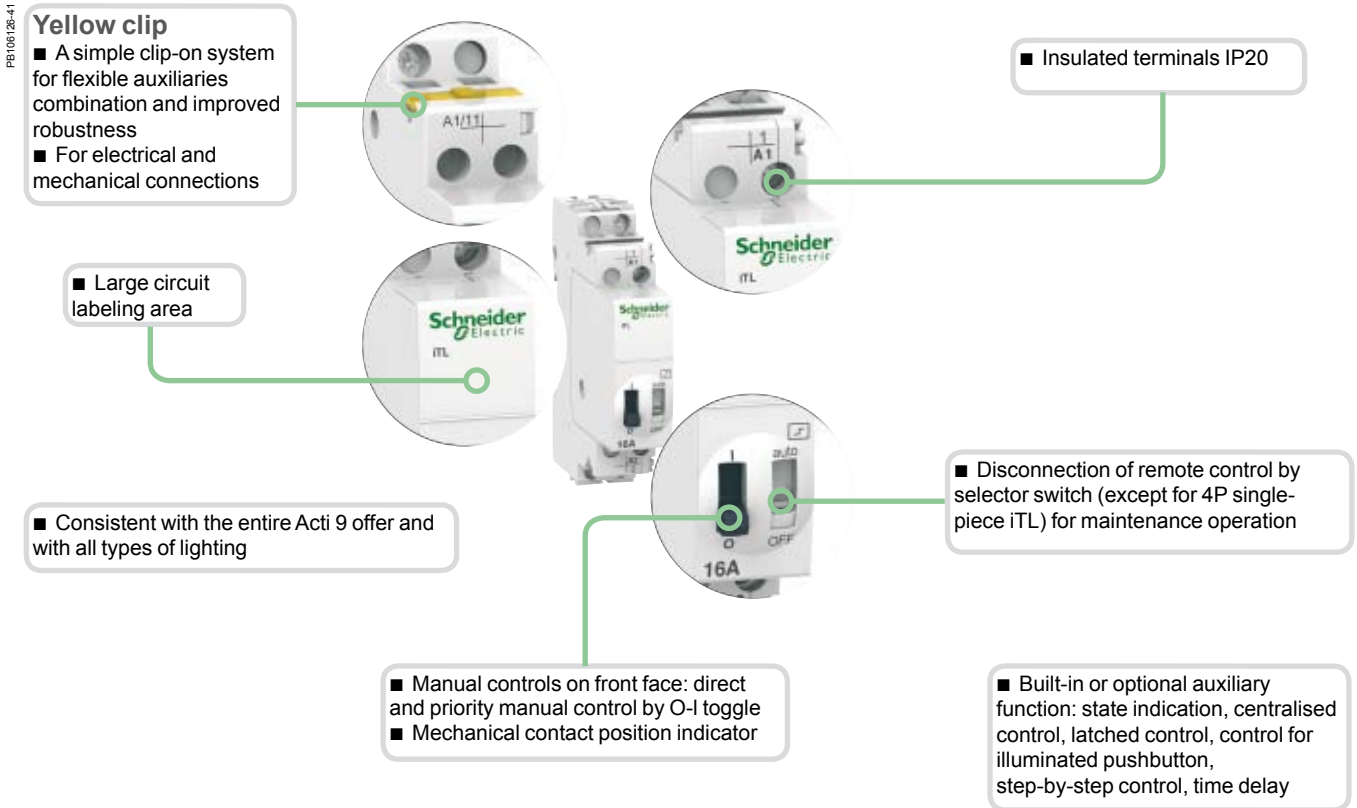
Auxiliaries

| Centralised control | Control voltage | Cat. no. |
|--|-----------------|----------|
| 2 iATLc ^{(1),(3)} | 24...240 V AC | A9C15404 |
| Indication | | |
| 3 iATLs ⁽¹⁾ | - | A9C15405 |
| Centralised control + indication | | |
| 4 iATLc+s ⁽³⁾ | 24...240 V AC | A9C15409 |
| Multi-level centralised control | | |
| 5 iATLc+c ^{(2),(3)} | 24...240 V AC | A9C15410 |
| Step by step control | | |
| 6 iATL4 | 230 V AC | A9C15412 |
| Control by illuminated push-buttons | | |
| 7 iATLz | 230...240 V AC | A9C15413 |
| Latched control | | |
| 8 iATLm ⁽¹⁾ | 12...240 V AC | A9C15414 |
| Time delay control | | |
| 9 iATEt ⁽⁴⁾ | 24...240 V AC | A9C15419 |
| Control and indication | | |
| 10 iATL24 | 230 V AC | A9C15424 |



(1) The iATLc, iATLs and iATLm 9 mm auxiliaries must be mounted to the right of an impulse relay.
 (2) Connection by traditional cabling.
 The iATLc+c must be mounted to the right of an iATLc+s or an iATLc.
 (3) The centralised control functions (iTLc, iATLc, iATLc+s, iATLc+c) only operate on AC voltage networks.
 (4) iATEt: control voltage: 24...240 V AC, 24...110 V DC.





iTL impulse relays (cont.)

Auxiliaries choice in V AC and V DC

| V AC | | Choice impulse relays auxiliaries | | | | | | | | | | | | | | | | | | | |
|---|------|-----------------------------------|-----|----|----|----|-----------------|---------|-----|----|----|--------------------------|---------|----|-------------------------------|---------|------------------------|----|----|---|---|
| Type | | Standard iTL | | | | | Changeover iTLI | | | | | iTLC centralised control | | | iTLm control on latched order | | iTLs remote indication | | | | |
| Rating | A | 16 | | | | | 16 | | | | | 16 | | | 16 | | 16 | | | | |
| Control voltage (Uc) | V AC | 230/240 | 130 | 48 | 24 | 12 | 230/240 | 230/240 | 130 | 48 | 24 | 12 | 230/240 | 48 | 24 | 230/240 | 230/240 | 48 | 24 | | |
| Auxiliaries | | | | | | | | | | | | | | | | | | | | | |
| Extension | | | | | | | | | | | | | | | | | | | | | |
| iETL | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | ■ | ■ | ■ |
| Centralised control + indication | | | | | | | | | | | | | | | | | | | | | |
| iATLc+s | | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | - | - | - | - | - | - | | | | ■ | ■ | ■ |
| Centralised control | | | | | | | | | | | | | | | | | | | | | |
| iATLc | | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | - | - | - | - | - | - | | | | ■ | ■ | ■ |
| Indication | | | | | | | | | | | | | | | | | | | | | |
| iATLs | | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | ■ | ■ | ■ |
| Multi-level centralised control | | | | | | | | | | | | | | | | | | | | | |
| iATLc+c | | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | - | - | ■ | ■ | ■ | - | | | | ■ | ■ | ■ |
| Latched control | | | | | | | | | | | | | | | | | | | | | |
| iATLm | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | - | - | - | | | | ■ | ■ | ■ |
| Control for illuminated Pushbutton | | | | | | | | | | | | | | | | | | | | | |
| iATLz | | ■ | - | - | - | - | ■ | ■ | - | - | - | ■ | - | - | - | | | | ■ | - | - |
| Step by step control | | | | | | | | | | | | | | | | | | | | | |
| iATL4 | | ■ | - | - | - | - | ■ | ■ | - | - | - | ■ | - | - | - | | | | ■ | - | - |
| Time delay control | | | | | | | | | | | | | | | | | | | | | |
| iATEt | | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | - | - | - | - | - | | | | ■ | ■ | ■ |
| Control and indication | | | | | | | | | | | | | | | | | | | | | |
| iATL24 | | ■ | - | - | - | - | ■ | ■ | - | - | - | ■ | - | - | - | | | | ■ | - | - |

| V DC | | Choice impulse relays auxiliaries | | | | | | | | | | | | | | | | | | | |
|---------------------------|------|-----------------------------------|----|----|----|---|-----------------|-----|----|----|----|--------------------------|---|---|-------------------------------|-----|------------------------|----|----|---|---|
| Type | | Standard iTL | | | | | Changeover iTLI | | | | | iTLC centralised control | | | iTLm control on latched order | | iTLs remote indication | | | | |
| Rating | A | 16 | | | | | 16 | | | | | 16 | | | 16 | | 16 | | | | |
| Control voltage (Uc) | V DC | 110 | 48 | 24 | 12 | 6 | 110 | 110 | 48 | 24 | 12 | 6 | - | - | - | 110 | 110 | 24 | 12 | | |
| Auxiliaries | | | | | | | | | | | | | | | | | | | | | |
| Extension | | | | | | | | | | | | | | | | | | | | | |
| iETL | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | - | - | - | | | | ■ | ■ | ■ |
| Indication | | | | | | | | | | | | | | | | | | | | | |
| iATLs | | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | ■ | - | - | - | - | | | | ■ | ■ | ■ |
| Time delay control | | | | | | | | | | | | | | | | | | | | | |
| iATEt | | ■ | ■ | ■ | - | - | ■ | ■ | ■ | - | - | - | - | - | - | | | | ■ | ■ | - |

Catalogue numbers

| iTL impulse relays | | | | | | | | |
|-----------------------|----------------------|--------|----------|---------------------|-------------------------|-------------------------|----------|----------|
| Type | 1P | | 2P | | 3P | | 4P | |
| | | | | | | | | |
| Rating (In) | Control voltage (Uc) | | | | | | | |
| | (V AC) (50/60 Hz) | (V DC) | | | | | | |
| 16 A | 12 | 6 | A9C30011 | A9C30012 | A9C30011 + A9C32016 | A9C30012 + A9C32016 | | |
| | 24 | 12 | A9C30111 | A9C30112 | A9C30111 + A9C32116 | A9C30112 + A9C32116 | A9C30114 | |
| | 48 | 24 | A9C30211 | A9C30212 | A9C30211 + A9C32216 | A9C30212 + A9C32216 | A9C30214 | A9C30216 |
| | 130 | 48 | A9C30311 | A9C30312 | A9C30311 + A9C32316 | A9C30312 + A9C32316 | A9C30314 | A9C30316 |
| | 230...240 | 110 | A9C30811 | A9C30812 | A9C30811 + A9C32816 | A9C30812 + A9C32816 | A9C30814 | A9C30816 |
| 32 A | 230...240 | 110 | A9C30831 | A9C30831 + A9C32836 | A9C30831 + 2 x A9C32836 | A9C30831 + 3 x A9C32836 | | |
| Width in 9 mm modules | | | 2 | 2 | 4 | 4 | | |

| iTLI impulse relays | | | |
|-----------------------|----------------------|--------|----------|
| Type | 2P | | |
| | | | |
| Rating (In) | Control voltage (Uc) | | |
| | (V AC) (50/60 Hz) | (V DC) | |
| 16 A | 12 | 6 | A9C30015 |
| | 24 | 12 | A9C30115 |
| | 48 | 24 | A9C30215 |
| | 130 | 48 | A9C30315 |
| | 230...240 | 110 | A9C30815 |
| Width in 9 mm modules | | | 2 |

| iETL extensions for iTL and iTLI | | | | |
|----------------------------------|----------------------|--------|----------|----------|
| Type | 1P | | 2P | |
| | | | | |
| Rating (In) | Control voltage (Uc) | | | |
| | (V AC) (50/60 Hz) | (V DC) | | |
| 16 A | 12 | 6 | - | A9C32016 |
| | 24 | 12 | - | A9C32116 |
| | 48 | 24 | - | A9C32216 |
| | 130 | 48 | - | A9C32316 |
| | 230...240 | 110 | - | A9C32816 |
| 32 A | 230...240 | 110 | A9C32836 | - |
| Width in 9 mm modules | | | 2 | 2 |

iTL impulse relays (cont.)

iTLc, iTLm, iTLs

with built-in auxiliary function

Catalogue numbers (cont.)

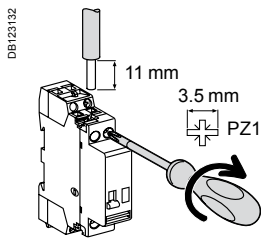
| | | iTLc impulse relay with centralised control | |
|-----------------------|---|---|---------------------|
| Type | | 1P | 3P |
| | | | |
| | | 1NO | 3P |
| Rating (In) | Control voltage (Uc) (V AC) (50/60 Hz) | | |
| 16 A | 24 | A9C33111 | A9C33111 + A9C32116 |
| | 48 | A9C33211 | A9C33211 + A9C32216 |
| | 230...240 | A9C33811 | A9C33811 + A9C32816 |
| Width in 9 mm modules | | 2 | 4 |











| | | iTLm impulse relay with latched control | |
|-----------------------|---|---|---------------------|
| Type | | 1P | 3P |
| | | | |
| | | 1NO | 3P |
| Rating (In) | Control voltage (Uc) (V AC) (50/60 Hz) | | |
| 16 A | 230...240 | A9C34811 | A9C34811 + A9C32816 |
| Width in 9 mm modules | | 2 | 4 |

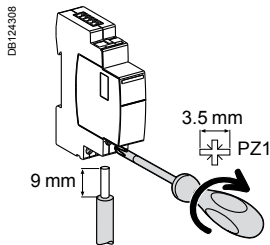
| | | iTLs impulse relay with remote indication* | |
|-----------------------|----------------------|--|----------|
| Type | | 1P | 3P |
| | | | |
| | | 1NO | 3P |
| Rating (In) | Control voltage (Uc) | | |
| 16 A | (V AC) (50/60 Hz) | (V DC) | |
| | 24 | 12 | A9C32111 |
| | 48 | 24 | A9C32211 |
| | | 230...240 | 110 |
| Width in 9 mm modules | | 2 | 4 |




(*) Short circuit protection device for indication contacts : 6 A gG fuse.

Connection

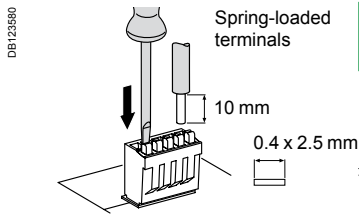




| Type | Rating | Circuit | Tightening torque | Copper cables | |
|--|--------|---------|-------------------|---|---|
| | | | | Rigid or ferrule | Flexible or ferrule |
| iTL, iTLi, iTLc, iTLm, iTLs, iETL | 16 A | Control | 1 N.m |  |  |
| | | Power | |  |  |
| iTL, iETL | 32 A | Control | 1.2 N.m |  |  |
| | | Power | |  |  |
| iATLs, iATLc, iATLc+s, iATLc+c, iATLm, iATEt, iATL4, iATLz | | | 1 N.m |  |  |



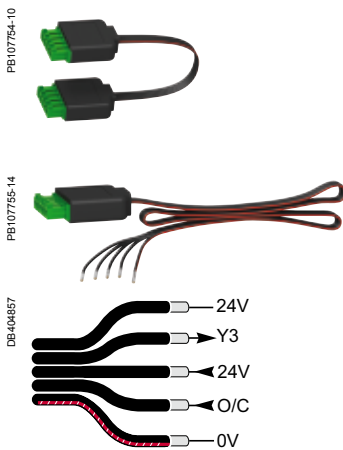
| Type | Terminals | Tightening torque | Copper cables | | |
|--------|-------------------------------------|-------------------|--|---|---|
| | | | Rigid | Flexible | Flexible or ferrule |
| iATL24 | Power supply (N/P) Input (Y1/Y2) | 1 N.m |  0.5 to 10 mm ² 2 x 0.5 to 2 x 2.5 mm ² |  0.5 to 6 mm ² 2 x 0.5 to 2 x 2.5 mm ² |  0.5 to 4 mm ² 2 x 0.5 to 2 x 2.5 mm ² |

Ti24 connector connection



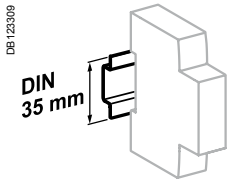
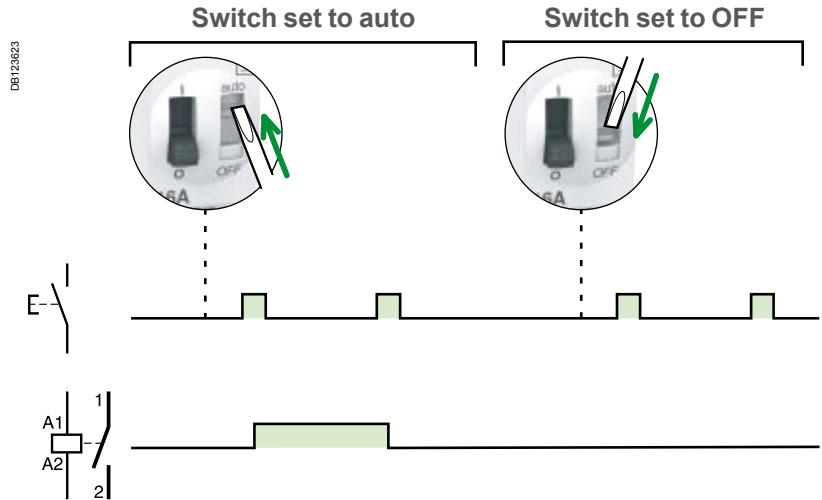
| Type | Catalogue numbers | Copper cables | |
|----------------|-------------------|---|---|
| | | Rigid | Flexible |
| Ti24 interface | A9XC2412 |  1 x 0.5 to 1.5 mm ² |  1 x 0.5 to 1.5 mm ² |

Ti24 prefabricated cables connection

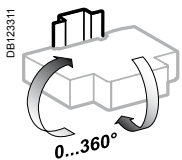


| Type | Catalogue numbers | Length |
|--|-------------------|--------|
| Connection for Acti 9 Smartlink | | |
| 6 short prefabricated | A9XCAS06 | 100 mm |
| 6 medium-sized prefabricated | A9XCAM06 | 160 mm |
| 6 long prefabricated | A9XCAL06 | 870 mm |
| Connection for PLC type terminals | | |
| 6 long prefabricated on a single side | A9XCAU06 | 870 mm |

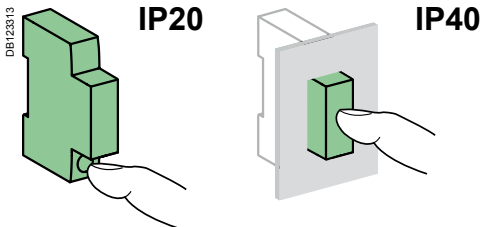
Operation



Clip on DIN rail 35 mm.



Indifferent position of installation.





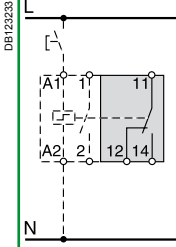
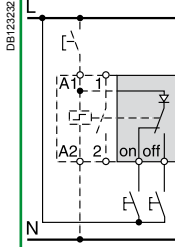
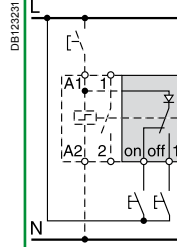
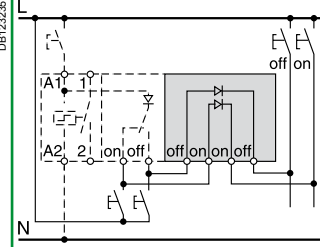


Technical data

| Control circuit | | iTL and iTLI 16 A iTLc, iTLm, iTLs, iETL 16 A | iTL 32 A, iETL 32 A |
|---|---|---|------------------------|
| Control voltage (Uc) | Tolerance at 50 Hz | +6 %, -15 % | |
| | Tolerance at 60 Hz | ±6 % | |
| | Tolerance V DC | +6 %, -10 % | |
| Dissipated power (during the impulse) | 1, 2, 3P: 19 VA | 19 VA | |
| | 4P: 38 VA | | |
| Illuminated PB control | Max. current 3 mA (if > use an ATLz) | | |
| Operating threshold | Min. 85 % of Un in conformance with IEC/EN60669-2-2 | | |
| Duration of the control order | 50 ms to 1 s (200 ms recommended) | | |
| Response time | 50 ms | | |
| Power circuit | | | |
| Voltage rating (Ue) | 1P, 2P | 24 ...250 V AC | |
| | 3P, 4P | 24...415 V AC | |
| Frequency | 50 Hz or 60 Hz | | |
| Maximum number of operations per minute | 5 | | |
| Maximum number of switching operation a day | 100 | | |
| Additional characteristics | | | |
| Insulation voltage (Ui) | 440 V AC | | |
| Pollution degree | 3 | | |
| Rated impulse withstand voltage (Uimp) | 6 kV | | |
| Overvoltage category | IV | | |
| Endurance (O-C) | | | |
| Electrical | 200,000 cycles (AC21) | 50,000 cycles (AC21) | |
| | 100,000 cycles (AC22) | 20,000 cycles (AC22) | |
| Other characteristics | | | |
| Degree of protection (IEC 60529) | Device only | IP20 | |
| | Device in modular enclosure | IP40 Insulation class II | |
| Operating temperature | -20°C to +50°C | | |
| Storage temperature | -40°C to +70°C | | |
| Tropicalization (IEC 60068-1) | Treatment 2 (relative humidity 95 % at 55°C) | | |

iTL impulse relays (cont.)





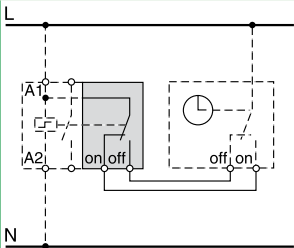
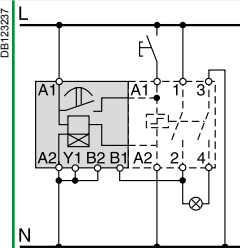
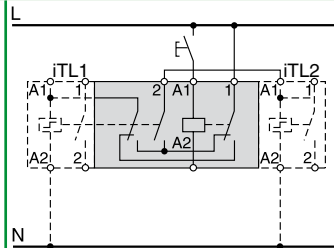
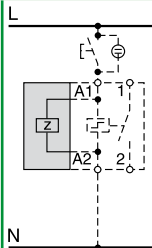
Electrical auxiliaries for iTL impulse relays


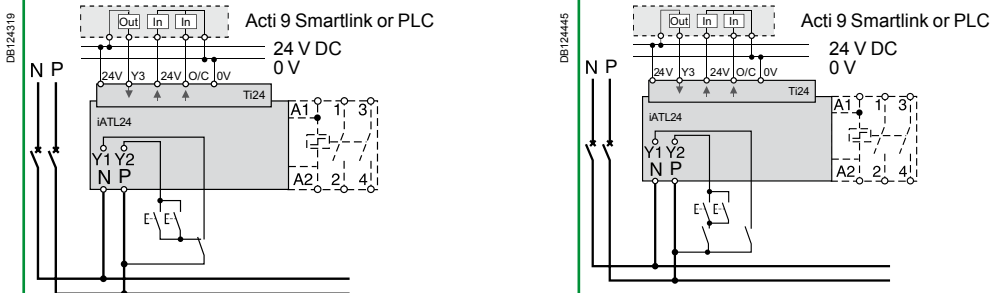
| | | Indication | | Control | | | | | | | | | | | | | |
|---------------------------------------|---|--|----------------|---|--|--|--|--|--|-----------------|-----|----------------|-----|-----------------|-----|----------------|-----|
| Auxiliaries | | iATLs | | iATLc | | iATLc+s | | iATLc+c | | | | | | | | | |
| Type | | Indication | | Centralised control | | Centralised control + indication | | Multi-level centralised control | | | | | | | | | |
| | |  | |  | |  | |  | | | | | | | | | |
| | | PB106139-34 | | PB106137-34 | | PB106140-34 | | PB106138-34 | | | | | | | | | |
| Function | | <ul style="list-style-type: none"> Allows remote indication of the associated impulse relay | | <ul style="list-style-type: none"> Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate networks, while at the same time maintaining local individual control of each impulse relay | | <ul style="list-style-type: none"> And for remote indication of the mechanical status of each relay | | <ul style="list-style-type: none"> Used to control the centralised controls of a number of impulse relay groups, while at the same time maintaining local individual control and centralised control by level | | | | | | | | | |
| Wiring diagrams | |  | |  | |  | |  | | | | | | | | | |
| | | DB123233 | | DB123232 | | DB123231 | | DB123235 | | | | | | | | | |
| Mounting | | <ul style="list-style-type: none"> Mounted to the right of iTL by yellow clips | | <ul style="list-style-type: none"> Mounted to the right of iTL by yellow clips | | <ul style="list-style-type: none"> Mounted to the right of iTL by yellow clips | | <ul style="list-style-type: none"> Without mechanical link with impulse relays and auxiliaries | | | | | | | | | |
| Catalogue numbers | | A9C15405 | | A9C15404 | | A9C15409 | | A9C15410 | | | | | | | | | |
| Technical specifications | | | | | | | | | | | | | | | | | |
| Control voltage (Uc) | V AC | - | | 24...240 | | 24...240 | | 24...240 | | | | | | | | | |
| | V DC | - | | - | | - | | - | | | | | | | | | |
| Control voltage frequency | Hz | - | | 50/60 | | 50/60 | | 50/60 | | | | | | | | | |
| | Width in 9 mm modules | 1 | | 1 | | 2 | | 2 | | | | | | | | | |
| Auxiliary contact (breaking capacity) | <ul style="list-style-type: none"> Minimum: 10 mA at 24 V AC/DC Maximum (IEC 60947-5-1): <table border="0"> <tr> <td>□ 12...240 V AC</td> <td>6 A</td> </tr> <tr> <td>□ 12...24 V DC</td> <td>6 A</td> </tr> <tr> <td>□ 15...240 V AC</td> <td>2 A</td> </tr> <tr> <td>□ 13...24 V DC</td> <td>2 A</td> </tr> </table> | | | | | | | | | □ 12...240 V AC | 6 A | □ 12...24 V DC | 6 A | □ 15...240 V AC | 2 A | □ 13...24 V DC | 2 A |
| | □ 12...240 V AC | 6 A | | | | | | | | | | | | | | | |
| | □ 12...24 V DC | 6 A | | | | | | | | | | | | | | | |
| | □ 15...240 V AC | 2 A | | | | | | | | | | | | | | | |
| | □ 13...24 V DC | 2 A | | | | | | | | | | | | | | | |
| Number of contacts | - | | | | | | | | | | | | | | | | |
| | Operating temperature | °C | -20°C to +50°C | | | | | | | | | | | | | | |
| | | °C | -40°C to +70°C | | | | | | | | | | | | | | |
| | Storage temperature | °C | -40°C to +70°C | | | | | | | | | | | | | | |

iTL impulse relays (cont.)

Electrical auxiliaries for iTL impulse relays (cont.)

Control

| | iATLm | iATEt | iATL4 | iATLz |
|--|---|---|--|--|
| | Latched control | Time delay | Step by step control | Control by illuminated push-buttons |
| |  |  |  |  |
| | <ul style="list-style-type: none"> Combined with an impulse relay, it operates on latched orders | <ul style="list-style-type: none"> Combined with an impulse relay, it automatically disconnects the circuit after a preset time | <ul style="list-style-type: none"> Allows the step by step sequence over 2 circuits | <ul style="list-style-type: none"> Used to control impulse relays by illuminated push-buttons, without operating risks |
| |  |  |  |  |
| | | <ul style="list-style-type: none"> 5 time setting ranges: <ul style="list-style-type: none"> 1 to 10 s 6 to 60 s 2 to 10 min 6 to 60 min 2 to 10 h | <ul style="list-style-type: none"> The cycle is as follows: <ul style="list-style-type: none"> 1st impulse - iTL 1 closed, iTL 2 open 2nd impulse - iTL 1 open, iTL 2 closed 3rd impulse - iTL 1 and 2 closed 4th impulse - iTL 1 and 2 open 5th impulse - iTL 1 closed, iTL 2 open, etc | <ul style="list-style-type: none"> Provide an iATLz when the current drawn up by the illuminated push-buttons is higher than 3 mA (this current is sufficient to keep the coils energised). Above this value, fit one extra iATLz per 3 mA. For example: for 7 mA, fit 2 iATLz |
| | <ul style="list-style-type: none"> Mounted to the right of iTL by yellow clips | <ul style="list-style-type: none"> Mounted to the left of iTL by yellow clips | <ul style="list-style-type: none"> Assembled between 2 impulse relays: according to the auxiliarisation table by yellow clips | <ul style="list-style-type: none"> Mounted to the left of iTL by yellow clips |
| | A9C15414 | A9C15419 | A9C15412 | A9C15413 |
| | 12...240 | 24...240 | 230 | 230...240 |
| | 50/60 | 24...110 50/60 | 50/60 | 50/60 |
| | 1 | 2 | 4 | 2 |
| | -20°C to +50°C | - | - | - |
| | -40°C to +70°C | - | - | - |

| | | | |
|--|------|--|--|
| | | Control and indication | |
| Auxiliaire | | iATL24 | |
| Type | | Control and indication 24 V DC | |
| | | With Ti24 connector | |
| | |  | |
| Function | | <ul style="list-style-type: none"> ■ This auxiliary allows a impulse relay to be interfaced with the Acti 9 Smartlink interface or a programmable logic controller (PLC) in 24 V DC (control, O/C indication) ■ 230 V AC control | |
| Wiring diagrams | |  | |
| | | <p>Wiring with exclusive selector 230 V AC and 24 V DC controls</p> <p>Wiring for non-exclusive 230 V AC and 24 V DC controls</p> | |
| Mounting | | <ul style="list-style-type: none"> ■ To the left of the iTL impulse relay using the yellow clips⁽¹⁾. ■ When an iATL24 is used, the A1/A2 terminals of the impulse relay should not be wired. Only the yellow clips integral with the iATL24 should be used for connection to the coil. | |
| Utilization | | <ul style="list-style-type: none"> ■ 230 V AC interface: <ul style="list-style-type: none"> □ Y1: enabling of 24 V DC control (Y1 = 1) or inhibition of 24 V DC control (Y1 = 0). □ Y2: 230 V pulse control ■ "Ti24" 24 V DC interface: <ul style="list-style-type: none"> □ Y3: 24 V DC control of iTL closing on rising edge and opening on falling edge □ reading of the impulse relay status (opened or closed) from the position of the integrated O/C auxiliary contact □ monitoring of connection of the "Ti24" terminal block by the upstream system (PLC, supervision system) via the 24 V terminal (in the centre of the Ti24 terminal block) | |
| Catalogue numbers | | A9C15424 | |
| Technical specifications | | | |
| Control voltage (Uc) | V AC | 230, +10 %, -15 % (Y2) | |
| | V DC | 24, ± 20 % (Y3) | |
| Control voltage frequency | Hz | 50/60 | |
| Insulation voltage (Ui) | V AC | 250 | |
| Rated impulse withstand voltage (Uimp) | kV | 8 (OVC IV) | |
| Pollution degree | | 3 | |
| Degree of protection | | IP20B device only | |
| | | IP40 device in modular enclosure | |
| Width in 9 mm modules | | 2 | |
| Auxiliary contact (O/C) Ti24 | | 24 V DC protected output, min. 2 mA, max. 100 mA | |
| Contact | | 1 O/C operating category AC 14 | |
| Operating temperature | °C | -25°C to +60°C | |
| | °C | -40°C to +80°C | |
| Storage temperature | °C | -40°C to +80°C | |
| Consumption | | <1 W | |
| Standard | | IEC/EN 60947-5-1 | |

(1) Mechanical and electrical connection.

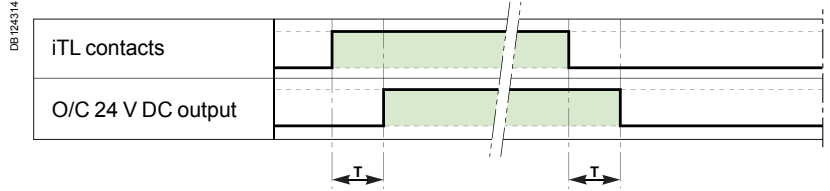
iTL impulse relays (cont.)

Electrical auxiliaries for iTL impulse relays (cont.)



Operation of the iATL24

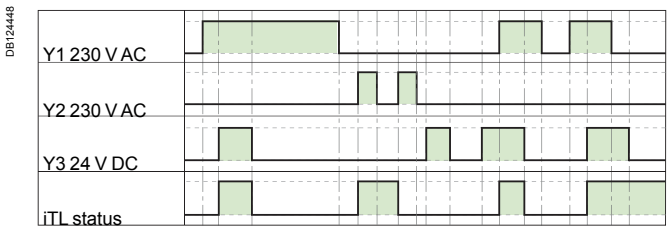
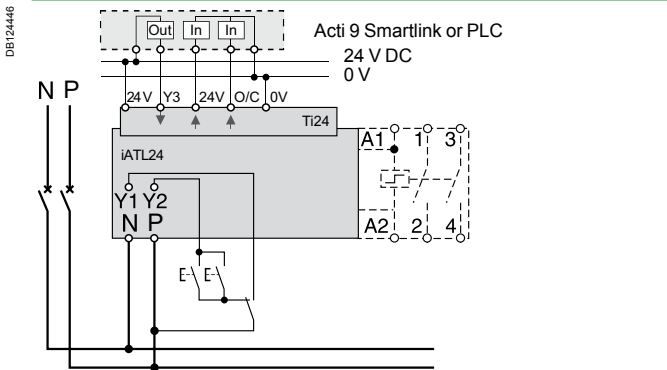
O/C 24 V DC output



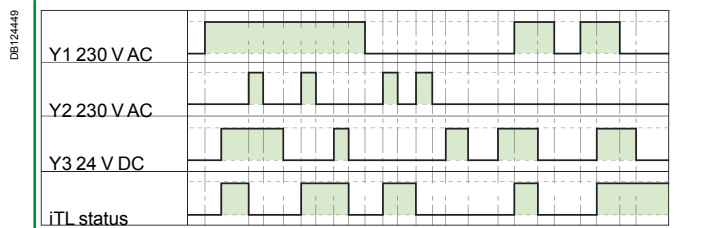
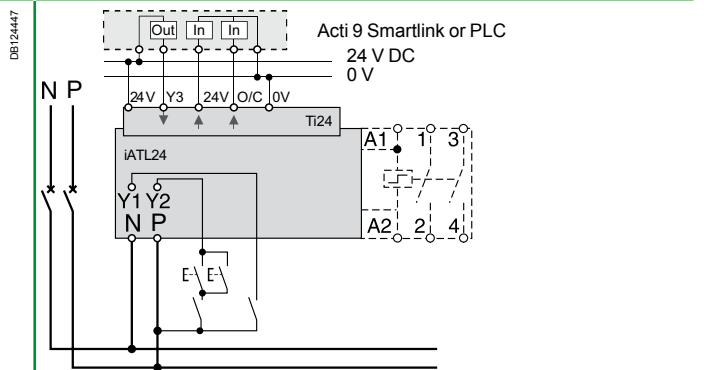
| Parameter | Min | Max |
|--|--------|--------|
| T Time delay between iATL24 closing and indication | 100 ms | 200 ms |



- Minimum duration of 230 V AC pulse (Y2): 200 ms.
- 30 iATL24 closing or opening actuations are authorized per minute: Minimum time delay between 2 actuations on the iATL24 via Y1, Y2, Y3 (closing or opening of the iTL coil): 440 ms.
- 10 closing or opening actuations spaced 440 milliseconds apart are authorized following no loading of the iATL24 during a period of 20 seconds.

Wiring with exclusive selector 230 V AC and 24 V DC controls

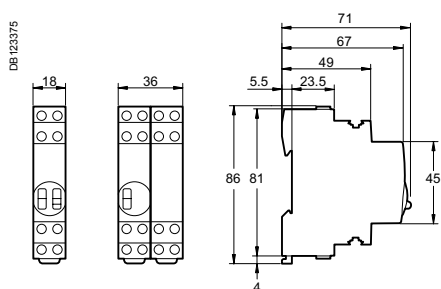


Wiring for non-exclusive 230 V AC and 24 V DC controls

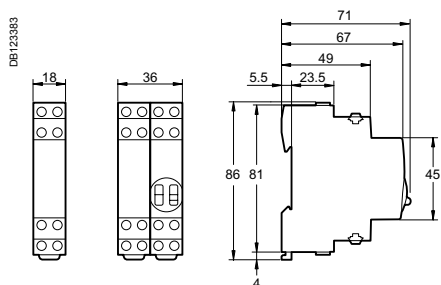


| | | Security | |
|--------------------------|--|--|--|
| Accessories | Yellow clips | Spacer | |
| |  <p>PB106143-10</p> |  <p>PB104483</p> | |
| Function | | | |
| | <ul style="list-style-type: none"> Ensure the mechanical and/or electrical link between impulse relays and their auxiliaries (set of 10). | <ul style="list-style-type: none"> Required to reduce temperature rise of modular devices installed side by side. Recommended to separate electronic devices (thermostat, programmable clock, etc.) from electromechanical devices (relays, contactors). | |
| Catalogue numbers | | | |
| | A9C15415 | A9A27062 | |
| Technical specifications | | | |
| Width in 9 mm modules | - | 1 | |

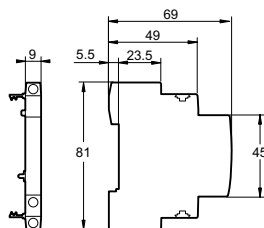
Dimensions (mm)



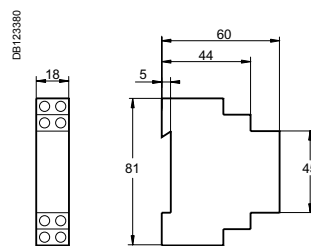
iTL 1P
iTLc
iTLm
iTLs
iTLi
iETL



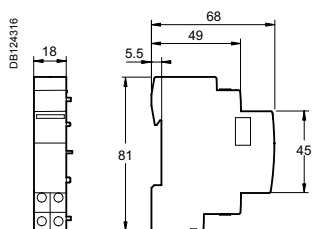
iATLc+s
iATLc+c
iATLz
iATL4



iATLc
iATLs
iATLm



iATeT



iATL24

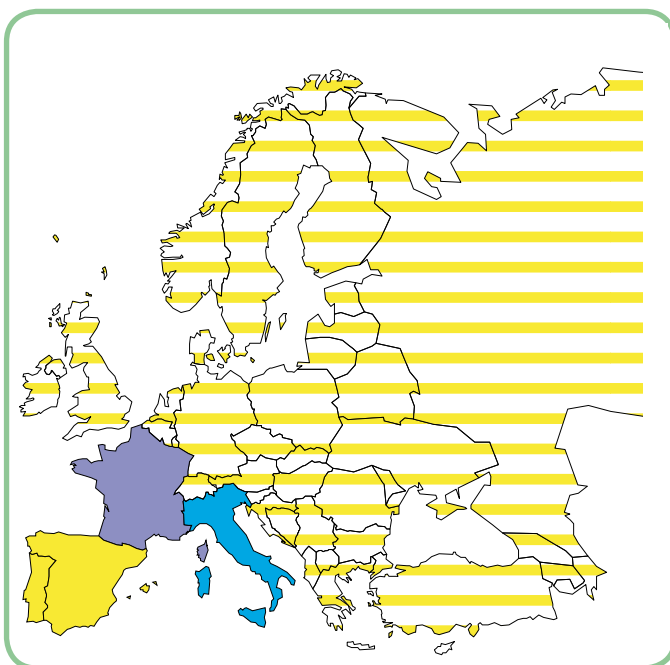


The Schneider Electric range of TL impulse relays comprises various offers (Clario, Prodis, Libro) so as to be as competitive as possible in each country, taking into account the specific features of each market:

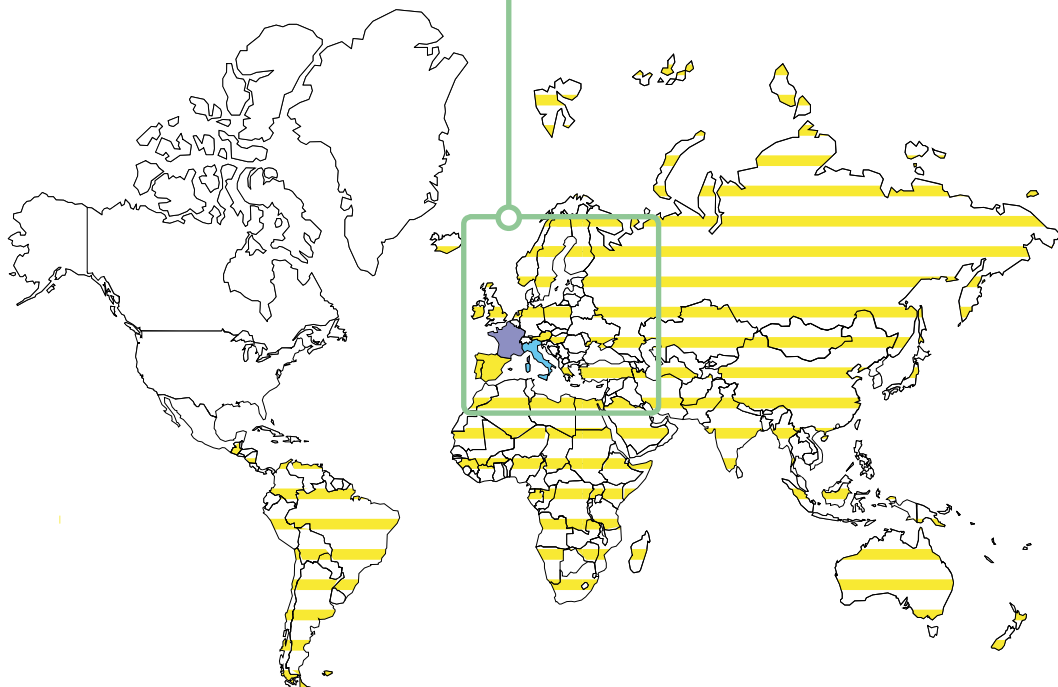
- installation customs
- price
- approval by local organizations.

Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Clario | Catalogue numbers | 446 |
| Prodis | Catalogue numbers | 447 |
| Libro | Catalogue numbers | 448 |
| Common pages | | 449 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.

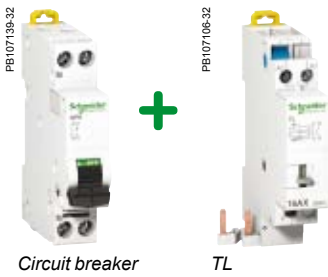




IEC 60669-1 and IEC 60669-2-2

TL impulse relays allow remote control of single-phase circuits.

TL impulse relays are combined with single-phase circuit breakers or residual current devices.



Operation

TL impulse relays:

- have normally open contacts
- are controlled by impulse type electrical orders. One or more control points are possible.

Catalogue numbers

| TL impulse relays | | | |
|-------------------|--------|-----------------|-----------------------|
| Type | Rating | | Width in 9-mm modules |
| 1P | | | |
| <p>DB123682</p> | 16 A | A9C15488 | 2 |
| 2P | | | |
| <p>DB123683</p> | 16 A | A9C15489 | 2 |





IEC 60669-1 and IEC 60669-2-2

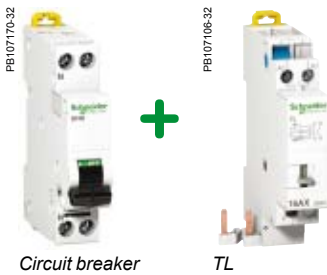
TL impulse relays allow remote control of single-phase circuits.

TL impulse relays are combined with single-phase circuit breakers or residual current devices.

Operation

TL impulse relays:

- have normally open contacts
- are controlled by impulse type electrical orders. One or more control points are possible.



Catalogue numbers

| TL impulse relays | | | |
|-------------------|--------|-----------------|-----------------------|
| Type | Rating | | Width in 9-mm modules |
| 1P | | | |
| | 16 A | A9C15506 | 2 |
| 2P | | | |
| | 16 A | A9C15507 | 2 |

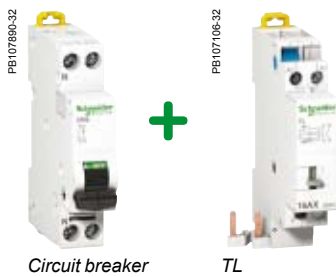




IEC 60669-1 and IEC 60669-2-2

TL impulse relays allow remote control of single-phase circuits.

TL impulse relays are combined with single-phase circuit breakers or residual current devices.



Operation

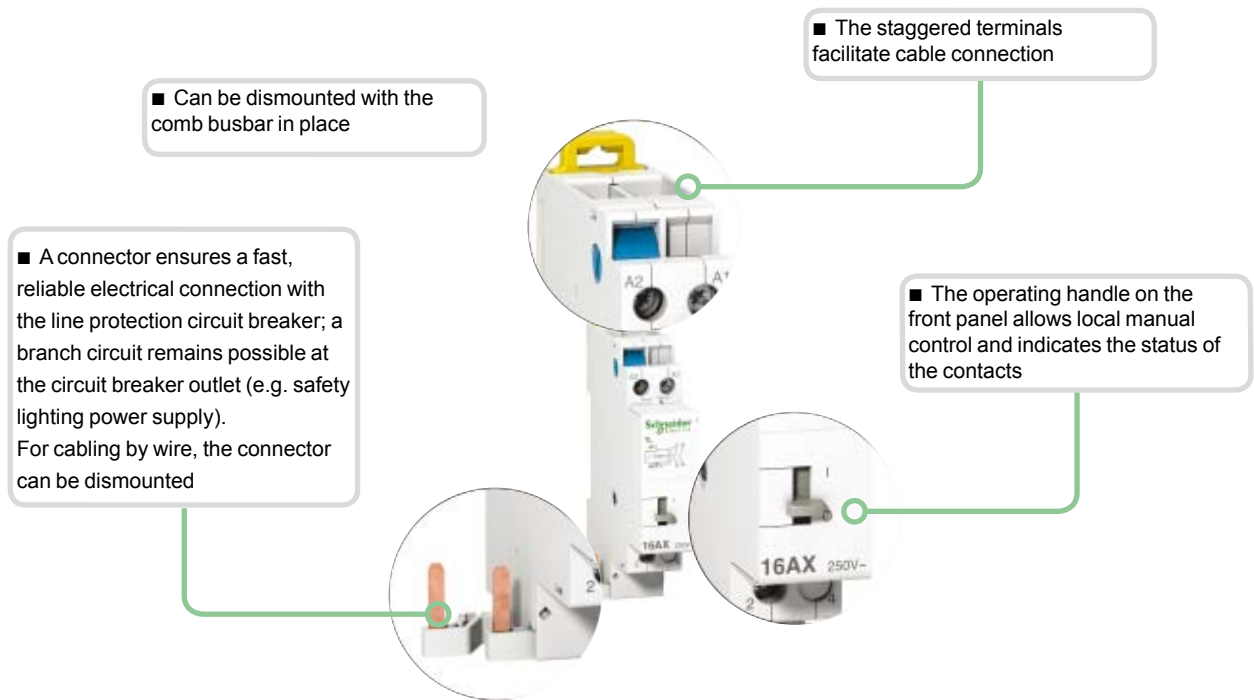
TL impulse relays:

- have normally open contacts
- are controlled by impulse type electrical orders. One or more control points are possible.

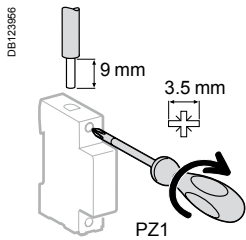
Catalogue numbers

| TL impulse relays | | | |
|-------------------|--------|-----------------|-----------------------|
| Type | Rating | | Width in 9-mm modules |
| 2P | | | |
| | 16 A | A9C15485 | 2 |





Connection



| Circuit | Tightening torque | Copper cables | |
|---------|-------------------|--|--|
| | | Rigid | Flexible or with ferrule |
| Power | 1 N.m | 1 x 1 to 4 mm ² 2 x 1 to 2,5 mm ² | 1 x 1 to 4 mm ² 2 x 1 to 2,5 mm ² |
| Control | 1 N.m | 1 x 0,5 to 1,5 mm ² | 1 x 0,5 to 1,5 mm ² |

2 possible connections

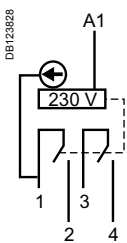


Figure 1:
Coil cabling with 1 wire

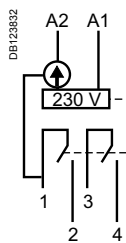


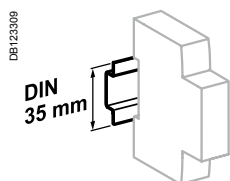
Figure 2:
Coil cabling with 2 wires



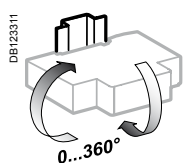
■ Cabling with a single wire



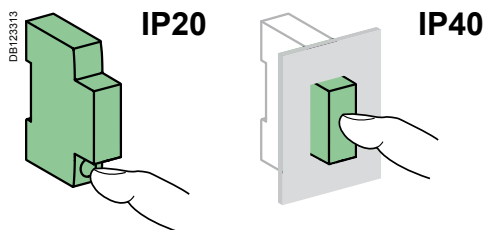
■ Standard cabling



Clip on DIN rail 35 mm.



Indifferent position of installation.



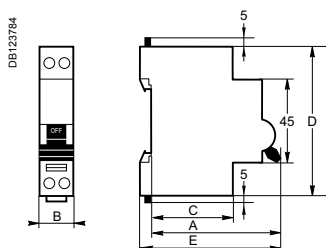
Technical data

| Control circuit | | |
|--|---|---|
| Coil voltage (Uc) | 230/240 V AC | |
| Frequency | 50 Hz | |
| Inrush power | 19 VA | |
| Control by luminous push buttons | Max. current consumption = 3 mA | |
| Power circuit | | |
| Voltage rating (Ue) | 250 V AC | |
| Frequency | 50 Hz | |
| Max. number of switching operations per minute | 5 | |
| Pulse duration | 50 ms (recommended value for automatic control: 200 ms) | |
| Additional characteristics | | |
| Insulation voltage (Ui) | 500 V AC | |
| Noise level at activation | < 60 dBA (to 1 m) | |
| Pollution degree | 3 | |
| Rated impulse withstand voltage (Uimp) | 2.5 kV | |
| Degree of protection (IEC 60529) | Device only Device in modular enclosure | IP20 IP40 |
| Endurance (O-C) | Electrical | 200 000 cycles (AC22) |
| Operating temperature | | -20°C to +50°C |
| Storage temperature | | -40°C to +80°C |
| Tropicalization | | Treatment 2 (relative humidity of 95 % at 55°C) |

Weight (g)

| TL impulse relays | |
|-------------------|-----|
| 1P | 100 |
| 2P | 105 |

Dimensions (mm)



| TL impulse relays | | | | | |
|-------------------|----|----|----|----|----|
| Type | A | B | C | D | E |
| 1P/2P | 63 | 18 | 44 | 81 | 69 |

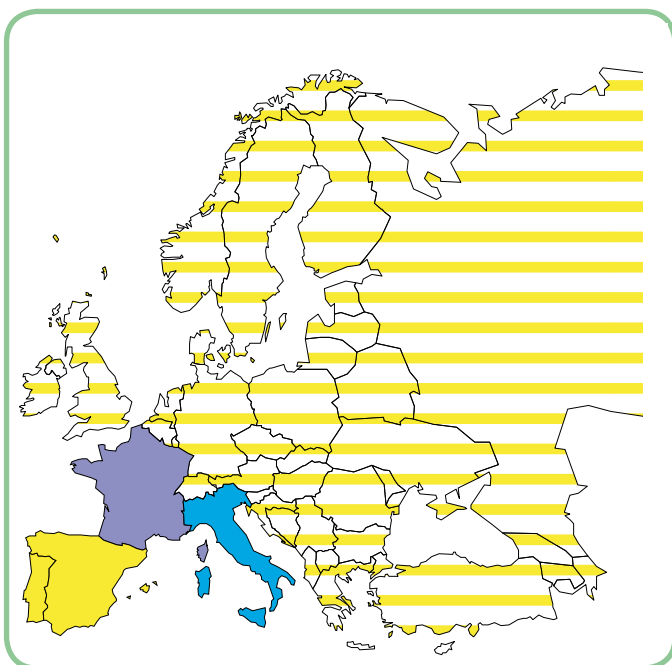


The Schneider Electric range of CT contactors comprises various offers (Clario, Prodis, Libro) so as to be as competitive as possible in each country, taking into account the specific features of each market:

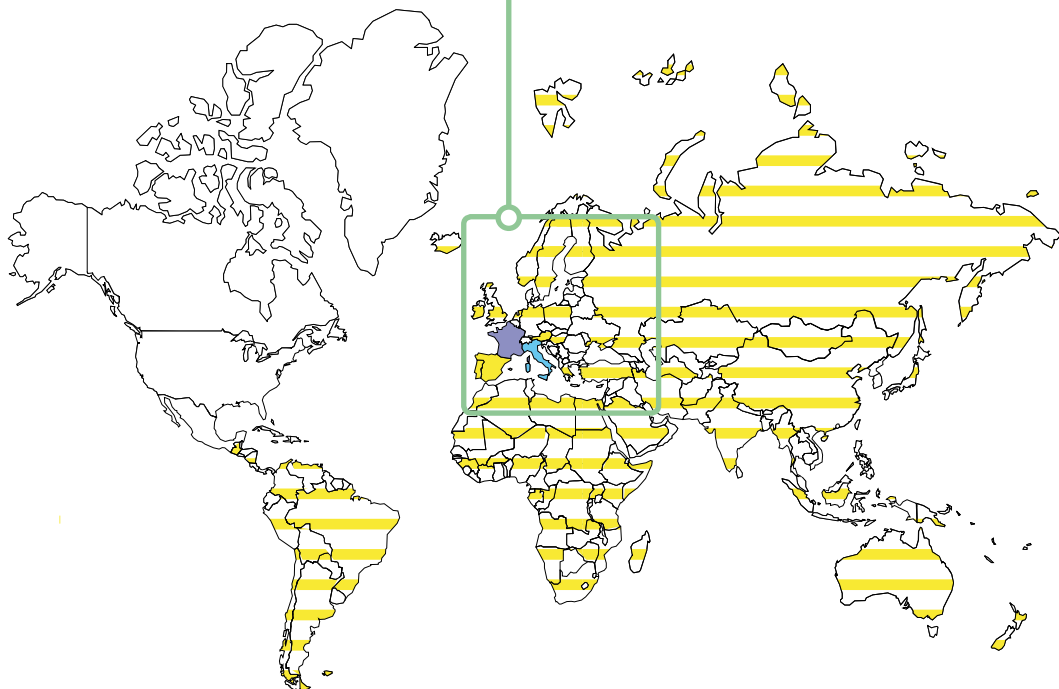
- installation customs
- price
- approval by local organizations.

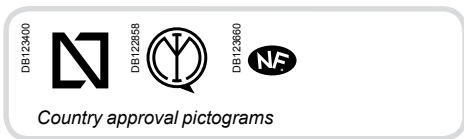
Variants

| Offers | | Pages |
|--------------|-------------------|-------|
| Clario | Catalogue numbers | 452 |
| Prodis | Catalogue numbers | 453 |
| Libro | Catalogue numbers | 454 |
| Common pages | | 455 |



Only the product range to be marketed in your country and validated by the local product manager, in agreement with his Final Distribution (FD) partner should be retained. The others will be removed before publication.





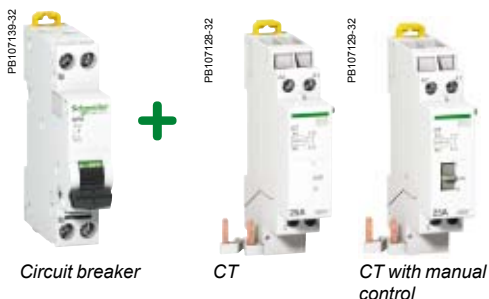
IEC/EN 61095

CT contactors combined with single-phase circuit breakers or residual current devices, allow remote control of single-phase circuits.

Operation

CT contactors:

- have normally open contacts
- are controlled by latched type electrical orders.



Catalogue numbers

| CT contactors | | | |
|-------------------------------|--------|-----------------|-----------------------|
| Type | Rating | | Width in 9-mm modules |
| 2P | | | |
| <p>DB123663</p> | 25 A | A9C15180 | 2 |
| 2P with manual control | | | |
| <p>DB123664</p> | 25 A | A9C15181 | 2 |





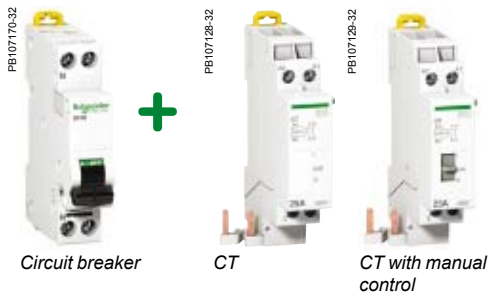
IEC/EN 61095

CT contactors combined with single-phase circuit breakers or residual current devices, allow remote control of single-phase circuits.

Operation

CT contactors:

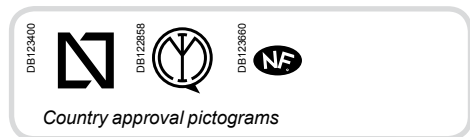
- have normally open contacts
- are controlled by latched type electrical orders.



Catalogue numbers

| CT contactors | | | |
|-------------------------------|--------|-----------------|-----------------------|
| Type | Rating | | Width in 9-mm modules |
| 2P | | | |
| | 25 A | A9C15185 | 2 |
| 2P with manual control | | | |
| | 25 A | A9C15186 | 2 |





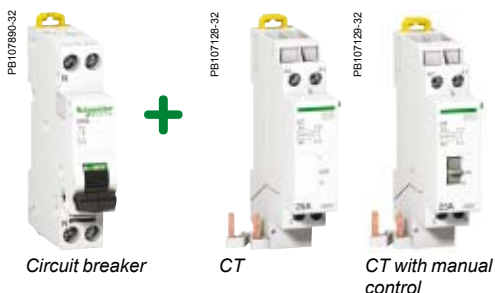
IEC/EN 61095

CT contactors combined with single-phase circuit breakers or residual current devices, allow remote control of single-phase circuits.

Operation

CT contactors:

- have normally open contacts
- are controlled by latched type electrical orders.



Catalogue numbers

| CT contactors | | | |
|-------------------------------|--------|-----------------|-----------------------|
| Type | Rating | | Width in 9-mm modules |
| 2P | | | |
| | 25 A | A9C15182 | 2 |
| 2P with manual control | | | |
| | 25 A | A9C15183 | 2 |



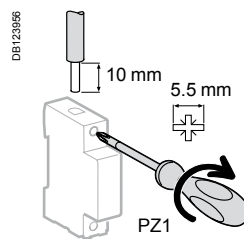
■ The staggered terminals facilitate cable connection



■ Every circuit breaker combined with a CT contactor remains compatible with the indication and tripping auxiliaries

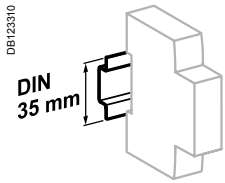
Manual-control CT contactors:
 ■ Have a 3-position selector on the front panel:
 automatic operation
 temporary forced starting
 permanent stoppage

■ A connector ensures a fast, reliable electrical connection with the line protection circuit breaker; a branch circuit remains possible at the circuit breaker outlet (e.g. safety lighting power supply). For cabling by wire, the connector can be dismantled

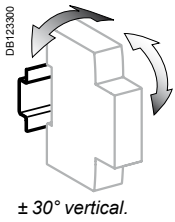
Connection



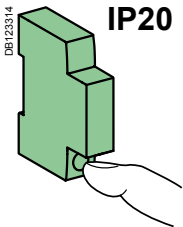
| Rating | Tightening torque | Copper cables | |
|--------|-------------------|--|--|
| | | Rigid | Flexible or with ferrule |
| 25 A | 0.8 N.m |  DB122945 ≤ 6 mm ² |  DB122946 ≤ 6 mm ² |



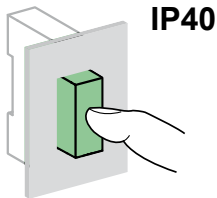
Clip on DIN rail 35 mm.



± 30° vertical.



IP20



IP40

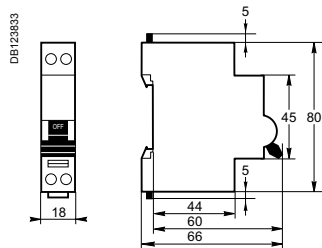
Technical data

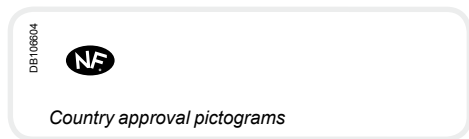
| Control circuit | | |
|---|--|-------------------------------------|
| Coil voltage (Uc) | 230 V AC | |
| Frequency | 50 Hz | |
| Inrush power | 15 VA | |
| Holding power | 3.8 VA | |
| Voltage presence indicating system on front panel | Red indicator: coil energized | |
| Power circuit | | |
| Voltage rating (Ue) | 250 V AC | |
| Frequency | 50 Hz | |
| Max. number of switching operations per minute | 6 | |
| Max. number of switching operations per day | 100 | |
| Additional characteristics | | |
| Insulation voltage (Ui) | 500 V AC | |
| Silent operation | < 20 dB | |
| Pollution degree | 2 | |
| Rated impulse withstand voltage (Uimp) | 2.5 kV | |
| Degree of protection (IEC 60529) | Device only Device in modular enclosure | IP20 IP40 Insulation class II |
| Operating temperature | -5°C to +60°C | |
| Storage temperature | -40°C to +60°C | |
| Tropicalization | Treatment 2 (relative humidity 95 % to 55°C) | |

Weight (g)

| CT contactors | |
|------------------------|-----|
| Standard 2P | 110 |
| 2P with manual control | 120 |

Dimensions (mm)



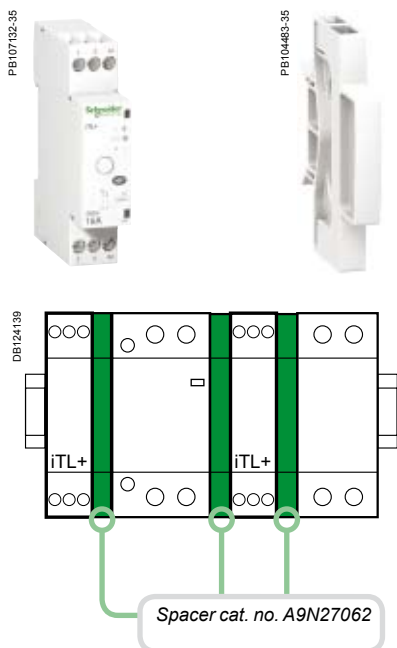


The iTL+ high-performance impulse relay allows remote control of single-phase circuits. It is designed for demanding applications.

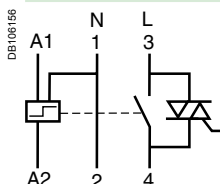
EN 60669-2-2

The iTL+ high-performance impulse relay is used for push-button control of lighting circuits consisting of:

- incandescent lamps, low-voltage halogen lamps, etc. (resistive loads)
- fluorescent tubes, discharge lamps, etc. (inductive loads).



| iTL+ | | | |
|------|--------|----------|-----------------------|
| Type | Rating | | Width in 9 mm modules |
| 1P+N | 16 A | A9C15032 | 2+1 ⁽¹⁾ |



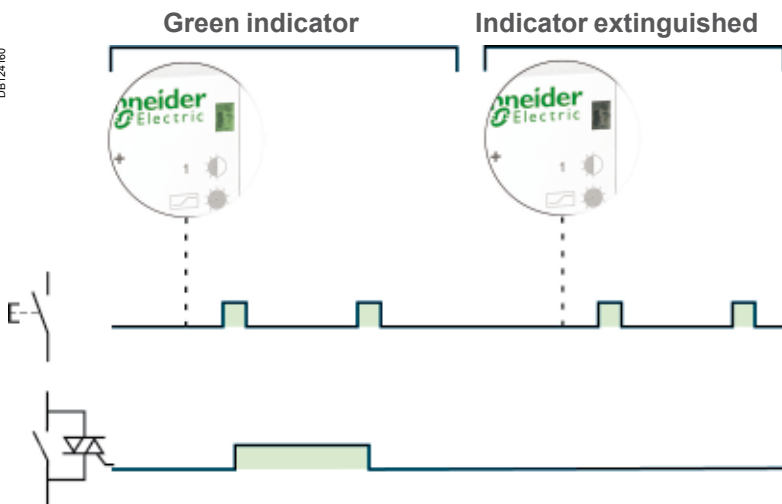
(1) Supplied with a 9 mm spacer (cat. no. A9N27062): to be used for mounting the iTL+ alongside a circuit breaker, contactor, impulse relay, etc., in order to maintain optimal operation.



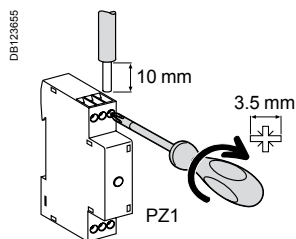
It is compulsory:

- to connect the neutral
- to keep the same control circuit connection "A1: phase", "A2: neutral"
- to use the same phase for connection of the power and control functions.

Operation



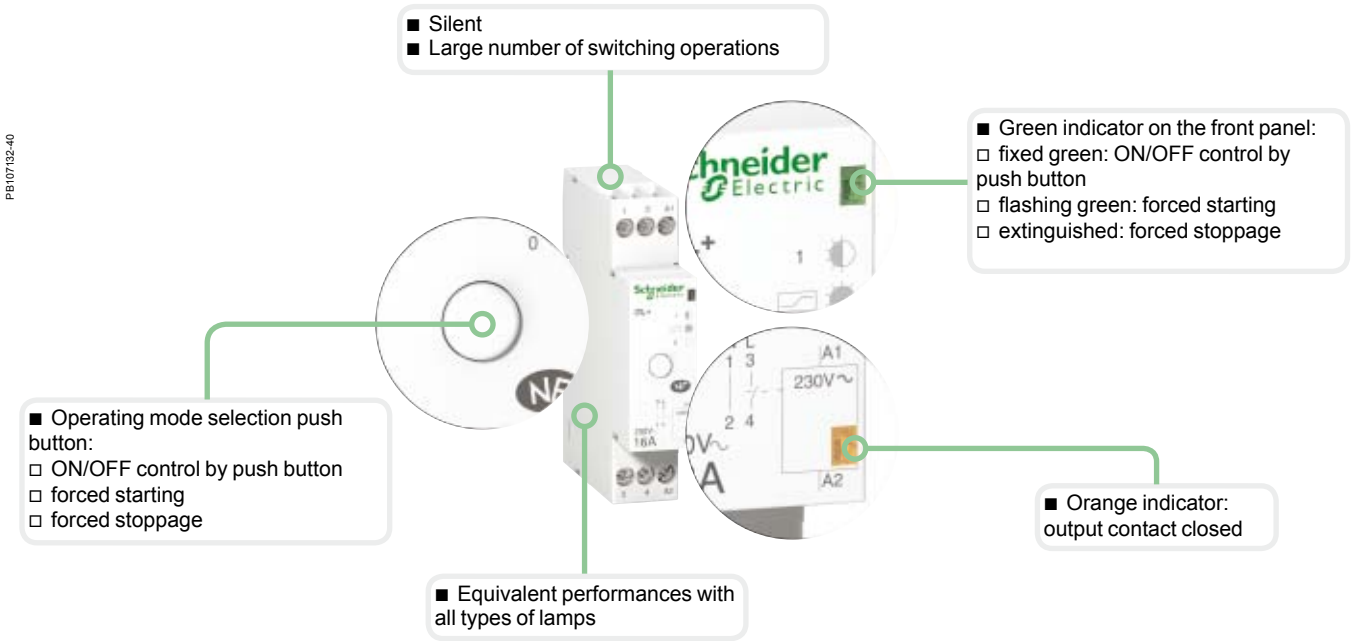
Connection



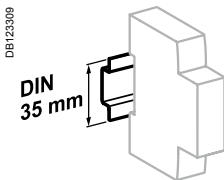
| Type | Rating | Tightening torque | Copper cables | |
|------|--------|-------------------|---|--|
| | | | Rigid or flexible with ferrule | Rigid or flexible without ferrule |
| iTL+ | 16 A | 1 N.m | <p>DB123656</p> <p>2 x 1.5 mm²</p> | <p>DB123657</p> <p>2 x 2.5 mm² 1 x 4 mm²</p> |

iTL+ high-performance impulse relays (cont.)

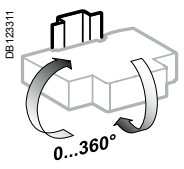
They combine the benefits of static switching and electromechanical technology: small size, little temperature rise.



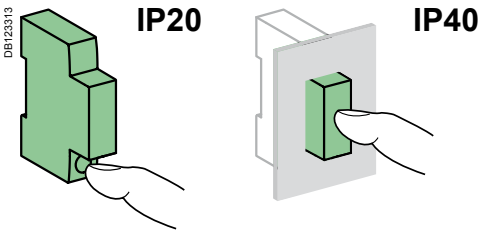
Following a mains failure, the iTL+ returns to 0 position (forced stoppage) irrespective of its initial state.



Clip on DIN rail 35 mm.



Indifferent position of installation.

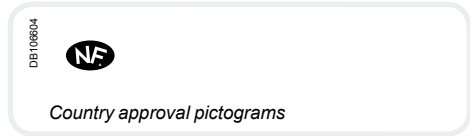


Technical data

| Control circuit | | |
|--|-----------------------------|---|
| Coil voltage (Uc) | | 230 V AC |
| Frequency | | 50 Hz |
| Inrush power | | 11 VA |
| Holding power | | 1.1 VA |
| Control by luminous push button | | Max. current 5 mA |
| Control order duration | | 50 ms to 1 s (recommended 200 ms) |
| Power circuit | | |
| Voltage rating (Ue) | | 230 V AC |
| Frequency | | 50 Hz |
| Electrical load | Minimum | 20 W |
| | Maximum | 3600 W |
| Max. number of switching operations per minute | | 6 |
| Other characteristics | | |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 Insulation class II |
| Endurance (O-C) | Electrical | 5.000.000 cycles (AC21 - AC22) |
| Noise level at activation | | < 30 dBA |
| Operating temperature | | -5°C to +55°C |
| Storage temperature | | -40°C to +60°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) |

Weight (g)

| High-performance impulse relays | |
|---------------------------------|------|
| Type | iTL+ |
| 1P+N | 70 |

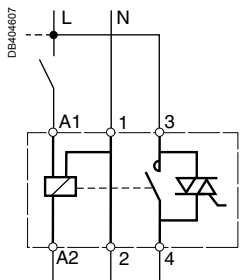
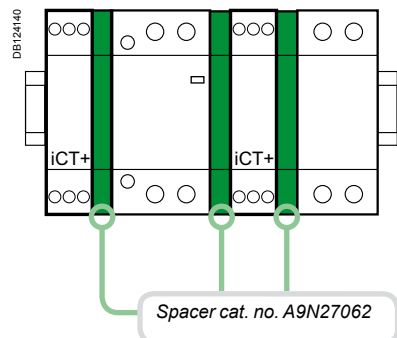


iCT+ high-performance contactors allow remote control of single-phase circuits. They are designed for demanding applications.

EN 60669-2-2

iCT+ high-performance contactors can be used for remote control of applications on AC networks:

- lighting, heating, ventilation, roller blinds, domestic hot water
- mechanical ventilation systems, etc.
- load shedding on non-priority circuits.



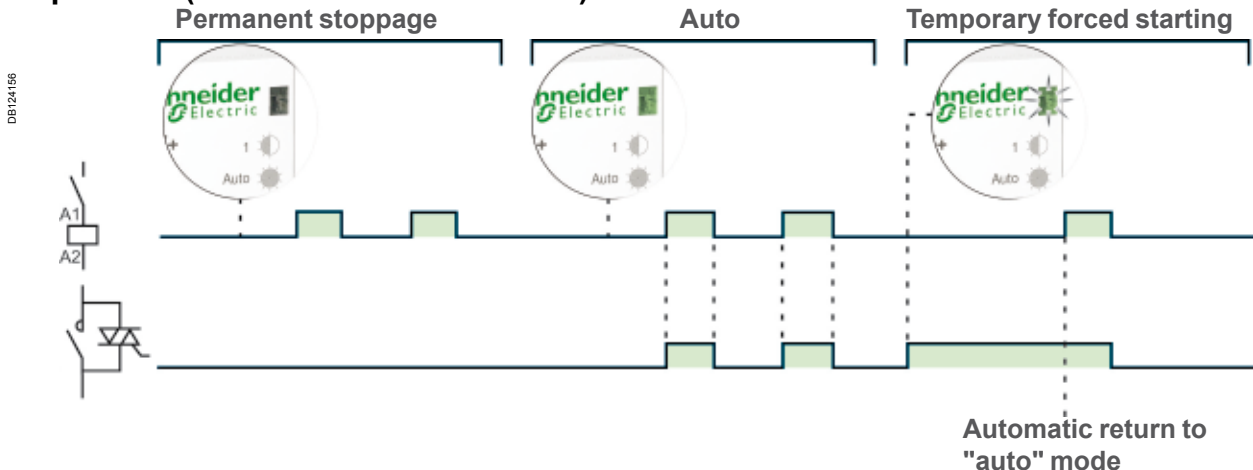
| iCT+ | | | | |
|---------------------------------|--------|---------|----------|-----------------------|
| Type | Rating | Contact | | Width in 9-mm modules |
| Standard 1P+N | | | | |
| | 20 A | 1 NO | A9C15030 | 2+1 ⁽¹⁾ |
| 1P+N with manual control | | | | |
| | 20 A | 1 NO | A9C15031 | 2+1 ⁽¹⁾ |

(1) Supplied with a 9 mm spacer (cat. no. A9N27062): to be used for mounting the iCT+ alongside a circuit breaker, contactor, impulse relay, etc., in order to maintain optimal operation.

It is compulsory:

- to connect the neutral
- to keep the same control circuit connection "A1: phase", "A2: neutral"
- to use the same phase for connection of the power and control functions.

Operation (manual-control contactor)



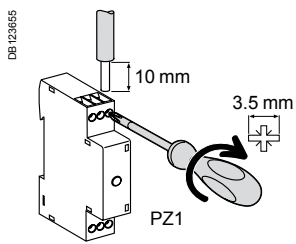
iCT+ high-performance contactors (cont.)

They combine the benefits of static switching and electromechanical technology: small size, little temperature rise.

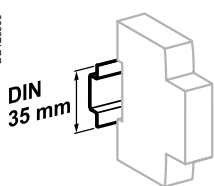
- Silent
- Large number of switching operations
- Operating mode selection push button:
 - auto operation
 - temporary forced starting*
 - permanent stoppage
- Equivalent performances with all types of lamps
- No derating
- Green indicator on the front panel:
 - fixed green: auto operation
 - flashing green: temporary forced starting
 - extinguished: permanent stoppage
- Orange indicator: output contact closed

Following a mains failure, the iCT+ returns to "auto" operating mode irrespective of its initial state.

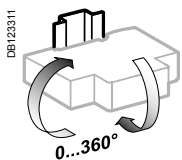
Connection



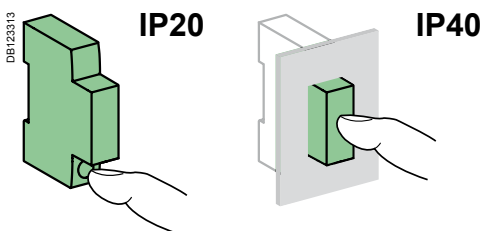
| Type | Tightening torque | Copper cables | |
|------|-------------------|--------------------------------|--|
| | | Rigid or flexible with ferrule | Rigid or flexible without ferrule |
| iCT+ | 1 N.m | 2 x 1.5 mm ² | 2 x 2.5 mm ² 1 x 4 mm ² |



Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

| Control circuit | | |
|--|-----------------------------|---------------------------------------|
| Coil voltage (Uc) | | 230 V AC (± 10 %) |
| Frequency | | 50 Hz |
| Inrush power | | 11 VA |
| Holding power | | 1.1 VA |
| Power circuit | | |
| Voltage rating (Ue) | | 230 V AC (± 10 %) |
| Frequency | | 50 Hz |
| Electrical load | Minimum | 20 W |
| | Maximum | 3600 W |
| Max. number of switching operations per minute | | 6 |
| Other characteristics | | |
| Endurance (O-C) | Electrical | 5.000.000 cycles |
| Pollution degree | | 3 |
| Degree of protection (IEC 60529) | Device only | IP20 |
| | Device in modular enclosure | IP40 Insulation class II |
| Operating temperature | | -5°C to +55°C |
| Storage temperature | | -40°C to +60°C |
| Tropicalization (IEC 60068-1) | | 2 (relative humidity of 95 % at 55°C) |






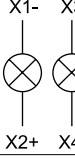

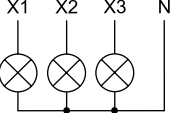
Weight (g)

| High-performance contactors | |
|-----------------------------|------|
| Type | iCT+ |
| Standard 1P+N | 70 |
| 1P+N with manual control | 70 |

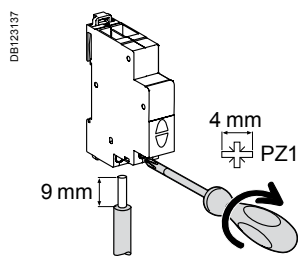
IEC 60947-5-1



■ iLL indicator lights light up to indicate that a voltage is present.

Catalogue numbers

| iLL indicator lights | | | | | | | | | | |
|----------------------------------|--|-----------------|-----------------|-----------------|-----------------|--|-----------------|---|---|--|
| Type | Single | | | | | Double | | Flashing light | Three-phase voltage presence indicator light | |
| |  | | | | |  | |  |  | |
| Diagram |  | | | | |  | |  |  | |
| Colour | Red | Green | White | Blue | Yellow | Green/red | White/white | Red | Red/red/red | |
| Cat. no. | | | | | | | | | | |
| 12...48 V AC/DC | A9E18330 | A9E18331 | A9E18332 | A9E18333 | A9E18334 | A9E18335 | - | - | - | |
| 110...230 V AC 110...130 V DC | A9E18320 | A9E18321 | A9E18322 | A9E18323 | A9E18324 | A9E18325 | A9E18328 | - | - | |
| 110...230 V AC | - | - | - | - | - | - | - | A9E18326 | - | |
| 230...400 V AC (3 phases) | - | - | - | - | - | - | - | - | A9E18327 | |
| Width in 9 mm modules | 2 | | | | | 2 | | 2 | 2 | |

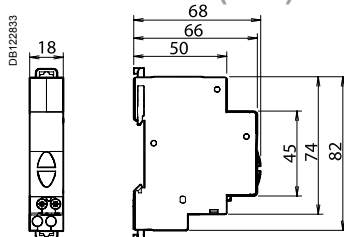
Connection



| Tightening torque | Copper cables | |
|-------------------|---|---|
| | Rigid | Flexible or ferrule |
| 1 N.m |  |  |
| | 0.5 mm ² min. 2 x 2.5 mm ² max. | 0.5 mm ² min. 2 x 2.5 mm ² max. |

- Phase-separated wall that can be divided to allow the teeth of all types of comb busbar to pass through.
- Staggered terminals to simplify connection.

Dimensions (mm)



Technical data



| Main characteristics | |
|----------------------------|--|
| Pollution degree | 3 |
| Power circuit | |
| Operating frequency | 50...60 Hz |
| Flashing frequency | 2 Hz |
| Additional characteristics | |
| Operating temperature | -35°C... +70°C |
| Storage temperature | -40°C... +80°C |
| Tropicalization | Treatment 2 (relative humidity 95 % at 55°C) |
| LED indicator light | Consumption per indicator light: 0.3 W Service life: 100,000 hours of constant lighting efficiency Maintenance-free indicator light (non-interchangeable LEDs) |



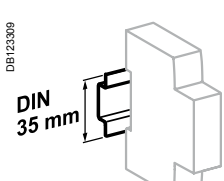
ISO and iRO

Audible indication in housing and the tertiary sector.

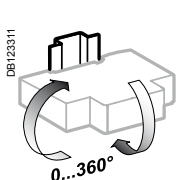
Catalogue numbers

| Bell and buzzer | | | |
|--|-----------------------|-----------------|---|
| Type | Width in 9 mm modules | | |
| ISO bell  | Voltage (Ue) | | |
| | 230 V AC | A9A15320 | 2 |
| | 8...12 V AC | A9A15321 | 2 |
| iRO buzzer  | 230 V AC | A9A15322 | 2 |
| | 8...12 V AC | A9A15323 | 2 |
| Operating frequency | | 50...60 Hz | |

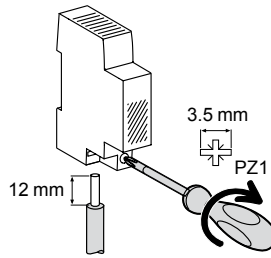
Connection



DB123309
DIN 35 mm
Clip on DIN rail 35 mm.



DB123311
0...360°
Indifferent position of installation.



DB123271
3.5 mm
PZ1
12 mm

| Tightening torque | Copper cables | |
|-------------------|---------------------|---------------------|
| | Rigid | Flexible or ferrule |
| 1.3 N.m | < 4 mm ² | < 4 mm ² |

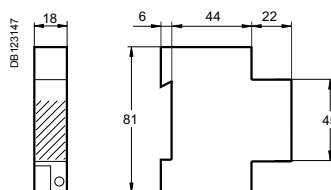
Technical data

| Main characteristics | | ISO | iRO |
|--------------------------------------|-----------------------------|----------------|--------|
| Consumption | 8...12 V AC | 3.6 VA | |
| | 220...240 V AC | 5 VA | |
| Additional characteristics | | | |
| Degree of protection (IEC 60529) | Device only | IP40 | |
| | Device in modular enclosure | IP20 | |
| Operating temperature | | -10°C to +40°C | |
| Storage temperature | | -25°C to +60°C | |
| Sound level (at a distance of 60 cm) | | 80 dBA | 70 dBA |

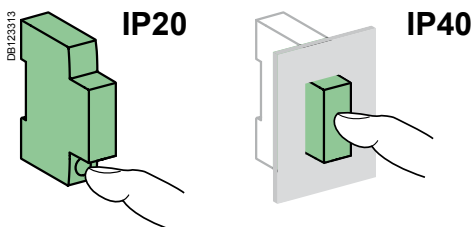
Weight (g)

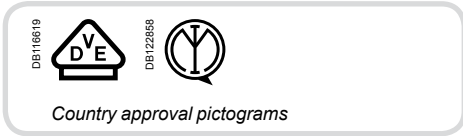
| Bell and buzzer | |
|-----------------|------------|
| Type | Weight (g) |
| ISO | 77 |
| iRO | 64 |

Dimensions (mm)



iSO bell and iRO buzzer





Bell transformers: NF EN 60742, EN/IEC 61558-2-8.
Safety transformers: NF EN 60742, EN/IEC 61558-2-6.

Bell transformers and safety transformers allow for a very low voltage (ELV 8 V, 12 V or 24 V) to be obtained from a low voltage network (LV 230 V).

All Schneider Electric transformers are:

- Safe: primary and secondary circuits are perfectly insulated by each other
- Resistant to short-circuit currents thanks to the built-in device
- Class II with terminal shield (optional).

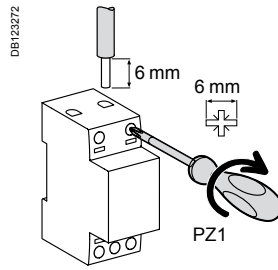
Catalogue numbers

| Bell transformer | | | | |
|------------------|-------|-------------------|----------|-----------------------|
| Type | Power | Secondary voltage | | Width in 9 mm modules |
| E56759 | 4 VA | 8 V AC | A9A15214 | 4 |
| E56760 | 4 VA | 8-12 V AC | A9A15213 | 4 |
| E56761 | 8 VA | 8-12 V AC | A9A15216 | 4 |
| | 16 VA | 8-12 V AC | A9A15212 | 4 |
| E56761 | 25 VA | 12-24 V AC | A9A15215 | 6 |
| E56761 | | | | |

| Safety transformer | | | | |
|---------------------|----------|-------------------|----------|-----------------------|
| Type | Power | Secondary voltage | | Width in 9 mm modules |
| DB124153 | 16 VA | 12-24 V AC | A9A15218 | 10 |
| | 25 VA | 12-24 V AC | A9A15219 | 10 |
| DB124154 | 40 VA | 12-24 V AC | A9A15220 | 10 |
| | 63 VA | 12-24 V AC | A9A15222 | 10 |
| DB124155 | | | | |
| | | | | |
| Operating frequency | 50/60 Hz | | | |

| Terminal shield | |
|-----------------|-----------------------|
| Type | Width in 9 mm modules |
| 15228 | 4 |
| 15229 | 6 |

Connection



| Tightening torque | Copper cables | |
|-------------------|-----------------------|--------------------------|
| | Rigid | Flexible or with ferrule |
| 0.5 N.m | < 2.5 mm ² | < 2.5 mm ² |

Technical data

Main characteristics

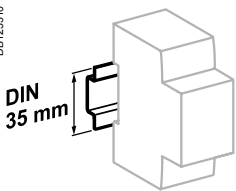
| | |
|---------------------------|---|
| Primary voltage | 230 V AC ±10 % |
| Secondary voltage on load | For bell transformers: 8-12-24 V AC ±15 % For safety transformers: 12-24 V AC ±5 % |

| Transformer catalogue numbers | Rated secondary voltage | Off load voltage |
|-------------------------------|-------------------------|------------------|
| A9A15214 | 8 V | 12 V |
| A9A15213 | 8 V | 12 V |
| | 12 V | 16 V |
| A9A15216 | 8 V | 13 V |
| | 12 V | 18 V |
| A9A15212 | 8 V | 13 V |
| | 12 V | 18 V |
| A9A15215 | 12 V | 16 V |
| | 24 V | 32 V |
| A9A15218 | 12 V | 14 V |
| | 24 V | 28 V |
| A9A15219 | 12 V | 14 V |
| | 24 V | 28 V |
| A9A15220 | 12 V | 14 V |
| | 24 V | 28 V |
| A9A15222 | 12 V | 14 V |
| | 24 V | 28 V |

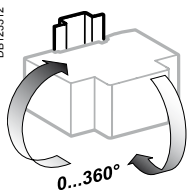
Additional characteristics

| | | |
|----------------------------------|-------------|---------------------------|
| Degree of protection (IEC 60529) | Device only | IP20 with terminal shield |
| Operating temperature | | -20°C to +55°C |
| Storage temperature | | -25°C to +80°C |

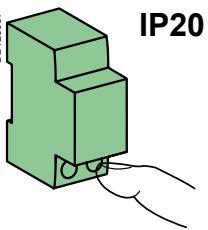
Note: Transformers have an off load operating voltage that is higher than the rated voltage. For loads that are sensitive to overloads (electro-magnetic circuits), the transformer must be made to operate at In. After operation of the protection device upon an overload, cut-off the power supply and let the transformer cool down before restart.



Clip on DIN rail 35 mm.



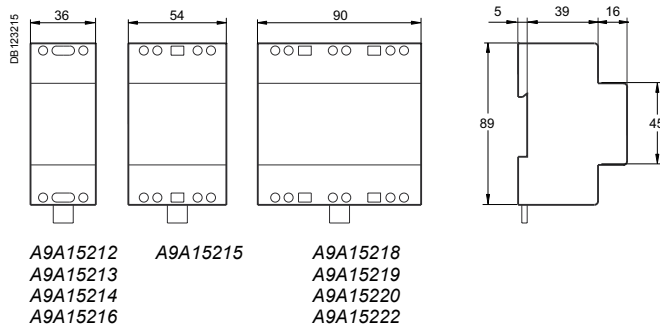
Bell transformer: indifferent position of installation.
Safety transformer: vertical position.



Weight (g)

| iTR | | |
|--------|----------|--------|
| Type | Cat. no. | Weight |
| Bell | A9A15212 | 384 |
| | A9A15213 | 240 |
| | A9A15214 | 237 |
| | A9A15215 | 633 |
| | A9A15216 | 275 |
| Safety | A9A15218 | 1082 |
| | A9A15219 | 1125 |
| | A9A15220 | 1190 |
| | A9A15222 | 1309 |

Dimensions (mm)



Relays

Time delay relays are used in service sector and industrial buildings for small automatic control systems: ventilation, heating, animation, roller blind servo controls, escalators, pumps, lighting, signalling, monitoring, etc.

> Time delay relays



iRTA
■ Delays energizing of a load



iRTB
■ Delays de-energizing of a load upon closing of an auxiliary contact (push button)



iRTC
■ Delays de-energizing of a load upon opening of an auxiliary contact (push button)

^ Time delay

iRBN and iRTBT relays can interface automatic control system inputs/outputs with low-voltage devices.

> Interface relays



iRBN
Low level relay
■ Actuation of low-amperage electronic circuits upon receiving an LV electrical order



iRTBT
Extra low voltage relay
■ Actuation of LV circuits based on an extra low voltage order

^ Control

Control relays monitor electrical parameters and indicate when they are exceeded

> Control relays



iRCP
Phase control
■ Monitors the order and asymmetry of phases and the presence of voltage on the 3 phases of a three-phase circuit (power supply of a motor, etc.)



iRCI
Current control
■ Monitors the current flowing in a circuit and indicates any crossing of the set threshold

^ Monitoring



iRTH

- Applies a time delay to de-energizing of a load



iRTL

- Applies a time delay to energizing and de-energizing of a load during different times, repeatedly (flasher)



iRTMF

- Allows one of the four types of time delay to be selected: A, B, C or H

iRLI and iERL relays are used to relay ON or OFF information to the auxiliary circuits and actuate low-power loads

> Changeover relays



iRLI Changeover

- Relays ON or OFF information to the auxiliary circuits
- Actuates low-power loads



iERL extension

^ Relaying and control



iRCU Voltage control

- Monitors the potential difference of a circuit and indicates any crossing of the set threshold




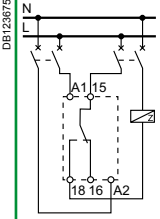
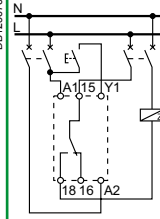
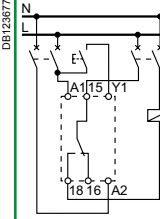
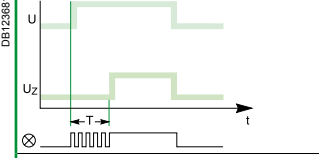
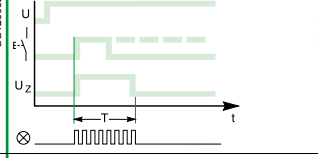
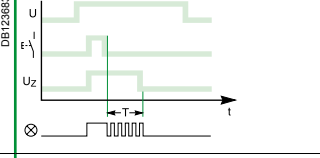


iRCC Compressor control




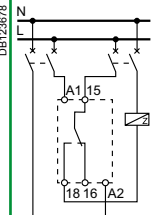
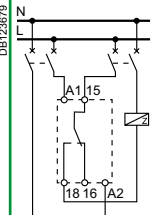
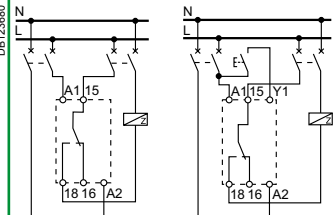
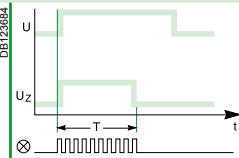
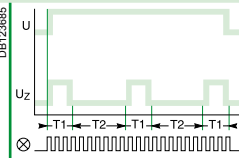
- Monitors the compressor power supply and prevents its immediate restarting upon detection of a power cut or voltage dip



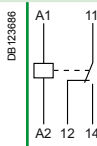
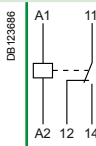
Time delay relays



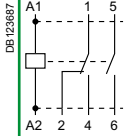
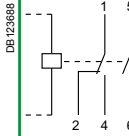
iRTA, iRTB, iRTC, iRTH, iRTL and iRTMF

| | | Time delay relays | | |
|---|-----------------|---|---|---|
| | | iRTA | iRTB | iRTC |
| Type | |  |  |  |
| Function | | <ul style="list-style-type: none"> Delays energizing of a load | <ul style="list-style-type: none"> Delays de-energizing of a load upon closing of an auxiliary contact (push button) | <ul style="list-style-type: none"> Delays de-energizing of a load upon opening of an auxiliary contact (push button) |
| Wiring diagrams | |  |  |  |
| Use | |  <ul style="list-style-type: none"> The single time delay cycle starts at switching on of the iRTA relay power supply The load is energized at the end of time delay T |  <ul style="list-style-type: none"> The single time delay cycle starts at closing of an auxiliary contact (push button) The load is de-energized at the end of time delay T |  <ul style="list-style-type: none"> The single time delay cycle starts only upon release of an auxiliary contact (push button) The load is de-energized at the end of time delay T |
| Catalogue numbers | | A9E16065 | A9E16066 | A9E16067 |
| Technical specifications | | | | |
| Control and power supply voltage (Uc) | V AC | 24...240, ±10 % | 24...240, ±10 % | 24...240, ±10 % |
| | V DC | 24, ±10 % | 24, ±10 % | 24, ±10 % |
| Operating frequency | Hz | 50/60 | 50/60 | 50/60 |
| Time delay range | | 0.1 s to 100 h | 0.1 s to 100 h | 0.1 s to 100 h |
| Precision | | ±10 % of full scale | ±10 % of full scale | ±10 % of full scale |
| Minimum duration of control impulse | | 100 ms | 100 ms | 100 ms |
| Insensitive to brownouts | | ≤ 20 ms | ≤ 20 ms | ≤ 20 ms |
| Max. resetting time per voltage interruption | | 100 ms | 100 ms | 100 ms |
| Accuracy of repetition | | ±0.5 % at constant parameters | ±0.5 % at constant parameters | ±0.5 % at constant parameters |
| Changeover contact (cadmium free) | Mini | Rating 10 mA/5 V DC | Rating 10 mA/5 V DC | Rating 10 mA/5 V DC |
| | Maxi | Rating 8 A/250 V AC/DC | Rating 8 A/250 V AC/DC | Rating 8 A/250 V AC/DC |
| Endurance | Mechanical | > 5 x 10 ⁶ switching operations | > 5 x 10 ⁶ switching operations | > 5 x 10 ⁶ switching operations |
| | Electrical | > 10 ⁵ switching operations (utilization category AC1) | > 10 ⁵ switching operations (utilization category AC1) | > 10 ⁵ switching operations (utilization category AC1) |
| Display of contact status by green indicator lamp | | Flashing during time delay | Flashing during time delay | Flashing during time delay |
| Degree of protection | Device only | IP20 | IP20 | IP20 |
| Connection by tunnel terminals | Without ferrule | 2 x 2.5 mm ² single-strand | 2 x 2.5 mm ² single-strand | 2 x 2.5 mm ² single-strand |
| | With ferrule | 2 x 1.5 mm ² multi-strand | 2 x 1.5 mm ² multi-strand | 2 x 1.5 mm ² multi-strand |
| Width in 9-mm modules | | 2 | 2 | 2 |
| Operating temperature | °C | -5 ... +55 | -5 ... +55 | -5 ... +55 |
| Storage temperature | °C | -40 ... +70 | -40 ... +70 | -40 ... +70 |



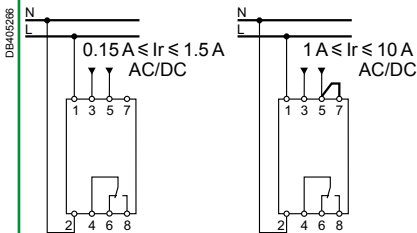
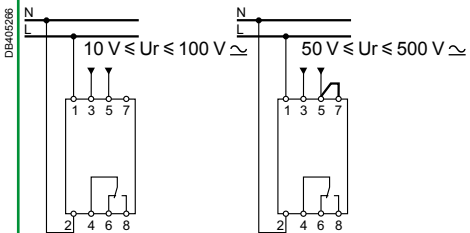



Time delay relays iRTA, iRTB, iRTC, iRTH, iRTL and iRTMF (cont.)

| | iRTH | iRTL | iRTMF |
|--|--|---|--|
| |  |  |  |
| | <ul style="list-style-type: none"> Applies a time delay to de-energizing of a load | <ul style="list-style-type: none"> Applies a time delay to energizing and de-energizing of a load during different times, repeatedly (flasher) | <ul style="list-style-type: none"> Allows one of the four types of time delay to be selected: A, B, C or H |
| |  |  |  |
| |  |  | |
| | <ul style="list-style-type: none"> The single time delay cycle starts at switching on of the iRTH relay power supply The load is de-energized at the end of time delay T | <ul style="list-style-type: none"> The time delay cycle starts at energizing The load is energized during an adjustable time T1 and then de-energized during an adjustable time T2. This cycle is reproduced until de-energizing of the iRTL relay power supply | <ul style="list-style-type: none"> Depending on the choice, the iRTMF generates time delay cycles for the iRTA, iRTB, iRTC or iRTH relays |
| | A9E16068 | A9E16069 | A9E16070 |
| | 24...240, ±10 % | 24...240, ±10 % | 12...240, ±10 % |
| | 24, ±10 % | 24, ±10 % | 12...240, ±10 % |
| | 50/60 | 50/60 | 50/60 |
| | 0.1 s to 100 h | 0.1 s to 100 h | 0.1 s to 100 h |
| | ±10 % of full scale | ±10 % of full scale | ±10 % of full scale |
| | 100 ms | 100 ms | 100 ms |
| | ≤ 20 ms | ≤ 20 ms | ≤ 20 ms |
| | 100 ms | 100 ms | 100 ms |
| | ±0.5 % at constant parameters | ±0.5 % at constant parameters | ±0.5 % at constant parameters |
| | Rating 10 mA/5 V DC | Rating 10 mA/5 V DC | Rating 10 mA/5 V DC |
| | Rating 8 A/250 V AC/DC | Rating 8 A/250 V AC/DC | Rating 8 A/250 V AC/DC |
| | > 5 x 10 ⁶ switching operations | > 5 x 10 ⁶ switching operations | > 5 x 10 ⁶ switching operations |
| | > 10 ⁵ switching operations (utilization category AC1) | > 10 ⁵ switching operations (utilization category AC1) | > 10 ⁵ switching operations (utilization category AC1) |
| | Flashing during time delay | Flashing during time delay | Flashing during time delay |
| | IP20 | IP20 | IP20 |
| | 2 x 2.5 mm ² single-strand | 2 x 2.5 mm ² single-strand | 2 x 2.5 mm ² single-strand |
| | 2 x 1.5 mm ² multi-strand | 2 x 1.5 mm ² multi-strand | 2 x 1.5 mm ² multi-strand |
| | 2 | 2 | 2 |
| | -5 ... +55 | -5 ... +55 | -5 ... +55 |
| | -40 ... +70 | -40 ... +70 | -40 ... +70 |



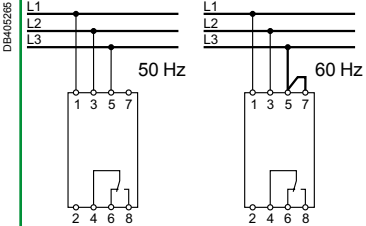
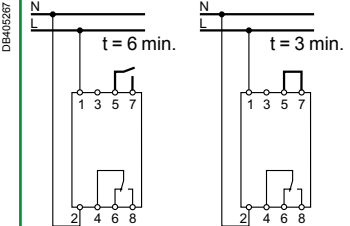
| Interface relays | | | |
|--|--|--|---------------------------------------|
| | iRBN | iRTBT | |
| Type | Low level | Extra low voltage | |
| |  |  | |
| Standard | IEC 255 100 and IEC 529 | IEC 255 100 and IEC 529 | |
| Function | <ul style="list-style-type: none"> Actuation of low-amperage electronic circuits upon receiving an LV electrical order | <ul style="list-style-type: none"> Actuation of LV circuits based on an extra low voltage order | |
| Wiring diagrams |  |  | |
| Use | <ul style="list-style-type: none"> Inputs of programmable logic controllers, of measuring or supervision circuits, etc. | <ul style="list-style-type: none"> ELV orders can be issued by a programmable logic controller (24 V DC static outputs), a central fire detection unit, a regulation system, etc. | |
| Catalogue numbers | A9A15393 | A9A15416 | |
| Technical specifications | | | |
| Input control voltage (Uc) | V AC | 230, ±10 % | 12...24, -15 to +10 % |
| | V DC | - | 12...24, ±20 % |
| Output contact rating | Mini | 5 mA/5 V DC (DC12) 5 mA/5 V AC | 10 mA/10 V DC (DC12) 10 mA/10 V AC |
| | Maxi | 1 A/24 V DC (DC12) 5 A/250 V AC | 1 A/24 V DC (DC12) 5 A/250 V AC |
| Operating frequency | Hz | 50/60 | 0...60 |
| Strengthened insulation between ELV/LV circuits | | 4 kV | 4 kV |
| Consumption | At inrush | 5 VA | 0.22 W |
| | At holding | 2.5 VA | 0.11 W |
| Endurance | Electrical | 100,000 switching operations | 100,000 switching operations |
| Display of voltage presence on the control circuit | | By green indicator lamp | By green indicator lamp |
| Degree of protection | Device only | IP20 | IP20 |
| Connection by tunnel terminals | | 0.5 x 6 mm ² | 0.5 x 6 mm ² |
| Width in 9-mm modules | | 2 | 2 |
| Operating temperature | °C | -5 ... +55 | -5 ... +55 |
| Storage temperature | °C | -40 ... +70 | -40 ... +70 |

| Changeover and extension relays | | | | | | | | | |
|---------------------------------|--|------------------------------------|----------|----------|---|------------------------------------|----------|----------|----|
| | iRLI | | | | iERL | | | | |
| Type | Changeover relay | | | | Extension for RLI | | | | |
| |  | | | |  | | | | |
| Standard | IEC 255 and NF C 45-250 | | | | IEC 255 and NF C 45-250 | | | | |
| Function | <ul style="list-style-type: none"> Relaying of ON or OFF information to the auxiliary circuits and actuation of low-power loads | | | | <ul style="list-style-type: none"> Extension allowing additional contacts to be added to the iRLI changeover relays | | | | |
| Wiring diagrams |  | | | |  | | | | |
| Use | <ul style="list-style-type: none"> The iRLI relay contains 1 changeover contact (O-C) and 1 normally open contact (N/O) | | | | <ul style="list-style-type: none"> The iERL extension (max. 3 iERLs for 1 iRLI) contains 1 changeover contact (O-C) and 1 normally open contact (N/O) Can be mounted without any tool and without additional cabling using a yellow clip which performs mechanical assembly and electrical connection between the coils | | | | |
| Catalogue numbers | A9E15535 | A9E15536 | A9E15537 | A9E15538 | A9E15539 | A9E15540 | A9E15541 | A9E15542 | |
| Technical specifications | | | | | | | | | |
| Control voltage (Uc) | V AC | 230...240 | 48 | 24 | 12 | 230...240 | 48 | 24 | 12 |
| Voltage rating (Ue) | V AC | 230 | | | | | | | |
| Insulation voltage (Ui) | V AC | 250 | | | | | | | |
| Rating (In) | A | 10, cos φ = 1 | | | | 10, cos φ = 1 | | | |
| Operating frequency | Hz | 50/60 | | | | 50/60 | | | |
| Inrush and holding power | | 4 VA | | | | iRLI + iERL : 8 VA | | | |
| Endurance | Electrical | 100,000 cycles AC21 (cos φ = 1) | | | | 100,000 cycles AC21 (cos φ = 1) | | | |
| Commande directe en face avant | Power | By push button | | | | By push button | | | |
| | Coil | By selector switch (disconnection) | | | | By selector switch (disconnection) | | | |
| Position indicator | | Mechanical indicator | | | | Mechanical indicator | | | |
| Marking | | Clip-on markers on the front panel | | | | Clip-on markers on the front panel | | | |
| Degree of protection | Device only | IP20 | | | | IP20 | | | |
| Connection by tunnel terminals | | 0.5 x 6 mm ² | | | | 0.5 x 6 mm ² | | | |
| Width in 9-mm modules | | 2 | | | | 2 | | | |
| Operating temperature | °C | -5 ... +55 | | | | -5 ... +55 | | | |
| Storage temperature | °C | -40 ... +70 | | | | -40 ... +70 | | | |

iRCP phase control, iRCI current control, iRCU voltage control and iRCC compressor control relays

| | | Control relays | |
|--|---|--|--|
| | | iRCI | iRCU |
| Type | | Current control | Voltage control |
| |  |  | |
| Function | | <ul style="list-style-type: none"> Monitors the current (I_r) flowing in an AC or DC circuit and indicates any crossing of the set threshold | <ul style="list-style-type: none"> Monitors the voltage variation (U_r) of an AC or DC circuit and indicates any crossing of the set threshold |
| Wiring diagrams | |  |  |
| Catalogue numbers | | A9E21181 | A9E21182 |
| Common technical specifications | | | |
| Supply voltage (U_c) | V AC | 230, -15 % à +10 % | |
| Frequency | Hz | 50/60 | |
| Parameter setting | | <ul style="list-style-type: none"> On the front panel, by direct scale, using a screwdriver | |
| Precision of display | | ±10 % of full scale | |
| Output by changeover contact | | 8 A under 250 V AC ($\cos \varphi = 1$) | |
| Indications by LED | Green | Voltage presence | |
| | Red | Fault | |
| Consumption | VA | 3 | |
| Dissipated power | W | 2 | |
| Degree of protection | Device only | IP20 | |
| Connection by tunnel terminals | Rigid cable | 1.5 x 6 mm ² | |
| | | | |
| Width in 9-mm modules | | 4 | |
| Operating temperature | °C | -5 ... +55 | |
| Storage temperature | °C | -40 ... +80 | |
| Particular technical specifications | | | |
| | | Threshold adjustable from 10 % to 100 % of I_r | Threshold adjustable from 10 % to 100 % of U_r |
| | | Hysteresis adjustable from 5 % to 50 % of I_r | Hysteresis adjustable from 5 % to 50 % of U_r |
| | | Monitoring of overcurrent and undercurrent (selection by selector switch) | |
| | | Fail-safe contact | |
| | | De-energized |  |
| | | Energized with fault |  |
| | | Energized without fault |  |
| | | Time delay on crossing threshold: 0.1 s to 10 s | |
| | | Possibility of memorizing fault with resetting | |
| | | Compatible with current transformers (CTs) of ratio X/5 | <ul style="list-style-type: none"> Automatic recognition of AC voltage or DC voltage. 2 measuring ranges selected by cabling: <ul style="list-style-type: none"> 10 V to 50 V 50 V to 500 V |
| | | <ul style="list-style-type: none"> Automatic recognition of alternating or direct current. 2 measuring ranges selected by cabling: <ul style="list-style-type: none"> 0.15 A to 1.5 A 1 A to 10 A | |

iRCP phase control, iRCI current control, iRCU voltage control and iRCC compressor control relays (cont.)

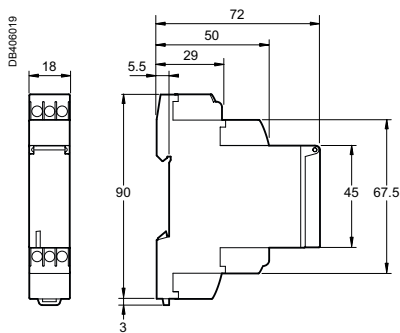
| iRCP | | iRCC | |
|---|---|--|--|
| Phase control | | Compressor control | |
|  |  | | |
| <p>■ Monitors phases and the presence of voltage on the 3 phases of a three-phase circuit (power supply of a motor, etc.). It indicates any phase loss or inversion</p> | | <p>■ Monitors the compressor's power supply and prevents its immediate restarting upon detection of a power cut or voltage dip</p> | |
|  | |  | |
| A9E21180 | | A9E21183 | |
| 400, ±15 % | | 230, -15 % à +10 % | |
| 50/60 | | | |
| ■ On the front panel, by direct scale, using a screwdriver | | | |
| ±10 % of full scale | | | |
| 8 A under 250 V AC (cos φ = 1) | | | |
| Voltage presence | | | |
| Fault | | | |
| 3 | | | |
| 3 (total on the 3 phases) | | 2 | |
| IP20 | | | |
| 1.5 x 6 mm ² | | | |
| 4 | | | |
| -5 ... +55 | | | |
| -40 ... +80 | | | |
| Setting of phase asymmetry threshold: 5 % to 25 % of 400 V | | Threshold setting: ±5 % to ±15 % of 230 V | |
| Hysteresis: fixed, 5 % of asymmetry threshold | | | |
| Monitoring of direction of phase rotation | | | |
| Monitoring of presence of the 3 phases | | | |
| Fail-safe contact | | Fail-safe contact | |
| De-energized | | De-energized | |
| Energized with fault | | Energized with fault | |
| Energized without fault | | Energized without fault | |
| Time delay on tripping: 0.3 s | | Time delay on overshoot: 3 or 6 minutes (selection by cabling) | |

Technical data

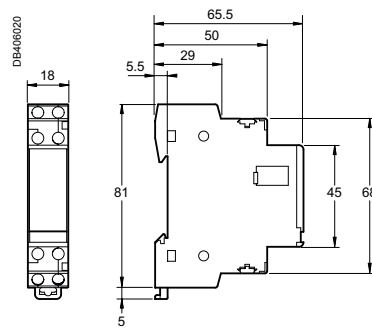
Weight (g)

| Relays | |
|------------------------------|-----|
| Type | |
| iRTA, iRTB, iRTC, iRTH, iRBN | 65 |
| iRTL | 66 |
| iRTMF | 68 |
| iRTBT | 63 |
| iRLI, iERL | 112 |
| iRCP, iRCC | 210 |
| iRCI, iRCU | 215 |

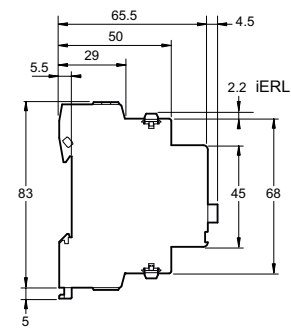
Dimensions (mm)



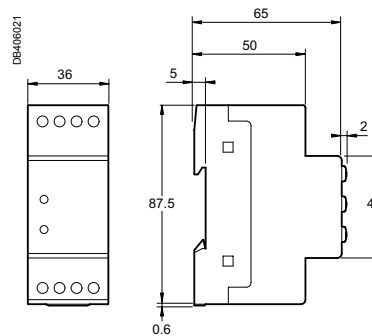
iRTA, iRTB, iRTC, iRTH, iRTL, iRTMF



iRBN, iRTBT



iRLI, iERL



iRCP, iRCI, iRCU, iRCC

CDS
DSE1



Country approval pictograms

DSE1: IEC 64-8

CDS, CDSc : NF C 61.750, EN 500 81.1

When consumption exceeds the selected threshold, the load-shedder temporarily cuts off the power supply to non-priority circuits.

Load-shedders are used to:

- increase the number of loads without modifying the installed power
- reduce the installed power
- prevent nuisance tripping of the upstream circuit breaker.

Load-shedders



Single-phase DSE1

- Load-shedding and restoration of 1 non-priority channel
- Tripping threshold adjustable from 0.8 kW to 7 kW (by default: 3.7 kW)
- Pre-alarm time before load-shedding (Ton) adjustable from 0 s to 9999 s (by default: 60 s)
- Load-shedding time (Toff) adjustable from 0 s to 9999 s (by default: 120 s)
- Buzzer operating time (Tbe) adjustable from 1 s to 9999 s (by default: 60 s)
- Backlit LCD display, 3 digits after the decimal point



Single-phase CDS

- Load-shedding and restoration in cascading configuration of 2 non-priority circuits via 2 relays with time-delayed action:
 - load-shedding of circuit 1 only: load restoration after 5 min
 - load-shedding of circuit 1 and circuit 2:
 - load restoration of circuit 2: after 10 min
 - load restoration of circuit 1: 5 min. after circuit 2



Three-phase CDS

- Load-shedding and restoration separately phase by phase
- 1 relay per phase
- Load-shedding time: 5 min. for each channel



Single-phase CDSc

- Load-shedding and restoration in cascading configuration, then 1 to 4 non-priority circuits successively in turn
- Cyclic load-shedding: changing the order every 5 min.

DSE1

CDS

DSE1, CDS, CDSc load-shedders (cont.)

PB110009-34



DSE1

PB107189-34



CDS 1P

PB107190-36



CDS 3P

PB107188-36

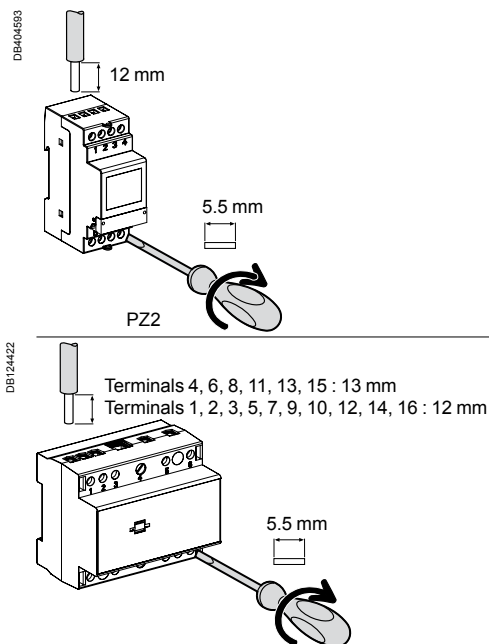


CDSc

Catalogue numbers

| DSE1 | | |
|--------------|----------|-----------------------|
| Type | | Width in 9-mm modules |
| Single-phase | | |
| | A9C15907 | 4 |
| CDS | | |
| Type | | Width in 9-mm modules |
| Single-phase | | |
| | A9C15908 | 10 |
| Three-phase | | |
| | A9C15913 | 16 |
| CDSc | | |
| Type | | Width in 9-mm modules |
| Single-phase | | |
| | A9C15906 | 16 |

Connection



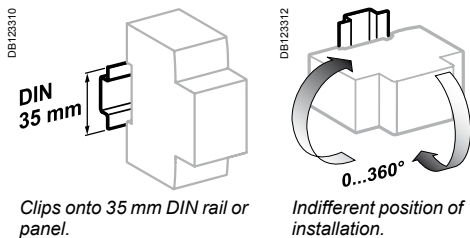
| Type | Tightening torque | Copper cables | |
|-----------|----------------------|---------------------------|---------------------------|
| | | Rigid | Flexible or with ferrule |
| DSE1 | 1.2 N.m | 6 mm ² | 6 mm ² |
| CDS, CDSc | Priority circuit | 10 to 50 mm ² | 10 to 35 mm ² |
| | Non-priority circuit | 2.5 to 10 mm ² | 2.5 to 10 mm ² |

■ Connection via tunnel terminals (captive screws).

Technical data

| Main characteristics | | DSE1 | | CDS | | CDSc |
|--|-----------------------------|---|----|--|----|---------------|
| | | 1P | 3P | 1P | 3P | 1P |
| Insulation voltage (Ui) | | 230 V AC | | 230 V AC | | 230 V AC |
| Tension d'emploi (Ue) | | 230 V AC, -15 %, +10 % | | 230 V AC | | 415 V AC |
| Frequency | | 50/60 Hz | | 50/60 Hz | | |
| Threshold | | From 3.5 A to 32 A, accuracy ±1 % | | 5-10-15-20-25-30-40-45-50-60-75-90 | | |
| Rating | Priority circuit | 32 A (cosφ = 1) | | 90 A (cosφ = 1) | | |
| | Non-priority circuit | 16 A, 250 V AC (cosφ = 1) >16 A relaying by contactor required | | Relaying by contactor required | | |
| Load-shedding indication | | By red indicator By buzzer | | By yellow indicators | | |
| Power consumption | | 5 VA, backlit 3.5 VA, not backlit | | 12 VA | | 4 VA |
| Active power | | 40 W to 8 kW, 32 A maximum | | 20 kW maximum | | 20 kW maximum |
| Control of current greater than 90 A | | - | | Use of an In/5 current transformer Threshold setting: 5 A | | |
| Forced load-shedding input | | - | | ■ | ■ | - |
| 1 A - 250 V make contact for remote indication | | - | | 2 | 3 | - |
| Additional characteristics | | | | | | |
| Degree of protection (IEC 60529) | Device only | IP20 | | IP20 | | IP20 |
| | Device in modular enclosure | IP40 | | IP40 | | IP40 |
| Operating temperature | | -5°C to +50°C | | -5°C to +55°C | | |
| Storage temperature | | -40°C to +70°C | | -40°C to +70°C | | |
| Tropicalisation (IEC 60068-1) | | Treatment 2 (relative humidity 95 % to 55°C) | | Treatment 2 (relative humidity 95 % to 55°C) | | |

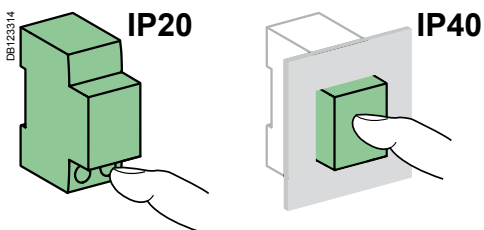
DSE1, CDS, CDS_c load-shedders (cont.)



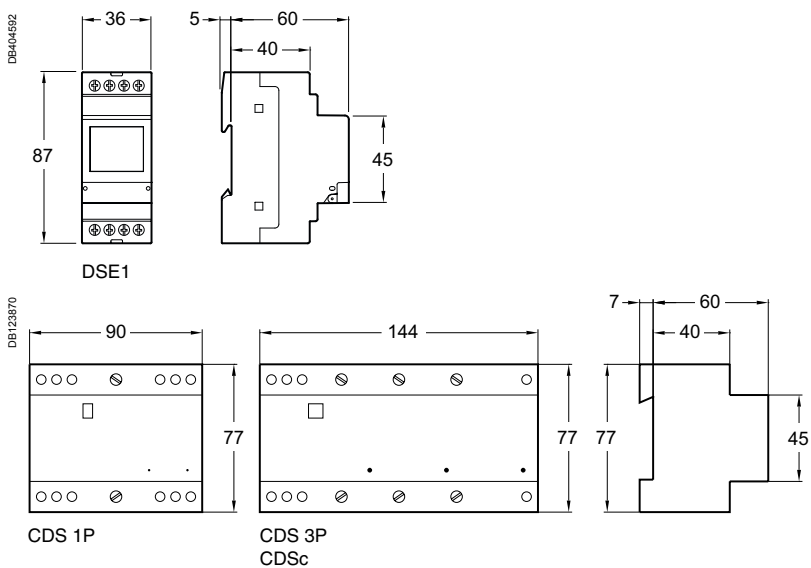
Technical data (cont.)

Weight (g)

| Load-shedders | | | |
|---------------|------|-----|------------------|
| Type | DSE1 | CDS | CDS _c |
| 1P | 130 | 300 | 600 |
| 3P | - | 500 | - |



Dimensions (mm)

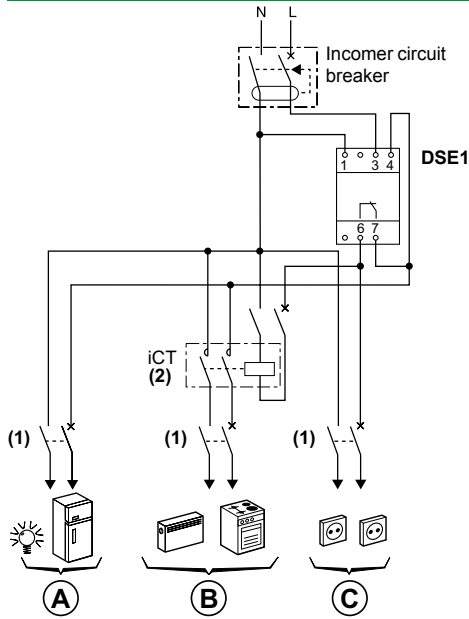


Installation

⚠ Use a contactor for any load-shedding above 16 A.
Designed for load-shedding household equipment circuits, except lighting circuits.
The load is restored without pre-indication.

DSE1

DB4048Z1



- (1) Determine the circuit-breaker rating according to the cable cross-section.
- (2) Calculate the contactor rating according to the load power.

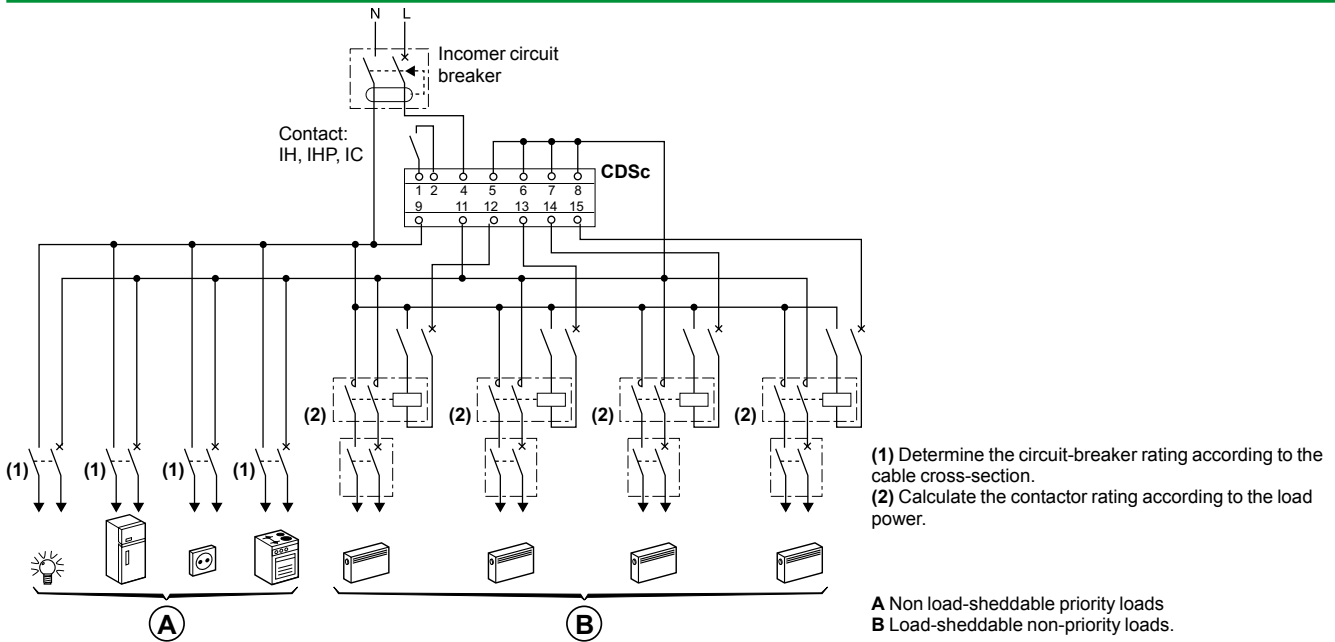
- A** Non load-sheddable priority loads.
- B** Load-sheddable non-priority loads > 16 A (relaying by contactor).
- C** Load-sheddable non-priority loads < 16 A.

Installation (cont.)

⚠ Non-priority outputs must not be connected directly: they must be relayed by means of contactors.
Do not shed circuit loads that include machine and lighting type applications.

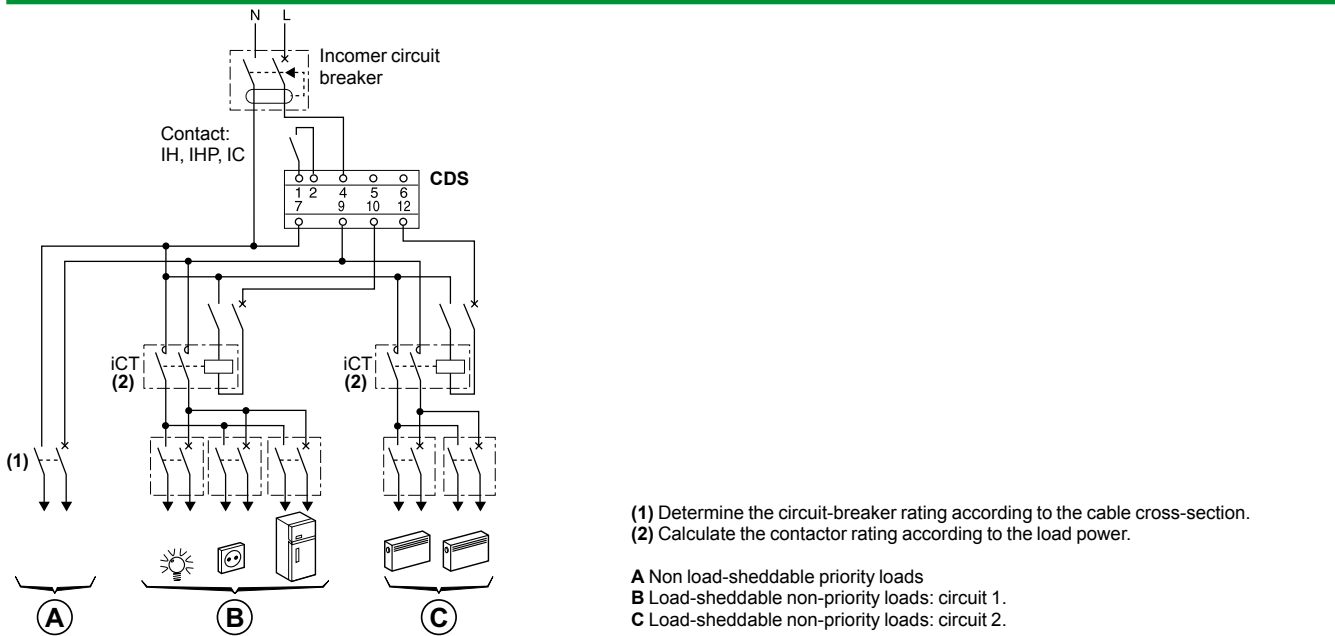
CDSc

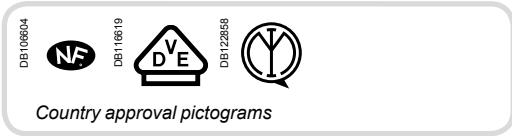
DB124424



CDS

DB124423





These power sockets allow low-voltage devices to be connected to the electrical network.

iPC 16 A power sockets

- IEC 60884
- NF C 61314
- NF C 15100 (sockets with “baby safe” type cover)
- (2) German standard: VDE 0620
- (3) Italian standard: IMQ as per IEC 2316 standard

Catalogue numbers

| iPC 16 A power sockets | | | | Width in 9-mm modules |
|----------------------------------|-------------|--|------|-----------------------|
| Type | Rating (In) | | | |
| With cover | NF 2P+E | | 16 A | A9A15306 |
| | | | | A9A15307 |
| Differentiated yellow with cover | NF 2P+E | | | 15324 |
| German standard (2) | VDE 2P+E | | | A9A15310 |
| | | | | A9A15035 |
| Differentiated yellow | 2P+E | | | 15033 |
| Italian standard (3) with cover | IMQ 2P+E | | | A9A15303 |
| Voltage rating (Ue) | | | | 250 V AC |

Note: The differentiated socket is designed for specific applications (backed-up networks, sockets powered by a UPS, etc.), when it is wanted to highlight specialized power sockets. Its yellow colour allows users to locate and identify it easily.

iPC 20 A power sockets

- NF C 61316
- NF C 15100 (sockets with “baby safe” type cover)

Catalogue numbers

| iPC 20 A power sockets | | | | Width in 9-mm modules | |
|------------------------|-------------|--|------|-----------------------|----------|
| Type | Rating (In) | | | | |
| With cover | NF 2P+E | | 20 A | A9A15311 | |
| | | | | 3P+E | A9A15312 |
| | | | | 3P+N+E | A9A15313 |
| Voltage rating (Ue) | | | | 400 V AC | |

Note: Three-phase power sockets cannot be installed in a weatherproof enclosure of the Pragma C12 or D18 type.



A9A15306



A9A15307



15033



A9A15310



A9A15035



A9A15311



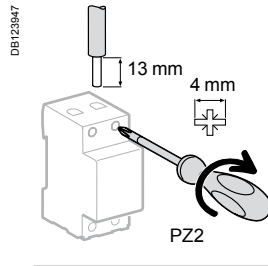
A9A15312



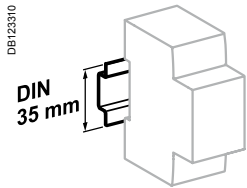
A9A15313

Modular iPC power sockets (cont.)

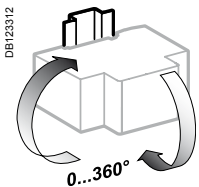
Connection



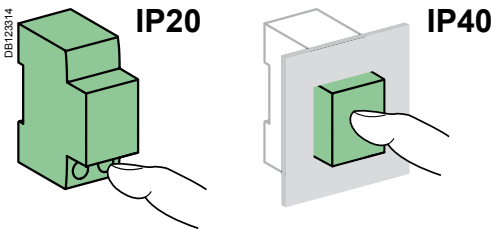
| Type | Tightening torque | Copper cables | |
|----------|-------------------|--------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| iPC 16 A | 1.2 N.m | 10 mm ² | 6 mm ² |
| iPC 20 A | 1.2 N.m | 16 mm ² | 10 mm ² |



Clip on DIN rail 35 mm.



Indifferent position of installation.



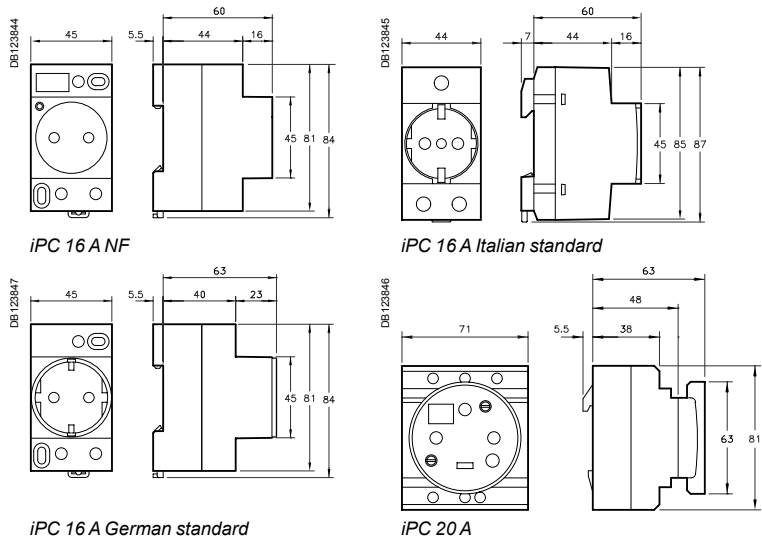
Technical data

| Main characteristics | | iPC 16 A | iPC 20 A |
|----------------------------------|-----------------------------|---|----------------|
| Voltage rating (Ue) | | 250 V AC | 400 V AC |
| Power on indicator | | LED technology long service life: 100,000 hours | - |
| Additional characteristics | | | |
| Degree of protection (IEC 60529) | Device only | IP20 | |
| | Device in modular enclosure | IP40 | |
| Operating temperature | | -25°C to +70°C | -25°C to +70°C |
| Storage temperature | | -40°C to +80°C | -40°C to +80°C |
| Tropicalization (IEC 60068-1) | | Treatment 2 (relative humidity of 95 % at 55°C) | |

Weight (g)

| iPC power sockets | |
|-------------------|------------|
| Type | Weight (g) |
| iPC 16 A | 98 |
| iPC 20 A | 200 |

Dimensions (mm)



Compatibility of 50/60 Hz equipment with a 400 Hz network

The performance of products designed for domestic frequencies of 50/60 Hz is impacted by the specific properties of networks of 400 Hz frequency.

Phenomena due to the increased frequency influence the behaviour of the copper components of transformers, cables and protective equipment.

Some types of equipment designed for 50/60 Hz networks may not be suitable. You should check whether or not a product is compatible, and also apply any correction factors given by the manufacturer.

Circuit breakers

Depending on the technologies used, modular circuit breakers designed for 50/60 Hz can be used at 400 Hz.

To choose the performance of a modular circuit breaker:

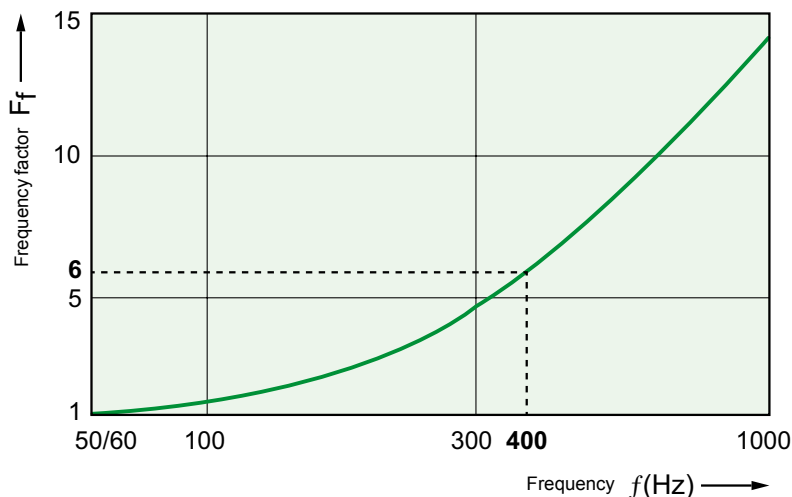
- do not take any thermal derating into account (In at 400 Hz is equivalent to In at 50 Hz).
- increase the magnetic tripping threshold, according to the table below.
- check that the short-circuit current on the installation is less than the breaking capacity of the circuit breaker. The breaking capacity of the circuit breakers at a frequency of 400 Hz is the same as at frequencies of 50/60 Hz. This characteristic is generally complied with, due to the fact that the short-circuit current of a 400 Hz generator is relatively low. In most cases, the generator Isc does not exceed four times the rated current.

| Circuit breaker | Curve | Magnetic trip thresholds | | Tolerance |
|-----------------|--|--------------------------|---------|-----------|
| | | 50 Hz | 400 Hz | |
| iDPN, DPN | B | 4 In | 6 In | ± 20 % |
| | C | 8 In | 12 In | |
| | D | 12 In | 18 In | |
| iC60 | B | 4 In | 5.6 In | |
| | C | 8 In | 11.2 In | |
| | D | 12 In | 16.8 In | |
| C60 | B | 4 In | 5.1 In | |
| | C | 8.5 In | 10.9 In | |
| | D | 12 In | 15.4 In | |
| C120 NG125 | The NG125 and C120 circuit breakers are not suitable for networks of 400 Hz frequency. Refer to the Compact NSX offer. | | | |

Earth leakage protection devices

The residual current device trip thresholds designed for 50/60 Hz increase with the frequency, but since the human body is less sensitive to the passage of a current at 400 Hz, protection is still ensured for the users.

According to the IEC 60479-2 standard, at 400 Hz the ventricular fibrillation threshold is higher by a ratio of 6 (which means that the physiological effect of a 180 mA current at 400 Hz will be the same as that of a 30 mA current at 50/60 Hz).



Variations in the ventricular fibrillation threshold for shock durations exceeding the period of cardiac cycle (as per IEC 60479-2).

Compatibility of residual current devices at 400 Hz:

Depending on the type and the technology employed, a residual current device designed for a frequency of 50/60 Hz will or will not be capable of ensuring protection for users in accordance with the requirements of the standard.

| Type of protection and type of equipment | Use possible on network of 400 Hz frequency | Limit |
|--|---|--|
| A type | Not compatible | Trip threshold exceeding the limit given by the curve |
| AC type | Not recommended | Excessive sensitivity with risk of unwanted tripping (poor guarantee of continuity of service) |
| <i>Si</i> type | | |
| iID iTG40 | YES | |
| Vigi iC60 | Not compatible | Trip threshold exceeding the limit given by the curve |
| DPN Vigi, Vigi DPN | YES | |

Note: The choice of an iID residual current circuit breaker ensures protection for users at 400 Hz while ensuring good continuity of service.

At 400 Hz, the test function of residual current devices designed for 50/60 Hz is not operational due to the increase in the trip threshold.

Auxiliary function

Voltmetric releases

If a circuit breaker needs to be provided with a voltmetric release whose control circuit is powered by the 400 Hz network, it is necessary to use a release auxiliary of appropriate characteristics for 400 Hz networks:

| Type | Voltage | Cat. no. |
|--------------------------|-------------------|----------|
| Undervoltage release iMN | 115 V AC - 400 Hz | A9A26959 |

Influence of temperature on the operation

| Devices | Characteristics influenced by temperature | Temperature | |
|---|---|-------------|-------|
| | | Min. | Max. |
| DPN, C60H-DC, C60, C120, NG125, C60PV-DC circuit breakers | Tripping on overload | -30°C | +70°C |
| iK60 circuit breakers | Tripping on overload | -25°C | +60°C |
| iC60a/N/H/L circuit breakers | Tripping on overload | -35°C | +70°C |
| Circuit breakers | With Vigi (AC) | -5°C | +60°C |
| | With Vigi (A, S) | -25°C | +60°C |
| Reflex iC60 | Tripping on overload | -25°C | +60°C |
| C60H RCBO, C60H2 RCBO | Tripping on overload | -15°C | +60°C |
| C60NA-DC, SW60PV-DC, C120NA-DC switch-disconnectors | Maximum operating current | -25°C | +70°C |
| iID K residual current circuit breakers | Maximum operating current | -5°C | +60°C |
| iID residual current circuit breakers | AC | -5°C | +60°C |
| | A, S | -25°C | +60°C |
| Switches | iSW | -20°C | +50°C |
| | iSW-NA | -35°C | +70°C |
| Protection auxiliaries | None | -35°C | +70°C |
| RCA, ARA control auxiliaries | None | -25°C | +60°C |
| iCT contactors | Installation conditions | -5°C | +60°C |
| iTL impulse relays | None | -20°C | +50°C |
| iCT, iTL auxiliaries | None | -20°C | +50°C |
| Linergy DX | Maximum operating current | -25°C | +60°C |
| Linergy FM | Maximum operating current | -25°C | +60°C |

Note: the temperature considered is the temperature viewed through the device.

Circuit breakers

High temperatures

- A rise in temperature causes lowering of the thermal threshold (tripping on overload).
- Protection is still ensured: the tripping threshold remains lower than the current acceptable by the cable (I_2)
- To prevent nuisance tripping, it should be checked that this threshold remains higher than the maximum operating current (I_b) of the circuit, defined by:
 - the rated load currents,
 - the coefficients of expansion and simultaneity of use.

If the temperature is sufficiently high for the tripping threshold to become lower than the operating current I_b , switchboard ventilation should be provided for.

Low temperatures

- A fall in temperature increases the thermal tripping threshold of the circuit breaker.
- There is no risk of nuisance tripping: the threshold remains higher than the maximum operating current of the circuit (I_b) demanded by the loads.
- It should be checked that the cable remains suitably protected, i.e. that its acceptable current (I_2) is higher than the values shown in the following tables (in amperes).

When the ambient temperature could vary within a broad range, both these aspects must be taken into account:

- the difference between the maximum operating current of the circuit (I_b) and the tripping threshold of the circuit breaker for the minimum ambient temperature,
- the difference between the strength of the cable (I_2) and the maximum tripping threshold of the circuit breaker for the maximum ambient temperature.

Influence of ambient temperature (cont.)

Maximum permissible current

- The maximum current allowed to flow through the device depends on the ambient temperature in which it is placed.
- The ambient temperature is the temperature inside the enclosure or switchboard in which the devices are installed.
- The reference temperature is in a halftone colour for the different devices.

■ When several devices operating simultaneously are mounted side by side in a small enclosure, a temperature rise in the enclosure results in a reduction in the operating current. A reduction coefficient of 0.8 will then have to be assigned to the rating (already derated, if applicable, depending on the ambient temperature).

■ Example:

Depending on the ambient temperature and the method of installation, the table below shows how to determine, for an iC60, the operating currents not to be exceeded for ratings 25 A, 32 A and 40 A (reference temperature 50°C).

| Operating current not to be exceeded (A) | | | | | | | |
|--|--------------------|-------------------|------|-------|---|-----------------|------------------|
| Installation conditions (IEC 60947-2) | | iC60 alone | | | Several iC60 in the same enclosure (calculate with the reduction coefficient indicated below) | | |
| Ambient temperature (°C) | | 35°C | 50°C | 65°C | 35°C | 50°C | 65°C |
| Type | Nominal rating (A) | Actual rating (A) | | | | | |
| iC60 | 25 | 26.35 | 25 | 23.57 | 26.35 x 0.8 = 21 | 25 x 0.8 = 20 | 23.57 x 0.8 = 19 |
| | 32 | 34 | 32 | 29.9 | 34 x 0.8 = 27 | 32 x 0.8 = 25.6 | 29.9 x 0.8 = 24 |
| | 40 | 42.5 | 40 | 37.34 | 42.5 x 0.8 = 34 | 40 x 0.8 = 32 | 37.34 x 0.8 = 30 |

Household (IEC 60898-1)

DPN derating table (IEC 60898-1)

| DPN | | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | |
|--------|---------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|
| Rating | Curve | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 1 A | B, C, D | 1.55 | 1.51 | 1.47 | 1.43 | 1.39 | 1.35 | 1.3 | 1.26 | 1.21 | 1.16 | 1.11 | 1.06 | 1 | 0.94 | 0.88 | 0.81 | 0.73 | 0.65 | 0.55 | 0.43 | 0.27 |
| 2 A | B, C, D | 2.51 | 2.47 | 2.43 | 2.39 | 2.35 | 2.31 | 2.27 | 2.23 | 2.18 | 2.14 | 2.09 | 2.05 | 2 | 1.95 | 1.9 | 1.85 | 1.8 | 1.74 | 1.69 | 1.63 | 1.57 |
| 3 A | B, C, D | 3.8 | 3.74 | 3.68 | 3.62 | 3.55 | 3.49 | 3.42 | 3.36 | 3.29 | 3.22 | 3.15 | 3.07 | 3 | 2.92 | 2.85 | 2.76 | 2.68 | 2.6 | 2.51 | 2.42 | 2.32 |
| 4 A | B, C, D | 4.97 | 4.9 | 4.82 | 4.75 | 4.67 | 4.59 | 4.51 | 4.43 | 4.35 | 4.26 | 4.18 | 4.09 | 4 | 3.91 | 3.81 | 3.72 | 3.62 | 3.52 | 3.41 | 3.3 | 3.19 |
| 6 A | B, C, D | 7.13 | 7.04 | 6.95 | 6.86 | 6.77 | 6.68 | 6.59 | 6.49 | 6.4 | 6.3 | 6.2 | 6.1 | 6 | 5.9 | 5.79 | 5.68 | 5.57 | 5.46 | 5.35 | 5.23 | 5.11 |
| 10 A | B | 11.9 | 11.7 | 11.6 | 11.4 | 11.3 | 11.1 | 11 | 10.8 | 10.7 | 10.5 | 10.3 | 10.2 | 10 | 9.8 | 9.7 | 9.5 | 9.3 | 9.1 | 8.9 | 8.7 | 8.5 |
| 10 A | C, D | 12.3 | 12.1 | 12 | 11.8 | 11.6 | 11.4 | 11.2 | 11 | 10.8 | 10.6 | 10.4 | 10.2 | 10 | 9.8 | 9.6 | 9.3 | 9.1 | 8.9 | 8.6 | 8.4 | 8.1 |
| 13 A | B | 15.6 | 15.4 | 15.2 | 15 | 14.8 | 14.6 | 14.4 | 14.1 | 13.9 | 13.7 | 13.5 | 13.2 | 13 | 12.8 | 12.5 | 12.3 | 12 | 11.8 | 11.5 | 11.2 | 11 |
| 13 A | C, D | 15.7 | 15.5 | 15.3 | 15.1 | 14.9 | 14.6 | 14.4 | 14.2 | 14 | 13.7 | 13.5 | 13.3 | 13 | 12.8 | 12.5 | 12.2 | 12 | 11.7 | 11.4 | 11.1 | 10.8 |
| 16 A | B, C | 19 | 18.8 | 18.5 | 18.3 | 18.1 | 17.8 | 17.6 | 17.3 | 17.1 | 16.8 | 16.5 | 16.3 | 16 | 15.7 | 15.4 | 15.2 | 14.9 | 14.6 | 14.3 | 14 | 13.6 |
| 16 A | D | 19.1 | 18.9 | 18.6 | 18.4 | 18.1 | 17.9 | 17.6 | 17.4 | 17.1 | 16.8 | 16.6 | 16.3 | 16 | 15.7 | 15.4 | 15.1 | 14.8 | 14.5 | 14.2 | 13.9 | 13.5 |
| 20 A | B | 23.7 | 23.4 | 23.1 | 22.8 | 22.5 | 22.2 | 21.9 | 21.6 | 21.3 | 21 | 20.7 | 20.3 | 20 | 19.7 | 19.3 | 19 | 18.6 | 18.3 | 17.9 | 17.5 | 17.1 |
| 20 A | C, D | 23.9 | 23.6 | 23.3 | 23 | 22.7 | 22.4 | 22 | 21.7 | 21.4 | 21 | 20.7 | 20.4 | 20 | 19.6 | 19.3 | 18.9 | 18.5 | 18.1 | 17.7 | 17.3 | 16.9 |
| 25 A | B, C, D | 29.6 | 29.2 | 28.8 | 28.5 | 28.1 | 27.8 | 27.4 | 27 | 26.6 | 26.2 | 25.8 | 25.4 | 25 | 24.6 | 24.2 | 23.7 | 23.3 | 22.8 | 22.4 | 21.9 | 21.4 |
| 32 A | B, C, D | 38.3 | 37.8 | 37.3 | 36.8 | 36.3 | 35.8 | 35.3 | 34.7 | 34.2 | 33.7 | 33.1 | 32.6 | 32 | 31.4 | 30.8 | 30.2 | 29.6 | 29 | 28.4 | 27.7 | 27 |
| 40 A | B, C, D | 48.3 | 47.7 | 47 | 46.4 | 45.7 | 45 | 44.3 | 43.7 | 43 | 42.2 | 41.5 | 40.8 | 40 | 39.2 | 38.4 | 37.6 | 36.8 | 36 | 35.1 | 34.2 | 33.3 |

iK60 derating table. B curve (IEC 60898-1)

| iK60 | Ambient temperature (°C) | | | | | | | | | | | | | | | | | |
|--------|--------------------------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
| Rating | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 |
| 1 A | 1.19 | 1.17 | 1.15 | 1.14 | 1.12 | 1.11 | 1.09 | 1.07 | 1.05 | 1.04 | 1.02 | 1 | 0.98 | 0.96 | 0.94 | 0.92 | 0.9 | 0.88 |
| 2 A | 2.45 | 2.41 | 2.37 | 2.34 | 2.3 | 2.26 | 2.22 | 2.17 | 2.13 | 2.09 | 2.04 | 2 | 1.95 | 1.91 | 1.86 | 1.81 | 1.76 | 1.71 |
| 3 A | 3.69 | 3.63 | 3.57 | 3.51 | 3.45 | 3.39 | 3.33 | 3.27 | 3.2 | 3.14 | 3.07 | 3 | 2.93 | 2.86 | 2.78 | 2.71 | 2.63 | 2.55 |
| 4 A | 4.92 | 4.84 | 4.77 | 4.69 | 4.61 | 4.53 | 4.44 | 4.36 | 4.27 | 4.18 | 4.09 | 4 | 3.91 | 3.81 | 3.71 | 3.61 | 3.5 | 3.39 |
| 6 A | 7.44 | 7.32 | 7.2 | 7.07 | 6.95 | 6.82 | 6.69 | 6.56 | 6.42 | 6.29 | 6.14 | 6 | 5.85 | 5.7 | 5.54 | 5.38 | 5.22 | 5.04 |
| 10 A | 11.9 | 11.8 | 11.6 | 11.4 | 11.3 | 11.1 | 10.9 | 10.8 | 10.6 | 10.4 | 10.2 | 10 | 9.8 | 9.6 | 9.4 | 9.2 | 9 | 8.8 |
| 16 A | 19 | 18.7 | 18.5 | 18.2 | 18 | 17.7 | 17.4 | 17.1 | 16.9 | 16.6 | 16.3 | 16 | 15.7 | 15.4 | 15.1 | 14.8 | 14.5 | 14.1 |
| 20 A | 23.5 | 23.2 | 22.9 | 22.6 | 22.3 | 22 | 21.7 | 21.4 | 21 | 20.7 | 20.4 | 20 | 19.7 | 19.3 | 18.9 | 18.6 | 18.2 | 17.8 |
| 25 A | 29.1 | 28.8 | 28.4 | 28 | 27.7 | 27.3 | 26.9 | 26.6 | 26.2 | 25.8 | 25.4 | 25 | 24.6 | 24.2 | 23.8 | 23.3 | 22.9 | 22.5 |
| 32 A | 37.9 | 37.4 | 36.9 | 36.4 | 35.9 | 35.3 | 34.8 | 34.3 | 33.7 | 33.2 | 32.6 | 32 | 31.4 | 30.8 | 30.2 | 29.6 | 28.9 | 28.3 |
| 40 A | 47.4 | 46.7 | 46.1 | 45.5 | 44.8 | 44.2 | 43.5 | 42.8 | 42.1 | 41.4 | 40.7 | 40 | 39.3 | 38.5 | 37.7 | 37 | 36.2 | 35.3 |
| 50 A | 59.9 | 59.1 | 58.2 | 57.4 | 56.5 | 55.6 | 54.7 | 53.8 | 52.9 | 52 | 51 | 50 | 49 | 48 | 46.9 | 45.9 | 44.8 | 43.6 |
| 63 A | 76.4 | 75.3 | 74.1 | 73 | 71.8 | 70.6 | 69.4 | 68.2 | 66.9 | 65.6 | 64.3 | 63 | 61.6 | 60.3 | 58.8 | 57.4 | 55.9 | 54.3 |

iK60 derating table. C curve (IEC 60898-1)

| iK60 | Ambient temperature (°C) | | | | | | | | | | | | | | | | | |
|--------|--------------------------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|
| Rating | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 |
| 1 A | 1.2 | 1.2 | 1.2 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1 | 1 | 1 | 0.98 | 0.96 | 0.94 | 0.92 | 0.9 | 0.88 |
| 2 A | 2.4 | 2.4 | 2.4 | 2.3 | 2.3 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | 2 | 2 | 1.95 | 1.91 | 1.86 | 1.81 | 1.76 | 1.71 |
| 3 A | 3.7 | 3.6 | 3.6 | 3.5 | 3.5 | 3.4 | 3.3 | 3.3 | 3.2 | 3.1 | 3.1 | 3 | 2.93 | 2.86 | 2.78 | 2.71 | 2.63 | 2.55 |
| 4 A | 4.9 | 4.8 | 4.8 | 4.7 | 4.6 | 4.5 | 4.4 | 4.4 | 4.3 | 4.2 | 4.1 | 4 | 3.91 | 3.81 | 3.71 | 3.61 | 3.5 | 3.39 |
| 6 A | 7.4 | 7.3 | 7.2 | 7.1 | 6.9 | 6.8 | 6.7 | 6.6 | 6.4 | 6.3 | 6.1 | 6 | 5.85 | 5.7 | 5.54 | 5.38 | 5.22 | 5.04 |
| 10 A | 12.4 | 12.2 | 12 | 11.8 | 11.6 | 11.4 | 11.2 | 10.9 | 10.7 | 10.5 | 10.2 | 10 | 9.8 | 9.5 | 9.2 | 9 | 8.7 | 8.4 |
| 16 A | 19.4 | 19.1 | 18.8 | 18.5 | 18.2 | 17.9 | 17.6 | 17.3 | 17 | 16.7 | 16.3 | 16 | 15.7 | 15.3 | 14.9 | 14.6 | 14.2 | 13.8 |
| 20 A | 24 | 23.6 | 23.3 | 23 | 22.6 | 22.3 | 21.9 | 21.5 | 21.2 | 20.8 | 20.4 | 20 | 19.6 | 19.2 | 18.8 | 18.3 | 17.9 | 17.5 |
| 25 A | 30 | 29.5 | 29.1 | 28.7 | 28.3 | 27.8 | 27.4 | 26.9 | 26.4 | 26 | 25.5 | 25 | 24.5 | 24 | 23.5 | 22.9 | 22.4 | 21.8 |
| 32 A | 38.8 | 38.2 | 37.7 | 37.1 | 36.5 | 35.9 | 35.3 | 34.6 | 34 | 33.3 | 32.7 | 32 | 31.3 | 30.6 | 29.9 | 29.1 | 28.4 | 27.6 |
| 40 A | 47.4 | 46.7 | 46.1 | 45.5 | 44.8 | 44.2 | 43.5 | 42.8 | 42.1 | 41.4 | 40.7 | 40 | 39.3 | 38.5 | 37.7 | 37 | 36.2 | 35.3 |
| 50 A | 59.9 | 59.1 | 58.2 | 57.4 | 56.5 | 55.6 | 54.7 | 53.8 | 52.9 | 51.9 | 51 | 50 | 49 | 48 | 46.9 | 45.9 | 44.8 | 43.6 |
| 63 A | 76.4 | 75.3 | 74.1 | 73 | 71.8 | 70.6 | 69.4 | 68.2 | 66.9 | 65.6 | 64.3 | 63 | 61.6 | 60.3 | 58.8 | 57.4 | 55.9 | 54.3 |

Household (IEC 60898-1) (cont.)

iC60 derating table (IEC 60898-1)

| iC60 | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | | |
|--------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------------|------|------|------|------|------|------|------|------|
| Rating | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 0.5A | 0.61 | 0.6 | 0.59 | 0.59 | 0.58 | 0.57 | 0.56 | 0.55 | 0.54 | 0.54 | 0.53 | 0.52 | 0.51 | 0.5 | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 |
| 1A | 1.22 | 1.2 | 1.19 | 1.17 | 1.15 | 1.14 | 1.12 | 1.11 | 1.09 | 1.07 | 1.05 | 1.04 | 1.02 | 1 | 0.98 | 0.96 | 0.94 | 0.92 | 0.9 | 0.88 | 0.86 | 0.84 |
| 2A | 2.52 | 2.49 | 2.45 | 2.41 | 2.37 | 2.34 | 2.3 | 2.26 | 2.22 | 2.17 | 2.13 | 2.09 | 2.04 | 2 | 1.95 | 1.91 | 1.86 | 1.81 | 1.76 | 1.71 | 1.65 | 1.59 |
| 3A | 3.8 | 3.74 | 3.69 | 3.63 | 3.57 | 3.51 | 3.45 | 3.39 | 3.33 | 3.27 | 3.2 | 3.14 | 3.07 | 3 | 2.93 | 2.86 | 2.78 | 2.71 | 2.63 | 2.55 | 2.47 | 2.38 |
| 4A | 5.07 | 5 | 4.92 | 4.84 | 4.77 | 4.69 | 4.61 | 4.53 | 4.44 | 4.36 | 4.27 | 4.18 | 4.09 | 4 | 3.91 | 3.81 | 3.71 | 3.61 | 3.5 | 3.39 | 3.28 | 3.17 |
| 6A | 7.67 | 7.55 | 7.44 | 7.32 | 7.2 | 7.07 | 6.95 | 6.82 | 6.69 | 6.56 | 6.42 | 6.29 | 6.14 | 6 | 5.85 | 5.7 | 5.54 | 5.38 | 5.22 | 5.04 | 4.87 | 4.68 |
| 10A | 12.3 | 12.1 | 11.9 | 11.8 | 11.6 | 11.4 | 11.3 | 11.1 | 10.9 | 10.8 | 10.6 | 10.4 | 10.2 | 10 | 9.8 | 9.6 | 9.4 | 9.2 | 9 | 8.8 | 8.5 | 8.3 |
| 13A | 15.8 | 15.6 | 15.4 | 15.2 | 15 | 14.8 | 14.6 | 14.4 | 14.1 | 13.9 | 13.7 | 13.5 | 13.2 | 13 | 12.8 | 12.5 | 12.3 | 12 | 11.8 | 11.5 | 11.2 | 10.9 |
| 16A | 19.5 | 19.2 | 19 | 18.7 | 18.5 | 18.2 | 18 | 17.7 | 17.4 | 17.1 | 16.9 | 16.6 | 16.3 | 16 | 15.7 | 15.4 | 15.1 | 14.8 | 14.5 | 14.1 | 13.8 | 13.4 |
| 20A | 24.1 | 23.8 | 23.5 | 23.2 | 22.9 | 22.6 | 22.3 | 22 | 21.7 | 21.4 | 21 | 20.7 | 20.4 | 20 | 19.7 | 19.3 | 18.9 | 18.6 | 18.2 | 17.8 | 17.4 | 17 |
| 25A | 29.8 | 29.4 | 29.1 | 28.8 | 28.4 | 28 | 27.7 | 27.3 | 26.9 | 26.6 | 26.2 | 25.8 | 25.4 | 25 | 24.6 | 24.2 | 23.8 | 23.3 | 22.9 | 22.5 | 22 | 21.5 |
| 32A | 38.9 | 38.4 | 37.9 | 37.4 | 36.9 | 36.4 | 35.9 | 35.3 | 34.8 | 34.3 | 33.7 | 33.2 | 32.6 | 32 | 31.4 | 30.8 | 30.2 | 29.6 | 28.9 | 28.3 | 27.6 | 26.9 |
| 40A | 48.6 | 48 | 47.4 | 46.7 | 46.1 | 45.5 | 44.8 | 44.2 | 43.5 | 42.8 | 42.1 | 41.4 | 40.7 | 40 | 39.3 | 38.5 | 37.7 | 37 | 36.2 | 35.3 | 34.5 | 33.6 |
| 50A | 61.6 | 60.7 | 59.9 | 59.1 | 58.2 | 57.4 | 56.5 | 55.6 | 54.7 | 53.8 | 52.9 | 52 | 51 | 50 | 49 | 48 | 46.9 | 45.9 | 44.8 | 43.6 | 42.5 | 41.3 |
| 63A | 78.6 | 77.5 | 76.4 | 75.3 | 74.1 | 73 | 71.8 | 70.6 | 69.4 | 68.2 | 66.9 | 65.6 | 64.3 | 63 | 61.6 | 60.3 | 58.8 | 57.4 | 55.9 | 54.3 | 52.8 | 51.1 |

C60 derating table (IEC 60898-1)

| C60 | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | |
|--------|--------------------------|-------|------|------|------|------|------|------|------|------|------|------|-------------|------|------|------|------|------|------|------|------|
| Rating | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 0.5A | 0.65 | 0.64 | 0.63 | 0.62 | 0.6 | 0.59 | 0.58 | 0.57 | 0.55 | 0.54 | 0.53 | 0.51 | 0.5 | 0.49 | 0.47 | 0.45 | 0.44 | 0.42 | 0.4 | 0.38 | 0.36 |
| 0.75A | 0.98 | 0.96 | 0.94 | 0.92 | 0.9 | 0.89 | 0.87 | 0.85 | 0.83 | 0.81 | 0.79 | 0.77 | 0.75 | 0.73 | 0.71 | 0.68 | 0.66 | 0.63 | 0.61 | 0.59 | 0.57 |
| 1A | 1.2 | 1.19 | 1.17 | 1.16 | 1.14 | 1.12 | 1.11 | 1.09 | 1.07 | 1.05 | 1.04 | 1.02 | 1 | 0.98 | 0.96 | 0.94 | 0.92 | 0.9 | 0.88 | 0.86 | 0.84 |
| 2A | 2.36 | 2.33 | 2.3 | 2.27 | 2.24 | 2.22 | 2.19 | 2.16 | 2.13 | 2.1 | 2.06 | 2.03 | 2 | 1.97 | 1.93 | 1.9 | 1.87 | 1.83 | 1.79 | 1.76 | 1.72 |
| 3A | 3.53 | 3.49 | 3.44 | 3.4 | 3.36 | 3.32 | 3.27 | 3.23 | 3.19 | 3.14 | 3.09 | 3.05 | 3 | 2.95 | 2.9 | 2.85 | 2.8 | 2.75 | 2.7 | 2.64 | 2.59 |
| 4A | 4.59 | 4.54 | 4.5 | 4.45 | 4.4 | 4.35 | 4.3 | 4.26 | 4.21 | 4.15 | 4.10 | 4.05 | 4 | 3.95 | 3.89 | 3.84 | 3.78 | 3.73 | 3.67 | 3.61 | 3.55 |
| 6A | 8.68 | 8.49 | 8.29 | 8.09 | 7.89 | 7.68 | 7.46 | 7.24 | 7.01 | 6.77 | 6.52 | 6.27 | 6 | 5.72 | 5.43 | 5.12 | 4.79 | 4.43 | 4.05 | 3.62 | 3.13 |
| 8A | 10.18 | 10.01 | 9.85 | 9.68 | 9.51 | 9.33 | 9.15 | 8.97 | 8.79 | 8.6 | 8.4 | 8.2 | 8 | 7.79 | 7.58 | 7.36 | 7.13 | 6.89 | 6.65 | 6.4 | 6.13 |
| 10A | 12.1 | 11.96 | 11.8 | 11.6 | 11.5 | 11.3 | 11.1 | 10.9 | 10.8 | 10.6 | 10.4 | 10.2 | 10 | 9.8 | 9.6 | 9.4 | 9.2 | 9 | 8.8 | 8.5 | 8.3 |
| 13A | 15.7 | 15.5 | 15.3 | 15.1 | 14.9 | 14.6 | 14.4 | 14.2 | 14 | 13.7 | 13.5 | 13.2 | 13 | 12.7 | 12.5 | 12.2 | 12 | 11.7 | 11.4 | 11.1 | 10.8 |
| 16A | 18.6 | 18.4 | 18.2 | 18 | 17.8 | 17.6 | 17.4 | 17.1 | 16.9 | 16.7 | 16.5 | 16.2 | 16 | 15.8 | 15.5 | 15.3 | 15 | 14.8 | 14.5 | 14.2 | 14 |
| 20A | 24.4 | 24.1 | 23.7 | 23.4 | 23 | 22.7 | 22.3 | 22 | 21.6 | 21.2 | 20.8 | 20.4 | 20 | 19.6 | 19.2 | 18.7 | 18.3 | 17.8 | 17.4 | 16.9 | 16.4 |
| 25A | 30 | 29.6 | 29.2 | 28.8 | 28.4 | 28 | 27.6 | 27.2 | 26.8 | 26.3 | 25.9 | 25.5 | 25 | 24.5 | 24.1 | 23.6 | 23.1 | 22.6 | 22.1 | 21.6 | 21 |
| 32A | 40.7 | 39.8 | 39.2 | 38.5 | 37.9 | 37.2 | 36.5 | 35.8 | 35.1 | 34.3 | 33.6 | 32.8 | 32 | 31.2 | 30.4 | 29.5 | 28.6 | 27.7 | 26.8 | 25.6 | 24.6 |
| 40A | 51.1 | 50.1 | 49.2 | 48.4 | 47.5 | 46.7 | 45.8 | 44.9 | 43.9 | 43 | 42 | 41 | 40 | 39 | 37.9 | 36.8 | 35.6 | 34.5 | 33.2 | 31.8 | 30.5 |
| 45A | 58.5 | 57.4 | 56.4 | 55.3 | 54.3 | 53.2 | 52.1 | 51 | 49.9 | 48.7 | 47.5 | 46.3 | 45 | 43.7 | 42.4 | 41 | 39.6 | 38.1 | 36.5 | 35 | 33.5 |
| 50A | 64.2 | 63 | 61.9 | 60.8 | 59.7 | 58.6 | 57.4 | 56.3 | 55.1 | 53.8 | 52.6 | 51.3 | 50 | 48.7 | 47.3 | 45.8 | 44.4 | 42.8 | 41.3 | 39.5 | 37.9 |
| 63A | 82.3 | 80.7 | 79.2 | 77.8 | 76.3 | 74.7 | 73.2 | 71.6 | 69.9 | 68.3 | 66.6 | 64.8 | 63 | 61.1 | 59.2 | 57.2 | 55.2 | 53.1 | 50.8 | 48.7 | 46.6 |

C120 derating table (IEC 60898-1)

| C120 | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | |
|--------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|------|-------|-------|-------|-------|-------|-------|------|
| Rating | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 10A | 12.9 | 12.7 | 12.5 | 12.2 | 12 | 11.8 | 11.5 | 11.3 | 11 | 10.8 | 10.5 | 10.3 | 10 | 9.7 | 9.4 | 9.1 | 8.8 | 8.5 | 8.2 | 7.9 | 7.5 |
| 16A | 19.4 | 19.1 | 18.8 | 18.6 | 18.3 | 18 | 17.8 | 17.5 | 17.2 | 16.9 | 16.6 | 16.3 | 16 | 15.7 | 15.4 | 15.1 | 14.7 | 14.4 | 14 | 13.7 | 13.3 |
| 20A | 24.6 | 24.2 | 23.9 | 23.5 | 23.2 | 22.8 | 22.4 | 22 | 21.6 | 21.2 | 20.8 | 20.4 | 20 | 19.6 | 19.1 | 18.7 | 18.2 | 17.7 | 17.3 | 16.8 | 16.2 |
| 25A | 30.9 | 30.5 | 30 | 29.5 | 29.1 | 28.6 | 28.1 | 27.6 | 27.1 | 26.6 | 26.1 | 25.5 | 25 | 24.4 | 23.9 | 23.3 | 22.7 | 22.1 | 21.5 | 20.8 | 20.1 |
| 32A | 38.9 | 38.4 | 37.9 | 37.3 | 36.8 | 36.2 | 35.6 | 35 | 34.5 | 33.9 | 33.3 | 32.6 | 32 | 31.4 | 30.7 | 30 | 29.3 | 28.6 | 27.9 | 27.2 | 26.4 |
| 40A | 49.8 | 49.1 | 48.3 | 47.6 | 46.8 | 46 | 45.2 | 44.4 | 43.5 | 42.7 | 41.8 | 40.9 | 40 | 39.1 | 38.1 | 37.1 | 36.1 | 35.1 | 34.1 | 33 | 31.8 |
| 50A | 62.2 | 61.3 | 60.4 | 59.4 | 58.4 | 57.5 | 56.5 | 55.4 | 54.4 | 53.3 | 52.2 | 51.1 | 50 | 48.8 | 47.7 | 46.4 | 45.2 | 43.9 | 42.6 | 41.2 | 39.8 |
| 63A | 78.6 | 77.5 | 76.3 | 75 | 73.8 | 72.5 | 71.3 | 69.9 | 68.6 | 67.3 | 65.9 | 64.5 | 63 | 61.5 | 60 | 58.4 | 56.8 | 55.2 | 53.5 | 51.7 | 49.9 |
| 80A | 98.4 | 97 | 95.6 | 94.2 | 92.7 | 91.2 | 89.7 | 88.1 | 86.6 | 85 | 83.4 | 81.7 | 80 | 78.3 | 76.5 | 74.7 | 72.8 | 70.9 | 69 | 67 | 64.9 |
| 100A | 124.5 | 122.6 | 120.7 | 118.8 | 116.9 | 114.9 | 112.9 | 110.9 | 108.8 | 106.6 | 104.5 | 102.3 | 100 | 97.7 | 95.3 | 92.9 | 90.4 | 87.8 | 85.2 | 82.5 | 79.6 |
| 125A | 157 | 154.6 | 152.2 | 149.7 | 147.1 | 144.6 | 141.9 | 139.2 | 136.5 | 133.7 | 130.9 | 128 | 125 | 122 | 118.8 | 115.6 | 112.3 | 108.9 | 105.4 | 101.8 | 98 |

Tertiary/Industry (IEC 60947-2)

DPN derating table (IEC 60947-2)

| DPN | | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | |
|--------|---------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|
| Rating | Curve | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 1A | B, C, D | 1.69 | 1.66 | 1.62 | 1.59 | 1.55 | 1.51 | 1.47 | 1.43 | 1.39 | 1.35 | 1.3 | 1.26 | 1.21 | 1.16 | 1.11 | 1.06 | 1 | 0.94 | 0.88 | 0.81 | 0.73 |
| 2A | B, C, D | 2.68 | 2.64 | 2.6 | 2.56 | 2.52 | 2.48 | 2.44 | 2.4 | 2.36 | 2.32 | 2.28 | 2.23 | 2.19 | 2.14 | 2.1 | 2.05 | 2 | 1.95 | 1.9 | 1.85 | 1.79 |
| 3A | B, C, D | 4.03 | 3.97 | 3.91 | 3.86 | 3.8 | 3.74 | 3.68 | 3.61 | 3.55 | 3.49 | 3.42 | 3.36 | 3.29 | 3.22 | 3.15 | 3.07 | 3 | 2.92 | 2.85 | 2.77 | 2.68 |
| 4A | B, C, D | 5.26 | 5.19 | 5.12 | 5.05 | 4.98 | 4.9 | 4.83 | 4.75 | 4.67 | 4.6 | 4.52 | 4.43 | 4.35 | 4.27 | 4.18 | 4.09 | 4 | 3.91 | 3.81 | 3.72 | 3.62 |
| 6A | B, C, D | 7.51 | 7.42 | 7.34 | 7.25 | 7.16 | 7.07 | 6.98 | 6.89 | 6.8 | 6.7 | 6.61 | 6.51 | 6.41 | 6.31 | 6.21 | 6.11 | 6 | 5.89 | 5.78 | 5.67 | 5.56 |
| 10A | B | 12.5 | 12.3 | 12.2 | 12.1 | 11.9 | 11.8 | 11.6 | 11.5 | 11.3 | 11.2 | 11 | 10.8 | 10.7 | 10.5 | 10.3 | 10.2 | 10 | 9.8 | 9.7 | 9.5 | 9.3 |
| 10A | C, D | 13 | 12.9 | 12.7 | 12.5 | 12.3 | 12.2 | 12 | 11.8 | 11.6 | 11.4 | 11.2 | 11 | 10.8 | 10.6 | 10.4 | 10.2 | 10 | 9.8 | 9.6 | 9.3 | 9.1 |
| 13A | B | 17 | 16.7 | 16.5 | 16.3 | 16.1 | 15.8 | 15.6 | 15.4 | 15.1 | 14.9 | 14.6 | 14.4 | 14.1 | 13.8 | 13.6 | 13.3 | 13 | 12.7 | 12.4 | 12.1 | 11.8 |
| 13A | C, D | 17.2 | 16.9 | 16.7 | 16.5 | 16.2 | 16 | 15.7 | 15.5 | 15.2 | 15 | 14.7 | 14.4 | 14.2 | 13.9 | 13.6 | 13.3 | 13 | 12.7 | 12.4 | 12.1 | 11.7 |
| 16A | B, C | 20.6 | 20.4 | 20.1 | 19.8 | 19.6 | 19.3 | 19 | 18.7 | 18.5 | 18.2 | 17.9 | 17.6 | 17.3 | 17 | 16.7 | 16.3 | 16 | 15.7 | 15.3 | 15 | 14.6 |
| 16A | D | 20.8 | 20.5 | 20.2 | 20 | 19.7 | 19.4 | 19.1 | 18.8 | 18.5 | 18.2 | 17.9 | 17.6 | 17.3 | 17 | 16.7 | 16.3 | 16 | 15.7 | 15.3 | 14.9 | 14.6 |
| 20A | B | 25.7 | 25.3 | 25 | 24.7 | 24.4 | 24 | 23.7 | 23.4 | 23 | 22.7 | 22.3 | 21.9 | 21.6 | 21.2 | 20.8 | 20.4 | 20 | 19.6 | 19.2 | 18.8 | 18.3 |
| 20A | C, D | 26 | 25.7 | 25.3 | 25 | 24.6 | 24.3 | 23.9 | 23.6 | 23.2 | 22.8 | 22.4 | 22 | 21.7 | 21.3 | 20.8 | 20.4 | 20 | 19.6 | 19.1 | 18.7 | 18.2 |
| 25A | B, C, D | 32 | 31.6 | 31.2 | 30.8 | 30.4 | 30 | 29.6 | 29.2 | 28.7 | 28.3 | 27.8 | 27.4 | 26.9 | 26.5 | 26 | 25.5 | 25 | 24.5 | 24 | 23.5 | 22.9 |
| 32A | B, C, D | 41.6 | 41.1 | 40.5 | 40 | 39.4 | 38.9 | 38.3 | 37.7 | 37.1 | 36.5 | 35.9 | 35.3 | 34.7 | 34 | 33.4 | 32.7 | 32 | 31.3 | 30.6 | 29.9 | 29.1 |
| 40A | B, C, D | 52.7 | 52 | 51.3 | 50.6 | 49.8 | 49.1 | 48.3 | 47.6 | 46.8 | 46 | 45.2 | 44.4 | 43.5 | 42.7 | 41.8 | 40.9 | 40 | 39.1 | 38.1 | 37.1 | 36.1 |

iC60, Reflex iC60 derating table (IEC 60947-2)

| iC60 | | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | | |
|--------|--|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|------|
| Rating | | -35 | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 0.5A | | 0.66 | 0.65 | 0.64 | 0.63 | 0.63 | 0.62 | 0.61 | 0.6 | 0.59 | 0.58 | 0.57 | 0.56 | 0.55 | 0.54 | 0.53 | 0.52 | 0.51 | 0.5 | 0.49 | 0.48 | 0.47 | 0.45 |
| 1A | | 1.32 | 1.3 | 1.28 | 1.27 | 1.25 | 1.23 | 1.21 | 1.2 | 1.18 | 1.16 | 1.14 | 1.12 | 1.1 | 1.08 | 1.06 | 1.04 | 1.02 | 1 | 0.98 | 0.96 | 0.93 | 0.91 |
| 2A | | 2.79 | 2.75 | 2.71 | 2.67 | 2.63 | 2.58 | 2.54 | 2.5 | 2.45 | 2.4 | 2.36 | 2.31 | 2.26 | 2.21 | 2.16 | 2.11 | 2.05 | 2 | 1.94 | 1.89 | 1.83 | 1.76 |
| 3A | | 4.21 | 4.15 | 4.08 | 4.02 | 3.96 | 3.89 | 3.83 | 3.76 | 3.69 | 3.62 | 3.55 | 3.48 | 3.4 | 3.32 | 3.25 | 3.17 | 3.08 | 3 | 2.91 | 2.82 | 2.73 | 2.64 |
| 4A | | 5.62 | 5.54 | 5.46 | 5.37 | 5.29 | 5.2 | 5.11 | 5.02 | 4.93 | 4.83 | 4.74 | 4.64 | 4.54 | 4.44 | 4.33 | 4.22 | 4.11 | 4 | 3.88 | 3.76 | 3.64 | 3.51 |
| 6A | | 8.55 | 8.42 | 8.29 | 8.16 | 8.03 | 7.89 | 7.75 | 7.61 | 7.46 | 7.31 | 7.16 | 7.01 | 6.85 | 6.69 | 6.52 | 6.35 | 6.18 | 6 | 5.81 | 5.62 | 5.43 | 5.22 |
| 10A | | 13.3 | 13.2 | 13 | 12.8 | 12.6 | 12.5 | 12.3 | 12.1 | 11.9 | 11.7 | 11.5 | 11.3 | 11.1 | 10.9 | 10.7 | 10.5 | 10.2 | 10 | 9.8 | 9.5 | 9.3 | 9 |
| 13A | | 17.1 | 16.9 | 16.7 | 16.4 | 16.2 | 16 | 15.8 | 15.5 | 15.3 | 15.1 | 14.8 | 14.6 | 14.3 | 14.1 | 13.8 | 13.6 | 13.3 | 13 | 12.7 | 12.4 | 12.1 | 11.8 |
| 16A | | 21.1 | 20.8 | 20.6 | 20.3 | 20 | 19.7 | 19.5 | 19.2 | 18.9 | 18.6 | 18.3 | 18 | 17.7 | 17.3 | 17 | 16.7 | 16.3 | 16 | 15.7 | 15.3 | 14.9 | 14.5 |
| 20A | | 26 | 25.7 | 25.4 | 25 | 24.7 | 24.4 | 24.1 | 23.7 | 23.4 | 23 | 22.7 | 22.3 | 21.9 | 21.6 | 21.2 | 20.8 | 20.4 | 20 | 19.6 | 19.2 | 18.7 | 18.3 |
| 25A | | 31.9 | 31.6 | 31.2 | 30.8 | 30.4 | 30.1 | 29.7 | 29.3 | 28.9 | 28.5 | 28.1 | 27.6 | 27.2 | 26.8 | 26.4 | 25.9 | 25.5 | 25 | 24.5 | 24.1 | 23.6 | 23.1 |
| 32A | | 42 | 41.5 | 41 | 40.5 | 39.9 | 39.4 | 38.8 | 38.2 | 37.7 | 37.1 | 36.5 | 35.9 | 35.3 | 34.6 | 34 | 33.3 | 32.7 | 32 | 31.3 | 30.6 | 29.9 | 29.1 |
| 40A | | 52.6 | 51.9 | 51.3 | 50.6 | 49.9 | 49.2 | 48.5 | 47.8 | 47.1 | 46.4 | 45.6 | 44.9 | 44.1 | 43.3 | 42.5 | 41.7 | 40.9 | 40 | 39.1 | 38.2 | 37.3 | 36.4 |
| 50A | | 67.1 | 66.3 | 65.4 | 64.5 | 63.5 | 62.6 | 61.6 | 60.7 | 59.7 | 58.7 | 57.7 | 56.7 | 55.6 | 54.5 | 53.4 | 52.3 | 51.2 | 50 | 48.8 | 47.6 | 46.3 | 45 |
| 63A | | 86.3 | 85.1 | 83.9 | 82.7 | 81.4 | 80.1 | 78.9 | 77.6 | 76.2 | 74.9 | 73.5 | 72.1 | 70.7 | 69.2 | 67.7 | 66.2 | 64.6 | 63 | 61.4 | 59.7 | 57.9 | 56.1 |

Reflex iC60

C60 derating table (IEC 60947-2)

| C60 | | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | |
|--------|--|--------------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Rating | | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 0.5A | | 0.68 | 0.67 | 0.66 | 0.65 | 0.64 | 0.63 | 0.62 | 0.61 | 0.6 | 0.59 | 0.58 | 0.56 | 0.55 | 0.54 | 0.53 | 0.51 | 0.5 | 0.49 | 0.47 | 0.46 | 0.44 |
| 0.75A | | 0.93 | 0.92 | 0.91 | 0.9 | 0.89 | 0.88 | 0.87 | 0.86 | 0.85 | 0.83 | 0.82 | 0.81 | 0.8 | 0.79 | 0.78 | 0.76 | 0.75 | 0.74 | 0.72 | 0.7 | 0.68 |
| 1A | | 1.31 | 1.3 | 1.28 | 1.27 | 1.25 | 1.23 | 1.21 | 1.19 | 1.17 | 1.15 | 1.13 | 1.11 | 1.09 | 1.07 | 1.05 | 1.02 | 1 | 0.98 | 0.95 | 0.93 | 0.91 |
| 2A | | 2.55 | 2.59 | 2.56 | 2.52 | 2.49 | 2.45 | 2.41 | 2.37 | 2.34 | 2.3 | 2.26 | 2.22 | 2.17 | 2.13 | 2.09 | 2.04 | 2 | 1.95 | 1.91 | 1.88 | 1.84 |
| 3A | | 3.81 | 4.04 | 3.98 | 3.92 | 3.85 | 3.79 | 3.73 | 3.66 | 3.59 | 3.52 | 3.45 | 3.38 | 3.31 | 3.23 | 3.16 | 3.08 | 3 | 2.92 | 2.83 | 2.82 | 2.76 |
| 4A | | 4.9 | 4.86 | 4.81 | 4.76 | 4.7 | 4.65 | 4.59 | 4.54 | 4.48 | 4.42 | 4.37 | 4.31 | 4.25 | 4.19 | 4.13 | 4.06 | 4 | 3.94 | 3.87 | 3.81 | 3.74 |
| 6A | | 7.93 | 7.82 | 7.71 | 7.6 | 7.49 | 7.38 | 7.27 | 7.15 | 7.03 | 6.91 | 6.79 | 6.66 | 6.54 | 6.41 | 6.27 | 6.14 | 6 | 5.86 | 5.71 | 5.56 | 5.42 |
| 8A | | 10.37 | 10.23 | 10.09 | 9.96 | 9.82 | 9.68 | 9.54 | 9.4 | 9.25 | 9.11 | 8.96 | 8.81 | 8.65 | 8.49 | 8.33 | 8.17 | 8 | 7.83 | 7.65 | 7.47 | 7.31 |
| 10A | | 13.3 | 13.2 | 13 | 12.8 | 12.6 | 12.4 | 12.2 | 12 | 11.8 | 11.6 | 11.4 | 11.2 | 10.9 | 10.7 | 10.5 | 10.2 | 10 | 9.8 | 9.5 | 9.2 | 9 |
| 13A | | 17 | 16.9 | 16.6 | 16.4 | 16.2 | 15.9 | 15.7 | 15.4 | 15.2 | 14.9 | 14.7 | 14.4 | 14.1 | 13.9 | 13.6 | 13.3 | 13 | 12.7 | 12.4 | 12.1 | 11.8 |
| 16A | | 20 | 19.8 | 19.5 | 19.3 | 19.1 | 18.8 | 18.6 | 18.4 | 18.1 | 17.9 | 17.6 | 17.3 | 17.1 | 16.8 | 16.6 | 16.3 | 16 | 15.7 | 15.4 | 15.1 | 14.8 |
| 20A | | 26.9 | 26.6 | 26.2 | 25.8 | 25.4 | 25 | 24.6 | 24.2 | 23.7 | 23.3 | 22.9 | 22.4 | 22 | 21.5 | 21 | 20.5 | 20 | 19.5 | 18.9 | 18.4 | 17.9 |
| 25A | | 32.9 | 32.5 | 32.1 | 31.6 | 31.1 | 30.7 | 30.2 | 29.7 | 29.2 | 28.7 | 28.2 | 27.7 | 27.2 | 26.7 | 26.1 | 25.6 | 25 | 24.4 | 23.8 | 23.2 | 22.6 |
| 32A | | 41.5 | 41.1 | 40.5 | 40 | 39.4 | 38.9 | 38.3 | 37.7 | 37.1 | 36.5 | 35.9 | 35.3 | 34.7 | 34 | 33.4 | 32.7 | 32 | 31.3 | 30.6 | 29.9 | 29.1 |
| 40A | | 53.7 | 52.9 | 52.2 | 51.4 | 50.6 | 49.8 | 49 | 48.2 | 47.3 | 46.5 | 45.6 | 44.7 | 43.8 | 42.9 | 42 | 41 | 40 | 39 | 37.9 | 36.9 | 35.8 |
| 45A | | 60.8 | 60.1 | 59.2 | 58.3 | 57.4 | 56.5 | 55.5 | 54.6 | 53.6 | 52.6 | 51.6 | 50.5 | 49.5 | 48.4 | 47.3 | 46.2 | 45 | 43.8 | 42.6 | 41.4 | 40.1 |
| 50A | | 65 | 64.3 | 63.5 | 62.6 | 61.7 | 60.8 | 59.9 | 59 | 58.1 | 57.1 | 56.2 | 55.2 | 54.2 | 53.2 | 52.1 | 51.1 | 50 | 48.9 | 47.8 | 46.7 | 45.5 |
| 63A | | 85.5 | 84.6 | 83.3 | 82 | 80.7 | 79.4 | 78 | 76.7 | 75.3 | 73.9 | 72.4 | 70.9 | 69.4 | 67.9 | 66.3 | 64.7 | 63 | 61.3 | 59.5 | 57.8 | 56 |

Tertiary/Industry (IEC 60947-2) (cont.)

C60H-DC derating table (IEC 60947-2)

| C60H-DC Rating | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | |
|----------------|--------------------------|------|------|------|------|------|------|------|------|------|------|------------|------|------|------|------|------|------|------|------|------|
| | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 0.5A | 0.63 | 0.62 | 0.61 | 0.6 | 0.59 | 0.58 | 0.56 | 0.55 | 0.54 | 0.53 | 0.51 | 0.5 | 0.49 | 0.47 | 0.46 | 0.44 | 0.43 | 0.41 | 0.39 | 0.38 | 0.36 |
| 1A | 1.18 | 1.17 | 1.15 | 1.14 | 1.12 | 1.1 | 1.09 | 1.07 | 1.05 | 1.04 | 1.02 | 1 | 0.98 | 0.96 | 0.94 | 0.92 | 0.9 | 0.88 | 0.86 | 0.84 | 0.82 |
| 2A | 2.54 | 2.5 | 2.45 | 2.41 | 2.36 | 2.31 | 2.26 | 2.21 | 2.16 | 2.11 | 2.06 | 2 | 1.94 | 1.88 | 1.82 | 1.76 | 1.7 | 1.63 | 1.56 | 1.48 | 1.41 |
| 3A | 3.78 | 3.71 | 3.65 | 3.58 | 3.51 | 3.45 | 3.38 | 3.3 | 3.23 | 3.16 | 3.08 | 3 | 2.92 | 2.84 | 2.75 | 2.66 | 2.57 | 2.48 | 2.38 | 2.27 | 2.17 |
| 4A | 5.08 | 4.99 | 4.9 | 4.81 | 4.71 | 4.62 | 4.52 | 4.42 | 4.32 | 4.22 | 4.11 | 4 | 3.89 | 3.77 | 3.65 | 3.53 | 3.4 | 3.27 | 3.13 | 2.98 | 2.83 |
| 5A | 6 | 5.92 | 5.83 | 5.74 | 5.66 | 5.57 | 5.48 | 5.39 | 5.29 | 5.2 | 5.1 | 5 | 4.9 | 4.8 | 4.69 | 4.58 | 4.47 | 4.36 | 4.24 | 4.12 | 4 |
| 6A | 7.26 | 7.15 | 7.04 | 6.94 | 6.83 | 6.71 | 6.6 | 6.48 | 6.37 | 6.25 | 6.12 | 6 | 5.87 | 5.74 | 5.61 | 5.47 | 5.33 | 5.19 | 5.04 | 4.89 | 4.73 |
| 10A | 12.6 | 12.4 | 12.2 | 11.9 | 11.7 | 11.5 | 11.3 | 11 | 10.8 | 10.5 | 10.3 | 10 | 9.7 | 9.5 | 9.2 | 8.9 | 8.6 | 8.3 | 7.9 | 7.6 | 7.2 |
| 13A | 15.5 | 15.3 | 15.1 | 14.9 | 14.6 | 14.4 | 14.2 | 14 | 13.7 | 13.5 | 13.3 | 13 | 12.8 | 12.5 | 12.2 | 12 | 11.7 | 11.4 | 11.1 | 10.8 | 10.5 |
| 15A | 18.6 | 18.3 | 18 | 17.7 | 17.4 | 17.1 | 16.7 | 16.4 | 16.1 | 15.7 | 15.4 | 15 | 14.6 | 14.3 | 13.9 | 13.5 | 13 | 12.6 | 12.2 | 11.7 | 11.2 |
| 16A | 19.4 | 19.1 | 18.9 | 18.6 | 18.3 | 18 | 17.6 | 17.3 | 17 | 16.7 | 16.3 | 16 | 15.7 | 15.3 | 14.9 | 14.6 | 14.2 | 13.8 | 13.4 | 13 | 12.5 |
| 20A | 24.1 | 23.7 | 23.4 | 23 | 22.7 | 22.3 | 21.9 | 21.6 | 21.2 | 20.8 | 20.4 | 20 | 19.6 | 19.2 | 18.7 | 18.3 | 17.9 | 17.4 | 16.9 | 16.4 | 15.9 |
| 25A | 30.4 | 29.9 | 29.5 | 29 | 28.5 | 28.1 | 27.6 | 27.1 | 26.6 | 26.1 | 25.5 | 25 | 24.5 | 23.9 | 23.3 | 22.7 | 22.1 | 21.5 | 20.9 | 20.2 | 19.6 |
| 30A | 37.4 | 36.7 | 36.1 | 35.5 | 34.9 | 34.2 | 33.5 | 32.9 | 32.2 | 31.5 | 30.7 | 30 | 29.2 | 28.5 | 27.7 | 26.8 | 26 | 25.1 | 24.2 | 23.2 | 22.3 |
| 32A | 38.5 | 37.9 | 37.4 | 36.8 | 36.2 | 35.7 | 35.1 | 34.5 | 33.9 | 33.3 | 32.6 | 32 | 31.4 | 30.7 | 30 | 29.3 | 28.6 | 27.9 | 27.1 | 26.3 | 25.5 |
| 40A | 48.9 | 48.2 | 47.4 | 46.7 | 45.9 | 45.1 | 44.3 | 43.5 | 42.6 | 41.8 | 40.9 | 40 | 39.1 | 38.2 | 37.2 | 36.2 | 35.2 | 34.2 | 33.1 | 32 | 30.8 |
| 50A | 59.9 | 59.1 | 58.3 | 57.4 | 56.5 | 55.6 | 54.7 | 53.8 | 52.9 | 52 | 51 | 50 | 49 | 48 | 46.9 | 45.9 | 44.8 | 43.6 | 42.5 | 41.3 | 40.1 |
| 63A | 78.2 | 76.9 | 75.6 | 74.3 | 73 | 71.7 | 70.3 | 68.9 | 67.5 | 66 | 64.5 | 63 | 61.4 | 59.8 | 58.2 | 56.5 | 54.7 | 52.9 | 51.1 | 49.1 | 47.1 |

C60PV-DC derating table (IEC 60947-2)

| C60PV-DC Rating | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | |
|-----------------|--------------------------|------|------|------|------|------|------|------|------|------|------|-----------|------|------|------|------|------|------|------|------|------|
| | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 1A | 1.18 | 1.17 | 1.15 | 1.14 | 1.12 | 1.1 | 1.09 | 1.07 | 1.05 | 1.04 | 1.02 | 1 | 0.98 | 0.96 | 0.94 | 0.92 | 0.9 | 0.88 | 0.86 | 0.84 | 0.82 |
| 2A | 2.54 | 2.5 | 2.45 | 2.41 | 2.36 | 2.31 | 2.26 | 2.21 | 2.16 | 2.11 | 2.06 | 2 | 1.94 | 1.88 | 1.82 | 1.76 | 1.7 | 1.63 | 1.56 | 1.48 | 1.41 |
| 3A | 3.78 | 3.71 | 3.65 | 3.58 | 3.51 | 3.45 | 3.38 | 3.3 | 3.23 | 3.16 | 3.08 | 3 | 2.92 | 2.84 | 2.75 | 2.66 | 2.57 | 2.48 | 2.38 | 2.27 | 2.17 |
| 5A | 6 | 5.92 | 5.83 | 5.74 | 5.66 | 5.57 | 5.48 | 5.39 | 5.29 | 5.2 | 5.1 | 5 | 4.9 | 4.8 | 4.69 | 4.58 | 4.47 | 4.36 | 4.24 | 4.12 | 4 |
| 8A | 9.64 | 9.5 | 9.36 | 9.22 | 9.08 | 8.93 | 8.78 | 8.63 | 8.48 | 8.32 | 8.16 | 8 | 7.83 | 7.67 | 7.49 | 7.31 | 7.13 | 6.95 | 6.76 | 6.56 | 6.36 |
| 10A | 12.6 | 12.4 | 12.2 | 11.9 | 11.7 | 11.5 | 11.2 | 11 | 10.8 | 10.5 | 10.3 | 10 | 9.7 | 9.4 | 9.2 | 8.9 | 8.6 | 8.2 | 7.9 | 7.6 | 7.2 |
| 13A | 15.5 | 15.3 | 15.1 | 14.8 | 14.6 | 14.4 | 14.2 | 14 | 13.7 | 13.5 | 13.2 | 13 | 12.7 | 12.5 | 12.2 | 12 | 11.7 | 11.4 | 11.1 | 10.8 | 10.5 |
| 15A | 18.6 | 18.3 | 18 | 17.7 | 17.4 | 17.1 | 16.7 | 16.4 | 16.1 | 15.7 | 15.4 | 15 | 14.6 | 14.3 | 13.9 | 13.5 | 13 | 12.6 | 12.2 | 11.7 | 11.2 |
| 16A | 19.4 | 19.1 | 18.9 | 18.6 | 18.3 | 18 | 17.6 | 17.3 | 17 | 16.7 | 16.3 | 16 | 15.7 | 15.3 | 14.9 | 14.6 | 14.2 | 13.8 | 13.4 | 13 | 12.5 |
| 20A | 24.1 | 23.7 | 23.4 | 23 | 22.7 | 22.3 | 21.9 | 21.6 | 21.2 | 20.8 | 20.4 | 20 | 19.6 | 19.2 | 18.7 | 18.3 | 17.9 | 17.4 | 16.9 | 16.4 | 15.9 |
| 25A | 30.4 | 29.9 | 29.5 | 29 | 28.5 | 28.1 | 27.6 | 27.1 | 26.6 | 26.1 | 25.5 | 25 | 24.5 | 23.9 | 23.3 | 22.7 | 22.1 | 21.5 | 20.9 | 20.2 | 19.6 |

C120 derating table (IEC 60947-2)

| C120 Rating | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | |
|-------------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|-------|-------|-------|-------|
| | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 10A | 14.5 | 14.3 | 14 | 13.8 | 13.5 | 13.3 | 13 | 12.7 | 12.5 | 12.2 | 11.9 | 11.6 | 11.3 | 11 | 10.7 | 10.3 | 10 | 9.7 | 9.3 | 8.9 | 8.5 |
| 16A | 21.2 | 21 | 20.7 | 20.4 | 20.1 | 19.8 | 19.4 | 19.1 | 18.8 | 18.5 | 18.2 | 17.8 | 17.5 | 17.1 | 16.8 | 16.4 | 16 | 15.6 | 15.2 | 14.8 | 14.4 |
| 20A | 27 | 26.6 | 26.3 | 25.9 | 25.5 | 25 | 24.6 | 24.2 | 23.8 | 23.3 | 22.9 | 22.4 | 22 | 21.5 | 21 | 20.5 | 20 | 19.5 | 18.9 | 18.4 | 17.8 |
| 25A | 33.7 | 33.3 | 32.8 | 32.3 | 31.8 | 31.3 | 30.8 | 30.2 | 29.7 | 29.1 | 28.6 | 28 | 27.5 | 26.9 | 26.3 | 25.6 | 25 | 24.4 | 23.7 | 23 | 22.3 |
| 32A | 42.7 | 42.1 | 41.5 | 40.9 | 40.3 | 39.7 | 39 | 38.4 | 37.7 | 37.1 | 36.4 | 35.7 | 35 | 34.3 | 33.5 | 32.8 | 32 | 31.2 | 30.4 | 29.6 | 28.7 |
| 40A | 54.8 | 54 | 53.2 | 52.4 | 51.5 | 50.7 | 49.8 | 48.9 | 48 | 47.1 | 46.1 | 45.2 | 44.2 | 43.2 | 42.1 | 41.1 | 40 | 38.9 | 37.7 | 36.6 | 35.3 |
| 50A | 69.1 | 68.1 | 67 | 65.9 | 64.8 | 63.7 | 62.6 | 61.5 | 60.3 | 59.1 | 57.9 | 56.7 | 55.4 | 54.1 | 52.8 | 51.4 | 50 | 48.6 | 47.1 | 45.5 | 43.9 |
| 63A | 87.1 | 85.8 | 84.5 | 83.1 | 81.8 | 80.4 | 78.9 | 77.5 | 76 | 74.5 | 73 | 71.4 | 69.8 | 68.2 | 66.5 | 64.8 | 63 | 61.2 | 59.3 | 57.4 | 55.4 |
| 80A | 103.7 | 102.4 | 101 | 99.7 | 98.3 | 96.9 | 95.5 | 94.1 | 92.6 | 91.1 | 89.6 | 88.1 | 86.5 | 84.9 | 83.3 | 81.7 | 80 | 78.3 | 76.5 | 74.7 | 72.9 |
| 100A | 137.6 | 135.5 | 133.5 | 131.4 | 129.2 | 127.1 | 124.8 | 122.6 | 120.3 | 118 | 115.6 | 113.1 | 110.6 | 108.1 | 105.5 | 102.8 | 100 | 97.2 | 94.2 | 91.2 | 88.1 |
| 125A | 174.6 | 171.9 | 169.2 | 166.4 | 163.6 | 160.7 | 157.8 | 154.9 | 151.8 | 148.7 | 145.6 | 142.4 | 139.1 | 135.7 | 132.2 | 128.7 | 125 | 121.2 | 117.3 | 113.3 | 109.1 |

Tertiary/Industry (IEC 60947-2) (cont.)

NG125 derating table (IEC 60947-2)

| NG125 | Ambient temperature (°C) | | | | | | | | | | | | | | | | | | | | |
|--------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------|-------|-------|-------|-------|------|-------|
| Rating | -30 | -25 | -20 | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 | +65 | +70 |
| 10 A | 13.7 | 13.5 | 13.2 | 13 | 12.8 | 12.5 | 12.3 | 12 | 11.7 | 11.5 | 11.2 | 10.9 | 10.6 | 10.3 | 10 | 9.7 | 9.4 | 9 | 8.7 | 8.3 | 7.9 |
| 16 A | 20.3 | 20.1 | 19.8 | 19.5 | 19.2 | 18.9 | 18.6 | 18.3 | 18 | 17.7 | 17.4 | 17 | 16.7 | 16.4 | 16 | 15.7 | 15.3 | 14.9 | 14.5 | 14.1 | 13.7 |
| 20 A | 26 | 25.6 | 25.3 | 24.9 | 24.5 | 24 | 23.6 | 23.2 | 22.8 | 22.3 | 21.9 | 21.4 | 21 | 20.5 | 20 | 19.5 | 19 | 18.5 | 17.9 | 17.4 | 16.8 |
| 25 A | 33.8 | 33.2 | 32.7 | 32.1 | 31.5 | 30.9 | 30.3 | 29.7 | 29.1 | 28.4 | 27.8 | 27.1 | 26.4 | 25.7 | 25 | 24.3 | 23.5 | 22.7 | 21.9 | 21 | 20.1 |
| 32 A | 41.2 | 40.6 | 40 | 39.4 | 38.8 | 38.2 | 37.5 | 36.9 | 36.2 | 35.6 | 34.9 | 34.2 | 33.5 | 32.7 | 32 | 31.2 | 30.5 | 29.7 | 28.8 | 28 | 27.1 |
| 40 A | 53.5 | 52.7 | 51.8 | 51 | 50.1 | 49.1 | 48.2 | 47.3 | 46.3 | 45.3 | 44.3 | 43.3 | 42.2 | 41.1 | 40 | 38.9 | 37.7 | 36.5 | 35.2 | 33.9 | 32.5 |
| 50 A | 66.3 | 65.2 | 64.2 | 63.1 | 62.1 | 61 | 59.8 | 58.7 | 57.5 | 56.4 | 55.1 | 53.9 | 52.6 | 51.3 | 50 | 48.6 | 47.2 | 45.8 | 44.3 | 42.7 | 41.1 |
| 63 A | 83.4 | 82.1 | 80.8 | 79.5 | 78.1 | 76.8 | 75.4 | 73.9 | 72.5 | 71 | 69.5 | 67.9 | 66.3 | 64.7 | 63 | 61.3 | 59.5 | 57.7 | 55.8 | 53.9 | 51.8 |
| 80 A | 100.4 | 99.1 | 97.8 | 96.4 | 95 | 93.6 | 92.2 | 90.8 | 89.3 | 87.8 | 86.3 | 84.8 | 83.2 | 81.6 | 80 | 78.3 | 76.6 | 74.9 | 73.1 | 71.3 | 69.4 |
| 100 A | 133.4 | 131.3 | 129.1 | 127 | 124.8 | 122.5 | 120.2 | 117.9 | 115.5 | 113.1 | 110.6 | 108 | 105.4 | 102.7 | 100 | 97.2 | 94.3 | 91.3 | 88.2 | 85 | 81.6 |
| 125 A | 165.2 | 162.7 | 160.1 | 157.5 | 154.8 | 152.1 | 149.3 | 146.5 | 143.6 | 140.7 | 137.7 | 134.6 | 131.5 | 128.3 | 125 | 121.6 | 118.1 | 114.6 | 110.9 | 107 | 103.1 |

Tertiaire/Industrie (IEC 60947-3)

SW60-DC derating table (IEC 60947-3)

| SW60PV-DC | Ambient temperature (°C) | | | | | | | | | | | |
|-----------|--------------------------|-----|-----|-----|-----|-----|-----|-----------|-----|-----|-----|-----|
| Rating | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +60 | +70 |
| 50 A | 63 | 61 | 60 | 58 | 56 | 54 | 52 | 50 | 48 | 46 | 41 | 35 |

C60NA-DC derating table (IEC 60947-3)

| C60NA-DC | Ambient temperature (°C) | | | | | | | | | | | |
|----------|--------------------------|-----|-----|-----|-----|-----|-----|-----------|-----|-----|-----|-----|
| Rating | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +60 | +70 |
| 50 A | 63 | 61 | 60 | 58 | 56 | 54 | 52 | 50 | 48 | 46 | 41 | 35 |

C120NA-DC derating table (IEC 60947-3)

| C120NA-DC | Ambient temperature (°C) | | | | | | | | | | | |
|-----------|--------------------------|-----|-----|-----|-----|-----|-----|------------|-----|-----|-----|-----|
| Rating | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +60 | +70 |
| 100 A | 113 | 111 | 110 | 108 | 106 | 104 | 102 | 100 | 98 | 96 | 91 | 85 |

Tertiary/Industry (IEC 61009-1)

C60H2 RCBO derating table (IEC 61009-1)

| C60H2 RCBO | Ambient temperature (°C) | | | | | | | | | | | | | | | |
|------------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|------|------|
| Rating | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 |
| 10 A | 12.3 | 12.2 | 12 | 11.8 | 11.7 | 11.5 | 11.3 | 11.1 | 11 | 10.8 | 10.6 | 10.4 | 10.2 | 10 | 9.8 | 9.6 |
| 16 A | 19.6 | 19.4 | 19.1 | 18.8 | 18.6 | 18.3 | 18 | 17.8 | 17.5 | 17.2 | 16.9 | 16.6 | 16.3 | 16 | 15.7 | 15.4 |
| 20 A | 24.9 | 24.6 | 24.2 | 23.9 | 23.5 | 23.2 | 22.8 | 22.4 | 22 | 21.6 | 21.2 | 20.8 | 20.4 | 20 | 19.6 | 19.1 |
| 25 A | 30.2 | 29.8 | 29.5 | 29.1 | 28.7 | 28.3 | 27.9 | 27.5 | 27.1 | 26.7 | 26.3 | 25.9 | 25.4 | 25 | 24.6 | 24.1 |
| 32 A | 37.9 | 37.5 | 37.1 | 36.7 | 36.2 | 35.8 | 35.3 | 34.9 | 34.4 | 33.9 | 33.5 | 33 | 32.5 | 32 | 31.5 | 31 |

C60N/H RCBO derating table (IEC 61009-1)

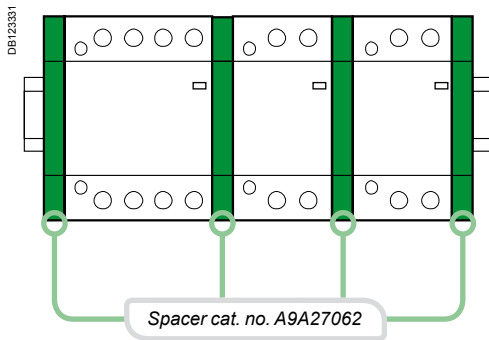
| C60H RCBO | Ambient temperature (°C) | | | | | | | | | | | | | | | |
|-----------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|-----------|------|------|
| Rating | -15 | -10 | -5 | 0 | +5 | +10 | +15 | +20 | +25 | +30 | +35 | +40 | +45 | +50 | +55 | +60 |
| 6 A | 8.3 | 8.15 | 7.99 | 7.83 | 7.67 | 7.50 | 7.33 | 7.16 | 6.98 | 6.79 | 6.6 | 6.41 | 6.21 | 6 | 5.78 | 5.56 |
| 10 A | 12.9 | 12.7 | 12.5 | 12.3 | 12.1 | 11.9 | 11.6 | 11.4 | 11.2 | 11 | 10.7 | 10.5 | 10.3 | 10 | 9.7 | 9.5 |
| 16 A | 20.9 | 20.6 | 20.3 | 19.9 | 19.6 | 19.2 | 18.8 | 18.4 | 18.1 | 17.7 | 17.3 | 16.9 | 16.4 | 16 | 15.6 | 15.1 |
| 20 A | 26.3 | 25.9 | 25.4 | 25 | 24.5 | 24.1 | 23.6 | 23.1 | 22.6 | 22.1 | 21.6 | 21.1 | 20.6 | 20 | 19.4 | 18.8 |
| 25 A | 31.5 | 31 | 30.6 | 30.1 | 29.6 | 29.2 | 28.7 | 28.2 | 27.7 | 27.2 | 26.6 | 26.1 | 25.6 | 25 | 24.4 | 23.8 |
| 32 A | 39.2 | 38.7 | 38.2 | 37.7 | 37.2 | 36.6 | 36.1 | 35.5 | 35 | 34.4 | 33.8 | 33.2 | 32.6 | 32 | 31.4 | 30.7 |
| 40 A | 50.2 | 49.5 | 48.8 | 48 | 47.3 | 46.5 | 45.8 | 45 | 44.2 | 43.4 | 42.6 | 41.7 | 40.9 | 40 | 39.1 | 38.2 |
| 45 A | 55.5 | 54.7 | 54 | 53.2 | 52.5 | 51.7 | 50.9 | 50.1 | 49.3 | 48.5 | 47.6 | 46.8 | 45.9 | 45 | 41.9 | 41 |

Switches

■ In all cases, the switches are correctly protected against overloads by a circuit breaker with a lower or equal rating, operating at the same ambient temperature.

iCT contactors

In the case of contactor mounting in an enclosure for which the interior temperature is in a range between 50°C and 60°C, it is necessary to use a spacer, cat. no. A9A27062, between each contactor.



Splitter blocks

In the event of a temperature higher than 40°C, the maximum acceptable current is limited to the values in the table below:

| Type | Temperature | | | | |
|-----------------|-------------|------|------|------|------|
| | 40°C | 45°C | 50°C | 55°C | 60°C |
| Linergy FM 80 A | 80 | 76 | 73 | 69 | 66 |
| Linergy DX 63 A | 63 | 60 | 58 | 55 | 53 |

Acti9 products

The following table indicates the average dissipated power per pole in W for a current equal to the rating of the device and at the operating voltage.

| Rating (A) | 0.5 | 1 | 1.6 | 2 | 2.5 | 3 | 4 | 6 | 6.3 | 10 | 12.5 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | |
|--|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Circuit breakers | | | | | | | | | | | | | | | | | | | | | | | |
| iC60N/H/L | 2.3 | 2.3 | | 1.9 | | 2.2 | 2.4 | 1.3 | | 2 | | 2 | 2.1 | 2.2 | 2.7 | 2.8 | 3.6 | 4 | 5.6 | | | | |
| iC60L-MA | | | 0.7 | | 0.2 | | 0.6 | | 0.9 | 1.1 | 1.5 | | 1.6 | | 0.8 | | 2 | | | | | | |
| iK60 | | 2.3 | | 1.9 | | 2.2 | 2.4 | 2.7 | | 1.8 | | | 2.5 | 3 | 3.1 | 3.5 | 3.6 | 4 | 5.6 | | | | |
| RCCB | | | | | | | | | | | | | | | | | | | | | | | |
| iID 2P | | | | | | | | | | | | | 0.8 | | 0.9 | | 2.6 | | 2.6 | 3 | 5 | | |
| 4P | | | | | | | | | | | | | | | 0.7 | | 1.9 | | 1.5 | 2.6 | 4.3 | | |
| iID K | | | | | | | | | | | | | | | 2.7 | | 3.6 | | 5.6 | | | | |
| Add-on residual current devices | | | | | | | | | | | | | | | | | | | | | | | |
| Vigi iC60 10 mA | | | | | | | | | | | | | | | | 3 | | | | | | | |
| 30 mA | | | | | | | | | | | | | | | | 1.4 | | 1.1 | | 2.3 | | | |
| 100 mA | | | | | | | | | | | | | | | | 1.1 | | | | 2.3 | | | |
| 300 mA | | | | | | | | | | | | | | | | 1.3 | | 0.9 | | 2.3 | | | |
| 500 mA | | | | | | | | | | | | | | | | 1.1 | | 0.9 | | 2.3 | | | |
| 1000 mA | | | | | | | | | | | | | | | | | | | | 2.3 | | | |
| Contactors | | | | | | | | | | | | | | | | | | | | | | | |
| iCT/iCT+ Power circuit | | | | | | | | | | | | | 0.6 | 0.9 | 1.4 | | 1.5 | | 3.4 | | 4 | | |
| Control circuit | See module CA904007 | | | | | | | | | | | | | | | | | | | | | | |
| Impulse relays | | | | | | | | | | | | | | | | | | | | | | | |
| iTL/iTL+ Power circuit | | | | | | | | | | | | | 0.6 | | | 1.5 | | | | | | | |
| Control circuit | See module CA904008 | | | | | | | | | | | | | | | | | | | | | | |
| Push-buttons | | | | | | | | | | | | | | | | | | | | | | | |
| iPB | | | | | | | | | | | | | | 0.6 | | | | | | | | | |
| Selector switches | | | | | | | | | | | | | | | | | | | | | | | |
| iSSW | | | | | | | | | | | | | | 0.8 | | | | | | | | | |
| iCMA/iCMB/iCMC/ iCMD/iCMV | | | | | | | | | 0.4 | | | | | | | | | | | | | | |
| Switch-disconnectors | | | | | | | | | | | | | | | | | | | | | | | |
| iSW | | | | | | | | | | | | | | 0.8 | | 1.3 | 1.1 | | 1.8 | | 3.4 | 4.2 | |
| iSW-NA 2P | | | | | | | | | | | | | | | | | 0.7 | | 1.8 | | 3 | 5 | |
| 4P | | | | | | | | | | | | | | | | | 0.6 | | 1.5 | | 2.5 | 4.1 | |
| Indication auxiliaries | | | | | | | | | | | | | | | | | | | | | | | |
| iOF, iSD, iOF/SD+OF | See module CA908028 | | | | | | | | | | | | | | | | | | | | | | |
| Déclencheurs auxiliaires | | | | | | | | | | | | | | | | | | | | | | | |
| iMN, iMNs, iMNx, iMX+OF, iMX, iMSU | See module CA908029 | | | | | | | | | | | | | | | | | | | | | | |
| Indicator lights | | | | | | | | | | | | | | | | | | | | | | | |
| iIL | 0.3 | | | | | | | | | | | | | | | | | | | | | | |

Note: When the enclosure's thermal balance, consider the 4P devices load is only on 3 phases

Impedance calculation:

$$Z = P / I^2$$

Z: impedance in Ohms

P: dissipated power in Watts (table values)

I: rating in Amperes

Voltage drop calculation:

$$U = P / I$$

U: voltage drop in Volts

P: dissipated power in Watts (table values)

I: rating in Amperes

Dissipated power, Impedance and Voltage drop (cont.)

Multi 9 products

The following table indicates the average dissipated power per pole in W for a current equal to the rating of the device and at the operating voltage.

| Rating (A) | 0.5 | 1 | 1.6 | 2 | 2.5 | 3 | 4 | 6 | 6.3 | 10 | 12.5 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | |
|-------------------------------|------------------|-----|-----|-----|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| Circuit breakers | | | | | | | | | | | | | | | | | | | | | | | |
| DPN | | 2.5 | | 1.9 | | 2.1 | 2.6 | 2.7 | | 2.7 | | 3.3 | 3.2 | 4.7 | 4.7 | 4.6 | 5.8 | | | | | | |
| C60/C60H-DC | 2.2 | 2.3 | | 2.6 | | 2.2 | 2.4 | 2.7 | | 1.8 | | 2.5 | 2.5 | 3 | 3.1 | 3.5 | 4.3 | 4.8 | 6.1 | | | | |
| C120 | | | | | | | | | | 1.3 | | | 2.1 | 2.3 | 2.5 | 3.2 | 3.1 | 3.2 | 3 | 3.2 | 2 | 4.1 | |
| NG125 | | | | | | | | | | 1.7 | | | 2.4 | 2.7 | 2.7 | 3.8 | 3.8 | 4.2 | 4 | 5.6 | 5.2 | 8 | |
| C60L-MA | | | 2.4 | | 2.5 | | 2.4 | | 3 | 2 | 2.5 | | 2.6 | | 3 | | 4.6 | | | | | | |
| NG125L-MA | | | | | | | 0.15 | | 0.15 | 0.2 | 0.4 | | 0.3 | | 0.6 | | 1.4 | | 2 | 2.7 | | | |
| RCCB | | | | | | | | | | | | | | | | | | | | | | | |
| ID Type A/AC | | | | | | | | | | | | | | | | 1.4 | | 3.6 | | 4.4 | 7.2 | 18 | 28 |
| ID Type B | | | | | | | | | | | | | | | | 1.2 | | 2.9 | | 7.2 | 12 | 18 | 28 |
| Contactors | | | | | | | | | | | | | | | | | | | | | | | |
| CT/CT+ Power circuit | | | | | | | | | | | | | 0.9 | | | | | 1.4 | | | | | |
| Control circuit | See module 92020 | | | | | | | | | | | | | | | | | | | | | | |
| Impulse relays | | | | | | | | | | | | | | | | | | | | | | | |
| TL/TL+ Power circuit | | | | | | | | | | | | | 0.9 | | | 1.4 | | | | | | | |
| Control circuit | See module 92011 | | | | | | | | | | | | | | | | | | | | | | |
| Push-buttons | | | | | | | | | | | | | | | | | | | | | | | |
| PB | | | | | | | | | | | | | | 0.6 | | | | | | | | | |
| Selector switches | | | | | | | | | | | | | | | | | | | | | | | |
| CM | | | | | | | | | | | | | | | 0.8 | | | | | | | | |
| CMA/CMB/CMC/CMD/CMV | | | | | | | | | 0.4 | | | | | | | | | | | | | | |
| Switch-disconnectors | | | | | | | | | | | | | | | | | | | | | | | |
| I | | | | | | | | | | | | | | 0.8 | | 1.3 | 1.1 | | 1.8 | | 3.4 | 4.2 | |
| I-NA | | | | | | | | | | | | | | | | | 3.2 | | 3.2 | | | | |
| NG125NA | | | | | | | | | | | | | | | | | | | 2 | 2.7 | 4 | 7 | |
| Indication auxiliaries | | | | | | | | | | | | | | | | | | | | | | | |
| OF, SD, OF+SD/OF | See module 92605 | | | | | | | | | | | | | | | | | | | | | | |
| Tripping auxiliaries | | | | | | | | | | | | | | | | | | | | | | | |
| MN, MNs, MNx, MX+OF, MX, MSU | See module 92605 | | | | | | | | | | | | | | | | | | | | | | |
| Indicator lights | | | | | | | | | | | | | | | | | | | | | | | |
| V | 0.3 | | | | | | | | | | | | | | | | | | | | | | |

Note: When the enclosure's thermal balance, consider the 4P devices load is only on 3 phases

Impedance calculation:

$$Z = P / I^2$$

Z: impedance in Ohms

P: dissipated power in Watts (table values)

I: rating in Amperes

Voltage drop calculation:

$$U = P / I$$

U: voltage drop in Volts

P: dissipated power in Watts (table values)

I: rating in Amperes

Acti 9 devices have successfully passed the environmental resistance tests specified in the building standards (IEC / EN 60898 and 60947-2 for circuit breakers, IEC / EN 61008 for residual current circuit breakers, etc.). Most of these tests were performed under the control of official bodies in different countries: the devices therefore carry the quality mark issued by each of these bodies.

Schneider Electric has also subjected these devices to additional tests with higher requirements, to give users reliability and sturdiness that are unparalleled on the market.

These tests checked that the constraints described below did not have any significant effect on the main functions of the devices:

- Tripping (for protection devices).
- Isolation and dielectric withstand.
- Degree of protection (IP) of the casing.
- Grip on the mounting bracket (rail).
- Manual opening / closing.

Additional checks were performed for certain tests, mentioned in the tables below.

| Constraints Type | Atmospheric | | | | |
|--|--|--|--|------------------------------------|-------------------------------|
| | Humidity | Salt mist | Corrosive atmospheres | | Dust |
| Standard defining the test protocol | IEC 60068-2-78 | IEC 60068.2.52 | IEC 60721-3-3 | | |
| Constraint level applied | Temperature 40°C, relative humidity 93%. | Severity 2 (maritime environment). | Classification 3C2: urban regions with industrial activities, heavy traffic. | Covered swimming pools atmospheres | Plaster deposits + bumps. |
| Additional checks after constraint | | Conductivity, overheating. No corrosion. | | | Conductivity and overheating. |
| Circuit breakers | | | | | |
| iK60N | ■ | ■ | - | - | ■ |
| iC60a/N/H/L | ■ | ■ | ■ | ■ | ■ |
| Residual current circuit breakers | | | | | |
| iID K | ■ | ■ | - | - | ■ |
| iID | ■ | ■ | ■ | SI only | ■ |
| Residual current devices | | | | | |
| iC60a/N/H/L + Vigi iC60 | ■ | ■ | ■ | SI only | ■ |
| Protection device auxiliaries | | | | | |
| iOF | ■ | ■ | ■ | - | ■ |
| iSD | ■ | ■ | ■ | - | ■ |
| iOF/SD+OF | ■ | ■ | ■ | - | ■ |
| iMN, iMNs | ■ | ■ | ■ | - | ■ |
| iMX, iMX+OF | ■ | ■ | ■ | - | ■ |
| iMNx | ■ | ■ | ■ | - | ■ |
| iMSU | ■ | ■ | ■ | - | ■ |
| Surge arresters | | | | | |
| iPF | - | - | - | - | - |
| iPRD | - | ■ | - | - | - |
| Mounting accessories | | | | | |
| Rotary handle | ■ | ■ | - | - | ■ |
| Plug-in base | ■ | ■ | - | - | ■ |
| Padlocking device | ■ | ■ | ■ | - | ■ |
| Safety accessories | | | | | |
| Screw shield | ■ | ■ | ■ | - | ■ |
| Interpole barrier | ■ | ■ | ■ | - | ■ |
| Spacer | ■ | ■ | ■ | - | ■ |
| Splitter blocks | | | | | |
| Linery FM | ■ | ■ | ■ | - | ■ |
| Linery DX | ■ | ■ | ■ | - | ■ |
| Comb busbars for iC60 | ■ | ■ | ■ | - | ■ |

| Mechanical | | | | | | Storage |
|---|--|--|--|------------------------------------|------------------------------------|--|
| Vibrations, impacts and bumps | Vibrations | Bumps (repeated impacts) | Impacts | Impacts on the device | Falls | Damp heat |
| IEC 60721-3-3 | IEC 60068.2-6 | IEC 60068-2-27 | IEC 60068-2-27 | IEC 62262 | IEC 60068-2-32 | IEC 60068-2-30 |
| Class 3M4: industrial environment with considerable vibrations and impacts (e.g. proximity of machines, circulation of vehicles). | Amplitude: 3.5 mm. Acceleration: 1 g. Directions: 3 axes. Frequency: 5 to 300 Hz. | Acceleration: 15 g. Pulse duration: 6 ms. | Force: 15 g. Pulse duration: 11 ms. | IK 07: 5 impacts of 0.7 J. | Height: 0.8 m, concrete floor. | Db: - Temperature: 55°C. - Relative humidity: 95%. |
| No power supply fault, no tripping. | | | | Casing, degree of protection (IP). | Casing, degree of protection (IP). | |
| - | ■ | ■ | - | ■ | ■ | |
| ■ | ■ | ■ | ■ | ■ | ■ | |
| - | ■ | ■ | - | ■ | ■ | |
| ■ | ■ | ■ | ■ | ■ | ■ | |
| ■ | ■ | ■ | ■ | ■ | ■ | |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| - | - | - | - | - | ■ Height: 0.6 m. | |
| - | ■ Frequency: 8.5 to 100 Hz. | - | - | - | | |
| ■ | ■ | ■ | ■ | ■ | ■ | |
| ■ | ■ | ■ | ■ | ■ | ■ | |
| ■ | ■ | ■ | ■ | ■ | ■ | |
| ■ | ■ | ■ | ■ | ■ | ■ | |
| ■ | ■ | ■ | ■ | ■ | ■ | |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| ■ | ■ | ■ | ■ | ■ | ■ | ■ |





Connection iC60, iID double terminals

Connection between double terminal protection devices

Cable-to-cable

DB404816



| Product | Rating | Tightening torque | Back | | Front | |
|---------|---|-------------------|---|---|---|---|
| | | | Copper cables | | Copper cables | |
| | | | Rigid | Flexible or ferrule | Rigid | Flexible or ferrule |
| | | |  DB122945 |  DB122946 |  DB122945 |  DB122946 |
| iC60 | 0.5 to 25 A 32 to 63 A | 2 N.m 3.5 N.m | 1 to 16 mm ² | 1 to 10 mm ² | 1 to 16 mm ² | 1 to 16 mm ² |
| iID | All | | | | | |

■ Connection by comb busbar or by cable (according to EN 50027).



iC60N



iK60N



iID



iID K

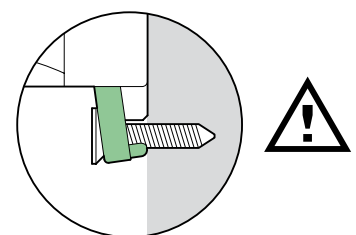
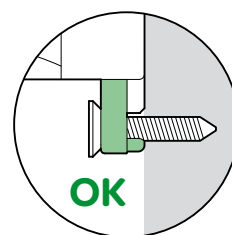
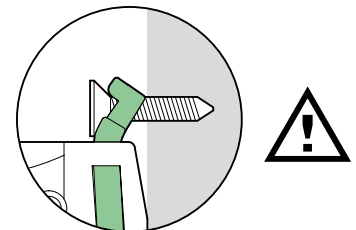
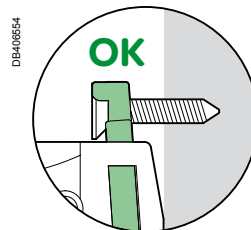
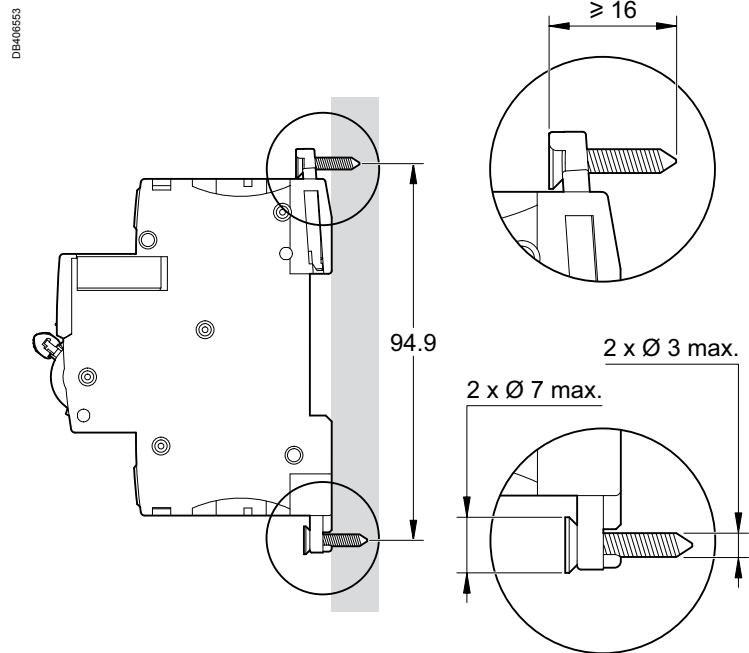


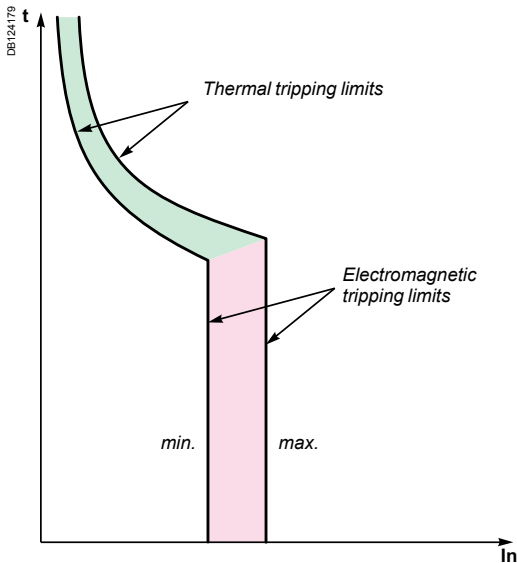
iSW



iSW-NA

Mounting (mm)





The following curves show the total fault current breaking time, depending on its amperage. For example: based on the curve on page 501, an iC60 circuit breaker of curve C, 20 A rating, will interrupt a current of 100 A (5 times the rated current I_n) in:

- 0.45 seconds at least
- 6 seconds at most.

The circuit breakers' tripping curves consist of two parts:

- tripping of overload protection (thermal tripping device): the higher the current, the shorter the tripping time
- tripping of short-circuit protection (magnetic tripping device): if the current exceeds the threshold of this protection device, the breaking time is less than 10 milliseconds. For short-circuit currents exceeding 20 times the rated current, the time-current curves do not give a sufficiently precise representation. The breaking of high short-circuit currents is characterized by the current limiting curves, in peak current and in energy. The total breaking time can be estimated at 5 times the value of the ratio $(I^2t)/(I)^2$.

Verification of the discrimination between two circuit breakers

By superimposing the curve of a circuit breaker on that of the circuit breaker installed upstream, one can check whether this combination will be discriminating in cases of overload (discrimination for all current values, up to the magnetic threshold of the upstream circuit breaker). This verification is useful when one of the two circuit breakers has adjustable thresholds; for fixed-threshold devices, this information is provided directly by the discrimination tables.

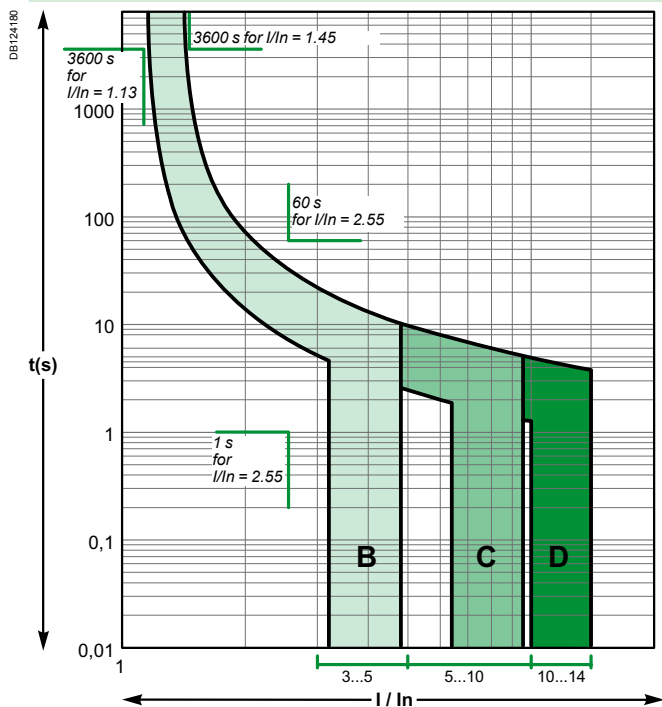
To check discrimination on short circuit, the energy characteristics of the two devices must be compared.

Alternative current 50/60 Hz

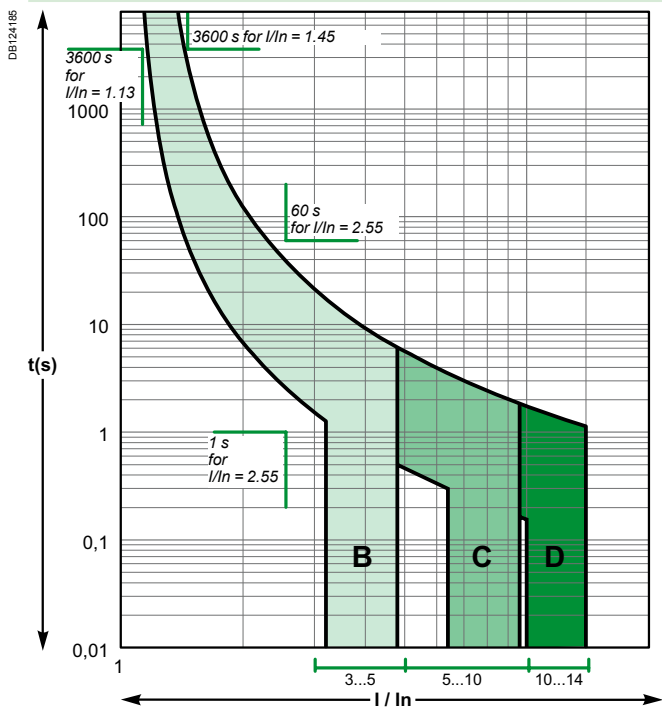
iC60a/N/H/L

According to IEC/EN 60898-1 (reference temperature 30°C)

Curves B, C, D rating up to 4 A



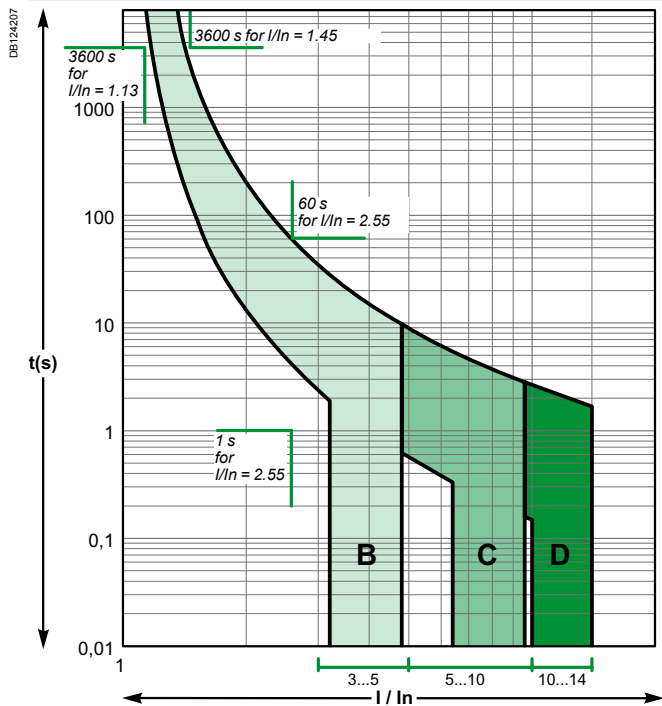
Curves B, C, D rating 6 A to 63 A



C120N/H

According to IEC/EN 60898-1 (reference temperature 30°C)

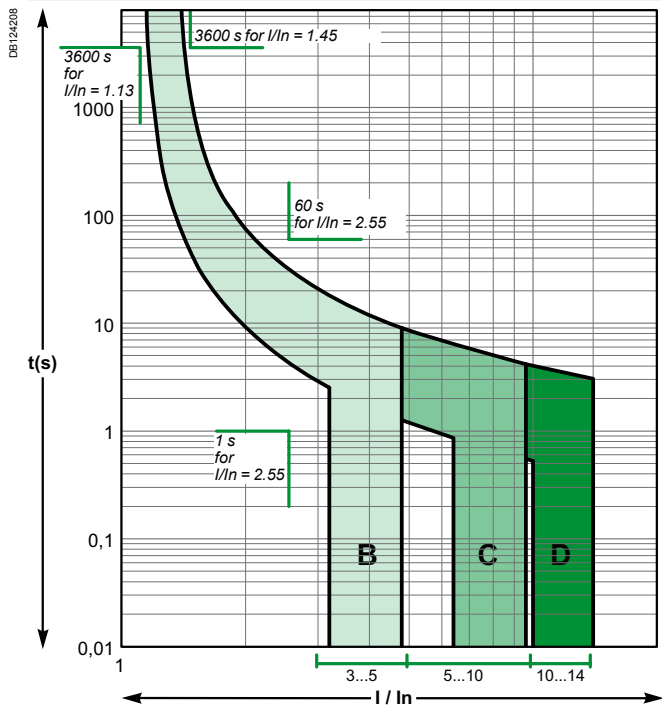
Curves B, C, D



DPN, DPN N (circuit-breaker and residual current device)

According to IEC/EN 60898-1 (reference temperature 30°C)

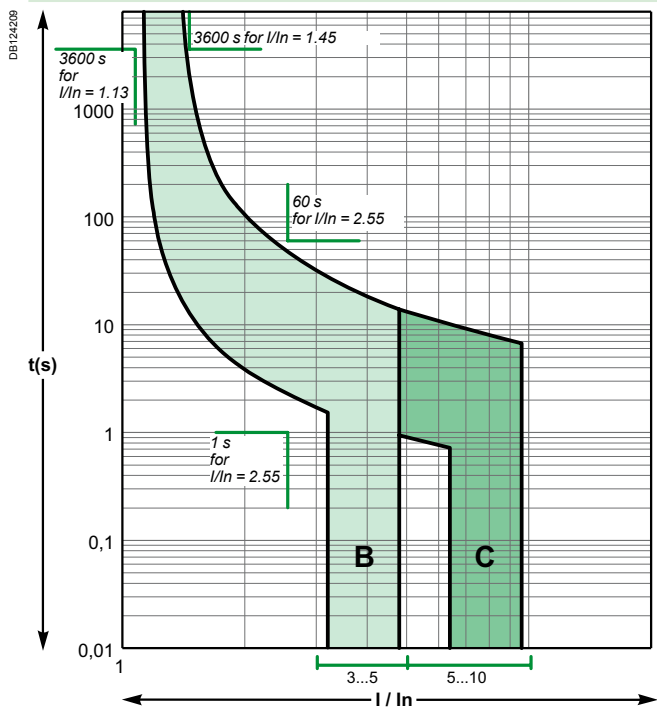
Curves B, C, D



Alternative current 50/60 Hz

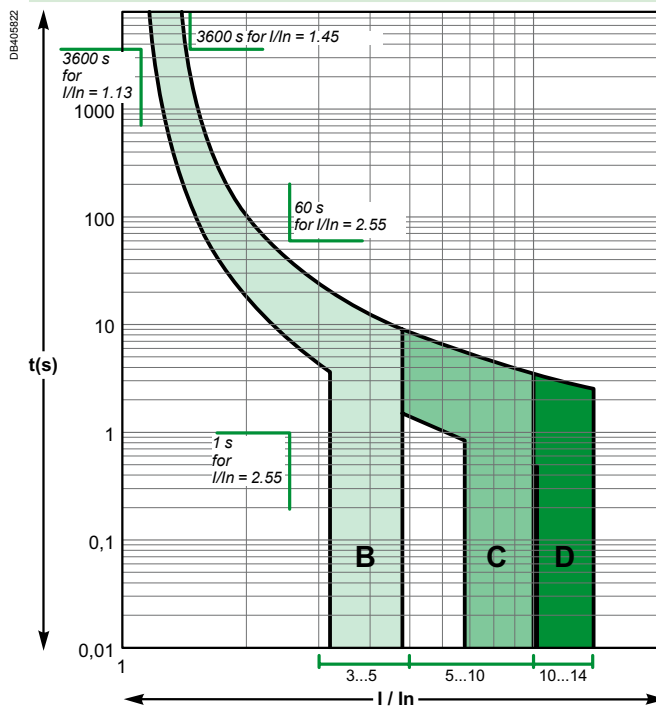
iK60
According to IEC/EN 60898-1 (reference temperature 30°C)

Curves B, C



C60
According to IEC/EN 60898-1 (reference temperature 30°C)

Curves B, C, D

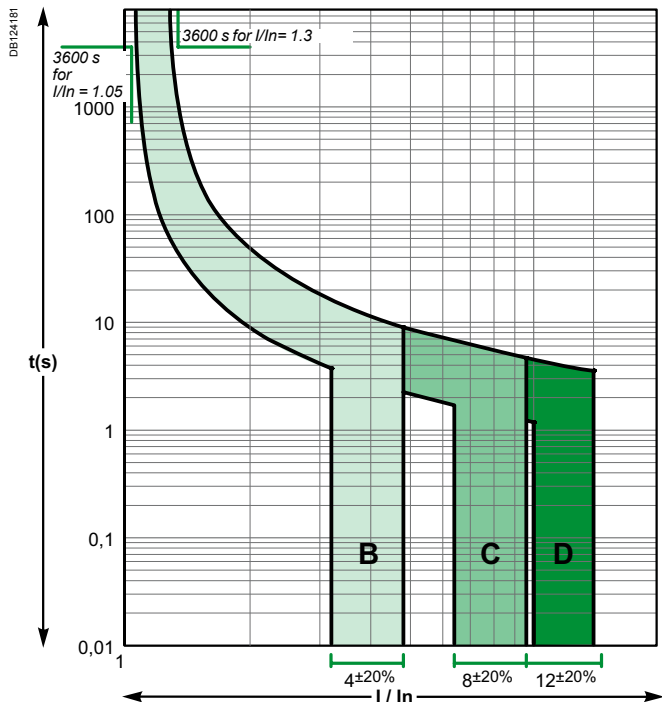


Alternative current 50/60 Hz

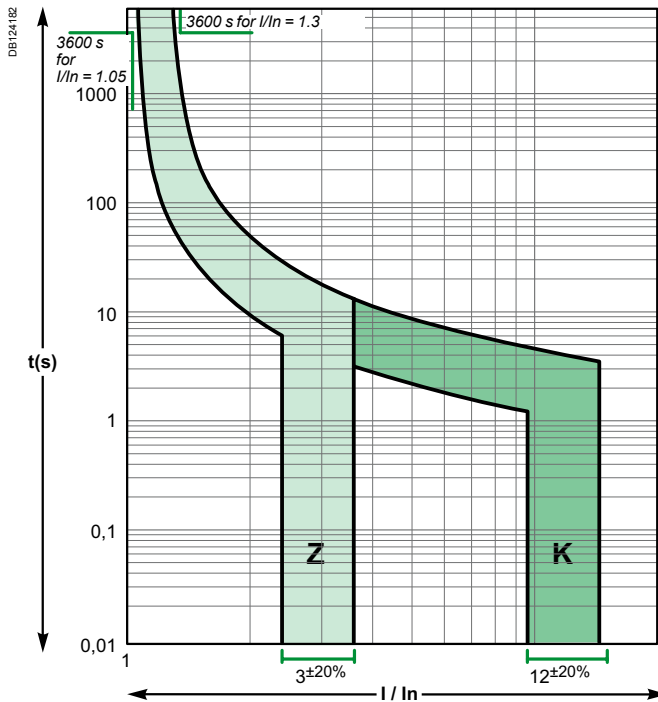
iC60N/H/L MCB and iC60 RCBO

According to IEC/EN 60947-2 for MCB and IEC/EN 61009-1 for RCBO (reference temperature 50°C)

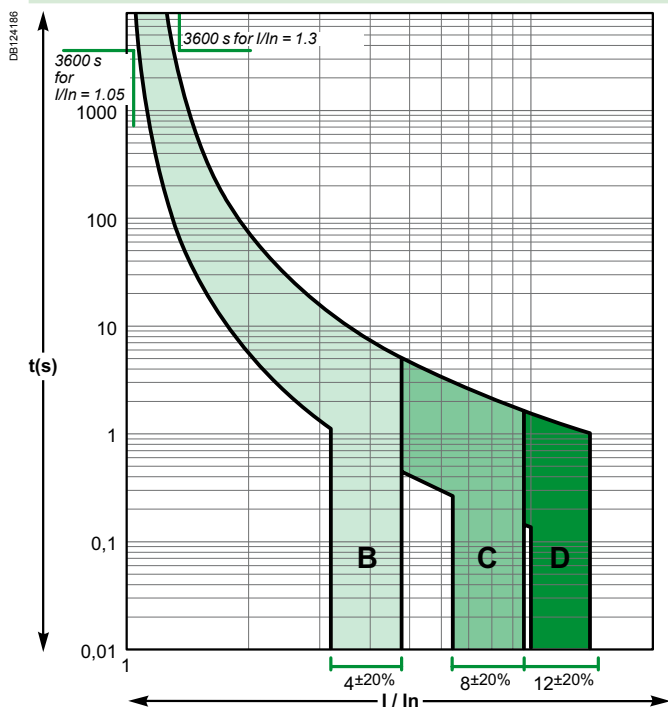
Curves B, C, D rating up to 4 A



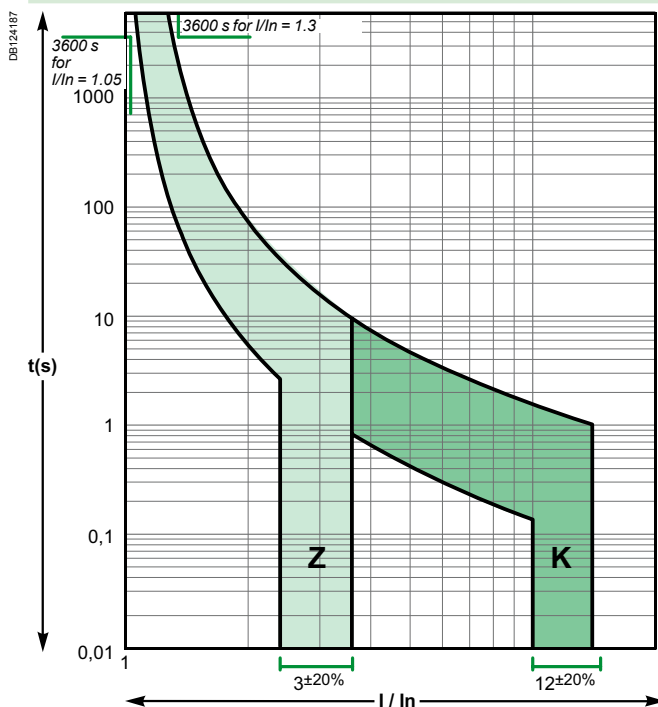
Curves Z, K rating up to 4 A



Curves B, C, D rating 6 A to 63 A



Curves Z, K rating 6 A to 63 A

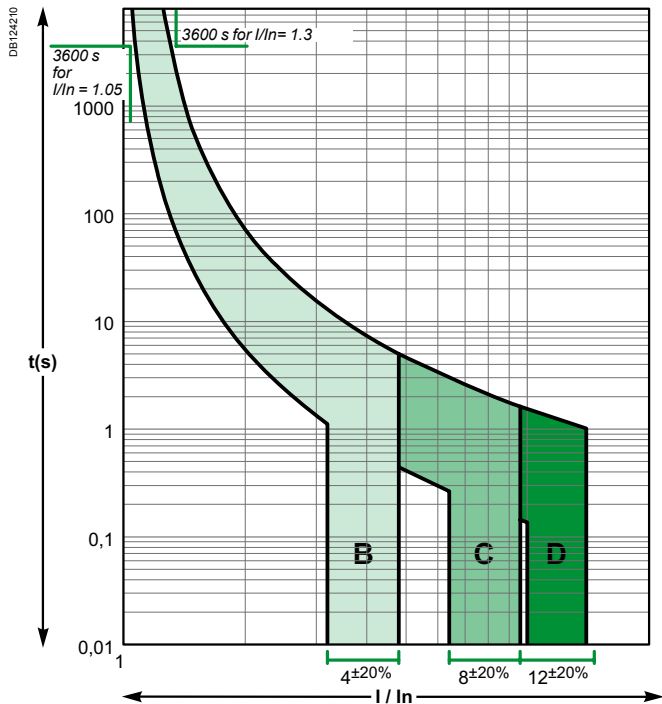


Alternative current 50/60 Hz

Reflex iC60N/H

According to IEC/EN 60947-2 (reference temperature 50°C)

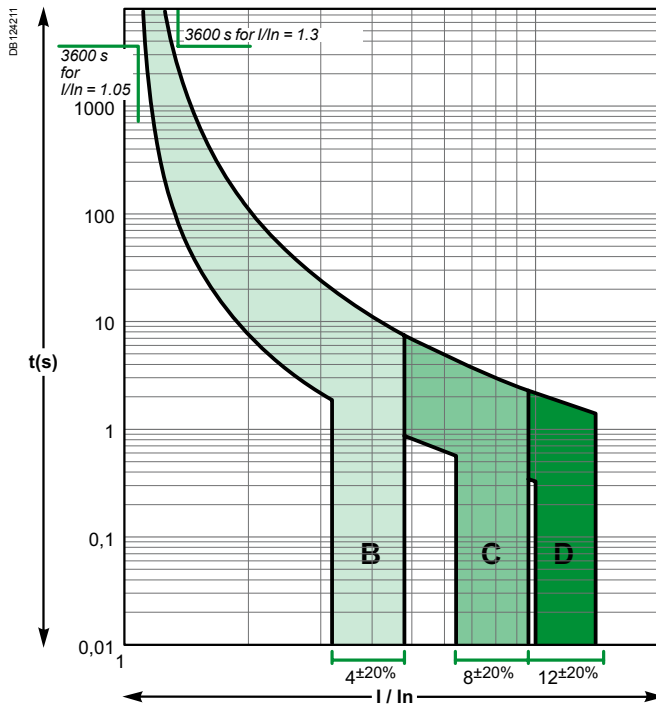
Curves B, C, D



NG125a/N/H/L

According to IEC/EN 60947-2 (reference temperature 40°C)

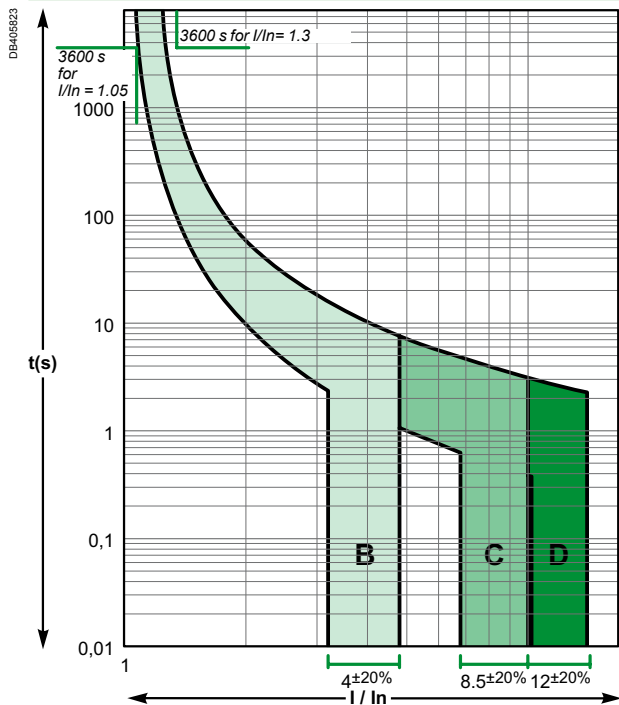
Curves B, C, D



C60

According to IEC/EN 60947-2 (reference temperature 50°C)

Curves B, C, D

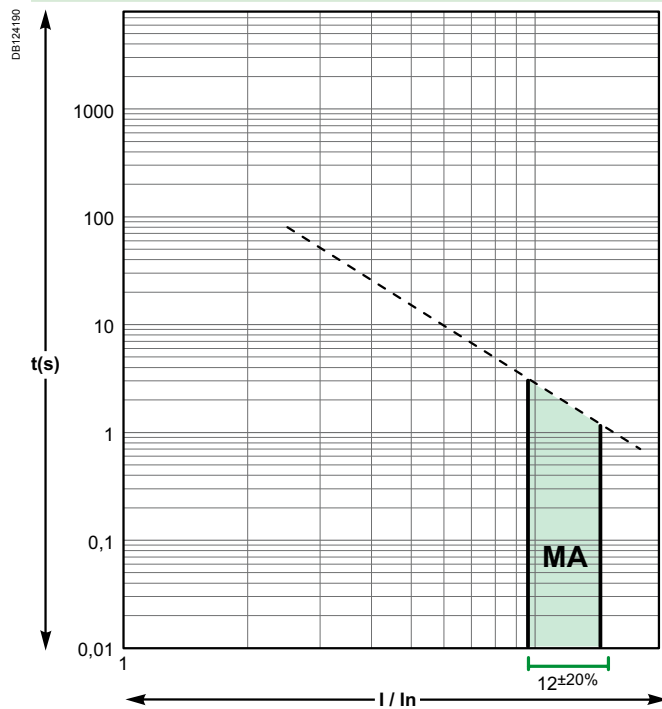


Motor curve

iC60L-MA

According to IEC/EN 60947-2

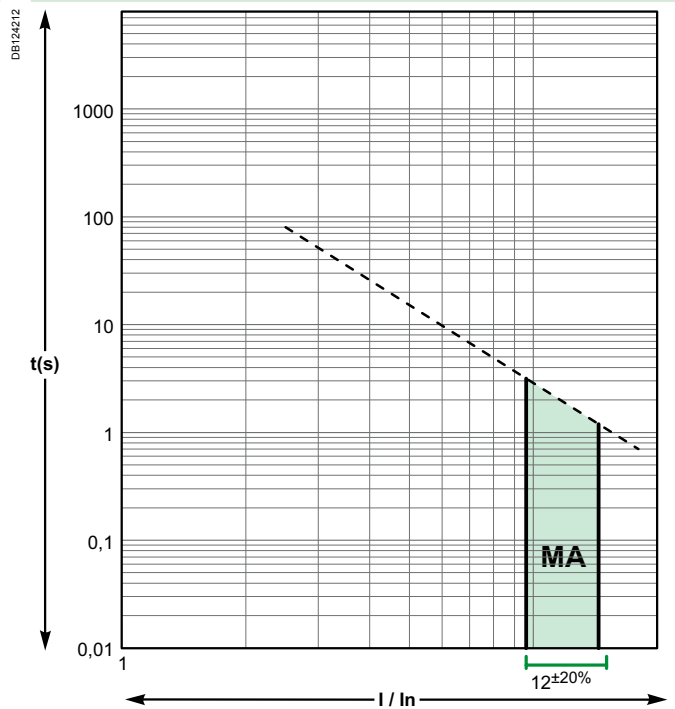
Curve MA



NG125L-MA

According to IEC/EN 60947-2

Curve MA

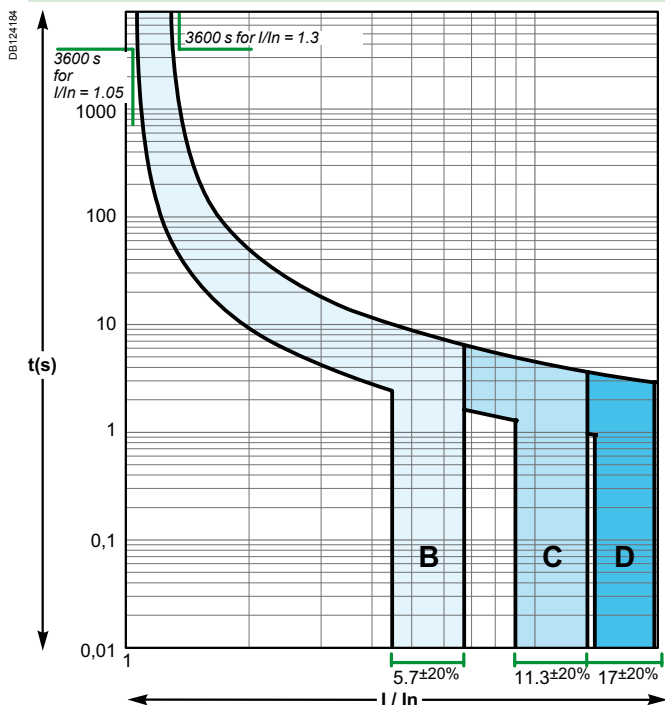


Direct current

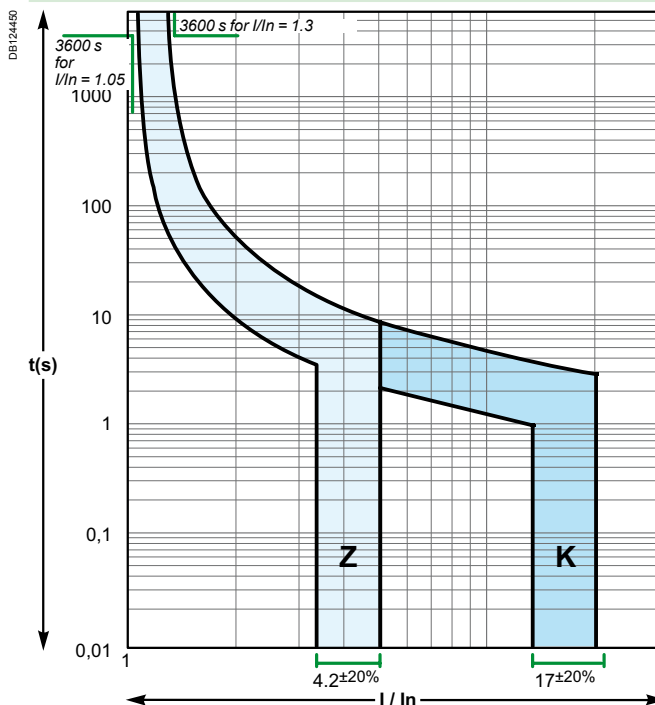
iC60N/H/L

According to IEC/EN 60947-2 (reference temperature 50°C)

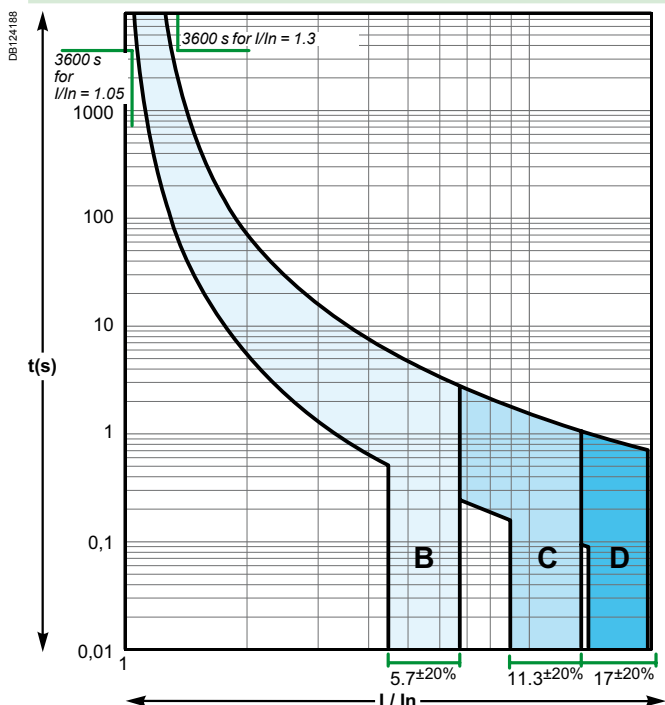
Curves B, C, D rating up to 4 A



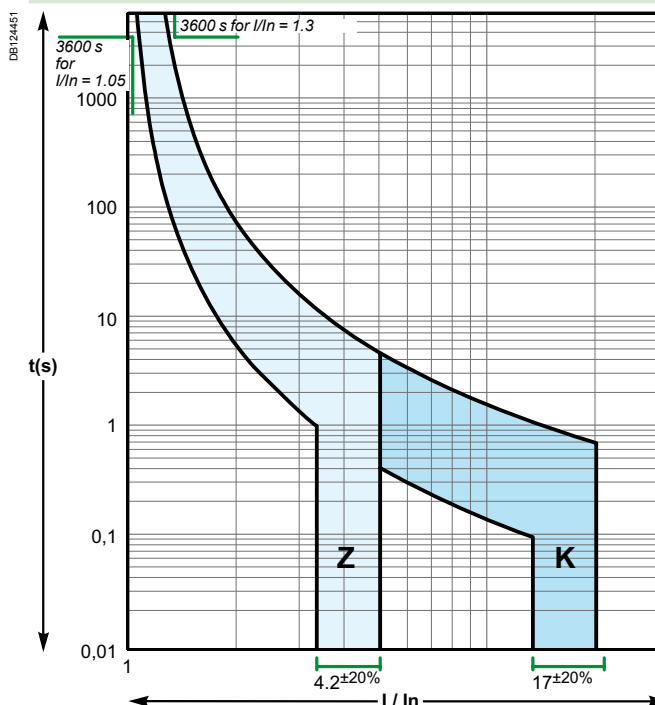
Curves Z, K rating up to 4 A



Curves B, C, D rating 6 A to 63 A



Curves Z, K rating 6 A to 63 A

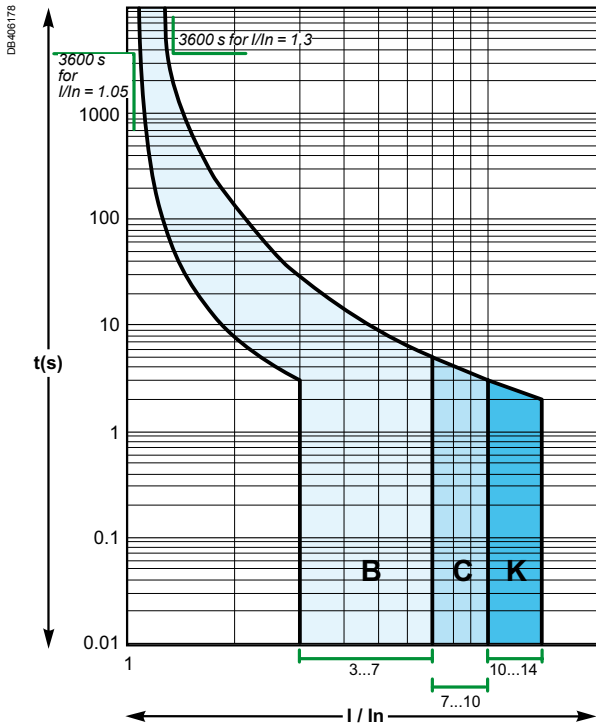


Direct current

C60H-DC

According to IEC/EN 60947-2 (reference temperature 25°C)

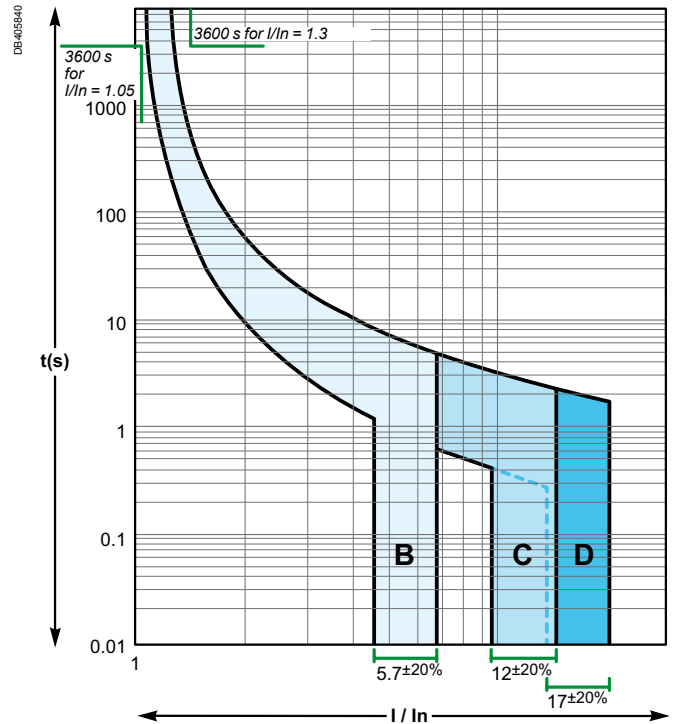
Curves B, C, K



C60

According to IEC/EN 60947-2 (reference temperature 50°C)

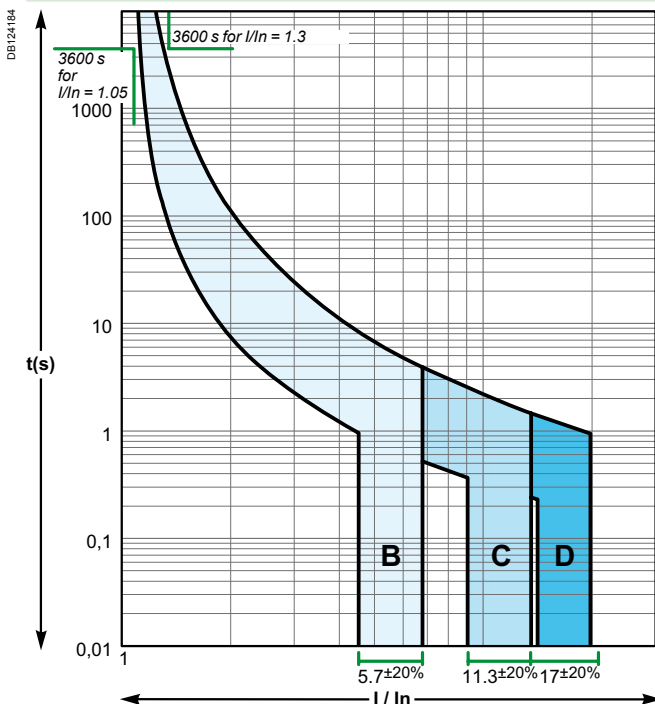
Curves B, C, D



NG125a/N/H/L

According to IEC/EN 60947-2 (reference temperature 40°C)

Curves B, C, D



Tripping curves

Coordination with loads

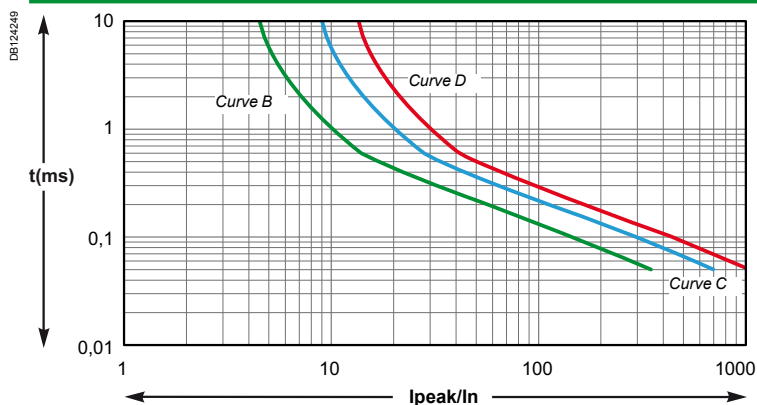
The circuit-breaker characteristics chosen depend on the type of load downstream of the installation.

The rating depends on the size of the cables to be protected and the curves depend on the load inrush current.

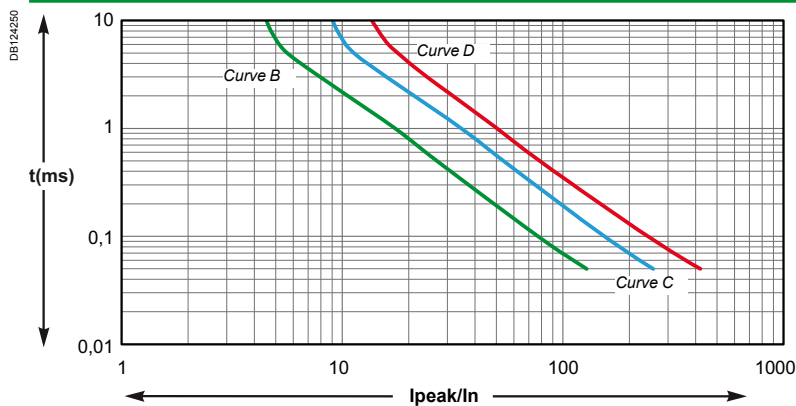
Product selection according to the load inrush current

When certain "capacitive" loads are switched on, very high inrush currents appear during the first milliseconds of operation. The following graphs show the average non-tripping curves of our products for this time range (50 μ s to 10 ms).

iC60



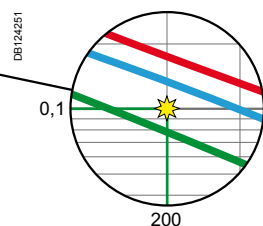
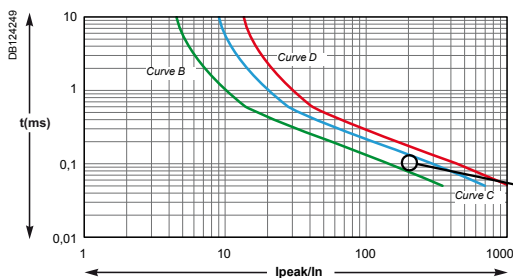
NG125 / C120

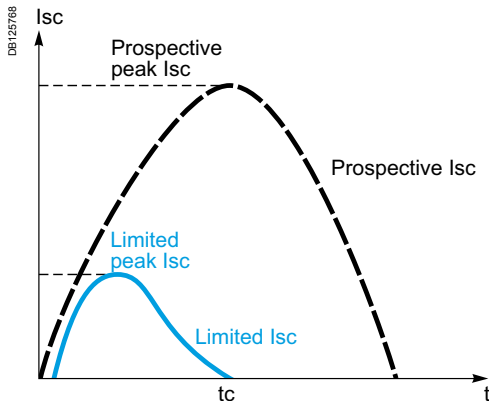


This information allows us to select the most appropriate product, according to the load specifications: curve and rating.

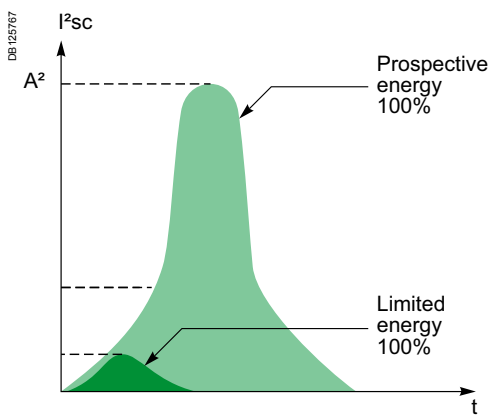
Example

When an iC60 is used with a load with current peaks in the order of 200 I_n during the first 0.1 millisecond, a curve C or D product must be installed.





Prospective current and real limit current.



Definition

The limiting capacity of a circuit breaker is its ability to lessen the effects of a short circuit on an electrical installation by reducing the current amplitude and the dissipated power.

Benefits of limiting

Long installation service life

Thermal effects

Lower temperature rise at the conductor level, hence increased service life for cables and all components that are not self-protected (e.g. switches, contactors, etc.)

Mechanical effects

Lower electrodynamic repulsion forces, hence less risk of deformation or breakage of electrical contacts and busbars.

Electromagnetic effects

Less interference on sensitive equipment located in the vicinity of an electric circuit.

Savings through cascading

Cascading is a technique derived directly from current limiting: downstream of a current-limiting circuit breaker it is possible to use circuit breakers of breaking capacity lower than the prospective short-circuit current (in line with the cascading tables). The breaking capacity is heightened thanks to current limiting by the upstream device. Substantial savings can be achieved in this way on switchgear and enclosures.

Discrimination of protection devices

The circuit breakers' current limiting capacity improves discrimination with the protection devices located upstream: this is because the required energy passing through the upstream protection device is greatly reduced and can be not enough to cause it to trip. Discrimination can thus be natural without having to install a time-delayed protection device upstream.

Acti 9 circuit breaker current limiting

Profiting from Schneider Electric's experience and expertise in the field of short-circuit current breaking, the circuit breakers of the Acti 9 range have a top-level current limiting characteristic for modular devices.

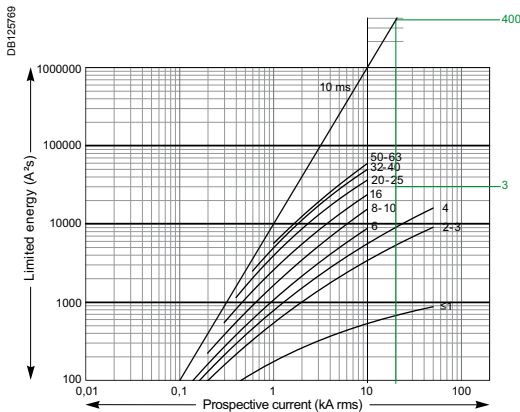
This assures them of optimal protection of the entire power distribution system.

Representation: Current limiting curves

The current limiting capacity of a circuit breaker is reflected by 2 curves which give, as a function of the prospective short-circuit current (current which would flow in the absence of a protection device):

- the real peak current (limited)
- the thermal stress (in A²s), this value, multiplied by the resistance of any element through which the short-circuit current passes, gives the power dissipated by this element.

The straight line "10 ms" representing the energy A²s of a prospective short-circuit current of a half-period (10 ms) indicates the energy that would be dissipated by the short-circuit current in the absence of limiting by the protection device (see example).



Example

What is the energy limited by an iC60N 25 A circuit breaker for a prospective short-circuit current of 10 kA rms. What is the quality of current limiting?

➤ as shown in the graph opposite:

- this short-circuit current (10 kA rms) is likely to dissipate up to 1,000 kA²s
- the iC60N circuit breaker reduces this thermal stress to: 35 kA²s, which is 22 times less.

Example of use: Stresses acceptable by the cables

The following table shows the thermal stresses acceptable by the cables depending on their insulation, their composition (Cu or Al) and their cross section. Cross-section values are expressed in mm² and stresses in A²s.

| S (mm ²) | | 1.5 | 2.5 | 4 | 6 | 10 |
|----------------------|----|------------------------|------------------------|------------------------|------------------------|------------------------|
| PVC | Cu | 2.97 x 10 ⁴ | 8.26 x 10 ⁴ | 2.12 x 10 ⁵ | 4.76 x 10 ⁵ | 1.32 x 10 ⁶ |
| | Al | | | | | 5.41 x 10 ⁵ |
| PRC | Cu | 4.10 x 10 ⁴ | 1.39 x 10 ⁵ | 2.92 x 10 ⁵ | 6.56 x 10 ⁵ | 1.82 x 10 ⁶ |
| | Al | | | | | 7.52 x 10 ⁵ |
| S (mm ²) | | 16 | 25 | 35 | 50 | |
| PVC | Cu | 3.4 x 10 ⁶ | 8.26 x 10 ⁶ | 1.62 x 10 ⁷ | 3.21 x 10 ⁷ | |
| | Al | 1.39 x 10 ⁶ | 3.38 x 10 ⁶ | 6.64 x 10 ⁶ | 1.35 x 10 ⁷ | |
| PRC | Cu | 4.69 x 10 ⁶ | 1.39 x 10 ⁷ | 2.23 x 10 ⁷ | 4.56 x 10 ⁷ | |
| | Al | 1.93 x 10 ⁶ | 4.70 x 10 ⁶ | 9.23 x 10 ⁶ | 1.88 x 10 ⁷ | |

Example

Is a Cu/PVC cable of cross section 10 mm² protected by a NG125L device?

The above table shows that the acceptable stress is 1.32 x 10⁶ A²s. Any short-circuit current at the point where a NG125L device (I_{cu} = 25 kA) is installed will be limited, with a thermal stress of less than 2.2 x 10⁵ A²s. (Curve on page 517).

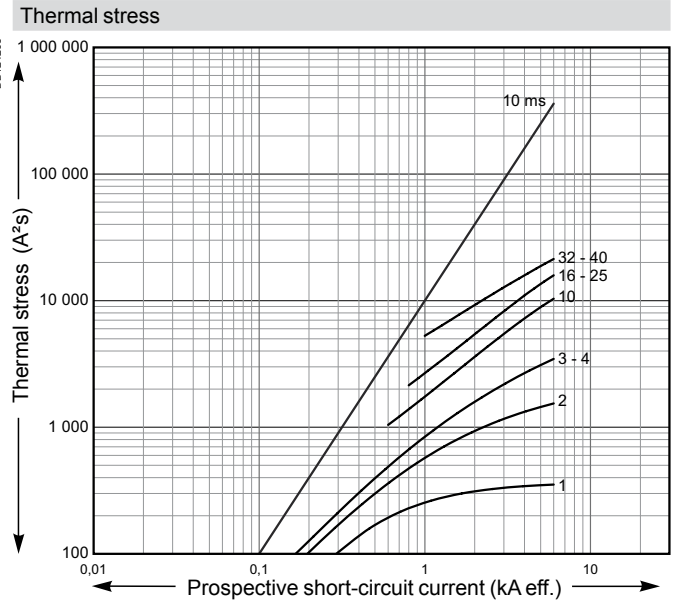
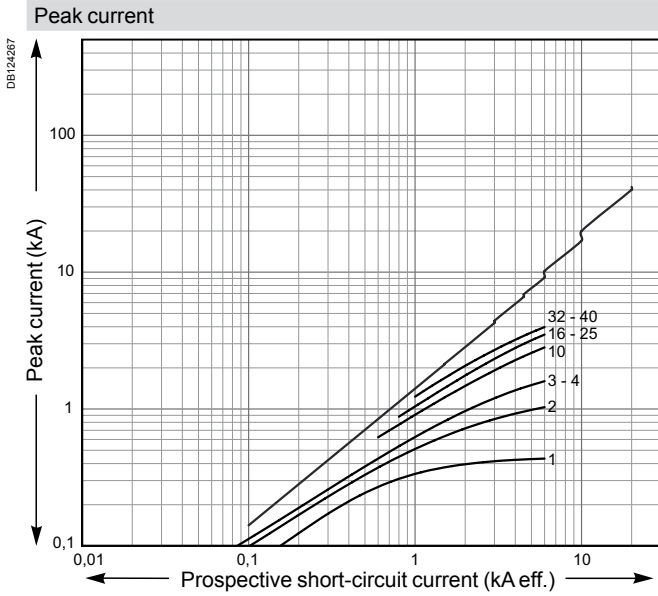
The cable is therefore always protected up to the breaking capacity of the circuit breaker.

Limitation curves for network

U_e: 380-415 V AC (Ph/N 220-240 V AC)

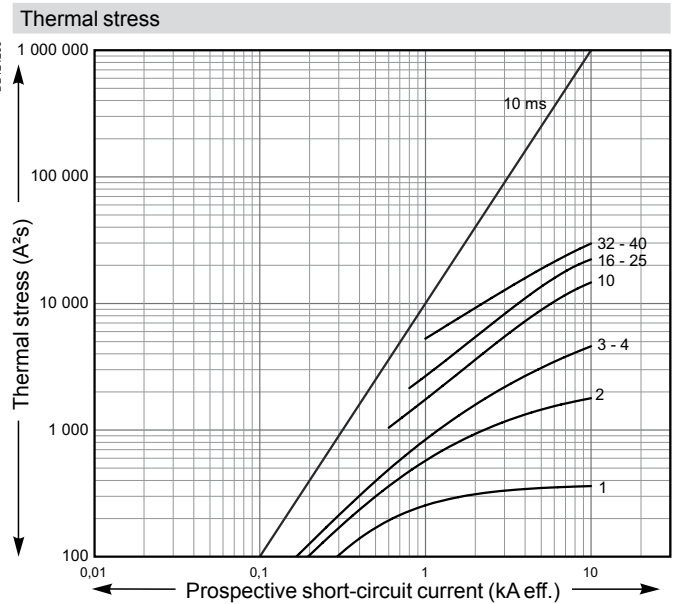
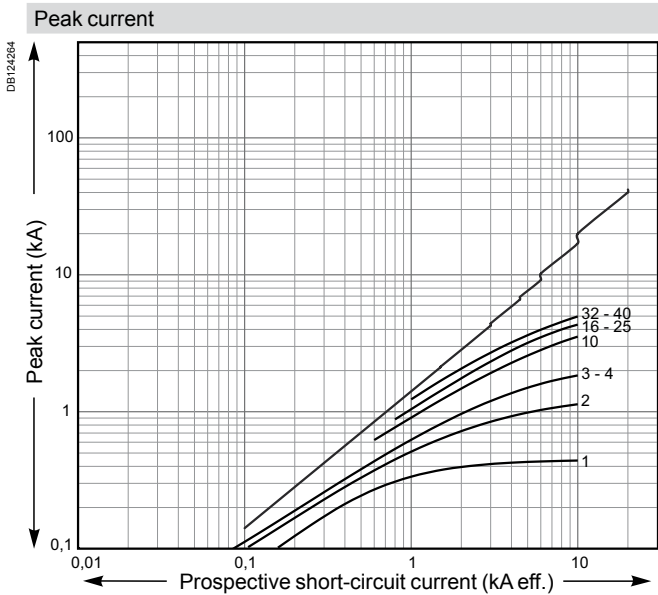
DPN (MCB and RCBO)

1P+N / 3P / 3P+N



DPN N (MCB and RCBO)

1P+N / 3P / 3P+N



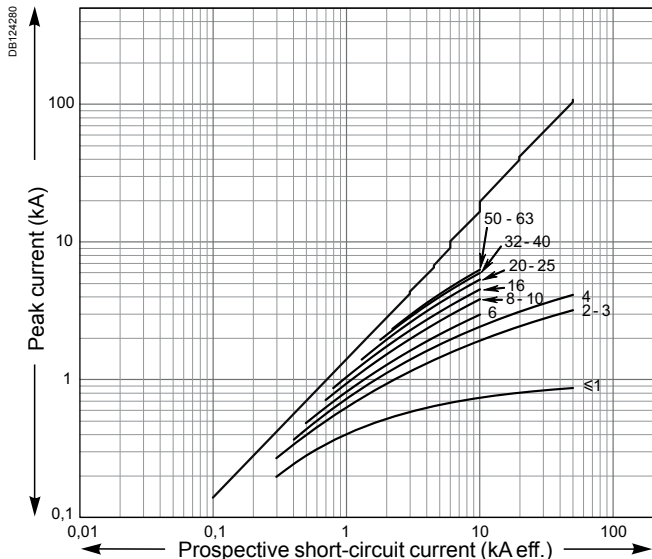
Limitation curves for network

U_e: 380-415 V AC (Ph/N 220-240 V AC)

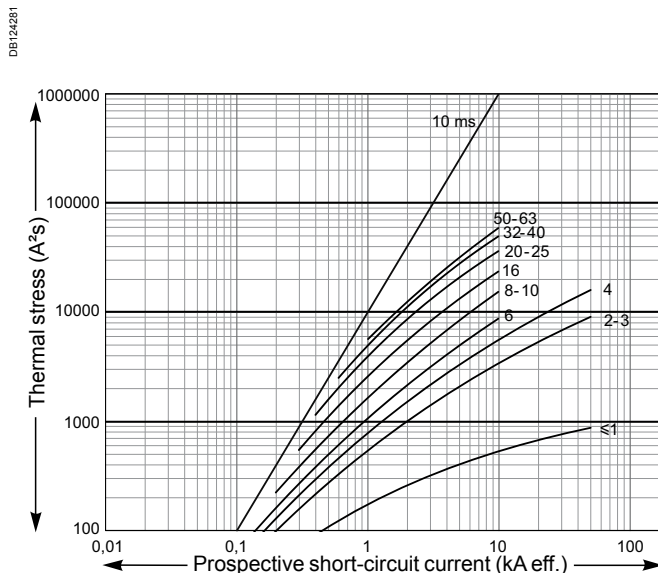
iC60N

1P / 1P+N / 2P / 3P / 4P

Peak current



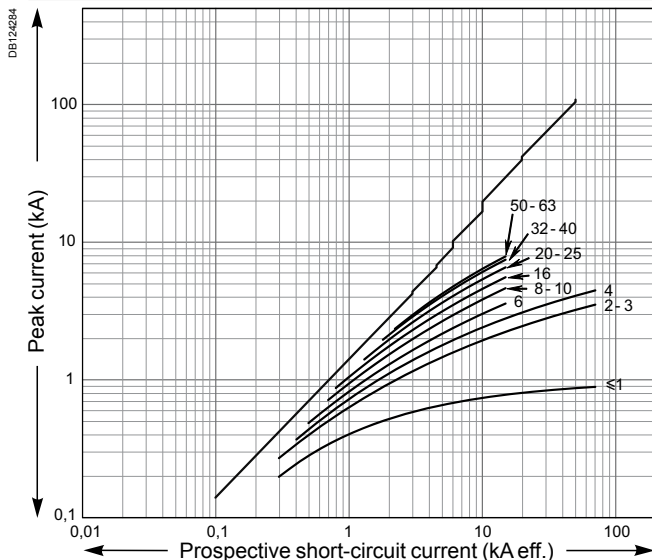
Thermal stress



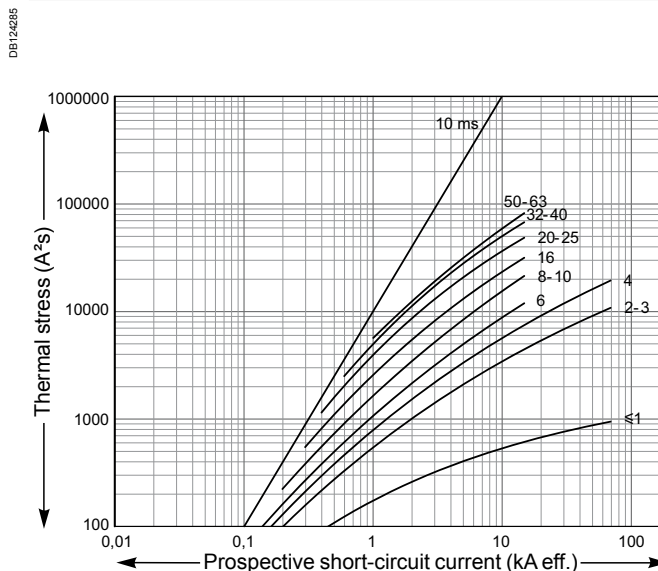
iC60H

1P / 1P+N / 2P / 3P / 4P

Peak current



Thermal stress



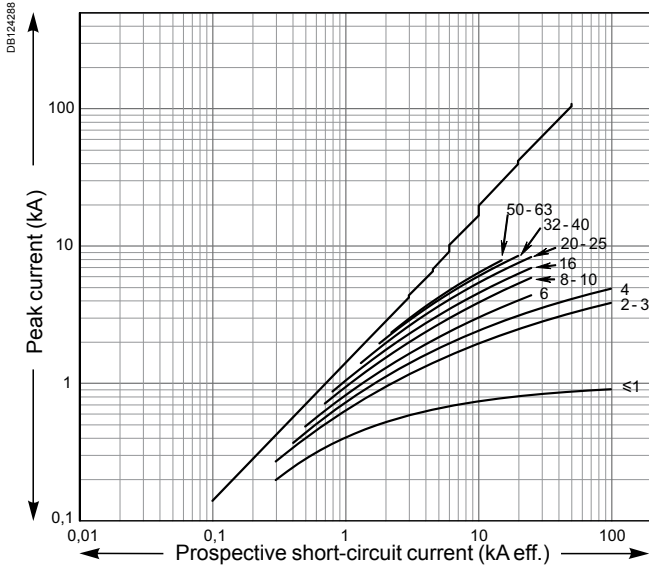
Limitation curves for network

U_e: 380-415 V AC (Ph/N 220-240 V AC)

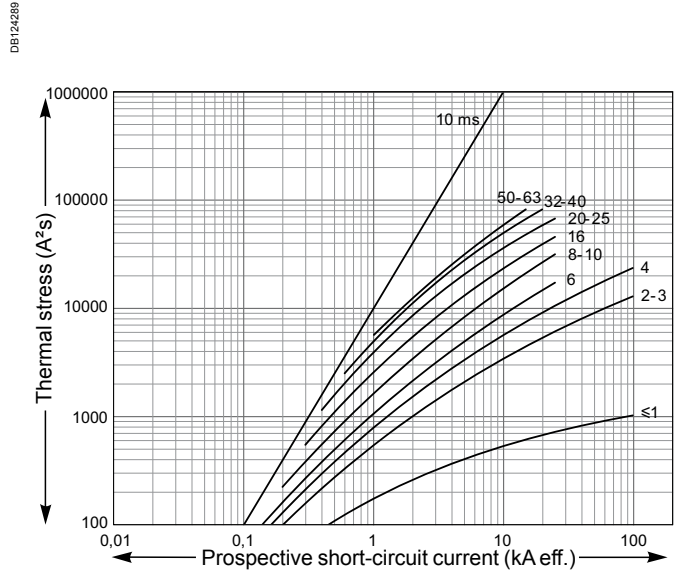
iC60L

1P / 2P / 3P / 4P

Peak current



Thermal stress

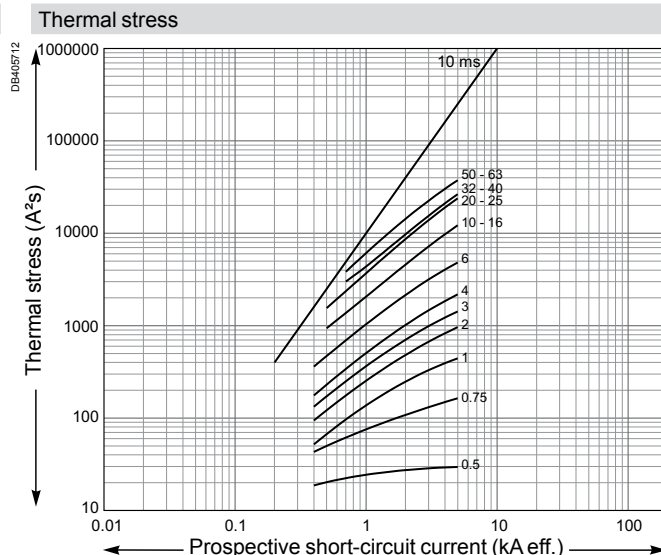
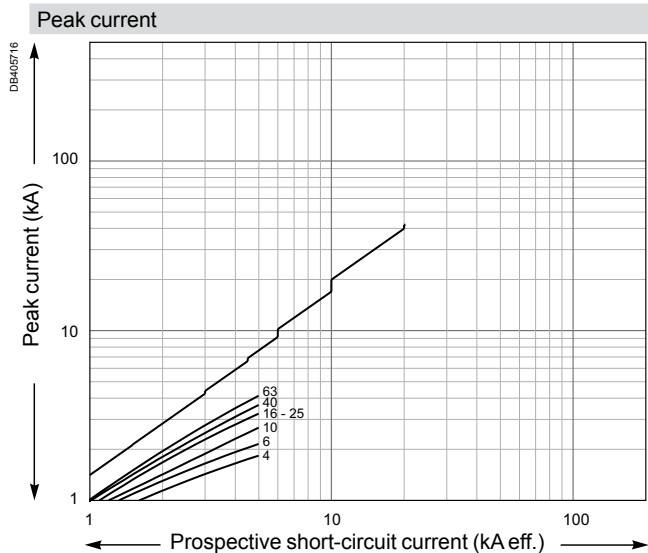


Limitation curves for network

U_e: 380-415 V AC (Ph/N 220-240 V AC)

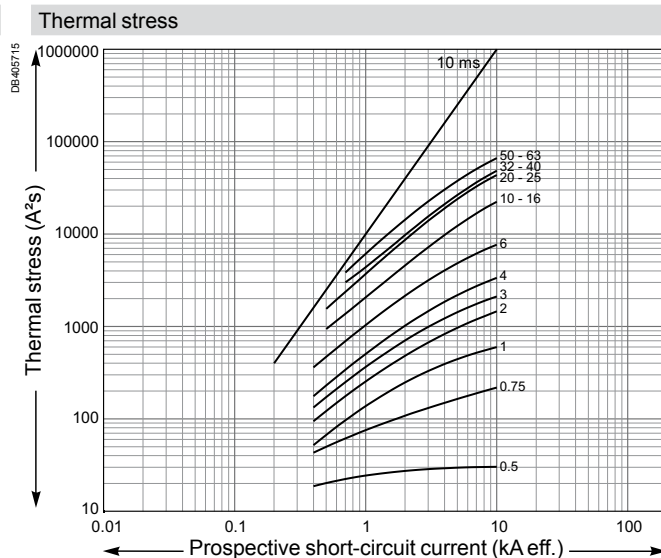
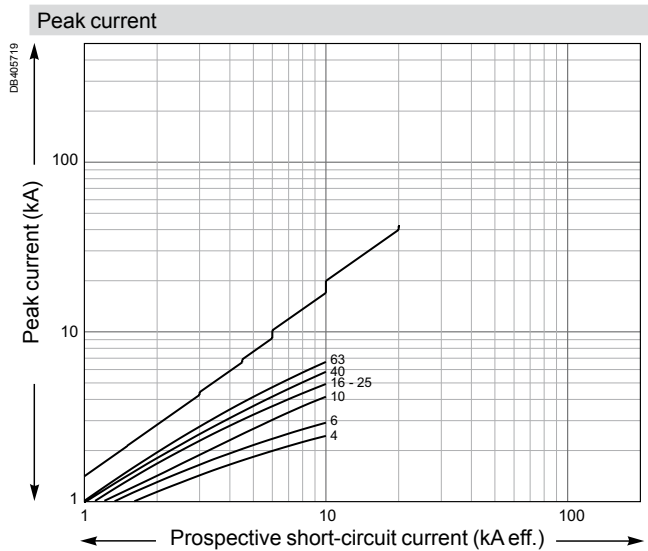
C60a

1P / 2P / 3P / 3P+N / 4P



C60N

1P / 1P+N / 2P / 3P / 3P+N / 4P

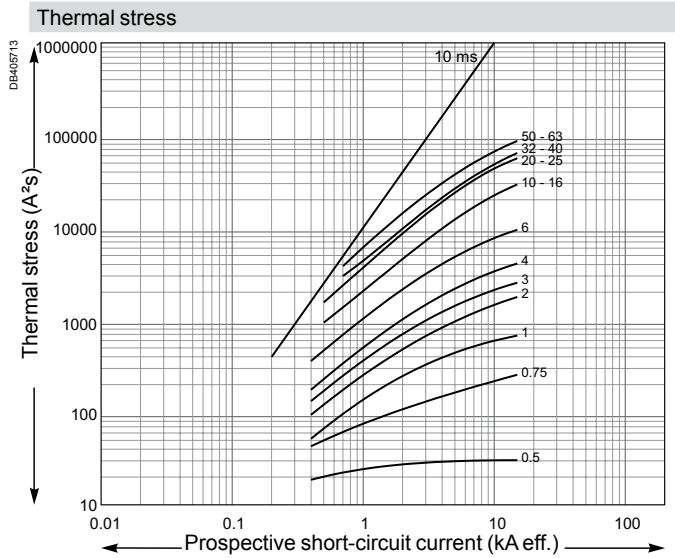
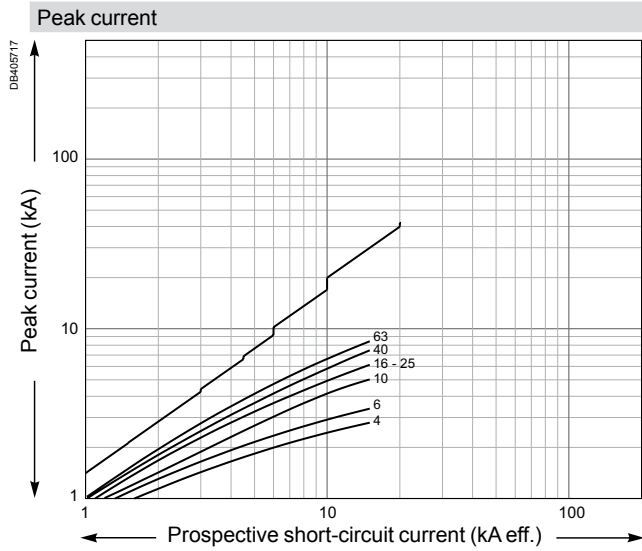


Limitation curves for network

U_e: 380-415 V AC (Ph/N 220-240 V AC)

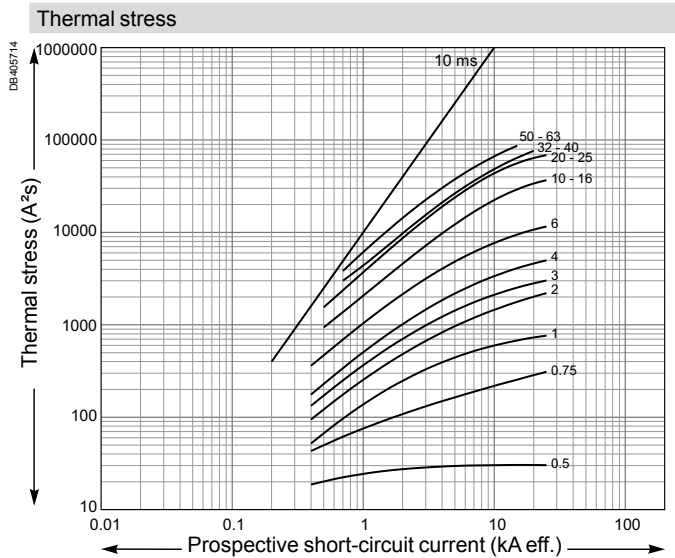
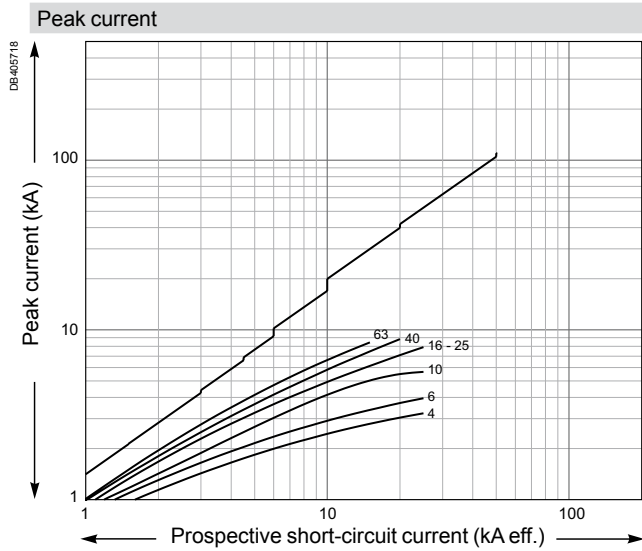
C60H

1P / 1P+N / 2P / 3P / 3P+N / 4P



C60L

1P / 2P / 3P / 4P

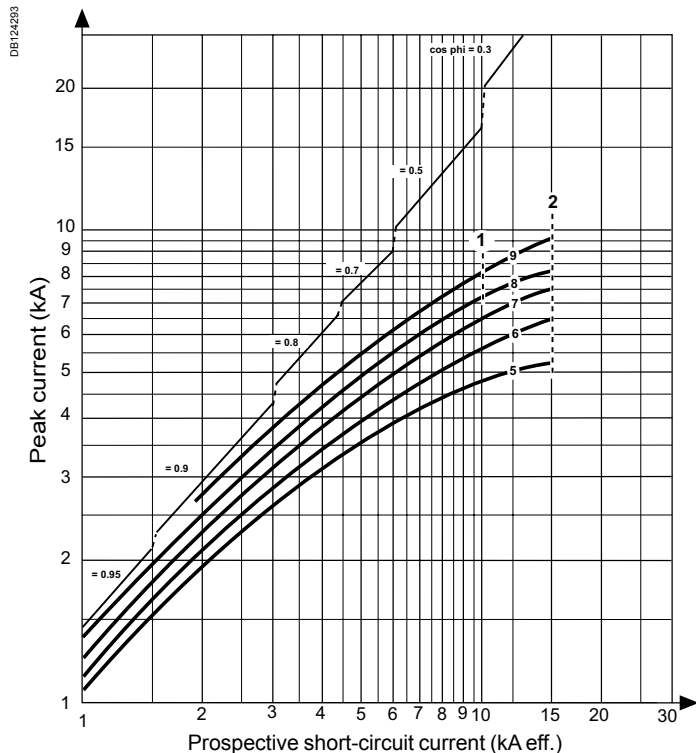


Limitation curves for network U_e: 380-415 V AC (Ph/N 220-240 V AC)

C120N, H

1P / 2P / 3P / 4P

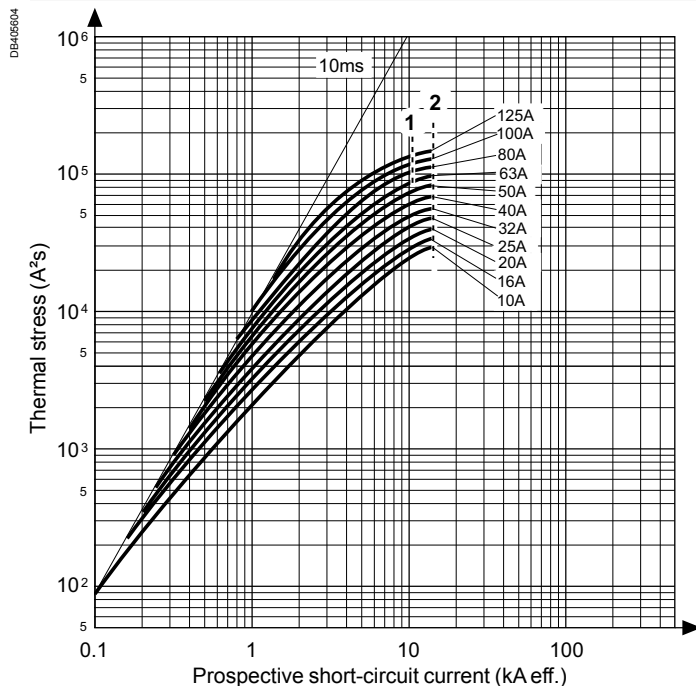
Peak current



■ Circuit breaker type in accordance with the mark:

- 1: C120N
- 2: C120H
- 5: 10-16 A
- 6: 20-25 A
- 7: 32-40 A
- 8: 50-63 A
- 9: 80-125 A

Thermal stress



■ Circuit breaker type in accordance with the mark:

- 1: C120N
- 2: C120H

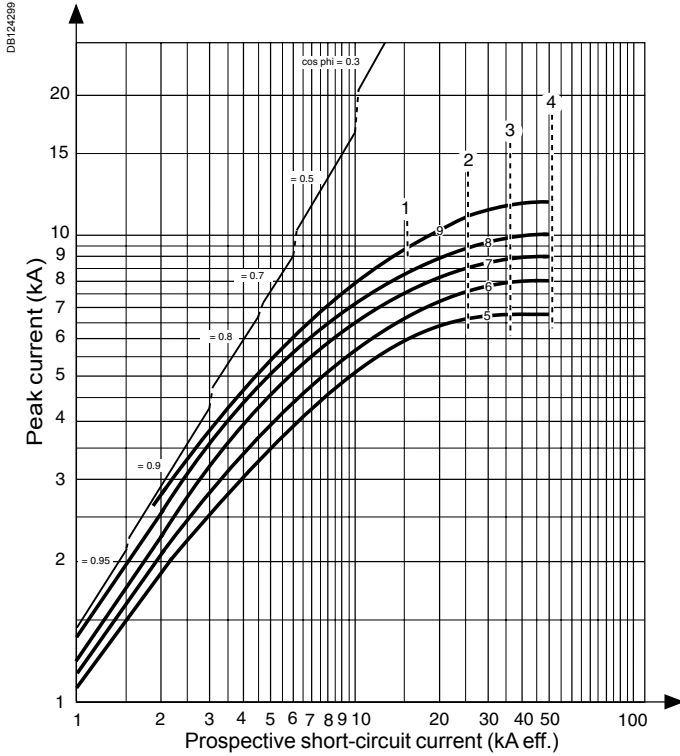
Limitation curves for network

U_e: 380-415 V AC (Ph/N 220-240 V AC)

NG125a, N, H, L

1P / 2P / 3P / 4P

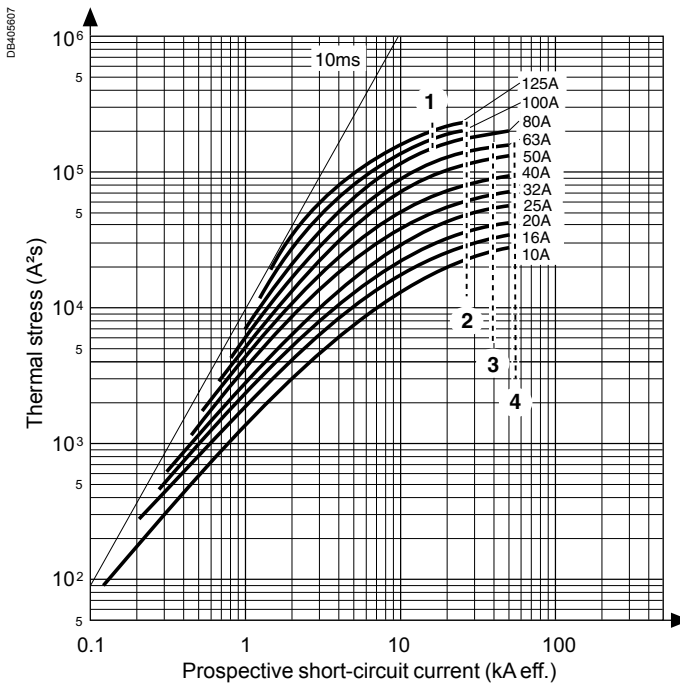
Peak current



■ Circuit breaker type in accordance with the mark:

- 1: NG125a
- 2: NG125N
- 3: NG125H
- 4: NG125L
- 5: 10-16 A
- 6: 20-25 A
- 7: 32-40 A
- 8: 50-63 A
- 9: 80-125 A

Thermal stress



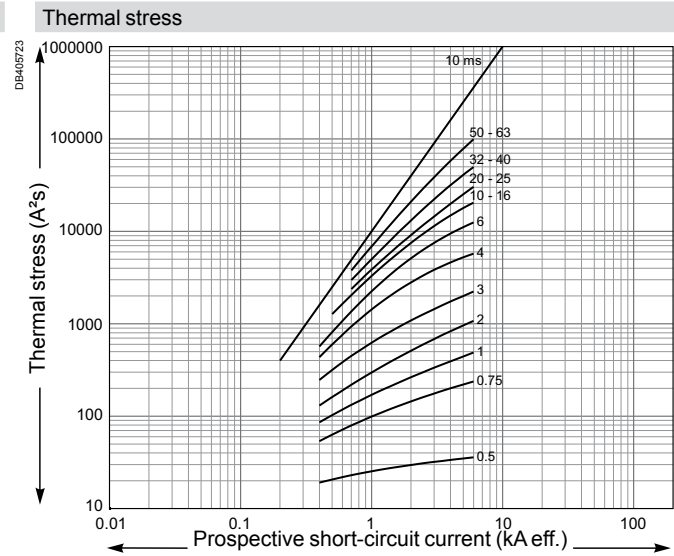
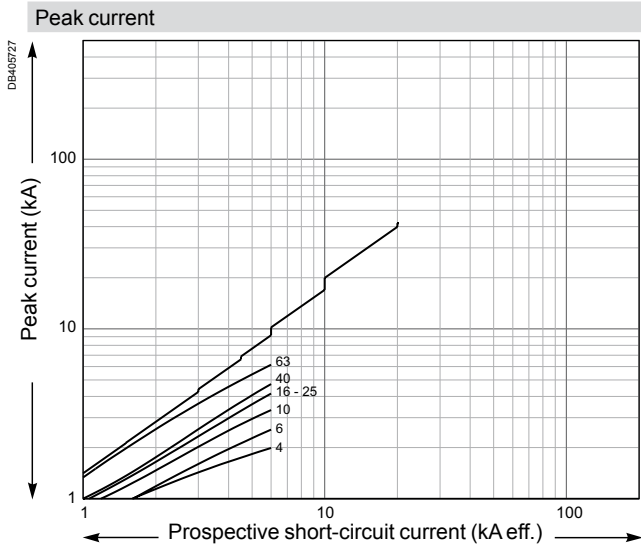
■ Circuit breaker type in accordance with the mark:

- 1: NG125a 80-100-125 A
- 2: NG125N
- 3: NG125H
- 4: NG125L

Limitation curves for network U_e: 440 V AC

C60N

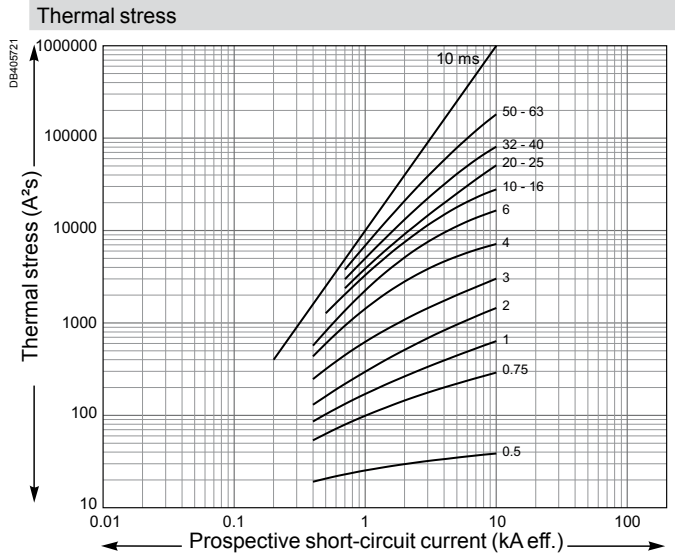
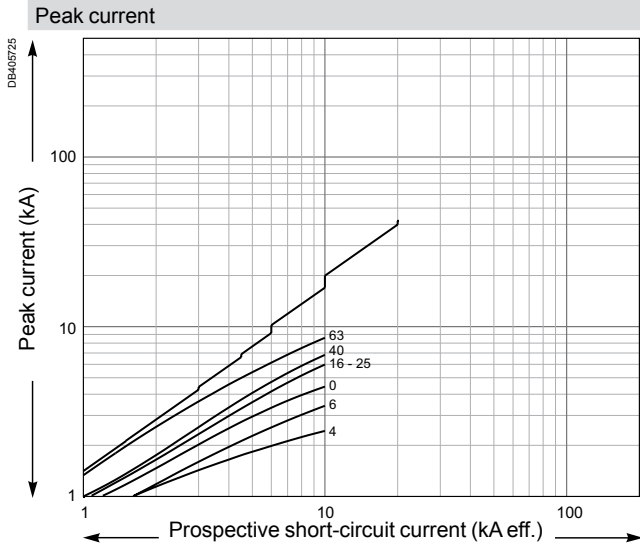
2P / 3P / 4P



Limitation curves for network U_e: 440 V AC

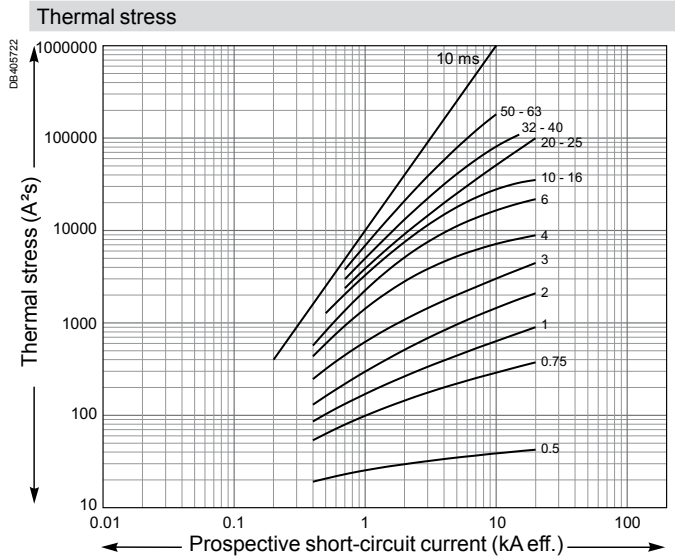
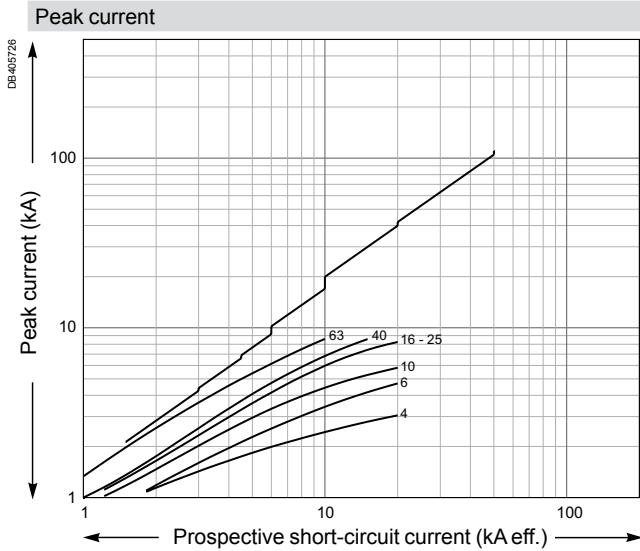
C60H

2P / 3P / 4P



C60L

2P / 3P / 4P

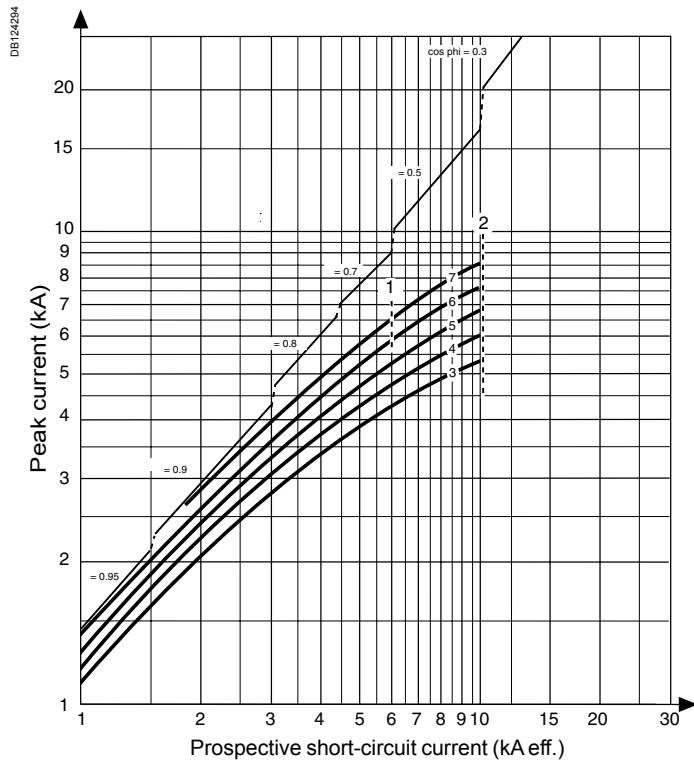


Limitation curves for network U_e: 440 V AC

C120N, H

2P / 3P / 4P

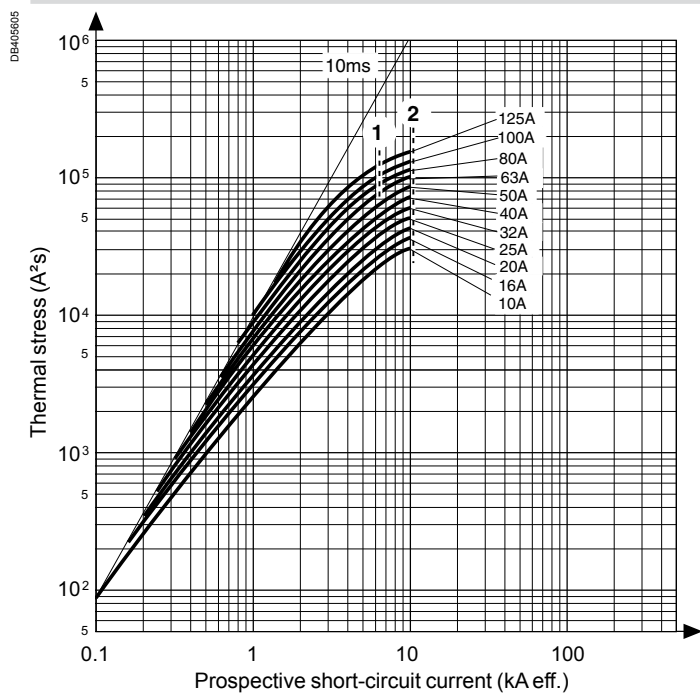
Peak current



■ Circuit breaker type in accordance with the mark:

- 1: C120N
- 2: C120H
- 3: 0-16 A
- 4: 20-25 A
- 5: 32-40 A
- 6: 50-63 A
- 7: 80-125 A

Thermal stress



■ Circuit breaker type in accordance with the mark:

- 1: C120N
- 2: C120H

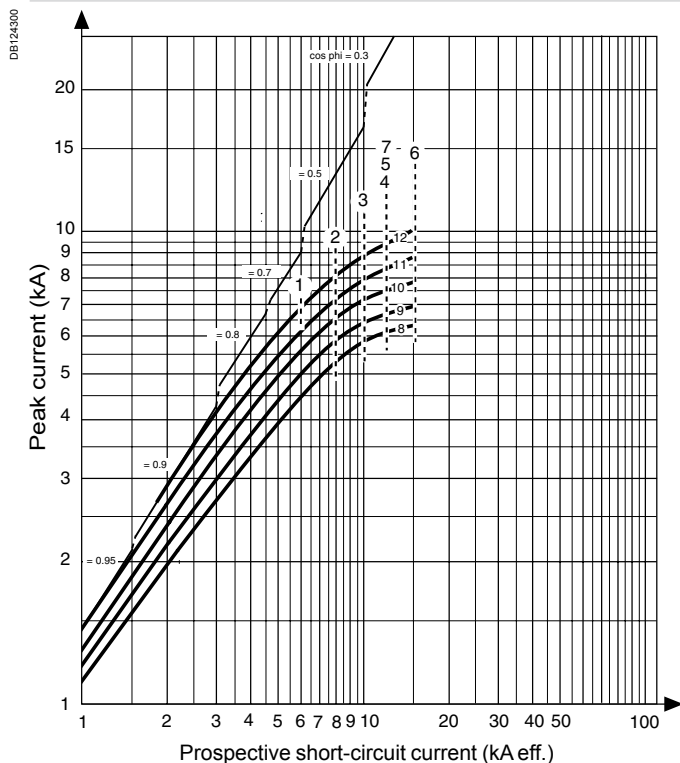
Limitation curves for network

U_e: 550 V AC

NG125a, N, H, L

2P / 3P / 4P

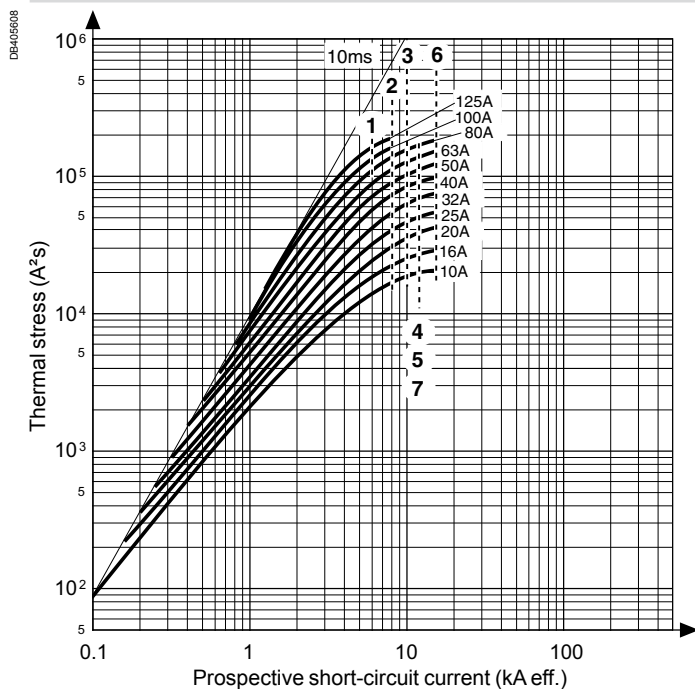
Peak current



■ Circuit breaker type in accordance with the mark:

- 1: NG125a 3, 4P
- 2: NG125N 2, 3, 4P
- 3: NG125H 3, 4P
- 4-5: NG125H 2P/NG125L 3, 4P
- 6: NG125L 2P
- 7: NG125 LMA 2, 3, 4P
- 8: 10-16 A
- 9: 20-25 A
- 10: 32-40 A
- 11: 50-63 A
- 12: 80-125 A

Thermal stress



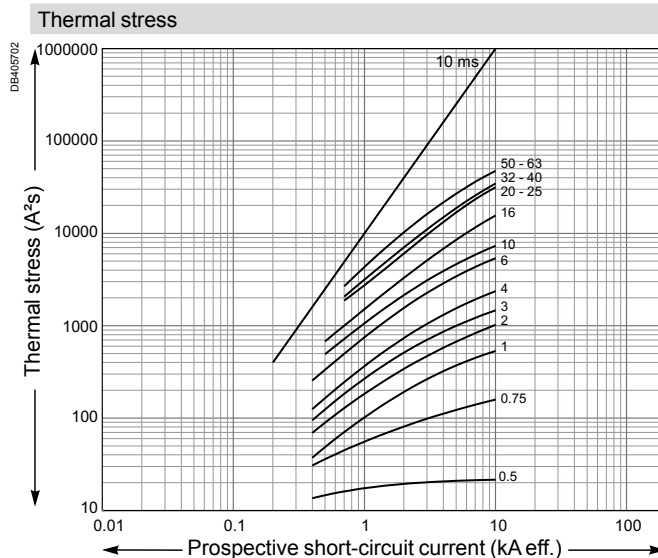
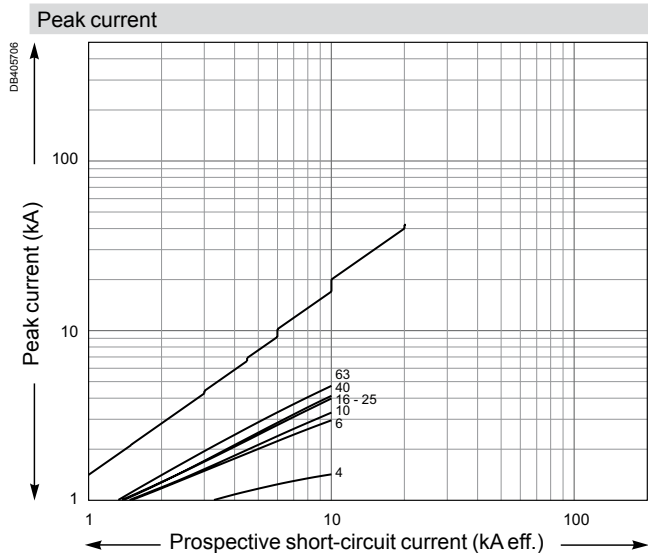
■ Circuit breaker type in accordance with the mark:

- 1: NG125a 3, 4P
- 2: NG125N 2, 3, 4P
- 3: NG125H 3, 4P
- 4-5: NG125H 2P/NG125L 3, 4P
- 6: NG125L 2P
- 7: NG125LMA 2, 3, 4P

Limitation curves for network U_e: 220-240 V AC (Ph/N 110-130 V AC)

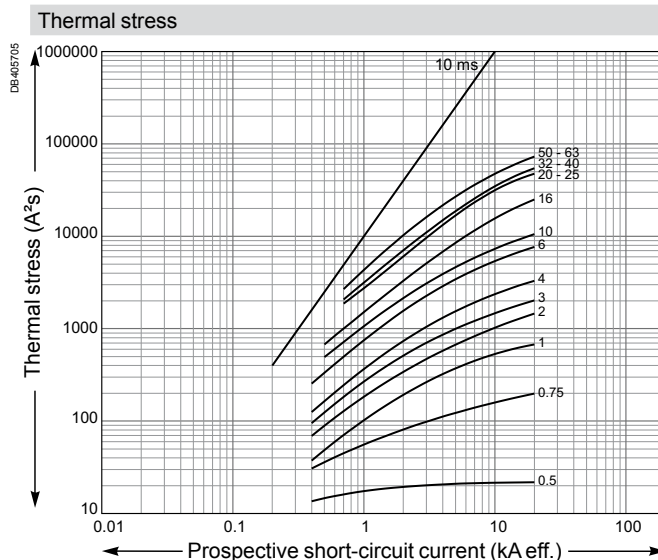
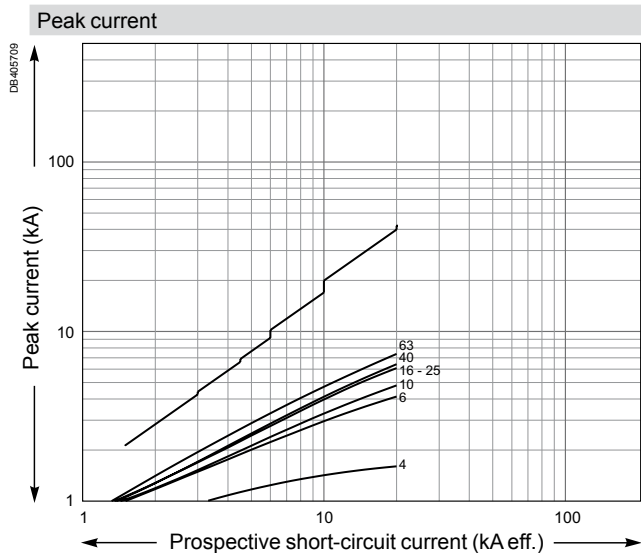
C60a

1P / 2P / 3P / 3P+N / 4P



C60N

1P / 1P+N / 2P / 3P / 3P+N / 4P

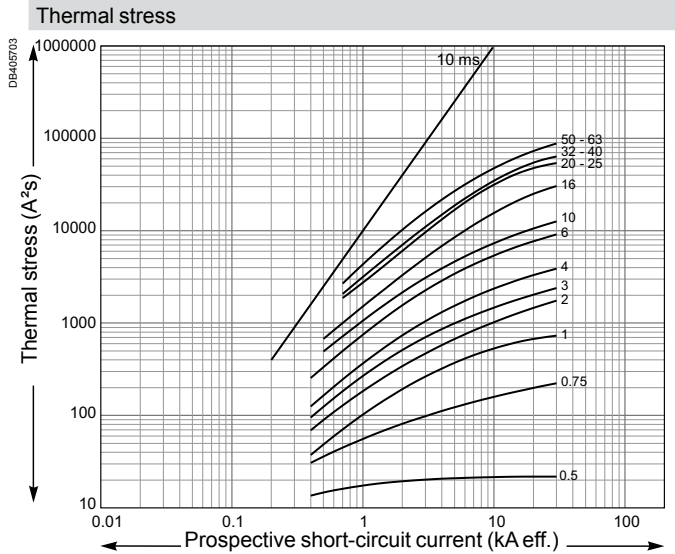
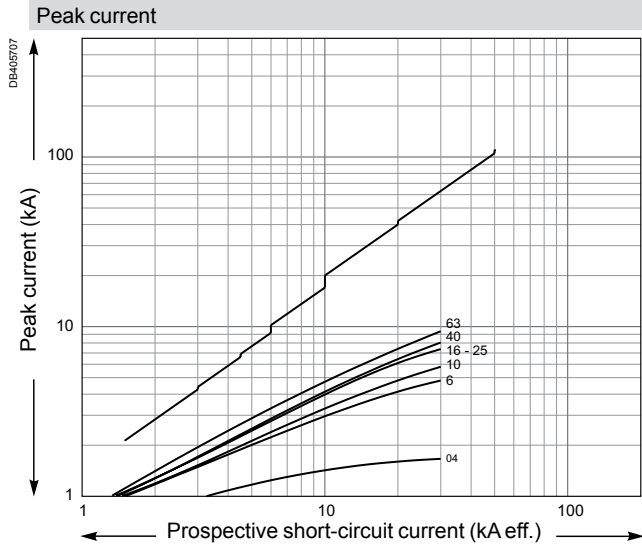


Limitation curves for network

U_e: 220-240 V AC (Ph/N 110-130 V AC)

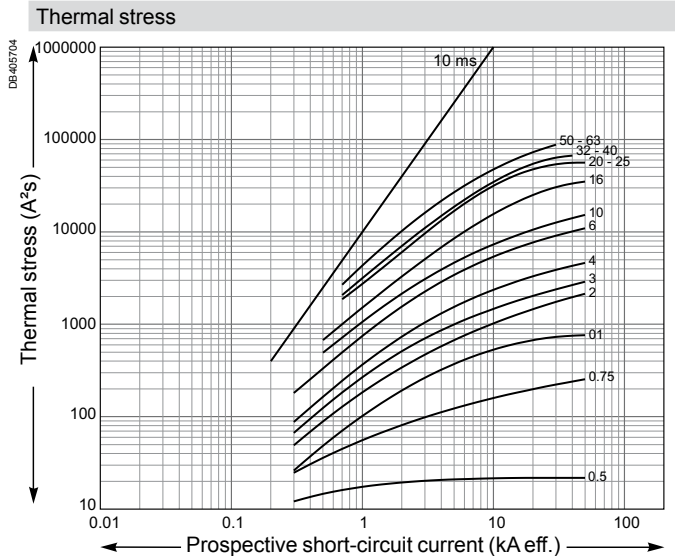
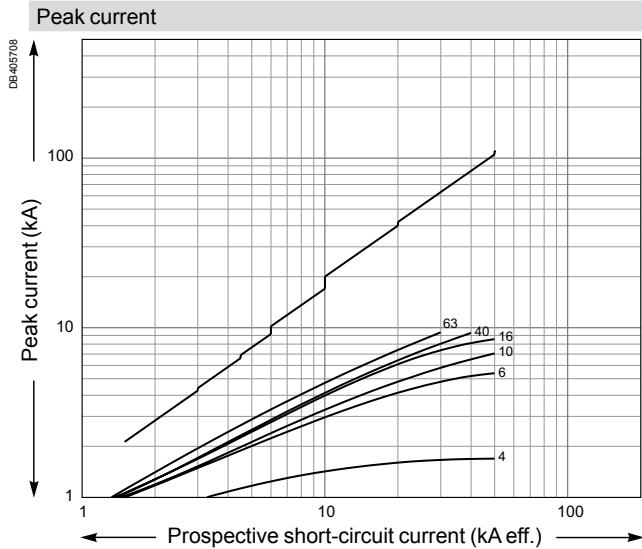
C60H

1P / 1P+N / 2P / 3P / 3P+N / 4P



C60L

1P / 2P / 3P / 4P



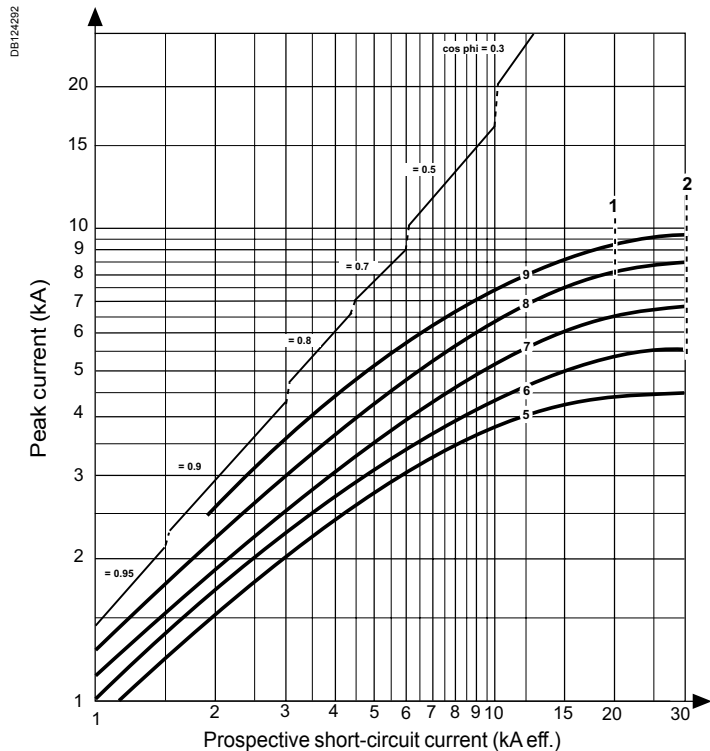
Limitation curves for network

U_e: 220-240 V AC (Ph/N 110-130 V AC)

C120N, H

1P / 2P / 3P / 4P

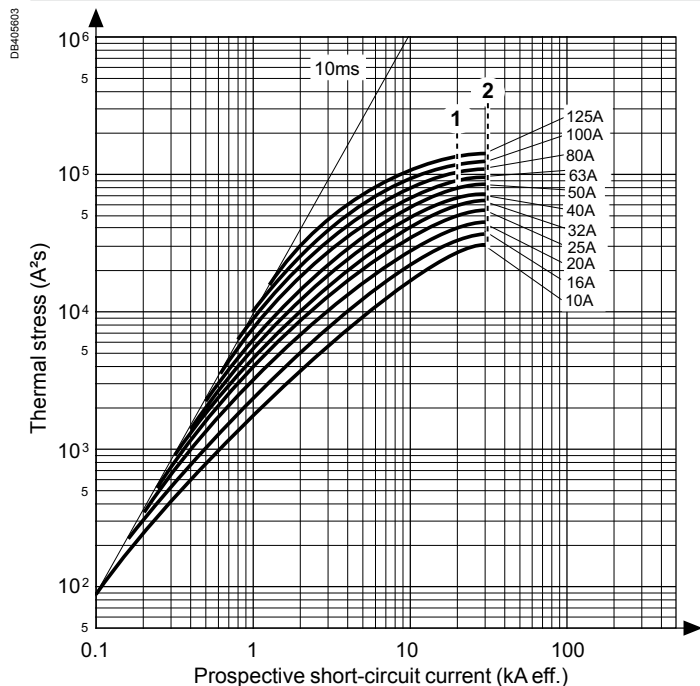
Peak current



■ Circuit breaker type in accordance with the mark:

- 1: C120N
- 2: C120H
- 5: 10-16 A
- 6: 20-25 A
- 7: 32-40 A
- 8: 50-63 A
- 9: 80-125 A

Thermal stress



■ Circuit breaker type in accordance with the mark:

- 1: C120N
- 2: C120H

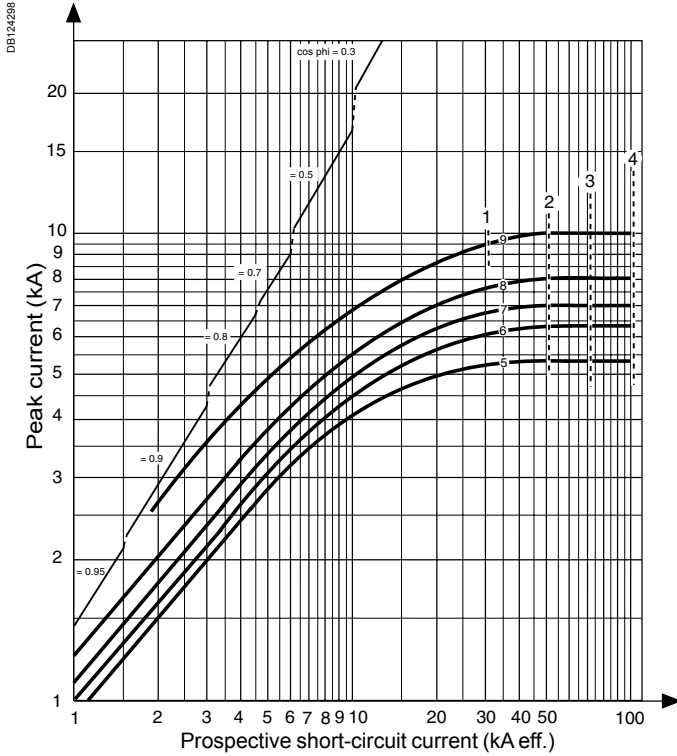
Limitation curves for network

U_e: 220-240 V AC (Ph/N 110-130 V AC)

NG125a, N, H, L

1P / 2P / 3P / 4P

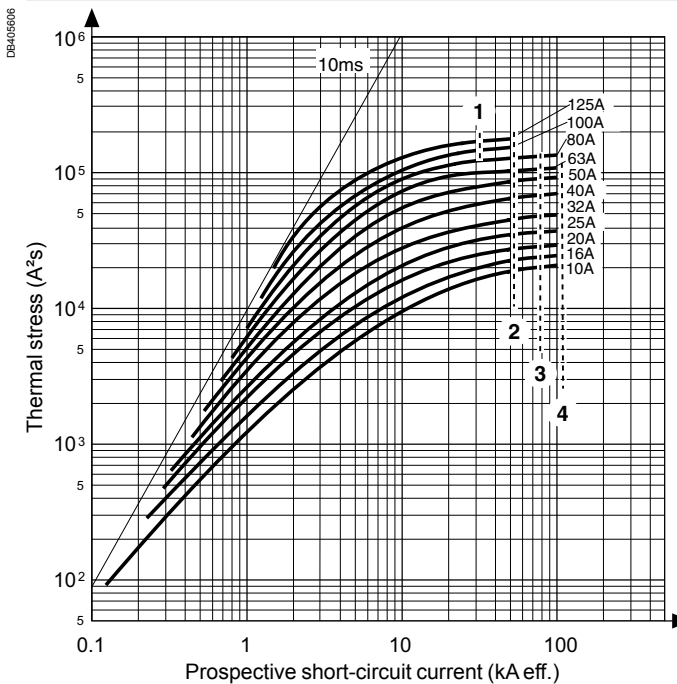
Peak current



■ Circuit breaker type in accordance with the mark:

- 1: NG125a
- 2: NG125N
- 3: NG125H
- 4: NG125L
- 5: 10-16 A
- 6: 20-25 A
- 7: 32-40 A
- 8: 50-63 A
- 9: 80-125 A

Thermal stress



■ Circuit breaker type in accordance with the mark:

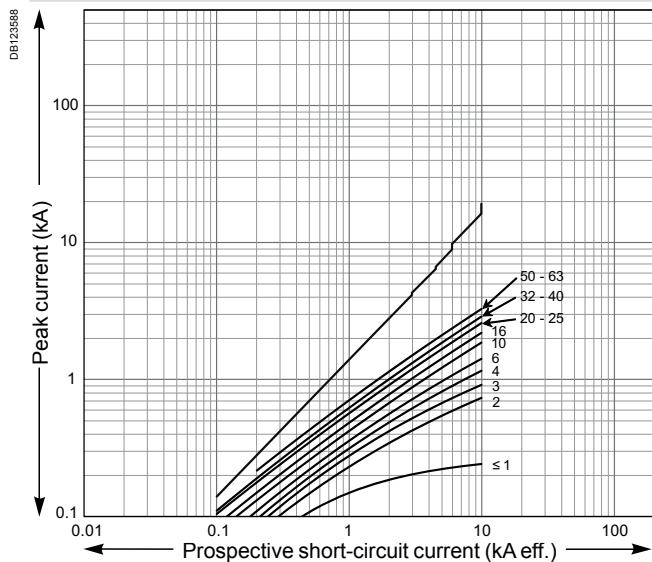
- 1: NG125a 80-100-125 A
- 2: NG125N
- 3: NG125H
- 4: NG125L

Limitation curves for direct current network

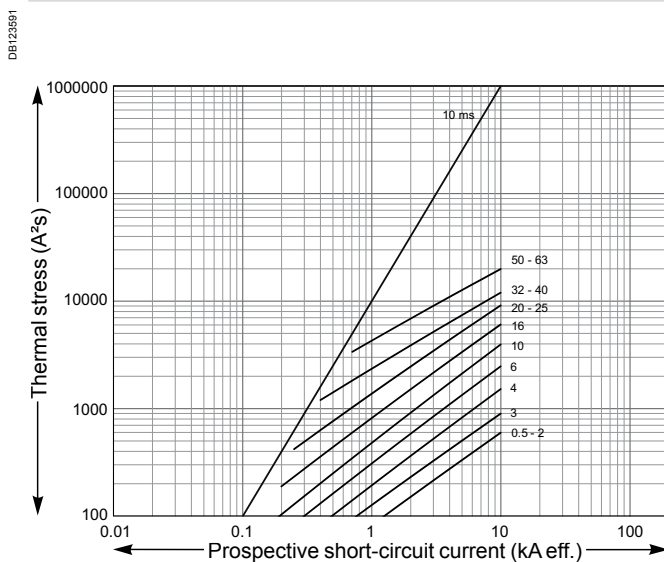
C60H-DC curve C

1P (220 V) - 2P (440 V)

Peak current



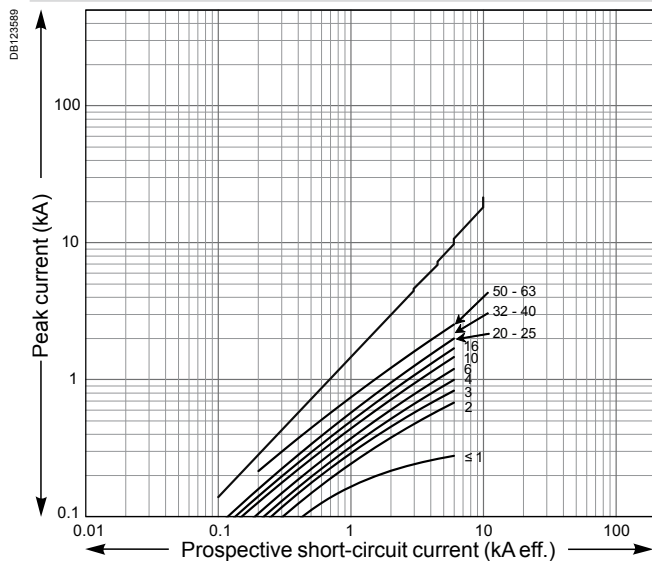
Thermal stress



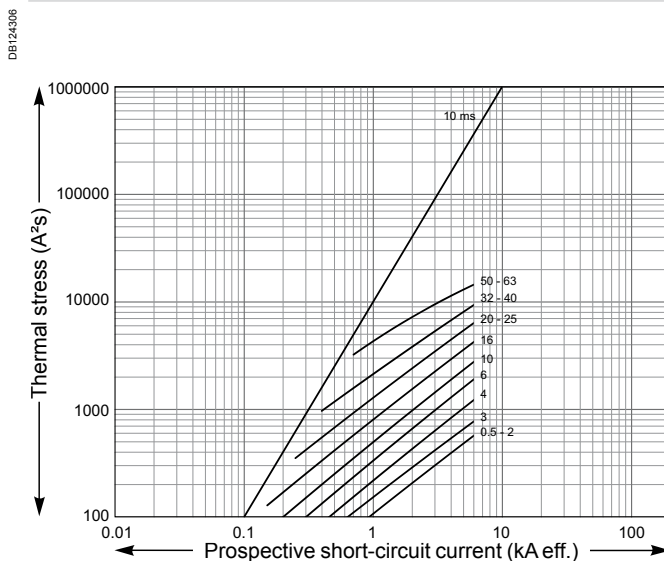
C60H-DC curve C

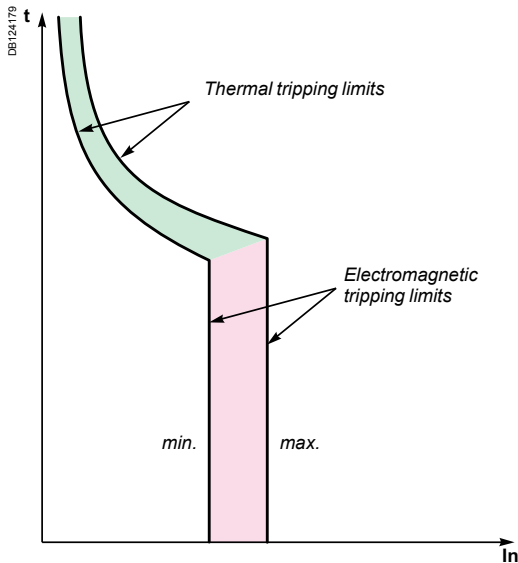
1P (250 V DC) - 2P (500 V DC)

Peak current



Thermal stress





The following curves show the total fault current breaking time, depending on its amperage.

For example: based on the curve, a QOvs circuit breaker curve C of 20 A rating, will interrupt a current of 100 A (5 times the rated current I_n) in:

- 1.6 seconds at least
- 12 seconds at most.

The circuit breakers' tripping curves consist of two parts:

- tripping of overload protection (thermal tripping device): the higher the current, the shorter the tripping time
- tripping of short-circuit protection (magnetic tripping device): if the current exceeds the threshold of this protection device, the breaking time is less than 10 milliseconds. For short-circuit currents exceeding 20 times the rated current, the time-current curves do not give a sufficiently precise representation. The breaking of high short-circuit currents is characterized by the current limiting curves, in peak current and in energy. The total breaking time can be estimated at 5 times the value of the ratio $(I^2t)/(I)^2$.

Verification of the discrimination between two circuit breakers

By superimposing the curve of a circuit breaker on that of the circuit breaker installed upstream, one can check whether this combination will be discriminating in cases of overload (discrimination for all current values, up to the magnetic threshold of the upstream circuit breaker). This verification is useful when one of the two circuit breakers has adjustable thresholds; for fixed-threshold devices, this information is provided directly by the discrimination tables.

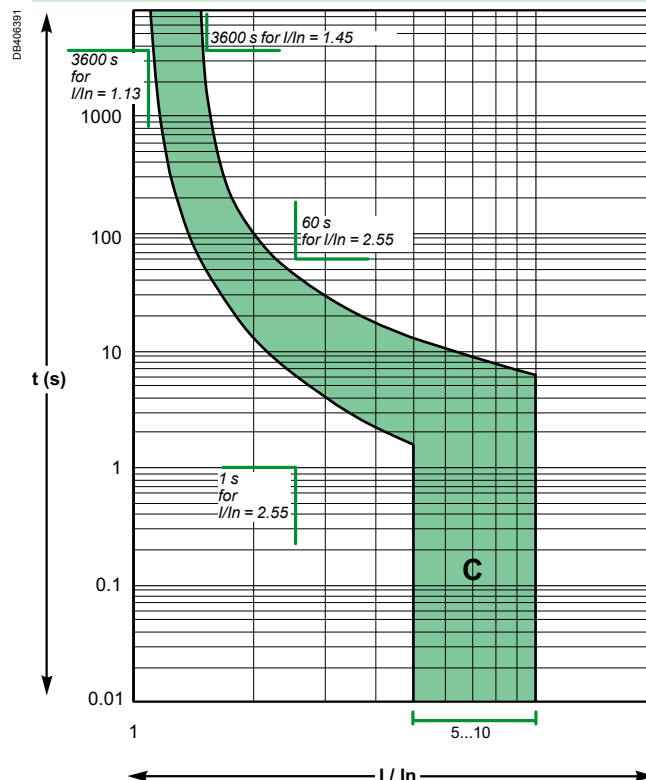
To check discrimination on short circuit, the energy characteristics of the two devices must be compared.

Alternative current 50/60 Hz

QOvs

According to IEC/EN 60898-1 (reference temperature 40°C)

Curve C



IEC 60947-2, Annex A IEC 60364-4-43 § 434.5.1

What is cascading?

Cascading is the use of the current limiting capacity of circuit breakers at a given point to permit installation of lower-rated and therefore lower-cost circuit breakers downstream.

The upstream Compact circuit breakers acts as a barrier against short-circuit currents. In this way, downstream circuit breakers with lower breaking capacities than the prospective short-circuit (at their point of installation) operate under their normal breaking conditions.

Since the current is limited throughout the circuit controlled by the limiting circuit breaker, cascading applies to all switchgear downstream. It is not restricted to two consecutive devices.

General use of cascading

With cascading, the devices can be installed in different switchboards. Thus, in general, cascading refers to any combination of circuit breakers where a circuit breaker with a breaking capacity less than the prospective I_{sc} at its point of installation can be used. Of course, the breaking capacity of the upstream circuit breaker must be greater than or equal to the prospective short-circuit current at its point of installation.

The combination of two circuit breakers in cascading configuration is covered by the following standards of:

- design and manufacture of circuit breakers (IEC 60947-2, Annex A),
- electrical distribution networks (IEC 60364-4-43 § 434.5.1).

Coordination between circuit breakers

The use of a protective device possessing a breaking capacity less than the prospective short-circuit current at its installation point is permitted as long as another device is installed upstream with at least the necessary breaking capacity. In this case, the characteristics of the two devices must be coordinated in such a way that the energy let through by the upstream device is not more than that which can be withstood by the downstream device and the cables protected by these devices without damage.

Cascading can only be checked by laboratory tests and the possible combinations can be specified only by the circuit breaker manufacturer.

Cascading and protection discrimination

In cascading configurations, due to the Roto-active breaking technique, discrimination is maintained and, in some cases, even enhanced. Consult the enhanced discrimination tables on page 551 for data on discrimination limits.

Cascading tables

Schneider Electric cascading tables are:

- drawn up on the basis of calculations (comparison between the energy limited by the upstream device and the maximum permissible thermal stress for the downstream device)
- verified experimentally in accordance with IEC standard 60947-2.

For distribution systems with 220-240 V, 380-415 V and 440 V between phases, the tables of the following pages indicate cascading possibilities between upstream Compact and downstream Acti 9 and Compact circuit breakers as well as between upstream Masterpact and downstream Compact circuit breakers.

Using the cascading tables

This table takes in account:

- all types of faults: between phases, phase and neutral and between phase and earth.

- all earthing systems except IT.

See comment here below.

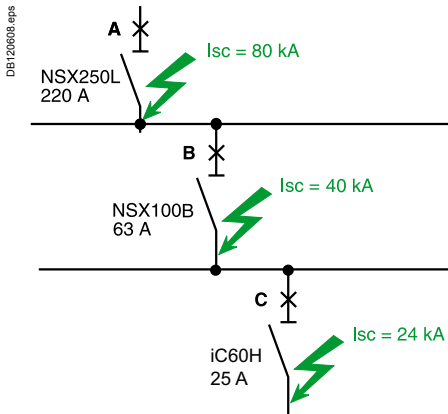
Depending on the network and the type of downstream circuit breaker, the selection table below indicates which table should be consulted to find out the cascading value.

Selection table

| | | Upstream network | | | | | |
|----------------------------|--------------------------------------|---------------------------------|-------------------------|---|-----------------------------------|--|-------------------------|
| | | DB123995.eps L1 ——— N ——— | | DB123995.eps L1 ——— L2 ——— L3 ——— N ——— | | DB123997.eps L1 ——— L2 ——— L3 ——— | |
| Type of Downstream network | Type of Downstream protection device | Ph/N 110-130 V | Ph/N 220-240 V | Ph/N 110-130 V Ph/Ph 220-240 V | Ph/N 220-240 V Ph/Ph 380-415 V | Ph/Ph 220-240 V | Ph/Ph 380-415 V |
| DB124079.eps N L1 | DB123991.eps 2P | See table Ue: 220-240 V | See table Ue: 380-415 V | (1) | See table Ue: 380-415 V | (1) | |
| | DB124191.eps 1P | See table Ue: 220-240 V | See table Ue: 380-415 V | (2) | See table Ue: 380-415 V | (2) | |
| DB124192.eps L1 L2 | DB123981.eps 2P | | | See table Ue: 220-240 V | See table Ue: 380-415 V | See table Ue: 220-240 V | See table Ue: 380-415 V |
| | DB123983.eps 3P | | | See table Ue: 220-240 V | See table Ue: 380-415 V | See table Ue: 220-240 V | See table Ue: 380-415 V |
| DB124080.eps L1 L2 L3 | DB123984.eps 4P | | | See table Ue: 220-240 V | See table Ue: 380-415 V | | |
| DB124081.eps N L1 L2 L3 | DB123994.eps 3P+N | | | See table Ue: 220-240 V | See table Ue: 380-415 V | | |
| | DB123993.eps 3P+N | | | See table Ue: 220-240 V | See table Ue: 380-415 V | | |

(1) For fault phase-neutral with upstream protection of neutral, please consult the table Ue: 220-240 V.

(2) For iC60 1P+N circuit breaker connected between phase and neutral under 220-240 V, consult the table Ue: 220-240 V (only for faults between phase and neutral).



Example of three level cascading

Consider three circuit breakers A, B and C connected in series. The criteria for cascading are fulfilled in the following two cases:

- the upstream device A is coordinated for cascading with both devices B and C (even if the cascading criteria are not fulfilled between B and C). It is simply necessary to check that the combinations A + B and A + C have the required breaking capacity
 - each pair of successive devices is coordinated, i.e. A with B and B with C (even if the cascading criteria are not fulfilled between A and C). It is simply necessary to check that the combinations A + B and B + C have the required breaking capacity.
- The upstream breaker A is a NSX250L (breaking capacity 150 kA) for a prospective I_{sc} of 80 kA across its output terminals.
- A NSX100B (breaking capacity 25 kA) can be used for circuit breaker B for a prospective I_{sc} of 40 kA across its output terminals, since the "reinforced" breaking capacity provided by cascading with the upstream NSX250L is 50 kA.
- A C60H (breaking capacity 15 kA) can be used for circuit breaker C for a prospective I_{sc} of 24 kA across its output terminals since the "reinforced" breaking capacity provided by cascading with the upstream NSX250L is 25 kA.
- Note that the "reinforced" breaking capacity of the C60H with the NSX100B upstream is only 20 kA, but:
- A + B = 50 kA
 - A + C = 25 kA.

| Downstream Type | Upstream | | | | | | | |
|-----------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | iDPN | iC60 | C120 | NG125 | NG160 | NSX100 | NSX160 | NSX250 |
| 380-415 V (Ph/N 220-240 V) | | | | | | | | |
| iDPN 230 Ph/N | page 533 | page 533 | page 533 | page 533 | page 533 | page 534 | page 534 | page 535 |
| iC60 | page 533 | page 533 | page 533 | page 533 | page 533 | page 534 | page 534 | page 535 |
| C120 | page 533 | page 533 | page 533 | page 533 | page 533 | page 534 | page 534 | page 535 |
| NG125 | - | - | - | page 533 | page 533 | page 534 | page 534 | page 535 |
| NG160 | - | - | - | - | - | page 534 | page 534 | page 535 |
| NSX100 | - | - | - | - | - | page 534 | page 534 | page 535 |
| NSX160 | - | - | - | - | - | - | page 534 | page 535 |
| NSX250 | - | - | - | - | - | - | - | page 535 |
| 440 V | | | | | | | | |
| iC60 | - | - | - | - | - | page 540 | page 540 | - |
| NG160 | - | - | - | - | - | page 540 | page 540 | page 541 |
| NSX100 | - | - | - | - | - | page 540 | page 540 | page 541 |
| NSX160 | - | - | - | - | - | - | page 540 | page 541 |
| NSX250 | - | - | - | - | - | - | - | page 541 |
| 220-240 V (Ph/N 110-130 V) | | | | | | | | |
| iDPN 130 Ph/N | page 545 | page 545 | page 545 | page 545 | page 545 | page 547 | page 546 | page 549 |
| iC60 | page 545 | page 545 | page 545 | page 545 | page 545 | page 547 | page 546 | page 549 |
| C120 | page 545 | page 545 | page 545 | page 545 | page 545 | page 547 | page 546 | page 549 |
| NG125 | - | - | - | page 545 | page 545 | page 547 | page 546 | page 549 |
| NG160 | - | - | - | page 545 | page 545 | page 547 | page 546 | page 549 |
| NSX100 | - | - | - | - | - | page 547 | page 546 | page 549 |
| NSX160 | - | - | - | - | - | - | page 546 | page 549 |
| NSX250 | - | - | - | - | - | - | - | page 549 |

Cascading and enhanced discrimination

| Downstream Type | Upstream | | | |
|-----------------------------------|----------|----------|--------------|--------------|
| | NG160 | NSX100 | NSX160 | NSX250 |
| 380-415 V (Ph/N 220-240 V) | | | | |
| iC60 | page 552 | page 554 | page 553-554 | page 553-555 |
| C120 | - | - | page 553 | page 553-555 |
| NG125 | - | - | page 553 | page 553-555 |
| NG160 | - | - | - | page 555 |
| NSX100 | - | - | - | page 555 |
| 440 V | | | | |
| NSX100 | - | - | - | page 558 |
| 220-240 V (Ph/N 110-130 V) | | | | |
| iC60 | - | page 562 | page 561-562 | page 561-563 |
| C120 | - | - | page 561 | page 561-563 |
| NG125 | - | - | page 561 | page 561-563 |
| NG160 | - | - | - | page 564 |
| NSX100 | - | - | - | page 564 |

| Downstream Type | Upstream | | | | | | | | | |
|-----------------------------------|----------|----------|-----------------|----------|----------|----------|------------------|----------|----------------------------|------------|
| | NSX400 | NSX630 | NS630 NS630b | NS800 | NS1000 | | NS1250 NS1600 | | NS2000 NS2500 NS3200 | Masterpact |
| | | | | | N | H/L | N | H | | |
| 380-415 V (Ph/N 220-240 V) | | | | | | | | | | |
| NG160 | page 536 | page 537 | page 546 | - | - | - | - | - | - | - |
| NSX100 | page 536 | page 537 | page 546 | page 546 | page 546 | page 539 | page 546 | page 539 | page 539 | page 539 |
| NSX160 | page 536 | page 537 | page 546 | page 546 | page 546 | page 539 | page 546 | page 539 | page 539 | page 539 |
| NSX250 | page 536 | page 537 | page 546 | page 546 | page 546 | page 539 | page 546 | page 539 | page 539 | page 539 |
| NSX400 | page 536 | page 537 | page 546 | page 546 | page 546 | page 539 | page 546 | page 539 | page 539 | page 539 |
| NSX630 | - | page 537 | page 546 | page 546 | page 546 | page 539 | page 546 | page 539 | page 539 | page 539 |
| NS630b | - | - | page 546 | page 546 | page 546 | page 539 | page 546 | page 539 | page 539 | page 539 |
| NS800 | - | - | page 546 | page 546 | page 546 | page 539 | page 546 | page 539 | page 539 | page 539 |
| NS1000 | - | - | page 546 | page 546 | page 546 | page 539 | page 546 | page 539 | page 539 | page 539 |
| NS1250 | - | - | - | - | - | page 539 | - | page 539 | page 539 | page 539 |
| NS1600 | - | - | - | - | - | page 539 | - | page 539 | page 539 | page 539 |
| 440 V | | | | | | | | | | |
| NG160 | page 541 | page 542 | - | - | - | - | - | - | - | - |
| NSX100 | page 541 | page 542 | page 543 | page 543 | page 543 | page 544 | page 543 | page 544 | page 544 | page 544 |
| NSX160 | page 541 | page 542 | page 543 | page 543 | page 543 | page 544 | page 543 | page 544 | page 544 | page 544 |
| NSX250 | page 541 | page 542 | page 543 | page 543 | page 543 | page 544 | page 543 | page 544 | page 544 | page 544 |
| NSX400 | page 541 | page 542 | page 543 | page 543 | page 543 | page 544 | page 543 | page 544 | page 544 | page 544 |
| NSX630 | - | page 542 | page 543 | page 543 | page 543 | page 544 | page 543 | page 544 | page 544 | page 544 |
| NS630b | - | - | page 543 | page 543 | page 543 | page 544 | page 543 | page 544 | page 544 | page 544 |
| NS800 | - | - | page 543 | page 543 | page 543 | page 544 | page 543 | page 544 | page 544 | page 544 |
| NS1000 | - | - | - | - | - | page 544 | - | page 544 | page 544 | page 544 |
| NS1250 | - | - | - | - | - | page 544 | - | page 544 | page 544 | page 544 |
| NS1600 | - | - | - | - | - | page 544 | - | page 544 | page 544 | page 544 |
| 220-240 V (Ph/N 110-130 V) | | | | | | | | | | |
| NG160 | page 548 | page 538 | - | - | - | - | - | - | - | - |
| NSX100 | page 548 | page 538 | page 550 | page 550 | - | page 550 | - | - | - | page 550 |
| NSX160 | page 548 | page 538 | page 550 | page 550 | - | page 550 | - | - | - | page 550 |
| NSX250 | page 548 | page 538 | page 550 | page 550 | - | page 550 | - | - | - | page 550 |
| NSX400 | page 548 | page 538 | page 550 | page 550 | - | page 550 | - | - | - | page 550 |
| NSX630 | - | page 538 | page 550 | page 550 | - | page 550 | - | - | - | page 550 |

Cascading and enhanced discrimination

| Downstream Type | Upstream | | | | | |
|-----------------------------------|----------|----------|----------|----------|----------|----------|
| | NSX400 | NSX630 | NS800 | NS1000 | NS1250 | NS1600 |
| 380-415 V (Ph/N 220-240 V) | | | | | | |
| NG160 | page 556 | page 556 | - | - | - | - |
| NSX100 | page 556 | page 556 | page 557 | page 557 | page 557 | page 557 |
| NSX160 | page 556 | page 556 | page 557 | page 557 | page 557 | page 557 |
| NSX250 | page 556 | page 556 | page 557 | page 557 | page 557 | page 557 |
| NSX400 | - | - | page 557 | page 557 | page 557 | page 557 |
| NSX630 | - | - | page 557 | page 557 | page 557 | page 557 |
| 440 V | | | | | | |
| NSX100 | page 559 | page 559 | page 560 | page 560 | page 560 | page 560 |
| NSX160 | page 559 | page 559 | page 560 | page 560 | page 560 | page 560 |
| NSX250 | page 559 | page 559 | page 560 | page 560 | page 560 | page 560 |
| NSX400 | - | - | page 560 | page 560 | page 560 | page 560 |
| NSX630 | - | - | page 560 | page 560 | page 560 | page 560 |
| 220-240 V (Ph/N 110-130 V) | | | | | | |
| NG160 | page 565 | page 565 | page 565 | page 565 | - | - |
| NSX100 | page 565 | page 565 | page 565 | page 565 | - | - |
| NSX160 | page 565 | page 565 | page 565 | page 565 | - | - |
| NSX250 | page 565 | page 565 | page 565 | page 565 | - | - |
| NSX400 | page 565 | page 565 | page 565 | page 565 | - | - |
| NSX630 | page 565 | page 565 | page 565 | page 565 | - | - |

| Upstream | iDPN | iC60 | | | | | C120 | | NG125 | | |
|------------------------|--------|-------|-------|-------|----|-------|-------|--------|--------|--------|----|
| | iDPN N | iC60N | iC60H | iC60L | | C120N | C120H | NG125N | NG125H | NG125L | |
| Breaking capacity (kA) | 10 | 10 | 15 | 25 | 20 | 15 | 10 | 15 | 25 | 36 | 50 |

| Downstream | | | | | | | | | | | | | |
|------------|------------|----------|-----------------------------------|----|----|----|----|----|----|----|----|----|----|
| | In Max (A) | Icu (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | |
| iDPN | 16 | 6 | 10 | 10 | 10 | 20 | 15 | 10 | 10 | 10 | 10 | 16 | 20 |
| | 40 | 6 | 10 | 10 | 10 | 15 | 10 | 10 | 10 | 10 | 10 | 16 | 20 |
| iDPNN | 16 | 10 | | | 15 | 25 | 20 | 15 | | 15 | 20 | 20 | 25 |
| | 40 | 10 | | | 15 | 20 | 15 | 15 | | 15 | 16 | 20 | 25 |
| iC60N | 25 | 10 | | | 15 | 25 | 20 | 15 | | 15 | 25 | 25 | 25 |
| | 40 | 10 | | | 15 | | 20 | 15 | | 15 | 25 | 25 | 25 |
| | 63 | 10 | | | 15 | | | 15 | | 15 | 25 | 25 | 25 |
| iC60H | 25 | 15 | | | | 25 | 20 | | | | 25 | 36 | 36 |
| | 40 | 15 | | | | | 20 | | | | 25 | 36 | 36 |
| | 63 | 15 | | | | | | | | | 25 | 36 | 36 |
| iC60L | 25 | 25 | | | | | | | | | | 36 | 50 |
| | 40 | 20 | | | | | | | | | 25 | 36 | 50 |
| | 63 | 15 | | | | | | | | | 25 | 36 | 36 |
| C120N | 125 | 10 | | | | | | | | | | | |
| C120H | 125 | 15 | | | | | | | 15 | 25 | 25 | 36 | |
| NG125N | 125 | 25 | | | | | | | | | | 36 | 36 |
| NG125H | 80 | 36 | | | | | | | | | | | 50 |

| Upstream | NG160 | | | NSX100 | | | | | |
|------------------------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| | NG160E | NG160N | NG160H | NSX100B | NSX100F | NSX100N | NSX100H | NSX100S | NSX100L |
| Breaking capacity (kA) | 16 | 25 | 36 | 25 | 36 | 50 | 70 | 100 | 150 |

| Downstream | | | | | | | | | | | | |
|------------|------------|----------|-----------------------------------|----|----|----|----|----|----|-----|-----|-----|
| | In Max (A) | Icu (kA) | Reinforced breaking capacity (kA) | | | | | | | | | |
| iDPN | 40 | 6 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| iDPNN | 16 | 10 | 16 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | 40 | 10 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| iC60N | 63 | 10 | 16 | 20 | 25 | 20 | 25 | 30 | 30 | 30 | 30 | 30 |
| iC60H | 40 | 15 | 16 | 25 | 25 | 25 | 36 | 40 | 40 | 40 | 40 | 40 |
| | 63 | 15 | 16 | 25 | 25 | 25 | 36 | 36 | 36 | 36 | 36 | 36 |
| iC60L | 25 | 25 | | | | | 36 | 40 | 40 | 40 | 40 | 40 |
| | 40 | 20 | | 25 | 25 | 25 | 36 | 40 | 40 | 40 | 40 | 40 |
| | 63 | 15 | 16 | 25 | 25 | 25 | 36 | 36 | 36 | 36 | 36 | 36 |
| C120N | 125 | 10 | 16 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| C120H | 125 | 15 | 16 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| NG125N | 125 | 25 | | | 36 | | 36 | 36 | 36 | 50 | 70 | 70 |
| NG125H | 80 | 36 | | | | | | 40 | 50 | 70 | 100 | 100 |
| NG125L | 80 | 50 | | | | | | | 70 | 100 | 150 | 150 |
| NSX100B | | 25 | | | | | 36 | 36 | 50 | 50 | 50 | 50 |
| NSX100F | | 36 | | | | | | 50 | 70 | 100 | 150 | 150 |
| NSX100N | | 50 | | | | | | | 70 | 100 | 150 | 150 |
| NSX100H | | 70 | | | | | | | | 100 | 150 | 150 |
| NSX100S | | 100 | | | | | | | | | | 150 |

Cascading

Upstream: NSX160

Downstream: iDPN, iC60, C120, NG125, NG160,
NSX100, NSX160

Ue: 380-415 V (Ph/N 220-240 V)

| Upstream | NSX160 | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|
| | NSX160B | NSX160F | NSX160N | NSX160H | NSX160S | NSX160L |
| Breaking capacity (kA) | 25 | 36 | 50 | 70 | 100 | 150 |

| Downstream | | | | | | | |
|------------|------------|----------|-----------------------------------|----|----|----|-----|
| | In Max (A) | Icu (kA) | Reinforced breaking capacity (kA) | | | | |
| iDPN | 40 | 6 | 10 | 10 | 10 | 10 | 10 |
| iDPNN | 16 | 10 | 20 | 20 | 20 | 20 | 20 |
| | 40 | 10 | 16 | 16 | 16 | 16 | 16 |
| iC60N | 63 | 10 | 20 | 25 | 30 | 30 | 30 |
| iC60H | 40 | 15 | 25 | 36 | 40 | 40 | 40 |
| | 63 | 15 | 25 | 30 | 30 | 30 | 30 |
| iC60L | 25 | 25 | | 36 | 40 | 40 | 40 |
| | 40 | 20 | 25 | 36 | 40 | 40 | 40 |
| | 63 | 15 | 25 | 30 | 36 | 36 | 36 |
| C120N | 125 | 10 | 25 | 25 | 25 | 25 | 25 |
| C120H | 125 | 15 | 25 | 25 | 25 | 25 | 25 |
| NG125N | 125 | 25 | | 36 | 36 | 36 | 50 |
| NG125H | 80 | 36 | | | 40 | 50 | 70 |
| NG125L | 80 | 50 | | | | 70 | 100 |
| NG160E | | 16 | 25 | 25 | 30 | 30 | 30 |
| NG160N | | 25 | | 36 | 36 | 50 | 50 |
| NG160H | | 36 | | | 50 | 50 | 50 |
| NSX100B | | 25 | | 36 | 36 | 50 | 50 |
| NSX100F | | 36 | | | 50 | 70 | 100 |
| NSX100H | | 70 | | | | | 100 |
| NSX100S | | 100 | | | | | 150 |
| NSX160B | | 25 | | 36 | 36 | 50 | 50 |
| NSX160F | | 36 | | | 50 | 70 | 100 |
| NSX160N | | 50 | | | | 70 | 100 |
| NSX160H | | 70 | | | | | 100 |
| NSX160S | | 100 | | | | | 150 |

Cascading

Upstream: NSX250

Downstream: iDPN, iC60, C120, NG125, NG160,
NSX100, NSX160, NSX250

Ue: 380-415 V (Ph/N 220-240 V)

| Upstream | NSX250 | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|
| | NSX250B | NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
| Breaking capacity (kA) | 25 | 36 | 50 | 70 | 100 | 150 |

| Downstream | | | | | | | |
|------------|------------|----------|-----------------------------------|----|----|----|-----|
| | In Max (A) | Icu (kA) | Reinforced breaking capacity (kA) | | | | |
| iDPN | 40 | 6 | 10 | 10 | 10 | 10 | 10 |
| iDPNN | 16 | 10 | 20 | 20 | 20 | 20 | 20 |
| | 40 | 10 | 16 | 16 | 16 | 16 | 16 |
| iC60N | 40 | 10 | 20 | 25 | 30 | 30 | 30 |
| | 63 | 10 | 20 | 25 | 25 | 25 | 25 |
| iC60H | 40 | 15 | 25 | 30 | 30 | 30 | 30 |
| | 63 | 15 | 25 | 25 | 25 | 25 | 25 |
| iC60L | 25 | 25 | | 30 | 30 | 30 | 30 |
| | 40 | 20 | 25 | 30 | 30 | 30 | 30 |
| | 63 | 15 | 25 | 25 | 25 | 25 | 25 |
| C120N | 125 | 10 | 25 | 25 | 25 | 25 | 25 |
| C120H | 125 | 15 | 25 | 25 | 25 | 25 | 25 |
| NG125N | 125 | 25 | | 36 | 36 | 36 | 50 |
| NG125H | 80 | 36 | | | 40 | 50 | 70 |
| NG125L | 80 | 50 | | | | 70 | 100 |
| NG160E | | 16 | 25 | 25 | 30 | 30 | 30 |
| NG160N | | 25 | | 36 | 36 | 50 | 50 |
| NG160H | | 36 | | | 50 | 50 | 50 |
| NSX100B | | 25 | | 36 | 36 | 50 | 50 |
| NSX100F | | 36 | | | 50 | 70 | 100 |
| NSX100N | | 50 | | | | 70 | 100 |
| NSX100H | | 70 | | | | | 100 |
| NSX100S | | 100 | | | | | 150 |
| NSX160B | | 25 | | 36 | 36 | 50 | 50 |
| NSX160F | | 36 | | | 50 | 70 | 100 |
| NSX160N | | 50 | | | | 70 | 100 |
| NSX160H | | 70 | | | | | 100 |
| NSX160S | | 100 | | | | | 150 |
| NSX250B | | 25 | | 36 | 36 | 50 | 50 |
| NSX250F | | 36 | | | 50 | 70 | 100 |
| NSX250N | | 50 | | | | 70 | 100 |
| NSX250H | | 70 | | | | | 100 |
| NSX250S | | 100 | | | | | 150 |

Cascading

Upstream: NSX400

Downstream: NG160, NSX100, NSX160, NSX250,
NSX400

Ue: 380-415 V (Ph/N 220-240 V)

| Upstream | NSX400 | | | | |
|------------------------|---------|---------|---------|---------|---------|
| | NSX400F | NSX400N | NSX400H | NSX400S | NSX400L |
| Breaking capacity (kA) | 36 | 50 | 70 | 100 | 150 |

| Downstream | | | | | | |
|------------|------------------------|-----------------------------------|----|----|-----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | |
| NG160E | 16 | 25 | 25 | 30 | 30 | 30 |
| NG160N | 25 | | 36 | 50 | 50 | 50 |
| NG160H | 36 | | 50 | 50 | 50 | 50 |
| NSX100B | 25 | 36 | 36 | 50 | 50 | 50 |
| NSX100F | 36 | | 50 | 70 | 100 | 150 |
| NSX100N | 50 | | | 70 | 100 | 150 |
| NSX100H | 70 | | | | 100 | 150 |
| NSX100S | 100 | | | | | 150 |
| NSX160B | 25 | 36 | 36 | 50 | 50 | 50 |
| NSX160F | 36 | | 50 | 70 | 100 | 150 |
| NSX160N | 50 | | | 70 | 100 | 150 |
| NSX160H | 70 | | | | 100 | 150 |
| NSX160S | 100 | | | | | 150 |
| NSX250B | 25 | 36 | 36 | 50 | 50 | 50 |
| NSX250F | 36 | | 50 | 70 | 100 | 150 |
| NSX250N | 50 | | | 70 | 100 | 150 |
| NSX250H | 70 | | | | 100 | 150 |
| NSX250S | 100 | | | | | 150 |
| NSX400F | 36 | | 50 | 70 | 100 | 150 |
| NSX400N | 50 | | | 70 | 100 | 150 |
| NSX400H | 70 | | | | 100 | 150 |
| NSX400S | 100 | | | | | 150 |

Cascading

Upstream: NSX630

Downstream: NG160, NSX100, NSX160, NSX250,
NSX400, NSX630

Ue: 380-415 V (Ph/N 220-240 V)

| Upstream | NSX630 | | | | |
|------------------------|---------|---------|---------|---------|---------|
| | NSX630F | NSX630N | NSX630H | NSX630S | NSX630L |
| Breaking capacity (kA) | 36 | 50 | 70 | 100 | 150 |

| Downstream | | | | | | |
|------------|------------------------|-----------------------------------|----|----|-----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | |
| NG160E | 16 | 25 | 25 | 30 | 30 | 30 |
| NG160N | 25 | | 36 | 50 | 50 | 50 |
| NG160H | 36 | | 50 | 50 | 50 | 50 |
| NSX100B | 25 | 36 | 36 | 50 | 50 | 50 |
| NSX100F | 36 | | 50 | 70 | 100 | 150 |
| NSX100N | 50 | | | 70 | 100 | 150 |
| NSX100H | 70 | | | | 100 | 150 |
| NSX100S | 100 | | | | | 150 |
| NSX160B | 25 | 36 | 36 | 50 | 50 | 50 |
| NSX160F | 36 | | 50 | 70 | 100 | 150 |
| NSX160N | 50 | | | 70 | 100 | 150 |
| NSX160H | 70 | | | | 100 | 150 |
| NSX160S | 100 | | | | | 150 |
| NSX250B | 25 | 36 | 36 | 50 | 50 | 50 |
| NSX250F | 36 | | 50 | 70 | 100 | 150 |
| NSX250N | 50 | | | 70 | 100 | 150 |
| NSX250H | 70 | | | | 100 | 150 |
| NSX250S | 100 | | | | | 150 |
| NSX400F | 36 | | 50 | 70 | 100 | 150 |
| NSX400N | 50 | | | 70 | 100 | 150 |
| NSX400H | 70 | | | | 100 | 150 |
| NSX400S | 100 | | | | | 150 |
| NSX630F | 36 | | 50 | 70 | 100 | 150 |
| NSX630N | 50 | | | 70 | 100 | 150 |
| NSX630H | 70 | | | | 100 | 150 |
| NSX630S | 100 | | | | | 150 |

Cascading

Upstream: NS630bN to NS1600N, NS630b,
NS800

Downstream: NSX100, NSX160, NSX250, NSX400,
NSX630, NS630b, NS800, NS1000

U_e: 380-415 V (Ph/N 220-240 V)

| Upstream | NS630bN to NS1600N | NS630b | | | NS800 | | |
|------------------------|-----------------------|--------|-----|-----|-------|-----|-----|
| Breaking capacity (kA) | 50 | H | L | LB | H | L | LB |
| | | 70 | 150 | 200 | 70 | 150 | 200 |

| Downstream | | | | | | | | |
|------------|---------------------------|-----------------------------------|----|-----|-----|----|-----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | |
| NSX100B | 25 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| NSX100F | 36 | 50 | 70 | 150 | 150 | 70 | 150 | 150 |
| NSX100N | 50 | | 70 | 150 | 150 | 70 | 150 | 150 |
| NSX100H | 70 | | | 150 | 150 | | 150 | 150 |
| NSX100S | 100 | | | 150 | 200 | | 150 | 200 |
| NSX100L | 150 | | | | 200 | | | 200 |
| NSX160B | 25 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| NSX160F | 36 | 50 | 70 | 150 | 150 | 70 | 150 | 150 |
| NSX160N | 50 | | 70 | 150 | 150 | 70 | 150 | 150 |
| NSX160H | 70 | | | 150 | 150 | | 150 | 150 |
| NSX160S | 100 | | | 150 | 200 | | 150 | 200 |
| NSX160L | 150 | | | | 200 | | | 200 |
| NSX250B | 25 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| NSX250F | 36 | 50 | 70 | 150 | 150 | 70 | 150 | 150 |
| NSX250N | 50 | | 70 | 150 | 150 | 70 | 150 | 150 |
| NSX250H | 70 | | | 150 | 150 | | 150 | 150 |
| NSX250S | 100 | | | 150 | 200 | | 150 | 200 |
| NSX250L | 150 | | | | 200 | | | 200 |
| NSX400F | 36 | 50 | 70 | 150 | 150 | 70 | 150 | 150 |
| NSX400N | 50 | | 70 | 150 | 150 | 70 | 150 | 150 |
| NSX400H | 70 | | | 150 | 150 | | 150 | 150 |
| NSX400S | 100 | | | 150 | 200 | | 150 | 200 |
| NSX400L | 150 | | | | 200 | | | 200 |
| NSX630F | 36 | 50 | 70 | 150 | 150 | 70 | 150 | 150 |
| NSX630N | 50 | | 70 | 150 | 150 | 70 | 150 | 150 |
| NSX630H | 70 | | | 150 | 150 | | 150 | 150 |
| NSX630S | 100 | | | 150 | 200 | | 150 | 200 |
| NSX630L | 150 | | | | 200 | | | 200 |
| NS630bN | 50 | | 70 | 150 | 200 | 70 | 150 | 200 |
| NS630bH | 70 | | | 150 | 200 | | 150 | 200 |
| NS800N | 50 | | | | | 70 | 150 | 200 |
| NS800H | 70 | | | | | | 150 | 200 |
| NS1000N | 50 | | | | | | | 200 |
| NS1000H | 70 | | | | | | | 200 |

Cascading

Upstream: NS1000, NS1250, NS1600, NS2000,
NS2500, NS3200, Masterpact

Downstream: NSX100-160-250-400-630,
NS630b, NS800-1000-1250-1600

Ue: 380-415 V (Ph/N 220-240 V)

| Upstream | NS1000 | | NS1250H NS1600H | NS2000N NS2500N NS3200N | Masterpact | |
|------------------------|--------|-----|--------------------|-------------------------------|------------|-------|
| | H | L | | | NT L1 | NW L1 |
| Breaking capacity (kA) | 70 | 150 | 70 | 70 | 150 | 150 |

| Downstream | | | | | | | |
|------------|------------------------|-----------------------------------|-----|----|----|-----|----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | |
| NSX100B | 25 | 50 | 50 | 50 | | 50 | |
| NSX100F | 36 | 70 | 150 | 70 | | 150 | |
| NSX100N | 50 | 70 | 150 | 70 | | 150 | |
| NSX100H | 70 | | 150 | | | 150 | |
| NSX100S | 100 | | 150 | | | 150 | |
| NSX100L | 150 | | | | | | |
| NSX160B | 25 | 50 | 50 | 50 | | 50 | |
| NSX160F | 36 | 70 | 150 | 70 | | 150 | |
| NSX160N | 50 | 70 | 150 | 70 | | 150 | |
| NSX160H | 70 | | 150 | | | 150 | |
| NSX160S | 100 | | 150 | | | 150 | |
| NSX160L | 150 | | | | | | |
| NSX250B | 25 | 50 | 50 | 50 | | 50 | |
| NSX250F | 36 | 70 | 150 | 70 | | 150 | |
| NSX250N | 50 | 70 | 150 | 70 | | 150 | |
| NSX250H | 70 | | 150 | | | 150 | |
| NSX250S | 100 | | 150 | | | 150 | |
| NSX250L | 150 | | | | | | |
| NSX400F | 36 | 70 | 150 | 70 | | 150 | |
| NSX400N | 50 | 70 | 150 | 70 | | 150 | |
| NSX400H | 70 | | 150 | | | 150 | |
| NSX400S | 100 | | 150 | | | 150 | |
| NSX400L | 150 | | | | | | |
| NSX630F | 36 | 70 | 150 | 70 | | 150 | |
| NSX630N | 50 | 70 | 150 | 70 | | 150 | |
| NSX630H | 70 | | 150 | | | 150 | |
| NSX630S | 100 | | 150 | | | 150 | |
| NSX630L | 150 | | | | | | |
| NS630bN | 50 | 70 | 150 | 70 | 70 | 150 | 65 |
| NS630bH | 70 | | 150 | | | 150 | |
| NS800N | 50 | | 150 | 70 | 70 | 150 | 65 |
| NS800H | 70 | | 150 | | | 150 | |
| NS1000N | 50 | | 150 | 70 | 70 | 150 | 65 |
| NS1000H | 70 | | 150 | | | 150 | |
| NS1250N | 50 | | | 70 | 70 | | 65 |
| NS1600N | 50 | | | | 70 | | 65 |

Cascading

Upstream: NSX100, NSX160

Downstream: iC60, C120, NG125, NSX100,
NSX160

Ue: 440 V

| Upstream | NSX100 NSX100B | NSX100F | NSX100N | NSX100H | NSX100S | NSX100L |
|------------------------|-------------------|---------|---------|---------|---------|---------|
| Breaking capacity (kA) | 20 | 35 | 50 | 65 | 90 | 130 |

| Downstream | | | | | | | |
|------------|------------------------|-----------------------------------|----|----|----|----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | |
| iC60N | 6 | 15 | 15 | 20 | 20 | 20 | 20 |
| iC60H | 10 | 20 | 20 | 25 | 25 | 25 | 25 |
| iC60L | ≤ 25 A | 20 | | 25 | 25 | 25 | 25 |
| | 32-40 A | 15 | 20 | 20 | 25 | 25 | 25 |
| | 50-63 A | 10 | | | | | |
| NSX100B | 20 | | 35 | 35 | 50 | 50 | 50 |
| NSX100F | 35 | | | 50 | 65 | 90 | 130 |
| NSX100N | 50 | | | | 65 | 90 | 130 |
| NSX100H | 65 | | | | | 90 | 130 |
| NSX100S | 90 | | | | | | 130 |

| Upstream | NSX160 NSX160B | NSX160F | NSX160N | NSX160H | NSX160S | NSX160L |
|------------------------|-------------------|---------|---------|---------|---------|---------|
| Breaking capacity (kA) | 20 | 35 | 50 | 65 | 90 | 130 |

| Downstream | | | | | | | |
|------------|------------------------|-----------------------------------|----|----|----|----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | |
| iC60N | 6 | 15 | 15 | 20 | 20 | 20 | 20 |
| iC60H | 10 | 20 | 20 | 25 | 25 | 25 | 25 |
| iC60L | ≤ 25 A | 20 | | 25 | 25 | 25 | 25 |
| | 32-40 A | 15 | 20 | 20 | 25 | 25 | 25 |
| | 50-63 A | 10 | | | | | |
| NG160E | 16 | 20 | 20 | 30 | 30 | 30 | 30 |
| NG160N | 25 | | 35 | 35 | 50 | 50 | 50 |
| NG160H | 30 | | | 50 | 50 | 50 | 50 |
| NSX100B | 20 | | 35 | 35 | 50 | 50 | 50 |
| NSX100F | 35 | | | 50 | 65 | 90 | 130 |
| NSX100N | 50 | | | | 65 | 90 | 130 |
| NSX100H | 65 | | | | | 90 | 130 |
| NSX100S | 90 | | | | | | 130 |
| NSX160B | 20 | | 35 | 35 | 50 | 50 | 50 |
| NSX160F | 35 | | | 50 | 65 | 90 | 130 |
| NSX160N | 50 | | | | 65 | 90 | 130 |
| NSX160H | 65 | | | | | 90 | 130 |
| NSX160S | 90 | | | | | | 130 |

Cascading

Upstream: NSX250, NSX400

Downstream: NG160, NSX100, NSX160, NSX250,
NSX400

Ue: 440 V

| Upstream | NSX250 NSX250B | NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
|------------------------|-------------------|---------|---------|---------|---------|---------|
| Breaking capacity (kA) | 20 | 35 | 50 | 65 | 90 | 130 |

| Downstream | | | | | | | |
|------------|------------------------|-----------------------------------|----|----|----|----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | |
| NG160E | 16 | 20 | 20 | 30 | 30 | 30 | 30 |
| NG160N | 25 | | 35 | 35 | 50 | 50 | 50 |
| NG160H | 30 | | | 50 | 50 | 50 | 50 |
| NSX100B | 20 | | 35 | 35 | 50 | 50 | 50 |
| NSX100F | 35 | | | 50 | 65 | 90 | 130 |
| NSX100N | 50 | | | | 65 | 90 | 130 |
| NSX100H | 65 | | | | | 90 | 130 |
| NSX100S | 90 | | | | | | 130 |
| NSX160B | 20 | | 35 | 35 | 50 | 50 | 50 |
| NSX160F | 35 | | | 50 | 65 | 90 | 130 |
| NSX160N | 50 | | | | 65 | 90 | 130 |
| NSX160H | 65 | | | | | 90 | 130 |
| NSX160S | 90 | | | | | | 130 |
| NSX250B | 20 | | 35 | 35 | 50 | 50 | 50 |
| NSX250F | 35 | | | 50 | 65 | 90 | 130 |
| NSX250N | 50 | | | | 65 | 90 | 130 |
| NSX250H | 65 | | | | | 90 | 130 |
| NSX250S | 90 | | | | | | 130 |

| Upstream | NSX400 NSX400F | NSX400N | NSX400H | NSX400S | NSX400L |
|------------------------|-------------------|---------|---------|---------|---------|
| Breaking capacity (kA) | 30 | 42 | 65 | 90 | 130 |

| Downstream | | | | | | |
|------------|------------------------|-----------------------------------|----|----|----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | |
| NG160E | 16 | 20 | 30 | 30 | 30 | 30 |
| NG160N | 25 | 30 | 30 | 50 | 50 | 50 |
| NG160H | 30 | | 42 | 50 | 50 | 50 |
| NSX100B | 20 | 30 | 30 | 50 | 50 | 50 |
| NSX100F | 35 | | 42 | 65 | 90 | 130 |
| NSX100N | 50 | | | 65 | 90 | 130 |
| NSX100H | 65 | | | | 90 | 130 |
| NSX100S | 90 | | | | | 130 |
| NSX160B | 20 | 30 | 30 | 50 | 50 | 50 |
| NSX160F | 35 | | 42 | 65 | 90 | 130 |
| NSX160N | 50 | | | 65 | 90 | 130 |
| NSX160H | 65 | | | | 90 | 130 |
| NSX160S | 90 | | | | | 130 |
| NSX250B | 20 | 30 | 30 | 50 | 50 | 50 |
| NSX250F | 35 | | 42 | 65 | 90 | 130 |
| NSX250N | 50 | | | 65 | 90 | 130 |
| NSX250H | 65 | | | | 90 | 130 |
| NSX250S | 90 | | | | | 130 |
| NSX400F | 30 | | 42 | 65 | 90 | 130 |
| NSX400N | 42 | | | 65 | 90 | 130 |
| NSX400H | 65 | | | | 90 | 130 |
| NSX400S | 90 | | | | | 130 |

Cascading

Upstream: NSX630

Downstream: NG160, NSX100, NSX160, NSX250,
NSX400, NSX630

Ue: 440 V

| Upstream | NSX630 | NSX630N | NSX630H | NSX630S | NSX630L |
|------------------------|--------|---------|---------|---------|---------|
| Breaking capacity (kA) | 30 | 42 | 65 | 90 | 130 |

| Downstream | | | | | | |
|------------|------------------------|-----------------------------------|----|----|----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | |
| NG160E | 16 | 20 | 30 | 30 | 30 | 30 |
| NG160N | 25 | 30 | 30 | 50 | 50 | 50 |
| NG160H | 30 | | 42 | 50 | 50 | 50 |
| NSX100B | 20 | 30 | 30 | 50 | 50 | 50 |
| NSX100F | 35 | | 42 | 65 | 90 | 130 |
| NSX100N | 50 | | | 65 | 90 | 130 |
| NSX100H | 65 | | | | 90 | 130 |
| NSX100S | 90 | | | | | 130 |
| NSX160B | 20 | 35 | 30 | 50 | 50 | 50 |
| NSX160F | 35 | | 42 | 65 | 90 | 130 |
| NSX160N | 50 | | | 65 | 90 | 130 |
| NSX160H | 65 | | | | 90 | 130 |
| NSX160S | 90 | | | | | 130 |
| NSX250B | 20 | 35 | 30 | 50 | 50 | 50 |
| NSX250F | 35 | | 42 | 65 | 90 | 130 |
| NSX250N | 50 | | | 65 | 90 | 130 |
| NSX250H | 65 | | | | 90 | 130 |
| NSX250S | 90 | | | | | 130 |
| NSX400F | 30 | | 42 | 65 | 90 | 130 |
| NSX400N | 42 | | | 65 | 90 | 130 |
| NSX400H | 65 | | | | 90 | 130 |
| NSX400S | 90 | | | | | 130 |
| NSX630F | 30 | | 42 | 65 | 90 | 130 |
| NSX630N | 42 | | | 65 | 90 | 130 |
| NSX630H | 65 | | | | 90 | 130 |
| NSX630S | 90 | | | | | 130 |

Cascading

Upstream: NS630bN to NS1600N, NS630b, NS800

Downstream: NSX100, NSX160, NSX250, NSX400,
NSX630, NS630b, NS800

Ue: 440 V

| Upstream | NS630bN to NS1600N | NS630b | | | NS800 | | |
|------------------------|-----------------------|--------|-----|-----|-------|-----|-----|
| Breaking capacity (kA) | | H | L | LB | H | L | LB |
| | 50 | 65 | 130 | 200 | 65 | 130 | 200 |

| Downstream | | | | | | | | |
|------------|---------------------------|-----------------------------------|----|-----|-----|----|-----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | |
| NSX100B | 20 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| NSX100F | 35 | 50 | 65 | 130 | 130 | 65 | 130 | 130 |
| NSX100N | 50 | | 65 | 130 | 130 | 65 | 130 | 130 |
| NSX100H | 65 | | | 130 | 130 | | 130 | 130 |
| NSX100S | 90 | | | 130 | 200 | | 130 | 200 |
| NSX100L | 130 | | | | 200 | | | 200 |
| NSX160B | 20 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| NSX160F | 35 | 50 | 65 | 130 | 130 | 65 | 130 | 130 |
| NSX160N | 50 | | 65 | 130 | 130 | 65 | 130 | 130 |
| NSX160H | 65 | | | 130 | 130 | | 130 | 130 |
| NSX160S | 90 | | | 130 | 200 | | 130 | 200 |
| NSX160L | 130 | | | | 200 | | | 200 |
| NSX250B | 20 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| NSX250F | 35 | 50 | 65 | 130 | 130 | 65 | 130 | 130 |
| NSX250N | 50 | | 65 | 130 | 130 | 65 | 130 | 130 |
| NSX250H | 65 | | | 130 | 130 | | 130 | 130 |
| NSX250S | 90 | | | 130 | 200 | | 130 | 200 |
| NSX250L | 130 | | | | 200 | | | 200 |
| NSX400F | 30 | 50 | 65 | 130 | 130 | 65 | 130 | 130 |
| NSX400N | 42 | | 65 | 130 | 130 | 65 | 130 | 130 |
| NSX400H | 65 | | | 130 | 130 | | 130 | 130 |
| NSX400S | 90 | | | 130 | 200 | | 130 | 200 |
| NSX400L | 130 | | | | 200 | | | 200 |
| NSX630F | 30 | 50 | 65 | 130 | 130 | 65 | 130 | 130 |
| NSX630N | 42 | | 65 | 130 | 130 | 65 | 130 | 130 |
| NSX630H | 65 | | | 130 | 130 | | 130 | 130 |
| NSX630S | 90 | | | 130 | 200 | | 130 | 200 |
| NSX630L | 130 | | | | 200 | | | 200 |
| NS630bN | 50 | | 65 | 130 | 200 | 65 | 130 | 200 |
| NS630bH | 65 | | | 130 | 200 | | 130 | 200 |
| NS800N | 50 | | | | | 65 | 130 | 200 |
| NS800H | 65 | | | | | | 130 | 200 |

Cascading

Upstream: NS1000, NS1250, NS1600, NS2000,
NS2500, NS3200, Masterpact

Downstream: NSX100, NSX160, NSX250, NSX400,
NSX630, NS630b, NS800-1000-1250-1600

Ue: 440 V

| Upstream | NS1000 | | NS1250H NS1600H | NS2000N NS2500N NS3200N | Masterpact | |
|------------------------|--------|-----|--------------------|-------------------------------|------------|-------|
| | H | L | | | NT L1 | NW L1 |
| Breaking capacity (kA) | 65 | 130 | 65 | 65 | 130 | 150 |

| Downstream | | | | | | | |
|------------|------------------------|-----------------------------------|-----|----|----|-----|----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | |
| NSX100B | 20 | 50 | 50 | 50 | | 50 | |
| NSX100F | 35 | 65 | 130 | 65 | | 130 | |
| NSX100N | 50 | 65 | 130 | 65 | | 130 | |
| NSX100H | 65 | | 130 | | | 130 | |
| NSX100S | 90 | | 130 | | | 130 | |
| NSX100L | 130 | | | | | | |
| NSX160B | 20 | 50 | 50 | 50 | | 50 | |
| NSX160F | 35 | 65 | 130 | 65 | | 130 | |
| NSX160N | 50 | 65 | 130 | 65 | | 130 | |
| NSX160H | 65 | | 130 | | | 130 | |
| NSX160S | 90 | | 130 | | | 130 | |
| NSX160L | 130 | | | | | | |
| NSX250B | 20 | 50 | 50 | 50 | | 50 | |
| NSX250F | 35 | 65 | 130 | 65 | | 130 | |
| NSX250N | 50 | 65 | 130 | 65 | | 130 | |
| NSX250H | 65 | | 130 | | | 130 | |
| NSX250S | 90 | | 130 | | | 130 | |
| NSX250L | 130 | | | | | | |
| NSX400F | 30 | 65 | 130 | 65 | | 130 | |
| NSX400N | 42 | 65 | 130 | 65 | | 130 | |
| NSX400H | 65 | | 130 | | | 130 | |
| NSX400S | 90 | | 130 | | | 130 | |
| NSX400L | 130 | | | | | | |
| NSX630F | 30 | 65 | 130 | 65 | | 130 | |
| NSX630N | 42 | 65 | 130 | 65 | | 130 | |
| NSX630H | 65 | | 130 | | | 130 | |
| NSX630S | 90 | | 130 | | | 130 | |
| NSX630L | 130 | | | | | | |
| NS630bN | 50 | 65 | 130 | 65 | 65 | 130 | 65 |
| NS630bH | 65 | | 130 | | | 130 | |
| NS800N | 50 | 65 | 130 | 65 | 65 | 130 | 65 |
| NS800H | 65 | | 130 | | | 130 | |
| NS1000N | 50 | 65 | 130 | 65 | 65 | 130 | 65 |
| NS1000H | 65 | | 130 | | | 130 | |
| NS1250N | 50 | | | 65 | 65 | | 65 |
| NS1600N | 50 | | | | | | 65 |

Ue: 220-240 V (Ph/N 110-130 V)

| Upstream | iDPN | iC60 | | | | | C120 | | NG125 | | |
|------------------------|-------|-------|-------|-------|----|-------|-------|--------|--------|--------|-----|
| | iDPNN | iC60N | iC60H | iC60L | | C120N | C120H | NG125N | NG125H | NG125L | |
| Breaking capacity (kA) | 15 | 20 | 30 | 50 | 36 | 30 | 20 | 30 | 50 | 70 | 100 |

| Downstream | | | | | | | | | | | | | |
|------------|------------|----------|-----------------------------------|----|----|----|----|----|----|----|----|-----|-----|
| | In Max (A) | Icu (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | |
| iDPN | 40 | 10 | 10 | 15 | 20 | 30 | 25 | 20 | 15 | 20 | 20 | 40 | 50 |
| iDPNN | 40 | 15 | | 20 | 30 | 50 | 36 | 30 | 20 | 30 | 30 | 40 | 50 |
| iC60N | 25 | 20 | | | 30 | 50 | 36 | 30 | | 30 | 50 | 50 | 50 |
| | 40 | 20 | | | 30 | | 36 | 30 | | 30 | 50 | 50 | 50 |
| | 63 | 20 | | | 30 | | | 30 | | 30 | 50 | 50 | 50 |
| iC60H | 25 | 30 | | | | 50 | 36 | | | | 50 | 70 | 70 |
| | 40 | 30 | | | | | 36 | | | | 50 | 70 | 70 |
| | 63 | 30 | | | | | | | | | 50 | 70 | 70 |
| iC60L | 25 | 50 | | | | | | | | | | 70 | 100 |
| | 40 | 36 | | | | | | | | | 50 | 70 | 100 |
| | 63 | 30 | | | | | | | | | 50 | 70 | 70 |
| C120N | 125 | 20 | | | | | | | 30 | 50 | 70 | 70 | |
| C120H | 125 | 30 | | | | | | | | 50 | 70 | 70 | |
| NG125N | 125 | 50 | | | | | | | | | 70 | 70 | |
| NG125H | 80 | 70 | | | | | | | | | | 100 | |

| Upstream | NG160 | | | NSX100 | | | | | |
|------------------------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| | NG160E | NG160N | NG160H | NSX100B | NSX100F | NSX100N | NSX100H | NSX100S | NSX100L |
| Breaking capacity (kA) | 25 | 40 | 50 | 40 | 85 | 90 | 100 | 120 | 150 |

| Downstream | | | | | | | | | | | |
|------------|------------|----------|-----------------------------------|----|----|----|----|----|-----|-----|-----|
| | In Max (A) | Icu (kA) | Reinforced breaking capacity (kA) | | | | | | | | |
| iDPN | 16 | 10 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | 40 | 10 | 10 | 10 | 10 | 20 | 20 | 20 | 20 | 20 | 20 |
| iDPNN | 16 | 15 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | 40 | 15 | 15 | 15 | 15 | 30 | 30 | 30 | 30 | 30 | 30 |
| iC60N | 63 | 20 | 25 | 40 | 50 | 40 | 40 | 60 | 60 | 60 | 60 |
| iC60H | 63 | 30 | | 40 | 50 | 40 | 50 | 80 | 80 | 80 | 80 |
| iC60L | 25 | 50 | | 40 | 50 | | 65 | 80 | 80 | 80 | 80 |
| | 40 | 36 | | 40 | 50 | 40 | 65 | 80 | 80 | 80 | 80 |
| | 63 | 30 | | 40 | 50 | 40 | 65 | 80 | 80 | 80 | 80 |
| C120N | 125 | 20 | 25 | 40 | 40 | 40 | 40 | 50 | 50 | 70 | 70 |
| C120H | 125 | 30 | | 40 | 40 | 40 | 40 | 50 | 50 | 70 | 70 |
| NG125N | 125 | 50 | | | | | 60 | 70 | 70 | 85 | 85 |
| NG125H | 80 | 70 | | | | | 85 | 85 | 85 | 100 | 100 |
| NG125L | 80 | 100 | | | | | | | | 120 | 150 |
| NG160E | | 25 | | | 50 | | | | | | |
| NG160N | | 40 | | | | | | | | | |
| NG160H | | 50 | | | | | | | | | |
| NSX100B | | 40 | | | | | 85 | 90 | 90 | 100 | 100 |
| NSX100F | | 85 | | | | | | 90 | 100 | 120 | 150 |
| NSX100N | | 90 | | | | | | | 100 | 120 | 150 |
| NSX100H | | 100 | | | | | | | | 120 | 150 |
| NSX100S | | 120 | | | | | | | | | 150 |

Cascading

Upstream: NSX160

Downstream: iDPN, iC60, C120, NG125, NG160,
NSX100, NSX160

Ue: 220-240 V (Ph/N 110-130 V)

| Upstream | NSX160 | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|
| | NSX160B | NSX160F | NSX160N | NSX160H | NSX160S | NSX160L |
| Breaking capacity (kA) | 40 | 85 | 90 | 100 | 120 | 150 |

| Downstream | | | | | | | |
|------------|------------|----------|-----------------------------------|----|----|-----|-----|
| | In Max (A) | Icu (kA) | Reinforced breaking capacity (kA) | | | | |
| iDPN | 40 | 10 | 20 | 20 | 20 | 20 | 20 |
| iDPNN | 40 | 15 | 30 | 30 | 30 | 30 | 30 |
| iC60N | 63 | 20 | 40 | 40 | 60 | 60 | 60 |
| iC60H | 63 | 30 | 40 | 50 | 80 | 80 | 80 |
| iC60L | 25 | 50 | | 65 | 80 | 80 | 80 |
| | 40 | 36 | 40 | 65 | 80 | 80 | 80 |
| | 63 | 30 | 40 | 65 | 80 | 80 | 80 |
| C120N | 125 | 20 | 40 | 40 | 50 | 50 | 70 |
| C120H | 125 | 30 | 40 | 40 | 50 | 50 | 70 |
| NG125N | 125 | 50 | | 60 | 70 | 70 | 85 |
| NG125H | 80 | 70 | | 85 | 85 | 85 | 100 |
| NG125L | 80 | 100 | | | | | 120 |
| NG160E | | 25 | 40 | 50 | 50 | 50 | 60 |
| NG160N | | 40 | | 85 | 90 | 100 | 100 |
| NG160H | | 50 | | 85 | 90 | 100 | 100 |
| NSX100B | | 40 | | 85 | 90 | 90 | 100 |
| NSX100F | | 85 | | | 90 | 100 | 120 |
| NSX100N | | 90 | | | | 100 | 120 |
| NSX100H | | 100 | | | | | 120 |
| NSX100S | | 120 | | | | | 150 |
| NSX160B | | 40 | | 85 | 90 | 90 | 100 |
| NSX160F | | 85 | | | 90 | 100 | 120 |
| NSX160N | | 90 | | | | 100 | 120 |
| NSX160H | | 100 | | | | | 120 |
| NSX160S | | 120 | | | | | 150 |

Cascading

Upstream: NSX250

Downstream: iDPN, iC60, C120, NG125, NG160,
NSX100, NSX160, NSX250

Ue: 220-240 V (Ph/N 110-130 V)

| Upstream | NSX250 | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|
| | NSX250B | NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
| Breaking capacity (kA) | 40 | 85 | 90 | 100 | 120 | 150 |

| Downstream | | | | | | | |
|------------|------------|----------|-----------------------------------|----|----|-----|-----|
| | In Max (A) | Icu (kA) | Reinforced breaking capacity (kA) | | | | |
| iDPN | 40 | 10 | 20 | 20 | 20 | 20 | 20 |
| iDPNN | 40 | 15 | 30 | 30 | 30 | 30 | 30 |
| iC60N | 63 | 20 | 40 | 40 | 60 | 60 | 60 |
| iC60H | 63 | 30 | 40 | 50 | 65 | 65 | 65 |
| iC60L | 25 | 50 | | 65 | 80 | 80 | 80 |
| | 40 | 36 | 40 | 65 | 80 | 80 | 80 |
| | 63 | 30 | 40 | 50 | 65 | 65 | 65 |
| C120N | 125 | 20 | 40 | 40 | 50 | 50 | 70 |
| C120H | 125 | 30 | 40 | 40 | 50 | 50 | 70 |
| NG125N | 125 | 50 | | 60 | 70 | 70 | 85 |
| NG125H | 80 | 70 | | 85 | 85 | 85 | 100 |
| NG125L | 80 | 100 | | | | | 120 |
| NG160E | | 25 | 40 | 50 | 50 | 50 | 60 |
| NG160N | | 40 | | 85 | 90 | 100 | 100 |
| NG160H | | 50 | | 85 | 90 | 100 | 100 |
| NSX100B | | 40 | | 85 | 90 | 90 | 100 |
| NSX100F | | 85 | | | 90 | 100 | 120 |
| NSX100N | | 90 | | | | 100 | 120 |
| NSX100H | | 100 | | | | | 120 |
| NSX100S | | 120 | | | | | 150 |
| NSX160B | | 40 | | 85 | 90 | 90 | 100 |
| NSX160F | | 85 | | | 90 | 100 | 120 |
| NSX160N | | 90 | | | | 100 | 120 |
| NSX160H | | 100 | | | | | 120 |
| NSX160S | | 120 | | | | | 150 |
| NSX250B | | 40 | | 85 | 90 | 90 | 100 |
| NSX250F | | 85 | | | 90 | 100 | 120 |
| NSX250N | | 90 | | | | 100 | 120 |
| NSX250H | | 100 | | | | | 120 |
| NSX250S | | 120 | | | | | 150 |

Cascading

Upstream: NSX400

Downstream: NG160, NSX100, NSX160, NSX250,
NSX400

Ue: 220-240 V (Ph/N 110-130 V)

| Upstream | NSX400 NSX400F | NSX400N | NSX400H | NSX400S | NSX400L |
|------------------------|-------------------|---------|---------|---------|---------|
| Breaking capacity (kA) | 40 | 85 | 100 | 120 | 150 |

| Downstream | | | | | | |
|------------|---------------------------|-----------------------------------|----|-----|-----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | |
| NG160E | 25 | 40 | 50 | 50 | 60 | 60 |
| NG160N | 40 | | 85 | 90 | 100 | 100 |
| NG160H | 50 | | 85 | 90 | 100 | 100 |
| NSX100B | 40 | | 85 | 90 | 100 | 100 |
| NSX100F | 85 | | | 100 | 120 | 150 |
| NSX100N | 90 | | | 100 | 120 | 150 |
| NSX100H | 100 | | | | 120 | 150 |
| NSX100S | 120 | | | | | 150 |
| NSX160B | 40 | | 85 | 90 | 100 | 100 |
| NSX160F | 85 | | | 100 | 120 | 150 |
| NSX160N | 90 | | | 100 | 120 | 150 |
| NSX160H | 100 | | | | 120 | 150 |
| NSX160S | 120 | | | | | 150 |
| NSX250B | 40 | | 85 | 90 | 100 | 100 |
| NSX250F | 85 | | | 100 | 120 | 150 |
| NSX250N | 90 | | | 100 | 120 | 150 |
| NSX250H | 100 | | | | 120 | 150 |
| NSX250S | 120 | | | | | 150 |
| NSX400F | 40 | | 85 | 100 | 120 | 150 |
| NSX400N | 85 | | | 100 | 120 | 150 |
| NSX400H | 100 | | | | 120 | 150 |
| NSX400S | 120 | | | | | 150 |

Cascading

Upstream: NSX630

Downstream: NG160, NSX100, NSX160, NSX250,
NSX400, NSX630

Ue: 220-240 V (Ph/N 110-130 V)

| Upstream | NSX630 | | | | |
|------------------------|---------|---------|---------|---------|---------|
| | NSX630F | NSX630N | NSX630H | NSX630S | NSX630L |
| Breaking capacity (kA) | 40 | 85 | 100 | 120 | 150 |

| Downstream | | | | | | |
|------------|------------------------|-----------------------------------|----|-----|-----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | |
| NG160E | 25 | 40 | 50 | 50 | 60 | 60 |
| NG160N | 40 | 40 | 85 | 90 | 100 | 100 |
| NG160H | 50 | 40 | 85 | 90 | 100 | 100 |
| NSX100B | 40 | | 85 | 90 | 100 | 100 |
| NSX100F | 85 | | | 100 | 120 | 150 |
| NSX100N | 90 | | | 100 | 120 | 150 |
| NSX100H | 100 | | | | 120 | 150 |
| NSX100S | 120 | | | | | 150 |
| NSX160B | 40 | | 85 | 90 | 100 | 100 |
| NSX160F | 85 | | | 100 | 120 | 150 |
| NSX160N | 90 | | | 100 | 120 | 150 |
| NSX160H | 100 | | | | 120 | 150 |
| NSX160S | 120 | | | | | 150 |
| NSX250B | 40 | | 85 | 90 | 100 | 100 |
| NSX250F | 85 | | | 100 | 120 | 150 |
| NSX250N | 90 | | | 100 | 120 | 150 |
| NSX250H | 100 | | | | 120 | 150 |
| NSX250S | 120 | | | | | 150 |
| NSX400F | 40 | | 85 | 100 | 120 | 150 |
| NSX400N | 85 | | | 100 | 120 | 150 |
| NSX400H | 100 | | | 100 | 120 | 150 |
| NSX400S | 120 | | | | 120 | 150 |
| NSX630F | 40 | | 85 | 100 | 120 | 150 |
| NSX630N | 85 | | | 100 | 120 | 150 |
| NSX630H | 100 | | | 100 | 120 | 150 |
| NSX630S | 120 | | | | 120 | 150 |

U_e: 220-240 V (Ph/N 110-130 V)

| Upstream | NS630 | | NS800-1000 | | | Masterpact | |
|------------------------|---------|---------|------------|---------|---------|------------|-------|
| | NS630bL | NS630LB | NS800L | NS800LB | NS1000L | NT L1 | NW L1 |
| Breaking capacity (kA) | 150 | 200 | 150 | 200 | 150 | 150 | 150 |

| Downstream | | | | | | | | |
|------------|------------------------|-----------------------------------|-----|-----|-----|-----|-----|-----|
| | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | |
| NSX100B | 40 | 50 | 50 | 50 | 50 | 50 | 50 | |
| NSX100F | 85 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX100N | 90 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX100H | 100 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX100S | 120 | 150 | 200 | 150 | 200 | 150 | 150 | |
| NSX100L | 150 | | 200 | | 200 | | | |
| NSX160B | 40 | 50 | 50 | 50 | 50 | 50 | 50 | |
| NSX160F | 85 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX160N | 90 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX160H | 100 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX160S | 120 | 150 | 200 | 150 | 200 | 150 | 150 | |
| NSX160L | 150 | | 200 | | 200 | | | |
| NSX250B | 40 | 50 | 50 | 50 | 50 | 50 | 50 | |
| NSX250F | 85 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX250N | 90 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX250H | 100 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX250S | 120 | 150 | 200 | 150 | 200 | 150 | 150 | |
| NSX250L | | | 200 | | 200 | | | |
| NSX400F | 40 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX400N | 85 | 150 | 150 | 150 | 150 | 150 | 150 | 100 |
| NSX400H | 100 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX400S | 120 | 150 | 200 | 150 | 200 | 150 | 150 | |
| NSX400L | 150 | | 200 | | 200 | | | |
| NSX630F | 40 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX630N | 85 | 150 | 150 | 150 | 150 | 150 | 150 | 100 |
| NSX630H | 100 | 150 | 150 | 150 | 150 | 150 | 150 | |
| NSX630S | 120 | 150 | 200 | 150 | 200 | 150 | 150 | |
| NSX630L | 150 | | 200 | | 200 | | | |

Discrimination enhanced by cascading

With traditional circuit breakers, cascading between two devices generally results in the look of discrimination.

With Compact circuit breakers, the discrimination characteristics in the tables remain applicable and are in some cases even enhanced. Protection discrimination is ensured for short-circuit currents greater than the rated breaking capacity of the circuit breaker and even, in some cases, for its enhanced breaking capacity. In the later case, **protection discrimination is total**, i.e. only the downstream device trips for any and all possible faults at its point in the installation.

Example

Consider a combination between:

- a Compact NSX250H with trip unit TM250D
- a Compact NSX100F with trip unit TM25D.

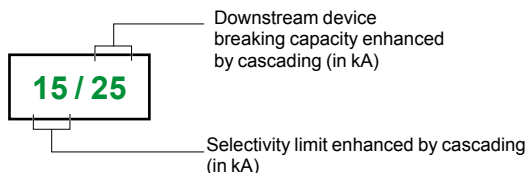
The discrimination tables indicate total discrimination. Protection discrimination is therefore ensured up to the breaking capacity of the NSX100F, i.e. **36 kA**.

The cascading tables indicate an enhanced breaking capacity of **70 kA**.

The enhanced discrimination tables indicate that in a cascading configuration, discrimination is ensured up to **70 kA**, i.e. for any and all possible faults at that point in the installation.

Enhanced discrimination tables - 380-415 V

For each combination of two circuit breakers, the tables indicate the:



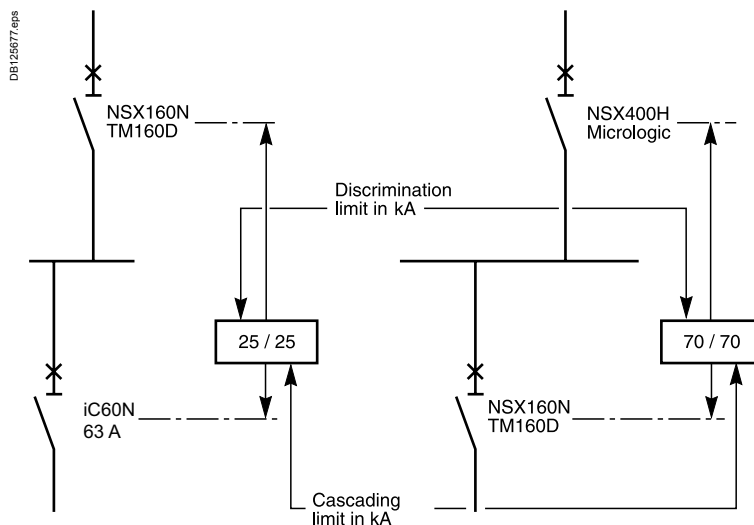
In a table, a box containing two equal values indicates that discrimination is provided up to the reinforced breaking capacity of the downstream device.

These tables apply only to cases with combined discrimination and cascading between two devices. For all other cases, refer to the normal cascading and discrimination tables.

Technical principle

Enhanced discrimination is the result of the exclusive Compact NSX Roto-active breaking technique which operates as follows:

- due to the short-circuit current (electrodynamic forces), the contacts in both devices simultaneously separate. The result is major limitation of the short-circuit current
- the dissipated energy provokes the reflex tripping of the downstream device, but is insufficient to trip the upstream device.



Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NG160, TM-D

Downstream: iC60

Ue: 380-415 V (Ph/N 220-240 V)

| | | |
|-------------------------------|-------------------------|---------------|
| Upstream | NG160 NG160E | NG160N |
| Breaking capacity (kA) | 16 | 25 |
| Trip unit | TM-D | TM-D |

| Downstream | | | 63 | 80 | 100 | 125 | 160 | 63 | 80 | 100 | 125 | 160 |
|-------------------|--------|-------------------------------|--|-----------|------------|------------|------------|-----------|-----------|------------|------------|------------|
| Rating (A) | | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | |
| iC60N | ≤ 20 A | 10 | 10/16 | 16/16 | 16/16 | 16/16 | 16/16 | 10/20 | 16/20 | 20/20 | 20/20 | 20/20 |
| | 25 A | 10 | 6/16 | 6/16 | 16/16 | 16/16 | 16/16 | 6/20 | 6/20 | 20/20 | 20/20 | 20/20 |
| | 32 A | 10 | 4/16 | 4/16 | 7/16 | 16/16 | 16/16 | 4/20 | 4/20 | 7/20 | 20/20 | 20/20 |
| | 40 A | 10 | | 4/16 | 7/16 | 8/16 | 8/16 | | 4/20 | 7/20 | 8/20 | 8/20 |
| | 50 A | 10 | | | 5/16 | 8/16 | 8/16 | | | 5/20 | 8/20 | 8/20 |
| | 63 A | 10 | | | | 6/16 | 6/16 | | | | 6/20 | 6/20 |
| iC60H | ≤ 20 A | 15 | 10/16 | 16/16 | 16/16 | 16/16 | 16/16 | 10/25 | 15/25 | 25/25 | 25/25 | 25/25 |
| | 25 A | 15 | 6/16 | 6/16 | 16/16 | 16/16 | 16/16 | 6/25 | 6/25 | 25/25 | 25/25 | 25/25 |
| | 32 A | 15 | 4/16 | 4/16 | 7/16 | 16/16 | 16/16 | 4/25 | 4/25 | 7/25 | 25/25 | 25/25 |
| | 40 A | 15 | | 4/16 | 7/16 | 8/16 | 8/16 | | 4/25 | 7/25 | 8/25 | 8/25 |
| | 50 A | 15 | | | 5/16 | 8/16 | 8/16 | | | 5/25 | 8/25 | 8/25 |
| | 63 A | 15 | | | | 6/16 | 6/16 | | | | 6/25 | 6/25 |
| iC60L | ≤ 20 A | 25 | | | | | | 10/25 | 15/25 | 25/25 | 25/25 | 25/25 |
| | 25 A | 25 | | | | | | 6/25 | 6/25 | 25/25 | 25/25 | 25/25 |
| | 32 A | 20 | | | | | | 4/25 | 4/25 | 7/25 | 25/25 | 25/25 |
| | 40 A | 20 | | | | | | | 4/25 | 7/25 | 8/25 | 8/25 |
| | 50 A | 15 | | | 5/16 | 8/16 | 8/16 | | | 5/25 | 8/25 | 8/25 |
| | 63 A | 15 | | | | 6/16 | 6/16 | | | | 6/25 | 6/25 |

| | |
|-------------------------------|---------------|
| Upstream | NG160H |
| Breaking capacity (kA) | 36 |
| Trip unit | TM-D |

| Downstream | | | 63 | 80 | 100 | 125 | 160 |
|-------------------|--------|-------------------------------|--|-----------|------------|------------|------------|
| Rating (A) | | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | |
| iC60N | ≤ 20 A | 10 | 10/25 | 15/25 | 20/25 | 20/25 | 20/25 |
| | 25 A | 10 | 6/25 | 6/25 | 20/25 | 20/25 | 20/25 |
| | 32 A | 10 | 4/25 | 4/25 | 7/25 | 20/25 | 20/25 |
| | 40 A | 10 | | 4/25 | 7/25 | 8/25 | 8/25 |
| | 50 A | 10 | | | 5/25 | 8/25 | 8/25 |
| | 63 A | 10 | | | | 6/25 | 6/25 |
| iC60H | ≤ 20 A | 15 | 10/25 | 15/25 | 25/25 | 25/25 | 25/25 |
| | 25 A | 15 | 6/25 | 6/25 | 25/25 | 25/25 | 25/25 |
| | 32 A | 15 | 4/25 | 4/25 | 7/25 | 25/25 | 25/25 |
| | 40 A | 15 | | 4/25 | 7/25 | 8/25 | 8/25 |
| | 50 A | 15 | | | 5/25 | 8/25 | 8/25 |
| | 63 A | 15 | | | | 6/25 | 6/25 |
| iC60L | ≤ 20 A | 25 | 10/25 | 15/25 | 25/25 | 25/25 | 25/25 |
| | 25 A | 25 | 6/25 | 6/25 | 25/25 | 25/25 | 25/25 |
| | 32 A | 20 | 4/25 | 4/25 | 7/25 | 25/25 | 25/25 |
| | 40 A | 20 | | 4/25 | 7/25 | 8/25 | 8/25 |
| | 50 A | 15 | | | 5/25 | 8/25 | 8/25 |
| | 63 A | 15 | | | | 6/25 | 6/25 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX160, NSX250, TM-D

Downstream: iC60, C120, NG125

Ue: 380-415 V (Ph/N 220-240 V)

| Upstream | NSX160 NSX160B | NSX160F | NSX160N | NSX160H | NSX160S | NSX160L |
|------------------------|-------------------|---------|---------|---------|---------|---------|
| Breaking capacity (kA) | 25 | 36 | 50 | 70 | 100 | 150 |
| Trip unit | TM-D | TM-D | TM-D | TM-D | TM-D | TM-D |

| Downstream | | 80-100 | 125-160 | 80-100 | 125-160 | 80-100 | 125-160 | 80-100 | 125-160 | 80-100 | 125-160 | 80-100 | 125-160 |
|------------|------------------------|-----------------------------------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | | |
| iC60N | 10 | | 20/20 | | 25/25 | | 30/30 | | 30/30 | | 30/30 | | 30/30 |
| iC60H | ≤ 40 A | 15 | 25/25 | | 36/36 | | 40/40 | | 40/40 | | 40/40 | | 40/40 |
| | 50-63 A | 15 | 25/25 | | 30/30 | | 30/30 | | 30/30 | | 30/30 | | 30/30 |
| iC60L | ≤ 25 A | 25 | | | 36/36 | | 40/40 | | 40/40 | | 40/40 | | 40/40 |
| | 32-40 A | 20 | 25/25 | | 36/36 | | 40/40 | | 40/40 | | 40/40 | | 40/40 |
| | 50-63 A | 15 | 25/25 | | 30/30 | | 36/36 | | 36/36 | | 36/36 | | 36/36 |
| C120N/H | ≤ 40 A | 10/15 | 25/25 | | 25/25 | | 25/25 | | 25/25 | | 25/25 | | 25/25 |
| | 50 to 125 A | 10/15 | | | | | | | | | | | |
| NG125N | ≤ 40 A | 25 | | | 36/36 | | 36/36 | | 36/36 | | 50/50 | | 70/70 |
| | 50 to 125 A | 25 | | | | | | | | | | | |
| NG125H | ≤ 40 A | 36 | | | | | 40/40 | | 50/50 | | 70/70 | | 100/100 |
| | 50 to 80 A | 36 | | | | | | | | | | | |
| NG125L | ≤ 40 A | 50 | | | | | | | 70/70 | | 100/100 | | 150/150 |
| | 50 to 80 A | 50 | | | | | | | | | | | |

| Upstream | NSX250 NSX250B | NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
|------------------------|-------------------|---------|---------|---------|---------|---------|
| Breaking capacity (kA) | 25 | 36 | 50 | 70 | 100 | 150 |
| Trip unit | TM-D | TM-D | TM-D | TM-D | TM-D | TM-D |

| Downstream | | 200-250 | 200-250 | 200-250 | 200-250 | 200-250 | 200-250 |
|--------------------|------------------------|-----------------------------------|---------|---------|---------|---------|---------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | |
| iC60N | ≤ 40 A | 10 | 20/20 | 25/25 | 30/30 | 30/30 | 30/30 |
| | 50-63 A | 10 | 20/20 | 25/25 | 25/25 | 25/25 | 25/25 |
| iC60H | ≤ 40 A | 15 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 |
| | 50-63 A | 15 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 |
| iC60L | ≤ 25 A | 25 | | 30/30 | 30/30 | 30/30 | 30/30 |
| | 32-40 A | 20 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 |
| | 50-63 A | 15 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 |
| C120N/H | | 10/15 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 |
| NG125N | | 25 | | 36/36 | 36/36 | 36/36 | 50/50 |
| NG125H | | 36 | | | 40/40 | 50/50 | 70/70 |
| NG125L | | 50 | | | | 70/70 | 100/100 |
| NG160E | | 16 | | 25/25 | 30/30 | 30/30 | 30/30 |
| NG160N | | 25 | | 36/36 | 36/36 | 50/50 | 50/50 |
| NG160H | | 36 | | | 50/50 | 50/50 | 50/50 |
| NSX100B, ≤ 25 A | | 25 | | 36/36 | 36/36 | 50/50 | 50/50 |
| TM-D 40-100 A | | 25 | | 36/36 | 36/36 | 36/50 | 36/50 |
| NSX100F, ≤ 25 A | | 36 | | | 50/50 | 70/70 | 100/100 |
| TM-D 40-100 A | | 36 | | | 36/50 | 36/70 | 36/100 |
| NSX100N, ≤ 25 A | | 50 | | | | 70/70 | 100/100 |
| TM-D 40-100 A | | 50 | | | | 36/70 | 36/100 |
| NSX100H, ≤ 25 A | | 70 | | | | | 100/100 |
| TM-D 40-100 A | | 70 | | | | | 36/100 |
| NSX100S, ≤ 25 A | | 100 | | | | | |
| TM-D 40-100 A | | 100 | | | | | 36/150 |
| NSX100B Micrologic | | 25 | | 36/36 | 36/36 | 36/50 | 36/50 |
| NSX100F Micrologic | | 36 | | | 36/50 | 36/70 | 36/100 |
| NSX100N Micrologic | | 50 | | | | 36/70 | 36/100 |
| NSX100H Micrologic | | 70 | | | | | 36/100 |
| NSX100S Micrologic | | 100 | | | | | 36/150 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX100, NSX160, Micrologic

Downstream: iC60

Ue: 380-415 V (Ph/N 220-240 V)

| Upstream | NSX100 NSX100B | NSX100F | NSX100N | NSX100H | NSX100S | NSX100L |
|------------------------|-------------------|------------|------------|------------|------------|------------|
| Breaking capacity (kA) | 25 | 36 | 50 | 70 | 100 | 150 |
| Trip unit | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic |

| Downstream | | | 40 | 100 | 40 | 100 | 40 | 100 | 40 | 100 | 40 | 100 | 40 | 100 | |
|------------|------------------------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | | | | |
| iC60N | ≤ 25 A | 10 | 20/20 | 20/20 | 25/25 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 |
| | 32-40 A | 10 | | 20/20 | | 25/25 | | 30/30 | | 30/30 | | 30/30 | | 30/30 | |
| | 50-63 A | 10 | | | | | | | | | | | | | |
| iC60H | ≤ 25 A | 15 | 25/25 | 25/25 | 36/36 | 36/36 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 |
| | 32-40 A | 15 | | 25/25 | | 36/36 | | 40/40 | | 36/36 | | 36/36 | | 36/36 | |
| | 50-63 A | 15 | | | | | | | | | | | | | |
| iC60L | ≤ 25 A | 25 | | | 36/36 | 36/36 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 |
| | 32-40 A | 20 | | 25/25 | | 36/36 | | 40/40 | | 40/40 | | 40/40 | | 40/40 | |
| | 50-63 A | 15 | | | | | | | | | | | | | |

| Upstream | NSX160 NSX160B | NSX160F | NSX160N | NSX160H | NSX160S | NSX160L |
|------------------------|-------------------|------------|------------|------------|------------|------------|
| Breaking capacity (kA) | 25 | 36 | 50 | 70 | 100 | 150 |
| Trip unit | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic |

| Downstream | | | 80 | 160 | 80 | 160 | 80 | 160 | 80 | 160 | 80 | 160 | 80 | 160 |
|------------|------------------------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | | | |
| iC60N | ≤ 50 A | 10 | 20/20 | 20/20 | 25/25 | 25/25 | 25/25 | 30/30 | 25/25 | 30/30 | 25/25 | 30/30 | 25/25 | 30/30 |
| | 63 A | 10 | | 20/20 | | 25/25 | | 30/30 | | 30/30 | | 30/30 | | 30/30 |
| iC60H | ≤ 40 A | 15 | 25/25 | 25/25 | 36/36 | 36/36 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 |
| | 50 A | 15 | 25/25 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 |
| | 63 A | 15 | | 25/25 | | 30/30 | | 30/30 | | 30/30 | | 30/30 | | 30/30 |
| iC60L | ≤ 25 A | 25 | | | 36/36 | 36/36 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 |
| | 32-40 A | 20 | 25/25 | 25/25 | 36/36 | 36/36 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 | 40/40 |
| | 50 A | 15 | 25/25 | 25/25 | 30/30 | 30/30 | 30/30 | 36/36 | 30/30 | 36/36 | 30/30 | 36/36 | 30/30 | 36/36 |
| | 63 A | 15 | | 25/25 | | 30/30 | | 36/36 | | 36/36 | | 36/36 | | 36/36 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX250, Micrologic

Downstream: iC60, C120, NG125, NG160, NSX100

Ue: 380-415 V (Ph/N 220-240 V)

| Upstream | NSX250 NSX250B | NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
|------------------------|-------------------|------------|------------|------------|------------|------------|
| Breaking capacity (kA) | 25 | 36 | 50 | 70 | 100 | 150 |
| Trip unit | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic |

| Downstream | | 250 | 250 | 250 | 250 | 250 | 250 | |
|--------------------|------------------------|-----------------------------------|-------|-------|-------|---------|---------|---------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | |
| iC60N | ≤ 40 A | 10 | 20/20 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 |
| | 50-63 A | 10 | 20/20 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 |
| iC60H | ≤ 40 A | 15 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 |
| | 50-63 A | 15 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 |
| iC60L | ≤ 25 A | 25 | | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 |
| | 32-40 A | 20 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 |
| | 50-63 A | 15 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 |
| C120N/H | 10/15 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 | 25/25 |
| NG125N | 25 | | 36/36 | 36/36 | 36/36 | 50/50 | 50/50 | 70/70 |
| NG125H | 36 | | | 40/40 | 50/50 | 70/70 | 100/100 | 100/100 |
| NG125L NG125LMA | 50 | | | | 70/70 | 100/100 | 150/150 | |
| NG160E | 16 | | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 | 30/30 |
| NG160N | 25 | | 36/36 | 36/36 | 50/50 | 50/50 | 50/50 | 50/50 |
| NG160H | 36 | | | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX100B, ≤ 25 A | 25 | | 36/36 | 36/36 | 50/50 | 50/50 | 50/50 | 50/50 |
| TM-D 40-100 A | 25 | | 36/36 | 36/36 | 36/50 | 36/50 | 36/50 | 36/50 |
| NSX100F, ≤ 25 A | 36 | | | 50/50 | 70/70 | 100/100 | 150/150 | 150/150 |
| TM-D 40-100 A | 36 | | | 36/50 | 36/70 | 36/100 | 36/150 | 36/150 |
| NSX100N, ≤ 25 A | 50 | | | | 70/70 | 100/100 | 150/150 | 150/150 |
| TM-D 40-100 A | 50 | | | | 36/70 | 36/100 | 36/150 | 36/150 |
| NSX100H, ≤ 25 A | 70 | | | | | 100/100 | 150/150 | 150/150 |
| TM-D 40-100 A | 70 | | | | | 36/100 | 36/150 | 36/150 |
| NSX100S, ≤ 25 A | 100 | | | | | | 150/150 | 150/150 |
| TM-D 40-100 A | 100 | | | | | | 36/150 | 36/150 |
| NSX100B Micrologic | 25 | | 36/36 | 36/36 | 36/50 | 36/50 | 36/50 | 36/50 |
| NSX100F Micrologic | 36 | | | 36/50 | 36/70 | 36/100 | 36/150 | 36/150 |
| NSX100N Micrologic | 50 | | | | 36/70 | 36/100 | 36/150 | 36/150 |
| NSX100H Micrologic | 70 | | | | | 36/100 | 36/150 | 36/150 |
| NSX100S Micrologic | 100 | | | | | | 36/150 | 36/150 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX400-630, Micrologic

Downstream: NG160, NSX100-250

Ue: 380-415 V (Ph/N 220-240 V)

| Upstream | NSX400 | | | | | NSX630 | | | | |
|------------------------|------------|----|----|-----|-----|------------|----|----|-----|-----|
| | F | N | H | S | L | F | N | H | S | L |
| Breaking capacity (kA) | 36 | 50 | 70 | 100 | 150 | 36 | 50 | 70 | 100 | 150 |
| Trip unit | Micrologic | | | | | Micrologic | | | | |

| Downstream | | 400 | 400 | 400 | 400 | 400 | 630 | 630 | 630 | 630 | 630 |
|--------------------|------------------------|-----------------------------------|-------|-------|---------|---------|-------|-------|-------|---------|---------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | |
| NG160E | 16 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 | 25/25 | 30/30 | 30/30 | 30/30 | 30/30 |
| NG160N | 25 | 36/36 | 36/36 | 50/50 | 50/50 | 50/50 | 36/36 | 36/36 | 50/50 | 50/50 | 50/50 |
| NG160H | 36 | | 50/50 | 50/50 | 50/50 | 50/50 | | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX100B, TM-D | 25 | 36/36 | 36/36 | 50/50 | 50/50 | 50/50 | 36/36 | 36/36 | 50/50 | 50/50 | 50/50 |
| NSX100F, TM-D | 36 | | 50/50 | 70/70 | 100/100 | 150/150 | | 50/50 | 70/70 | 100/100 | 150/150 |
| NSX100N, TM-D | 50 | | | 70/70 | 100/100 | 150/150 | | | 70/70 | 100/100 | 150/150 |
| NSX100H, TM-D | 70 | | | | 100/100 | 150/150 | | | | 100/100 | 150/150 |
| NSX100S, TM-D | 100 | | | | | 150/150 | | | | | 150/150 |
| NSX160B, TM-D | 25 | 36/36 | 36/36 | 50/50 | 50/50 | 50/50 | 36/36 | 36/36 | 50/50 | 50/50 | 50/50 |
| NSX160F, TM-D | 36 | | 50/50 | 70/70 | 100/100 | 150/150 | | 50/50 | 70/70 | 100/100 | 150/150 |
| NSX160N, TM-D | 50 | | | 70/70 | 100/100 | 150/150 | | | 70/70 | 100/100 | 150/150 |
| NSX160H, TM-D | 70 | | | | 100/100 | 150/150 | | | | 100/100 | 150/150 |
| NSX160S, TM-D | 100 | | | | | 150/150 | | | | | 150/150 |
| NSX250B, TM-D | 25 | | | | | | 36/36 | 36/36 | 50/50 | 50/50 | 50/50 |
| NSX250F, TM-D | 36 | | | | | | | 50/50 | 70/70 | 100/100 | 150/150 |
| NSX250N, TM-D | 50 | | | | | | | | 70/70 | 100/100 | 150/150 |
| NSX250H, TM-D | 70 | | | | | | | | | 100/100 | 150/150 |
| NSX250S, TM-D | 100 | | | | | | | | | | 150/150 |
| NSX100B Micrologic | 25 | 36/36 | 50/50 | 50/50 | 50/50 | 50/50 | 36/36 | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX100F Micrologic | 36 | | 50/50 | 70/70 | 100/100 | 150/150 | | 50/50 | 70/70 | 100/100 | 150/150 |
| NSX100N Micrologic | 50 | | | 70/70 | 100/100 | 150/150 | | | 70/70 | 100/100 | 150/150 |
| NSX100H Micrologic | 70 | | | | 100/100 | 150/150 | | | | 100/100 | 150/150 |
| NSX100S Micrologic | 100 | | | | | 150/150 | | | | | 150/150 |
| NSX160B Micrologic | 25 | 36/36 | 50/50 | 50/50 | 50/50 | 50/50 | 36/36 | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX160F Micrologic | 36 | | 50/50 | 70/70 | 100/100 | 150/150 | | 50/50 | 70/70 | 100/100 | 150/150 |
| NSX160N Micrologic | 50 | | | 70/70 | 100/100 | 150/150 | | | 70/70 | 100/100 | 150/150 |
| NSX160H Micrologic | 70 | | | | 100/100 | 150/150 | | | | 100/100 | 150/150 |
| NSX160S Micrologic | 100 | | | | | 150/150 | | | | | 150/150 |
| NSX250B Micrologic | 25 | | | | | | 36/36 | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX250F Micrologic | 36 | | | | | | | 50/50 | 70/70 | 100/100 | 150/150 |
| NSX250N Micrologic | 50 | | | | | | | | 70/70 | 100/100 | 150/150 |
| NSX250H Micrologic | 70 | | | | | | | | | 100/100 | 150/150 |
| NSX250S Micrologic | 100 | | | | | | | | | | 150/150 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NS800-1000-1600, Micrologic

Downstream: NSX100-630

Ue: 380-415 V (Ph/N 220-240 V)

| Upstream | NS800 | | | | NS1000 | | | NS1250 | | NS1600 | |
|------------------------|------------|----|-----|-----|------------|----|-----|------------|----|------------|----|
| | N | H | L | LB | N | H | L | N | H | N | H |
| Breaking capacity (kA) | 50 | 70 | 150 | 200 | 50 | 70 | 150 | 50 | 70 | 50 | 70 |
| Trip unit | Micrologic | | | | Micrologic | | | Micrologic | | Micrologic | |

| Downstream | | 800 | 800 | 800 | 800 | 1000 | 1000 | 1000 | 1250 | 1250 | 1600 | 1600 |
|--------------------------|------------------------|-----------------------------------|-------|---------|---------|-------|-------|---------|-------|-------|-------|-------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | |
| NSX100B, TM-D/Micrologic | 25 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX100F, TM-D/Micrologic | 36 | 50/50 | 70/70 | 150/150 | 150/150 | 50/50 | 70/70 | 150/150 | 50/50 | 70/70 | 50/50 | 70/70 |
| NSX100N, TM-D/Micrologic | 50 | | 70/70 | 150/150 | 150/150 | | 70/70 | 150/150 | | 70/70 | | 70/70 |
| NSX100H, TM-D/Micrologic | 70 | | | 150/150 | 150/150 | | | 150/150 | | | | |
| NSX100S, TM-D/Micrologic | 100 | | | 150/150 | 200/200 | | | 150/150 | | | | |
| NSX100L, TM-D/Micrologic | 150 | | | | 200/200 | | | | | | | |
| NSX160B, TM-D/Micrologic | 25 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX160F, TM-D/Micrologic | 36 | 50/50 | 70/70 | 150/150 | 150/150 | 50/50 | 70/70 | 150/150 | 50/50 | 70/70 | 50/50 | 70/70 |
| NSX160N, TM-D/Micrologic | 50 | | 70/70 | 150/150 | 150/150 | | 70/70 | 150/150 | | 70/70 | | 70/70 |
| NSX160H, TM-D/Micrologic | 70 | | | 150/150 | 150/150 | | | 150/150 | | | | |
| NSX160S, TM-D/Micrologic | 100 | | | 150/150 | 200/200 | | | 150/150 | | | | |
| NSX160L, TM-D/Micrologic | 150 | | | | 200/200 | | | | | | | |
| NSX250B, TM-D/Micrologic | 25 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX250F, TM-D/Micrologic | 36 | 50/50 | 70/70 | 150/150 | 150/150 | 50/50 | 70/70 | 150/150 | 50/50 | 70/70 | 50/50 | 70/70 |
| NSX250N, TM-D/Micrologic | 50 | | 70/70 | 150/150 | 150/150 | | 70/70 | 150/150 | | 70/70 | | 70/70 |
| NSX250H, TM-D/Micrologic | 70 | | | 150/150 | 150/150 | | | 150/150 | | | | |
| NSX250S, TM-D/Micrologic | 100 | | | 150/150 | 200/200 | | | 150/150 | | | | |
| NSX250L, TM-D/Micrologic | 150 | | | | 200/200 | | | | | | | |
| NSX400F Micrologic | 36 | 50/50 | 70/70 | 10/150 | 10/150 | 50/50 | 70/70 | 15/150 | 50/50 | 70/70 | 50/50 | 70/70 |
| NSX400N Micrologic | 50 | | 70/70 | 10/150 | 10/150 | | 70/70 | 15/150 | | 70/70 | | 70/70 |
| NSX400H Micrologic | 70 | | | 10/150 | 10/150 | | | 15/150 | | | | |
| NSX400S Micrologic | 100 | | | 10/150 | 10/200 | | | 15/150 | | | | |
| NSX400L Micrologic | 150 | | | | 10/200 | | | | | | | |
| NSX630F Micrologic | 36 | | | | | 50/50 | 65/70 | 10/150 | 50/50 | 65/70 | 50/50 | 65/70 |
| NSX630N Micrologic | 50 | | | | | | 65/70 | 10/150 | | 65/70 | | 65/70 |
| NSX630H Micrologic | 70 | | | | | | | 10/150 | | | | |
| NSX630S Micrologic | 100 | | | | | | | 10/150 | | | | |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX250, TM-D-Micrologic

Downstream: NSX100

Ue: 440 V

| Upstream | NSX250 NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
|------------------------|-------------------|---------|---------|---------|---------|
| Breaking capacity (kA) | 35 | 50 | 65 | 90 | 130 |
| Trip unit | TM-D | TM-D | TM-D | TM-D | TM-D |

| Downstream | | | 200 | 250 | 200 | 250 | 200 | 250 | 200 | 250 | 200 | 250 |
|------------------|------------------------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|---------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | |
| NSX100B, TM-D | ≤ 25 A | 20 | 35/35 | 35/35 | 35/35 | 35/35 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 |
| | 40-100 A | 20 | 35/35 | 35/35 | 35/35 | 35/35 | 35/50 | 35/50 | 35/50 | 35/50 | 35/50 | 35/50 |
| NSX100F, TM-D | ≤ 25 A | 35 | | | 35/35 | 35/35 | 65/65 | 65/65 | 90/90 | 90/90 | 130/130 | 130/130 |
| | 40-100 A | 35 | | | 35/35 | 35/35 | 35/65 | 35/65 | 35/90 | 35/90 | 35/130 | 35/130 |
| NSX100N, TM-D | ≤ 25 A | 50 | | | | | 65/65 | 65/65 | 90/90 | 90/90 | 130/130 | 130/130 |
| | 40-100 A | 50 | | | | | 35/65 | 35/65 | 35/90 | 35/90 | 35/130 | 35/130 |
| NSX100H, TM-D | ≤ 25 A | 65 | | | | | | | 90/90 | 90/90 | 130/130 | 130/130 |
| | 40-100 A | 65 | | | | | | | 35/90 | 35/90 | 35/130 | 35/130 |
| NSX100S, TM-D | ≤ 25 A | 90 | | | | | | | | | 130/130 | 130/130 |
| | 40-100 A | 90 | | | | | | | | | 35/130 | 35/130 |
| NSX100B | Micrologic | 20 | 35/35 | 35/35 | 35/35 | 35/35 | 35/50 | 35/50 | 35/50 | 35/50 | 35/50 | 35/50 |
| NSX100F | Micrologic | 35 | | | 35/50 | 35/50 | 35/50 | 35/50 | 35/50 | 35/50 | 35/50 | 35/50 |
| NSX100N | Micrologic | 50 | | | | | 35/65 | 35/65 | 35/90 | 35/90 | 35/130 | 35/130 |
| NSX100H | Micrologic | 65 | | | | | | | 35/90 | 35/90 | 35/130 | 35/130 |
| NSX100S | Micrologic | 90 | | | | | | | | | 35/130 | 35/130 |

| Upstream | NSX250 NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
|------------------------|-------------------|------------|------------|------------|------------|
| Breaking capacity (kA) | 35 | 50 | 65 | 90 | 130 |
| Trip unit | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic |

| Downstream | | | 250 | 250 | 250 | 250 | 250 |
|------------------|------------------------|-----------------------------------|-------|-------|-------|-------|---------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | |
| NSX100B, TM-D | ≤ 25 A | 20 | 35/35 | 50/50 | 50/50 | 50/50 | 50/50 |
| | 40-100 A | 20 | 35/35 | 35/50 | 35/50 | 35/50 | 35/50 |
| NSX100F, TM-D | ≤ 25 A | 35 | | 50/50 | 65/65 | 90/90 | 130/130 |
| | 40-100 A | 35 | | 35/50 | 35/65 | 35/90 | 35/130 |
| NSX100N, TM-D | ≤ 25 A | 50 | | 50/50 | 65/65 | 90/90 | 130/130 |
| | 40-100 A | 50 | | 35/50 | 35/65 | 35/90 | 35/130 |
| NSX100H, TM-D | ≤ 25 A | 65 | | | | 90/90 | 130/130 |
| | 40-100 A | 65 | | | | 35/90 | 35/130 |
| NSX100S, TM-D | ≤ 25 A | 90 | | | | | 130/130 |
| | 40-100 A | 90 | | | | | 35/130 |
| NSX100B | Micrologic | 20 | 35/35 | 35/35 | 35/50 | 35/50 | 35/50 |
| NSX100F | Micrologic | 35 | | 35/35 | 35/50 | 35/50 | 35/50 |
| NSX100N | Micrologic | 50 | | | 35/65 | 35/90 | 35/130 |
| NSX100H | Micrologic | 65 | | | | 35/90 | 35/130 |
| NSX100S | Micrologic | 90 | | | | | 35/130 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX400-630, Micrologic

Downstream: NSX100-250

Ue: 440 V

| Upstream | NSX400 | | | | | NSX630 | | | | |
|------------------------|------------|----|----|----|-----|------------|----|----|----|-----|
| | F | N | H | S | L | F | N | H | S | L |
| Breaking capacity (kA) | 30 | 42 | 65 | 90 | 130 | 30 | 42 | 65 | 90 | 130 |
| Trip unit | Micrologic | | | | | Micrologic | | | | |

| Downstream | | | 400 | 400 | 400 | 400 | 400 | 630 | 630 | 630 | 630 | 630 |
|------------|------------|------------------------|-----------------------------------|-------|-------|-------|---------|-------|-------|-------|-------|---------|
| Rating (A) | | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | |
| NSX100B | Micrologic | 20 | 30/30 | 30/30 | 50/50 | 50/50 | 50/50 | 30/30 | 30/30 | 50/50 | 50/50 | 50/50 |
| NSX100F | Micrologic | 35 | | 42/42 | 65/65 | 90/90 | 130/130 | | 42/42 | 65/65 | 90/90 | 130/130 |
| NSX100N | Micrologic | 50 | | | 65/65 | 90/90 | 130/130 | | | 65/65 | 90/90 | 130/130 |
| NSX100H | Micrologic | 65 | | | | 90/90 | 130/130 | | | | 90/90 | 130/130 |
| NSX100S | Micrologic | 90 | | | | | 130/130 | | | | | 130/130 |
| NSX160B | Micrologic | 20 | 30/30 | 30/30 | 50/50 | 50/50 | 50/50 | 30/30 | 30/30 | 50/50 | 50/50 | 50/50 |
| NSX160F | Micrologic | 35 | | 42/42 | 65/65 | 90/90 | 130/130 | | 42/42 | 65/65 | 90/90 | 130/130 |
| NSX160N | Micrologic | 50 | | | 65/65 | 90/90 | 130/130 | | | 65/65 | 90/90 | 130/130 |
| NSX160H | Micrologic | 65 | | | | 90/90 | 130/130 | | | | 90/90 | 130/130 |
| NSX160S | Micrologic | 90 | | | | | 130/130 | | | | | 130/130 |
| NSX250B | Micrologic | 20 | | | | | | 35/35 | 30/30 | 50/50 | 50/50 | 50/50 |
| NSX250F | Micrologic | 35 | | | | | | | 42/42 | 65/65 | 90/90 | 130/130 |
| NSX250N | Micrologic | 50 | | | | | | | | 65/65 | 90/90 | 130/130 |
| NSX250H | Micrologic | 65 | | | | | | | | | 90/90 | 130/130 |
| NSX250S | Micrologic | 90 | | | | | | | | | | 130/130 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NS800-1000-1600, Micrologic

Downstream: NSX100-630

Ue: 440 V

| Upstream | NS800 | | | | NS1000 | | | NS1250 | | NS1600 | |
|------------------------|------------|----|-----|-----|------------|----|-----|------------|----|------------|----|
| | N | H | L | LB | N | H | L | N | H | N | H |
| Breaking capacity (kA) | 50 | 65 | 130 | 200 | 50 | 65 | 130 | 50 | 65 | 50 | 65 |
| Trip unit | Micrologic | | | | Micrologic | | | Micrologic | | Micrologic | |

| Downstream | | 800 | 800 | 800 | 800 | 1000 | 1000 | 1000 | 1250 | 1250 | 1600 | 1600 |
|-----------------------------|------------------------|-----------------------------------|-------|---------|---------|-------|-------|---------|-------|-------|-------|-------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | |
| NSX100B, TM-D/Micrologic | 20 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX100F, TM-D/Micrologic | 35 | 50/50 | 65/65 | 130/130 | 130/130 | 50/50 | 65/65 | 130/130 | 50/50 | 65/65 | 50/50 | 65/65 |
| NSX100N, TM-D/Micrologic | 50 | | 65/65 | 130/130 | 130/130 | | 65/65 | 130/130 | | 65/65 | | 65/65 |
| NSX100H, TM-D/Micrologic | 65 | | | 130/130 | 130/130 | | | 130/130 | | | | |
| NSX100S, TM-D/Micrologic | 90 | | | 130/130 | 200/200 | | | 130/130 | | | | |
| NSX100L, TM-D/Micrologic | 130 | | | | 200/200 | | | | | | | |
| NSX160B, TM-D/Micrologic | 20 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX160F, TM-D/Micrologic | 35 | 50/50 | 65/65 | 130/130 | 130/130 | 50/50 | 65/65 | 130/130 | 50/50 | 65/65 | 50/50 | 65/65 |
| NSX160N, TM-D/Micrologic | 50 | | 65/65 | 130/130 | 130/130 | | 65/65 | 130/130 | | 65/65 | | 65/65 |
| NSX160H, TM-D/Micrologic | 65 | | | 130/130 | 130/130 | | | 130/130 | | | | |
| NSX160S, TM-D/Micrologic | 90 | | | 130/130 | 200/200 | | | 130/130 | | | | |
| NSX160L, TM-D/Micrologic | 130 | | | | 200/200 | | | | | | | |
| NSX250B, TM-D/Micrologic | 20 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 | 50/50 |
| NSX250F, TM-D/Micrologic | 35 | 50/50 | 65/65 | 130/130 | 130/130 | 50/50 | 65/65 | 130/130 | 50/50 | 65/65 | 50/50 | 65/65 |
| NSX250N, TM-D/Micrologic | 50 | | 65/65 | 130/130 | 130/130 | | 65/65 | 130/130 | | 65/65 | | 65/65 |
| NSX250H, TM-D/Micrologic | 65 | | | 130/130 | 130/130 | | | 130/130 | | | | |
| NSX250S, TM-D/Micrologic | 90 | | | 130/130 | 200/200 | | | 130/130 | | | | |
| NSX250L, TM-D/Micrologic | 130 | | | | 200/200 | | | | | | | |
| NSX400F Micrologic | 30 | 50/50 | 65/65 | 10/130 | 10/200 | 50/50 | 65/65 | 15/130 | 50/50 | 65/65 | 50/50 | 65/65 |
| NSX400N Micrologic | 42 | | 65/65 | 10/130 | 10/200 | | 65/65 | 15/130 | | 65/65 | | 65/65 |
| NSX400H Micrologic | 65 | | | 10/130 | 10/200 | | | 15/130 | | | | |
| NSX400S Micrologic | 90 | | | 10/130 | 10/200 | | | 15/130 | | | | |
| NSX400L Micrologic | 130 | | | | 10/200 | | | | | | | |
| NSX630F Micrologic | 30 | | | | | 50/50 | 65/65 | 10/130 | 50/50 | 65/65 | 50/50 | 65/65 |
| NSX630N Micrologic | 42 | | | | | | 65/65 | 10/130 | | 65/65 | | 65/65 |
| NSX630H Micrologic | 65 | | | | | | | 10/130 | | | | |
| NSX630S Micrologic | 90 | | | | | | | 10/130 | | | | |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX160, NSX250, TM-D

Downstream: iC60, C120, NG125

Ue: 220-240 V (Ph/N 110-130 V)

| Upstream | NSX160 NSX160B | NSX160F | NSX160N | NSX160H | NSX160S | NSX160L |
|------------------------|-------------------|---------|---------|---------|---------|---------|
| Breaking capacity (kA) | 40 | 85 | 90 | 100 | 120 | 150 |
| Trip unit | TM-D | TM-D | TM-D | TM-D | TM-D | TM-D |

| Downstream | | 80-100 | 125-160 | 80-100 | 125-160 | 80-100 | 125-160 | 80-100 | 125-160 | 80-100 | 125-160 | 80-100 | 125-160 |
|------------|------------------------|-----------------------------------|---------|--------|---------|--------|---------|--------|---------|--------|---------|--------|---------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | | |
| iC60N | 20 | | 30/30 | | 40/40 | | 60/60 | | 60/60 | | 60/60 | | 60/60 |
| iC60H | 30 | | 40/40 | | 50/50 | | 80/80 | | 80/80 | | 80/80 | | 80/80 |
| iC60L | ≤ 25 A | | | | 65/65 | | 80/80 | | 80/80 | | 80/80 | | 80/80 |
| | 32-40 A | | 40/40 | | 65/65 | | 80/80 | | 80/80 | | 80/80 | | 80/80 |
| | 50-63 A | | 40/40 | | 65/65 | | 80/80 | | 80/80 | | 80/80 | | 80/80 |
| C120N/H | ≤ 40 A | | 40/40 | | 40/40 | | 50/50 | | 50/50 | | 70/70 | | 70/70 |
| | 50 to 125 A | | | | | | | | | | | | |
| NG125N | ≤ 40 A | | | | 60/60 | | 70/70 | | 70/70 | | 85/85 | | 85/85 |
| | 50 to 125 A | | | | | | | | | | | | |
| NG125H | ≤ 40A | | | | 85/85 | | 85/85 | | 85/85 | | 100/100 | | 100/100 |
| | 50 to 80 A | | | | | | | | | | | | |

| Upstream | NSX250 NSX250B | NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
|------------------------|-------------------|---------|---------|---------|---------|---------|
| Breaking capacity (kA) | 40 | 85 | 90 | 100 | 120 | 150 |
| Trip unit | TM-D | TM-D | TM-D | TM-D | TM-D | TM-D |

| Downstream | | 200-250 | 200-250 | 200-250 | 200-250 | 200-250 | 200-250 |
|------------|------------------------|-----------------------------------|---------|---------|---------|---------|---------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | |
| iC60N | 20 | 30/30 | 40/40 | 60/60 | 60/60 | 60/60 | 60/60 |
| iC60H | 30 | 40/40 | 50/50 | 65/65 | 65/65 | 65/65 | 65/65 |
| iC60L | ≤ 25 A | | 65/65 | 80/80 | 80/80 | 80/80 | 80/80 |
| | 32-40 A | | 40/40 | 65/65 | 80/80 | 80/80 | 80/80 |
| | 50-63 A | | 40/40 | 40/40 | 65/65 | 65/65 | 65/65 |
| C120N/H | ≤ 100 A | | 40/40 | 50/50 | 50/50 | 70/70 | 70/70 |
| | 125 A | | | | | | |
| NG125N | ≤ 100 A | | 60/60 | 70/70 | 70/70 | 85/85 | 85/85 |
| | 125 A | | | | | | |
| NG125H | 70 | | 85/85 | 85/85 | 85/85 | 100/100 | 100/100 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX100, NSX160, Micrologic

Downstream: iC60

Ue: 220-240 V (Ph/N 110-130 V)

| Upstream | | NSX100 | NSX100B | NSX100F | NSX100N | NSX100H | NSX100S | NSX100L |
|------------------------|--|------------|------------|------------|------------|------------|------------|------------|
| Breaking capacity (kA) | | 40 | 85 | 90 | 100 | 120 | 150 | |
| Trip unit | | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic |

| Downstream | | | 40 | 100 | 40 | 100 | 40 | 100 | 40 | 100 | 40 | 100 | 40 | 100 | |
|------------|------------------------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | | | | |
| iC60N | ≤ 25 A | 20 | 40/40 | 40/40 | 40/40 | 40/40 | 60/60 | 60/60 | 60/60 | 60/60 | 60/60 | 60/60 | 60/60 | 60/60 | 60/60 |
| | 32-40 A | 20 | | 40/40 | | 40/40 | | 60/60 | | 60/60 | | 60/60 | | 60/60 | |
| | 50-63 A | 20 | | | | | | | | | | | | | |
| iC60H | ≤ 25 A | 30 | 40/40 | 40/40 | 50/50 | 50/50 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | |
| | 32-40 A | 30 | | 40/40 | | 50/50 | | 80/80 | | 80/80 | | 80/80 | | 80/80 | |
| | 50-63 A | 30 | | | | | | | | | | | | | |
| iC60L | ≤ 25 A | 50 | | | 65/65 | 65/65 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | |
| | 32-40 A | 36 | | | | 65/65 | | 80/80 | | 80/80 | | 80/80 | | 80/80 | |
| | 50-63 A | 30 | | | | | | | | | | | | | |

| Upstream | | NSX160 | NSX160B | NSX160F | NSX160N | NSX160H | NSX160S | NSX160L |
|------------------------|--|------------|------------|------------|------------|------------|------------|------------|
| Breaking capacity (kA) | | 40 | 85 | 90 | 100 | 120 | 150 | |
| Trip unit | | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic |

| Downstream | | | 80 | 160 | 80 | 160 | 80 | 160 | 80 | 160 | 80 | 160 | 80 | 160 |
|------------|------------------------|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | | | |
| iC60N | ≤ 50 A | 20 | 40/40 | 40/40 | 40/40 | 40/40 | 60/60 | 60/60 | 60/60 | 60/60 | 60/60 | 60/60 | 60/60 | 60/60 |
| | 63 A | 20 | | 40/40 | | 40/40 | | 60/60 | | 60/60 | | 60/60 | | 60/60 |
| iC60H | ≤ 50 A | 30 | 40/40 | 40/40 | 50/50 | 50/50 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 |
| | 63 A | 30 | | 40/40 | | 50/50 | | 80/80 | | 80/80 | | 80/80 | | 80/80 |
| iC60L | ≤ 40 A | 36 | | | 65/65 | 65/65 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 |
| | 50 A | 30 | 40/40 | 40/40 | 65/65 | 65/65 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 | 80/80 |
| | 63 A | 30 | | 40/40 | | 65/65 | | 80/80 | | 80/80 | | 80/80 | | 80/80 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX250, Micrologic

Downstream: iC60, C120, NG125

Ue: 220-240 V (Ph/N 110-130 V)

| Upstream | NSX250 | | | | | |
|------------------------|------------|------------|------------|------------|------------|------------|
| | NSX250B | NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
| Breaking capacity (kA) | 40 | 85 | 90 | 100 | 120 | 150 |
| Trip unit | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic |

| Downstream | | Reinforced breaking capacity (kA) | | | | | |
|------------|------------------------|-----------------------------------|-------|-------|-------|---------|---------|
| Rating (A) | Breaking capacity (kA) | 250 | 250 | 250 | 250 | 250 | 250 |
| iC60N | 20 | 40/40 | 40/40 | 60/60 | 60/60 | 60/60 | 60/60 |
| iC60H | 30 | 40/40 | 50/50 | 65/65 | 65/65 | 65/65 | 65/65 |
| iC60L | ≤ 25 A | | 65/65 | 80/80 | 80/80 | 80/80 | 80/80 |
| | 32-40 A | | 65/65 | 80/80 | 80/80 | 80/80 | 80/80 |
| | 50-63 A | 40/40 | 65/65 | 65/65 | 65/65 | 65/65 | 65/65 |
| C120N/H | 20/30 | 40/40 | 40/40 | 50/50 | 50/50 | 70/70 | 70/70 |
| NG125N | 50 | | 60/60 | 70/70 | 70/70 | 85/85 | 85/85 |
| NG125H | 70 | | 85/85 | 85/85 | 85/85 | 100/100 | 100/100 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX250, TM-D-Micrologic

Downstream: NG160, NSX100

Ue: 220-240 V (Ph/N 110-130 V)

| Upstream | NSX250 NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
|------------------------|-------------------|---------|---------|---------|---------|
| Breaking capacity (kA) | 85 | 90 | 100 | 120 | 150 |
| Trip unit | TM-D | TM-D | TM-D | TM-D | TM-D |

| Downstream | | 160 | 200-250 | 160 | 200-250 | 160 | 200-250 | 160 | 200-250 | 160 | 200-250 |
|--------------------|------------------------|-----------------------------------|---------|-----|---------|-----|---------|-----|---------|-----|---------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | |
| NG160E | 25 | | 40/40 | | 50/50 | | 50/50 | | 60/60 | | 60/60 |
| NG160N/H | 50 | | 85/85 | | 90/90 | | 100/100 | | 100/100 | | 100/100 |
| NSX100B, TM-D | ≤ 25 A 40-100 A | 40 | 85/85 | 40 | 90/90 | 40 | 100/100 | 40 | 100/100 | 40 | 100/100 |
| NSX100F, TM-D | ≤ 25 A 40-100 A | 85 | 36/85 | 85 | 90/90 | 85 | 100/100 | 85 | 120/120 | 85 | 150/150 |
| NSX100N, TM-D | ≤ 25 A 40-100 A | 90 | | 90 | 36/90 | 90 | 36/100 | 90 | 36/120 | 90 | 36/150 |
| NSX100H, TM-D | ≤ 25 A 40-100 A | 100 | | 100 | | 100 | 36/100 | 100 | 36/120 | 100 | 36/150 |
| NSX100S, TM-D | ≤ 25 A 40-100 A | 120 | | 120 | | 120 | | 120 | 36/120 | 120 | 36/150 |
| NSX100B Micrologic | 40 | | 36/85 | | 36/90 | | 36/100 | | 36/120 | | 36/100 |
| NSX100F Micrologic | 85 | | | | 36/90 | | 36/100 | | 36/120 | | 36/150 |
| NSX100N Micrologic | 90 | | | | | | 36/100 | | 36/120 | | 36/150 |
| NSX100H Micrologic | 100 | | | | | | | | 36/120 | | 36/150 |
| NSX100S Micrologic | 120 | | | | | | | | | | 36/150 |

| Upstream | NSX250 NSX250F | NSX250N | NSX250H | NSX250S | NSX250L |
|------------------------|-------------------|------------|------------|------------|------------|
| Breaking capacity (kA) | 85 | 90 | 100 | 120 | 150 |
| Trip unit | Micrologic | Micrologic | Micrologic | Micrologic | Micrologic |

| Downstream | | 160 | 200-250 | 160 | 200-250 | 160 | 200-250 | 160 | 200-250 | 160 | 200-250 |
|--------------------|------------------------|-----------------------------------|----------------|-------|----------------|---------|-------------------|---------|-------------------|---------|-------------------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | |
| NG160E | 25 | 40/40 | 40/40 | 50/50 | 50/50 | 50/50 | 50/50 | 60/60 | 60/60 | 60/60 | 60/60 |
| NG160N/H | 50 | 85/85 | 85/85 | 90/90 | 90/90 | 100/100 | 100/100 | 100/100 | 100/100 | 100/100 | 100/100 |
| NSX100B, TM-D | ≤ 25 A 40-100 A | 40 | 85/85 36/85 | 40 | 90/90 36/90 | 40 | 100/100 36/100 | 40 | 100/100 36/120 | 40 | 100/100 36/150 |
| NSX100F, TM-D | ≤ 25 A 40-100 A | 85 | | 85 | 90/90 36/90 | 85 | 100/100 36/100 | 85 | 120/120 36/120 | 85 | 150/150 36/150 |
| NSX100N, TM-D | ≤ 25 A 40-100 A | 90 | | 90 | | 90 | 100/100 36/100 | 90 | 120/120 36/120 | 90 | 150/150 36/150 |
| NSX100H, TM-D | ≤ 25 A 40-100 A | 100 | | 100 | | 100 | | 100 | 120/120 36/120 | 100 | 150/150 36/150 |
| NSX100S, TM-D | ≤ 25 A 40-100 A | 120 | | 120 | | 120 | | 120 | | 120 | 150/150 36/150 |
| NSX100B Micrologic | 40 | 36/85 | 36/85 | 36/90 | 36/90 | 36/100 | 36/100 | 36/100 | 36/100 | 36/100 | 36/100 |
| NSX100F Micrologic | 85 | | | 36/90 | 36/90 | 36/100 | 36/100 | 36/120 | 36/120 | 36/150 | 36/150 |
| NSX100N Micrologic | 90 | | | | | 36/100 | 36/100 | 36/120 | 36/120 | 36/150 | 36/150 |
| NSX100H Micrologic | 100 | | | | | | | 36/120 | 36/120 | 36/150 | 36/150 |
| NSX100S Micrologic | 120 | | | | | | | | | 36/150 | 36/150 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Discrimination enhanced by cascading

Upstream: NSX400-630, NS800-1000, Micrologic

Downstream: NG160, NSX100-630

Ue: 220-240 V (Ph/N 110-130 V)

| Upstream | NSX400 | | | | NSX630 | | | | NS800 | | NS1000 |
|------------------------|------------|-----|-----|-----|------------|-----|-----|-----|------------|-----|------------|
| | N | H | S | L | N | H | S | L | L | LB | L |
| Breaking capacity (kA) | 85 | 100 | 120 | 150 | 85 | 100 | 120 | 150 | 150 | 200 | 150 |
| Trip unit | Micrologic | | | | Micrologic | | | | Micrologic | | Micrologic |

| Downstream | | 400 | 400 | 400 | 400 | 630 | 630 | 630 | 630 | 800 | 1000 | |
|--------------------|------------------------|-----------------------------------|---------|---------|---------|-------|---------|---------|---------|---------|---------|---------|
| Rating (A) | Breaking capacity (kA) | Reinforced breaking capacity (kA) | | | | | | | | | | |
| NG160E | 25 | 50/50 | 50/50 | 60/60 | 60/60 | 50/50 | 50/50 | 60/60 | 60/60 | | | |
| NG160N/H | 50 | 85/85 | 90/90 | 100/100 | 100/100 | 85/85 | 90/90 | 100/100 | 100/100 | | | |
| NSX100B, TM-D | 40 | 85/85 | 90/90 | 100/100 | 100/100 | 85/85 | 90/90 | 100/100 | 100/100 | 50/50 | 50/50 | 50/50 |
| NSX100F, TM-D | 85 | | 90/90 | 120/120 | 150/150 | | 90/90 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX100N, TM-D | 90 | | 100/100 | 120/120 | 150/150 | | 100/100 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX100H, TM-D | 100 | | | 120/120 | 150/150 | | | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX100S, TM-D | 120 | | | | 150/150 | | | | 150/150 | 150/150 | 200/200 | 150/150 |
| NSX100L, TM-D | 150 | | | | | | | | | | 200/200 | |
| NSX160B, TM-D | 40 | 85/85 | 90/90 | 100/100 | 100/100 | 85/85 | 90/90 | 100/100 | 100/100 | 50/50 | 50/50 | 50/50 |
| NSX160F, TM-D | 85 | | 90/90 | 120/120 | 150/150 | | 90/90 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX160N, TM-D | 90 | | 100/100 | 120/120 | 150/150 | | 100/100 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX160H, TM-D | 100 | | | 120/120 | 150/150 | | | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX160S, TM-D | 120 | | | | 150/150 | | | | 150/150 | 150/150 | 200/200 | 150/150 |
| NSX160L, TM-D | 150 | | | | | | | | | | 200/200 | |
| NSX250B, TM-D | 40 | | | | | 85/85 | 90/90 | 100/100 | 100/100 | 50/50 | 50/50 | 50/50 |
| NSX250F, TM-D | 85 | | | | | | 90/90 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX250N, TM-D | 90 | | | | | | 100/100 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX250H, TM-D | 100 | | | | | | | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX250S, TM-D | 120 | | | | | | | | 150/150 | 150/150 | 200/200 | 150/150 |
| NSX250L, TM-D | 150 | | | | | | | | | | 200/200 | |
| NSX100B Micrologic | 40 | 85/85 | 90/90 | 100/100 | 100/100 | 85/85 | 90/90 | 100/100 | 100/100 | 50/50 | 50/50 | 50/50 |
| NSX100F Micrologic | 85 | | 90/90 | 120/120 | 150/150 | | 90/90 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX100N Micrologic | 90 | | 100/100 | 120/120 | 150/150 | | 100/100 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX100H Micrologic | 100 | | | 120/120 | 150/150 | | | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX100S Micrologic | 120 | | | | 150/150 | | | | 150/150 | 150/150 | 200/200 | 150/150 |
| NSX100L Micrologic | 150 | | | | | | | | | | 200/200 | |
| NSX160B Micrologic | 40 | 85/85 | 90/90 | 100/100 | 100/100 | 85/85 | 90/90 | 100/100 | 100/100 | 50/50 | 50/50 | 50/50 |
| NSX160F Micrologic | 85 | | 90/90 | 120/120 | 150/150 | | 90/90 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX160N Micrologic | 90 | | 100/100 | 120/120 | 150/150 | | 100/100 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX160H Micrologic | 100 | | | 120/120 | 150/150 | | | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX160S Micrologic | 120 | | | | 150/150 | | | | 150/150 | 150/150 | 200/200 | 150/150 |
| NSX160L Micrologic | 150 | | | | | | | | | | 200/200 | |
| NSX250B Micrologic | 40 | | | | | 85/85 | 90/90 | 100/100 | 100/100 | 50/50 | 50/50 | 50/50 |
| NSX250F Micrologic | 85 | | | | | | 90/90 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX250N Micrologic | 90 | | | | | | 100/100 | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX250H Micrologic | 100 | | | | | | | 120/120 | 150/150 | 150/150 | 150/150 | 150/150 |
| NSX250S Micrologic | 120 | | | | | | | | 150/150 | 150/150 | 200/200 | 150/150 |
| NSX250L Micrologic | 150 | | | | | | | | | | 200/200 | |
| NSX400F Micrologic | 40 | | | | | | | | | 10/150 | 10/150 | 15/150 |
| NSX400N Micrologic | 85 | | | | | | | | | 10/150 | 10/150 | 15/150 |
| NSX400H Micrologic | 100 | | | | | | | | | 10/150 | 10/150 | 15/150 |
| NSX400S Micrologic | 120 | | | | | | | | | 10/150 | 10/200 | 15/150 |
| NSX400L Micrologic | 150 | | | | | | | | | | 10/200 | |
| NSX630F Micrologic | 40 | | | | | | | | | | | 10/150 |
| NSX630N Micrologic | 85 | | | | | | | | | | | 10/150 |
| NSX630H Micrologic | 100 | | | | | | | | | | | 10/150 |
| NSX630S Micrologic | 120 | | | | | | | | | | | 10/150 |

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see 557E4300.indd/566 and 557E4305.indd/572.

Coordination between circuit breakers

Discrimination (Selectivity)

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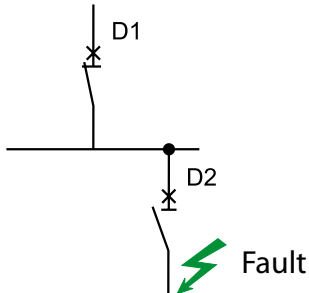


IEC/EN 60947-2

What is discrimination?

It is the coordination of automatic cut-off devices for a fault that occurs at any point in the network to be eliminated by the upstream circuit breaker, the circuit breaker that is immediately upstream of the fault and by that circuit breaker alone!

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D1 and D2 in series.

Continuity of service

Discrimination is an essential element that must be taken into account as early as in the design of a low voltage installation to enable continuity of the electricity service.

Production and safety

Discrimination provides much convenience for all users, but it is an essential requirement when continuity of service is of utmost importance.

Discrimination means that only the part with the fault is disconnected. It enables:

- continuity of supply for adjacent circuits,
- localization of the faulty circuit.

For some installations or installation parts:

- operating theatre in clinics and hospitals,
- marine,
- safety equipment,
- production site.

The requirements for continuous electricity often make it necessary to verify the discrimination between upstream and downstream protection devices.

If there is a total lack of discrimination, it will be necessary to try to achieve partial discrimination. Likewise, if there is a limit to the level of discrimination and this proves satisfactory in the majority of cases, it can still be attempted to make it total. Of course, any modification must be made while observing the following main parameters:

- protection of personnel,
- are the thermal stresses I^2t of the cables always taken into account?
- are the breaking capacities of the devices higher than the prospective I_{sc} ?

Finally, when it is not possible to achieve discrimination and it is essential for the correct operation of the installation, the installation of uninterruptible power supplies (UPS) must be considered. Generator units, inverters, etc. are then used.

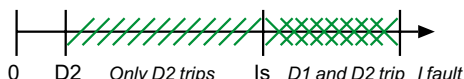
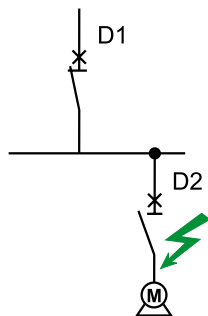
There are several types of discrimination that can be used separately or together. For protection against overcurrent, this generally concerns current discrimination and time discrimination.

The principle is as follows.

Coordination between circuit breakers

Discrimination (Selectivity)

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Current and energy discrimination

Discrimination involves ensuring coordination between two circuit breakers in series, so that, in the event of a fault, only one circuit breaker, located immediately upstream of the fault, trips. A discrimination current I_s is defined so that:

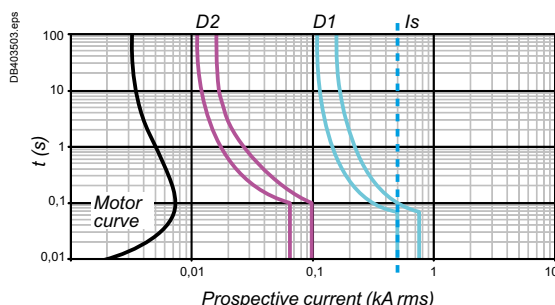
- If $I_{\text{fault}} < I_s$: only D2 eliminates the fault, discrimination is ensured,
- If $I_{\text{fault}} > I_s$: both circuit breakers may trip, discrimination is not ensured.

Slight overcurrent or overload

Under the effect of an abnormal inrush current, for example an increase in the resistive torque of a motor, the current going through the circuit is higher than the rated current. These currents may damage the installation (risk of an electrical fire). Devices to protect against overcurrent can be characterized by their operating curves as a function of prospective current I_p :

- the operating curve is time-based when the breaking time is greater than 50 ms (curve $t = f(I_p)$). Discrimination is achieved if the I_n upstream / I_n downstream operation threshold ratio is > 1.3 and if the current offset of the magnetic curves is observed.

This is current discrimination



The greater the difference between the ratings of the upstream and downstream circuit breakers, the more "extensive" the discrimination.

Short circuit

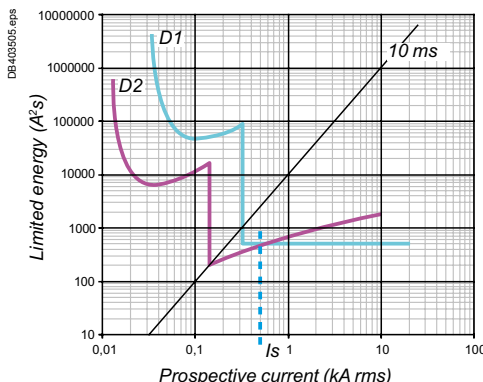
For example when there is contact between two phases we are faced with a full insulation fault which risks damaging the installation.

The function that makes it possible to protect against this type of fault is magnetic protection.

To ensure discrimination, we must maintain a ratio between the upstream and downstream protection devices. This is energy discrimination.

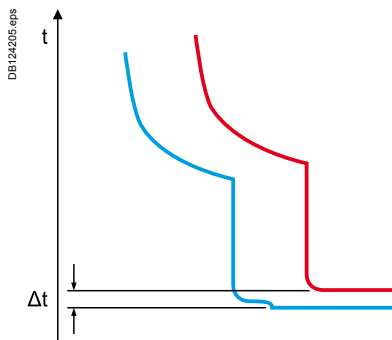
- Energy: when the intervention time is less than 50 ms and more particularly less than the time of one half wave (10 ms) of current with limiting circuit breakers.

This is energy discrimination



Coordination between circuit breakers

Discrimination (Selectivity)



Time discrimination

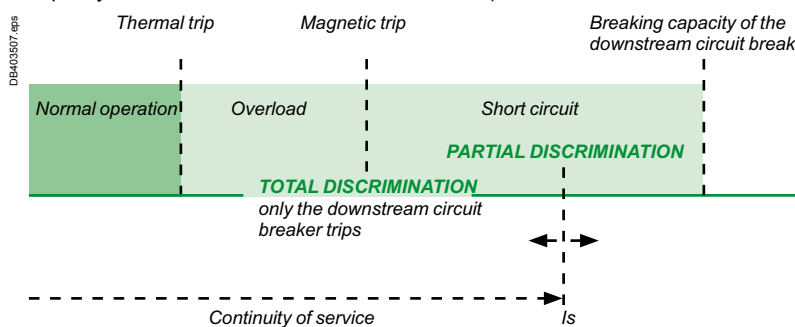
The principle is based on the time difference (Δt) of the upstream magnetic curve.

To achieve this, it is necessary to have an upstream circuit breaker with time-delay bands.

The delay introduced must make it possible to improve discrimination without endangering the cable or busbars which would then have to withstand the overcurrent for longer (greater thermal effects I^2t and electrodynamic stresses).

Total or partial discrimination

Discrimination may be partial or total, up to the breaking capacity of the downstream circuit breaker. For total discrimination, the characteristics of the upstream device must be higher than those of the downstream device (higher than the breaking capacity of the downstream circuit breaker MCCB).



Standard IEC 60947-2 on industrial circuit breakers, and in particular Appendix A, deals with coordination between a circuit-breaker and another device to protect against short circuits combined in the same circuit.

This protection device may be a fuse or another circuit breaker.

Coordination between circuit breakers

Discrimination (Selectivity)

Discrimination between modular circuit breakers

We use two types of discrimination when these circuit breakers are combined:

- current discrimination,
- energy discrimination.

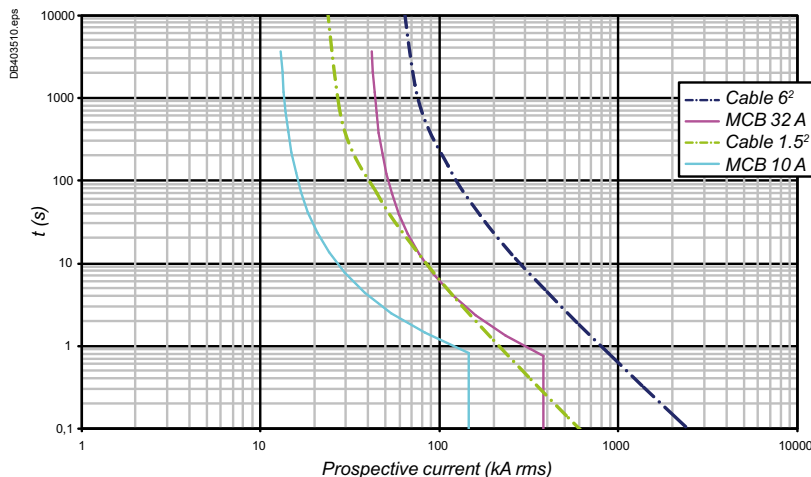
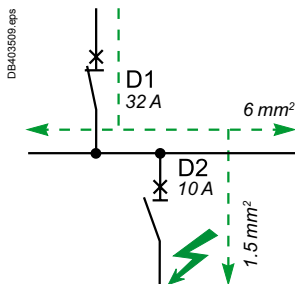
For discrimination to be ensured whatever the prospective fault current, 3 conditions have to be fulfilled:

- the upstream and downstream circuit breakers must have different ratings (ratio > 1.3),
- the envelope of their magnetic curves must be different,
- the energy allowed to pass through the downstream circuit breaker when it cuts off must still be less than the operating energy of the upstream trip.

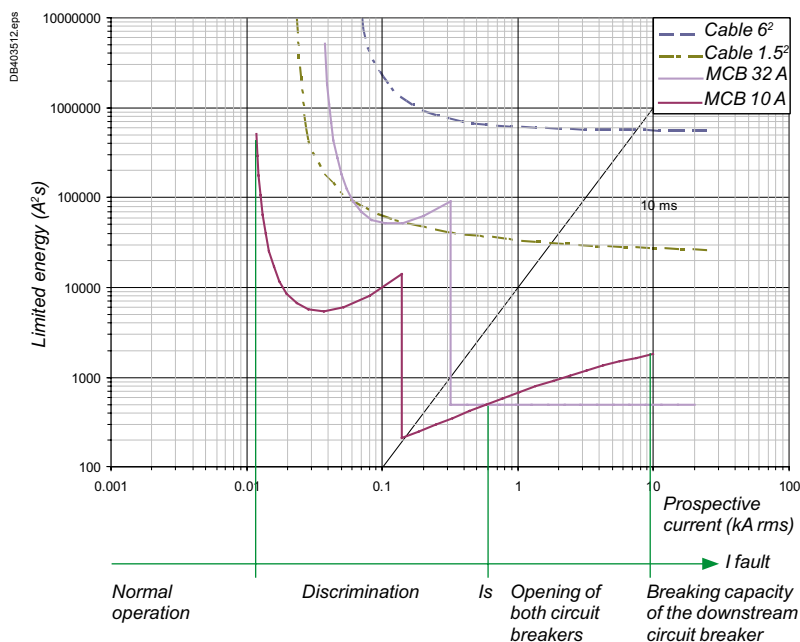
Example

■ Let us take the example of a single phase network where we have a 32 A curve D circuit breaker in series with a 10 A curve D circuit breaker:

- the 32 A circuit breaker protects the 6² cables and the 10 A circuit breaker protects the 1.5² cables. This combination allows discrimination, but up to what threshold?
- if current discrimination is considered ($t = f(I_p)$) it can be seen that the tripping curve of the downstream circuit breaker is well below the non-tripping curve of the upstream circuit breaker,
- furthermore, each circuit breaker is well below the maximum stress permitted by the cables.



When considering energy discrimination, it is necessary to compare the maximum stresses characterized by the integrals ft relative to the development of the arc in the downstream device and by the sensitivity of the trip unit, still in ft , of the upstream device (curves $I^2t = f(I_p)$).



Coordination between circuit breakers

Discrimination (Selectivity)

Discrimination between Compact NSX upstream and modular circuit breakers downstream

Compact NSX circuit breakers have been designed to ensure total discrimination with Acti9 range.

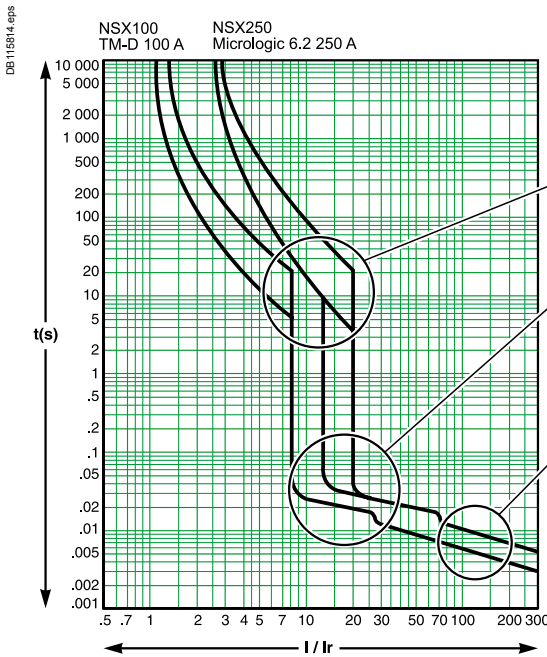
- Total discrimination between Compact NSX 100 A with electronic trip unit and Acti9 circuit breaker up to 40 A.
- Total discrimination between Compact NSX ≥ 160 A with TMD trip unit ≥ 125 A or electronic trip unit and Acti9 up to 63 A.

Discrimination between Compact NSX circuit breakers

Thanks to the Roto-Active breaking principle in the Compact NSX, a combination of Schneider Electric circuit breakers provides an exceptional level of discrimination between protection devices.

This performance is due to the combination and optimization of 3 principles:

- current discrimination,
- energy discrimination,
- time discrimination.



Protection against overloads: current discrimination

The protection is selective if the ratio between the setting thresholds is higher than 1.6 (in the case of two distribution circuit breakers).

Protection against weak short circuits: time discrimination

Tripping of the upstream device has a slight time delay; tripping of the downstream device is faster.

The protection is selective if the ratio between the short-circuit protection thresholds is no less than 1.5.

Protection against high short circuits: energy discrimination

This principle combines the exceptional limiting power of the Compact NSX devices and reflex release, sensitive to the energy dissipated by the short circuit in the device.

When a short circuit is high, if it is seen by two devices, the downstream device limits it greatly. The energy dissipated in the upstream device is insufficient to cause it to trip: there is discrimination whatever the value of the short circuit.

The range has been designed to ensure energy discrimination between NSX630/NSX250/NSX100 or NSX400/NSX160.

Discrimination between Masterpact or Compact NS ≥ 630 A upstream and Compact NSX downstream

Thanks to their high-performance control units and a very innovative design, Masterpact and Compact NS ≥ 630 A devices offer, as standard, a very high level of discrimination with downstream Compact NSX up to 630 A

Respect the basic rules of discrimination for overload and short-circuit, or check that curves do not overlap with Ecodial software.

Check the discrimination limit in tables for high short-circuit current or when using limiter circuit breakers (Masterpact NT L1 or Compact NS L or LB) upstream.

Discrimination between Masterpact or Compact NS ≥ 630 A upstream and downstream

The utilization category of these devices (excepted limiters ones) is B according to IEC 60947 standard. Discrimination is ensured by a combination of current discrimination and time discrimination.

Respect the basic rules of discrimination for overload and short-circuit, or check that curves do not overlap with Ecodial software.

Check the discrimination limit in tables for high short-circuit current or when using limiter circuit breakers (Masterpact NT L1 or Compact NS L or LB).

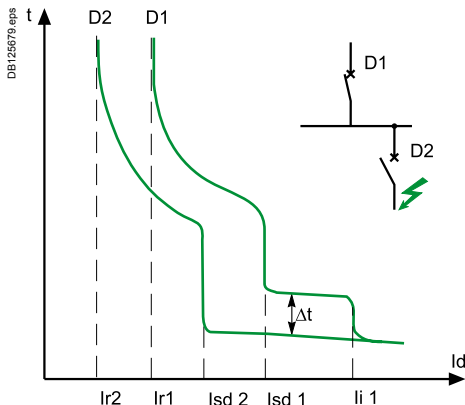
Basic rules of discrimination for overload and short-circuit

| Upstream | Downstream | Thermal protection | Magnetic protection |
|------------|------------|-----------------------------------|-----------------------------------|
| | | I_r upstream / I_r downstream | I_m upstream / I_m downstream |
| TM | TM or MCB | ≥ 1.6 | ≥ 2 |
| | Micrologic | ≥ 1.6 | ≥ 1.5 |
| Micrologic | TM or MCB | ≥ 1.6 | ≥ 1.5 |
| | Micrologic | ≥ 1.3 | $\geq 1.5^{(1)}$ |

(1) See "Additional conditions according to the trip units".

Coordination between circuit breakers

Discrimination (Selectivity)



Additional conditions according to the trip units

Short time trip pickup current (I_{sd})

The tables show the limit of discrimination assuming the short time trip pickup current $I_{sd} = 10 \times I_r$.

In many cases, when discrimination is total, a different adjustment may be used provided that the ratio between the magnetic thresholds indicated above is observed.

When downstream breaker is a Compact NSX:

■ upstream circuit breaker magnetic setting shall be higher than downstream instantaneous protection:

| NSX 2.2 ou 2.3 | Mic 2.2 40 | Mic 2.2 100 | Mic 2.2 160 | Mic 2.2 250 | Mic 2.3 400 | Mic 2.3 630 |
|----------------|------------|-------------|-------------|-------------|-------------|-------------|
| Inst. | 600 A | 1500 A | 2400 A | 3000 A | 4800 A | 6900 A |

■ or upstream circuit breaker shall be equipped with micrologic type 5 with $t_{sd} \geq 0.1$. When downstream circuit breaker is a Masterpact with micrologic 2, upstream circuit breaker shall be equipped with micrologic type 5 and $t_{sd} \geq 0,1$ and Ii Off. When the limit of discrimination indicated in the table is $10 \times I_r$, the limit of discrimination is in fact the upstream magnetic threshold I_{sd}.

Instantaneous trip pickup current (I_i)

The tables show the limit of discrimination assuming the instantaneous trip pickup current set to its maximum value and when it is inhibited (category B circuit breaker only).

■ When the limit of discrimination indicated in the table is $15 \times I_n$ of the upstream device, the limit of discrimination is in fact the instantaneous trip pickup current of the upstream device.

■ When the upstream device is a type B circuit breaker and the downstream device is type A, the instantaneous trip pickup current of the upstream device may be set to below $15 \times I_n$ as long as it remains higher than the reflex release threshold of the downstream device.

Short time tripping delay (T_{sd})

When the upstream and downstream circuit breakers are fitted with a Micrologic 5.x, 6.x, 7.x: trip unit, the minimum non-tripping time of the upstream device must be greater than the maximum tripping time of the downstream device.

T_{sd} D1 > T_{sd} D2 (One band)

I²t Off / On

The tables show the limit of discrimination assuming function I²t OFF. If this is not the case, the user must verify that the curves do not overlap.

Ground Fault Protection (GFP⁽¹⁾) (I_g, T_g)

When the upstream and downstream circuit breakers are fitted with a Micrologic 6.x trip unit, the user must verify current and time discrimination:

current discrimination

The setting of the tripping threshold of the upstream GFP is greater than that of the downstream GFP. Because of the tolerances on the settings, a difference of 30 % between the upstream threshold and the downstream threshold is sufficient.

time discrimination

The intentional time-delay setting for the upstream GFP is higher than the opening time of the downstream protection device. Furthermore, it is essential that the intentional time-delay applied to the upstream protection device observes the maximum insulation fault elimination time defined by NEC § 230.95 (i.e. 1 s for 3000 A).

I_g D1 ≥ 1.3 I_g D2 T_g D1 > T_g D2 (One band)

(1) GFP : Ground Fault Protection.

Residual current devices

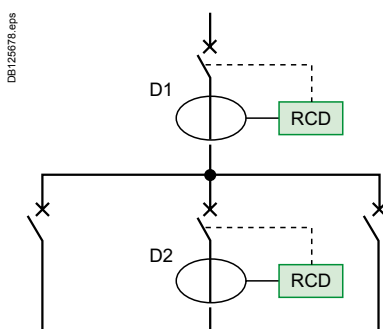
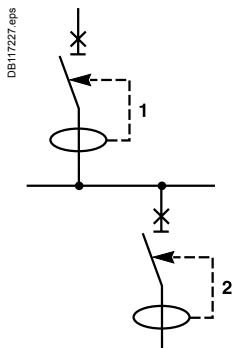
Discrimination of residual current devices (RCD) is also necessary to ensure good continuity of service for the final user. Consequently, any pair of upstream/downstream residual current devices on the distribution network must meet the following conditions:

■ the sensitivity of the upstream residual current device must be at least equal to three times the sensitivity of the downstream residual current device ($I_{\Delta n} D1 \geq 3 \times I_{\Delta n} D2$),

■ the upstream residual current device must be:

- of the selective (S) type (or setting) if the downstream residual current device is an instantaneous type,
- of the delayed (R) type (or setting) if the downstream residual current device is a selective type.

The minimum non-tripping time of the upstream device will therefore be greater than the maximum tripping time of the downstream device for all current values ($\Delta t (D1) > \Delta t (D2)$).



Coordination between circuit breakers

Discrimination of modular circuit breakers

Using the discrimination tables

Depending on the network and the type of downstream circuit breaker, the selection table below indicates which table should be consulted to find out the discrimination value.

The discrimination values are given in colour-coded tables.

■ For 220-240 V/380-415 V networks:

□ in the case of a 2P downstream circuit breaker in a single-phase network (220-240 V), refer to the light green tables,

□ in the case of 1P, 1P+N, 3P, 3P+N, 4P and 2P circuit breakers in a two-phase network (380-415 V), refer to the dark green tables.

Selection table

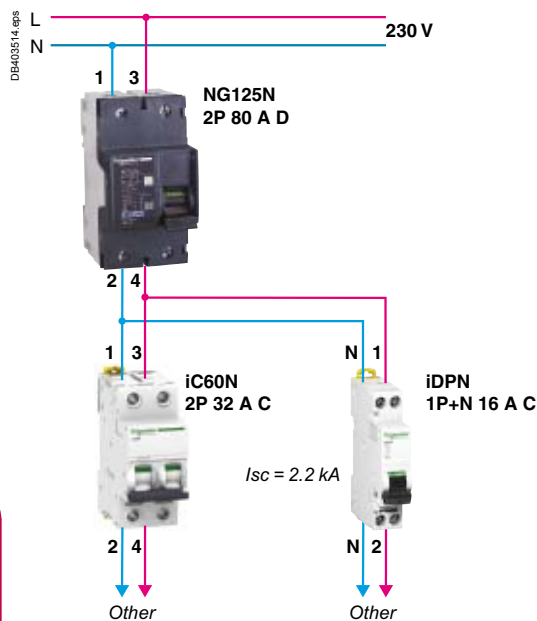
| | | Upstream network | | |
|---------------------------------|--|--|---|---------------------------------|
| | | <small>DB123966 eps</small> | <small>DB123968 eps</small> | <small>DB123967 eps</small> |
| Type of Downstream network | Type of Downstream protection device | Ph/N 220-240 V | Ph/N 220-240 V Ph/Ph 380-415 V | Ph/Ph 380-415 V |
| <small>DB124076 eps</small> | <small>DB123991 eps</small> 2P | □ | □ | □ |
| | <small>DB124191 eps</small> 1P | <small>DB123992 eps</small> 1P+N | ■ | ■ |
| <small>DB124192 eps</small> | <small>DB123991 eps</small> 2P | ■ | ■ | ■ |
| <small>DB124080 eps</small> | <small>DB123993 eps</small> 3P | ■ | ■ | ■ |
| <small>DB124081 eps</small> | <small>DB123994 eps</small> 4P | ■ | ■ | ■ |
| | <small>DB123993 eps</small> 3P | <small>DB123995 eps</small> 3P+N | ■ | ■ |

Note: this selection table shows you the colour.
By taking your downstream protection device, the type of upstream network and its voltage you can refer to the corresponding discrimination table.

Coordination between circuit breakers

Discrimination of modular circuit breakers

Example: solution diagram



Upstream we have a NG125N 80 A 2P curve D and downstream an iC60N 32 A 2P curve C. The network is 230 V between phase and neutral. By referring to the light green table on the discrimination page for NG125N curve D with iC60 downstream, we find 2200 A.

If the downstream product is replaced by an iDPN 1P+N curve C, you will use the dark green table for NG125N curve D and iDPN1P+N downstream. The discrimination level is 2400 A for a 16 A.

Specifications

We want to achieve continuity of service in the event of a fault downstream of the NG125N 80 A. This circuit has an I_{sc} of 2.2 kA under a voltage of 230 V. By referring to the table for 230 V, 1P+N network, we find that for an upstream NG125N curve D with a rating of 80 A, we can have total discrimination up to 16 A if we use an iC60N 1P+N and up to 32 A with an iC60N 2P.

| Upstream | | NG125N/H/L | | | | | | | | | | |
|--------------------------|-------------------------------------|------------|------|------|------|------|------|-------|-------|------|------|------|
| | | Curve D | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | 2P (220-240 V) single-phase network | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| iC60N/H/L Curve C | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | T | T | T | T | T | T | T | T | T | T | T |
| | 2 | 1200 | T | T | T | T | T | T | T | T | T | T |
| | 3 | 21 | 3400 | 3400 | T | T | T | T | T | T | T | T |
| | 4 | 18 | 1200 | 1300 | 5800 | 5600 | T | T | T | T | T | T |
| | 6 | 15 | 700 | 720 | 1900 | 1900 | 6000 | 11000 | T | T | T | T |
| | 10 | | 22 | 480 | 1200 | 1200 | 2200 | 4200 | 10000 | T | T | T |
| | 13 | | | 28 | 51 | 900 | 1800 | 3000 | 7300 | 8000 | T | T |
| | 16 | | | | 35 | 740 | 1300 | 2200 | 4700 | 5400 | T | T |
| | 20 | | | | | 46 | 88 | 1700 | 3500 | 3500 | 6900 | T |
| | 25 | | | | | | 56 | 600 | 2500 | 2500 | 4600 | 6800 |
| | 32 | | | | | | | 80 | 2000 | 2200 | 3400 | 4400 |
| | 40 | | | | | | | | 756 | 1900 | 2900 | 3500 |
| | 50 | | | | | | | | | 960 | 2300 | 2800 |
| | 63 | | | | | | | | | | 2300 | 2800 |

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

$I_s > I_{sc}$ Total discrimination

Coordination between circuit breakers

Discrimination of modular circuit breakers

Contents

| Downstream | | Upstream | | | | | | | | |
|-------------|-------|--------------|----------|----------|--------------|--------------|--------------|---------------------|--------------|--------------|
| Type | | iDPN, iDPN N | | | iC60N/H/L | | | NG125N/H/L, C120N/H | | |
| | Curve | B | C | D | B | C | D | B | C | D |
| iDPN | B | page 575 | page 576 | page 577 | page 578 | page 585 | page 580 | page 588 | page 590 | page 592 |
| | C | page 575 | page 576 | page 577 | page 578 | page 585 | page 580 | page 588 | page 590 | page 592 |
| | D | page 575 | page 576 | page 577 | page 578 | page 585 | page 580 | page 588 | page 590 | page 592 |
| iDPN N | B | page 575 | page 576 | page 577 | page 578 | page 585 | page 580 | page 589 | page 591 | page 593 |
| | C | page 575 | page 576 | page 577 | page 578 | page 585 | page 580 | page 589 | page 591 | page 593 |
| | D | page 575 | page 576 | page 577 | page 578 | page 585 | page 580 | page 589 | page 591 | page 593 |
| iC60N/H/L | B | – | – | – | page 582-583 | page 584-585 | page 586-587 | page 594-601 | page 596-597 | page 598-599 |
| | C | – | – | – | page 582-583 | page 584-585 | page 586-587 | page 594-601 | page 596-597 | page 598-599 |
| | D | – | – | – | page 582-583 | page 584-585 | page 586-587 | page 594-601 | page 596-597 | page 598-599 |
| C120, NG125 | B | – | – | – | – | – | – | page 600-601 | page 602-603 | page 604-605 |
| | C | – | – | – | – | – | – | page 600-601 | page 602-603 | page 604-605 |
| | D | – | – | – | – | – | – | page 600-601 | page 602-603 | page 604-605 |

Discrimination between circuit breakers

In the following tables we show the level of discrimination between two LV circuits that are protected by modular circuit breakers.

This discrimination will be either:

- total: represented by a T (up to the breaking capacity of the downstream device),
- partial: discrimination limit current (Is) indicated. Below this value discrimination is ensured, above this value the upstream device is also involved in breaking,
- zero: no discrimination ensured.

Discrimination table

Upstream: iDPN, iDPN N curve B

Downstream: iDPN/iDPN N curves B, C, D

220-240/380-415 V

| Upstream | | iDPN, iDPN N Curve B | | | | | | | | | | |
|---------------------------------|----|-------------------------|---|----|----|----|----|-----|-----|-----|-----|-----|
| In (A) | | 1 | 2 | 3 | 4 | 6 | 10 | 16 | 20 | 25 | 32 | 40 |
| Downstream | | | | | | | | | | | | |
| 1P+N | | | | | | | | | | | | |
| 3P, 3P+N | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN | 1 | | 8 | 12 | 20 | 30 | 70 | 150 | 250 | 350 | 610 | 980 |
| iDPN N | 2 | | | 12 | 16 | 30 | 60 | 110 | 180 | 240 | 340 | 450 |
| Curve B | 3 | | | | | 30 | 40 | 64 | 140 | 190 | 280 | 350 |
| | 4 | | | | | 10 | 40 | 64 | 120 | 160 | 220 | 280 |
| | 6 | | | | | | 40 | 64 | 80 | 100 | 130 | 160 |
| | 10 | | | | | | | 64 | 80 | 100 | 130 | 160 |
| | 16 | | | | | | | | | 100 | 130 | 160 |
| | 20 | | | | | | | | | | 130 | 160 |
| | 25 | | | | | | | | | | | 160 |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN | 1 | | 6 | 12 | 20 | 30 | 70 | 150 | 250 | 350 | 610 | 980 |
| iDPN N | 2 | | | | 12 | 30 | 60 | 110 | 180 | 240 | 340 | 450 |
| Curve C | 3 | | | | | 13 | 40 | 64 | 140 | 190 | 280 | 350 |
| | 4 | | | | | | 32 | 64 | 120 | 160 | 220 | 280 |
| | 6 | | | | | | | 51 | 80 | 100 | 130 | 160 |
| | 10 | | | | | | | | 64 | 80 | 130 | 160 |
| | 16 | | | | | | | | | | 102 | 128 |
| | 20 | | | | | | | | | | | 128 |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN | 1 | | | | 12 | 30 | 70 | 150 | 250 | 350 | 610 | 980 |
| iDPN N | 2 | | | | | 19 | 60 | 110 | 180 | 240 | 340 | 450 |
| Curve D | 3 | | | | | | 32 | 64 | 140 | 190 | 280 | 350 |
| | 4 | | | | | | | 51 | 120 | 160 | 220 | 280 |
| | 6 | | | | | | | | 64 | 80 | 130 | 160 |
| | 10 | | | | | | | | | | 102 | 128 |
| | 16 | | | | | | | | | | | 128 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

No discrimination.

Discrimination table

Upstream: iDPN, iDPN N curve C

Downstream: iDPN/iDPN N curves B, C, D

220-240/380-415 V

| Upstream | | iDPN, iDPN N Curve C | | | | | | | | | | |
|-------------------------------------|---------------------------------|-------------------------|----|----|----|----|-----|-----|-----|------|-----|-----|
| In (A) | | 1 | 2 | 3 | 4 | 6 | 10 | 16 | 20 | 25 | 32 | 40 |
| Downstream 1P+N 3P, 3P+N | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN iDPN N Curve B | 1 | | 16 | 24 | 32 | 70 | 180 | 400 | 630 | 1200 | T | T |
| | 2 | | | 24 | 32 | 48 | 140 | 270 | 350 | 510 | 820 | 830 |
| | 3 | | | | 32 | 48 | 80 | 210 | 290 | 380 | 630 | 650 |
| | 4 | | | | | 48 | 80 | 130 | 240 | 320 | 480 | 510 |
| | 6 | | | | | | 80 | 130 | 160 | 200 | 320 | 380 |
| | 10 | | | | | | | 130 | 160 | 200 | 260 | 320 |
| | 16 | | | | | | | | 160 | 200 | 260 | 320 |
| | 20 | | | | | | | | | | 260 | 320 |
| | 25 | | | | | | | | | | | 320 |
| | 32 | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN iDPN N Curve C | 1 | | 16 | 24 | 32 | 70 | 180 | 400 | 630 | 1200 | T | T |
| | 2 | | | 24 | 32 | 48 | 140 | 270 | 350 | 510 | 820 | 830 |
| | 3 | | | | 9 | 48 | 80 | 210 | 290 | 380 | 630 | 650 |
| | 4 | | | | | 10 | 80 | 130 | 240 | 320 | 480 | 510 |
| | 6 | | | | | | 80 | 130 | 160 | 200 | 320 | 380 |
| | 10 | | | | | | | 130 | 160 | 200 | 260 | 320 |
| | 16 | | | | | | | | 45 | 200 | 260 | 320 |
| | 20 | | | | | | | | | | 260 | 320 |
| | 25 | | | | | | | | | | | 320 |
| | Discrimination limit (A) | | | | | | | | | | | |
| iDPN iDPN N Curve D | 1 | | 16 | 24 | 32 | 70 | 180 | 400 | 630 | 1200 | T | T |
| | 2 | | | | 25 | 48 | 140 | 270 | 350 | 510 | 820 | 830 |
| | 3 | | | | | 13 | 80 | 210 | 290 | 380 | 630 | 650 |
| | 4 | | | | | | 80 | 130 | 240 | 320 | 480 | 510 |
| | 6 | | | | | | | 128 | 160 | 200 | 320 | 380 |
| | 10 | | | | | | | | 128 | 200 | 260 | 320 |
| | 16 | | | | | | | | | 141 | 153 | 320 |
| | 20 | | | | | | | | | | | 256 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: iDPN, iDPN N curve D

Downstream: iDPN/iDPN N curves B, C, D

220-240/380-415 V

| Upstream | iDPN, iDPN N | | | | | | | | | | |
|----------|--------------|---|---|---|---|----|----|----|----|----|----|
| In (A) | Curve D | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 6 | 10 | 16 | 20 | 25 | 32 | 40 |

| Downstream | 1P+N 3P, 3P+N | | | | | | | | | | |
|------------|------------------|--|--|--|--|--|--|--|--|--|--|
|------------|------------------|--|--|--|--|--|--|--|--|--|--|

| Discrimination limit (A) | | | | | | | | | | | | |
|--------------------------|----|--|----|----|----|-----|-----|------|-----|------|------|------|
| iDPN | 1 | | 24 | 36 | 70 | 170 | 380 | 1200 | T | T | T | T |
| iDPN N | 2 | | | 36 | 48 | 130 | 250 | 490 | 780 | 1100 | 1600 | 2300 |
| Curve B | 3 | | | | 48 | 72 | 210 | 410 | 640 | 890 | 1400 | 1900 |
| | 4 | | | | | 72 | 120 | 330 | 500 | 670 | 970 | 1400 |
| | 6 | | | | | | 120 | 190 | 390 | 520 | 740 | 1000 |
| | 10 | | | | | | | 190 | 240 | 300 | 580 | 810 |
| | 16 | | | | | | | | | 300 | 380 | 480 |
| | 20 | | | | | | | | | | 380 | 480 |
| | 25 | | | | | | | | | | | 480 |
| | 32 | | | | | | | | | | | 480 |
| | 40 | | | | | | | | | | | 480 |

| Discrimination limit (A) | | | | | | | | | | | | |
|--------------------------|----|--|----|----|----|-----|-----|------|-----|------|------|------|
| iDPN | 1 | | 24 | 36 | 70 | 170 | 380 | 1200 | T | T | T | T |
| iDPN N | 2 | | | 36 | 48 | 130 | 250 | 490 | 780 | 1100 | 1600 | 2300 |
| Curve C | 3 | | | | 9 | 72 | 210 | 410 | 640 | 890 | 1400 | 1900 |
| | 4 | | | | | 10 | 120 | 330 | 500 | 670 | 970 | 1400 |
| | 6 | | | | | | | 190 | 390 | 520 | 740 | 1000 |
| | 10 | | | | | | | 190 | 240 | 300 | 580 | 810 |
| | 16 | | | | | | | | | 300 | 380 | 480 |
| | 20 | | | | | | | | | | 380 | 480 |
| | 25 | | | | | | | | | | | 480 |

| Discrimination limit (A) | | | | | | | | | | | | |
|--------------------------|----|--|----|----|----|-----|-----|------|-----|------|------|------|
| iDPN | 1 | | 24 | 36 | 70 | 170 | 380 | 1200 | T | T | T | T |
| iDPN N | 2 | | | 36 | 48 | 130 | 250 | 490 | 780 | 1100 | 1600 | 2300 |
| Curve D | 3 | | | | | 14 | 210 | 410 | 640 | 890 | 1400 | 1900 |
| | 4 | | | | | 10 | 120 | 330 | 500 | 670 | 970 | 1400 |
| | 6 | | | | | | 120 | 190 | 390 | 520 | 740 | 1000 |
| | 10 | | | | | | | 190 | 240 | 300 | 580 | 810 |
| | 16 | | | | | | | | | 300 | 380 | 480 |
| | 20 | | | | | | | | | | 380 | 480 |
| | 25 | | | | | | | | | | | 480 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: iC60N/H/L curve B

Downstream: iDPN/iDPN N curves B, C, D

220-240/380-415 V

| Upstream | | iC60N/H/L Curve B | | | | | | | | | | | | |
|-------------------------------------|----|----------------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|
| In (A) | | 2 | 3 | 4 | 6 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| Downstream 1P+N 3P, 3P+N | | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | |
| iDPN | 1 | 8 | 12 | 16 | 30 | 60 | 80 | 110 | 130 | 150 | 270 | 410 | 450 | 620 |
| iDPN N | 2 | | 12 | 16 | 24 | 40 | 50 | 90 | 80 | 100 | 220 | 300 | 330 | 440 |
| Curve B | 3 | | | | 24 | 40 | 50 | 64 | 80 | 100 | 210 | 270 | 300 | 410 |
| | 4 | | | | 14 | 40 | 50 | 64 | 80 | 100 | 190 | 270 | 300 | 380 |
| | 6 | | | | | 40 | 50 | 64 | 80 | 100 | 130 | 240 | 250 | 250 |
| | 10 | | | | | | | 64 | 80 | 100 | 130 | 160 | 200 | 250 |
| | 16 | | | | | | | | | 100 | 130 | 160 | 200 | 250 |
| | 20 | | | | | | | | | | 130 | 160 | 200 | 250 |
| | 25 | | | | | | | | | | | 160 | 200 | 250 |
| | 32 | | | | | | | | | | | | 200 | 250 |
| | 40 | | | | | | | | | | | | | 250 |
| Discrimination limit (A) | | | | | | | | | | | | | | |
| iDPN | 1 | | 12 | 16 | 30 | 60 | 80 | 110 | 130 | 150 | 270 | 410 | 450 | 620 |
| iDPN N | 2 | | | 5 | 24 | 40 | 50 | 90 | 80 | 100 | 220 | 300 | 330 | 440 |
| Curve C | 3 | | | | 17 | 40 | 50 | 64 | 80 | 100 | 210 | 270 | 300 | 410 |
| | 4 | | | | | 34 | 50 | 64 | 80 | 100 | 190 | 270 | 300 | 380 |
| | 6 | | | | | | | 47 | 80 | 100 | 130 | 240 | 250 | 250 |
| | 10 | | | | | | | | 64 | 80 | 130 | 160 | 200 | 250 |
| | 16 | | | | | | | | | | 102 | 128 | 200 | 250 |
| | 20 | | | | | | | | | | | 128 | 160 | 250 |
| | 25 | | | | | | | | | | | | 160 | 201 |
| | 32 | | | | | | | | | | | | | 201 |
| Discrimination limit (A) | | | | | | | | | | | | | | |
| iDPN | 1 | | | 12 | 30 | 60 | 80 | 110 | 130 | 150 | 270 | 410 | 450 | 620 |
| iDPN N | 2 | | | | 19 | 40 | 50 | 90 | 80 | 100 | 220 | 300 | 330 | 440 |
| Curve D | 3 | | | | | 32 | 50 | 64 | 80 | 100 | 210 | 270 | 300 | 410 |
| | 4 | | | | | | | 51 | 80 | 100 | 190 | 270 | 300 | 380 |
| | 6 | | | | | | | | 59 | 78 | 130 | 240 | 250 | 250 |
| | 10 | | | | | | | | | | 102 | 128 | 200 | 250 |
| | 16 | | | | | | | | | | | 128 | 160 | 201 |
| | 20 | | | | | | | | | | | | 160 | 201 |
| | 25 | | | | | | | | | | | | | 201 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

No discrimination.

Discrimination table

Upstream: iC60N/H/L curve C

Downstream: iDPN/iDPN N curves B, C, D

220-240/380-415 V

| Upstream | | iC60N/H/L | | | | | | | | | | | | | |
|---------------------------------|----|-----------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|------|------|
| | | Curve C | | | | | | | | | | | | | |
| In (A) | | 1 | 2 | 3 | 4 | 6 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| Downstream | | | | | | | | | | | | | | | |
| 1P+N | | | | | | | | | | | | | | | |
| 3P, 3P+N | | | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | |
| iDPN | 1 | | 16 | 24 | 32 | 48 | 80 | 100 | 210 | 270 | 390 | 540 | 790 | 1500 | 1600 |
| iDPN N | 2 | | | 24 | 32 | 48 | 80 | 100 | 130 | 160 | 300 | 410 | 540 | 910 | 930 |
| Curve B | 3 | | | | 5 | 48 | 80 | 100 | 130 | 160 | 200 | 260 | 510 | 750 | 760 |
| | 4 | | | | | 48 | 80 | 100 | 130 | 160 | 200 | 260 | 480 | 720 | 760 |
| | 6 | | | | | | 80 | 100 | 130 | 160 | 200 | 260 | 320 | 400 | 500 |
| | 10 | | | | | | | 100 | 130 | 160 | 200 | 260 | 320 | 400 | 500 |
| | 16 | | | | | | | | | | 200 | 260 | 320 | 400 | 500 |
| | 20 | | | | | | | | | | | 260 | 320 | 400 | 500 |
| | 25 | | | | | | | | | | | | 320 | 400 | 500 |
| | 32 | | | | | | | | | | | | | 400 | 500 |
| | 40 | | | | | | | | | | | | | | 500 |
| Discrimination limit (A) | | | | | | | | | | | | | | | |
| iDPN | 1 | | 16 | 24 | 32 | 48 | 80 | 100 | 210 | 270 | 390 | 540 | 790 | 1500 | 1600 |
| iDPN N | 2 | | | 24 | 32 | 48 | 80 | 100 | 130 | 160 | 300 | 410 | 540 | 910 | 930 |
| Curve C | 3 | | | | | 48 | 80 | 100 | 130 | 160 | 200 | 260 | 510 | 750 | 760 |
| | 4 | | | | | 14 | 80 | 100 | 130 | 160 | 200 | 260 | 480 | 720 | 760 |
| | 6 | | | | | | 80 | 100 | 130 | 160 | 200 | 260 | 320 | 400 | 500 |
| | 10 | | | | | | | | 130 | 160 | 200 | 260 | 320 | 400 | 500 |
| | 16 | | | | | | | | | | 83 | 260 | 320 | 400 | 500 |
| | 20 | | | | | | | | | | | 260 | 320 | 400 | 500 |
| | 25 | | | | | | | | | | | | 124 | 400 | 500 |
| | 32 | | | | | | | | | | | | | 163 | 500 |
| | 40 | | | | | | | | | | | | | | 186 |
| Discrimination limit (A) | | | | | | | | | | | | | | | |
| iDPN | 1 | | 16 | 24 | 32 | 48 | 80 | 100 | 210 | 270 | 390 | 540 | 790 | 1500 | 1600 |
| iDPN N | 2 | | | | 25 | 48 | 80 | 100 | 130 | 160 | 300 | 410 | 540 | 910 | 930 |
| Curve D | 3 | | | | | | 80 | 100 | 130 | 160 | 200 | 260 | 510 | 750 | 760 |
| | 4 | | | | | | 80 | 100 | 130 | 160 | 200 | 260 | 480 | 720 | 760 |
| | 6 | | | | | | | 100 | 130 | 160 | 200 | 260 | 320 | 400 | 500 |
| | 10 | | | | | | | | | | 200 | 260 | 320 | 400 | 500 |
| | 16 | | | | | | | | | | 83 | 165 | 320 | 400 | 500 |
| | 20 | | | | | | | | | | | | 151 | 400 | 500 |
| | 25 | | | | | | | | | | | | | 176 | 500 |
| | 32 | | | | | | | | | | | | | | 255 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

No discrimination.

Discrimination table

Upstream: iC60N/H/L curve D

Downstream: iDPN/iDPN N curves B, C, D

220-240/380-415 V

| Upstream | | iC60N/H/L Curve D | | | | | | | | | | | | | | |
|-------------------------------------|----|----------------------|----|----|----|----|-----|-----|-----|-----|-----|------|------|------|------|-----|
| In (A) | | 1 | 2 | 3 | 4 | 6 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | |
| Downstream 1P+N 3P, 3P+N | | | | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | | |
| iDPN iDPN N Curve B | 1 | | 30 | 50 | 70 | 72 | 120 | 260 | 350 | 540 | 700 | 1100 | 1500 | 2000 | 2000 | |
| | 2 | | | 36 | 48 | 72 | 120 | 160 | 190 | 390 | 510 | 700 | 960 | 1500 | 2000 | |
| | 3 | | | | 5 | 72 | 120 | 160 | 190 | 360 | 450 | 580 | 840 | 1200 | 1500 | |
| | 4 | | | | | 72 | 120 | 160 | 190 | 240 | 450 | 580 | 780 | 1100 | 1400 | |
| | 6 | | | | | | 120 | 160 | 190 | 240 | 300 | 380 | 720 | 1000 | 1200 | |
| | 10 | | | | | | | 160 | 190 | 240 | 300 | 380 | 480 | 600 | 760 | |
| | 16 | | | | | | | | | | 300 | 380 | 480 | 600 | 760 | |
| | 20 | | | | | | | | | | | | 380 | 480 | 600 | 760 |
| | 25 | | | | | | | | | | | | | 480 | 600 | 760 |
| | 32 | | | | | | | | | | | | | | 600 | 760 |
| | 40 | | | | | | | | | | | | | | | 760 |
| Discrimination limit (A) | | | | | | | | | | | | | | | | |
| iDPN iDPN N Curve C | 1 | | 30 | 50 | 70 | 72 | 120 | 260 | 350 | 540 | 700 | 1100 | 1500 | 2000 | 2000 | |
| | 2 | | | 36 | 48 | 72 | 120 | 160 | 190 | 390 | 510 | 700 | 960 | 1500 | 2000 | |
| | 3 | | | | 5 | 72 | 120 | 160 | 190 | 360 | 450 | 580 | 840 | 1200 | 1500 | |
| | 4 | | | | | 14 | 120 | 160 | 190 | 240 | 450 | 580 | 780 | 1100 | 1400 | |
| | 6 | | | | | | 120 | 160 | 190 | 240 | 300 | 380 | 720 | 1000 | 1200 | |
| | 10 | | | | | | | 34 | 190 | 240 | 300 | 380 | 480 | 600 | 760 | |
| | 16 | | | | | | | | | | | 300 | 380 | 480 | 600 | 760 |
| | 20 | | | | | | | | | | | | 380 | 480 | 600 | 760 |
| | 25 | | | | | | | | | | | | | 124 | 600 | 760 |
| | 32 | | | | | | | | | | | | | | 163 | 760 |
| | 40 | | | | | | | | | | | | | | | 186 |
| Discrimination limit (A) | | | | | | | | | | | | | | | | |
| iDPN iDPN N Curve D | 1 | | 30 | 50 | 70 | 72 | 120 | 260 | 350 | 540 | 700 | 1100 | 1500 | 2000 | 2000 | |
| | 2 | | | 36 | 48 | 72 | 120 | 160 | 190 | 390 | 510 | 700 | 960 | 1500 | 2000 | |
| | 3 | | | | | 17 | 120 | 160 | 190 | 360 | 450 | 580 | 840 | 1200 | 1500 | |
| | 4 | | | | | 14 | 120 | 160 | 190 | 240 | 450 | 580 | 780 | 1100 | 1400 | |
| | 6 | | | | | | 120 | 160 | 190 | 240 | 300 | 380 | 720 | 1000 | 1200 | |
| | 10 | | | | | | | | 57 | 240 | 300 | 380 | 480 | 600 | 760 | |
| | 16 | | | | | | | | | | | 83 | 380 | 480 | 600 | 760 |
| | 20 | | | | | | | | | | | | 155 | 151 | 600 | 760 |
| | 25 | | | | | | | | | | | | | 124 | 180 | 760 |
| | 32 | | | | | | | | | | | | | | 163 | 760 |
| | 40 | | | | | | | | | | | | | | | 186 |

Note: if you cannot find your combination, refer to the selection table on page 2.

4000 Discrimination limit = 4 kA.

No discrimination.



Discrimination table

Upstream: iC60N/H/L curve B

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | | iC60N/H/L | | | | | | | | | | | | | | |
|---------------------------------|---------------------------------|--|----|----|----|----|----|-----|-----|-----|-----|-----|------|------|------|-----|
| | | Curve B | | | | | | | | | | | | | | |
| In (A) | | 1 | 2 | 3 | 4 | 6 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | |
| Downstream | | 1P, 1P+N 2P (380-415 V) two-phase network 3P, 3P+N 4P | | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | | |
| iC60N/H/L Curve B | 0.5 | 4 | 10 | 40 | 60 | T | T | T | T | T | T | T | T | T | T | |
| | 1 | | 10 | 12 | 16 | 40 | 70 | 120 | 170 | 210 | 300 | 780 | 1300 | 1700 | 4000 | |
| | 2 | | | 12 | 16 | 30 | 60 | 90 | 130 | 140 | 200 | 370 | 520 | 630 | 960 | |
| | 3 | | | | | 30 | 40 | 70 | 90 | 120 | 150 | 250 | 380 | 460 | 670 | |
| | 4 | | | | | 30 | 40 | 52 | 90 | 80 | 100 | 250 | 310 | 380 | 470 | |
| | 6 | | | | | | 40 | 52 | 64 | 80 | 100 | 190 | 290 | 300 | 440 | |
| | 10 | | | | | | | | 64 | 80 | 100 | 130 | 240 | 200 | 380 | |
| | 13 | | | | | | | | | 80 | 100 | 130 | 240 | 200 | 250 | |
| | 16 | | | | | | | | | | 100 | 130 | 160 | 200 | 250 | |
| | 20 | | | | | | | | | | | 130 | 160 | 200 | 250 | |
| | 25 | | | | | | | | | | | | 160 | 200 | 250 | |
| | 32 | | | | | | | | | | | | | 200 | 250 | |
| | 40 | | | | | | | | | | | | | | 250 | |
| | 50 | | | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | | |
| iC60N/H/L Curve C | 0.5 | | 10 | 40 | 60 | T | T | T | T | T | T | T | T | T | T | |
| | 1 | | | | 16 | 30 | 70 | 120 | 170 | 210 | 300 | 780 | 1300 | 1700 | 4000 | |
| | 2 | | | | 16 | 18 | 60 | 90 | 130 | 160 | 200 | 370 | 520 | 630 | 960 | |
| | 3 | | | | | 15 | 40 | 70 | 90 | 120 | 150 | 250 | 380 | 460 | 670 | |
| | 4 | | | | | | 27 | 52 | 90 | 80 | 100 | 250 | 310 | 380 | 470 | |
| | 6 | | | | | | | | 51 | 80 | 100 | 190 | 290 | 300 | 440 | |
| | 10 | | | | | | | | | 64 | 80 | 130 | 240 | 200 | 250 | |
| | 13 | | | | | | | | | | | 102 | 160 | 200 | 250 | |
| | 16 | | | | | | | | | | | | 102 | 128 | 200 | 250 |
| | 20 | | | | | | | | | | | | | 128 | 160 | 250 |
| | 25 | | | | | | | | | | | | | | 160 | 200 |
| | 32 | | | | | | | | | | | | | | | 200 |
| | Discrimination limit (A) | | | | | | | | | | | | | | | |
| | iC60N/H/L Curve D | 0.5 | | | 30 | 50 | T | T | T | T | T | T | T | T | T | T |
| 1 | | | | | 12 | 30 | 60 | 120 | 170 | 210 | 300 | 780 | 1300 | 1700 | 4000 | |
| 2 | | | | | | 19 | 40 | 70 | 110 | 140 | 180 | 370 | 520 | 630 | 860 | |
| 3 | | | | | | | 31 | 41 | 90 | 120 | 150 | 250 | 380 | 460 | 670 | |
| 4 | | | | | | | | | 48 | 80 | 100 | 220 | 310 | 340 | 470 | |
| 6 | | | | | | | | | | 64 | 80 | 190 | 240 | 300 | 380 | |
| 10 | | | | | | | | | | | | 100 | 128 | 200 | 250 | |
| 13 | | | | | | | | | | | | | 128 | 160 | 250 | |
| 16 | | | | | | | | | | | | | 128 | 160 | 200 | |
| 20 | | | | | | | | | | | | | | 160 | 200 | |
| 25 | | | | | | | | | | | | | | 200 | | |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: iC60N/H/L curve B

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | | iC60N/H/L | | | | | | | | | | | | | | |
|---------------------------------|---------------------------------|--|-----|----|----|----|-----|-----|-----|-----|------|------|------|------|------|-----|
| | | Curve B | | | | | | | | | | | | | | |
| In (A) | | 1 | 2 | 3 | 4 | 6 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | |
| Downstream | | 2P (220-240 V) single-phase network | | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | | |
| iC60N/H/L Curve B | 0.5 | 4 | 210 | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 1 | | 10 | 20 | 20 | 60 | 110 | 260 | 530 | 790 | 2000 | T | T | T | T | |
| | 2 | | | 12 | 16 | 30 | 70 | 140 | 200 | 250 | 400 | 880 | 1700 | 2500 | 5300 | |
| | 3 | | | | | 30 | 40 | 90 | 130 | 160 | 250 | 550 | 800 | 1100 | 1400 | |
| | 4 | | | | | | 40 | 70 | 110 | 120 | 180 | 370 | 520 | 630 | 960 | |
| | 6 | | | | | | | 40 | 52 | 64 | 80 | 100 | 270 | 380 | 460 | 630 |
| | 10 | | | | | | | | | 64 | 80 | 100 | 190 | 290 | 300 | 440 |
| | 13 | | | | | | | | | | 80 | 100 | 130 | 240 | 200 | 380 |
| | 16 | | | | | | | | | | | 100 | 130 | 240 | 200 | 250 |
| | 20 | | | | | | | | | | | | 130 | 160 | 200 | 250 |
| | 25 | | | | | | | | | | | | | 160 | 200 | 250 |
| | 32 | | | | | | | | | | | | | | 200 | 250 |
| | 40 | | | | | | | | | | | | | | | 250 |
| | 50 | | | | | | | | | | | | | | | 250 |
| Discrimination limit (A) | | | | | | | | | | | | | | | | |
| iC60N/H/L Curve C | 0.5 | | 170 | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 1 | | | | 20 | 60 | 110 | 260 | 530 | 790 | 2000 | T | T | T | T | |
| | 2 | | | | 16 | 18 | 70 | 140 | 200 | 250 | 400 | 880 | 1700 | 2500 | 5300 | |
| | 3 | | | | | 15 | 40 | 90 | 130 | 160 | 230 | 550 | 800 | 1100 | 1400 | |
| | 4 | | | | | | 27 | 70 | 90 | 120 | 180 | 370 | 520 | 630 | 860 | |
| | 6 | | | | | | | | 51 | 80 | 100 | 230 | 380 | 410 | 630 | |
| | 10 | | | | | | | | | 64 | 80 | 130 | 240 | 300 | 440 | |
| | 13 | | | | | | | | | | | 102 | 240 | 200 | 380 | |
| | 16 | | | | | | | | | | | | 102 | 128 | 200 | 250 |
| | 20 | | | | | | | | | | | | | 128 | 160 | 250 |
| | 25 | | | | | | | | | | | | | | 160 | 200 |
| | 32 | | | | | | | | | | | | | | | 200 |
| | Discrimination limit (A) | | | | | | | | | | | | | | | |
| | iC60N/H/L Curve D | 0.5 | | | T | T | T | T | T | T | T | T | T | T | T | T |
| 1 | | | | | 12 | 50 | 110 | 260 | 530 | 790 | 2000 | T | T | T | T | |
| 2 | | | | | | 19 | 60 | 120 | 200 | 250 | 350 | 1100 | 1700 | 2500 | 5300 | |
| 3 | | | | | | | 31 | 41 | 110 | 140 | 230 | 490 | 800 | 960 | 1400 | |
| 4 | | | | | | | | | 48 | 80 | 150 | 310 | 450 | 630 | 860 | |
| 6 | | | | | | | | | | 64 | 80 | 230 | 330 | 410 | 500 | |
| 10 | | | | | | | | | | | | 100 | 128 | 200 | 380 | |
| 13 | | | | | | | | | | | | | 128 | 160 | 250 | |
| 16 | | | | | | | | | | | | | 128 | 160 | 200 | |
| 20 | | | | | | | | | | | | | | 160 | 200 | |
| 25 | | | | | | | | | | | | | | 200 | | |

Note: the discrimination limits given in the table must be compared to the phase/neutral fault current (Ik1).
If the max. phase/earth fault current (If) is high, the discrimination of this fault current should also be verified by referring to the limits given in the dark green part of the table.

Discrimination table

Upstream: iC60N/H/L curve C

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | iC60N/H/L | | | | | | | | | | | | | |
|----------|-----------|---|---|---|---|----|----|----|----|----|----|----|----|----|
| | Curve C | | | | | | | | | | | | | |
| In (A) | 1 | 2 | 3 | 4 | 6 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |

| | |
|-------------------|--|
| Downstream | 1P, 1P+N 2P (380-415 V) two-phase network 3P, 3P+N 4P |
|-------------------|--|

Discrimination limit (A)

| | | | | | | | | | | | | | | |
|----------------------|-----|---|----|----|----|----|-----|-----|-----|-----|------|------|------|------|
| iC60N/H/L Curve B | 0.5 | 8 | 60 | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | 16 | 24 | 32 | 70 | 180 | 210 | 370 | 590 | 1100 | 2400 | 7000 | T |
| | 2 | | | 24 | 32 | 48 | 140 | 160 | 220 | 310 | 460 | 780 | 1200 | 2000 |
| | 3 | | | | 5 | 48 | 120 | 104 | 190 | 280 | 380 | 580 | 820 | 1400 |
| | 4 | | | | | 14 | 80 | 104 | 130 | 240 | 300 | 430 | 590 | 1000 |
| | 6 | | | | | | 80 | 104 | 130 | 160 | 200 | 380 | 480 | 770 |
| | 10 | | | | | | | 104 | 130 | 160 | 200 | 260 | 320 | 680 |
| | 13 | | | | | | | | | 160 | 200 | 260 | 320 | 600 |
| | 16 | | | | | | | | | | 200 | 260 | 320 | 600 |
| | 20 | | | | | | | | | | | 260 | 320 | 400 |
| | 25 | | | | | | | | | | | | 320 | 400 |
| | 32 | | | | | | | | | | | | | 400 |
| | 40 | | | | | | | | | | | | | 500 |
| | 50 | | | | | | | | | | | | | 500 |

Discrimination limit (A)

| | | | | | | | | | | | | | | |
|----------------------|-----|---|----|----|----|----|-----|-----|-----|-----|------|------|------|------|
| iC60N/H/L Curve C | 0.5 | 8 | 50 | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | 16 | 24 | 32 | 70 | 180 | 210 | 370 | 590 | 1100 | 2400 | 7900 | T |
| | 2 | | | 24 | 32 | 48 | 120 | 160 | 220 | 310 | 460 | 780 | 1200 | 2000 |
| | 3 | | | | | 16 | 80 | 104 | 190 | 280 | 380 | 480 | 820 | 1400 |
| | 4 | | | | | 14 | 80 | 104 | 130 | 160 | 300 | 430 | 590 | 1000 |
| | 6 | | | | | | 80 | 104 | 130 | 160 | 200 | 380 | 480 | 770 |
| | 10 | | | | | | | | 130 | 160 | 200 | 260 | 320 | 680 |
| | 13 | | | | | | | | | 55 | 200 | 260 | 320 | 600 |
| | 16 | | | | | | | | | | 78 | 260 | 320 | 400 |
| | 20 | | | | | | | | | | | 260 | 320 | 400 |
| | 25 | | | | | | | | | | | | 127 | 400 |
| | 32 | | | | | | | | | | | | | 168 |
| | 40 | | | | | | | | | | | | | 500 |
| | 50 | | | | | | | | | | | | | 500 |

Discrimination limit (A)

| | | | | | | | | | | | | | | |
|----------------------|-----|--|----|----|----|----|-----|-----|-----|-----|------|------|------|------|
| iC60N/H/L Curve D | 0.5 | | 50 | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | | 24 | 32 | 70 | 180 | 210 | 370 | 590 | 1100 | 2400 | 7900 | T |
| | 2 | | | | 25 | 48 | 120 | 160 | 220 | 310 | 460 | 680 | 1200 | 2000 |
| | 3 | | | | | 15 | 80 | 104 | 130 | 240 | 380 | 480 | 710 | 1400 |
| | 4 | | | | | | 28 | 100 | 130 | 160 | 300 | 430 | 590 | 1000 |
| | 6 | | | | | | | | 130 | 160 | 200 | 260 | 480 | 770 |
| | 10 | | | | | | | | | 73 | 200 | 260 | 320 | 600 |
| | 13 | | | | | | | | | | 79 | 260 | 320 | 600 |
| | 16 | | | | | | | | | | 71 | 194 | 320 | 400 |
| | 20 | | | | | | | | | | | | 135 | 400 |
| | 25 | | | | | | | | | | | | | 174 |
| | 32 | | | | | | | | | | | | | 277 |
| | 40 | | | | | | | | | | | | | |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: iC60N/H/L curve C

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | | iC60N/H/L | | | | | | | | | | | | | |
|---------------------------------|-----|--|----|----|----|-----|-----|-----|------|-----|------|------|------|-------|-------|
| | | Curve C | | | | | | | | | | | | | |
| In (A) | | 1 | 2 | 3 | 4 | 6 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| Downstream | | 2P (220-240 V) single-phase network | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | |
| iC60N/H/L Curve B | 0.5 | 20 | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | 20 | 40 | 50 | 120 | 540 | 940 | 2700 | T | T | T | T | T | T |
| | 2 | | | 24 | 32 | 70 | 210 | 260 | 430 | 800 | 1500 | 3600 | 7900 | 52000 | 53000 |
| | 3 | | | | 5 | 48 | 140 | 180 | 250 | 450 | 710 | 1200 | 2100 | 11000 | 9800 |
| | 4 | | | | | 14 | 120 | 160 | 220 | 310 | 460 | 680 | 940 | 2000 | 2000 |
| | 6 | | | | | | 80 | 104 | 130 | 240 | 350 | 510 | 770 | 1300 | 1100 |
| | 10 | | | | | | | 104 | 130 | 160 | 200 | 380 | 550 | 930 | 950 |
| | 13 | | | | | | | | | 160 | 200 | 260 | 480 | 770 | 760 |
| | 16 | | | | | | | | | | 200 | 260 | 320 | 400 | 500 |
| | 20 | | | | | | | | | | | 260 | 320 | 400 | 500 |
| | 25 | | | | | | | | | | | | 320 | 400 | 500 |
| | 32 | | | | | | | | | | | | | 400 | 500 |
| | 40 | | | | | | | | | | | | | | 500 |
| | 50 | | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | |
| iC60N/H/L Curve C | 0.5 | 20 | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | 20 | 40 | 50 | 120 | 540 | 940 | 2700 | T | T | T | T | T | T |
| | 2 | | | 24 | 32 | 70 | 210 | 260 | 430 | 660 | 1500 | 3600 | 7900 | 60000 | 53000 |
| | 3 | | | | | 16 | 140 | 180 | 250 | 380 | 710 | 1200 | 2100 | 11000 | 9800 |
| | 4 | | | | | 14 | 120 | 104 | 190 | 310 | 460 | 680 | 940 | 2000 | 2000 |
| | 6 | | | | | | 80 | 104 | 130 | 160 | 350 | 510 | 620 | 1300 | 1100 |
| | 10 | | | | | | | | 130 | 160 | 200 | 260 | 480 | 770 | 850 |
| | 13 | | | | | | | | | 55 | 200 | 260 | 480 | 770 | 760 |
| | 16 | | | | | | | | | | 78 | 260 | 320 | 400 | 500 |
| | 20 | | | | | | | | | | | 260 | 320 | 400 | 500 |
| | 25 | | | | | | | | | | | | 127 | 400 | 500 |
| | 32 | | | | | | | | | | | | | 168 | 500 |
| | 40 | | | | | | | | | | | | | | 500 |
| | 50 | | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | |
| iC60N/H/L Curve D | 0.5 | | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | | 30 | 50 | 120 | 540 | 940 | 2700 | T | T | T | T | T | T |
| | 2 | | | | 25 | 48 | 210 | 260 | 430 | 800 | 1500 | 3600 | 7900 | 60000 | 53000 |
| | 3 | | | | | 15 | 120 | 160 | 250 | 380 | 630 | 1200 | 2100 | 11000 | 9800 |
| | 4 | | | | | | 28 | 100 | 190 | 280 | 460 | 680 | 940 | 2000 | 2000 |
| | 6 | | | | | | | | 130 | 160 | 300 | 450 | 620 | 1100 | 1100 |
| | 10 | | | | | | | | | 73 | 200 | 260 | 480 | 770 | 850 |
| | 13 | | | | | | | | | | 79 | 260 | 320 | 680 | 760 |
| | 16 | | | | | | | | | | 71 | 194 | 320 | 400 | 500 |
| | 20 | | | | | | | | | | | | 135 | 400 | 500 |
| | 25 | | | | | | | | | | | | | 174 | 500 |
| | 32 | | | | | | | | | | | | | | 277 |
| | 40 | | | | | | | | | | | | | | |

Note: the discrimination limits given in the table must be compared to the phase/neutral fault current (Ik1).
If the max. phase/earth fault current (If) is high, the discrimination of this fault current should also be verified by referring to the limits given in the dark green part of the table.

Discrimination table

Upstream: iC60N/H/L curve D

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | iC60N/H/L | | | | | | | | | | | | | |
|----------|-----------|---|---|---|---|----|----|----|----|----|----|----|----|----|
| | Curve D | | | | | | | | | | | | | |
| In (A) | 1 | 2 | 3 | 4 | 6 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |

| | |
|------------|--|
| Downstream | 1P, 1P+N 2P (380-415 V) two-phase network 3P, 3P+N 4P |
|------------|--|

Discrimination limit (A)

| | | | | | | | | | | | | | | | |
|----------------------|-----|----|----|----|----|-----|-----|-----|-----|------|------|------|------|------|------|
| iC60N/H/L Curve B | 0.5 | 20 | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | 30 | 50 | 70 | 150 | 290 | 510 | 770 | 2000 | 3900 | T | T | T | T |
| | 2 | | | 36 | 48 | 110 | 210 | 300 | 450 | 730 | 890 | 1400 | 2300 | 5000 | 6800 |
| | 3 | | | | 5 | 72 | 180 | 230 | 330 | 550 | 670 | 1100 | 1300 | 2800 | 4300 |
| | 4 | | | | | 72 | 120 | 160 | 290 | 410 | 560 | 840 | 1000 | 2000 | 2400 |
| | 6 | | | | | | 120 | 160 | 190 | 360 | 450 | 660 | 910 | 1300 | 1600 |
| | 10 | | | | | | | 28 | 190 | 240 | 300 | 380 | 720 | 1100 | 1400 |
| | 13 | | | | | | | | | 240 | 300 | 380 | 480 | 900 | 1100 |
| | 16 | | | | | | | | | | 300 | 380 | 480 | 900 | 1100 |
| | 20 | | | | | | | | | | | 380 | 480 | 600 | 760 |
| | 25 | | | | | | | | | | | | 480 | 600 | 760 |
| | 32 | | | | | | | | | | | | | 600 | 760 |
| | 40 | | | | | | | | | | | | | | 760 |
| | 50 | | | | | | | | | | | | | | 760 |

Discrimination limit (A)

| | | | | | | | | | | | | | | | |
|----------------------|-----|----|----|----|----|-----|-----|-----|-----|------|------|------|------|------|------|
| iC60N/H/L Curve C | 0.5 | 20 | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | 30 | 50 | 70 | 150 | 290 | 510 | 770 | 2000 | 3900 | T | T | T | T |
| | 2 | | | 36 | 48 | 110 | 210 | 300 | 450 | 730 | 890 | 1600 | 2300 | 5000 | 6800 |
| | 3 | | | | 5 | 15 | 120 | 230 | 330 | 550 | 670 | 1100 | 1300 | 2800 | 4300 |
| | 4 | | | | | 13 | 120 | 160 | 290 | 410 | 560 | 710 | 1000 | 2000 | 2400 |
| | 6 | | | | | | 120 | 160 | 190 | 360 | 450 | 660 | 910 | 1300 | 1600 |
| | 10 | | | | | | | 28 | 49 | 240 | 300 | 380 | 720 | 1100 | 1100 |
| | 13 | | | | | | | | | 52 | 300 | 380 | 480 | 900 | 1100 |
| | 16 | | | | | | | | | | 71 | 380 | 480 | 900 | 760 |
| | 20 | | | | | | | | | | | 380 | 480 | 600 | 760 |
| | 25 | | | | | | | | | | | | 105 | 600 | 760 |
| | 32 | | | | | | | | | | | | | 153 | 760 |
| | 40 | | | | | | | | | | | | | | 760 |
| | 50 | | | | | | | | | | | | | | 760 |

Discrimination limit (A)

| | | | | | | | | | | | | | | | |
|----------------------|-----|----|----|----|----|-----|-----|-----|-----|------|------|------|------|------|------|
| iC60N/H/L Curve D | 0.5 | 20 | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | 30 | 50 | 70 | 150 | 290 | 510 | 770 | 2000 | 3900 | T | T | T | T |
| | 2 | | | 36 | 48 | 110 | 210 | 300 | 370 | 640 | 890 | 1600 | 2300 | 5000 | 6800 |
| | 3 | | | | | 15 | 120 | 230 | 330 | 450 | 670 | 970 | 1300 | 2800 | 3800 |
| | 4 | | | | | 13 | 28 | 160 | 190 | 410 | 560 | 710 | 1000 | 1600 | 2400 |
| | 6 | | | | | | 32 | 160 | 190 | 240 | 450 | 580 | 810 | 1300 | 1600 |
| | 10 | | | | | | | | 49 | 73 | 300 | 380 | 480 | 1100 | 1100 |
| | 13 | | | | | | | | | 52 | 80 | 380 | 480 | 900 | 1100 |
| | 16 | | | | | | | | | | 71 | 380 | 480 | 900 | 760 |
| | 20 | | | | | | | | | | | 105 | 135 | 600 | 760 |
| | 25 | | | | | | | | | | | | 105 | 174 | 760 |
| | 32 | | | | | | | | | | | | | 153 | 760 |
| | 40 | | | | | | | | | | | | | | 245 |
| | 50 | | | | | | | | | | | | | | 245 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: iC60N/H/L curve D

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | | iC60N/H/L | | | | | | | | | | | | | |
|---------------------------------|-----|--|----|-----|-----|-----|------|-------|------|------|------|-------|-------|------|-------|
| | | Curve D | | | | | | | | | | | | | |
| In (A) | | 1 | 2 | 3 | 4 | 6 | 10 | 13 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| Downstream | | 2P (220-240 V) single-phase network | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | |
| iC60N/H/L Curve B | 0.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | 50 | 100 | 130 | 340 | 1600 | 10000 | T | T | T | T | T | T | T |
| | 2 | | | 50 | 80 | 150 | 350 | 650 | 1100 | 2600 | 5800 | 16000 | 45000 | T | T |
| | 3 | | | | 5 | 110 | 240 | 370 | 530 | 920 | 1600 | 3800 | 9500 | T | T |
| | 4 | | | | | 72 | 180 | 270 | 370 | 640 | 890 | 1400 | 2300 | 7100 | 12000 |
| | 6 | | | | | | 120 | 160 | 290 | 480 | 590 | 900 | 1300 | 2200 | 2600 |
| | 10 | | | | | | | 28 | 190 | 360 | 450 | 660 | 910 | 1500 | 1900 |
| | 13 | | | | | | | | | 240 | 450 | 580 | 810 | 1300 | 1600 |
| | 16 | | | | | | | | | | 300 | 380 | 720 | 1100 | 1400 |
| | 20 | | | | | | | | | | | 380 | 480 | 900 | 1100 |
| | 25 | | | | | | | | | | | | 480 | 900 | 760 |
| | 32 | | | | | | | | | | | | | 600 | 760 |
| | 40 | | | | | | | | | | | | | | 760 |
| | 50 | | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | |
| iC60N/H/L Curve C | 0.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | 50 | 100 | 130 | 340 | 1600 | 10000 | T | T | T | T | T | T | T |
| | 2 | | | 50 | 70 | 150 | 350 | 580 | 1100 | 2600 | 5800 | 16000 | 45000 | T | T |
| | 3 | | | | 5 | 15 | 240 | 370 | 530 | 920 | 1600 | 3800 | 9500 | T | T |
| | 4 | | | | | 13 | 180 | 270 | 370 | 640 | 890 | 1400 | 1900 | 7100 | 12000 |
| | 6 | | | | | | 120 | 160 | 290 | 480 | 590 | 900 | 1300 | 2200 | 2600 |
| | 10 | | | | | | | 28 | 190 | 360 | 450 | 660 | 910 | 1500 | 1900 |
| | 13 | | | | | | | | | 52 | 300 | 580 | 810 | 1300 | 1600 |
| | 16 | | | | | | | | | | 71 | 380 | 720 | 1100 | 1400 |
| | 20 | | | | | | | | | | | 380 | 480 | 900 | 1100 |
| | 25 | | | | | | | | | | | | 105 | 600 | 760 |
| | 32 | | | | | | | | | | | | | 153 | 760 |
| | 40 | | | | | | | | | | | | | | 760 |
| | 50 | | | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | | | | |
| iC60N/H/L Curve D | 0.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | | 40 | 80 | 130 | 340 | 1600 | 10000 | T | T | T | T | T | T | T |
| | 2 | | | 50 | 70 | 150 | 350 | 650 | 1200 | 2600 | 5800 | 16000 | 45000 | T | T |
| | 3 | | | | | 15 | 210 | 300 | 530 | 920 | 1600 | 3800 | 9500 | T | T |
| | 4 | | | | | 13 | 28 | 230 | 370 | 640 | 890 | 1400 | 1900 | 7100 | 12000 |
| | 6 | | | | | | 32 | 160 | 190 | 420 | 590 | 900 | 1100 | 2200 | 2600 |
| | 10 | | | | | | | 49 | 73 | 450 | 660 | 910 | 1500 | 1900 | |
| | 13 | | | | | | | | 52 | 300 | 380 | 720 | 1300 | 1600 | |
| | 16 | | | | | | | | | 71 | 380 | 480 | 1100 | 1400 | |
| | 20 | | | | | | | | | | 105 | 480 | 900 | 1100 | |
| | 25 | | | | | | | | | | | 105 | 174 | 760 | |
| | 32 | | | | | | | | | | | | 153 | 760 | |
| | 40 | | | | | | | | | | | | | 245 | |
| | 50 | | | | | | | | | | | | | | |

Note: the discrimination limits given in the table must be compared to the phase/neutral fault current (Ik1).
If the max. phase/earth fault current (If) is high, the discrimination of this fault current should also be verified by referring to the limits given in the dark green part of the table.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve B

Downstream: iDPN curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|-----------------------------------|----|---------------------|-----|-----|------|------|------|------|------|------|------|------|
| | | Curve B | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | | | | | | | | | | | |
| 1P+N | | | | | | | | | | | | |
| 3P, 3P+N | | | | | | | | | | | | |
| Discriminaaation limit (A) | | | | | | | | | | | | |
| iDPN Curve B | 1 | 300 | 500 | 700 | 1000 | 1500 | 2000 | 2500 | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | 2000 | T | T | T | T |
| | 3 | 40 | 64 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | 40 | 64 | 80 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 6 | 40 | 64 | 80 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 10 | | 64 | 80 | 100 | 130 | 500 | 600 | 1800 | 3000 | T | T |
| | 16 | | | | 100 | 130 | 160 | 200 | 1000 | 2000 | 3300 | 3750 |
| | 20 | | | | | 52 | 160 | 200 | 1000 | 1600 | 2500 | 3700 |
| | 25 | | | | | | 59 | 200 | 800 | 1300 | 2100 | 3700 |
| | 32 | | | | | | | 200 | 600 | 1000 | 1800 | 2700 |
| | 40 | | | | | | | | 112 | 320 | 1600 | 2400 |
| Discriminaaation limit (A) | | | | | | | | | | | | |
| iDPN Curve C | 1 | 300 | 500 | 700 | 1000 | 1500 | 2000 | 2500 | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | 2000 | T | T | T | T |
| | 3 | 40 | 64 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | 40 | 64 | 80 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 6 | | 51 | 80 | 100 | 500 | 700 | 800 | 3000 | T | T | T |
| | 10 | | | | 80 | 130 | 500 | 600 | 1800 | 3000 | 4000 | T |
| | 16 | | | | | 98 | 128 | 200 | 1000 | 2000 | 3300 | 3700 |
| | 20 | | | | | | 128 | 160 | 1000 | 1600 | 2500 | 3700 |
| | 25 | | | | | | | 160 | 201 | 1300 | 2100 | 3700 |
| | 32 | | | | | | | | 201 | 256 | 1800 | 2700 |
| | 40 | | | | | | | | | 255 | 320 | 2400 |
| Discriminaaation limit (A) | | | | | | | | | | | | |
| iDPN Curve D | 1 | 300 | 500 | 700 | 1000 | 1500 | 2000 | 2500 | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | 2000 | T | T | T | T |
| | 3 | | 64 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | | | 80 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 6 | | | | | 500 | 700 | 800 | 3000 | T | T | T |
| | 10 | | | | | | | 600 | 1800 | 3000 | 4000 | T |
| | 16 | | | | | | | | 201 | 2000 | 3300 | 3700 |
| | 20 | | | | | | | | 201 | 256 | 2500 | 3700 |
| | 25 | | | | | | | | 201 | 256 | 320 | 3700 |
| | 32 | | | | | | | | | 256 | 320 | 400 |
| | 40 | | | | | | | | | | 320 | 400 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve B

Downstream: iDPN N curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|-----------------------------------|----|---------------------|-----|-----|------|------|------|------|------|------|------|------|
| | | Curve B | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | | | | | | | | | | | |
| 1P+N | | | | | | | | | | | | |
| 3P, 3P+N | | | | | | | | | | | | |
| Discriminaaation limit (A) | | | | | | | | | | | | |
| iDPN N Curve B | 1 | 300 | 500 | 700 | 1000 | 1500 | 2000 | 2500 | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | 2000 | T | T | T | T |
| | 3 | 40 | 64 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | 40 | 64 | 80 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 6 | 40 | 64 | 80 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 10 | | 64 | 80 | 100 | 130 | 500 | 600 | 1800 | 3000 | T | T |
| | 16 | | | | 100 | 130 | 160 | 200 | 1000 | 2000 | 3300 | 3750 |
| | 20 | | | | | 52 | 160 | 200 | 1000 | 1600 | 2500 | 3700 |
| | 25 | | | | | | 59 | 200 | 800 | 1300 | 2100 | 3700 |
| | 32 | | | | | | | 200 | 600 | 1000 | 1800 | 2700 |
| | 40 | | | | | | | | 112 | 320 | 1600 | 2400 |
| Discriminaaation limit (A) | | | | | | | | | | | | |
| iDPN N Curve C | 1 | 300 | 500 | 700 | 1000 | 1500 | 2000 | 2500 | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | 2000 | T | T | T | T |
| | 3 | 40 | 64 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | 40 | 64 | 80 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 6 | | 51 | 80 | 100 | 500 | 700 | 800 | 3000 | T | T | T |
| | 10 | | | | 80 | 130 | 500 | 600 | 1800 | 3000 | 4000 | T |
| | 16 | | | | | 98 | 128 | 200 | 1000 | 2000 | 3300 | 3700 |
| | 20 | | | | | | 128 | 160 | 1000 | 1600 | 2500 | 3700 |
| | 25 | | | | | | | 160 | 201 | 1300 | 2100 | 3700 |
| | 32 | | | | | | | | 201 | 256 | 1800 | 2700 |
| | 40 | | | | | | | | | 255 | 320 | 2400 |
| Discriminaaation limit (A) | | | | | | | | | | | | |
| iDPN N Curve D | 1 | 300 | 500 | 700 | 1000 | 1500 | 2000 | 2500 | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | 2000 | T | T | T | T |
| | 3 | | 64 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | | | 80 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 6 | | | | | 500 | 700 | 800 | 3000 | T | T | T |
| | 10 | | | | | | | 600 | 1800 | 3000 | 4000 | T |
| | 16 | | | | | | | | 201 | 2000 | 3300 | 3700 |
| | 20 | | | | | | | | 201 | 256 | 2500 | 3700 |
| | 25 | | | | | | | | 201 | 256 | 320 | 3700 |
| | 32 | | | | | | | | | 256 | 320 | 400 |
| | 40 | | | | | | | | | | 320 | 400 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve C

Downstream: iDPN curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|---------------------------------|----|---------------------|-----|-----|------|------|------|------|------|------|------|------|
| | | Curve C | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | | | | | | | | | | | |
| 1P+N | | | | | | | | | | | | |
| 3P, 3P+N | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN Curve B | 1 | 300 | 500 | 700 | 1000 | T | T | T | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T | T |
| | 3 | 120 | 200 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | 80 | 130 | 170 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 6 | 80 | 130 | 170 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 10 | | 130 | 160 | 200 | 350 | 500 | 600 | 1800 | 3000 | T | T |
| | 16 | | | | 200 | 270 | 340 | 450 | 1250 | 2000 | 3300 | 3700 |
| | 20 | | | | | 52 | 320 | 400 | 1000 | 1600 | 2500 | 3700 |
| | 25 | | | | | | 59 | 400 | 800 | 1300 | 2100 | 3700 |
| | 32 | | | | | | | 95 | 600 | 1000 | 1800 | 2700 |
| | 40 | | | | | | | | 112 | 700 | 1600 | 2400 |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN Curve C | 1 | 300 | 500 | 700 | 1000 | T | T | T | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T | T |
| | 3 | 120 | 200 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | 21 | 200 | 170 | 400 | 500 | 700 | 800 | 3000 | 4500 | 4500 | T |
| | 6 | 18 | 200 | 170 | 400 | 500 | 700 | 800 | 3000 | 4500 | 4500 | T |
| | 10 | | 25 | 160 | 200 | 350 | 500 | 600 | 1800 | 3000 | 4500 | 4500 |
| | 16 | | | | 200 | 270 | 340 | 450 | 1000 | 2000 | 3300 | 3700 |
| | 20 | | | | | 52 | 320 | 400 | 1000 | 1600 | 2500 | 3700 |
| | 25 | | | | | | 59 | 400 | 800 | 1300 | 2100 | 3700 |
| | 32 | | | | | | | 95 | 800 | 1000 | 1800 | 2700 |
| | 40 | | | | | | | | 112 | 257 | 1600 | 2400 |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN Curve D | 1 | 300 | 500 | 700 | 1000 | T | T | T | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T | T |
| | 3 | 120 | 200 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | 21 | 200 | 170 | 400 | 500 | 700 | 800 | 3000 | 4500 | 4500 | T |
| | 6 | | | | 400 | 500 | 700 | 800 | 3000 | 4500 | 4500 | T |
| | 10 | | | | 200 | 450 | 500 | 600 | 1800 | 3000 | 4500 | 4500 |
| | 16 | | | | | | | 450 | 1000 | 2000 | 3300 | 3700 |
| | 20 | | | | | | | | 1000 | 1600 | 2500 | 3700 |
| | 25 | | | | | | | | 800 | 1300 | 2100 | 3700 |
| | 32 | | | | | | | | | | 1800 | 2700 |
| | 40 | | | | | | | | | | | 2400 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve C

Downstream: iDPN N curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|---------------------------------|----|---------------------|-----|-----|------|------|------|------|------|------|------|------|
| | | Curve C | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | | | | | | | | | | | |
| 1P+N | | | | | | | | | | | | |
| 3P, 3P+N | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN N Curve B | 1 | 300 | 500 | 700 | 1000 | T | T | T | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T | T |
| | 3 | 120 | 200 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | 80 | 130 | 170 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 6 | 80 | 130 | 170 | 400 | 500 | 700 | 800 | 3000 | T | T | T |
| | 10 | | 130 | 160 | 200 | 350 | 500 | 600 | 1800 | 3000 | T | T |
| | 16 | | | | 200 | 270 | 340 | 450 | 1250 | 2000 | 3300 | 3700 |
| | 20 | | | | | 52 | 320 | 400 | 1000 | 1600 | 2500 | 3700 |
| | 25 | | | | | | 59 | 400 | 800 | 1300 | 2100 | 3700 |
| | 32 | | | | | | | 95 | 600 | 1000 | 1800 | 2700 |
| | 40 | | | | | | | | 112 | 700 | 1600 | 2400 |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN N Curve C | 1 | 300 | 500 | 700 | 1000 | T | T | T | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T | T |
| | 3 | 120 | 200 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | 21 | 200 | 170 | 400 | 500 | 700 | 800 | 3000 | 4500 | 4500 | T |
| | 6 | 18 | 200 | 170 | 400 | 500 | 700 | 800 | 3000 | 4500 | 4500 | T |
| | 10 | | 25 | 160 | 200 | 350 | 500 | 600 | 1800 | 3000 | 4500 | 4500 |
| | 16 | | | | 200 | 270 | 340 | 450 | 1000 | 2000 | 3300 | 3700 |
| | 20 | | | | | 52 | 320 | 400 | 1000 | 1600 | 2500 | 3700 |
| | 25 | | | | | | 59 | 400 | 800 | 1300 | 2100 | 3700 |
| | 32 | | | | | | | 95 | 800 | 1000 | 1800 | 2700 |
| | 40 | | | | | | | | 112 | 257 | 1600 | 2400 |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN N Curve D | 1 | 300 | 500 | 700 | 1000 | T | T | T | T | T | T | T |
| | 2 | 150 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T | T |
| | 3 | 120 | 200 | 300 | 500 | 700 | 1000 | 1500 | T | T | T | T |
| | 4 | 21 | 200 | 170 | 400 | 500 | 700 | 800 | 3000 | 4500 | 4500 | T |
| | 6 | | | | 400 | 500 | 700 | 800 | 3000 | 4500 | 4500 | T |
| | 10 | | | | 200 | 450 | 500 | 600 | 1800 | 3000 | 4500 | 4500 |
| | 16 | | | | | | | 450 | 1000 | 2000 | 3300 | 3700 |
| | 20 | | | | | | | | 1000 | 1600 | 2500 | 3700 |
| | 25 | | | | | | | | 800 | 1300 | 2100 | 3700 |
| | 32 | | | | | | | | | | 1800 | 2700 |
| | 40 | | | | | | | | | | | 2400 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve D

Downstream: iDPN curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|---------------------------------|---------------------------------|---------------------|-----|-----|------|------|------|------|------|------|------|------|
| | | Curve D | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream 1P+N | | | | | | | | | | | | |
| 3P, 3P+N | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN Curve B | 1 | 350 | T | T | T | T | T | T | T | T | T | T |
| | 2 | 240 | 770 | 830 | 2000 | 2200 | 4800 | T | T | T | T | T |
| | 3 | 180 | 610 | 640 | 1600 | 1700 | 3800 | T | T | T | T | T |
| | 4 | 120 | 450 | 500 | 1000 | 1100 | 1900 | 4600 | T | T | T | T |
| | 6 | 120 | 340 | 360 | 730 | 740 | 1200 | 2600 | 4700 | T | T | T |
| | 10 | | 192 | 240 | 550 | 580 | 860 | 1600 | 2800 | 3500 | 5600 | T |
| | 16 | | | | 300 | 380 | 480 | 1200 | 1900 | 2400 | 3600 | 4200 |
| | 20 | | | | | 380 | 480 | 1000 | 1500 | 2000 | 2900 | 3300 |
| | 25 | | | | | | 59 | 950 | 1400 | 1700 | 2600 | 2900 |
| | 32 | | | | | | | 600 | 1100 | 1600 | 2200 | 2600 |
| | 40 | | | | | | | | 756 | 1400 | 2100 | 2400 |
| | Discrimination limit (A) | | | | | | | | | | | |
| iDPN Curve C | 1 | 350 | T | T | T | T | T | T | T | T | T | T |
| | 2 | 240 | 770 | 830 | 2000 | 2200 | 4800 | T | T | T | T | T |
| | 3 | 180 | 610 | 640 | 1600 | 1700 | 3800 | T | T | T | T | T |
| | 4 | 120 | 450 | 500 | 1000 | 1100 | 1900 | 4600 | T | T | T | T |
| | 6 | 18 | 192 | 360 | 730 | 740 | 1200 | 2600 | 4700 | T | T | T |
| | 10 | | 29 | 240 | 550 | 580 | 860 | 1600 | 2800 | 3500 | 5600 | T |
| | 16 | | | | 49 | 380 | 480 | 1200 | 1900 | 2400 | 3600 | 4200 |
| | 20 | | | | | 52 | 480 | 1000 | 1500 | 2000 | 2900 | 3300 |
| | 25 | | | | | | 59 | 600 | 1400 | 1700 | 2600 | 2900 |
| | 32 | | | | | | | 95 | 1100 | 1600 | 2200 | 2600 |
| | 40 | | | | | | | | 756 | 960 | 2100 | 2400 |
| | Discrimination limit (A) | | | | | | | | | | | |
| iDPN Curve D | 1 | 350 | T | T | T | T | T | T | T | T | T | T |
| | 2 | 240 | 770 | 830 | 2000 | 2200 | 4800 | T | T | T | T | T |
| | 3 | 120 | 610 | 640 | 1600 | 1700 | 3800 | T | T | T | T | T |
| | 4 | 21 | 450 | 500 | 1000 | 1100 | 1900 | 4600 | T | T | T | T |
| | 6 | 18 | 192 | 360 | 730 | 740 | 1200 | 2600 | 4700 | T | T | T |
| | 10 | | 25 | 240 | 300 | 580 | 860 | 1600 | 2800 | 3500 | 5600 | T |
| | 16 | | | | 49 | 380 | 480 | 1200 | 1900 | 2400 | 3600 | 4200 |
| | 20 | | | | | 52 | 480 | 1000 | 1500 | 2000 | 2900 | 3300 |
| | 25 | | | | | | 59 | 600 | 756 | 1700 | 2600 | 2900 |
| | 32 | | | | | | | 95 | 756 | 1600 | 2200 | 2600 |
| | 40 | | | | | | | | 756 | 960 | 2100 | 2400 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve D

Downstream: iDPN N curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|---------------------------------|----|---------------------|-----|-----|------|------|------|------|------|------|------|------|
| | | Curve D | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | | | | | | | | | | | |
| 1P+N | | | | | | | | | | | | |
| 3P, 3P+N | | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN N Curve B | 1 | 350 | T | T | T | T | T | T | T | T | T | T |
| | 2 | 240 | 770 | 830 | 2000 | 2200 | 4800 | T | T | T | T | T |
| | 3 | 180 | 610 | 640 | 1600 | 1700 | 3800 | T | T | T | T | T |
| | 4 | 120 | 450 | 500 | 1000 | 1100 | 1900 | 4600 | T | T | T | T |
| | 6 | 120 | 340 | 360 | 730 | 740 | 1200 | 2600 | 4700 | 6200 | T | T |
| | 10 | | 192 | 240 | 550 | 580 | 860 | 1600 | 2800 | 3500 | 5600 | 7300 |
| | 16 | | | | 300 | 380 | 480 | 1200 | 1900 | 2400 | 3600 | 4200 |
| | 20 | | | | | 380 | 480 | 1000 | 1500 | 2000 | 2900 | 3300 |
| | 25 | | | | | | 59 | 950 | 1400 | 1700 | 2600 | 2900 |
| | 32 | | | | | | | 600 | 1100 | 1600 | 2200 | 2600 |
| | 40 | | | | | | | | 756 | 1400 | 2100 | 2400 |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN N Curve C | 1 | 350 | T | T | T | T | T | T | T | T | T | T |
| | 2 | 240 | 770 | 830 | 2000 | 2200 | 4800 | T | T | T | T | T |
| | 3 | 180 | 610 | 640 | 1600 | 1700 | 3800 | T | T | T | T | T |
| | 4 | 120 | 450 | 500 | 1000 | 1100 | 1900 | 4600 | T | T | T | T |
| | 6 | 18 | 192 | 360 | 730 | 740 | 1200 | 2600 | 4700 | 6200 | T | T |
| | 10 | | 29 | 240 | 550 | 580 | 860 | 1600 | 2800 | 3500 | 5600 | 7300 |
| | 16 | | | | 49 | 380 | 480 | 1200 | 1900 | 2400 | 3600 | 4200 |
| | 20 | | | | | 52 | 480 | 1000 | 1500 | 2000 | 2900 | 3300 |
| | 25 | | | | | | 59 | 600 | 1400 | 1700 | 2600 | 2900 |
| | 32 | | | | | | | 95 | 1100 | 1600 | 2200 | 2600 |
| | 40 | | | | | | | | 756 | 960 | 2100 | 2400 |
| Discrimination limit (A) | | | | | | | | | | | | |
| iDPN N Curve Da | 1 | 350 | T | T | T | T | T | T | T | T | T | T |
| | 2 | 240 | 770 | 830 | 2000 | 2200 | 4800 | T | T | T | T | T |
| | 3 | 120 | 610 | 640 | 1600 | 1700 | 3800 | T | T | T | T | T |
| | 4 | 21 | 450 | 500 | 1000 | 1100 | 1900 | 4600 | T | T | T | T |
| | 6 | 18 | 192 | 360 | 730 | 740 | 1200 | 2600 | 4700 | 6200 | T | T |
| | 10 | | 25 | 240 | 300 | 580 | 860 | 1600 | 2800 | 3500 | 5600 | 7300 |
| | 16 | | | | 49 | 380 | 480 | 1200 | 1900 | 2400 | 3600 | 4200 |
| | 20 | | | | | 52 | 480 | 1000 | 1500 | 2000 | 2900 | 3300 |
| | 25 | | | | | | 59 | 600 | 756 | 1700 | 2600 | 2900 |
| | 32 | | | | | | | 95 | 756 | 1600 | 2200 | 2600 |
| | 40 | | | | | | | | 756 | 960 | 2100 | 2400 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve B

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | NG125N/H/L, C120N/H | | | | | | | | | | |
|----------|---------------------|----|----|----|----|----|----|----|----|-----|-----|
| | Curve B | | | | | | | | | | |
| In (A) | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |

| | |
|-------------------|--|
| Downstream | 1P, 1P+N 2P (380-415 V) two-phase network 3P, 3P+N 4P |
|-------------------|--|

| Discrimination limit (A) | | | | | | | | | | | | |
|--------------------------|-----|----|-----|-----|-----|-----|------|------|------|------|------|------|
| iC60N/H/L Curve B | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | 70 | 150 | 210 | 350 | 550 | 2000 | 2500 | T | T | T | T |
| | 2 | 60 | 110 | 140 | 230 | 310 | 590 | 630 | 1200 | 2100 | 3900 | 9700 |
| | 3 | 40 | 90 | 120 | 180 | 220 | 380 | 460 | 770 | 1400 | 2000 | 5300 |
| | 4 | 40 | 64 | 80 | 150 | 190 | 310 | 380 | 570 | 940 | 1400 | 2400 |
| | 6 | 15 | 64 | 80 | 100 | 130 | 290 | 300 | 440 | 620 | 930 | 1700 |
| | 10 | | 22 | 80 | 100 | 130 | 200 | 200 | 380 | 550 | 770 | 1300 |
| | 13 | | | 28 | 100 | 130 | 160 | 200 | 380 | 480 | 680 | 1100 |
| | 16 | | | | 35 | 130 | 160 | 200 | 250 | 320 | 600 | 940 |
| | 20 | | | | | 46 | 160 | 200 | 250 | 320 | 400 | 850 |
| | 25 | | | | | | 56 | 200 | 250 | 320 | 400 | 750 |
| | 32 | | | | | | | 80 | 250 | 320 | 400 | 500 |
| | 40 | | | | | | | | 250 | 320 | 400 | 500 |
| | 50 | | | | | | | | | 320 | 400 | 500 |
| 63 | | | | | | | | | | | 500 | |

| Discrimination limit (A) | | | | | | | | | | | | |
|--------------------------|-----|----|-----|-----|-----|-----|------|------|------|------|------|------|
| iC60N/H/L Curve C | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | 70 | 150 | 210 | 350 | 550 | 2000 | 2500 | T | T | T | T |
| | 2 | 40 | 110 | 140 | 230 | 250 | 590 | 630 | 1200 | 2100 | 3900 | 9700 |
| | 3 | 30 | 64 | 120 | 180 | 220 | 380 | 460 | 770 | 1400 | 2000 | 5300 |
| | 4 | | 64 | 80 | 150 | 190 | 310 | 340 | 570 | 940 | 1400 | 2400 |
| | 6 | | | 80 | 100 | 130 | 290 | 300 | 440 | 620 | 930 | 1700 |
| | 10 | | | | | 130 | 160 | 200 | 380 | 550 | 770 | 1100 |
| | 13 | | | | | | 160 | 200 | 250 | 480 | 680 | 940 |
| | 16 | | | | | | | 200 | 250 | 320 | 600 | 940 |
| | 20 | | | | | | | | | 320 | 400 | 850 |
| | 25 | | | | | | | | | 320 | 400 | 750 |
| | 32 | | | | | | | | | | | 500 |
| | 40 | | | | | | | | | | | 500 |

| Discrimination limit (A) | | | | | | | | | | | | |
|--------------------------|-----|----|-----|-----|-----|-----|------|------|------|------|------|------|
| iC60N/H/L Curve D | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | 60 | 150 | 210 | 350 | 550 | 2000 | 2500 | T | T | T | T |
| | 2 | 40 | 90 | 140 | 200 | 250 | 520 | 630 | 1200 | 2100 | 3900 | 9700 |
| | 3 | | 64 | 80 | 180 | 220 | 380 | 380 | 770 | 1200 | 2000 | 5300 |
| | 4 | | | 80 | 150 | 190 | 310 | 340 | 570 | 820 | 1100 | 2400 |
| | 6 | | | | | 130 | 240 | 200 | 440 | 620 | 930 | 1700 |
| | 10 | | | | | | | 200 | 380 | 480 | 770 | 1100 |
| | 13 | | | | | | | | 250 | 480 | 680 | 940 |
| | 16 | | | | | | | | | 320 | 600 | 940 |
| | 20 | | | | | | | | | | 400 | 750 |
| | 25 | | | | | | | | | | | 500 |
| | 32 | | | | | | | | | | | |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve B

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| | | | | | | | | | | | |
|-----------------|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|
| Upstream | NG125N/H/L, C120N/H | | | | | | | | | | |
| | Curve B | | | | | | | | | | |
| In (A) | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |

| | | | | | | | | | | | |
|-------------------|--|--|--|--|--|--|--|--|--|--|--|
| Downstream | 2P (220-240 V) single-phase network | | | | | | | | | | |
|-------------------|--|--|--|--|--|--|--|--|--|--|--|

Discrimination limit (A)

| | | | | | | | | | | | | |
|------------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| iC60N/H/L | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| Curve B | 1 | 120 | 490 | T | T | T | T | T | T | T | T | T |
| | 2 | 60 | 160 | 350 | 500 | 1200 | 4200 | 8100 | T | T | T | T |
| | 3 | 40 | 110 | 170 | 250 | 520 | 1300 | 1900 | 6700 | T | T | T |
| | 4 | 40 | 64 | 80 | 190 | 280 | 630 | 750 | 1400 | 2700 | 6200 | T |
| | 6 | 15 | 64 | 80 | 150 | 150 | 350 | 430 | 810 | 1400 | 2100 | 6100 |
| | 10 | | 22 | 80 | 100 | 130 | 160 | 200 | 500 | 840 | 1300 | 2500 |
| | 13 | | | 28 | 100 | 130 | 240 | 200 | 440 | 770 | 1100 | 1900 |
| | 16 | | | | 35 | 130 | 160 | 200 | 380 | 520 | 770 | 1400 |
| | 20 | | | | | 46 | 160 | 200 | 250 | 320 | 600 | 1000 |
| | 25 | | | | | | 56 | 200 | 250 | 320 | 400 | 890 |
| | 32 | | | | | | | 80 | 250 | 320 | 400 | 840 |
| | 40 | | | | | | | | 250 | 320 | 400 | 790 |
| | 50 | | | | | | | | | 320 | 400 | 750 |
| | 63 | | | | | | | | | | | 500 |

Discrimination limit (A)

| | | | | | | | | | | | | |
|------------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| iC60N/H/L | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| Curve C | 1 | 120 | 490 | T | T | T | T | T | T | T | T | T |
| | 2 | 60 | 160 | 350 | 500 | 1200 | 4200 | 8100 | T | T | T | T |
| | 3 | 30 | 110 | 170 | 250 | 520 | 1300 | 1900 | 6700 | T | T | T |
| | 4 | | 64 | 80 | 190 | 280 | 630 | 750 | 1400 | 2700 | 6200 | T |
| | 6 | | | 80 | 150 | 150 | 350 | 430 | 810 | 1400 | 2100 | 6100 |
| | 10 | | | | | 130 | 160 | 200 | 500 | 840 | 1300 | 2500 |
| | 13 | | | | | | 160 | 200 | 440 | 620 | 1100 | 1900 |
| | 16 | | | | | | | 200 | 380 | 520 | 770 | 1400 |
| | 20 | | | | | | | | | 320 | 600 | 1000 |
| | 25 | | | | | | | | | 320 | 400 | 890 |
| | 32 | | | | | | | | | | | 840 |
| | 40 | | | | | | | | | | | 500 |

Discrimination limit (A)

| | | | | | | | | | | | | |
|------------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| iC60N/H/L | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| Curve D | 1 | 120 | 490 | T | T | T | T | T | T | T | T | T |
| | 2 | 60 | 160 | 350 | 500 | 1200 | 4200 | 8100 | T | T | T | T |
| | 3 | | 110 | 170 | 250 | 520 | 1300 | 1900 | 6700 | T | T | T |
| | 4 | | | 80 | 190 | 280 | 630 | 750 | 1400 | 2700 | 6200 | T |
| | 6 | | | | | 150 | 350 | 430 | 810 | 1400 | 2100 | 6100 |
| | 10 | | | | | | | 200 | 500 | 840 | 1300 | 2500 |
| | 13 | | | | | | | | 380 | 620 | 930 | 1900 |
| | 16 | | | | | | | | | 520 | 770 | 1400 |
| | 20 | | | | | | | | | | 600 | 1000 |
| | 25 | | | | | | | | | | | 890 |
| | 32 | | | | | | | | | | | |

Note: the discrimination limits given in the table must be compared to the phase/neutral fault current (I_{k1}).
If the max. phase/earth fault current (I_f) is high, the discrimination of this fault current should also be verified by referring to the limits given in the dark green part of the table.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve C

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | NG125N/H/L | | | | | | | | | | |
|----------|------------|----|----|----|----|----|----|----|----|-----|-----|
| | Curve C | | | | | | | | | | |
| In (A) | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |

| | |
|-------------------|--|
| Downstream | 1P, 1P+N 2P (380-415 V) two-phase network 3P, 3P+N 4P |
|-------------------|--|

Discrimination limit (A)

| iC60N/H/L Curve B | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
|----------------------|-----|-----|-----|------|------|------|------|-------|-------|-------|-------|---|
| 1 | 140 | 490 | 920 | 2300 | T | T | T | T | T | T | T | T |
| 2 | 80 | 250 | 380 | 550 | 1800 | 2400 | 8800 | 10000 | 13000 | T | T | T |
| 3 | 80 | 190 | 280 | 380 | 1200 | 1400 | 4600 | 8000 | 8500 | 14000 | T | T |
| 4 | 80 | 130 | 240 | 300 | 800 | 820 | 2000 | 2300 | 3400 | 7000 | 13000 | T |
| 6 | 15 | 130 | 160 | 200 | 610 | 650 | 1400 | 2300 | 2300 | 3600 | 6400 | T |
| 10 | | 22 | 160 | 200 | 500 | 510 | 1100 | 1300 | 1600 | 2200 | 3600 | T |
| 13 | | | 28 | 200 | 460 | 470 | 930 | 1100 | 1400 | 2000 | 2600 | T |
| 16 | | | | 35 | 380 | 430 | 770 | 950 | 1200 | 1700 | 2300 | T |
| 20 | | | | | 46 | 320 | 680 | 850 | 960 | 1500 | 2100 | T |
| 25 | | | | | | 56 | 600 | 760 | 960 | 1200 | 1800 | T |
| 32 | | | | | | | 80 | 500 | 640 | 1200 | 1500 | T |
| 40 | | | | | | | | 130 | 640 | 800 | 1500 | T |
| 50 | | | | | | | | | 640 | 800 | 1500 | T |
| 63 | | | | | | | | | | 800 | 1000 | T |

Discrimination limit (A)

| iC60N/H/L Curve C | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
|----------------------|-----|-----|-----|------|------|------|------|-------|-------|-------|-------|---|
| 1 | 140 | 490 | 920 | 2300 | T | T | T | T | T | T | T | T |
| 2 | 80 | 250 | 380 | 550 | 2100 | 2400 | 8800 | 10000 | 13000 | T | T | T |
| 3 | 80 | 190 | 280 | 380 | 1200 | 1400 | 4600 | 8000 | 8500 | 14000 | T | T |
| 4 | 18 | 130 | 160 | 300 | 800 | 820 | 2000 | 2300 | 3400 | 6000 | 13000 | T |
| 6 | 15 | 130 | 160 | 200 | 610 | 650 | 1400 | 2300 | 2300 | 3600 | 5500 | T |
| 10 | | 22 | 160 | 200 | 500 | 510 | 930 | 1300 | 1400 | 2200 | 3100 | T |
| 13 | | | 28 | 51 | 420 | 430 | 770 | 1100 | 1200 | 2000 | 2600 | T |
| 16 | | | | 35 | 256 | 400 | 770 | 950 | 1200 | 1700 | 2300 | T |
| 20 | | | | | 46 | 320 | 680 | 850 | 960 | 1500 | 1800 | T |
| 25 | | | | | | 56 | 400 | 760 | 960 | 1200 | 1800 | T |
| 32 | | | | | | | 80 | 500 | 640 | 1200 | 1500 | T |
| 40 | | | | | | | | 500 | 640 | 800 | 1500 | T |
| 50 | | | | | | | | | 640 | 800 | 1000 | T |
| 63 | | | | | | | | | | | 1000 | T |

Discrimination limit (A)

| iC60N/H/L Curve D | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
|----------------------|-----|-----|-----|------|------|------|------|-------|-------|-------|-------|---|
| 1 | 140 | 490 | 920 | 2300 | T | T | T | T | T | T | T | T |
| 2 | 80 | 250 | 380 | 550 | 1800 | 2400 | 8800 | 10000 | 13000 | T | T | T |
| 3 | 21 | 190 | 280 | 380 | 1200 | 1200 | 4600 | 8000 | 8500 | 14000 | T | T |
| 4 | 18 | 130 | 160 | 300 | 740 | 740 | 2000 | 2300 | 3400 | 6000 | 13000 | T |
| 6 | | 130 | 160 | 200 | 570 | 600 | 1400 | 1900 | 1800 | 3600 | 5500 | T |
| 10 | | | | 200 | 450 | 480 | 930 | 1300 | 1400 | 2200 | 3100 | T |
| 13 | | | | | 256 | 430 | 770 | 950 | 1200 | 1700 | 2600 | T |
| 16 | | | | | | 320 | 770 | 950 | 960 | 1500 | 2300 | T |
| 20 | | | | | | | 400 | 760 | 960 | 1200 | 1800 | T |
| 25 | | | | | | | | | 640 | 1200 | 1500 | T |
| 32 | | | | | | | | | 640 | 800 | 1500 | T |
| 40 | | | | | | | | | | | 1500 | T |
| 50 | | | | | | | | | | | 1000 | T |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve C

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L | | | | | | | | | | |
|--------------------------|-----|---|------|------|-------|------|-------|------|------|------|------|------|
| | | Curve C | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | 2P (220-240 V) single-phase network | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| iC60N/H/L | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| Curve B | 1 | 950 | T | T | T | T | T | T | T | T | T | T |
| | 2 | 210 | 1900 | 4200 | 10000 | T | T | T | T | T | T | T |
| | 3 | 120 | 780 | 1300 | 4700 | T | T | T | T | T | T | T |
| | 4 | 80 | 310 | 590 | 1100 | 4000 | 13000 | T | T | T | T | T |
| | 6 | 15 | 190 | 330 | 510 | 1500 | 2700 | 7200 | 9000 | 9000 | T | T |
| | 10 | | 22 | 160 | 300 | 1000 | 1400 | 2700 | 3500 | 3500 | 7400 | T |
| | 13 | | | 28 | 200 | 760 | 910 | 2000 | 2700 | 2700 | 4900 | 8100 |
| | 16 | | | | 35 | 620 | 620 | 1600 | 2700 | 2700 | 3600 | 5500 |
| | 20 | | | | | 46 | 480 | 1100 | 1600 | 1600 | 2200 | 3600 |
| | 25 | | | | | | 56 | 930 | 1200 | 1200 | 2000 | 2600 |
| | 32 | | | | | | | 80 | 930 | 960 | 1700 | 2300 |
| | 40 | | | | | | | | 130 | 960 | 1400 | 2000 |
| | 50 | | | | | | | | | 640 | 1200 | 1900 |
| | 63 | | | | | | | | | | 1200 | 1700 |
| Discrimination limit (A) | | | | | | | | | | | | |
| iC60N/H/L | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| Curve C | 1 | 950 | T | T | T | T | T | T | T | T | T | T |
| | 2 | 210 | 1900 | 3500 | 10000 | T | T | T | T | T | T | T |
| | 3 | 80 | 670 | 1300 | 4700 | T | T | T | T | T | T | T |
| | 4 | 18 | 310 | 590 | 1100 | 3600 | 13000 | T | T | T | T | T |
| | 6 | 15 | 190 | 290 | 510 | 1500 | 2700 | 7200 | 9000 | 9000 | T | T |
| | 10 | | 22 | 160 | 200 | 890 | 1200 | 2700 | 3700 | 3700 | 6600 | T |
| | 13 | | | 28 | 51 | 760 | 770 | 2000 | 2700 | 2700 | 4000 | 7200 |
| | 16 | | | | 35 | 256 | 620 | 1600 | 2700 | 2700 | 3600 | 4600 |
| | 20 | | | | | 46 | 320 | 1100 | 1400 | 1400 | 2200 | 3600 |
| | 25 | | | | | | 56 | 400 | 1100 | 1200 | 2000 | 2600 |
| | 32 | | | | | | | 80 | 500 | 960 | 1400 | 2300 |
| | 40 | | | | | | | | 500 | 640 | 1200 | 2000 |
| | 50 | | | | | | | | | 640 | 800 | 1700 |
| | 63 | | | | | | | | | | | 1000 |
| Discrimination limit (A) | | | | | | | | | | | | |
| iC60N/H/L | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| Curve D | 1 | 950 | T | T | T | T | T | T | T | T | T | T |
| | 2 | 210 | 1700 | 3500 | 10000 | T | T | T | T | T | T | T |
| | 3 | 21 | 550 | 1300 | 4700 | T | T | T | T | T | T | T |
| | 4 | 18 | 310 | 520 | 960 | 3600 | 13000 | T | T | T | T | T |
| | 6 | | 190 | 240 | 460 | 1500 | 2700 | 6400 | 9000 | 9000 | T | T |
| | 10 | | | | 200 | 890 | 1100 | 2700 | 3700 | 3700 | 6600 | T |
| | 13 | | | | | 256 | 620 | 2000 | 2300 | 2300 | 4000 | 7200 |
| | 16 | | | | | | 320 | 1400 | 2300 | 2300 | 3100 | 4600 |
| | 20 | | | | | | | 400 | 1400 | 1400 | 2200 | 3100 |
| | 25 | | | | | | | | | 960 | 1700 | 2600 |
| | 32 | | | | | | | | | 640 | 1400 | 2000 |
| | 40 | | | | | | | | | | | 1800 |
| | 50 | | | | | | | | | | | |

Note: the discrimination limits given in the table must be compared to the phase/neutral fault current (Ik1).
If the max. phase/earth fault current (If) is high, the discrimination of this fault current should also be verified by referring to the limits given in the dark green part of the table.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve D

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | NG125N/H/L, C120N/H | | | | | | | | | | |
|----------|---------------------|----|----|----|----|----|----|----|----|-----|-----|
| | Curve D | | | | | | | | | | |
| In (A) | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |

| | |
|-------------------|--|
| Downstream | 1P, 1P+N 2P (380-415 V) two-phase network 3P, 3P+N 4P |
|-------------------|--|

Discrimination limit (A)

| | | | | | | | | | | | | |
|------------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| iC60N/H/L | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| Curve B | 1 | 410 | 3800 | 5200 | T | T | T | T | T | T | T | T |
| | 2 | 240 | 770 | 920 | 2600 | 2700 | 7400 | 14000 | T | T | T | T |
| | 3 | 180 | 610 | 640 | 1300 | 1600 | 3600 | 11000 | T | T | T | T |
| | 4 | 120 | 450 | 450 | 890 | 1100 | 1900 | 4100 | 11000 | 13000 | T | T |
| | 6 | 15 | 340 | 360 | 730 | 740 | 1300 | 2600 | 4700 | 6200 | T | T |
| | 10 | | 22 | 240 | 590 | 660 | 910 | 1700 | 2600 | 3500 | T | T |
| | 13 | | | 28 | 300 | 580 | 810 | 1500 | 2100 | 2500 | 4600 | T |
| | 16 | | | | 35 | 380 | 720 | 1300 | 1900 | 2400 | 3600 | T |
| | 20 | | | | | 46 | 480 | 1100 | 1600 | 2000 | 3000 | 3600 |
| | 25 | | | | | | 56 | 900 | 1400 | 1700 | 2400 | 2900 |
| | 32 | | | | | | | 83 | 1100 | 1700 | 2400 | 2600 |
| | 40 | | | | | | | | 1100 | 1400 | 2100 | 2300 |
| | 50 | | | | | | | | | 1400 | 2000 | 2300 |
| | 63 | | | | | | | | | | 2000 | 2300 |

Discrimination limit (A)

| | | | | | | | | | | | | |
|------------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| iC60N/H/L | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| Curve C | 1 | 410 | 3800 | 5200 | T | T | T | T | T | T | T | T |
| | 2 | 240 | 770 | 920 | 2600 | 2700 | 7400 | T | T | T | T | T |
| | 3 | 21 | 530 | 640 | 1300 | 1600 | 3600 | 11000 | T | T | T | T |
| | 4 | 18 | 450 | 450 | 890 | 1100 | 1900 | 4100 | 11000 | 13000 | T | T |
| | 6 | 15 | 340 | 360 | 730 | 740 | 1300 | 2200 | 4700 | 6200 | T | T |
| | 10 | | 22 | 240 | 590 | 580 | 910 | 1700 | 2600 | 3500 | T | T |
| | 13 | | | 28 | 51 | 580 | 720 | 1300 | 2100 | 2500 | 4100 | T |
| | 16 | | | | 35 | 380 | 480 | 1100 | 1900 | 2400 | 3600 | T |
| | 20 | | | | | 46 | 88 | 1100 | 1600 | 2000 | 2700 | 2900 |
| | 25 | | | | | | 56 | 600 | 1400 | 1700 | 2400 | 2900 |
| | 32 | | | | | | | 80 | 1100 | 1400 | 2400 | 2600 |
| | 40 | | | | | | | | 756 | 1400 | 2100 | 2300 |
| | 50 | | | | | | | | | 960 | 2000 | 2300 |
| | 63 | | | | | | | | | | 1800 | 2300 |

Discrimination limit (A)

| | | | | | | | | | | | | |
|------------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| iC60N/H/L | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| Curve D | 1 | 410 | 3800 | 5200 | T | T | T | T | T | T | T | T |
| | 2 | 240 | 770 | 920 | 2600 | 2700 | 6300 | T | T | T | T | T |
| | 3 | 21 | 530 | 550 | 1300 | 1600 | 3600 | 11000 | T | T | T | T |
| | 4 | 18 | 370 | 450 | 890 | 970 | 1600 | 3700 | 11000 | 13000 | T | T |
| | 6 | 15 | 340 | 360 | 730 | 740 | 1100 | 2200 | 4700 | 5400 | T | T |
| | 10 | | 22 | 240 | 520 | 580 | 810 | 1500 | 2600 | 3000 | T | T |
| | 13 | | | 28 | 51 | 380 | 720 | 1300 | 2100 | 2500 | 4100 | T |
| | 16 | | | | 35 | 380 | 480 | 1100 | 1900 | 2400 | 3600 | T |
| | 20 | | | | | 46 | 480 | 900 | 1400 | 1700 | 2700 | 2900 |
| | 25 | | | | | | 56 | 600 | 1400 | 1700 | 2400 | 2600 |
| | 32 | | | | | | | 80 | 1100 | 1400 | 2100 | 2600 |
| | 40 | | | | | | | | 756 | 1400 | 2100 | 2300 |
| | 50 | | | | | | | | | 960 | 1800 | 1500 |
| | 63 | | | | | | | | | | 1800 | 1500 |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

T Total discrimination.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve D

Downstream: iC60N/H/L curves B, C, D

220-240/380-415 V

| Upstream | NG125N/H/L, C120N/H | | | | | | | | | | |
|----------|---------------------|----|----|----|----|----|----|----|----|-----|-----|
| | Curve D | | | | | | | | | | |
| In (A) | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |

| | | | | | | | | | | | |
|------------|---|--|--|--|--|--|--|--|--|--|--|
| Downstream | 2P (220-240 V) single-phase network | | | | | | | | | | |
|------------|---|--|--|--|--|--|--|--|--|--|--|

Discrimination limit (A)

| | | | | | | | | | | | | |
|----------------------|-----|------|------|------|------|------|------|-------|-------|------|------|------|
| iC60N/H/L Curve B | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | T | T | T | T | T | T | T | T | T | T | T |
| | 2 | 1200 | T | T | T | T | T | T | T | T | T | T |
| | 3 | 520 | 3400 | 3400 | T | T | T | T | T | T | T | T |
| | 4 | 120 | 1200 | 1300 | 5800 | 5600 | T | T | T | T | T | T |
| | 6 | 15 | 700 | 720 | 1900 | 1900 | 6000 | 11000 | T | T | T | T |
| | 10 | | 22 | 540 | 1200 | 1200 | 2600 | 4200 | 10000 | T | T | T |
| | 13 | | | 28 | 300 | 900 | 1800 | 3400 | 7300 | 8000 | T | T |
| | 16 | | | | 35 | 740 | 1500 | 2200 | 4700 | 5400 | T | T |
| | 20 | | | | | 46 | 910 | 1700 | 3500 | 3500 | 6900 | T |
| | 25 | | | | | | 56 | 1500 | 2500 | 2500 | 5200 | 6800 |
| | 32 | | | | | | | 83 | 2000 | 2400 | 3400 | 4400 |
| | 40 | | | | | | | | 1800 | 1900 | 2900 | 4000 |
| | 50 | | | | | | | | | 1900 | 2800 | 3300 |
| 63 | | | | | | | | | | 2300 | 2800 | |

Discrimination limit (A)

| | | | | | | | | | | | | |
|----------------------|-----|------|------|------|------|------|------|-------|-------|------|------|------|
| iC60N/H/L Curve C | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | T | T | T | T | T | T | T | T | T | T | T |
| | 2 | 1200 | T | T | T | T | T | T | T | T | T | T |
| | 3 | 21 | 3400 | 3400 | T | T | T | T | T | T | T | T |
| | 4 | 18 | 1200 | 1300 | 5800 | 5600 | T | T | T | T | T | T |
| | 6 | 15 | 700 | 720 | 1900 | 1900 | 6000 | 11000 | T | T | T | T |
| | 10 | | 22 | 480 | 1200 | 1200 | 2200 | 4200 | 10000 | T | T | T |
| | 13 | | | 28 | 51 | 900 | 1800 | 3000 | 7300 | 8000 | T | T |
| | 16 | | | | 35 | 740 | 1300 | 2200 | 4700 | 5400 | T | T |
| | 20 | | | | | 46 | 88 | 1700 | 3500 | 3500 | 6900 | T |
| | 25 | | | | | | 56 | 600 | 2500 | 2500 | 4600 | 6800 |
| | 32 | | | | | | | 80 | 2000 | 2200 | 3400 | 4400 |
| | 40 | | | | | | | | 756 | 1900 | 2900 | 3500 |
| | 50 | | | | | | | | | 960 | 2300 | 2800 |
| 63 | | | | | | | | | | 2300 | 2800 | |

Discrimination limit (A)

| | | | | | | | | | | | | |
|----------------------|-----|------|------|------|------|------|------|-------|-------|------|------|------|
| iC60N/H/L Curve D | 0.5 | T | T | T | T | T | T | T | T | T | T | T |
| | 1 | T | T | T | T | T | T | T | T | T | T | T |
| | 2 | 1200 | T | T | T | T | T | T | T | T | T | T |
| | 3 | 21 | 3000 | 3400 | T | T | T | T | T | T | T | T |
| | 4 | 18 | 1100 | 1300 | 5800 | 4500 | T | T | T | T | T | T |
| | 6 | 15 | 600 | 600 | 1600 | 1600 | 5300 | 11000 | T | T | T | T |
| | 10 | | 22 | 420 | 1000 | 1100 | 2200 | 3400 | 10000 | T | T | T |
| | 13 | | | 28 | 51 | 900 | 1700 | 2600 | 6400 | 7100 | T | T |
| | 16 | | | | 35 | 380 | 1300 | 2200 | 3900 | 4500 | T | T |
| | 20 | | | | | 46 | 480 | 1500 | 3000 | 3500 | 6000 | T |
| | 25 | | | | | | 56 | 600 | 2100 | 2500 | 4100 | 5900 |
| | 32 | | | | | | | 80 | 1800 | 2200 | 3400 | 4400 |
| | 40 | | | | | | | | 756 | 1700 | 2400 | 2900 |
| | 50 | | | | | | | | | 960 | 2300 | 2800 |
| 63 | | | | | | | | | | 2000 | 2300 | |

Note: the discrimination limits given in the table must be compared to the phase/neutral fault current (I_{k1}).
If the max. phase/earth fault current (I_f) is high, the discrimination of this fault current should also be verified by referring to the limits given in the dark green part of the table.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve B

Downstream: C120, NG125 curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|------------------------------------|----|--|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | Curve B | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | 1P, 1P+N 2P (380-415 V) two-phase network 3P, 3P+N 4P | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve B | 10 | | | 80 | 100 | 130 | 160 | 200 | 250 | 320 | 400 | 800 |
| | 16 | | | | 100 | 130 | 160 | 200 | 250 | 320 | 400 | 750 |
| | 20 | | | | | 65 | 160 | 200 | 250 | 320 | 400 | 750 |
| | 25 | | | | | | 160 | 200 | 250 | 320 | 400 | 500 |
| | 32 | | | | | | | 200 | 250 | 320 | 400 | 500 |
| | 40 | | | | | | | | 250 | 320 | 400 | 500 |
| | 50 | | | | | | | | | 320 | 400 | 500 |
| | 63 | | | | | | | | | | 400 | 500 |
| 80 | | | | | | | | | | | 400 | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve C | 10 | | | | | 130 | 160 | 200 | 250 | 320 | 400 | 750 |
| | 16 | | | | | | | 200 | 250 | 320 | 400 | 500 |
| | 20 | | | | | | | | 250 | 320 | 400 | 500 |
| | 25 | | | | | | | | | 320 | 400 | 500 |
| | 32 | | | | | | | | | | 400 | 500 |
| | 40 | | | | | | | | | | | 500 |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve D | 10 | | | | | | | 200 | 250 | 320 | 400 | 750 |
| | 16 | | | | | | | | | 320 | 400 | 500 |
| | 20 | | | | | | | | | | 400 | 500 |
| | 25 | | | | | | | | | | | 500 |
| | 32 | | | | | | | | | | | |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

No discrimination.

Discrimination table

Upstream : NG125N/H/L, C120N/H curve B

Downstream: C120, NG125 curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|---------------------------|----|---|----|----|-----|-----|-----|-----|-----|-----|-----|------|
| | | Curve B | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | 2P (220-240 V) single-phase network | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve B | 10 | | | 80 | 100 | 130 | 260 | 200 | 400 | 540 | 670 | 1100 |
| | 16 | | | | 100 | 130 | 240 | 200 | 250 | 480 | 630 | 910 |
| | 20 | | | | | 65 | 160 | 200 | 250 | 320 | 600 | 830 |
| | 25 | | | | | | 160 | 200 | 250 | 320 | 400 | 830 |
| | 32 | | | | | | | 200 | 250 | 320 | 400 | 750 |
| | 40 | | | | | | | | 250 | 320 | 400 | 750 |
| | 50 | | | | | | | | | 320 | 400 | 500 |
| | 63 | | | | | | | | | | 400 | 500 |
| 80 | | | | | | | | | | | 400 | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve C | 10 | | | | | 130 | 240 | 200 | 250 | 480 | 670 | 980 |
| | 16 | | | | | | | 200 | 250 | 320 | 400 | 830 |
| | 20 | | | | | | | | 250 | 320 | 400 | 830 |
| | 25 | | | | | | | | | 320 | 400 | 750 |
| | 32 | | | | | | | | | | 400 | 500 |
| | 40 | | | | | | | | | | | 500 |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve D | 10 | | | | | | | 200 | 250 | 320 | 630 | 980 |
| | 16 | | | | | | | | | 320 | 400 | 750 |
| | 20 | | | | | | | | | | 400 | 750 |
| | 25 | | | | | | | | | | | 500 |
| | 32 | | | | | | | | | | | |

Note: the discrimination limits given in the table must be compared to the phase/neutral fault current (I_{k1}).
If the max. phase/earth fault current (I_f) is high, the discrimination of this fault current should also be verified by referring to the limits given in the dark green part of the table.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve C

Downstream: C120, NG125 curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|------------------------------------|---------------------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| | | Curve C | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | 1P, 1P+N 2P (380-415 V) two-phase network 3P, 3P+N 4P | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve B | 10 | | 130 | 160 | 200 | 260 | 320 | 650 | 820 | 960 | 1300 | 1700 |
| | 16 | | | | 200 | 260 | 320 | 600 | 760 | 800 | 900 | 1500 |
| | 20 | | | | | 65 | 320 | 400 | 500 | 640 | 800 | 1500 |
| | 25 | | | | | | 320 | 400 | 500 | 640 | 800 | 1000 |
| | 32 | | | | | | | 400 | 500 | 640 | 800 | 1000 |
| | 40 | | | | | | | | 500 | 640 | 800 | 1000 |
| | 50 | | | | | | | | | 640 | 800 | 1000 |
| | 63 | | | | | | | | | | 800 | 1000 |
| | 80 | | | | | | | | | | | 1000 |
| | 100 | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve C | 10 | | 39 | 160 | 200 | 260 | 320 | 650 | 760 | 900 | 1200 | 1700 |
| | 16 | | | | 70 | 110 | 320 | 400 | 500 | 640 | 800 | 1500 |
| | 20 | | | | | 65 | 124 | 400 | 500 | 640 | 800 | 1000 |
| | 25 | | | | | | 89 | 149 | 500 | 640 | 800 | 1000 |
| | 32 | | | | | | | 123 | 240 | 640 | 800 | 1000 |
| | 40 | | | | | | | | 181 | 269 | 800 | 1000 |
| | 50 | | | | | | | | | 227 | 800 | 1000 |
| | 63 | | | | | | | | | | 800 | 1000 |
| | 80 | | | | | | | | | | | 1000 |
| | Discrimination limit (A) | | | | | | | | | | | |
| C120, NG125 Curve D | 10 | | | | | 260 | 320 | 600 | 760 | 900 | 1200 | 1600 |
| | 16 | | | | | | 320 | 400 | 500 | 640 | 800 | 1000 |
| | 20 | | | | | | | 400 | 500 | 640 | 800 | 1000 |
| | 25 | | | | | | | | 500 | 640 | 800 | 1000 |
| | 32 | | | | | | | | | | 800 | 1000 |
| | 40 | | | | | | | | | | | 1000 |
| | 50 | | | | | | | | | | | |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve C

Downstream: C120, NG125 curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|------------------------------------|---------------------------------|--|-----|-----|-----|-----|-----|-----|------|------|------|------|
| | | Curve C | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | 2P (220-240 V) single-phase network | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve B | 10 | | 130 | 160 | 200 | 480 | 510 | 930 | 1100 | 1200 | 1700 | 2500 |
| | 16 | | | | 200 | 260 | 320 | 800 | 990 | 1100 | 1400 | 2000 |
| | 20 | | | | | 65 | 320 | 730 | 910 | 1100 | 1400 | 1900 |
| | 25 | | | | | | 320 | 730 | 830 | 960 | 1200 | 1600 |
| | 32 | | | | | | | 400 | 830 | 960 | 1200 | 1600 |
| | 40 | | | | | | | | 500 | 640 | 800 | 1500 |
| | 50 | | | | | | | | | 640 | 800 | 1500 |
| | 63 | | | | | | | | | | 800 | 1000 |
| | 80 | | | | | | | | | | | 1000 |
| | 100 | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve C | 10 | | 39 | 160 | 200 | 260 | 480 | 870 | 1100 | 1200 | 1700 | 2500 |
| | 16 | | | | 70 | 110 | 320 | 730 | 910 | 1100 | 1400 | 2000 |
| | 20 | | | | | 65 | 124 | 670 | 830 | 960 | 1300 | 1700 |
| | 25 | | | | | | 89 | 149 | 500 | 640 | 1200 | 1600 |
| | 32 | | | | | | | 123 | 240 | 640 | 800 | 1500 |
| | 40 | | | | | | | | 181 | 269 | 800 | 1000 |
| | 50 | | | | | | | | | 227 | 800 | 1000 |
| | 63 | | | | | | | | | | 800 | 1000 |
| | 80 | | | | | | | | | | | 1000 |
| | Discrimination limit (A) | | | | | | | | | | | |
| C120, NG125 Curve D | 10 | | | | | 260 | 320 | 800 | 1100 | 1100 | 1600 | 2200 |
| | 16 | | | | | | 320 | 630 | 830 | 960 | 1300 | 1900 |
| | 20 | | | | | | | 400 | 760 | 960 | 1300 | 1700 |
| | 25 | | | | | | | | 500 | 640 | 800 | 1500 |
| | 32 | | | | | | | | | | 800 | 1500 |
| | 40 | | | | | | | | | | | 1000 |
| | 50 | | | | | | | | | | | |

Note: the discrimination limits given in the table must be compared to the phase/neutral fault current (I_{k1}).
If the max. phase/earth fault current (I_f) is high, the discrimination of this fault current should also be verified by referring to the limits given in the dark green part of the table.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve D

Downstream: C120, NG125 curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|------------------------------------|-----|--|-----|-----|-----|-----|-----|-----|------|------|------|------|
| | | Curve D | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | 1P, 1P+N 2P (380-415 V) two-phase network 3P, 3P+N 4P | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve B | 10 | | 190 | 240 | 300 | 380 | 480 | 970 | 1300 | 1600 | 2200 | 2500 |
| | 16 | | | | 300 | 380 | 480 | 600 | 1100 | 1400 | 2000 | 2300 |
| | 20 | | | | | 65 | 480 | 600 | 1100 | 1400 | 2000 | 2300 |
| | 25 | | | | | | 480 | 600 | 760 | 960 | 1200 | 1500 |
| | 32 | | | | | | | 600 | 760 | 960 | 1200 | 1500 |
| | 40 | | | | | | | | 760 | 960 | 1200 | 1500 |
| | 50 | | | | | | | | | 960 | 1200 | 1500 |
| | 63 | | | | | | | | | | 1200 | 1500 |
| | 80 | | | | | | | | | | | 1500 |
| | 100 | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve C | 10 | | 190 | 240 | 300 | 380 | 480 | 970 | 1300 | 1600 | 2200 | 2500 |
| | 16 | | | | 70 | 110 | 480 | 600 | 1100 | 1400 | 2000 | 2300 |
| | 20 | | | | | 65 | 124 | 600 | 1100 | 1400 | 2000 | 2300 |
| | 25 | | | | | | 89 | 149 | 760 | 960 | 1200 | 1500 |
| | 32 | | | | | | | 123 | 240 | 960 | 1200 | 1500 |
| | 40 | | | | | | | | 181 | 269 | 1200 | 1500 |
| | 50 | | | | | | | | | 227 | 1200 | 1500 |
| | 63 | | | | | | | | | | 1200 | 1500 |
| | 80 | | | | | | | | | | | 1500 |
| | 100 | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve D | 10 | | 39 | 240 | 300 | 380 | 480 | 970 | 1300 | 1600 | 2200 | 2500 |
| | 16 | | | | 70 | 110 | 480 | 600 | 1100 | 1400 | 2000 | 2300 |
| | 20 | | | | | 65 | 124 | 193 | 1100 | 1400 | 2000 | 2300 |
| | 25 | | | | | | 89 | 149 | 236 | 960 | 1200 | 1500 |
| | 32 | | | | | | | 123 | 240 | 960 | 1200 | 1500 |
| | 40 | | | | | | | | 181 | 269 | 1200 | 1500 |
| | 50 | | | | | | | | | 227 | 1200 | 1500 |
| | 63 | | | | | | | | | | 1200 | 1500 |
| | 80 | | | | | | | | | | | 1500 |
| | 100 | | | | | | | | | | | |

Note: if you cannot find your combination, refer to the selection table on page 572.

4000 Discrimination limit = 4 kA.

No discrimination.

Discrimination table

Upstream: NG125N/H/L, C120N/H curve D

Downstream: C120, NG125 curves B, C, D

220-240/380-415 V

| Upstream | | NG125N/H/L, C120N/H | | | | | | | | | | |
|------------------------------------|-----|--|-----|-----|-----|-----|-----|------|------|------|------|------|
| | | Curve D | | | | | | | | | | |
| In (A) | | 10 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Downstream | | 2P (220-240 V) single-phase network | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve B | 10 | | 190 | 240 | 250 | 380 | 720 | 1300 | 2000 | 2400 | 3700 | 4800 |
| | 16 | | | | 300 | 380 | 480 | 1100 | 1600 | 1900 | 2600 | 3200 |
| | 20 | | | | | 65 | 480 | 1100 | 1500 | 1800 | 2600 | 2900 |
| | 25 | | | | | | 480 | 600 | 1200 | 1400 | 2100 | 2400 |
| | 32 | | | | | | | 600 | 1200 | 1400 | 2100 | 2400 |
| | 40 | | | | | | | | 760 | 960 | 1200 | 1500 |
| | 50 | | | | | | | | | 960 | 1200 | 1500 |
| | 63 | | | | | | | | | | 1200 | 1500 |
| | 80 | | | | | | | | | | | 1500 |
| | 100 | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve C | 10 | | 190 | 240 | 250 | 380 | 720 | 1300 | 2000 | 2400 | 3700 | 4800 |
| | 16 | | | | 70 | 110 | 480 | 1100 | 1600 | 1900 | 2600 | 3200 |
| | 20 | | | | | 65 | 124 | 1100 | 1500 | 1800 | 2600 | 2900 |
| | 25 | | | | | | 89 | 149 | 1200 | 1400 | 2100 | 2400 |
| | 32 | | | | | | | 123 | 240 | 1400 | 2100 | 2400 |
| | 40 | | | | | | | | 181 | 269 | 1200 | 1500 |
| | 50 | | | | | | | | | 227 | 1200 | 1500 |
| | 63 | | | | | | | | | | 1200 | 1500 |
| | 80 | | | | | | | | | | | 1500 |
| | 100 | | | | | | | | | | | |
| Discrimination limit (A) | | | | | | | | | | | | |
| C120, NG125 Curve D | 10 | | 39 | 240 | 250 | 380 | 720 | 1300 | 2000 | 2400 | 3700 | 4800 |
| | 16 | | | | 70 | 110 | 480 | 1100 | 1600 | 1900 | 2600 | 3200 |
| | 20 | | | | | 65 | 124 | 193 | 1500 | 1800 | 2600 | 2900 |
| | 25 | | | | | | 89 | 149 | 236 | 1400 | 2100 | 2400 |
| | 32 | | | | | | | 123 | 240 | 1400 | 2100 | 2400 |
| | 40 | | | | | | | | 181 | 269 | 1200 | 1500 |
| | 50 | | | | | | | | | 227 | 1200 | 1500 |
| | 63 | | | | | | | | | | 1200 | 1500 |
| | 80 | | | | | | | | | | | 1500 |
| | 100 | | | | | | | | | | | |

Note: the discrimination limits given in the table must be compared to the phase/neutral fault current (I_{k1}).
If the max. phase/earth fault current (I_f) is high, the discrimination of this fault current should also be verified by referring to the limits given in the dark green part of the table.

$U_e \leq 440 \text{ V}$

Contents

| Downstream Type | Upstream | | | | | | | | |
|--------------------|----------|----------|------------|----------|------------|----------|------------|------------|------------|
| | NG160 | NSX100 | | NSX160 | | NSX250 | | NSX400 | NSX630 |
| | | TM-D | Micrologic | TM-D | Micrologic | TM-D | Micrologic | Micrologic | Micrologic |
| iDPN | page 607 | page 608 | page 609 | page 608 | page 609 | page 608 | page 609 | page 612 | page 612 |
| iDPN N | page 607 | page 608 | page 609 | page 608 | page 609 | page 608 | page 609 | page 612 | page 612 |
| iC60N/H/L | page 607 | page 608 | page 609 | page 608 | page 609 | page 608 | page 609 | page 612 | page 612 |
| C120, NG125 | page 607 | page 608 | page 609 | page 608 | page 609 | page 608 | page 609 | page 612 | page 612 |
| NG160 | - | page 608 | page 609 | page 608 | page 609 | page 608 | page 609 | page 612 | page 612 |
| NSX100 | - | page 610 | page 611 | page 610 | page 611 | page 610 | page 611 | page 612 | page 612 |
| NSX160 | - | page 610 | page 611 | page 610 | page 611 | page 610 | page 611 | page 612 | page 612 |
| NSX250 | - | page 610 | page 611 | page 610 | page 611 | page 610 | page 611 | page 612 | page 612 |
| NSX400 | - | - | - | - | - | - | - | page 612 | page 612 |

Discrimination between circuit breakers

In the following tables we show the level of discrimination between two LV circuits that are protected by modular circuit breakers.

This discrimination will be either:

- total: represented by a T (up to the breaking capacity of the downstream device),
- partial: discrimination limit current (Is) indicated. Below this value discrimination is ensured, above this value the upstream device is also involved in breaking,
- zero: no discrimination ensured.

Discrimination table

Upstream: NG160E/N/H

Downstream: iDPN, iC60, C120, NG125

$U_e \leq 440\text{ V}$

| Upstream | | NG160E/N/H | | | | | | | | | |
|----------------------------------|---------|------------|-----|-----|-----|-----|-----|-----|-----|------|------|
| In (A) | | 16 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 |
| Downstream | | | | | | | | | | | |
| Discrimination limit (kA) | | | | | | | | | | | |
| iDPN Curves B, C | ≤ 10 | 5 | 5 | 5 | 5 | 5 | T | T | T | T | T |
| | 16 | | | 3 | 3 | 3 | T | T | T | T | T |
| | 20 | | | | 3 | 3 | T | T | T | T | T |
| | 25 | | | | | 3 | T | T | T | T | T |
| | 32 | | | | | | 4 | 4 | T | T | T |
| | 40 | | | | | | | 4 | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | |
| iDPNN Curves C, D | ≤ 10 | 5 | 5 | 5 | 5 | 5 | T | T | T | T | T |
| | 16 | | | 3 | 3 | 3 | T | T | T | T | T |
| | 20 | | | | 3 | 3 | T | T | T | T | T |
| | 25 | | | | | 3 | 6 | 6 | T | T | T |
| | 32 | | | | | | 4 | 4 | 7 | T | T |
| | 40 | | | | | | | 4 | 7 | 8 | 8 |
| Discrimination limit (kA) | | | | | | | | | | | |
| iC60N/H Curves B, C, D | ≤ 10 | 5 | 5 | 5 | 5 | 5 | 10 | T | T | T | T |
| | 16 | | | 3 | 3 | 3 | 10 | T | T | T | T |
| | 20 | | | | 3 | 3 | 10 | T | T | T | T |
| | 25 | | | | | 3 | 6 | 6 | T | T | T |
| | 32 | | | | | | 4 | 4 | 7 | T | T |
| | 40 | | | | | | | 4 | 7 | 8 | 8 |
| | 50 | | | | | | | | 5 | 8 | 8 |
| | 63 | | | | | | | | | 6 | 6 |
| iC60L Curves B-C-D-K-Z | ≤ 10 | 5 | 5 | 5 | 5 | 5 | 10 | 15 | T | T | T |
| | 16 | | | 3 | 3 | 3 | 10 | 15 | T | T | T |
| | 20 | | | | 3 | 3 | 10 | 15 | T | T | T |
| | 25 | | | | | 3 | 6 | 6 | T | T | T |
| | 32 | | | | | | 4 | 4 | 7 | T | T |
| | 40 | | | | | | | 4 | 7 | 8 | 8 |
| | 50 | | | | | | | | 5 | 8 | 8 |
| | 63 | | | | | | | | | 6 | 6 |
| Discrimination limit (kA) | | | | | | | | | | | |
| C120N/H Curves B, C, D | 10 (H) | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 1 | 1.25 | 1.25 |
| | 16 (H) | | | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 1 | 1.25 | 1.25 |
| | 20 (H) | | | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 1 | 1.25 | 1.25 |
| | 25 (H) | | | | 0.6 | 0.6 | 0.8 | 0.8 | 1 | 1.25 | 1.25 |
| | 32 (H) | | | | | | 0.8 | 0.8 | 1 | 1.25 | 1.25 |
| | 40 (H) | | | | | | | 0.8 | 1 | 1.25 | 1.25 |
| | 50 (H) | | | | | | | 0.8 | 1 | 1.25 | 1.25 |
| | 63 | | | | | | | | | 1.25 | 1.25 |
| | 80 | | | | | | | | | | 1.25 |
| | 100 | | | | | | | | | | 1.25 |
| | 125 | | | | | | | | | | |
| Discrimination limit (kA) | | | | | | | | | | | |
| NG125N/H/L Curves B, C, D | 10 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 1 | 1.25 | 1.25 |
| | 16 | | | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 1 | 1.25 | 1.25 |
| | 20 | | | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 1 | 1.25 | 1.25 |
| | 25 | | | | 0.6 | 0.6 | 0.8 | 0.8 | 1 | 1.25 | 1.25 |
| | 32 | | | | | | 0.8 | 0.8 | 1 | 1.25 | 1.25 |
| | 40 | | | | | | | 0.8 | 1 | 1.25 | 1.25 |
| | 50 | | | | | | | 0.8 | 1 | 1.25 | 1.25 |
| | 63 | | | | | | | | | 1.25 | 1.25 |
| | 80 | | | | | | | | | | 1.25 |
| | 100 (N) | | | | | | | | | | 1.25 |
| | 125 (N) | | | | | | | | | | |

4 Discrimination limit = 4 kA.

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566.

Discrimination table

Upstream: Compact NSX100-250 TM-D

Downstream: iDPN, iC60, C120,

NG125-160

$U_e \leq 440 V$

| Upstream | | NSX100B/F/N/H/S/L/R | | | | | | | | NSX160B/F/N/H/S/L | | | | NSX250B/F/N/H/S/L/R | | | |
|----------------------------------|----------------------------------|---------------------|------|-----|-----|-----|-----|------|------|-------------------|------|-----|-----|---------------------|-----|-----|---|
| Trip unit | | TM-D | | | | | | | | TM-D | | | | TM-D | | | |
| In (A) | | 16 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 80 | 100 | 125 | 160 | 160 | 200 | 250 | |
| Downstream | | | | | | | | | | | | | | | | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | |
| iDPN Curves B, C | ≤ 10 | 0.19 | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 16 | | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 20 | | | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 25 | | | | | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 32 | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 40 | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | |
| iDPNN Curves C, D | ≤ 10 | 0.19 | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 16 | | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 20 | | | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 25 | | | | | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 32 | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 40 | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | |
| iC60N/H Curves B, C, D | ≤ 10 | 0.19 | 0.3 | 0.4 | 0.9 | 0.9 | 0.9 | 1.3 | 3 | 1.3 | 3 | T | T | T | T | T | |
| | 16 | | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 1 | 2 | 1 | 2 | T | T | T | T | T | |
| | 20 | | | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 1.5 | 0.63 | 1.5 | T | T | T | T | T | |
| | 25 | | | | 0.5 | 0.5 | 0.5 | 0.63 | 1.5 | 0.63 | 1.5 | T | T | T | T | T | |
| | 32 | | | | | | 0.5 | 0.63 | 1 | 0.63 | 1 | T | T | T | T | T | |
| | 40 | | | | | | 0.5 | 0.63 | 1 | 0.63 | 1 | T | T | T | T | T | |
| iC60L Curves B-C-D-K-Z | 50 | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 63 | | | | | | | 0.8 | | 0.8 | 0.8 | T | T | T | T | T | |
| | Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| | C120N/H Curves B, C, D | 10 (H) | 0.19 | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T |
| | | 16 (H) | | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T |
| | | 20 (H) | | | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T |
| 25 (H) | | | | | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 2.4 | 2.4 | 2.4 | T | T | |
| 32 (H) | | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 2.4 | 2.4 | 2.4 | T | T | |
| 40 (H) | | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | 2.4 | 2.4 | 2.4 | T | T | |
| 50 (H) | | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | 2.4 | 2.4 | 2.4 | T | T | |
| 63 | | | | | | | | | 0.8 | | 0.8 | 2.4 | 2.4 | 2.4 | T | T | |
| 80 | | | | | | | | | | | | 2.4 | 2.4 | 2.4 | T | T | |
| 100 | | | | | | | | | | | | | | | T | T | |
| 125 | | | | | | | | | | | | | | | | T | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | |
| NG125N/H/L Curves B, C, D | 10 | 0.19 | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 16 | | 0.3 | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 20 | | | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | T | T | T | T | T | |
| | 25 | | | | | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 2.4 | 2.4 | 2.4 | T | T | |
| | 32 | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 2.4 | 2.4 | 2.4 | T | T | |
| | 40 | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | 2.4 | 2.4 | 2.4 | T | T | |
| | 50 | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | 2.4 | 2.4 | 2.4 | T | T | |
| | 63 | | | | | | | | 0.8 | | 0.8 | 2.4 | 2.4 | 2.4 | T | T | |
| | 80 | | | | | | | | | | | 2.4 | 2.4 | 2.4 | T | T | |
| | 100 (N) | | | | | | | | | | | | | | T | T | |
| | 125 (N) | | | | | | | | | | | | | | | T | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | |
| NG160E/N/H | 16 | | | 0.4 | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 2 | 2 | 2 | T | T | |
| | 25 | | | | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 2 | 2 | 2 | T | T | |
| | 32 | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 2 | 2 | 2 | T | T | |
| | 40 | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | 2 | 2 | 2 | T | T | |
| | 50 | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | 2 | 2 | 2 | T | T | |
| | 63 | | | | | | | | 0.8 | | 0.8 | 2 | 2 | 2 | T | T | |
| | 80 | | | | | | | | | | | 2 | 2 | 2 | T | T | |
| | 100 | | | | | | | | | | | | 2 | 2 | T | T | |
| | 125 | | | | | | | | | | | | | | T | T | |
| | 160 | | | | | | | | | | | | | | | T | |

4 Discrimination limit = 4 kA.

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566.

Discrimination table

Upstream: Compact NSX100-250
Micrologic
Downstream: iDPN, iC60, C120, NG125-160

U_e ≤ 440 V

| Upstream | | NSX100B/F/N/H/S/L/R | | | | | | | | NSX160B/F/N/H/S/L | | | | NSX250B/F/N/H/S/L/R | | |
|----------------------------------|------------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|---------------------|-----|-----|
| Trip unit | | Micrologic | | | | | | | | Micrologic | | | | Micrologic | | |
| Downstream | Rating (A) | 40 | | | | 100 | | | | 160 | | | | 250 | | |
| | Setting I _r | 16 | 25 | 32 | 40 | 40 | 63 | 80 | 100 | 80 | 100 | 125 | 160 | 160 | 200 | 250 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| iDPN Curves B, C | ≤ 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 16 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 20 | | | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 25 | | | | T | T | T | T | T | T | T | T | T | T | T | T |
| | 32 | | | | | T | T | T | T | T | T | T | T | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| iDPNN Curves C, D | ≤ 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 16 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 20 | | | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 25 | | | | T | T | T | T | T | T | T | T | T | T | T | T |
| | 32 | | | | | T | T | T | T | T | T | T | T | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| iC60N/H Curves B, C, D | ≤ 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 16 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 20 | | | T | T | T | T | T | T | T | T | T | T | T | T | T |
| iC60L Curves B-C-D-K-Z | 25 | | | | T | T | T | T | T | T | T | T | T | T | T | T |
| | 32 | | | | | T | T | T | T | T | T | T | T | T | T | T |
| | 40 | | | | | | T | T | T | T | T | T | T | T | T | T |
| | 50 | | | | | | | 6 | 6 | T | T | T | T | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| C120N/H Curves B, C, D | 10 (H) | 0.6 | 0.6 | 0.6 | 0.6 | 1.5 | 1.5 | 1.5 | 1.5 | T | T | T | T | T | T | T |
| | 16 (H) | | 0.6 | 0.6 | 0.6 | 1.5 | 1.5 | 1.5 | 1.5 | T | T | T | T | T | T | T |
| | 20 (H) | | | 0.6 | 0.6 | 1.5 | 1.5 | 1.5 | 1.5 | T | T | T | T | T | T | T |
| | 25 (H) | | | | 0.6 | 1.5 | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 32 (H) | | | | | | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 40 (H) | | | | | | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 50 (H) | | | | | | | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 63 | | | | | | | | 1.5 | | 2.4 | 2.4 | 2.4 | T | T | T |
| | 80 | | | | | | | | | | | 2.4 | 2.4 | T | T | T |
| | 100 | | | | | | | | | | | | 2.4 | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| NG125N/H/L Curves B, C, D | 10 | 0.6 | 0.6 | 0.6 | 0.6 | 1.5 | 1.5 | 1.5 | 1.5 | T | T | T | T | T | T | T |
| | 16 | | 0.6 | 0.6 | 0.6 | 1.5 | 1.5 | 1.5 | 1.5 | T | T | T | T | T | T | T |
| | 20 | | | 0.6 | 0.6 | 1.5 | 1.5 | 1.5 | 1.5 | T | T | T | T | T | T | T |
| | 25 | | | | 0.6 | 1.5 | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 32 | | | | | | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 40 | | | | | | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 50 | | | | | | | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 63 | | | | | | | | 1.5 | | 2.4 | 2.4 | 2.4 | T | T | T |
| | 80 | | | | | | | | | | | 2.4 | 2.4 | T | T | T |
| | 100 (N) | | | | | | | | | | | | 2.4 | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| NG160E/N/H | 16 | | | | 0.6 | 1.5 | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 25 | | | | | 1.5 | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 32 | | | | | | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 40 | | | | | | | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 50 | | | | | | | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 63 | | | | | | | | 1.5 | | 2.4 | 2.4 | 2.4 | T | T | T |
| | 80 | | | | | | | | | | | 2.4 | 2.4 | T | T | T |
| | 100 | | | | | | | | | | | | 2.4 | T | T | T |
| | 125 | | | | | | | | | | | | | | T | T |
| | 160 | | | | | | | | | | | | | | | T |

4 Discrimination limit = 4 kA.

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566.

Discrimination table

Upstream: Compact NSX100-250 TM-D

Downstream: Compact NSX100-250

TM-D - Micrologic

$U_e \leq 440\text{ V}$

| Upstream | NSX100B/F/N/H/S/L/R | | | | | | | | NSX160B/F/N/H/S/L | | | | NSX250B/F/N/H/S/L/R | | |
|-----------|---------------------|----|----|----|----|----|----|-----|-------------------|-----|-----|-----|---------------------|-----|-----|
| Trip unit | TM-D | | | | | | | | TM-D | | | | TM-D | | |
| In (A) | 16 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 80 | 100 | 125 | 160 | 160 | 200 | 250 |

| Downstream | | | | | | | | | | | | | | | | |
|--|-------|--|--|--|-----|-----|-----|------|-----|------|-----|------|------|------|----|-----|
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX100 B/F TM-D | 16 | | | | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | T | T |
| | 25 | | | | | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | T | T |
| | 32 | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | T | T |
| | 40 | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | T | T |
| | 50 | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | T | T |
| | 63 | | | | | | | | 0.8 | | 0.8 | 1.25 | 1.25 | 1.25 | T | T |
| | 80 | | | | | | | | | | | 1.25 | 1.25 | 1.25 | T | T |
| 100 | | | | | | | | | | | | 1.25 | 1.25 | 1.25 | T | T |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX100 N/H/S/L/R TM-D | 16 | | | | 0.5 | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | T | T |
| | 25 | | | | | 0.5 | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | T | T |
| | 32 | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | 36 | 36 |
| | 40 | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | 36 | 36 |
| | 50 | | | | | | | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | 36 | 36 |
| | 63 | | | | | | | | 0.8 | | 0.8 | 1.25 | 1.25 | 1.25 | 36 | 36 |
| | 80 | | | | | | | | | | | 1.25 | 1.25 | 1.25 | 36 | 36 |
| 100 | | | | | | | | | | | | 1.25 | 1.25 | 36 | 36 | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX160 B/F/N/H/S/L TM-D | ≤ 63 | | | | | | | | | | | 1.25 | 1.25 | 1.25 | 4 | 5 |
| | 80 | | | | | | | | | | | 1.25 | 1.25 | 1.25 | 4 | 5 |
| | 100 | | | | | | | | | | | | 1.25 | 1.25 | 4 | 5 |
| | 160 | | | | | | | | | | | | | | | 5 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX250 B/F/N/H/S/L/R TM-D | ≤ 100 | | | | | | | | | | | | | 1.25 | 2 | 2.5 |
| | 125 | | | | | | | | | | | | | | 2 | 2.5 |
| | 160 | | | | | | | | | | | | | | | 2.5 |
| | 200 | | | | | | | | | | | | | | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX100 B/F/N/H/S/L/R Micrologic | 40 | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | 2 | 2.5 |
| | 100 | | | | | | | | | | | | 1.25 | 1.25 | 2 | 2.5 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX160 B/F/N/H/S/L Micrologic | 40 | | | | | | 0.5 | 0.63 | 0.8 | 0.63 | 0.8 | 1.25 | 1.25 | 1.25 | 2 | 2.5 |
| | 100 | | | | | | | | | | | | 1.25 | 1.25 | 2 | 2.5 |
| | 160 | | | | | | | | | | | | | | | 2.5 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX250 B/F/N/H/S/L/R Micrologic | ≤ 100 | | | | | | | | | | | | | 1.25 | 2 | 2.5 |
| | 160 | | | | | | | | | | | | | | | 2.5 |
| | 250 | | | | | | | | | | | | | | | |

4 Discrimination limit = 4 kA.

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566.

Discrimination table

Upstream: Compact NSX100-250
Micrologic
Downstream: Compact NSX100-250
TM-D - Micrologic

$U_e \leq 440\text{ V}$

| Upstream | | NSX100B/F/N/H/S/L/R | | | | | | | | NSX160B/F/N/H/S/L | | | | NSX250B/F/N/H/S/L/R | | |
|---|------------|---------------------|----|----|----|-----|-----|-----|-----|-------------------|-----|-----|-----|---------------------|-----|-----|
| Trip unit | | Micrologic | | | | | | | | Micrologic | | | | Micrologic | | |
| Downstream | Rating (A) | 40 | | | | 100 | | | | 160 | | | | 250 | | |
| | Setting Ir | 16 | 25 | 32 | 40 | 40 | 63 | 80 | 100 | 80 | 100 | 125 | 160 | 160 | 200 | 250 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX100 B/F TM-D | 16 | | | | | 1.5 | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 25 | | | | | 1.5 | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 32 | | | | | | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 40 | | | | | | | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 50 | | | | | | | | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 63 | | | | | | | | | | 2.4 | 2.4 | 2.4 | T | T | T |
| | 80 | | | | | | | | | | | 2.4 | 2.4 | T | T | T |
| 100 | | | | | | | | | | | | 2.4 | T | T | T | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX100 N/H/S/L/R TM-D | 16 | | | | | 1.5 | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 25 | | | | | 1.5 | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | T | T | T |
| | 32 | | | | | | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | 36 | 36 | 36 |
| | 40 | | | | | | | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | 36 | 36 | 36 |
| | 50 | | | | | | | | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | 36 | 36 | 36 |
| | 63 | | | | | | | | | | 2.4 | 2.4 | 2.4 | 36 | 36 | 36 |
| | 80 | | | | | | | | | | | 2.4 | 2.4 | 36 | 36 | 36 |
| 100 | | | | | | | | | | | | 2.4 | 36 | 36 | 36 | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX160 ≤ 63 B/F/N/H/S/L TM-D | 80 | | | | | | | | | | 2.4 | 2.4 | 2.4 | 3 | 3 | 3 |
| | 100 | | | | | | | | | | | 2.4 | 2.4 | 3 | 3 | 3 |
| | 160 | | | | | | | | | | | | 2.4 | 3 | 3 | 3 |
| | 160 | | | | | | | | | | | | | | | 3 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX250 ≤ 100 B/F/N/H/S/L/R TM-D | 125 | | | | | | | | | | | | | 3 | 3 | 3 |
| | 160 | | | | | | | | | | | | | | 3 | 3 |
| | 200 | | | | | | | | | | | | | | | 3 |
| | 200 | | | | | | | | | | | | | | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX100 40 B/F/N/H/S/L/R Micrologic | 100 | | | | | | 1.5 | 1.5 | 1.5 | 2.4 | 2.4 | 2.4 | 2.4 | 36 | 36 | 36 |
| | 100 | | | | | | | | | | | | 2.4 | 36 | 36 | 36 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX160 40 B/F/N/H/S/L Micrologic | 100 | | | | | | | | | 2.4 | 2.4 | 2.4 | 2.4 | 3 | 3 | 3 |
| | 160 | | | | | | | | | | | | 2.4 | 3 | 3 | 3 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NSX250 ≤ 100 B/F/N/H/S/L/R Micrologic | 160 | | | | | | | | | | | | | 3 | 3 | 3 |
| | 250 | | | | | | | | | | | | | | | 3 |

4 Discrimination limit = 4 kA.

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566.

Discrimination table

Upstream: Compact NSX400-630
Micrologic
Downstream: iDPN, iC60, C120, NG125-160, Compact NSX100-400

$U_e \leq 440\text{ V}$

| Upstream | | NSX400F/N/H/S/L/R | | | | | NSX630F/N/H/S/L/R | | | | |
|---|------------|-------------------|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|
| Trip unit | | Micrologic | | | | | Micrologic | | | | |
| Downstream | Rating (A) | 400 | | | | | 630 | | | | |
| | Setting Ir | 160 | 200 | 250 | 320 | 400 | 250 | 320 | 400 | 500 | 630 |
| Discrimination limit (kA) | | | | | | | | | | | |
| iDPN | | T | T | T | T | T | T | T | T | T | T |
| iDPNN | | T | T | T | T | T | T | T | T | T | T |
| iC60N/H/L | | T | T | T | T | T | T | T | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | |
| C120N/H | ≤ 80 | T | T | T | T | T | T | T | T | T | T |
| | 100 | | T | T | T | T | T | T | T | T | T |
| | 125 | | | T | T | T | T | T | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | |
| NG125N/H/L | ≤ 80 | T | T | T | T | T | T | T | T | T | T |
| | 100 | | T | T | T | T | T | T | T | T | T |
| | 125 | | | T | T | T | T | T | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | |
| NG160E/N/H | ≤ 80 | T | T | T | T | T | T | T | T | T | T |
| | 100 | T | T | T | T | T | T | T | T | T | T |
| | 125 | | T | T | T | T | T | T | T | T | T |
| | 160 | | | T | T | T | T | T | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | |
| Compact NSX100 B/F/N/H/S/L/R TM-D | ≤ 80 | T | T | T | T | T | T | T | T | T | T |
| | 100 | T | T | T | T | T | T | T | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | |
| Compact NSX160 B/F/N/H/S/L TM-D | ≤ 100 | T | T | T | T | T | T | T | T | T | T |
| | 125 | | T | T | T | T | T | T | T | T | T |
| Compact NSX250 B/F/N/H/S/L/R TM-D | ≤ 100 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | T | T | T | T | T |
| | 125 | | 4.8 | 4.8 | 4.8 | 4.8 | T | T | T | T | T |
| Compact NSX400 F/N/H/S/L/R Micrologic | 160 | | | 4.8 | 4.8 | 4.8 | T | T | T | T | T |
| | 200 | | | | 4.8 | 4.8 | | T | T | T | T |
| | 250 | | | | | 4.8 | | | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | |
| Compact NSX100 B/F/N/H/S/L/R Micrologic | 40 | T | T | T | T | T | T | T | T | T | T |
| | 100 | T | T | T | T | T | T | T | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | |
| Compact NSX160 B/F/N/H/S/L Micrologic | 40 | T | T | T | T | T | T | T | T | T | T |
| | 100 | T | T | T | T | T | T | T | T | T | T |
| | 160 | | | T | T | T | T | T | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | |
| Compact NSX250 B/F/N/H/S/L/R Micrologic | ≤ 100 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | T | T | T | T | T |
| | 160 | | | 4.8 | 4.8 | 4.8 | T | T | T | T | T |
| | 250 | | | | | 4.8 | | | T | T | T |
| Discrimination limit (kA) | | | | | | | | | | | |
| Compact NSX400 F/N/H/S/L/R Micrologic | 160 | | | | | | 6.9 | 6.9 | 6.9 | 6.9 | 6.9 |
| | 200 | | | | | | | 6.9 | 6.9 | 6.9 | 6.9 |
| | 250 | | | | | | | | 6.9 | 6.9 | 6.9 |
| | 320 | | | | | | | | | 6.9 | 6.9 |
| | 400 | | | | | | | | | | 6.9 |

4 Discrimination limit = 4 kA.

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566.

$U_e \leq 440 \text{ V}$

| Upstream | | Masterpact NT06/08/12/16 H1/H2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|--------------------------------|-----|-----|-----|------|------|------|-----|--|------|-----|------|--|------|-----|-----|-----|-----|------|------|------|------|-----|-----|------|------|------|------|--|--|
| Trip unit | | Micrologic 2.0 | | | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | | | | | | | | | | | |
| Downstream | Rating (A) | 630 | | | 800 | | | 1000 | | | 1250 | | | 1600 | | | 630 | | | 800 | | | 1000 | | | 1250 | | | 1600 | | |
| | Setting Ir | 250 | 400 | 630 | 800 | 1000 | 1250 | 1600 | 250 | 400 | 630 | 800 | 1000 | 1250 | 1600 | 250 | 400 | 630 | 800 | 1000 | 1250 | 1600 | 250 | 400 | 630 | 800 | 1000 | 1250 | 1600 | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| iDPN, iDPNN | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| iC60 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| C120N/H | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| NG125N/H | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| NG125L | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| NG160E/N/H | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX100 B/F/N/H/S/L/R TM-D | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX160 B/F/N/H/S/L TM-D | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX250 ≤ 125 B/F/N/H/S/L/R TM-D | ≤ 125 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 160 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 200 | | T | T | T | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | T | | T | T | T | T | T | | | |
| | 250 | | T | T | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | T | | T | T | T | T | T | T | | | |
| Compact NSX100 40 B/F/N/H/S/L/R Micrologic | 40 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX160 40 B/F/N/H/S/L Micrologic | 40 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 160 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX250 ≤ 100 B/F/N/H/S/L/R Micrologic | ≤ 100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 160 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 250 | | T | T | T | T | T | T | T | T | T | T | T | T | | T | T | T | T | T | T | T | | T | T | T | T | T | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Compact NSX400 F/N/H/S/L/R Micrologic | 160 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 200 | | T | T | T | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | T | | T | T | T | T | T | | | |
| | 250 | | T | T | T | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | T | | T | T | T | T | T | | | |
| | 320 | | | T | T | T | T | T | | | T | T | T | T | | | T | T | T | T | T | T | | | T | T | T | T | | | |
| | 400 | | | T | T | T | T | | | | T | T | T | T | | | | T | T | T | T | | | | T | T | T | T | | | |
| Compact NSX630 F/N/H/S/L/R Micrologic | 250 | | | T | T | T | T | | | | T | T | T | T | | | | T | T | T | T | | | | T | T | T | T | | | |
| | 320 | | | T | T | T | T | | | | T | T | T | T | | | | T | T | T | T | | | | T | T | T | T | | | |
| | 400 | | | T | T | T | T | | | | T | T | T | T | | | | T | T | T | T | | | | T | T | T | T | | | |
| | 500 | | | | T | T | T | | | | | T | T | T | T | | | | | T | T | T | T | | | | T | T | | | |
| | 630 | | | | | T | T | | | | | | T | T | T | | | | | | | | | | | | T | T | | | |

Total discrimination, up to the breaking capacity of the downstream circuit breaker.

No discrimination.

Protection discrimination

Upstream: Masterpact NT06-16 H1

Micrologic

Downstream: Compact NS630b-1600

Ue ≤ 440 V

| Upstream | | Masterpact NT06/08/12/16 H1 | | | | | | | | | | | | | | | | | | | |
|----------------------------------|------------|-----------------------------|-----|-----|------|------|------|--|-----|------|------|------|------|--|-----|------|------|------|------|------|---|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | |
| Downstream | Rating (A) | 630 | | 800 | | 1000 | | 1250 | | 1600 | | 630 | | 800 | | 1000 | | 1250 | | 1600 | |
| | Setting Ir | 400 | 630 | 800 | 1000 | 1250 | 1600 | 400 | 630 | 800 | 1000 | 1250 | 1600 | 400 | 630 | 800 | 1000 | 1250 | 1600 | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | |
| Compact NS630b | 250 | 4 | 6.3 | 8 | 10 | 12.5 | 16 | 9.4 | 9.4 | 12 | 15 | 18.7 | 24 | T | T | T | T | T | T | T | T |
| | N/H | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | T | T | T | T | T | T | T |
| | Micrologic | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | T | T | T | T | T | T |
| | | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | T | T | T | T | T |
| | | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | T | T | T | T |
| Compact NS800 | 320 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | T | T | T | T | T | T | T |
| | N/H | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | T | T | T | T | T | T | T |
| | Micrologic | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | | T | T | T | T | T |
| | | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | T | T | T | T | T |
| | | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | T | T | T | T |
| Compact NS1000 | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | T | T | T | T | T | T | T |
| | N/H | | | 6.3 | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | T | T | T | T | T |
| | Micrologic | 400 | | | 8 | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | T | T | T | T |
| | | 630 | | | | 10 | 12.5 | 16 | | | | | 18.7 | 24 | | | | | T | T | T |
| | | 800 | | | | | 12.5 | 16 | | | | | | 18.7 | 24 | | | | | | T |
| Compact NS1250 | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | T | T | T | T | T | T |
| | N/H | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | T | T | T | T | T |
| | Micrologic | 400 | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | | T | T | T |
| | | 800 | | | | | 16 | | | | | | 24 | | | | | | | | T |
| | | 1250 | | | | | | | | | | | | 24 | | | | | | | |
| Compact NS1600 | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | T | T | T | T | T |
| | N/H | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | | T | T | T |
| | Micrologic | 400 | | | | | 16 | | | | | | 24 | | | | | | | | T |
| | | 1250 | | | | | | | | | | | | | | | | | | | |
| | | 1600 | | | | | | | | | | | | | | | | | | | |
| Compact NS630b | 250 | 4 | 6.3 | 8 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | L/LB | | 6.3 | 8 | T | T | T | | T | T | T | T | T | T | | T | T | T | T | T | T |
| | Micrologic | 400 | | 6.3 | 8 | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T |
| | | 500 | | | 8 | T | T | T | | | T | T | T | T | | | T | T | T | T | T |
| | | 630 | | | | T | T | T | | | | T | T | T | | | | T | T | T | T |
| Compact NS800 | 320 | | 6.3 | 8 | 10 | T | T | | 9.4 | T | T | T | T | | T | T | T | T | T | T | T |
| | L/LB | | 6.3 | 8 | 10 | T | T | | 9.4 | T | T | T | T | | T | T | T | T | T | T | T |
| | Micrologic | 400 | | 6.3 | 8 | 10 | T | T | | | T | T | T | | | T | T | T | T | T | T |
| | | 500 | | | 8 | 10 | T | T | | | | T | T | T | | | | T | T | T | T |
| | | 630 | | | | 10 | T | T | | | | | T | T | | | | | T | T | T |
| Compact NS1000 | 400 | | 6.3 | 8 | 10 | 12.5 | T | | 9.4 | 12 | T | T | T | | T | T | T | T | T | T | T |
| | L | | | 8 | 10 | 12.5 | T | | | 12 | T | T | T | | | T | T | T | T | T | T |
| | Micrologic | 400 | | | 8 | 10 | 12.5 | T | | | | T | T | T | | | | | T | T | T |
| | | 630 | | | | 10 | 12.5 | T | | | | | T | T | | | | | | T | T |
| | | 800 | | | | | 12.5 | T | | | | | | T | T | | | | | | T |
| | 1000 | | | | | | T | | | | | | | | | | | | | | |

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

$U_e \leq 440 V$

| Upstream | | Masterpact NT06/08/12/16 H1 | | | | | | | | | | | | | | | | | | | |
|--|------------|-----------------------------|-----|-----|------|------|------|--|-----|------|------|------|------|--|-----|------|------|------|------|------|--|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | |
| Downstream | Rating (A) | 630 | | 800 | | 1000 | | 1250 | | 1600 | | 630 | | 800 | | 1000 | | 1250 | | 1600 | |
| | Setting Ir | 400 | 630 | 800 | 1000 | 1250 | 1600 | 400 | 630 | 800 | 1000 | 1250 | 1600 | 400 | 630 | 800 | 1000 | 1250 | 1600 | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | |
| Masterpact NT06 H1/H2 Micrologic | 250 | 4 | 6.3 | 8 | 10 | 12.5 | 16 | 9.4 | 9.4 | 12 | 15 | 18.7 | 24 | T | T | T | T | T | T | T | |
| | 320 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | T | T | T | T | T | T | |
| | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | T | T | T | T | T | T | |
| | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | T | T | T | T | T | |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | T | T | T | T | |
| Masterpact NT08 H1/H2 Micrologic | 320 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | T | T | T | T | T | T | |
| | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | T | T | T | T | T | T | |
| | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | T | T | T | T | T | |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | T | T | T | T | T | |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | T | T | T | T | |
| Masterpact NT10 H1/H2 Micrologic | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | T | T | T | T | T | T | |
| | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | T | T | T | T | T | |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | T | T | T | T | |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | T | T | T | |
| | 1000 | | | | | | 16 | | | | | | 24 | | | | | | | T | |
| Masterpact NT12 H1/H2 Micrologic | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | T | T | T | T | T | |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | T | T | T | T | |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | T | T | T | |
| | 1000 | | | | | | 16 | | | | | | 24 | | | | | | | T | |
| | 1250 | | | | | | | | | | | | | | | | | | | | |
| Masterpact NT16 H1/H2 Micrologic | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | T | T | T | T | |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | T | T | T | |
| | 960 | | | | | | 16 | | | | | | 24 | | | | | | | T | |
| | 1250 | | | | | | | | | | | | | | | | | | | | |
| | 1600 | | | | | | | | | | | | | | | | | | | | |
| Masterpact NT06 L1 Micrologic | 250 | 4 | 6.3 | 8 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 320 | | 6.3 | 8 | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | |
| | 400 | | 6.3 | 8 | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | |
| | 500 | | | 8 | T | T | T | | | T | T | T | T | | | T | T | T | T | T | |
| | 630 | | | | T | T | T | | | | T | T | T | | | | T | T | T | T | |
| Masterpact NT08 L1 Micrologic | 320 | | 6.3 | 8 | 10 | T | T | | 9.4 | T | T | T | T | | T | T | T | T | T | T | |
| | 400 | | 6.3 | 8 | 10 | T | T | | 9.4 | T | T | T | T | | T | T | T | T | T | T | |
| | 500 | | | 8 | 10 | T | T | | | T | T | T | T | | | T | T | T | T | T | |
| | 630 | | | | 10 | T | T | | | | T | T | T | | | | T | T | T | T | |
| | 800 | | | | | T | T | | | | | T | T | | | | | T | T | T | |
| Masterpact NT10 L1 Micrologic | 400 | | 6.3 | 8 | 10 | 12.5 | T | | 9.4 | 12 | T | T | T | | T | T | T | T | T | T | |
| | 500 | | | 8 | 10 | 12.5 | T | | | 12 | T | T | T | | | T | T | T | T | T | |
| | 630 | | | | 10 | 12.5 | T | | | | T | T | T | | | | T | T | T | T | |
| | 800 | | | | | 12.5 | T | | | | | T | T | | | | | T | T | T | |
| | 1000 | | | | | | T | | | | | | T | | | | | | T | T | |

- Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

Ue ≤ 440 V

| Upstream | | Masterpact NT06/08/12/16 H2 | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|------------|-----------------------------|-----|-----|------|------|------|--|-----|------|------|------|------|--|-----|------|------|------|------|------|----|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | |
| Downstream | Rating (A) | 630 | | 800 | | 1000 | | 1250 | | 1600 | | 630 | | 800 | | 1000 | | 1250 | | 1600 | |
| | Setting Ir | 400 | 630 | 800 | 1000 | 1250 | 1600 | 400 | 630 | 800 | 1000 | 1250 | 1600 | 400 | 630 | 800 | 1000 | 1250 | 1600 | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | |
| Compact NS630b N/H Micrologic | 250 | 4 | 6.3 | 8 | 10 | 12.5 | 16 | 9.4 | 9.4 | 12 | 15 | 18.7 | 24 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| | 320 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | 42 | 42 | 42 | 42 | 42 | 42 |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | 42 | 42 | 42 | 42 | 42 |
| Compact NS800 N/H Micrologic | 320 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | 42 | 42 | 42 | 42 | 42 | 42 |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | 42 | 42 | 42 | 42 | 42 | 42 |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | 42 | 42 | 42 | 42 | 42 |
| Compact NS1000 N/H Micrologic | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | 42 | 42 | 42 | 42 | 42 | 42 |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | 42 | 42 | 42 | 42 | 42 |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | 42 | 42 | 42 | 42 |
| | 1000 | | | | | | 16 | | | | | | 24 | | | | | | | 42 | 42 |
| Compact NS1250 N/H Micrologic | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | 42 | 42 | 42 | 42 | 42 | 42 |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | 42 | 42 | 42 | 42 | 42 |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | 42 | 42 | 42 | 42 |
| | 1000 | | | | | | 16 | | | | | | 24 | | | | | | | 42 | 42 |
| | 1250 | | | | | | | | | | | | | | | | | | | | 42 |
| Compact NS1600 N/H Micrologic | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | 42 | 42 | 42 | 42 | 42 |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | 42 | 42 | 42 | 42 |
| | 960 | | | | | | 16 | | | | | | 24 | | | | | | | | 42 |
| | 1250 | | | | | | | | | | | | | | | | | | | | |
| | 1600 | | | | | | | | | | | | | | | | | | | | |
| Compact NS630b L/LB Micrologic | 250 | 4 | 6.3 | 8 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 320 | | 6.3 | 8 | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | T |
| | 400 | | 6.3 | 8 | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | T |
| | 500 | | | 8 | T | T | T | | | T | T | T | T | | | T | T | T | T | T | T |
| | 630 | | | | T | T | T | | | | T | T | T | | | | T | T | T | T | T |
| Compact NS800 L/LB Micrologic | 320 | | 6.3 | 8 | 10 | T | T | | 9.4 | T | T | T | T | | T | T | T | T | T | T | T |
| | 400 | | 6.3 | 8 | 10 | T | T | | 9.4 | T | T | T | T | | T | T | T | T | T | T | T |
| | 500 | | | 8 | 10 | T | T | | | T | T | T | T | | | T | T | T | T | T | T |
| | 630 | | | | 10 | T | T | | | | T | T | T | | | | T | T | T | T | T |
| | 800 | | | | | T | T | | | | | T | T | | | | | T | T | T | T |
| Compact NS1000 L Micrologic | 400 | | 6.3 | 8 | 10 | 12.5 | T | | 9.4 | 12 | T | T | T | | T | T | T | T | T | T | T |
| | 500 | | | 8 | 10 | 12.5 | T | | | 12 | T | T | T | | | T | T | T | T | T | T |
| | 630 | | | | 10 | 12.5 | T | | | | T | T | T | | | | T | T | T | T | T |
| | 800 | | | | | 12.5 | T | | | | | T | T | | | | | T | T | T | T |
| | 1000 | | | | | | T | | | | | | T | | | | | | | T | T |

- Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

$U_e \leq 440 V$

| Upstream | | Masterpact NT06/08/12/16 H2 | | | | | | | | | | | | | | | | | |
|-------------------------------------|------------|-----------------------------|-----|-----|------|------|------|--|-----|-----|------|------|------|--|-----|-----|------|------|------|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | |
| Downstream | Rating (A) | 630 | | 800 | 1000 | 1250 | 1600 | 630 | | 800 | 1000 | 1250 | 1600 | 630 | | 800 | 1000 | 1250 | 1600 |
| | Setting Ir | 400 | 630 | 800 | 1000 | 1250 | 1600 | 400 | 630 | 800 | 1000 | 1250 | 1600 | 400 | 630 | 800 | 1000 | 1250 | 1600 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | |
| Masterpact NT06 H1/H2 Micrologic | 250 | 4 | 6.3 | 8 | 10 | 12.5 | 16 | 9.4 | 9.4 | 12 | 15 | 18.7 | 24 | 42 | 42 | 42 | 42 | 42 | 42 |
| | 320 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | 42 | 42 | 42 | 42 | 42 |
| | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | 42 | 42 | 42 | 42 | 42 |
| | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | 42 | 42 | 42 | 42 |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | 42 | 42 | 42 |
| Masterpact NT08 H1/H2 Micrologic | 320 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | 42 | 42 | 42 | 42 | 42 |
| | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | 42 | 42 | 42 | 42 | 42 |
| | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | 42 | 42 | 42 | 42 |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | 42 | 42 | 42 | 42 |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | 42 | 42 | 42 |
| Masterpact NT10 H1/H2 Micrologic | 400 | | 6.3 | 8 | 10 | 12.5 | 16 | | 9.4 | 12 | 15 | 18.7 | 24 | | 42 | 42 | 42 | 42 | 42 |
| | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | 42 | 42 | 42 | 42 |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | 42 | 42 | 42 |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | 42 | 42 |
| | 1000 | | | | | | 16 | | | | | | 24 | | | | | | 42 |
| Masterpact NT12 H1/H2 Micrologic | 500 | | | 8 | 10 | 12.5 | 16 | | | 12 | 15 | 18.7 | 24 | | | 42 | 42 | 42 | 42 |
| | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | 42 | 42 | 42 |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | 42 | 42 |
| | 1000 | | | | | | 16 | | | | | | 24 | | | | | | 42 |
| | 1250 | | | | | | | | | | | | | | | | | | |
| Masterpact NT16 H1/H2 Micrologic | 630 | | | | 10 | 12.5 | 16 | | | | 15 | 18.7 | 24 | | | | 42 | 42 | 42 |
| | 800 | | | | | 12.5 | 16 | | | | | 18.7 | 24 | | | | | 42 | 42 |
| | 960 | | | | | | 16 | | | | | | 24 | | | | | | 42 |
| | 1250 | | | | | | | | | | | | | | | | | | |
| | 1600 | | | | | | | | | | | | | | | | | | |
| Masterpact NT06 L1 Micrologic | 250 | 4 | 6.3 | 8 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 320 | | 6.3 | 8 | T | T | T | | T | T | T | T | T | | T | T | T | T | T |
| | 400 | | 6.3 | 8 | T | T | T | | T | T | T | T | T | | T | T | T | T | T |
| | 500 | | | 8 | T | T | T | | | T | T | T | T | | | T | T | T | T |
| | 630 | | | | T | T | T | | | | T | T | T | | | | T | T | T |
| Masterpact NT08 L1 Micrologic | 320 | | 6.3 | 8 | 10 | T | T | | 9.4 | T | T | T | T | | T | T | T | T | T |
| | 400 | | 6.3 | 8 | 10 | T | T | | 9.4 | T | T | T | T | | T | T | T | T | T |
| | 500 | | | 8 | 10 | T | T | | | T | T | T | T | | | T | T | T | T |
| | 630 | | | | 10 | T | T | | | | T | T | T | | | | T | T | T |
| | 800 | | | | | T | T | | | | | T | T | | | | | T | T |
| Masterpact NT10 L1 Micrologic | 400 | | 6.3 | 8 | 10 | 12.5 | T | | 9.4 | 12 | T | T | T | | T | T | T | T | T |
| | 500 | | | 8 | 10 | 12.5 | T | | | 12 | T | T | T | | | T | T | T | T |
| | 630 | | | | 10 | 12.5 | T | | | | T | T | T | | | | T | T | T |
| | 800 | | | | | 12.5 | T | | | | | T | T | | | | | T | T |
| | 1000 | | | | | | T | | | | | | T | | | | | | T |

- Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

$U_e \leq 440 V$

| Upstream | | Masterpact NT06/08/10 L1 | | | | | | | | | | | | | | | |
|--|------------|--------------------------|-----|-----|-----|------|--|-----|-----|-----|------|--|-----|-----|-----|------|----|
| Trip unit | | Micrologic 2.0 | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | |
| Downstream | Rating (A) | 630 | | | 800 | 1000 | 630 | | | 800 | 1000 | 630 | | | 800 | 1000 | |
| | Setting Ir | 250 | 400 | 630 | 800 | 1000 | 250 | 400 | 630 | 800 | 1000 | 250 | 400 | 630 | 800 | 1000 | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | |
| iDPN, iDPNN | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| iC60 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| C120N/H | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| NG125N/H | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| NG125L | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| NG160 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact NSX100 B/F/N/H/S/L/R TM-D | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact NSX160 B/F TM-D | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact NSX160 N/H/S/L TM-D | | 36 | 36 | 36 | T | T | 36 | 36 | 36 | T | T | 36 | 36 | 36 | T | T | |
| Compact NSX250 B/F/N/H/S/L/R TM-D | | ≤ 125 | 20 | 20 | 20 | T | T | 20 | 20 | 20 | T | T | 20 | 20 | 20 | T | T |
| | | 160 | 20 | 20 | 20 | T | T | 20 | 20 | 20 | T | T | 20 | 20 | 20 | T | T |
| | | 200 | | 20 | 20 | T | T | | 20 | 20 | T | T | | 20 | 20 | T | T |
| | | 250 | | 20 | 20 | T | T | | 20 | 20 | T | T | | 20 | 20 | T | T |
| Compact NSX100 B/F/N/H/S/L/R Micrologic | | 40 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | | 100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact NSX160 B/F Micrologic | | 40 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | | 100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | | 160 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact NSX160 N/H/S/L Micrologic | | 40 | 36 | 36 | 36 | T | T | 36 | 36 | 36 | T | T | 36 | 36 | 36 | T | T |
| | | 100 | 36 | 36 | 36 | T | T | 36 | 36 | 36 | T | T | 36 | 36 | 36 | T | T |
| | | 160 | 36 | 36 | 36 | T | T | 36 | 36 | 36 | T | T | 36 | 36 | 36 | T | T |
| Compact NSX250 B/F/N/H/S/L/R Micrologic | | ≤ 100 | 20 | 20 | 20 | T | T | 20 | 20 | 20 | T | T | 20 | 20 | 20 | T | T |
| | | 160 | | 20 | 20 | T | T | | 20 | 20 | T | T | | 20 | 20 | T | T |
| | | 250 | | 20 | 20 | T | T | | 20 | 20 | T | T | | 20 | 20 | T | T |
| Compact NSX400 F/N/H/S/L/R Micrologic | | 160 | 6.3 | 6.3 | 6.3 | 10 | 15 | 6.3 | 6.3 | 6.3 | 10 | 15 | 6.3 | 6.3 | 6.3 | 10 | 15 |
| | | 200 | | 6.3 | 6.3 | 10 | 15 | | 6.3 | 6.3 | 10 | 15 | | 6.3 | 6.3 | 10 | 15 |
| | | 250 | | 6.3 | 6.3 | 10 | 15 | | 6.3 | 6.3 | 10 | 15 | | 6.3 | 6.3 | 10 | 15 |
| | | 320 | | 6.3 | 6.3 | 10 | 15 | | | 6.3 | 10 | 15 | | | 6.3 | 10 | 15 |
| | | 400 | | | 6.3 | 10 | 15 | | | 6.3 | 10 | 15 | | | 6.3 | 10 | 15 |
| Compact NSX630 F/N/H/S/L/R Micrologic | | 250 | | 6.3 | 6.3 | 8 | 10 | | 6.3 | 6.3 | 8 | 10 | | 6.3 | 6.3 | 8 | 10 |
| | | 320 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 |
| | | 400 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 |
| | | 500 | | | | 8 | 10 | | | | 8 | 10 | | | | 8 | 10 |
| | | 630 | | | | | 10 | | | | | 10 | | | | | 10 |

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

$U_e \leq 440 V$

| Upstream | | Masterpact NT06/08/10 L1 | | | | | | | | | | | | | | |
|--|------------|--------------------------|-----|-----|-----|------|--|-----|-----|-----|------|--|-----|-----|-----|------|
| Trip unit | | Micrologic 2.0 | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | |
| Downstream | Rating (A) | 630 | | | 800 | 1000 | 630 | | | 800 | 1000 | 630 | | | 800 | 1000 |
| | Setting Ir | 250 | 400 | 630 | 800 | 1000 | 250 | 400 | 630 | 800 | 1000 | 250 | 400 | 630 | 800 | 1000 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | |
| Compact NS630b N/H/L/LB Micrologic | 250 | | 6.3 | 6.3 | 8 | 10 | | 6.3 | 6.3 | 8 | 10 | | 6.3 | 6.3 | 8 | 10 |
| | 320 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 |
| | 400 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 |
| | 500 | | | | 8 | 10 | | | | 8 | 10 | | | | 8 | 10 |
| | 630 | | | | | 10 | | | | | 10 | | | | | 10 |
| Compact NS800 N/H/L/LB Micrologic | 320 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 |
| | 400 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 |
| | 500 | | | | 8 | 10 | | | | 8 | 10 | | | | 8 | 10 |
| | 630 | | | | | 10 | | | | | 10 | | | | | 10 |
| | 800 | | | | | | | | | | | | | | | |
| Compact NS1000 N/H/L Micrologic | 400 | | | | | 10 | | | | | 10 | | | 6.3 | 10 | 10 |
| | 500 | | | | | 10 | | | | | 10 | | | | 10 | 10 |
| | 630 | | | | | 10 | | | | | 10 | | | | | 10 |
| | 800 | | | | | | | | | | | | | | | |
| | 1000 | | | | | | | | | | | | | | | |
| Masterpact NT06 H1/H2/L1 Micrologic | 250 | | 6.3 | 6.3 | 8 | 10 | | 6.3 | 6.3 | 8 | 10 | | 6.3 | 6.3 | 8 | 10 |
| | 320 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 |
| | 400 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 |
| | 500 | | | | 8 | 10 | | | | 8 | 10 | | | | 8 | 10 |
| | 630 | | | | | 10 | | | | | 10 | | | | | 10 |
| Masterpact NT08 H1/H2/L1 Micrologic | 320 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 |
| | 400 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 | | | 6.3 | 8 | 10 |
| | 500 | | | | 8 | 10 | | | | 8 | 10 | | | | 8 | 10 |
| | 630 | | | | | 10 | | | | | 10 | | | | | 10 |
| | 800 | | | | | | | | | | | | | | | |
| Masterpact NT10 H1/H2/L1 Micrologic | 400 | | | | | 10 | | | | | 10 | | | 6.3 | 10 | 10 |
| | 500 | | | | | 10 | | | | | 10 | | | | 10 | 10 |
| | 630 | | | | | 10 | | | | | 10 | | | | | 10 |
| | 800 | | | | | | | | | | | | | | | |
| | 1000 | | | | | | | | | | | | | | | |

4 Discrimination limit = 4 kA.

No discrimination.

Protection discrimination

Upstream: Masterpact NW08-20 N1/H1/H2/L1

Micrologic

Downstream: iDPN, iC60, C120, NG125-160,

Compact NSX100-630

$U_e \leq 440 \text{ V}$

| Upstream | | Masterpact NW08/12/16/20 N1/H1/H2/L1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|--------------------------------------|-----|-----|------|------|------|------|-----|--|------|------|------|------|------|-----|-----|--|------|------|------|------|------|-----|-----|------|------|------|------|--|--|
| Trip unit | | Micrologic 2.0 | | | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | | | | | | | |
| Downstream | Rating (A) | 800 | | | 1000 | | | 1250 | | | 1600 | | | 2000 | | | 800 | | | 1000 | | | 1250 | | | 1600 | | | 2000 | | |
| | Setting Ir | 320 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 320 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 320 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 320 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| iDPN, iDPNN | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| iC60 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| C120N/H | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| NG125N/H | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| NG125L | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| NG160E/N/H | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX100 B/F/N/H/S/L/R TM-D | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX160 B/F/N/H/S/L TM-D | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX250 ≤ 125 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| B/F/N/H/S/L/R TM-D | 160 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 200 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 250 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX100 B/F/N/H/S/L/R Micrologic | 40 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX160 B/F/N/H/S/L Micrologic | 40 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 160 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX250 ≤ 100 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| B/F/N/H/S/L/R Micrologic | 160 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 250 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX400 F/N/H/S/L/R Micrologic | 160 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 200 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 250 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 320 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 400 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| Compact NSX630 F/N/H/S/L/R Micrologic | 250 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 320 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 400 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 500 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | |
| | 630 | | | | T | T | T | T | | | | T | T | T | T | | | | T | T | T | T | | | | T | T | T | | | |

Total discrimination, up to the breaking capacity of the downstream circuit breaker.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

Ue ≤ 440 V

| Upstream | | Masterpact NW08/12/16/20 N1/H1/H2 | | | | | | | | | | | | | | | | | | | |
|----------------------------------|------------|-----------------------------------|-----|------|------|------|------|--|-----|------|-------|------|------|--|-----|------|------|------|------|------|--|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | |
| Downstream | Rating (A) | 800 | | 1000 | | 1250 | | 1600 | | 2000 | | 800 | | 1000 | | 1250 | | 1600 | | 2000 | |
| | Setting Ir | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | |
| Compact NS630bN/H Micrologic | 250 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T | T | |
| Compact NS800N/H Micrologic | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T | T | |
| Compact NS1000N/H Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T | T | |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T | T | |
| Compact NS1250N/H Micrologic | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T | T | |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T | T | |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T | T | |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | | T | |
| Compact NS1600N/H Micrologic | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T | T | |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T | T | |
| | 960 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T | T | |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | | T | |
| Compact NS630bL/LB Micrologic | 250 | 6.3 | 8 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 320 | 6.3 | 8 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 400 | 6.3 | 8 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 500 | | 8 | T | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | |
| Compact NS800 L/LB Micrologic | 320 | 6.3 | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 400 | 6.3 | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | |
| | 630 | | | 10 | T | T | T | | | T | T | T | T | | | T | T | T | T | T | |
| Compact NS1000L Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | T | T | 12 | 12 | T | T | T | T | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | T | T | | 12 | T | T | T | T | | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | T | T | | | T | T | T | T | | | T | T | T | T | T | |
| | 800 | | | | 12.5 | T | T | | | | T | T | T | | | | T | T | T | T | |
| 1000 | | | | | T | T | | | | | T | T | | | | | T | T | T | | |

- Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

$U_e \leq 440\text{ V}$

| Upstream | | Masterpact NW08/12/16/20 N1/H1/H2 | | | | | | | | | | | | | | | | | | | |
|---------------------------|------------------------|-----------------------------------|-----|------|------|------|------|--|-----|------|-------|------|------|--|-----|------|------|------|------|------|--|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | |
| Downstream | Rating (A) | 800 | | 1000 | | 1250 | | 1600 | | 2000 | | 800 | | 1000 | | 1250 | | 1600 | | 2000 | |
| | Setting I _r | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | |
| Masterpact NT06 H1/H2 | 250 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T | T | |
| Masterpact NT08 H1/H2 | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T | T | |
| Masterpact NT10 H1/H2 | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T | T | |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T | T | |
| Masterpact NT12 H1/H2 | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T | T | |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T | T | |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T | T | |
| Masterpact NT16 H1/H2 | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T | T | |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T | T | |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T | T | |
| Masterpact NT06L | 250 | 6.3 | 8 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 320 | 6.3 | 8 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 400 | 6.3 | 8 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 500 | | 8 | T | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | |
| | 630 | | | T | T | T | T | | | T | T | T | T | | | T | T | T | T | T | |
| Masterpact NT08L | 320 | 6.3 | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 400 | 6.3 | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | |
| | 630 | | | 10 | T | T | T | | | T | T | T | T | | | T | T | T | T | T | |
| | 800 | | | | T | T | T | | | T | T | T | T | | | | T | T | T | T | |
| Masterpact NT10L | 400 | 6.3 | 8 | 10 | 12.5 | T | T | 12 | 12 | T | T | T | T | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | T | T | | 12 | T | T | T | T | | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | T | T | | | T | T | T | T | | | T | T | T | T | T | |
| | 800 | | | | 12.5 | T | T | | | | T | T | T | | | | T | T | T | T | |
| | 1000 | | | | | T | T | | | | | T | T | | | | | T | T | T | |

- Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

U_e ≤ 440 V

| Upstream | | Masterpact NW08/12/16/20 N1/H1 | | | | | | | | | | | | | | | | | |
|---|------------------------|--------------------------------|-----|------|------|------|------|--|-----|------|-------|------|------|--|-----|------|------|------|------|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | |
| Downstream | Rating (A) | 800 | | 1000 | 1250 | 1600 | 2000 | 800 | | 1000 | 1250 | 1600 | 2000 | 800 | | 1000 | 1250 | 1600 | 2000 |
| | Setting I _r | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | |
| Masterpact NW08 N1/H1/L1 Micrologic | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| Masterpact NW10 N1/H1/L1 Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| Masterpact NW12 N1/H1/L1 Micrologic | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | T |
| Masterpact NW16 N1/H1/L1 Micrologic | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 960 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | T |
| Masterpact NW20 N1/H1/L1 Micrologic | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | T |
| | 1600 | | | | | | | | | | | | | | | | | | |
| Masterpact NW08 H2 Micrologic | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| Masterpact NW10 H2 Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| Masterpact NW12 H2 Micrologic | 500 | | | | 16 | 20 | | | | | | 24 | 30 | | | | | T | T |
| | 630 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | T | T | T | T |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| Masterpact NW16 H2 Micrologic | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 960 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | T |
| Masterpact NW20 H2 Micrologic | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | T |
| | 1600 | | | | | | | | | | | | | | | | | | |

- T Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

Ue ≤ 440 V

| Upstream | | Masterpact NW08/12/16/20 H2 | | | | | | | | | | | | | | | | | |
|--|------------|-----------------------------|-----|------|------|------|------|--|-----|------|-------|------|------|--|-----|------|------|------|------|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | |
| Downstream | Rating (A) | 800 | | 1000 | 1250 | 1600 | 2000 | 800 | | 1000 | 1250 | 1600 | 2000 | 800 | | 1000 | 1250 | 1600 | 2000 |
| | Setting Ir | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | |
| Masterpact NW08 N1/H1/L1 Micrologic | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| Masterpact NW10 N1/H1/L1 Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| Masterpact NW12 N1/H1/L1 Micrologic | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| Masterpact NW16 N1/H1/L1 Micrologic | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 960 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | T |
| Masterpact NW20 N1/H1/L1 Micrologic | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | T |
| | 1600 | | | | | | | | | | | | | | | | | | |
| Masterpact NW08 H2 Micrologic | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 82 | 82 | 82 | 82 | 82 | 82 |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 82 | 82 | 82 | 82 | 82 | 82 |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 82 | 82 | 82 | 82 | 82 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 82 | 82 | 82 | 82 |
| Masterpact NW10 H2 Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 82 | 82 | 82 | 82 | 82 | 82 |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 82 | 82 | 82 | 82 | 82 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 82 | 82 | 82 | 82 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 82 | 82 | 82 |
| Masterpact NW12 H2 Micrologic | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 82 | 82 | 82 | 82 | 82 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 82 | 82 | 82 | 82 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 82 | 82 | 82 |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | 82 | 82 |
| Masterpact NW16 H2 Micrologic | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 82 | 82 | 82 | 82 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 82 | 82 | 82 |
| | 960 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | 82 | 82 |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | 82 |
| Masterpact NW20 H2 Micrologic | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 82 | 82 | 82 |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | 82 | 82 |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | 82 |
| | 1600 | | | | | | | | | | | | | | | | | | |

- T Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

Ue ≤ 440 V

| Upstream | | Masterpact NW08/12/16/20 L1 | | | | | | | | | | | | | | | | | | | |
|----------------------------------|------------|-----------------------------|-----|------|------|------|------|--|-----|------|-------|------|------|--|-----|------|------|------|------|------|----|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | |
| Downstream | Rating (A) | 800 | | 1000 | | 1250 | | 1600 | | 2000 | | 800 | | 1000 | | 1250 | | 1600 | | 2000 | |
| | Setting Ir | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | |
| Compact NS630bN/H Micrologic | 250 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| Compact NS800N/H Micrologic | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 37 | 37 | 37 | 37 | 37 | 37 |
| Compact NS1000N/H Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 37 | 37 | 37 | 37 | 37 | 37 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 37 | 37 | 37 | 37 | 37 |
| Compact NS1250N/H Micrologic | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 37 | 37 | 37 | 37 | 37 | 37 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 37 | 37 | 37 | 37 | 37 |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | 37 | 37 | 37 | 37 |
| Compact NS1600N/H Micrologic | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 37 | 37 | 37 | 37 | 37 | 37 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 37 | 37 | 37 | 37 | 37 |
| | 1250 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | 37 | 37 | 37 | 37 |
| Compact NS630bL/LB Micrologic | 250 | 6.3 | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 320 | 6.3 | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 400 | 6.3 | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | 500 | | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| Compact NS800L/LB Micrologic | 320 | 6.3 | 8 | 10 | 12.5 | T | T | 12 | 12 | T | T | T | T | T | T | T | T | T | T | T | T |
| | 400 | 6.3 | 8 | 10 | 12.5 | T | T | 12 | 12 | T | T | T | T | T | T | T | T | T | T | T | T |
| | 500 | | 8 | 10 | 12.5 | T | T | | 12 | T | T | T | T | T | T | T | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | T | T | | | T | T | T | T | T | T | T | T | T | T | T | T |
| Compact NS1000L Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | T | T | 12 | 12 | T | T | T | T | T | T | T | T | T | T | T | T |
| | 500 | | 8 | 10 | 12.5 | T | T | | 12 | T | T | T | T | T | T | T | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | T | T | | | T | T | T | T | T | T | T | T | T | T | T | T |
| | 800 | | | | 12.5 | T | T | | | | T | T | T | T | T | T | T | T | T | T | T |
| Compact NS1600L Micrologic | 400 | | | | | T | T | | | | | | | T | T | T | T | T | T | T | T |
| | 500 | | | | | T | T | | | | | | | | T | T | T | T | T | T | T |
| | 630 | | | | | T | T | | | | | | | | | T | T | T | T | T | T |
| | 1000 | | | | | T | T | | | | | | | | | | T | T | T | T | T |

- T Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

U_e ≤ 440 V

| Upstream | | Masterpact NW08/12/16/20 H2 | | | | | | | | | | | | | | | | | |
|---------------------------|------------|-----------------------------|-----|------|------|------|------|--|-----|------|-------|------|------|--|-----|------|------|------|------|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | |
| Downstream | Rating (A) | 800 | | 1000 | 1250 | 1600 | 2000 | 800 | | 1000 | 1250 | 1600 | 2000 | 800 | | 1000 | 1250 | 1600 | 2000 |
| | Setting Ir | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | |
| Masterpact NW08 N1/H1/L1 | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| Masterpact NW10 N1/H1/L1 | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | T | T | T | T | T | T |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| Masterpact NW12 N1/H1/L1 | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | T | T | T | T | T |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| | 1250 | | | | | | 20 | | | | | | 24 | 30 | | | | | T |
| Masterpact NW16 N1/H1/L1 | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | T | T | T | T |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 960 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | T |
| Masterpact NW20 N1/H1/L1 | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | T | T | T |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | T | T |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | T |
| | 1600 | | | | | | | | | | | | | | | | | | |
| Masterpact NW08 H2 | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 82 | 82 | 82 | 82 | 82 | 82 |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 82 | 82 | 82 | 82 | 82 | 82 |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 82 | 82 | 82 | 82 | 82 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 82 | 82 | 82 | 82 |
| Masterpact NW10 H2 | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 82 | 82 | 82 | 82 | 82 | 82 |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 82 | 82 | 82 | 82 | 82 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 82 | 82 | 82 | 82 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 82 | 82 | 82 |
| Masterpact NW12 H2 | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 82 | 82 | 82 | 82 | 82 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 82 | 82 | 82 | 82 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 82 | 82 | 82 |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | 82 | 82 |
| Masterpact NW16 H2 | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 82 | 82 | 82 | 82 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 82 | 82 | 82 |
| | 960 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | 82 | 82 |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | 82 |
| Masterpact NW20 H2 | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 82 | 82 | 82 |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | 82 | 82 |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | 82 |
| | 1600 | | | | | | | | | | | | | | | | | | |

- Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

Ue ≤ 440 V

| Upstream | | Masterpact NW08/12/16/20 L1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|------------------------|-----------------------------|-----|------|------|------|------|--|-----|------|-------|------|------|--|-----|------|------|------|------|------|-----|------|------|------|------|------|-----|------|------|------|------|----|----|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | | | | | | | | | | | | | |
| Downstream | Rating (A) | 800 | | 1000 | | 1250 | | 1600 | | 2000 | | 800 | | 1000 | | 1250 | | 1600 | | 2000 | | 800 | | 1000 | | 1250 | | 1600 | | 2000 | | | |
| | Setting I _r | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | 630 | 800 | 1000 | 1250 | 1600 | 2000 | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Compact NS630bN/H Micrologic | 250 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | | |
| | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | |
| Compact NS800N/H Micrologic | 320 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | |
| | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| Compact NS1000N/H Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | 16 | 20 | 12 | 12 | 15 | 18.75 | 24 | 30 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | |
| | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| Compact NS1250N/H Micrologic | 500 | | 8 | 10 | 12.5 | 16 | 20 | | 12 | 15 | 18.75 | 24 | 30 | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | |
| | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 1000 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | | | | | | | | | | | | | | | | |
| Compact NS1600N/H Micrologic | 630 | | | 10 | 12.5 | 16 | 20 | | | 15 | 18.75 | 24 | 30 | | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | |
| | 800 | | | | 12.5 | 16 | 20 | | | | 18.75 | 24 | 30 | | | | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 |
| | 960 | | | | | 16 | 20 | | | | | 24 | 30 | | | | | | | | | | | | | | | | | | | | |
| | 1250 | | | | | | 20 | | | | | | 30 | | | | | | | | | | | | | | | | | | | | |
| Compact NS630bL/LB Micrologic | 250 | 6.3 | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | |
| | 320 | 6.3 | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 400 | 6.3 | 8 | 10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | T | T | T | | T | T | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact NS800L/LB Micrologic | 320 | 6.3 | 8 | 10 | 12.5 | T | T | 12 | 12 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 400 | 6.3 | 8 | 10 | 12.5 | T | T | 12 | 12 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | T | T | | 12 | T | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | T | T | | | T | T | T | T | | | | T | T | T | | | | T | T | T | T | T | T | T | T | T | T | |
| Compact NS1000L Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | T | T | 12 | 12 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | T | T | | 12 | T | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | T | T | | | T | T | T | T | | | | T | T | T | | | | T | T | T | T | T | T | T | T | T | T | |
| | 800 | | | | 12.5 | T | T | | | | T | T | T | | | | | T | T | | | | T | T | T | T | T | T | T | T | T | T | |
| Compact NS1000L Micrologic | 400 | 6.3 | 8 | 10 | 12.5 | T | T | 12 | 12 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 500 | | 8 | 10 | 12.5 | T | T | | 12 | T | T | T | T | | T | T | T | T | T | | T | T | T | T | T | T | T | T | T | T | T | T | |
| | 630 | | | 10 | 12.5 | T | T | | | T | T | T | T | | | | T | T | T | | | | T | T | T | T | T | T | T | T | T | T | |
| | 800 | | | | 12.5 | T | T | | | | T | T | T | | | | | T | T | | | | T | T | T | T | T | T | T | T | T | T | |

- T Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW25-40 H1/H2,
Masterpact NW40b-63 H1 Micrologic
Downstream: iDPN, iC60, C120, NG125-160,
Compact NSX100-630, NS630b-3200

$U_e \leq 440\text{ V}$

| Upstream | Masterpact NW25/32/40 H1/H2 | Masterpact NW40b 50/63 H1 | Masterpact NW25/32/40 H1/H2 | Masterpact NW40b 50/6 3H1 | Masterpact NW25/32/40 H1/H2 | Masterpact NW40b 50/63 H1 |
|-----------|-----------------------------|---------------------------|--|---------------------------|--|---------------------------|
| Trip unit | Micrologic 2.0 | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | |

| Downstream | Rating (A) | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 |
|---------------------------------------|------------|-------------------|-------------------|------|------|------|------|---------------------|-------------------|------|------|------|------|------------------|------------------|------|------|------|------|
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | |
| iDPN, iDPNN | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| iC60 | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| C120N/H | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| NG125N/H/L | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| NG160E/N/H | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| Compact NSX B/F/H/N/S/L/R TM-D | NSX100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | NSX250 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| Compact NSX160 B/F/H/N/S/L TM-D | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| Compact NSX B/F/H/N/S/L/R Micrologic | NSX100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | NSX250 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| F/H/N/S/L/R Micrologic | NSX400 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | NSX630 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| Compact NSX160 B/F/H/N/S/L Micrologic | | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| Compact NS N Micrologic | NS630b | 25 | 32 | 40 | 40 | T | T | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T |
| | NS800 | 25 | 32 | 40 | 40 | T | T | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T |
| | NS1000 | 25 | 32 | 40 | 40 | T | T | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T |
| | NS1250 | 25 | 32 | 40 | 40 | T | T | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T |
| | NS1600 | 25 | 32 | 40 | 40 | T | T | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T |
| Compact NS H Micrologic | NS630b | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T |
| | NS800 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T |
| | NS1000 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T |
| | NS1250 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T |
| | NS1600 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T |
| Compact NS N Micrologic | NS1600b | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T |
| | NS2000 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T |
| | NS2500 | 25 ⁽¹⁾ | 32 | 40 | 40 | 50 | 63 | 37,5 ⁽¹⁾ | 48 | 60 | 60 | T | T | T | T ⁽¹⁾ | T | T | T | T |
| | NS3200 | | 32 ⁽¹⁾ | 40 | 40 | 50 | 63 | | 48 ⁽¹⁾ | 60 | 60 | T | T | | T ⁽¹⁾ | T | T | T | T |
| Compact NS H Micrologic | NS1600b | 25 | 32 | 40 | 40 | 50 | 63 | 37,5 | 48 | 60 | 60 | 75 | T | T | T | T | T | T | T |
| | NS2000 | 25 | 32 | 40 | 40 | 50 | 63 | 37,5 | 48 | 60 | 60 | 75 | T | T | T | T | T | T | T |
| | NS2500 | 25 ⁽¹⁾ | 32 | 40 | 40 | 50 | 63 | 37,5 ⁽¹⁾ | 48 | 60 | 60 | 75 | T | T ⁽¹⁾ | T | T | T | T | T |
| | NS3200 | | 32 ⁽¹⁾ | 40 | 40 | 50 | 63 | | 48 ⁽¹⁾ | 60 | 60 | 75 | T | | T ⁽¹⁾ | T | T | T | T |
| Compact NS L Micrologic | NS630b | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | NS800 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | NS1000 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| Compact NS LB Micrologic | NS630b | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | NS800 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T |

(1) With I_r upstream > 1,3 I_r downstream.

Total discrimination, up to the breaking capacity of the downstream circuit breaker.

Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

$U_e \leq 440 \text{ V}$

| Upstream | | Masterpact NW25/32/40 H1 | | | | | | | | |
|---------------------------------------|-------------|--------------------------|-------------------|------|--|-------------------|------|--|------------------|------|
| Trip unit | | Micrologic 2.0 | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | |
| Downstream | Rating (kA) | 2500 | 3200 | 4000 | 2500 | 3200 | 4000 | 2500 | 3200 | 4000 |
| Discrimination limit (A) | | | | | | | | | | |
| Masterpact NT H1 Micrologic | NT06 | 25 | 32 | 40 | 37.5 | T | T | T | T | T |
| | NT08 | 25 | 32 | 40 | 37.5 | T | T | T | T | T |
| | NT10 | 25 | 32 | 40 | 37.5 | T | T | T | T | T |
| | NT12 | 25 | 32 | 40 | 37.5 | T | T | T | T | T |
| | NT16 | 25 | 32 | 40 | 37.5 | T | T | T | T | T |
| Masterpact NT H2 Micrologic 2.0 | NT06 | 25 | 32 | 40 | 37.5 | 48 | T | T | T | T |
| | NT08 | 25 | 32 | 40 | 37.5 | 48 | T | T | T | T |
| | NT10 | 25 | 32 | 40 | 37.5 | 48 | T | T | T | T |
| | NT12 | 25 | 32 | 40 | 37.5 | 48 | T | T | T | T |
| | NT16 | 25 | 32 | 40 | 37.5 | 48 | T | T | T | T |
| Masterpact NW N1 Micrologic | NW08 | 25 | 32 | 40 | 37.5 | T | T | T | T | T |
| | NW10 | 25 | 32 | 40 | 37.5 | T | T | T | T | T |
| | NW12 | 25 | 32 | 40 | 37.5 | T | T | T | T | T |
| | NW16 | 25 | 32 | 40 | 37.5 | T | T | T | T | T |
| Masterpact NW H1 Micrologic | NW08 | 25 | 32 | 40 | 37.5 | 48 | 60 | T | T | T |
| | NW10 | 25 | 32 | 40 | 37.5 | 48 | 60 | T | T | T |
| | NW12 | 25 | 32 | 40 | 37.5 | 48 | 60 | T | T | T |
| | NW16 | 25 | 32 | 40 | 37.5 | 48 | 60 | T | T | T |
| | NW20 | 25 | 32 | 40 | 37.5 | 48 | 60 | T | T | T |
| | NW25 | 25 ⁽¹⁾ | 32 | 40 | 37,5 ⁽¹⁾ | 48 | 60 | T ⁽¹⁾ | T | T |
| Masterpact NW H2 Micrologic | NW08 | 25 | 32 ⁽¹⁾ | 40 | | 48 ⁽¹⁾ | 60 | | T ⁽¹⁾ | T |
| | NW10 | 25 | 32 | 40 | 37,5 | 48 | 60 | T | T | T |
| | NW12 | 25 | 32 | 40 | 37,5 | 48 | 60 | T | T | T |
| | NW16 | 25 | 32 | 40 | 37,5 | 48 | 60 | T | T | T |
| | NW20 | 25 | 32 | 40 | 37,5 | 48 | 60 | T | T | T |
| | NW25 | 25 ⁽¹⁾ | 32 | 40 | 37,5 ⁽¹⁾ | 48 | 60 | T ⁽¹⁾ | T | T |
| Masterpact NW H3 Micrologic | NW08 | 25 | 32 ⁽¹⁾ | 40 | | 48 ⁽¹⁾ | 60 | | T ⁽¹⁾ | T |
| | NW10 | 25 | 32 | 40 | 37,5 | 48 | 60 | T | T | T |
| | NW12 | 25 | 32 | 40 | 37,5 | 48 | 60 | T | T | T |
| | NW16 | 25 | 32 | 40 | 37,5 | 48 | 60 | T | T | T |
| | NW20 | 25 ⁽¹⁾ | 32 | 40 | 37,5 ⁽¹⁾ | 48 | 60 | T ⁽¹⁾ | T | T |
| | NW32 | | 32 ⁽¹⁾ | 40 | | 48 ⁽¹⁾ | 60 | | T ⁽¹⁾ | T |
| Masterpact NT L1 Micrologic | NT06 | T | T | T | T | T | T | T | T | T |
| | NT08 | T | T | T | T | T | T | T | T | T |
| | NT10 | T | T | T | T | T | T | T | T | T |
| Masterpact NW L1 Micrologic | NW08 | 25 | 32 | 40 | 37.5 | 48 | 60 | T | T | T |
| | NW10 | 25 | 32 | 40 | 37.5 | 48 | 60 | T | T | T |
| | NW12 | 25 | 32 | 40 | 37.5 | 48 | 60 | T | T | T |
| | NW16 | 25 | 32 | 40 | 37.5 | 48 | 60 | T | T | T |
| Masterpact NW L1 Micrologic | NW20 | 25 | 32 | 40 | 37.5 | 48 | 60 | T | T | T |

⁽¹⁾ With I_r upstream > 1,3 I_r downstream.

T Total discrimination, up to the breaking capacity of the downstream circuit breaker.

4 Discrimination limit = 4 kA.

No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW25-40 H2,
Masterpact NW40b-63 H1 Micrologic
Downstream: Masterpact NT06-16,
Masterpact NW08-50

$U_e \leq 440 V$

| Upstream | | Masterpact NW25/32/40 H2 | | | | | | Masterpact NW40b 50/63 H1 | | | | | | Masterpact NW25/32/40 H2 | | | | | | Masterpact NW40b 50/63 H1 | | | | | |
|-----------------------------------|------------|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|-------------------|-------------------|-------------------|-------------------|------|--|-------------------|-------------------|------------------|------------------|------|---------------------------|--|--|--|--|--|
| Trip unit | | Micrologic 2.0 | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | | | | | |
| Downstream | Rating (A) | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | | | | | | |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Masterpact NT H1 Micrologic | NT06 | 25 | 32 | 40 | 40 | T | T | 37.5 | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NT08 | 25 | 32 | 40 | 40 | T | T | 37.5 | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NT10 | 25 | 32 | 40 | 40 | T | T | 37.5 | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NT12 | 25 | 32 | 40 | 40 | T | T | 37.5 | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| Masterpact NT H2 Micrologic | NT06 | 25 | 32 | 40 | 40 | T | T | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NT08 | 25 | 32 | 40 | 40 | T | T | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NT10 | 25 | 32 | 40 | 40 | T | T | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NT12 | 25 | 32 | 40 | 40 | T | T | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | | | | | | |
| Masterpact NW N1 Micrologic | NW08 | 25 | 32 | 40 | 40 | T | T | 37.5 | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NW10 | 25 | 32 | 40 | 40 | T | T | 37.5 | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NW12 | 25 | 32 | 40 | 40 | T | T | 37.5 | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NW16 | 25 | 32 | 40 | 40 | T | T | 37.5 | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| Masterpact NW H1 Micrologic | NW08 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T | | | | | | |
| | NW10 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T | | | | | | |
| | NW12 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T | | | | | | |
| | NW16 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T | | | | | | |
| | NW20 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T | | | | | | |
| | NW25 | 25 ⁽¹⁾ | 32 | 40 | 40 | 50 | 63 | 37,5 ⁽¹⁾ | 48 | 60 | 60 | T | T | T ⁽¹⁾ | T | T | T | T | T | T | | | | | |
| Masterpact NW H2 Micrologic | NW32 | | 32 ⁽¹⁾ | 40 | 40 | 50 | 63 | | 48 ⁽¹⁾ | 60 | 60 | T | T | | T ⁽¹⁾ | T | T | T | T | | | | | | |
| | NW40 | | | 40 ⁽¹⁾ | 40 ⁽¹⁾ | 50 | 63 | | | 60 ⁽¹⁾ | 60 | T | T | | | T ⁽¹⁾ | T ⁽¹⁾ | T | T | | | | | | |
| | NW08 | 25 | 32 | 40 | 40 | 50 | 63 | 37,5 | 48 | 60 | 60 | 75 | 94 | 82 | 82 | 82 | T | T | T | | | | | | |
| | NW10 | 25 | 32 | 40 | 40 | 50 | 63 | 37,5 | 48 | 60 | 60 | 75 | 94 | 82 | 82 | 82 | T | T | T | | | | | | |
| | NW12 | 25 | 32 | 40 | 40 | 50 | 63 | 37,5 | 48 | 60 | 60 | 75 | 94 | 82 | 82 | 82 | T | T | T | | | | | | |
| | NW16 | 25 | 32 | 40 | 40 | 50 | 63 | 37,5 | 48 | 60 | 60 | 75 | 94 | 82 | 82 | 82 | T | T | T | | | | | | |
| Masterpact NW H1 | NW20 | 25 | 32 | 40 | 40 | 50 | 63 | 37,5 | 48 | 60 | 60 | 75 | 94 | 82 | 82 | 82 | T | T | T | | | | | | |
| | NW25 | 25 ⁽¹⁾ | 32 | 40 | 40 | 50 | 63 | 37,5 ⁽¹⁾ | 48 | 60 | 60 | 75 | 94 | 82 ⁽¹⁾ | 82 | 82 | T | T | T | | | | | | |
| | NW32 | | 32 ⁽¹⁾ | 40 | 40 | 50 | 63 | | 48 ⁽¹⁾ | 60 | 60 | 75 | 94 | | 82 ⁽¹⁾ | 82 | T | T | T | | | | | | |
| | NW40 | | | 40 ⁽¹⁾ | 40 ⁽¹⁾ | 50 | 63 | | | 60 ⁽¹⁾ | 60 | 75 | 94 | | | 82 ⁽¹⁾ | T ⁽¹⁾ | T | T | | | | | | |
| Masterpact NW H3 Micrologic | NW40b | | | 40 ⁽¹⁾ | 40 ⁽¹⁾ | 50 | 63 | | | 60 ⁽¹⁾ | 60 ⁽¹⁾ | 75 | 94 | | | T ⁽¹⁾ | T ⁽¹⁾ | T | T | | | | | | |
| | NW50 | | | | | 50 ⁽¹⁾ | 63 | | | | | 75 ⁽¹⁾ | 94 | | | | | T ⁽¹⁾ | T | | | | | | |
| | NW20 | 25 | 32 | 40 | 40 | 50 | 63 | 37,5 | 48 | 60 | 60 | 75 | 94 | 82 | 82 | 82 | T | T | T | | | | | | |
| | NW25 | 25 ⁽¹⁾ | 32 | 40 | 40 | 50 | 63 | 37,5 ⁽¹⁾ | 48 | 60 | 60 | 75 | 94 | 82 ⁽¹⁾ | 82 | 82 | T | T | T | | | | | | |
| Masterpact NW H2 | NW32 | | 32 ⁽¹⁾ | 40 | 40 | 50 | 63 | | 48 ⁽¹⁾ | 60 | 60 | 75 | 94 | | 82 ⁽¹⁾ | 82 | T | T | T | | | | | | |
| | NW40 | | | 40 ⁽¹⁾ | 40 ⁽¹⁾ | 50 | 63 | | | 60 ⁽¹⁾ | | 75 | 94 | | | 82 ⁽¹⁾ | T ⁽¹⁾ | T | T | | | | | | |
| Masterpact NT L1 Micrologic | NW40b | | | | | 40 ⁽¹⁾ | 50 | 63 | | 60 ⁽¹⁾ | 60 ⁽¹⁾ | 75 | 94 | | | T ⁽¹⁾ | T ⁽¹⁾ | T | T | | | | | | |
| | NW50 | | | | | | 50 ⁽¹⁾ | 63 | | | | 75 ⁽¹⁾ | 94 | | | | | T ⁽¹⁾ | T | | | | | | |
| | NT06 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| Masterpact NW L1 Micrologic | NT08 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NT10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | | | | | | |
| | NW08 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | 75 | 94 | T | T | T | T | T | T | | | | | | |
| | NW10 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | 75 | 94 | T | T | T | T | T | T | | | | | | |
| Masterpact NW L1 Micrologic | NW12 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | 75 | 94 | T | T | T | T | T | T | | | | | | |
| | NW16 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | 75 | 94 | T | T | T | T | T | T | | | | | | |
| Masterpact NW L1 Micrologic | NW20 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | 75 | 94 | T | T | T | T | T | T | | | | | | |
| | NW25 | 25 | 32 | 40 | 40 | 50 | 63 | 37.5 | 48 | 60 | 60 | 75 | 94 | T | T | T | T | T | T | | | | | | |

(1) With I_r upstream > 1,3 I_r downstream.

- T Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

Protection discrimination

Upstream: Masterpact NW20-40 H3, Masterpact NW40b-63 H2 Micrologic

Downstream: iDPN, iC60, C120, NG125-160, Compact NSX100-630, NS630b-3200

$U_e \leq 440 \text{ V}$

| Upstream | Masterpact NW20/25/32/40 H3 | Masterpact NW40b 50/63 H2 | Masterpact NW20/25/32/40 H3 | Masterpact NW40b 50/63 H2 | Masterpact NW20/25/32/40 H3 | Masterpact NW40b 50/63 H2 |
|-----------|-----------------------------|---------------------------|--|---------------------------|--|---------------------------|
| Trip unit | Micrologic 2.0 | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | |

| Downstream Rating (A) | 2000 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | 2000 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | 2000 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | |
|---|---------|-------------------|-------------------|-------------------|------|------|------|------|-------------------|---------------------|-------------------|------|------|------|------|-------------------|-------------------|-------------------|------|------|------|---|
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | | |
| iDPN, iDPNN | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| iC60 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| C120N/H | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| NG125N/H/L | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| NG160E/N/H | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact NSX100 B/F/H/N/S/L/R TM-D | NSX100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NSX250 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact NSX160 B/F/H/N/S/L TM-D | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact NSX100 B/F/H/N/S/L/R Micrologic | NSX100 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NSX250 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact NSX160 B/F/H/N/S/L Micrologic | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact F/H/N/S/L/R | NSX400 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NSX630 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact N Micrologic | NS630b | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | |
| | NS800 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | |
| | NS1000 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | |
| | NS1250 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | |
| | NS1600 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | |
| Compact H Micrologic | NS630b | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | T | T | 65 | 65 | 65 | 65 | T | T | T |
| | NS800 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | T | T | 65 | 65 | 65 | 65 | T | T | T |
| | NS1000 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | T | T | 65 | 65 | 65 | 65 | T | T | T |
| | NS1250 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | T | T | 65 | 65 | 65 | 65 | T | T | T |
| | NS1600 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | T | T | 65 | 65 | 65 | 65 | T | T | T |
| Compact N Micrologic | NS1600b | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | T | T | 65 | 65 | 65 | 65 | T | T | T |
| | NS2000 | 20 ⁽¹⁾ | 25 | 32 | 40 | 40 | 50 | 63 | 30 ⁽¹⁾ | 37.5 | 48 | 60 | 60 | T | T | 65 ⁽¹⁾ | 65 | 65 | 65 | T | T | T |
| | NS2500 | | 25 ⁽¹⁾ | 32 | 40 | 40 | 50 | 63 | | 37.5 ⁽¹⁾ | 48 | 60 | 60 | T | T | | 65 ⁽¹⁾ | 65 | 65 | T | T | T |
| | NS3200 | | | 32 ⁽¹⁾ | 40 | 40 | 50 | 63 | | | 48 ⁽¹⁾ | 60 | 60 | T | T | | | 65 ⁽¹⁾ | 65 | T | T | T |
| Compact H Micrologic | NS1600b | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37,5 | 48 | 60 | 60 | 75 | T | 65 | 65 | 65 | 65 | T | T | T |
| | NS2000 | 20 ⁽¹⁾ | 25 | 32 | 40 | 40 | 50 | 63 | 30 ⁽¹⁾ | 37,5 | 48 | 60 | 60 | 75 | T | 65 ⁽¹⁾ | 65 | 65 | 65 | T | T | T |
| | NS2500 | | 25 ⁽¹⁾ | 32 | 40 | 40 | 50 | 63 | | 37,5 ⁽¹⁾ | 48 | 60 | 60 | 75 | T | | 65 ⁽¹⁾ | 65 | 65 | T | T | T |
| | NS3200 | | | 32 ⁽¹⁾ | 40 | 40 | 50 | 63 | | | 48 ⁽¹⁾ | 60 | 60 | 75 | T | | | 65 ⁽¹⁾ | 65 | T | T | T |
| Compact L Micrologic | NS630b | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NS800 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NS1000 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Compact LB Micrologic | NS630b | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NS800 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |

(1) With I_r upstream > 1,3 I_r downstream.

- Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

Note: respect the basic rules of discrimination, in terms of overload, short-circuit, see page 557E4300.indd/566, or check curves with Curve Direct software.

Protection discrimination

Upstream: Masterpact NW20-40 H3,
Masterpact NW40b-63 H2 Micrologic
Downstream: Masterpact NT06-16,
Masterpact NW08-50

$U_e \leq 440\text{ V}$

| Upstream | | Masterpact NW20/25/32/40 H3 | | | | Masterpact NW40b 50/63 H2 | | | | Masterpact NW20/25/32/40 H3 | | | | Masterpact NW40b 50/63 H2 | | | | Masterpact NW20/25/32/40 H3 | | | | Masterpact NW40b 50/63 H2 | | | | | | | |
|-----------------------------------|------------|-----------------------------|-------------------|-------------------|-------------------|---------------------------|-------------------|------|-------------------|--|-------------------|-------------------|-------------------|---------------------------|------|-------------------|-------------------|--|-------------------|--------------------|------------------|---------------------------|------|------|------|------|------|------|------|
| Trip unit | | Micrologic 2.0 | | | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : 15 In | | | | | | | | Micrologic 5.0 - 6.0 - 7.0 Inst : OFF | | | | | | | | | | | |
| Downstream | Rating (A) | 2000 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | 2000 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | 2000 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 | 2000 | 2500 | 3200 | 4000 | 4000 | 5000 | 6300 |
| Discrimination limit (kA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Masterpact NT H1 Micrologic | NT06 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NT08 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NT10 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NT12 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Masterpact NT H2 Micrologic | NT06 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NT08 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NT10 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NT12 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | 48 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Masterpact NW N1 Micrologic | NW08 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NW10 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NW12 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NW16 | 20 | 25 | 32 | 40 | 40 | T | T | 30 | 37.5 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Masterpact NW H1 Micrologic | NW08 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NW10 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NW12 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NW16 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NW20 | 20 ⁽¹⁾ | 25 | 32 | 40 | 40 | 50 | 63 | 30 ⁽¹⁾ | 37.5 | 48 | 60 | 60 | T | T | T ⁽¹⁾ | T | T | T | T | T | T | T | T | T | T | T | T | T |
| | NW25 | | 25 ⁽¹⁾ | 32 | 40 | 40 | 50 | 63 | | 37.5 ⁽¹⁾ | 48 | 60 | 60 | T | T | | T ⁽¹⁾ | T | T | T | T | T | T | T | T | T | T | T | T |
| | NW32 | | | 32 ⁽¹⁾ | 40 | 40 | 50 | 63 | | | 48 ⁽¹⁾ | 60 | 60 | T | T | | T ⁽¹⁾ | T | T | T | T | T | T | T | T | T | T | T | T |
| Masterpact NW H2 Micrologic | NW08 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | 75 | 94 | 65 | 65 | 65 | 65 | T ⁽¹⁾ | T ⁽¹⁾ | T | T | T | T | T | T | T | |
| | NW10 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | 75 | 94 | 65 | 65 | 65 | 65 | T | T | T | T | T | T | T | T | T | |
| | NW12 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | 75 | 94 | 65 | 65 | 65 | 65 | T | T | T | T | T | T | T | T | T | |
| | NW16 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | 75 | 94 | 65 | 65 | 65 | 65 | T | T | T | T | T | T | T | T | T | |
| | NW20 | 20 ⁽¹⁾ | 25 | 32 | 40 | 40 | 50 | 63 | 30 ⁽¹⁾ | 37.5 | 48 | 60 | 60 | 75 | 94 | 65 ⁽¹⁾ | 65 | 65 | 65 | T | T | T | T | T | T | T | T | T | T |
| | NW25 | | 25 ⁽¹⁾ | 32 | 40 | 40 | 50 | 63 | | 37.5 ⁽¹⁾ | 48 | 60 | 60 | 75 | 94 | | 65 ⁽¹⁾ | 65 | 65 | T | T | T | T | T | T | T | T | T | T |
| | NW32 | | | 32 ⁽¹⁾ | 40 | 40 | 50 | 63 | | | 48 ⁽¹⁾ | 60 | 60 | 75 | 94 | | | 65 ⁽¹⁾ | 65 | T | T | T | T | T | T | T | T | T | T |
| Masterpact NW H1 | NW40b | | | | 40 ⁽¹⁾ | 40 ⁽¹⁾ | 50 | 63 | | | | 60 ⁽¹⁾ | 75 | 94 | 94 | | | | 65 ⁽¹⁾ | T ⁽¹⁾ | T | T | T | T | T | T | T | T | |
| | NW50 | | | | | | 50 ⁽¹⁾ | 63 | | | | | 75 ⁽¹⁾ | 94 | 94 | | | | | T ⁽¹⁾ | T | T | T | T | T | T | T | T | |
| Masterpact NW H3 Micrologic | NW20 | 20 ⁽¹⁾ | 25 | 32 | 40 | 40 | 50 | 63 | 30 ⁽¹⁾ | 37.5 | 48 | 60 | 60 | 75 | 94 | 65 ⁽¹⁾ | 65 | 65 | 65 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | |
| | NW25 | | 25 ⁽¹⁾ | 32 | 40 | 40 | 50 | 63 | | 37.5 ⁽¹⁾ | 48 | 60 | 60 | 75 | 94 | | 65 ⁽¹⁾ | 65 | 65 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | |
| | NW32 | | | 32 ⁽¹⁾ | 40 | 40 | 50 | 63 | | | 48 ⁽¹⁾ | 60 | 60 | 75 | 94 | | | 65 ⁽¹⁾ | 65 | 120 ⁽¹⁾ | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | |
| | NW40 | | | | 40 ⁽¹⁾ | 40 ⁽¹⁾ | 50 | 63 | | | | 60 ⁽¹⁾ | 60 | 75 | 94 | | | | 65 ⁽¹⁾ | 120 ⁽¹⁾ | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | |
| Masterpact NW H2 | NW40b | | | | 40 ⁽¹⁾ | 40 ⁽¹⁾ | 50 | 63 | | | | 60 ⁽¹⁾ | 75 | 75 | 94 | | | | 65 ⁽¹⁾ | 120 ⁽¹⁾ | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | |
| | NW50 | | | | | | 50 ⁽¹⁾ | 63 | | | | | 75 ⁽¹⁾ | 94 | 94 | | | | | 120 ⁽¹⁾ | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | |
| Masterpact NT L1 Micrologic | NT06 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NT08 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| | NT10 | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | T | |
| Masterpact NW L1 Micrologic | NW08 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | 75 | 94 | 100 | 100 | 100 | 100 | T | T | T | T | T | T | T | T | T | |
| | NW10 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | 75 | 94 | 100 | 100 | 100 | 100 | T | T | T | T | T | T | T | T | T | |
| | NW12 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | 75 | 94 | 100 | 100 | 100 | 100 | T | T | T | T | T | T | T | T | T | |
| | NW16 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | 30 | 37.5 | 48 | 60 | 60 | 75 | 94 | 100 | 100 | 100 | 100 | T | T | T | T | T | T | T | T | T | |
| | NW20 | 20 | 25 | 32 | 40 | 40 | 50 | 63 | | 37.5 | 48 | 60 | 60 | 75 | 94 | | 100 | 100 | 100 | T | T | T | T | T | T | T | T | T | |

(1) With I_r upstream > 1,3 I_r downstream.

- T Total discrimination, up to the breaking capacity of the downstream circuit breaker.
- 4 Discrimination limit = 4 kA.
- No discrimination.

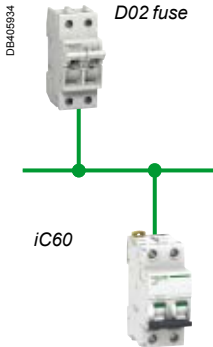
Discrimination table

Upstream: type gG Diazed D02 fuse
Downstream: iC60 circuit breaker

Selectivity

Selectivity between MCB iC60 and fuse gG in upstream according to the IEC 60947-2 annexe A.

The table below shows the limits of selectivity for a short-circuit current in kA with a fuse in upstream and a MCB iC60 in downstream.



| Upstream | Type gG Diazed D02 fuse | | | | | | | |
|----------|-------------------------|----|----|----|----|----|----|--|
| In (A) | 20 | 25 | 32 | 35 | 40 | 50 | 63 | |

| Downstream Rating (A) | | Discrimination limit (kA) | | | | | | | |
|-----------------------|----|---------------------------|-----|-----|-----|-----|-----|-----|--|
| iC60 Curve B | 6 | 0.7 | 1 | 1.9 | 2.2 | 3.7 | 5 | 6.7 | |
| | 10 | 0.5 | 0.8 | 1.5 | 1.6 | 2.4 | 3.3 | 4.1 | |
| | 13 | | 0.7 | 1.2 | 1.5 | 2 | 2.6 | 3.5 | |
| | 16 | | 0.6 | 1.1 | 1.2 | 1.9 | 2.2 | 2.9 | |
| | 20 | | | | 1 | 1.6 | 1.9 | 2.4 | |
| | 25 | | | | | 1.4 | 1.7 | 2 | |
| | 32 | | | | | | 1.6 | 1.9 | |
| | 40 | | | | | | 1.4 | 1.8 | |
| | 50 | | | | | | | 1.6 | |
| | 63 | | | | | | | | |

| Discrimination limit (kA) | | Discrimination limit (kA) | | | | | | | |
|---------------------------|----|---------------------------|---|-----|-----|-----|-----|-----|--|
| iC60 Curve C | 6 | 0.7 | 1 | 1.9 | 2.2 | 3.7 | 5 | 6.7 | |
| | 10 | | | 1.5 | 1.6 | 2.4 | 3.3 | 4.1 | |
| | 13 | | | | 1.5 | 2 | 2.6 | 3.5 | |
| | 16 | | | | | 1.9 | 2.2 | 2.9 | |
| | 20 | | | | | | 1.9 | 2.4 | |
| | 25 | | | | | | 1.7 | 2 | |
| | 32 | | | | | | | 1.9 | |
| | 40 | | | | | | | | |

| Discrimination limit (kA) | | Discrimination limit (kA) | | | | | | | |
|---------------------------|----|---------------------------|---|-----|-----|-----|-----|-----|--|
| iC60 Curve D | 6 | | 1 | 1.9 | 2.2 | 3.7 | 5 | 6.7 | |
| | 10 | | | | 1.6 | 2.4 | 3.3 | 4.1 | |
| | 13 | | | | | 2 | 2.6 | 3.5 | |
| | 16 | | | | | | 2.2 | 2.9 | |
| | 20 | | | | | | 1.9 | 2.4 | |
| | 25 | | | | | | | 2 | |
| 32 | | | | | | | | | |

1.9 Discrimination limit (kA) = 1.9 kA.

No discrimination.

Example:

Combination of a fuse gG 63 A in upstream with a MCB iC60 of 25 A B curve in downstream, selectivity up to a short circuit current of 2 kA.

Cascading

The table below shows the enhanced breaking capacity thanks to cascading of the iC60 MCB and the maximum rating of the upstream fuse.

| Upstream | Type gG Diazed D02 fuse |
|----------|-------------------------|
| | 20 – 63 A |

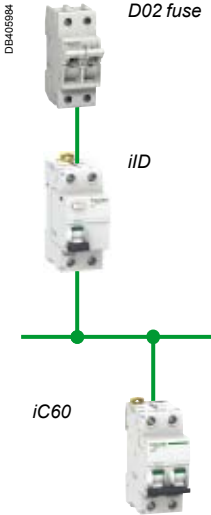
| Downstream device | | 50 kA |
|-------------------|-------------|-------|
| iC60N | 10 kA | |
| iC60H | 15 kA | |
| iC60L | 25-20-15 kA | |

The enhanced breaking capacity is indicated in kA according to IEC 60947-2 annex A.

Discrimination table

Upstream: type gG Diazed D02 fuse

Downstream: iC60 circuit breaker



Coordination with an iID RCCB

The table below shows the enhanced breaking capacity thanks to cascading of the iC60 MCB and the maximum rating of the upstream fuse, coordinated with an iID residual current circuit breaker.

| Upstream | | Type gG Diazed D02 fuse |
|----------|-------------------|-------------------------|
| | | 20 – 63 A |
| iID | Downstream device | |
| | iC60N 10 kA | 30 kA |
| | iC60H 15 kA | |
| | iC60L 25-20-15 kA | |

The enhanced breaking capacity is indicated in kA according to IEC 60947-2 annex A.

Circuit breakers for direct current applications

Complementary
technical information



Circuit breakers for direct current applications

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Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

Typical applications

Direct current has been used for a long time, and in many fields. It offers major advantages, in particular immunity to electrical interference. Moreover, direct-current installations are now simpler, because they benefit from the development of power supplies with electronic converters and batteries.

- Communication or measurement network:
 - 48 V DC switched telephone network,
 - 4-20 mA current loop.
- Electrical supply for industrial PLCs:
 - PLCs and peripheral devices (24 or 48 V DC).
- Auxiliary uninterruptible direct current power supply:
 - relays or electronic protection units for MV cubicles,
 - switchgear opening / closing trip units,
 - LV control and monitoring relays,
 - indicator lights,
 - circuit-breaker or on/off switch motor drives,
 - power contactor coils,
 - control/monitoring and supervision devices with communication that can be powered via a separate uninterruptible power supply.
- 24 to 48 V DC wind application:
 - isolated homes,
 - cottages, bungalows, mountain refuges,
 - pumps, street lighting,
 - measuring instruments, data acquisition,
 - telecommunication relays,
 - industrial applications.

Types of direct current networks

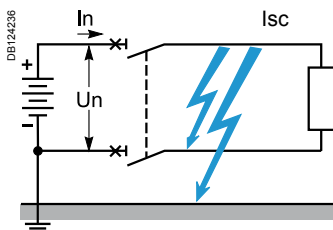
According to the types of DC networks illustrated below, we can identify the risks to the installation and define the best means of protection.

| Earthed | | Isolated from earth | |
|---|-----------------------------|--------------------------|---------------------------------|
| I: Earthed (or grounded) polarity (in this case negative) | II: Earthed mid-point | III: Isolated polarities | |
| 1 pole (1P isolation) | 2 poles (2P isolation) | 2 poles | 2 poles |
| | | | |
| | 2 poles (1P isolation 1P+N) | | |
| | | | |
| Worst-case faults | | | |
| Fault A and fault B (if only one polarity is protected) | | Fault B | Double fault A and D or C and E |

For further information on the types of networks and the faults that characterise them, refer to the direct current circuit breaker (LV) selection guide, 220E2100.indd.

For all these configurations, we propose a single protection solution that depends only on the requirement for the nominal current I_n and the short-circuit current I_{sc} at the installation point concerned.

The second important point in our solution is the fact that the protection is implemented by non-polarised circuit breakers that can operate efficiently, whatever the direction of the direct current.



Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

24 - 48 V direct current protection solution

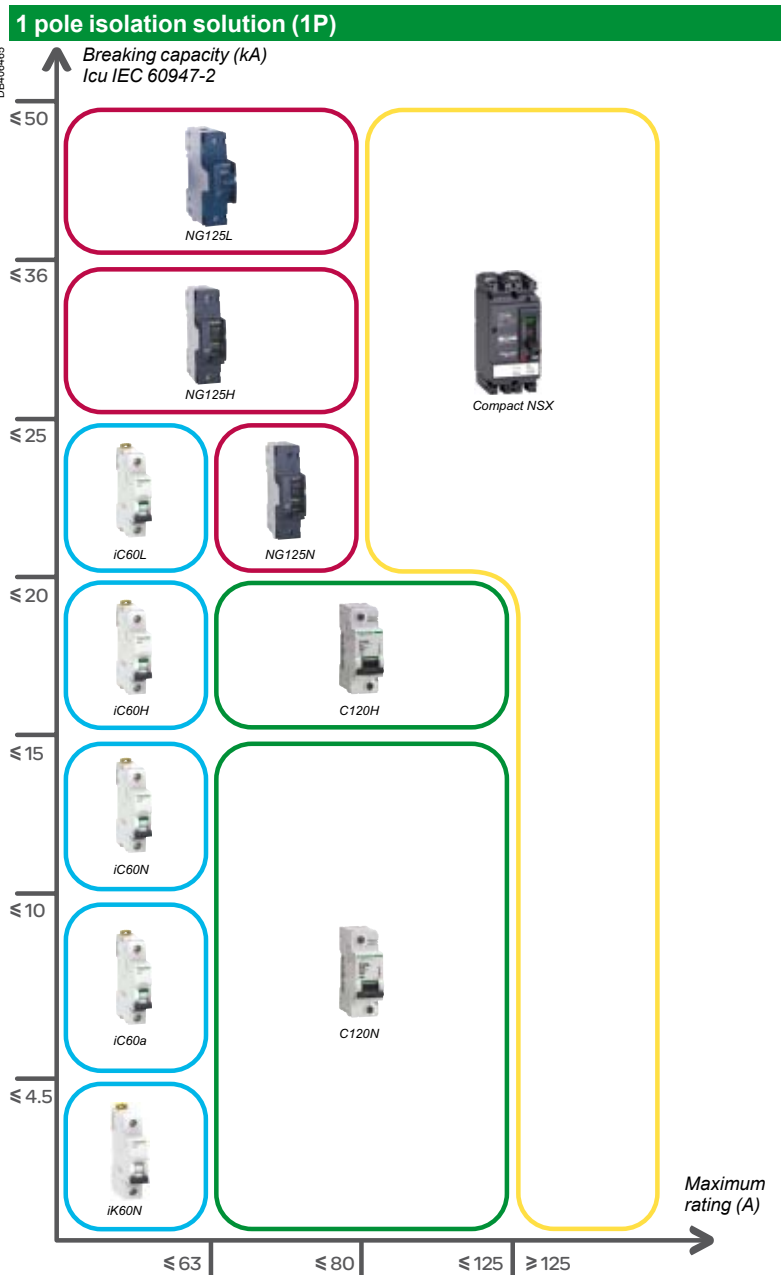
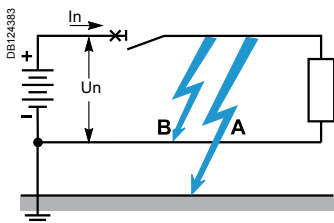
The performance levels shown in the tables below correspond to the most critical faults according to the network configuration.

- Breaking on one pole.
- Fault between polarity and earth (Fault A).

Standard solution depending on the network and the requirements of the installation (In / Isc)

In addition to the parameters shown on the following pages, the tables below illustrate our range of circuit breakers according to the nominal current of the load and short-circuit current at the point of installation.

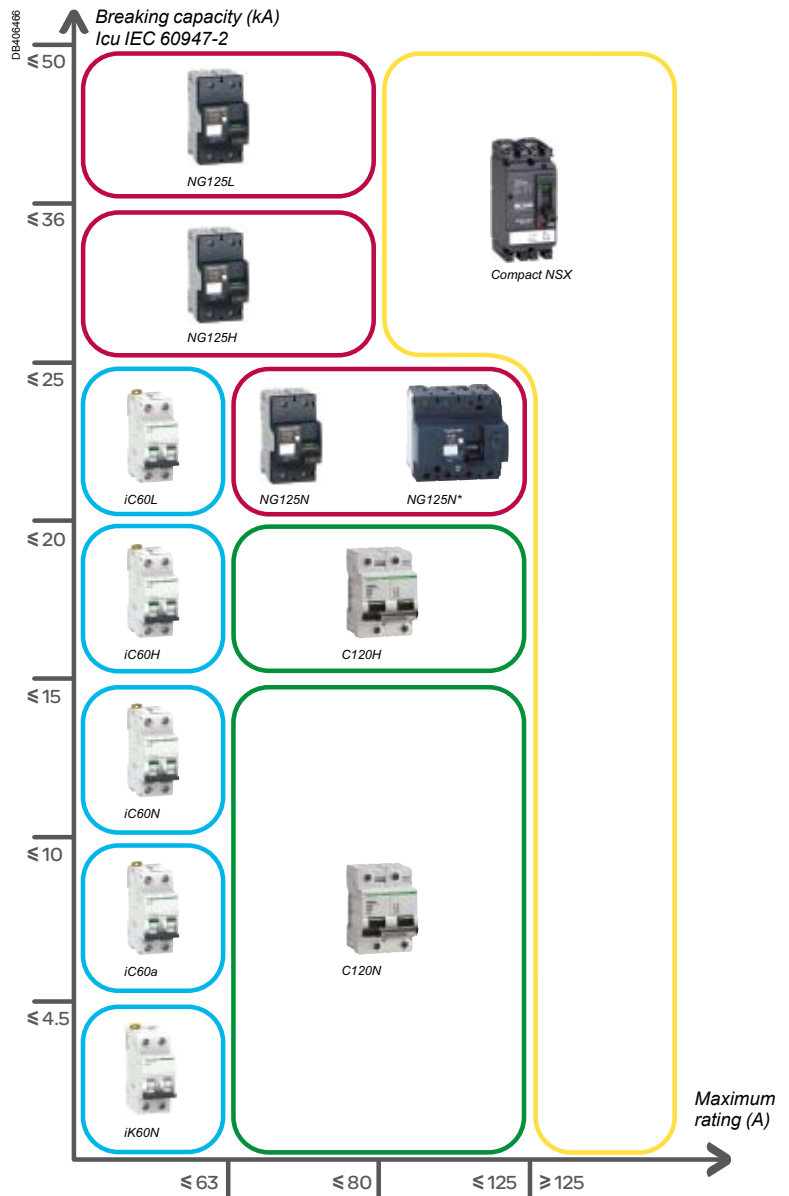
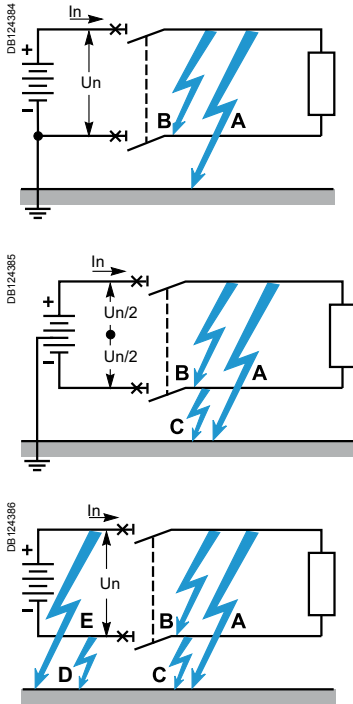
- Circuit breaker rating.
- Breaking capacity of the circuit breaker.



Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

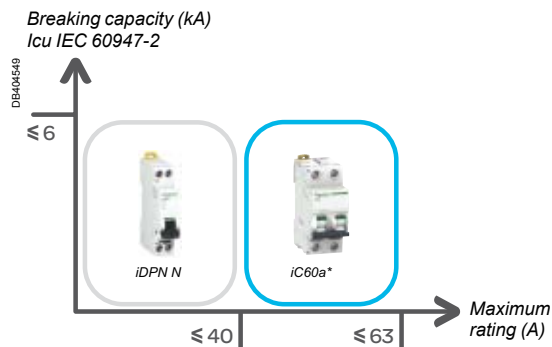
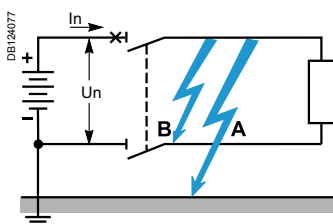
2 pôles isolation solution (2P)



(*) 3P NG125N connected in a two-pole configuration to reach 125 A (1P / 2P NG125 has a maximum rating of 80 A).

1 pole isolation solution (1P+N)

Specific use of the iDPN range in a network with one polarity earthed and both poles isolated: compact solution (1P+N in 18 mm).



(*) iC60a breaking capacity $I_{cu} = 10$ kA.

Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

Constraints related to "direct current" applications

In direct current, inductors and capacitors do not disturb the operation of the installation in steady state. Capacitors are charged and inductors no longer oppose changes in the current.

However, they create transient phenomena when the circuit opens or closes, during which time the current varies. Actual loads have both characteristics and generate oscillatory phenomena.

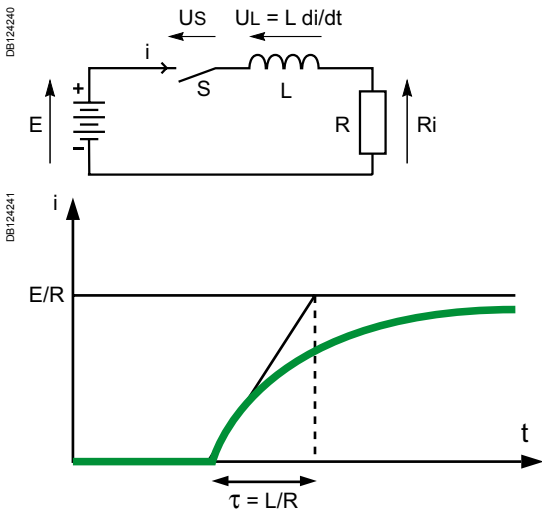
Type of load

Inductive load

An inductive load will tend to lengthen the current interrupt or establishment time, because the inductance L then opposes the change in the current ($L di/dt$). The transient phenomenon will mainly be characterised by a time constant imposed by the load and whose value corresponds approximately to the interrupt or closing time that the switchgear has to withstand. In addition, during the interrupt time, the switchgear must be able to withstand the additional energy stored in the inductor in steady state.

An inductive load therefore requires particular attention with respect to its time constant.

A low value (typically < 5 ms) facilitates interruption.

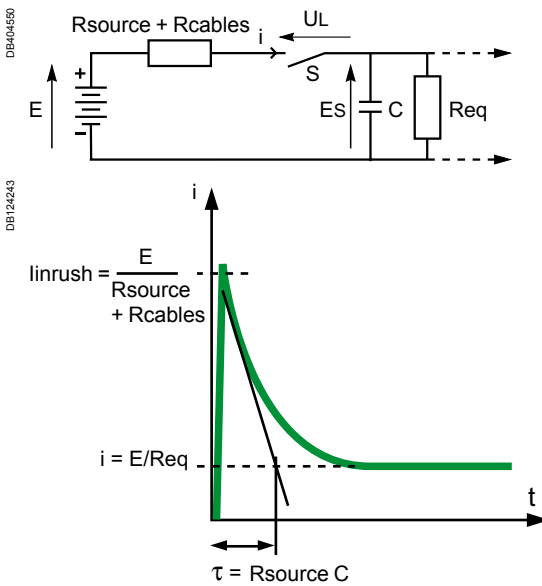


Inductive load

Capacitive load

During a closing operation, a capacitive load will cause an inrush current due to the load on the capacitor, virtually under short-circuit condition at the beginning of the phenomenon.

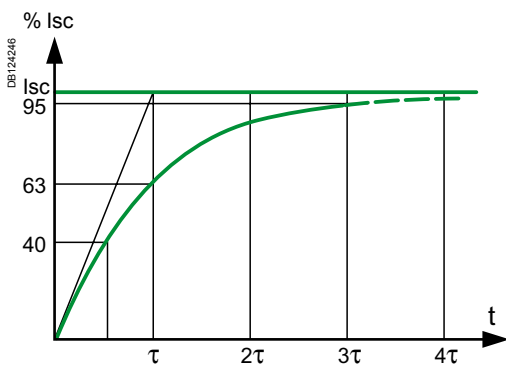
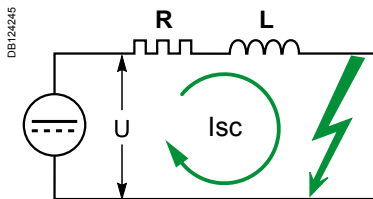
On opening, it will tend to discharge. The time constant is generally very low (< 1 ms) and its effect is secondary with respect to the inrush current. A capacitive load will require particular attention to the inrush or discharge current surges.



Capacitive load

Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications



Time constant L/R

When a short-circuit occurs across the terminals of a direct current circuit, the current increases from the operating current ($< I_n$) to the short-circuit current I_{sc} during a time depending on the resistance R and the inductance L of the short-circuited loop.

The equation that governs the current in this loop is: $U = Ri + Ldi/dt$.

A short-circuit current is established (neglecting I_n with respect to I_{sc}) by the equation:

$$i = I_{sc} (1 - \exp(-t/\tau)),$$

where $\tau = L/R$ is the time constant used to establish the short-circuit.

In practice, after a time $t = 3\tau$ the short-circuit is considered to be established, because the value of $\exp(-3) = 0.05$ is negligible compared to 1.

The lower the corresponding time constant (e.g. battery circuit), the faster a short-circuit is established.

| L/R | Description | DC applications |
|-------|---|--|
| 2 ms | Very fast short-circuit | <ul style="list-style-type: none"> ■ Photovoltaic applications |
| 5 ms | Fast short-circuit established | <ul style="list-style-type: none"> ■ Resistive or slightly inductive circuits: <ul style="list-style-type: none"> <input type="checkbox"/> indicator light <input type="checkbox"/> trip units (MN, MX) <input type="checkbox"/> motor armatures <input type="checkbox"/> battery charger/uninterruptible power supply (UPS) ■ Capacitive circuits: electronic controller |
| 15 ms | Standardised value used in standard IEC 60947-2 | <ul style="list-style-type: none"> ■ Inductive circuits: <ul style="list-style-type: none"> <input type="checkbox"/> electromagnetic coil <input type="checkbox"/> contactor coil <input type="checkbox"/> motor inductor |
| 30 ms | Slower short-circuit established | <ul style="list-style-type: none"> ■ Highly inductive circuits: <ul style="list-style-type: none"> <input type="checkbox"/> electromagnetic coil <input type="checkbox"/> contactor coil <input type="checkbox"/> motor inductor |

In general, the system time constant is calculated under worst case conditions, across the terminals of the generator.

Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

Tripping curves

We can choose our solution according to the inrush currents generated by our loads, in the same way as for alternating current. In direct current, the same thermal tripping curves are obtained as in alternating current. The only difference is that the magnetic thresholds are offset by a coefficient $\sqrt{2}$ compared to the curves obtained in alternating current.

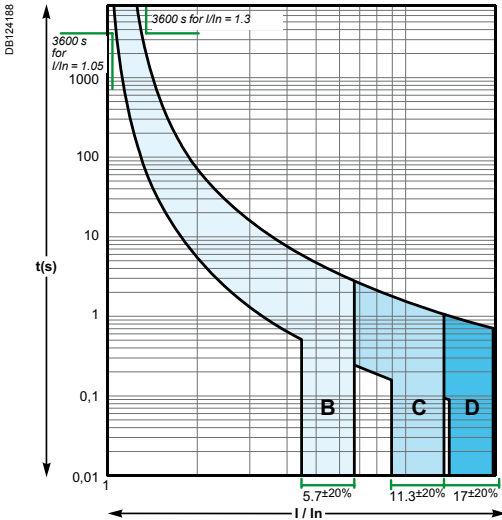
Characteristics of the various curves and their applications:

| Curves | Magnetic thresholds | | DC applications |
|--------|---------------------|-----------------|--|
| | AC | DC | |
| Z | 2.4 to 3.6 In | 3.4 to 5 In | <ul style="list-style-type: none"> Resistive loads Loads with electronic circuits |
| B | 3.2 to 4.8 In | 4.5 to 6.8 In | <ul style="list-style-type: none"> Motor inductor: starting current 2 to 4 In Battery charger/Uninterruptible power supply (UPS) |
| C | 6.4 to 9.6 In | 9.05 to 13.6 In | <ul style="list-style-type: none"> Electronic controller |
| D et K | 9.6 to 14.4 In | 13.6 to 20.4 In | <ul style="list-style-type: none"> Electromagnetic coil: inrush overvoltage 10 to 20 Un LV relay Trip units (MN, MX) Indicator light PLCs (industrial programmable logic controllers) |

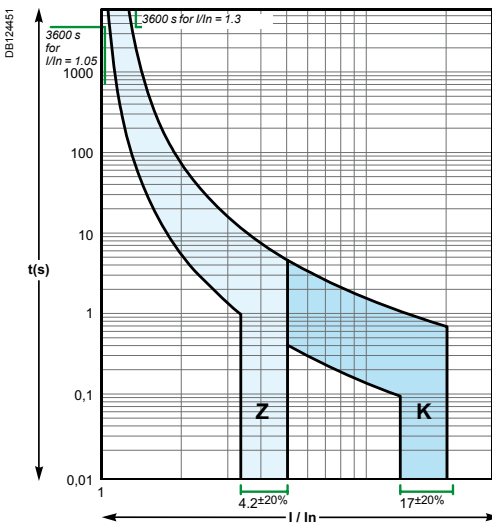
The figures opposite are iC60 tripping curves showing DC magnetic thresholds and normative limits

Example

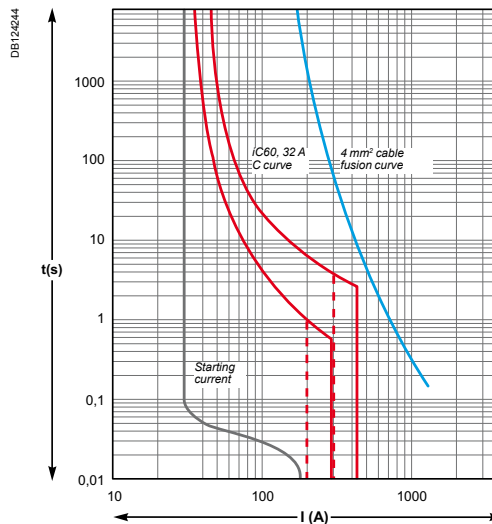
Protection of the 4 mm² cable supplying a load at In = 30 A with a 32 A rating and a tripping curve that allows the starting current for this load to be absorbed.



Curves B, C, D, ratings 6 A to 63 A



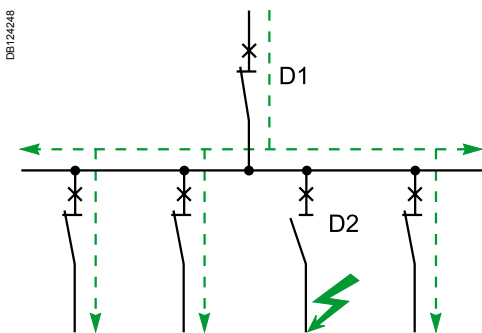
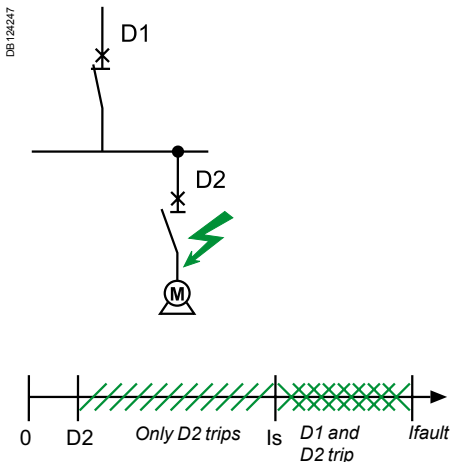
Curves Z, K, ratings 6 A to 63 A



Curve C, rating 32 A (AC magnetic thresholds in dotted lines)

Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications



Continuity of service of the solutions

Discrimination of the direct current protection devices

Discrimination is a key element that must be taken into account right from the design stage of a low-voltage installation to allow continuity of service of the electrical power.

Discrimination involves coordination between two circuit breakers connected in series, so that in the event of a fault, only the circuit breaker positioned immediately upstream of the fault trips. A discrimination current I_s is defined as:

- $I_{\text{fault}} < I_s$: only D2 removes the fault, discrimination ensured,
- $I_{\text{fault}} > I_s$: both circuit breakers may trip, discrimination not ensured.

Discrimination may be partial or total, up to the breaking capacity of the downstream circuit breaker. To ensure total discrimination, the characteristics of the upstream device must be higher than those of the downstream one.

The same principles apply to designing both direct current and alternating current installations. Only the limit currents change when direct current is used.

Once again, we find the same concepts of discrimination:

- **total**: up to the breaking capacity of the downstream device. Our tests have been performed at up to 25 kA or 50 kA depending on the breaking capacity of the devices in question.
- **partial**: indication of the discrimination limit current I_s . Discrimination is ensured below this value; above this value, the upstream device participates in the breaking process,
- **none**: no discrimination ensured, the upstream and downstream circuit breakers will trip.

For further information about the discrimination concept for protection devices in general, refer to technical supplement 557E4300, "Discrimination of modular circuit breakers".

Total discrimination solutions

In the following tables, we offer you solutions that favour continuity of service (total discrimination between circuit breakers), for different short-circuit currents.

Total discrimination: 10 kA

| | | Upstream | | Curve C | | Time constant (L/R) = 15 ms | | | | |
|-------------------|----------|----------|---------|---------|----|-----------------------------|----|-----|-----|-------|
| | | iC60a | | C120N | | | | | NSX | |
| In (A) | | 10 - 16 | 20 - 25 | 32 | 40 | 50 - 63 | 80 | 100 | 125 | ≥ 100 |
| Downstream | | | | | | | | | | |
| iC60a | ≤ 3 | T | T | T | T | T | T | T | T | T |
| Curves B,C | 4 | | T | T | T | T | T | T | T | T |
| | 6 | | | T | T | T | T | T | T | T |
| | 10 | | | | T | T | T | T | T | T |
| | 13 | | | | | T | T | T | T | T |
| | 16 to 25 | | | | | | T | T | T | T |
| | 32 | | | | | | | T | T | T |
| | 40 | | | | | | | | T | T |
| | 50 - 63 | | | | | | | | T | T |

T Total discrimination.
 No discrimination.

Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

Total discrimination: 15 kA

| | | Upstream | | Curve C | | Time constant (L/R) = 15 ms | | | | |
|-------------------|----------|----------|---------|---------|----|-----------------------------|----|-----|-----|-------|
| In (A) | | iC60N | | | | C120N | | | NSX | |
| | | 10 - 16 | 20 - 25 | 32 | 40 | 50 - 63 | 80 | 100 | 125 | ≥ 100 |
| Downstream | | | | | | | | | | |
| iC60N | ≤ 3 | T | | T | T | T | T | T | T | T |
| Curves B,C | 4 | | T | T | T | T | T | T | T | T |
| | 6 | | | | T | T | T | T | T | T |
| | 10 | | | | | T | T | T | T | T |
| | 13 | | | | | | T | T | T | T |
| | 16 to 25 | | | | | | T | T | T | T |
| | 32 | | | | | | | T | T | T |
| | 40 | | | | | | | T | T | T |
| | 50 - 63 | | | | | | | | T | T |

Total discrimination: 20 kA

| | | Upstream | | Curve C | | Time constant (L/R) = 15 ms | | | | |
|-------------------|----------|----------|---------|---------|----|-----------------------------|----|-----|-----|-------|
| In (A) | | iC60H | | | | C120H | | | NSX | |
| | | 10 - 16 | 20 - 25 | 32 | 40 | 50 - 63 | 80 | 100 | 125 | ≥ 100 |
| Downstream | | | | | | | | | | |
| iC60H | ≤ 3 | T | T | T | T | T | T | T | T | T |
| Curves B,C | 4 | | T | T | T | T | T | T | T | T |
| | 6 | | | | T | T | T | T | T | T |
| | 10 | | | | | | T | T | T | T |
| | 13 | | | | | | T | T | T | T |
| | 16 to 25 | | | | | | T | T | T | T |
| | 32 | | | | | | | T | T | T |
| | 40 | | | | | | | | T | T |
| | 50 - 63 | | | | | | | | T | T |

Total discrimination: 25 kA

| | | Upstream | | Curve C | | Time constant (L/R) = 15 ms | | | | |
|-------------------|----------|----------|---------|---------|----|-----------------------------|----|-----|-----|-------|
| In (A) | | iC60L | | | | NG125N | | | NSX | |
| | | 10 - 16 | 20 - 25 | 32 | 40 | 50 - 63 | 80 | 100 | 125 | ≥ 100 |
| Downstream | | | | | | | | | | |
| iC60L | ≤ 3 | T | T | T | T | T | T | T | T | T |
| Curves B,C | 4 | | T | T | T | T | T | T | T | T |
| | 6 | | | | T | T | T | T | T | T |
| | 10 | | | | | | T | T | T | T |
| | 13 | | | | | | T | T | T | T |
| | 16 to 25 | | | | | | T | T | T | T |
| | 32 | | | | | | | | T | T |
| | 40 | | | | | | | | T | T |
| | 50 - 63 | | | | | | | | | T |

Total discrimination: 36 kA

| | | Upstream | | Curve C | | Time constant (L/R) = 15 ms | |
|-------------------|----------|----------|--|---------|--|-----------------------------|--|
| In (A) | | NG125H | | NSX | | | |
| | | 80 | | ≥ 100 | | | |
| Downstream | | | | | | | |
| NG125H | 10 | T | | T | | | |
| | 16 to 63 | | | T | | | |

Total discrimination: 50 kA

| | | Upstream | | Curve C | | Time constant (L/R) = 15 ms | |
|-------------------|----------|----------|--|---------|--|-----------------------------|--|
| In (A) | | NG125L | | NSX | | | |
| | | 80 | | ≥ 100 | | | |
| Downstream | | | | | | | |
| NG125L | 10 | T | | T | | | |
| | 16 to 63 | | | T | | | |

T Total discrimination.

No discrimination.

Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

Coordination with loads

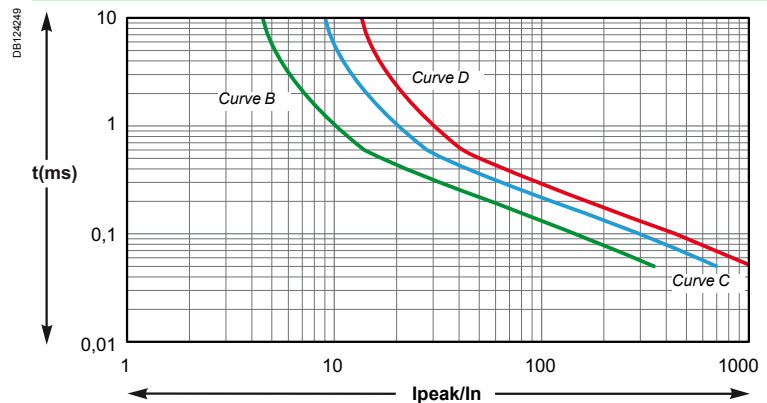
As seen above, the circuit-breaker characteristics chosen depend on the type of load downstream of the installation.

The rating depends on the size of the cables to be protected and the curves depend on the load inrush current.

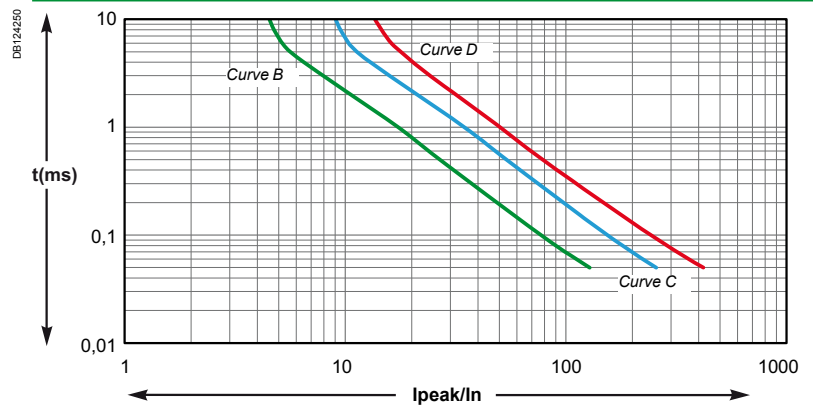
Product selection according to the load inrush current

When certain "capacitive" loads are switched on, very high inrush currents appear during the first milliseconds of operation. The following graphs show the average DC non-tripping curves of our products for this time range (50 μ s to 10 ms).

iC60



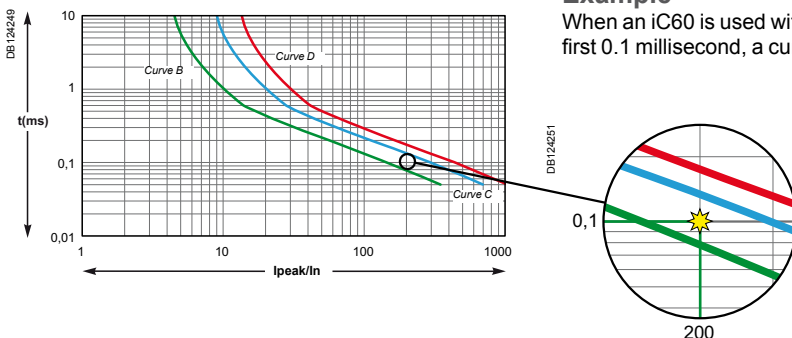
NG125 / C120



This information allows us to select the most appropriate product, according to the load specifications: curve and rating.

Example

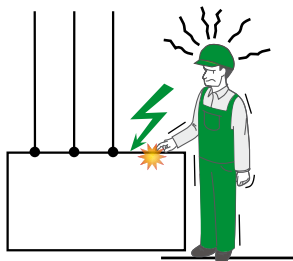
When an iC60 is used with a load with current peaks in the order of 200 I_n during the first 0.1 millisecond, a curve C or D product must be installed.



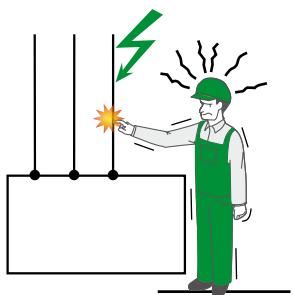
Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

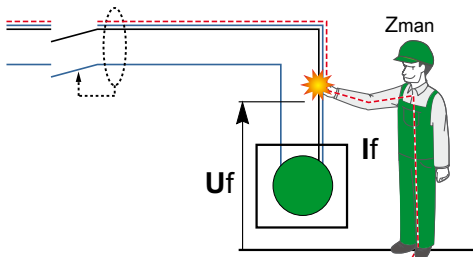
DE124238



DE124239



DE124237



Standards: IEC 60479-2, NF C 15100, IEC 60755.

Personal protection

Personal protection (earth-leakage protection) is not mandatory for this voltage range (24-48 V DC).

In fact, according to the standards currently in force, the minimum ventricular fibrillation current I_f for human beings is in the order of 25 mA for alternating current (50 Hz), whereas for direct current, it is more than 50 mA.

The table below shows the data according to the standards and conditions:

| Environment | | Voltage specifications | |
|-----------------|--|------------------------|-------|
| | | AC | DC |
| Dry environment | $U_f = Z \times I_f$ $Z_{man} = 2000 \text{ Ohm}$ | 50 V | 100 V |
| Wet environment | $U_f = Z \times I_f$ $Z_{man} = 1000 \text{ Ohm}$ | 25 V | 50 V |

With Z corresponding to the impedance of the human body in the different types of environment, I_f being the current passing through the body and U_f the minimum contact voltage required to reach the danger current.

Under normal operating conditions, this voltage range (< 50 V) is therefore not dangerous to human beings.

Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

Examples of applications

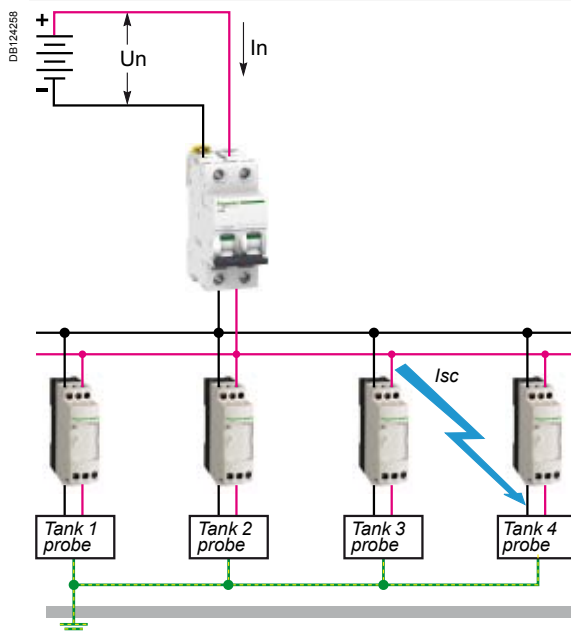
Industrial applications

Monitoring of agro-food tanks with 24 V DC converters for probes and other sensors

- Isolated network:
- $I_{sc} = 25 \text{ kA}$,
- $I_n = 40 \text{ A}$.

Solution

iC60L 2P 40 A + 24 V converters

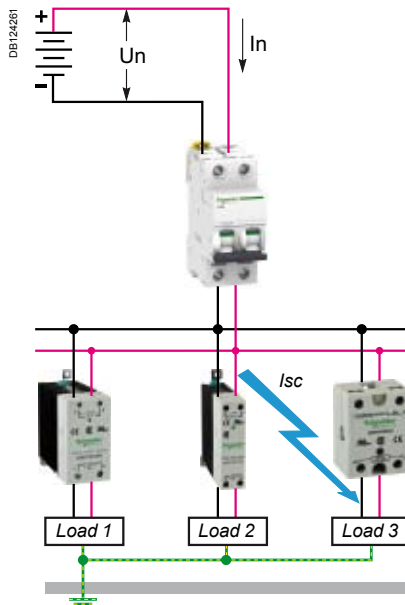


Control of industrial process measurement by 12/24/48 V DC control

- Isolated network:
- $I_{sc} = 20 \text{ kA}$,
- $I_n = 40 \text{ A}$.

Solution

iC60H 2P 40 A + DC solid-state relays



Circuit breakers for direct current applications (cont.)

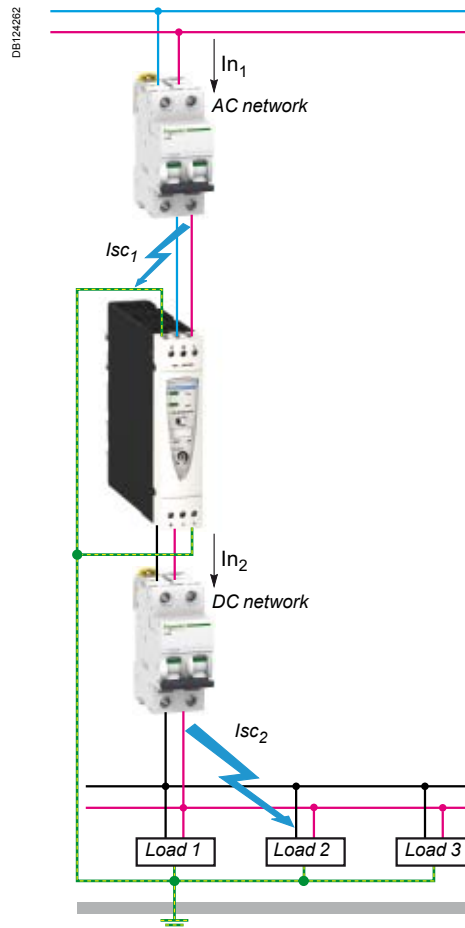
24 V - 48 V direct current applications

24 V DC generator power supply protection

- Earthed network:
 - $I_{sc} = 10 \text{ kA} / I_n = 63 \text{ A}$,
 - $I_{sc} = 10 \text{ kA} / I_n = 20 \text{ A}$.

Solution

iC60N 2P 63 A + iC60N 2P 20 A + DC loads



Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

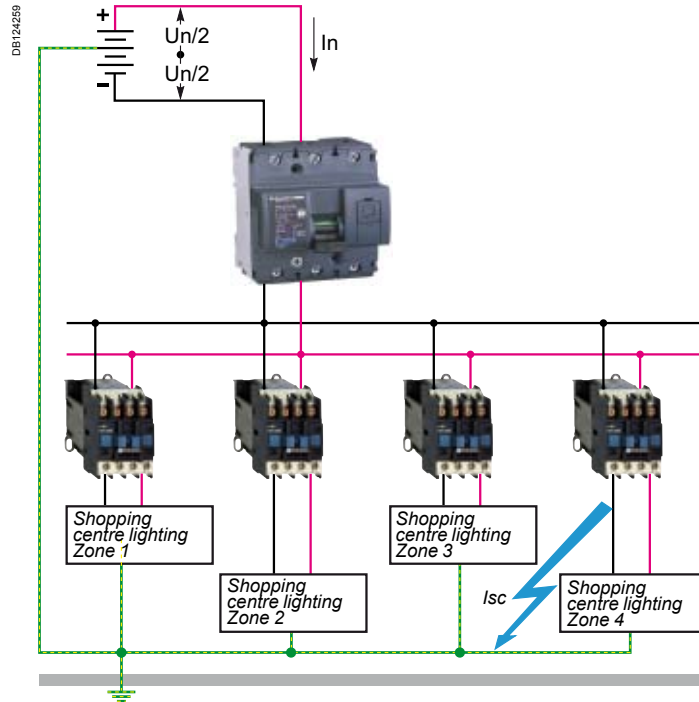
Tertiary applications

Control and monitoring of the 48 V DC emergency lighting distribution for a shopping centre

- Mid-point of the network:
- $I_{sc} = 20 \text{ kA}$,
- $I_n = 125 \text{ A}$.

Solution

NG125H 3P 125 A + power contactors

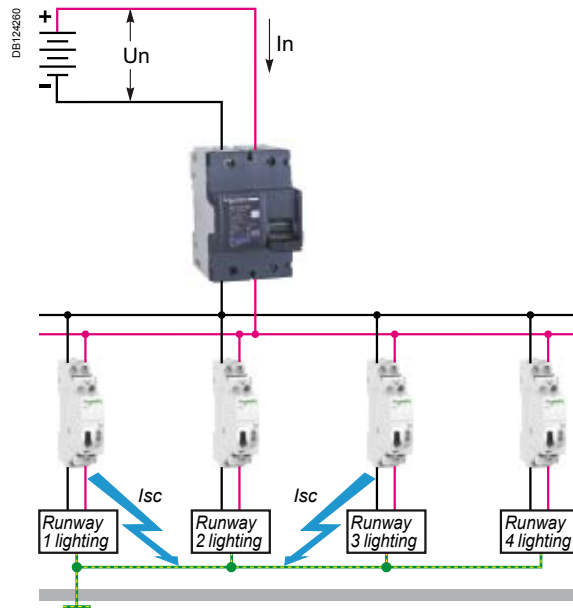


Major airport in France, 48 V DC emergency lighting for runways

- Isolated network:
- $I_{sc} = 50 \text{ kA}$,
- $I_n = 80 \text{ A}$.

Solution

NG125L 2P 80 A + impulse relays



Circuit breakers for direct current applications (cont.)

24 V - 48 V direct current applications

Power supply protection by 24 V DC direct current generator

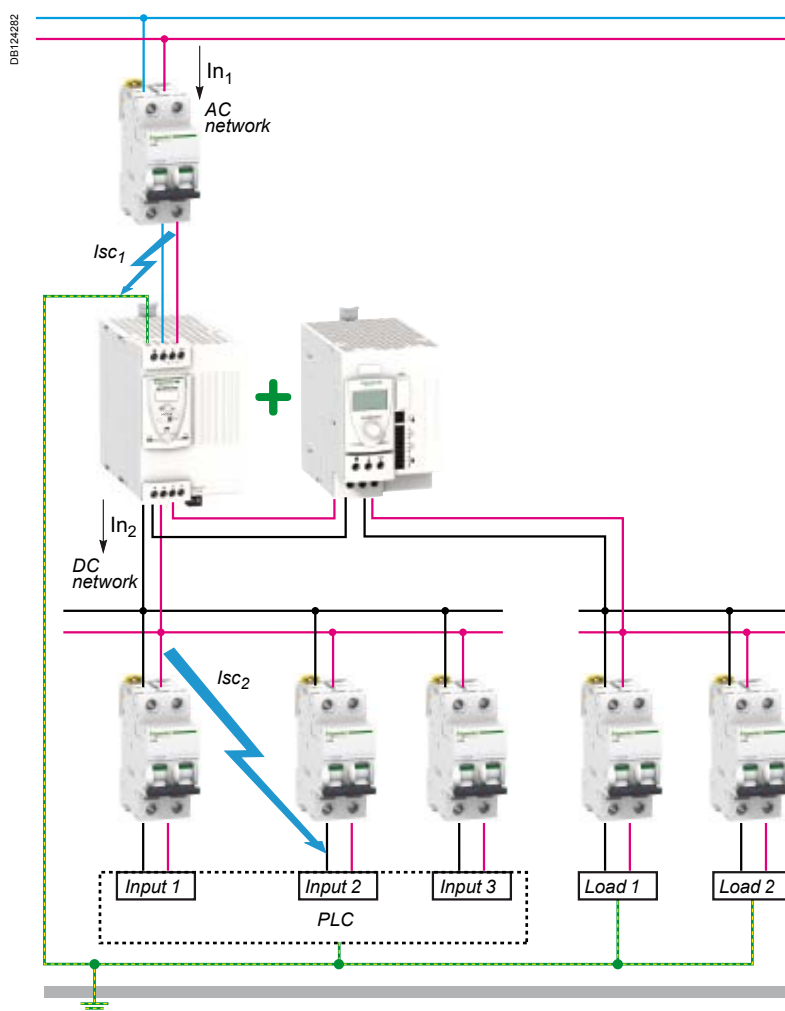
- Earthed network:
- $I_{sc1} = 10 \text{ kA} / I_n = 40 \text{ A}$,
- $I_{sc2} = 10 \text{ kA} / I_n = 2/4/6 \text{ A}$.

Solution

iC60N 2P 40 A + iC60N 2P 2/4/6 A + PLC inputs + DC loads

The Phaseo network failure solution provides the installation (or part thereof) with a 24 V DC power supply in the event of a mains voltage failure:

- throughout the mains failure, to ensure the continuity of service of the installation.
- during a limited time to allow:
 - data to be backed up,
 - actuators to be put in the fallback position,
 - a generating set to be started up,
 - the operating systems to be shut down,
 - remote supervision data to be transmitted.



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Direct current distribution

Choosing and implementing protective devices

Complementary
technical information

This document illustrates the use of the Acti9 product range for the protection of direct current distribution applications of voltage less than 500 V.

There is also a circuit breaker offer dedicated to photovoltaic applications: C60PV-DC (low breaking capacity 1.5 kA and higher voltage 800 V).

Choice

Choosing the rating

The thermal tripping curve of a circuit breaker is the same in direct current as in alternating current (50/60 Hz). The rule for choosing is therefore the same: to ensure protection against circuit overloads, choose a circuit breaker with a rating (I_n) less than or equal to the current (I_z) allowed to pass through the cable.

Circuits with momentary current direction reversal

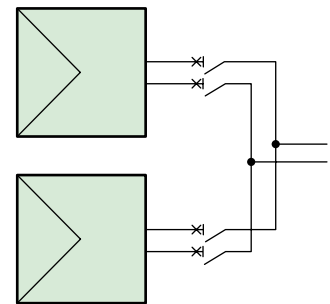
In the case of circuits with momentary current direction reversal:

- C60H-DC circuit breakers cannot be used
- iC60 circuit breakers can be used

Examples of circuits with momentary current direction reversal

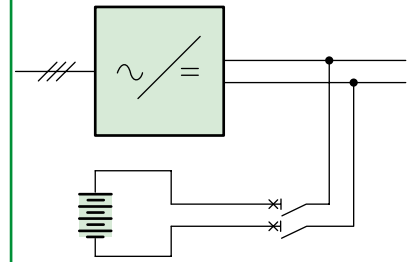
- Paralleled energy sources (photovoltaic cells, generators, generating sets, etc.).

DBI125710



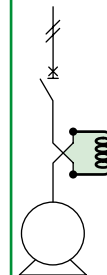
- Batteries with rectifier/charger.

DBI125711

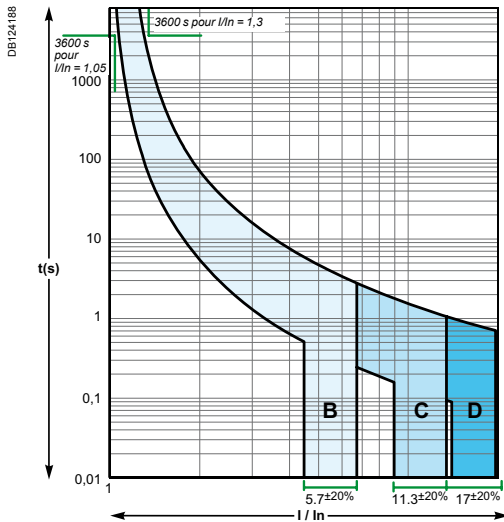


- Motor protective devices capable of operating as a generator.

DBI125712



- Use of the C60PV-DC is specifically dedicated to photovoltaic (PV) applications (generally higher voltages with low breaking capacity).



Example: iC60, B, C, D curves, ratings from 6 A to 63 A.

Choosing the curve

The magnetic tripping threshold must be:

- higher than the inrush currents due to loads (motors, capacitors, etc.)
- lower than the short-circuit current at the installation point, which depends on:
 - the short-circuit power of the source (indicated by the manufacturer),
 - the impedance of the supply line.

In direct current:

- the short-circuit power of the sources is generally low: batteries, photovoltaic panels, generators, electronic converters, etc
- the loads generate lower inrush currents than in alternating current (e.g. motor start-up: 2 to 4 times the rated current)
- the magnetic threshold of Acti 9 circuit breakers (relative to the rated current) is higher than in alternating current.

| Circuit breaker | iC60 / C120 / NG125 | | | | C60H-DC |
|-----------------------------|---------------------|-------------|-----------|------------|------------|
| | Z | B | C | D | C |
| Magnetic tripping threshold | 3,4 ...5 In | 4,5 ...7 In | 9...14 In | 14...20 In | 7....10 In |

➤ Generally, choose a C60H-DC circuit breaker or a B-curve iC60 circuit breaker.

Note: It may be necessary to choose a C curve or a D curve for very high inrush current applications (e.g., electronic equipment with particularly large capacitive filters).

Choosing the breaking capacity

The choice of circuit breaker with respect to the breaking capacity depends on:

- the earthing system
- the network voltage
- the short-circuit current at the installation point in question.

Note: The breaking capacities are given for a time constant (L/R) equal to 0.015 s..

Reading the tables

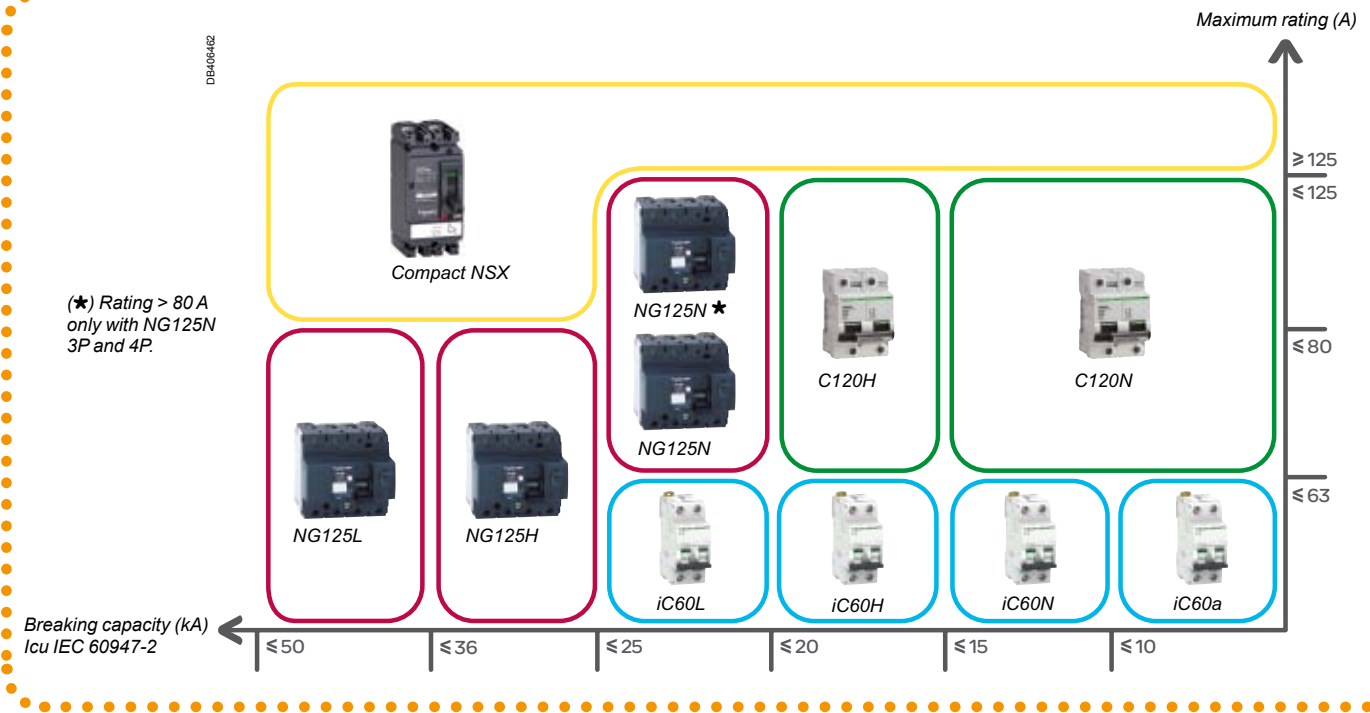
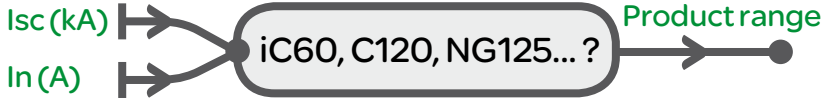
- Select the table according to the earthing system.
- Select the circuit breaker corresponding to the network:
 - the circuit breaker(s) to be installed is/are identified based on the rating and short-circuit current,
 - the type of connection (number of poles, position relative to the load, isolation of polarities) is indicated according to the voltage.

iC60, C120, NG125 offer

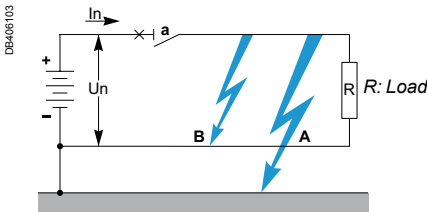
Choosing circuit breakers for distribution with earthed polarity

The following tables show the number of poles connected in series according to the DC network voltage, and the circuit breaking performance of our circuit breaker range.

Breaking capacity for a maximum voltage per pole of: 60 V DC for the iC60 offers and 125 V DC for the C120 and NG125 offers



Fault condition analysis 1



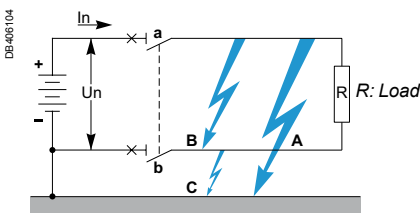
1 The figure shows a source with the negative polarity earthed.

| Fault | Fault current (max.) | Voltage | Poles involved in breaking | Breaking characteristics |
|-------|----------------------|---------|----------------------------|---|
| A, B | Isc | Un | a | Isc at Un on the poles connected to the positive polarity |

Isc: presumed short-circuit current.
Un: rated network voltage.

> All the circuit-breaker poles must be on the non-earthed polarity.

Fault condition analysis 2

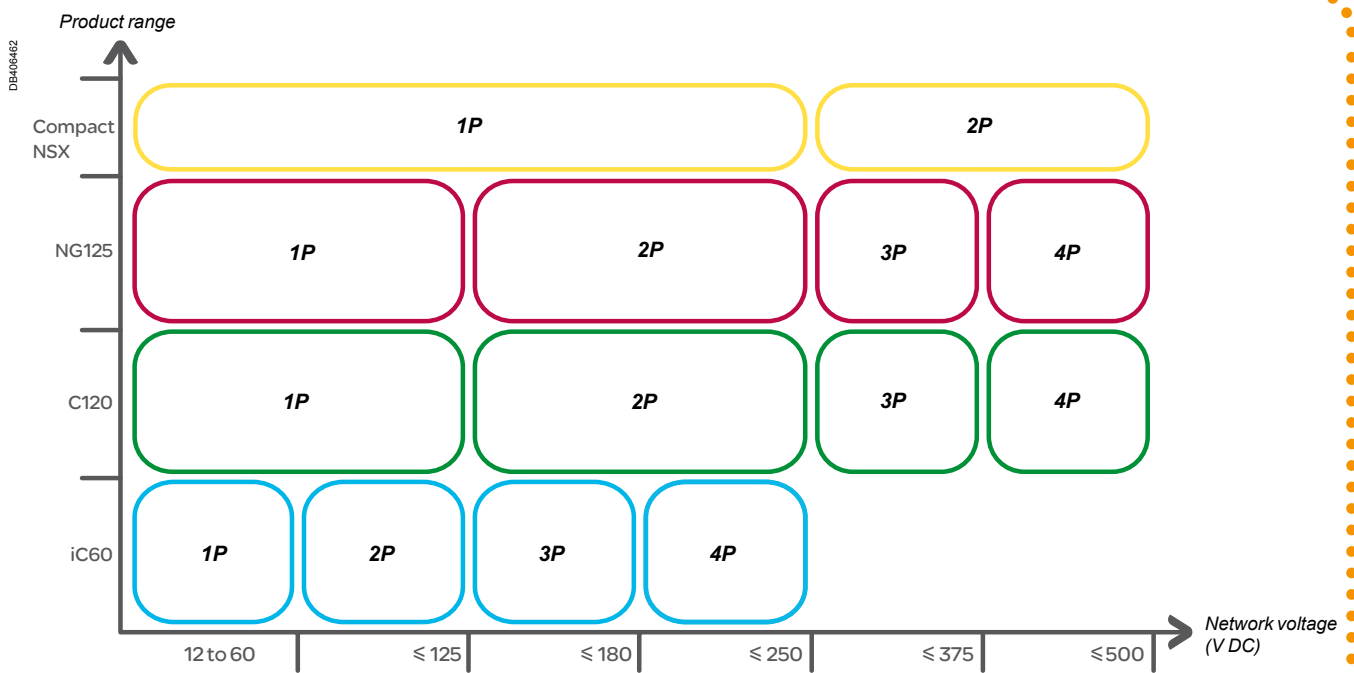


2 The figure shows a source with the negative polarity earthed.

| Fault | Fault current (max.) | Voltage | Poles involved in breaking | Breaking characteristics |
|-------|----------------------|---------|----------------------------|---|
| A | Isc | Un | a | Isc at Un on the poles connected to the positive polarity |
| B | Isc | Un | a + b | Isc at Un on all the poles connected in series |
| C | - | - | b | No breaking needed |

Isc: presumed short-circuit current.
Un: rated network voltage.

> All the circuit-breaker poles must be on the non-earthed polarity. One pole on the earthed polarity will allow isolation to be performed.



| Isolation | Number of poles and connection diagram | | | |
|-----------------------|--|--------------|--------------|--------------|
| | 1P | 2P | 3P | 4P |
| Not required 1 | DB405938 | DB405939 | DB405940 | DB405941 |
| Required 2 | DB405942 | DB405943 | DB405944 | |

R: Load.

Direct current distribution

Choosing and implementing circuit breakers

iC60, C120, NG125 offer

Choosing circuit breakers for distribution with earthed mid-point

The following tables show the number of poles connected in series according to the DC network voltage, and the circuit breaking performance of our circuit breaker range.

Breaking capacity for a maximum voltage per pole of: 60 V DC for the iC60 offers and 125 V DC for the C120 and NG125 offers



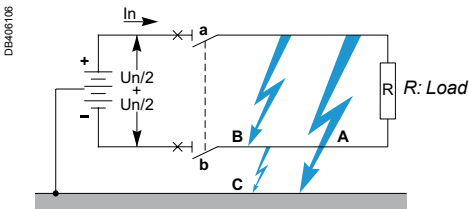
Fault condition analysis

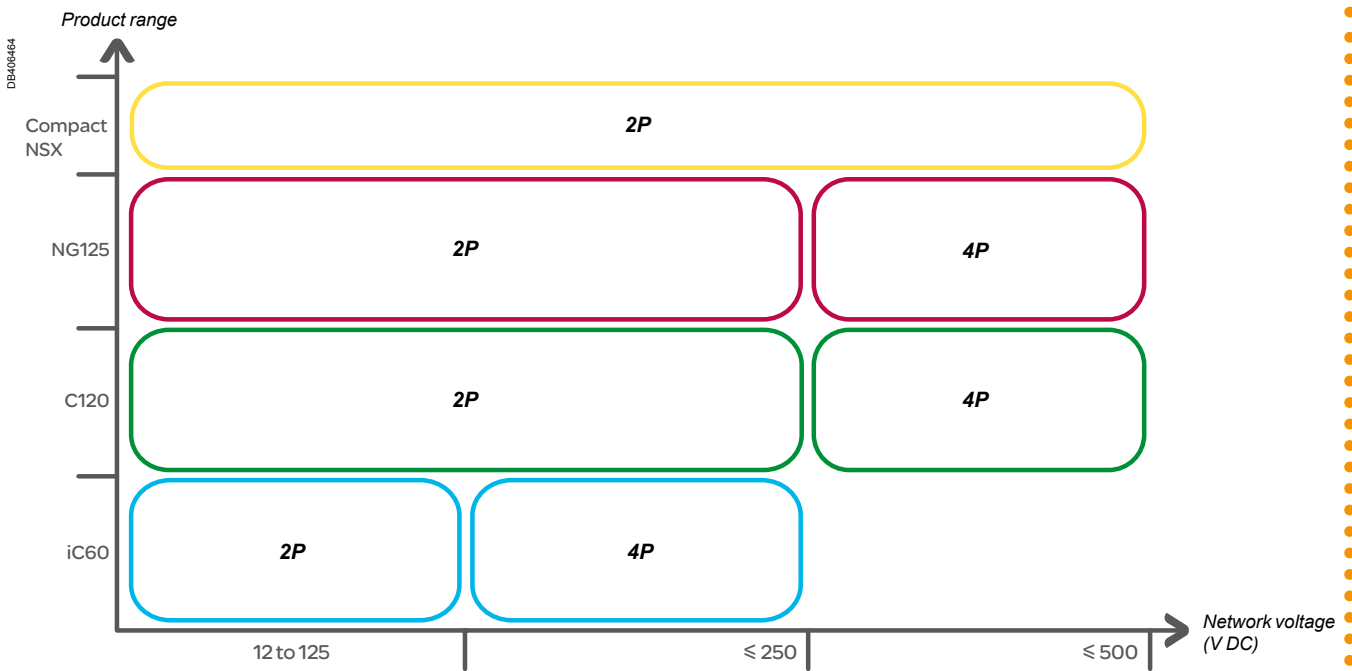
| Fault | Fault current (max.) | Voltage | Poles involved in breaking | Breaking characteristics |
|-------|----------------------|-------------------|----------------------------|--|
| A | I _{sc} | U _n /2 | a | I _{sc} at U _n /2 on the poles connected to the positive polarity |
| B | I _{sc} | U _n | a + b | I _{sc} at U _n on all the poles connected in series |
| C | I _{sc} | U _n /2 | b | I _{sc} at U _n /2 on the poles connected to the negative polarity |

I_{sc}: presumed short-circuit current.
U_n: rated network voltage.

> The circuit-breaker poles must be distributed symmetrically over the two polarities.

Obviously, this connection provides isolation.





| Isolation | Number of poles and connection diagram | |
|-----------------|--|-----------------|
| Required or not | 2P | 4P |
| | <p>DB408642</p> | <p>DB408645</p> |

R: Load.

iC60, C120, NG125 offer

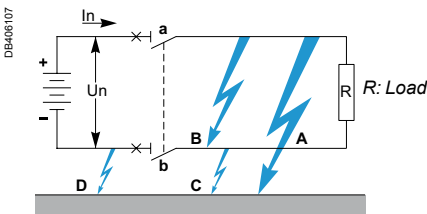
Choosing circuit breakers for distribution isolated from earth

The following tables show the number of poles connected in series according to the DC network voltage, and the circuit breaking performance of our circuit breaker range.

Breaking capacity for a maximum voltage per pole of: 60 V DC for the iC60 offers and 125 V DC for the C120 and NG125 offers



Fault condition analysis



The figure shows a source in IT system with a second fault (D) on the negative polarity.

| Fault | Fault current (max.) | Voltage | Poles involved in breaking | Breaking characteristics |
|---------|----------------------|---------|----------------------------|--|
| A | Low | Low | a | No breaking needed |
| A and D | $I_d^{(1)}$ | U_n | a | I_d at U_n on the poles connected to the positive polarity |
| B | I_{sc} | U_n | a + b | I_{sc} at U_n on all the poles connected in series |
| C | Low | Low | b | No breaking needed |

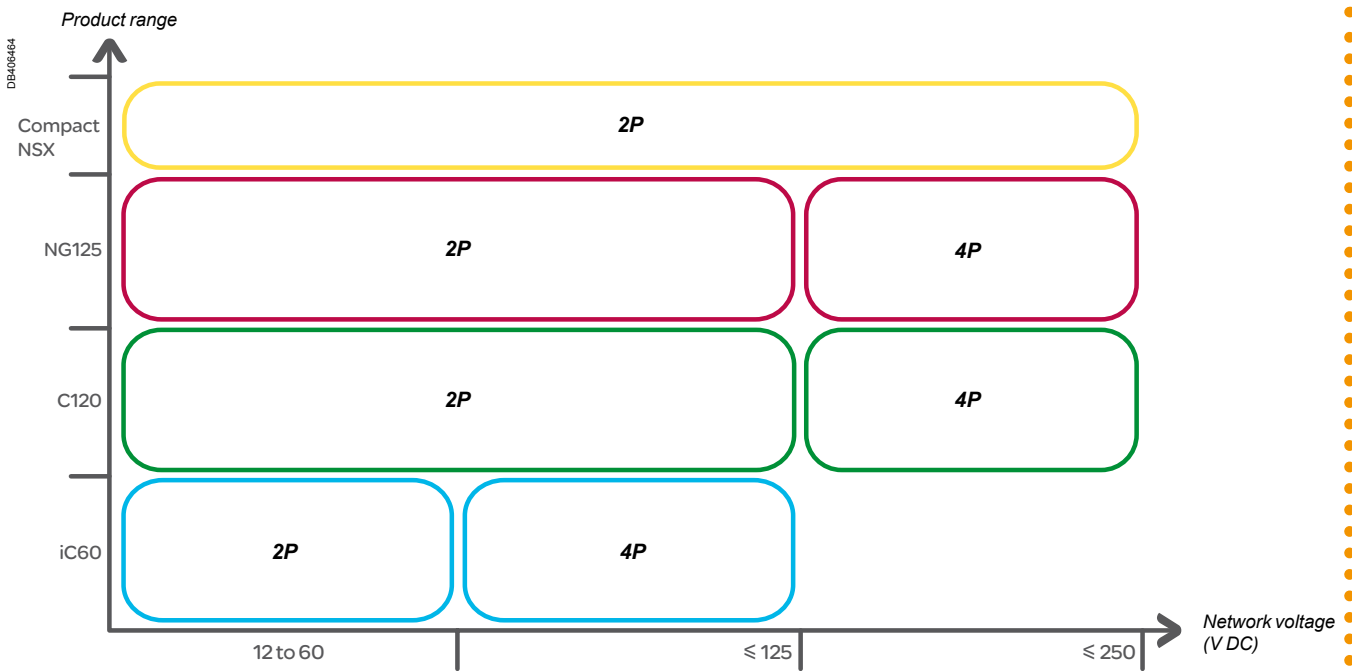
I_{sc} : presumed short-circuit current.
 U_n : rated network voltage.

(1) Fault current values acceptable according to the installation rules.

- If $I_{sc} < 10$ kA: fault current $\leq 0.15 I_{sc}$.
- If $I_{sc} > 10$ kA: fault current $\leq 0.25 I_{sc}$.

> The circuit-breaker poles must be distributed symmetrically over the two polarities.

Obviously, this connection provides isolation.



| Isolation | Number of poles and connection diagram | |
|-----------------|--|----|
| Required or not | 2P | 4P |
| | | |

R: Load.

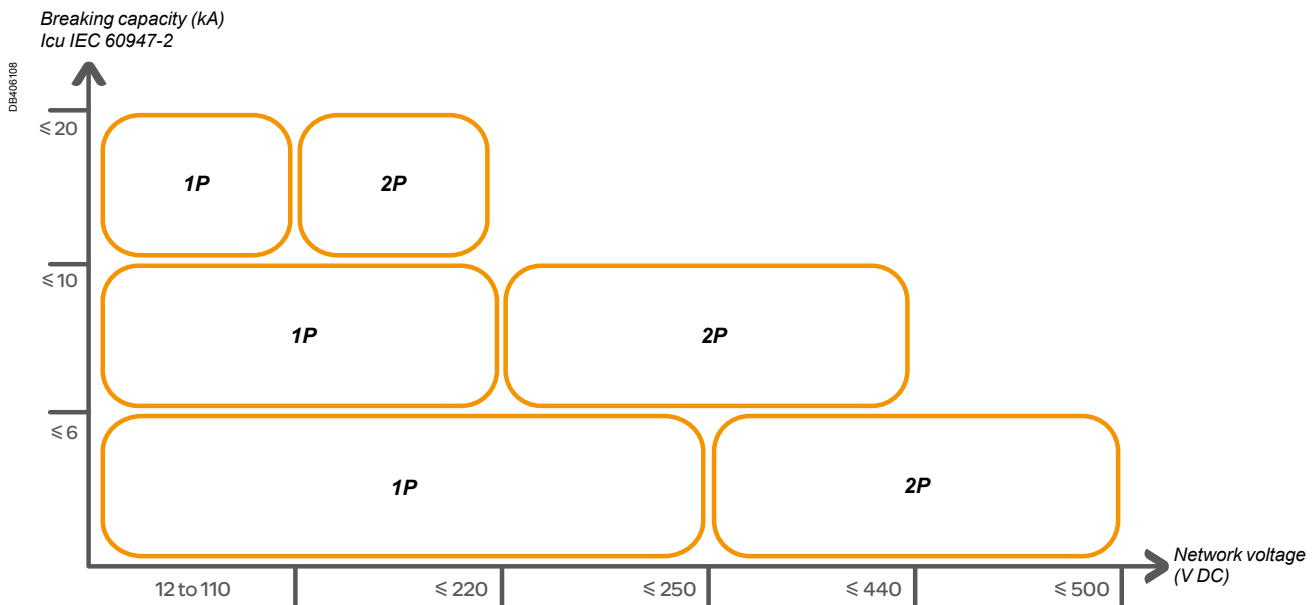
Direct current distribution

Choosing and implementing circuit breakers

C60H-DC offer

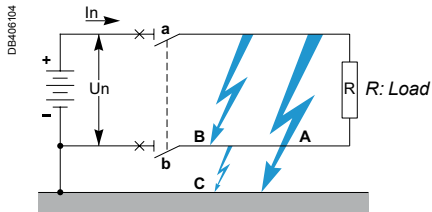
Unlike the preceding offers, the C60H-DC offer comprises polarised circuit breakers reserved exclusively for direct current applications. As we saw earlier, it is therefore not compatible in the case of circuits with (even momentary) current direction reversal. The same applies to "mixed" networks operating successively in AC and DC (e.g. safety devices).

It is an offer corresponding to the C curve and ranging up to 63 A.



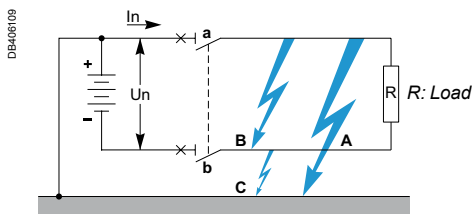
Choosing circuit breakers for distribution with earthed polarity

"-" polarity earthed



The figure shows a source with the negative polarity earthed.

"+" polarity earthed



The figure shows a source with the positive polarity earthed.

| Isolation | Number of poles and connection diagram | |
|--------------|--|----|
| | 1P | 2P |
| Not required | | |
| Required | | |
| Isolation | Number of poles and connection diagram | |
| | 1P | 2P |
| Not required | | |
| Required | | |

R: Load.

Fault condition analysis with "-" polarity earthed

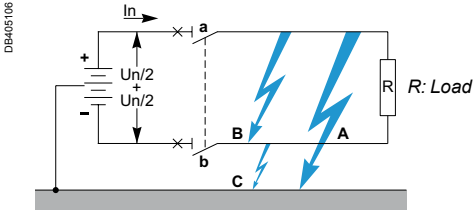
| Fault | Fault current (max.) | Voltage | Poles involved in breaking | Breaking characteristics |
|-------|----------------------|---------|----------------------------|--|
| A | Isc | Un | a | Isc at Un on the pole connected to the positive polarity |
| B | Isc | Un | a + b | Isc at Un on the both poles |
| C | - | - | b | No breaking needed |

Isc: presumed short-circuit current.
Un: rated network voltage.

> All the circuit-breaker poles must be on the non-earthed polarity. One pole on the earthed polarity will allow isolation to be performed.

C60H-DC offer

Choosing circuit breakers for distribution with earthed mid-point



The figure shows a source with earthed mid-point.

| Isolation | Number of poles and connection diagram |
|-----------------|--|
| Required or not | 2P |
| | |

R: Load.

Fault condition analysis

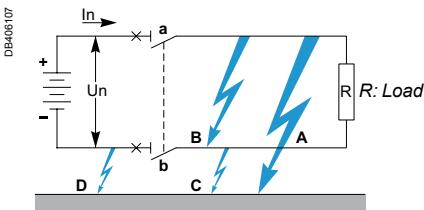
| Fault | Fault current (max.) | Voltage | Poles involved in breaking | Breaking characteristics |
|-------|----------------------|---------|----------------------------|--|
| A | Isc | Un/2 | a | Isc at Un/2 on the pole connected to the positive polarity |
| B | Isc | Un | a + b | Isc at Un on the both poles |
| C | Isc | Un/2 | b | Isc at Un/2 on the pole connected to the negative polarity |

Isc: presumed short-circuit current.
Un: rated network voltage.

➤ The circuit-breaker poles must be distributed symmetrically over the two polarities.

Obviously, this connection provides isolation.

Choosing circuit breakers for distribution isolated from earth



The figure shows a source in IT system with a second fault (D) on the negative polarity.

| Isolation | Number of poles and connection diagram |
|-----------------|--|
| Required or not | 2P |
| | |

R: Load.

Fault condition analysis

| Fault | Fault current (max.) | Voltage | Poles involved in breaking | Breaking characteristics |
|---------|----------------------|---------|----------------------------|---|
| A | Low | Low | a | No breaking needed |
| A and D | Id ⁽¹⁾ | Un | a | Id at Un on the pole connected to the positive polarity |
| B | Isc | Un | a + b | Isc at Un on the both poles |
| C | Low | Low | b | No breaking needed |

Isc: presumed short-circuit current.
Un: rated network voltage.

(1) Fault current values acceptable according to the installation rules.

- If Isc < 10 kA: fault current ≤ 0.15 Isc.
- If Isc > 10 kA: fault current ≤ 0.25 Isc.

➤ The circuit-breaker poles must be distributed symmetrically over the two polarities.

Obviously, this connection provides isolation.

Connection

Series connection

In the preceding offers we extensively used the principle of series connection of products. Series connection of the poles, by dividing the voltage per pole, optimizes the circuit breaking performance for high-voltage networks. Series connection of the poles of a circuit breaker used in direct current therefore makes it possible to:

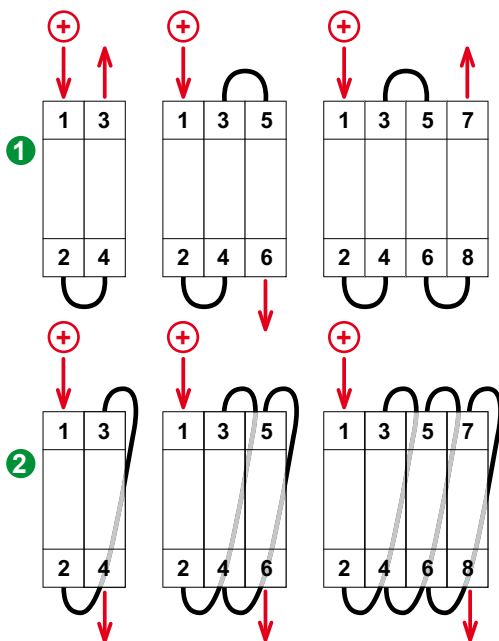
- divide the network voltage by the number of poles
- have the rated current for each pole
- have the circuit breaker's breaking capacity for all the poles.

Direction of cabling and cable length

In the case of series connection, the direction of cabling has a major impact on the product's performance.

Usually the first product cabling method ① will be used. For special applications where there is only a single possible current direction, the second cabling method ② is preferable, especially for electrical endurance properties.

Subsequently the cable cross section and length combination should be optimized, depending on the loads. Generally, a greater length and cross section improves performance.



| Rating (In) | Cross section (mm ²) | Min. shunt length (mm) |
|-------------|----------------------------------|------------------------|
| ≤ 63 A | ≤ 16 | 500 |
| | 25 | 200 |
| | 35 | 100 |
| ≤ 125 A | 35 | 300 |
| | 50 | 200 |

Note: This table gives the minimum cable (shunt) lengths optimizing the equipment's performance according to the cable cross sections.

Clarification concerning voltage drops

Importance of allowing for voltage drops

Voltage drops are an issue that must be taken into account especially in direct current distribution due to:

- the common use of very low voltage (24, 48 or sometimes 12 V):
 - for a given resistance and current in a circuit, relative voltage drops increase as the voltage is lowered,
 - the natural voltage drop of batteries in power reserve mode, as they are discharged,
 - the criticality of the associated applications, often requiring a high level of security and continuity of service.

Cause of voltage drops

Voltage drops are caused by the sum of the resistances in series in the circuit:

- internal resistance (r) of the source
- resistance of connecting cables
- internal resistance of control and protection switchgear, often significant for circuit breakers of low rating (a few amperes) powered at very low voltage
- it is generally expressed in mΩ
- in the absence of data directly from the manufacturer, it can be calculated by dividing the power consumption by the square of the current: $r = P/I^2$
- spurious resistance of connections.

Voltage drops in the circuit must be less than the rated operating tolerances of the various loads in steady-state conditions and especially at start-up (inrush current).

Table G.52.1 – Voltage drop

| Type of installation | Lighting % | Other uses % |
|---|------------|--------------|
| A – Low voltage installations supplied directly from a public low voltage distribution system | 3 | 5 |
| B – Low voltage installation supplied from private LV supply* | 6 | 8 |

* As far as possible, it is recommended that voltage drop within the final circuits do not exceed those indicated in installation type A.

When the main wiring systems of the installations are longer than 100 m, these voltage drops may be increased by 0,005 % per metre of wiring system beyond 100 m, without this supplement being greater than 0,5 %.

Voltage drop is determined from the demand by the current-using equipment, applying diversity factors where applicable, or from the values of the design current of the circuits.

IEC 60364-5-52 standard.

The multipolar low rating use (< 4 A) is not suitable for very low voltage networks (< 24 V DC).

Direct current distribution

Choosing and implementing circuit breakers

Examples of choices

Example 1

In a direct current distribution system, powered by a rectifier/charger of voltage 125 V with earthed "-" polarity, which circuit breakers should be installed to protect:

- the battery outgoing feeder of permissible current $I_z = 69$ A, operating current $I_b = 55$ A, and short-circuit current 10 kA?
- a lighting outgoing feeder of permissible current $I_z = 22$ A, operating current $I_b = 18$ A, and short-circuit current 10 kA?

If the battery outgoing feeder is with momentary current direction reversal, choose an iC60 circuit breaker:

| Circuit to be protected | Choice of circuit breaker | |
|--|---------------------------|--------------------------|
| $I_b = 55$ A, $I_z = 69$ A | Rating | $I_n = 63$ A |
| No high current peak | Curve | B |
| $U_n = 125$ V, $I_{sc} = 10$ kA, "-" earthed | Breaking capacity | iC60N |
| | Connection | 2 poles in series on "+" |
| Isolation required | | 1 pole on "-" |

➤ Choose a B-curve iC60N 3P 63 A circuit breaker with 2 poles connected to the positive polarity.

If the lighting outgoing feeder is without momentary current direction reversal, choose a C60H-DC circuit breaker:

| Circuit to be protected | Choice of circuit breaker | |
|--|---------------------------|----------------|
| $I_b = 18$ A, $I_z = 22$ A | Rating | $I_n = 20$ A |
| No high current peak | Curve | C |
| $U_n = 125$ V, $I_{sc} = 10$ kA, "-" earthed | Breaking capacity | C60H-DC |
| | Connection | 1 pole on "+" |
| Isolation not required | | No pole on "-" |

➤ Choose a C60H-DC 1P 20 A circuit breaker with 1 pole connected to positive polarity.

Example 2

In a direct current distribution system, powered by a rectifier/charger of voltage 125 V, with earthed mid-point, which circuit breakers should be installed to protect:

- the battery outgoing feeder of permissible current $I_z = 69$ A, operating current $I_b = 55$ A, and short-circuit current 20 kA?
- a lighting outgoing feeder of permissible current $I_z = 22$ A, operating current $I_b = 18$ A, and short-circuit current 20 kA?

If the battery outgoing feeder is with momentary current direction reversal, choose an iC60 circuit breaker of characteristics in compliance with the installation:

| Circuit to be protected | Choice of circuit breaker | |
|--|---------------------------|--------------------------------|
| $I_b = 55$ A, $I_z = 69$ A | Rating | $I_n = 63$ A |
| No high current peak | Curve | B |
| $U_n = 125$ V, $I_{sc} = 20$ kA, earthed mid-point | Breaking capacity | iC60H |
| | Connection | 1 pole on "+" 1 pole on "-" |
| Isolation required | | Provided by both poles |

➤ Choose a B-curve iC60H 2P 63 A circuit breaker, connected symmetrically to the "+" and "-" polarities.

Direct current distribution

Choosing and implementing circuit breakers

If the lighting outgoing feeder is without momentary current direction reversal, choose a C60H-DC circuit breaker:

| Circuit to be protected | Choice of circuit breaker | |
|--|---------------------------|----------------------|
| $I_b = 18 \text{ A}$, $I_z = 22 \text{ A}$ | Rating | $I_n = 20 \text{ A}$ |
| $U_n = 125 \text{ V}$, $I_{sc} = 20 \text{ kA}$, earthed mid-point | Breaking capacity | C60H-DC |
| | Connection | 1 pole on "+" |
| 1 pole on "-" | | |
| Isolation not required | Provided by both poles | |

➤ Choose a C60H-DC 2P 20 A circuit breaker connected symmetrically to the "+" and "-" polarities.

Example 3

In a direct current distribution system powered by two rectifiers in parallel $U_n = 250 \text{ V}$, $I_{sc} (2 \text{ sources}) = 35 \text{ kA}$, in IT system, which circuit breakers should be installed to protect:

- the pair of rectifiers of permissible current $I_z = 69 \text{ A}$ and operating current $I_b = 55 \text{ A}$?
- a lighting outgoing feeder of permissible current $I_z = 22 \text{ A}$ and operating current $I_b = 18 \text{ A}$?

If the pair of rectifiers is with momentary current direction reversal, choose an iC60 circuit breaker:

| Circuit to be protected | Choice of circuit breaker | |
|--|---------------------------|---|
| $I_b = 55 \text{ A}$, $I_z = 69 \text{ A}$ | Rating | $I_n = 63 \text{ A}$ |
| No high current peak | Curve | B or C (the magnetic threshold is far lower than the short-circuit current) |
| $U_n = 250 \text{ V}$, $I_{sc} = 35 \text{ kA}$, IT system | Breaking capacity | NG125L |
| | Connection | 2 poles on "+" |
| 2 poles on "-" | | |
| Isolation required | Provided by the 4 poles | |

➤ Choose an NG125L 4P 63 A circuit breaker connected symmetrically to the "+" and "-" polarities.

The lighting outgoing feeder is without momentary current direction reversal but the short-circuit current is too great to choose a C60H-DC circuit breaker.

| Circuit to be protected | Choice of circuit breaker | |
|--|---------------------------|----------------------|
| $I_b = 18 \text{ A}$, $I_z = 22 \text{ A}$ | Rating | $I_n = 20 \text{ A}$ |
| No high current peak | Curve | B |
| $U_n = 250 \text{ V}$, $I_{sc} = 35 \text{ kA}$, IT system | Breaking capacity | NG125L |
| | Connection | 2 poles on "+" |
| 2 poles on "-" | | |
| Isolation not required | Provided by the 4 poles | |

➤ Choose a B-curve NG125L 4P 20 A circuit breaker connected symmetrically to the two "+" and "-" polarities.

Residual current devices do not work on a direct current distribution system.

Earth leakage protection can be provided by circuit breakers or residual current circuit breakers installed on the upstream AC distribution system.

Standard IEC 60479-1 determines applicable values for the protection of users.

Residual current devices

DC networks isolated from any AC network

Residual current devices will not work with a direct current distribution system powered directly by a battery, a generating set, photovoltaic cells, etc., or a rectifier with galvanic insulation. In this case protection for users is provided by choosing a network voltage that is not dangerous and an appropriate earthing system.

Safe direct current network voltage

| Environment | TN-S system | | IT system |
|-------------|------------------|-------------------|-----------|
| | Earthed polarity | Earthed mid-point | |
| Dry | 100 V | 200 V | 100 V |
| Wet | 50 V | 100 V | 50 V |
| Immersed | 25 V | 50 V | 25 V |

DC networks connected to an AC network

In the case of a direct current distribution system powered by an AC/DC converter (without galvanic insulation), earth leakage protection can be provided by circuit breakers or residual current circuit breakers installed on the AC network upstream of the converter.

Protection against direct contact

Earth leakage protection of high sensitivity ($I_{\Delta n} = 30 \text{ mA}$) is compulsory if certain circuits operating on direct current entail risks of barring of live parts (see installation standards). This protection system should be chosen as follows:

- type A or si (bipolar), if the converter is powered by a single-phase supply
- type B, if the converter is powered by a three-phase supply.

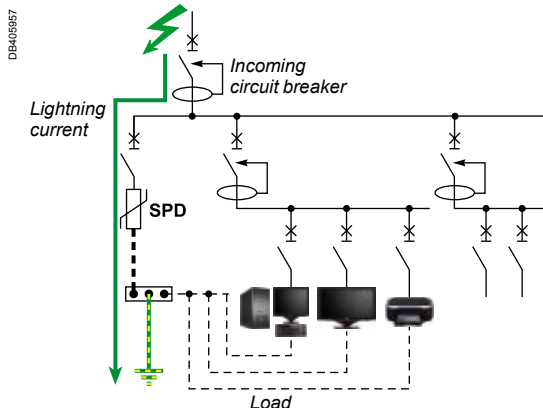
The choice of this protection system does not depend on the earthing system.

Protection against indirect contact

| Protection against indirect contact | | Medium-sensitivity earth leakage protection $I_{\Delta n} \geq 300 \text{ mA}$ | | |
|--|---|---|------------------------|--------------|
| Upstream power supply | | Three-phase | | Single-phase |
| Characteristics of direct-current circuits to be protected | | Without double insulation | With double insulation | |
| Upstream earthing system | TT or IT with non-interconnected exposed conductive parts | Type B | Type A | |
| | TN-S IT | Type A | | |

Fire protection

| Fire protection | | Medium-sensitivity earth leakage protection $I_{\Delta n} = 300 \text{ mA}$ | | |
|--|--|--|--|--|
| Upstream power supply | | Single-phase or three-phase | | |
| Characteristics of direct-current circuits to be protected | | Humid or dusty environments, ancient installations and buildings | | |
| Upstream earthing system | | No influence | | |
| | | Type A | | |



Surge protective device

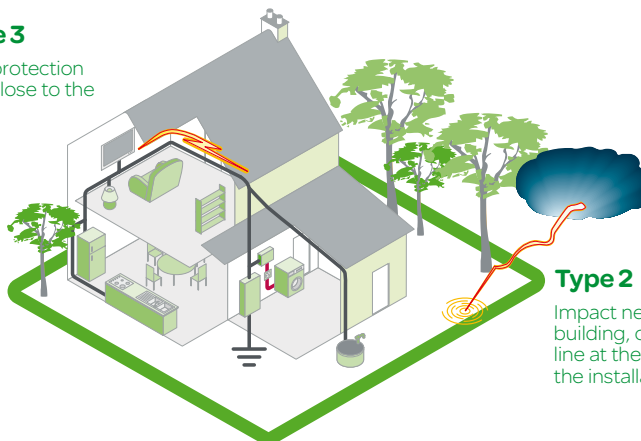
In fact the operating principle of the surge protective device remains identical in direct current; the surge protective devices capture and conduct to earth the current of electric overvoltages.

Particularly if the direct current is implemented by a rectifier without galvanic insulation and if the AC network already contains a surge protective device, there will be no need for a specific protective device.

Otherwise, the surge protective device should be adapted "finely" to the network voltage (and the overvoltage resistance of the loads, which is linked to the network voltage).

Type 3

Fine protection very close to the loads



Type 2

Impact near the building, on the LV line at the entry to the installation

Type 1 surge protective device

The type 1 surge protective device is recommended in the specific case of service-sector and industrial buildings, protected by a lightning rod or a meshed cage. It protects electrical installations against direct lightning strokes. It can discharge the back-current from lightning spreading from the earth conductor to the network conductors.

Type 1 surge protective devices are characterized by a 10/350 μ s current wave.

Type 2 surge protective device

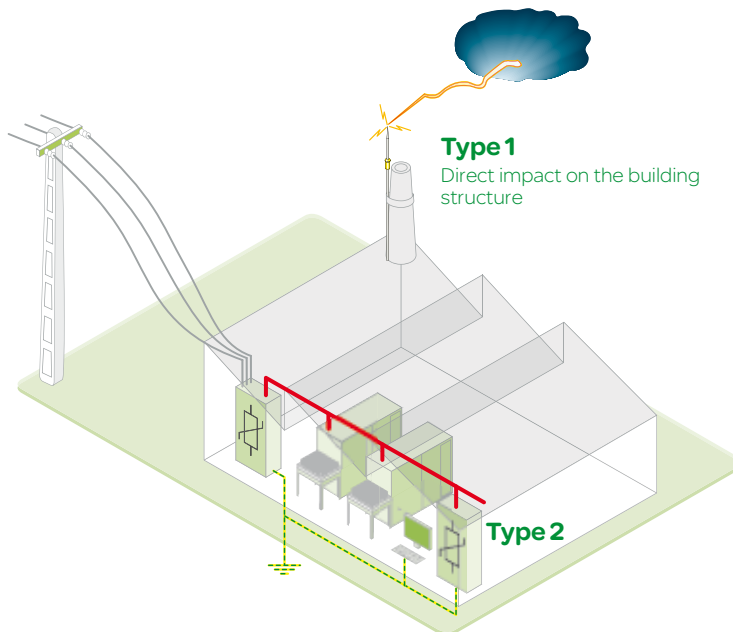
The type 2 surge protective device is the main protection system for all low-voltage electrical installations. Installed in each electrical switchboard, it prevents the spread of overvoltages in the electrical installations and protects the loads.

Type 2 surge protective devices are characterized by an 8/20 μ s current wave.

Type 3 surge protective device

These surge protective devices have a low discharge capacity. They must therefore mandatorily be installed as a supplement to type 2 surge protective devices and in the vicinity of sensitive loads.

Type 3 surge protective devices are characterized by a combination of voltage waves (1.2/50 μ s) and current waves (8/20 μ s).



Type 1

Direct impact on the building structure

Generally the direct current switching voltage should be assigned a coefficient of $\sqrt{2}$ compared with alternating current. Apart from this the principle for choosing devices according to the networks remains the same.

| Network voltage | Comments | Offer |
|-----------------|-----------------|--------------------------|
| 24 / 48 V | Communication | iPRI |
| < 200 V | Communication | iPRC |
| 200 to 400 V | Type 2 and 3 | iPRD, iPF |
| 200 to 400 V | Type 1 and 2 | iPRF1, PRD1 |
| 200 to 400 V | Type 1 | PRD1 Master, PRF1 Master |
| 600 or 1000 V | PV applications | iPRD-DC |

Coordination with disconnectors

A study is underway on the coordination of our surge protective devices on direct current networks; it will enable this document to be supplemented at a later stage.

DE400900

Table 6 – Equipment having a nominal voltage below 120 V a.c. or below 750 V d.c.

| DC | | AC | |
|----------------|-----------------|----------------|-----------------|
| Nominal values | | Nominal values | |
| Preferred V | Supplementary V | Preferred V | Supplementary V |
| | 2,4 | | |
| | 3 | | |
| | 4 | | |
| | 4,5 | | |
| | 5 | | 5 |
| 6 | 7,5 | 6 | |
| | 9 | | |
| 12 | 15 | 12 | |
| | | | 15 |
| 24 | 30 | 24 | |
| | | | 36 |
| 36 | 40 | | |
| | | 48 | |
| 48 | | | 60 |
| 60 | | | |
| 72 | | | |
| | 80 | | 100 |
| 96 | | | |
| | | 110 | |
| 110 | 125 | | |
| | | | |
| 220 | 250 | | |
| | | | |
| 440 | 600 | | |

NOTE 1 Because the voltage of the primary and secondary cells is below 2,4 V, and the choice of the type of cell to be used in various applications will be based on properties other than the voltage, these values are not included in the table. The relevant IEC technical committees may specify types of cells and related voltages for specific applications.

NOTE 2 It is recognized that for technical and economic reasons, additional voltages may be required for certain specific fields of application.

IEC 60038 standard.

The installation rules of the IEC 60364 standard apply to direct current distribution systems.

Network voltage

24 V, 48 V, 60 V, 125 V, 250 V, 500 V, 750 V.

These voltages often depend on the application or the sources used, for example:

- batteries on single-phase DC charger: voltage 240 V DC,
- batteries on three-phase DC charger: voltage 440 V DC.

Overcurrent protection

Short-circuit current

The short-circuit current depends on the source. For a distribution system powered by a battery, it can be calculated by the formula $I_{sc} \text{ (in A)} = kC$ with:

- C the battery capacity in Ah,
- k a coefficient close to 10 and in any case always less than 20.

Example

A 125 V battery of capacity 220 Ah delivers a short-circuit current I_{sc} between 2.2 kA and 4.4 kA.

Note: Since the I_{sc} current value is relatively low and the distribution system is not very extensive, the maximum short-circuit current I_{sc} at any point of the installation is taken as equal to the short-circuit current I_{sc} of the source (value by excess).

Overload protection

For a load of operating current I_b and a duct of permissible current I_z , the duct protection by a distribution circuit breaker must have a rating I_n such that: $I_b \leq I_n \leq I_z$.

Short-circuit protection

The installation standards impose no particular constraint: a magnetic tripping threshold I_m such that $5 I_n \leq I_m \leq 10 I_n$ is generally advisable.

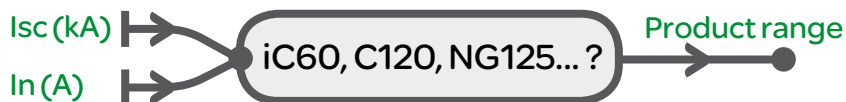
Appendix 1

iC60, C120, NG125 offer

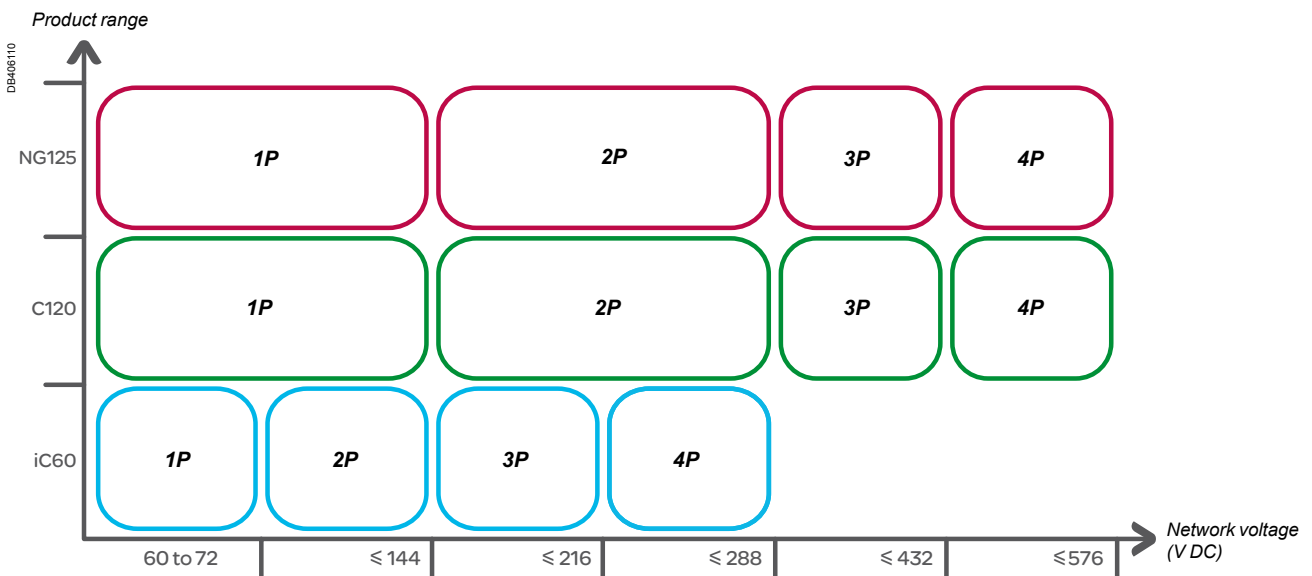
Choosing circuit breakers for distribution with earthed polarity

The following tables show the number of poles connected in series according to the DC network voltage, and the circuit breaking performance of our circuit breaker range.

Breaking capacity for a maximum voltage per pole of: 72 V DC for the iC60 offers and 144 V DC for the C120 and NG125 offers



Fault condition analysis, see page 656.



Isolation, number of poles and connection diagram, see page 657.

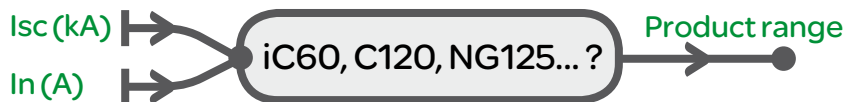
Appendix 2

iC60, C120, NG125 offer

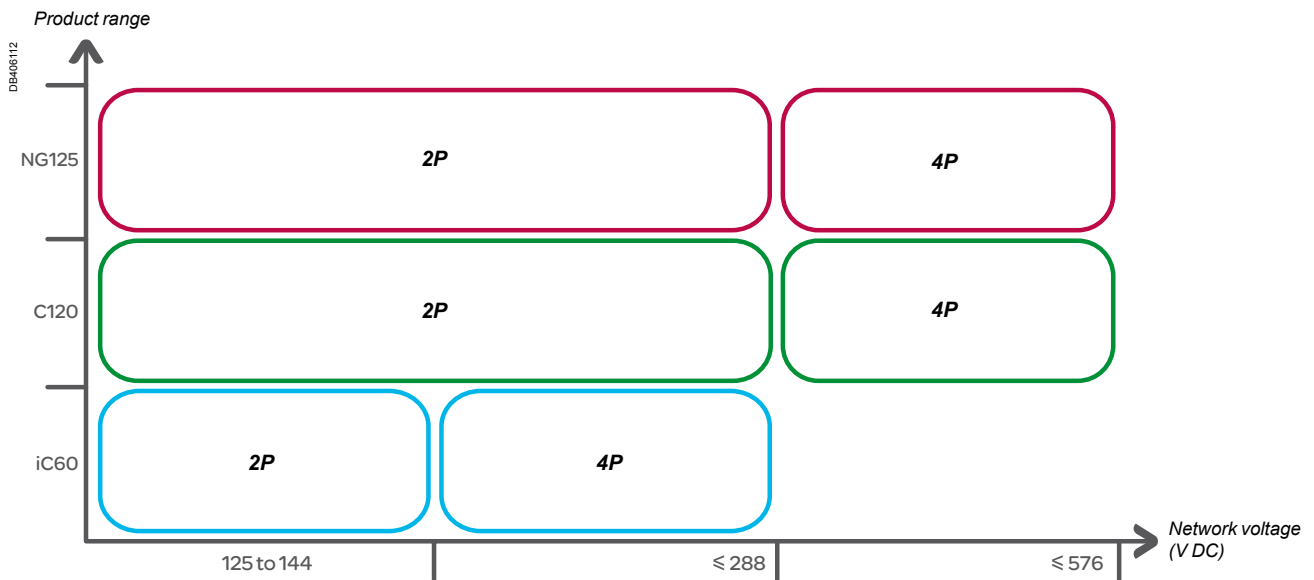
Choosing circuit breakers for distribution with earthed mid-point

The following tables show the number of poles connected in series according to the DC network voltage, and the circuit breaking performance of our circuit breaker range.

Breaking capacity for a maximum voltage per pole of: 72 V DC for the iC60 offers and 144 V DC for the C120 and NG125 offers



Fault condition analysis, see page 658.



Isolation, number of poles and connection diagram, see page 659.

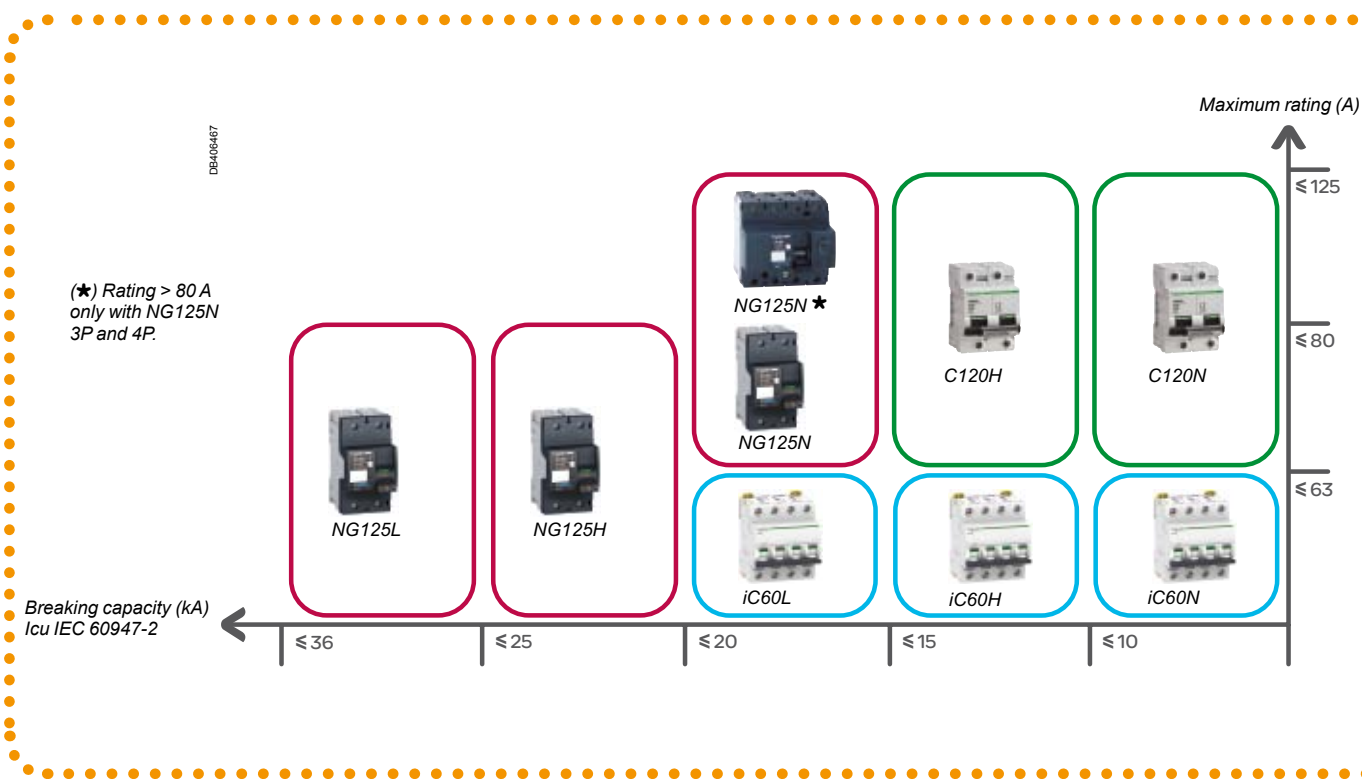
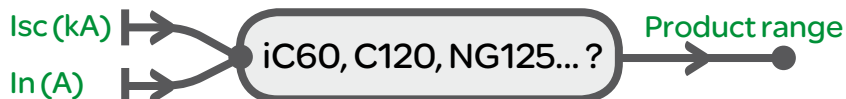
Appendix 3

iC60, C120, NG125 offer

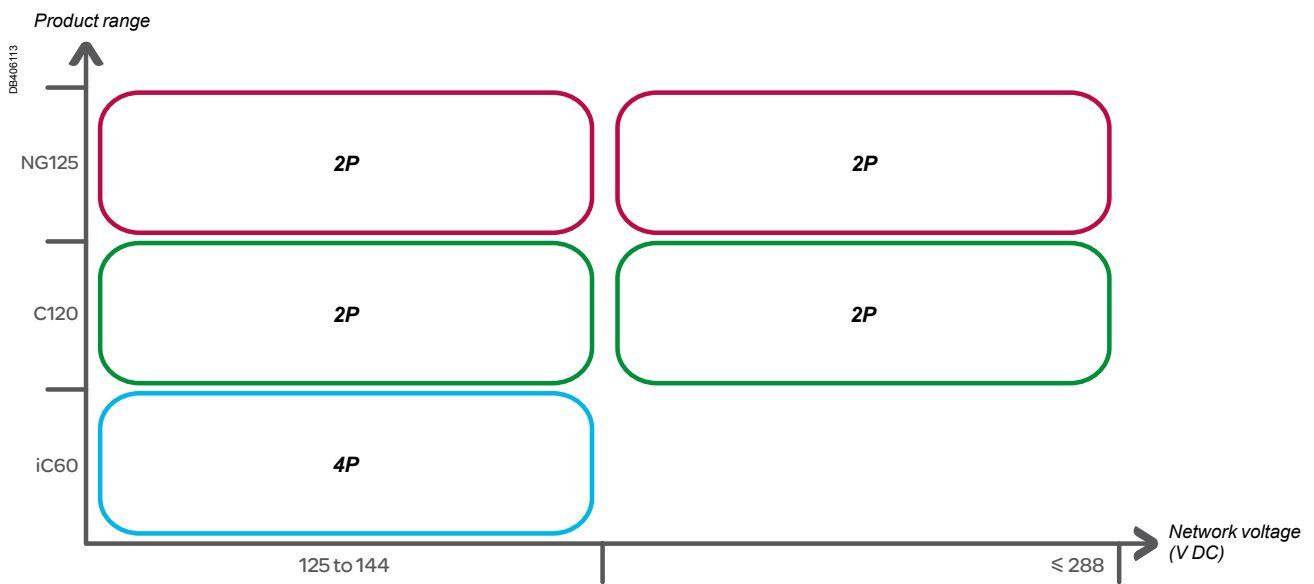
Choosing circuit breakers for distribution isolated from earth

The following tables show the number of poles connected in series according to the DC network voltage, and the circuit breaking performance of our circuit breaker range.

Breaking capacity for a maximum voltage per pole of: 72 V DC for the iC60 offers and 144 V DC for the C120 and NG125 offers



Fault condition analysis, see page 660.



Isolation, number of poles and connection diagram, see page 661.

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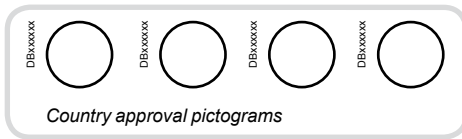
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As standards, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.



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(Basic functions)



MA circuit breaker:
short-circuit protection
and isolation

Contactor:
control

Thermal relay:
overload protection

IEC 60947-4-1

Types of co-ordination

Standard IEC 60947.4 defines tests at various current levels with the aim of placing the switchgear in extreme conditions. According to the state of components after testing, the standard defines 2 types of coordination.

■ **Type 1:**

Deterioration of the contactor and relay is accepted under 2 conditions:

- there is no risk for the operator,
- parts other than the contactor and relay must not be damaged.

■ **Type 2:**

Welding of the contactor or starter contacts is accepted only if they can easily be separated:

- after type 2 coordination tests, the functions of the protection and control switchgear are operational.

Which type to choose?

The choice of coordination type depends on the operating parameters. It must be suitable for the user's needs and ensure optimised cost of the installation.

■ **Type 1:**

- qualified maintenance service,
- reduced volume and cost of switchgear,
- continuity of supply not required or ensured by replacing the faulty motor rack.

■ **Type 2:**

- continuity of supply vital,
- reduced maintenance service,
- specifications stipulating type 2.

The various thermal relay classes: the thermal relay class must be appropriate for the motor starting time.

| Classes | Tripping time at 7.2 I _r (s) |
|---------|---|
| 10/10 A | 2 to 10 |
| 20 | 6 to 20 |

Type 1 of co-ordination

- Starting: normal (Class 10).
- Breaking performance: equal to the breaking capacity of the circuit breaker only.
- Temperature: 40°C.

Catalogue numbers

| Motor | | | | | | | | Circuit breaker | | | Contactor | Thermal relay | |
|--------------|-------|--------------|-------|--------|-------|----------------------|-------|------------------|------------|---------------------|-----------|---------------|------------|
| 220 to 230 V | | 380 to 400 V | | 415 V | | 440 V ⁽¹⁾ | | Type | Rating (A) | I _{rm} (A) | Type | Type | Irth |
| P (kW) | I (A) | P (kW) | I (A) | P (kW) | I (A) | P (kW) | I (A) | | | | | | |
| - | - | 0.37 | 1.2 | 0.37 | 1.1 | 0.37 | 1 | iC60LMA-NG125LMA | 1.6 | 20 | LC1-D09 | LRD-06 | 1 to 1.6 |
| - | - | 0.55 | 1.6 | 0.55 | 1.5 | 0.55 | 1.4 | iC60LMA-NG125LMA | 1.6 | 20 | LC1-D09 | LRD-06 | 1.25 to 2 |
| 0.37 | 2 | 0.75 | 2 | 0.75 | 1.8 | 0.75 | 1.7 | iC60LMA-NG125LMA | 2.5 | 30 | LC1-D09 | LRD-07 | 1.6 to 2.5 |
| - | - | - | - | 1.1 | 2.6 | - | - | iC60LMA-NG125LMA | 4 | 50 | LC1-D09 | LRD-08 | 2.5 to 4 |
| 0.55 | 2.8 | 1.1 | 2.8 | 1.5 | 3.4 | 1.5 | 3.1 | iC60LMA-NG125LMA | 4 | 50 | LC1-D09 | LRD-08 | 2.5 to 4 |
| 11 | 5 | 2.2 | 5.3 | 2.2 | 4.8 | 2.2 | 4.5 | iC60LMA-NG125LMA | 6.3 | 75 | LC1-D09 | LRD-10 | 4 to 6 |
| 1.5 | 6.5 | 3 | 7 | 3 | 6.5 | 3 | 5.8 | iC60LMA-NG125LMA | 10 | 120 | LC1-D09 | LRD-12 | 5.5 to 8 |
| 2.2 | 9 | 4 | 9 | 4 | 8.2 | 4 | 7.9 | iC60LMA-NG125LMA | 10 | 120 | LC1-D09 | LRD-14 | 7 to 10 |
| - | - | 5.5 | 12 | 5.5 | 11 | - | - | iC60LMA-NG125LMA | 12.5 | 150 | LC1-D12 | LRD-16 | 9 to 13 |
| 4 | 15 | 7.5 | 16 | 7.5 | 14 | 7.5 | 13.7 | iC60LMA-NG125LMA | 16 | 190 | LC1-D18 | LRD-21 | 12 to 18 |
| - | - | - | - | 9 | 17 | 9 | 16.9 | iC60LMA-NG125LMA | 25 | 300 | LC1-D18 | LRD-21 | 12 to 18 |
| 5.5 | 20 | 11 | 23 | 11 | 21 | 11 | 20.1 | iC60LMA-NG125LMA | 25 | 300 | LC1-D25 | LRD-22 | 16 to 24 |
| 7.5 | 28 | 15 | 30 | 15 | 28 | 15 | 26.5 | iC60LMA-NG125LMA | 40 | 480 | LC1-D32 | LRD-32 | 23 to 32 |
| - | - | 18.5 | 37 | - | - | - | - | iC60LMA-NG125LMA | 40 | 480 | LC1-D40A | LRD-340 | 30 to 40 |
| 11 | 39 | - | - | 22 | 40 | 22 | 39 | iC60LMA-NG125LMA | 40 | 480 | LC1-D40A | LRD-350 | 37 to 50 |
| - | - | 22 | 43 | 25 | 47 | - | - | NG125LMA | 63 | 750 | LC1-D40A | LRD-350 | 37 to 50 |
| 15 | 52 | - | - | - | - | 30 | 51.5 | NG125LMA | 63 | 750 | LC1-D50A | LRD-365 | 48 to 65 |

(1) 480 V Nema.

The examples of photovoltaic installation architectures presented in this document illustrate the use of direct current circuit breakers dedicated to protection of the modules and cables of the PV strings, to protect against overloads and short circuits. To ensure the safety of the photovoltaic installation it is necessary, in the cases described below, to combine the C60PV-DC circuit breaker with other protective or fault detection devices on the DC side.

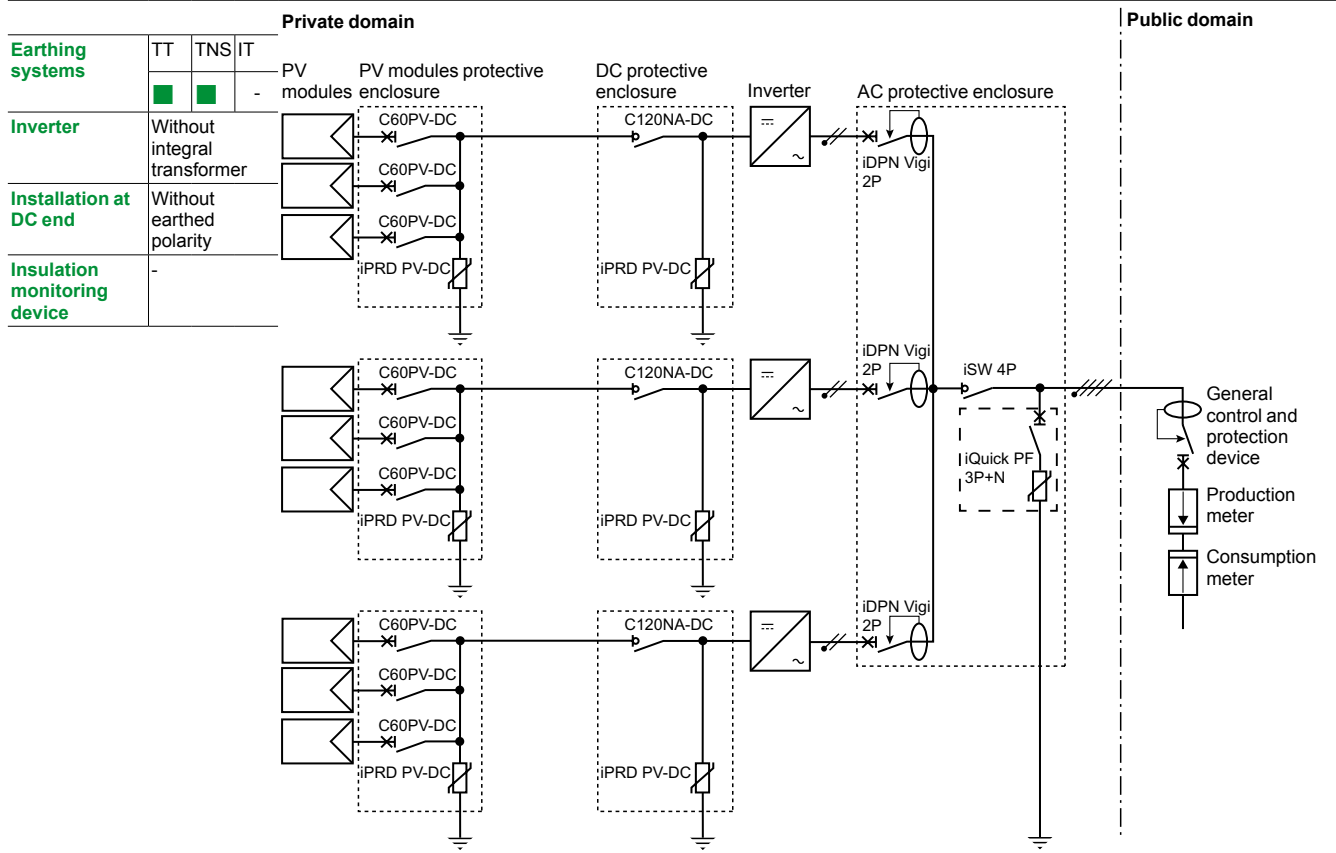
Installation from 10 to 100 kW - $U_e \leq 800$ V DC

In the case of a PV architecture without an earthed polarity on the DC side and with a PV inverter without galvanic isolation, it is necessary to:

- protect each string of photovoltaic modules with a C60PV-DC installed in the junction box near the PV modules
 - add a residual current device on the AC side of the PV inverter so that the latter trips as soon as an earth fault occurs on the DC side.
- It is necessary to intervene immediately on the site at the first default.**

Restarting will be possible only after eliminating the fault.

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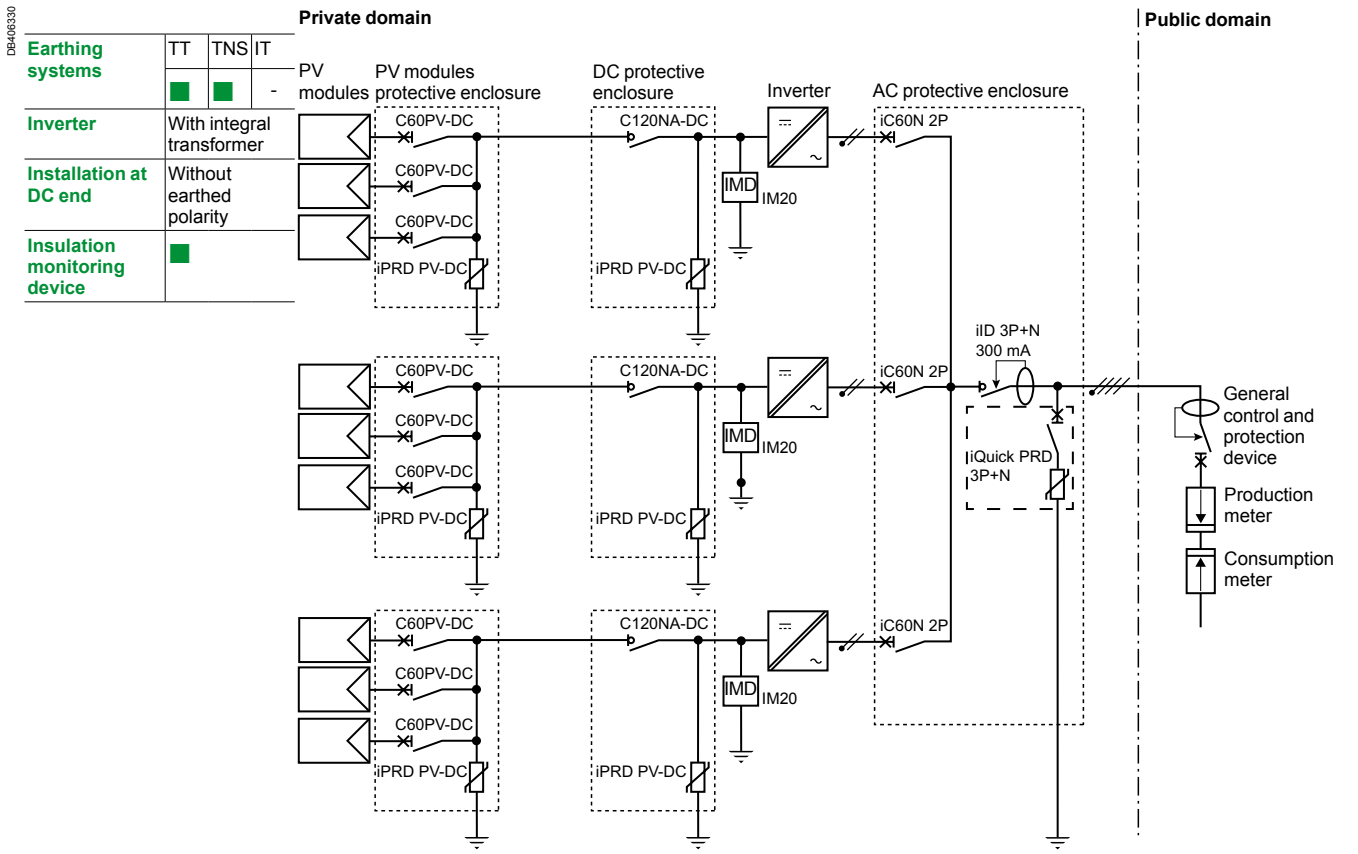
Installation from 10 to 100 kW - $U_e \leq 800$ V DC

In the case of a PV architecture without an earthed polarity on the DC side and with a PV inverter or with galvanic isolation, it is necessary to:

- protect each string of photovoltaic modules with a C60PV-DC installed in the junction box near the PV modules;
- add an insulation monitoring device on the DC side of the PV inverter in order to indicate a first earth fault and actuate stoppage of the inverter as soon as it occurs.

It is necessary to intervene immediately on the site at the first default.

Restarting will be possible only after eliminating the fault.



Installation from 10 to 100 kW - Ue ≤ 800 V DC

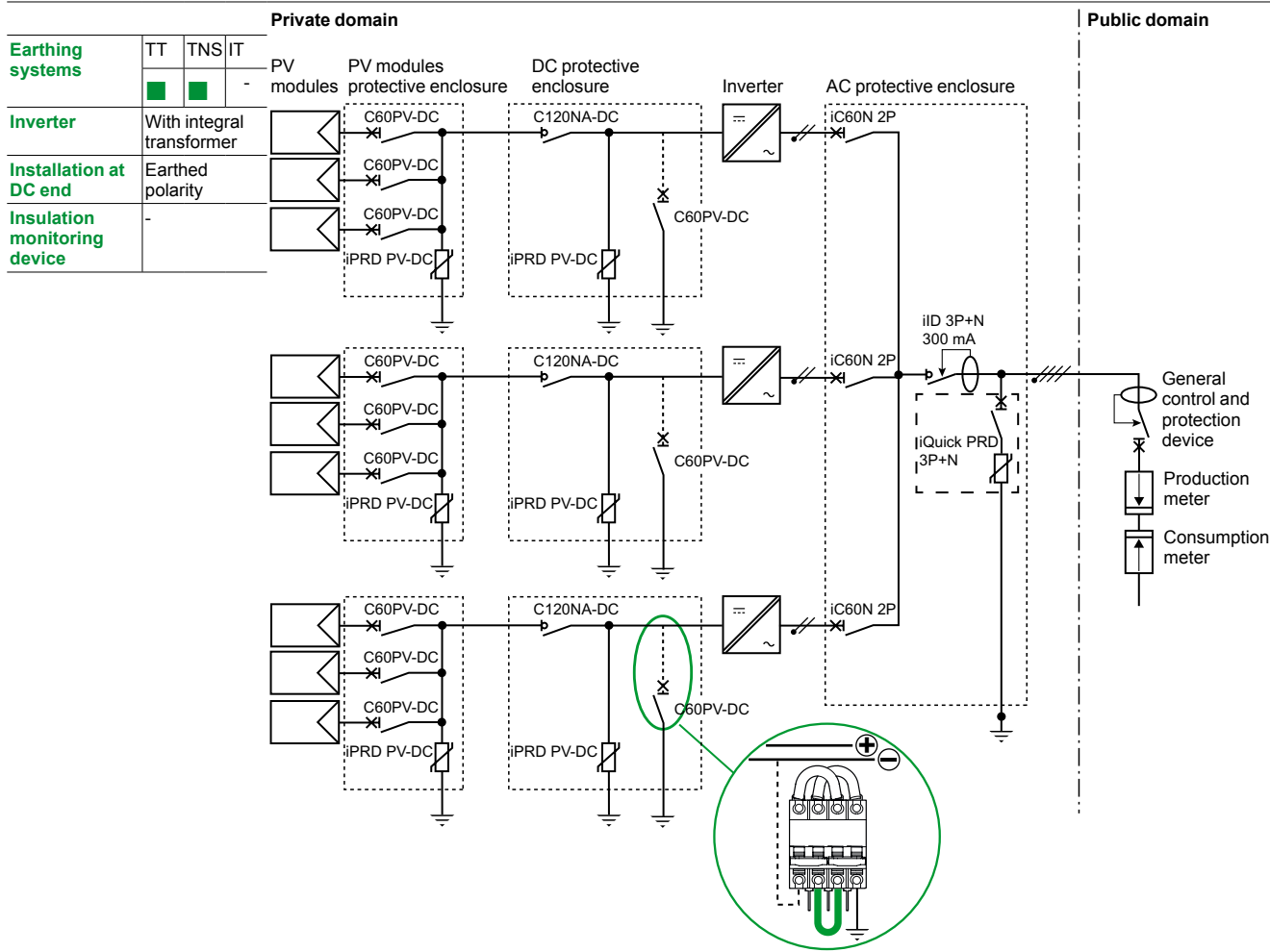
In the case of a **PV architecture with an earthed polarity on the DC side and with a PV inverter having galvanic isolation**, it is necessary to:

- protect each string of photovoltaic modules with a C60PV-DC installed in the junction box near the PV modules
- add a C60PV-DC earth protection circuit breaker, with all poles in series, on the DC side of the PV inverter.

PV inverter stoppage is actuated via an auxiliary contact combined with the earth protection circuit breaker. Polarity earthing and the protective device should not be implemented if the PV inverter already has an earthed polarity.

It is necessary to intervene immediately on the site at the first default.
Restarting will be possible only after eliminating the fault.

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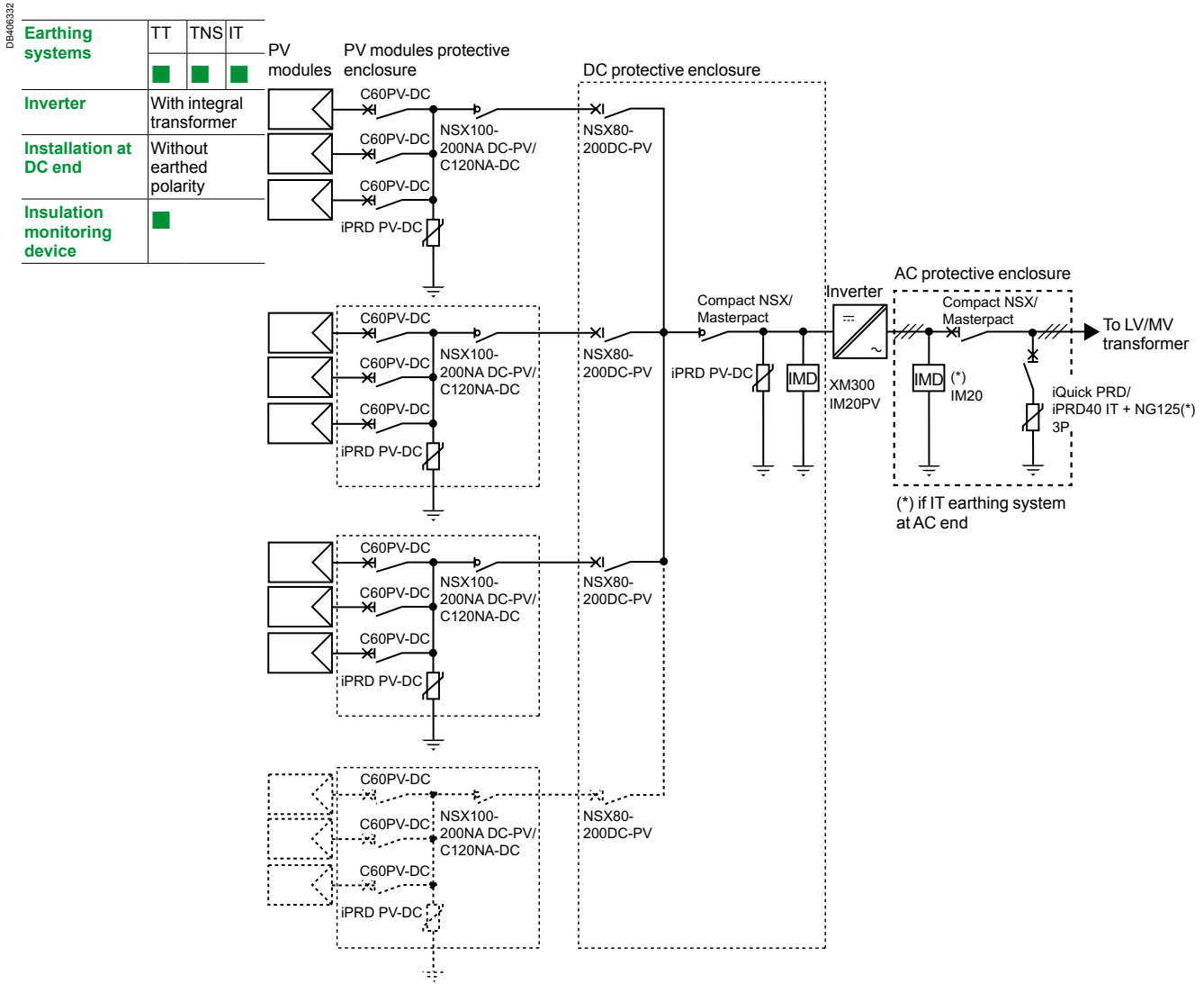


Installation > 100 kW - $U_e \leq 800$ V DC

In the case of a PV architecture without an earthed polarity on the DC side and a central PV inverter having galvanic isolation, it is necessary to:

- protect each string of photovoltaic modules with a C60PV-DC installed in the protection cabinet for the PV strings located near the PV modules
- add an insulation monitoring device (IMD) on the DC side of the PV inverter (and on the AC side if IT earthing system on AC side) in order to indicate a first earth fault and actuate stoppage of the PV inverter as soon as it occurs.

It is necessary to intervene immediately on the site at the first default.
Restarting will be possible only after eliminating the fault.



Installations > 100 kW - U_e ≤ 800 V DC

In the case of a PV architecture with an earthed polarity on the DC side and a central inverter having galvanic isolation and an IT earthing system on the AC side, it is necessary to:

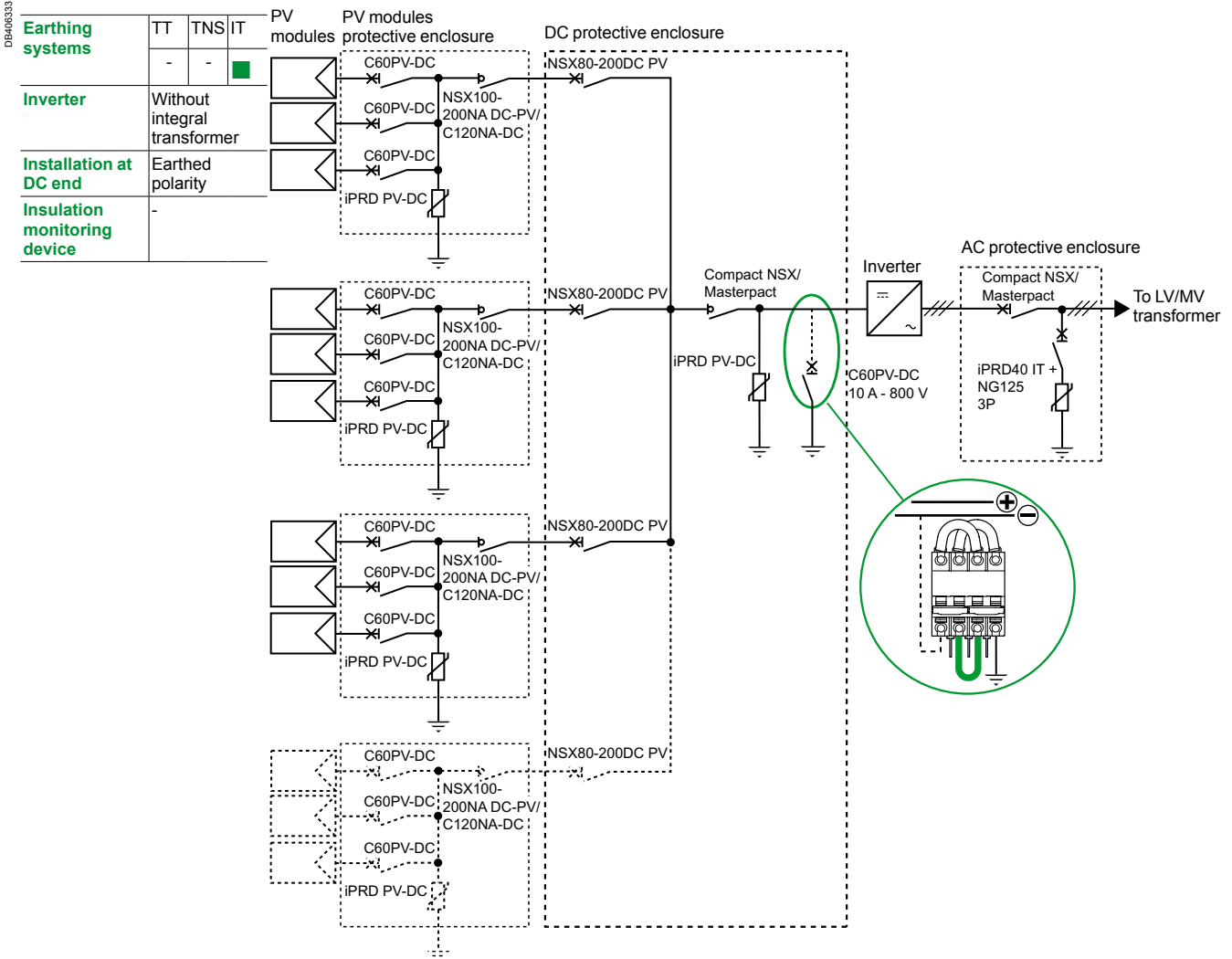
- protect each string of photovoltaic modules with a C60PV-DC installed in the protection cabinet for the PV strings located near the PV modules
- add a C60PV-DC earth protection circuit breaker, with all poles in series, on the DC side of the PV inverter.

PV inverter stoppage is actuated via an auxiliary contact combined with the earth protection circuit breaker. Polarity earthing and the protective device should not be implemented if the PV inverter already has an earthed polarity.

If the I_{sc} of the DC installation exceeds 1.5 kA, replace the C60PV-DC earth protection circuit breaker with an NSX80 DC PV provided with a 16 A release.

It is necessary to intervene immediately on the site at the first default.

Restarting will be possible only after eliminating the fault.

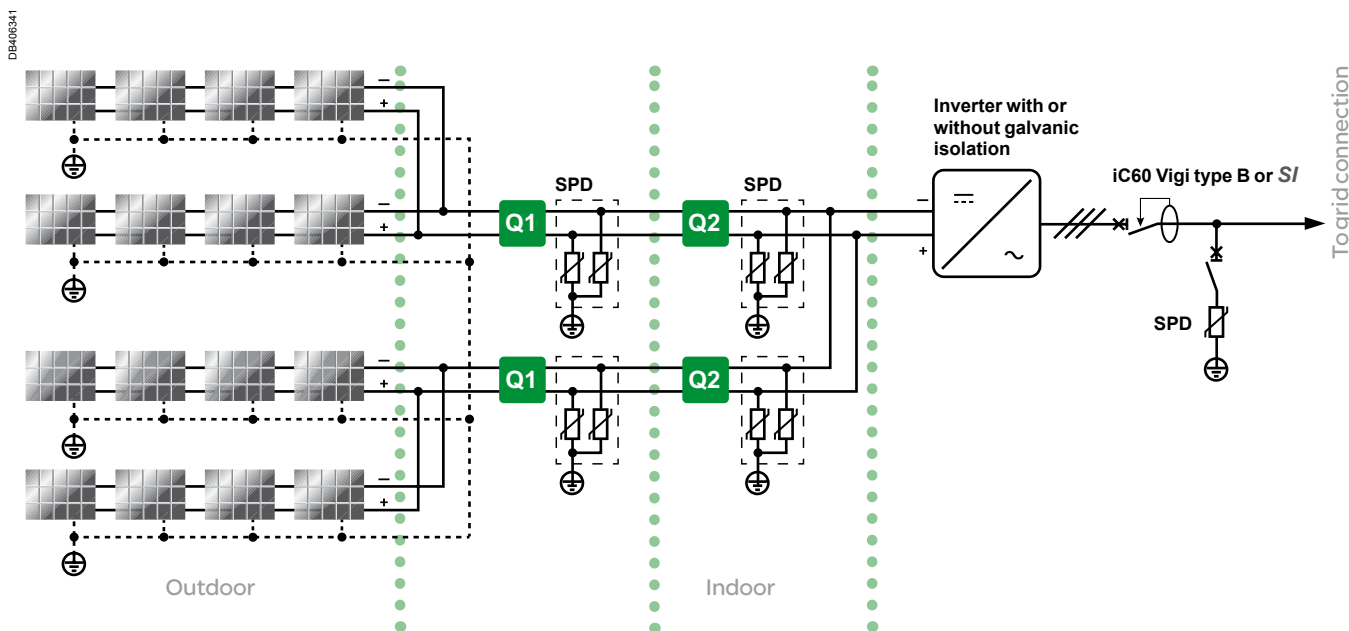


Examples of using C120NA-DC switch-disconnector Architectures

10 kW-100 kW grid-connected PV system (small buildings)

Three-phase multi-input inverter without array box

Typically, 10 kW to 36 kW grid-connected inverters with $U_{OC,MAX}$ probably higher than 600 V (i.e. 800 V or 1000 V) and $I_{SCTC} < 125 A$, $I_{AC} < 63 A$. In this range of power, inverters usually have between 2 and 4 maximum power point tracking (MPPT) inputs, so the number of strings in the same DC sub-network is equal to one or two. There is no need for string protection. A PV main switch for each MPPT input is necessary. When an inverter is indoors, additional remote-controlled switches at DC cable entry point are recommended for emergency services.



| | String junction box | PV main switch |
|---|--|--|
| Needs | Switchgears and control | |
| Isolation | ■ | ■ (b) |
| Switching (making and breaking rated current) | ■ DC21B | ■ (b) DC21B |
| Control | ■ (a) | ■ (b) |
| Schneider Electric offer | "Q1" C60NA-DC + MX / MN or C120NA-DC + MX / MN | "Q2" INS PV or C60NA-DC or C120NA-DC |

(a) Remote switching for emergency services located as closely as possible to the PV modules or to the point of entry of DC cables in the building.
 (b) Service and emergency switching.

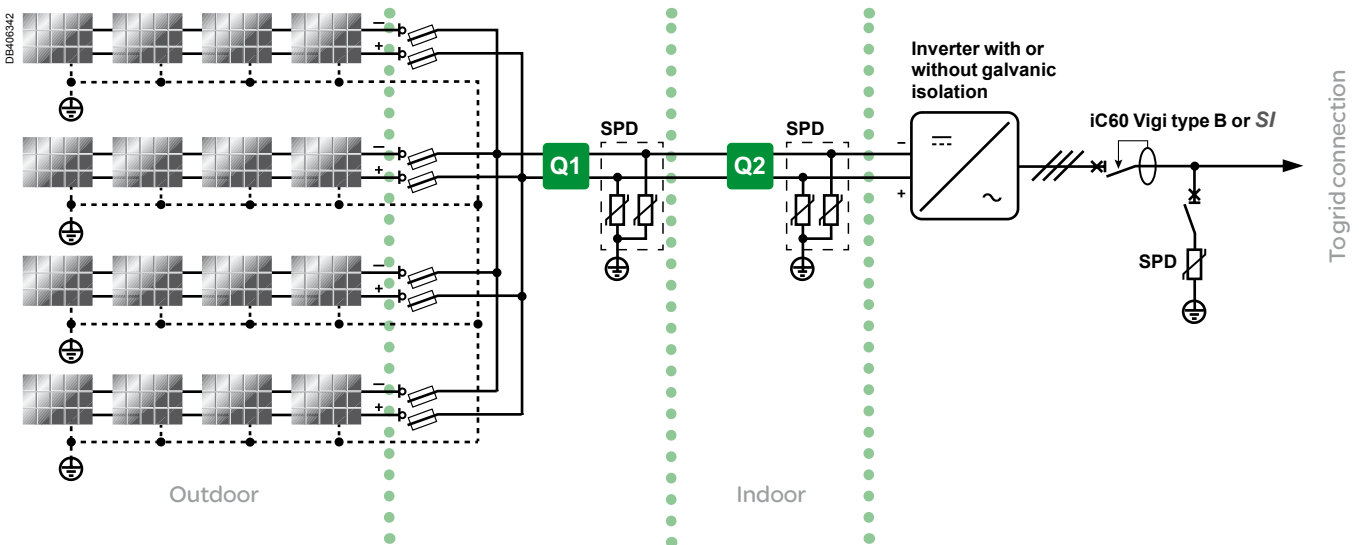
- If the inverter provides at least simple separation:
 - without functional earthing: insulation monitoring is necessary, it's usually done by the inverter in this range of power
 - with functional earthing: the earthing shall be done with a DC MCB breaker (C60PV 4P series 2 – 10 A) or a fuse.

Examples of using C120NA-DC switch-disconnector Architectures (cont.)

10 kW-100 kW grid-connected PV system (small buildings)

Three-phase inverter with one array box

Typically, 30 kW to 60 kW grid-connected inverters. $U_{OC,MAX}$ is generally higher than 600 V (up to 1000 V), I_{SCTC} does not exceed 200 A, I_{AC} does not exceed 100 A. This design has more than 2 strings. Reverse current protection is therefore necessary. A main PV switch is required. When an inverter is inside, additional remote-controlled switches at DC cable entry point are recommended for emergencies.



| | String / Array junction box | PV array main switch |
|---|--|-------------------------------------|
| Needs | Switchgears and control | |
| Isolation | ■ | ■ (b) |
| Switching (Making & breaking rated current) | ■ DC21B | ■ (b) DC21B |
| Control | ■ (a) | ■ (b) |
| Schneider Electric offer | "Q0" TeSys DF "Q1" Compact NSX DC PV + MX / MN or C120NA-DC + MX / MN | "Q2" Compact NSX DC PV or C120NA-DC |

(a) Remote switching for emergency services located as closely as possible to the PV modules or to the point of entry of DC cables in the building. The main switch in array box can be equipped with tripping coil.
 (b) Service and emergency switching.

- If the inverter provides at least simple separation:
 - without functional earthing: insulation monitoring is necessary
 - with functional earthing: the earthing shall be done with a DC MCB breaker (C60PV 4P series 2 – 10 A) or a fuse.

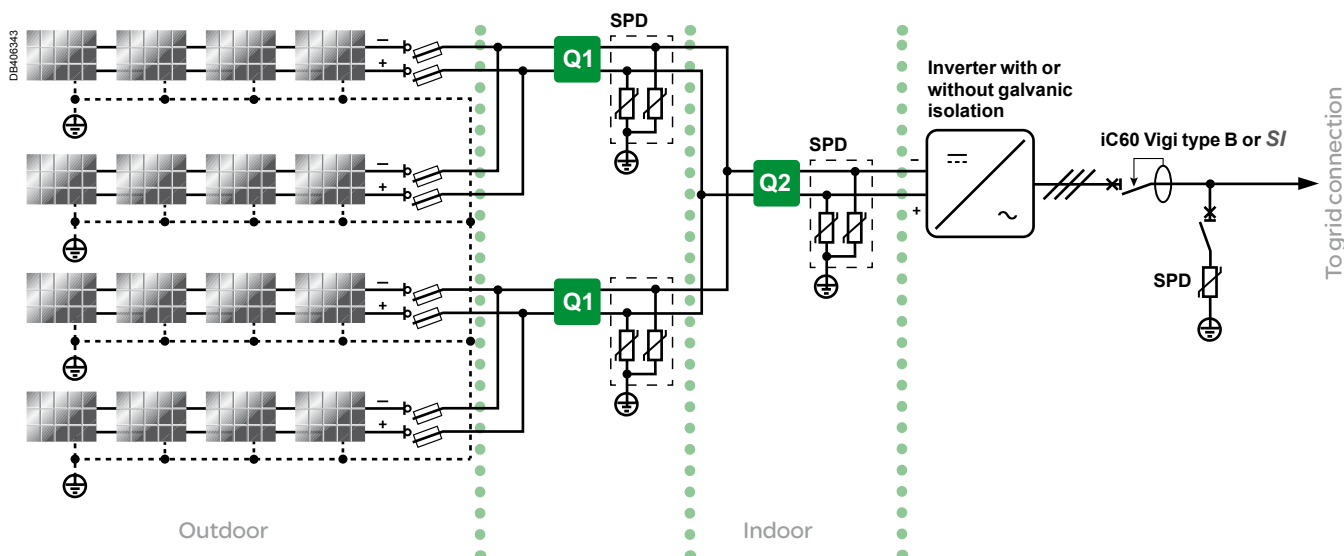
Examples of using C120NA-DC switch-disconnector Architectures (cont.)

10 kW-100 kW grid-connected PV system (small buildings)

Three-phase inverter with two array boxes

Typically, 60 kW to 100 kW grid-connected inverters with 2 arrays. Array cable protection is not necessary for 2 or 3 arrays.

The I_{SCTC} array ≤ 200 A, $I_{SCTC} \leq 400$ A, and $I_{ACMAX} \leq 200$ A. A PV main switch is required close to the inverter. Remotely operated switches in array boxes allow disconnects to be located close to the PV modules in the event of emergencies.



| | String | Array junction box | PV generator main switch |
|---|--------------------------------|--|---|
| Needs | Switchgears and control | | |
| Isolation | ■ | ■ | ■ (b) |
| Switching (making and breaking rated current) | | ■ DC22A | ■ (b) DC22A |
| Control | | ■ (a) | ■ (b) |
| Schneider Electric offer | "Q0" TeSys DF | "Q1" Compact NSX NA DC PV or C60NA-DC or C120NA-DC | "Q2" C120NA-DC or Compact NSX NA DC PV |

(a) If emergency service switching is required, switches in array boxes can be equipped with tripping coils and motor mechanisms for remote reclosing.

(b) Service and emergency switching.

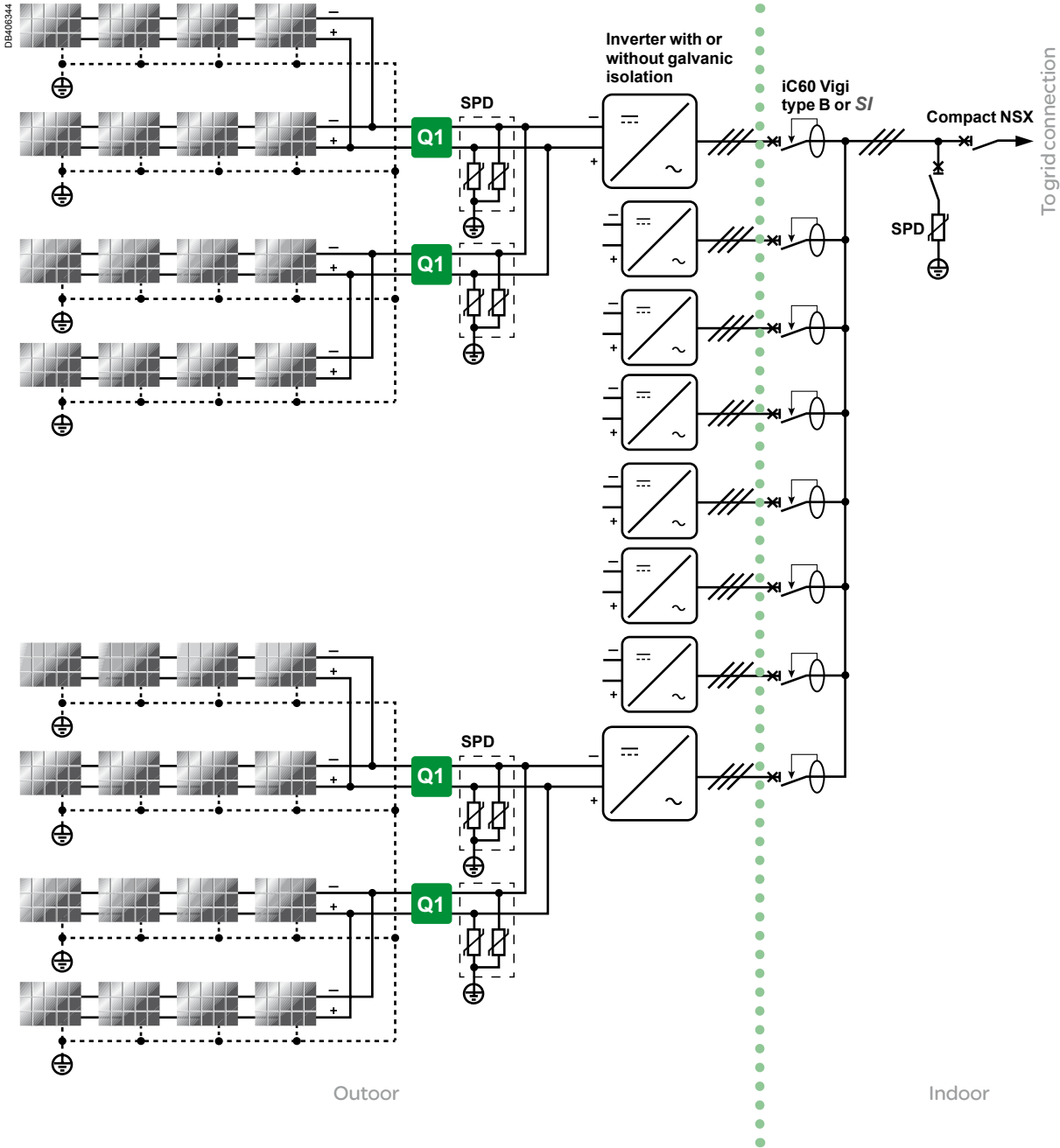
■ If the inverter provides at least simple separation:

- without functional earthing: insulation monitoring is necessary
- with functional earthing: the earthing shall be done with a DC MCB breaker (C60PV 4P series 2 – 10 A) or a fuse.

Examples of using C120NA-DC switch-disconnector Architectures (cont.)

150 kW-500 kW grid-connected PV system (large buildings and farms)





Multi three-phase inverter design without array box
 Typically, 10 x 20 to 20 x 30 kW grid-connected inverters. $U_{OC\ MAX} \leq 1000\ V$.
 One or two string per inverter. $I_{AC\ MAX} 50\ A$ for one inverter.



| String / Array junction box | |
|-----------------------------|---|
| Needs | Switchgears and control |
| Schneider Electric offer | "Q1" C60NA-DC or C120NA-DC or SW60DC See 10 to 36 kW design |

Compact NSX with Micrologic trip unit ensures full selectivity with iC60 up to 40 A and offer advanced measurement and communication capabilities.

Acti 9 Smartlink and enclosure/cubicle mounting compatibility

| Enclosures configuration | Type of Smartlink mounting above DIN rail in all cases | | | | | | TOP fed | |
|---|---|--|------------------------------|---|--|------------------------------|----------|-----------------|
| | Functional units Height in 50 mm Vertical modules | Power downstream cabling Power upstream cabling | | | | | DIN rail | Linergy FM 80 A |
| 24-horizontal modules | | Strands | Wiring band (cat. no. 04239) | Single cable trough support + cable trough 30 or 40 | Adaptable cable trough support + cable trough 60 | Cable trough behind the rail | | |
| Pragma Evolution - Surface mounting | | | | | | | | |
|  | 3 modules 150 mm | ■ | | | | | ☑ | ☑ |
| Prisma Plus Pack - 160 A and 250 A | | | | | | | | |
|  | 3 modules 150 mm | ■ | ■ | | | | ☑ | ☑ |
| Prisma Plus G - Enclosure and cubicle | | | | | | | | |
|  | 3 modules 150 mm | ■ | ■ | | | | ☑ | ☑ |
| | 4 modules 200 mm | ■ | ■ | ■ | | | ☑ | ☑ |
| | 5 modules 250 mm | ■ | ■ | ■ | ■ | | ☑ | ☑ |
| Prisma Plus P – Cubicle | | | | | | | | |
|  | 3 modules 150 mm | ■ | ■ | | | ■ | ☑ | ☑ |
| | 4 modules 200 mm | ■ | ■ | ■ | | ■ | ☑ | ☑ |
| | 5 modules 250 mm | ■ | ■ | ■ | ■ | ■ | ☑ | ☑ |

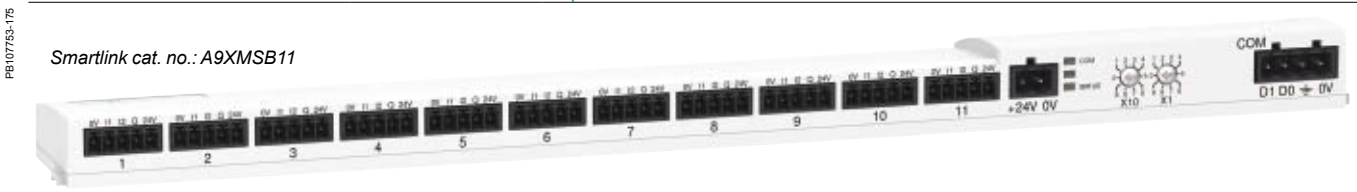
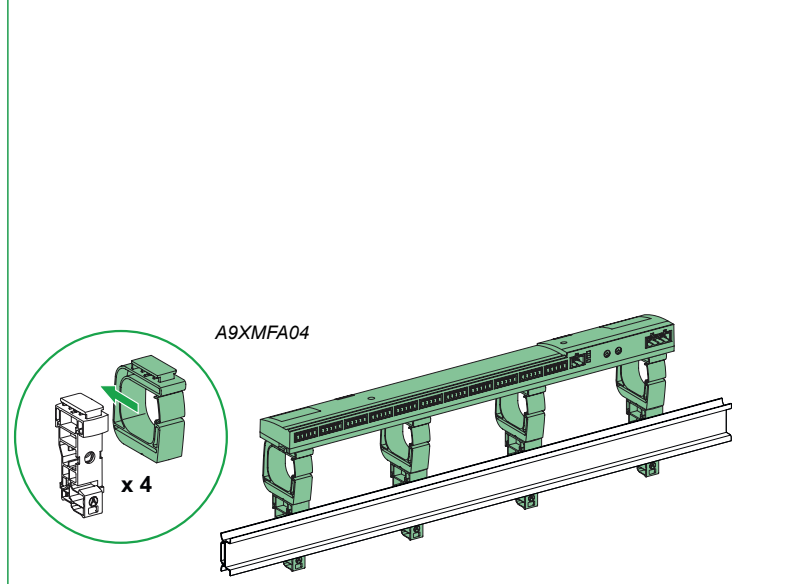
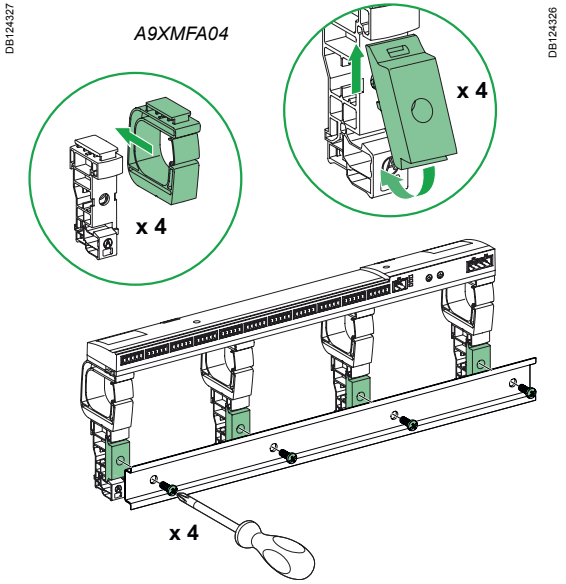
| | | Bottom fed | | | |
|--|-------------------------------------|-------------------------------------|--------------------------------------|---|--------------------------------------|
| | Linergy FM 200 A | DIN rail (without comb busbar) | | DIN rail + comb busbar (bottom position only) | |
| | | Downstream cabling (in foot band) | Downstream cabling (in cable trough) | Downstream cabling (in foot band) | Downstream cabling (in cable trough) |
| | | <input checked="" type="checkbox"/> | | | |
| | | <input checked="" type="checkbox"/> | | | |
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Key

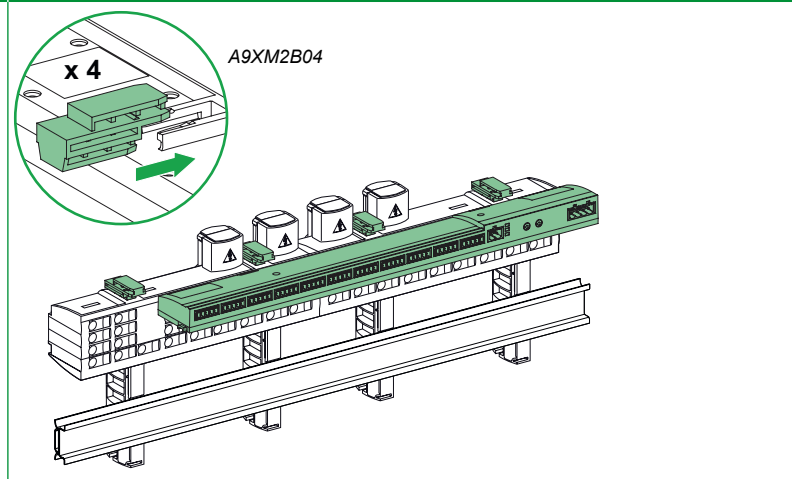
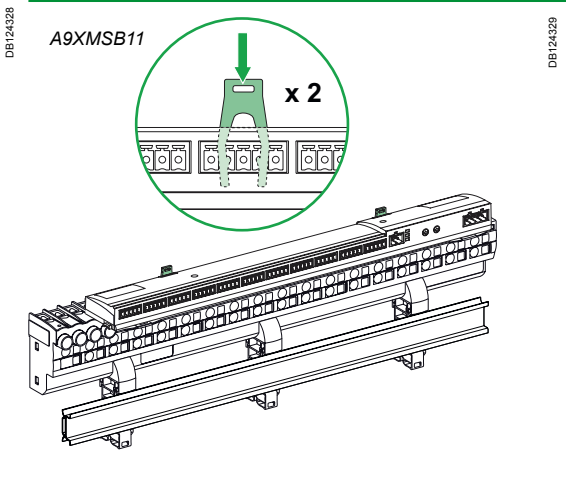
- Compatible
- Incompatible or not applicable

Installation

On DIN rail On asymmetrical DIN rail



On Linergy FM 80 A cat. no.: 04000 On Linergy FM 200 A cat. no.: 04012, 04013, 04014



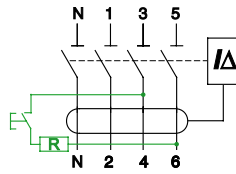
Test software

Residual current devices are vital for the safety of people.

That is why:

- the electrical installation operation and maintenance standards require these protection devices to be tested at regular intervals,
 - les the product standards IEC 61008 and IEC 61009 require such devices to be fitted with a test button (marked "T") on the front panel.
- The user can therefore check and be certain that the device is working correctly.

The test button provides reliable information about how the device is working: tripping as soon as the button is pressed guarantees that the protection is working properly. If the device fails to trip, it must be examined to determine the cause of this malfunction.



Example iID

Test frequency

The residual current devices must be tested as frequently as required by the installation regulations and/or the safety regulations currently in force.


In the absence of any regulations, Schneider Electric recommends the test to be carried out:

- after initial connection and any subsequent reconnection,
- every years, for devices recently installed in good environmental conditions (no dust, corrosion, humidity, etc.),
- every 3 months, for devices that have been in use for seven years or more in good environmental conditions,
- every months, for devices used in corrosive or harsh environmental conditions or highly exposed to lightning strikes.

Procedure

The residual current device is powered on and the loads are connected.

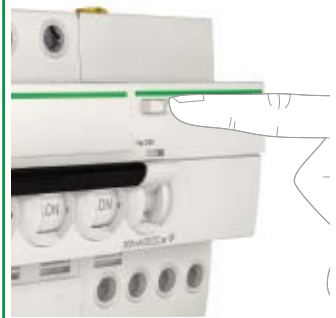
Briefly press the test button marked "T" on the front panel.

 Pressing the test button too long can seriously damage the device.

The residual current device should trip instantly.

If it fails to trip, the additional checks described below should be performed.

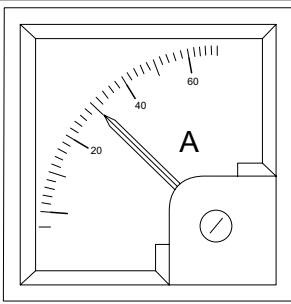
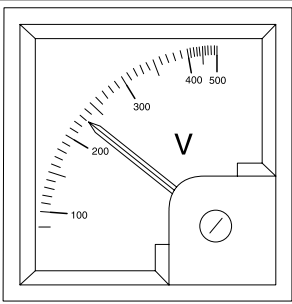
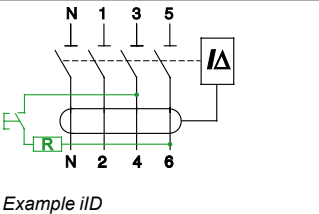
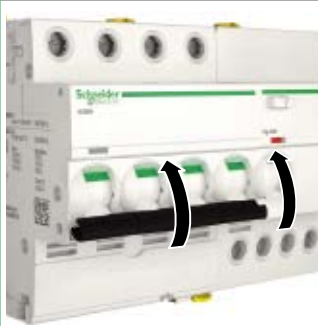
When the test is finished, put the residual current device back into service.



Failure to trip during the test


Failure to trip during the test is often due to a cause that is external to the residual current device.

The table below shows the possible causes, the additional checks and tests to be carried out and the corrective actions to be taken, depending on the results. After a corrective action has been performed, repeat the test until a correct result is obtained.

| Cause of the malfunction | | | |
|--|--|---|---|
| Network frequency | Network voltage | Connection (three-pole or four-pole device) | Load leakage currents |
| Additional test | | | |
| Check that the network frequency is the same as the frequency read on the device. | Check that the mains voltage is the same as that indicated on the front face of the device. | Measure the voltage between terminals: <ul style="list-style-type: none"> ■ 2 and 4 for Vigi iC60 ■ 3 and 6 for iLD. This voltage must be between 85 % and 110 % of the voltage indicated on the device ⁽¹⁾ . | Disconnect the loads and press the test button again. |
|  |  |  |  |
| Incorrect test result | | | |
| If the network frequency is different, the button test is not significant. | <ul style="list-style-type: none"> ■ If the voltage measured is less than 85 % of that indicated on the device, the test button may not work, although the protection device will continue to function ⁽¹⁾. ■ If the voltage measured is more than 110 % of the voltage indicated on the device there is a risk that the device will be destroyed. | The incorrect voltage may be due to a connection error (e.g. phase/neutral inversion/missing phase, etc.). The Acti 9 three-pole and four-pole residual current devices cannot be used on single-phase circuits. The Acti 9 four-pole residual current devices can be used normally on three-phase circuits without neutral. | If the device trips, the earth leakage protection is working correctly. |
| Corrective actions | | | |
| The device must be checked by an external device (see below). | If the voltage measured is different from the rated voltage of the mains, look for the problem on the power supply or on the downstream circuits (lines, loads): <ul style="list-style-type: none"> ■ if the rated voltage of the mains is lower than that indicated on the device it must be replaced by a device with a suitable rated voltage the next time it is shut down ■ if the rated voltage of the mains is higher than the voltage indicated on the device it must immediately be replaced by a device with a suitable rated voltage. | Modify the connection to obtain the rated voltage (phase-phase) between terminals. | Measure the permanent leakage current of each load. <ul style="list-style-type: none"> ■ in the event of abnormal load leakage, correct the insulation fault. ■ otherwise, separate the circuits to reduce the permanent leakage currents seen by each residual current device. |

(1) In most cases, the test button on the Acti 9 residual current devices functions at down to 50 % of the rated voltage.

If none of the additional tests indicate a fault, the residual current device is faulty. Checking with an external device (see below) will show whether or not it has to be replaced urgently.

| Test result | Positive | Negative |
|---|---|--|
| Diagnosis | <ul style="list-style-type: none"> ■ the earth leakage protection device is working properly ■ the test circuit is faulty | Earth leakage protection is not working |
| Corrective actions | | |
| The residual current device must be replaced quickly (as soon as it is no longer being used). | |  The residual current device must be replaced immediately |

Some tertiary and industrial installation safety regulations require residual current devices to be checked with a specific device.

Checking with a specific test device

For the tests performed to be valid, these devices must comply with IEC 61557-6.

These devices are used to check:

- the operating voltage
- the tripping threshold (according to the sensitivity $I_{\Delta n}$) of the residual current device
- the tripping times at $I_{\Delta n}$, $2 \times I_{\Delta n}$, $5 \times I_{\Delta n}$, etc. The normal values are shown on pages CT6-1 and CT6-4.

With an IT earthing system (isolated neutral), a first insulation fault should be created artificially to allow a fault current to circulate during the tests.

Procedure

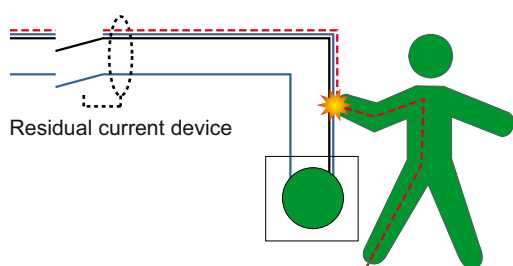
- Disconnect the fixed and mobile loads (if the residual current device protects the power outlets).
- Connect the test device to the downstream terminals of the residual current device or to a downstream power outlet.



Earth leakage protection

Response time of high-sensitivity residual current devices

All the high-sensitivity residual current devices (30 mA) in the Acti 9 range conform to the IEC/EN 61008 and IEC/EN 61009 standards. The response times defined by these standards guarantee their effectiveness in protecting people against direct contacts.



Response time

The response time of a residual current device is the time between the appearance of a dangerous leakage current and the interruption of the circuit.

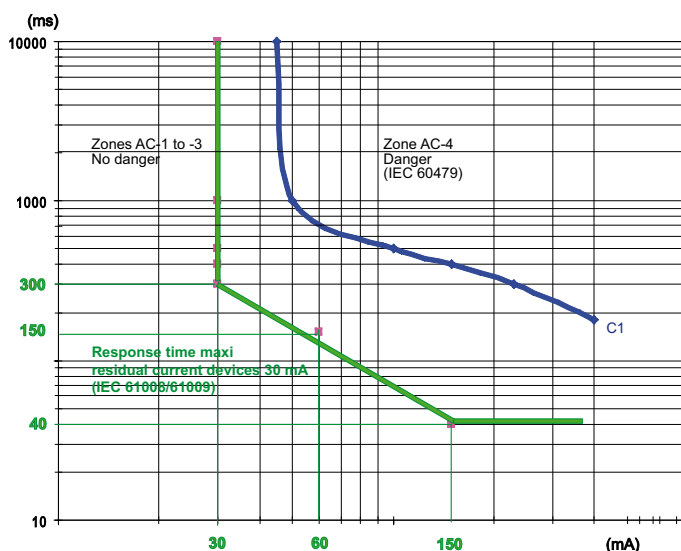
For a residual current device with a sensitivity of $I_{\Delta n}$ 30 mA:

| Fault current (mA) | | Maximum response time (ms) |
|-------------------------|--------|----------------------------|
| $I_{\Delta n}/2$ | 15 mA | No tripping |
| $I_{\Delta n}$ | 30 mA | 300 ms |
| $2 \times I_{\Delta n}$ | 60 mA | 150 ms |
| $5 \times I_{\Delta n}$ | 150 mA | 40 ms |

These response times conform to the specifications of the IEC/EN 61008 and IEC/EN 61009 standards.

They guarantee protection of people against direct contacts for the following reasons :

- When a person comes into direct contact with a live conductor, the current passes directly through the human body.
- This current, with the same magnitude, is detected by the residual current device.



■ The IEC 60479 technical report studies the sensitivity of the human body to the electric current. Curve c1 defines for each current value the maximum time before the current causes injury to a person.

■ Superimposing the two curves shows that the above response times protects the users.

Measuring the response time

If the user wishes to check the response time of his residual current devices, he should follow a specific procedure to:

- establish a leakage current of calibrated magnitude
- measure the exact response time.

Procedure

The measuring instruments must conform to IEC/EN 61557-6.

Carry out the operations in the following order according to the safety instructions:

- disconnect the loads
- install the measuring instrument downstream of the residual current device to be tested (for example on a power outlet)
- perform the measurement.

Earth leakage protection

Response time of medium-sensitivity residual current devices

Response time of iC60 Vigi and iLD60 residual current devices

The medium-sensitivity residual current devices (100...1000 mA) in the Acti 9 range conform to IEC/EN 61008 and 61009:

- their response time guarantees personal protection against indirect contacts and fire risks
- in the case of selective versions (S), a "non-tripping time" guarantees discrimination with the residual current devices installed downstream.

Instantaneous residual current devices

| | | Sensitivity (I Δ n) | | | |
|--------------------|---------------------------|----------------------------|--------|--------|-------------|
| | | 100 mA | 300 mA | 500 mA | |
| Fault current (mA) | I Δ n/2 | 50 | 150 | 250 | No tripping |
| | Max. response time | | | | |
| | I Δ n | 100 | 300 | 500 | 300 ms |
| | 2 x I Δ n | 200 | 600 | 1000 | 150 ms |
| | 5 x I Δ n | 500 | 1500 | 2500 | 40 ms |
| 500 A | | | | | 40 ms |

Selective (S) and time-delayed (R) residual current devices

| Residual current device | Sensitivity (I Δ n) | | | | Type | | | | |
|-------------------------|----------------------------|--------|--------|---------|---------------|-------------------|------------------|-------------------|---------------|
| | 100 mA | 300 mA | 500 mA | 1000 mA | Selective (S) | | Time-delayed (R) | | |
| Fault current (mA) | I Δ n/2 | 50 | 150 | 250 | 500 | No tripping | | No tripping | |
| | | | | | | Non-tripping time | Response time | Non-tripping time | Response time |
| | I Δ n | 100 | 300 | 500 | 1000 | 130 ms | 500 ms | 300 ms | 1000 ms |
| | 2 x I Δ n | 200 | 600 | 1000 | 2000 | 60 ms | 200 ms | 150 ms | 500 ms |
| | 5 x I Δ n | 500 | 1500 | 2500 | 5000 | 50 ms | 150 ms | 150 ms | 300 ms |
| 500 A | | | | | 40 ms | 150 ms | 150 ms | 300 ms | |

Definitions

Response time

Time between the appearance of a hazardous leakage current and circuit power down.

Non-tripping time

For selective and time-delayed devices, the non-tripping time is the time between the appearance of a hazardous leakage current and the device tripping.

If the leakage current disappears before this time, the device does not trip.

This fast disappearance of the leakage current can be due to:

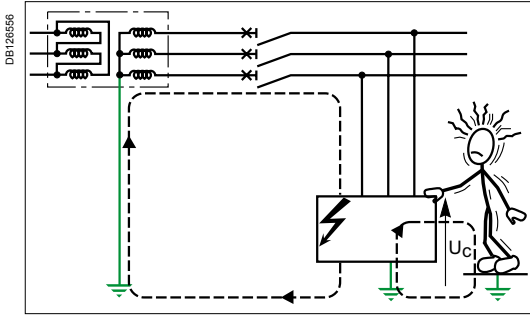
- the transient nature of the fault (e.g. the current generated by a switching surge)
- the interruption of the fault current by another faster residual current device situated downstream.

Selective and time-delayed devices therefore afford the user:

- better immunity against nuisance tripping
- total discrimination between residual current devices.

Earth leakage protection

Response time of medium-sensitivity residual current devices



Protection against indirect contacts

The response times of residual current devices guarantee personal protection against indirect contacts, in conformance with the requirements of the installation standards (IEC 60364 or equivalent).

Indirect contacts

A person who comes into contact with an accidentally live frame caused by an insulation fault experiences an indirect contact: the contact voltage U_c creates a current that passes through the human body.

Maximum breaking time

The maximum breaking time required by the installation standards, in the event of an insulation fault, depends on:

- the network voltage
- the earthing system.

Maximum breaking time for terminating circuits (ms)

| Earthing system | Network phase/neutral voltage | | | |
|-----------------|-------------------------------|------------|------------|---------|
| | 50...120V | 120...230V | 230...400V | > 400 V |
| TN or IT | 800 | 400 | 200 | 100 |
| TT | 300 | 200 | 70 | 40 |

Note: a breaking time of no more than 5 s is permitted for distribution circuits to ensure discrimination with the devices installed on the terminating circuits. This time should be reduced to the essential minimum.

These times are based on the maximum prospective values of the contact voltage U_c and on the contact times authorised by technical report IEC 60479.

Example

On a three-phase phase/neutral voltage network $U_o = 230\text{ V}$ in a TT system:

- the resistance of the neutral earth connection R_n is $10\ \Omega$,
- the resistance of the operating frame earth connection R_A is $100\ \Omega$.

In the event of an insulation fault, the leakage current I_d is equal to: $U_o / (R_A + R_n)$ i.e. $230\text{ V} / 110\ \Omega = 2.1\text{ A}$.

The contact voltage U_c is therefore $I_d \times R_A$ i.e. $2.1\text{ A} \times 100\ \Omega = 210\text{ V}$.

■ Protection sensitivity

The residual current device must trip as soon as the leakage current corresponds to a hazardous situation, i.e. a contact voltage of 50 V (in a dry atmosphere). Hence, $I_{\Delta n} = 50\text{ V} / R_A$, i.e. $50\text{ V} / 100\ \Omega = 500\text{ mA}$.

■ Maximum breaking time

For a 230 V phase/neutral voltage network in a TT system, the IEC 60364 standard requires a maximum breaking time of 200 ms .

For the 2.1 A leakage current:

- an instantaneous residual current device with a sensitivity of 300 mA will power down the circuit in less than 40 ms ,
- an instantaneous residual current device with a sensitivity of 500 mA will power down the circuit in less than 60 ms .

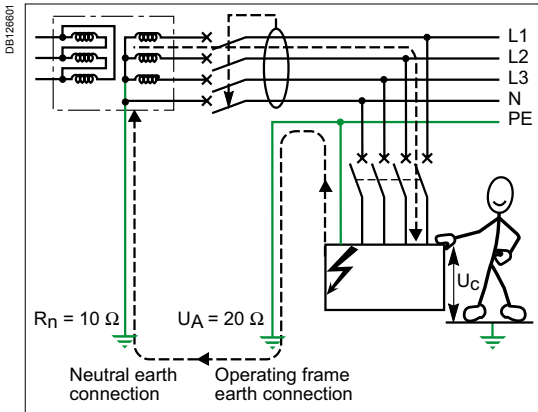
Note: For well-designed and regularly maintained electrical installations, the resistance of the operating frame earth connection can be less than $100\ \Omega$.

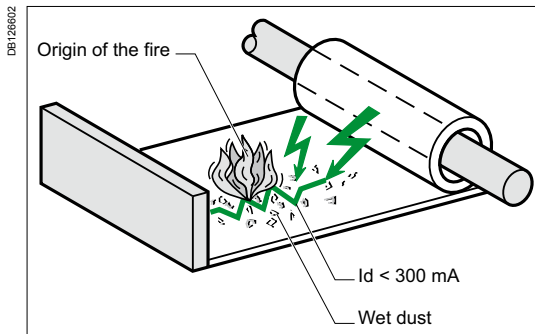
Use of the time-delayed residual current devices

In accordance with the breaking times required by the installation standards (above), the selective and time-delayed residual current devices can be used in the following cases:

| Circuit | Network voltage (phase/neutral) | Residual current device | | |
|-----------------------------|---------------------------------|-------------------------|-------------|----------------|
| | | Instantaneous I | Selective S | Time-delayed R |
| Terminating circuit | $\leq 230\text{ V}$ | ■ | ■ | (1) |
| | $> 230\text{ V}$ | ■ | ■ | |
| Sub-distribution or general | | ■ | ■ | ■ |

(1) Only in a TN system for a phase/neutral voltage $< 120\text{ V}$.





The response times of residual current devices with a sensitivity of 300 mA guarantee protection against fires generated by leakage currents

Protection against fire hazards

Most fires of electrical origin are caused by the creation and propagation of electric arcs in building materials, in the presence of moisture, dust, pollution, etc. These arcs appear and develop due to the wear and tear or ageing of the insulating materials. The fire risk occurs when the leakage currents reach a few hundred milliamps for a few seconds.

For fault currents of this magnitude, residual current devices with a sensitivity of 300 or 500 mA trip in less than a second, whether they be instantaneous, selective or time-delayed.

IEC 60364-4-42 (subclause 422.3.10) states that it is mandatory to install a residual current device with a sensitivity less than or equal to 500 mA:

- on premises with a risk of explosion (BE3)
- on premises with a risk of fire (BE2)
- in agricultural and horticultural buildings
- for circuits supplying fair, exhibition and entertainment equipment
- on temporary outdoor leisure facilities.

In certain countries, the installation rules and/or local safety regulations require a sensitivity of 300 mA.

Earth leakage protection

Response time of medium-sensitivity residual current devices

Discrimination of residual current devices

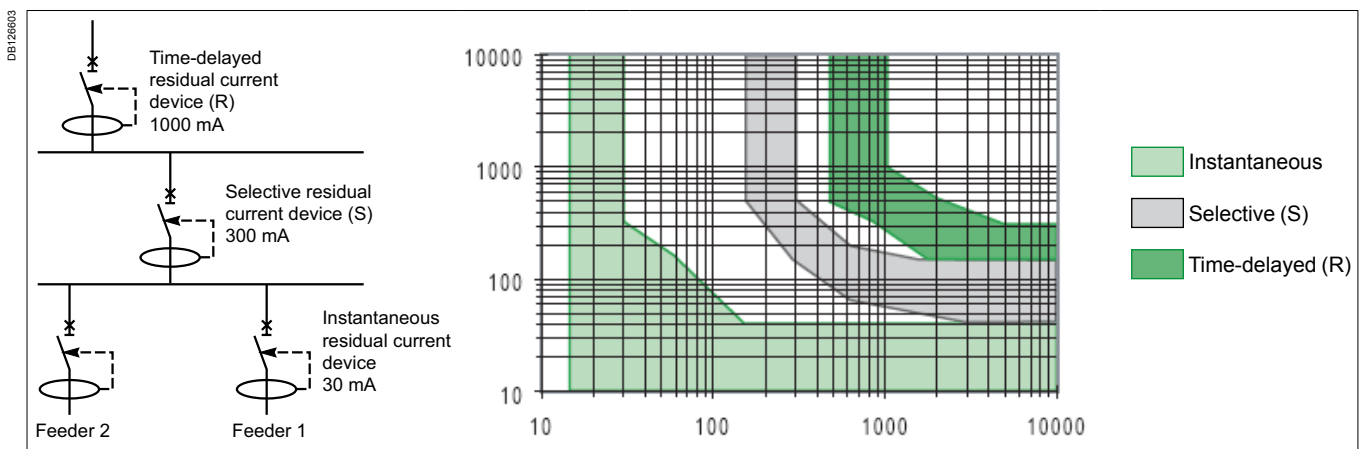
The non-tripping times of type (S) and (R) residual current devices ensure discrimination with the residual current devices located downstream.

Combination rules

To ensure discrimination between two cascading residual current devices, the following two conditions must be met simultaneously:

- the sensitivity of the upstream device must be at least 3 times the sensitivity of the downstream residual current device
- the upstream residual current device must be one of the following types:
 - Selective (S) if the downstream residual current device is instantaneous,
 - Time-delayed (R) if the downstream residual current device is selective (S).

The figure below shows how compliance with these rules provides discrimination on three levels: whatever the value of the fault current, it will be interrupted by the device situated immediately upstream of the fault and only by this device.



Example:

In the above diagram for a fault current of 1000 mA:

- if the fault occurs downstream of the 30 mA residual current device, the latter will interrupt the current in less than 40 ms, whereas type S and R devices "wait" for 80 ms and 200 ms respectively. Therefore, neither of the two devices trips.
- if the fault occurs downstream of the type S residual current device, the latter will interrupt the current in less than 175 ms, whereas the type R device "wait" for 200 ms and therefore does not trip.

If these cascading combination rules are complied with, the level of continuity of service provided to the user depends on the way in which the "horizontal discrimination" is implemented: the terminal feeders must be divided into as many circuits as necessary, each protected by a residual current device.

Some types of electrical and electromagnetic interference caused by the network or its environment may affect the operation of earth leakage protection devices and result in:

- **Nuisance tripping** (tripping in a non-dangerous situation). Such tripping is often repetitive, which is highly detrimental to satisfying the user's energy requirements.
- **Risk of non-tripping** in dangerous situations. This risk must be carefully analysed, because it affects people's safety. The standards define three categories of earth leakage protection devices according to their ability to control these types of situation.

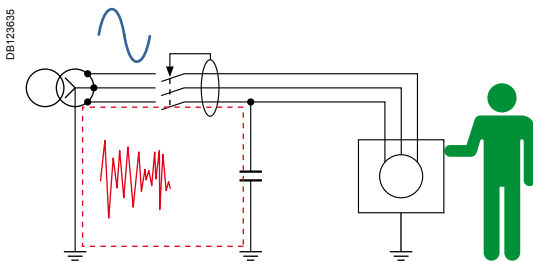
- The risk of interference must be taken into account when selecting earth leakage protection devices (see module CA902000), according to the loads supplied and the environment.

- The explanations given below specify the main types of interference, their origin and how Schneider Electric's earth leakage protection devices respond, according to their type.

Nuisance tripping

This type of tripping is caused by the combination of two factors:

- A transient or continuous high-frequency voltage that is superimposed on the normal network voltage (50 Hz).
 - The presence of capacitors between the electrical network and the earth (or frames). As these capacitors are exposed to a high-frequency voltage, a current which can trip an earth leakage protection device flows to earth.
- The causes, duration and frequency spectra of such interference, which is often difficult to identify, can vary greatly, as shown in the examples below.

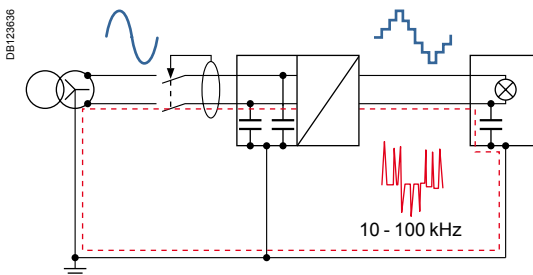


High-frequency harmonics

The current absorbed by non-linear loads such as IT equipment power supplies, frequency converters, variable speed drive motor controls, electronic ballast lights, etc. includes high-order harmonics.

If the natural capacitances of the protected circuit are significant (between the cables and earth, or between the live parts of the devices and their frames), earth leakage protection devices may be tripped, although no danger is present.

This risk of nuisance tripping is all the more likely to occur when a large number of identical loads are supplied in parallel and protected by the same earth leakage protection device.



Low-frequency continuous leakage currents

These leakage currents are mainly generated by the filtering capacitors in the power supply stage of electronic devices. Depending on the number of devices protected by the same earth leakage protection device, these leakage currents may:

- Increase the risk of tripping in the event of high-frequency interference.
- Cause frequent tripping

To guarantee satisfactory operation, these continuous leakage currents must not exceed 25% of the sensitivity ($I_{\Delta n}$) of the earth leakage protection device, by limiting the number of "interfering" loads protected by the same earth leakage protection device.

- If more accurate data is unavailable, the leakage current can be estimated on the following basis, for a 230 V, 50 Hz network:

- heating floor: 1 mA / kW,
- fax, printer: 1 mA,
- PC, workstation: 2 mA,
- photocopier: 1.5 mA.

If long cables are installed downstream of the earth leakage protection devices, it may be necessary to take the natural capacitance formed by the cable/earth pair into account (order of magnitude: at 230 V, approximately 1.5 mA for 100 m).

Electrical and electromagnetic interference

Operation of earth leakage protection devices (cont.)

Switching capacitive or inductive components

- Switching on capacitors creates a transient inrush current similar to that shown in Fig. 1.
- Switching off inductive components, such as power supply transformers used for lighting (halogen or fluorescent) creates brief voltage surges, the frequency of which can reach 10 MHz.

Common mode voltage surges

Electrical networks can be exposed to transient voltage surges caused by:

- Lightning strikes: these voltage surges are represented normatively by a 1.2/50 μ s voltage waveform (see Fig. 2). The currents induced by these voltage surges are represented by a normalised 8/20 μ s waveform (see Fig. 3).
- Sudden changes in network operating conditions (faults, blown fuses, inductive load switching, MV switchgear operations, etc.).

When a fault occurs in an IT system (isolated neutral), a transient leakage current is created due to the sudden change in potential with respect to earth. A similar phenomenon can occur when a UPS switches between the mains supply and the battery supply, whilst the output neutral is briefly disconnected from the earth (then reconnected with a slight phase lag).

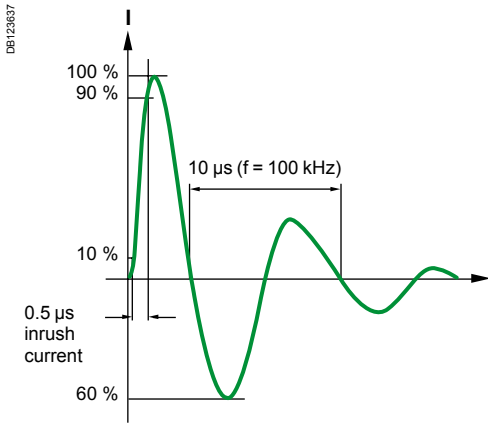


Fig. 1: 0.5 μ s/100 kHz normalised current waveform

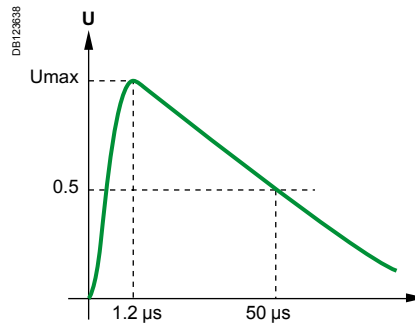


Fig. 2: 8/20 μ s normalised current waveform

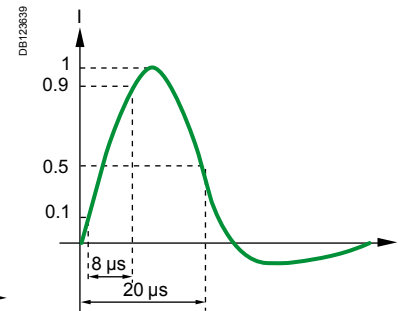


Fig. 3: 1.2/50 μ s normalised voltage waveform

Immunity of Schneider Electric earth leakage protection devices

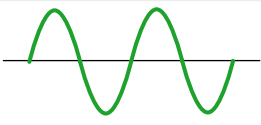
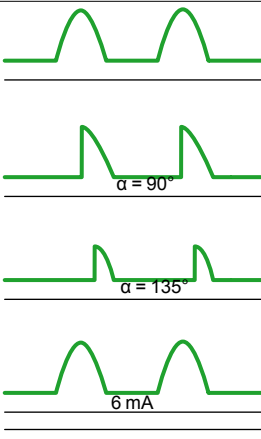
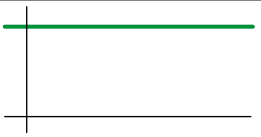
The *SI* earth leakage protection devices, exclusive to Schneider Electric, demonstrated their immunity to nuisance tripping in all the cases of interference indicated below:

| Interference | Non-tripping test conditions | Performance required by the IEC 61008 / 61009 standards | Performance of Schneider Electric's <i>SI</i> type earth leakage protection devices |
|---|--|---|---|
| Continuous interference | | | |
| Flow of harmonic currents to earth | 1 kHz sine wave | - | 8 x I Δ n |
| Transient interference | | | |
| Voltage surge induced by a lightning strike | 1.2/50 μ s pulse (IEC/EN 61000-4-5) | 4 kV between 5 kV conductors / earth | 4.5 kV between 5.5 kV conductors / earth |
| Current induced by a lightning strike | 8/20 μ s pulse (IEC/EN 61008) | 250 \AA | 5 k \AA |
| Operating transient current; indirect lightning strike current | 0.5 μ s/100 kHz waveform (IEC/EN 61008) | 200 \AA | 400 \AA |
| Surge protective device operation downstream of the earth leakage protection device; switching on of capacitors | 10 ms pulse | - | 500 \AA |
| Electromagnetic compatibility | | | |
| Switching of inductive loads, fluorescent lighting, motors, etc. | Repeated bursts (IEC 61000-4-4) | 4 kV / 2.5 kHz | 5 kV / 2.5 kHz 4 kV / 400 kHz |
| Fluorescent lighting, circuits controlled by thyristors | 150 kHz to 230 MHz conducted RF waves (IEC 61000-4-16) | 3 V (IEC) 10 V (EN) | 30 V |
| Radio waves (TV and radios, transmitters, telecommunication, etc.) | 80 MHz to 1 GHz transmitted RF waves (IEC 61000-4-3) | 3 V / m (IEC) 10 V / m (EN) | 30 V / m |

Risk of non-tripping in a dangerous situation

When an insulation fault occurs in the DC stage of a switch-mode power supply (e.g. variable speed drive) or on a DC network supplied by a converter, the leakage current is rectified and is no longer a sine wave. This current waveform may not be transmitted correctly by the transformer located inside the earth leakage protection device. Consequently, a leakage current with a dangerous amplitude (greater than the nominal sensitivity of the earth leakage protection device) may not cause it to trip.

In order to select earth leakage protection devices that are appropriate to each situation, the IEC 60755 and IEC 61008 standards define three types of earth leakage protection devices, according to the waveforms that cause them to trip.

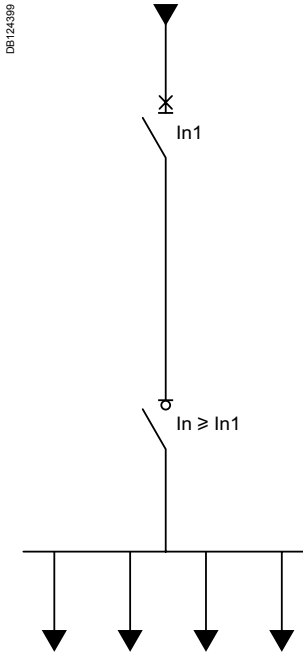
| Type of earth leakage protection device | Checking fault-current tripping | | Supply circuit protection |
|---|---|--------------------|--|
| | Waveform | RMS value | |
| AC type |  <p>DB123640</p> | $I_{\Delta n}$ | Current loads |
| A type |  <p>DB123641</p> | $1.4 I_{\Delta n}$ | Single-phase loads with rectifiers (low-power variable speed drive, rectifier/charger, etc.) |
| B type |  <p>DB123642</p> | $2 I_{\Delta n}$ | Three-phase loads with rectifiers (three-phase high-power high-duty variable speed drive, three-phase rectifier/charger, etc.) |

Schneider Electric's **SI** earth leakage protection devices are also protected against the risk of non-tripping due to atmospheric conditions:

- Very cold temperatures (risk of mechanical parts freezing up): up to -25°C .
- Corrosive chemical agents (risk of corrosion of alloys used to manufacture sensitive mechanical components). For information on using earth leakage protection devices in corrosive atmospheres, see module CA908027.

Coordination

Switches and residual current circuit breakers protection



Like all the components of the electrical installation, switches must be protected:

- against overloads;
- against short circuits.

Coordination between the switches and its protection device must be guaranteed and proved by the manufacturer.

Moreover, in a TN earthing, it must be ensured that the protection devices are capable of interrupting earth fault currents of high amperage.

Overload protection

■ The current rating of the switches is the maximum current that it can withstand without being damaged.

■ It is protected against overloads by the circuit breaker located upstream on its power supply line⁽¹⁾.

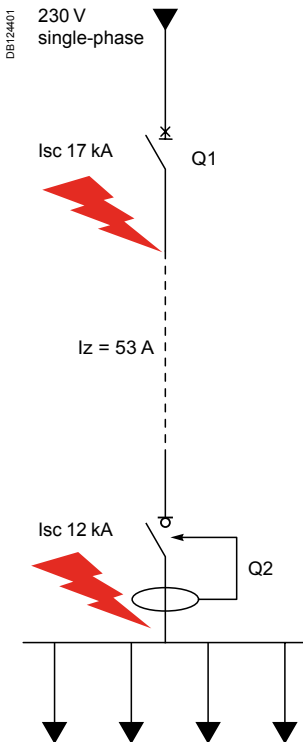
As a consequence:

The rating of the switches must be equal to or greater than the rating of the circuit breaker located upstream.

Be careful: only the circuit breaker ensure the protection against overloads.

For example: on a circuit protected by an 32 A iC60 circuit breaker, an iSW-NA switches of rating 40 A or 63 A must be installed.

(1) In some countries, the installation standards consider that overload protection can be provided by all the downstream circuit breakers, if the sum of their ratings is less than or equal to the rating of the residual current circuit breaker.



Short-circuit protection

■ The switches is protected against short circuits by the circuit breaker (or fuse) located upstream on its power supply line⁽²⁾.

■ To prevent any damage, the circuit breaker must sufficiently limit any short-circuit current that could pass through the switches (up to the max. short-circuit current I_{sc} at its installation point).

The short-circuit withstand of the switches and residual current circuit breaker is given in the following tables, as a function of the upstream circuit breaker. It must be greater than or equal to the prospective short-circuit current I_{sc} at its installation point.

(2) Exemption in case of special installation described at the end of this document, page 710.

Example

Choice of protection devices Q1 and Q2 in the diagram opposite:

| Circuit breaker Q1 | | |
|--|--|---|
| Rated current | Less than or equal to the cable withstand I _z | 50 A |
| Breaking capacity | Greater than or equal to the short-circuit current I _{sc} (17 kA) | iC60N 2P or C120N 2P (20 kA under 230 V) |
| Residual current circuit breaker Q2 | | |
| Rated current | Greater than or equal to that of circuit breaker Q1 | 63 A |
| Short-circuit withstand (I _{nc}) | Greater than or equal to the short-circuit current I _{sc} (12 kA) | Based on the tables opposite: ■ with iC60N: 20 kA: is suitable ■ with C120N: 20 kA: is suitable |

Coordination

Residual current circuit breakers protection

Protection against earth fault currents

In the event of an insulation fault in a TN system, the phase-to-earth fault current is equal to the phase-to-neutral fault current.

- The residual current circuit breaker interrupts this current, if it does not exceed its specific breaking capacity $I_{\Delta m}$.
- If the fault current exceeds this value, it must be interrupted by the circuit breaker located upstream.

Therefore, the magnetic threshold (instantaneous tripping threshold) of the circuit breaker must always be less than or equal to the breaking capacity of the residual current circuit breaker ($I_{\Delta m}$).

Breaking and making capacity ($I_{\Delta m}$) of iLD residual current circuit breakers


| Rating (A) | iLD type AC, A, SI | RCCB-ID type B |
|------------|--------------------|----------------|
| 16 | 1500 | - |
| 25 | 1500 | 500 |
| 40 | 1500 | 500 |
| 63 | 1500 | 630 |
| 80 | 1500 | 800 |
| 100 | 1500 | - |
| 125 | 1250 | 1250 |

The combination of an iLD residual current circuit breaker and an iC60 circuit breaker of appropriate rating naturally satisfies this condition.

Example:

- iLD RCCB, rating 63 A: $I_{\Delta m} = 1500$ A;
- iC60N circuit breakers of rating 63 A:
 - B curve: magnetic threshold 189 to 315 A;
 - C curve: magnetic threshold 315 to 630 A;
 - D curve: magnetic threshold 630 to 882 A.

The condition is satisfied whatever the iC60 circuit breaker (of rating at most equal to 63 A).

For protection by fuse, the user should check that the fuse blowing time is less than the residual current circuit breaker's response time for a fault current of amplitude superior than $I_{\Delta m}$, i.e.: type : 40 ms.

Coordination

Switches and residual current circuit breakers protection

Using the coordination tables

This table takes in account:

- all types of faults: between phases, phase and neutral and between phase and earth.

- all earthing systems except IT.

See comment here below.

Depending on the network and the type of protection, the selection table below indicates which table should be consulted to find out the coordination value.

Selection table

| | | Upstream network | | | | | |
|----------------------------|---------------------------|---------------------------------|--------------------------------|---|-----------------------------------|--|-------------------------|
| | | DB123896 eps L1 ——— N ——— | | DB123898 eps L1 ——— L2 ——— L3 ——— N ——— | | DB123897 eps L1 ——— L2 ——— L3 ——— | |
| Type of Downstream network | Type of protection device | Ph/N 110-130 V | Ph/N 220-240 V | Ph/N 110-130 V Ph/Ph 220-240 V | Ph/N 220-240 V Ph/Ph 380-415 V | Ph/Ph 220-240 V | Ph/Ph 380-415 V |
| DB124079 eps N L1 | DB123891 eps 2P | See table Ue: 220-240 V | (1) See table Ue: 220-240 V | See table Ue: 220-240 V | (1) See table Ue: 220-240 V | | |
| | DB124191 eps 1P | See table Ue: 220-240 V | (2) See table Ue: 380-415 V | See table Ue: 220-240 V | (2) See table Ue: 380-415 V | | |
| DB124192 eps L1 L2 | DB123891 eps 2P | | | See table Ue: 220-240 V | See table Ue: 380-415 V | See table Ue: 220-240 V | See table Ue: 380-415 V |
| | DB123892 eps 1P+N | | | | | | |
| DB124080 eps L1 L2 L3 | DB123892 eps 3P | | | See table Ue: 220-240 V | See table Ue: 380-415 V | See table Ue: 220-240 V | See table Ue: 380-415 V |
| DB124081 eps N L1 L2 L3 | DB123894 eps 4P | | | See table Ue: 220-240 V | See table Ue: 380-415 V | | |
| | DB123983 eps 3P | | | See table Ue: 220-240 V | See table Ue: 380-415 V | | |
| | DB123985 eps 3P+N | | | | | | |

(1) For fault phase-earth please consult the table Ue: 380-415 V.

(2) For iC60 1P+N circuit breaker connected between phase and neutral under 220-240 V, consult the table Ue: 220-240 V (only for faults between phase and neutral).

Coordination

Upstream: iDPN, iC60

Downstream: switch-disconnectors,
residual current circuit breakers

Ue: 380-415 V and Ue: 220-240 V

| Protection by circuit breaker | | | | Ue: 380-415 V | | | Ue: 220-240 V | | |
|---------------------------------|-------------|-----------------------------|-------------|---------------|-------|-------|---------------|-------|-------|
| Downstream | | Upstream Circuit breaker | | | | | | | |
| Product | Ratings (A) | Product | Ratings (A) | 0.5 to 25 | 32-40 | 50-63 | 0.5 to 25 | 32-40 | 50-63 |
| iID NG125NA iSW-NA INS | All | iDPN | iDPN | 6 | 6 | | 6 | 6 | |
| | | | iDPN N | 10 | 10 | | 10 | 10 | |
| | | iC60 | iC60a | 6 | 6 | 6 | 10 | 10 | 10 |
| | | | iC60N | 10 | 10 | 10 | 20 | 20 | 20 |
| | | | iC60H | 15 | 15 | 15 | 30 | 30 | 30 |
| | iC60L | 25 | 20 | 15 | 50 | 36 | 30 | | |
| iSW | 20 to 32 | iDPN | iDPN | 4.5 | 4.5 | | 4.5 | 4.5 | |
| | | | iDPN N | 4.5 | 4.5 | | 4.5 | 4.5 | |
| | | iC60 | iC60a/N/H/L | 4.5 | 4.5 | 3 | 5.5 | 5.5 | 4 |
| | | | | | | | | | |
| | 40 to 125 | iDPN | iDPN | 6 | 6 | | 6 | 6 | |
| | | | iDPN N | 10 | 10 | | 10 | 10 | |
| | | iC60 | iC60a | 6 | 6 | 6 | 10 | 10 | 10 |
| | | | iC60N | 10 | 10 | 10 | 20 | 20 | 20 |
| | | | iC60H | 15 | 15 | 15 | 30 | 30 | 30 |
| | | | iC60L | 25 | 20 | 15 | 50 | 36 | 30 |
| RCCB-ID type B | All | iDPN | iDPN | 6 | 6 | | | | |
| | | | iDPN N | 10 | 10 | | | | |
| | | iC60 | iC60a | 6 | 6 | 6 | | | |
| | | | iC60N | 10 | 10 | 10 | | | |
| | | | iC60H | 15 | 15 | 15 | | | |
| | | | iC60L | 25 | 20 | 15 | | | |

10 Total coordination up to the MCB breaking capacity: Value of Short circuit withstand of the circuit breaker - Switch-disconnector or residual current circuit breaker combination (kA rms)

4.5 Coordination limit: Value of Short circuit withstand of the circuit breaker - Switch-disconnector or residual current circuit breaker combination (kA rms)

No coordination

Coordination

Upstream: C120, NG125, NG160, NSX100, NSX160

Downstream: switch-disconnectors, residual current circuit breakers

Ue: 380-415 V and Ue: 220-240 V

| Protection by circuit breaker | | | | Ue: 380-415 V | | | | | | | Ue: 220-240 V | | | | | | | |
|-------------------------------|------------------------|-----------------------------|--------------------------------|---------------|-------|-------|----|-----|-----|-----|---------------|-------|-------|----|-----|-----|-----|--|
| Downstream | | Upstream Circuit breaker | | 0.5 to 25 | 32-40 | 50-63 | 80 | 100 | 125 | 160 | 0.5 to 25 | 32-40 | 50-63 | 80 | 100 | 125 | 160 | |
| Product | Ratings (A) | Product | Ratings (A) | | | | | | | | | | | | | | | |
| iID iSW-NA | ≤ 63 | C120 | C120N | 10 | 10 | 10 | 6 | 6 | 6 | | 20 | 20 | 20 | 12 | 12 | 12 | | |
| | | | C120H | 15 | 15 | 15 | 6 | 6 | 6 | | 30 | 30 | 30 | 12 | 12 | 12 | | |
| | | NG125 | NG125a | | | | 4 | 4 | 4 | | | | | | 8 | 8 | 8 | |
| | | | NG125N | 16 | 16 | 16 | 6 | 6 | 6 | | 30 | 30 | 30 | 12 | 12 | 12 | | |
| | | | NG125H | 20 | 16 | 16 | 6 | | | | 40 | 30 | 30 | 12 | | | | |
| | | | NG125L | 25 | 20 | 16 | 6 | | | | 50 | 36 | 30 | 12 | | | | |
| | | NG160 | NG160 | 7 | 7 | 7 | 4 | 4 | 4 | 4 | 8 | 8 | 8 | 5 | 5 | 5 | 5 | |
| NSX | NSX100/160 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 5 | 5 | 5 | 5 | | | |
| iID iSW-NA | 80 to 100 | C120 | C120N | 10 | 10 | 10 | 10 | 10 | 10 | | 20 | 20 | 20 | 20 | 20 | 20 | | |
| | | | C120H | 15 | 15 | 15 | 10 | 10 | 10 | | 30 | 30 | 30 | 20 | 20 | 20 | | |
| iSW | 40 to 125* *for iSW | NG125 | NG125a | | | | 6 | 6 | 6 | | | | | 12 | 12 | 12 | | |
| | | | NG125N | 16 | 16 | 16 | 10 | 10 | 10 | | 30 | 30 | 30 | 20 | 20 | 20 | | |
| | | | NG125H | 20 | 16 | 16 | 10 | | | | 36 | 30 | 30 | 20 | | | | |
| | | | NG125L | 25 | 20 | 16 | 10 | | | | 50 | 36 | 30 | 20 | | | | |
| iSW | 20 to 32 | NSX | NSX100/160 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | |
| | | | NSX100/H | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| iSW | 20 to 32 | C120 | C120N/H | 3 | 3 | | | | | | 4.5 | 4.5 | | | | | | |
| | | | NG125 | NG125N/H/L | 3 | 3 | | | | | | 4.5 | 4.5 | | | | | |
| NG125NA INS | All | C120 | C120N | 10 | 10 | 10 | 10 | 10 | 10 | | 20 | 20 | 20 | 20 | 20 | 20 | | |
| | | | C120H | 15 | 15 | 15 | 15 | 15 | 15 | | 30 | 30 | 30 | 30 | 30 | 30 | | |
| | | NG125 | NG125a | | | | 16 | 16 | 16 | | | | | 16 | 16 | 16 | | |
| | | | NG125N | 25 | 25 | 25 | 25 | 25 | 25 | | 50 | 50 | 50 | 50 | 50 | 50 | | |
| | | | NG125H | 36 | 36 | 36 | 36 | | | | 70 | 70 | 70 | 70 | | | | |
| NG125NA | All | NG160 | NG160E | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | |
| | | | NG160N | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 40 | 40 | 40 | 40 | 40 | 40 | | |
| | | | NG160H | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 50 | 50 | 50 | 50 | 50 | 50 | | |
| | | NSX | NSX100B/160B | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 40 | 40 | 40 | 40 | 40 | 40 | | |
| | | | NSX100F/160F | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 50 | 50 | 50 | 50 | 50 | 50 | | |
| | | | NSX100N/H/S/L NSX160N/H/S/L | 36 | 36 | 36 | 36 | 36 | 36 | 36 | 50 | 50 | 50 | 50 | 50 | 50 | | |
| RCCB-ID type B | All | C120 | C120N/H | 7 | 7 | 7 | 7 | 5 | 5 | | | | | | | | | |
| | | | NG125 | NG125a | | | | 8 | 8 | 8 | | | | | | | | |
| | | NG125N | | 15 | 15 | 15 | 15 | 10 | 10 | | | | | | | | | |
| | | NG125H/L | | 15 | 15 | 15 | 15 | | | | | | | | | | | |
| | | NG160 | NG160 | 7 | 7 | 7 | 5 | 5 | 4 | | | | | | | | | |
| NSX | NSX100/160 | 4 | 4 | 4 | 4 | 4 | 4 | | | | | | | | | | | |

10 Total coordination up to the MCB breaking capacity: Value of Short circuit withstand of the circuit breaker - Switch-disconnector or residual current circuit breaker combination (kA rms)

4.5 Coordination limit: Value of Short circuit withstand of the circuit breaker - Switch-disconnector or residual current circuit breaker combination (kA rms)

No coordination

Coordination

Upstream: fuses gG

Downstream: switch-disconnectors,
residual current circuit breakers

Ue: 380-415 V and Ue: 220-240 V

| Protection by fuse | | | | Ue: 380-415 V | | | | | | | | | |
|--------------------|-------------|---------------|-------------|---------------|-----|-----|-----|----|----|----|-----|-----|----|
| | | | | Ue: 220-240 V | | | | | | | | | |
| Downstream | | Upstream Fuse | | | | | | | | | | | |
| Product | Ratings (A) | Product | Ratings (A) | 16 | 20 | 25 | 32 | 40 | 63 | 80 | 100 | 125 | |
| iID | 16 to 40 | Fuse gG | | 100 | 100 | 100 | 80 | 80 | 30 | 15 | 10 | | |
| | 63 to 100 | | | 100 | 100 | 100 | 80 | 80 | 30 | 15 | 10 | 5 | |
| iSW | 20 to 32 | | | 60 | 40 | 25 | 15 | 8 | | | | | |
| | 40 to 63 | | | 60 | 40 | 25 | 20 | 10 | 10 | | | | |
| | 100 to 125 | | | 60 | 40 | 25 | 20 | 10 | 10 | 10 | 10 | 10 | 10 |
| iSW-NA | 40 | | | 100 | 100 | 100 | 80 | 80 | 30 | 15 | | | |
| | 63 to 100 | | | 100 | 100 | 100 | 80 | 80 | 30 | 15 | 10 | 5 | |
| NG125NA | 125 | | | 100 | 100 | 100 | 80 | 80 | 50 | 50 | 50 | 50 | 50 |
| RCCB-ID type B | 25 | | | 100 | 100 | 100 | 80 | | | | | | |
| | 40 à 80 | | | 100 | 100 | 100 | 100 | 80 | 30 | 20 | | | |
| | 100 à 125 | | | 100 | 100 | 100 | 100 | 80 | 30 | 20 | 10 | 10 | |

100 Total coordination up to the fuse breaking capacity: Value of Short circuit withstand of the fuse - Switch-disconnector or residual current circuit breaker combination (kA rms)

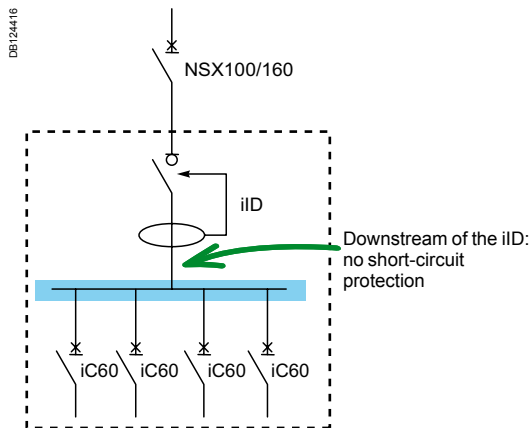
30 Coordination limit: Value of Short circuit withstand of the fuse - Switch-disconnector or residual current circuit breaker combination (kA rms)

No coordination

Coordination

Upstream: NSX100/160

Downstream: modular residual current circuit breakers and modular circuit breakers



Installation required on the same DIN rail and under the same comb busbar to avoid any risk of short-circuits.

2P residual current circuit breakers installed between a NSX100/160 and a circuit breaker (220 V to 240 V single-phase circuit)

Protection by circuit breaker

| Upstream | Residual current circuit breakers 2P ratings (A) | | |
|------------------------------------|--|-----|----|
| | 25 | 40 | 63 |
| Downstream Circuit breakers | | | |
| iDPN | 6 | 6 | - |
| iDPN N | 7.5 | 7.5 | - |
| iC60N | 20 | 20 | 20 |
| iC60H | 30 | 30 | 30 |
| iC60L | 50 | 36 | 30 |

Short-circuit current withstand of the circuit breakers-residual current circuit breakers combination (kA r.m.s.)

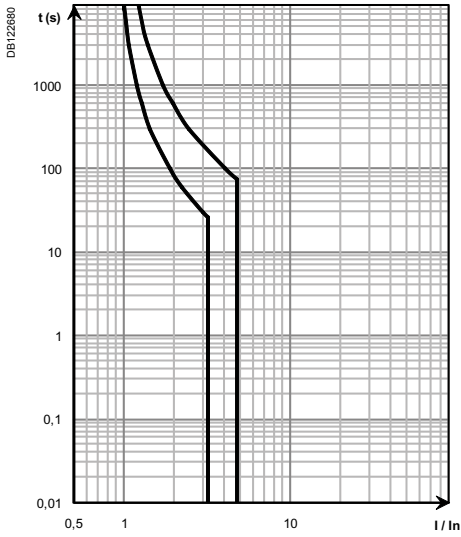
4P residual current circuit breakers installed between a NSX100/160 and a circuit breaker (380 V to 415 V three-phase circuit)

Protection by circuit breaker

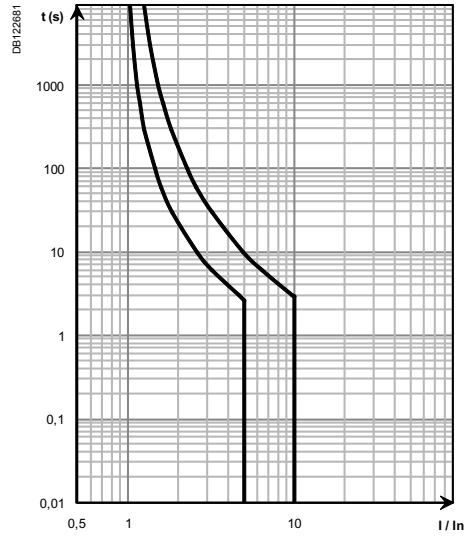
| Upstream | Residual current circuit breakers 4P ratings (A) | | |
|------------------------------------|--|----|----|
| | 25 | 40 | 63 |
| Downstream Circuit breakers | | | |
| iDPN | 2 | 2 | - |
| iDPN N | 3 | 3 | - |
| iC60N | 10 | 10 | 10 |
| iC60H | 15 | 15 | 15 |
| iC60L | 20 | 20 | 15 |

Short-circuit current withstand of the circuit breakers-residual current circuit breakers combination (kA r.m.s.)

Tripping curves

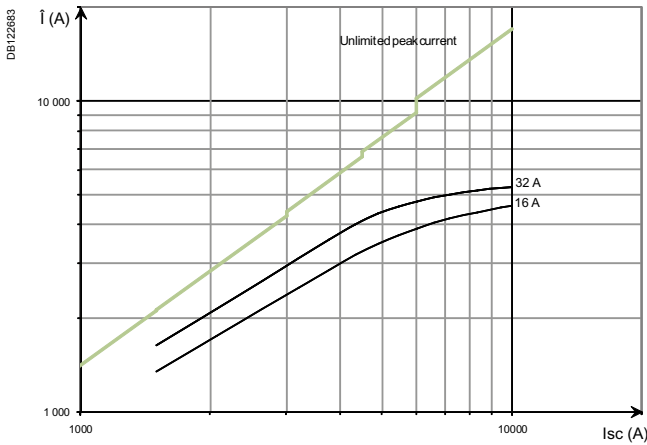


B curve

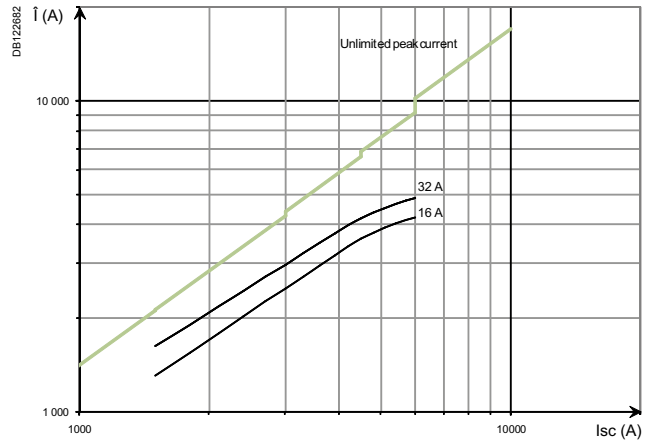


C curve

Peak limitation curves

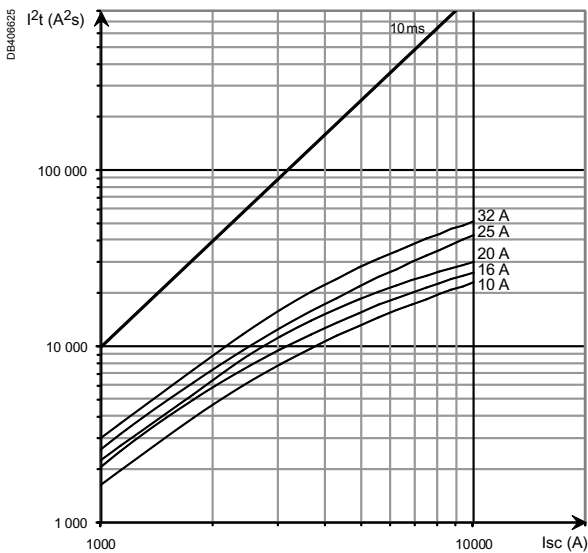


2P/3P - 230 V

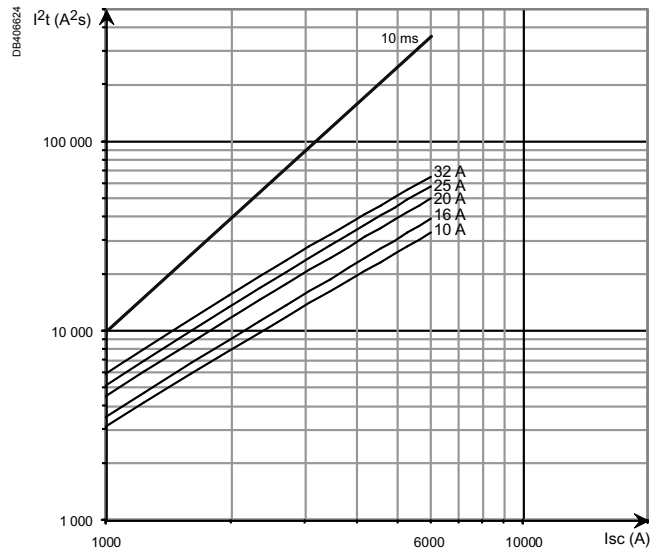


4P - 400 V

Energy curves



DCP N, H Vigji (2P/3P - 230 V)



DCP N Vigji (4P - 400 V)

Power loss per pole

| Rating (In) | 10 A | 13 A | 16 A | 20 A | 25 A | 32 A |
|-------------|------|------|------|------|------|------|
| R (mΩ) | 20.6 | ??? | 8.9 | 6.8 | 4.6 | 3.6 |
| P (W) | 2.06 | ??? | 2.28 | 2.72 | 2.88 | 3.67 |

Cascading 230 V (kA)

| Type | Upstream | C60N | C60L | | | C120N | C120H | NG125N | NG125H | NG125L |
|---------------|----------------------------|------|--------|---------|---------|-------|-------|--------|--------|--------|
| | | | ≤ 25 A | 32/40 A | 50/63 A | | | | | |
| Downstream | Breaking capacity (kA rms) | 20 | 50 | 40 | 30 | 20 | 30 | 50 | 70 | 100 |
| DCP N, H Vigi | 10 | 15 | 30 | 25 | 20 | 15 | 20 | 20 | 40 | 50 |

| Type | Upstream | NS100 | NS160 | NS250 | NSX100 | NSX160 | NSX250 |
|---------------|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | F/N/H/S/L | F/N/H/S/L | F/N/H/S/L | F/N/H/S/L | F/N/H/S/L | F/N/H/S/L |
| Downstream | Breaking capacity (kA rms) | | | | | | |
| DCP N, H Vigi | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

Cascading 400 V (kA)

| Type | Upstream | | Fuse type gG | | | | | | | |
|---------------|------------|----------------------------|--------------|------|------|------|------|------|-------|-------|
| Downstream | Rating | Breaking capacity (kA rms) | 20 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| DCP N Vigi 4P | 10 to 16 A | 6 | 100 | 100 | 100 | 100 | 35 | 35 | 35 | 35 |
| | 20 to 25 A | 6 | - | 100 | 100 | 100 | 35 | 35 | 35 | 35 |
| | 32 A | 6 | - | - | 100 | 100 | 35 | 35 | 35 | 35 |

| Type | Upstream | | Fuse type Am | | | | | | | |
|---------------|------------|----------------------------|--------------|------|------|------|------|------|-------|-------|
| Downstream | Rating | Breaking capacity (kA rms) | 20 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| DCP N Vigi 4P | 10 to 16 A | 6 | 35 | 35 | 35 | 35 | 35 | 35 | 15 | - |
| | 20 to 25 A | 6 | - | 35 | 35 | 35 | 35 | 35 | 15 | - |
| | 32 A | 6 | - | - | 35 | 35 | 35 | 35 | 15 | - |

| Type | Upstream | C60N | C60L | | | C120N | C120H | NG125N | NG125H | NG125L | |
|---------------|------------|----------------------------|--------|---------|---------|-------|-------|--------|--------|--------|----|
| | | | ≤ 25 A | 32/40 A | 50/63 A | | | | | | |
| Downstream | Rating | Breaking capacity (kA rms) | 10 | 25 | 20 | 15 | 10 | 15 | 25 | 36 | 50 |
| DCP N Vigi 4P | 10 to 16 A | 6 | 10 | 20 | 16 | 10 | 10 | 10 | 16 | 16 | 20 |
| | 20 to 32 A | 6 | 10 | 20 | 16 | 10 | 10 | 10 | 10 | 10 | 10 |

| Type | Upstream | NG160E | NS100 | NS160 | NS250 | NSX100 | NSX160 | NSX250 |
|---------------|------------|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | E/N/H | F/N/H/S/L | F/N/H/S/L | F/N/H/S/L | F/N/H/S/L | F/N/H/S/L | F/N/H/S/L |
| Downstream | Rating | Breaking capacity (kA rms) | | | | | | |
| DCP N Vigi 4P | 10 to 16 A | 6 | 16 | 16 | 16 | 16 | 16 | 16 |
| | 20 to 32 A | 6 | 10 | 10 | 10 | 10 | 10 | 10 |

Temperature derating (A)

| Rating (In) | Temperature | | | | | |
|-------------|-------------|------|------|------|------|------|
| | 10°C | 20°C | 30°C | 40°C | 50°C | 60°C |
| 10 A | 11.8 | 10.8 | 10 | 9.6 | 9.1 | 8.6 |
| 13 A | 14.8 | 14 | 13 | 12.2 | 11.2 | 10.3 |
| 16 A | 18.2 | 17.2 | 16 | 15.2 | 14.3 | 13.4 |
| 20 A | 22.8 | 21.4 | 20 | 19.5 | 14.3 | 18.4 |
| 25 A | 28.5 | 26.8 | 25 | 24 | 23 | 22 |
| 32 A | 36.5 | 34.2 | 32 | 30.8 | 29.5 | 28.8 |

Upstream : C60N/H/L, B curve

Downstream : DCP H Vigì, B, C curves

| Protection discrimination (A) | | | | | | | | | | |
|------------------------------------|-----------------------------|------|------|------|------|------|------|------|------|------|
| DCP H Vigì, B curve: downstream | C60N/H/L, B curve: upstream | | | | | | | | | |
| | 8 A | 10 A | 13 A | 15 A | 16 A | 20 A | 25 A | 32 A | 50 A | 63 A |
| 10 A | - | - | - | - | - | - | - | 180 | 300 | 390 |
| 13 A | - | - | - | - | - | - | - | - | 300 | 380 |
| 16 A | - | - | - | - | - | - | - | - | 290 | 380 |
| 20 A | - | - | - | - | - | - | - | - | - | 310 |
| 25-32 A | - | - | - | - | - | - | - | - | - | - |
| DCP H Vigì, C curve: downstream | C60N/H/L, B curve: upstream | | | | | | | | | |
| | 8 A | 10 A | 13 A | 15 A | 16 A | 20 A | 25 A | 32 A | 50 A | 63 A |
| 10 A | - | - | - | - | - | - | 100 | 150 | 270 | 360 |
| 13 A | - | - | - | - | - | - | - | 130 | 250 | 350 |
| 16 A | - | - | - | - | - | - | - | - | 230 | 320 |
| 20 A | - | - | - | - | - | - | - | - | 200 | 280 |
| 25 A | - | - | - | - | - | - | - | - | - | 260 |
| 32 A | - | - | - | - | - | - | - | - | - | - |

Upstream : C60N/H/L, C curve

Downstream : DCP H Vigì, B, C curves

| Protection discrimination (A) | | | | | | | | | | |
|------------------------------------|-----------------------------|------|------|------|------|------|------|------|------|------|
| DCP H Vigì, B curve: downstream | C60N/H/L, C curve: upstream | | | | | | | | | |
| | 8 A | 10 A | 13 A | 15 A | 16 A | 20 A | 25 A | 32 A | 50 A | 63 A |
| 10 A | - | - | - | - | - | - | - | 400 | 640 | 820 |
| 13 A | - | - | - | - | - | - | - | - | 640 | 810 |
| 16 A | - | - | - | - | - | - | - | - | 630 | 810 |
| 20 A | - | - | - | - | - | - | - | - | - | 660 |
| 25-32 A | - | - | - | - | - | - | - | - | - | - |
| DCP H Vigì, C curve: downstream | C60N/H/L, C curve: upstream | | | | | | | | | |
| | 8 A | 10 A | 13 A | 15 A | 16 A | 20 A | 25 A | 32 A | 50 A | 63 A |
| 10 A | - | - | - | - | - | 210 | 270 | 370 | 620 | 800 |
| 13 A | - | - | - | - | - | - | - | 350 | 600 | 790 |
| 16 A | - | - | - | - | - | - | - | 330 | 590 | 770 |
| 20 A | - | - | - | - | - | - | - | 280 | 480 | 630 |
| 25 A | - | - | - | - | - | - | - | - | 470 | 610 |
| 32 A | - | - | - | - | - | - | - | - | 440 | 590 |

Upstream : C60N/H/L, D curve

Downstream : DCP H Vigì, B, C curves

| Protection discrimination (A) | | | | | | | | | | |
|------------------------------------|-----------------------------|------|------|------|------|------|------|------|------|------|
| DCP H Vigì, B curve: downstream | C60N/H/L, D curve: upstream | | | | | | | | | |
| | 8 A | 10 A | 13 A | 15 A | 16 A | 20 A | 25 A | 32 A | 50 A | 63 A |
| 10 A | - | - | - | - | - | - | - | 620 | 980 | 1200 |
| 13 A | - | - | - | - | - | - | - | - | 980 | 1200 |
| 16 A | - | - | - | - | - | - | - | - | 970 | 1200 |
| 20 A | - | - | - | - | - | - | - | - | - | 1000 |
| 25-32 A | - | - | - | - | - | - | - | - | - | - |
| DCP H Vigì, C curve: downstream | C60N/H/L, D curve: upstream | | | | | | | | | |
| | 8 A | 10 A | 13 A | 15 A | 16 A | 20 A | 25 A | 32 A | 50 A | 63 A |
| 10 A | - | - | - | - | - | 340 | 450 | 590 | 970 | 1200 |
| 13 A | - | - | - | - | - | - | - | 580 | 950 | 1200 |
| 16 A | - | - | - | - | - | - | - | 560 | 940 | 1200 |
| 20 A | - | - | - | - | - | - | - | 460 | 760 | 980 |
| 25 A | - | - | - | - | - | - | - | - | 750 | 970 |
| 32 A | - | - | - | - | - | - | - | - | 730 | 950 |

Upstream : C60B

Downstream : DCP H Vigî, B, C curves

| Protection discrimination (A) | | | | | |
|------------------------------------|----------------|------|------|------|------|
| DCP H Vigî, B curve: downstream | C60B: upstream | | | | |
| | 25 A | 32 A | 40 A | 50 A | 63 A |
| 10 A | 980 | 980 | 980 | 980 | 1200 |
| 13 A | 980 | 980 | 980 | 980 | 1200 |
| 16 A | - | 970 | 970 | 970 | 1200 |
| 20 A | - | 600 | 600 | 600 | 1000 |
| 25 A | - | - | 600 | 600 | 750 |
| 32 A | - | - | - | - | 750 |
| DCP H Vigî, C curve: downstream | C60B: upstream | | | | |
| | 25 A | 32 A | 40 A | 50 A | 63 A |
| 10 A | 970 | 970 | 970 | 970 | 1200 |
| 13 A | 950 | 950 | 950 | 950 | 1200 |
| 16 A | - | 940 | 940 | 940 | 1200 |
| 20 A | - | 760 | 760 | 760 | 980 |
| 25 A | - | - | 750 | 750 | 970 |
| 32 A | - | - | - | - | 950 |

1200 Discrimination limit = 1.2 kA.

T Total discrimination.

- No discrimination.

Upstream : C120N/H, B curve

Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | | | | | | | | | |
|------------------------------------|----------------------------|------|------|------|------|------|------|------|------|-------|-------|
| DCP H Vigi, B curve: downstream | C120N/H, B curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | - | 180 | 240 | 300 | 390 | 510 | 640 | 810 |
| 13 A | - | - | - | - | - | 230 | 300 | 380 | 500 | 640 | 810 |
| 16 A | - | - | - | - | - | - | 290 | 380 | 490 | 630 | 800 |
| 20 A | - | - | - | - | - | - | - | 310 | 400 | 510 | 650 |
| 25 A | - | - | - | - | - | - | - | - | 390 | 510 | 640 |
| 32 A | - | - | - | - | - | - | - | - | - | - | 630 |
| DCP H Vigi, C curve: downstream | C120N/H, B curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | 100 | 150 | 210 | 270 | 360 | 480 | 620 | 790 |
| 13 A | - | - | - | - | 130 | 180 | 250 | 350 | 460 | 600 | 780 |
| 16 A | - | - | - | - | - | 160 | 230 | 320 | 450 | 590 | 760 |
| 20 A | - | - | - | - | - | - | 200 | 280 | 370 | 480 | 620 |
| 25 A | - | - | - | - | - | - | - | 260 | 350 | 470 | 610 |
| 32 A | - | - | - | - | - | - | - | - | 320 | 440 | 580 |

Upstream : C120N/H, C curve

Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | | | | | | | | | |
|------------------------------------|----------------------------|------|------|------|------|------|------|------|------|-------|-------|
| DCP H Vigi, B curve: downstream | C120N/H, C curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | - | 400 | 510 | 640 | 820 | 1100 | 1300 | 1700 |
| 13 A | - | - | - | - | - | 500 | 640 | 810 | 1000 | 1300 | 1700 |
| 16 A | - | - | - | - | - | - | 630 | 810 | 1000 | 1300 | 1700 |
| 20 A | - | - | - | - | - | - | - | 660 | 840 | 1100 | 1300 |
| 25 A | - | - | - | - | - | - | - | - | 840 | 1100 | 1300 |
| 32 A | - | - | - | - | - | - | - | - | - | - | 1300 |
| DCP H Vigi, C curve: downstream | C120N/H, C curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | 270 | 370 | 480 | 620 | 800 | 1000 | 1300 | 1700 |
| 13 A | - | - | - | - | 350 | 460 | 600 | 790 | 1000 | 1300 | 1700 |
| 16 A | - | - | - | - | - | 450 | 590 | 770 | 1000 | 1300 | 1600 |
| 20 A | - | - | - | - | - | - | 480 | 630 | 820 | 1000 | 1300 |
| 25 A | - | - | - | - | - | - | 470 | 610 | 810 | 1000 | 1300 |
| 32 A | - | - | - | - | - | - | 440 | 590 | 780 | 1000 | 1300 |

Upstream : C120N/H, D curve

Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | | | | | | | | | |
|------------------------------------|----------------------------|------|------|------|------|------|------|------|------|-------|-------|
| DCP H Vigi, B curve: downstream | C120N/H, D curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | - | 620 | 780 | 980 | 1200 | 1600 | 2000 | 2500 |
| 13 A | - | - | - | - | - | 770 | 980 | 1200 | 1600 | 2000 | 2500 |
| 16 A | - | - | - | - | - | - | 970 | 1200 | 1600 | 2000 | 2500 |
| 20 A | - | - | - | - | - | - | - | 1000 | 1300 | 1600 | 2000 |
| 25 A | - | - | - | - | - | - | - | - | 1300 | 1600 | 2000 |
| 32 A | - | - | - | - | - | - | - | - | - | - | 2000 |
| DCP H Vigi, C curve: downstream | C120N/H, D curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | 450 | 590 | 760 | 970 | 1200 | 1600 | 2000 | 2500 |
| 13 A | - | - | - | - | 580 | 740 | 950 | 1200 | 1600 | 2000 | 2500 |
| 16 A | - | - | - | - | - | 730 | 940 | 1200 | 1600 | 2000 | 2500 |
| 20 A | - | - | - | - | - | - | 760 | 980 | 1300 | 1600 | 2000 |
| 25 A | - | - | - | - | - | - | 750 | 970 | 1300 | 1600 | 2000 |
| 32 A | - | - | - | - | - | - | 730 | 950 | 1200 | 1600 | 2000 |

Upstream : NG125N/L, B curve
Downstream : DCP H Vivi, B, C curves

| Protection discrimination (A) | | | | | | | | | | | |
|------------------------------------|-----------------------------|------|------|------|------|------|------|------|------|-------|-------|
| DCP H Vivi, B curve: downstream | NG125N/L, B curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | - | 180 | 240 | 300 | 390 | 510 | 640 | 810 |
| 13 A | - | - | - | - | - | - | 300 | 380 | 500 | 640 | 810 |
| 16 A | - | - | - | - | - | - | - | 380 | 490 | 630 | 800 |
| 20 A | - | - | - | - | - | - | - | - | 400 | 510 | 650 |
| 25 A | - | - | - | - | - | - | - | - | - | 510 | 640 |
| 32 A | - | - | - | - | - | - | - | - | - | 490 | 630 |
| DCP H Vivi, C curve: downstream | NG125N/L, B curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | 100 | 150 | 210 | 270 | 360 | 480 | 620 | 790 |
| 13 A | - | - | - | - | 130 | 180 | 250 | 350 | 460 | 600 | 780 |
| 16 A | - | - | - | - | - | 160 | 230 | 320 | 450 | 590 | 760 |
| 20 A | - | - | - | - | - | - | 200 | 280 | 370 | 480 | 620 |
| 25 A | - | - | - | - | - | - | - | 260 | 350 | 470 | 610 |
| 32 A | - | - | - | - | - | - | - | - | 320 | 440 | 580 |

Upstream : NG125N/L, C curve
Downstream : DCP H Vivi, B, C curves

| Protection discrimination (A) | | | | | | | | | | | |
|------------------------------------|-----------------------------|------|------|------|------|------|------|------|------|-------|-------|
| DCP H Vivi, B curve: downstream | NG125N/L, C curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | - | 400 | 510 | 640 | 820 | 1100 | 1300 | 1700 |
| 13 A | - | - | - | - | - | - | 640 | 810 | 1000 | 1300 | 1700 |
| 16 A | - | - | - | - | - | - | - | 810 | 1000 | 1300 | 1700 |
| 20 A | - | - | - | - | - | - | - | - | 840 | 1100 | 1300 |
| 25 A | - | - | - | - | - | - | - | - | - | 1100 | 1300 |
| 32 A | - | - | - | - | - | - | - | - | - | 1100 | 1300 |
| DCP H Vivi, C curve: downstream | NG125N/L, C curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | - | 370 | 480 | 620 | 800 | 1000 | 1300 | 1700 |
| 13 A | - | - | - | - | - | 460 | 600 | 790 | 1000 | 1300 | 1700 |
| 16 A | - | - | - | - | - | - | 590 | 770 | 1000 | 1300 | 1600 |
| 20 A | - | - | - | - | - | - | 480 | 630 | 820 | 1000 | 1300 |
| 25 A | - | - | - | - | - | - | 470 | 610 | 810 | 1000 | 1300 |
| 32 A | - | - | - | - | - | - | - | 590 | 780 | 1000 | 1300 |

Upstream : NG125N/L, D curve
Downstream : DCP H Vivi, B, C curves

| Protection discrimination (A) | | | | | | | | | | | |
|------------------------------------|-----------------------------|------|------|------|------|------|------|------|------|-------|-------|
| DCP H Vivi, B curve: downstream | NG125N/L, D curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | - | 620 | 780 | 980 | 1200 | 1600 | 2000 | 2500 |
| 13 A | - | - | - | - | - | - | 980 | 1200 | 1600 | 2000 | 2500 |
| 16 A | - | - | - | - | - | - | - | 1200 | 1600 | 2000 | 2500 |
| 20 A | - | - | - | - | - | - | - | - | 1300 | 1600 | 2000 |
| 25 A | - | - | - | - | - | - | - | - | - | 1600 | 2000 |
| 32 A | - | - | - | - | - | - | - | - | - | 1600 | 2000 |
| DCP H Vivi, C curve: downstream | NG125N/L, D curve: upstream | | | | | | | | | | |
| | 10 A | 16 A | 20 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A | 125 A |
| 10 A | - | - | - | - | 590 | 760 | 970 | 1200 | 1600 | 2000 | 2500 |
| 13 A | - | - | - | - | - | 740 | 950 | 1200 | 1600 | 2000 | 2500 |
| 16 A | - | - | - | - | - | - | 940 | 1200 | 1600 | 2000 | 2500 |
| 20 A | - | - | - | - | - | - | 760 | 980 | 1300 | 1600 | 2000 |
| 25 A | - | - | - | - | - | - | 750 | 970 | 1300 | 1600 | 2000 |
| 32 A | - | - | - | - | - | - | - | 950 | 1200 | 1600 | 2000 |

Upstream : NS100N/SX/H/L TMD

Downstream : DCP H Vigì, B, C curves

| Protection discrimination (A) | | | | | | | | |
|------------------------------------|-----------------------------|------|------|------|------|------|------|-------|
| DCP H Vigì, B curve: downstream | NS100N/SX/H/L TMD: upstream | | | | | | | |
| | 16 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A |
| 10 A | 290 | 470 | 640 | 810 | 810 | 810 | 1000 | 1300 |
| 13 A | - | 470 | 640 | 810 | 810 | 810 | 1000 | 1300 |
| 16 A | - | - | 630 | 800 | 800 | 800 | 1000 | 1300 |
| 20 A | - | - | 570 | 710 | 710 | 710 | 890 | 1100 |
| 25 A | - | - | - | 710 | 710 | 710 | 890 | 1100 |
| 32 A | - | - | - | - | - | 710 | 890 | 1100 |
| DCP H Vigì, C curve: downstream | NS100N/SX/H/L TMD: upstream | | | | | | | |
| | 16 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A |
| 10 A | 270 | 450 | 620 | 790 | 790 | 790 | 1000 | 1300 |
| 13 A | - | 430 | 600 | 780 | 780 | 780 | 1000 | 1300 |
| 16 A | - | - | 590 | 760 | 760 | 760 | 990 | 1300 |
| 20 A | - | - | 570 | 710 | 710 | 710 | 890 | 1100 |
| 25 A | - | - | - | 710 | 710 | 710 | 890 | 1100 |
| 32 A | - | - | - | - | - | 710 | 890 | 1100 |

Upstream : NS160N/SX/H/L TMD

Downstream : DCP H Vigì, B, C curves

| Protection discrimination (A) | | | | |
|--|-----------------------------|-------|-------|-------|
| DCP H Vigì, B, C curves: downstream | NS160N/SX/H/L TMD: upstream | | | |
| | 80 A | 100 A | 125 A | 160 A |
| 10 A | T | T | T | T |
| 13 A | T | T | T | T |
| 16 A | T | T | T | T |
| 20 A | T | T | T | T |
| 25 A | T | T | T | T |
| 32 A | T | T | T | T |

Upstream : NS250N/H/L TMD

Downstream : DCP H Vigì, B, C curves

| Protection discrimination (A) | | | |
|--|--------------------------|-------|-------|
| DCP H Vigì, B, C curves: downstream | NS250N/H/L TMD: upstream | | |
| | 160 A | 200 A | 250 A |
| 10 A | T | T | T |
| 13 A | T | T | T |
| 16 A | T | T | T |
| 20 A | T | T | T |
| 25 A | T | T | T |
| 32 A | T | T | T |

1000 Discrimination limit = 1 kA.

T Total discrimination.

- No discrimination.

Upstream : NS100N/SX/H/L STR
Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | | | | | | |
|------------------------------------|-----------------------------|------|------|------|-------|------|------|-------|
| DCP H Vigi, B curve: downstream | NS100N/SX/H/L STR: upstream | | | | | | | |
| | Rating (In) | 40 A | | | 100 A | | | |
| | Setting (Ir) | 16 A | 25 A | 40 A | 40 A | 63 A | 80 A | 100 A |
| 10 A | - | - | 640 | 640 | 2000 | 2000 | 2000 | 2000 |
| 13 A | - | - | - | 640 | 2000 | 2000 | 2000 | 2000 |
| 16 A | - | - | - | 630 | 2000 | 2000 | 2000 | 2000 |
| 20 A | - | - | - | - | - | 1700 | 1700 | 1700 |
| 25 A | - | - | - | - | - | 1700 | 1700 | 1700 |
| 32 A | - | - | - | - | - | - | 1700 | 1700 |
| DCP H Vigi, C curve: downstream | NS100N/SX/H/L STR: upstream | | | | | | | |
| | Rating (In) | 40 A | | | 100 A | | | |
| | Setting (Ir) | 16 A | 25 A | 40 A | 40 A | 63 A | 80 A | 100 A |
| 10 A | - | - | 620 | 620 | 2000 | 2000 | 2000 | 2000 |
| 13 A | - | - | - | 600 | 2000 | 2000 | 2000 | 2000 |
| 16 A | - | - | - | 590 | 2000 | 2000 | 2000 | 2000 |
| 20 A | - | - | - | - | - | 1700 | 1700 | 1700 |
| 25 A | - | - | - | - | - | 1700 | 1700 | 1700 |
| 32 A | - | - | - | - | - | - | 1700 | 1700 |

Upstream : NS160N/SX/H/L STR
Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | | | | | | | | | |
|--|-----------------------------|------|------|------|------|------|-------|------|-------|-------|-------|
| DCP H Vigi, B, C curves: downstream | NS160N/SX/H/L STR: upstream | | | | | | | | | | |
| | Rating (In) | 80 A | | | | | 160 A | | | | |
| | Setting (Ir) | 32 A | 40 A | 50 A | 63 A | 80 A | 63 A | 80 A | 100 A | 125 A | 160 A |
| 10 A | T | T | T | T | T | T | T | T | T | T | |
| 13 A | T | T | T | T | T | T | T | T | T | T | |
| 16 A | - | T | T | T | T | T | T | T | T | T | |
| 20 A | - | - | T | T | T | T | T | T | T | T | |
| 25 A | - | - | - | T | T | T | T | T | T | T | |
| 32 A | - | - | - | - | T | - | T | T | T | T | |

Upstream : NS250N/H/L STR
Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | | | |
|--|--------------------------|-------|-------|-------|-------|
| DCP H Vigi, B, C curves: downstream | NS250N/H/L STR: upstream | | | | |
| | Rating (In) | 250 A | | | |
| | Setting (Ir) | 100 A | 125 A | 160 A | 200 A |
| 10 A | T | T | T | T | T |
| 13 A | T | T | T | T | T |
| 16 A | T | T | T | T | T |
| 20 A | T | T | T | T | T |
| 25 A | T | T | T | T | T |
| 32 A | T | T | T | T | T |

2000 Discrimination limit = 2 kA.

T Total discrimination.

- No discrimination.

Upstream : NSX100B/F/N/H/S/L TMD
Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | | | | | | |
|------------------------------------|---------------------------------|------|------|------|------|------|------|-------|
| DCP H Vigi, B curve: downstream | NSX100B/F/N/H/S/L TMD: upstream | | | | | | | |
| | 16 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A |
| 10 A | 290 | 470 | 640 | 810 | 810 | 810 | 1000 | 1300 |
| 13 A | - | 470 | 640 | 810 | 810 | 810 | 1000 | 1300 |
| 16 A | - | - | 630 | 800 | 800 | 800 | 1000 | 1300 |
| 20 A | - | - | 570 | 710 | 710 | 710 | 910 | 1100 |
| 25 A | - | - | - | 710 | 710 | 710 | 910 | 1100 |
| 32 A | - | - | - | - | - | 710 | 910 | 1100 |
| DCP H Vigi, C curve: downstream | NS100N/SX/H/L TMD: upstream | | | | | | | |
| | 16 A | 25 A | 32 A | 40 A | 50 A | 63 A | 80 A | 100 A |
| 10 A | 270 | 450 | 620 | 790 | 790 | 790 | 1000 | 1300 |
| 13 A | - | 430 | 600 | 780 | 780 | 780 | 1000 | 1300 |
| 16 A | - | - | 590 | 760 | 760 | 760 | 1000 | 1300 |
| 20 A | - | - | 570 | 710 | 710 | 710 | 910 | 1100 |
| 25 A | - | - | - | 710 | 710 | 710 | 910 | 1100 |
| 32 A | - | - | - | - | - | 710 | 910 | 1100 |

Upstream : NSX160B/F/N/H/S/L TMD
Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | | |
|--|---------------------------------|-------|-------|-------|
| DCP H Vigi, B, C curves: downstream | NSX160B/F/N/H/S/L TMD: upstream | | | |
| | 80 A | 100 A | 125 A | 160 A |
| 10 A | 1000 | 1300 | T | T |
| 13 A | 1000 | 1300 | T | T |
| 16 A | 1000 | 1300 | T | T |
| 20 A | 910 | 1100 | T | T |
| 25 A | 910 | 1100 | T | T |
| 32 A | 910 | 1100 | T | T |

Upstream : NSX250B/F/N/H/S/L TMD
Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | |
|--|---------------------------------|-------|-------|
| DCP H Vigi, B, C curves: downstream | NSX250B/F/N/H/S/L TMD: upstream | | |
| | 160 A | 200 A | 250 A |
| 10 A | T | T | T |
| 13 A | T | T | T |
| 16 A | T | T | T |
| 20 A | T | T | T |
| 25 A | T | T | T |
| 32 A | T | T | T |

1000 Discrimination limit = 1 kA.

T Total discrimination.

- No discrimination.

Upstream : NSX100B/F/N/H/S/L Micrologic

Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | | | | | | |
|------------------------------------|--|------|------|------|-------|------|------|-------|
| DCP H Vigi, B curve: downstream | NSX100B/F/N/H/S/L Micrologic: upstream | | | | | | | |
| | Rating (In) | 40 A | | | 100 A | | | |
| | Setting (Ir) | 16 A | 25 A | 40 A | 40 A | 63 A | 80 A | 100 A |
| 10 A | - | 980 | 980 | 980 | T | T | T | T |
| 13 A | - | 980 | 980 | 980 | T | T | T | T |
| 16 A | - | - | 970 | 970 | - | T | T | T |
| 20 A | - | - | 850 | 850 | - | T | T | T |
| 25 A | - | - | - | - | - | T | T | T |
| 32 A | - | - | - | - | - | - | - | T |
| DCP H Vigi, C curve: downstream | NSX100B/F/N/H/S/L Micrologic: upstream | | | | | | | |
| | Rating (In) | 40 A | | | 100 A | | | |
| | Setting (Ir) | 16 A | 25 A | 40 A | 40 A | 63 A | 80 A | 100 A |
| 10 A | - | 960 | 960 | 960 | T | T | T | T |
| 13 A | - | 950 | 950 | 950 | T | T | T | T |
| 16 A | - | - | 940 | 940 | - | T | T | T |
| 20 A | - | - | 850 | 850 | - | T | T | T |
| 25 A | - | - | - | - | - | T | T | T |
| 32 A | - | - | - | - | - | - | - | T |

Upstream : NSX160B/F/N/H/S/L Micrologic

Downstream : DCP H Vigi, B, C curves

| Protection discrimination (A) | | | | | | | | | | | |
|--|--|------|------|------|------|------|-------|------|-------|-------|-------|
| DCP H Vigi, B, C curves: downstream | NSX160B/F/N/H/S/L Micrologic: upstream | | | | | | | | | | |
| | Rating (In) | 80 A | | | | | 160 A | | | | |
| | Setting (Ir) | 32 A | 40 A | 50 A | 63 A | 80 A | 63 A | 80 A | 100 A | 125 A | 160 A |
| 10 A | T | T | T | T | T | T | T | T | T | T | |
| 13 A | T | T | T | T | T | T | T | T | T | T | |
| 16 A | T | T | T | T | T | T | T | T | T | T | |
| 20 A | - | T | T | T | T | T | T | T | T | T | |
| 25 A | - | - | T | T | T | T | T | T | T | T | |
| 32 A | - | - | - | T | T | T | T | T | T | T | |

Upstream : NSX250B/F/N/H/S/L Micrologic

Downstream : DCP H Vigi, B, C curves

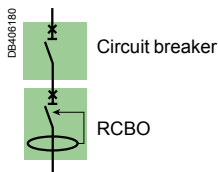
| Protection discrimination (A) | | | | | |
|--|--|-------|-------|-------|-------|
| DCP H Vigi, B, C curves: downstream | NSX250B/F/N/H/S/L Micrologic: upstream | | | | |
| | Rating (In) | 250 A | | 160 A | |
| | Setting (Ir) | 100 A | 125 A | 160 A | 200 A |
| 10 A | T | T | T | T | T |
| 13 A | T | T | T | T | T |
| 16 A | T | T | T | T | T |
| 20 A | T | T | T | T | T |
| 25 A | T | T | T | T | T |
| 32 A | T | T | T | T | T |

1300 Discrimination limit = 1.3 kA.

T Total discrimination.

- No discrimination.

TT and TN earthing systems



| Upstream | NG125 | | NG160 | | | NS(X)100 | | | NS(X)160 | | | NS(X)250 | | |
|------------------------|-------|----|-------|----|----|----------|----|----|----------|----|----|----------|----|----|
| | N | L | E | N | H | B | F | N | B | F | N | B | F | N |
| Breaking capacity (kA) | 25 | 50 | 16 | 25 | 36 | 25 | 36 | 50 | 25 | 36 | 50 | 25 | 36 | 50 |

| Downstream | | | | | | | | | | | | | | | | | |
|------------|------------------------|-----------|-----------------------------------|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|
| RCBO's | Breaking capacity (kA) | In (A) | Reinforced breaking capacity (kA) | | | | | | | | | | | | | | |
| | | | iDPN N/H Vigi | 10 | 1 to 16 | 20 | 25 | 16 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| | | 20 to 40 | 16 | 25 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | |
| iC60N Vigi | 10 | 0.5 to 40 | 25 | 25 | 16 | 20 | 25 | 20 | 25 | 30 | 20 | 25 | 30 | 20 | 25 | 30 | |
| | | 50 to 63 | 25 | 25 | 16 | 20 | 25 | 20 | 25 | 30 | 20 | 25 | 30 | 20 | 25 | 25 | |
| iC60H Vigi | 15 | 0.5 to 40 | 25 | 36 | 16 | 25 | 25 | 25 | 36 | 36 | 40 | 25 | 36 | 40 | 25 | 30 | 30 |
| | | 50 to 63 | 25 | 36 | 16 | 25 | 25 | 36 | 36 | 36 | 25 | 30 | 30 | 25 | 25 | 25 | |
| iC60L Vigi | 25 | 0.5 to 25 | - | 50 | - | - | - | - | 36 | 40 | - | 36 | 40 | - | 30 | 30 | |
| | 20 | 32 to 40 | 25 | 50 | - | 25 | 25 | 25 | 36 | 40 | 25 | 36 | 40 | 25 | 30 | 30 | |
| | 15 | 50 to 63 | 25 | 36 | 16 | 25 | 25 | 25 | 36 | 36 | 25 | 30 | 36 | 25 | 25 | 25 | |

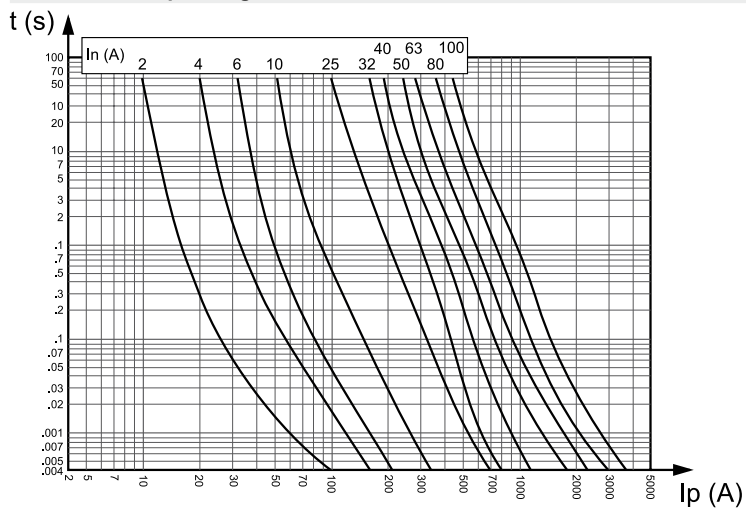
SBI / STI Fuse cartridges

aM fuses curves

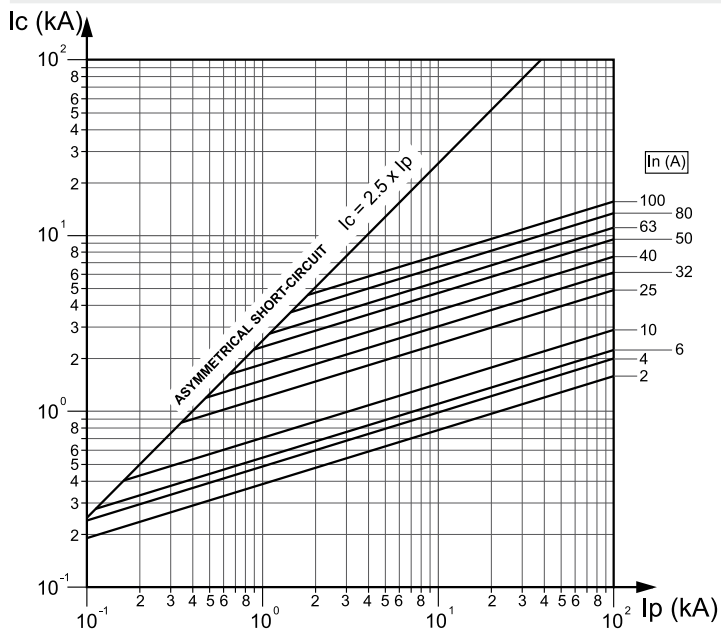
8.5 x 31.5 - 10.3 x 38 - 14 x 51 - 22 x 58

aM fuses curves

Time/Current operating curves



Current limitation curves



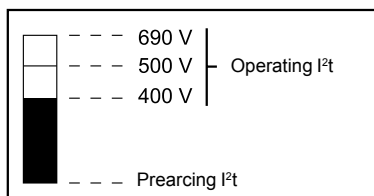
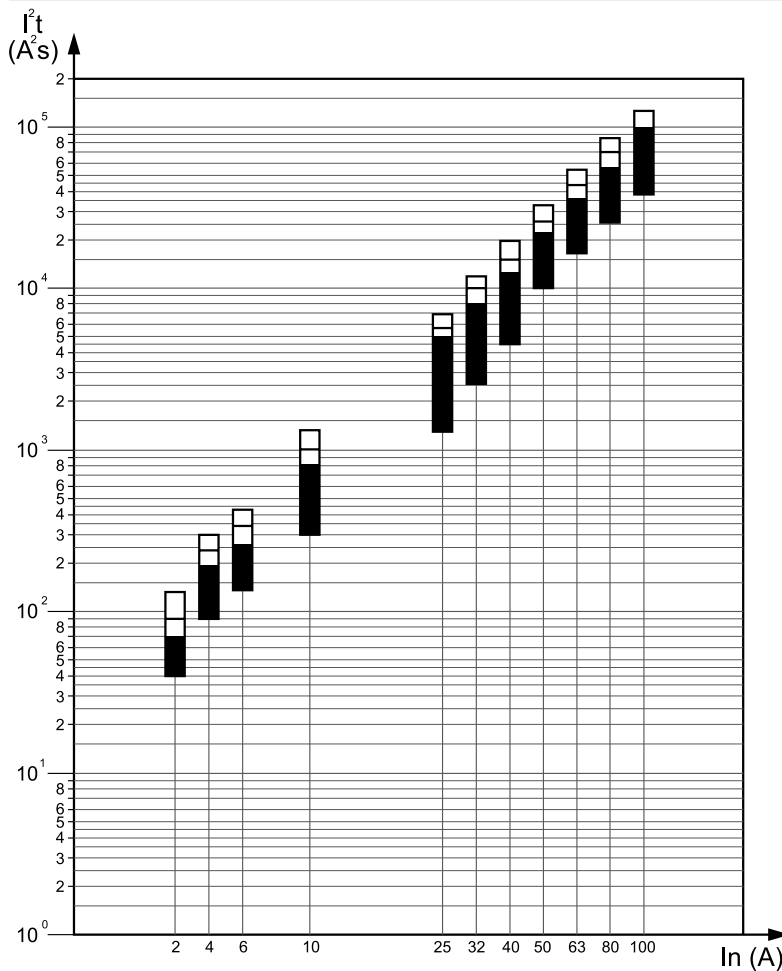
SBI / STI Fuse cartridges

aM fuses curves

8.5 x 31.5 - 10.3 x 38 - 14 x 51 - 22 x 58 (cont.)

aM fuses curves

Thermal stress limitation curves



Dissipated power (in Watts)

| I_n | Dimensions (mm) | |
|-------|-----------------|---------|
| | 14 x 51 | 22 x 58 |
| 10 A | - | - |
| 16 A | - | - |
| 25 A | 1.80 W | - |
| 32 A | 2.10 W | - |
| 40 A | 2.60 W | 3.20 W |
| 50 A | 2.90 W | 3.90 W |
| 63 A | - | 4.60 W |
| 80 A | - | 5.60 W |
| 100 A | - | 6.50 W |

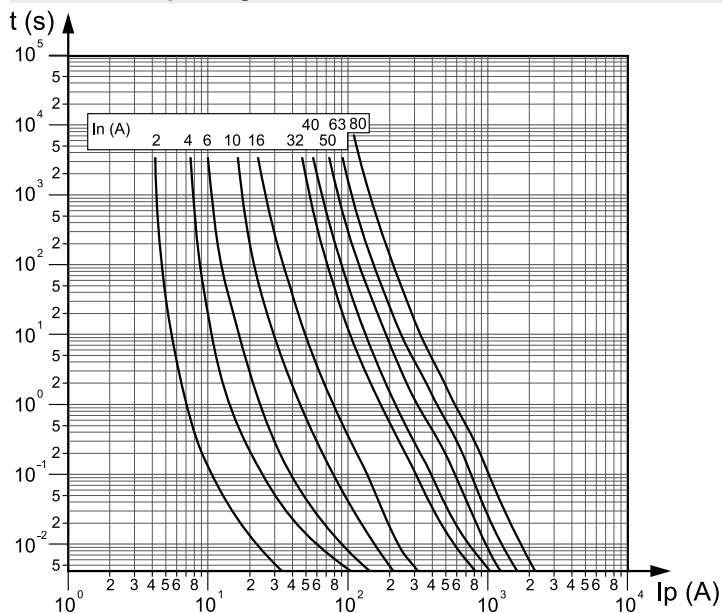
SBI / STI Fuse cartridges

gG fuses curves

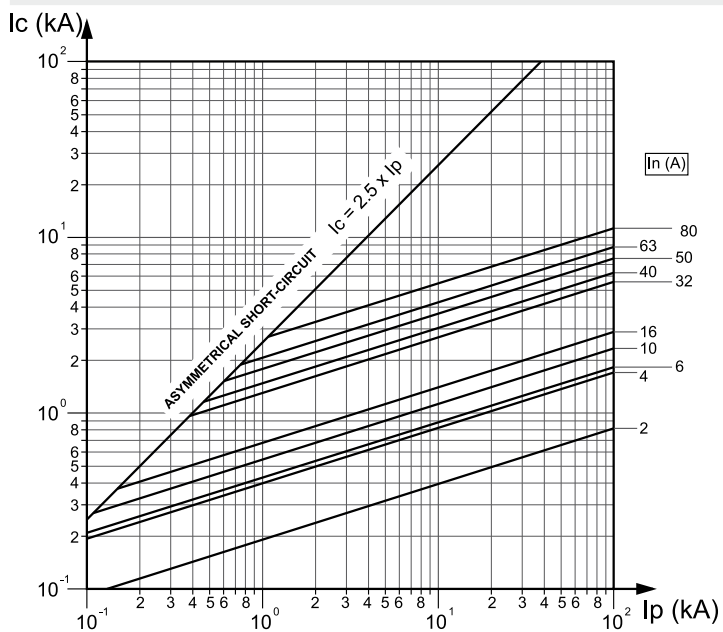
8.5 x 31.5 - 10.3 x 38 - 14 x 51 - 22 x 58

gG fuses curves

Time/Current operating curves

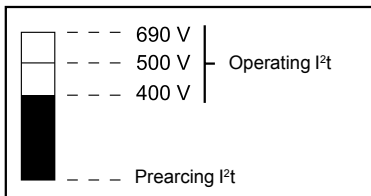
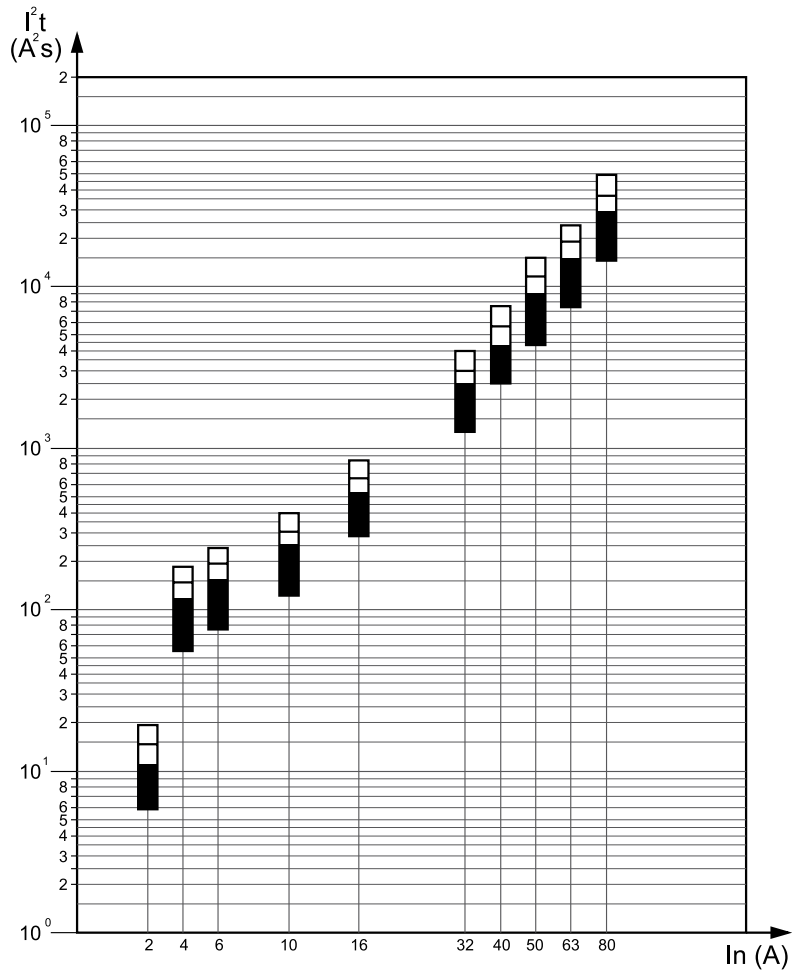


Current limitation curves



gG fuses curves

Thermal stress limitation curves



Dissipated power (in Watts)

| In | Dimensions (mm) | |
|-------|-----------------|---------|
| | 14 x 51 | 22 x 58 |
| 10 A | 1.80 W | - |
| 16 A | 2.55 W | - |
| 25 A | 3.80 W | 4.30 W |
| 32 A | 4.40 W | 5.10 W |
| 40 A | - | 5.50 W |
| 50 A | - | 6.70 W |
| 63 A | - | 8 W |
| 80 A | - | 5.60 W |
| 100 A | - | 6.50 W |

Use of contactors from 16 to 100 A

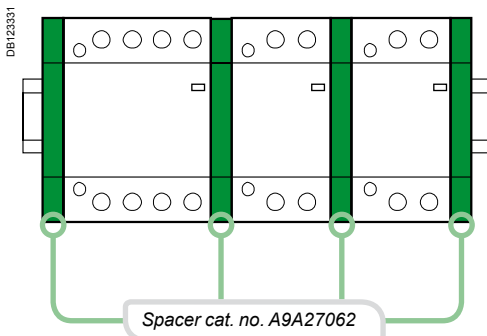
For automation needs in the housing, tertiary and industrial sectors, the range of modular CT contactors is used for:

- Power control of final circuits for housing and the tertiary sector:
 - lighting (luminous signs, shop windows, safety lighting, etc.)
 - heating, heat pumps, ovens
 - hot water for domestic use
 - small utility motors (pumps, fans, barriers, garage doors, etc.)
 - emergency stops and safety systems
 - air conditioning
- Energy distribution control:
 - load shedding and restoration
 - source changeover, etc.

Characterisation on load types

■ Standard IEC 61095 applies to electromechanical contactors for domestic and similar purposes. It differs from standard IEC 60947.4 (designed for industrial applications) by specific requirements relating to safety of persons and equipment in premises and corridors accessible to the general public.

| Applications | Industrial: IEC 60947.4 | Domestic: IEC 61095 |
|--------------|-------------------------|---------------------|
| Motor | AC3 | AC7b |
| Heating | AC1 | AC7a |
| Lighting | AC5a and b | AC5a and b |



Use for temperatures between 50°C and 60°C

When contactors are mounted in enclosures with an internal temperature of between 50°C and 60°C, a spacer, catalogue number A9A27062, must be placed between each contactor.

iTL impulse relays and iCT contactors

Choice of rating according to load type

General comment

Modular contactors and impulse relays do not use the same technologies. Their rating is determined according to different standards and does not correspond to the rated current of the circuit. For example, for a given rating, an impulse relay is more efficient than a modular contactor for the control of light fittings with a strong inrush current, or with a low power factor (non-compensated inductive circuit).

Relay rating

■ The table below shows the maximum number of light fittings for each relay, according to the type, power and configuration of a given lamp. As an indication, the total acceptable power is also mentioned.

■ These values are given for a 230 V circuit with 2 active conductors (single-phase phase/neutral or two-phase phase/phase). For 110 V circuits, divide the values in the table by 2.

■ To obtain the equivalent values for the entire 230 V three-phase circuit, multiply the number of lamps and the maximum power output:

□ by $\sqrt{3}$ (1.73) for circuits with 230 V between phases without neutral;

□ by $\sqrt{3}$ for circuits with 230 V between phase and neutral or 400 V between phases.

Note: The power ratings of the lamps most commonly used are shown in bold. For powers not mentioned, use a proportional rule with the nearest values.

Choice table

| Products | | iTL impulse relays | | | | iCT contactors | | | | | | | | |
|---|---|--|---------------|--------------|---------------|----------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Type of lamp | Unit power and capacitance of power factor correction capacitor | Maximum number of light fittings for a single-phase circuit and maximum power output | | | | | | | | | | | | |
| | | 16 A | | 32 A | | 16 A | | 25 A | | 40 A | | 63/100 A | | |
| Basic incandescent lamps, LV halogen lamps, replacement mercury vapour lamps (without ballast) | | | | | | | | | | | | | | |
| | 40 W | 40 | 1500 W | 106 | 4000 W | 38 | 1550 W | 57 | 2300 W | 115 | 4600 W | 172 | 6900 W | |
| | 60 W | 25 | to | 66 | to | 30 | to | 45 | to | 85 | to | 125 | to | |
| | 75 W | 20 | 1600 W | 53 | 4200 W | 25 | 2000 W | 38 | 2850 W | 70 | 5250 W | 100 | 7500 W | |
| | 100 W | 16 | | 42 | | 19 | | 28 | | 50 | | 73 | | |
| | 150 W | 10 | | 28 | | 12 | | 18 | | 35 | | 50 | | |
| | 200 W | 8 | | 21 | | 10 | | 14 | | 26 | | 37 | | |
| | 300 W | 5 | 1500 W | 13 | 4000 W | 7 | 2100 W | 10 | 3000 W | 18 | 5500 W | 25 | 7500 W | |
| | 500 W | 3 | | 8 | | 4 | | 6 | | 10 | to | 15 | to | |
| | 1000 W | 1 | | 4 | | 2 | | 3 | | 6 | 6000 W | 8 | 8000 W | |
| | 1500 W | 1 | | 2 | | 1 | | 2 | | 4 | | 5 | | |
| ELV 12 or 24 V halogen lamps | | | | | | | | | | | | | | |
| With ferromagnetic transformer | 20 W | 70 | 1350 W | 180 | 3600 W | 15 | 300 W | 23 | 450 W | 42 | 850 W | 63 | 1250 W | |
| | 50 W | 28 | to | 74 | to | 10 | to | 15 | to | 27 | to | 42 | to | |
| | 75 W | 19 | 1450 W | 50 | 3750 W | 8 | 600 W | 12 | 900 W | 23 | 1950 W | 35 | 2850 W | |
| | 100 W | 14 | | 37 | | 6 | | 8 | | 18 | | 27 | | |
| With electronic transformer | 20 W | 60 | 1200 W | 160 | 3200 W | 62 | 1250 W | 90 | 1850 W | 182 | 3650 W | 275 | 5500 W | |
| | 50 W | 25 | to | 65 | to | 25 | to | 39 | to | 76 | to | 114 | to | |
| | 75 W | 18 | 1400 W | 44 | 3350 W | 20 | 1600 W | 28 | 2250 W | 53 | 4200 W | 78 | 6000 W | |
| | 100 W | 14 | | 33 | | 16 | | 22 | | 42 | | 60 | | |
| Fluorescent tubes with starter and ferromagnetic ballast | | | | | | | | | | | | | | |
| 1 tube without compensation ⁽¹⁾ | 15 W | 83 | 1250 W | 213 | 3200 W | 22 | 330 W | 30 | 450 W | 70 | 1050 W | 100 | 1500 W | |
| | 18 W | 70 | to | 186 | to | 22 | to | 30 | to | 70 | to | 100 | to | |
| | 20 W | 62 | 1300 W | 160 | 3350 W | 22 | 850 W | 30 | 1200 W | 70 | 2400 W | 100 | 3850 W | |
| | 36 W | 35 | | 93 | | 20 | | 28 | | 60 | | 90 | | |
| | 40 W | 31 | | 81 | | 20 | | 28 | | 60 | | 90 | | |
| | 58 W | 21 | | 55 | | 13 | | 17 | | 35 | | 56 | | |
| | 65 W | 20 | | 50 | | 13 | | 17 | | 35 | | 56 | | |
| | 80 W | 16 | | 41 | | 10 | | 15 | | 30 | | 48 | | |
| | 115 W | 11 | | 29 | | 7 | | 10 | | 20 | | 32 | | |
| 1 tube with parallel compensation ⁽²⁾ | 15 W | 5 μ F | 60 | 900 W | 160 | 2400 W | 15 | 200 W | 20 | 300 W | 40 | 600 W | 60 | 900 W |
| | 18 W | 5 μ F | 50 | | 133 | | 15 | to | 20 | to | 40 | to | 60 | to |
| | 20 W | 5 μ F | 45 | | 120 | | 15 | 800 W | 20 | 1200 W | 40 | 2400 W | 60 | 3500 W |
| | 36 W | 5 μ F | 25 | | 66 | | 15 | | 20 | | 40 | | 60 | |
| | 40 W | 5 μ F | 22 | | 60 | | 15 | | 20 | | 40 | | 60 | |
| | 58 W | 7 μ F | 16 | | 42 | | 10 | | 15 | | 30 | | 43 | |
| | 65 W | 7 μ F | 13 | | 37 | | 10 | | 15 | | 30 | | 43 | |
| | 80 W | 7 μ F | 11 | | 30 | | 10 | | 15 | | 30 | | 43 | |
| | 115 W | 16 μ F | 7 | | 20 | | 5 | | 7 | | 14 | | 20 | |
| 2 or 4 tubes with series compensation | 2 x 18 W | 56 | 2000 W | 148 | 5300 W | 30 | 1100 W | 46 | 1650 W | 80 | 2900 W | 123 | 4450 W | |
| | 4 x 18 W | 28 | | 74 | | 16 | to | 24 | to | 44 | to | 68 | to | |
| | 2 x 36 W | 28 | | 74 | | 16 | 1500 W | 24 | 2400 W | 44 | 3800 W | 68 | 5900 W | |
| | 2 x 58 W | 17 | | 45 | | 10 | | 16 | | 27 | | 42 | | |
| | 2 x 65 W | 15 | | 40 | | 10 | | 16 | | 27 | | 42 | | |
| | 2 x 80 W | 12 | | 33 | | 9 | | 13 | | 22 | | 34 | | |
| | 2 x 115 W | 8 | | 23 | | 6 | | 10 | | 16 | | 25 | | |

iTL impulse relays and iCT contactors (cont.)

Choice of rating according to load type

Choice table (cont.)

| Products | | iTL impulse relays | | iCT contactors | | | | | | | | | | |
|---|---|--|--------|----------------|--------|------|--------|--------|--------|--------|--------|------------|--------|--------|
| Type of lamp | Unit power and capacitance of power factor correction capacitor | Maximum number of light fittings for a single-phase circuit and maximum power output per circuit | | | | | | | | | | | | |
| | | 16 A | | 32 A | | 16 A | | 25 A | | 40 A | | 63/100 A | | |
| Fluorescent tubes with electronic ballast | | | | | | | | | | | | | | |
| 1 or 2 tubes | 18 W | 80 | 1450 W | 212 | 3800 W | 74 | 1300 W | 111 | 2000 W | 222 | 4000 W | 333 | 6000 W | |
| | 36 W | 40 | to | 106 | to | 38 | to | 58 | to | 117 | to | 176 | to | |
| | 58 W | 26 | 1550 W | 69 | 4000 W | 25 | 1400 W | 37 | 2200 W | 74 | 4400 W | 111 | 6600 W | |
| | 2 x 18 W | 40 | | 106 | | 36 | | 55 | | 111 | | 166 | | |
| | 2 x 36 W | 20 | | 53 | | 20 | | 30 | | 60 | | 90 | | |
| | 2 x 58 W | 13 | | 34 | | 12 | | 19 | | 38 | | 57 | | |
| Compact fluorescent lamps | | | | | | | | | | | | | | |
| With external electronic ballast | 5 W | 240 | 1200 W | 630 | 3150 W | 210 | 1050 W | 330 | 1650 W | 670 | 3350 W | Not tested | | |
| | 7 W | 171 | to | 457 | to | 150 | to | 222 | to | 478 | to | | | |
| | 9 W | 138 | 1450 W | 366 | 3800 W | 122 | 1300 W | 194 | 2000 W | 383 | 4000 W | | | |
| | 11 W | 118 | | 318 | | 104 | | 163 | | 327 | | | | |
| | 18 W | 77 | | 202 | | 66 | | 105 | | 216 | | | | |
| | 26 W | 55 | | 146 | | 50 | | 76 | | 153 | | | | |
| With integral electronic ballast (replacement for incandescent lamps) | 5 W | 170 | 850 W | 390 | 1950 W | 160 | 800 W | 230 | 1150 W | 470 | 2350 W | 710 | 3550 W | |
| | 7 W | 121 | to | 285 | to | 114 | to | 164 | to | 335 | to | 514 | to | |
| | 9 W | 100 | 1050 W | 233 | 2400 W | 94 | 900 W | 133 | 1300 W | 266 | 2600 W | 411 | 3950 W | |
| | 11 W | 86 | | 200 | | 78 | | 109 | | 222 | | 340 | | |
| | 18 W | 55 | | 127 | | 48 | | 69 | | 138 | | 213 | | |
| | 26 W | 40 | | 92 | | 34 | | 50 | | 100 | | 151 | | |
| High-pressure mercury vapour lamps with ferromagnetic ballast without ignitor | | | | | | | | | | | | | | |
| Replacement high-pressure sodium vapour lamps with ferromagnetic ballast with integral ignitor (3) | | | | | | | | | | | | | | |
| Without compensation (1) | 50 W | Not tested, infrequent use | | | | 15 | 750 W | 20 | 1000 W | 34 | 1700 W | 53 | 2650 W | |
| | 80 W | | | | | 10 | to | 15 | to | 27 | to | 40 | to | |
| | 125 / 110 W (3) | | | | | 8 | 1000 W | 10 | 1600 W | 20 | 2800 W | 28 | 4200 W | |
| | 250 / 220 W (3) | | | | | 4 | | 6 | | 10 | | 15 | | |
| | 400 / 350 W (3) | | | | | 2 | | 4 | | 6 | | 10 | | |
| | 700 W | | | | | 1 | | 2 | | 4 | | 6 | | |
| With parallel compensation (2) | 50 W | 7 µF | | | | | 10 | 500 W | 15 | 750 W | 28 | 1400 W | 43 | 2150 W |
| | 80 W | 8 µF | | | | | 9 | to | 13 | to | 25 | to | 38 | to |
| | 125 / 110 W (3) | 10 µF | | | | | 9 | 1400 W | 10 | 1600 W | 20 | 3500 W | 30 | 5000 W |
| | 250 / 220 W (3) | 18 µF | | | | | 4 | | 6 | | 11 | | 17 | |
| | 400 / 350 W (3) | 25 µF | | | | | 3 | | 4 | | 8 | | 12 | |
| | 700 W | 40 µF | | | | | 2 | | 2 | | 5 | | 7 | |
| 1000 W | 60 µF | | | | | 0 | | 1 | | 3 | | 5 | | |
| Low-pressure sodium vapour lamps with ferromagnetic ballast with external ignitor | | | | | | | | | | | | | | |
| Without compensation (1) | 35 W | Not tested, infrequent use | | | | 5 | 270 W | 9 | 320 W | 14 | 500 W | 24 | 850 W | |
| | 55 W | | | | | 5 | to | 9 | to | 14 | to | 24 | to | |
| | 90 W | | | | | 3 | 360 W | 6 | 720 W | 9 | 1100 W | 19 | 1800 W | |
| | 135 W | | | | | 2 | | 4 | | 6 | | 10 | | |
| | 180 W | | | | | 2 | | 4 | | 6 | | 10 | | |
| | With parallel compensation (2) | 35 W | 20 µF | 38 | 1350 W | 102 | 3600 W | 3 | 100 W | 5 | 175 W | 10 | 350 W | 15 |
| 55 W | | 20 µF | 24 | | 63 | | 3 | to | 5 | to | 10 | to | 15 | to |
| 90 W | | 26 µF | 15 | | 40 | | 2 | 180 W | 4 | 360 W | 8 | 720 W | 11 | 1100 W |
| 135 W | | 40 µF | 10 | | 26 | | 1 | | 2 | | 5 | | 7 | |
| 180 W | | 45 µF | 7 | | 18 | | 1 | | 2 | | 4 | | 6 | |

iTL impulse relays and iCT contactors (cont.)

Choice of rating according to load type

Choice table (cont.)

| Products | | iTL impulse relays | | iCT contactors | | | | | | | | | | |
|---|--|--|-----------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|
| Type of lamp | Unit power and capacitance of power factor correction capacitor | Maximum number of light fittings for a single-phase circuit and maximum power output per circuit | | | | | | | | | | | | |
| | | 16 A | 32 A | 16 A | 25 A | 40 A | 63/100 A | | | | | | | |
| High-pressure sodium vapour lamps | | | | | | | | | | | | | | |
| Metal-iodide lamps | | | | | | | | | | | | | | |
| With ferromagnetic ballast with external ignitor, without compensation ⁽¹⁾ | 35 W 70 W 150 W 250 W 400 W 1000 W | Not tested, infrequent use | | 16 8 4 2 1 0 | 600 W | 24 12 7 4 3 1 | 850 W to 1200 W | 42 20 13 8 5 2 | 1450 W to 2000 W | 64 32 18 11 8 3 | 2250 W to 3200 W | | | |
| With ferromagnetic ballast with external ignitor and parallel compensation ⁽²⁾ | 35 W 70 W 150 W 250 W 400 W 1000 W 2000 W | 6 µF 12 µF 20 µF 32 µF 45 µF 60 µF 85 µF | 34 17 8 5 3 1 0 | 1200 W to 1350 W | 88 45 22 13 8 3 1 | 3100 W to 3400 W | 12 6 4 3 2 1 0 | 450 W to 1000 W | 18 9 6 4 3 2 1 | 650 W to 2000 W | 31 16 10 7 5 3 2 | 1100 W to 4000 W | 50 25 15 10 7 5 3 | 1750 W to 6000 W |
| With electronic ballast | 35 W 70 W 150 W | | 38 29 14 | 1350 W to 2200 W | 87 77 33 | 3100 W to 5000 W | 24 18 9 | 850 W to 1350 W | 38 29 14 | 1350 W to 2200 W | 68 51 26 | 2400 W to 4000 W | 102 76 40 | 3600 W to 600 W |

⁽¹⁾ Circuits with non-compensated ferromagnetic ballasts consume twice as much current for a given lamp power output. This explains the small number of lamps in this configuration.

⁽²⁾ The total capacitance of the power factor correction capacitors in parallel in a circuit limits the number of lamps that can be controlled by a contactor. The total downstream capacitance of a modular contactor of rating 16, 25, 40 or 63 A should not exceed 75, 100, 200 or 300 µF respectively. Allow for these limits to calculate the maximum acceptable number of lamps if the capacitance values are different from those in the table.

⁽³⁾ High-pressure mercury vapour lamps without ignitor, of power 125, 250 and 400 W, are gradually being replaced by high-pressure sodium vapour lamps with integral ignitor, and respective power of 110, 220 and 350 W.

iTL impulse relays and iCT contactors (cont.)

Heating application

■ Impulse relay rating to be chosen according to the power to be controlled.

| 230 V heating | | |
|----------------------|--|--------|
| Type | Maximum power for a given rating iTL impulse relays | |
| Single-phase circuit | 16 A | 32 A |
| Heating (AC1) | 3.6 kW | 7.2 kW |

■ Contactor rating to be chosen according to the power to be controlled and the number of operations a day.

| 230 V heating | | | | |
|-----------------------------|--|--------|--------|---------|
| Type of heating application | Maximum power for a given rating iCT contactors | | | |
| Number of operations / day | 25 A | 40 A | 63 A | 100 A |
| 25 | 5.4 kW | 8.6 kW | 14 kW | 21.6 kW |
| 50 | 5.4 kW | 8.6 kW | 14 kW | 21.6 kW |
| 75 | 4.6 kW | 7.4 kW | 12 kW | 18 kW |
| 100 | 4 kW | 6 kW | 9.5 kW | 14 kW |
| 250 | 2.5 kW | 3.8 kW | 6 kW | 9 kW |
| 500 | 1.7 kW | 2.7 kW | 4.5 kW | 6.8 kW |

| 400 V heating | | | | |
|---------------|--------|-------|-------|-------|
| 25 | 16 kW | 26 kW | 41 kW | 63 kW |
| 50 | 16 kW | 26 kW | 41 kW | 63 kW |
| 75 | 14 kW | 22 kW | 35 kW | 52 kW |
| 100 | 11 kW | 17 kW | 26 kW | 40 kW |
| 250 | 5 kW | 8 kW | 13 kW | 19 kW |
| 500 | 3.5 kW | 6 kW | 9 kW | 14 kW |

Small motor application

Contactor rating to be chosen according to the power to be controlled.

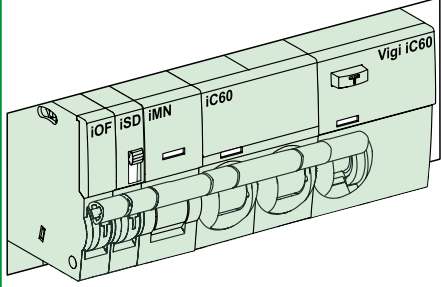
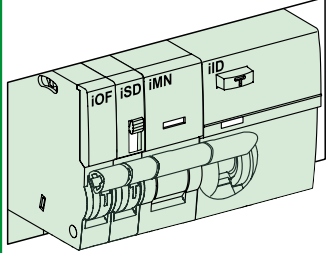
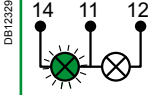
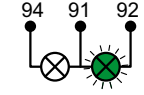
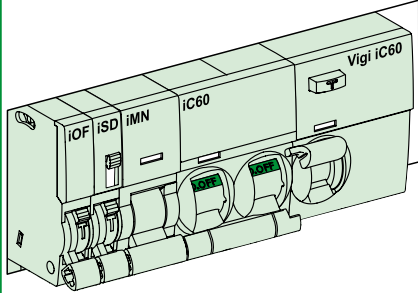
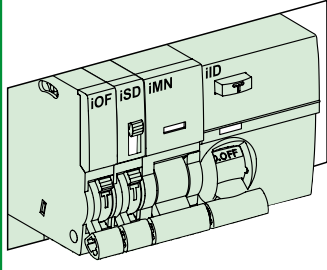
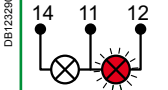
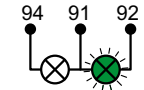
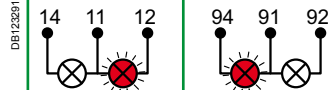
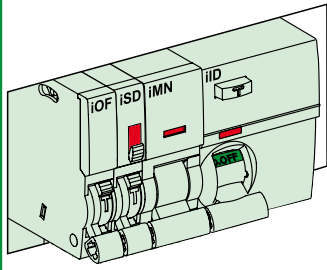
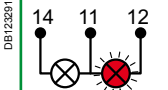
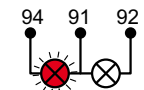
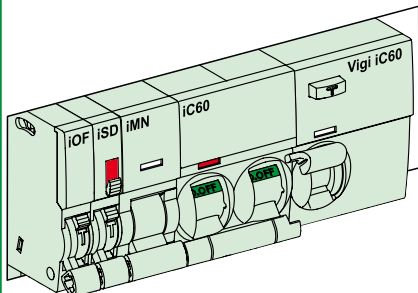
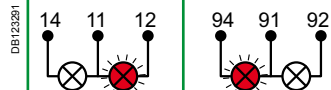
| Asynchronous single-phase motor with capacitor | | | |
|--|--|------|------|
| Small motor application type | Maximum power for a given rating iCT contactors | | |
| Voltage | 25 A | 40 A | 63 A |
| 230 V | 1.4 | 2.5 | 4 |

| Asynchronous three-phase motor | | | |
|--------------------------------|---|-----|----|
| 400 V | 4 | 7.5 | 15 |

| Universal motor | | | |
|-----------------|-----|-----|-----|
| 230 V | 0.9 | 1.4 | 2.2 |

Auxiliary indicating contacts for Acti 9 protective devices

Table showing state of auxiliary contacts according to the main device and the type of fault.

| Functions and use | Main device | | Auxiliary contacts | |
|--|---|--|---|----|
| | Circuit breaker | Residual current circuit breaker | OF | SD |
| Closed |  <p>DB123286</p> |  <p>DB123289</p> |  <p>DB123292</p> | |
| Manually opened |  <p>DB123277</p> |  <p>DB123278</p> |  <p>DB123290</p> | |
| Tripped by release auxiliary (iMN, iMX) |  <p>DB404827</p> |  <p>DB404829</p> |  <p>DB123291</p> | |
| Tripped upon overload or short circuit |  <p>DB123285</p> | - |  <p>DB123291</p> | |
| Tripped upon earth fault |  <p>DB404826</p> |  <p>DB123287</p> |  <p>DB123291</p> | |

Auxiliary indicating contacts for Acti 9 protective devices (cont.)

Function

RESET (SD contact)

When the main device is tripped and the fault has been eliminated, it is possible to switch the SD contact manually, via the "RESET" button on the front panel. The unit is then in "device opened manually" configuration.

| | iOF | iSD | iOF/SD+OF iOF+SD24 |
|--|-----|-----|-----------------------|
| | - | ■ | ■ iSD only |

TEST (SD or OF contact)

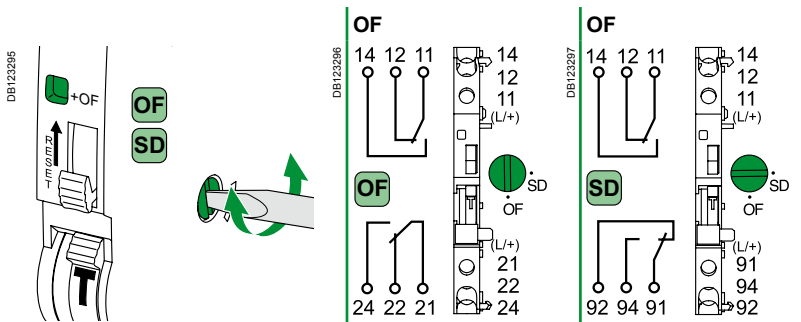
When the main device is opened or tripped, the TEST button can be used to check the satisfactory operation of the indicating circuit by simulating operation of the main device. This operation also modifies the position of the indicator on the front panel of the iSD auxiliary.

On the double contact (iOF/SD+OF or iOF+SD24), this function can be implemented only for the SD indicating circuit.

| | iOF | iSD | iOF/SD+OF iOF+SD24 |
|--|-----|-----|-----------------------|
| | ■ | ■ | ■ |

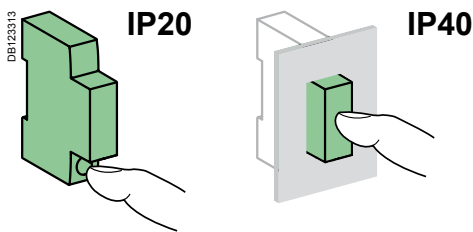
iOF/SD+OF double contact

Change of function of the second contact from OF to SD.



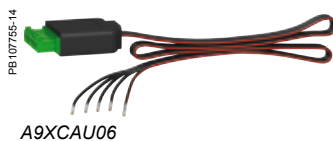
Technical data

| Main characteristics | | iOF, iSD, iOF/SD+OF | | iOF+SD24 |
|--|-------------------------------|--|-------|--|
| | | IEC/EN 60947-5-1 | | IEC/EN 60947-5-1, IEC/EN 60947-5-4 |
| Insulation voltage (Ui) | | 400 V AC | | 500 V AC |
| Degree of pollution | | 3 | | 3 |
| Rated impulse withstand voltage (Uimp) | | 4 kV (6 kV relative to the associated protective device) | | 4 kV (6 kV relative to the associated protective device) |
| Current rating (A) | Min. | 24 V, 10 mA | | 24 V ± 20 %, 2 mA mini, 100 mA maxi Low level contact: compatible with IEC/EN 61131-2 Programmable Controllers, suitable for any connection to 24 V DC PLCs |
| | Maxi | AC12 415 V AC | 3 A | |
| | | AC12 ≤ 240 V AC | 6 A | |
| | | DC12 130 V DC | 1 A | |
| | | DC12 60 V DC | 1.5 A | |
| | | DC12 48 V DC | 2 A | |
| DC12 24 V DC | 6 A | | | |
| Additional characteristics | | | | |
| Degree of protection (IEC 60529) | Device only | IP20 | | IP20 |
| | Device in a modular enclosure | IP40 Insulation class II | | IP40 Insulation class II |
| Endurance (O-C) | Electrical | 20,000 cycles | | 20,000 cycles |
| Overvoltage category (IEC 60364) | | III | | III |
| Short-circuit resistance | | 1 kA | | 1 kA |
| Rating of device for auxiliary contact protection against short circuits | Circuit breaker | iC60 - C curve - 6 A | | iC60 - C curve - 6 A |
| | Fuse | 6 A, 500 V type Gg 10.3 x 38 mm | | 6 A, 500 V type Gg 10.3 x 38 mm |
| Operating temperature | | -35°C to +70°C | | -20°C to +60°C |
| Storage temperature | | -40°C to +85°C | | -40°C to +85°C |

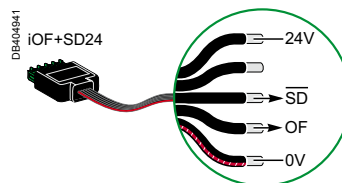


iOF+SD24 connection

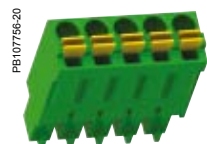
The indicating auxiliary iOF+SD24 can be connected with a factory-built link, **A9XCAU06**: moulded connector (iOF+SD24 side) and with the 5 wires (PLC side).



A9XCAU06

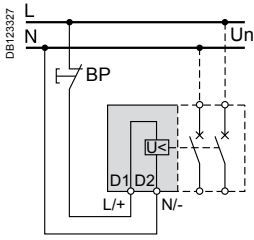


Or using a Ti24 5-point connector, **A9XC2412**

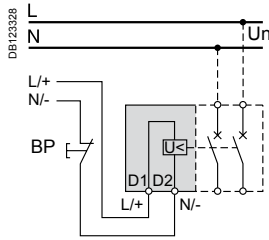


A9XC2412

Auxiliary trip units for Acti 9 protective devices



iMN/iMNs powered by main network



iMN/iMNs with separate power supply

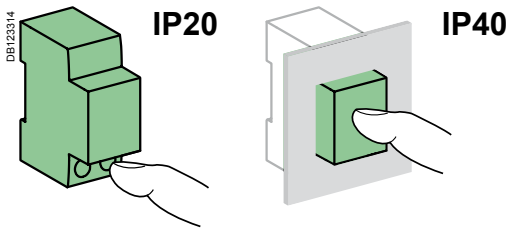
iMN, iMNs: undervoltage release units

Function

- Tripping of the associated protective device, when the voltage across its terminals falls:
 - either by opening the control circuit (e.g. push-button),
 - or by lowering the supply voltage.
- Resetting of the protective device is possible only after the voltage across the terminals of the auxiliary has returned to its nominal value.
- The MNs undervoltage release does not perform tripping in the event of a voltage drop lasting less than 200 ms.
- A locking push-button control allows the circuit protected by the circuit breaker (e.g. machine control) to be placed in safety configuration.

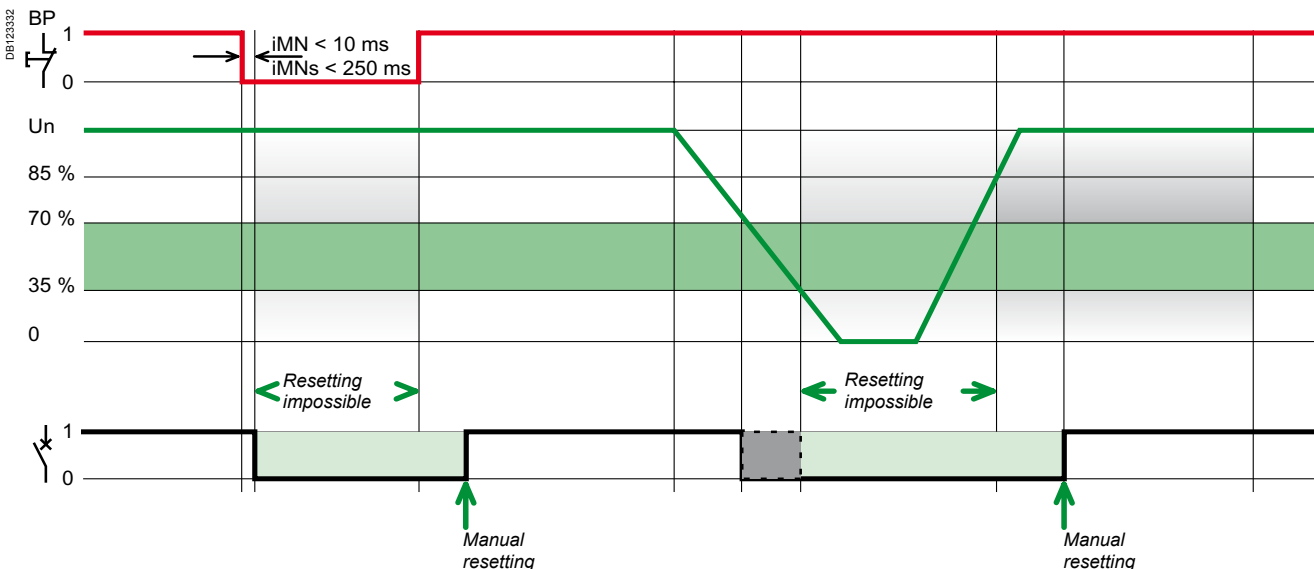
Technical data

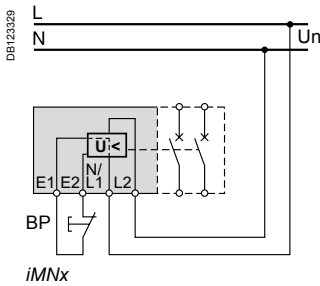
| Auxiliary trip units | iMN | | | iMNs | |
|--|--|----------------|----------|---------------|-----------------------|
| Catalogue numbers | A9A26960 | A9A26961 | A9A26959 | A9A26963 | |
| Main characteristics | | | | | |
| Rated voltage ⁽¹⁾ (Un) | 220...240 V, 50/60 Hz | 48 V, 50/60 Hz | 48 V DC | 115 V, 400 Hz | 220...240 V, 50/60 Hz |
| Holding current ⁽²⁾ | A | 0.014 | 0.022 | 0.034 | 0.017 |
| Power consumption | VA | 3.3 | 1.6 | 1.1 | 2 |
| Tripping | | | | | |
| Threshold (V) | Between 0.35 and 0.75 of Un | | | | |
| Duration of voltage dip (ms) | Min. | 30 | 8 | 8 | 30 |
| Restoration | | | | | |
| Threshold (V) | Min. | 187 | 40.8 | 40.8 | 98 |
| Additional characteristics | | | | | |
| Endurance | 20,000 operations | | | | |
| Insulation voltage (Ui) | 400 V | | | | |
| Degree of pollution | 3 | | | | |
| Rated impulse withstand voltage (Uimp) | 4 kV (6 kV relative to the associated protective device) | | | | |



(1) For a lower power supply (e.g., control by a PLC output), an iRTBT interface must be implemented (see page 739).
 (2) This characteristic must be taken into account to define the number of multiple controls by switches provided with an indicator lamp.

Operation timing chart





iMNx: trip units with push-button control

Function

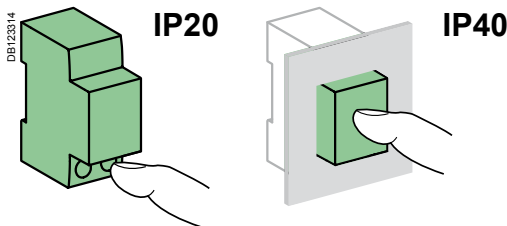
- Tripping of the associated protective device by opening of the control circuit (e.g. push-button, dry contact).
- A drop in the supply voltage does not trip the associated protective device.
- A locking push-button control allows the circuit protected by the circuit breaker (e.g. machine control) to be placed in safety configuration.

Important: Before any servicing operation switch off the mains power supply (voltage presence at terminals E1/E2)

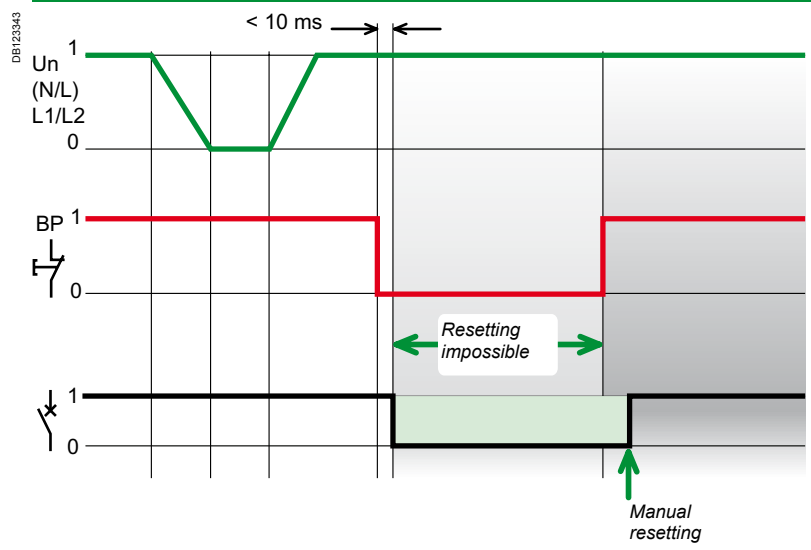
Technical data

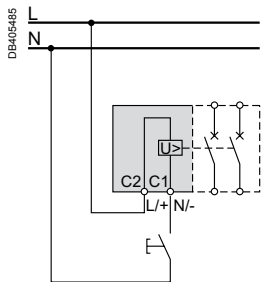
| Auxiliary trip units | | iMNx | |
|--|--|-----------------------|--|
| Catalogue numbers | A9A26969 | A9A26971 | |
| Main characteristics | | | |
| Rated voltage ⁽¹⁾ (Un) | 220...240 V, 50/60 Hz | 380...415 V, 50/60 Hz | |
| Power consumption (at Un) | A | 0.014 | |
| Tripping | | | |
| Threshold (V) | 70 % of Ue | | |
| Control-circuit opening duration Min. (ms) | 30 | | |
| Additional characteristics | | | |
| Endurance | 20,000 operations | | |
| Insulation voltage (Ui) | 400 V | | |
| Degree of pollution | 3 | | |
| Rated impulse withstand voltage (Uimp) | 4 kV (6 kV relative to the associated protective device) | | |

(1) For a lower supply voltage (e.g., control by a PLC output), an iRTBT interface must be implemented (see page 739).

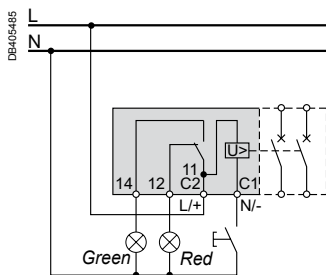


Operation timing chart





iMX powered by main network



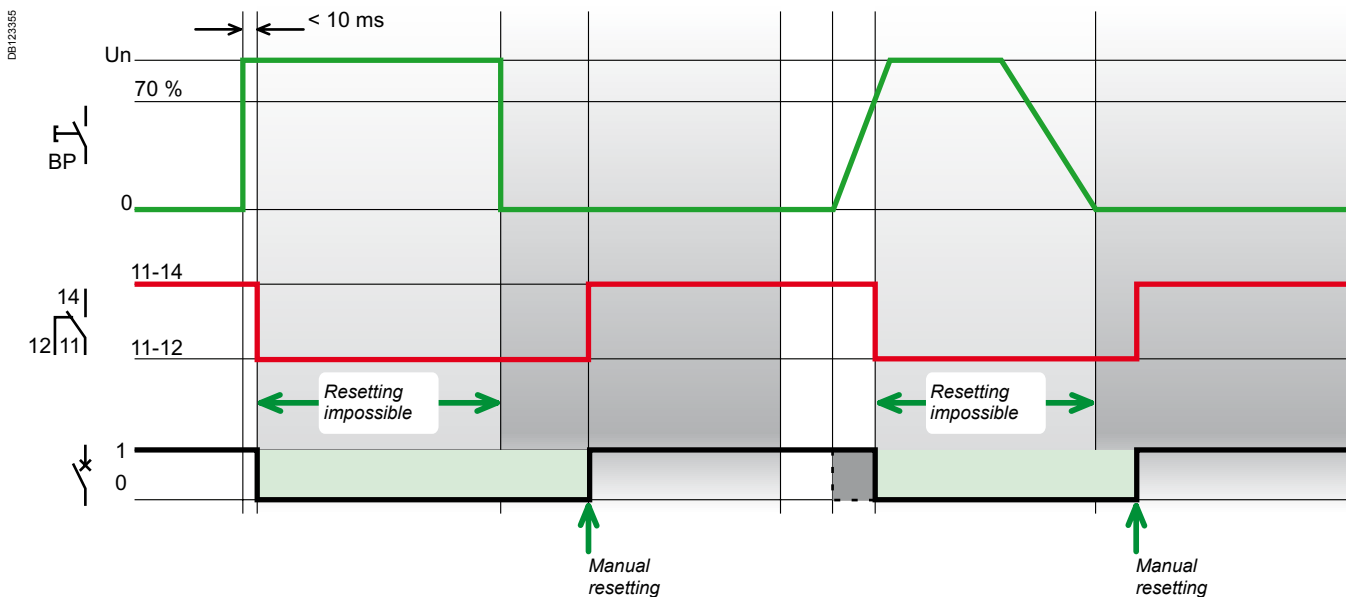
Control by N/O push-button with verification of voltage presence (iMX+OF)

iMX, iMX+OF: shunt release units

Function

- Tripping of the associated protective device when a voltage appears across the terminals of the auxiliary (control by: N/O push-button, dry contact, etc.).
- Resetting of the protective device is possible only when the voltage across the terminals of the auxiliary has disappeared.
- A locking push-button control allows the circuit protected by the circuit breaker (e.g. machine control) to be placed in safety configuration.

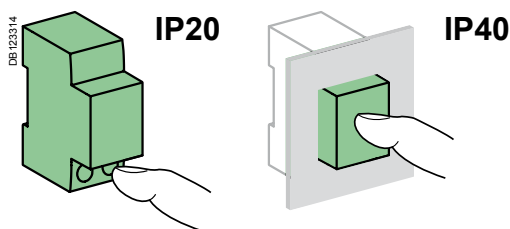
Operation timing chart

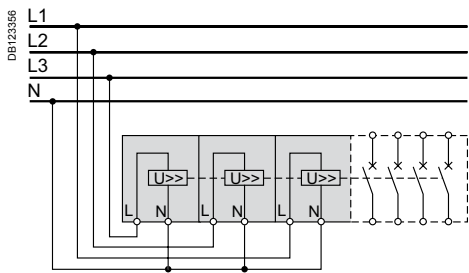


Technical data

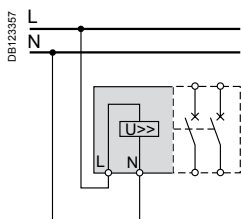
| Auxiliary trip units | | | iMX | | | iMX + OF | | | | | | | | | |
|---|--|--|--|--------------------------------|------------------------|------------------------------------|--------------------------------|------------------------|------------------------------------|-----|--------------|-------|--------------|-----|--------------|
| Catalogue numbers | | | A9A26476 | A9A26477 | A9A26478 | A9A26946 | A9A26947 | A9A26948 | | | | | | | |
| Main characteristics | | | | | | | | | | | | | | | |
| Rated voltage ⁽¹⁾ (U _n) | | | 100...415 V, 50/60 Hz | 48 V, 50/60 Hz | 12...24 V, 50/60 Hz | 100...415 V, 50/60 Hz | 48 V, 50/60 Hz | 12...24 V, 50/60 Hz | | | | | | | |
| | | | 110...130 V DC | 48 V DC | 12...24 V DC | 110...130 V DC | 48 V DC | 12...24 V DC | | | | | | | |
| Tripping | | | | | | | | | | | | | | | |
| Threshold (V) | | | 70 % of U _e | | | | | | | | | | | | |
| Control signal duration (ms) | | | Min. | 8 | 8 | 8 | 8 | 8 | | | | | | | |
| Inrush current | | | A | 0.4...1.5 (V AC) 0.3 (V DC) | 1 (V AC) 0.7 (V DC) | 4...7.7 (V AC) 2.5...5.8 (V DC) | 0.4...1.5 (V AC) 0.3 (V DC) | 1 (V AC) 0.7 (V DC) | 4...7.7 (V AC) 2.5...5.8 (V DC) | | | | | | |
| Caractéristiques complémentaires | | | | | | | | | | | | | | | |
| Endurance | | | 20,000 operations | | | 20,000 cycles (O-C) | | | | | | | | | |
| Auxiliary contacts (11, 12, 14) | | | Current rating (A) | Min. | 24 V, 10 mA | | | | | | | | | | |
| | | | | Max. | AC12 415 V AC | 3 A | AC12 ≤ 240 V AC | 6 A | DC12 130 V DC | 1 A | DC12 60 V DC | 1.5 A | DC12 48 V DC | 2 A | DC12 24 V DC |
| Insulation voltage (U _i) | | | 400 V | | | | | | | | | | | | |
| Degree of pollution | | | 3 | | | | | | | | | | | | |
| Rated impulse withstand voltage (U _{imp}) | | | 4 kV (6 kV relative to the associated protective device) | | | | | | | | | | | | |

(1) For a lower power supply (e.g., control by a PLC output), an iRTBT interface must be implemented (see page 739)

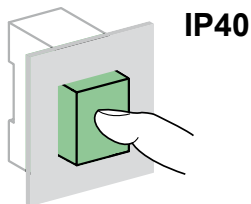
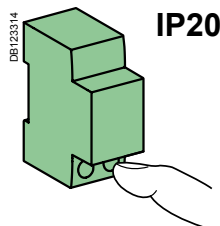




Three-phase power supply monitoring



Single-phase power supply monitoring



iMSU: overvoltage release units

Function

- Tripping of the associated protective device when the voltage across its terminals exceeds its nominal value.
- This auxiliary can protect sensitive loads from mains voltage fluctuations, in particular those due to breakage of the neutral conductor.
- Resetting of the protective device is possible only when the voltage across the terminals of the auxiliary has returned to its nominal value.
- When assembling with the associated device:
 - take the operating temperature range of the associated protective device into account
 - when the assembly is complete, test the handle of the associated protective device.

Technical data

| Auxiliary trip units | | iMSU |
|--|--|-------------|
| Catalogue numbers | | A9A26500 |
| Main characteristics | | |
| Rated voltage (Un) | 230 V, 50/60 Hz | |
| Power consumption (at Un) | A | 0.002 |
| Power consumption | Holding | VA |
| | Inrush | V \hat{A} |
| | | 128 |
| Insulation voltage (Ui) | 400 V | |
| Degree of pollution | 3 | |
| Rated impulse withstand voltage (Uimp) | 4 kV (6 kV relative to the associated protective device) | |
| Additional characteristics | | |
| Endurance | 20,000 operations | |

Standardised operating and non-response to voltage (Ua) times

| | 255 V AC | 275 V AC | 300 V AC | 350 V AC | 400 V AC |
|---------------------------|----------------------|----------|----------|----------|----------|
| Maximum operating time | Pas de déclenchement | 15 s | 5 s | 0.75 s | 0.20 s |
| Minimum non-response time | | 3 s | 1 s | 0.25 s | 0.07 s |

(Ua)

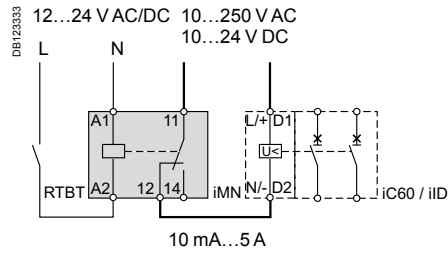
Voltagés mesurés entre la phase et le conducteur neutre, à partir desquels l'iMSU doit contrôler le dispositif de protection associé.

063960A_SE-40



"Low-level" control

The iRTBT relay cat. no. A9A15416 allows the auxiliary trip units to be controlled by a low-level signal (e.g. iMN).



iRTBT relay

| | | |
|--------------------------------|------|---------------------------------------|
| Inputs (A1, A2) | | 12...24 V AC/DC, 0...60 Hz |
| Outputs (11 and 12, 11 and 14) | Mini | 10 mA/10 V DC (DC12) 10 mA/10 V AC |
| | Maxi | 1 A/24 V DC (DC12) 5 A/250 V AC |

Electrical auxiliaries for iC60, iID, iSW-NA, ARA and RCA

The mounting order for the various auxiliaries must be complied with.
The tripping auxiliaries (iMN, iMX) should be mounted first, as close as possible to the circuit breaker or the residual current circuit breaker. Then, the indicating auxiliaries (iOF, iSD) should be mounted, complying with their position shown in the following table.

Indicating auxiliaries

PE104474-25



PE104475-25



DB1123593














| | |
|----------------------------------|---|
| 1 (iOF/SD+OF or iOF+SD24 or iSD) | 1 iOF/SD+OF |
| 1 iOF | 1 (iSD or iOF or iOF/SD+OF) |
| None | 1 iOF+SD24 |
| None | None |
| 1 iSD | 1 iSD |
| None | 1 (iSD or iOF or iOF/SD+OF or iOF+SD24) |
| 1 iOF | 1 (iSD or iOF or iOF/SD+OF) |
| None | 1 (iSD or iOF or iOF/SD+OF or iOF+SD24) |
| 1 iOF | 1 (iSD or iOF or iOF/SD+OF) |



The tripping auxiliaries should be installed first.
Comply with the position of the SD function.

Electrical auxiliaries for iC60, iID, iSW-NA, ARA and RCA (cont.)


| Tripping auxiliaries | Remote control | Device | Vigi iC60 |
|--|--|--|--|
|  PB104496-25 | ARA automatic recloser or RCA remote control | iC60 circuit breaker or iID residual current circuit breaker or iSW-NA switch-disconnector | Vigi iC60 add-on residual current device |
| 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) max. | - |  PB104437-25 <i>iC60</i> |  PB104466-25 <i>Vigi iC60</i> |
| 2 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) max. | - | | |
| 2 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) max. | - | | |
| 3 iMSU max. | - | | |
| 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) max. | - |  PB104472-25 <i>iID/iSW-NA</i> | - |
| 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU) max. |  PB100256-25 <i>ARA</i> |  PB104437-25 <i>iC60</i> |  PB104466-25 <i>Vigi iC60</i> |
| None | |  PB104472-25 <i>iID</i> | - |
| 1 (iMX or iMN or iMSU) max. |  PB100263-25 <i>RCA</i> |  PB104437-25 <i>iC60</i> |  PB104437-25 <i>Vigi iC60</i> |
| None | | | |

> Twilight switches




P111837
P83237

IC100
Adjustable from 2 to 100 lux.
It comes with a wall-mounted cell.



P111839
P118859
P106856

IC2000
Adjustable from 2 to 2000 lux. It comes with a standard wall-mounted or switchboard cell.




P111840
P83237

IC2000P+
It has 3 customisable pre-set programs and 3 setting ranges from 2 to 2100 lux. Its 4 keys and large screen facilitate its programming.
It comes with a wall-mounted cell.



P118857




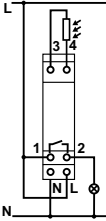
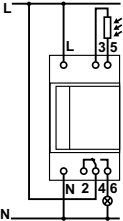
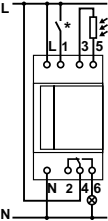
IC Astro
It operates without photoelectric cell and calculates sunrise and sunset times according to its geographic position.
It can be customised by using its programming function.



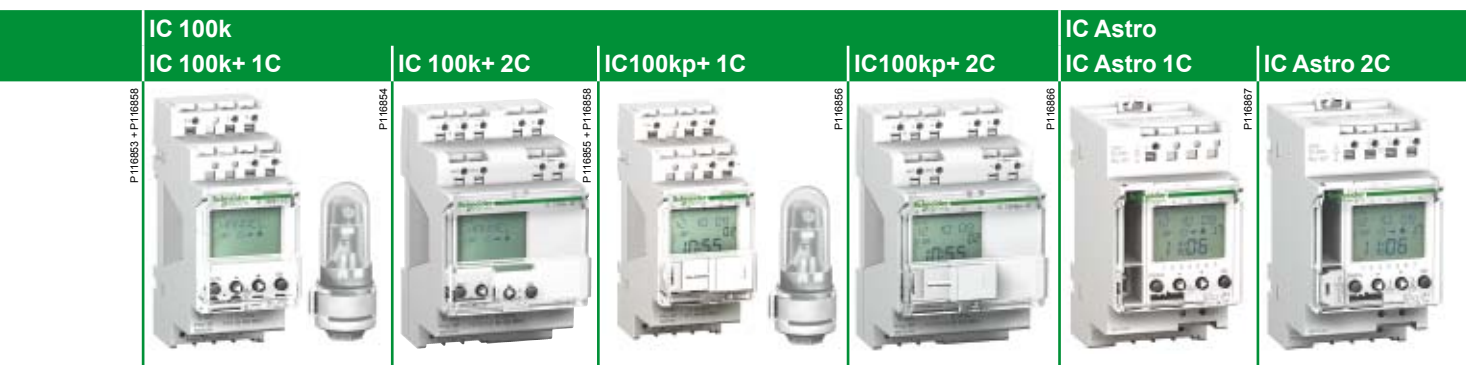
P118853
P118856
P118859
P118859

IC 100k
Adjustable from 2 to 99000 lux.
Its 4 keys and large screen facilitate its programming.
It comes with a digital wall-mounted or a switchboard cell.

Selection table

| | IC100 | IC2000 | IC2000P+ | |
|--|---|--|--|---|
| |  <p>P11637 + P8237</p> |  <p>P11639 + P16859 + P16856</p> |  <p>P11640 + P8237</p> | |
| Function | The IC100 controls closing of a contact when brightness decreases and drops below the selected threshold. It controls opening of a contact when brightness increases and rises above the selected threshold | The IC2000 control closing of a contact when brightness decreases and drops below the selected threshold. They control opening of a contact when brightness increases and rises above the selected threshold | The IC2000P+ controls lighting according to brightness and time. If brightness drops below the set threshold (twilight function: IC) and if the time program allows relay closing (time switch function), then the lighting circuit is activated | |
| Wiring diagrams |  <p>P16857</p> |  <p>P16858</p> |  <p>P16859</p> | |
| Catalogue numbers | 15482 | CCT15284 | CCT15368 15483 ⁽¹⁾ | |
| Technical specifications | | | | |
| Delivered with | Wall-mounted cell | Switchboard cell (CCT15281) | Wall-mounted cell (CCT15268) | Wall-mounted cell |
| Optional accessories | Wall-mounted cell (CCT15268) | Switchboard cell (CCT15281) Wall-mounted cell (CCT15268) | Wall-mounted cell (CCT15268) Switchboard cell (CCT15281) | Wall-mounted cell (CCT15268) |
| Adjustable brightness threshold | 2 to 100 lx | 2 to 2000 lx | | Range 1: 2 to 50 lx Range 2: 60 to 300 lx Range 3: 350 to 2100 lx |
| Voltage rating (Ue) (+10 %, -15 %) | 230 V AC, 50/60 Hz | 230 V AC, 50/60 Hz | | 230 V AC, 50/60 Hz |
| Consumption | 6 VA | 6 VA | | 3 VA |
| Operating temperature | -20°C to +50°C | -25°C to +50°C | | -20°C to +50°C |
| Width (9 mm modules) | 2 | 5 | | 5 |
| Insulation class | Class II | Class II | | Class II |
| Degree of protection | IP20B | IP20B | | IP20B |
| Output contact rating $\cos \varphi = 1$ (under 250 VAC) | 16 A | 16 A | | 16 A |
| $\cos \varphi = 0.6$ | 10 A | 10 A | | 10 A |
| Time delays (On and Off) | 20 s (On) 80 s (Off) | ≥ 60 s | | Adjustable from 20 to 140 s (80 s by default) |
| Operating accuracy | – | – | | < ±1 s / day at 20 °C. |
| Monitoring indicator light, not time delayed, lit when brightness is less than the threshold | Red | Red | | – |
| Contact switching indicator light | Green | Green | | – |
| LCD liquid crystal display | – | – | | Back-lit |
| Program saving by lithium battery | – | – | | ■ |
| Operating reserve | – | – | | 5-6 years |
| Location for instruction manual on front face | – | ■ | | ■ |
| Cabling test function with a push-button on front face | – | ■ | | – |
| Number of channels | 1 | 1 | | 1 |
| Control by brightness detection | ■ | ■ | | ■ |
| Coupling with weekly programming | – | – | | 42 switching times Minimum switching: 1 min Switching accuracy: 1 s |
| Control by calculation of sunrise/sunset times | – | – | | – |

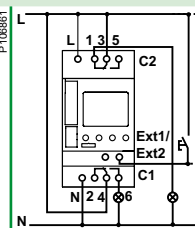
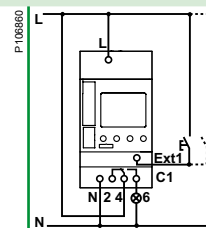
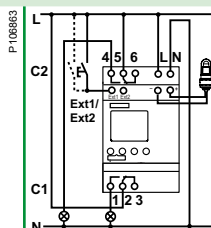
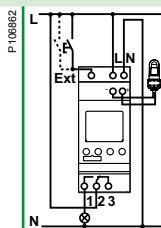
Languages: (1) English, french, spanish, italian, german, portuguese, swedish, dutch, finnish, norwegian/danish. (2) English, french, spanish, portuguese, hungarian, polish, romanian



The IC 100k+ 1C/2C control closing of a contact when brightness decreases and drops below the selected threshold. It controls opening of a contact when brightness increases and rises above the selected threshold

The IC100kp+ 1C/2C control lighting according to brightness and time. If brightness drops below the set threshold (twilight function: IC) and if the time program allows relay closing (time switch function), then the lighting circuit is activated

The IC Astro astronomic programmable twilight switch is used to start and stop an electric load (e.g. lighting) according to sunrise and sunset times, without a brightness detector. Sunrise and sunset times are calculated automatically by the IC Astro according to the geographic parameters configured by the user



CCT15250 (2)
CCT15251 (3)

CCT15252 (2)
CCT15253 (3)

CCT15490 (2)
CCT15491 (3)








CCT15492 (2)
CCT15493 (3)

CCT15223 (2)
CCT15224 (3)

CCT15243 (2)
CCT15244 (3)

| | | | |
|--|---|--|--|
| Digital wall-mounted cell (CCT15260) | Digital wall-mounted cell (CCT15260) Memory key (alone) (CCT15861) | - | Memory key (alone) (CCT15861) |
| Digital wall-mounted cell (CCT15260) Digital switchboard cell (CCT15261) Programming kit for PC (CCT15860) | Digital wall-mounted cell (CCT15260) Digital switchboard cell (CCT15261) Programming kit for PC (CCT15860) Memory key (alone) (CCT15861) | - | Programming kit for PC (CCT15860) Memory key (alone) (CCT15861) |
| 1 to 99000 lx | 1 to 99000 lx | - | According to sunrise/sunset times |
| 230 V AC, 50/60 Hz | 100-240 V AC, 50/60 Hz | 230 V AC, 50/60 Hz | 100-240 V AC, 50/60 Hz |
| 3 VA | 3 VA | 3 VA | 3 VA |
| -30°C to +50°C | -30°C to +50°C | -30°C to +50°C | -25°C to +45°C |
| 4 | 6 | 4 | 6 |
| Class II | Class II | Class II | Class II |
| IP20C | IP20C | IP20C | IP20B |
| 16 A | 16 A | 16 A | 16 A |
| 10 A | 10 A | 10 A | 10 A |
| Adjustable from 0 to 59.59 min. | - | - | Difference in sunset and/or sunrise times adjustable separately by ±120 min. |
| - | - | - | - |
| - | - | - | - |
| - | - | - | - |
| Back-lit | Back-lit | Back-lit | Back-lit |
| ■ | ■ | ■ | ■ |
| 10 years | 10 years | 6 years | 6 years |
| - | - | - | - |
| 1 | 2 | 1 | 2 |
| ■ | ■ | - | - |
| - | 84 switching times Operating accuracy: < ±1 s / day at 20°C Minimum switching: 1 min Switching accuracy: 1 s | 84 switching times (not including sunrise/sunset) Minimum time between 2 switching operations: 1 min. Switching accuracy: 1 s Time accuracy: ±1 s / day | 84 switching times (not including sunrise/sunset) Minimum time between 2 switching operations: 1 min. Switching accuracy: 1 s Time accuracy: ±1 s / day |
| - | - | ■ | ■ |

Accessories selection table

| | Wall-mounted cell | | Switchboard cell | Programming kit for PC | Memory key | Digital wall-mounted cell | Digital switchboard cell |
|----------------------|--|---|--|--|---|---|--|
| |  |  |  |  |  |  |  |
| Function | Wall-mounted photoelectric cell | | Switchboard photoelectric cell | Consists of a programming device, a memory key, a CDRom and a 2 m USB cable | Saving and duplicating programs | Digital wall-mounted photoelectric cell | Digital wall-mounted photoelectric cell |
| Mounting | <ul style="list-style-type: none"> Delivered with its fixing device for IC100 and IC200P+ Replaced by CCT15268 for spare part use Cell connection: by double insulation 2-conductor cable, not to be laid next to mains cables or water ducts, maximum length: 25 m | | <ul style="list-style-type: none"> Delivered with 1 m cable and its fixing device | <ul style="list-style-type: none"> Delivered with its fixing device Cell connection: by double insulation 2-conductor cable, not to be laid next to mains cables or water ducts, maximum length: 100 m | – | – | <ul style="list-style-type: none"> Delivered with its fixing device. Cell connection: <ul style="list-style-type: none"> by double insulation 2-conductor cable: <ul style="list-style-type: none"> - 0.5 - 2.5 mm² for CCT15260 - 0.25 - 1.5 mm² for CCT15261 Not to be laid next to mains cables or water ducts, maximum length: <ul style="list-style-type: none"> - 100 m (2 x 1.5 mm²) - 50 m (2 x 0.75 mm²) |
| Catalogue no. | – | CCT15268 | 15281 | CCT15860 | CCT15861 | CCT15260 | CCT15261 |

Technical specifications

| | IP54 | IP65 | IP54 | – | – | IP55 | IP66 |
|-------------------------|----------------|----------------|----------------|---|---|----------------|----------------|
| Degree of protection | IK05 | – | IK05 | – | – | – | – |
| Operating temperature | -40°C to +70°C | -40°C to +70°C | -40°C to +70°C | – | – | -40°C to +70°C | -40°C to +70°C |
| Horizontally orientable | – | – | 90° | – | – | 90° | 90° |

Load table

| Type of lighting (230 V AC) | Max. power (for higher power, relay with a contactor) | | | | |
|---|---|---|---------------------------------------|---------------------------------------|--|
| | IC100 | IC2000 | IC2000P+ | IC Astro | IC 100k |
| Incandescent and halogen lamps | 2300 W | 2300 W | 2300 W | 2300 W | 2600 W |
| Non-corrected / serial-corrected / dual mounted fluorescent tubes with conventional ballast | 2300 VA | 2300 VA | 26 x 36 W, 20 x 58 W, 10 x 100 W | 26 x 36 W, 20 x 58 W, 10 x 100 W | 26 x 36 W, 20 x 58 W, 10 x 100 W |
| Parallel corrected fluorescent tubes with conventional ballast | 400 VA | 400 VA | 10 x 36 W, 6 x 58 W, 2 x 100 W | 10 x 36 W, 6 x 58 W, 2 x 100 W | 10 x 36 W, 6 x 58 W, 2 x 100 W |
| Fluorescent tubes with electronic ballast | – | – | 9 x 36 W, 6 x 58 W | 9 x 36 W, 6 x 58 W | 650 VA max. |
| Dual-mounted fluorescent tubes with electronic ballast | 300 VA | 300 VA | 5 x (2 x 36 W), 3 x (2 x 58 W) | 5 x (2 x 36 W), 3 x (2 x 58 W) | – |
| Fuocompact lamps with electronic ballast | 9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W, 7 x 23 W | 9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W, 7 x 23 W | 9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W | 9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W | 22 x 7 W, 18 x 11 W, 16 x 15 W, 16 x 20 W, 14 x 23 W |
| Fuocompact lamps with conventional ballast | 1500 VA | 1500 VA | – | – | – |
| Parallel-corrected mercury and sodium vapour lamps | 400 VA | 400 VA | 250 VA | 250 VA | 800 VA max. (80uF) |
| Non-corrected/ serial-corrected mercury and sodium vapour lamps | 1000 VA | 1000 VA | – | – | – |
| Motor | – | – | – | – | 2300 VA max. |

Specific technical data

IC2000P+

External input

| | |
|---------------------|------------------------|
| Voltage rating (Ue) | 230 V AC, +10 %, -15 % |
| Frequency | 50/60 Hz |
| Input current | ≤ 2.5 mA |
| Consumption | ≤ 0.4 mW |
| Cable length | ≤ 100 m |

IC Astro

| | |
|--|--|
| Programming longitude | -180° (East) to +180° (West) in steps of 1° |
| Programming latitude | -90° (South) to +90° (North) in steps of 1° |
| External inputs for external control with a standard switch or a push-button | <ul style="list-style-type: none"> ■ 1 input "Ext1" for IC Astro 1C ■ 2 inputs "Ext1" and "Ext2" for IC Astro 2C □ consumption: < 0.5 mA □ cable length: ≤ 100 m |
| Programming accessories | <ul style="list-style-type: none"> ■ Programming kit for PC consists of a programming device, a memory key, a CDROM and a 2 m USB cable ■ Memory key for saving and duplicating programs |

IC 100k, IC Astro

| | |
|-------------------------|--|
| Programming accessories | <ul style="list-style-type: none"> ■ Programming kit for PC consists of a programming device, a memory key, a CDROM and a 2 m USB cable ■ Memory key for saving and duplicating programs |
|-------------------------|--|

Memory key delivered on front face for IC100kp+ 1C, IC100kp+ 2C and IC Astro

External inputs

| | |
|--|--|
| External inputs for external control with a standard switch or a push-button | <ul style="list-style-type: none"> ■ 1 input "Ext" for 1 channel versions ■ 2 inputs "Ext1" and "Ext2" for 2 channels versions |
| Voltage rating (Ue) | <ul style="list-style-type: none"> ■ 230 V AC, +10 %, -15 % for 1 channel versions ■ 100-240 V AC +10 %, -15 % for 2 channels versions |
| Frequency | 50/60 Hz |
| Input current | ≤ 0.5 mA |
| Consumption | ≤ 130 mW |
| Cable length | ≤ 100 m |

IC2000P+

The IC 2000P+ uses its time programming to define lighting On and Off periods:

- According to three pre-set time programs:
 - "DAYPROG": On time programming from 7 am to 8 pm a validation of the IC function from 7 am to 8 pm,
 - "NIGHTPROG": On time programming from 5 am to 8 am and from 6 pm to 11 pm a validation of the IC function on these two operating periods,
 - "EMPTYPROG": Off time programming throughout the day a no validation of the IC function. These programs can be modified if necessary.
- According to a customised operating period, with possibility of copying to the other days. It is equipped with the following functions:
 - consideration of periods of absence (holidays),
 - temporary or permanent On or Off override,
 - remote control of lighting override by NO external contact,
 - consideration of change to "summer/winter" time, automatic or manual,
 - permanent liquid crystal display: of time and minutes, of day of the week, of the contact output status and current program.

Example

Lighting of a shop window, in the evening, at a time variable according to brightness and switch-off at a set time (e.g. 11 pm). Then in the morning, lighting at a set time (e.g. 4 am) and switch-off at a time variable according to brightness (see Fig. 1).

Configuration

This consists of recording in the memory:

- The language.
- The year, month, day and time.
- One of the 3 pre-set programs:
 - "DAYPROG": "On" time programming from 7 am to 8 pm → validation of the IC function from 7 am to 8 pm,
 - "NIGHTPROG": "On" time programming from 5 am to 8 am and from 6 pm to 11 pm → validation of the IC function on these two operating periods,
 - "EMPTYPROG": "Off" time programming throughout the day → no validation of the IC function. These programs can be modified.
- The brightness threshold. Once this phase is over, your IC 2000P+ operates in AUTO mode according to the items you have chosen.

Programming

The IC2000P+ is used to manage time programs. It allows:

- Creation of a new program with the possibility of copying to the other days.
- Viewing programs in memory.
- Modification of a program in memory, of the time, date, summer/winter time.
- Partial or total deletion of the program (date, time and language are kept).
- Modification of the brightness threshold.
- Separate setting of the time delay on switch-on and switch-off.

Move to On/Off override

- Press briefly (< 2 s) and simultaneously the 2 keys "-", "+" (value setting and navigation keys) on the front face to move to "MAN ON" or "MAN OFF".
- Press the keys for more than 2 s to move to "PERM ON" or "PERM OFF".
- Supply of terminal 1 overrides the IC 2000P+ output to the "On" position.

This external override takes priority over the product On/Off override function (see Fig. 2, 3).

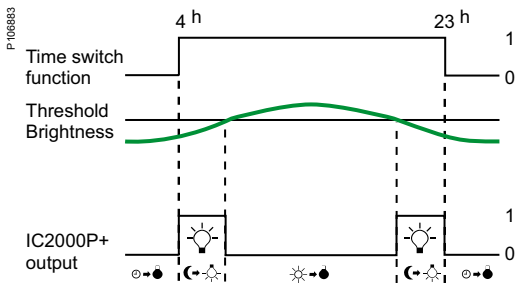


Fig. 1.

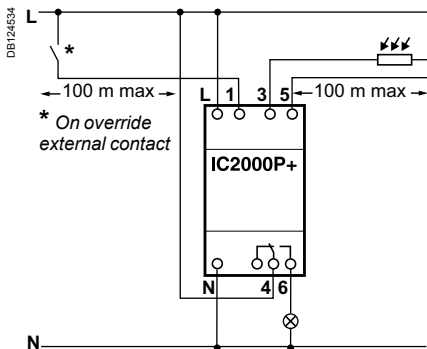


Fig. 2.

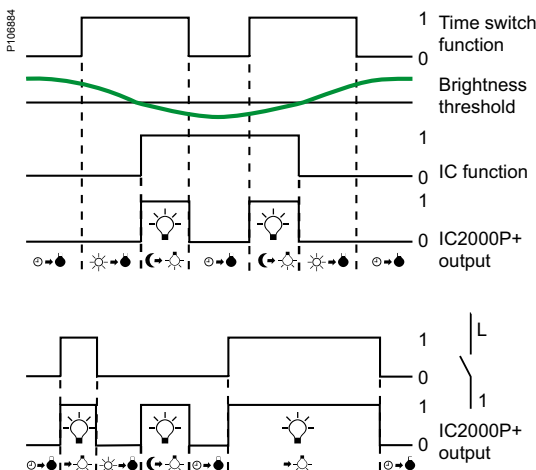


Fig. 3.

IC Astro

The IC Astro is configured according to the place of installation.

- The place of installation of the IC Astro can be configured:
 - either by selecting a country and a town,
 - or by its geographic coordinates (latitude, longitude).
- The IC Astro allows:
 - addition or deletion of a switch-off/switch-on switching operation (Off-On) between the sunset and sunrise times,
 - different programmes each day,
 - difference in sunset and/or sunrise times, adjustable separately by ± 120 min. according to local constraints (mountains, buildings, etc.),
 - consideration of periods of absence (holidays),
 - remote control of lighting override by external standard switch or push-button via the external input (1 external input per channel),
 - re-initialisation of programmes,
 - automatic switching to "summer-winter" time,
 - permanent display by liquid crystals: hours and minutes, day of the week, contact output status, and current programme,
 - manual waiver of the lighting On/Off programme, permanently or temporarily (up to the next switching operation).
 - back-lighting of the screen.

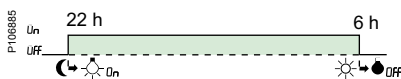


Fig. 3.



Fig. 4.



Fig. 5.

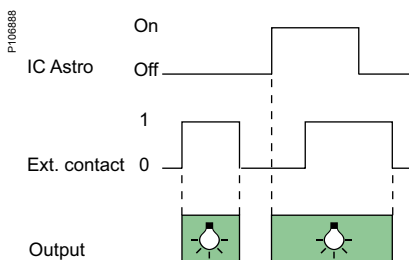


Fig. 6.

Example

Automatically lighting On and Off a shop window in Paris according to sunset and sunrise, example the 20th June.

- At night (10 pm) the lighting switch-on.
- At the morning (6 am) the lighting switch-off.

Configuration

This consists of writing in the memory:

- The language.
- The place of installation, either:
 - by its position (Argentina, China, etc.) and by the closest town,
 - by its geographic coordinates (latitude, longitude, time difference with respect to GMT) (a map is provided with the product).
- The year, month, day and time.
- Once this phase is complete, IC Astro will calculate the sunrise and sunset times and propose a default programme (operation from sunset to sunrise) (see Fig. 3).

Programming an Off period

The IC Astro offers the possibility of adding an "Off" period (programmed switch-off and switch-on) inside the programme, between the sunrise and sunset times (by default it is proposed from 11 pm to 5 am) (see Fig. 4).

Modifying programming and configuration

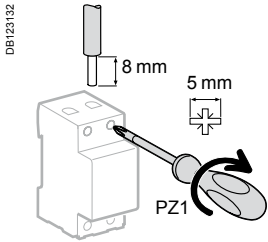
The twilight switch allows:



- Creation of a new customised programme with possibility of copying onto the other days.
- Display of programmes in memory.
- Deletion, modification or addition of an automatic or programmed switching operation.
- Partial or total deletion of the programme (date, time and language are kept).
- Modification of time, date, summer/winter time.
- Temporary cancellation of the "On" periods by configuring start and end dates and Times of absence (holidays).
- Adjustment of difference in sunset and/or sunrise times by ± 120 min. according to local constraints (mountains, buildings, etc.) (see Fig. 5).

Move to On/Off override

- Briefly press (<2 s) at the same time on the 2 keys "-", "+": (value setting and navigation keys) on the front face to move to "ON TEMP" or "OFF TEMP".
- Hold down (>2 s) the keys to move to "ON PERM" or "OFF PERM".
- The supply of input 5 forces the IC Astro output to the "ON" position. This override takes priority over the product On/Off override function (see Fig. 6).

Connection



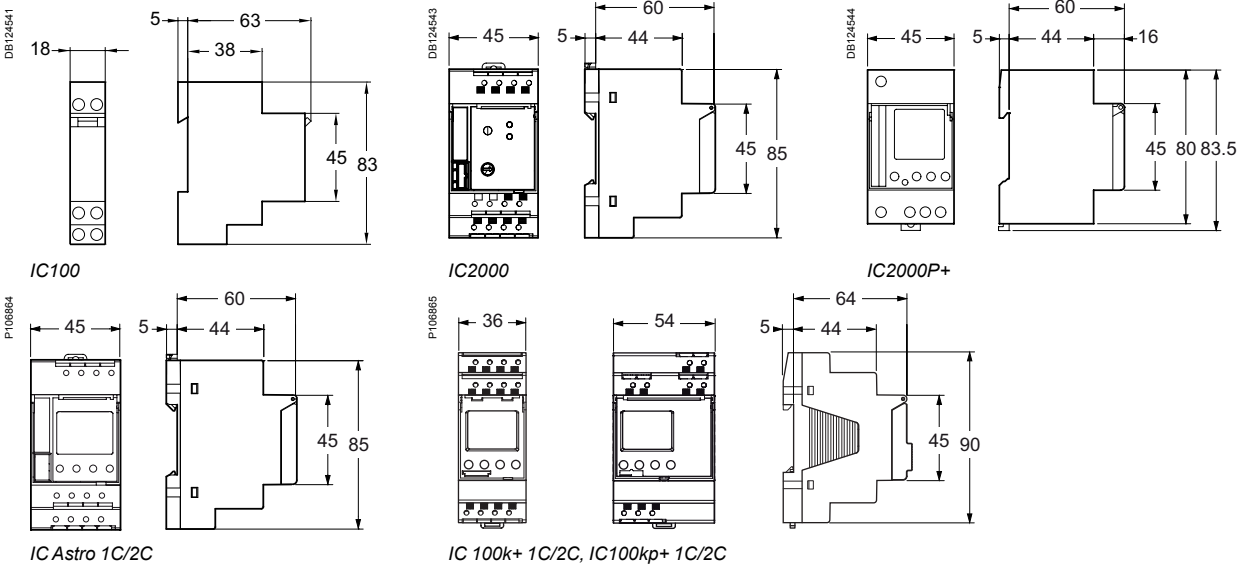
| Type | Tightening torque | Copper cables | |
|---------------------------|--------------------|---|---|
| | | Rigid | Flexible or with ferrule |
| IC100, IC2000P+ | 1.2 N.m | DB122346  | DB123553  |
| IC2000, IC Astro, IC 100k | 2 screwless / pole | ≤ 6 mm ² | ≤ 6 mm ² |
| | | 2 x 2.5 mm ² | 2 x 2.5 mm ² |

IC100, IC Astro are mechanical compatible with electrical distribution comb busbar.

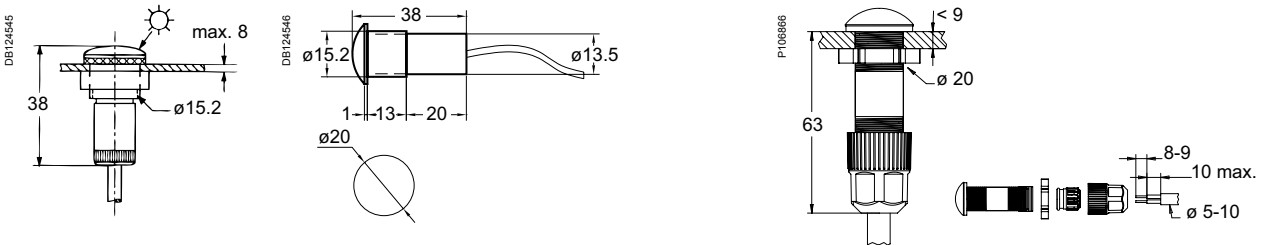
Weight (g)

| Twilight switches | |
|-----------------------------------|----------|
| IC100 | 173 |
| IC2000 | 280 |
| IC2000P+ | 323 |
| IC Astro | 132 |
| IC 100k+/kp+ 1C / IC 100k+/kp+ 2C | 183/ 352 |

Dimensions (mm)

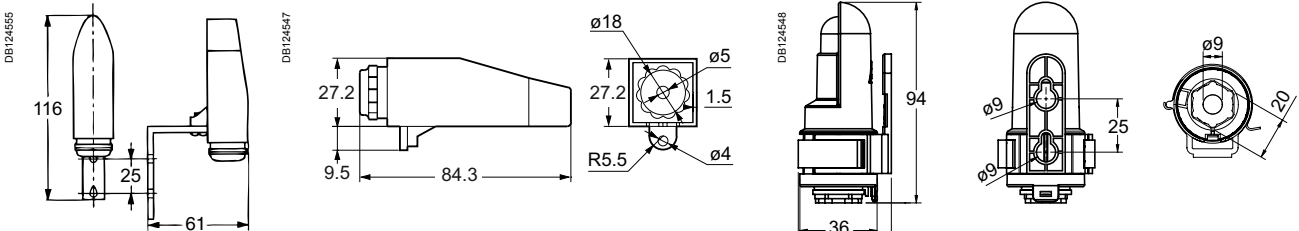


Cells



Standard switchboard cell (15281) Fixed externally in vertical position by 2 \varnothing 4 mm screws

Digital switchboard cell (CCT15261)



Wall-mounted cell (delivered with IC100, IC2000P+)

Standard and digital wall-mounted cell (CCT15268, CCT15260)

> Time switches

> The 45 mm digital time switches

IHP 1c **IHP 2c** **IHP+1c** **IHP+2c**

Automatically switch On and Off loads according to the program entered by the user with 4 keys and a display, they operate on a weekly cycle: the same program is repeated week after week.

IHP DCF 1c + ANT DCF
Synchronised on the frankfort transmitter via the ANT DCF antenna.

> The 18 mm digital time switches

IHP 1c/+ 1c

Automatically switch On and Off loads according to the program entered by the user with 4 keys and a display, they operate on a weekly cycle: the same program is repeated week after week.

> The 54 mm mechanical time switches

IH 60mn 1c SRM **IH 24h 1c SRM/ ARM** **IH 24h 2c ARM**

IH 24h + 7j 1+c ARM **IH 7j 1c ARM**

Automatically switch On and Off loads according to the program entered by the user they operate on an hourly, daily or weekly cycle: the same program is repeated hour after hour (IH 60mn), day after day (IH 24h) or week after week (IH 7j).

> The 18 mm mechanical time switches

IH 24h 1c SRM/ ARM **IHH 7j 1c ARM**

Automatically switch On and Off loads according to the program entered by the user they operate daily on a weekly cycle.

> The digital yearly time switches

ITA 1C **ITA 4C**

They operate on an daily, weekly or yearly program (ITA 1c: 1 channel, ITA 4c: 1, 2, 3 or 4 channels - 2 external inputs).

Selection table

The time switches control opening and closing of one or more separate circuits according to a programming pre-set by the user:

- by memorisation of On and Off switching operations for the IHP and ITA digital time switches
- by positioning of jumpers or captive segments on a programming dial for the IH mechanical time switches.

An IHP, IH or ITA time switch is chosen according to the following criteria:

| Designation | Number of channels | Cycle period (d: day) | Minimum time between 2 switching operations | Number of switching operations | Saving on mains cut off | Width (modules of 9 mm) | Override controls On / Off | Output contact changeover switch (cos φ =1) | Time changeover (summer / winter) |
|---|--------------------|-----------------------|---|--------------------------------|-------------------------|-------------------------|----------------------------|---|-----------------------------------|
| The 45 mm digital time switches | | | | | | | | | |
| IHP 1c | 1 | 24 h and/or 7 d | 1 min. | 56 | 6 years | 5 | On / Off | 16 A | Auto |
| IHP + 1c | 1 | 24 h and/or 7 d | 1 s | 84 | 6 years | 5 | On / Off | 16 A | Auto |
| IHP 2c | 2 | 24 h and/or 7 d | 1 min. | 56 | 6 years | 5 | On / Off | 16 A | Auto |
| IHP + 2c | 2 | 24 h and/or 7 d | 1 s | 84 | 6 years | 5 | On / Off | 16 A | Auto |
| IHP DCF 1c ⁽¹⁾ | 1 | 24 h and/or 7 d | 1 s | 42 | 4 years | 5 | On / Off | 16 A | Auto |
| The 18 mm digital time switches | | | | | | | | | |
| IHP 1c 18 mm | 1 | 24 h and/or 7 d | 1 min. | 56 | 10 years | 2 | On / Off | 16 A | Auto |
| IHP + 1c 18 mm | 1 | 24 h and/or 7 d | 1 min. | 84 | 10 years | 2 | On / Off | 16 A | Auto |
| The 36 or 72 mm digital yearly time switches | | | | | | | | | |
| ITA 1c ⁽²⁾ | 1 | 24 h, 7 d, year | 1 min. | 300 | 10 years | 4 | On/Off | 16 A | Manual / Auto ⁽³⁾ |
| ITA 4c ⁽²⁾ | 4 | 24 h, 7 d, year | 1 min. | 300 | 10 years | 8 | On/Off | 10 A | Manual / Auto ⁽³⁾ |
| The 54 mm mechanical time switches | | | | | | | | | |
| IH 60mn 1c SRM | 1 | 60 min. | 37.5 s | 48 On - 48 Off | none | 6 | On / Off | 10 A | Manual |
| IH 24h 1c SRM | 1 | 24 h | 15 min. | 48 On - 48 Off | none | 6 | On / Off | 16 A | Manual |
| IH 24h 1c ARM | 1 | 24 h | 15 min. | 48 On - 48 Off | 200 h ⁽⁴⁾ | 6 | On / Off | 16 A | Manual |
| IH 24h 2c ARM | 2 | 24 h | 30 min. | 24 On - 24 Off | 150 h | 6 | On | 16 A | Manual |
| IH 7j 1c ARM | 1 | 7 days | 2 h | 42 On - 42 Off | 200 h ⁽⁴⁾ | 6 | On / Off | 16 A | Manual |
| IH 24h + 7j 1+1c ARM | 1+1 | 24 h + 7 days | 45 min. + 12 h | 16 On -16 Off + 7 On -7 Off | 150 h | 6 | On | 16 A | Manual |
| The 18 mm mechanical time switches | | | | | | | | | |
| IHH 7j 1c ARM | 1 | 7 days | 2 h | 42 On - 42 Off | 100 h | 2 | On / Off | 16 A | Manual |
| IH 24h 1c ARM | 1 | 24 h | 15 min. | 48 On - 48 Off | 100 h | 2 | On / Off | 16 A | Manual |
| IH 24h 1c SRM | 1 | 24 h | 15 min. | 48 On - 48 Off | none | 2 | On / Off | 16 A | Manual |

(1) The IHP DCF can be synchronised on the Frankfurt's DCF77 radio station via the ANT DCF antenna.

(2) The ITA 1c and ITA 4c can be synchronised on the Frankfurt's DCF77 radio station via the DCF antenna for ITA or GPS antenna for ITA.

(3) Summer/Winter-Time can be set to auto without any antenna.

(4) 110 h for 100 V CA supply voltage.

| Back-lit display, random function and pulse programming | "Absence for holidays" function | Screwless connection | Mechanical compatibility with electrical distribution comb busbars | Input for external control | Instruction manual holder on front face | Memory key supplied with the product | Cat. no. |
|---|---------------------------------|----------------------|--|----------------------------|---|--------------------------------------|--|
| | ■ | ■ | ■ | | ■ | | CCT15400 ⁽⁶⁾ , CCT15420 ⁽⁷⁾ , CCT15450 ⁽⁸⁾ , CCT15720 ⁽⁹⁾ , CCT15850 ⁽¹⁰⁾ |
| ■ | ■ | ■ | ■ | 1 input | ■ | ■ | CCT15401 ⁽⁶⁾ , CCT15421 ⁽⁷⁾ , CCT15451 ⁽⁸⁾ , CCT15721 ⁽⁹⁾ , CCT15851 ⁽¹⁰⁾ |
| | ■ | ■ | ■ | | ■ | | CCT15402 ⁽⁶⁾ , CCT15422 ⁽⁷⁾ , CCT15452 ⁽⁸⁾ , CCT15722 ⁽⁹⁾ , CCT15852 ⁽¹⁰⁾ |
| ■ | ■ | ■ | ■ | 2 inputs | ■ | ■ | CCT15403 ⁽⁶⁾ , CCT15423 ⁽⁷⁾ , CCT15453 ⁽⁸⁾ , CCT15723 ⁽⁹⁾ , CCT15853 ⁽¹⁰⁾ |
| ■ | ■ | | | | ■ | | 15857 |
| | ■ | ■ | | | | (12) | CCT15854 ⁽¹¹⁾ |
| ■ + Cycle programming | ■ | ■ | | 1 input | | ■ | CCT15837 ⁽¹¹⁾ |
| Back-lit display, pulse and cycle programming | ■ ⁽⁵⁾ | | | | | (13) | CCT15910 |
| Back-lit display, pulse and cycle programming | ■ ⁽⁵⁾ | | | 2 inputs | | (13) | CCT15940 |
| | | ■ | | | | | CCT15338 |
| | | ■ | | | | | CCT16364 |
| | | ■ | | | | | CCT15365 |
| | | | | | | | 15337 |
| | | ■ | | | | | CCT15367 |
| | | | | | | | 15366 |
| | | | | | | | 15331 |
| | | | | | | | 15336 |
| | | | | | | | 15335 |

(5) Function included and can be realized through special program entry.

(6) English, Russian, Ukrainian, Latvian, Lituani, Estonian languages.

(7) English, Bulgarian, Greek, Slovene, Serbian, Croatian languages.

(8) English, Hungarian, Polish, Romanian, Czech, Slovak languages.

(9) French, English, Italian, Spanish, German, Portuguese languages.





(10) French, English, Swedish, Dutch, Finnish, Norwegian/Danish languages.

(11) French, English, Italian, Spanish, German, Portuguese, Dutch languages.

(12) Memory key (CCT15861) is not supplied with IHP 1c 18mm (CCT15854) but this memory key and the programming kit (CCT15860) can be used and operate on IHP 1c 18mm (see "Accessories selection table").

(13) Memory key (CCT15955) is not supplied with ITA 1c/4c but this memory key and the programming kit (CCT15950) can be used and operate on ITA 1c/4c (see "Accessories selection table").

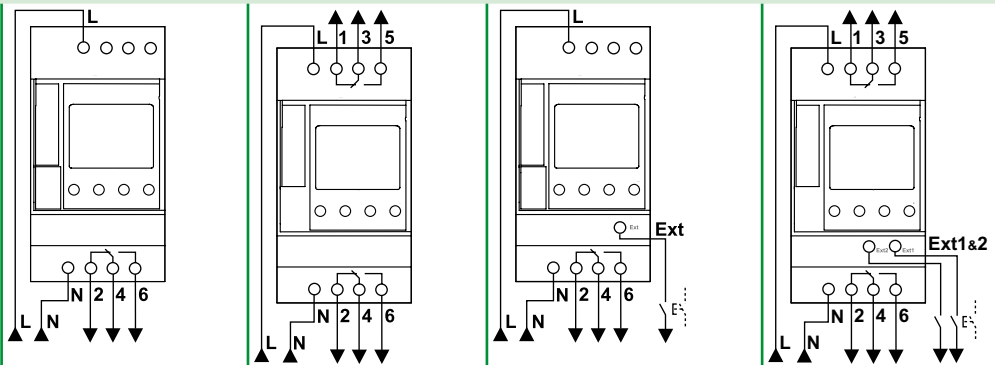
Selection table Programmable time switches

| | IHP 1c | IHP2c | IHP+1c | IHP+2c |
|--|---|---|--|---|
| |  |  |  |  |

Function

- These time switches automatically switch on and off loads according to the program entered by the user
 - They operate on weekly cycle: the same program is repeated week after week
 - They offer automatic summer/winter time change and allow to adjust it according to where you are located
 - The program can be overridden temporary or permanently by pressing 2 keys on the product
 - They also offer holidays program, by configuring the starting and ending dates of the absence.
- A memory key and a programming kit can be used to duplicate on another IHP+ or to save the program created by the contractor (see "Accessories selection table")
 - Override control with switch or push-button via external input (1 external input for IHP+1c and 2 externals inputs for IHP+ 2c)

Wiring diagrams








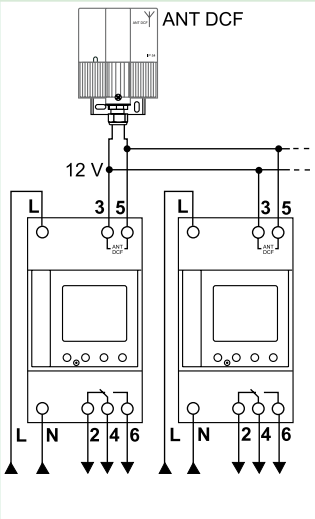
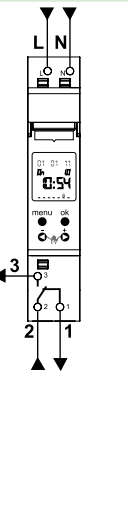
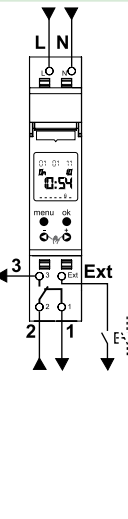
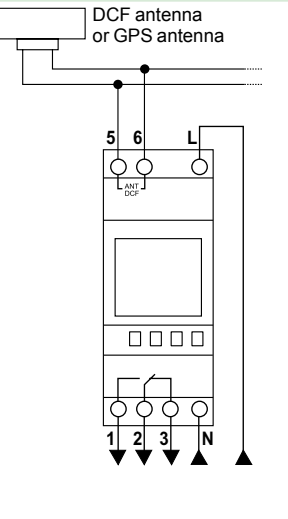
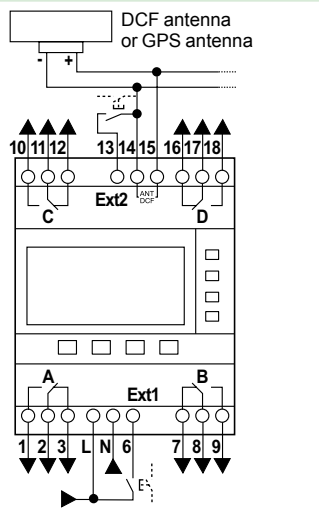
| Catalogue numbers | CCT15400 ⁽¹⁾ CCT15420 ⁽²⁾ CCT15450 ⁽³⁾ CCT15720 ⁽⁴⁾ CCT15850 ⁽⁵⁾ | CCT15402 ⁽¹⁾ CCT15422 ⁽²⁾ CCT15452 ⁽³⁾ CCT15722 ⁽⁴⁾ CCT15852 ⁽⁵⁾ | CCT15401 ⁽¹⁾ CCT15421 ⁽²⁾ CCT15451 ⁽³⁾ CCT15721 ⁽⁴⁾ CCT15851 ⁽⁵⁾ | CCT15403 ⁽¹⁾ CCT15423 ⁽²⁾ CCT15453 ⁽³⁾ CCT15723 ⁽⁴⁾ CCT15853 ⁽⁵⁾ |
|-------------------|---|---|---|---|
|-------------------|---|---|---|---|

Technical specifications

| | | | | | |
|--|---------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Voltage rating (Ue) | | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz |
| Consumption | | 4 VA | 7 VA | 4 VA | 7 VA |
| Output contact current (250 V AC) | Cos φ = 1 | 16 A | 16 A | 16 A | 16 A |
| | Cos φ = 0.6 | 10 A | 10 A | 10 A | 10 A |
| Degree of protection | | IP20B | IP20B | IP20B | IP20B |
| Operating temperature | | -10°C to +50°C | -10°C to +50°C | -10°C to +50°C | -10°C to +50°C |
| Time accuracy | | ± 1 s per day at 20°C | ± 1 s per day at 20°C | ± 1 s per day at 20°C | ± 1 s per day at 20°C |
| Program saving and time by lithium battery | Lifetime | 6 years | 6 years | 6 years | 6 years |
| | Back-up time, cumulated mains cut off | 6 years | 6 years | 6 years | 6 years |





(1) English, russian, ukrainian, latvian, lituanien, estonian. (2) English, bulgarian, greek, slovene, serbian, croatian. (3) English, hungarian, polish, romanian, czech, slovak. (4) French, english, italian, spanish, german, portuguese. (5) French, english, swedish, dutch, finnish, norwegian/danish.

Yearly programmable time switches

| IHP DCF 1c | IHP 1c 18 mm | IHP+1c 18 mm | ITA 1c | ITA 4c |
|---|---|---|--|---|
|  |  |  |  |  |
| | <ul style="list-style-type: none"> ■ A memory key and a programming kit can be used to duplicate on another IHP or to save the program created by the contractor (see "Accessories selection table") | <ul style="list-style-type: none"> ■ Weekly or yearly time programming to be distributed over 1 channel | <ul style="list-style-type: none"> ■ Weekly or yearly time programming to be distributed over 1 channel | <ul style="list-style-type: none"> ■ Weekly or yearly time programming to be distributed over 1, 2, 3 or 4 channels ■ Override control with switch or push-button via external inputs |
| | | <ul style="list-style-type: none"> ■ A memory key and a programming kit can be used to duplicate on another IHP or to save the program created by the contractor (see "Accessories selection table") | <ul style="list-style-type: none"> ■ A memory key and a programming kit can be used to duplicate on another ITA or to save the program created by the user (see "Accessories selection table"). | |
|  |  |  |  |  |
| 15857 | CCT15854 (6) | CCT15837 (6) | CCT15910 | CCT15940 |
| 230 V AC, ±10 %, 50/60 Hz | 230 V AC, +10 %, -15 %, 50/60 Hz | 230 V AC, +10 %, -15 %, 50/60 Hz | 230 V AC, 50/60 Hz | 230 V AC, 50/60 Hz |
| 2 VA | 2.3 VA | 2.3 VA | 1.4 - 1.9 W (depending on the switching status) | 1.2 - 3.2 W (depending on the switching status) |
| 16 A | 16 A | 16 A | 16 A | 10 A |
| 10 A | 4 A | 4 A | 6 A | 6 A |
| IP20B | IP20B | IP20B | IP20 | IP20 |
| -10°C to +50°C | -25°C to +55°C | -25°C to +55°C | -30 °C to +55 °C | -30 °C to +55 °C |
| 1 s on 1 million years thanks to the synchronisation on the DCF Frankfurt's DCF77 radio station via the ANT DCF | ± 0.5 s per day at 25°C | ± 0.5 s per day at 25°C | Without antenna: ± 0.5 s per day at 20 °C With antenna: 1 s on 1 million years (7) | Without antenna: ± 0.5 s per day at 20 °C With antenna: 1 s on 1 million years (7) |
| 12 years | 10 years | 10 years | 10 years | 10 years |
| 4 years | 10 years | 10 years | 10 years | 10 years |

(6) French, english, italian, spanish, german, portuguese, dutch. (7) Thanks to the synchronisation on the DCF Frankfurt's DCF77 radio station via the DCF antenna or GPS antenna.

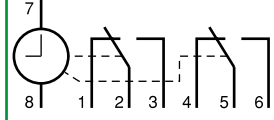
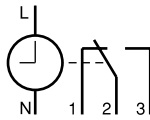
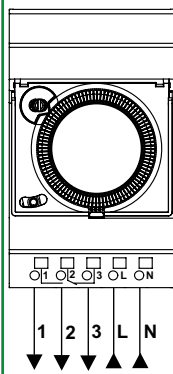
Selection table Mechanical time switches

| | IH 60mn 1c SRM | IH 24h 1c SRM | IH 24h 1c ARM | IH 24h 2c ARM |
|---------|---|---------------|--|---|
| P116860 |  | P116861 |  | P116892 |
| | | |  | P116816 |
| | | | |  |

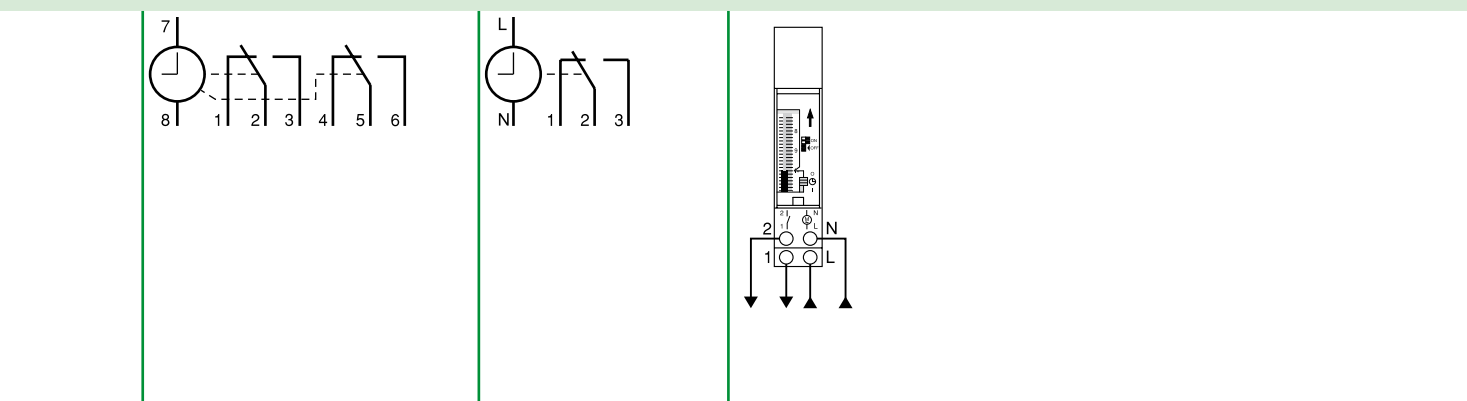
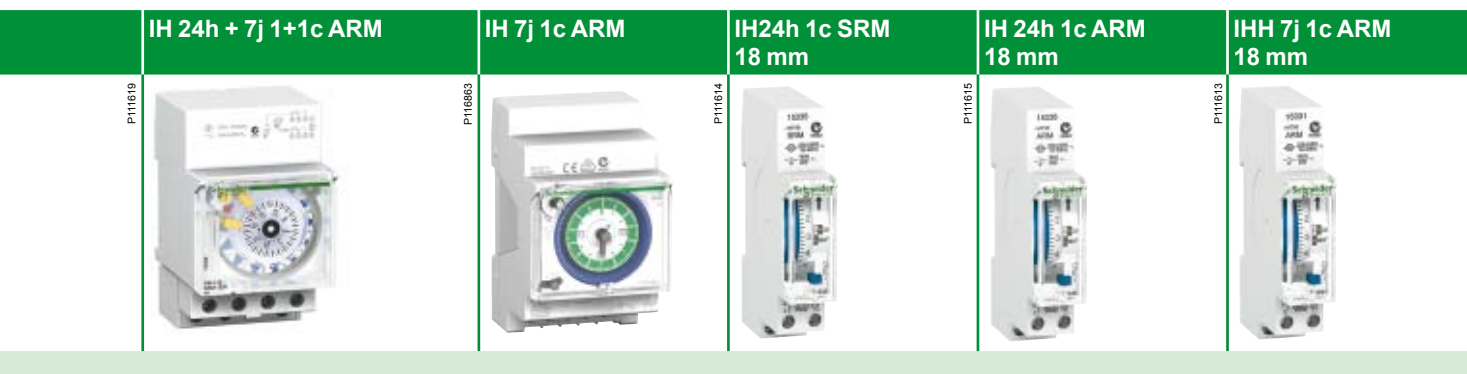
Function

- They operate on hourly, daily or weekly cycle: the same program is repeated hour after hour (IH 60mn), day after day (IH 24h) or week after week (IH 7), (IHH 7)
- The program can be overridden On

Wiring diagrams



| Catalogue numbers | | CCT15338 | CCT16364 | CCT15365 | 15337 |
|---|---------------------------------------|--------------------------------|-----------------------------------|--|-----------------------------------|
| Technical specifications | | | | | |
| Voltage rating (Ue) | | 230 V AC +10 %, -15%, 50 Hz | 230 V AC +10 %, -15%, 50/60 Hz | 110-230 V AC +10 %, -15%, 50/60 Hz | 230 V AC +10 %, -15%, 50/60 Hz |
| Consumption | | 1 VA | 2.5 VA | 2.5 VA | 2.5 VA |
| Output contact current under 250 VAC | Cos φ = 1 | 10 A | 16 A | 16 A | 16 A |
| | Cos φ = 0.6 | 4 A | 4 A | 4 A | 4 A |
| Degree of protection | | IP20B | IP20B | IP20B | IP20B |
| Operating temperature | | -20°C to +55°C | -20°C to +55°C | -20°C to +55°C | -20°C to +55°C |
| Time accuracy | | ±1 s per day at 20°C | ±1 s per day at 20°C | ±1 s per day at 20°C | ±1 s per day at 20°C |
| Saving of program and time by lithium battery | Lifetime | - | - | 6 years | 6 years |
| | Back-up time, cumulated mains cut off | - | - | 200 h with 230 V AC 100 h with 100 V AC | 150 h |
| Programming by: | Jumpers (supplied) | - | - | - | 4 red + 4 green + 2 white |
| | Captive segments | 96 | 96 | 96 | - |







| | 15366 | CCT15367 | 15335 | 15336 | 15331 |
|--|--|--|---------------------------|---------------------------|---------------------------|
| | 230 V AC +10 %, -15%, 50 Hz | 110-230 V AC +10 %, -15%, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz | 230 V AC, ±10 %, 50/60 Hz |
| | 2.5 VA | 2.5 VA | 2.5 VA | 2.5 VA | 2.5 VA |
| | 16 A | 16 A | 16 A | 16 A | 16 A |
| | 4 A | 4 A | 4 A | 4 A | 4 A |
| | IP20B | IP20B | IP20B | IP20B | IP20B |
| | -20°C to +55°C | -20°C to +55°C | -10°C to +50°C | -10°C to +50°C | -10°C to +50°C |
| | ±1 s per day at 20°C | ±1 s per day at 20°C | ±1 s per day at 20°C | ±1 s per day at 20°C | ±1 s per day at 20°C |
| | 6 years | 6 years | 10 years | 10 years | 10 years |
| | 150 h | 200 h with 230 V AC 100 h with 110 V AC | – | 100 h | 100 h |
| | 6 yellow (24 h), 12 blue + 2 red (7 days) | – | – | – | – |
| | – | 84 | 96 | 96 | 84 |

Accessories selection table

Programming kits for PC

Memory keys




| Accessories selection table | Programming kits for PC | | Memory keys | |
|---------------------------------|--|--|--|---|
| | IHP+ | ITA | IHP+ | ITA |
| |  |  |  |  |
| Function | Consists of a programming device, a memory key, a CDROM and a 2 m USB cable For IHP+ 1c/2c, IHP 1c 18 mm, IHP+ 1c 18 mm | Consists of a programming device, a CDROM and a 1.5 m USB cable For ITA 1c and ITA 4c | Saving and duplicating programs For IHP+ 1c/2c, IHP 1c 18 mm, IHP+ 1c 18 mm | For ITA 1c and ITA 4c |
| Mounting | – | | Located on front face | |
| Catalogue numbers | CCT15860 | CCT15950 | CCT15861 | CCT15955 |
| Technical specifications | | | | |
| Degree of protection | – | | – | – |
| Operating temperature | – | | – | – |

Specific technical data

| IHP+ 1c, IHP+ 2c, IHP DCF | |
|---|---|
| Manual functions | Temporary cancellation of programming for holidays, public holidays, etc. by configuration of the 2 dates - start and end of absence Simulation of presence thanks to random operation during On periods |
| Pulse functions | Programming of pulses adjustable from 1 to 59 s (pulse takes priority over switching) |
| Back-lighting of the screen | |
| External input (only for IHP+ 1c, IHP+ 2c) | |
| External inputs for external control with a standard switch or a push-button | 1 input for IHP+ 1c 2 inputs for IHP+ 2c |
| Voltage rating (U _e) | 230 V AC, +10 %, -15 % |
| Frequency | 50/60 Hz |
| Input current | ≤ 1.2 mA |
| Consumption | ≤ 0.3 mW |
| Cable length | ≤ 100 m |
| Synchronisation on the Frankfurt's DCF 77 radio station signal (only for IHP DCF) | |
| Automatic on commissioning, then at 1 am, 2 am, 3 am and 4 am every day | |
| Manual by pressing the IHP keys or after a "reset" | |
| Displayed on the screen by the letters RC | |
| Programming of pulses adjustable from 1 to 59 s (pulse takes priority over switching) | |

Antennas

Additional jumpers

| IHP ANT DCF | DCF antenna for ITA | GPS antenna for ITA | IH jumpers |
|---|--|--|---|
|  |  |  | |
| Antenna for IHP DCF | Antenna for ITA 1c and ITA 4c | Antenna for ITA 1c and ITA 4c | They are used to program a larger number of sequences for: <ul style="list-style-type: none"> ■ IH 24h 2c ARM (15337) ■ IH 24h + 7j 1+1c ARM (15366) |
| <ul style="list-style-type: none"> ■ 5 IHP DCF maximum per antenna, maximum distance between the IHP and the antenna: 200 m ■ Outside the electrical switchboard, outdoors, under shelter | <ul style="list-style-type: none"> ■ 10 ITA maximum per antenna, maximum distance between the ITA and the antenna: 200 m ■ Outside the electrical switchboard, outdoors, under shelter | <ul style="list-style-type: none"> ■ 10 ITA maximum per antenna, maximum distance between the ITA and the antenna: 200 m ■ Outside the electrical switchboard, outdoors, under shelter | 1 bag containing: <ul style="list-style-type: none"> ■ 5 red ■ 5 green ■ 5 white ■ 5 yellow |
| 15858 | CCT15960 | CCT15970 ⁽¹⁾ | 15341 |
| IP54 | IP54 | IP54 | – |
| -20 °C to +70 °C | -20 °C to +50 °C | -30 °C to +55 °C | – |

⁽¹⁾ external 12-30 V DC power supply needed

ITA 1c, ITA 4c

| | | |
|--|---|--------------------------------------|
| Switching functions | On, Off, pulse, cycle, yearly program | |
| Pulse lenght pulse function (switching time) | 1 s to 59 min 59s | |
| Pulse lenght timer (manual switching) | 1 s to 9 h 59 min 59 s | |
| Pulse/pause length cycle | 1 s to 9 h 59 min 59 s | |
| Minimum interval | 1 min | |
| External inputs (only for ITA 4c) | | |
| External inputs for external control with a standard switch or a push-button | 2 inputs : <ul style="list-style-type: none"> ■ Ext1 input: supplied with 230 V AC, ±10%- 50/60 Hz ■ Ext2 input Ext2: potential free | |
| Antennas | DCF- ITA | GPS- ITA |
| Power supply | Via time switch (without battery) | External 12 - 30 VDC |
| Output | Protocole DCF | DCF time telegraph (no weather data) |
| Receiver | Narrowband-heterodyne receiver | – |
| Operation indicator | Flashing LED on receiving | Flashing LED on receiving |

IHP, IH, IHH, ITA (cont.)

Praticle advices

Programming principle

- For the digital time switches, this consists of memorising the days and times of the required switching operations.
- For the mechanical time switches, this is performed by positioning captive segments or jumpers on a switching dial.

Example

- Controlling an air conditioner in a hairdressing salon:

| | Monday ⁽¹⁾ | Tuesday | Wednesday | Thursday ⁽²⁾ | Etc. | |
|----------|-----------------------|---------|-----------|-------------------------|------|------------|
| On n° 1 | | 08 h 30 | 08 h 30 | 08 h 30 | | Switch on |
| Off n° 1 | | 12 h 00 | 12 h 00 | | | Switch off |
| On n° 2 | | 13 h 30 | 13 h 30 | | | Switch on |
| Off n° 2 | | 20 h 00 | 20 h 00 | 20 h 00 | | Switch off |

⁽¹⁾ Closed on Mondays

⁽²⁾ Non-stop

Programming by copying or blocks

Whenever identical switching operations are found at the same times, several days in the week, this function lets you program these operations once only. In this case a single switching operation is used. If this function is used wisely, the number of possible switching operations can be greatly increased.

Example

| | Monday | Tuesday | Wednesday | Thursday | Friday | |
|---------|---------|---------|-----------|----------|---------|------------|
| On n°1 | 10 h 00 | | | 10 h 00 | | Switch on |
| Off n°1 | | 18 h 00 | 18 h 00 | | 18 h 00 | Switch off |

Number of switching operations

| Designation | Number of switching operations |
|-----------------------|--------------------------------|
| IHP 1c | 56 |
| IHP + 1c | 84 |
| IHP DCF 1c | 42 |
| IHP 2c | 56 |
| IHP + 2c | 84 |
| IHP 1c 18 mm | 56 |
| IHP + 1c 18 mm | 84 |
| ITA 1c, ITA 4c | 300 |
| IH 24h 1c ARM | 48 On - 48 Off |
| IH 24h 1c SRM | 48 On - 48 Off |
| IH 60mn 1c SRM | 48 On - 48 Off |
| IH 24h 1c SRM | 48 On - 48 Off |
| IH 24h 1c ARM | 48 On - 48 Off |
| IH 24h 2c ARM | 24 On - 24 Off |
| IH 7j 1c ARM | 42 On - 42 Off |
| IH 24 h + 7j 1+1c ARM | 16 On - 16 Off + 7 On - 7 Off |

Saving on mains cut off

For digital switches equipped with this function, a lithium battery is used for saving. The program, date and time are preserved. Switching operations are not performed.

Lets you control starting and stopping of a group of loads according to a cycle that is repeated every 60 minutes.

60 min. time programming

Example

| Controlling automatic watering | |
|--------------------------------|--------------|
| On n° 1 | 2 min. 30 s |
| Off n° 1 | 5 min. |
| On n° 2 | 25 min. |
| Off n° 2 | 37 min. 30 s |

Relevant time switches

IH 60mn 1c SRM.

Lets you control starting and stopping of one or two groups of loads according to a daily cycle that is repeated, in identical manner, every day of the week.

24 h daily programming

Example

- Controlling a door of a block of flats:
 - from 8 am to 7.30 pm: contact on "On", free access,
 - from 7.30 pm to 8 am the next day: contact on "Off", access by confidential code every day of the week:

| From Monday to Sunday | |
|-----------------------|---------|
| On n° 1 | 8 am |
| Off n° 1 | 7.30 pm |

Relevant time switches

- IH 24h 1c SRM/ARM.
- IH 24h 2c ARM.
- IHP 1c 18 mm.
- IHP + 1c 18 mm.
- IHP DCF 1c.
- IHP 1c, IHP + 1c.
- IHP 2c, IHP + 2c.
- ITA 1c, ITA 4c.

Lets you control starting and stopping of one to 4 groups of loads according to a weekly cycle, that can be different each day, repeated each week.

7 days weekly programming

Example

- Controlling an air conditioner in a hairdressing salon:

| | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|----------|--------|---------|-----------|----------|---------|----------|---------|
| On n° 1 | | | 09 h 00 | 09 h 00 | 09 h 00 | | |
| Off n° 1 | | | 12 h 00 | 12 h 00 | | | |
| On n° 2 | | | 14 h 00 | 14 h 00 | | | |
| Off n° 2 | | | 20 h 00 | 20 h 00 | 20 h 00 | | |
| On n° 3 | | | | | | 8 h 30 | 8 h 30 |
| Off n° 3 | | | | | | 12 h 30 | 12 h 30 |
| On n° 4 | | | | | | 14 h 30 | 14 h 30 |
| Off n° 4 | | | | | | 21 h 00 | 21 h 00 |

Relevant time switches

- IH 7j 1c ARM.
- IHP 1c, IHP + 1c.
- IHP 2c, IHP + 2c.
- IHP 1c 18 mm.
- IHP + 1c 18 mm.
- IHP DCF 1c.
- ITA 1c, ITA 4c.

Lets you control by pulses (adjustable from 1 to 59 s) one to four groups of loads (pulse relays, bells, etc.).

Pulse programming

Example

■ Automatic controlling of bells, lighting and distribution of food: bells sounding the resumption and finish of work (channel 1), lighting of premises (channel 2), feeding fish in the aquarium (channel 3):

| | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|---|---------|---------|-----------|----------|---------|----------|---------|
| Channel 1: bell (20 s pulse order) | | | | | | | |
| On | 08 h 00 | 08 h 00 | 08 h 00 | 08 h 00 | 07 h 00 | 09 h 00 | – |
| Duration | 20 s | 20 s | 20 s | 20 s | 20 s | 20 s | – |
| On | 12 h 00 | 12 h 00 | 12 h 00 | 12 h 00 | 11 h 00 | 13 h 00 | – |
| Duration | 20 s | 20 s | 20 s | 20 s | 20 s | 20 s | – |
| On | 14 h 00 | 14 h 00 | 14 h 00 | 14 h 00 | 13 h 00 | – | – |
| Duration | 20 s | 20 s | 20 s | 20 s | 20 s | – | – |
| On | 18 h 00 | 18 h 00 | 18 h 00 | 18 h 00 | 16 h 00 | – | – |
| Duration | 20 s | 20 s | 20 s | 20 s | 20 s | – | – |
| Channel 2: lighting (latched order) | | | | | | | |
| On | 07 h 30 | 07 h 30 | 07 h 30 | 07 h 30 | 06 h 30 | 08 h 30 | – |
| Off | 18 h 30 | 18 h 30 | 18 h 30 | 18 h 30 | 17 h 00 | 13 h 30 | – |
| Channel 3: aquarium (15 s pulse order) | | | | | | | |
| On | 10 h 00 | – | 10 h 00 | – | 10 h 00 | – | 10 h 00 |
| Duration | 15 s | – | 15 s | – | 15 s | – | 15 s |

Programming

- Programming of a pulse takes up 2 memory spaces.
- Combination of the two order types (pulse and latched) is possible on the same channel.

Relevant time switches

- IHP + 1c.
- IHP + 1c 18 mm.
- IHP DCF 1c.
- IHP + 2c.
- ITA 1c, ITA 4c.

Lets you create special programs for dated days.

Programming special days.

Example

- Controlling lighting and heating in a school:
- basic programming: program lighting (channel 1) and heating (channel 2):

| | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|----------------------------|---------|---------|-----------|----------|---------|----------|--------|
| Channel 1: lighting | | | | | | | |
| On | 07 h 00 | 07 h 00 | 07 h 00 | 07 h 00 | 07 h 00 | – | – |
| Off | 20 h 00 | 20 h 00 | 16 h 00 | 20 h 00 | 16 h 00 | – | – |
| Channel 2: heating | | | | | | | |
| On | 06 h 00 | 06 h 00 | 06 h 00 | 06 h 00 | 06 h 00 | – | – |
| Off | 18 h 00 | 18 h 00 | 12 h 00 | 18 h 00 | 12 h 00 | – | – |

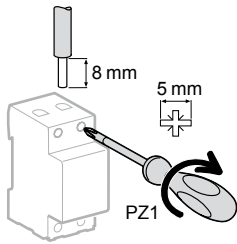
- dated programming: periods of non-operation, school holidays, etc.
- Just memorise an Off at the start and another Off at the end of each period of absence:



| | | Holidays | | | | |
|----------------------------|------|----------|---------|---------|---------|-------------|
| | | Winter | Spring | Summer | Autumn | End of year |
| Channel 1: lighting | | | | | | |
| Off | Date | 20 feb. | 17-apr | 07-july | 23 oct. | 18 dec. |
| | Time | 12 h 00 | 17 h 00 | 12 h 00 | 17 h 00 | 12 h 00 |
| Off | Date | 08-march | 03-may | 9 sept. | 2 nov. | 4 jan. |
| | Time | 01 h 00 | 01 h 00 | 01 h 00 | 01 h 00 | 01 h 00 |
| Channel 2: heating | | | | | | |
| Off | Date | 20 feb. | 17-apr | | 23 oct. | 18 dec. |
| | Time | 12 h 00 | 17 h 00 | | 17 h 00 | 12 h 00 |
| Off | Date | 08-march | 03-may | | 2 nov. | 4 jan. |
| | Time | 01 h 00 | 01 h 00 | | 01 h 00 | 01 h 00 |

Relevant time switches

- ITA 1c, ITA 4c.

Connection



| Type | Tightening torque | Copper cables | |
|---------------------------------|--------------------|---|---|
| | | Rigid | Flexible or with ferrule |
| IHP 1c, 2c, +1c, +2c | 2 screwless / pole |  |  |
| IHP 18 mm 1c, +1c | 2 screwless / pole | 2 x 2.5 mm ² | 2 x 2.5 mm ² |
| IHP DCF | 1.2 N.m | ≤ 6 mm ² | ≤ 6 mm ² |
| IH 60mn 1c SRM | 2 screwless / pole | 2 x 2.5 mm ² | 2 x 2.5 mm ² |
| 24h 1c SRM, ARM | 2 screwless / pole | 2 x 2.5 mm ² | 2 x 2.5 mm ² |
| 24h 2c ARM | 1.2 N.m | ≤ 6 mm ² | ≤ 6 mm ² |
| 7j 1c ARM | 2 screwless / pole | 2 x 2.5 mm ² | 2 x 2.5 mm ² |
| 24h + 7j 1+1c ARM | 1.2 N.m | ≤ 6 mm ² | ≤ 6 mm ² |
| IH 18 mm 24h 1c SRM/ ARM | 1.2 N.m | ≤ 6 mm ² | ≤ 6 mm ² |
| IHH 18 mm 7j 1c ARM | 1.2 N.m | ≤ 6 mm ² | ≤ 6 mm ² |
| ITA 1c, ITA 4c | 1.2 N.m | ≤ 6 mm ² | ≤ 6 mm ² |

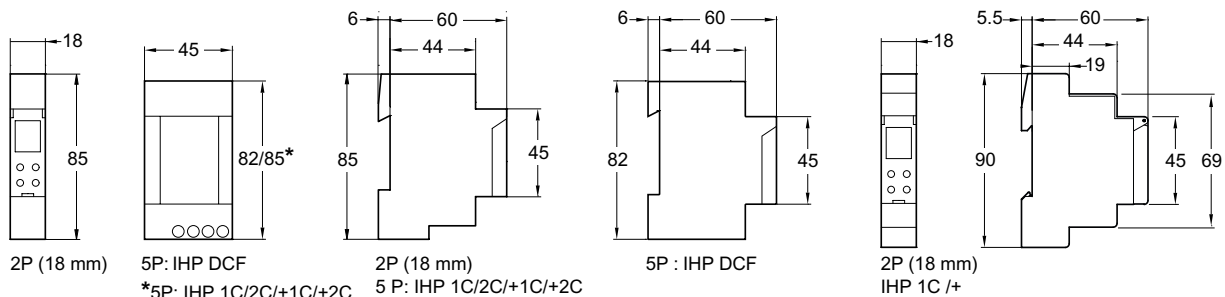
IHP 1c/2c, IHP+ 1c/2c are mechanical compatible with electrical distribution comb busbar.

Weight (g)

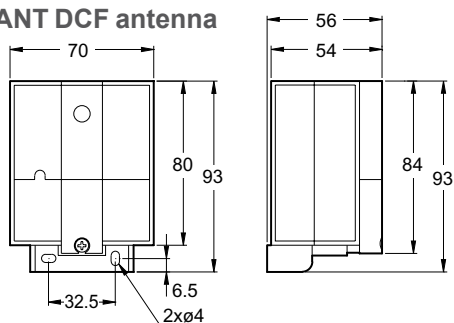
| Time switches | | |
|------------------|-------------------|-----------|
| IHP | 1c / 2c | 170/ 205 |
| IHP+ | 1c / 2c | 190/ 211 |
| IHP 18 mm | 1c / +1c | 90 |
| IHP DCF | | 244 |
| IH 54 mm | 60mn 1c SRM | 208 |
| | 24h 1c SRM/ARM | 212 / 119 |
| | 24h 2c ARM | 216 |
| | 7j 1c ARM | 119 |
| | 24h + 7j 1+1c ARM | 223 |
| IH 18 mm | 24h 1c SRM / ARM | 97 |
| IHH 18 mm | 7j 1c ARM | 101 |
| ITA 1c | | 152 |
| ITA 4c | | 303 |

Dimensions (mm)

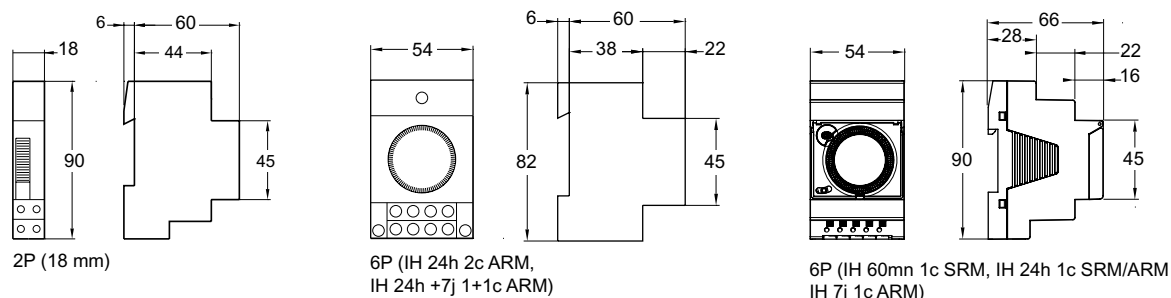
IHP time switches



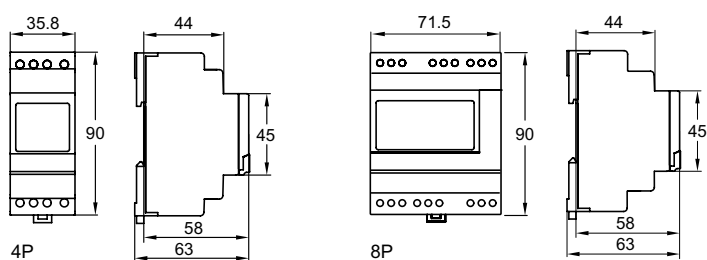
ANT DCF antenna



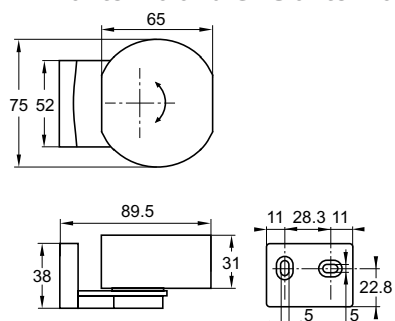
IH, IHH time switches



ITA yearly time switches



DCF antenna and GPS antenna for ITA



> Timers



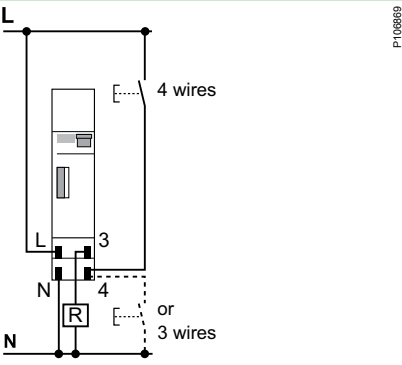
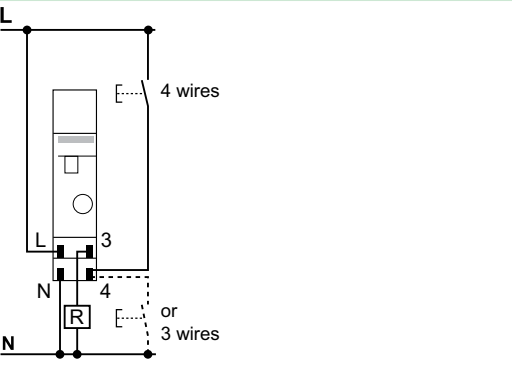
> Electromechanical timer




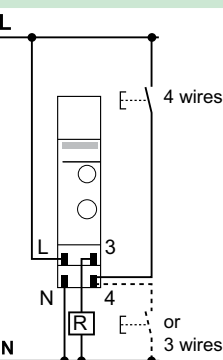
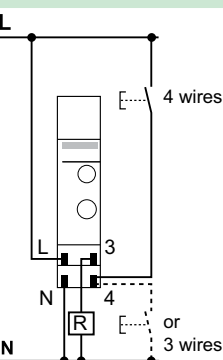
MIN
Adjustable time delay from 1 to 7 min.

> Silent electronic timers

| | | |
|--|---|--|
| <p>MINs Adjustable time delay from 0.5 to 20 min.</p> | <p>MINp Adjustable time delay from 0.5 to 20 min. with switch-off warning.</p> | <p>MINt Adjustable time delay from 0.5 to 20 min. with switch-off warning and impulse relay function.</p> |
|--|---|--|

Selection table

| Type | MIN | MINs |
|---|---|--|
| | <p>Electromechanical timer</p>  | <p>Silent electronic timer</p>  |
| Function | <p>These timers allow closing and then opening of a contact in a determined time Control circuit: connected standard or luminous push-buttons. Timer inoperative via self-protection if consumption above 50 mA maximum</p> | |
| Wiring diagrams |  |  |
| Mounting | <p>Two operating modes triggered by switch on front face:</p> <ul style="list-style-type: none"> ■ Automatic mode: <ul style="list-style-type: none"> □ operation in timing mode □ time delay adjustable from 1 to 7 min. □ setting in steps of 15 s using knob □ pressing a push-button renews the time delay ■ Manual override mode: constant lighting | <p>Two operating modes triggered by switch on front face:</p> <ul style="list-style-type: none"> ■ Timer mode: time delay adjustable from 0.5 to 20 min. ■ Permanent mode: constant lighting |
| Catalogue numbers | 15363 | CCT15232 |
| Technical specifications | | |
| Voltage rating (Ue) (+10 %, -15 %) | 230 V AC, 50 Hz | 230 V AC, 50/60 Hz |
| Consumption | 1 VA | < 6 VA |
| Output contact current Cos φ = 1 | 16 A | 16 A |
| Degree of protection | IP20B | IP20B |
| Operating temperature | -10°C to +50°C | -10°C to +50°C |
| Width (9 mm modules) | 2 | 2 |
| Consumption of connected luminous push-buttons | 50 mA maxi | 150 mA maxi |
| Adjustable time delay | 1 to 7 min. | 0.5 to 20 min. |
| Long time delay | - | - |
| Insulation class | - | Class II |
| 1 screw connection per pole for cables up to 6 mm ² | ■ | ■ |
| Selection of the type of connection (3 or 4 wires) | Selector switch | Automatic |
| Mechanical compatibility with electrical distribution comb busbar | - | ■ |
| Switch-off warning function | - | - |
| Impulse relay function | - | - |

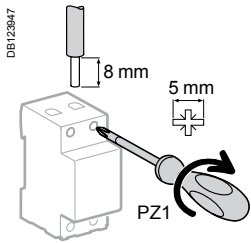
| MINp | MINt | Accessory |
|--|--|---|
| Silent electronic timer  |  | Wall mount accessory  |
| <p>The MINp timer allows closing and then opening of a contact in a determined time, and it also provides warning that the lighting is about to be switched off by flickering of the lamplight (switch-off warning)</p> | <p>The MINt timer is the same as MINp with an "impulse relay" additional function</p> | <p>The MIN timers can be mounted on a wall by using 15359 reference. The protection cover is sealable.</p> |
|  |  | <p>The 15359 accessory can be also used to mount others 18 mm DIN rail devices (for example: time switches, circuit breakers...).</p> |
| <ul style="list-style-type: none"> ■ Time delay adjustable from 0.5 to 20 min. ■ Three operating modes triggered by switch on front face: <ul style="list-style-type: none"> □ timer mode with "switch-off warning" function built into the device. The lamp blinks 40 and 30 s before the end of the time delay □ timer mode without "switch-off warning" function □ permanent mode : constant lighting | <ul style="list-style-type: none"> ■ Timer mode operation: <ul style="list-style-type: none"> □ pressing a push-button for longer than 2 s: lighting will last for 1 h. Pressing again a push-button for less than 2 s relaunch the time delay of 1 h and pressing again a push-button for more than 2 s switches off the light □ pressing a push-button for less than 2 s launch the pre-set time delay, pressing again a push-button for less than 2 s relaunch the pre-set time delay | <ul style="list-style-type: none"> ■ Timer mode operation: <ul style="list-style-type: none"> □ pressing a push-button for longer than 2 s: lighting will last for 1 h. Pressing again a push-button for less than 2 s relaunch the time delay of 1 h and pressing again a push-button for more than 2 s switches off the light □ pressing a push-button for less than 2 s launch the pre-set time delay, pressing again a push-button for less than 2 s, switches off the light (impulse relay mode) |
| CCT15233 | CCT15234 | 15359 |
| 230 V AC, 50/60 Hz | 230 V AC, 50/60 Hz | |
| < 6 VA | < 6 VA | |
| 16 A | 16 A | |
| IP20B | IP20B | |
| -25°C to +50°C | -25°C to +50°C | |
| 2 | 2 | See § dimensions |
| 150 mA maxi | 150 mA maxi | |
| 0.5 to 20 min. | 0.5 to 20 min. | |
| 1 h | 1 h | |
| Class II | Class II | |
| ■ Automatic | ■ Automatic | |
| ■ | ■ | |
| ■ | ■ | |
| - | ■ | |

Load table

| Products | MIN | MINs | MINp, MINT |
|---|---------------------------------------|---|---|
| Type of lighting | Maximum power | | |
| 230 V incandescent and halogen lamps | 2300 W | 2300 W | 3600 W |
| Non-corrected / serial-corrected / dual mounted fluorescent tubes with conventional ballast | 2300 VA | 2300 VA | 3600 VA ⁽¹⁾ |
| Fluocompact lamps with conventional ballast | 2000 VA | 1500 VA | 1500 VA ⁽¹⁾ |
| Parallel-corrected fluorescent tubes with conventional ballast | 1300 VA (70 F) | 400 VA (42 µF) | 1200 VA (120 µF) ⁽¹⁾ |
| Fluorescent tubes with electronic ballast | 300 VA | 300 VA | 1000 VA |
| Fluocompact lamps with electronic ballast | 9 x 7 W, 6 x 11 W, 5 x 15 W, 5 x 20 W | 9 x 7 W, 7 x 11 W, 7 x 15 W, 7 x 20 W, 7 x 23 W | 34 x 7 W, 27 x 11 W, 24 x 15 W, 22 x 23 W |

⁽¹⁾ The "switch-off warning" function is not available for these types of loads.

Connection

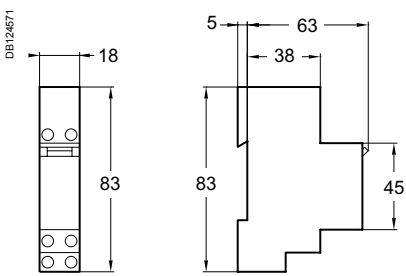


| Type | Tightening torque | Copper cables | |
|-----------------------|-------------------|-------------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| MIN, MINs, MINp, MINT | 1.2 N.m | ≤ 6 mm ² | ≤ 6 mm ² |

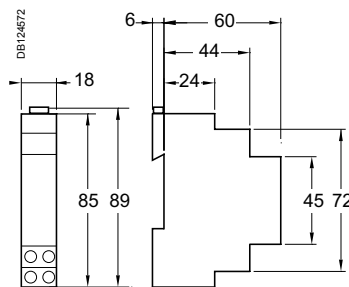
Weight (g)

| Time switches | |
|---------------|-----|
| MIN | 84 |
| MINs | 75 |
| MINp | 103 |
| MINT | 76 |

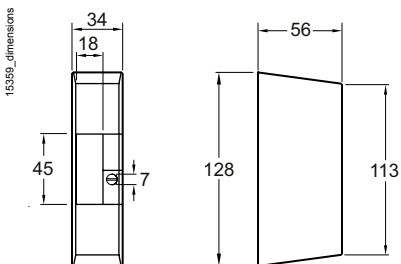
Dimensions (mm)



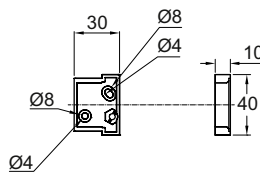
MIN



MINs, MINp, MINT



Wall mount accessory



STD and SCU range

STD400RC/RL-DIN & SAE

STD1000RL-DIN & SAE

SCU10-DIN & SAE

STD



STD

- The STD dimmers modulate incandescent halogen, lighting brightness and motors for unit powers from 40 to 1000 W from one or more switch-on points.
- They can be controlled either with the local control push-button placed on front panel or with auxiliary push-buttons.
- They have soft-On / soft-Off, light level memory and minimum level setting features.
- They are available in 2 different types:
 - DIN type (STD400RC/RL-DIN, STD1000RL-DIN) supplied without digital inputs,
 - SAE type (STD400RC/RL-SAE, STD1000RL-SAE) supplied with 4 digital inputs.

SCU



SCU

- The SCU dimmers modulate fluorescent lighting brightness for unit powers from 40 to 1500 W from one or more switch-on points.
- They can be controlled either with the local control push-button placed on front panel or with auxiliary push-buttons.
- They have soft-On / soft-Off, light level memory and minimum level setting features.
- They are available in 2 different types:
 - DIN type (SCU10-DIN) supplied without digital inputs,
 - SAE type (SCU10-SAE) supplied with 4 digital inputs.

STD and SCU range (cont.)





STD400RC/RL-DIN & SAE

STD1000RL-DIN & SAE

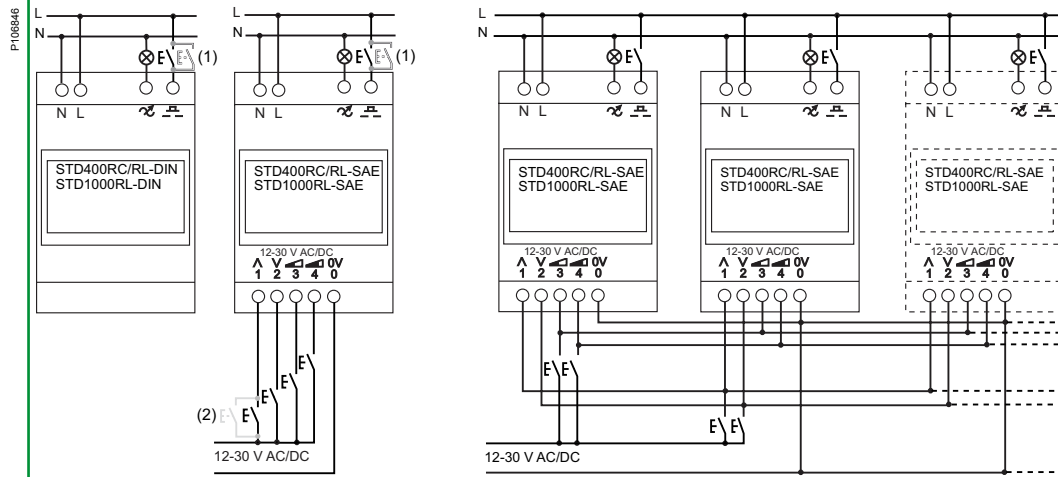
SCU10-DIN & SAE

Selection table

STD

| | STD400RC/RL-DIN | STD400RC/RL-SAE | STD1000RL-DIN | STD1000RL-SAE |
|------|---|---|--|---|
| Type | 400 W | | 1000 W | |
| |  |  |  |  |

Wiring diagrams



Mounting

With SAE types, it is possible to control a maximum of 20 dimmers combining STD400RC/RL-SAE and STD1000RL-SAE, with only one push-button via the 4 digital inputs

| | | | | |
|-------------------|------------|------------|------------|------------|
| Catalogue numbers | CCTDD20001 | CCTDD20002 | CCTDD20003 | CCTDD20004 |
|-------------------|------------|------------|------------|------------|

Technical specifications

| | | | | |
|--|--|---|---|---|
| Voltage rating (Ue) | 230 V AC \pm 10 %, 50 Hz | | | |
| Consumption | 0.8 VA | | | |
| Power loss | 3 W | | | |
| Current sink for 1-10 V output | - | | | |
| Local push-button | Short push for On/Off control, long push for dimming | | | |
| Auxiliary push-button input | Short push for On/Off control, long push for dimming: <ul style="list-style-type: none"> ■ up to 25 parallel connected auxiliary push-buttons without indication lamps ■ up to 5 parallel connected auxiliary push-buttons with indication lamps ■ max wire length 50 m | | | |
| The minimum light level setting is adjustable | ■ | | | |
| Indication blue LED (built in the local push-button) | Illuminates during the on-state. The LED is blinking in error mode | | | |
| Degree of protection | IP20 | | | |
| Operating temperature | 0°C to +40°C, 40°C to +70°C with - 6 W / °C de-rating | | | |
| Storage temperature | 0°C to +60°C | | | |
| Width (module of 9 mm) | 4 | 4 | 8 | 8 |
| Protections, fuses | <ul style="list-style-type: none"> ■ Electronic overload, overvoltage and over temperature protection ■ Single shot thermal fuse | | | |
| Standards | According to EN 60669-2-1 | | | |
| Directives | According to CE, EMC 89/336/EEC and LVD 73/73/23/EEC | | | |

(1) Use of maximum 25 push-buttons without indication lamp and 5 push-buttons with indication lamp, connected in parallel.

(2) Use of maximum 25 push-buttons without indication lamp, connected in parallel, only for STD400RC/RL-SAE and STD1000RL-SAE.

SCU

SCU10-DIN

SCU10-SAE

1 - 10 V

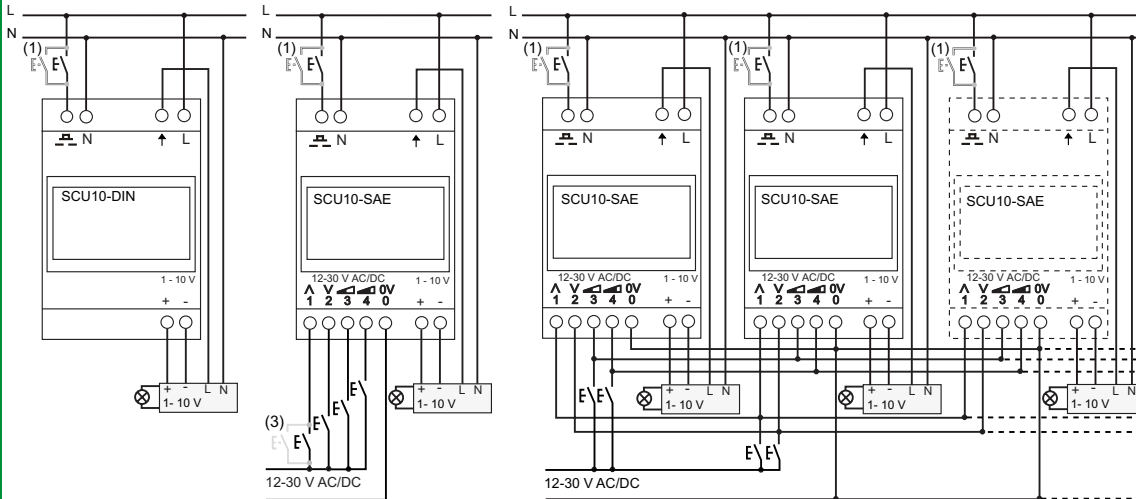
P112250



P112221



P108947



With SAE types, it is possible to control a maximum of 20 dimmers combining STD400RC/RL-SAE, STD1000RL-SAE and SCU10-SAE with only one push-button via the 4 digital inputs

CCTDD20011

CCTDD20012

230 V AC \pm 10 %, 50 Hz

0.8 VA

3 W

0.2- 100 mA

Short push for On/Off control, long push for dimming

Short push for On/Off control, long push for dimming:

- up to 25 parallel connected auxiliary push-buttons without indication lamps
- up to 5 parallel connected auxiliary push-buttons with indication lamps
- max wire length 50 m

■

Illuminates during the on-state. The LED is blinking in error mode

IP20

0°C to +40°C, 40°C to +70°C with - 6 W /°C de-rating

0°C to +60°C

8

8

- Electronic overload, overvoltage and over temperature protection
- Single shot thermal fuse

According to EN 60669-2-1

According to CE, EMC 89/336/EEC and LVD 73/73/23/EEC

(3) Use of maximum 25 push-buttons without indication lamp, connected in parallel, only for SCU10-SAE

STD and SCU range (cont.)

STD400RC/RL-DIN & SAE

STD1000RL-DIN & SAE

SCU10-DIN & SAE

Specific technical data


| SAE types | | |
|--|---------|---|
| Input voltage | | 12- 30 V AC/DC |
| The STD400RC/RL-SAE , STD1000RL-SAE and SCU10-SAE dimmers are supplied with 4 digital inputs | Input 1 | On/Off and dimming up/down or only On and dimming up (depends on function mode) |
| | Input 2 | Off and dimming down or only Off (depends on function mode) |
| | Input 3 | Adjustable lighting level memory 1 (50 % default) |
| | Input 4 | Adjustable lighting level memory 2 (100 % default) |
| Max wire length | | 50 m |
| Up to 25 push-buttons per input. No push-button with indication lamp | | |
| STD400RC/RL-DIN and STD400RC/RL-SAE dimmers are power regulators designed for all dimmable load types. Dimmers have automatic load type detection and the load regulation method is adjusted to fit the load | | |

Operation modes for SAE types

- **STD400RC/RL-SAE**, **STD1000RL-SAE** and **SCU10-SAE** dimmers have 2 different operation modes (**A** and **B**) using auxiliary push-buttons connected on digital inputs (1, 2, 3 and 4 terminals).
- Modes **A** and **B** can be changed by pushing the digital inputs 3 and 4 simultaneously for 10 s. After the mode is changed the load and the LED start to blink as long as the inputs are pushed.
- In the mode **A**, the input 1 dims the lights on with a short push and up with a long push and turns light off with a short push and dims the light down with a long push. The direction is changed every time the input 1 is released. The input 2 dims the lights always off.
- In the mode **B**, the input 1 dims lights only up with a long push and turns lights on with a short push. The input 2 dims the lights only down with a long push and turns lights off with a short push.
- Inputs 3 and 4 are for memory places for light levels. The light level is called with a short push and set into the memory with a long push of 3 s.

Common technical data

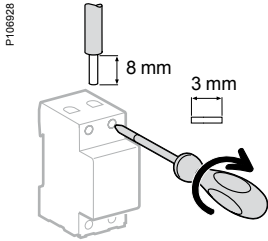
Common operation mode for SAE & DIN types



- The dimmer is turned On/Off by shortly pushing the front panel push-button. This push-button lights blue when the dimmer is On.
- The light level is controlled by keeping the front panel push-button pushed until wanted level has been reached.
- The direction of dimming (up/down) is changed every time the front panel push-button is released.
- The dimmer has memory function which stores the light level before Off-command. When the dimmer is turned back On, the light level is the same as it was before Off-command.
- Auxiliary push-buttons connected on  terminal have the same functionality as the push-button on the front panel of the dimmer.

Load table

| STD400RC/RL-DIN, STD400RC/RL-SAE | |
|--|---------------------------------|
| 230 V incandescent and halogen lamps | 40 - 400 W |
| Low voltage halogen lamps with electronic transformer | 40 - 400 W |
| Low voltage halogen lamps with conventional transformer | 40 - 400 W |
| Low voltage halogen lamps with toroidal transformer | 40 - 300 W |
| Motors (fans, ventilators...) | 40 - 200 W |
| STD1000RL-DIN, STD1000RL-SAE | |
| 230 V incandescent and halogen lamps | 60 - 1000 W |
| Low voltage halogen lamps with conventional transformer | 60 - 1000 W |
| Motors (fans, ventilators...) | 60 - 600 W |
| SCU10-DIN, SCU10-SAE | |
| Mono fluorescent tubes with electronic ballast (dia.26 mm) | 50 x 18 W, 40 x 36 W, 25 x 58 W |
| Duo fluorescent tubes with electronic ballast (dia.26 mm) | 40 x 18 W, 20 x 36 W, 12 x 58 W |
| Fluocompact lamps with electronic ballast | 50 max. up to 1500 W |

Connection

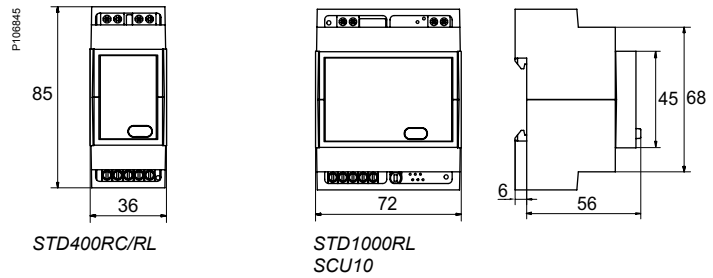


| Type | Tightening torque | Copper cables | |
|--|-------------------|--|---|
| | | Rigid | Flexible or with ferrule |
| | | DB1122545  | DB123553  |
| STD and SCU (top connection) | 0.5 N.m | < 4 mm ² | < 4 mm ² |
| STD and SCU (bottom connection) | 0.5 N.m | < 2.5 mm ² | < 2.5 mm ² |

Weight (g)

| Dimmers | |
|----------------------|-----|
| STD400RC/RL-DIN | 80 |
| STD400RC/RL-SAE | 90 |
| STD1000RL-DIN | 120 |
| STD1000RL-SAE, SCU10 | 130 |

Dimensions (mm)





Thermostats

P123732



TH4

For individual and multifamily housing, tertiary premises, TH4 thermostat monitors and regulates ambient temperature from +8°C to +26°C according to 3 temperature set points:

- comfort: while the premises are occupied
- reduced: while the premises are unoccupied
- above freezing: for a prolonged period of non-occupancy.

P123731



TH7

For industrial premises stretching from cold storage to ovens, TH7 thermostat monitors and regulates temperature from -40°C to +80°C with a wide setting range.

It can also be used for frost protections at home.

Programmable thermostats

P126317



THP1 and THP2

Programmable thermostats control the operating periods of all heating types by monitoring and regulating ambient temperature between 5°C and 30°C, using a programme pre-set by the user and memorised:

- THP1: 1 zone,
- THP2: 2 zones.

P126318

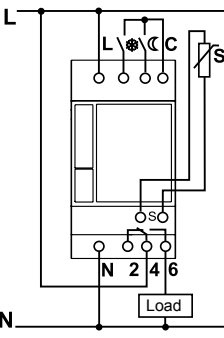
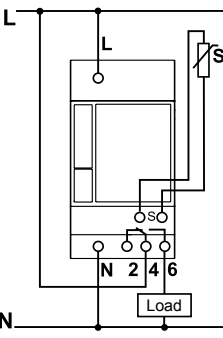


Selection table

Thermostats

| | TH4 | TH7 |
|------|---|---|
| Type |  P123732 |  P123731 |

| | | |
|----------|---|---|
| Function | <p>For individual and multifamily housing, tertiary premises, TH4 thermostat monitors and regulates ambient temperature from +8°C to +26°C according to 3 temperature set points:</p> <ul style="list-style-type: none"> ■ comfort: while the premises are occupied ■ reduced: while the premises are unoccupied ■ above freezing: for a prolonged period of non-occupancy | <ul style="list-style-type: none"> ■ For industrial premises stretching from cold storage to ovens, TH7 thermostat monitors and regulates temperature from -40°C to +80°C with a wide setting range ■ It can also be used for frost protections at home |
|----------|---|---|

| | | |
|-----------------|---|---|
| Wiring diagrams |  P106772 |  P106773 |
|-----------------|---|---|

| | | |
|-------------------|---|-------------------------|
| Mounting | Delivered with CCT15846 ambient temperature probe | Delivered without probe |
| Catalogue numbers | CCT15841 | CCT15840 |

| Technical specifications | | | | | |
|---|--|---|--------------|-------------------------------|---|
| Voltage rating (Ue) | 230 V AC, ± 10 %, 50/60 Hz | | | | |
| Consumption | < 4 VA | | | | |
| Output contact current (250 V AC) | <table border="0"> <tr> <td>Cos φ = 1</td> <td>16 A</td> </tr> <tr> <td>Cos φ = 0.6</td> <td>3 A</td> </tr> </table> | Cos φ = 1 | 16 A | Cos φ = 0.6 | 3 A |
| Cos φ = 1 | 16 A | | | | |
| Cos φ = 0.6 | 3 A | | | | |
| Power reserve | – | | | | |
| Time base | – | | | | |
| Difference between tripping and activation | ±0.2°C | | | | |
| Degree of protection | IP20 | | | | |
| Operating temperature | -10°C to +55°C | | | | |
| Storage temperature | -20°C to +60°C | | | | |
| Set Point accuracy | 1°C | | | | |
| Humidity | 15-95 % RH (no condensation) | | | | |
| Width (module of 9 mm) | 5 | | | | |
| Color | White RAL 9003 | | | | |
| Protections, fuses | Internal over voltage protection against surges, internal over temperature protection | | | | |
| Compliance with Community Directives | <table border="0"> <tr> <td>Isolating requirements, E.M.C. guidelines and Safety guidelines</td> <td>EN 60730-2-9</td> </tr> <tr> <td>RoHS and environmental issues</td> <td> EU-directive 2002/95/EC (RoHS) WEEE-directive 2002/96/EC (recycling) REACH Regulation (EC) No 1907/2006 </td> </tr> </table> | Isolating requirements, E.M.C. guidelines and Safety guidelines | EN 60730-2-9 | RoHS and environmental issues | EU-directive 2002/95/EC (RoHS) WEEE-directive 2002/96/EC (recycling) REACH Regulation (EC) No 1907/2006 |
| Isolating requirements, E.M.C. guidelines and Safety guidelines | EN 60730-2-9 | | | | |
| RoHS and environmental issues | EU-directive 2002/95/EC (RoHS) WEEE-directive 2002/96/EC (recycling) REACH Regulation (EC) No 1907/2006 | | | | |

Programmable thermostats

THP1

P126317

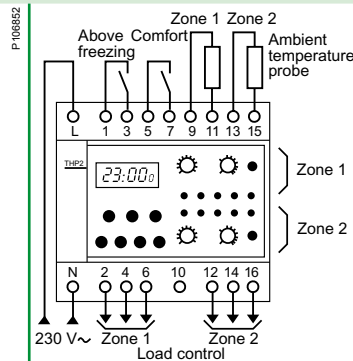
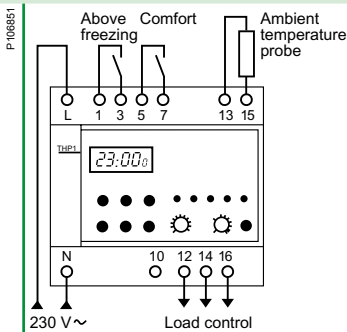


THP2

P126318



- The THP1 and THP2 programmable thermostats control the operating periods of all heating types by monitoring and regulating ambient temperature between 5°C and 30°C, using a programme pre-set by the user and memorised
- The THP1 and THP2 monitors and regulates temperature in a room by comparing the value of the temperature measured by the ambient temperature probe with the value of the setpoint displayed on its front face according to 3 operating modes:
 - comfort: 5°C to 30°C while the premises are occupied
 - reduced: 5°C to 26°C while the premises are unoccupied
 - above freezing: the temperature in the premises is maintained at approximately 6°C
- The THP1 and THP2, can control the following loads:
 - convectors
 - a burner
 - a "hot air" heating system
 - heating valves: hydraulic, electromagnetic or electrothermal



Delivered with 1 non-adjustable ambient temperature probe

15833

Delivered with -2 non-adjustable ambient temperature probes

15834

230 V AC

-

1 VA

5 A

1 A

6 years

Quartz

±0.2°C

IP20.1

-5°C to +55°C

-25°C to +70 °C

-

30-50 % RH (no condensation)

10

White RAL 9003

-

NF C 47-121



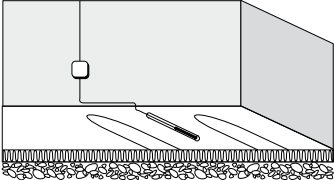
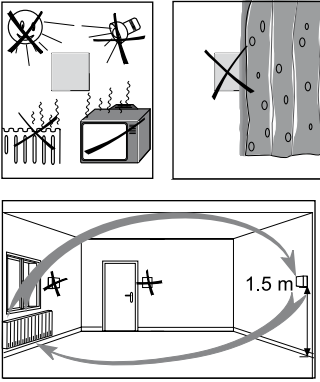
EN 60730-1: 1991

-

-



-

Selection table TH4, TH7 temperature probes

| Accessories | Floor temperature probe (with 1.5 m cable) | Ambient temperature probe (with 1.5 m cable) |
|-------------------|---|--|
| Type | <p>P123733</p>  | <p>P123734</p>  |
| Installation | <p>P106863</p>  | <p>P106864</p>  |
| Mounting | <p>This probe must be placed:</p> <ul style="list-style-type: none"> ■ in a Ø 9 mm tube, embedded in the slab in the middle of a turn ■ one of the ends must run out of a distribution box sealed in the nearest wall (to simplify probe installation or replacement) | <p>This probe must be fixed 1.50 m above the floor, away from drafts and sources of heat (sun's rays, radiators, machines, etc.)</p> |
| Catalogue numbers | CCT15845 | CCT15846 |

Note: for all probes, do not run connecting cables alongside power cables.
 TH4 and TH7 probes cables can be extended up to 70 m by using 6/10th telephone cable or up to 150 m by using shielded copper cable.
 THP1 and THP2 probes cables can be extended up to 50 m by using 6/10th telephone cable or shielded copper cable.

Specific technical data






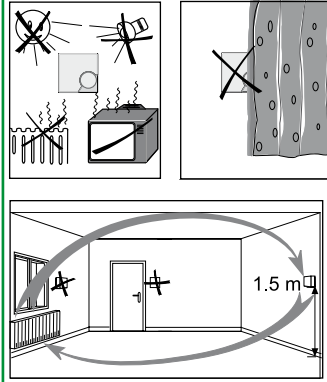
| TH4 | | |
|---|--|---|
| Settings | Comfort | From +8°C to +26°C |
| |  Reduced | From 0°C to 10°C below the selected "comfort" temperature set point: control (manual or automatic) by external dry contact |
| |  Above freezing | Maintains room temperature according to a factory adjusted temperature set point of +5°C: control (manual or automatic) by external dry contact |
| Three indicator lights visualise | Green | Above freezing operation |
| | Yellow | Reduced operation |
| | Red | Relay: ON |
| Delivered with ambient temperature probe (CCT15846) | | NTC 10 kΩ (25°C) can be extended up to 150 m with shielded copper cable and up to 70 m with telephone cable |

Note: however, the set point selected never can't be less than +8°C. Eg. If the reduced set point is selected with a 12°C set point temperature and a 10°C reduction temperature, the operative set point will not be +2°C (12-10) but rather +8°C (+5°C only if the "above freezing" input is closed/active).

| TH7 | | |
|---|-------------|--|
| Temperature set point settings ⁽¹⁾ | Range | 6 fixed positions: -40°C, -20°C, 0°C, +20°C, +40°C and +60°C |
| | Adjustments | From 0°C to 20°C above the selected fixed position |
| Indicator light | Red | Relay: ON |
| Delivered without probe | | |

(1) For example: if "range" is on -40°C, setting is possible between -40°C and -20°C.

THP1, THP2 temperature probes

| Outside temperature probe (with 2 m cable) | | Collar temperature probe (with 1.5 m cable) | | Ambient temperature probes | | | | |
|---|--|--|---|---|---|---|---------|---|
| | | | | Non-adjustable probe | ± 3 °C adjustable probe | Spare battery | | |
| P122735 |  | P122736 |  | P126320 |  |  | P126321 |  |
| | | | |  | | | | |
| This probe must be fixed away from: <ul style="list-style-type: none"> the sun preferably facing north all heat sources (chimney, etc.) | | This probe must be fixed on the hot water outgoing pipe (min. ø 21 mm, max. ø 90 mm) approximately 1.50 m from the boiler. | | These probes must be fixed 1.50 m above the floor, away from drafts and sources of heat (sun's rays, radiators, machines, etc.) | | | | |
| CCT15847 | | CCT15848 | | 15835 | 15836 | 16358 | | |

THP1, THP2

| | |
|-----------------------------|--|
| Display | <p>By liquid crystal display of hour, minutes, day of the week and of contact status</p> <p>Indicator lights: 5 LEDs for 1 zone and 10 for 2 zones displaying:</p> <ul style="list-style-type: none"> the automatic, comfort and reduced operating modes (yellow) the above freezing operating mode (green) the ON position of the output contact(s) (red) |
| Choosing the operating mode | <p>By local pushbutton: automatic, reduced, comfort, above freezing</p> <p>By external remote contact overriding the local push-button</p> <p>The comfort operating mode overrides the above freezing mode</p> |
| Programming | <p>Minimum programming time between 2 switching operations: 1 minute</p> <p>Memory:</p> <ul style="list-style-type: none"> THP1: up to 42 switching operations THP2: up to 168 switching operations <p>Programming 24 h / 7 days with:</p> <ul style="list-style-type: none"> possible anticipation of switching deletion of a switching operation in order to modify or cancel a sequence <p>Changeover to "summer-winter" time in a single operation</p> |

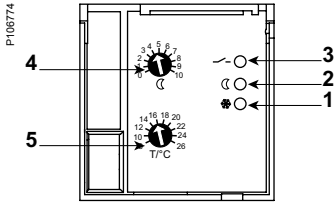


Fig. 1.

TH4

Front face (see Fig. 1)

- 1 Above freezing mode indicator.
- 2 Reduced mode indicator.
- 3 Relay.
- 4 Reduced threshold adjustment (reduction of temperature with respect to the setpoint).
- 5 Temperature threshold adjustment.

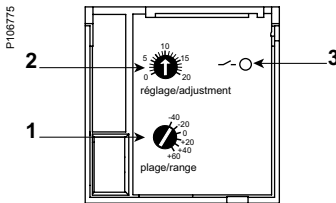


Fig. 2.

TH7

Front face (see Fig. 2)

- 1 Temperature range setting (6 ranges).
- 2 Temperature fine adjustment.
- 3 Relay indicator.

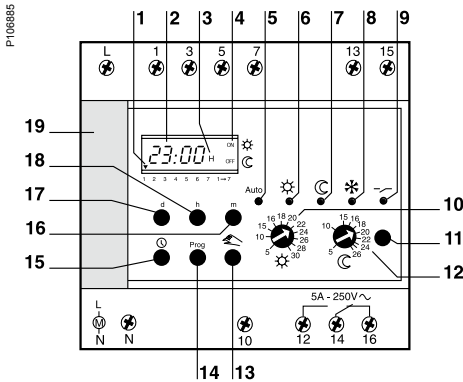


Fig. 3.

THP1

Front face (see Fig. 3)

- 1 Days indication: cursor on 1 = Monday, on 2 = Tuesday, etc.
- 2 Hours and minutes indication.
- 3 Stopping during holiday periods (holiday override mode).
- 4 Visualisation of switching status:
ON: comfort ☀
OFF: reduced ☾
- 5 Yellow indicator light: "Auto" position.
- 6 Yellow indicator light: "comfort" position.
- 7 Yellow indicator light: "reduced" position.
- 8 Green indicator light: "above freezing" position.
- 9 Red indicator light: output contact status.
- 10 Button for setting the "comfort" operating mode.
- 11 Pushbutton for selecting the operating mode for zone 1.
- 12 Button for setting the "reduced" operating mode.
- 13 Key for anticipation of switching and programming over 7 days.
- 14 Key for scrolling the switching and memorisation operations.
- 15 Function key for time and day updating and return to the time display.
- 16 Minutes setting key.
- 17 Days setting key.
- 18 Hours setting key.
- 19 Manual slot.

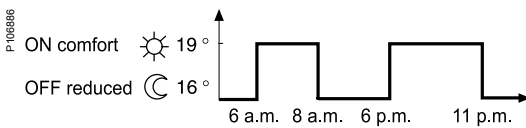


Fig. 4.

THP1 programming

A programmable clock, built into the THP1, is used for programming (see Fig. 4).

- The various operations for:
 - updating time and day,
 - introduction of the programme, are the same as those used to programme the IHP 24 hours and 7 days.
- Programming possibilities:
 - 24 hours and 7 days: a separate programme for each day of the week,
 - up to 42 switching operations memorised,
 - the same switching operation used over several days only counts as one switching operation,
 - power reserve: 6 years.

Example

- Programming:
 - temperature thresholds: "comfort" 19°C and "reduced" 16°C,
 - presence from 6 a.m. to 8 a.m. and from 6 p.m. to 11 p.m.: "comfort" heating, temperature of 19°C,
 - absence (from 8 a.m. to 6 p.m.) and nighttime (from 11 p.m. to 6 a.m.): "reduced" heating, temperature of 16°C.

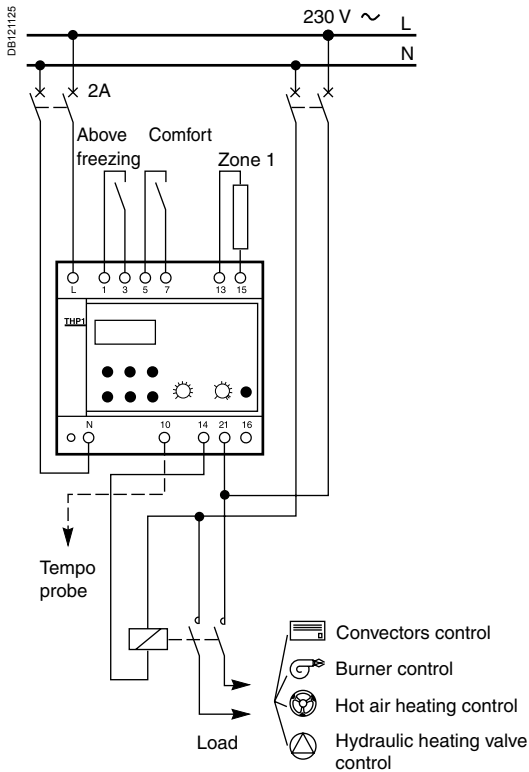


Fig. 5. THP1 connection example.

Local control

The operating mode pushbutton (11) is used to select the operating mode and to light up the relevant indicator lights in turn:

Auto (indicator light 5)

Operation takes place according to a pre-set programme (see § on "programming").

- Temperature is regulated with respect to the following temperature thresholds:
 - comfort (ON symbol visible) which is set using the button (10),
 - reduced (OFF symbol visible) which is set using the button (12).

Comfort (indicator light 6)

The ON symbol is visible.

- Indicator light ON: temperature is regulated only with respect to the "comfort" temperature threshold (setting button 10).
- Flashing indicator light (see § on "remote control").

Reduced (indicator light 7)

Temperature is regulated only with respect to the "reduced" temperature threshold (setting button 12). The OFF symbol is visible.

Above freezing (indicator light 8)

- Indicator light ON: temperature is regulated only with respect to the 6.5°C temperature threshold pre-set in the factory.
- Flashing indicator light (see § on "remote control").

Remote control

This operating mode corresponds to the closing of a contact external to the THP (e.g. switch or TRC).

Closing a comfort operation contact

(Red indicator light (6) flashing on the THP). Once closed, temperature is only regulated with respect to the "comfort" temperature threshold.

This external contact (terminals 5 and 7) takes priority over:

- The local controls ("Auto", "comfort", "reduced", "above freezing").
- The external "above freezing" contact.

Closing an above freezing operation contact

(Green indicator light (8) flashing on the THP). Once closed, temperature is only regulated with respect to the "above freezing" temperature threshold.

This external contact (terminals 1 and 3) takes priority over local controls ("Auto", "comfort", "reduced", "above freezing").

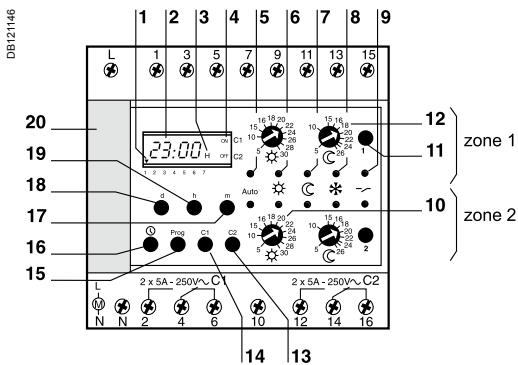


Fig. 6.

THP2

Front face (see Fig. 6)

- 1 Days indication: cursor on 1 = Monday, on 2 = Tuesday, etc.
- 2 Hours and minutes indication.
- 3 Stopping during holiday periods (holiday override).
- 4 Visualisation of switching status.

| | | Comfort ☀ | Reduced ☾ |
|--------|----|-----------|-----------|
| Zone 1 | C1 | ON | OFF |
| Zone 2 | C2 | ON | OFF |

- 5 Yellow indicator light: "Auto" position.
- 6 Yellow indicator light: "comfort" position.
- 7 Yellow indicator light: "reduced" position.
- 8 Green indicator light: "above freezing" position.
- 9 Red indicator light: output contact status.
- 10 Button for setting the "comfort" operating mode.
- 11 Pushbutton for selecting the operating mode for the zone.
- 12 Button for setting the "reduced" operating mode.
- 13 Zone 2 selection key.
- 14 Zone 1 selection key.
- 15 Key for scrolling switching and memorisation operations.
- 16 Function key for updating time and day and return to the time display.
- 17 Minutes setting key.
- 18 Days setting key.
- 19 Hours setting key.
- 20 Manual slot.

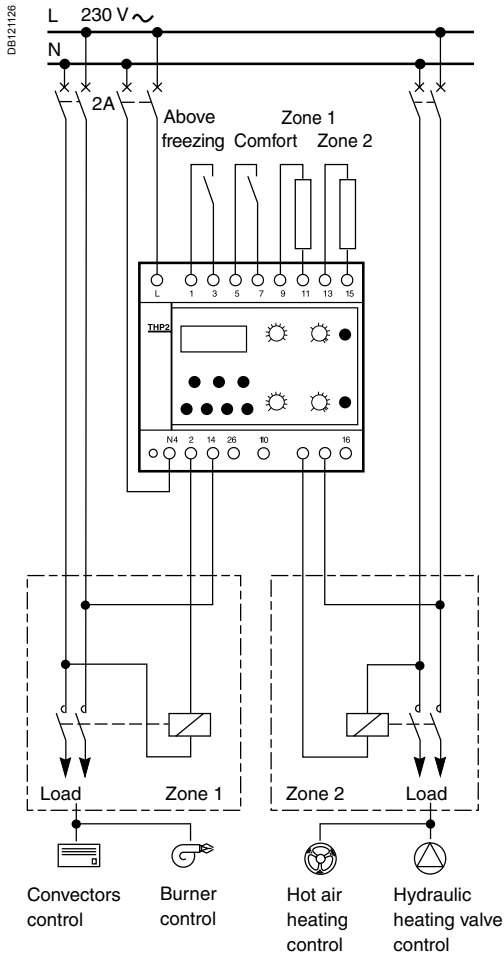
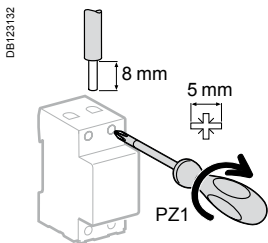


Fig. 7. THP2 connection example.

THP2 programming

- Programming is carried out by a 2 channel, IHP 24 hours and 7 days programmable time switch, built into the THP2.
- Programming possibilities:
 - 24 hours and 7 days: a separate programme for each day of the week,
 - 24 switching operations memorised, to be divided up over the 2 zones,
 - the same switching operation, used over several days, only counts for the same operation,
 - power reserve: 6 years.

Connection

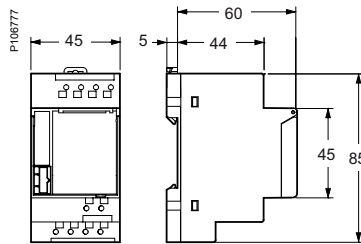


| Type | Tightening torque | Copper cables | |
|------------|--------------------|-------------------------|--------------------------|
| | | Rigid | Flexible or with ferrule |
| THP1, THP2 | 1.2 N.m | 4 mm ² | 4 mm ² |
| TH4, TH7 | 2 screwless / pole | 2 x 2.5 mm ² | 2 x 2.5 mm ² |

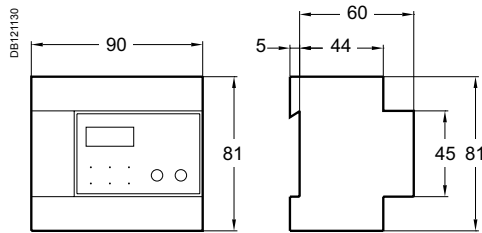
Weight (g)

| Thermostats | |
|--------------------------|-----|
| TH4, TH7 | 125 |
| TH4 with probe | 205 |
| Programmable thermostats | |
| THP1 | 489 |
| THP2 | 570 |

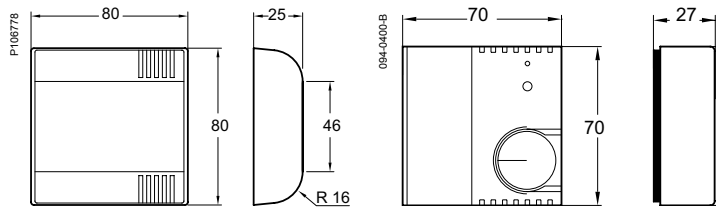
Dimensions (mm)



TH4 and TH7 thermostats



THP1 and THP2 programmable thermostats



TH4, TH7, ambient temperature probe

THP1, THP2, ambient temperature probes

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