EM4200 series

The PowerLogic EM4200 Series Enercept power and energy meters provide a unique solution for measuring energy data.

Designed with the user in mind, the EM4200 Series offers maximum application flexibility for retrofit applications. The meter's small form factor enables installation in existing panels with limited space, and does not require external mounting or the expense of extra enclosures or conduit runs.

Applications

Capable of essential cost management:

- Energy monitoring in building automation systems
- Renewable energy monitoring
- Energy management
- Commercial sub-metering
- Industrial monitoring
- Accurate cost allocation

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The solution for

Markets that can benefit from a solution that includes PowerLogic EM4200 series:

- Buildings
- Industry
- Healthcare
- Data centre and networks
- Infrastructure

Benefits

System integrators' benefit

- Ease of integration
- Ease of setup
- Cost effectiveness

Panel builders' benefit

- Ease of installation
- Cost effectiveness
- Aesthetically pleasing
- Simplified ordering

End users' benefit

- Ease of use
- Precision metering & sub-billing
- Billing flexibility
- Comprehensive, consistent and superior performance

Competitive advantages

- High reliability with ANSI C12.20 0.2% accuracy
- Modbus and BACnet protocols along with uni-directional and bi-directional feature sets
- Compatible with CTs from 5 A to 5000 A
- 90 to 480 V AC application versatility
- DIN rail or screw-mount options, including mounting bracket, for easy installation
- Native Modbus RTU and BACnet MS/TP support (no gateway)
- Seamless integration with EcoStruxure™ Power Management software products

Power management solutions

Schneider Electric provides innovative power management solutions to increase your energy efficiency and cost savings, maximise electrical network reliability and availability, and optimise electrical asset performance.

Conformity of standards

- IEC 61557-12
- IEC 62053-22
- IEC 62053-24
- EN 50470-1
- EN 50470-3
- IEC 61010-1
- IEC 61000-4-2
- IEC 61000-4-3
- IEC 61000-4-4
- IEC 61000-4-5
- IEC 61000-4-6
- IEC 61000-4-8
- Etc.

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The EM4200 Series is compatible with split-core, solid-core and rope-style Rogowski current transducers (CT) from 5 to 5000 A, often allowing installers to utilize existing CTs with the meter. Adding to its versatility, the EM4200 has a wide input range of 90 to 480 V AC, alleviating the need to keep multiple models in stock.

With 75 percent of the buildings that will be occupied in 2050 having already been built and a large number of those not meeting today's strict energy codes and standards, a metering solution that can be easily installed and integrated into existing buildings is imperative. The EM4200 Series Enercept brings industry leading flexibility to power and energy monitoring, making it the ideal meter for retrofit applications.

- Features
  - High reliability with ANSI C12.20 0.2% accuracy, IEC 62053-22 Class 0.2S 1/3 Volt Current Input Mode. ANSI C12.20 0.5% accuracy, IEC 62053-22 Class 0.5S Rogowski Current Input Mode.
  - Modbus and BACnet protocols along with uni-directional and bi-directional feature sets in one unit simplifies ordering and stocking options.
  - Compatible with CTs from 5 to 5000 A offers a wide range of service types.
  - 90 to 480 V AC application versatility with fewer models to stock.
  - DIN rail or screw-mount options, including mounting bracket, for easy installation.
  - Native Modbus RTU and BACnet MS/TP support (no gateway) with serial rates up to 115.2 kbaud.
  - Seamless integration with EcoStruxure™ Power Monitoring Expert (PME), EcoStruxure™ Power SCADA Operation.

- Main characteristics
  - Compact, maintenance-free design
    - Easy in-panel mounting
  - Flexible connection
    - The EM4200 is configurable with or without power.
  - Easy communications connection
    - Auto protocol, baud rate, and unidirectional or bi-directional detection.
  - System integration
    - Incorporates easily into existing systems without redesigning networks or wiring.
  - No rewiring required
    - Use existing wiring to connect to existing panels.
  - Integrated communications networks.
    - Onboard Ethernet or RS-485 allows for easy integration into existing communications networks.

Feature selection

Commercial reference number	Description
METSEEM4235	EM4235 Enercept, Class 0.2S meter, Modbus/BACnet communication, Uni-Directional/Bi-Directional, RS-485, IEC wire code, single circuit, Modbus/BACnet
METSEEM4236	EM4236 Enercept, Class 0.2S meter, Modbus/BACnet communication, Uni-Directional/Bi-Directional, RS-485, ANSI wire code, single circuit, Modbus/BACnet

EM4200 series

EM4200 series selection guide

		EM4235	EM4236
General			
Use on LV systems		■	■
Accuracy	+/- 0.2%	■	■
Accuracy compliance	ANSI C12.20 0.2% accuracy, IEC 62053-22 Class 0.2S 1/3 Volt Current Input Mode. ANSI C12.20 0.5% accuracy, IEC 62053-22 Class 0.5S Rogowski Current Input Mode	■	■
Maximum circuits: single-pole / single phase / three-phase	1, 2, or 3ph (A-B-C-N)	■	■
Instantaneous rms values			
Energy	real, kWh received/delivered	■	■
	reactive, kvarh received/delivered	■	■
	apparent, VAh	■	■
Voltage L-L, L-N (3-phase Average and per Phase)		■	■
Voltage and current	V rms, I rms per phase	■	■
Power	real, reactive, apparent	■	■
Power factor 3-phase Average and per Phase		■	■
Measurements available for data logging			
Energy	real, kWh received/delivered	■	■
	reactive, kvarh received/delivered	■	■
	apparent, VAh	■	■
Voltage		■	■
Communication			
Modbus RTU & BACnet MS/TP over RS-485		■	■
Installation options			
Screws		■	■
Clip-on		■	■
Hook		■	■
DIN rail enclosure		■	■

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EM4200 parts descriptions and advantages

The EM4200 Series Enercept was carefully designed for ease of installation, configuration, and operation.

1 Versatile mounting - DIN or screw mount.

2 Phase status - Visual indication of meter performance, tri-coloured LEDs simplify troubleshooting.

3 Meter status - Quick troubleshooting.

4 Settings override - Change the phase or direction through system software with exclusive Swizzle feature.

5 CT amperage rotary - Needed flexibility with CT support from 5 A to 5000 A.

6 Rotary dial setup - Configure with or without power, saving both time and labour costs.

7 Essential protocol support - Modbus, BACnet, and Uni-directional and Bi-directional measurement.

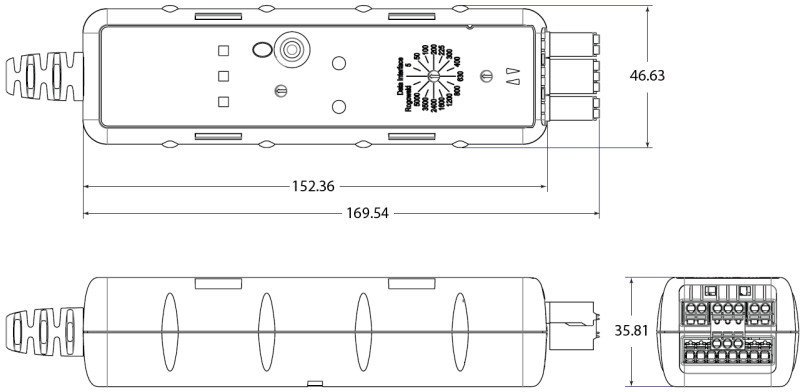
EM4200 series

Electrical characteristics		
Input-voltage characteristics	Inputs	V1, V2, V3, Vn
	Measured voltage	80 - 480 V AC L-L without PTs Up to 999 kV with external PTs
	Frequency range	60 Hz
Mechanical characteristics		
Weight		approx. 4.0 kg
Dimensions		46.63 x 35.81 x 152.36 mm
Environmental conditions		
Operating temperature		-30 °C to 70 °C
Storage temperature		-40 °C to 85 °C
Humidity rating		0% to 95 % RH non-condensing
Enclosure		Type 1 (indoor or enclosed outdoor use)
Altitude		3000 m
Pollution degree		2
Electromagnetic compatibility		immunity to radiated fields, conforming to EN 61326-1
		immunity to radiated fields, conforming to EN 61000-6-2
		immunity to conducted disturbances, conforming to EN 61326-1
		immunity to conducted disturbances, conforming to EN 61000-6-2
		conducted and radiated emissions, conforming to EN 61326 + A1
		conducted and radiated emissions, conforming to EN 61000-6-4
Pollution degree		conducted and radiated emissions, conforming to FCC part 15 class A
Safety and standards		
Certified to IEC/BTL		
CULus conforming to UL 61010-1		
CE conforming to EN 61010-1		
Communication		
Ports		Modbus RTU & BACnet MS/TP over RS-485
Port protocols		BACnet MS/TP : 9600 baud to115200 baud (automatic detection); Modbus RTU : 9600 baud to 115200 baud (automatic detection)

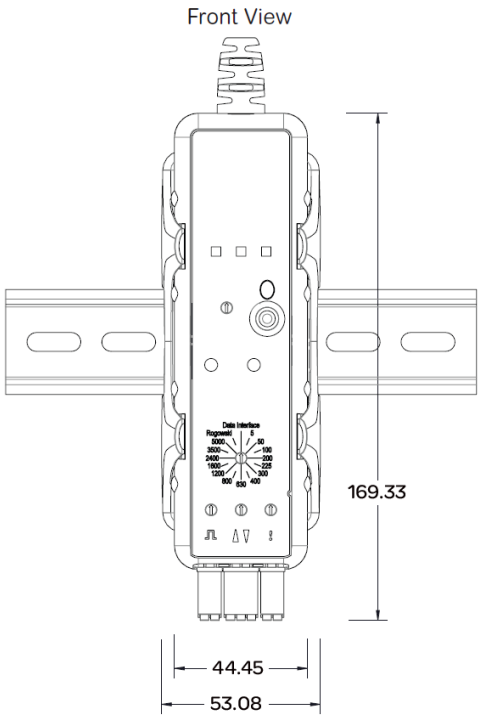
EM4200 series

EM4200 dimensions

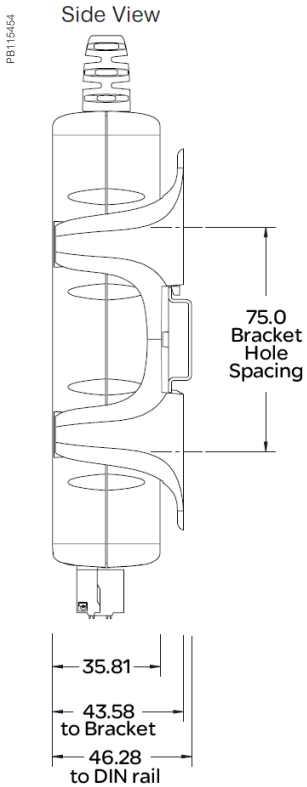
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Schneider Electric Industries SAS
35, Rue Joseph Monier,
CS 30323
F - 92506 Rueil Malmaison Cedex

RCS Nanterre 954 503 439
Capital social 896 313 776
www.schneider-electric.com

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