Energy Meter Range: iEM2xxx and EM2214 Technical Datasheet

iEM2000 series, iEM2400 series, and EM2214

These energy meters offer a cost-attractive, competitive range of single-phase DIN rail-mounted energy meters ideal for sub-billing, cost allocation applications and support two protocols (Modbus RS-485 or M-Bus) that allow them to integrate seamlessly into any energy monitoring system.

Applications

- Monitor power consumption for each floor, office sector, unit or workshop with maximum current from 40 A, 45 A and 100 A.
- Allocate energy cost to lower cost of operations, optimise building's power efficiency.
- Connect to power management software to take full advantage of the IoT-digital power installation.
- Suitable for commercial, industrial, and residential applications.

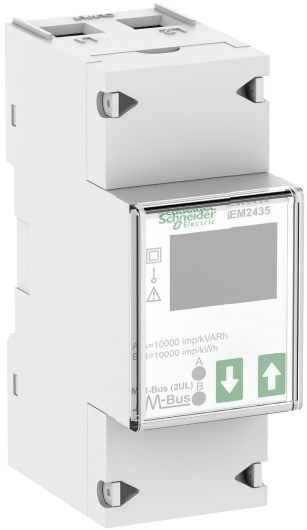
PB108451

A9MEM2000

PB118059

A9MEM2055

PB113702



A9MEM2435

The Solution for:

Markets that can benefit from a solution that includes EM2214 and Acti9 PowerLogic™ iEM2xxx series meters:

- Buildings
- Industry
- Data Centre and Networks
- Infrastructures (airport, road tunnels, telecom...)

Benefits

The EM2214 and Acti9 PowerLogic™ iEM2xxx meters are economical and easy to install in panelboards and switchboards:

- DIN rail mounted, compact size.
- Accurate data measurement with Class 1 accuracy for kWh and Class 2 accuracy for kVARh*.
- Measures basic electrical parameters like voltage, current, frequency, power factor and power*.

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.

*in selected references.

Competitive Advantages*

- Compact size - Compatible with Acti9 range, 18 mm width in iEM2000, 36 mm width in iEM2400 and EM2214.
- Display - available in displayless, electromech counter display or LCD display.
- Communication - Pulse output, Modbus RS-485 or M-Bus communication port.
- Self-powered, direct connect up to 100 A.
- MID, UKCA MIR compliant providing certified accuracy and data security.
- Four quadrant measurement.
- Two tariffs.
- Basic electrical parameter measurement eg. V, I, F, PF, PQS.

Conformity of Standards

- BS/EN/IEC 61557-12:2018/AMD1:2021*
- BS / EN / IEC 62053-21
- BS / EN / IEC 62053-23*
- BS / EN 50470-1/3:2006*
- BS / EN / IEC 62052-11
- BS / EN / IEC 62052-31:2015*
- BS / EN / IEC 61326-1
- BS / IEC / EN 61010-1
- BS / EN / IEC 63000:2018
- CE, UKCA, UKCA MIR certified

EM2214 and iEM2xxx Range Feature Selection

Functions	iEM2000T	iEM2000/iEM2010	iEM2050/ iEM2055	iEM2435/ iEM2455/EM2214
40A Imax	■	■		
45A Imax			■	
63A Imax				
100A Imax				■
Communication port			RS-485	M-Bus (iEM2435) / RS-485 (iEM2455)
Pulse output (Energy)	1	1 (iEM2010)	1	2
Display type	No	Electromechanical Counter	LCD	
Width (mm)	18		17.5	35.8
Multi tariff counter			2	2 (iEM2455, iEM2435)
Wh accuracy (BS/EN/IEC 62053-21)	Class 1			
Compliance to BS/EN/IEC 61557-12	■	■		
VARh accuracy (BS/EN/IEC 62053-23)	Class 2			
4-Quadrants measurement			■	■
MID Class B (BS/EN 50470-3), 50 Hz		■	■ (iEM2055)	■
V I F PF			■	■
Power (P Q S)			■	■

Blank cells indicate that the feature is not available for that product variant.
Contact your Schneider Electric representative for complete ordering information.

EM2214 and Acti9 iEM2xxx Range Technical Specifications

	iEM2000/ iEM2000T/iEM2010	iEM2050/iEM2055	iEM2435/iEM2455/EM2214
Type of measurement	True RMS for single-phase AC systems with direct connect/whole current measurement		
Max. current (Imax)	40 A	45 A	100 A
Basic current (Inom)	5 A		5 A
Starting current	40 mA	20 mA	20 mA
Voltage range (L-N)	184 to 276 Vac	195 to 253 Vac	195 to 253 Vac
Frequency range	50 Hz MID and IEC / 60 Hz IEC		
Maximum kWh resolution	999999.9 kWh	9999.99 kWh to 99999.9 MWh	9999.99 kWh to 99999.9 MWh
Pulse output	100 pulses/kWh (120 ms), 5...35 Vdc, 1...20 mA (except iEM2000)	10000, 2000, 1000, 100, 10, 1, 0.1, 0.01 pulses/kWh (11.2 or 32 ms), 5...27 Vdc, max 100 mA	10000, 2000, 1000, 100, 10, 1, 0.1, 0.01 pulses/kWh, (5...32 ms), 5...27 Vdc, max 100 mA
Meter constant LED	3200 flashes per kWh	10000 flashes per kWh	10000 flashes per kWh
Cable size (power connection)	10 mm^2	10 mm^2	25 mm^2
Cable size (for communications)	4 mm^2	2.5 mm^2	2.5 mm^2
Internal burden, at 240 V L-N, 50 Hz	<10 VA		<10 VA
Active energy	■		
Reactive energy		■	■
Active power		■	■
Reactive power		■	■
Apparent power		■	■
Power Factor		■	■
Current and voltage		■	■
Frequency		■	■
LED for local signalling	Green LED: Power ON Yellow LED: 3200 impulse per kWh	Red LED: 10000 impulse per kWh	Red LED B: 10000 impulse per kWh Red LED A: 10000 impulse per kVARh
CE, UKCA* certification	■		
IP degree of protection (IEC 60529)	IP40 front panel and IP20 casing	IP51 front panel and IP20 casing	IP51 front panel and IP20 casing
Operating temperature	-10°C to +55°C For iEM2000T: Temp range is: I <32 A: -25 °C to +65 °C, I > 32 A: -25 °C to +55 °C (K55)	-40°C to +70°C	
Storage temperature	-40°C to +70°C	-40°C to +80°C	
Humidity at +55°C	<95 %	<75 %	<75 %
Green Premium product (RoHS, China RoHS, REACH, PEP, EOL)	■		
Altitude	<2000 m	<2000 m	<2000 m
Measurement category	Category III		
Pollution degree	2		
Commercial reference number	A9MEM2000 A9MEM2000T A9MEM2010	A9MEM2050 A9MEM2055	A9MEM2435 A9MEM2455 METSEEM2214

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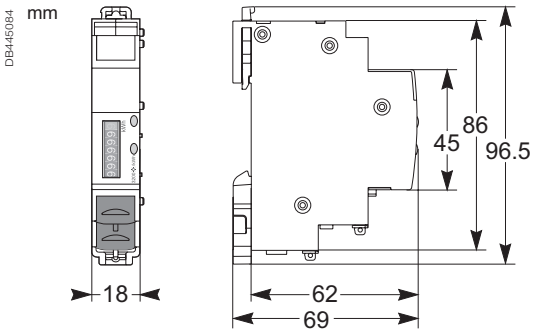
** in selected references.*

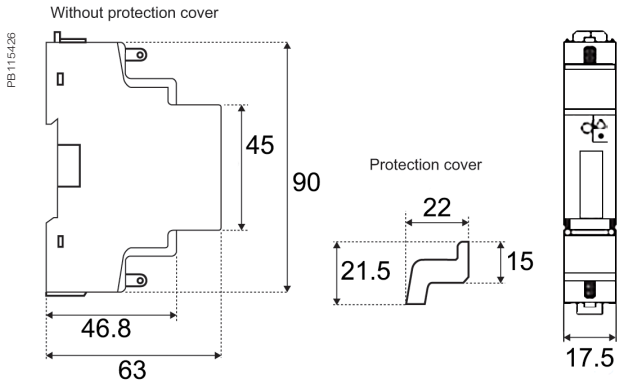
EM2214 and Acti9 iEM2xxx Range Dimensions

iEM2000/iEM2000T/iEM2010 Dimensions



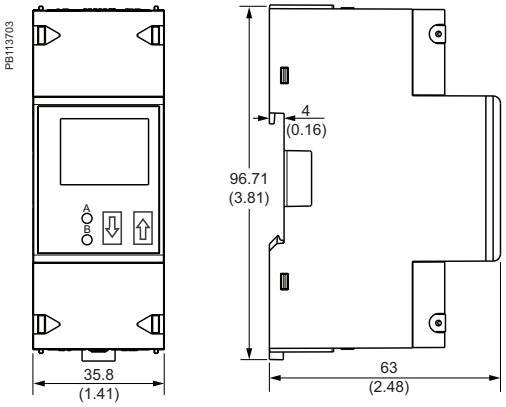
Maximum diameter power connection clamps 8 mm² (solid copper). See the appropriate product Installation Guide for complete instructions

iEM2050/iEM2055 Dimensions



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

iEM2435/iEM2455/EM2214 Dimensions



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

EM2214 and Acti9 iEM2xxx and Range Commercial Reference Numbers

Commercial Reference Number	Product Description
A9MEM2000T	iEM2000T energy meter, Class 1, 230 V, 40 A, pulse output, no display
A9MEM2000	iEM2000 energy meter, Class 1, 230 V, 40 A, MID, electromechanical counter display
A9MEM2010	iEM2010 energy meter, Class 1, 230 V, 40 A, MID, pulse output, electromechanical counter display
A9MEM2050	iEM2050 power and energy meter, Class 1, 230 V, 45 A, RS-485, 2 tariffs, pulse output, LCD display
A9MEM2055	iEM2055 power and energy meter, Class 1, 230 V, 45 A, RS-485, MID, 2 tariffs, pulse output, LCD display
A9MEM2435	iEM2435 power and energy meter, Class 1, 230 V, 100 A, M-Bus, MID, 2 tariffs, 2 pulse outputs, 4 quadrants, LCD display
A9MEM2455	iEM2455 power and energy meter, Class 1, 230 V, 100 A, RS-485, MID, 2 tariffs, 2 pulse outputs, 4 quadrants, LCD display
METSEEM2214	EM2214 power and energy meter, Class 1, 230 V, 100 A, MID, 2 pulse outputs, 4 quadrants, LCD display

Contact your Schneider Electric representative for complete ordering information.

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As standards, specifications and designs develop from time to time, please ask for confirmation of the information given in this document.