

DIN rail analogue ammeters and voltmeters



iAMP.



iVLT.

Function

iAMP

Ammeters measure the current flowing through an electric circuit in amps.

iVLT

Voltmeters measure the potential (voltage) difference of an electric circuit in volts.

Common technical data

- Accuracy: class 1.5.
- Complies with standards IEC 60051-1, IEC 61010-1 and IEC 61000-4.
- Ferromagnetic device.
- Pseudo-linear scale over 90°.
- Ammeters (except catalogue number 16029):
 - connection on CT, ratio In/5, to be ordered separately
 - interchangeable dials.
- Temperature:
 - operating temperature: -25 °C to 55 °C
 - reference temperature: 23 °C
- Influence of temperature on accuracy: ±0.03 %/°C.
- Utilisation frequency: 50 Hz to 60 Hz.
- Consumption:
 - AMP: 1.1 VA
 - VLT catalogue number 16060: 2.5 VA
 - VLT catalogue number 16061: 3.5 VA.
- Permanent overload:
 - AMP: 1.2 In
 - VLT: 1.2 Un.
- Maximum overload for 5 s:
 - AMP: 10 In
 - VLT: 2 Un.
- Connection: tunnel terminals for 1.5 to 6 mm² rigid cables.

Commercial reference numbers

Type	Scale	Connection with CT	Width in mod. of 9 mm	Comm. ref. no.
iAMP with direct connection				
	0-30 A	no	8	16029
iAMP with connection on CT				
Basic device (delivered without dial)		X/5	8	16030
Dial	0-5 A			16031
	0-50 A	50/5		16032
	0-75 A	75/5		16033
	0-100 A	100/5		16034
	0-150 A	150/5		16035
	0-200 A	200/5		16036
	0-250 A	250/5		16037
	0-300 A	300/5		16038
	0-400 A	400/5		16039
	0-500 A	500/5		16040
	0-600 A	600/5		16041
	0-800 A	800/5		16042
	0-1000 A	1000/5		16043
	0-1500 A	1500/5		16044
	0-2000 A	2000/5		16045
iVLT				
	0-300 V		8	16060
	0-500 V		8	16061

DIN rail digital ammeters, voltmeter and frequency meter

PB112024



iAMP.

PB112023



iVLT.

PB112025



iFRE.

Function

iAMP

Ammeters measure in amps the current flowing through an electric circuit.

iVLT

Voltmeters measure in volts the potential (voltage) difference of an electric circuit.

iFRE

The frequency meter measures in hertz the frequency of an electric circuit from 20 to 600 V AC.

Common technical data

- Supply voltage: 230 V.
- Operating frequency: 50 Hz to 60 Hz.
- Display by red LED: 3 digits, h = 8 mm (0.31 in).
- Accuracy at full-scale : 0.5 % ±1 digit.
- Consumption: max. 5 VA or rated 2.5 VA.
- Degree of protection:
 - IP40 on front face.
 - IP20 at terminal level.
- Connection: tunnel terminals for 2.5 mm² cables.

Specific data

10 A direct reading ammeter

- Minimum value measured: 4 % of rating.
- Measurement input consumption: 1 VA.

Multi-rating ammeter

- Ratings:
 - in direct reading: 5 A.
 - by CT (not supplied) configurable on the front face of the ammeter: 10, 15, 20, 25, 40, 50, 60, 100, 150, 200, 250, 400, 500, 600, 800, 1000, 1500, 2000, 2500, 4000, 5000 A.
- Minimum value measured: 4 % of rating.
- Measurement input consumption: 0.55 VA.

Voltmeter

- Direct measurement: 0...600 V.
- Input impedance: 2 MΩ.
- Minimum value measured: 4 % of rating.

Frequency meter

- Minimum value measured: 20 Hz.
- Maximum value measured: 100 Hz.
- Full-scale display: 99.9 Hz.

Compliance with standards

- Safety: IEC/EN 61010-1.
- EMC electromagnetic compatibility: IEC/EN 65081-1 and IEC/EN 65082-2.

Commercial reference numbers

Type	Scale	Connection with CT	Width in mod. of 9 mm	Comm. ref. no.
Direct reading iAMP	0-10 A	No	4	15202
	0-5000 A	As per rating	4	15209
iVLT	0-600 V		4	15201
iFRE	20-100 Hz		4	15208

72 x 72 analogue ammeters and voltmeter



AMP for standard feeder.



AMP for motor feeder.



VLT.

Function

The 72 x 72 measurement devices are designed for flush-mounted installation on doors, wicket doors and front plates of enclosures and cubicles.

AMP

The ammeters measure in amps the current flowing through an electrical circuit.

VLT

The voltmeter measure in volts the potential difference (voltage) of an electrical circuit.

Common technical data

- Accuracy: class 1.5.
- Compliance with standard IEC 60051-1, IEC 61010-1 and IEC 61000-4.
- Ferromagnetic device.
- Scale length: 62 mm over 90°.
- Mounting in enclosure or in cubicle.
- Degree of protection: IP52.
- Maximum operating position: 30° / vertical.
- Temperature:
 - operation: -25 °C to 50 °C.
 - reference: 23 °C.
- Influence of temperature on accuracy: ±0.003 %/ °C.
- Utilisation frequency: 50 Hz to 60 Hz.

AMP specific technical data

- Needs a In/5 CT to be ordered separately.
- Interchangeable dials to be ordered separately.
- Consumption: 1.1 VA.
- Permanent overload: 1.2 In.
- Maximum overload for 5 s: 10 In.

VLT specific technical data

- Consumption: 3 VA.
- Permanent overload: 1.2 Un.
- Maximum overload for 5 s: 2 Un.

Commercial reference numbers

Type	Scale	Connection on CT	Comm. ref. no.
AMP for standard feeder			
Basic device (delivered without dial)		X/5	16004
1.3 In dial	0-50 A	50/5	16009
	0-100 A	100/5	16010
	0-200 A	200/5	16011
	0-400 A	400/5	16012
	0-600 A	600/5	16013
	0-1000 A	1000/5	16014
	0-1250 A	1250/5	16015
	0-1500 A	1500/5	16016
	0-2000 A	2000/5	16019
AMP for motor feeder			
Basic device (delivered without dial)		X/5	16003
3 In dial	0-30-90 A	30/5	16006
	0-75-225 A	75/5	16007
	0-200-600 A	200/5	16008
VLT			
	0-500 V		16005

96 x 96 analogue ammeters and voltmeter



AMP for standard feeder.



AMP for motor feeder.



VLT.

Function

The 96 x 96 measurement devices are designed for flush-mounted installation on doors, wicket doors and front plates of enclosures and cubicles.

AMP

The ammeters measure in amps the current flowing through an electrical circuit.

VLT

The voltmeter measure in volts the potential difference (voltage) of an electrical circuit.

Common technical data

- Accuracy: class 1.5.
- Compliance with standard IEC 60051-1, IEC 61010-1 and IEC 61000-4.
- Ferromagnetic device.
- Scale length: 80 mm over 90°.
- Mounting in enclosure or in cubicle.
- Degree of protection: IP52.
- Maximum operating position: 30° / vertical.
- Temperature:
 - operation: -25 °C to 50 °C.
 - reference: 23 °C.
- Influence of temperature on accuracy: $\pm 0.003\% / ^\circ\text{C}$.
- Utilisation frequency: 50 Hz to 60 Hz.

AMP specific technical data

- Needs a In/5 CT to be ordered separately.
- Interchangeable dials to be ordered separately.
- Consumption: 1.1 VA.
- Permanent overload: 1.2 In.
- Maximum overload for 5S: 10 In.

VLT specific technical data

- Consumption: 3 VA.
- Permanent overload: 1.2 Un.
- Maximum overload for 5S: 2 Un.

Commercial reference numbers

Type	Scale	Connection on CT	Comm. ref. no.
AMP for standard feeder			
Basic device (delivered without dial)		X/5	16074
1.3 In dial	0-50 A	50/5	16079
	0-100 A	100/5	16080
	0-200 A	200/5	16081
	0-400 A	400/5	16082
	0-600 A	600/5	16083
	0-1000 A	1000/5	16084
	0-1250 A	1250/5	16085
	0-1500 A	1500/5	16086
	0-2000 A	2000/5	16087
	0-2500 A	2500/5	16088
	0-3000 A	3000/5	16089
	0-4000 A	4000/5	16090
	0-5000 A	5000/5	16091
0-6000 A	6000/5	16092	
AMP for motor feeder			
Basic device (delivered without dial)		X/5	16073
3 In dial	0-30-90 A	30/5	16076
	0-75-225 A	75/5	16077
	0-200-600 A	200/5	16078
VLT			
	0-500 V		16075

48 x 48 CMA and CMV selector switches



CMA.



CMV.

Function

The 48 x 48 selector switches are designed for flush-mounted installation on doors, wicket doors and front plates of enclosures and cubicles.

CMA

The ammeter selector switch uses a single ammeter (by means of current transformers) for successive measurement of the currents of a three-phase circuit.

CMV

The voltmeter selector switch uses a single voltmeter for successive measurement of the voltages (phase-to-phase and phase-to-neutral) of a three-phase circuit.

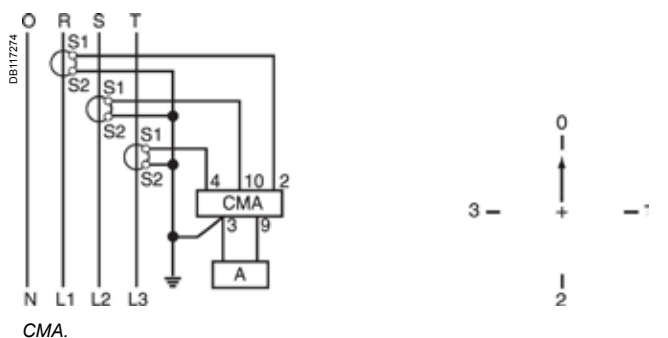
Common technical data

- Durability:
 - electrical: 100,000 operations.
 - mechanical: 2,000,000 operations.
- AgNi contact.
- Operating temperature: -25 °C to 50 °C.
- Compliance with standards IEC/EN 60947-3.
- Degree of protection:
 - IP65 on front face.
 - IP20 at terminal level.

Commercial reference numbers

Type	Rating (A)	Voltage (V)	Number of positions	Comm. ref. no.
CMA	20		4	16017
CMV		500	7	16018

Connection



CMA.



CMV.

Reading 3 phase-to-earth voltages + 3 phase-to-phase voltages.

Note: when connecting do not remove the pre-cabling.

See appropriate Install Guide for this product.

DIN rail iCMA and iCMV selector switches



iCMA.



iCMV.

Function

iCMA

This 4-position ammeter selector switch uses a single ammeter (using current transformers) for successive measurement of the currents of a three-phase circuit.

iCMV

This 7-position voltmeter selector switch uses a single voltmeter for successive measurement of voltages (phase-to-phase and phase-to-neutral) of a three-phase circuit.

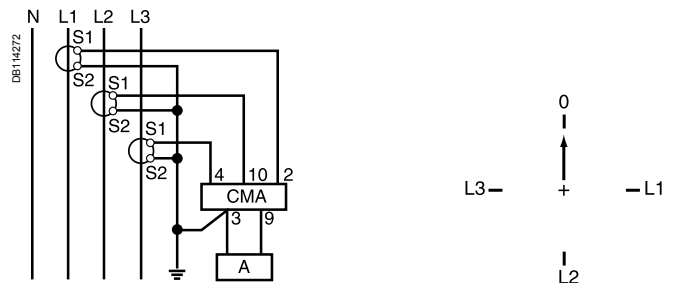
Common technical data

- Rotary handle.
- Maximum operating voltage: 440 V, 50/60 Hz.
- Nominal thermal current: 10 A.
- Operating temperature: -20 °C to 55 °C.
- Storage temperature: -25°C to 80°C.
- Mechanical durability (AC21A-3 x 440 V): 2,000,000 operations.
- Degree of protection:
 - IP66 on front face.
 - IP20 at terminal level.
- Electrical durability: 1,000,000 operations.
- Connection: jumper terminals with captive screws, for cables up to 1.5 mm².
- Complies with standards: IEC/EN 60947-3.

Commercial reference numbers

Type	Rating (A)	Voltage (V AC)	Width in mod. of 9 mm	Comm. ref. no.
iCMA	10	415	4	15126
iCMV	10	415	4	15125

Connection



iCMA.



iCMV.

See appropriate Install Guide for this product.

PB112026



iCH "DIN".

DB119003



CH "48 x 48".

Function

Electromechanical counter that counts the operating hours of a machine or piece of electrical equipment. Giving a precise indication of operating time, the counter is used to decide when to carry out preventive maintenance.

Common technical data

- Electromechanical display.
- Maximum display: 99999.99 hours.
- Display accuracy: 0.01 %.
- Without reset.
- Storage temperature: -25 °C to 85 °C.
- Connection: tunnel terminals for 2.5 mm² cable.

Specific technical data

iCH "DIN"

- Consumption: 0.15 VA.
- Operating temperature: -10 °C to 70 °C.
- Mounting on DIN rail.

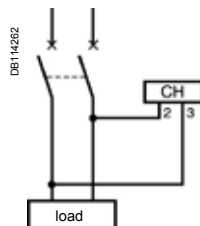
CH "48 x 48"

- Consumption:
 - 15607: 0.25 VA
 - 15608: 0.15 VA
 - 15609: 0.02 VA to 12 V and 0.3 VA to 36 V.
- Operating temperature: -20 °C to 70 °C.
- Degree of protection: IP65 on front face.
- Mounting on front face of monitoring switchboards.

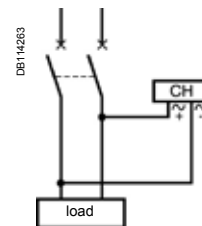
Commercial reference numbers

Type	Voltage (V)	Width in mod. of 9 mm	Comm. ref. no.
iCH "DIN"	230 V AC ± 10 %/50 Hz	4	15440
CH "48 x 48"	24 V AC ± 10 %/50 Hz		15607
	230 V AC ± 10 %/50 Hz		15608
	12 to 36 V DC		15609

Connection



iCH "DIN".



CH "48 x 48".

See appropriate Install Guide for this product.

iCI.eps



iCI impulse counter

Function

Electromechanical counter designed to count impulses emitted by: kilowatt-hour meters, temperature overrun detectors, people meters, speed meters, etc.

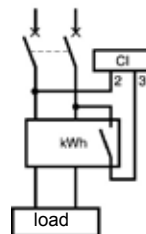
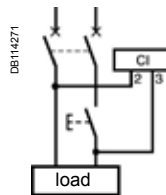
Common technical data

- Supply and metering voltage: 230 V AC \pm 10 %, 50/60 Hz.
- Consumption: 0.15 VA.
- Maximum display: 9 999 999 impulses.
- Without reset.
- Metering data:
 - minimum impulse time: 50 ms
 - minimum time between 2 impulses: 50 ms.
- Storage temperature: -25 °C to 85 °C.
- Operating temperature: -10 °C to 70 °C.
- Connection: tunnel terminals for 2.5 mm² cable.

Commercial reference numbers

Type	Width in mod. of 9 mm	Comm. ref. no.
iCI	4	15443

Connection

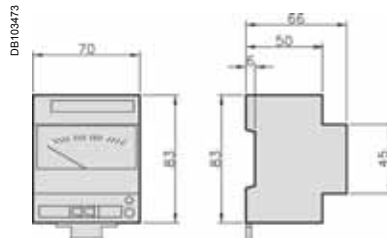


See appropriate Install Guide for this product.

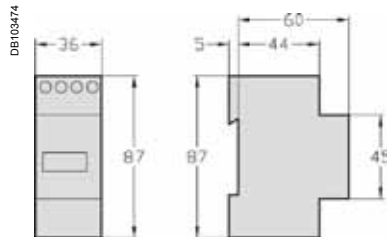
Dimensions

Ammeters, voltmeters, selector switches, impulse counter, hour counters

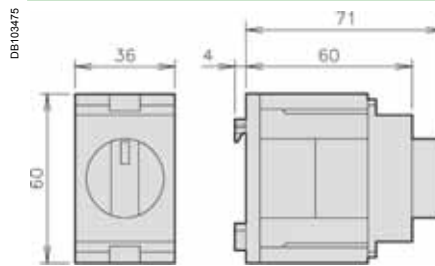
Analogue ammeters and voltmeters iAMP, iVLT



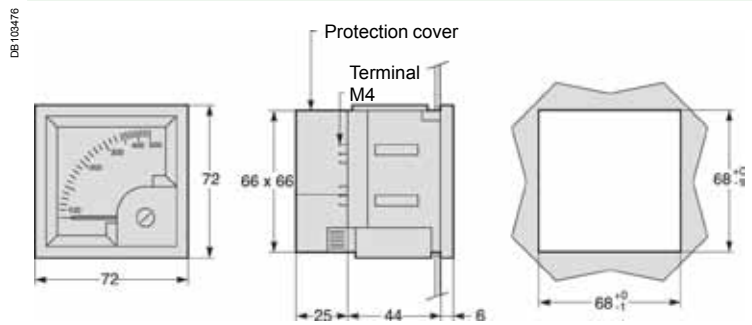
Digital ammeters, voltmeter and frequency meter iAMP, iVLT



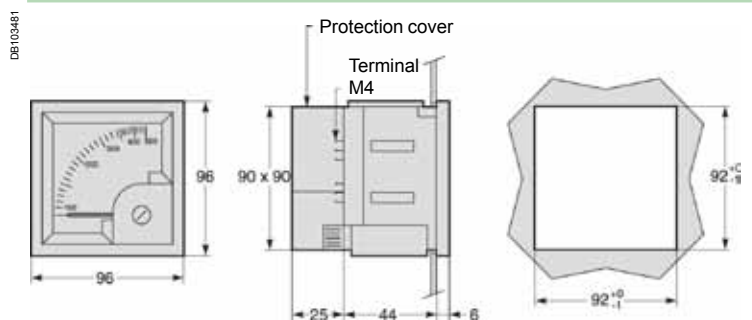
iCMA and iCMV selector switches



72 x 72 analogue ammeters and voltmeter



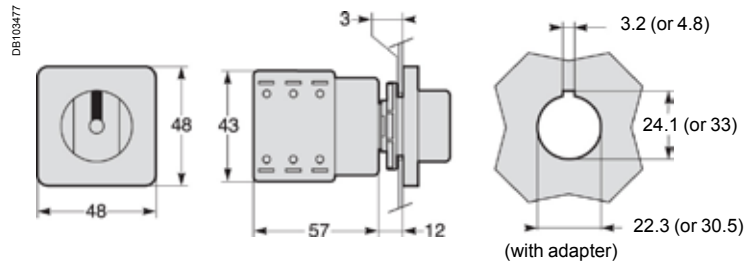
96 x 96 analogue ammeters and voltmeter



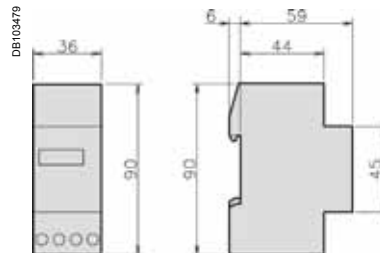
Dimensions (cont.)

Ammeters, voltmeters, selector switches, impulse counter, hour counters

48 x 48 CMA and CMV selector switches



iCI impulse counter and iCH hour counter



48 x 48 CH hour counters

