

Basic energy metering

Whether you require a single-phase kWh meters or full-featured, dual tariff energy meter, Schneider Electric provides iEM2xxx & iEM3xxx series meters to best fit your customer's application.

- PowerLogic iEM2000 series
- PowerLogic iEM2100 series
- PowerLogic iEM3000 series

PB 108410
PB 115001
PB 108401



A9MEM2000



A9MEM2100



A9MEM3100

Acti9 iEM2000 Series

Technical Datasheet

The Acti9 iEM2000 series energy meters offer a cost-attractive, competitive range of single-phase DIN rail-mounted energy meters ideal for sub-billing and cost allocation applications.

Applications

- Monitor power consumption for each floor, office sector, or unit
- Allocate energy costs to lower cost of operations, optimise your building's power efficiency
- Connect to power management software to take full advantage of the IoT digital power installation

PB105289


[A9MEM2000](#)

The solution for:

All markets that can benefit from a solution that includes PowerLogic iEM2000 series meters:

- Buildings
- Industry
- Data Centre & networks
- Infrastructures (airport, road tunnels, telecom).

Benefits

The Acti9 iEM2000 series meters are economical and easy to install in panelboards and switchboards:

- DIN rail mounted, compact size
- Accurate data measurement with Class 1 accuracy

Advantages

- Active energy Class 1 accuracy, with LCD display
- Modbus RS-485 and pulse output
- Direct connect, self-powered
- MID approved
- Two tariffs

Energy management system:

To get the most effective use from your Schneider Electric measurement and metering devices, we offer a range of dedicated data loggers and gateways for your building energy management.

Conformity of standards

- IEC 62053-21
- EN 50470-3

iEM2000 feature selection

| | iEM2000T | iEM2000 | iEM2010 | iEM2050 | iEM2055 |
|-----------------------------|-------------------------|--|--|-------------------------|--|
| Self-powered | ■ | ■ | ■ | ■ | ■ |
| Display | | ■ | ■ | ■ (6 digit LCD) | ■ (6 digit LCD) |
| Width (mm) | 18 | 18 | 18 | 17.5 | 17.5 |
| Current input | 40 A | 40 A | 40 A | 45 A | 45 A |
| Multi-tariff | | | | 2 tariffs | 2 tariffs |
| Communication | | | | Modbus | Modbus |
| Active Energy accuracy | Class 1 IEC 62053-21 | Class 1 IEC 62053-21 Class B EN 50470-3 | Class 1 IEC 62053-21 Class B EN 50470-3 | Class 1 IEC 62053-21 | Class 1 IEC 62053-21 Class B EN 50470-3 |
| Digital outputs | 1 P/O | | 1 P/O | 1 P/O | 1 P/O |
| MID for billing application | | ■ | ■ | | ■ |
| Commercial reference number | A9MEM2000T | A9MEM2000 | A9MEM2010 | A9MEM2050 | A9MEM2055 |

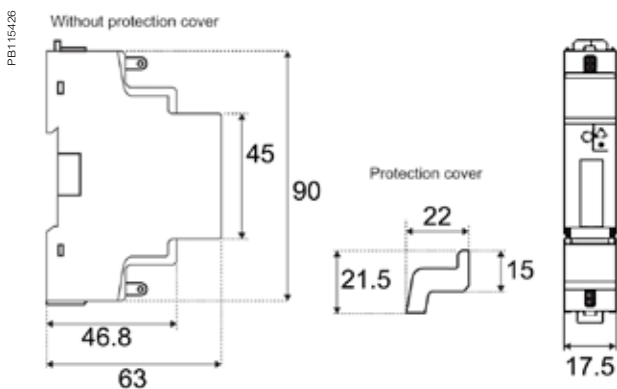
See your Schneider Electric representative for complete ordering information.

iEM2000 series technical specifications

Technical specifications

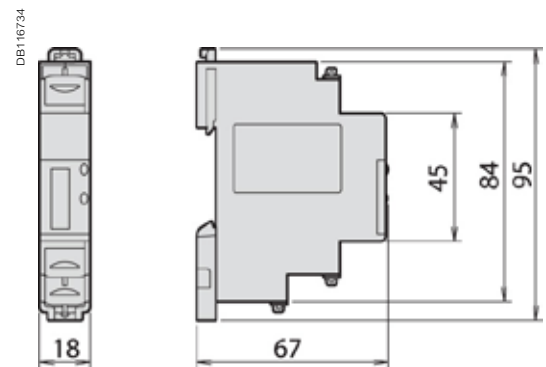
| | iEM2000T | iEM2000 | iEM2010 | iEM2050 | iEM2055 |
|----------------------------------|----------------------------------|------------------|------------------|--|------------------|
| COMM reference number | A9MEM2000T | A9MEM2000 | A9MEM2010 | A9MEM2050 | A9MEM2055 |
| Direct connection | Up to 40 A | Up to 40 A | Up to 40 A | Up to 45 A | Up to 45 A |
| Pulse output operation | 100 pulses/kwh (120ms long) | | | 10000, 2000, 1000, 100, 10, 1, 0.1, 0.01 pulses/kWh | |
| Display capacity | 999999.9 kWh | | | 9999.99 kWh (switching to 99999.9 when over this value) | |
| Voltage range (L-N) | 184 to 276 V AC | | | 195 to 253 V AC | |
| Operating frequency | 50/60 Hz | | | 50 Hz | |
| Meter constant LED | 3200 flashes per KWh | | | 10000 flashes per KWh | |
| Wiring capacity (Power) | 4 mm ² | | | 2.5 mm ² | |
| Wiring capacity (Communications) | 10 mm ² | | | 8-10 mm ² | |
| Consumption | <10 VA | | | | |
| IP protection | IP40 front panel and IP20 casing | | | IP51 front panel | |
| Temperature | -10°C to 55°C | | | -25°C to 55°C | |
| Active energy | ■ | ■ | ■ | ■ | ■ |
| Reactive energy | | | | ■ | ■ |
| Active power | | | | ■ | ■ |
| Reactive power | | | | ■ | ■ |
| Power Factor | | | | ■ | ■ |
| Current and voltage | | | | ■ | ■ |
| Frequency | | | | ■ | ■ |

iEM2050/iEM2055 dimensions



Maximum diameter power connection clamps 8 mm² (solid copper). See the appropriate product Installation Guide for complete instructions.

iEM2000 dimensions



Maximum diameter power connection clamps 8 mm² (solid copper). See the appropriate product Installation Guide for complete instructions.

Acti9 iEM2100 Series

The Acti9 iEM2100 series energy meters are ideal for basic kWh metering and billing applications and support two protocols (Modbus and M-bus) that allow them to integrate seamlessly into your customers' existing networks.

Applications

- Monitor the power consumption of each sector, unit, workshop...
- Manage an electrical installation and optimise your building's power efficiency
- Various business, industrial and residential applications

PE119059



A9MEM2100

The solution for

All markets that can benefit from a solution that includes PowerLogic iEM2100 series meters:

- Buildings
- Industry
- Data Centre & networks
- Infrastructures (airport, road tunnels, telecom).

Benefits

The Acti9 iME kilowatt-hour meters are specially economic and easy to install in all switchboards.

Competitive advantages

- Compact size
- MID compliant (selected models) providing certified accuracy and data security
- Four quadrant measurement
- Electrical parameter measurement eg. V, I, P, PF
- Onboard Modbus or M-bus communication
- A complete range of energy meters
- Compatible with Acti9 range

Energy management system:

To get the most effective use from your Schneider Electric measurement and metering devices, we offer a range of dedicated data loggers and gateways for your building energy management.

Conformity of standards

- IEC 62052-11
- IEC 62053-21
- IEC 62053-23
- EN 50470-1
- EN 50470-3

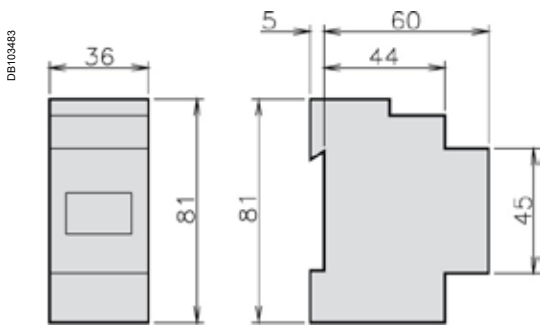
iEM2100 feature selection

| | iEM2100 | iEM2105 | iEM2110 | iEM2135 | iEM2150 | iEM2155 |
|----------------------------------|------------------|------------------|----------------------|----------------------|------------------|----------------------|
| Self-powered | ■ | ■ | ■ | ■ | ■ | ■ |
| Display | ■ | ■ | ■ | ■ | ■ | ■ |
| Width (mm) | 36 | 36 | 36 | 36 | 36 | 36 |
| Current input | 63 A | 63 A | 63 A | 63 A | 63 A | 63 A |
| Active Energy accuracy | Class 1 | Class 1 | Class 1 | Class 1 | Class 1 | Class 1 |
| Reactive Energy accuracy | Class 2 | Class 2 | Class 2 | Class 2 | Class 2 | Class 2 |
| Four quadrant Energy measurement | | | ■ | ■ | ■ | ■ |
| Multi-tariff | | | 2 | 2 | | 2 |
| Digital inputs | | | 1 (tariff switching) | 1 (tariff switching) | | 1 (tariff switching) |
| Digital outputs | | 1 P/O | 2 P/O's | | | |
| Communication protocol | | | | M-bus | Modbus RS-485 | Modbus RS-485 |
| MID for billing application | | | ■ | ■ | | ■ |
| Commercial reference number | A9MEM2100 | A9MEM2105 | A9MEM2110 | A9MEM2135 | A9MEM2150 | A9MEM2155 |

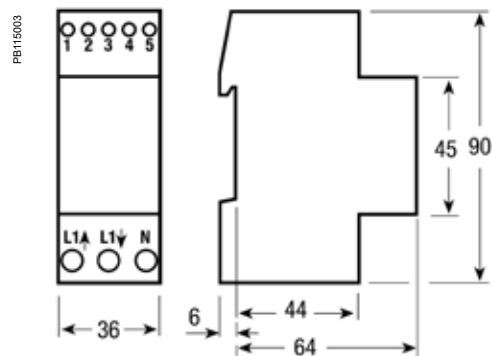
Acti9 iEM2100 series technical specifications

| Technical specifications | | | | | | |
|--------------------------|---|--------------------------|--|---------|---------|---------|
| | iEM2100 | iEM2105 | iEM2110 | iEM2135 | iEM2150 | iEM2155 |
| Direct connection | 63 A | 63 A | 63 A | 63 A | 63 A | 63 A |
| Pulse output operation | | 1 pulse/kwh (200ms long) | 1 to 1000 pulses / kwh or kvarh (30 to 100ms long) | | | |
| Display capacity | 99999 KWh or 999.99 MWh | | 999999.99KWh | | | |
| Voltage range (L-N) | 184 to 276 V AC | | 92 to 276 V AC | | | |
| Operating frequency | 50/60 Hz | | | | | |
| Meter constant LED | 1000 flashes per KWh | | | | | |
| Wiring capacity (Top) | 6 mm ² | | 4 mm ² | | | |
| Wiring capacity (Bottom) | 32 mm ² (16 mm ² iEM2100/iEM2105) | | | | | |
| Consumption | 2.5 VA | | 3 VA | | | |
| IP protection | IP40 front panel and IP20 casing | | | | | |
| Temperature | -25°C to 55°C | | | | | |
| Active energy | ■ | ■ | ■ | ■ | ■ | ■ |
| Reactive energy | | | ■ | ■ | ■ | ■ |
| Active power | | | ■ | ■ | ■ | ■ |
| Reactive power | | | ■ | ■ | ■ | ■ |
| Power Factor | | | ■ | ■ | ■ | ■ |
| Current and voltage | | | ■ | ■ | ■ | ■ |
| Frequency | | | ■ | ■ | ■ | ■ |

iEM2100/iEM2105 dimensions



iEM2110/iEM2135/iEM2150/iEM2155 dimensions



See the appropriate product Installation Guide for complete instructions.

iEM2000 and iEM2100 series commercial reference numbers

| Comm. reference number | Product |
|------------------------|---|
| A9MEM2000T | iEM2000T basic energy meter, no display |
| A9MEM2000 | iEM2000 basic energy meter |
| A9MEM2010 | iEM2010 energy meter, kWh pulse output |
| A9MEM2100 | iEM2100 basic energy meter |
| A9MEM2050 | iEM2050 modular single phase power meter 230 V - 45 A with Modbus |
| A9MEM2055 | iEM2055 modular single phase power meter 230 V - 45 A with Modbus, MID |
| A9MEM2105 | iEM2105 energy meter, kWh pulse output with partial meter |
| A9MEM2110 | iEM2110 energy meter, kWh and kvarh pulse outputs with two tariffs, four quadrant energy measurement, MID certified |
| A9MEM2135 | iEM2135 energy meter, M-Bus communication, four quadrant energy measurement, two tariffs, MID certified |
| A9MEM2150 | iEM2150 energy meter, Modbus communication, four quadrant energy measurement |
| A9MEM2155 | iEM2155 energy meter, Modbus communication, four quadrant energy measurement, two tariffs, MID certified |

See your Schneider Electric representative for complete ordering information.

Acti9 iEM3000 Series

The Acti9 iEM3000 series energy meters is a cost-attractive, feature-rich energy metering offer for DIN rail, modular enclosures. With Modbus, BACnet, M-bus and LON protocol support, you can easily integrate these meters into commercial and non-critical buildings to add simple energy management applications to any BMS, AMR or EMS system.

Applications

Cost management applications

- Bill checking to verify that you are only charged for the energy you use
- Sub-billing individual tenants for their energy consumption, including WAGES
- Aggregation of energy consumption, including WAGES, and allocating costs per area, per usage, per shift, or per time within the same facility

Network management applications

- Basic metering of electrical parameters to better understand the behaviour of your electrical distribution system



A9MEM3100

PB108418

More than just kWh meters, the Acti9 iEM3000 series meters provide a full view of both energy consumption and on-site generation with full four-quadrant measurement of active and reactive energy delivered and received. Additionally, extensive real-time measurements (V, I, P, PF) give customers greater detail on their energy usage, and multiple tariffs give customers the flexibility to match the billing structure of their utility.

The solution for

All markets that can benefit from a solution that includes PowerLogic iEM3000 series meters:

- Buildings & industry
- Data centres and networks
- Infrastructure (airports, road tunnels, telecom)

Benefits

Optimise your energy consumption & enable energy efficiency practices

- Collect and analyse energy consumption data from each area for each type of load or circuit
- Gain an accurate understanding of business expenses by allocating the energy-related costs
- Use information to implement actions designed to reduce energy consumption

Monitor the energy consumption of your tenants or customers and establish accurate invoices

- Drive energy-efficient behaviour
- Allow building owners to bill tenants for individual measured utility usage
- Give accurate and achievable objectives for energy savings

Competitive advantages

- Compact size
- MID compliant (selected models) providing certified accuracy and data security
- Programmable digital inputs/outputs
- Multi-tariff capability
- Onboard Modbus, LON, M-bus or BACnet communication
- A complete range of energy meters
- Compatible with Acti9 range

Energy management system:

To get the most effective use from your Schneider Electric measurement and metering devices, we offer a range of dedicated data loggers and gateways for your building energy management.

Conformity of standards

- | | |
|-------------------|--------------|
| • IEC 61557-12 | • EN 50470-3 |
| • IEC 62053-21/22 | • EN 50470-1 |
| • IEC 62053-23 | • IEC 61036 |
| | • IEC 61010 |

Acti9 iEM3000 Series

iEM3000 feature selection

| | iEM3100 iEM3200 iEM3300 | iEM3110 iEM3210 iEM3310 | iEM3115 iEM3215 | iEM3150 iEM3250 iEM3350 | iEM3135 iEM3235 iEM3335 | iEM3155 iEM3255 iEM3355 | iEM3165 iEM3265 iEM3365 | iEM3175 iEM3275 iEM3375 |
|---|---|-------------------------------|--------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Self-powered | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Width (18mm module) | 5/5/7 | 5/5/7 | 5/5 | 5/5/7 | 5/5/7 | 5/5/7 | 5/5/7 | 5/5/7 |
| Direct measurement (up to) | 63 A/-/125 A | 63 A/-/125 A | 63 A/- | 63 A/-/125 A | 63 A/-/125 A | 63 A/-/125 A | 63 A/-/125 A | 63 A/-/125 A |
| Measurement input through CTs (1A, 5A) | - / ■ / - | - / ■ / - | - / ■ | - / ■ / - | - / ■ / - | - / ■ / - | - / ■ / - | - / ■ / - |
| Measurement input through VTs | | | | - / ■ / - | - / ■ / - | - / ■ / - | - / ■ / - | - / ■ / - |
| Active Energy measurements class | 1/0.5S/1 | 1/0.5S/1 | 1/0.5S | 1/0.5S/1 | 1/0.5S/1 | 1/0.5S/1 | 1/0.5S/1 | 1/0.5S/1 |
| Four Quadrant Energy measurement | | | | | ■ | ■ | ■ | ■ |
| Electrical parameter measurements (I, V, P,...) | | | | ■ | ■ | ■ | ■ | ■ |
| Multi-tariff (internal clock) | | | 4 | | 4 | 4 | 4 | 4 |
| Multi-tariff (external control) | | | 4 | | 2 | 2 | 2 | 2 |
| Measurement display (no. of line) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Digital inputs | Programmable (Tariff control or WAGES input) | | | | 1 | 1 | 1 | 1 |
| | Tariff control only | | 2 | | | | | |
| Digital outputs | Programmable (Kwh pulse or KW overload alarm) | | | | 1 | 1 | 1 | |
| | Kwh pulse only | 1 | | | | | | |
| Communication protocols | M-bus | | | | ■ | | | |
| | Modbus | | | ■ | | ■ | | |
| | BACnet | | | | | | ■ | |
| | Lon | | | | | | | ■ |
| MID (legal metrology certification) | | ■ | ■ | | ■ | ■ | ■ | ■ |
| Commercial reference numbers | A9MEM3100 | A9MEM3110 | A9MEM3115 | A9MEM3150 | A9MEM3135 | A9MEM3155 | A9MEM3165 | A9MEM3175 |
| | A9MEM3200 | A9MEM3210 | A9MEM3215 | A9MEM3250 | A9MEM3235 | A9MEM3255 | A9MEM3265 | A9MEM3275 |
| | A9MEM3300 | A9MEM3310 | | A9MEM3350 | A9MEM3335 | A9MEM3355 | A9MEM3365 | A9MEM3375 |

See your Schneider Electric representative for complete ordering information.

How to read table: If a cell contains a single value, that value applies to all meter models identified in the header cell(s). For cells with multiple values, the values correspond from left to right with the meter models listed from top to bottom for each associated header cell. For example, a cell with "A / B / C" means A for iEM31xx models, B for iEM32xx models, and C for iEM33xx models

Acti9 iEM3000 Series

EM3400/iEM3500 technical specifications

| | iEM3455 | iEM3465 | iEM33555 | iEM3565 |
|---------------------------|---|-------------------|----------------|----------------|
| Max current | 0.333V-1.0V LVCTs | 0.333V-1.0V LVCTs | Rogowski coils | Rogowski coils |
| Meter constant LED | 5000/kWh | | | |
| Pulse output frequency | Up to 500p/kWh | | | |
| Multi-tariff | 4 tariffs | | | |
| Communication | Modbus | BACnet | Modbus | BACnet |
| DI/DO | 1/1 | | | |
| Network | 1P+N, 3P, 3P+N support LVCTs, Rogowski coils, and VTs | | | |
| Wiring capacity | 6 mm ² for currents and 4 mm ² for voltages | | | |
| Display max | LCD 99999999.9kWh or 99999999.9MWh | | | |
| Voltage (L-L) | 3 x 100/173 V AC to 3 x 277/480 V AC (50/60 Hz) | | | |
| IP protection | IP40 front panel and IP20 casing | | | |
| Temperature | -25°C to 70°C (K55) | | | |
| Product size | 5 steps of 18 mm | | | |
| Overvoltage & measurement | Category III, Degree of pollution 2 | | | |
| kWh | ■ | | | |
| kVARh | ■ | | | |
| Active power | ■ | | | |
| Reactive power | ■ | | | |
| Currents & voltages | ■ | | | |
| Overload alarm | ■ | | | |
| Hour counter | ■ | | | |

See your Schneider Electric representative for complete ordering information.

Acti9 iEM3100/iEM3300 series technical specifications

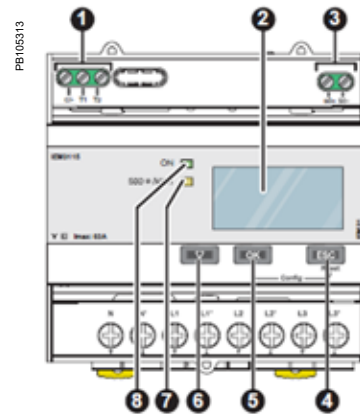
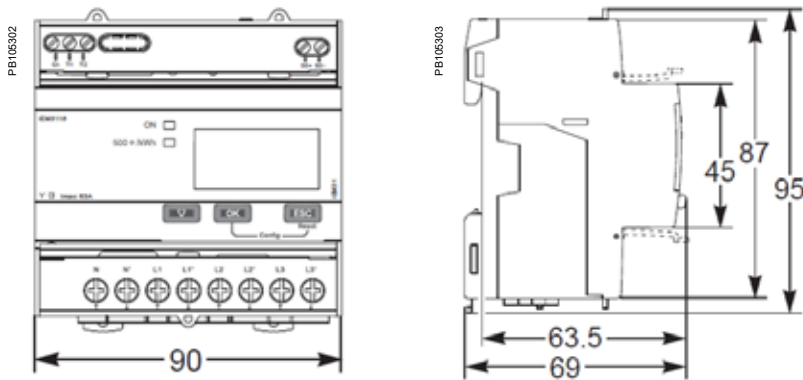
| Technical specifications | | | | | | | | |
|---------------------------------|--|--------------------|---------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | iEM3100 iEM3300 | iEM3110 iEM3310 | iEM3115 | iEM3150 iEM3350 | iEM3135 iEM3335 | iEM3155 iEM3355 | iEM3165 iEM3365 | iEM3175 iEM3375 |
| Max current (direct connection) | 63 A for iEM3100 models, 125 A for iEM3300 models | | | | | | | |
| Meter constant LED | 500/kWh | | | | | | | |
| Pulse output | Up to 1000 p/kWh | | | Up to 1000 p/kWh | | Up to 1000 p/kWh | | |
| Multi-tariff | 4 tariffs | | | 4 tariffs | | 4 tariffs | | |
| Communication | | | | Modbus | Modbus | Modbus | BACnet | LON |
| DI/DO | 0/1 | | 2/0 | | 1/1 | 1/1 | 1/1 | 1/0 |
| MID (EN50470-3) | ■ | | | | ■ | ■ | ■ | ■ |
| Network | 1P+N, 3P, 3P+N | | | | | | | |
| Accuracy class | Class 1 (IEC 62053-21 and IEC 61557-12) Class B (EN 50470-3) | | | | | | | |
| Wiring capacity | 16 mm ² for iEM3100 models, 50 mm ² for iEM3300 models | | | | | | | |
| Display max. | LCD 99999999.9kWh | | | | | | | |
| Voltage (L-L) | 3 x 100/173 V AC to 3 x 277/480 V AC (50/60 Hz) | | | | | | | |
| IP protection | IP40 front panel and IP20 casing | | | | | | | |
| Temperature | -25°C to 55°C (K55) | | | | | | | |
| Product size | 5 x 18 mm for iEM3100 models, 7 x 18 mm for iEM3300 models | | | | | | | |
| Overvoltage and measurement | Category III, Degree of pollution 2 | | | | | | | |
| kWh | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| kVARh | | | | | ■ | ■ | ■ | ■ |
| Active power | | | | ■ | ■ | ■ | ■ | ■ |
| Reactive power | | | | | ■ | ■ | ■ | ■ |
| Currents and voltages | | | | ■ | ■ | ■ | ■ | ■ |
| Overload alarm | | | | | ■ | ■ | ■ | ■ |
| Hour counter | | | | | ■ | ■ | ■ | ■ |

Acti9 IEM3200 series technical specifications

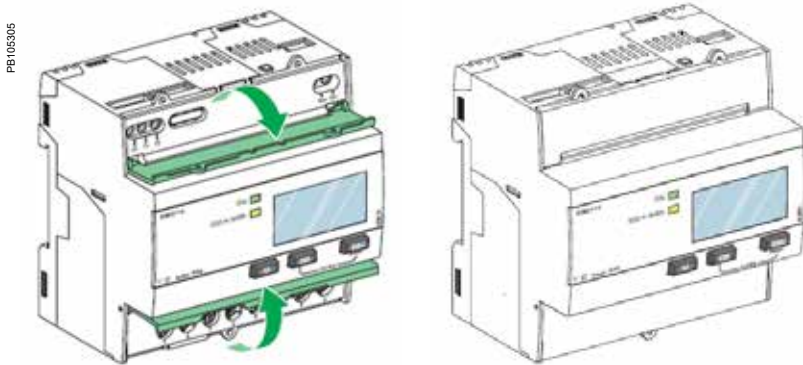
| Technical specifications | | | | | | | | |
|----------------------------------|--|----------------|----------|----------------------------------|----------------|---------|----------------|---------|
| | iEM3200 | iEM3210 | iEM3215 | iEM3250 | iEM3235 | iEM3255 | iEM3265 | iEM3275 |
| Max current (1A/5A CT connected) | 6 A | | | | | | | |
| Meter constant LED | 5000/kWh | | | | | | | |
| Pulse output frequency | | Up to 500p/kWh | | | Up to 500p/kWh | | Up to 500p/kWh | |
| Multi-tariff | | | 4 tariff | | 4 tariffs | | 4 tariffs | |
| Communication | | | | Modbus | Modbus | Modbus | BACnet | LON |
| DI/DO | | 0/1 | 2/0 | | 1/1 | 1/1 | 1/1 | 1/0 |
| MID (EN50470-3) ⁽¹⁾ | | ■ | ■ | | ■ | ■ | ■ | ■ |
| Network | 1P+N, 3P, 3P+N support CTs | | | 1P+N, 3P, 3P+N support CTs & VTs | | | | |
| Accuracy class | Class 0.5S (IEC 62053-22 and IEC61557-12) Class C (EN50470-3) ⁽¹⁾ | | | | | | | |
| Wiring capacity | 6 mm ² for currents and 4 mm ² for voltages | | | | | | | |
| Display max. | LCD 99999999.9kWh or 99999999.9MWh | | | | | | | |
| Voltage (L-L) | 3 x 100/173 V AC to 3 x 277/480 V AC (50/60 Hz) | | | | | | | |
| IP protection | IP40 front panel and IP20 casing | | | | | | | |
| Temperature | -25°C to 55°C (K55) | | | | | | | |
| Product size | 5 steps of 18 mm | | | | | | | |
| Overvoltage & measurement | Category III, Degree of pollution 2 | | | | | | | |
| kWh | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| kVARh | | | | | ■ | ■ | ■ | ■ |
| Active power | | | | ■ | ■ | ■ | ■ | ■ |
| Reactive power | | | | | ■ | ■ | ■ | ■ |
| Currents and voltages | | | | ■ | ■ | ■ | ■ | ■ |
| Overload alarm | | | | | ■ | ■ | ■ | ■ |
| Hour counter | | | | | ■ | ■ | ■ | ■ |

⁽¹⁾ Only for iEM32xx used with 5 A CTs.

iEM3000/iEM3200 series dimensions



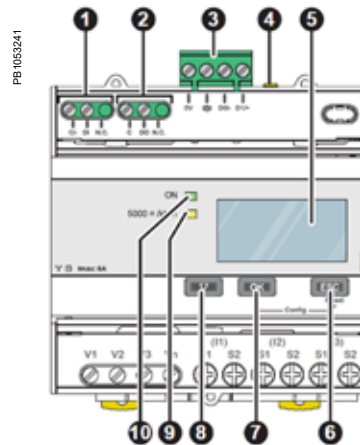
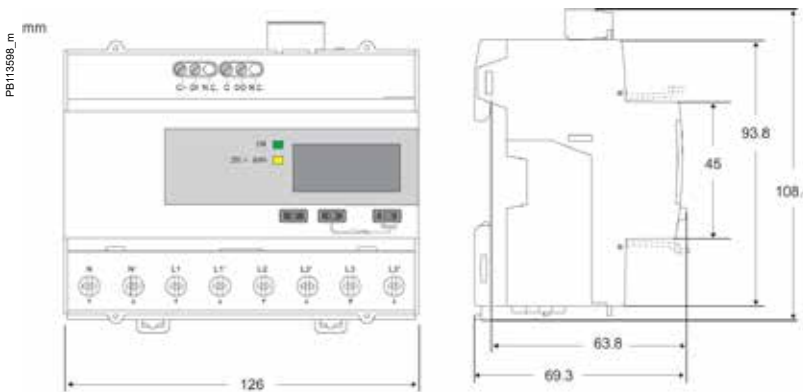
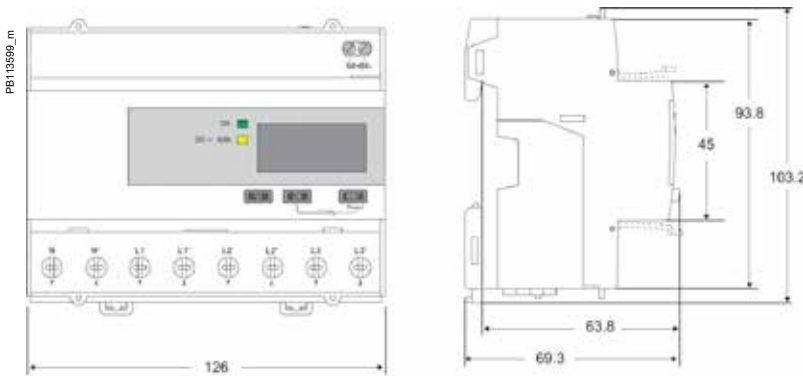
Acti9 iEM3100/iEM3200 Series front flaps open and closed



Acti9 iEM3000 Series parts

1. Digital inputs for tariff control (iEM3115 / iEM3215)
2. Display for measurement and configuration
3. Pulse out for remote transfer (iEM3110 / iEM3210)
4. ESC Cancellation
5. OK Confirmation
6. Selection
7. Flashing yellow meter indicator to check accuracy
8. Green indicator: on/off, error

iEM3300 series dimensions



Acti9 iEM3000 Series parts

1. Digital inputs for tariff control (iEM3115 / iEM3215)
2. Display for measurement and configuration
3. Pulse out for remote transfer (iEM3110 / iEM3210)
4. ESC Cancellation
5. OK Confirmation
6. Selection
7. Flashing yellow meter indicator to check accuracy
8. Green indicator: on/off, error

Please see the appropriate **Installation Guide** for accurate and complete information on the installation of this product.