PowerLogic™

Electrical network management

Energy management, revenue metering and power quality monitoring





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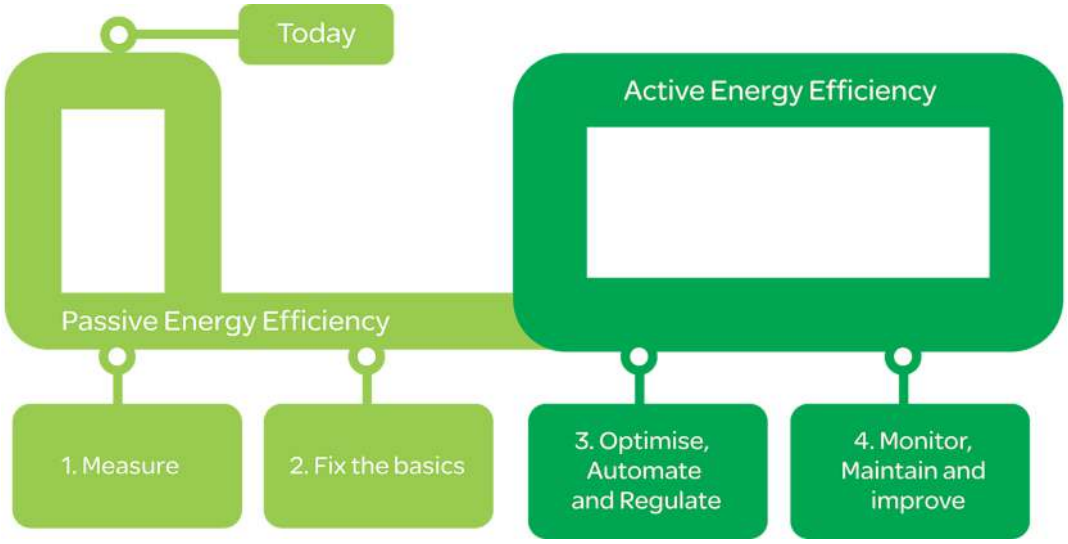
Insulation monitoring devices 240
Vigilohm insulation monitoring devices

Commercial reference numbers 247

Clicking on a **Commercial Reference Number** or scanning the product's **QR Code** links you to further product information on **www.se.com**

PowerLogic™ System is…

Schneider Electric believes every business can increase productivity while consuming less and achieving energy savings of 10% to 30%.



Saving energy reduces costs and pollution, but you need the tools to uncover all opportunities, avoid risks, track progress against goals, and verify success. Schneider Electric provides these tools via the world's most advanced energy intelligence technology: PowerLogic.

A PowerLogic system of meters, software and power quality solutions help manage all energy assets, every second of the day. A PowerLogic system enables all stakeholders, from CEO to facility and engineering managers, to respond quickly to potential problems and manage energy in financial and environmental terms.

PowerLogic technology delivers the key performance indicators and analytics that you need to strategically balance emissions, efficiency, reliability and cost.

PowerLogic technology forms one part of your total energy management solution from Schneider Electric. As the global energy management specialist, we offer end-to-end power, building and process management solutions that help you optimize energy use and costs, improve performance, enhance comfort and safety, and deliver uninterrupted service while taking responsible care of our planet.

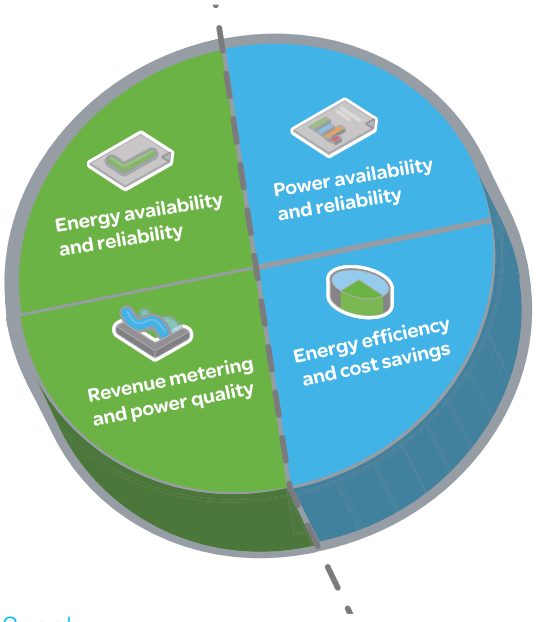
Our expert services can help you audit your energy use and build your energy action plan. From power factor correction systems, harmonic filtering and variable speed drives to HVAC and lighting controls, we offer a complete range of energy efficient technologies.

Gain energy insight and control with PowerLogic™ systems

Cutting-edge technology to increase profitability

PowerLogic technology converts the complex dynamics governing the relationship between power generation and distribution on the utility side, and energy consumption, cost and reliability on the consumer side, into timely, easily understood information. Businesses can use this powerful to improve tactical actions and strategic decision making.

From a single facility to an entire enterprise, PowerLogic meters monitor key distribution points 24 hours a day. Whether from generators, substations, service entrances, mains, feeders, loads or 3rd party equipment and systems, PowerLogic technology tracks, records and reports all real-time conditions and historical performance data. Intuitive web-based interfaces give stakeholders access to this data as well as advanced analytics, alarm annunciation and control capabilities. It supports comprehensive energy management programs by tracking performance and empowering you to make effective decisions.



Supply

Energy availability and reliability

- Improve T&D network reliability
- Enhance substation automation
- Maximize the use of your existing infrastructure

Revenue metering and power quality

- Maximize metering accuracy at all interchange points
- Verify compliance with new power quality standards
- Analyse and isolate the source of power quality problems

Demand

Power availability and reliability

- Validate that power quality complies with the energy contract
- Identify power quality issues and fix them quickly with reliable mitigation solutions
- Improve response to power-related problems
- Leverage existing infrastructure capacity and avoid over-building
- Support proactive maintenance to prolong asset life

Energy efficiency and cost savings

- Measure efficiency, reveal opportunities and verify savings
- Manage greenhouse gas emissions
- Allocate energy costs to departments or processes
- Reduce peak demand and power factor penalties
- Enable participation in loadcurtailment programs (e.g. demand response)
- Strengthen rate negotiation with energy suppliers
- Identify billing discrepancies
- Sub-bill tenants for energy costs

Market segments





Industry

From finance to engineering, PowerLogic technology gives industry professionals the energy intelligence and control they need to support strategic decisions and establish best energy practices. It will help you reduce operational costs and meet new emissions standards without compromising production schedules or product quality.

Key points are monitored throughout your power distribution, building and backup systems. Enterprise-level software helps you maximize the use of your existing energy assets, increase energy efficiency and avoid demand or power factor penalties. Use it to uncover and solve hidden power problems that can shorten equipment life or cause costly downtime.

- Cost allocation
- Procurement optimization
- Power factor correction
- Continuity of service even in case of an earth fault

Buildings

Building managers through operations staff can cut energy and maintenance costs without effecting the comfort or productivity of their tenants, employees, students, patients or customers. A PowerLogic system will track all utilities and equipment conditions, and enterprise-level software will help you analyse and improve electrical reliability.

You can forecast energy requirements, optimize multi-site contracts and accurately allocate or sub-bill costs. Key performance indicators help you find and sustain energy savings, reduce emissions and meet “green” building standards in order to increase asset value and attract or retain tenants..

- Tenant sub-billing
- Cost allocation
- Energy efficiency & benchmarking
- Procurement optimization
- Power availability
- Demand response / load curtailment





Utilities

Today's energy market is more complex than ever before. Whether you generate, transmit or distribute electricity, more stakeholders need shared access to timely, accurate energy data from more exchange points and you need to maintain power availability and reduce price volatility in the face of rising demand and transmission congestion. A PowerLogic energy information system helps you meet all of these challenges by:

- Metering all key interchange points with the highest possible accuracy
- Improving the quality of power delivered to your customers
- Ensuring the reliability and efficiency of your network and equipment

From advanced energy and power quality metering systems to enterprise-level analytic software and power quality mitigation solutions, PowerLogic systems deliver business-critical information that conventional metering, SCADA and billing systems cannot. It gives you the energy intelligence and control needed to track performance, stay informed of critical conditions and empower you to make strategic decisions. It will help you increase reliability, maximize the use of resources and improve service.

- Revenue metering
- Power quality monitoring
- Power availability and reliability
- Insulation monitoring

Critical infrastructure

PowerLogic technology helps keep your systems operating continuously and securely with an economical supply of energy. Whether you manage data, communication, transportation or environmental services, minimising the risk of power-related downtime and keeping costs under control is a priority.

A PowerLogic system monitors all power and cooling systems, accurately tracks their energy consumption, and allows you to identify and fix power quality issues as soon as they arise. Enterprise-level software delivers insightful diagnostics and metrics to help verify the reliability of your backup systems and maximize the use of existing capacity to defer new capital investments. You can also reveal energy inefficiencies and strengthen energy procurement across multiple sites.

- Infrastructure optimization
- Power quality analysis compliance
- Alarming and event notification
- Energy efficiency
- Cost allocation
- Procurement optimization

Panorama of the PowerLogic range

Use this panorama to select the most efficient products for your application needs

Current transformers



Panel instruments



CTs Ip / 5 A	Name	iAMP	iVLT	AMP/VLT	iFRE	iCH/iCI
current transformer	**Function**	ammeter, voltmeter	ammeter, voltmeter	ammeter, voltmeter	frequency meter	hour counter pulse counter
Installation i. Solid Core CTs ■ Insulated Cable, diameter 21 to 35 mm ■ busbar through transformer ■ cable connections ii. Split Core CTs ■ CT installation without the need to uninstall and reinstall power conductors ■ Cable and Busbar connections	**Applications** **Panel instrumentation**					
	Panel instrumentation	I / U	I / U	I / U	F	hours/pulses
	Energy efficiency & cost					
	Sub-billing & cost allocation					
	Demand & load management					
	Billing analysis					
	Power availability & reliability					
	Compliance monitoring					
	Sag/swell, transient					
	Harmonics					
	Revenue metering					
	Revenue meter					
Characteristics i. Solid Core CTs ■ transformation ratio : 40/5 A to 6000/5 A ■ accuracy : class 0.5 to 3 ■ maximum rated operational voltage : 720 V AC ■ tropicalised range 25 °C to +60 °C (1) relative humidity > 95 % (1) Warning: some products are limited to +50 °C. ii. Split Core CTs ■ transformation ratio : 100/5A to 4000/5A ■ accuracy : class 0.5 to 3 ■ maximum rated operational voltage : 720 V AC ■ Cable connection : -5°C to +50°C relative humidity 5–85 % ■ Busbar connection : 5°C to +40°C relative humidity 5–85 %	**Characteristics**					
	Measurement accuracy	Class 1.5	± 0.5 % ± 1 digit	Class 1.5	± 0.5 % ± 1 digit	
	Installation	DIN rail 4 x 18 mm modules	DIN rail 2 x 18 mm modules	flush mounted 72 x 72 mm 96 x 96 mm	DIN rail 2 x 18 mm modules	iCI, iCH: DIN rail 2 x 18 mm modules CH: flush mount
	Measurement	iAMP: 30 A direct or external CT	iVLT: 600 V AC direct or external VT	VLT: 500 V AC direct or external VT AMP: external CT	400 V AC direct	
	Communication ports					
	Inputs / Outputs					
	Memory capacity					
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Panorama of the PowerLogic range (cont'd)

Basic energy metering






Name	iEM2000/iEM2010/ iEM2000T/iEM2100	iEM3000 Series	PM3000 Series	PowerTag Energy Series
Function	kilowatt-hour meter	kilowatt-hour meters	metering & sub-metering Class 0.5S IEC 62053-22 Class 1 IEC 62053-21 Class 2 IEC 62053-23	wireless power & energy meter
Applications				
Panel instrumentation				
Panel instrumentation	E	I, U, F, P, Q, S, PF, E (Power demand and current demand)	I, U, F, P, Q, S, PF, E (Power demand and current demand)	I, U, F, P, Q, S, PF, E (Depending on reference; Power demand depending on gateway)
Energy efficiency and cost				
Sub-billing & cost allocation				cost allocation
Demand & load management				
Billing analysis				
Power availability & reliability				
Compliance monitoring				
Dip/swell, transient				
Harmonics				
Revenue metering				
Revenue meter				
Characteristics				
Measurement accuracy	Class 0.5S / Class 1	Class 0.5S / Class 1	Class 0.5	IEC 61557-12 PMD/DD Class 1 (active energy)
Installation	DIN rail 1, 2, 5, or 7 x 18 mm modules	DIN rail	DIN rail	on product or on cables depending on the reference
Voltage measurement	400 V AC direct	50 V to 330 V (Ph-N) 80 V to 570 V (Ph-Ph) up to 1MV AC (ext VT)	50 V to 330 V AC (Ph-N) 80 V to 570 V AC (Ph-Ph) up to 1M V AC (ext VT)	up to 277 V AC (Ph-N) / 480 V AC (Ph-Ph) depending on the reference
Current measurement	40 to 125 A direct or external CT	external CT	external CT	63 to 2000 A
Communication ports Inputs / Outputs Memory capacity		1 2 I/O	1 2 I/O	Wireless
	page 44	page 51	page 58	page 64

Panorama of the PowerLogic range (cont'd)

Wireless products

Basic multi-function metering









Name	PowerTag Control	HeatTag Smart Sensor	PM5000 Series	PM5350 Series
Function	Circuit monitoring & control IEC 60364-8-1 EN 17267 ISO 50010	Early detection of overheating wire connections or overheating cables	metering & sub-metering Class 0.5S IEC 62053-22 Class 1 IEC 62053-21 Class 2 IEC 62053-23	Class 0.5S IEC 62053-22 Class 2 IEC 62053-23 Class 1 IEC 61557-12

Applications

Panel instrumentation				
Panel instrumentation		**Analysis of gas and micro-particles, Temperature, Humidity**	**I, U, F, P, Q, S, PF, E (Power demand and current demand)**	**I, U, F, P, Q, S, PF, E (Power demand and current demand)**
Energy efficiency and cost				
Sub-billing & cost allocation			■	■
Demand & load management				
Billing analysis				
Power availability & reliability				
Compliance monitoring			■	
Dip/swell, transient				
Harmonics			■	■
Revenue metering				
Revenue meter				

Characteristics

Measurement accuracy		Temperature ±-1.1 °C Humidity ± 9 RH%	Class 0.5S	Class 0.5
Installation	DIN rail	DIN rail 6 x 18 mm modules	Flush mount or DIN rail	Flush mount 96 mm x 96 mm
Voltage measurement			60 V to 400 V AC L-N 103.5 to 690 V AC L-L	PM53xx 20-400 V L-N 20-690 V L-L
Current measurement			external CT	external CT
Communication ports	Wireless		1	1
Inputs / Outputs	2 I/O		2 I/O	2 I/O
Memory capacity				
	page 101	**page 105**	**page 109**	**page 122**

Panorama of the PowerLogic range (cont'd)

Advanced metering





Name	PM8000 Series	ION9000
Function	energy & basic powwer quality meter IEC 62053-22 Class 0.2S ANSI C12.20 Class 0.2 IEC 61000-4-30 Class S IEC 62586-2 IEC 61557-12 PMD/Sx/K70/0.2 IEC / UL 61010-1	energy & advanced power quality meter IEC 62053-22 Class 0.1S ANSI C12.20 Class 0.1 IEC 61000-4-30 Class A IEC 62586-1 / -2 IEC 61557-12 PMD/Sx/K70/0.2 IEC / UL 61010-1
Applications		
Panel instrumentation		
Panel instrumentation	I, U, F, P, Q, S, PF, E, THD, Min/Max, harm, alarm, I/O (I, U unbalance, demand, clock/cal, dip/swell)	I, U, F, P, Q, S, PF, E, THD, Min/Max, harm, alarm, I/O (I, U unbalance, demand, clock/cal, dip/swell, transients, flicker, RVC, mains signalling, 1/2 cycle RMS)
Energy efficiency and cost		
Sub-billing and cost allocation		
Demand and load management		
Billing analysis		
Power availability & reliability		
Harmonics		
Dip/swell, transient	dip/swell	
Compliance monitoring		
Revenue metering		
Revenue metering		

Characteristics

Measurement accuracy (active energy)	IEC 62053-22 Class 0.2S ANSI C12.20 Class 0.2	IEC 62053-22 Class 0.1S ANSI C12.20 Class 0.1
Installation	Flush & DIN 96 mm x 96 mm	Flush & DIN 160 mm x 160 mm Display 96 mm or 197 mm x 175 mm
Voltage measurement	57-400 V AC L-N 3P (100-690 V AC L-L)	57-400 V L-N AC or 100-690 V L-L AC
Current measurement	external CT	external CT
Communication ports	3	4
Inputs / Outputs	up to 27 DI, 9 DO up to 16 AI, 8 AO	up to 32 DI, 4 DO, 10 RO (relay) up to 16 AI, 8 AO
Memory capacity	512 MB	2 GB
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Panorama of the PowerLogic range (cont'd)

Advanced utility metering







Name	ION7400	ION8650 A	ION8650 B	ION8650 C	ION8800 A	ION8800 B	ION8800 C
Function	energy & basic power quality meter IEC 61557-12 IEC 62053-22 IEC 61000-4-30 Class S IEC 62586 ANSI C12.20 Class 0.2 PMD/Sx/K70/0.2	energy & power quality meter IEC 62052-11 IEC 62053-22/23 Class 0.2S IEC 61000-4-30 Class A			energy & power quality meter IEC 62052-11 IEC 62053-22/23 Class 0.2S IEC 61000-4-30		
Applications							
Panel instrumentation							
Panel instrumentation	I, U, F, P, Q, S, PF, E, THD, Min/Max, harm, alarm, I/O (I, U unbalance, demand, clock/cal)	I, U, F, P, Q, S, PF, E (demand, minimum and maximum values)			I, U, F, P, Q, S, PF, E (demand, minimum and maximum values)		
Energy efficiency & cost							
Sub-billing and cost allocation	●	●	●	●	●	●	●
Demand and load management	●	●	●	●	●	●	●
Billing analysis	●	●	●	●	●	●	●
Power availability & reliability							
Harmonics	●	●	●	●	●	●	●
Dip/swell, transient	dip/swell	●	●	●	●	●	●
Compliance monitoring	●	●	●	●	●	●	●
Revenue metering							
Revenue metering	●	●	●	●	●	●	●
Characteristics							
Measurement accuracy (active energy)	IEC 61053-22 Class 0.2S ANSI 12.20 Class 0.2S	Class 0.2S			Class 0.2S		
Installation	Flush & DIN rail mount 96 mm x 96 mm	ANSI socket mount 9S, 35S, 36S, 39S and 76S; FT21 switchboard case			DIN 43862 rack		
Voltage measurement	57-400 V AC L-N 3P (100-690 V AC L-L)	57-277 V L-N AC (9S, 36S); 120-480 V L-L AC (35S)			57-288 V L-N AC or 99-500 V L-L AC		
Current measurement	external CT	external CT			external CT		
Communication ports	2	5			5		
Inputs / Outputs	up to 27 DI, 9 DO up to 16 AI, 8 AO	up to 22 I/O			up to 16 I/O		
Memory capacity	512 MB	10 MB	4 MB	2 MB	up to 10 MB		
	page 156	page 166			page 176		

Panorama of the PowerLogic range (cont'd)

Multi-circuit metering






Name	HDPM6000	BCPM	EM4000	EM4800
Function	3-phase power quality meter; branch-circuit accessory module hub	branch circuit monitor IEC 61036 Class 1	multi-circuit energy meter Class 0.5 ANSI C12.1, C12.20 Class 0.5S IEC 62053-22	multi-circuit energy meter Class 0.5 ANSI C12.1, C12.20 Class 0.5S IEC 62053-22
Applications				
Panel instrumentation				
Panel instrumentation		**I, U, F, P, Q, S, PF, E (Power demand and current demand)**	**I, U, F, P, Q, S, PF, E (Power demand and current demand)**	**I, U, F, P, Q, S, PF, E (Power demand and current demand)**
Energy efficiency and cost				
Sub-billing and cost allocation				
Demand and load management				
Billing analysis				
Power availability and reliability				
Compliance monitoring				
Sag/swell, transient				
Harmonics				
Revenue metering				
Revenue meter				
Characteristics				
Measurement accuracy		Class 1 (mains active energy)	Class 0.5S	Class 0.5S
Installation		Panel or enclosure	Panel or enclosure	Panel or enclosure
Voltage measurement		90 – 277 V L-N voltage Inputs	80 - 480 V AC L-L without PTs, Up to 999 kV with external PTs	80 - 480 V AC L-L without PTs, Up to 999 kV with external PTs
Current measurement		CT strips for branch circuits and external CTs for mains	Split- or solid-core CTs	Split- or solid-core CTs
Communication ports		1 for main	2	2
Inputs / Outputs			2	2
Memory capacity				
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Panorama of the PowerLogic range (cont'd)

Multi-circuit metering

Retrofit products







Name	EM4900	EM3500	EM4200
Function	multi-circuit energy meter Class 0.5 ANSI C12.1, C12.20 Class 0.5S IEC 62	DIN rail power & energy meter ANSI 12.20 0.2% accuracy, IEC 62053-22 Class 0.2S for EM35xx models, ANSI C12.20 0.5% accuracy, IEC 62053-22 Class 0.2S for EM35xxA models	power & energy meter ANSI C12.20 0.2% IEC 62053-22 Class 0.2S
Applications			
Panel instrumentation			
Panel instrumentation	**I, U, F, P, Q, S, PF, E (Power demand and current demand)**	**I, U, F, P, Q, S, PF, E (Power demand and current demand)**	**I, U, F, P, Q, S, PF, E (Power demand and current demand)**
Energy efficiency and cost			
Sub-billing and cost allocation			
Demand and load management			
Billing analysis			
Power availability and reliability			
Compliance monitoring			
Sag/swell, transient			
Harmonics			
Revenue metering			
Revenue meter			
Characteristics			
Measurement accuracy	Class 0.5S	Class 1 (mains active energy)	ANSI C12.20 Class 0.2S IEC 62053-22 Class 0.2S
Installation	Panel or enclosure	Panel or enclosure	DIN or screw, clip-on or hook
Voltage measurement	150 – 480 V AC L-L without PTs Up to 999 kV with external PTs	UL: 90 V L-N to 600 V L-L; CE: 90 V L-N to 300 V L	890 - 480 V AC L-L
Current measurement	Split- or solid-core CTs	EM35xxA models work exclusively with Rogowski coil CTs.	5 A to 5000 A
Communication ports	2	1 for main	2
Inputs/Outputs	2	(see Datasheet)	
Memory capacity			
	page 218	**page 228**	**page 234**

Panorama of the PowerLogic range (cont'd)

Insulation monitoring Devices



Name	Vigilohm™ Insulation monitoring devices
Function	Insulation monitoring for IT / Ungrounded networks
Features	
RS-485 / Ethernet gateway	RS-485
Devices supported	Insulation Monitors: IM9, IM9-OL, IM10, IM20 IM10-H, IM20-H, IM400 series IM400THR Insulation Fault Locators: IFL 12, IFL 12C, IFL 12MC, IFL 12H Accessories: Including voltage adaptors, cardews, toroids
Web server with standard HTML pages	
Web server with custom HTML pages	
Real time data	Available on product supervision e.g.PME, Com'X 510
Historical data	Available on product supervision e.g.PME, Com'X 510
Automatic notification	Available in supervision PME
Alarm and event logs	Available in supervision PME
Waveform display	
Custom animated graphics	
Manual/automatic reports	
Characteristics	
Ethernet ports Modbus TCP/IP protocol	An IT earthing system -also called ungrounded system- allows the network to operate even in the presence of an insulation fault, without endangering people or property. Required as part of the IT network, an Insulation Monitoring Device (IMD) detects the insulation fault and locates it so it can be repaired.
RS-485 (2-wire / 4-wire) ports, Modbus protocol	
Number of devices connected directly	
RS-232 configuration ports	
Miscellaneous	
Installation	

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Current transformers

Schneider Electric is the global specialist in energy management with the most complete power monitoring product line. Current Transformers are essential components designed to be used with Schneider Electric's extensive power monitoring product portfolio. From simple energy meters to world class power quality meters, these proven products satisfy any requirement.

PB119870 PB119864 PB100316-35 056852NMD-2 056854NMD-2



METSECT5CC04



METSECT5MB025



METSECT5CYL1

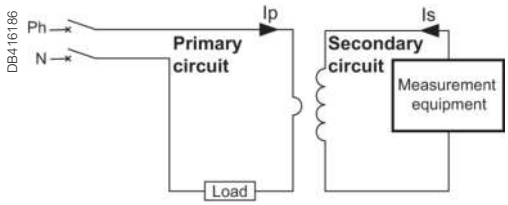


METSECT5GD025



METSECT5HA025

Ip/5 A ratio



Application diagram of a CT.

The Ip/5 A ratio current transformer delivers at the secondary a current (Is) of 0 to 5 A that is proportional to the current measured at the primary (Ip). This allows them to be used in combination with measurement equipment:

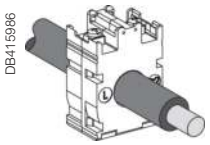
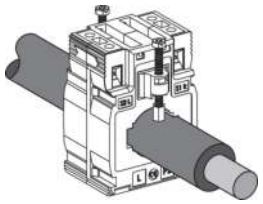
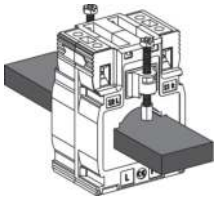
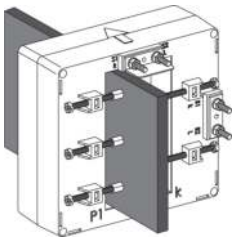
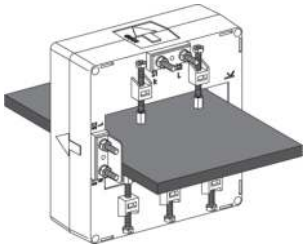
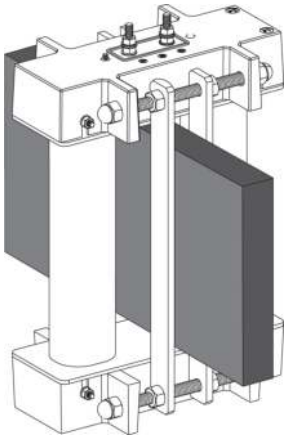
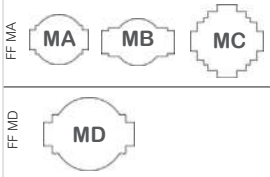
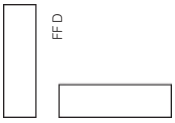
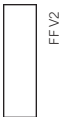
- Ammeters.
- Kilowatt-hour meters.
- Measurement units.
- Control relays.
- etc.

When the primary is energized, the measurement equipment nearly acts as a short circuit which keeps the secondary voltage very low. This voltage will increases significantly if the short circuit is removed.

CT selection - conductor rating aspects

The choice depends on the conductor profile and the maximum intensity of the primary circuit.

CT with let-through primary

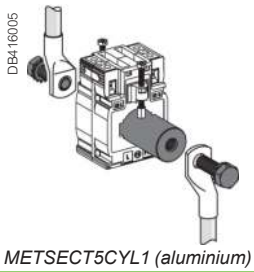
Conductor type	Cable	Mixed, bars or cables	Vertical or horizontal bars	Vertical bars
Suggested Current Transformer and mounting		 	 	
Ratings (A)	40 to 250	150 to 800	200 to 4000	5000 to 6000
CT internal	**Type C**	**Type M**	**Type D (1)**	**Type V**
				

***(1)** Two secondary connectors (parallel internal wiring - only one secondary winding) for easier cable access. 1 lateral + 1 on one extremity. Warning: only one must be used at a time.*

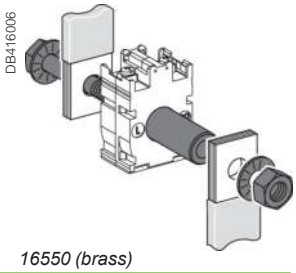
Specific mounting: use of cylinder

A cylindrical metallic spacer ensures a proper CT positioning when the conductor or the CT cannot be positioned perpendicular. Secured by bolt + nut.

CT with primary connection by screw and nut
(example: use of cylinder with bar or cable)



METSECT5CYL1 (aluminium)



16550 (brass)

NOTE: This document is not intended to be used as an installation guide.

CT selection - Electrical aspect Ip/5 A

- We recommend that you choose the ratio immediately higher than the maximum measured current (In).
  Example: In = 1103 A; ratio chosen = 1250/5.
- For small ratings: From 40/5 to 75/5 and for an application with digital devices, we recommend that you choose a higher rating, for example 100/5. This is because small ratings are less accurate and the 40 A measurement, for example, will be more accurate with a 100/5 CT than with a 40/5 CT.
- Specific case of the motor starter: to measure motor starter current, you must choose a CT with primary current Ip = Id/2 (Id = motor starting current).

Validation of measurement solution according to accuracy class

It consists in controlling the right adaptation of the CT on the accuracy class aspect. The accuracy class is specified in the project. The total dissipated power of the measurement circuit (meter + cables) should not be superior to the specified limit of the CT. This limit is for different standard classes. If necessary, the choice of the cable section, the CT or meter should be modified to fit the requirement.

Copper cable cross-section (mm²)	Power per doubled meter at 20 °C (VA)
1	**1**
1.5	**0.685**
2.5	**0.41**
4	**0.254**
6	**0.169**
10	**0.0975**
16	**0.062**

Schneider Electric device	Consumption of the current input (VA)
Ammeter 72 x 72 / 96 x 96	**1.1**
Analog ammeter	**1.1**
Digital ammeter	**0.3**
PM8000	**0.15**
PM3000	**0.3**
PM5000	
iEM3000	

For each temperature variation per 10 °C bracket, the power drawn up by the cables increases by 4 %.

Application example

Project specification: **200 A**, in **Ø27** mm cable, accuracy class 1.
Our choice is **METSECT5MA020**.

For this CT selected on the chart (next page), the max acceptable power is **7 VA** (for "Accuracy class 1" which is specified in the project).

FF ME

Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Commercial reference number	Accuracy class 0.5 (Max. power VA)	1 (Max. power VA)	3 (Max. power VA)
MA							
	**Ø27**	10 x 32	150	METSECT5MA015	3	4	-
		15 x 25	200	**METSECT5MA020**	4	7	-
			250	METSECT5MA025	6	8	-
			300	METSECT5MA030	8	10	-
			400	METSECT5MA040	10	12	-

Control of the conformity of the measurement chain:
- PM3000 multi-meter: 0.3 VA.
- 4 meters of 2.5 mm², doubled wires: 0.41 x 4 = 1.64 VA.

***Total:** 0.3 + 1.64 = 1.94 VA (< 7 VA)*

***Conclusion:** this CT is well adapted as the accuracy class will be even better than 1.*

Hazard Label

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe elecrical work practices. See NFPA 70E in the USA, CSA Z462 or applicable local standards.
- Turn off all power supplying this device and the quipment in which it is installed before working on the device or equipment.
- Always use a properly rated voltage sensing device to confirm that all power is off.
- Treat I/O wiring connected to multiple devices as hazardous live until determined otherwise.
- Do not exceed the device's ratings for maximum limits.
- Do not use this device for critical control or protection applications where human or equipment safety relies on the operation of the control circuit.
- Disconnect all the device's input and output wires before performing dielectric (hi-pot) or Megger testing.

CT DAMAGE

- Never open circuit a current transformer (CT)
- Do not open the CT case.
- Do not attempt to repair any components of the CT.

Failure to follow these instructions will result in death or serious injury.

PB118085

Presentation of commercial reference numbers

MET SE CT [X] [XX] [XXX]

- X: 1 = 1 Amp; 5 = 5 Amp; R = Rogowski
- XX: 2 letters = Form Factor
- XXX: Last 3 digits = primary rating/10

Examples:

METSECT5CC008 = 5 A secondary, Cables only, 75 A primary
METSECT5MC080 = 5 A secondary, mixed for cables and bars, 800 A primary
METSECTR30500 = Rogowski CT, 300 mm length, 96 mm diameter 50 A to 5000 A

PB112446



METSECT5CC●●●

PB112461



METSECT5MB●●●

PB112460



METSECT5MA●●●

PB112462



METSECT5MC●●●

PB112463

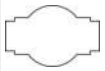
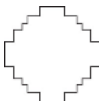
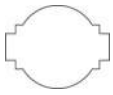


METSECT5MD●●●

Type C - solid core current transformer (cable profile)

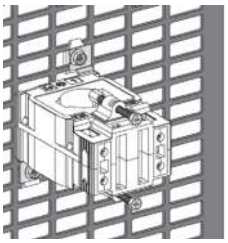
Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Commercial ref number
CC				
FF CC 	**Ø21**	-	40	**METSECT5CC004**
			50	**METSECT5CC005**
			60	**METSECT5CC006**
			75	**METSECT5CC008**
			100	**METSECT5CC010**
			125	**METSECT5CC013**
			150	**METSECT5CC015**
			200	**METSECT5CC020**
			250	**METSECT5CC025**

Type M - current transformers (mixed: cable/bar profile)

Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Commercial ref number
MB				
FF MB 	**Ø26**	**12 x 40** **15 x 32**	250	**METSECT5MB025**
			300	**METSECT5MB030**
			400	**METSECT5MB040**
MA				
FF MA 	**Ø27**	**10 x 32** **15 x 25**	150	**METSECT5MA015**
			200	**METSECT5MA020**
			250	**METSECT5MA025**
			300	**METSECT5MA030**
			400	**METSECT5MA040**
MC				
FF MC 	**Ø32**	**10 x 40** **20 x 32** **25 x 25**	250	**METSECT5MC025**
			300	**METSECT5MC030**
			400	**METSECT5MC040**
			500	**METSECT5MC050**
			600	**METSECT5MC060**
			800	**METSECT5MC080**
MD				
FF MD 	**Ø40**	**12 x 50** **20 x 40**	500	**METSECT5MD050**
			600	**METSECT5MD060**
			800	**METSECT5MD080**

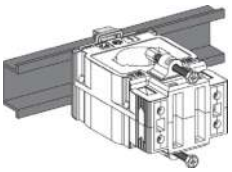
See your Schneider Electric representative for complete ordering information.

DB415926



Mounting plate installation.

DB415927



DIN rail mounting.

Common characteristics

Secondary current Is (A)	5 A
Maximum voltage rating Ue (V)	720 V
Frequency (Hz)	50/60 Hz
Safety factor (sf)	40 to 4000 A: sf ⩽ 5 5000 to 6000 A: sf ⩽ 10
Degree of protection	IP20
Operating temperature	tropicalised range -25°C to +60°C (1) relative humidity > 95 %
Storage temperature	-40°C to +85°C
Compliance with standards	IEC 61869-2 VDE 0414
Secondary connection (as per model)	by terminals for lug by tunnel terminals by screws

***(1) Warning:** some products are limited to +50°C.*

Type C - solid core current transformer (cable profile)

Internal profile type	Accuracy class 0.5	1	3	Max. power (VA)	Overall dimensions (refer to drawing pages for details) W x H x D (mm)	Fastening mode	Accessories Cylinder PB112451 PB112452	
CC					**Dimension (mm)**		**Commercial ref no.**	
FF CC	-	-	1		**44 x 66 x 37**	■ Adapter for DIN rails. ■ Mounting plate.	**16550** **METSECT5CYL1**	**Included**
	-	1.25	1.5					
	-	1.25	2					
	-	1.5	2.5					
	2	2.5	3.5					
	2.5	3.5	4					
	3	4	5					
	4	5.5	6					
	5	6	7					
MB								
FF MB	3	5	-		**60 x 85 x 63**	■ Adapter for DIN rails. ■ Mounting plate.	-	**METSECT5COVER**
	4	6	-					
	6	8	-					
MA								
FF MA	3	4	-		**56 x 80 x 63**	■ Adapter for DIN rails. ■ Mounting plate.	**METSECT5CYL2**	**METSECT5COVER**
	4	7	-					
	6	8	-					
	8	10	-					
	10	12	-					
MC								
FF MC	3	5	-		**70 x 95 x 65**	■ Adapter for DIN rails. ■ Mounting plate.	-	**METSECT5COVER**
	5	8	-					
	8	10	-					
	10	12	-					
	12	15	-					
	10	12	-					
MD								
FF MD	4	6	-		**70 x 95 x 65**	■ Adapter for DIN rails. ■ Mounting plate.	-	**METSECT5COVER**
	6	8	-					
	8	12	-					

See your Schneider Electric representative for complete ordering information.

NOTE: This document is not intended to be used as an installation guide.

PB112467



METSECT5VV●●●

Type V - current transformers (vertical bar profile)

Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Commercial reference number
VV				
FF V2 	-	**55 x 165**	5000	**METSECT5VV500** ★
			6000	**METSECT5VV600** ★

PB112454



METSECT5DA●●●

PB112455



METSECT5DB●●●

PB112456



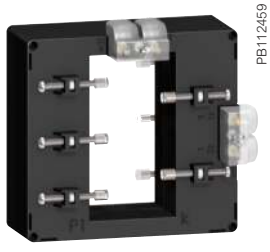
METSECT5DC●●●

PB112457



METSECT5DD●●●

PB112458



METSECT5DE●●●

PB112459



METSECT5DH●●●

Type D - current transformers (vertical or horizontal bar - dual secondary terminals)

DA				
		32 x 65	400	**METSECT5DA040**
			500	**METSECT5DA050**
			600	**METSECT5DA060**
			800	**METSECT5DA080**
			1000	**METSECT5DA100**
			1250	**METSECT5DA125** ★
			1500	**METSECT5DA150** ★
DB				
	-	**38 x 127**	1000	**METSECT5DB100**
			1250	**METSECT5DB125** ★
			1500	**METSECT5DB150** ★
			2000	**METSECT5DB200** ★
			2500	**METSECT5DB250** ★
			3000	**METSECT5DB300** ★
DC				
	-	**52 x 127**	2000	**METSECT5DC200** ★
			2500	**METSECT5DC250** ★
			3000	**METSECT5DC300** ★
			4000	**METSECT5DC400** ★
DD				
	-	**34 x 84**	1000	**METSECT5DD100**
			1250	**METSECT5DD125** ★
			1500	**METSECT5DD150** ★
DE				
	-	**54 x 102**	1000	**METSECT5DE100**
			1250	**METSECT5DE125** ★
			1500	**METSECT5DE150** ★
			2000	**METSECT5DE200** ★
DH				
	-	**38 x 102**	1250	**METSECT5DH125** ★
			1500	**METSECT5DH150** ★
			2000	**METSECT5DH200** ★

★ *Operating temperature: -25 °C to 50 °C*

See your Schneider Electric representative for complete ordering information.

Type V - solid core current transformers (vertical bar profile)

Internal profile type	Accuracy class 0.5	1	3	Overall dimensions (refer to drawing pages for details) W x H x D (mm)	Fastening mode	Accessories Cylinder	Sealable cover
	Max. power (VA)						
VV				**Dimension (mm)**			
FF V2	60	-	-	**175 x 273.5 x 110**	■ Insulated locking screw.	-	**Included**
	70	-	-				

Type D - solid core current transformers (vertical or horizontal bar - dual secondary terminals)

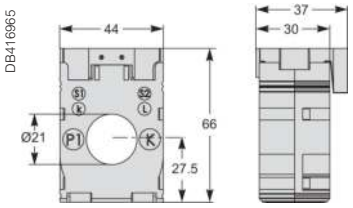
DA				**Dimension (mm)**			
	4	8	-	**90 x 94 x 90**	■ Insulated locking screw.		**Included**
	8	10	-				
	8	12	-				
	12	15	-				
	15	20	-				
	15	20	-				
	20	25	-				
DB							
	6	10	-	**99 x 160 x 87**	■ Insulated locking screw.	-	**Included**
	8	12	-				
	10	15	-				
	15	20	-				
	20	25	-				
	25	30	-				
DC							
	25	30	-	**125 x 160 x 87**	■ Insulated locking screw.	-	**Included**
	30	50	-				
	30	50	-				
	30	50	-				
DD							
	10	15	-	**96 x 116 x 87**	■ Insulated locking screw.	-	**Included**
	12	15	-				
	15	20	-				
DE							
	12	15	-	**135 x 129 x 85**	■ Insulated locking screw.	-	**Included**
	15	20	-				
	20	25	-				
	20	25	-				
DH							
	12	15	-	**98 x 129 x 75**	■ Insulated locking screw.	-	**Included**
	12	15	-				
	20	25	-				

★ *Operating temperature: -25 °C to 50 °C*

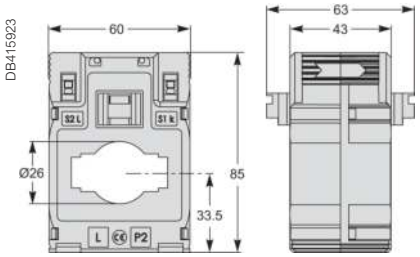
See your Schneider Electric representative for complete ordering information.

Solid core CT dimensions

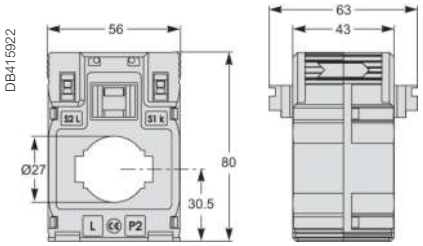
CC internal profile type



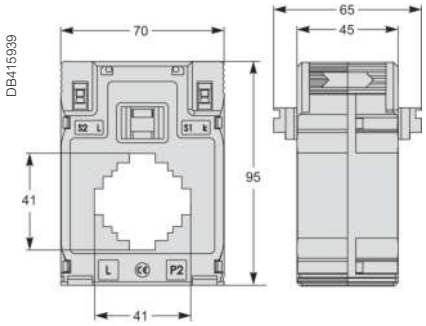
MB internal profile type



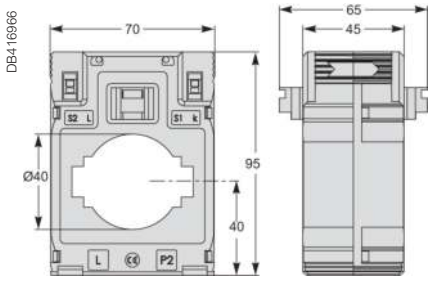
MA internal profile type



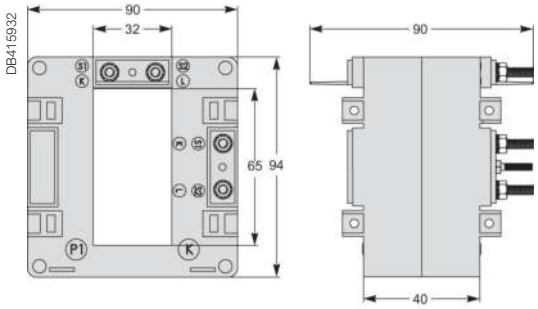
MC internal profile type



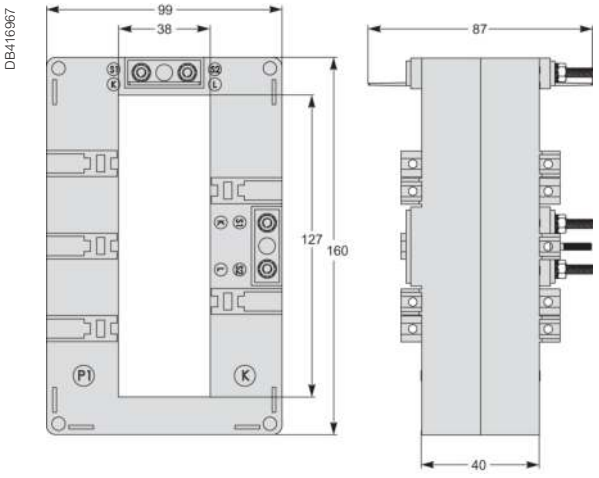
MD internal profile type



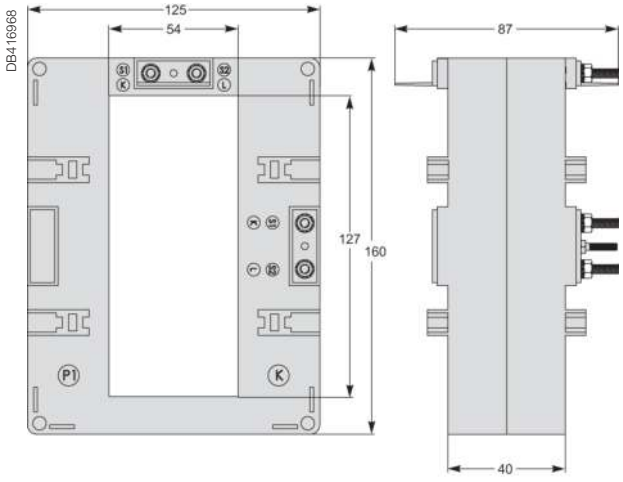
DA internal profile type



DB internal profile type

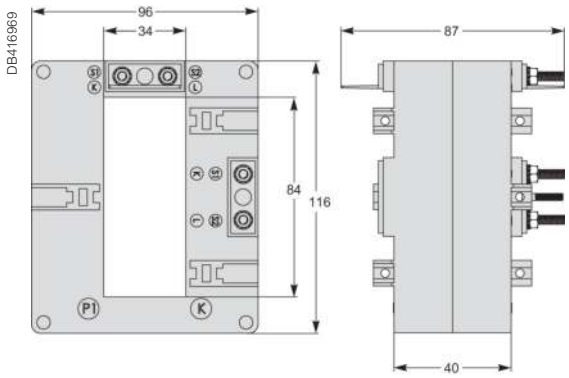


DC internal profile type

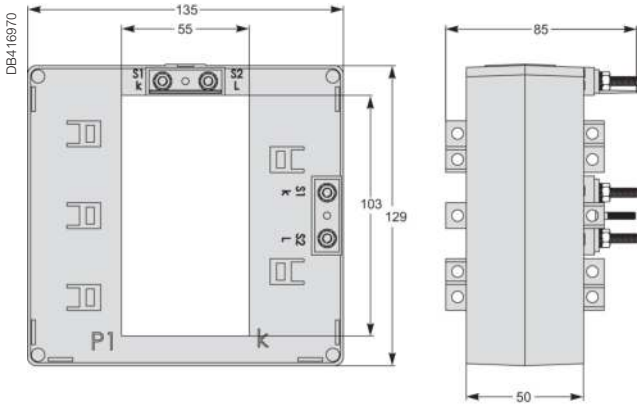


Solid core CT dimensions contd.

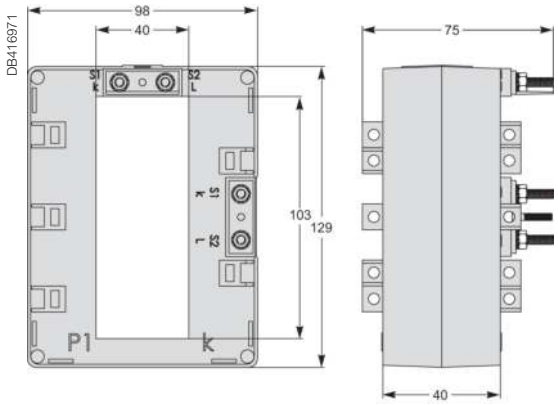
DD internal profile type



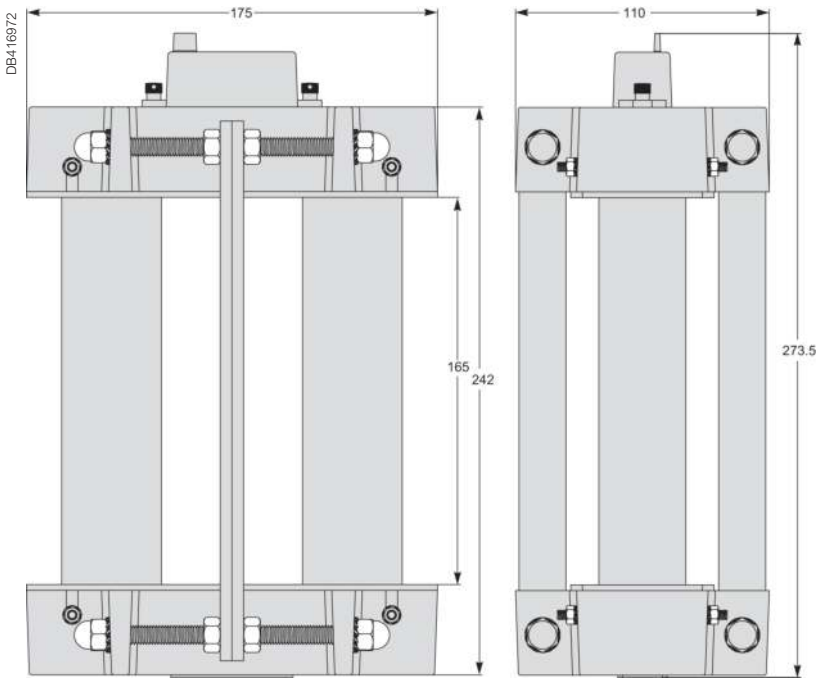
DE internal profile type



DH internal profile type



VV internal profile type

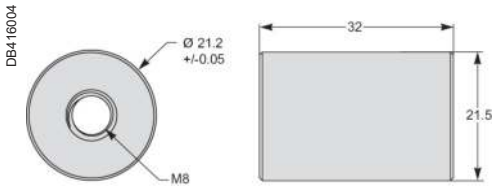


NOTE: This document is not intended to be used as an installation guide.

Solid core cylinders dimensions

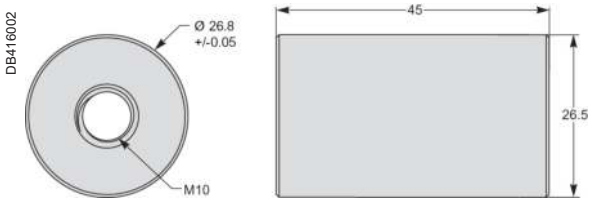
Cylinders

METSECT5CYL1



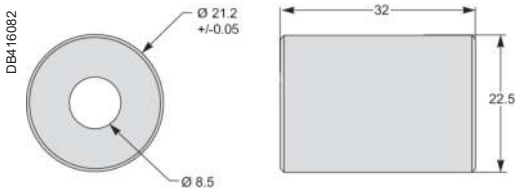
Aluminium

METSECT5CYL2



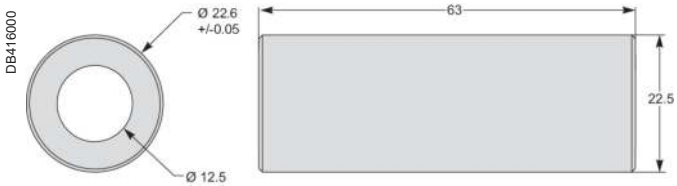
Aluminium

16550



Brass

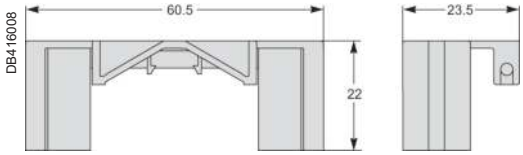
16551



Brass

Covers

METSECT5COVER



Split core CTs

Hazard Label

⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe elecrical work practices. See NFPA 70E in the USA, CSA Z462 or applicable local standards.
- Turn off all power supplying this device and the quipment in which it is installed before working on the device or equipment.
- Always use a properly rated voltage sensing device to confirm that all power is off.
- Treat I/O wiring connected to multiple devices as hazardous live until determined otherwise.
- Do not exceed the device's ratings for maximum limits.
- Do not use this device for critical control or protection applications where human or equipment safety relies on the operation of the control circuit.
- Disconnect all the device's input and output wires before performing dielectric (hi-pot) or Megger testing.

CT DAMAGE

- Never open circuit a current transformer (CT)
- Do not open the CT case.
- Do not attempt to repair any components of the CT.

Failure to follow these instructions will result in death or serious injury.

Common characteristics	Cable CT	Bus Bar CT
Secondary current Is (A)	5 A	5 A
Maximum voltage rating Ue (V)	720 V	720 V
Frequency (Hz)	50/60 Hz	50/60 Hz
Safety factor (sf)	up to 1000 A: sf ⩽ 5 greater than 1000 A: sf ⩽ 10	up to 1500 A: sf ⩽ 5 greater than 1500 A: sf ⩽ 10
Degree of protection	IP20	IP20
Operating temperature	-5°C to +50°C relative humidity 5-85 %	-5°C to +40°C relative humidity 5-85 %
Storage temperature	-25°C to +70°C	-25°C to +70°C
Compliance with standards	IEC 61869-1 IEC 61869-2	IEC 61869-1 IEC 61869-2
Secondary connection (as per model)	by terminals for lug by tunnel terminals by screws	by terminals for lug by tunnel terminals by screws

Split core CT

CT internal	Type H	Type G
	FF C  **HA HD HG HJ HP**	FF V2  **GA GD GG GJ**
	FF HM  **HM**	

Split core CTs

PB119862



METSECT5GA●●●

PB119864



METSECT5GD●●●

PB119866



METSECT5GG●●●

PB119868



METSECT5GJ●●●

Type G - split core current transformers (bus bar)

	Accuracy class Max power (VA)			CT window dimension (mm)	Rating Ip/5A (A)	Commercial Reference no.
	0.5	1	3			
GA						
	-	-	1.25	23 x 33	100	METSECT5GA010
	-	-	1.5		150	METSECT5GA015
	-	-	2.5		200	METSECT5GA020
	-	1.5	-		250	METSECT5GA025
	-	3.75	-		300	METSECT5GA030
	1	-	-		400	METSECT5GA040
GD						
	-	1.5	-	55 x 85	250	METSECT5GD025
	-	2.5	-		300	METSECT5GD030
	1	-	-		400	METSECT5GD040
	2.5	-	-		500	METSECT5GD050
	2.5	-	-		600	METSECT5GD060
	2.5	-	-		750	METSECT5GD075
	2.5	-	-		800	METSECT5GD080
	5	-	-		1000	METSECT5GD100
GG						
	-	1.5	-	85 x 125	250	METSECT5GG025
	-	2.5	-		300	METSECT5GG030
	-	2.5	-		400	METSECT5GG040
	2.5	-	-		500	METSECT5GG050
	2.5	-	-		600	METSECT5GG060
	2.5	-	-		750	METSECT5GG075
	2.5	-	-		800	METSECT5GG080
	5	-	-		1000	METSECT5GG100
	5	-	-		1200	METSECT5GG120
	7.5	-	-		1250	METSECT5GG125
	7.5	-	-		1500	METSECT5GG150
GJ						
	10	-	-	85 x 165	1000	METSECT5GJ100
	10	-	-		1200	METSECT5GJ120
	10	-	-		1500	METSECT5GJ150
	10	-	-		1600	METSECT5GJ160
	10	-	-		2000	METSECT5GJ200
	10	-	-		2500	METSECT5GJ250
	15	-	-		3000	METSECT5GJ300
	15	-	-		4000	METSECT5GJ400

See your Schneider Electric representative for complete ordering information.

Split core CTs contd.

PB119870



METSECT5HA●●●

PB119872



METSECT5HD●●●

PB119874



METSECT5HG●●●

PB119876



METSECT5HJ●●●

Type H - split core current transformers (cable)

	Accuracy class Max power (VA)			CT window dimension (mm)	Rating Ip/5A (A)	Commercial Reference no.
	0.5	1	3			
HA						
	-	1	-	18.4 x 19	150	METSECT5HA015
	-	1.5	-		150	METSECT5HA020
	1	-	-		250	METSECT5HA025
HD						
	-	1	-	27.9 x 27	250	METSECT5HD025
	-	1.5	-		300	METSECT5HD030
	-	2.5	-		400	METSECT5HD040
	1	-	-		500	METSECT5HD050
HG						
	-	-	1.5	Ø32.5	100	METSECT5HG010
	-	-	2.5		125	METSECT5HG013
	-	-	3		150	METSECT5HG015
	-	-	3		200	METSECT5HG020
	-	-	3		250	METSECT5HG025
	-	2.5	-		300	METSECT5HG030
	-	5	-		400	METSECT5HG040
	-	5	-		500	METSECT5HG050
	-	5	-		600	METSECT5HG060
HJ						
	-	2.5	-	42.4 x 43	300	METSECT5HJ030
	-	5	-		400	METSECT5HJ040
	-	5	-		500	METSECT5HJ050
	2.5	-	-		600	METSECT5HJ060
	2.5	-	-		750	METSECT5HJ075
	2.5	-	-		800	METSECT5HJ080
HM						
	-	2.5	-	42.4 x 85	300	METSECT5HM030
	-	5	-		400	METSECT5HM040
	-	5	-		500	METSECT5HM050
	2.5	-	-		600	METSECT5HM060
	2.5	-	-		750	METSECT5HM075
	2.5	-	-		800	METSECT5HM080
HP						
	-	1.5	-	Ø44	250	METSECT5HP025
	-	2.5	-		300	METSECT5HP030
	-	5	-		400	METSECT5HP040
	-	5	-		500	METSECT5HP050
	-	5	-		600	METSECT5HP060
	-	5	-		750	METSECT5HP075
	-	5	-		800	METSECT5HP080
	-	5	-		1000	METSECT5HP100

See your Schneider Electric representative for complete ordering information.

PB119878



METSECT5HM●●●

PB119880

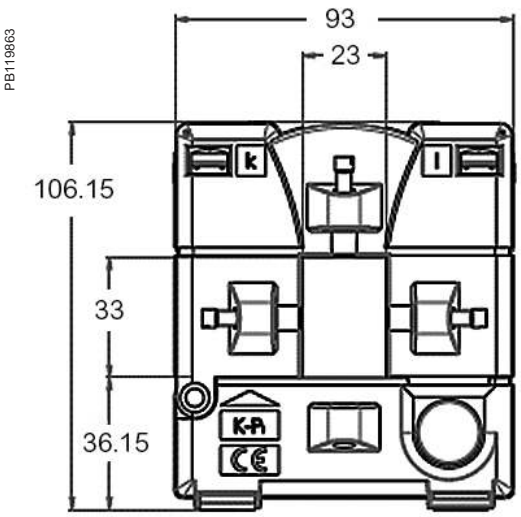


METSECT5HP●●●

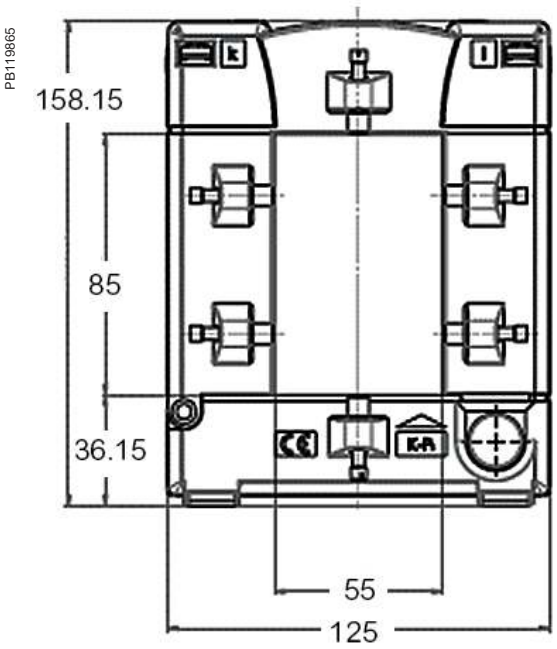
Split core CT dimensions

Gx products

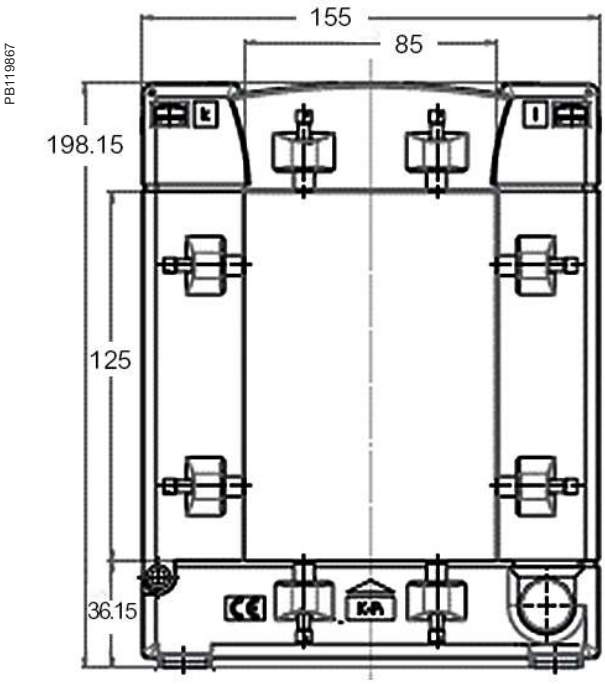
GA Dimensions



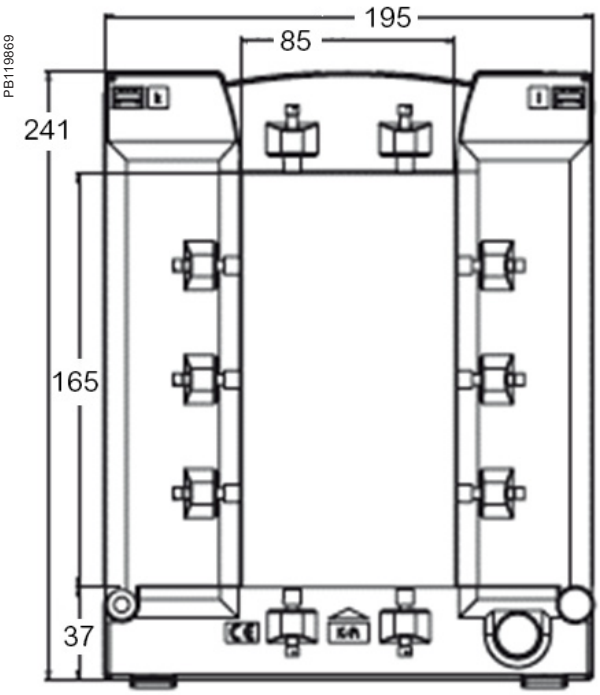
GD Dimensions



GG Dimensions



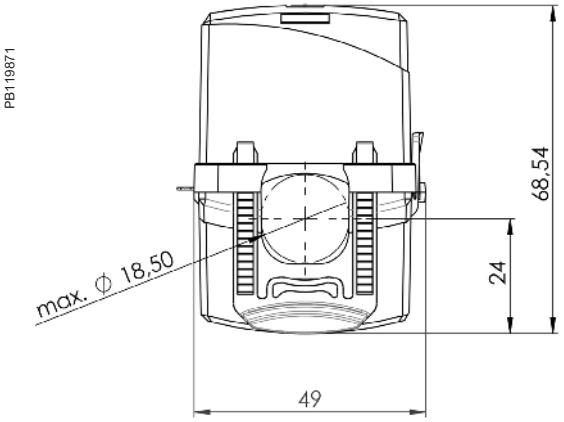
GJ Dimensions



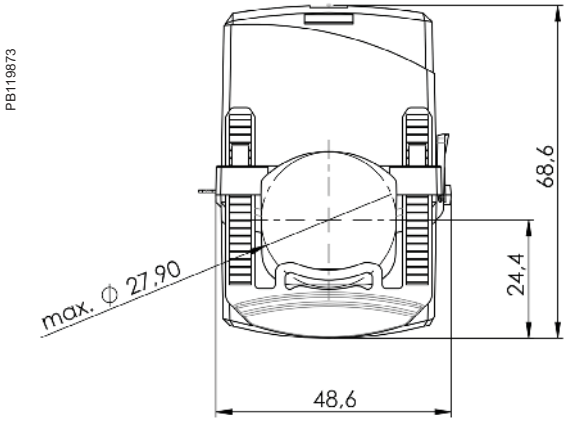
Split core CT dimensions contd.

Hx products

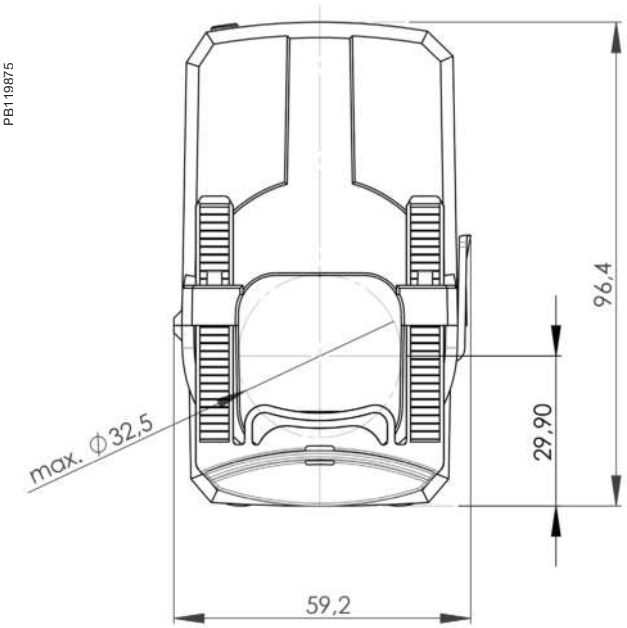
HA Dimensions



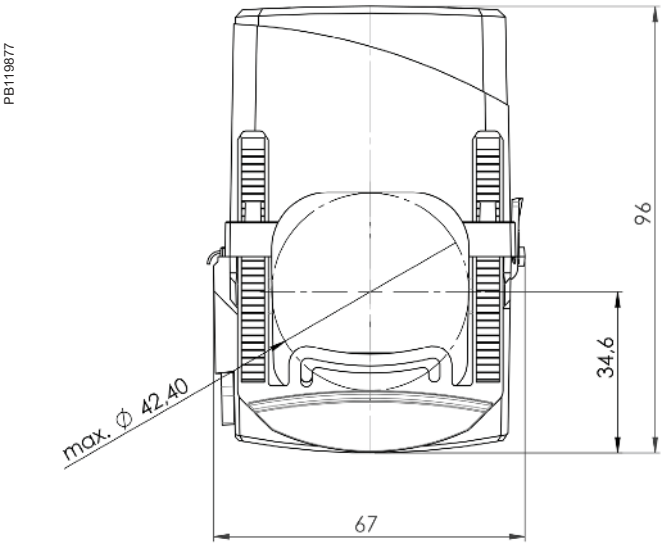
HD Dimensions



HG Dimensions

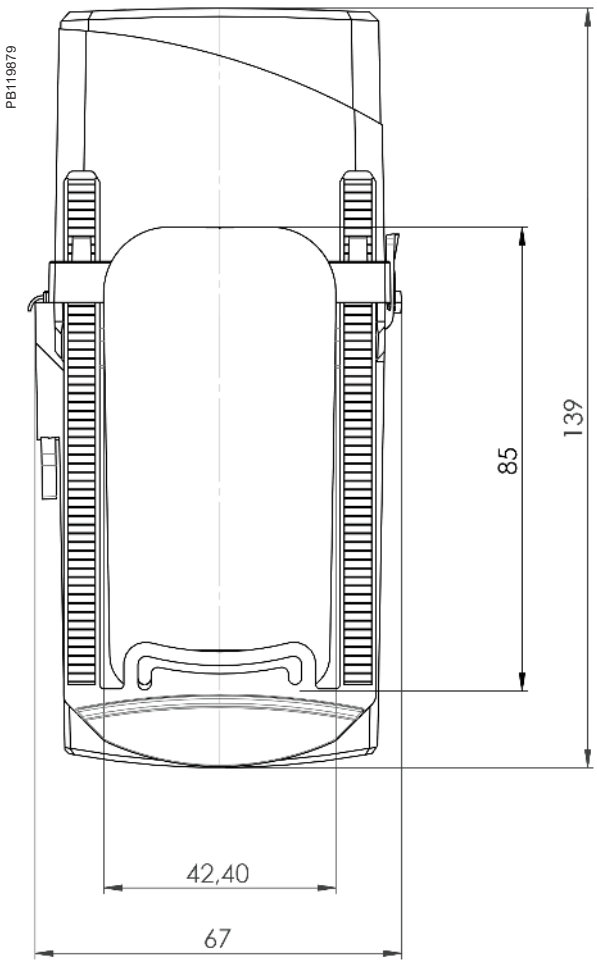


HJ Dimensions

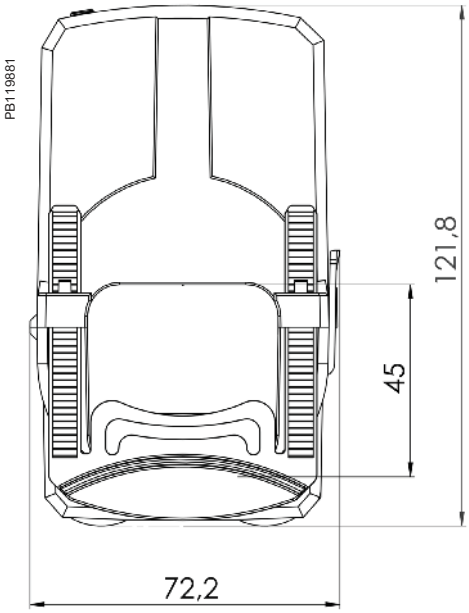


Split core CT dimensions contd.

HM Dimensions



HP Dimensions



Rogowski CTs

PB118060



METSECTR30500

PowerLogic Rogowski Current Transformer

Main	METSECTR30500	METSECTR46500	METSECTR60500	METSECTR90500
Range	PowerLogic			
Product or component type	Current transducer			
Accessory / part category	Measurement accessory			
Range compatibility	PowerLogic EM3500 - EM3555A EM3502A EM3560 EM3550A EM3560 EM3561A PowerLogic EM4200 - EM4236 EM4235 Acti9 iEM3000 - iEM3555 iEM3565			
Current transformer type	Flexible core			
Complementary				
Electrical connection	Flying lead 2.4 m 600 V AC max, voltage L-N sensed conductor			
Cable	1000 V AC UL style 21223 cable with 22 AWG leads			
Current range	50 A to 5000 A			
Network frequency	50/60 Hz			
Measurement accuracy	±1 % from 50 A to 5000 A			
Installation category	600 V AC Cat IV			
Pollution degree	2			
Dimensions	METSECTR30500	METSECTR46500	METSECTR60500	METSECTR90500
CT core thickness	8 mm diameter	8 mm diameter	8 mm diameter	8 mm diameter
CT core length (open)	300 mm	460 mm	600 mm	900 mm
Diameter (closed)	96 mm	146 mm	191 mm	287 mm
Environment				
Standards	EN 61010-1, UL 61010-1, EN 61010-2-032, UL 61010-2-032			
Product certifications	CURus UL recognized			
Ambient air temperature for operation	-15 °C to 60 °C			
Ambient air temperature for storage	-40 °C to 70 °C			
Humidity range	0 to 95 % non-condensing			
Altitude	2000 m max			
Protection degree	IP67			

Commercial Reference Numbers	
METSECTR25500	Powerlogic - Rogowski current transformer, 250 mm CT core length, 80 mm dia. CT, rope, 600 V AC, 5 kA
METSECTR30500	Powerlogic - Rogowski current transformer, 300 mm CT core length, 96 mm dia. CT, rope, 600 V AC, 5 kA
METSECTR46500	Powerlogic - Rogowski current transformer, 460 mm CT core length, 146 mm dia. CT, rope, 600 V AC, 5 kA
METSECTR60500	Powerlogic - Rogowski current transformer, 600 mm CT core length, 191 mm dia. CT, rope, 600 V AC, 5 kA
METSECTR90500	Powerlogic - Rogowski current transformer, 900 mm CT core length, 287 mm dia. CT, rope, 600 V AC, 5 kA

Panel instruments

Schneider Electric panel instruments reliably comply with the most stringent standards, including IEC, MID, UL, etc., and we thoroughly test all products with recognized, third-party laboratories.

Our products are simple to install, configure, and use. This saves our partners time and money and lets them deliver the best solutions in a timely and cost-effective manner. Whatever the size or type of application, the PowerLogic™ product line is an integral part of smart panels.

DB119006 PB112024 PB101118







16029 15202 16003



16029

iAMP.



16061

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 catalog 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 catalog number 15060: 2.5 VA
  - VLT catalog 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 mm^2 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			
	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

See your Schneider Electric representative for complete ordering information.

PB112024



15202

iAMP.

PB112023



15201

iVLT.

PB112025



15208

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
Frequency meters measure in hertz the frequency of an electric circuit from 20 to 600 V AC.

Common technical data

- Supply voltage: 230 V AC
- 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 mm^2 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 AC
- Input impedance: 2 MW
- 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
Multi-rating iAMP				
	0-5000 A	As per rating	4	15209
iVLT				
	0-600 V		4	15201
iFRE				
	20-100 Hz		4	15208

See your Schneider Electric representative for complete ordering information.



16009

AMP for standard feeder



16006

AMP for motor feeder



16005

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

See your Schneider Electric representative for complete ordering information.



AMP for standard feeder

16079



AMP for motor feeder

16076



VLT

16075

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: ±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 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**

See your Schneider Electric representative for complete ordering information.

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

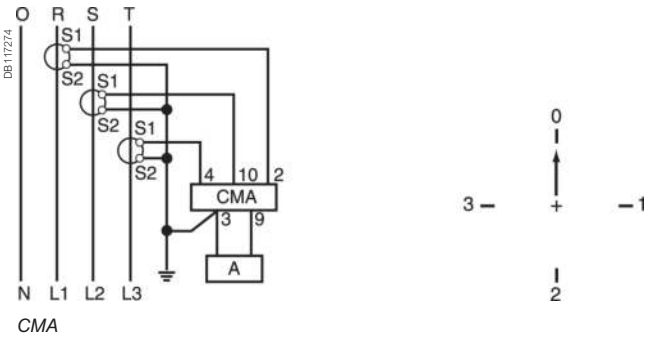
- Durability:
  - electrical: 100,000 operations
  - mechanical: 2,000,000 operations
- AgNi contact
- Operating temperature: -25 °C to 50 °C
- Compliance with standards IEC/EN 60947-3
- Degree of protection:
  - IP65 on front face
  - IP20 at terminal level

Commercial reference numbers

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

See your Schneider Electric representative for complete ordering information.

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 Installation Guide for this product.

PB107119



15126

iCMA

PB107118



15125

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

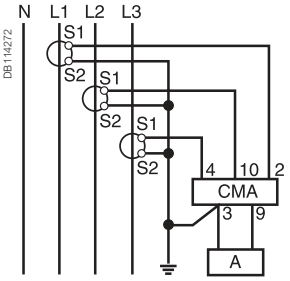
- Rotary handle
- Maximum operating voltage: 440 V, 50/60 Hz
- Nominal thermal current: 10 A
- Operating temperature: -20 °C to 55 °C
- Storage temperature: -25°C to 80°C
- Mechanical durability (AC21A-3 x 440 V): 2,000,000 operations
- Degree of protection:
  - IP66 on front face
  - IP20 at terminal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

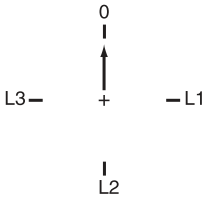
Commercial reference numbers

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

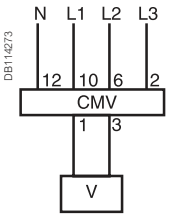
See your Schneider Electric representative for complete ordering information.

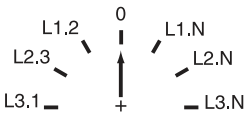
Connection





iCMA





iCMV

See appropriate Installation Guide for this product.

PB112026



15440

iCH "DIN"

DB119003



15607

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.

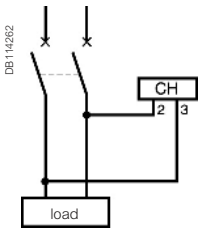
Commercial reference numbers

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

See your Schneider Electric representative for complete ordering information.

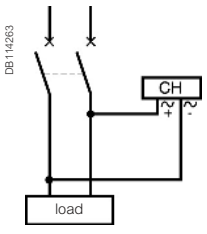
Connection

DB114262



iCH "DIN".

DB114263



CH "48 x 48".

See appropriate Installation Guide for this product.



15443

iCI impulse counter

Function

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

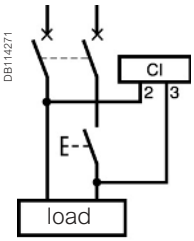
Common technical data

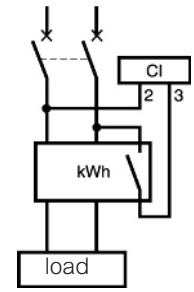
- Supply and metering voltage: 230 V AC ± 10 %, 50/60 Hz
- Consumption: 0.15 VA
- Maximum display: 9 999 999 impulses
- Without reset
- Metering data:
  - minimum impulse time: 50 ms
  - minimum time between 2 impulses: 50 ms
- Storage temperature: -25 °C to 85 °C
- Operating temperature: -10 °C to 70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

Commecial reference numbers

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

Connection

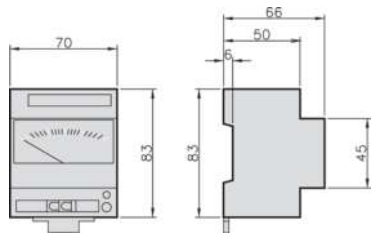




See appropriate Installation Guide for this product.

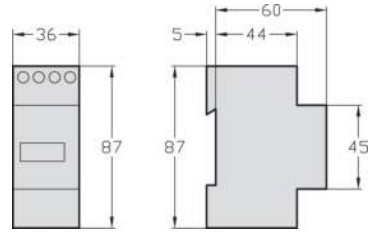
Analog ammeters and voltmeters iAMP, iVLT

DB103473



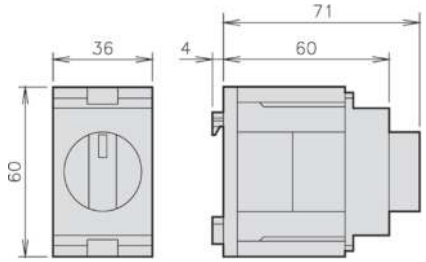
Digital ammeters, voltmeter and frequency meter iAMP, iVLT

DB103474



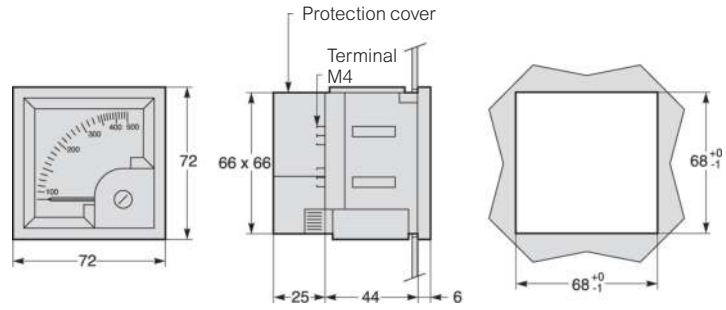
iCMA and iCMV selector switches

DB103475



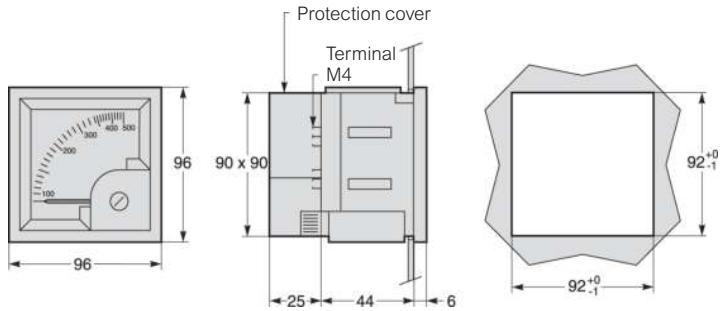
72 x 72 analog ammeters and voltmeter

DB103476



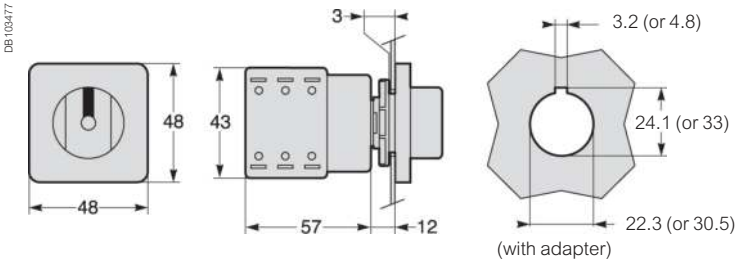
96 x 96 analog ammeters and voltmeter

DB103481

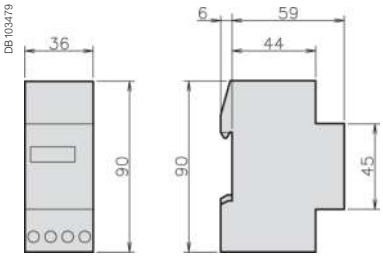


See the appropriate Installation Guide for this product.

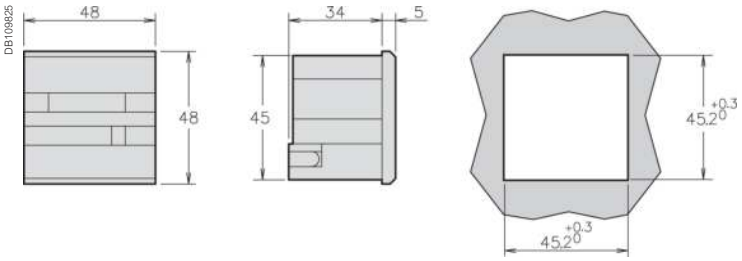
48 x 48 CMA and CMV selector switches



iCI impulse counter and iCH hour counter



48 x 48 CH hour counters



See the appropriate Installation Guide for this product.

Basic energy metering

Basic energy meters comply with a variety of applications: single-phase or three-phase circuits, basic kWh meters for elementary applications, to full-featured, dual tariff energy meters and power metering for network monitoring applications. Data is visible locally or accessible remotely. Wireless communication energy sensors with compact design allow to optimize panel size.

- PowerLogic iEM2000 series
- PowerLogic iEM2100 series
- PowerLogic iEM3000 series
- PowerLogic PM3000 series
- PowerLogic PowerTag Energy series

PB108401 PB115001 PB108410 PB117510 A9MEM1521



A9MEM2000 A9MEM2100 A9MEM3100 A9MEM2000 A9MEM1521

Acti9 iEM2000 Series

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 cost 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

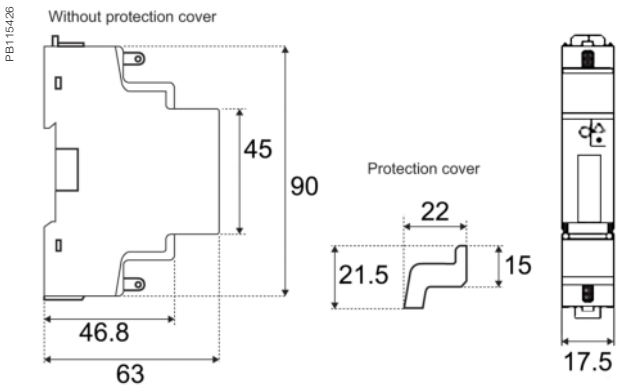
See your Schneider Electric representative for complete ordering information.

iEM2000 series technical specifications

Technical specifications

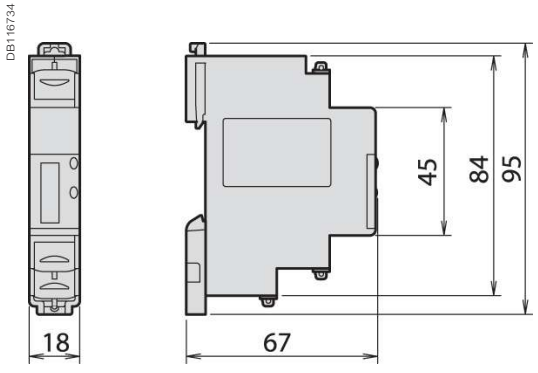
	iEM2000T	iEM2000	iEM2010	iEM2050	iEM2055
COMM reference number	**A9MEM2000T**	**A9MEM2000**	**A9MEM2010**	**A9MEM2050**	**A9MEM2055**
Direct connection	Up to 40 A	Up to 40 A	Up to 40 A	Up to 45 A	Up to 45 A
Pulse output operation	100 pulses/kwh (120ms long)			10000, 2000, 1000, 100, 10, 1, 0.1, 0.01 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 mm^2 (solid copper). See the appropriate product Installation Guide for complete instructions.

iEM2000 dimensions



Maximum diameter power connection clamps 8 mm^2 (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

PB118059



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

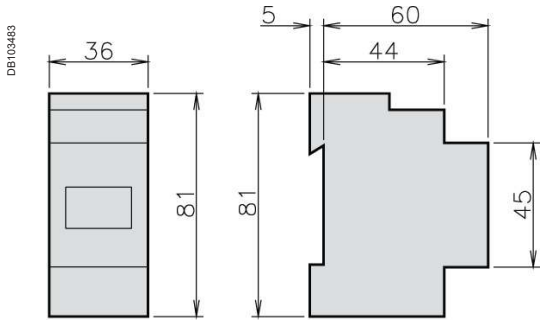
	iEM2100	iEM2105	iEM2110	iEM2135	IEM2150	iEM2155
Self-powered	■	■	■	■	■	■
Display	■	■	■	■	■	■
Width (mm)	36	36	36	36	36	36
Current input	63 A	63 A	63 A	63 A	63 A	63 A
Active Energy accuracy	Class 1	Class 1	Class 1	Class 1	Class 1	Class 1
Reactive Energy accuracy	Class 2	Class 2	Class 2	Class 2	Class 2	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

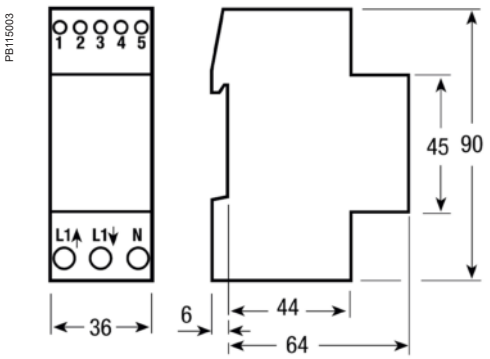
Technical specifications

	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 mm2 (16 mm2 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

PB108418



A9MEM3100

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/ouputs
- 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
- IEC 62053-21/22
- IEC 62053-23
- EN 50470-3
- EN 50470-1
- 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 mm² for currents and 4 mm² 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 mm² for iEM3100 models, 50 mm² 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					■	■	■	■

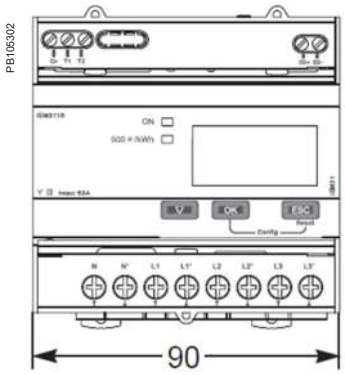
Acti9 IEM3200 series technical specifications

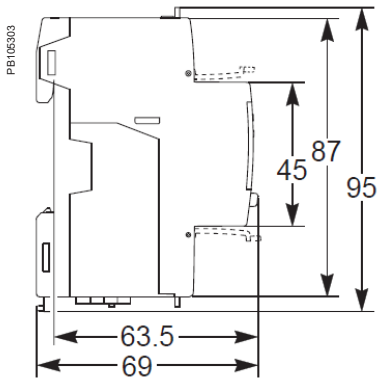
Technical specifications

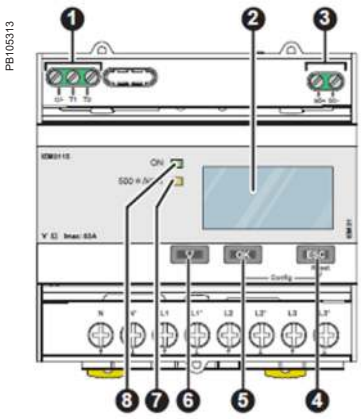
	iEM3200	iEM3210	iEM3215	iEM3250	iEM3235	iEM3255	iEM3265	iEM3275
Max current (1A/5A CT connected)	6 A							
Meter constant LED	5000/kWh							
Pulse output frequency		Up to 500p/kWh			Up to 500p/kWh	Up to 500p/kWh		
Multi-tariff			4 tariff		4 tariffs	4 tariffs		
Communication				Modbus	Modbus	Modbus	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 mm² for currents and 4 mm² 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] If used for MID purposes, iEM32xx must use CT secondary set to 5 A.

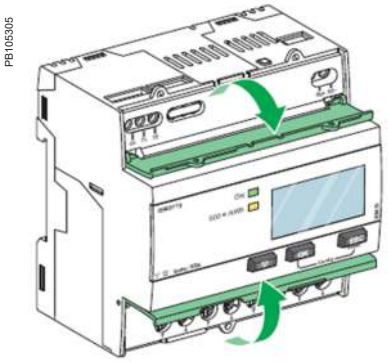
iEM3000/iEM3200 series dimensions

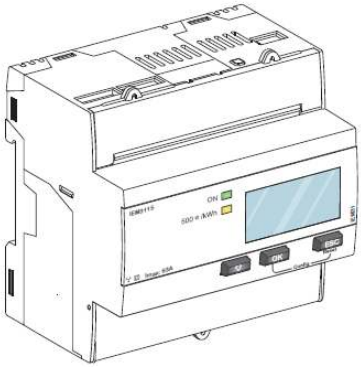






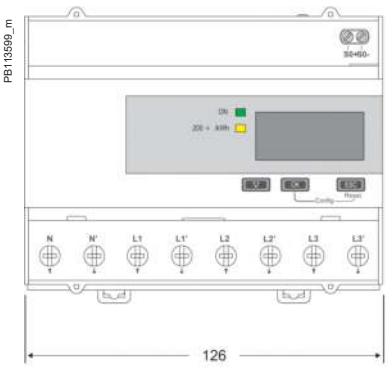
Acti9 iEM3100/iEM3200 Series front flaps open and closed

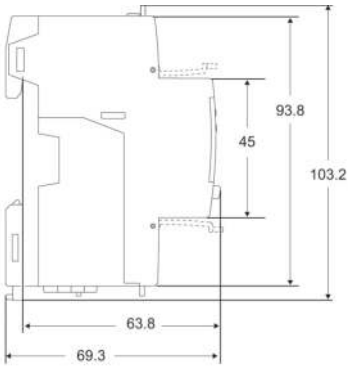


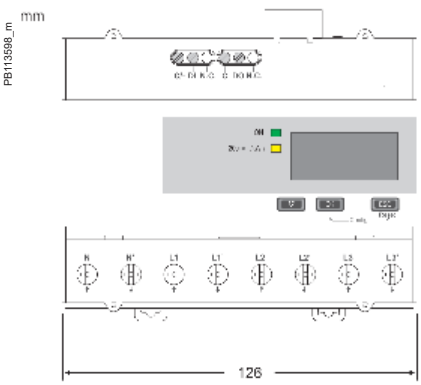


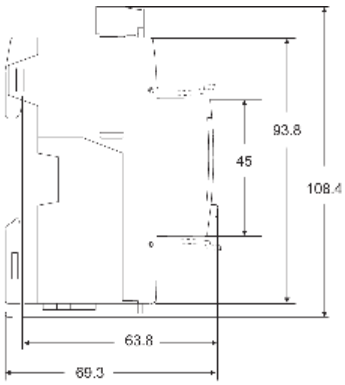
Acti9 iEM3000 Series parts
1. Digital inputs for tariff control (iEM3115 / iEM3215)
2. Display for measurement and configuration
3. Pulse out for remote transfer (iEM3110 / iEM3210)
4. ESC Cancellation
5. OK Confirmation
6. Selection
7. Flashing yellow meter indicator to check accuracy
8. Green indicator: on/off, error

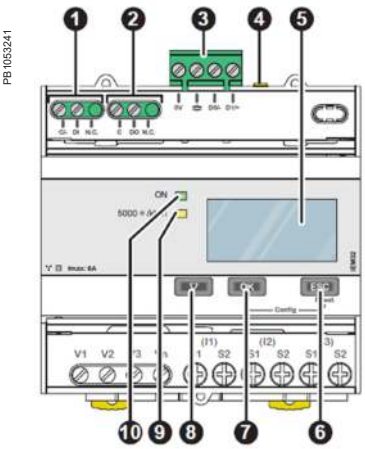
iEM3300 series dimensions











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.*

PM3000 series

The PowerLogic PM3000 series power meters are a cost-attractive, feature-rich range of DIN rail-mounted power meters that offers all the measurement capabilities required to monitor an electrical installation.

Ideal for power metering and network monitoring applications that seek to improve the availability and reliability of your electrical distribution system, the meters are also fully capable of supporting sub-metering and cost allocation applications.

Applications

Cost management applications

- Bill checking to verify that you are only charged for the energy you use
- Aggregation of energy consumption, including WAGES, and cost allocation per area, per usage, per shift or per time within the same facility
- Energy cost and usage analysis per zone, per usage or per time period to optimise energy usage

Network management applications

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

PB108447



METSEPM3250

The solution for

All markets that can benefit from a solution that includes PowerLogic PM3000 series meters:

- Buildings
- Industry
- Data centres and networks
- Infrastructure (e.g. 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
- Identify savings opportunities
- Use information to implement actions designed to reduce energy consumption

Competitive advantages

Connectivity advantages

- Programmable digital input
  - External tariff control signal (4 tariff)
  - Remote reset partial counter
  - External status like breaker status
  - Collect WAGES pulses
- Programmable digital output
  - Alarm (PM3255)
  - KWh pulses
- Graphic LCD display
- Modbus RS-485 with screw terminals
  Multi-tariff capability
  The PM3000 series allows users to arrange KWh consumption in four different registers. This can be controlled by:
- Digital inputs. Signal can be provided by PLC or utilities
- Internal clock programmable by HMI
- Through communication

This function allows users to:

- Make tenant metering for dual source applications to differentiate backup source or utility source
- Understand well the consumption during peak time and off-peak time, weekdays and weekends, holiday and working days etc.
- Follow up feeders consumption in line with utility tariff rates

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 61326-1
- IEC 62052-11
- IEC 62053-21
- IEC 62053-22
- IEC 62053-23
- EN 50470-1
- EN 50470-3
- IEC 61010-1
- EN 55022

PM3000 series

PM3000 series feature selection				
	PM3200	PM3210	PM3250	PM3255
Performance standard				
IEC61557-12 PMD/Sx/K55/0.5	■	■	■	■
General				
Use on LV and HV systems	■	■	■	■
Number of samples per cycle	32	32	32	32
CT input 1A/5A	■	■	■	■
VT input	■	■	■	■
Multi-tariff	4	4	4	4
Multi-lingual backlit display	■	■	■	■
Instantaneous rms values				
Current, voltage Per phase and average	■	■	■	■
Active, reactive, apparent power Total and per phase	■	■	■	■
Power factor Total and per phase	■	■	■	■
Energy values				
Active, reactive and apparent energy; import and export	■	■	■	■
Demand value				
Current, power (active, reactive, apparent) demand; present	■	■	■	■
Current, power (active, reactive, apparent) demand; peak		■	■	■
Power quality measurements				
THD Current and voltage		■	■	■
Data recording				
Min/max of the instantaneous values	■	■	■	■
Power demand logs				■
Energy consumption log (day, week, month)				■
Alarms with timestamping		5	5	15
Digital inputs/digital outputs		0/1		2/2
Communication				
RS-485 port			■	■
Modbus protocol			■	■
Commercial reference number	**METSEPM3200**	**METSEPM3210**	**METSEPM3250**	**METSEPM3255**

See your Schneider Electric representative for complete ordering information.

PM3000 series

PM3000 technical specifications	
Type of measurement	True rms up to the 15th harmonic on three-phase (3P,3P+N) and single-phase AC systems. 32 samples per cycle
Measurement accuracy	
Current with x/5A CTs	0.3 % from 0.5 A to 6 A
Current with x/1A CTs	0.5 % from 0.1 A to 1.2 A
Voltage	0.3 % from 50 V to 330 V (Ph-N), from 80 V to 570 V (Ph-Ph)
Power factor	±0.005 from 0.5 A to 6 A with x/5 A CTs; from 0.1A to 1.2 A with x/1 A CTs and from 0.5 L to 0.8 C
Active/Apparent Power with x/5A CTs	Class 0.5
Active/Apparent Power with x/1A CTs	Class 1
Reactive power	Class 2
Frequency	0.05 % from 45 to 65 Hz
Active energy with x/5A CTs	IEC 62053-22 Class 0.5s
Active energy with x/1A CTs	IEC 62053-21 Class 1
Reactive energy	IEC 62053-23 Class 2
Data update rate	
Update rate	1s
Input-voltage characteristics	
Measured voltage	50 V to 330 V AC (direct / VT secondary Ph-N) 80 V to 570 V AC (direct / VT secondary Ph-Ph) up to 1 MV AC (with external VT)
Frequency range	45 Hz to 65 Hz
Input-current characteristics	
CT primary	Adjustable from 1 A to 32767 A
CT secondary	1 A or 5 A
Measurement input range with x/5A CTs	0.05 A to 6 A
Measurement input range with x/1A CTs	0.02 A to 1.2 A
Permissible overload	10 A continuous, 20 A for 10s/hour
Control Power	
AC	100/173 to 277/480 V AC (+/-20%), 3 W/5 VA; 45 Hz to 65 Hz
DC	100 to 300 V DC, 3 W
Input	
Digital inputs (PM3255)	11 to 40 V DC, 24 V DC nominal, <=4mA maximum burden, 3.5kVrms insulation
Output	
Digital output (PM3210)	Optocoupler, polarity sensitive, 5 to 30 V, 15 mA max, 3.5kVrms insulation
Digital outputs (PM3255)	Solid state relay, polarity insensitive, 5 to 40 V, 50 mA max, 50 Ω max, 3.5kVrms insulation

PM3000 series

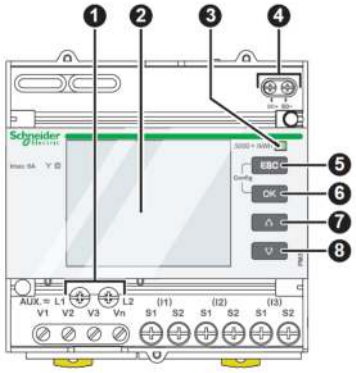
PM3000 technical specifications

Mechanical characteristics	
Weight	0.26 kg
IP degree of protection (IEC 60529)	IP40 front panel, IP20 meter body
Dimension	90 x 95 x 70 mm
Environmental conditions	
Operating temperature	-25 °C to 55 °C
Storage temperature	-40 °C to 85 °C
Humidity rating	5 to 95% RH at 50 °C (non-condensing)
Pollution degree	2
Metering category	III, for distribution systems up to 277/480 V AC
Dielectric withstand	As per IEC61010-1, Doubled insulated front panel display
Altitude	3000 m max
Electromagnetic compatibility	
Electrostatic discharge	Level IV (IEC 61000-4-2)
Immunity to radiated fields	Level III (IEC 61000-4-3)
Immunity to fast transients	Level IV (IEC 61000-4-4)
Immunity to surge	Level IV (IEC 61000-4-5)
Conducted immunity	Level III (IEC 61000-4-6)
Immunity to power frequency magnetic fields	0.5mT (IEC 61000-4-8)
Conducted and radiated emissions	Class B (EN 55022)
Safety	
	CE as per IEC 61010-1★
Communication	
RS-485 port	Half duplex, from 9600 up to 38400 baud, Modbus RTU (double insulation)
Display characteristics	
Dimensions (VA)	43 mm x 34.6 mm
Display resolution	128 x 96 dots
Standard compliance	
	IEC 61557-12, EN 61557-12 IEC 61010-1, UL 61010-1 IEC 62052-11, IEC 62053-21, IEC 62053-22, IEC 62053-23 EN 50470-1, EN 50470-3

★ *Protected throughout by double insulation*

PM3200 series front of meter

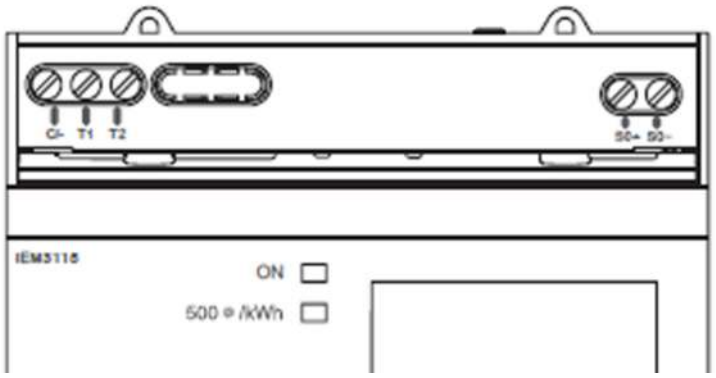
PB105440



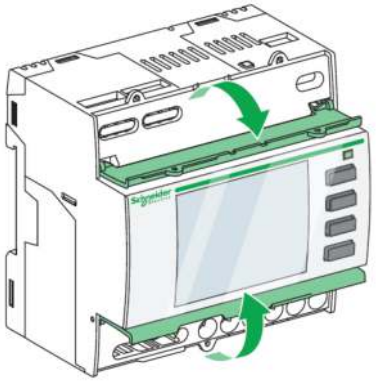
Front of meter parts
1 Control power
2 Display with white backlight
3 Flashing yellow meter indicator (to check accuracy)
4 Pulse output for remote transfer (PM3210)
5 ESC Cancellation
6 OK Confirmation
7 Up
8 Down

PM3200 series dimensions

PB105302



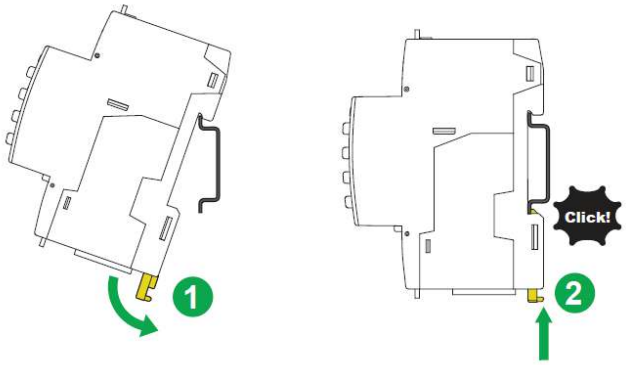
PB105447



PM3200 top and lower flaps

PM3200 series easy installation

PB105446



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

PowerLogic™ PowerTag Energy series

PowerTag Energy is a wireless-communication energy sensor

PowerTag Energy is designed specifically for Energy Management, Load Monitoring and Power Availability applications. Associated to a concentrator or a gateway, PowerTag Energy provides a full wireless class 1 solution to monitor energy at any level of a distribution panel.

Applications:

- Monitors your electrical installation from main incomer down to load level
- Suitable for various businesses, buildings, industrial and residential applications with easy integration in upper systems
- Supports and enables Energy Efficiency programs and standards such as:
  - European Energy Efficiency Directive (EED)
  - Energy Performance of Buildings Directive (EPBD)
  - IEC 60364-8-1 “Low Voltage Electrical installations - Energy Efficiency”
  - EN 17267 “Energy Measurement and Monitoring plan”
  - ISO 50001 “Energy Management System”

A9MEM1570



PowerTag Energy Flex 63 A (F63)

A9MEM1571



PowerTag Energy PhaseNeutral 63 A (P63)

LV434020



PowerTag Energy Monoconnect 250 A (M250)

A9MEM1590



PowerTag Energy Rope 2000 A (R2000)

A9MEM1580



PowerTag Energy Flex 160 A (F160)

A9MEM1521



PowerTag Energy Monoconnect 63 A (M63)

PowerTag Energy

The solution for

Markets that benefit from a solution that includes PowerLogic PowerTag Energy series:

- Residential
- Small business
- Medium & large buildings
- Industrial sites

Benefits

PowerTag Energy sensor incorporates all features required to perform accurate real-time measurements (U, V, I, P, PF) and energy values up to 2000 A.

Different designs of PowerTag Energy are available to ensure it fits the protective device on which it is mounted.

- PowerTag Energy Monoconnect (M): can be mounted directly on the device, no additional wiring is required
- PowerTag Energy PhaseNeutral (P): for DIN offers with 9 mm pitch between phase and neutral
- PowerTag Energy Flex (F): can be mounted on a wide range of protective devices thanks to its design
- PowerTag Energy Rope (R) thanks to its openable current sensors can be easily installed on busbars or wires in new installations and in retrofit applications

PowerTag Energy sensor is acting as an autonomous meter. Energy counters are stored inside PowerTag Energy sensor.

Energy management system

To get the most effective use from your Schneider Electric measurement and metering devices, we offer a range of dedicated gateways / concentrators depending on your application.

Advantages

- Wireless-communication
- Range up to 2000 A
- Voltage loss alarming
- Class 1 accuracy
- Compact design
- Easy installation and commissioning
- Scalable solution
- Perfect for retrofit or new panels

Conformity of standards

- IEC 61557-12
- IEC 61010-1
- IEC 61010-2-030
- IEC 61326-1
- ETSI EN 300 328

Feature selection

					
	A9MEM15••	A9MEM15••	A9MEM15••	A9MEM1580	LV434020/LV434021
Product name	M63	P63	F63	F160	M250
Max current (I Max) A	63	63	63	160	250
Starting current (Ist)	40 mA	40 mA	40 mA	100 mA	160 mA
Design	Monoconnect	PhaseNeutral	Flex	Flex	Monoconnect
Mounting type	On device	On device	On wires	On wires	On device
Current sensors type	Solid core	Solid core	Solid core	Solid core	Solid core
Poles	1P + W / 1P+N / 3P / 3P+N	1P+N / 3P+N	1P+N / 3P / 3P+N	3P / 3P+N	3P / 3P+N
Self-powered	☑	☑	☑	☑	☑
Voltage (L-N)	Depends on ref	200 - 240 V AC	Depends on ref	100 - 277 V AC	230 V AC
Measurements*					
Nb quadrant	2	2	2	4	4
Active Energy	Class 1	Class 1	Class 1	Class 1	Class 1
Reactive Energy				☑	☑
Apparent Energy				☑	
Active Power	☑	☑	☑	☑	☑
Reactive Power				☑	☑
Apparent Power	☑	☑	☑	☑	☑
Power Factor	☑	☑	☑	☑	☑
Frequency				☑	☑
Current and Voltage	☑	☑	☑	☑	☑

* Data availability depending on the concentrator / gateway

					
	LV434022/LV434023	A9MEM1590	A9MEM1591	A9MEM1592	A9MEM1593
Product name	M630	R200	R600	R1000	R2000
Max current (I Max) A	630	200	600	1000	2000
Starting current (Ist)	400 mA	120 mA	400 mA	600 mA	1.2 A
Design	Monoconnect	Rope	Rope	Rope	Rope
Mounting type	On device	On wires	On wires	On wires	On wires
Current sensors type	Solid core	Split core	Split core	Split core	Split core
Poles	3P / 3P+N	3P / 3P+N	3P / 3P+N	3P / 3P+N	3P / 3P+N
Self-powered	☑	☑	☑	☑	☑
Voltage (L-N)	230 V AC	100 - 277 V AC	100 - 277 V AC	100 - 277 V AC	100 - 277 V AC
Measurements*					
Nb quadrant	4	4	4	4	4
Active Energy	Class 1	Class 1	Class 1	Class 1	Class 1
Reactive Energy	☑	☑	☑	☑	☑
Apparent Energy		☑	☑	☑	☑
Active Power	☑	☑	☑	☑	☑
Reactive Power	☑	☑	☑	☑	☑
Apparent Power	☑	☑	☑	☑	☑
Power Factor	☑	☑	☑	☑	☑
Frequency	☑	☑	☑	☑	☑
Current and Voltage	☑	☑	☑	☑	☑

* Data availability depending on the concentrator / gateway

Connection possibilities



1 PowerTag Energy Connected Upstream (U and I)

- When breaker is OFF, PowerTag Energy remains energized.



- When breaker is OFF, PowerTag Energy is de-energized. PowerTag Energy sends Voltage loss alarm before complete stop.

2 PowerTag Energy Connected Downstream (U and I)



3 PowerTag Energy Connected Downstream (U and I)

- When breaker is OFF, PowerTag Energy is de-energized. PowerTag Energy sends Voltage loss alarm before complete stop.



- When breaker is OFF, PowerTag Energy remains energized.

4 PowerTag Energy Connected Upstream (U and I)

Note:

- In association with a contactor, a Variable Speed Drive or a motor starter: PowerTag Energy can ONLY be installed UPSTREAM these devices.
- Some PowerTag Energy can be installed either on the TOP or on the BOTTOM of the protective devices.
- Check the possible mounting position as indicated in the "Catalog numbers" chapter.

Connection (Voltage and Current)		Features
Upstream	1 4	• Energy management: consumption in kWh • Load monitoring: real-time measurements
Downstream Preferred installation to take full benefit of voltage loss alarming in diagnosing the load	2 3	• Energy management: consumption in kWh • Load monitoring: real-time measurements • Power availability: voltage loss alarming

Main associated concentrators / gateways (*)



For Commercial & Building applications		
PowerTag Link	PowerTag Link HD	Smartlink SI B
		
A9XMWD20 (1)	**A9XMWD100**	**A9XMZA08**

(1) Replace Smartlink SI D (A9XMWA20)

For Small Business applications	For Residential applications	For Industrial applications
PowerTag Link C PowerTag Link C+	Wiser IP Module Wiser IP Module+	Harmony Hub
		
A9XELC10	**EER31800**	**ZBRN1, ZBRN2, ZBRN32**

(*) Refer to Selection Guide for complete compatibility pages 95 to 102.
Refer to the concentrator catalogs for more information (CA907030, CA907032, CA907035).

PowerLogic™ PowerTag Energy 63 A

IEC 61557-12 PMD-I/DD/K55/1

As per the above standard:

With its compact design and innovative concept, PowerTag Energy 63 A fits directly on the protective device and as a result has no impact on DIN rail occupancy and switchboard size.
It is therefore well adapted to be mounted from head of group down to final circuits.
Since voltage and current are measured directly at the same point on the circuit to be monitored, it provides accurate measurement and relevant information such as voltage loss.
PowerTag Energy is compatible with SE product ranges as per the selection guide CA908058.

Main characteristics

PowerTag Energy measures the following values in accordance with the IEC 61557-12 standard PMD-I/DD/K55/1:

- Energy:
  - Active energy (kWh): total and partial, delivered and received.
- Real-time measurement values:
  - Voltages (V): phase-to-phase and phase-to-neutral.
  - Currents (A): per phase.
  - Power:
    - Active power (W): total and per phase.
    - Apparent power (VA): total.
  - Power factor.
- Voltage loss alarms:
  - PowerTag Energy sends a “voltage loss” alarm and the current-per-phase value before being de-energized.
  - At “voltage loss”, PowerTag Energy adds an overload alarm if the current is higher than the rated current of the associated protective device.

Note: Functions listed above depends on Concentrator/Gateway.



PowerTag Energy
Monoconnect 63 A (M63)



PowerTag Energy
PhaseNeutral 63 A (P63)



PowerTag Energy
Flex 63 A (F63)

Product selection

Neutral position

Some references of PowerTag Energy 63 A (Monoconnect and PhaseNeutral) exist in Top or Bottom version.
This is linked to the position of the neutral of the PowerTag Energy.



PowerTag Energy "Top"

- Designed to be mounted on the Top of the circuit breaker.



- Designed to be mounted on the Bottom of the circuit breaker.

PowerTag Energy "Bottom"

Note:
- Some PowerTag Energy can be installed either on the TOP or on the BOTTOM of the protective devices.
- Check the possible mounting position as indicated in the "Catalog numbers" chapter.
- In association with a contactor, a Variable Speed Drive or a motor starter: PowerTag Energy can ONLY be installed UPSTREAM these devices.

Number of poles

Choose the PowerTag Energy according to the number of poles of the protective device: one PowerTag Energy per protective device.

Ex.: 3 Pole PowerTag Energy 63 A for a 3 pole CB.





PowerLogic™ PowerTag Energy 63 A

Technical specifications

Main characteristics				
Rated voltage	1P+N / 1P+W	Un	Phase-to-neutral	200… 240 V AC ± 20 %
	3P	Un	Phase-to-phase	380… 415 V AC ± 20 %
	3P+N	Un	Phase-to-neutral	220… 240 V AC ± 20 %
			Phase-to-phase	380… 415 V AC ± 20 %
	A9MEM1543	Un	Phase-to-phase	200… 240 V AC ± 20 %
	A9MEM1564	Un	Phase-to-neutral	100… 127 V AC ± 20 %
	A9MEM1574	Un	Phase-to-neutral	120… 137 V AC ± 20 %
			Phase-to-phase	208… 240 V AC ± 20 %
Frequency				50/60 Hz
Maximum current		Imax		63 A
Basic current		Ib		10 A
Saturation current				130 A
Maximum consumption			1P+N	≤ 1 VA
			3P/3P+N	≤ 2 VA
Starting current		Ist		40 mA
Additional characteristics				
Operating temperature				-25°C to +60°C
Storage temperature				-40°C to +85°C
Overvoltage category			As per IEC 61010-1	Cat. III
Measuring category			As per IEC 61010-2-030	Cat. III
Pollution degree				3
Altitude				≤ 2000 m
Degree of protection			Device only	IP20
			IK	05
Radio-frequency communication				
ISM band 2.4 GHz				2.4 GHz to 2.4835 GHz
Channels			As per IEEE 802.15.4	11 to 26
Isotropic Radiated Power			Equivalent (EIRP)	0 dBm
Maximum transmission time				< 5 ms
Channel occupancy			Messages sent every	5 seconds minimum
Characteristics of measuring functions				
Function		Symbol	Performance category as per IEC 61557-12 (PMD-I/DD/K55/1)	Measuring range
			Class	
Active power		P	1	9 W to 63 kW
Active energy		Ea	1	Total and partial 0 to 99999999.9 kWh
Current		I	1	40 mA to 63 A
Voltage		U	0.5	Un ± 20 %
Power factor		PFA	1	0 to 1

PowerLogic™ PowerTag Energy 63 A


A9MEM1520


A9MEM1521


A9MEM1540


A9MEM1522


A9MEM1543


A9MEM1541


A9MEM1542

PowerTag Energy Monoconnect 63 A Commercial reference numbers

PowerTag Energy for Acti9 and Multi9 **Monoconnect** offers: «Single-terminal» circuit breakers, RCDs and switches with **18 mm pitch between phase and neutral**, rating less than or equal to 63 A.

Commercial reference number	Type	Mounting	Description
A9MEM1520	1P+wire	Top or bottom	PowerTag Energy M63 1PW
A9MEM1521	1P+N	Top	PowerTag Energy M63 1PN T
A9MEM1522		Bottom	PowerTag Energy M63 1PN B
A9MEM1540	3P	Top or bottom	PowerTag Energy M63 3P
A9MEM1543 (1)			PowerTag Energy M63 3P 230V LL
A9MEM1541	3P+N	Top	PowerTag Energy M63 3PN T
A9MEM1542		Bottom	PowerTag Energy M63 3PN B

Designed to fit the following devices: iC60, Reflex iC60, DT60, iID.
For additional information and the list of Schneider Electric compatible devices and Concentrators/Gateways, refer to the Selection Guide pages 95 to 102.

(1) Not compatible with Acti9 Smartlink SI D (A9XMWA20) and Acti9 Smartlink SI B (A9XMZA08)


A9MEM1561


A9MEM1562


A9MEM1563


A9MEM1571


A9MEM1572

PowerTag Energy PhaseNeutral 63 A Commercial reference numbers

PowerTag Energy for Acti9 and Multi9 **PhaseNeutral** offers: «Single-terminal» circuit breakers, RCDs and switches at **pitch of 9 mm between phase and neutral**, rating less than or equal to 63 A.

Commercial reference number	Type	Mounting	Description
A9MEM1561	1P+N	Top	PowerTag Energy P63 1PN T
A9MEM1562	1P+N	Bottom	PowerTag Energy P63 1PN B
A9MEM1563	1P+N RCBO	Bottom	PowerTag Energy P63 1PN B RCBO 18mm
A9MEM1571	3P+N	Top	PowerTag Energy P63 3PN T
A9MEM1572	3P+N	Bottom	PowerTag Energy P63 3PN B

Designed to fit the following devices: DT40, iDPN, C40, i DPN Vigi.
For additional information and the list of Schneider Electric compatible devices and Concentrators/Gateways, refer to the Selection Guide pages 95 to 102.


A9MEM1560


A9MEM1564


A9MEM1573


A9MEM1570


A9MEM1574

PowerTag Energy Flex 63 A Commercial reference numbers

PowerTag Energy **Flex** for other devices and specific installations, rating less than or equal to 63 A.

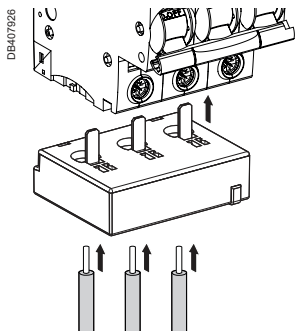
Commercial reference number	Type	Mounting	Description
A9MEM1560	1P+N	Top or bottom	PowerTag Energy F63 1PN
A9MEM1564 (2)	1P+N	Top or bottom	PowerTag Energy F63 1PN 110V
A9MEM1573 (2)	3P	Top or bottom	PowerTag Energy F63 3P
A9MEM1570	3P+N	Top or bottom	PowerTag Energy F63 3PN
A9MEM1574 (2)	3P+N	Top or bottom	PowerTag Energy F63 3PN 127/220V

Designed to fit the following devices: Vigi iDT40, Vigi iC40, Vigi iC60, iC60 double terminal, iID double terminal.
For additional information and the list of Schneider Electric compatible devices and concentrators/gateways, refer to the Selection Guide pages 95 to 102.

(2) Not compatible with Acti9 PowerTag Link C (A9XELC10), Smartlink SI D (A9XMWA20) and Smartlink SI B (A9XMZA08)

Contact your Schneider Electric representative for complete ordering information.

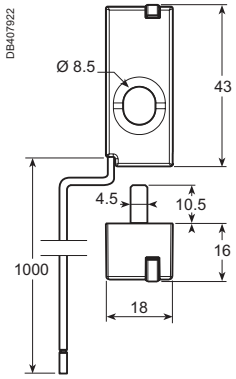
PowerTag Energy Monoconnect 63 A connection



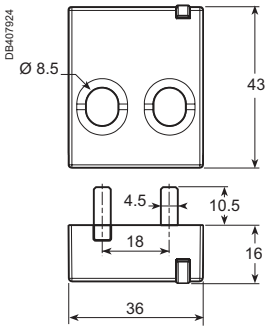
Stripping length	Copper cables					
	Rigid		Flexible		Flexible with ferrule	
						
18 mm	1.5 to 16 mm^2 AWG: 16...6	2 x 1.5 to 2.5 mm^2 AWG: 16...14	1.5 to 16 mm^2 AWG: 16...6	2 x 1.5 to 2.5 mm^2 AWG: 16...14	1.5 to 16 mm^2 AWG: 16...6	2 x 1.5 to 2.5 mm^2 AWG: 16...14

Mounting with 18 mm ferrule recommended.

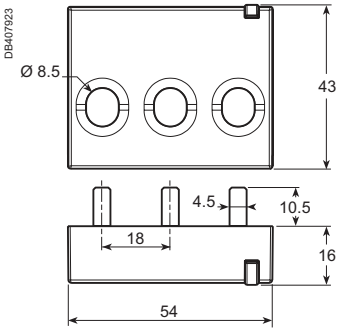
PowerTag Energy Monoconnect 63 A dimensions (mm)



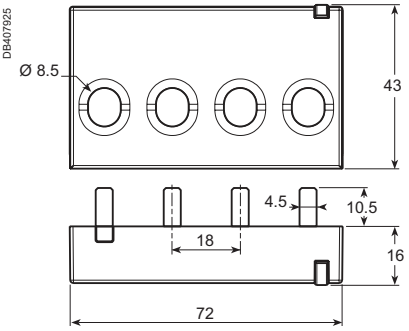
1P+wire



1P+N



3P



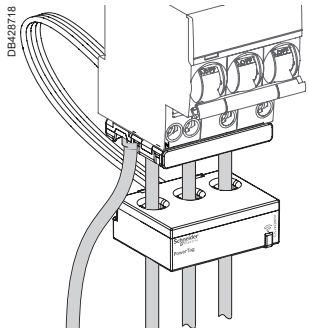
3P+N

PowerTag Energy Monoconnect 63 A weight

Type	Weight (g)
1P+wire	16.4
1P+N	17.5
3P	28
3P+N	35

Please refer to PowerTag Energy 63 A Installation Sheet for accurate and complete information on the installation of this product.

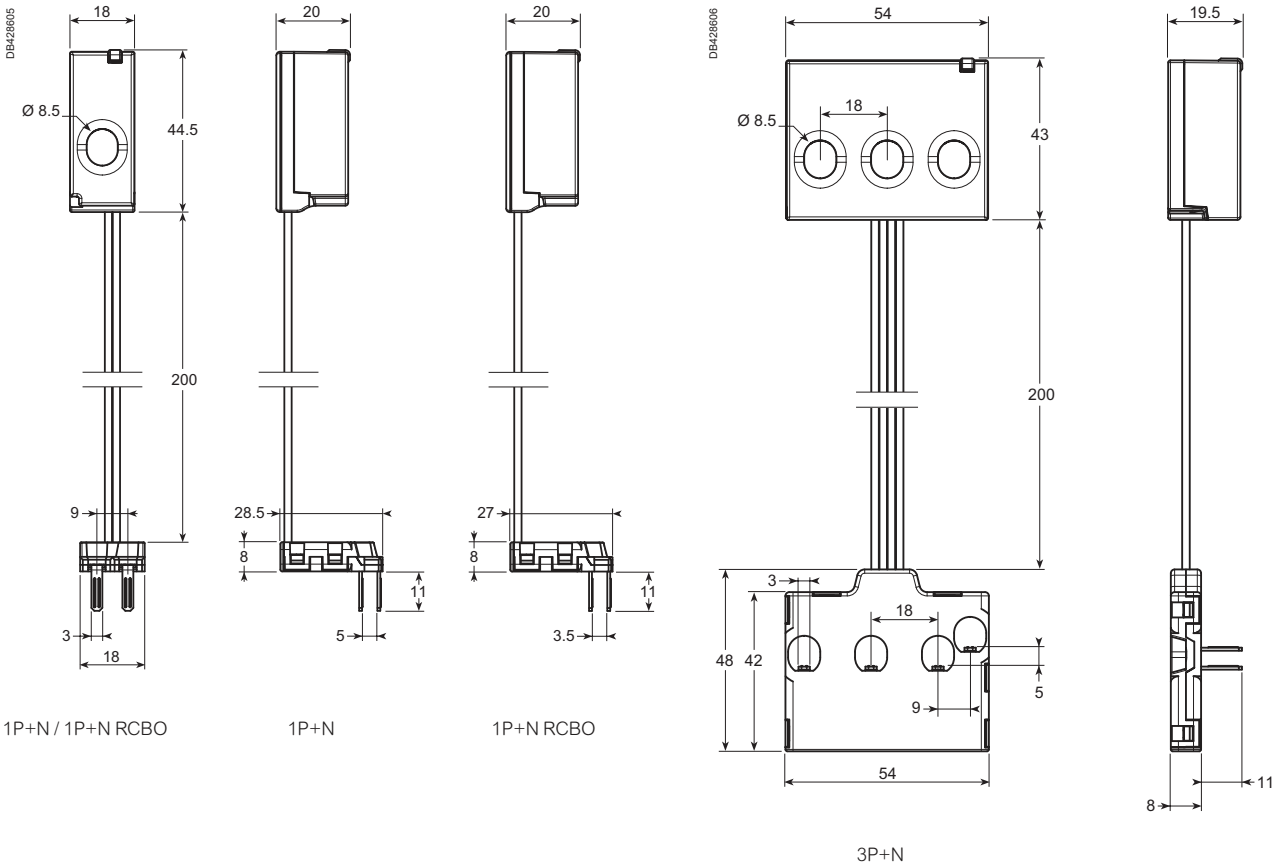
PowerTag Energy PhaseNeutral 63 A connection



Copper cables					
Rigid		Flexible		Flexible with ferrule	
					
1.5 to 16 mm² AWG: 16...6	2 x 1.5 to 2.5 mm² AWG: 16...14	1.5 to 16 mm² AWG: 16...6	2 x 1.5 to 2.5 mm² AWG: 16...14	1.5 to 16 mm² AWG: 16...6	2 x 1.5 to 2.5 mm² AWG: 16...14

Stripping length: respect the stripping length stated on the device the PowerTag Energy is associated with.

PowerTag Energy PhaseNeutral 63 A dimensions (mm)



1P+N / 1P+N RCBO

1P+N

1P+N RCBO

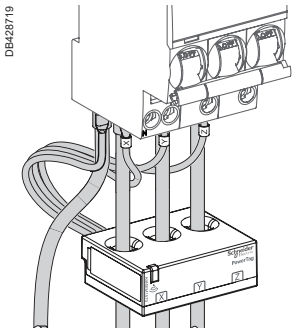
3P+N

PowerTag Energy PhaseNeutral 63 A weight

Type	Weight (g)
1P+N	18
3P+N	48

Please refer to PowerTag Energy 63 A Installation Sheet for accurate and complete information on the installation of this product.

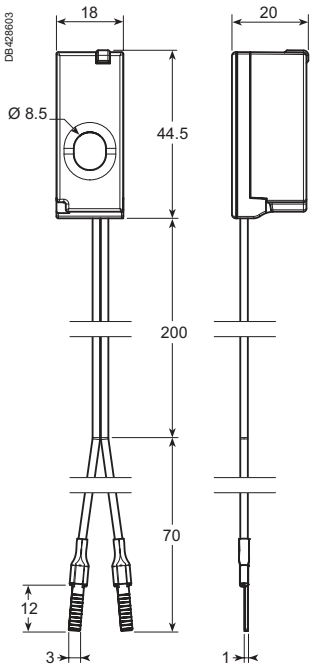
PowerTag Energy Flex 63 A connection



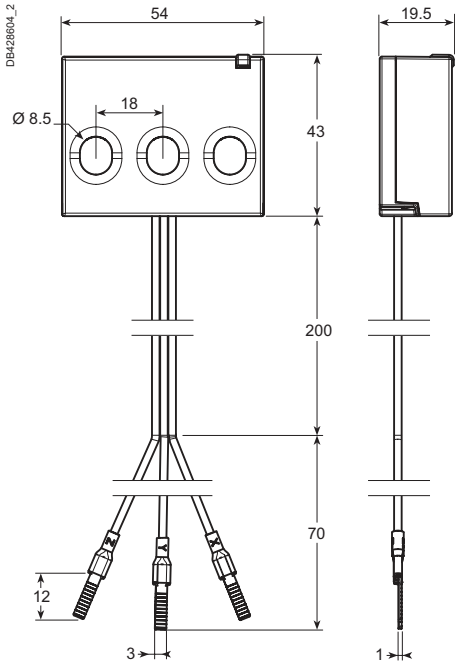
Copper cables					
Rigid		Flexible		Flexible with ferrule	
					
1.5 to 16 mm² AWG: 16...6	2 x 1.5 to 2.5 mm² AWG: 16...14	1.5 to 16 mm² AWG: 16...6	2 x 1.5 to 2.5 mm² AWG: 16...14	1.5 to 16 mm² AWG: 16...6	2 x 1.5 to 2.5 mm² AWG: 16...14

Stripping length: respect the stripping length stated on the device the PowerTag Energy is associated with.

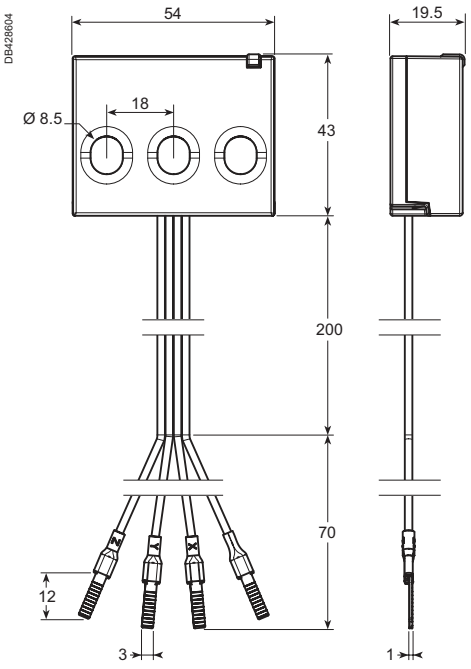
PowerTag Energy Flex 63 A dimensions (mm)



1P+N



3P



3P+N

PowerTag Energy Flex 63 A weight

Type	Weight (g)
1P+N	16
3P	38
3P+N	40

Please refer to PowerTag Energy 63 A Installation Sheet for accurate and complete information on the installation of this product.

PowerLogic™ PowerTag Energy 63 A Resi9

IEC 61557-12 PMD-I/DD/K55/1

As per the above standard:

With its compact design and innovative concept, PowerTag Energy 63 A Resi9 fits directly on the Resi9 protective device and as a result has no impact on DIN rail occupancy and switchboard size.
It is therefore well adapted to be mounted from head of group down to final circuits.
Since voltage and current are measured directly at the same point on the circuit to be monitored, it provides accurate measurement and relevant information such as voltage loss.

PowerTag Energy 63 A Resi9 is dedicated to the Resi9 range of devices and compatible with the concentrator/gateway Wiser IP Module.

Main characteristics

PowerTag Energy measures the following values in accordance with the IEC 61557-12 standard PMD-I/DD/K55/1:

- Energy:
  - Active energy (kWh): total and partial, delivered and received.
- Voltage loss alarms:
  - PowerTag Energy sends a “voltage loss” alarm before being de-energized.
  - At “voltage loss”, PowerTag Energy adds an overload alarm if the current is higher than the rated current of the associated protective device.



PowerTag Energy
Monoconnect 63 A (M63)



PowerTag Energy
Monoconnect 63 A (M63)

PowerLogic™ PowerTag Energy 63 A Resi9

Installation

Some references of PowerTag Energy 63 A Resi9 (Monoconnect) exist in Top or Bottom version. This is linked to the position of the neutral of the PowerTag Energy.



PowerTag Energy "Top"

- Designed to be mounted on the Top of the circuit breaker.



- Designed to be mounted on the Bottom of the circuit breaker.

PowerTag Energy "Bottom"

Note:
- Some PowerTag Energy 63 A Resi9 can be installed either on the TOP or on the BOTTOM of the protective devices.
- Check the possible mounting position as indicated in the "Catalog numbers" chapter.
- In association with a contactor, a Variable Speed Drive or a motor starter: PowerTag Energy can ONLY be installed UPSTREAM these devices.

Number of poles

Choose the PowerTag Energy according to the number of poles of the protective device: one PowerTag Energy per protective device.

Ex.: 3 pole PowerTag Energy 63 A Resi9 for a 3 pole CB.





PowerLogic™ PowerTag Energy 63 A Resi9

Technical specifications

Main characteristics				
Rated voltage	1P+N / 1P+W	Un	Phase-to-neutral	200… 240 V AC ± 20 %
	3P	Un	Phase-to-phase	380… 415 V AC ± 20 %
	3P+N	Un	Phase-to-neutral	220… 240 V AC ± 20 %
			Phase-to-phase	380… 415 V AC ± 20 %
	R9M43	Un	Phase-to-phase	200… 240 V AC ± 20 %
Frequency				50/60 Hz
Maximum current		Imax		63 A
Basic current		Ib		10 A
Saturation current				130 A
Maximum consumption			1P+N	≤ 1 VA
			3P/3P+N	≤ 2 VA
Starting current		Ist		40 mA
Additional characteristics				
Operating temperature				-25°C to +60°C
Storage temperature				-40°C to +85°C
Overvoltage category			As per IEC 61010-1	Cat. III
Measuring category			As per IEC 61010-2-030	Cat. III
Pollution degree				3
Altitude				≤ 2000 m
Degree of protection			Device only	IP20
			IK	05
Radio-frequency communication				
ISM band 2.4 GHz				2.4 GHz to 2.4835 GHz
Channels			As per IEEE 802.15.4	11 to 26
Isotropic Radiated Power			Equivalent (EIRP)	0 dBm
Maximum transmission time				< 5 ms
Channel occupancy			Messages sent every	5 seconds minimum
Characteristics of measuring functions				
Function		Symbol	Performance category as per IEC 61557-12 (PMD-I/DD/K55/1)	Measuring range
			Class	
Active energy (delivered and received)		Ea	1	Total and partial 0 to 99999999.9 kWh
Current		I	1	40 mA to 63 A
Voltage		U	0.5	Un ± 20 %

PowerLogic™ PowerTag Energy 63 A Resi9



R9M20



R9M21



R9M40



R9M22



R9M43



R9M41



R9M42

PowerTag Energy Monoconnect 63 A Resi9 Commercial reference numbers

PowerTag Energy for Resi9 **Monoconnect** offers: «Single-terminal» circuit breakers, RCDs and switches with **18 mm pitch between phase and neutral**, rating less than or equal to 63 A.

Commercial reference number	Type	Mounting	Description
R9M20	1P+wire	Top or bottom	PowerTag Energy R9 M63 1PW
R9M21	1P+N	Top	PowerTag Energy R9 M63 1PN T
R9M22		Bottom	PowerTag Energy R9 M63 1PN B
R9M40	3P	Top or bottom	PowerTag Energy R9 M63 3P
R9M43			PowerTag Energy R9 M63 3P 230V LL
R9M41	3P+N	Top	PowerTag Energy R9 M63 3PN T
R9M42		Bottom	PowerTag Energy R9 M63 3PN B

Refer to the Resi9 catalog in your country to select the right PowerTag Energy model to fit on the Resi9 protective device you want to equipped.



R9M60



R9M70

PowerTag Energy Flex 63 A Resi9 Commercial reference numbers

PowerTag Energy **Flex** for other Resi9 devices and specific installations, rating less than or equal to 63 A.

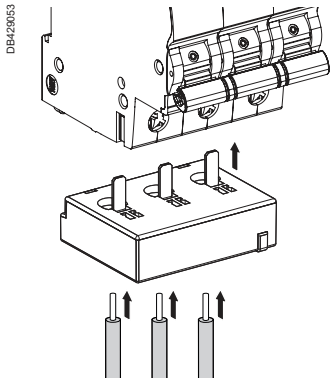
Commercial reference number	Type	Mounting	Description
R9M60	1P+N	Top or bottom	PowerTag Energy R9 F63 1PN
R9M70	3P+N	Top or bottom	PowerTag Energy R9 F63 3PN

Refer to the Resi9 catalog in your country to select the right PowerTag Energy model to fit on the Resi9 protective device you want to equipped.

To allow PowerTag Energy Resi9 F63 to adapt to different types of terminals, the voltage tap lugs can be replaced with other end-pieces or lugs for AWG22/0.33 mm2 wires.

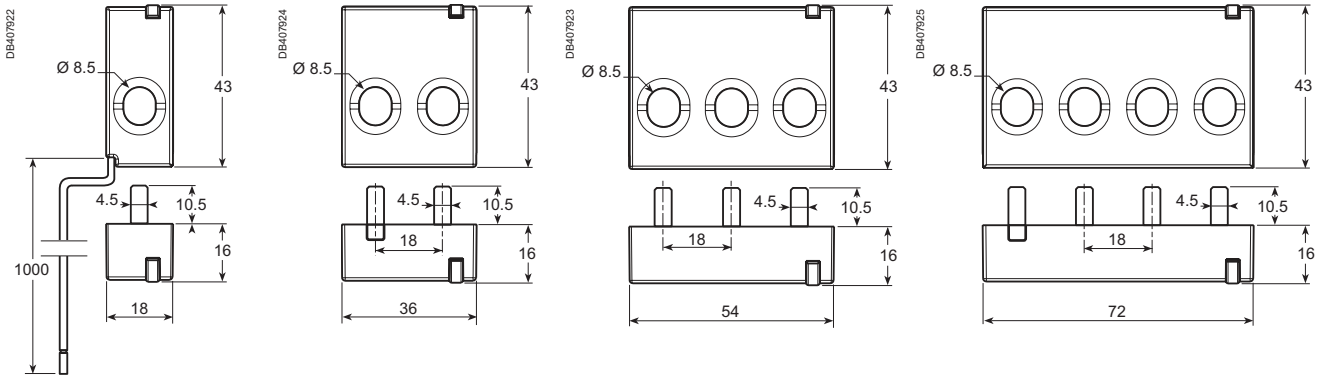
PowerLogic™ PowerTag Energy 63 A Resi9

PowerTag Energy R9 M63 connection



Stripping length : 18 mm

PowerTag Energy R9 M63 dimensions (mm)



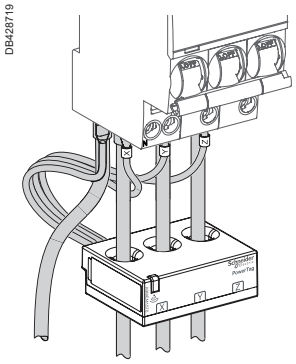
1P+wire 1P+N 3P 3P+N

PowerTag Energy R9 M63 weight

Type	Weight (g)
1P+wire	16.4
1P+N	17.5
3P	28
3P+N	35

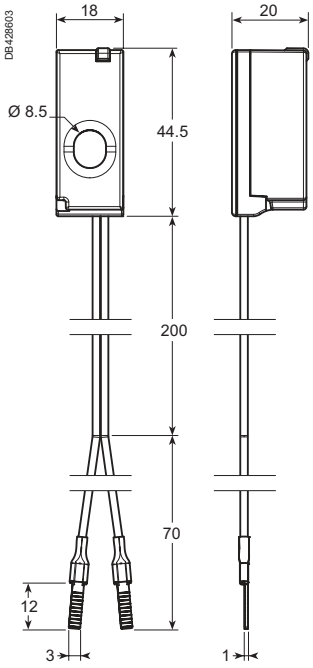
PowerLogic™ PowerTag Energy 63 A Resi9

PowerTag Energy R9 F63 connection

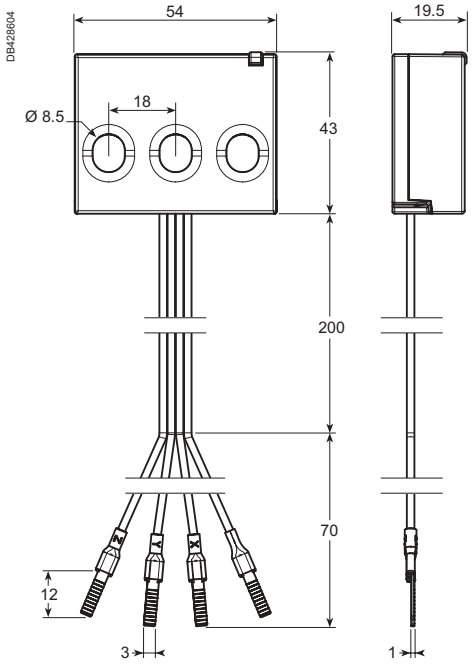


Stripping length: respect the stripping length stated on the device the PowerTag Energy is associated with.

PowerTag Energy R9 F63 dimensions (mm)



1P+N



3P+N

PowerTag Energy R9 F63 weight

Type	Weight (g)
1P+N	16
3P	40

Please refer to PowerTag Energy 63 A Resi9 Installation Sheet for accurate and complete information on the installation of this product.

PowerLogic™ PowerTag Energy Flex 160 A

IEC 61557-12 PMD-II/DD/K70/1

As per the above standard:

With its flex design this PowerTag Energy can be used on many products or group of loads up to 160 A on 3P or 3P+N networks. Its removable spring connector for voltage picking facilitates its installation, and shapes for brackets allows to mount and maintain it where needed in a panel.

Main characteristics

PowerTag Energy Flex 160 A measures the following values in accordance with the IEC 61557-12 standard PMD-II/DD/K70/1:

- Energy (4 quadrants):
  - Active energy (kWh): total and partial, delivered and received.
  - Active energy per phase (kWh): total and partial, delivered and received.
  - Reactive energy (kVARh): total and partial, delivered and received.
  - Reactive energy per phase (kVARh): total and partial, delivered and received.
  - Apparent energy (kVAh): total and partial.
  - Apparent energy per phase (kVAh): total and partial.
- Real-time measurement values:
  - Voltages (V): phase-to-phase (U12, U23, U31) and phase-to-neutral (V1N, V2N, V3N).
  - Currents (A): per phase (I1, I2, I3), calculated neutral current when connected (IN) .
  - Power:
    - Active power (W): total and per phase.
    - Reactive power (VAR): total and per phase.
    - Apparent power (VA): total and per phase.
  - Frequency (Hz).
  - Power factor: total and per phase.
- Voltage loss alarms:
  - PowerTag Energy Flex sensor sends a “voltage loss” alarm and the current-per-phase value before being de-energized.
  - At “voltage loss”, PowerTag Energy Flex adds an overload alarm if the current is higher than the rated current of the associated protective device

Note: Functions listed above depends on Concentrator/Gateway.



PowerTag Energy Flex 160 A

PowerLogic™ PowerTag Energy Flex 160 A

Installation

PowerTag Energy Flex 160 A can be installed in a panel directly on cables or busbars, associated to a product or not. Voltage pickings removable spring terminal has to be wired by 1 copper wire per phase with following characteristics:

Wire range

Solid	Stranded	Stranded with terminal ends
0.2...1.5 mm²	0.2...2.5 mm²	0.25...1.5 mm²
24...16 AWG	24...14 AWG	24...16 AWG

Neutral picking shall be connected to have phase-to-neutral voltages, energy per phase and power per phase provided.

PowerTag Energy Flex 160 A is mainly advised for ComPact NSXm, ComPact INS160, Acti9 NG125, Acti9 C120, PowerPact B, TeSys GV4, and all other devices with a rating between 63 A and 160 A.



PowerLogic™ PowerTag Energy Flex 160 A

Technical specifications

Main characteristics (as per IEC 61557-12)				
Rated voltage	Un	Phase-to-neutral		100…277 V AC ± 20 %
		Phase-to-phase		173…480 V AC ± 20 %
Frequency				50/60 Hz
Maximum current	Imax			160 A
Maximum operating current				1.2 x Imax
Saturation current				2 x Imax
Maximum consumption				3 VA
Starting current	Ist			100 mA
Basic current	Ib			25 A
Additional characteristic				
Operating temperature				-25 °C to +70 °C
Storage temperature				-40 °C to +85 °C
Overvoltage category		As per IEC 61010-1		Cat. IV
Measuring category		As per IEC 61010-2-030		Cat. IV
Pollution degree				3
Altitude				Up to 2000 m without derating (1)
Degree of protection device				IP20
				IK05
Radio-frequency communication				
ISM band 2.4 GHz				2.4 GHz to 2.4835 GHz
Channels		As per IEEE 802.15.4		11 to 26
Isotropic Radiated Power		Equivalent (EIRP)		0 dBm
Maximum transmission time				< 5 ms
Channel occupancy		For 1 device		messages sent every 5 seconds
Characteristics of measuring functions				
Function	Symbol	Performance category as per IEC 61557-12 (PMD-II/DD/K70/1)		Measuring range
		Class	Measuring range	
Total active power (Active power per phase)	P	1	2.5 to 160 A	24 W (8 W) to 192 kW
Total reactive power (Reactive power per phase)	Q_A	2		30 VAR (10 VAR) to 192 kVAR
Total apparent power (Apparent power per phase)	S_A	2		38 VA (13 VA) to 192 kVA
Active Energy: per phase, total, partial, delivered and received	E_a	1		0 to 281.10^9 kWh
Reactive energy: per phase, total, partial, delivered and received	E_{rA}	2		0 to 281.10^9 kVARh
Apparent energy: per phase, total, partial	E_{apA}	2		0 to 281.10^9 kVAh
Frequency	f	0.5	50 / 60 Hz ± 2 %	45 to 65 Hz
Phase current	I	1	5 to 160 A	100 mA to 320 A
Neutral current	I_{NC}	2		
Voltages (Line to Line)	U	0.5	Un ± 20 %	138 to 576 V AC
Power factor (per phase, total)	PF_A	1	From 0.5 inductive to 0.8 capacitive	-1 to 1

(1) Above 2000 m, please consult Schneider Electric.

PowerLogic™ PowerTag Energy Flex 160 A



A9MEM1580

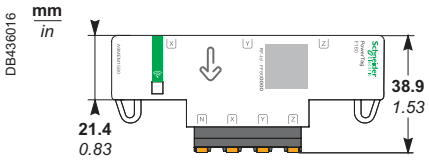
PowerTag Energy Flex 160 A Commercial reference numbers

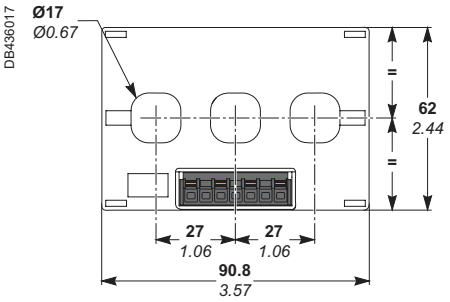
Commercial reference number	Type	Description
A9MEM1580	F160 3P/3P+N	PowerTag Energy Flex 160 A 3P / 3P+N

For the list of Schneider Electric compatible devices and concentrators, refer to the Selection Guide pages 95 to 102.

Contact your Schneider Electric representative for complete ordering information.

PowerTag Energy Flex 160 A dimensions





PowerTag Energy Flex 160 A weight

Type	Weight (g)
F160 3P/3P+N	100

Please refer to PowerTag Energy Flex 160 A Installation Sheet for accurate and complete information on the installation of this product.

PowerLogic™ PowerTag Energy Monoconnect 250 A & 630 A

IEC 61557-12 PMD-II/DD/K70/1

As per the above standard:

PowerTag Energy M250/M630 is designed for Molded Case Circuit Breakers and Switches (ComPact and TeSys) for 3P and 3P+N electrical networks. This PowerTag Energy is mounted directly on the bottom side of the circuit breaker or the Vigi add-on if any. Thanks to its integrated design, it does not require any specific wiring, and is compatible with the same connection accessories than the device it is mounted on.

Main characteristics

PowerTag Energy M250/M630 measures the following values in accordance with the IEC 61557-12 standard PMD-II/DD/K70/1:

- Energy (4 quadrants):
  - Active energy (kWh): total and partial, delivered and received.
  - Active energy per phase (kWh): total.
  - Reactive energy (kVARh): partial, delivered and received.
- Real-time measurement values:
  - Voltages (V): phase-to-phase (U12, U23, U31) and phase-to-neutral (V1N, V2N, V3N).
  - Currents (A): per phase (I1, I2, I3).
  - Power:
    - Active power (W): total and per phase.
    - Reactive power (VAR): total.
    - Apparent power (VA): total.
  - Frequency (Hz).
  - Power factor.
- Voltage loss alarms:
  - PowerTag Energy sends a “voltage loss” alarm and the current-per-phase value before being de-energized.
  - At “voltage loss”, PowerTag Energy adds an overload alarm if the current is higher than the rated current of the associated protective device.

Note: Functions listed above depends on Concentrator/Gateway.



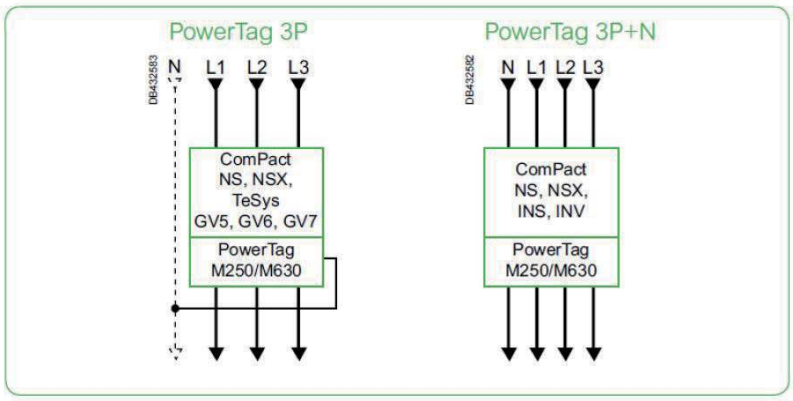
PowerTag Energy Monoconnect 250 A

PowerLogic™ PowerTag Energy Monoconnect 250 A & 630 A

Installation

The module is self-powered and is installed for fixed devices directly on the bottom side of the circuit breaker or Vigi add-on terminals. For plug-in devices, it has to be installed on the base itself, top or bottom.

PowerTag Energy M250/M630 3P has to be used with 3P devices, and an external neutral voltage tap is provided in case of the installation has a neutral to provide phase-to-neutral voltages, active energy per phase and power per phase.
PowerTag Energy M250/M630 3P+N has to be used with 4P devices and with ComPact INS/INV switches.



PowerTag M250/M630 modules are compatible with ComPact NSX100/160/250, ComPact NSX400/630, ComPact INS250-100A to 250A, ComPact INS320/400/500/630, ComPact INV100/160/200/250, ComPact INV320/400/500/630, ComPact NS100/160/250, ComPact NS400/630, TeSys GV5, TeSys GV6 and TeSys GV7.

In case of retrofit, following points have to been checked:

- Clearance to be able to add PowerTag Energy module and to respect bending radius of cables.
- Condition of power connectors: to be replaced if damaged.
- Tightening torques depending of the connector used.



PowerLogic™ PowerTag Energy Monoconnect 250 A & 630 A

Technical specifications

Main characteristics				
Rated voltage	Un	Phase-to-neutral		230 VAC ± 20 %
		Phase-to-phase		400 VAC ± 20 %
Frequency				50/60 Hz
Maximum current	Imax			250 A / 630 A
Maximum operating current				1.2 x Imax
Saturation current				2 x Imax
Maximum consumption				3.7 VA
Starting current	Ist			160 mA / 400 mA
Basic current	Ib			40 A / 100 A
Additional characteristic				
Operating temperature				-25 °C to +70 °C
Storage temperature				-50 °C to +85 °C
Overvoltage category		As per IEC 61010-1		Cat. IV
Measuring category		As per IEC 61010-2-030		Cat. III
Pollution degree				3
Altitude				Up to 2000 m without derating (1)
Degree of protection device				IP20
				IK07
Radio-frequency communication				
ISM band 2.4 GHz				2.4 GHz to 2.4835 GHz
Channels		As per IEEE 802.15.4		11 to 26
Isotropic Radiated Power		Equivalent (EIRP)		0 dBm
Maximum transmission time				< 5 ms
Channel occupancy		For 1 device		messages sent every 5 seconds
Characteristics of measuring functions				
Function	Symbol	Performance category as per IEC 61557-12 (PMD-II/DD/K70/1)		Measuring range (250 A / 630 A)
		Class	Measuring range (250 A / 630 A)	
Total active power (Active power per phase)	P	1	4 to 250 A / 10 to 630 A	88 W (29 W) to 416 kW / 222 W (74 W) to 1048 kW
Total reactive power	Q_A	2		88 VAR to 416 kVAR / 221 VAR to 1048 kVAR
Total apparent power	S_A	2		88 VA to 416 kVA / 221 VA to 1048 kVA
Active Energy: per phase, total, partial	E_a	1		0 to 281.10^9 kWh
Partial Reactive Energy	E_{rA}	2		0 to 281.10^9 kVARh
Frequency	f	1	45 to 55 Hz	45 to 65 Hz
Phase current	I	1	8 to 250 A / 20 to 630 A	160 mA to 500 A / 400 mA to 1260 A
Voltages (Line to Line)	U	0.5	Un ± 20 %	320 to 480 VAC
Power factor	PF_A	1	From 0.5 inductive to 0.8 capacitive	-1 to 1

(1) Above 2000 m, please consult us.

PowerLogic™ PowerTag Energy Monoconnect 250 A & 630 A



LV434020



LV434021



LV434022



LV434023



PowerTag Energy Monoconnect 250 A & 630 A Commercial reference numbers

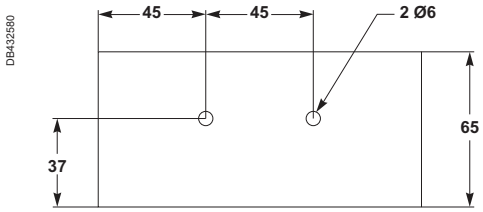
Commercial reference number	Type	Description	Connection adapter for mounting on plug-in base only
LV434020	M250 3P	PowerTag Energy 250 A 3P	**LV429306**
LV434021	M250 3P+N	PowerTag Energy 250 A 3P+N	**LV429307**
LV434022 (1)	M630 3P	PowerTag Energy 630 A 3P	**LV432584**
LV434023 (1)	M630 3P+N	PowerTag Energy 630 A 3P+N	**LV432585**

For the list of Schneider Electric compatible devices and concentrators, refer to the Selection Guide pages 95 to 102.

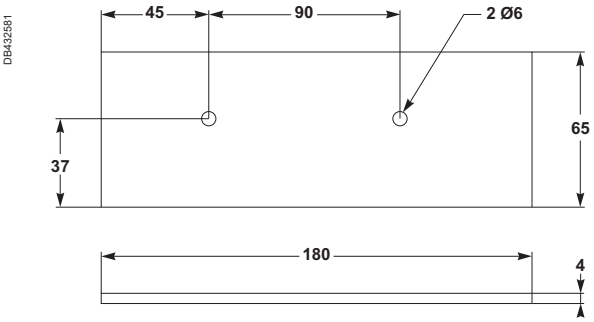
Contact your Schneider Electric representative for complete ordering information.

(1) For plug-in devices only: when plate mounted, need to add an intercalary wedging plate under the PowerTag Energy module with following dimensions:

3P

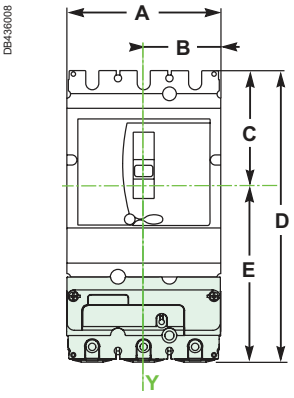


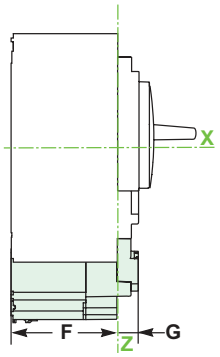
3P + N

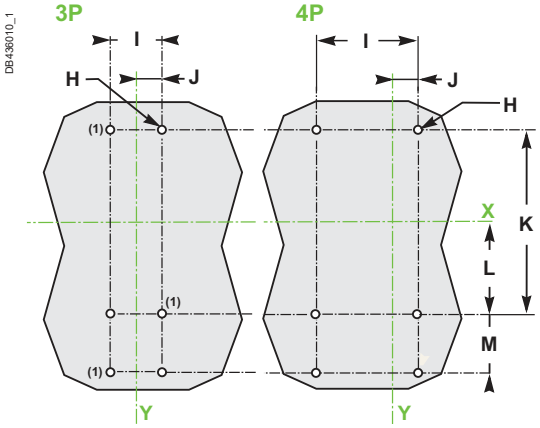


PowerLogic™ PowerTag Energy Monoconnect 250 A & 630 A

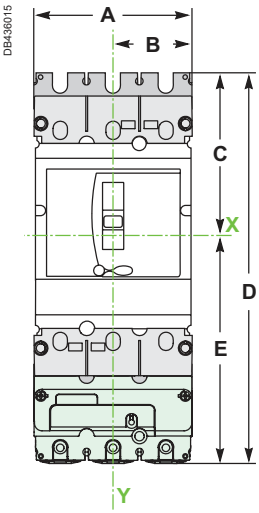
NSX100-250 / NSX400-630

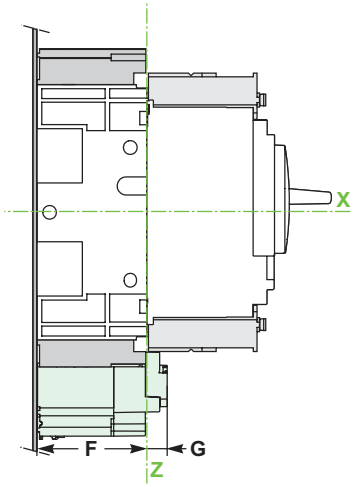


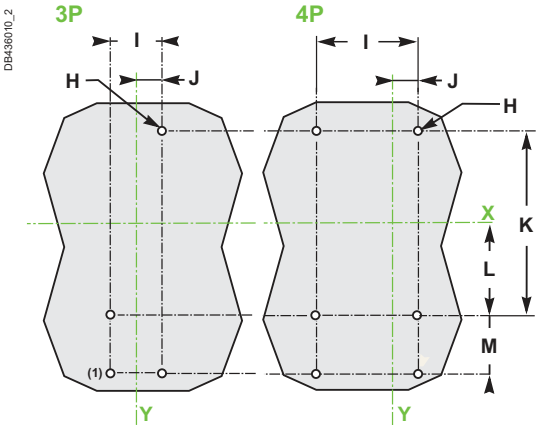




(1) Only for PowerTag M630







(1) Only for PowerTag M630

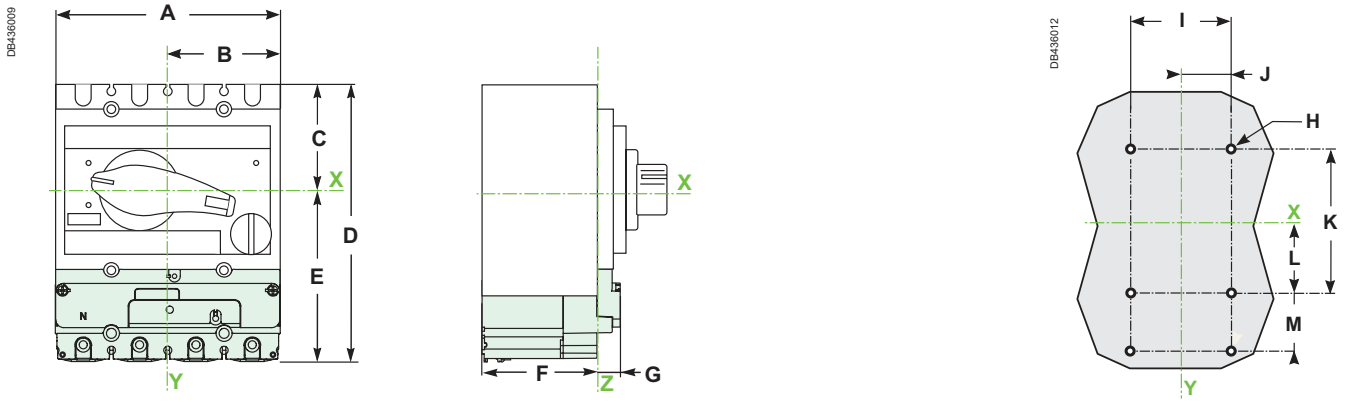
mm in	A		B	C	D	E	F	G	H		I		J		K	L	M
	3P	4P							3P	4P	3P	4P	3P	4P			
NSX100-250	105 4.13	140 5.51	52.5 2.06	80.5 3.17	201 7.91	120.5 4.74	72 2.83	14 0.55	3 Ø6 3 Ø0.23	6 Ø6 6 Ø0.23	35 1.34	70 2.75	17. 5 0.68	17. 5 0.68	125 4.92	62.5 2.46	40 1.57
NSX400-630	140 5.51	185 7.28	70 2.75	127.5 5.02	320 12.59	192.5 7.57	96 3.78	14 0.55	6 Ø6 6 Ø0.23	6 Ø6 6 Ø0.23	45 1.77	90 3.5	22.5 0.88	22.5 0.88	200 7.87	100 3.93	65 2.56
NSX100-250 with plug-in base	105 4.13	140 5.51	52.5 2.06	109 4.29	260 10.23	151 5.94	72 2.83	14 0.55	3 Ø6 3 Ø0.23	6 Ø6 6 Ø0.23	35 1.34	70 2.75	17. 5 0.68	17. 5 0.68	155 6.10	77.5 3.05	55 2.16
NSX400-630 with plug-in base	140 5.51	185 7.28	70 2.75	153 6.02	406 15.98	253 9.96	100 3.93	14 0.55	4 Ø06 4 Ø0.23	6 Ø6 6 Ø0.23	45 1.77	90 3.5	22.5 0.88	22.5 0.88	250 9.84	125 4.92	83 3.26

Please refer to PowerTag Energy 250 A & 630 A Installation Sheet for accurate and complete information on the installation of this product.

PowerLogic™ PowerTag Energy Monoconnect 250 A & 630 A

INS250 / INV100-250

INS320-630 / INV320-630



mm in	A	B	C	D	E	F	G	H	I	J	K	L	M
INS250 **INV100-250**	140 5.51	70 2.75	68 2.67	176 6.93	108 4.25	72 2.83	14 0.55	6 Ø6 6 Ø0.23	70 2.75	35 1.37	100 3.93	50 1.96	40 1.57
INS320-630 **INV320-630**	185 7.28	92.5 3.64	102.5 4.03	270 10.62	167.5 6.59	96 3.78	14 0.55	6 Ø6 6 Ø0.23	90 3.5	45 1.77	150 5.9	75 2.95	65 2.56

PowerTag Energy Monoconnect 250 A & 630 A weight

Type	Weight (g)
M250 3P	250
M250 3P+N	300
M630 3P	800
M630 3P+N	1000

Please refer to PowerTag Energy 250 A & 630 A Installation Sheet for accurate and complete information on the installation of this product.

PowerLogic™ PowerTag Energy Rope 200 A to 2000 A

IEC 61557-12 PMD-II/DD/K70/1

As per the above standard:

With its flexible and openable current sensors, this PowerTag Energy Rope can be installed easily on busbars and cables without having to disconnect the conductors, and is suitable for 3P or 3P+N networks. Its removable spring connector for voltage picking facilitates its installation, and the module can be mounted on a DIN rail or maintained with brackets where needed in a panel.

Main characteristics

PowerTag Energy Rope measures the following values in accordance with the IEC 61557-12 standard PMD-II/DD/K70/1:

- Energy (4 quadrants):
  - Active energy (kWh): total and partial, delivered and received.
  - Active energy per phase (kWh): total and partial, delivered and received.
  - Reactive energy (kVARh): total and partial, delivered and received.
  - Reactive energy per phase (kVARh): total and partial, delivered and received.
  - Apparent energy (kVAh): total and partial.
  - Apparent energy per phase (kVAh): total and partial.
- Real-time measurement values:
  - Voltages (V): phase-to-phase (U12, U23, U31) and phase-to-neutral (V1N, V2N, V3N).
  - Currents (A): per phase (I1, I2, I3), calculated neutral current when connected (IN).
  - Power:
    - Active power (W): total and per phase.
    - Reactive power (VAR): total and per phase.
    - Apparent power (VA): total and per phase.
  - Frequency (Hz).
  - Power factor: total and per phase.
- Voltage loss alarms:
  - PowerTag Energy Rope sensor sends a “voltage loss” alarm and the current-per-phase value before being de-energized.
  - At “voltage loss”, PowerTag Energy Rope adds an overload alarm if the current is higher than the rated current of the associated protective device.

Note: Functions listed above depends on Concentrator/Gateway.



PowerTag Energy Rope

PowerLogic™ PowerTag Energy Rope

Installation

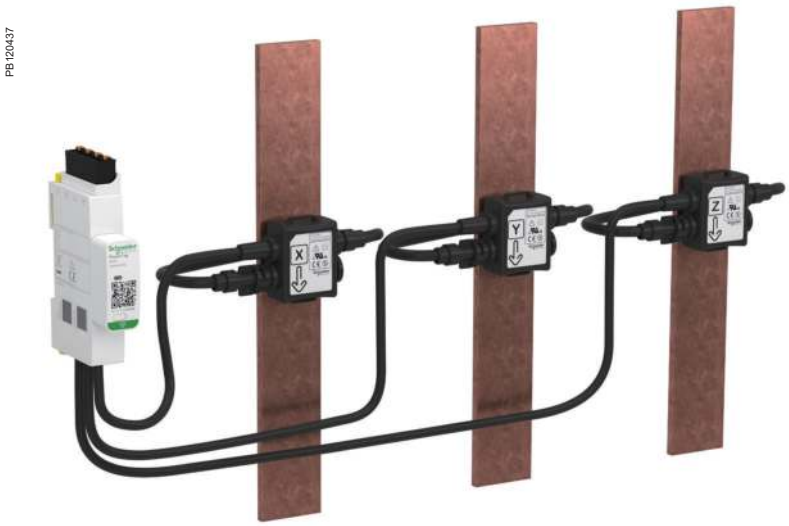
PowerTag Energy Rope 18 mm module can be mounted on DIN rail or fastened with brackets anywhere in a panel. Then its openable current sensors have to be installed around conductors, cables or busbars, whatever they are insulated or not. Voltage pickings removable spring terminal has to be wired by 1 copper wire per phase with following characteristics:

Wire range

Solid	Stranded	Stranded with terminal ends
0.2...1.5 mm²	0.2...2.5 mm²	0.25...1.5 mm²
24...16 AWG	24...14 AWG	24...16 AWG

Neutral picking shall be connected to have phase-to-neutral voltages, energy per phase and power per phase provided.

PowerTag Energy Rope is mainly advised for ComPact NS, MasterPact NT and NW, MasterPact MTZ NA and HA, for retrofit, for group of loads, and for all other devices with a rating up to 2000 A.



PowerLogic™ PowerTag Energy Rope 200 A to 2000 A

Technical specifications

Main characteristics (as per IEC 61557-12)				
Rated voltage	Un	Phase-to-neutral		100...277 VAC ± 20 %
		Phase-to-phase		173...480 VAC ± 20 %
Frequency				50/60 Hz
Maximum current	Imax			200 A / 600 A / 1000 A / 2000 A
Maximum operating current				1.2 x Imax
Saturation current				2 x Imax
Maximum consumption				3 VA
Starting current	Ist			120 mA / 400 mA / 600 mA / 1.2 A
Basic current	Ib			30 A / 100 A / 150 A / 300 A
Additional characteristic				
Operating temperature				-25 °C to +70 °C
Maximum primary conductor temperature				105 °C (2)
Storage temperature				-40 °C to +85 °C
Overvoltage category		As per IEC 61010-1		Cat. IV
Measuring category		As per IEC 61010-2-030		Cat. IV
Pollution degree				3
Altitude				Up to 2000 m without derating (1)
Degree of protection device				IP20 (IP40 front face)
				IK05
Radio-frequency communication				
ISM band 2.4 GHz				2.4 GHz to 2.4835 GHz
Channels		As per IEEE 802.15.4		11 to 26
Isotropic Radiated Power		Equivalent (EIRP)		0 dBm
Maximum transmission time				< 5 ms
Channel occupancy		For 1 device		messages sent every 5 seconds

Characteristics of measuring functions				
Function	Symbol	Performance category as per IEC 61557-12 (PMD-II/DD/K70/1)		Measuring range (200 A / 600 A / 1000 A / 2000 A)
		Class	Measuring range (200 A / 600 A / 1000 A / 2000 A)	
Total active power (Active power per phase)	P	1	3 to 200 A / 10 to 600 A / 15 to 1000 A / 30 to 2000 A	29 W (10 W) to 240 kW / 96 W (32 W) to 720 kW / 144 W (48 W) to 1200 kW / 288 W (96 W) to 2400 kW
Total reactive power (Reactive power per phase)	Q_A	2		36 VAR (12 VAR) to 240 kVAR / 120 VAR (40 VAR) to 720 kVAR / 180 VAR (60 VAR) to 1200 kVAR / 360 VAR (120 VAR) to 2400 kVAR
Total apparent power (Apparent power per phase)	S_A	2		46 VA (15 VA) to 240 kVA / 154 VA (51 VA) to 720 kVA / 231 VA (77 VA) to 1200 kVA / 461 VA (154 VA) to 2400 kVA
Active Energy: per phase, total, partial, delivered and received	E_a	1		0 to 281.10^9 kWh
Reactive energy: per phase, total, partial, delivered and received	E_{rA}	2		0 to 281.10^9 kVARh
Apparent energy: per phase, total, partial	E_{apA}	2		0 to 281.10^9 kVAh
Frequency	f	0.5	50 / 60 Hz ± 2 %	45 to 65 Hz
Phase current	I	1	6 to 200 A / 20 to 600 A / 30 to 1000 A / 60 to 2000 A	120 mA to 400 A / 400 mA to 1200 A / 600 mA to 2000 A / 1.2 A to 4000 A
Neutral current	I_{NC}	2		
Voltages (Line to Line)	U	0.5	Un ± 20 %	138 to 576 VAC
Power factor (per phase, total)	PF_A	1	From 0.5 inductive to 0.8 capacitive	-1 to 1

(1) Above 2000 m, please consult us.
(2) For higher value, please consult us.

PowerLogic™ PowerTag Energy Rope 200 A to 2000 A



A9MEM159●

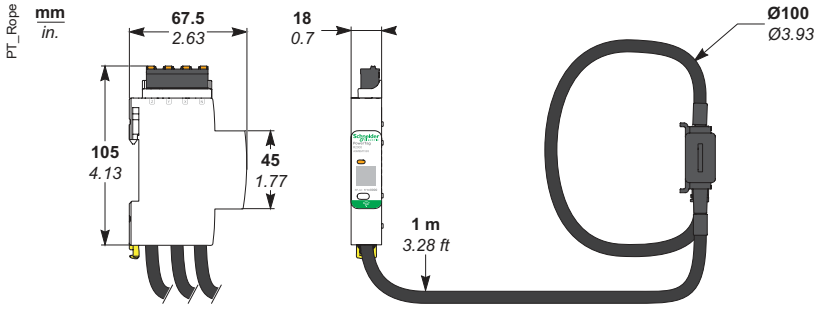
PowerTag Energy Rope 200 A to 2000 A Commercial reference numbers

Commercial reference number	Type	Description
A9MEM1590	R200 3P/3P+N	PowerTag Energy Rope 200 A 3P / 3P+N
A9MEM1591	R600 3P/3P+N	PowerTag Energy Rope 600 A 3P / 3P+N
A9MEM1592	R1000 3P/3P+N	PowerTag Energy Rope 1000 A 3P / 3P+N
A9MEM1593	R2000 3P/3P+N	PowerTag Energy Rope 2000 A 3P / 3P+N

For the list of Schneider Electric compatible devices and concentrators, refer to the Selection Guide pages 95 to 102.

Contact your Schneider Electric representative for complete ordering information.

PowerTag Energy Rope 200 A to 2000 A dimensions



PowerTag Energy Rope 200 A to 2000 A weight

Type	Weight (g)
R200 3P/3P+N	360
R600 3P/3P+N	
R1000 3P/3P+N	
R2000 3P/3P+N	

Please refer to PowerTag Energy Rope 200 A to 2000 A Installation Sheet for accurate and complete information on the installation of this product.

PowerLogic™ PowerTag Energy

Selection guide for product compatibility*

(Compatibility for terminal not equipped with comb busbar)

PowerTag Energy 63 A



Products (AC network)	Mounting position	A9 M63	A9 P63	A9 P63 RCBO	A9 F63
Acti9/Multi9					
Circuit breakers					
iC60/iK60/DT60	Top	☑	-	-	-
	Bottom	☑	-	-	-
iC60 (double terminal)	Top	-	-	-	☑
	Bottom	-	-	-	☑
iC40	Top	-	☑	-	-
	Bottom	-	☑	-	-
DT40/iDPN/C40	Top	-	☑	-	-
	Bottom	-	☑	-	-
C120 ≤ 63 A NG125 ≤ 63 A	Top	-	-	-	☑ (1)
	Bottom	-	-	-	☑ (1)
iC65N-K (China) iC65 (China)	Top	☑	-	-	-
	Bottom	☑	-	-	-
iDPN (China)	Top	-	☑	-	-
	Bottom	-	☑	-	-
iKQ (1P+W PowerTag on each pole)	Top	NA	-	-	-
	Bottom	☑ (1P+W only)	-	-	-
N40	Top	-	☑	-	-
	Bottom	-	☑	-	-
Reflex iC60	Top	☑	-	-	-
	Bottom	☑	-	-	-
Reflex XC40	Top	☑	-	-	-
	Bottom	-	-	-	☑ (1)
C32/C45/C60/C65/K60/T60/ Multi9 OEM (C60N/H/L)	Top	☑	-	-	-
	Bottom	☑	-	-	-
Circuit breakers equipped with Vigi module					
iC60/iC65/iC60/iC65N-K with Vigi module	Top	☑ (CB)	-	-	-
	Bottom	-	-	-	☑ (1) (Vigi)
iC40 with Vigi iCG40	Top CB	-	☑ (CB)	-	-
	Top (Vigi)	-	☑ (2) (Vigi 1P+N)	-	-
	Bottom (Vigi)	-	-	-	☑ (Vigi 3P+N)
iC40 with "outgoer" Vigi module	Top	-	☑ (CB)	-	-
	Bottom	-	-	-	☑ (Vigi)
DT40/DPN/C40 with "group feeder" Vigi module	Top CB	-	☑ (CB)	-	-
	Top Vigi	-	☑ (Vigi 1P+N)	-	☑ (Vigi 3P+N)
DT40/DPN/C40 with "outgoer" Vigi module	Top	-	☑ (CB)	-	-
	Bottom	-	-	-	☑ (Vigi)
DT60 with Vigi TG60	Top CB	☑ (CB) only A9MEM1541	-	-	-
	Top Vigi	-	-	-	☑ (1) (Vigi)

(1) You may need to change the voltage measurement cable terminals of the PowerTag Energy F63 by other cable ends (wire AWG22/0.33 mm²) for a more suitable connection to this product.
(2) Product usually associated with a comb busbar

(*) Refer to the product catalog for technical characteristics

PowerLogic™ PowerTag Energy

Selection guide for product compatibility*

(Compatibility for terminal not equipped with comb busbar)

PowerTag Energy 63 A






Products (AC network)	Mounting position	A9 M63	A9 P63	A9 P63 RCBO	A9 F63
Acti9/Multi9					
Circuit breakers equipped with Vigi module (cont')					
C120 ⩽ 63 A NG125 ⩽ 63 A with Vigi module	Top	-	-	-	☑ (1) (CB)
	Bottom	-	-	-	☑ (1) (Vigi)
Residual current devices					
iID/iID K	Top	☑	-	-	-
	Bottom	☑	-	-	-
iID (double terminal)	Top	-	-	-	☑
	Bottom	-	-	-	☑
iID40	Top	-	☑ (2) (1P+N)	-	☑ (2) (3P+N)
	Bottom	☑	-	-	-
iDPN Vigi "outgoer" 1P+N	Top	-	☑	-	-
	Bottom	-	☑	-	-
iC60H RCBO/iC60H2 RCBO/ IKQE RCBO	Top	NA (fishbone)	-	-	-
	Bottom	-	-	☑	-
iC60 RCBO	Top	☑	-	-	-
	Bottom	☑	-	-	-
iCV40 "outgoer" 1P+N	Top	-	☑	-	-
	Bottom	-	☑	-	-
iCV40 "outgoer" 3P+N	Top	-	☑	-	-
	Bottom	-	-	-	☑
DPN Vigi/DT40 Vigi/C40 Vigi "outgoer" 1P+N	Top	-	☑	-	-
	Bottom	-	☑	-	-
DPN Vigi/DT40 Vigi/C40 Vigi/ iDPN Vigi "outgoer" 3P+N	Top	-	☑	-	-
	Bottom	-	-	-	☑
DPN Vigi K	Top	-	-	-	☑ (1)
	Bottom	-	-	-	☑ (1)
N40 Vigi "outgoer"	Top	-	☑	-	-
	Bottom	-	☑	-	-
iDc/ITG40/C40	Top Left	-	☑	-	-
	Top Right	-	☑	-	-
DCP Vigi	Top	☑	-	-	-
	Bottom	☑	-	-	-
C60H RCBO (Multi9)	Top	NA (fishbone)	-	-	-
	Bottom	-	-	☑	-
ID ⩽ 63 A/ID K biconnect/ ID Type B ⩽ 63 A	Top	☑	-	-	-
	Bottom	☑	-	-	-
RED/REDs/REDTest	Top	-	-	-	☑ (1)
	Bottom	-	-	-	☑ (1)

(1) You may need to change the voltage measurement cable terminals of the PowerTag Energy F63 by other cable ends (wire AWG22/0.33 mm^2) for a more suitable connection to this product.
(2) Product usually associated with a comb busbar

(*) Refer to the product catalog for technical characteristics

PowerLogic™ PowerTag Energy

Selection guide for product compatibility*

(Compatibility for terminal not equipped with comb busbar)

PowerTag Energy 63 A



Products (AC network)	Mounting position	A9 M63	A9 P63	A9 P63 RCBO	A9 F63
Acti9/Multi9					
Switches					
iSW ⩽ 63 A	Top	☑	-	-	-
	Bottom	☑	-	-	-
iSW-NA ⩽ 63 A	Top	☑	-	-	-
	Bottom	☑	-	-	-
iSW 20/32 A	Top	-	-	-	☑
	Bottom	-	-	-	☑
i-NA ⩽ 63 A	Top	☑	-	-	-
	Bottom	☑	-	-	-
NG125 NA ⩽ 63 A	Top	-	-	-	☑ (1)
	Bottom	-	-	-	☑ (1)
Fuse disconnectors					
STI	Top	-	☑	-	-
	Bottom	-	☑	-	-
SBI 14x51/SBI 22x58 ⩽ 63 A	Top	-	-	-	☑ (1)
	Bottom	-	-	-	☑ (1)
D01/D02	Top	-	-	-	☑ (1)
	Bottom	-	-	-	☑ (1)
TeSys					
Motor circuit breakers					
GV2	Top	-	-	-	☑ (1) (2)
	Bottom	-	-	-	☑ (1) (2)
GV3 ⩽ 63 A	Top	-	-	-	☑ (1) (2)
	Bottom	-	-	-	☑ (1) (2)
Contactors					
TeSys D ⩽ 63 A	Top	-	-	-	☑ Upstream only (1)
	Bottom	-	-	-	
TeSys K	Top	-	-	-	☑ Upstream only (1)
	Bottom	-	-	-	
Motor starter					
TeSys U	Top	-	-	-	☑ Upstream only (1)
	Bottom	-	-	-	

(1) You may need to change the voltage measurement cable terminals of the PowerTag Energy F63 by other cable ends (wire AWG22/0.33 mm²) for a more suitable connection to this product.
(2) PowerTag Energy sensors withstand motor starting in-rush currents. Environmental mission profile : Buildings as per 60721-3-3.

(*) Refer to the product catalog for technical characteristics

PowerLogic™ PowerTag Energy

Selection guide for product compatibility*

(Compatibility for terminal not equipped with comb busbar)

			PowerTag Energy 160 A
			
Products (AC network)		**Mounting position**	**F160 3P / 3P+N**
Acti9			
Circuit breakers			
C120 (with or without Vigi module)	3P / 3P+N	Top / Bottom	☑
NG125 (with or without Vigi module)	3P / 3P+N	Top / Bottom	☑
Residual current devices			
iID > 63 A	3P+N	Top / Bottom	☑
RCCB-ID 125 A	3P+N	Top / Bottom	☑
Fuse disconnectors			
SBI > 63 A	3P / 3P+N	Top / Bottom	☑
Switches			
NG125 NA	3P / 3P+N	Top / Bottom	☑
iSW > 63 A	3P / 3P+N	Top / Bottom	☑
iSW NA > 63 A	3P+N	Top / Bottom	☑
ComPact			
Circuit breakers			
NSXm	3P / 3P+N	Top / Bottom	☑ (5)
Switches			
NSXm NA	3P / 3P+N	Top / Bottom	☑ (5)
INS 80/100/125/160	3P / 3P+N	Top / Bottom	☑
PowerPact			
Circuit breakers			
B	3P / 3P+N	Top / Bottom	☑ (6)
TeSys			
Motor circuit breakers			
GV3 > 65 A	3P	Top / Bottom	☑
GV4	3P	Top / Bottom	☑
Contactors			
63 A < TeSys D ⩽ 160 A	3P / 3P+N	Top	☑ Upstream only
TeSys F ⩽ 160 A	3P / 3P+N	Top	☑ Upstream only

(5) It is advised to use EverLink connectors with control wire terminal (LV426970 for 3P / LV426971 for 4P)
(6) It is advised to use EverLink connectors with control wire terminal (LV426974 for 3P / LV426975 for 4P)

(*) Refer to the product catalog for technical characteristics

PowerLogic™ PowerTag Energy

Selection guide for product compatibility*

(Compatibility for terminal not equipped with comb busbar)

			PowerTag Energy 250 A		PowerTag Energy 630 A	
						
Products (AC network)	Mounting position		M250 3P	M250 3P+N	M630 3P	M630 3P+N
ComPact						
Circuit breakers						
NSX100/160/250 B/F/N/H/S/L/R/NA Fixed	3P	Bottom	☑	-	-	-
	4P	Bottom	-	☑	-	-
NSX400/630 F/N/H/S/L/R/NA Fixed	3P	Bottom	-	-	☑	-
	4P	Bottom	-	-	-	☑
NSX100/160/250 B/F/N/H/S/L/R/NA Plug-In (mounted on the base)	3P	Top / Bottom	☑	-	-	-
	4P	Top / Bottom	-	☑ (3)	-	-
NSX400/630 F/N/H/S/L/R/NA Plug-In (mounted on the base)	3P	Top / Bottom	-	-	☑ (4)	-
	4P	Top / Bottom	-	-	-	☑ (3) (4)
NS100/160/250 N/SX/H/L/NA Fixed	3P	Bottom	☑	-	-	-
	4P	Bottom	-	☑	-	-
NS400/630 N/H/L/NA Fixed	3P	Bottom	-	-	☑	-
	4P	Bottom	-	-	-	☑
NS100/160/250 N/SX/H/L/NA Plug-In (mounted on the base)	3P	Top / Bottom	☑	-	-	-
	4P	Top / Bottom	-	☑ (3)	-	-
NS400/630 N/H/L/NA Plug-In (mounted on the base)	3P	Top / Bottom	-	-	☑ (4)	-
	4P	Top / Bottom	-	-	-	☑ (3) (4)
Circuit breakers equipped with Vigi block						
NSX100/160/250 B/F/N/H/S/L/R/NA Fixed	3P	Bottom	☑	-	-	-
	4P	Bottom	-	☑	-	-
NSX400/630 F/N/H/S/L/R/NA Fixed	3P	Bottom	-	-	☑	-
	4P	Bottom	-	-	-	☑
NSX100/160/250 B/F/N/H/S/L/R/NA Plug-In (mounted on the base)	3P	Top	☑	-	-	-
NSX400/630 F/N/H/S/L/R/NA Plug-In (mounted on the base)	3P	Top	-	-	☑ (4)	-
Switches						
INS250/INV - 100/160/200/250	3P	Bottom	-	☑	-	-
	4P	Top / Bottom	-	☑ (3)	-	-
INS/INV - 320/400/500/630	3P	Bottom	-	-	-	☑
	4P	Top / Bottom	-	-	-	☑ (3)
TeSys						
Motor circuit breakers						
GV5, GV7	3P	Bottom	☑	-	-	-
GV6	3P	Bottom	-	-	☑	-

(3) neutral on the right when mounted on top side
(4) when plate mounted, need to add a 4 mm intercalary under the PowerTag module (see ComPact NSX catalog)

(*) Refer to the product catalog for technical characteristics

PowerLogic™ PowerTag Energy

Selection guide for product compatibility*

(Compatibility for terminal not equipped with comb busbar)

			PowerTag Energy Rope			
						
Products (AC network)		Mounting position	R200 3P / 3P+N	R600 3P / 3P+N	R1000 3P / 3P+N	R2000 3P / 3P+N
ComPact						
Circuit breakers						
NS 630b	3P / 3P+N	Top / Bottom	-	☑	-	-
NS 800/1000	3P / 3P+N	Top / Bottom	-	-	☑	-
NS 1250/1600/1600b/2000	3P / 3P+N	Top / Bottom	-	-	-	☑
Switches						
INS/INV 630b	3P / 3P+N	Top / Bottom	-	☑	-	-
INS/INV 800/1000	3P / 3P+N	Top / Bottom	-	-	☑	-
INS/INV 1250/1600/2000	3P / 3P+N	Top / Bottom	-	-	-	☑
NS 630b NA	3P / 3P+N	Top / Bottom	-	☑	-	-
NS 800/1000 NA	3P / 3P+N	Top / Bottom	-	-	☑	-
NS 1250/1600/1600b/2000 NA	3P / 3P+N	Top / Bottom	-	-	-	☑
MasterPact						
Circuit breakers						
NT 06	3P / 3P+N	Top / Bottom	-	☑	-	-
NT 08/10	3P / 3P+N	Top / Bottom	-	-	☑	-
NT 12/16	3P / 3P+N	Top / Bottom	-	-	-	☑
NW 08/10	3P / 3P+N	Top / Bottom			☑	-
NW 12/16/20	3P / 3P+N	Top / Bottom	-	-	-	☑
Switches						
NT 06 HA	3P / 3P+N	Top / Bottom	-	☑	-	-
NT 08/10 HA	3P / 3P+N	Top / Bottom	-	-	☑	-
NT 12/16 HA	3P / 3P+N	Top / Bottom	-	-	-	☑
NW 08/10 NA/HA/HF	3P / 3P+N	Top / Bottom	-	-	☑	-
NW 12/16/20 NA/HA/HF	3P / 3P+N	Top / Bottom	-	-	-	☑
MTZ1 06 HA	3P / 3P+N	Top / Bottom	-	☑	-	-
MTZ1 08/10 HA	3P / 3P+N	Top / Bottom	-	-	☑	-
MTZ1 12/16 HA	3P / 3P+N	Top / Bottom	-	-	-	☑
MTZ2 08/10 NA/HA/HA10	3P / 3P+N	Top / Bottom	-	-	☑	-
MTZ2 12/16/20 NA/HA/HA10	3P / 3P+N	Top / Bottom	-	-	-	☑
TeSys						
Contactors						
TeSys D > 160 A	3P / 3P+N	Top	☑ Upstream only	-	-	-
160 A < TeSys F ≤ 2000 A	3P / 3P+N	Top	☑ Upstream only	☑ Upstream only	☑ Upstream only	☑ Upstream only
Others						
Circuit breakers / Switches / Motor circuit breakers						
All products below 200 A	3P / 3P+N	Top / Bottom	☑	-	-	-
All products between 200 A and 600 A	3P / 3P+N	Top / Bottom	-	☑	-	-
All products between 600 A and 1000 A	3P / 3P+N	Top / Bottom	-	-	☑	-
All products between 1000 A and 2000 A	3P / 3P+N	Top / Bottom	-	-	-	☑

(*) Refer to the product catalog for technical characteristics

PowerLogic™ PowerTag Energy
Selection guide for concentrators / gateways compatibility*

Concentrators / gateways

							
		Wiser IP module Wiser IP module+ EER31800	PowerTag Link C PowerTag Link C+ A9XELC10	Smartlink SI B A9XMZA08 Smartlink SI D A9XMWA20	PowerTag Link A9XMWD20	PowerTag Link HD A9XMWD100	Harmony Hub ZBRN1 ZBRN2 ZBRN32
PowerTag Energy M63							
	A9MEM1520	☑	☑	☑	☑	☑	-
	A9MEM1521	☑	☑	☑	☑	☑	-
	A9MEM1522	☑	☑	☑	☑	☑	-
	A9MEM1540	☑	☑	☑	☑	☑	-
	A9MEM1541	☑	☑	☑	☑	☑	-
	A9MEM1542	☑	☑	☑	☑	☑	-
	A9MEM1543	☑	☑	-	☑	☑	-
PowerTag Energy M63 Resi9							
	R9M20	☑	-	-	-	-	-
	R9M21	☑	-	-	-	-	-
	R9M22	☑	-	-	-	-	-
	R9M40	☑	-	-	-	-	-
	R9M41	☑	-	-	-	-	-
	R9M42	☑	-	-	-	-	-
	R9M43	☑	-	-	-	-	-
PowerTag Energy P63							
	A9MEM1561	☑	☑	☑	☑	☑	-
	A9MEM1562	☑	☑	☑	☑	☑	-
	A9MEM1563	☑	☑	☑	☑	☑	-
	A9MEM1571	☑	☑	☑	☑	☑	-
	A9MEM1572	☑	☑	☑	☑	☑	-
PowerTag Energy F63							
	A9MEM1560	☑	☑	☑	☑	☑	☑
	A9MEM1564	-	-	-	☑	☑	-
	A9MEM1570	☑	☑	☑	☑	☑	☑
	A9MEM1573	-	-	-	☑	☑	☑
	A9MEM1574	-	-	-	☑	☑	-
PowerTag Energy F63 Resi9							
	R9M60	☑	-	-	-	-	-
	R9M70	☑	-	-	-	-	-

(*) Refer to the product catalog for technical characteristics

PowerLogic™ PowerTag Energy
Selection guide for concentrators / gateways compatibility*

Concentrators / gateways

							
		Wiser IP module Wiser IP module+ EER31800	PowerTag Link C PowerTag Link C+ A9XELC10	Smartlink SI B A9XMZA08 Smartlink SI D A9XMWA20	PowerTag Link A9XMWD20	PowerTag Link HD A9XMWD100	Harmony Hub ZBRN1 ZBRN2 ZBRN32
PowerTag Energy F160							
	A9MEM1580	-	☑ (PowerTag Link C+ only)	-	☑	☑	☑
PowerTag Energy M250-M630							
	LV434020	☑	☑	☑	☑	☑	☑
	LV434021	☑	☑	☑	☑	☑	☑
	LV434022	☑	☑	☑	☑	☑	☑
	LV434023	☑	☑	☑	☑	☑	☑
PowerTag Energy R200-R600-R1000-R2000							
	A9MEM1590	-	☑ (PowerTag Link C+ only)	-	☑	☑	☑
	A9MEM1591	-	☑ (PowerTag Link C+ only)	-	☑	☑	☑
	A9MEM1592	-	☑ (PowerTag Link C+ only)	-	☑	☑	☑
	A9MEM1593	-	☑ (PowerTag Link C+ only)	-	☑	☑	☑

(*) Refer to the product catalog for technical characteristics

Wireless products

Schneider Electric offers a range of wireless products designed for new builds or retrofit installations. These are reliable, low-cost and easy to use wireless solutions with long battery life that does not compromise performance

- PowerTag Control
- HeatTag

A9XMC2D3 Image2

PB120568





PowerLogic™ PowerTag Control

PowerTag Control monitors circuits wirelessly, collecting status of daisy-chained circuit breakers and notifying the data concentrator of information status, such as OF, SD, Contractor or Impulse Relay position indication. These wireless input/output modules allow circuit control and status monitoring. Designed for use in commercial and building applications, they quickly and easily turn your distribution board into a connected panel.

PowerTag Control also connects to pulse relays or contactors for remote control within a building management system for non-critical loads, such as lighting.

Applications:

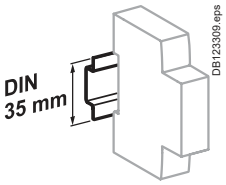
- Monitors your electrical installation from main incomer down to load level
- Suitable for various business, buildings, industrial and residential applications with easy integration in upper systems
- Supports and enables Energy efficiency programs and standards such as:

  - European Energy Efficiency Directive (EED)
  - Energy Performance of Buildings Directive (EPBD)
  - IEC 60364-8-1 “Low Voltage Electrical installations - Energy Efficiency”
  - EN 17267 “Energy Measurement and Monitoring plan”
  - ISO 50001 “Energy Management Sytem”

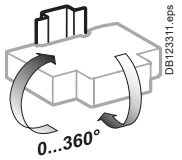
A9XMC2D3 Image2



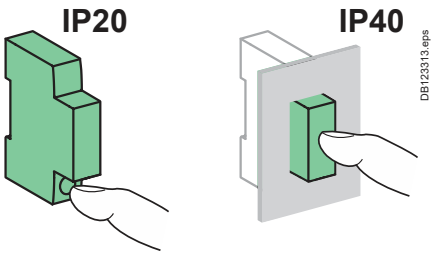
PowerTag Control



Clip on DIN rail 35 mm.



Indifferent position of installation.

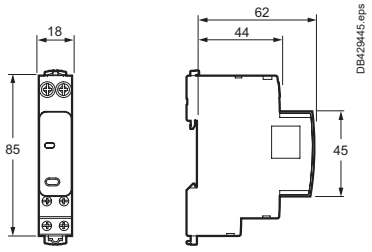


Technical characteristics

Main characteristics		
Power supply		230 V AC ± 20%
Frequency		50/60 Hz
Maximum consumption	IO	≤ 2 VA
	2DI	≤ 3 VA
Operating temperature		-25°C to +60°C
Storage temperature		-40°C to +85°C
Relative humidity (60068-2-78)		93 % at 40°C
Overvoltage category	As per IEC 61010-1	Cat. III
Altitude		≤ 2000 m
Pollution degree		3
Degree of protection according to IEC 60529	Front face	IP40
	Casing	IP20
	IK	05
Characteristics of inputs and outputs		
Digital input		
Type		230 V AC, dry contact
Digital output		
Type		230 V AC, dry contact
Relay type		Normally open or normally closed (3)
Applicable voltage on output		230 V AC ± 20%
Minimum/maximum current on output		10 mA / 2 A
Type of output order		Pulse or latch (3)
Pulse length in control mode with impulse relay		Nominal: 300 ms
Radio-frequency communication		
ISM band 2.4 GHz		2.4 GHz to 2.4835 GHz
Channels	As per IEEE 802.15.4	11 to 26
Isotropic Radiated Power	Equivalent (EIRP)	0 dBm
Channel occupancy	Messages sent	■ On event ■ Periodically (5s nominal)

(3) Setting adjustable

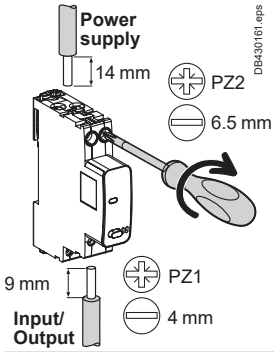
Dimensions (mm)



Weight (g)

PowerTag C	
PowerTag C IO 230 V	80
PowerTag C 2DI 230 V	75

Connection

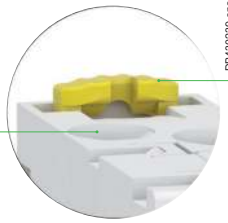


Terminals	Tightening torque	Copper cables		
		Rigid	Flexible	Flexible with ferrule
				
Power supply (Top)	2 N.m	1 to 16 mm² (AWG: 18...6)	0.5 to 10 mm² (AWG: 21...8)	-
Input/Output (Bottom)	1 N.m	1x: 1 to 6 mm² (AWG: 18...10) 2x: 1.5 to 2.5 mm² (AWG: 16...14)	1x: 0.5 to 4 mm² (AWG: 21...12) 2x: 1.5 to 2.5 mm² (AWG: 16...14)	1x: 0.5 to 4 mm² (AWG: 21...12) 2x: -

PowerTag Control

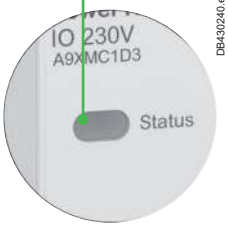
PowerTag C IO module

- Compatible with horizontal comb busbars 9 mm modules
- Automatic cable guiding in the correct position: terminals with guard



- Assembly and disassembly by operating toggle latches at the top and bottom of the products

Status LED
- Provide information about PowerTag C status





- Insulated terminals IP20



Logo
- Wireless communication device

Push button
- Local output control
- Decommissioning



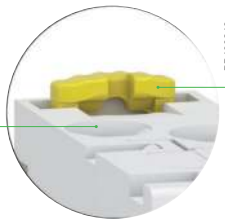
Monitoring / Back loop circuit
- "I" digital input terminal
- "C" common powered terminal 230 V AC

Control circuit
- Logical output relay
- "O" output terminals 230 V AC - 2 A max.

PowerTag Control

PowerTag C 2DI module

- Compatible with horizontal comb busbars 9 mm modules
- Automatic cable guiding in the correct position: terminals with guard



- Assembly and disassembly by operating toggle latches at the top and bottom of the products

Status LED
- Provide information about PowerTag C status





- Insulated terminals IP20



Logo
- Wireless communication device

Flush mounted push button
- Decommissioning



Monitoring circuits
- "I" digital input terminals
- "C" common powered terminals 230 V AC

PowerLogic™ HeatTag

Wireless Sensor for early detection of overheating cables

The PowerLogic HeatTag sensor analyzes gas and airborne particles helping facility manager to anticipate and act before smoke appears or an electrical fire starts.

Electrical fires generate huge losses in commercial and industrial buildings, interrupting production and delaying service delivery. These losses can be prevented if early detection of component overheating is accurately detected and alarmed.

PowerLogic HeatTag helps prevent electrical cabinets from being damaged by analyzing airborne gas and particles and sending alerts before smoke appears or an electrical fire starts. HeatTag is much more than a fire or smoke detector - it scientifically detects overheating in electrical installations before any damage is done.

PB120568



The solution for

Markets that can benefit from a solution that includes PowerLogic HeatTag smart sensors:

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

Benefits

System integrators' benefit

- Ease of integration
- Ease of setup
- Cost effectiveness
- Seamless integration with EcoStruxure™ solutions

Panel builders' benefit

- No settings
- Nominal environment auto-learning to avoid false alerts
- Concentrator auto-discovery
- Alerts generated by a powerful algorithm integrated in HeatTag

End users' benefit

- Ease of use
- Prevents fire damage and associated costs
- Comprehensive, consistent and superior performance
- Maximize uptime, eliminate faults, and enhance safety

Competitive advantages

- Easy to install and operate
- Suitable for non forced ventilated cabinets ≥ IP31
- Immediately detects overheating in cables and connections
- More than a smoke detector or heat sensor
- 3 levels of alert recording
- Monitors air quality index
- Continous improvements of algorithms

Power management solutions

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

Conformity of standards

- IEC/UL 61010-1
- IEC 61010-2-201
- IEC 61326-1
- IEC61326-2-3
- ETSI EN 301 489-1
- ETSI EN 301 489-17
- ETSI EN 300 328
- EN 62311
- EN IEC 63000
- IEEE 802.15.4 protocol
- FCC and IC certified

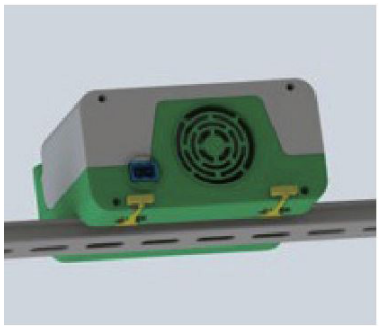
HeatTag sensors

PB120568



PowerLogic™ HeatTag sensor

PB120569

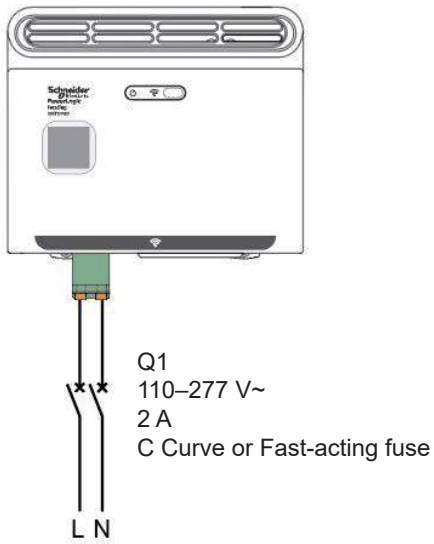


HeatTag rear view showing fan

PB120570



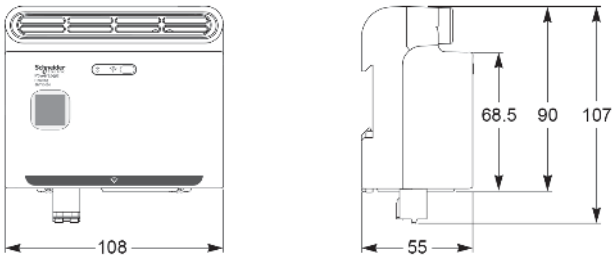
HeatTag sensor DIN mounted



HeatTag features

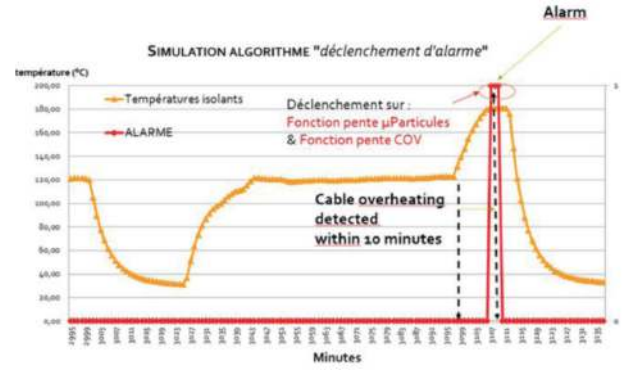
Sensor Characteristics		
Temperature measurement	Measurement range	-15 °C / +70 °C (5 °F to 158 °F)
	Measurement accuracy	-1.1 °C / +1.1 °C
	Default transmission period	60 seconds (higher in case of high wireless data traffic)
Humidity measurement	Measurement range	15–90 %
	Measurement accuracy	±9 RH %
	Default transmission period	60 seconds (higher in case of high wireless data traffic)
Air quality	Index (0 to 10), alert generation when index ≥10	
Test alert after pairing	During first 30 minutes	
Environment auto-learning phase	8 hours after the first 30 minutes	
Mechanical Characteristics		
Dimensions (W x H x D)		108 x 107 x 55 mm
Weight		270 g
Degree of protection (IEC 60529)		IP 20
Electrical Characteristics		
Supply voltage		110–277 V AC, -15 % / +15 %
Frequency		50–60 Hz
Max. consumption		0.1 A
Operating temperature		-15 °C / +70 °C (5 °F to 158 °F)
Storage temperature		-20 °C / +85 °C (-4 °F to 185 °F)
Relative humidity in operation		15–90 %
Altitude of use		0–2000 m (0–6500 ft)
Degree of pollution (IEC 60664-1)		3
Overvoltage category		OVC III
Commercial Reference Number		
PowerLogic HeatTag Sensor		SMT10020

PB120573



HeatTag sensor dimensions. See the appropriate **Installation Guide**.

PB120572



HeatTag simulation algorithm display

NOTE: Do not use HeatTag as a safety device or to replace fire protection devices. Please see the appropriate **User Guide** for this product.

Basic multi-function metering

A range of meters designed for cost management and simple network management. Affordable to buy and easy to choose, the highly-capable PowerLogic PM5000 and PM5350 series meters are designed to provide the best combination of features to match all your energy cost management needs.

As well as pin-point energy savings, optimal equipment efficiency and utilisation, basic multi-function meters perform a high level assessment of the power quality in an electrical network.

- PowerLogic PM5000
- PowerLogic PM5350
- PowerLogic PM5350IB
- PowerLogic PM5350PB
- PowerLogic PM5350P

PB111770 PB108447





METSEPM5110

METSEPM5560

PM5000 series

The PowerLogic PM5000 series power meters are the new benchmark in affordable, precision metering.

The value you want, the precision you need. Compact, affordable power meters with high-end cost capabilities and basic mobile energy management.

Applications

Capable of essential cost management:

- Sub-billing/tenant metering
- Equipment sub-billing
- Energy cost allocation

Also ideal for electrical network management:

- Track real-time power conditions
- Monitor control functions
- Provide basic power quality values
- Detect and capture voltage sag and swell events
- Monitor residual current
- Analyze equipment and network status
- BACnet/IP, EtherNet/IP, and DNP3.0 protocol support

PB118061



METSEPM5760

The solution for

Markets that can benefit from a solution that includes PowerLogic PM5000 series meters:

- Buildings
- Industry
- Healthcare
- Data Center 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
- Maximize uptime, eliminate faults, and enhance safety

Competitive advantages

- Easy to install and operate
- Easy for circuit breaker monitoring and control
- Data logging up to 16 parameters
- Power quality analysis
- Load management combined with alarm and timestamping
- High performance and accuracy
- Residual Current Monitoring
- Voltage sag and swell detection with waveform capture
- MID ready compliance for legal billing application
- BACnet/IP, EtherNet/IP, and DNP3.0 protocol support

Power management solutions

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

Conformity of standards

- IEC 61557-12
- IEC 62053-22
- IEC 62053-24
- IEEE 802.3
- EN 50470-1
- EN 50470-3
- IEC/UL/EN 61010-1
- IEC 62052-11
- FCC part 15 Class B
- EN 55022 Class B
- ODVA certification
- ANSI C12.1-2008 (PM55xx)
- ANSI C12.20 Class 0.2 & 0.5
- Align with cyber security guidelines as per IEC 62443

PM5000 series

PB111777



PowerLogic™ PM5563 remote dispaly

PB111784



PowerLogic™ PM5563 remote dispaly

PowerLogic™ PM5100, PM5300 and PM5500 series

The PowerLogic™ PM5000 power meter is the ideal fit for cost management applications. Designed for use in both energy management systems and building management systems, it provides the measurement capabilities needed to allocate energy usage, perform tenant metering and sub-billing, pin-point energy savings, optimize equipment efficiency and utilization, and perform a high level assessment of the power quality of the electrical network.

In a single 96 x 96 mm unit, with a graphical display, (plus optional remote display) all three phases, neutral and ground can be monitored simultaneously.
The bright, anti-glare display features large characters and powerful backlighting for easy reading even in extreme lighting conditions and viewing angles. Easy to understand menus, text in 8 selectable languages, icons and graphics create a friendly environment to learn about your electrical network. Ethernet gateway and enhanced cyber security. These are highly accurate devices with global billing certifications.

Applications

Cost management: Cost saving opportunities become clear once you understand how and when your facility uses electricity. The PowerLogic™ PM5000 series meters are ideal for:
- **Sub-billing / tenant metering:** allows a landlord, property management firm, condominium association, homeowners association, or other multi-tenant property to bill tenants for individual measured utility (electricity) usage. MID approved meters for billing applications across Europe.
- **Cost allocation:** allocate energy costs between different departments (HVAC, indoor and outdoor lighting, refrigeration, etc.), different parts of an industrial process or different cost centres. Cost allocation systems can help you save money by making changes to your operation, better maintaining your equipment, taking advantage of pricing fluctuations, and managing your demand.

Network management: Improving reliability of the electrical network is key for success in any business. Monitoring values such as voltage levels, harmonics distortions, voltage unbalance, residual current, voltage sag and swell will help you to ensure proper operation and maintenance of your electrical network and equipment. PowerLogic™ PM5000 series meters are the perfect tool for:
- **Basic Power Quality monitoring:** power quality phenomena can cause undesirable effects such as heating in transformers, capacitors, motors, generators and misoperation of electronic equipment and protection devices.
- **Min/ Max monitoring (with timestamp):** understanding when electrical parameters, such as voltage, current and power demand, reach maximum and minimum values will give you the insight to correctly maintain your electrical network and assure equipment will not be damaged.
- **Alarming:** alarms help you to be aware of any abnormal behaviour on the electrical network in the moment it happens.
- **WAGES monitoring:** take advantage of the input metering on PM5000 meters to integrate measurements from third party devices such as water, air, gas, electricity or steam, meters.
- **Residual current monitoring:** measures leakage current flowing in TN & TT network system.
- **Voltage sags and swells:** measures and captures wave form in the event of voltage sags and swells in the network.

Main characteristics

Easy to install
Mounts using two clips, in standard cut out for DIN 96 x 96 mm, no tools required. Compact meter with 72 mm (77 mm for PM5500) depth connectable up to 690 V L-L without voltage transformers for installations compliant with category III. Optional remote display (PM5563). Ethernet gateway functionality via RS-485 port.

Easy to operate
Intuitive navigation with self-guided, language selectable menus, six lines, four concurrent values. Two LEDs on the meter face help the user confirm normal operation with a green LED - heartbeat/communications indicator, and the amber LED - customizable either for alarms or energy pulse outputs. Onboard web pages (PM5500) show real-time and logged information, and verify communications.

Easy circuit breaker monitoring and control
The PM5300 provides two relay outputs (high performance Form A type) with capability to command most of the circuit breaker coils directly. For Digital Inputs, monitored switches can be wired directly to the meter without external power supply by using whetting output voltage. PM5500 series have 4 status inputs (digital) and 2 digital output (solid state) to use for WAGES monitoring, control and alarm annunciation.

Accurate energy measurement for precise cost allocation:

	PM5100	PM5300	PM5500	PM5600	PM5700
IEC 62053-22 (Active Energy)	Class 0.5S	Class 0.5S	Class 0.2S	Class 0.2S	Class 0.2S

PM5000 series

PB111777



PowerLogic™ PM5500 meter

PB111772



PowerLogic™ PM5300 meter

PB111768



PowerLogic™ PM5100 meter

MID Certified according to MID Directive, Annex "B" + Annex "D" for legal metrology relevant to active electrical energy meters (see Annex MI-003 of MID). Can be used for fiscal (legal) metrology.

MID ready compliance, EN 50470-1/3 – Class C

Native multi-protocol support

The PM55/PM56/PM5700 is now easier than ever to integrate into new and existing BMS systems. With native BACnet/IP protocol support, meters can simultaneously communicate via BACnet and Modbus in applications where multiple software systems are used (building management and energy management systems).

The PM55/PM56/PM5700 series has been tested and certified in accordance with BACnet Testing Laboratories (BTL) requirements.

PM55/PM56/PM5700 Direct metering of neutral current
The PM55/PM56/PM5700 has a fourth CT for measuring neutral current. In demanding IT applications, where loads are non-linear (i.e. switching power supplies on computers/servers), measuring neutral current is essential to avoid overload and resulting outage.

Power Quality analysis
The PM5000 offers Total Harmonic Distortion (THD/thd), Total Demand Distortion (TDD) measurements and individual harmonics (odd) magnitudes and angles for voltage and current:

	PM5100	PM5300	PM55/56/5700
Individual Harmonics	magnitudes up to 15th	magnitudes up to 31st	magnitudes & angles up to 63rd

These types of power quality parameters help to identify the source of harmonics that can harm transformers, capacitors, generators, motors and electronic equipment.

Load management
Peak demands with time stamping are provided. Predicted demand values can be used in combination with alarms for basic load shedding applications.

Alarming with time stamping
A different combination of set point driven alarms and digital alarms with 1s time stamping are available in the PM5000 family:

	PM5100	PM5300	PM55/56/5700
Set point driven alarms	**29**	**29**	**29 or 33***
Unary	**4**	**4**	**4**
Digital	**–**	**2**	**4 or 2**
Boolean / Logic	**–**	**–**	**10**
Custom defined	**–**	**–**	**5**

*Applicable in specific meter models. 2 alarms for disturbance (Sag/ Swell)

Alarms can be visualized as Active (the ones that have picked up and did not drop out yet) or Historical (the ones that happened in the past). Alarms can be programmed and combined to trigger digital outputs and mechanical relays (PM5300).
The PM5000 series keeps an alarm log with the active and historical alarms with date and time stamping. SMTP protocol for receiving alarm conditions via email and text. SNTP protocol for date/time network synchronization.

Load timer
A load timer can be set to count load running hours based on a minimum current withdraw, adjustable to monitor and advise maintenance requirements on the load.

High Performance and accuracy
IEC 61557-12 Performance measuring and monitoring devices (PMD).
Defines the performance expectation based on classes. It defines the allowable error in the class for real and reactive power and energy, frequency, current, voltage, power factor, voltage unbalance, voltage and current harmonics (odds), voltage THD, current THD, as well as ratings for temperature, relative humidity, altitude, start-up current and safety. It makes compliant meters readings comparable - they will measure the same values when connected to the same load.

Meets IEC 61557-12 PMD/[SD|SS]/K70/0.5 for PM5100 and PM5300
Meets IEC 61557-12 PMD/[SD|SS]/K70/0.2 for PM5500

Legal billing compliance
MID compliance is compulsory for billing applications across Europe.
In addition to billing applications, for facility managers responsible for energy cost MID means same level of quality as a billing meter.

PM5000 series

PM5000 series feature selection

	PM5100		PM5300					
	PM5100	PM5110	PM5310	PM5310R	PM5320	PM5320R	PM5330	PM5340
Installation								
Fast installation, panel mount with integrated display	■	■	■	■	■	■	■	■
Fast installation, DIN rail mountable	–	–	–	–	–	–	–	–
Accuracy	CL 0.5S	CL 0.5S	CL 0.5S	CL 0.5S	CL 0.5S	CL 0.5S	CL 0.5S	CL 0.5S
Display								
Backlit LCD, multilingual, bar graphs, 6 lines, 4 concurrent values	■	■	■	■	■	■	■	■
Power and energy metering								
3-ph voltage, current, power, demand, energy, frequency, power factor	■	■	■	■	■	■	■	■
Multi-tariff	–	–	4	4	4	4	4	4
MID ready compliance, EN50470-1/3, Annex B & Annex D Class C	–	PM5111	–	–	–	–	PM5331	PM5341
Power quality analysis								
THD, thd, TDD	■	■	■	■	■	■	■	■
Harmonics, individual (odd) up to	15th	15th	31st	31st	31st	31st	31st	31st
Waveform capture & sag/ swell detection	–	–	–	–	–	–	–	–
I/Os and relays								
I/Os	1DO	1DO	2DI/2DO	2DI/2DO	2DI/2DO	2DI/2DO	2DI/2DO	2DI/2DO
Relays	0	0	0	0	0	0	2	2
Analog inputs	–	–	–	–	–	–	–	–
Residual Current inputs	–	–	–	–	–	–	–	–
Alarms and control								
Alarms	33	33	35	35	35	35	35	35
Set point response time, seconds	1	1	1	1	1	1	1	1
Single and multi-condition alarms	–	–	■	■	■	■	■	■
Boolean alarm logic	–	–	–	–	–	–	–	–
Memory for data logging	–	–	256KB	256KB	256KB	256KB	256KB	256KB
Communications								
Serial ports with modbus protocol	–	1	1	1	–	–	1	–
Ethernet port with Modbus TCP protocol	–	–	–	–	1	1	–	1
BACnet/IP protocol	–	–	–	–	■	■	–	■
EtherNet/IP protocol	–	–	–	–	–	–	–	–
DNP3.0 over Ethernet	–	–	–	–	–	–	–	–
Onboard web server with web pages	–	–	–	–	–	–	–	–
Serial to Ethernet gateway	–	–	–	–	–	–	–	–
Short ref. numbers	PM5100	PM5110	PM5310	PM5310R	PM5320	PM5320R	PM5330	PM5340
(See table below for complete commercial reference numbers)								

NOTE: **PM5310R** and **PM5320R** must be used with Schneider Electric's "Quick Click" 3-in-1 LVCTs

PM5000 series

PM5000 series feature selection

	PM5500					PM5600		PM5700
	PM5560	PM5563	PM5563RD	PM5570	PM5580	PM5650	PM5660	PM5760
Installation								
Fast installation, panel mount with integrated display	■	–	–	■	■	■	■	■
Fast installation, DIN rail mountable	–	■	■	–	–	–	–	–
Accuracy	CL 0.2S	CL 0.2S	CL 0.2S	CL 0.2S	CL 0.2S	CL 0.2S	CL 0.2S	CL 0.2S
Display								
Backlit LCD, multilingual, bar graphs, 6 lines, 4 concurrent values	■	–	■	■	■	■	■	■
Power and energy metering								
3-ph voltage, current, power, demand, energy, frequency, power factor	■	■	■	■	■	■	■	■
Multi-tariff	8	8	8	8	8	8	8	8
MID ready compliance, EN50470-1/3, Annex B & Annex D Class C	PM5561	–	–	–	–	–	PM5661	PM5761
Power quality analysis								
THD, thd, TDD	■	■	■	■	■	■	■	■
Harmonics, individual (odd) up to	63rd	63rd	63rd	63rd	63rd	63rd	63rd	63rd
Waveform capture & sag/swell detection	–	–	–	–	–	8 cycles @ 128 samples/cycle	–	8 cycles @ 128 samples/cycle
I/Os and relays								
I/Os	4DI/2DO	4DI/2DO	4DI/2DO	2DI/2DO	4DI/2DO	4DI/2DO	2DI/2DO	2DI/2DO
Relays	0	0	0	0	0	0	0	0
Analog inputs	0	0	0	2	0	0	0	0
Residual Current inputs	0	0	0	0	0	0	2	2
Alarms and control								
Alarms	52	52	52	50	52	54	54	56
Set point response time, seconds	1	1	1	1	1	1	1	1
Single and multi-condition alarms	■	■	■	■	■	■	■	■
Boolean alarm logic	■	■	■	■	■	■	■	■
Memory for data logging	1.1 MB	1.1 MB	1.1 MB	1.1 MB	1.1 MB	1.1 MB	1.1 MB	1.1 MB
Communications								
Serial ports with modbus protocol	1	1	1	1	1	1	1	1
Ethernet port with Modbus TCP protocol	2★	2★	2★	2★	2★	2★	2★	2★
BACnet/IP protocol	■	■	■	■	■	■	■	■
EtherNet/IP protocol	■	■	■	■	■	■	■	■
DNP3.0 over Ethernet	■	■	■	■	■	■	■	■
Onboard web server with web pages	■	■	■	■	■	■	■	■
Serial to Ethernet gateway	■	■	■	■	■	■	■	■
Short ref. numbers	PM5560	PM5563	PM5563RD	PM5570	PM5580	PM5650	PM5660	PM5760
(See table below for complete commercial reference numbers)								

★ 2 Ethernet ports for daisy chain, one IP address.

PM5000 series

PM5000 technical specifications

		PM5100	PM5300	PM5500	PM5600	PM5700
Use on LV and MV systems				■		
Basic metering with THD and min/max readings				■		
Instantaneous rms values						
Current	per phase, neutral and ground (PM5500)			■		
Voltage	Total, per phase L-L and L-N			■		
Frequency				■		
Real, reactive, and apparent power	Total and per phase			Signed, Four Quadrant		
True Power Factor	Total and per phase			Signed, Four Quadrant		
Displacement PF	Total and per phase			Signed, Four Quadrant		
% Unbalanced I, V L-N, V L-L				■		
Direct monitoring of neutral current				■		
Energy values						
Accumulated Active, Reactive and Apparent Energy				Received/Delivered; Net and absolute; Time Counters		
Demand value						
Current average				Present, Last, Predicted, Peak, and Peak Date Time		
Active power				Present, Last, Predicted, Peak, and Peak Date Time		
Reactive power				Present, Last, Predicted, Peak, and Peak Date Time		
Apparent power				Present, Last, Predicted, Peak, and Peak Date Time		
Peak demand with timestamping D/T for current and powers				■		
Demand calculation	Sliding, fixed and rolling block, thermal methods			■		
Synchronisation of the measurement window to input, communication command or internal clock				■		
Settable Demand intervals				■		
Demand synchronization with pulse input			■			
Other measurements						
I/O timer				■		
Operating timer				■		
Load timer				■		
Alarm counters and alarm logs				■		
Power quality measurements						
THD, thd (Total Harmonic Distortion) I, VLN, VLL				I,VLN, VLL		
TDD (Total Demand Distortion)				■		
Individual harmonics (odds)		15th (PM5110)	31st	63rd		
Neutral Current metering with ground current calculation				■		
Waveform capture and sag/swell detection				8 cycles @ 128 samples/cycle		
Data recording						
Min/max of instantaneous values, plus phase identification★				■		
Alarms with 1s timestamping★				■		
Data logging			2 fixed parameters kWh and kVAh with configurable interval & duration (e.g. 2 parameters for 60 days at 15-minute intervals)	Up to 14 selectable parameters with configurable interval and duration (e.g. 6 parameters for 90 days at 15-minute intervals)		
Min/max log		■	■	■		
Maintenance, alarm and event logs			■	■		
Customisable data logs				■		

★*Stored in non-volatile memory*

PM5000 series

PM5000 technical specifications

		PM5100	PM5300	PM5500	PM5600	PM5700
Inputs / Outputs / Mechanical Relays						
Digital inputs			2	4 in PM5560, PM5563, PM5580, PM5650 2 in PM5570, PM5660, PM5760		
Digital outputs		1 (kWh only)	2	2		
Form A Relay outputs			2			
Analog inputs				2 for PM5570		
Residual Current inputs					2 for PM5660	2 for PM5760
Timestamp resolution in seconds		1	1	1	1	1
Whetting source			24 V DC, 8 mA			
Type of measurement: True rms on three-phase (3P, 3P + N)		64 samples per cycle		128 samples per cycle		
Measurement accuracy	IEC 61557-12	PMD/[SD|SS]/K70/0.5		PMD/[SD|SS]/K70/0.2		
	Active Energy	Class 0.5S as per IEC 62053-22		Class 0.2S as per IEC 62053-22		
	Reactive Energy	Class 2 as per IEC 62053-23		Class 2 as per IEC 62053-23		
	Active Power	Class 0.5 as per IEC 61557-12		Class 0.2 as per IEC 61557-12		
	Apparent Power	Class 0.5 as per IEC 61557-12				
	Current, Phase	Class 0.5 as per IEC 61557-12 ±0.15 %				
	Voltage, L-N	Class 0.5 as per IEC 61557-12 ±0.1 %				
	Frequency	±0.005 %				
	Power Factor	±0.005 count				
	MID Directive EN50470-1, EN50470-3	Annex B and Annex D (Optional model references) Class C				
Input-voltage (up to 1.0 MV AC max, with voltage transformer)	Nominal Measured Voltage range	20 V L-N / 35 V L-L to 400 V L-N /690 V L-L absolute range 35 V L-L to 760 V L-L		20 V L-N / 20 V L-L to 400 V L-N /690 V L-L absolute range 20 V L-L to 828 V L-L		
	Impedance	5 MΩ				
	Frequency nom	50 or 60 Hz ±5 %		50 or 60 Hz ±10 %		
Input-current (configurable for 1 or 5 A secondary CTs)	I nom	5 A				
	Measured Amps with over range and Crest Factor	Starting current: 5 mA Operating range: 50 mA to 8.5 A		Starting current: 5 mA Operating range: 50 mA to 10 A		
	Withstand	Continuous 20 A, 10 s/hr 50 A, 1s/hr 500 A				
	Impedance	< 0.3 mΩ				
	Frequency nom	50 or 60 Hz ±5 %		50 or 60 Hz ±10 %		
	Burden	<0.026 VA at 8.5 A				
AC control power	Operating range	100 - 277 V AC L-N / 415 V L-L +/-10 % CAT III 300V class per IEC 61010		100-480 V AC ±10 % CAT III 600V class per IEC 61010		
	Burden	<5 W,11 VA at 415V L-L		<5W/16.0 VA at 480 V AC		
	Frequency	45 to 65 Hz				
	Ride-through time	80 mS typical at 120V AC and maximum burden. 100 mS typical at 230 V AC and maximum burden 100 mS typical at 415 V AC and maximum burden		35 ms typical at 120 V L-N and maximum burden 129 ms typical at 230 V L-N and maximum burden		
DC control power	Operating range	125–250 V DC ±20 % (100 to 300 V DC)				
	Burden	<4 W at 250 V DC		typical 3.1W at 125 V DC, max. 5W		
	Ride-through time	50 mS typical at 125 V DC and maximum burden				
LV DC control power	20-60 V DC ±10 % CAT III Burden 4.1 W max.			■ PM5580		

PM5000 series

PM5000 technical specifications

			PM5100	PM5300	PM5500	PM5600	PM5700
Outputs	Relay	Max output frequency		0.5 Hz maximum (1 second ON / 1 second OFF - min times)			
		Switching current		250 V AC at 8.0 Amps, 25 k cycles, resistive 30 V DC at 2.0 Amps, 75 k cycles, resistive 30 V DC at 5.0 Amps, 12.5 k cycles, resistive			
		Isolation		2.5 kV rms			
		Max load voltage	40 V DC		30 V AC / 40 V DC PM5570, PM5560, PM5561, PM5760, PM5761		
		Max load current	20 mA		125 mA		
		On Resistance	50 Ω max		8 Ω		
		Meter constant	from 1 to 9,999,999 pulses per kWh				
		Pulse width for Digital Output	50 % duty cycle				
		Pulse frequency for Digital Output	25 Hz max.				
		Leakage current	0.03 micro Amps		1 micro Amps		
		Isolation	5 kV rms		2.5 kV rms		
	Optical outputs	Pulse width (LED)	200 ms				
		Pulse frequency	2.5 kHz. max		2.5 kHz. max		
		Meter constant	from 1 to 9,999,999 pulses per k_h				
Status Inputs	ON Voltage			18.5 to 36 V DC	30 V AC / 60 V DC max		
	OFF Voltage		0 to 4 V DC				
	Input Resistance			110 k Ω	100 k Ω		
	Maximum Frequency			2 Hz (T ON min = T OFF min = 250 ms)	25 Hz (T ON min = T OFF min = 20 ms)		
	Response Time			20 ms			
	Opto Isolation			5 kV rms	2.5 kV rms		
	Whetting output			24 V DC/ 8 mA max			
	Input Burden			2mA @24V DC	2 mA @ 24 V AC/DC		
Analog inputs					4 - 20 mA DC (nominal) Accuracy: 1% of full-scale reading < 20 ohm Operating voltage: 24 V DC max		
Residual Current inputs						5 uA to 1,200 uA (nominal), 1,500 uA max (continuous)Input type: AC 45 to 65 Hz Burden: 150 ohms Default toroid: 1000 turns	

Mechanical characteristics						
Product weight	380 g	430 g	450 g	450 g	450 g
IP degree of protection (IEC 60529)	IP54 front display, IP30 rear side, IP65 front side with Optional accessory kit METSEIP65OP96X96FF.				
Dimensions W x H x D [protrusion from cabinet]	96 x 96 x 72 mm (77 mm for PM5500) (depth of meter from housing mounting flange) [13 mm]				
Mounting position	Vertical				
Panel thickness	6 mm maximum				

PM5000 series

PM5000 technical specifications

		PM5100	PM5300	PM5500	PM5600	PM5700
Environmental characteristics						
Operating temperature	Operating temperature	-25 °C to 70 °C				
	Display (Display functions to -25 ° C with reduced performance)	-25 °C to 70 °C				
Storage temp.		-40 °C to 85 °C				
Humidity range		5 to 95 % RH at 50 °C (non-condensing)				
Pollution degree		2				
Altitude		2000 m CAT III / 3000 m CAT II		3000 m max. CAT III		
Electromagnetic compatibility						
Harmonic current emissions		IEC 61000-3-2				
Flicker emissions		IEC 61000-3-3				
Electrostatic discharge		IEC 61000-4-2				
Immunity to radiated fields		IEC 61000-4-3				
Immunity to fast transients		IEC 61000-4-4				
Immunity to surge		IEC 61000-4-5				
Conducted immunity 150 kHz to 80 MHz		IEC 61000-4-6				
Immunity to magnetic fields		IEC 61000-4-8				
Immunity to voltage dips		IEC 61000-4-11				
Radiated emissions		FCC part 15, EN 55022 Class B				
Conducted emissions		FCC part 15, EN 55022 Class B				
Safety						
Europe		CE, as per IEC 61010-1 Ed. 3, IEC 62052-11 & IEC 61557-12				
U.S. and Canada		cULus as per UL 61010-1 (3rd Edition)				
Measurement category (Voltage & Current inputs)		CAT III up to 400 V L-N / 690 V L-L				
Dielectric		As per IEC/UL 61010-1 Ed. 3				
Protective Class		II, Double insulated for user accessible parts				
Communication						
RS-485 port Modbus RTU, Modbus ASCII (7 or 8 bit), JBUS		2-Wire, 9600,19200 or 38400 baud, Parity - Even, Odd, None, 1 stop bit if parity Odd or Even, 2 stop bits if None; (Optional in PM51x and PM53x)				
Ethernet port: 10/100 Mbps; Modbus TCP/IP			1 Optional	2 (daisy chain only, 1 IP address)		
Native Ethernet/IP & DNP3.0 over Ethernet				Yes	Yes	Yes
Firmware and language file update		Meter firmware update via the communication ports				
Isolation		2.5 kVrms, double insulated				
Human machine interface						
Display type		Monochrome Graphics LCD				
Resolution		128 x 128				
Backlight		White LED				
Viewable area (W x H)		67 x 62.5 mm				
Keypad		4-button				
Indicator Heartbeat / Comm activity		Green LED				
Energy pulse output / Active alarm (configurable)		Optical, amber LED				
Wavelength		590 to 635 nm				
Maximum pulse rate		2.5 kHz				

PM5000 series commercial reference numbers

Comm ref numbers	Description
METSEPM5100	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 15th harmonic, no communication, 1DO
METSEPM5110	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 15th harmonic, RS-485 Modbus, 1DO
METSEPM5111	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 15th harmonic, RS-485 Modbus, 1DO, MID certified.
METSEPM5310	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, RS-485 Modbus, 2DI/2DO
METSEPM5310R	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, RJ45 LVCT, RS-485 Modbus, 2DI/2DO
METSEPM5320	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, Ethernet, 2DI/2DO
METSEPM5320R	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, RJ45 LVCT, Ethernet, 2DI/2DO
METSEPM5330	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, RS-485 Modbus, 2DI/2DO, 2Relay
METSEPM5331	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, RS-485 Modbus, 2DI/2DO, 2Relay, MID certified.
METSEPM5340	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, Ethernet, 2DI/2DO, 2Relay
METSEPM5341	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, Ethernet, 2DI/2DO, 2Relay, MID certified.
METSEPM5560	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, Modbus and Ethernet, 4DI/2DO
METSEPM5561	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, Modbus and Ethernet, MID certified.
METSEPM5562	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, RMICAN approved, HW lockable, 4DI/2DO
METSEPM5562MC	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, RMICAN approved, factory sealed, 4DI/2DO
METSEPM5563	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, DIN mount, no display, 4DI/2DO
METSEPM5563RD	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, DIN mount, remote display, 4DI/2DO
METSEPM5570	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, Modbus and Ethernet, 2DI/2DO/2AI
METSEPM5580	Power Meter range 77 mm depth, control power 24-60 VDC, Cl 0.2S, 63rd harmonic, 1.1 MB, Modbus and Ethernet, 4DI/2DO
METSEPM5650	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, waveform capture and sag/swell, 1.1 MB, Modbus and Ethernet, 2DI/2DO
METSEPM5660	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, Modbus and Ethernet, 2DI/2DO, RCM
METSEPM5661	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, Modbus and Ethernet, 2DI/2DO, RCM, MID certified.
METSEPM5760	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, waveform capture and sag/swell, 1.1 MB, Modbus and Ethernet, 2DI/2DO, RCM, MID certified.
METSEPM5761	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, waveform capture and sag/swell, 1.1 MB, Modbus and Ethernet, 2DI/2DO, RCM, MID certified.
Residual Current Monitoring Toroids (Vigirex)	
Closed Toroids, A Type	
50437	TA30 - 30 mm inside diameter, Ie (A) 65, 1000 turns
50438	PA50 - 50 mm inside diameter, Ie (A) 85, 1000 turns
50439	IA80 - 80 mm inside diameter, Ie (A) 160, 1000 turns
50440	MA120 - 120 mm inside diameter, Ie (A) 250, 1000 turns
50441	SA200 - 200 mm inside diameter, Ie (A) 400, 1000 turns
50442	GA300 - 300 mm inside diameter, Ie (A) 630, 1000 turns
Accessories for Closed Toroids	
56055	Magnetic ring for TA30 toroid
56056	Magnetic ring for PA50 toroid
56057	Magnetic ring for IA80 toroid
56058	Magnetic ring for MA120 toroid
Split Toroids, OA Type	
50420	TOA80 - 80 mm inside diameter, Ie (A) 160, 1000 turns
50421	TOA120 - 120 mm inside diameter, Ie (A) 250, 1000 turns
56053	L1 - 280 x 115 mm inside diameter, Ie (A) 1600, 1000 turns
56054	L2 - 470 x 160 mm inside diameter, Ie (A) 3200, 1000 turns

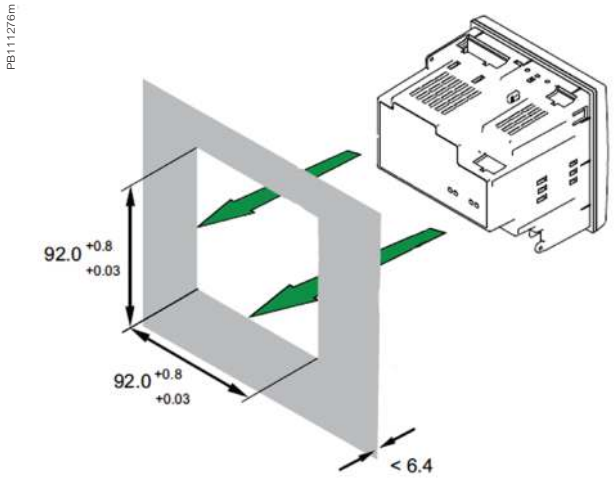
PM5300R series commercial reference numbers

Comm. ref numbers	Description
0.333V 3-in-1 CTs with RJ45 for PM53x0R	
METSECTV25006	LVCT SolidC 3in1 RJ45 25mmCtr 60A:1/3V
METSECTV25010	LVCT SolidC 3in1 RJ45 25mmCtr 100A:1/3V
METSECTV25013	LVCT SolidC 3in1 RJ45 25mmCtr 125A:1/3V
METSECTV25016	LVCT SolidC 3in1 RJ45 25mmCtr 160A:1/3V
METSECTV35006	LVCT SolidC 3in1 RJ45 35mmCtr 60A:1/3V
METSECTV35010	LVCT SolidC 3in1 RJ45 35mmCtr 100A:1/3V
METSECTV35012	LVCT SolidC 3in1 RJ45 35mmCtr 120A:1/3V
METSECTV35013	LVCT SolidC 3in1 RJ45 35mmCtr 125A:1/3V
METSECTV35015	LVCT SolidC 3in1 RJ45 35mmCtr 150A:1/3V
METSECTV35016	LVCT SolidC 3in1 RJ45 35mmCtr 160A:1/3V
METSECTV35020	LVCT SolidC 3in1 RJ45 35mmCtr 200A:1/3V
METSECTV35025	LVCT SolidC 3in1 RJ45 35mmCtr 250A:1/3V
METSECTV45025	LVCT SolidC 3in1 RJ45 45mmCtr 250A:1/3V
METSECTV45030	LVCT SolidC 3in1 RJ45 45mmCtr 300A:1/3V
METSECTV45040	LVCT SolidC 3in1 RJ45 45mmCtr 400A:1/3V
METSECTV45050	LVCT SolidC 3in1 RJ45 45mmCtr 500A:1/3V
METSECTV45060	LVCT SolidC 3in1 RJ45 45mmCtr 600A:1/3V
METSECTV45063	LVCT SolidC 3in1 RJ45 45mmCtr 630A:1/3V
METSECTV29006	LVCT SolidC 3in1 RJ45 29mmCtr 60A:1/3V
METSECTV29010	LVCT SolidC 3in1 RJ45 29mmCtr 100A:1/3V
METSECTV29012	LVCT SolidC 3in1 RJ45 29mmCtr 120A:1/3V
METSECTV29013	LVCT SolidC 3in1 RJ45 29mmCtr 125A:1/3V
METSECTV29015	LVCT SolidC 3in1 RJ45 29mmCtr 150A:1/3V
METSECTV29016	LVCT SolidC 3in1 RJ45 29mmCtr 160A:1/3V
METSECTV29020	LVCT SolidC 3in1 RJ45 29mmCtr 200A:1/3V
METSECTV70080	LVCT SolidC 3in1 RJ45 70mmCtr 800A:1/3V
METSECTV70100	LVCT SolidC 3in1 RJ45 70mmCtr 1000A:1/3V
METSECTV70125	LVCT SolidC 3in1 RJ45 70mmCtr 1250A:1/3V
Cables	
DCEPCURJX5GYM	Category 5e, Patch Cord, UTP, 0.5 M, Grey
DCEPCURJ01GYM	Category 5e, Patch Cord, UTP, 1 M, Grey
DCEPCURJ02GYM	Category 5e, Patch Cord, UTP, 2 M, Grey
DCEPCURJ03GYM	Category 5e, Patch Cord, UTP, 3 M, Grey
DCEPCURJ05GYM	Category 5e, Patch Cord, UTP, 5 M, Grey
DCEPCURJ10GYM	Category 5e, Patch Cord, UTP, 10 M, Grey
Other related products	
METSEPM5RD	Remote display for PM5563
METSEPM51HK	Hardware kit for PM51xx
METSEPM53HK	Hardware kit for PM53xx
METSEPM51_3RSK	Revenue sealing kit for PM51XX & PM53XX
METSEPM55RSK	Revenue sealing kit for PM55XX
METSEPM55HK	Hardware kit for PM55xx
METSEPM5CAB3	Remote Display cable

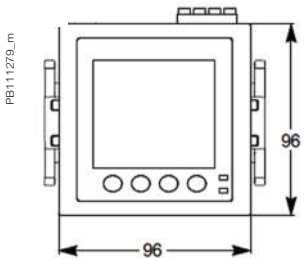
See your Schneider Electric representative for complete ordering information.

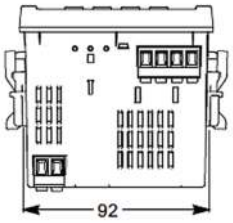
PM5000 series

PM5000 Series meter flush mounting

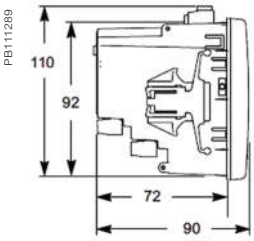


PM5000 series meter dimensions

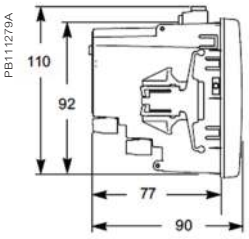




PM5000

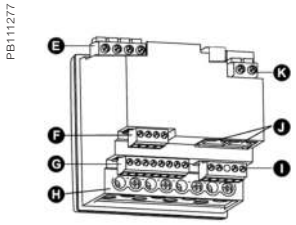


PM5100 / PM5300

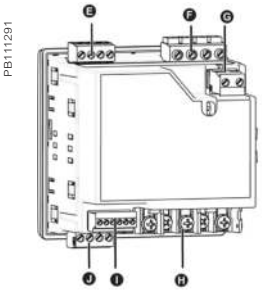


PM5500 / PM5600





PM5500



PM5000 meter parts
- **A** Menu selection buttons
- **B** LED indicators
- **C** Navigation or menu selections
- **D** Maintenance and alarm notification area

PM5500 / PM5600 meter parts
- **E** Voltage inputs
- **F** RS-485 comms
- **G** Digital inputs
- **H** Current inputs
- **I** Digital outputs
- **J** Ethernet ports
- **K** Control power

PM5100 / PM5300 meter parts
- **E** Relay output (PM5300 only)
- **F** Voltage inputs
- **G** Control power
- **H** Current inputs
- **I** Status inputs/digital outputs
- **J** Communications port: Ethernet (PM5300 only) or RS-485)

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

PM5350 series

The PowerLogic PM5350 series power meters are the new benchmark in affordable, precision metering.

The PowerLogic PM5350, PM5350IB, PM5350PB, and PM5350P power meters offer all the measurement capabilities required to monitor an electrical installation in a space-efficient, single 96 x 96 mm unit with small depth. DNC certifies for marine applications.

Applications

- Panel instrumentation.
- Cost allocation or energy management
- Electrical installation remote monitoring
- Sophisticated alarming
- Circuit beaker monitoring and control

PB117510



METSEPM5350P

The solution for

Markets that can benefit from a solution that includes PowerLogic PM5350 series meters:

- 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

- Easy to install and operate
- Easy for circuit breaker monitoring and control
- Power quality analysis
- Load management combined with alarm and timestamping
- High performance and accuracy
- Multi-tariff capabilities
- Individual harmonics up to 31st

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 62053-22
- IEC 61557-12
- IEC 62053-23
- IEC/UL 61010-1
- IEC 61326-1
- UL 61010-1
- IEC 61000-3-3
- FCC part 15 Class A
- DNV GL certified

PM5350 series

PB117511



Front display of PowerLogic PM5350P front display

PB117512



Rear view of PowerLogic PM5350P

Commercial reference number	Description
METSEPM5350	RS-485 Modbus, THD, 4DI, 2Relay
METSEPM5350IB	RS-485, 4DI/2Relay, Multi-level alarm, UL480V, 4DI/2Relay
METSEPM5350PB	RS-485, 4DI/2Relay, Multi-level alarm, UL300V, 4DI/2Relay
METSEPM5350P	RS-485 Modbus, THD, 31st Individual harmonics, Multi-tariff, 4DI/2Relay

The PowerLogic PM5350 series power meter soffer electrical installation measurement capabilities in a single 96 x 96 mm unit. Three-phases and neutral can be monitored simultaneously using a bright, anti-glare display with large characters and backlighting. Menus are intuitive and the meter supports English, Chinese, Hebrew, and Spanish languages. Its compact size and high performance make the PowerLogic PM5350 sereis is suitable for many applications.

- Applications
  - Panel instrumentation.
  - Cost allocation or energy management.
  - Electrical installation remote monitoring.
  - Alarming with under/over, digital status, control power interruption, meter reset, self diagnostic issue.
  - Circuit Breaker monitoring and control with relay outputs and whetted digital inputs.
- Main characteristics
  - Easy to install
    - Mounts using two clips, no tools required. Ultra compact meter with 44 mm depth connectable up to 480 V L-L without voltage transformers for installations compliant with category III, as per IEC 61010-1. See specification table for UL voltage limits.
  - Easy to operate
    - Intuitive navigation with self-guided, language selectable menus, six lines, four concurrent values. Two LEDs help confirm normal operation.
  - Easy circuit breaker monitoring and control
    - Two relay outputs (high performance) to command most circuit breaker coils directly. Monitored switches can be wired directly without external power supply.
  - System status at a glance
    - Bright, anti-glare, backlit display plus two LEDs; orange for energy pulse or alarm and green for heartbeat/communications indication.
  - IEC 62053-22 class 0.5S accuracy for active energy
    - Accurate energy measurement for cost allocation.
  - Power Quality analysis
    - The PM5350P offers THD and TDD measurements as standard. Total Demand Distortion is based on a point of common coupling (PCC), which is a common point that each user receives power from the power source. The TDD compares the contribution of harmonics versus the maximum demand load. In addition, it has individual harmonics (odd) measurement up to 31st harmonics. These types of power quality parameters help to identify the source of harmonics that can harm transformers, capacitors, generators, motors and electronic equipment.
- Load management
  - Peak demands with Timestamping are provided. Predicted demand values can be used in basic load shedding applications.
    Alarming with timestamping
  - Over 30 alarm conditions, such as under/over conditions, digital input changes, and phase unbalance inform you of events. A time-stamped log maintains a record of the last 40 alarm events.
  - Load timer setpoint adjustable to monitor and advise maintenance requirements.
  - Performance Standard Meets IEC 61557-12 PMD/Sx/K70/0.5.

PM5350 series

Feature guide		PM5350P	PM5350	PM5350IB	PM5350PB
General					
Use on LV and MV systems			■		
Basic metering with THD and min/max readings			■		
Instantaneous rms values					
Current	Total, Phases and neutral		■		
Voltage	Total, Ph-Ph and Ph-N		■		
Frequency			■		
Real, reactive, and apparent power	Total and per phase		Signed		
True Power Factor	Total and per phase		Signed, Four Quadrant		
Displacement PF	Total and per phase		Signed, Four Quadrant		
Unbalanced I, VL-N, VL-L			■		
Accumulated Active, Reactive and Apparent Energy Stored in non-volatile memory		Received/Delivered; Net and absolute;			
Demand values					
Current average	Present, Last, Predicted, Peak, & Peak Date Time		■		
Active power	Present, Last, Predicted, Peak, & Peak Date Time		■		
Reactive power	Present, Last, Predicted, Peak, & Peak Date Time		■		
Apparent power	Present, Last, Predicted, Peak, & Peak Date Time		■		
Multi-tariff		16 tariffs			
Peak demand with timestamping D/T for current & powers			■		
Demand calculation	Sliding, fixed and rolling block, thermal		■		
Synchronization of the measurement window			■		
Other measurements					
I/O timer			■		
Operating timer			■		
Active load timer			■		
Alarm counters			■		
Power quality measurements					
THD, thd (Total Harmonic Distortion)			I, V L-N, V L-L		
TDD, thd (Total Demand Distortion)			■		
Harmonics Individual (Odd)		31st			
Data recording					
Min/max of instantaneous values, plus phase identification			■		
Alarms with 1s timestamping			Standard 29; Unary 4; Digital 4		
Alarms stored in non-volatile memory			40 events		
Inputs/Outputs					
Digital inputs			4 (DI1, DI2, DI3, DI4)		
Digital outputs			2 relay outputs (DO1, DO2)		
Display					
White backlit LCD display, 6 lines, 4 concurrent values			■		
IEC or IEEE visualization mode			■		
Communication					
Modbus RTU, Modbus ASCII, Jbus Protocol			■		
Firmware update via RS-485 serial port (DLF3000 via the Schneider Electric website: www.se.com)			■		

PM5350 series

Electrical characteristics			PM5350	PM5350P	PM5350PB/IB
Type of measurement		True rms measurement in 1P, 2P, 3P network, supports 13 wiring schemes. 32 samples per cycle, zero blind	■	31st	■
Measurement accuracy	Current, Phase(1)	±0.30 %	■	0.2% (Avg A)	■
	Voltage, L-N (1)	±0.30 %	■	0.2% (Avg A)	■
	Power Factor (1)	±0.005	■		
	Power, Phase(2)	IEC 61557-12 Class 0.5; For 5 A nominal CT	■		
	Frequency (1)	±0.05 %	■		
	Real Energy(3)	IEC 62053-22 Class 0.5S IEC 61557-12 Class 0.5	■		
	Reactive Energy(4)	IEC 62053-23 Class 2 IEC 61557-12 Class 2	■		
Data update rate		1 second nominal (50/60 cycles)	■		
Input-voltage	VT primary	1.0 MV AC max, starting voltage depends on VT ratio	■		
	U_{nom}	277 V L-N	■		
	Measured voltage with overrange & Crest Factor	IEC: 20 to 480 V AC L-L; 20 to 277 V AC L-N, CAT III IEC: 20 to 690 V AC L-L; 20 to 400 V AC L-N, CAT II UL: 20 to 300 V AC L-L, CAT III	■		■ and UL: 20 to 480 V AC L-L
	Permanent overload	700 V AC L-L, 404 V AC L-N	■		
	Impedance	10 MΩ	■		
	Burden	0.2 VA at 240 V AC L-N	■		
	Frequency range	45 to 70 Hz	■	45 to 65 Hz	■
Input-current	CT ratings Secondary	1 A, 5 A nominal	■		
	Measured voltage with overrange & crest factor	5 mA to 9 A	■		
	Withstand	Continuous 20 A,10 sec/hr 50 A,1 sec/hr 500 A	■		
	Impedance	< 0.3 mΩ	■		
	Frequency range	45 to 70 Hz	■		
	Burden	< 0.024 VA at 9 A	■		
AC control power	Operating range	85 - 265 V AC	■		
	Burden	At 120 V AC, 4.1 VA/ 1.5 W typical At 230 V AC, 6.3 VA/ 2.0 W typical At 265 V AC, 9.6 VA/ 3.5 W typical	6.7 VA / 2.7 W 8.6 VA / 2.9 W 11.9 VA / 3.5 W	7 VA / 4 W 9 VA / 5 W 11.9 VA / 5 W	6.7 VA / 2.7 W 8.6 VA / 2.9 W 11.9 VA / 3.5 W
	Frequency	45 to 65 Hz	■		
	Ride-through time	Typical at 120 V AC and with maximum burden Typical at 230 V AC and with maximum burden	100 mS 400 mS	40 mS 250 mS	100 mS 400 mS
DC control power	Operating range	100 to 300 V DC	■		
	Burden	Typical/ Maximum at 125 V DC Typical/ Maximum at 250 V DC Typical Maximum at 300 V DC	1.4 W / 2.6 W 1.8 W / 2.7 W 3.8 W max	4 W max 5 W max 5 W max	1.4 W / 2.6 W 1.8 W / 2.7 W 3.8 W max
	Ride-through time	Typical at 125 V DC and with maximum burden	50 mS	30 mS	50 mS
Real time clock	Battery backup	30 seconds ride-through	■	3 years backup without control power	■
Digital output	Number/Type	2 - Mechanical Relays	■		
	Output frequency	0.5 Hz maximum (1 second ON / 1 second OFF - minimum times)	■		
	Switching Current	30 V DC, 5 A 250 V AC, 8 A Cos φ = 1 250 V AC, 6 A Cos φ = 0.4	■		
	Isolation	2.5 kVrms	■		
Status Digital Inputs	Voltage ratings	ON 18.5 to 36 V DC, OFF 0 to 4 V DC	■		
	Input Resistance	110 k Ω	■		
	Maximum Frequency	2 Hz (T ON min = T OFF min = 250 ms)	■		
	Response Time	10 ms	■		
	Isolation	2.5 kVrms	■		
Whetting output	Nominal voltage	24 V DC	■		
	Allowable load	4 mA	■		
	Isolation	2.5 kVrms	■		

(1) Measurements taken from 45 Hz to 65 Hz, 0.5 A to 9 A, 57 V to 347 V & 0.5 ind to 0.5 cap power factor with a sinusoidal wave.
(2) Active power: ±0.5 % from 0.25 A to 9.0 A at Cos φ = 1, ±0.6 % from 0.50 A to 9.0 A at Cos φ = 0.5 (ind or cap)
(3) Real/active Energy: ±0.5 % from 0.25 A to 9.0 A at Cos φ = 1, ±0.6 % from 0.50 A to 9.0 A at Cos φ = 0.5 (ind or cap) IEC 61557-12 Class 0.5
(4) Reactive energy: ±2.0 % from 0.25 A to 9.0 A at Sin φ = 1±2.5 % from 0

PM5350 / PM5350P series

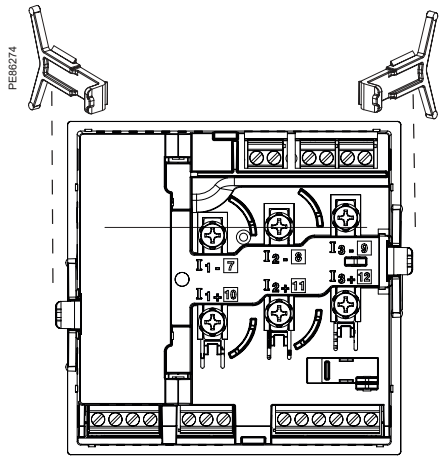
Rear of meter - open

PE86279

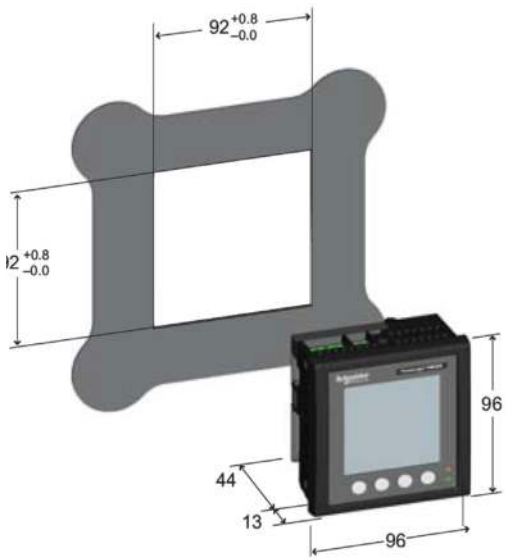


Rear view retainers - installation

PE86274

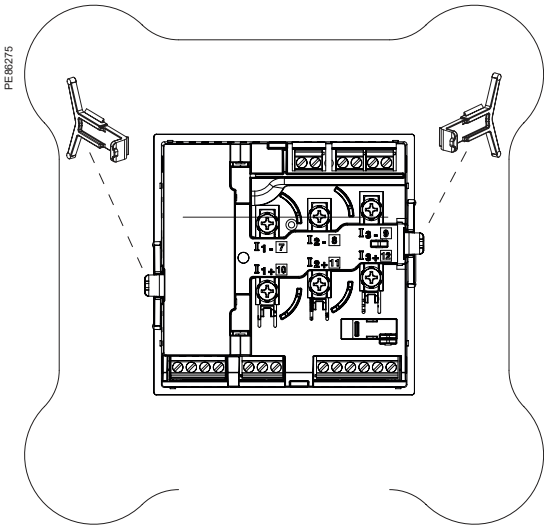


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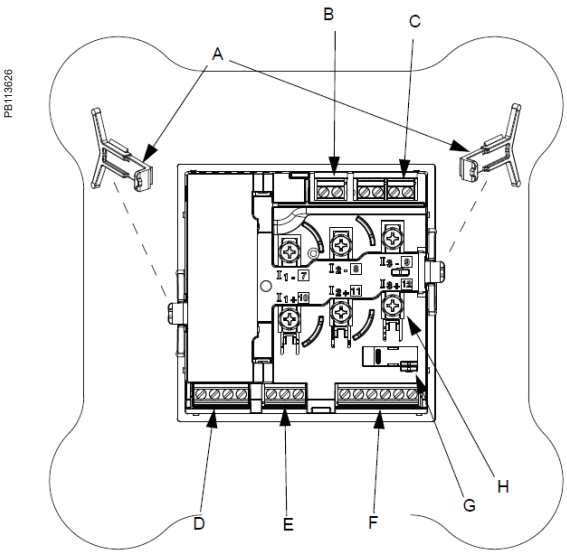
Rear view retainers - users

PE86275



For detailed installation instructions see the product's Installation Guide.

PB113626

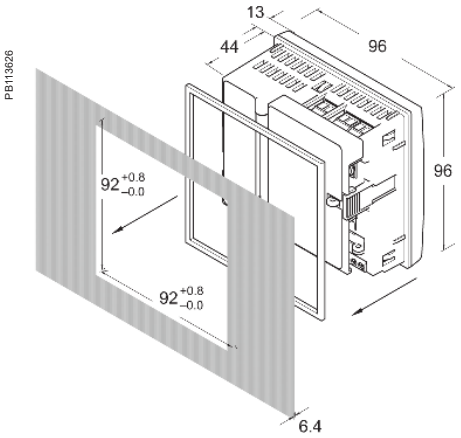


PM5350 / PM5350P meter parts

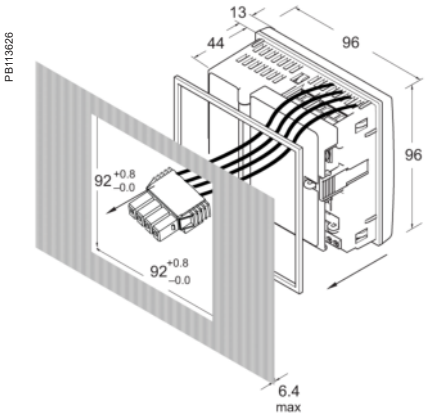
A Retainer clips.
B Control power supply connector.
C Voltage inputs.
D Digital outputs.
E RS-485 port (COM1).
F Digital input.
G Optical revenue switch.
H Current inputs.

For detailed installation instructions see the product's Installation Guide.

PM5350IB/PB series

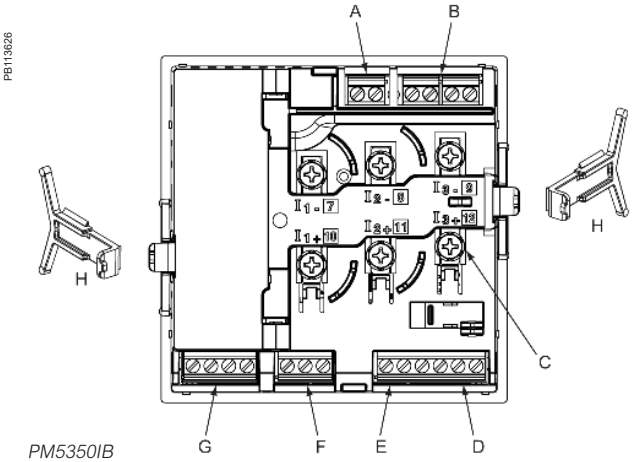


Dimensions PM5350IB

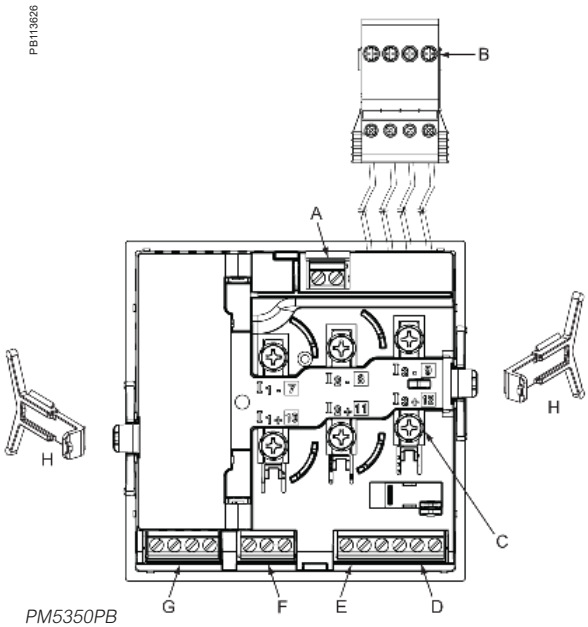


Dimensions PM5350PB

Parts of PM5350IB and PM5350PB (rear panel door removed)

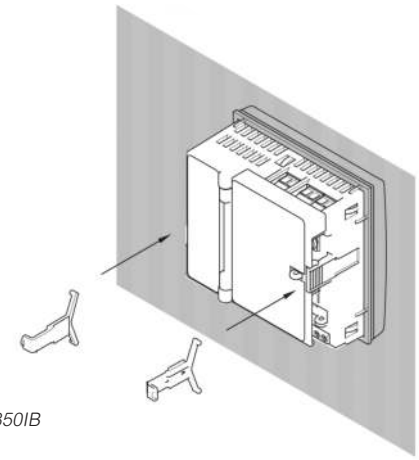


PM5350IB

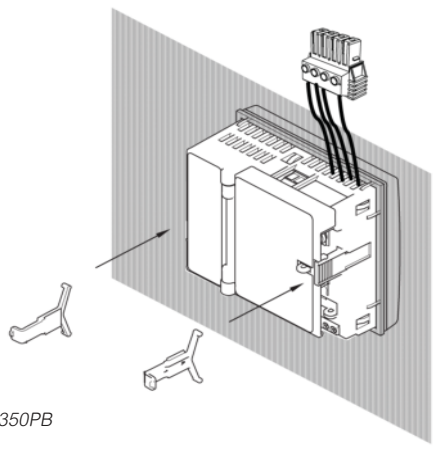


PM5350PB

A Control power
B Voltage inputs
C Current inputs
D Digital inputs
E Whetting voltage source (for digital inputs)
F RS-485 communications
G Digital outputs
H Retainer clips



PM5350IB



PM5350PB

For detailed installation instructions see the product's Installation Guide.

Advanced metering

Advanced high performance meters are designed for mains or critical loads on MV/LV networks. They provide analysis of efficiency, losses and capacity, bill verification, power quality compliance monitoring, problem notification and diagnosis and control of loads, etc. Power quality meters are classified as advanced meters designed to monitor service entrances and critical network locations to maximize power availability and reliability by providing a comprehensive system load profile, power quality and root cause analyses.

- PowerLogic™ PM8000
- PowerLogic™ ION9000

PB113687



P115913



METSEPM8240

M7650

PM8000 series

The PowerLogic™ PM8000 series meters are compact, cost-effective multifunction power meters that will help you ensure reliability and efficiency of your power-critical facility.

Reveal and understand complex power quality conditions. Measure, understand and act on insightful data gathered from your entire power system. Designed for key metering points throughout your energy infrastructure, the PowerLogic PM8000 series meter has the versatility to perform nearly any job you need a meter to do, wherever you need it!

Applications

Ideal for low to high voltage applications in industrial facilities, data centers, infrastructure and other critical power environments.

PB113687



METSEPM8240

PM8000 series

The solution for

Markets that can benefit from a solution that includes PowerLogic PM8000 series meters:

- Industry
- Data centers
- Infrastructure
- Healthcare
- Buildings

Benefits

- Makes understanding power quality simple to help operations personnel avoid downtime and helps ensure increased productivity and equipment life.
- Makes energy and power quality immediately relevant and actionable to support your operational and sustainability goals.

Competitive advantages

- Modular, flexible patented ION technology architecture enables a simple building block approach.
- Disturbance direction detection, modularity and compliance with latest power quality standards.
- Color screen.
- Multiple communication options.
- Excellent accuracy.

Power management solutions

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

Conformity of standards

- EN 50160
- EN 50470
- IEC 61000-4-30
- IEC 61010-1
- IEC 61326-1
- IEC 61557-12
- IEC 62052-11
- IEC 62053-11
- IEC 62053-22
- IEC 62053-23
- IEC 62053-24
- IEC 62586-2
- IEEE 519
- UL 61010-1

PM8000 series

PB113641



PowerLogic PM8000 series meter.

PB113668



PowerLogic PM8000 series meter - rear view.

PB113692



PowerLogic PM8000 DIN rail mounted meter.

Main characteristics

- Precision metering:
  - IEC 61557-12 PMD/SD/K70/0.2 and PMD/SS/K70/0.2 3000m (performance measuring and monitoring functions).
  - Class 0.2S accuracy IEC 62053-22, ANSI C12.20 Class 0.2 (active energy).
  - Industry leading Class 0.5S accuracy for reactive energy (IEC 62053-24).
  - Cycle-by-cycle RMS measurements updated every ½ cycle.
  - Full 'multi-utility' WAGES metering support.
  - Net metering.
  - Anti-tamper protection seals.

- PQ compliance reporting and basic PQ analysis:
  - Monitors and logs parameters in support of international PQ standards,
    - IEC 61000-4-30 Class S (test methods as per IEC 62586-2).
  - Generates onboard PQ compliance reports accessible via onboard web pages:
    - Basic event summary and pass/fail reports, for EN 50160 for power frequency, supply voltage indication, supply voltage dips, short and long interruptions, temporary over voltages, voltage unbalance and harmonic voltage.
    - ITIC (CBEMA) and SEMI curves, with alarm categorization to support further analyses.
    - NEMA Motor Derating curve.
    - Pass/fail report for IEEE 519 for voltage and current harmonic limits.
  - Harmonic analysis:
    - THD on voltage and current, per phase, min/max, custom alarming.
    - Individual harmonic magnitudes and angles on voltage and current, up to the 63rd harmonic.
  - High resolution waveform capture: triggered manually or by alarm, captured waveforms available directly from the meter via FTP in a COMTRADE format.
  - Disturbance detection and capture: sag/swell on any current and voltage channel, alarm on disturbance event, waveform capture with pre-event information.
  - Patented disturbance direction detection: provides indication of the captured disturbance occurring upstream or downstream of the meter; timestamped results provided in the event log, with degree of certainty of disturbance direction.

- Used with Schneider Electric's sophisticated software tools, provides detailed PQ reporting across entire network:
  - EN 50160 report.
  - IEC 61000-4-30 report.
  - IEEE 519 harmonic compliance report.
  - PQ compliance summary.
  - Display of waveforms and PQ data from all connected meters.
  - Onboard web-based waveform viewer.
  - Energy reports for consumption analysis and cost management.
  - WAGES dashboards and reports.
  - EcoStruxure Power Events Analysis, including alarm management, sequence of events, and root cause analysis.

- Cybersecurity:
  - Security events logging with Syslog protocol support.
  - HTTPS secure protocol.
  - Ability to enable or disable any communication port and any protocol per port.
  - Anti-tamper protection seals and hardware metrology lock.
  - User accounts with strong passwords.

- Data and event logging:
  - Onboard data and event logging.
  - 512 MB of standard non-volatile memory.

PM8000 series

PB113669



PowerLogic PM8000 series meter with remote display.

PB113671



PowerLogic I/O module.

Main characteristics (contd.)

- No data gaps due to network outages or server downtime.
- Min/Max log for standard values.
- 50 user-definable data logs, recording up to 16 parameters on a cycle-by-cycle or other user definable interval.
- Continuous logging or 'snapshot' triggered by setpoint and stopped after defined duration.
- Trend energy, demand and other measured parameters.
- Forecasting via web pages: average, minimum and maximum for the next four hours and next four days.
- Advanced time-of-use capability.
- Security / event log: alarm conditions, metering configuration changes, power outages, firmware download, and user login/logout all timestamped to ±1 millisecond.

- Alarming and control:
  - 50+ definable alarms to log critical event data, trigger waveform recording, or perform control function.
  - Trigger on any condition, with 1/2-cycle and 1-second response time.
  - Combine alarms using Boolean logic and to create alarm levels.
  - Alarm notification via email.
  - In conjunction with Schneider Electric's EcoStruxure software, alarms, software alarms, and alarm frequency are categorized and trended enabling sequence of events and root cause analyses.

Usability

- Easy installation and setup:
  - Panel and DIN rail mounting options, remote display option.
  - Pluggable connectors.
  - Free setup application simplifies meter configuration.
  - Auto-discovery using DPWS (Device Profile Web Services).
  - DHCP for automatic IP address configuration.

- Front panel:
  - Easy to read color graphic display.
  - Simple, intuitive menu navigation with multi-language (8) support.

- Flexible remote communications:
  - Multiple simultaneously operating communication ports and protocols allow interfacing with other automation systems; (e.g. waveforms, alarms, billing data, etc.) can be uploaded for viewing/analysis while other systems access real-time information.
  - Supports Modbus, ION, DNP3, IEC 61850.
  - Dual port Ethernet: 10/100BASE-TX; supports IPV4 and IPV6; daisy-chaining capability removes need for additional switches.
  - Secure web interface with HTTPS and TLS 1.2 with support for user-provided certificates.
  - Create redundant network loop using Rapid Spanning Tree Protocol (RSTP) and managed Ethernet switches.
  - Customize TCP/IP port numbers and enable/disable individual ports.
  - RS-485 2-wire connection, up to 115,200 baud, Modbus RTU, ION and DNP3 protocols.
  - Ethernet to serial gateway with Modbus Master functionality, connecting to 31 downstream serial Modbus devices. Also supports Modbus Mastering over TCP/IP (Ethernet) network.
  - Full function web server with factory and customizable pages to access real-time and PQ compliance data.
  - Push historical data via email.
  - Advanced security: Up to 50 configurable user accounts.

PM8000 series

PB113686



PowerLogic PM8000 series meter with I/O modules.

PB119094



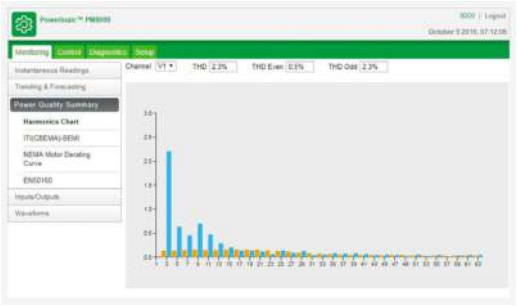
PowerLogic PM8000 series waveform web page sample

PB119093



PowerLogic PM8000 series CBEMA web page sample

PB119095



PowerLogic PM8000 series PQ harmonics web page sample

- Time synchronization via:
  - GPS clock (RS-485) or IRIG-B (digital input) to ±1 millisecond.
  - Network Time Protocol (NTP/SNTP).
  - Precision Time Protocol (PTP - IEEE 1588 / IEC 61588).
  - Time set function from Schneider Electric software server.

Adaptability

- ION™ frameworks allow customisable, scalable applications, object-oriented programming, compartmentalizes functions, and increases flexibility and adaptability.
- Applications include: access and aggregate data from Modbus devices on serial port or across the network (Modbus TCP/IP), logging and/or processing data by totaling, unit conversion or other calculations, applying complex logic for alarming or control operations, data visualization via web pages.

Standard meter I/O

- 3 digital status/counter inputs.
- 1 KY (form A) energy pulse output for interfacing with other systems.

Modular I/O options

- Optional expansion modules.
- Up to 4 modules per meter.

Option modules include:

- Digital module:
  - 6 digital status/counter inputs.
  - 2 Form C relay outputs, 250 V, 8 A.
- Analog module:
  - 4 analog inputs (4-20 mA; 0-20 mA; 0-30 V).
  - 2 analog outputs (4-20 mA; 0-20 mA; 0-10 V) for interfacing with building management sensors and systems.

PM8000 series

PB113696



Underside of PM8000 meter (DIN rail version).

Feature selection

Commercial reference number	Description
METSEPM8240	96 x 96 panel mount meter, AC/DC power.
METSEPM8210	96 x 96 panel mount meter, LV DC power.
METSEPM8243	DIN rail mount meter, AC/DC power.
METSEPM8213	DIN rail mount meter, LV DC power.
METSEPM8244	DIN rail mount meter with remote display, AC/DC power.
METSEPM8214	DIN rail mount meter with remote display, LV DC power.
METSEPM82401	MID approved panel mount meter.
METSEPM82403	RMICAN approved panel mount meter.
METSEPM82404	RMICAN sealed panel mount meter.
Accessories	**Description**
METSEPM89RD96	Remote display, 3 metre cable, mounting hardware for 30 mm hole (nut & centering pin), mounting hardware for DIN96 cutout (92 x 92 mm) adapter plate
METSEPM89M2600	Digital I/O module (6 digital inputs & 2 relay outputs)
METSEPM89M0024	Analog I/O module (4 analog inputs & 2 analog outputs)
METSEPM8HWK	Replacement hardware kit (connectors, screws, retainer clips, mounting template)

Feature guide

		PM8000
General		
Use on LV, MV, and HV systems		■
Current accuracy		0.1 % reading
Voltage accuracy		0.1 % reading
Active energy accuracy		0.2 Class
Number of samples/cycle or sample frequency		256
Instantaneous rms values		
Current, voltage, frequency		■
Active, reactive, apparent power	Total and per phase	■
Power factor	Total and per phase	■
Current measurement range (autoranging)		0.05 - 10 A
Energy values		
Active, reactive, apparent energy		■
Settable accumulation modes		■
Demand values		
Current	Present and max. values	■
Active, reactive, apparent power	Present and max. values	■
Predicted active, reactive, apparent power		■
Synchronization of the measurement window		■
Setting of calculation mode	Block, sliding	■
Power quality measurements		
Harmonic distortion	Current and voltage	■
Individual harmonics	Via front panel and web page	63
	Via EcoStruxure™ software	127
Waveform capture		■
Detection of voltage swells and sags		■
Fast acquisition	1/2 cycle data	■
EN 50160 compliance checking		■
IEEE 519 compliance checking		■
Customizable data outputs (using logic and math functions)		■
Data recording		
Min/max of instantaneous values		■
Data logs		■
Event logs		■
Trending/forecasting		■
SER (Sequence of event recording)		■
Time stamping		■
GPS synchronization (+/- 1 ms)		■
Memory (in Mbytes)		512
Display and I/O		
Front panel display		■
Wiring self-test		■
Pulse output		1
Digital or analog inputs(max)		27 digital 16 analog
Digital or analog outputs (max, including pulse output)		1 digital 8 relay 8 analog
Communication		
RS-485 port		1
Ethernet port		2
Serial port (Modbus, ION, DNP3)		■
Ethernet port (Modbus/TCP, ION TCP, DNP3 TCP, DHCP, DNS, IPv4, IPv6, IEC 61850)		■
Ethernet gateway		■
Alarm notification via email		■
HTTP/HTTPs web server with waveform viewer		■
SNMP with custom MIB and traps for alarms		■
SMTP email		■
PTP and NTP time synchronization		■
FTP file transfer		■

PM8000 series

Technical specifications

Electrical characteristics		
Type of measurement		True rms to 256 samples per cycle
Measurement accuracy	Current & voltage	Class 0.2 as per IEC 61557-12
	Active Power	Class 0.2 as per IEC 61557-12
	Power factor	Class 0.5 as per IEC 61557-12
	Frequency	Class 0.02 as per IEC 61557-12
	Active energy	Class 0.2S IEC 62053-22 Class 0.2 IEC 61557-12, ANSI C12.20 Class 0.2
	Reactive Energy	Class 0.5S IEC 62053-24*
	MID Directive	EN 50470-1, EN 50470-1, AnnexB & AnnexD (optional model)
Display refresh rate		1/2 cycle or 1 second
Input-voltage characteristics	Specified accuracy voltage	57 - 400 V L-N / 100 - 690 V L-L
	Impedance	5 MΩ per phase
	Specified accuracy frequency - Frequency	42 to 69 Hz (50/60 Hz nominal)
	Limit range of operation - frequency	20 to 450 Hz
Input-current characteristics	Rated nominal current	1 A (0.2S), 5 A (0.2S) , 10 A (0.2 ANSI)
	Specified accuracy current range	Starting Current: 5 mA Accurate Range: 50 mA - 10 A
	Permissible overload	200 A rms for 0.5s, non-recurring
	Impedance	0.0003 Ω per phase
	Burden	0.01 VA max at 5 A
Power supply AC/DC	AC	90-415 V AC ±10 % (50/60 Hz ±10 %) 90-120 V AC +/- 10% (400 Hz)
	DC	110-415 V DC ±15 % (20-60 V DC ±10 % for PM8210
	Ride-through time	100 ms (6 cycles at 60 Hz) min., any condition 200 ms (12 cycles at 60 Hz) typ., 120 V AC 500 ms (30 cycles at 60 Hz) typ., 415 V AC
	Burden	Typical: 7.7 W / 16 VA at 230 V (50/60 Hz) Fully optioned: max. 18 W / 40 VA at 415 V (50/60 Hz).
Power supply LV DC	DC	20 to 60 V DC ±10 %
	Burden	Fully optioned: max. 18 W at 18 to 60 V DC
Input/outputs	Meter Base Only	3 digital inputs (30 V AC/60 V DC) 1 form A (KY) solid state digital output (30 V AC/60 V DC, 75 mA).
	Optional	Digital - 6 digital inputs (30 V AC / 60 V DC) wetted + 2 form C relay outputs (250 V AC, 8 A)
		Analog - 4 analog inputs (4-20 mA, 0-30 V DC) + 2 analog outputs (4-20 mA, 0-10 V DC).
Mechanical characteristics		
Weight		Integrated Display Model 0.581 kg DIN rail mounted Model 0.528 kg IO modules 0.140 kg Remote display 0.300 kg
IP degree of protection		IP 54, UL type 12: Panel mount and Remote display, front. IP 30: Panel mount rear, DIN rail mount, I/O modules.
Excellent quality		ISO 9001 and ISO 14000 certified manufacturing.
Dimensions	Panel mount model	96 x 96 x 77.5 mm
	DIN model	90.5 x 90.5 x 90.8 mm
	Remote display	96 x 96 x 27 mm
	IO modules	90.5 x 90.5 x 22 mm

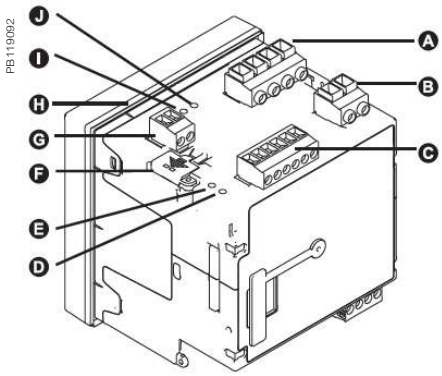
PM8000 series

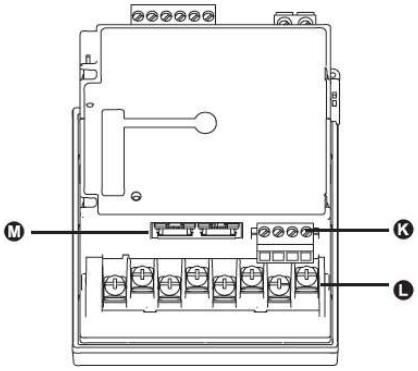
Environmental conditions	
Operating temperature	-25 °C to 70 °C
Remote Display Unit	-25 °C to 60 °C
Storage temperature	-40 °C to 85 °C
Humidity rating	5 % to 95 % non-condensing
Installation category	III
Operating altitude (maximum)	3000 m above sea-level
Electromagnetic compatibility	
EMC standards	IEC 62052-11 and IEC 61326-1
Immunity to electrostatic discharge	IEC 61000-4-2
Immunity to radiated fields	IEC 61000-4-3
Immunity to fast transients	IEC 61000-4-4
Immunity to surges	IEC 61000-4-5
Immunity to conducted disturbances	IEC 61000-4-6
Immunity to power frequency magnetic fields	IEC 61000-4-8
Immunity to conducted disturbances, 2-150kHz	CLC/TR 50579
Immunity to voltage dips & interruptions	IEC 61000-4-11
Immunity to ring waves	IEC 61000-4-12
Conducted and radiated emissions	EN 55022, EN 55011, FCC part 15 Class B, EN55011, EN55022 Class B, ICES-003 Class B
Surge withstand Capability (SWC)	IEEE / ANSI C37.90.1
Safety	
Safety Construction	IEC/EN 61010-1 ed.3, CAT III, 400 V L-N / 690 V L-L UL 61010-1 ed.3 and CSA-C22.2 No. 61010-1 ed.3, CAT III, 347 V L-N / 600 V L-L IEC/EN 62052-11, protective class II.
Communication	
Ethernet to serial line gateway	Communicates directly with up to 31 unit load devices.
Web server	Customisable pages, new page creation capabilities, HTML/XML compatible.
Serial port RS-485	Baud rates of 2400 to 115200, pluggable screw terminal connector.
Ethernet port(s)	2x 10/100BASE-TX, RJ45 connector (UTP).
Protocol	Modbus, ION, DNP3, IEC 61850, HTTPS, FTP, SNMP, SMTP, DPWS, RSTP, NTP, PTP, NTP/SNTP, GPS, IPv4 /IPv6, DHCP, Syslog protocols.
Firmware characteristics	
High-speed data recording	Down to 1/2 cycle interval burst recording, stores detailed characteristics of disturbances or outages. Trigger recording by a user-defined setpoint, or from external equipment.
Harmonic distortion	Up to 63rd harmonic (127th via Schneider Electric software) for all voltage and current inputs.
Sag/swell detection	Analyse severity/potential impact of sags and swells: magnitude and duration data suitable for plotting on voltage tolerance curves per phase triggers for waveform recording, control.
Disturbance direction detection	Determine the location of a disturbance more quickly and accurately by determining the direction of the disturbance relative to the meter. Analysis results are captured in the event log, along with a timestamp and confidence level indicating level of certainty.
Instantaneous	High accuracy of standard speed (1s) and high-speed (1/2 cycle) measurements, including true rms per phase and total for: voltage, current, active power (kW),reactive power (kvar), apparent power (kVA), power factor, frequency, voltage and current unbalance, phase reversal.
Load profiling	Channel assignments (800 channels via 50 data recorders) configurable for any measurable parameter, including historical trend recording of energy, demand, voltage, current, power quality, or any measured parameter. Trigger recorders based on time interval, calendar schedule, alarm/event condition, or manually.
Trend curves	Historical trends and future forecasts to better manage demand, circuit loading, and other parameters. Provides average, min, max and standard deviation every hour for last 24 hours, every day for last month, every week for last 8 weeks and every month for last 12 months.
Waveform captures	Simultaneous capture of all voltage and current channels, sub-cycle disturbance capture, ability to record from 210 cycles at 256 sample per cycle to over 2880 cycles at 16 points per cycle with user selectable sampling speed as well as pre- and post-trigger length.
Alarms	Threshold alarms: adjustable pickup and dropout setpoints and time delays, numerous activation levels possible for a given type of alarm, user-defined or automatic alarm threshold settings, user-defined priority levels (optional automatic alarm setting).
Advanced Time of Use (TOU)	6 seasons; 3 different day types: weekend, weekday, and holiday; up to 8 tariffs per day type.

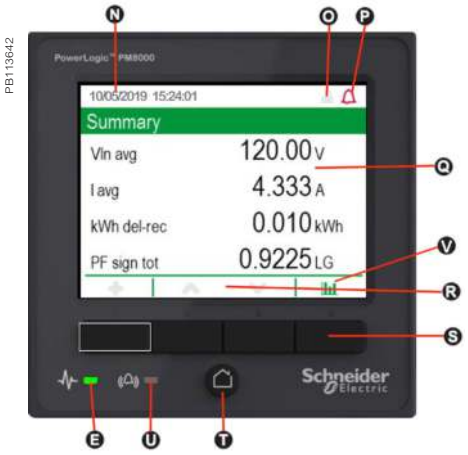
PM8000 series

Firmware characteristics (cont.)	
Advanced security	Up to 50 users with unique access rights. Perform resets, time sync, or meter configurations based on user privileges.
Memory	512 MB.
Firmware update	Update via the communication ports.
Display characteristics	
Integrated or Remote display	320 x 240 (1/4 VGA) Color LCD, configurable screens , 5 buttons and 2 LED indicators (alarm and meter status).
Languages	English, French, Spanish, Russian, Portugese, German, Italian, Chinese.
Notations	IEC, IEEE.
The HMI menu includes	
Alarms	Active alarms, historic alarms (50+ alarms).
Basic Reading	Voltage, current, frequency, power summary.
Power	Power summary, demand, power factor.
Energy	Energy total, delivered, received.
Events	Timestamped verbose event log.
Power Quality	EN 50160, IEEE 519, harmonics, phasor diagrams.
Inputs/Outputs	Digital inputs, digital outputs, analog inputs, analog outputs.
Nameplate	Model, serial and FW version.
Custom Screens	Build your own metrics.
Setup Menu	Meter setup, communications setup, display setup, date/time/clock setup, alarm setup, language setup, time of use setup, resets, password setup.

PM8000 series parts







A Voltage inputs
B Control power
C Digital inputs
D Revenue lock LED (green)
E Status LED (green/red)
F Revenue lock switch
G Digital output
H Sealing gasket
I Infrared energy pulsing LED
J Energy pulsing LED
K RS-485
L Current inputs
M Ethernet (2)
N Date/time
O Revenue lock icon

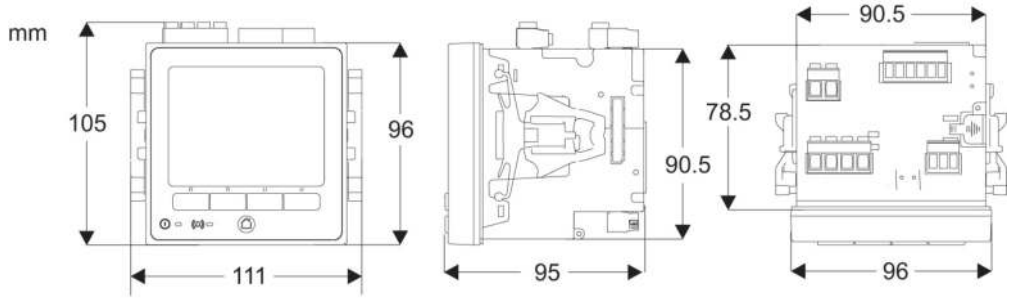
P Alarm icon
Q Display
R Navigation icons
- Up
- Down
- Select
- Cancel
- Edit
- More

S Navigation buttons
T Home button
U Alarm LED (red)
V Bar graph

PM8000 series

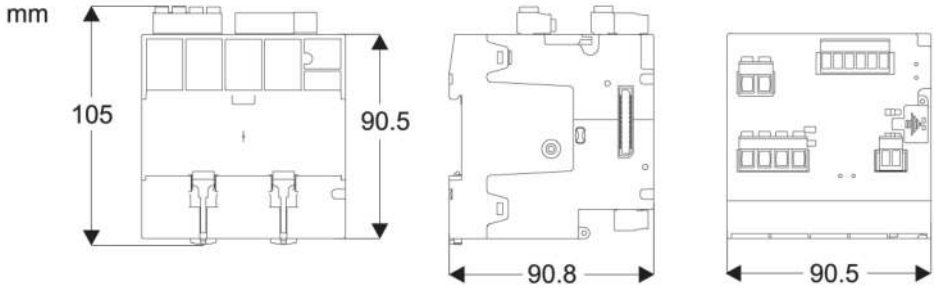
PM8000 panel mount meter dimensions

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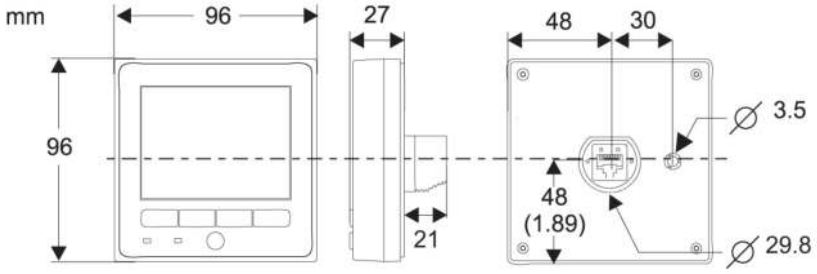
PM8000 DIN rail mount meter dimensions

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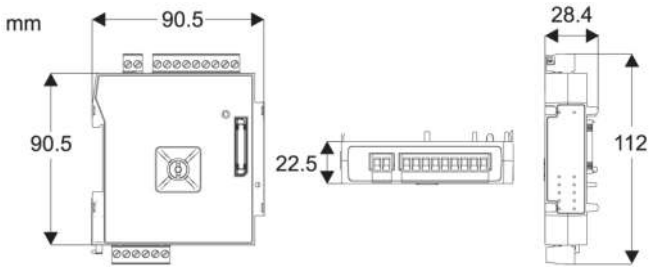
PM8000 remote display dimensions

PB119089

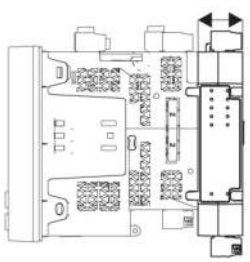


PM8000 with I/O modules dimensions

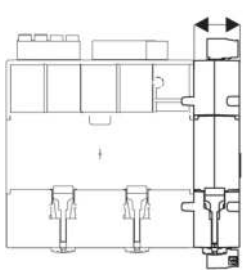
PB119090



PB119091



PB119086



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

ION9000 series

The PowerLogic™ ION9000 is your 24/7 power quality expert, providing information, not just data.

With a comprehensive, industry-leading Power Quality Instrument (PQI) performance designation according to IEC 62586-1/-2, the PowerLogic ION9000 is third-party certified ANSI C12.20 Class 0.1 and IEC 62053-22 Class 0.1S accurate, the most accurate power meter available today. Lab-verified power quality and safety ensure reliable, precision performance that is perfect for supply- or demand-side applications. Its patented Disturbance Direction Detection also helps you pinpoint the source of power quality issues faster. Capable of sampling at 10 MHz, the ION9000T captures extremely fast voltage events that are missed by most other power meters, enabling advanced diagnostics and high-resolution event associations for fast, conclusive diagnosis and resolution to transient voltages.

Highly customizable and modular, the ION9000's field programmability can adapt to satisfy any solution, protecting your investment now and in the future. All designed to align with your comprehensive grid cybersecurity policies and backed by Schneider Electric's global services and support.

Applications

Ideal for critical power and large energy users who cannot afford to be shut down, the ION9000T has High-Speed Transient Capture (HSTC) to detect and record transient events that exceed the voltage withstand of sensitive equipment.

PB115917



METSEION92040

The market solution for

Markets that benefit from a solution that includes PowerLogic ION9000 series meters:

- Data centers
- Healthcare facilities
- Semiconductor
- Pharmaceutical & chemical
- Energy industries
- Mining, Minerals, & Metals
- Renewable energy interconnects
- Medium voltage distribution & energy automation

Benefits

- Makes understanding power quality simple which helps operations personnel avoid downtime and increase productivity and equipment life
- Makes energy and power quality data immediately actionable and relevant to operational and sustainability goals

Competitive advantages

- Modular, flexible, patented ION™ programmable technology
- Utility grade energy accuracy
- Patented Disturbance Direction Detection
- Third-party, lab-verified compliance with latest PQ standards
- Onboard pass/fail PQ characterization and assessment according to EN50160 and IEEE519
- Cybersecurity event logging, Syslog protocol, HTTPS, SFTP, and full control of each communication port
- High-speed impulsive and oscillatory transient detection

Power management solutions

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

Conformity of standards

- ANSI C12.20
- ANSI C37.90.1
- IEC 61000-4-7
- IEC 61000-4-15
- IEC 61000-4-30
- IEC 61010-1
- IEC 61326-1
- IEC 61557-12
- IEC 61850
- IEC 62052-11
- IEC 62052-31
- IEC 62053-22
- IEC 62053-23
- IEC 62053-24
- IEC 62586
- UL 61010-1

PB115917



PowerLogic™ ION9000 series meter with RD192 display

PB115914



PowerLogic™ ION9000 RD192 remote display

PB115918



PowerLogic™ ION9000 front view

Main characteristics

- PQ compliance reporting and basic PQ analysis:
  - Monitors and logs parameters according to IEC 61000-4-30 Class A international PQ standards (test methods as per IEC 62586-2).
  - High resolution waveform capture: triggered manually or by event. Captured waveforms available directly from the meter via SFTP in a COMTRADE format, and viewable in the meter's web interface.
  - Generates onboard PQ compliance reports accessible via onboard web pages:
    - Pass/fail report for IEEE 519 for voltage and current harmonic limits.
    - ITIC (CBEMA) and SEMI curves, with alarm categorization to support further analyses.
    - NEMA Motor Derating curve.
  - Harmonic analysis:
    - THD and TDD per phase, min/max, custom alarming.
    - Individual harmonic magnitudes and angles on voltage and current, up to the 63rd harmonic.
  - Disturbance detection and capture: sag/swell on any current and voltage channel, alarm on disturbance event, and waveform capture.
  - Patented Disturbance Direction Detection: provides indication of the captured disturbance occurring upstream or downstream of the meter; timestamped results provided in the event log, with degree of certainty of disturbance direction.
- Transient detection and capture: events 20 microseconds or longer in duration on any voltage channel with alarm, event log, and waveform capture.
- PowerLogic ION9000T also provides High-Speed Transient Capture (HSTC) of voltage events 100 nanoseconds or longer in duration and up to 10,000 V in magnitude with high-speed and disturbance waveform captures, as well as per-event statistics on each transient.

- Metering precision:
  - IEC 61557-12 PMD/SD/K70/0.2 and PMD/SS/K70/0.2 3000m (Performance Measuring and Monitoring devices (PMD)).
  - Class 0.1S accuracy IEC 62053-22, ANSI C12.20 Class 0.1 (active energy).
  - Industry leading Class 0.5S accuracy for reactive energy (IEC 62053-24).
  - Cycle-by-cycle RMS measurements updated every ½ cycle.
  - Full 'multi-utility' WAGES metering support.
  - Net metering.
  - Anti-tamper protection seals and hardware metrology lock.

- Cybersecurity:
  - Security events logging with Syslog protocol support.
  - HTTPS and SFTP secure protocols.
  - Ability to enable or disable any communication port and any protocol per port.
  - Anti-tamper protection seals and hardware metrology lock.
  - User accounts with strong passwords.

PB115916



PowerLogic ION9000 with panel mounting adapter

PB115919



PowerLogic ION9000 front with two option modules

PB114020



PowerLogic ION9000 bottom with two option modules

- Used with Schneider Electric's advanced software tools, provides detailed PQ reporting across entire network:
  - EN 50160 compliance report.
  - IEEE 519 harmonic compliance report.
  - IEC 61000-4-30 report.
  - Power quality compliance summary.
  - Energy reports for consumption analysis and cost management.
  - WAGES dashboards and reports.
  - Display of waveforms and PQ data from all connected meters.
  - Onboard web-based waveform viewer.
  - EcoStruxure Power Events Analysis, including alarm management, sequence of events, and root cause analysis.

- Data and event logging:
  - Onboard data and event logging.
  - 2 GB of standard non-volatile memory.
  - No data gaps due to network outages or server downtime.
  - Min/max log for standard values.
  - 100 user-definable data logs, recording up to 16 parameters at a 1/2 cycle or other user definable interval.
  - Continuous logging or snapshot, triggered by setpoint and stopped after defined duration.
  - Trend energy, demand and other measured parameters.
  - Forecasting via web pages: average, minimum and maximum for the next four hours and next four days.
  - Advanced time-of-use capability.
  - Security/event log: alarm conditions, metering configuration changes, power outages, firmware download, and user login/logout with timestamp.

- Alarming and control:
  - 50+ definable alarms to log critical event data, trigger waveform recording, or perform control function.
  - Trigger on any condition, with 1/2-cycle and 1-second response time.
  - Combine alarms using Boolean logic enabling customization of alarms.
  - Alarm notification via email.
  - In conjunction with Schneider Electric's EcoStruxure software, alarms, software alarms, and alarm frequency are categorized and trended enabling sequence of events and root cause analyses.

Usability

- Auto-discovery using DPWS (Device Profile Web Services).
- DHCP for automatic IP address configuration.
- Full function web server enables simple web commissioning.
- Free setup wizard simplifies meter configuration.
- Front panel:
  - Easy to read color graphic display.
  - Simple and intuitive menu navigation with multiple language interface and support.
- DIN rail mounting options.
- Remote display option.
- Pluggable connectors.
- Low Voltage Current Sensors Input option.

PB115915



PowerLogic ION9000 Harmonics display

- Flexible remote communications:
  - Multiple simultaneously operating communication ports and protocols allow interfacing with other automation systems, e.g. waveforms, alarms, billing data, etc. Data can be uploaded for viewing/analysis while other systems access real-time information.
  - Supports: Modbus, ION, DNP3, DLMS/COSEM, SNMP, and IEC 61850.
  - Dual port Ethernet: 2x 10/100BASE-TX; supports IPV4 and IPV6; daisy-chaining capability removes need for additional switches.
  - Create redundant network loop using Rapid Spanning Tree Protocol (RSTP) and managed Ethernet switches.
  - Secure web interface with HTTPS and TLS 1.2 with support for user-provided certificates.
  - Customize TCP/IP port numbers and enable/disable individual ports.
  - RS-485 2-wire connection, up to 115,200 baud, Modbus RTU, ION and DNP3 protocols.
  - Ethernet to serial gateway with Modbus Master functionality, connecting to 31 unit loads of downstream serial Modbus devices. Also supports Modbus Mastering over TCP/IP (Ethernet) network.
  - Full function web server with factory and customizable pages to access real-time and PQ compliance data.
  - Push historical data via email.
  - Advanced network security: Up to 50 configurable user accounts.
- Time synchronization via:
  - Precision network time protocol (PTP) based on IEEE 1588 / IEC 61588.
  - GPS clock (RS-485) or IRIG-B (digital input) to ±1 millisecond.
  - Network Time Protocol (NTP/SNTP).
  - Automatic time synchronization available through Schneider Electric software server.

Adaptability

- ION™ frameworks are customizable, scalable applications with object-oriented programming that compartmentalizes functions, and increases flexibility and adaptability.
- Applications include: access and aggregate data from Modbus devices on serial port or across the network (Modbus TCP/IP), logging and/or processing data by totaling, unit conversion or other calculations, applying complex logic for alarming or control operations, data visualization via web pages.

Standard meter I/O

- 8 digital status/counter inputs with ±1 millisecond timestamp.
- 4 solid state digital outputs (Form A) for energy pulsing, interfacing with other systems or control.
- 2 Form C relay outputs for control applications.

Modular I/O options

- Optional expansion modules.
- Up to 4 modules per meter.

Option modules include:

- Digital module:
  - 6 digital status/counter inputs.
  - 2 Form C relay outputs, 250 V AC, 8 A.
- Analog module:
  - 4 analog inputs (0-20 mA, 4-20 mA; 0-30 V).
  - 2 analog outputs (0-20 mA, 4-20 mA; 0-10 V) for interfacing with building management sensors and systems.

ION9000 series

Feature guide

General	ION9000	ION9000T
Use on LV, MV, and HV systems	■	■
Current accuracy: 0.1 % reading	■	■
Voltage accuracy: 0.1 % reading	■	■
Active energy accuracy: 0.1 Class	■	■
Number of samples/cycle or sample frequency: 1024	■	■
High-Speed Transient Capture: 10 MHz (200 k for 50 Hz, 167 k for 60 Hz)	-	■
Instantaneous rms values		
Current, voltage, frequency	■	■
Active, reactive, apparent power: Total and per phase	■	■
Power factor: Total and per phase	■	■
Energy values		
Active, reactive, apparent energy	■	■
Settable accumulation modes	■	■
Demand values		
Current: Present and max. values	■	■
Active, reactive, apparent power: Present and max. values	■	■
Predicted active, reactive, apparent power	■	■
Synchronization of the measurement window	■	■
Setting of calculation mode: Block, sliding	■	■
Power Quality measurements		
Harmonic distortion: Current and voltage	■	■
Individual harmonics: via front panel and web page: 63 via EcoStruxure™ software: 511	■	■
Waveform capture	■	■
Detection of voltage swells and sags	■	■
Fast acquisition: 1/2 cycle data	■	■
EN 50160 compliance checking	■	■
Customizable data outputs (using logic and math functions)	■	■
IEEE 519 compliance checking	■	■
Data recording		
Min/max of instantaneous values	■	■
Data logs	■	■
Event logs	■	■
Trending/forecasting	■	■
SER (Sequence of event recording)	■	■
Time stamping	■	■
GPS synchronization (± 1ms)	■	■
Memory: 2000 MB	■	■
Display and I/O		
Front panel display, 2 options: 96 mm & 192 mm	■	■
Pulse output: 2	■	■
Digital or analog inputs(max): 32 digital, 16 analog	■	■
Digital or analog outputs (max, including pulse output): 4 digital, 10 relay, 8 analog	■	■
Communication		
RS-485 port(s): 2	■	■
Ethernet port(s): 2x 10/100BASE-TX, RJ45 connector, CAT5/5e/6/6a cable	■	■
Serial port protocols (Modbus, ION, DNP3, DLMS/COSEM)	■	■
Ethernet port protocols (Modbus, ION, DNP3, DLMS/COSEM, IEC 61850)	■	■
Ethernet gateway	■	■
Alarm notification via email	■	■
HTTP/HTTPS web server with waveform viewer	■	■
SNMP with custom MIB and traps for alarms	■	■
SMTP email	■	■
PTP and NTP time synchronization	■	■
SFTP file transfer	■	■

ION9000 series

Technical specifications

Electrical characteristics			ION9000	ION9000T
Type of measurement		True rms to 1,024 samples per cycle	■	■
		High-speed transient detection, 10 MHz, 10 kV	-	■
Measurement accuracy	Current & voltage	Class 0.1 as per IEC 61557-12	■	■
	Active Power	Class 0.1 as per IEC 61557-12	■	■
	Power factor	Class 0.5 as per IEC 61557-12	■	■
	Frequency	Class 0.02 as per IEC 61557-12	■	■
	Active energy	Class 0.1S IEC 62053-22 Class 0.1 IEC 61557-12 Class 0.1 ANSI C12.20	■	■
	Reactive Energy	Class 0.5S IEC 62053-24	■	■
Display refresh rate		HMI display updated once per second; data refresh rate 1/2 cycle or 1 second	■	■
Input-voltage characteristics	Specified accuracy voltage	57 - 400 V L-N / 100 - 690 V L-L	■	■
	Impedance	5 MΩ per phase	■	■
	Specified accuracy frequency	42 to 69 Hz (50/60 Hz nominal)	■	■
	Limit range of operation - frequency	20 to 450 Hz	■	■
Input-current characteristics	Rated nominal current	1 A (0.1S), 5 A (0.1S); current class 2, 10, 20 A (0.1 ANSI)	■	■
	Specified accuracy current range	Starting Current: 1 mA (no accuracy) Accurate Range: 10 mA - 20 A	■	■
	Permissible overload	500 A rms for 1.0s	■	■
	Impedance	0.0003 Ω per phase	■	■
	Burden	0.01 VA max at 5 A	■	■
LV Input-current characteristics	Input voltage range	±5.5 V pk	■ [1]	-
	Minimum signal	1 mV	■ [1]	-
	Withstand	30 V pk continuous	■ [1]	-
	Input impedance	200 k Ω	■ [1]	-
	Safety	For use with listed Energy Monitoring current transformers	■ [1]	-
Power supply AC/DC	AC	90-480 V AC ±10 % (50/60 Hz ±10 %) 90-120 V AC ±10% (400 Hz)	■	■
	DC	110-480 V DC ±15 %	■	■
	Ride-through time (Values for meters with no optional accessories)	100 ms (5 cycles at 50/60 Hz) typ., 120 V AC 400 ms (20 cycles at 50/60 Hz) typ., 240 V AC 1,200 ms (60 cycles at 50/60 Hz) typ., 480 V AC	■	■
	Burden	Typical: 16.5 W / 38 VA at 480 V (50/60 Hz) Fully optioned: max. 40 W / 80 VA at 480 V (50/60 Hz).	■	■
Power supply LV DC	DC	20 to 60 V DC ±10 %	■	-
	Burden	Typical: 15 W at 20 to 60 V DC Fully optioned: 38 W at 20 to 60 V DC	■	-
Input/outputs	Meter base Only	8 digital inputs (30 V AC/60 V DC) 4 Form A (KY) solid state digital output (30 V AC/60 V DC, 75 mA) 2 Form C relays (8 A at 250 V AC, 5 A at 24 V DC)	■	■
	Optional	Digital - 6 digital inputs (30 V AC / 60 V DC) wetted + 2 Form C relay outputs (250 V AC, 8 A)	■	■
		Analog - 4 analog inputs (0-20 mA, 4-20 mA, 0-30 V DC) + 2 analog outputs (0-20 mA, 4-20 mA, 0-10 V DC).	■	■

[1] The LV Input-current option replaces standard CT inputs

ION9000 series

Mechanical characteristics			ION9000	ION9000T
Weight		DIN rail mount meter 1.5 kg IO modules 0.140 kg Touchscreen display 0.300 kg	■	■
IP degree of protection		IP 65, UL type 12: Panel mount and touchscreen display, front. IP 30: Panel mount rear, DIN rail mount, I/O modules.	■	■
Excellent quality		ISO 9001 and ISO 14000 certified manufacturing.	■	■
Dimensions	Panel mount	160 x 160 x 135.3 mm	■	■
	DIN rail mount meter	160 x 160 x 135.3 mm	■	■
	Color remote display (2 options)	197 x 175 x 27.5 mm touchscreen	■	■
	I/O modules	90.5 x 90.5 x 22 mm	■	■
	Touchscreen display(s)	192 mm and 96 mm	■	■
Environmental conditions				
Operating temperature	-25 to 70 ºC		■	■
Remote Display Unit	-25 to 60 ºC		■	■
Storage temperature	-40 to 85 ºC		■	■
Humidity rating	5 to 95 % non-condensing		■	■
Installation category	III		■	■
Operating altitude (maximum)	3,000 m above sea-level		■	■
Electromagnetic compatibility				
EMC standards	IEC 62052-11, IEC 61326-1, IEC 61000-6-5		■	■
Immunity to electrostatic discharge	IEC 61000-4-2		■	■
Immunity to radiated fields	IEC 61000-4-3		■	■
Immunity to fast transients	IEC 61000-4-4		■	■
Immunity to surges	IEC 61000-4-5		■	■
Immunity to conducted disturbances	IEC 61000-4-6		■	■
Immunity to power frequency magnetic fields	IEC 61000-4-8		■	■
Immunity to conducted disturbances, 2-150kHz	CLC/TR 50579		■	■
Immunity to voltage dips & interruptions	IEC 61000-4-11		■	■
Immunity to ring waves	IEC 61000-4-12		■	■
Conducted and radiated emissions	EN 55011 and EN 55032 Class B, FCC part 15 Class B, ICES-003 Class B		■	■
Surge withstand Capability (SWC)	IEEE/ANSI C37.90.1		■	■
Safety				
Safety Construction	IEC/EN 61010-1 ed.3, CAT III, 400 V L-N / 690 V L-L, UL 61010-1 ed.3 and CSA-C22.2 No. 61010-1 ed.3, CAT III, 347 V L-N / 600 V L-L, IEC/EN 62052-31, protective class II.		■	■
Communication				
Ethernet to serial line gateway	Communicates directly with up to 31 serial devices.		■	■
Web server	Customizable pages, new page creation capabilities, HTML/XML compatible.		■	■
Serial port RS-485	2x, Baud rates of 2,400 to 115,200, pluggable screw terminal connector.		■	■
Ethernet port(s)	2x 10/100BASE-TX, RJ45 connector, CAT5/5e/6/6a cable.		■	■
Protocol	HTTPS, SFTP, SNMP, SMTP, DPWS, RSTP, PTP, NTP/SNTP, GPS, Syslog, DHCP, IPv4, IPv6.		■	■
Firmware characteristics				
High-speed data recording	Down to 1/2 cycle interval recording, stores detailed characteristics of disturbances or outages. Trigger recording by a user-defined setpoint, or from external equipment.		■	■
Harmonic distortion	Up to 63rd harmonic (511th via Schneider Electric EcoStruxure software) for all voltage and current inputs.		■	■
Sag/swell detection	Analyze severity/potential impact of sags and swells: magnitude and duration data suitable for plotting on voltage tolerance curves per phase triggers for waveform recording.		■	■

ION9000 series

Firmware characteristics (cont.)		ION9000	ION9000T
Disturbance direction detection	Determine the location of a disturbance more quickly and accurately by determining the direction of the disturbance relative to the meter. Results are captured in the event log, along with a timestamp and confidence level indicating level of certainty.	■	■
Detection & capture of transients	As short as 20 µs at 50 Hz (17 µs at 60 Hz)	■	■
High-speed transient capture	Detection and capture of high-speed impulsive and oscillatory transients as short as 100 ns in duration and up to 10 kV in magnitude.	-	■
Instantaneous	High accuracy of standard speed (1s) and high-speed (1/2 cycle) measurements, including true rms per phase and total for: voltage, current, active power (kW),reactive power (kvar), apparent power (kVA), power factor, frequency, voltage and current unbalance, phase reversal.	■	■
Load profiling	Channel assignments (1600 channels via 100 recorders) configurable for any measurable parameter, including historical trend recording of energy, demand, voltage, current, power quality, or any measured parameter. Trigger recorders based on time interval, calendar schedule, alarm/event condition, or manually.	■	■
Trend curves	Historical trends and future forecasts to better manage demand, circuit loading, and other parameters. Provides average, min, max, and standard deviation every hour for last 24 hours, every day for last month, every week for last 8 weeks and every month for last 12 months.	■	■
Waveform captures	Simultaneous capture of voltage and current channels, sub-cycle disturbance captures of 180-cycles @ 1,024 samples/cycle to 7,200-cycles @ 16 sample/cycle, retriggerable.	■	■
High-speed transient waveform captures	Simultaneous capture of voltage channels, impulsive and oscillatory transient capture of up to 1-cycle @ 200 k samples per cycle (50 Hz) along with coincidence disturbance waveform capture.	-	■
Alarms	Threshold alarms: adjustable pickup and dropout setpoints and time delays, numerous activation levels possible for a given type of alarm, user-defined or automatic alarm threshold settings, user-defined priority levels (optional automatic alarm setting)	■	■
Advanced Time of Use (TOU)	4 seasons; 5 different day types: weekend, weekday, and holiday; up to 4 tariffs per day type.	■	■
Advanced network security	Up to 50 users with unique access rights. Perform resets, time sync, or meter configurations based on user privileges.	■	■
Memory	2,000 MB.	■	■
Firmware update	Update via the communication ports.	■	■
Display characteristics			
96 mm pushbutton display	320 x 240 (1/4 VGA) color LCD, configurable screens, 5 buttons and 2 LED indicators (alarm and meter status).	■	■
192 mm touchscreen display	800 x 480 pixels, 177.8 mm (7") Color LCD, +/- 85 degree view angle, sunlight readable, dual capacitive touch, usable when wet or through Class 0 lineman gloves, impact resistant to 5 joules, IP65 rating.	■	■
Languages	English, French, Spanish, Russian, Portugese, German, Italian, Chinese.	■	■
Notations	IEC, IEEE.	■	■

ION9000 series

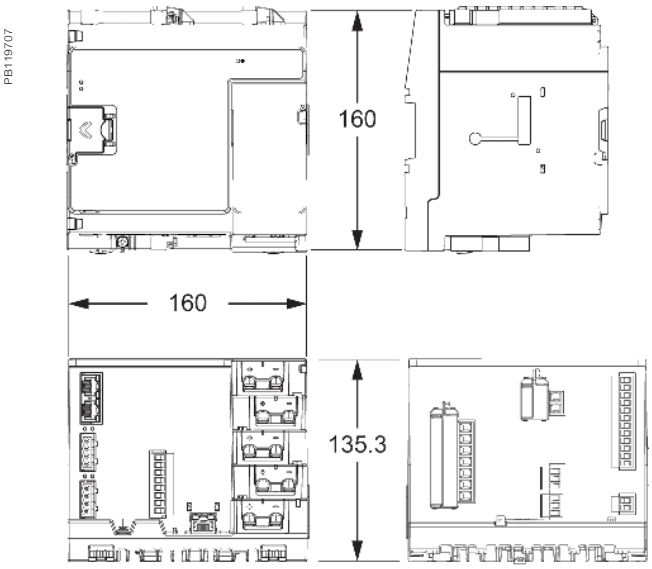
ION9000 Commercial reference numbers

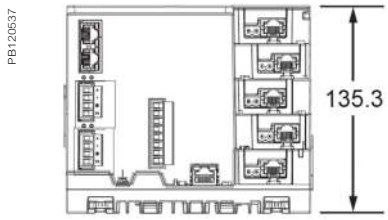
Comm ref number	Description
METSEION92030	ION9000 meter, DIN mount, no display, hardware kit
METSEION92040	ION9000 meter, DIN mount, 192 mm display, B2B adapter, hardware kit
METSEION92043	ION9000 meter, DIN mount, 192 mm display, B2B adapter, hardware kit, Measurement Canada Ready (Canada only)
METSEION92044	ION9000 meter, DIN mount, 192 mm display, B2B adapter, hardware kit, Measurement Canada Sealed (Canada only)
METSEION92130	ION9000 Meter, 20-60 Vdc control input, DIN mount, no display, hardware kit
METSEION92140	ION9000 Meter, 20-60 Vdc control input, DIN mount, 192 mm display, B2B adapter, hardware kit
METSEION93030	ION9000 meter, LVCS, DIN mount, no display, hardware kit
METSEION93040	ION9000 meter, LVCS, DIN mount, 192 mm display, B2B adapter, hardware kit
METSEION93130	ION9000 Meter, LVCS, 20-60 Vdc control power, DIN mount, no display, hardware kit
METSEION93140	ION9000 Meter, LVCS, 20-60 Vdc control power, DIN mount, 192 mm display, B2B adapter, hardware kit
METSEION95030	ION9000T meter, HSTC, DIN mount, no display, hardware kit
METSEION95040	ION9000T meter, HSTC, DIN mount, 192 mm display, B2B adapter, hardware kit
METSEPM89RD96	Remote display, color LCD, 96 x 96 mm
METSERD192	Remote display, color touchscreen, 192 x 192 mm
METSEPM89M2600	I/O module, 2 relay outputs, 6 digital inputs
METSEPM89M0024	I/O module, 2 analog outputs, 4 analog inputs
METSE9HWK	ION9000 meter hardware kit – plugs, terminal guards, spare grounding screw, DIN clips
METSE9CTHWK	ION9000 Current Input hardware kit - terminal screws, CT covers
METSERD192HWK	RD192 remote display hardware kit
METSE9B2BMA	ION9000 B2B (back to back) mounting adapter
METSE9HWKLVCS	ION9000 hardware kit for LVCS
METSE9USBK	ION9000 USB cover hardware kit
METSE7X4MAK	ION7X50 mounting adapter kit

Contact your Schneider Electric representative for complete ordering information.

ION9000 series

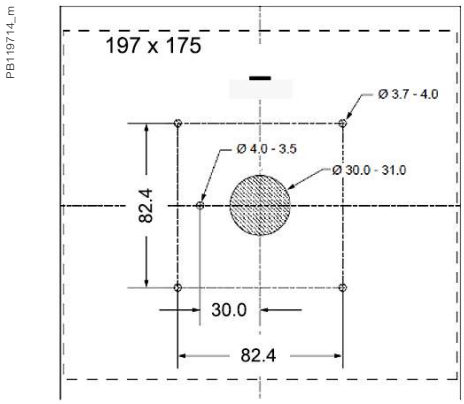
ION9000 meter dimensions



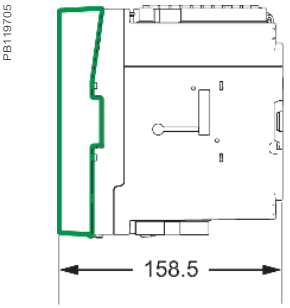


LVCS Input-current option

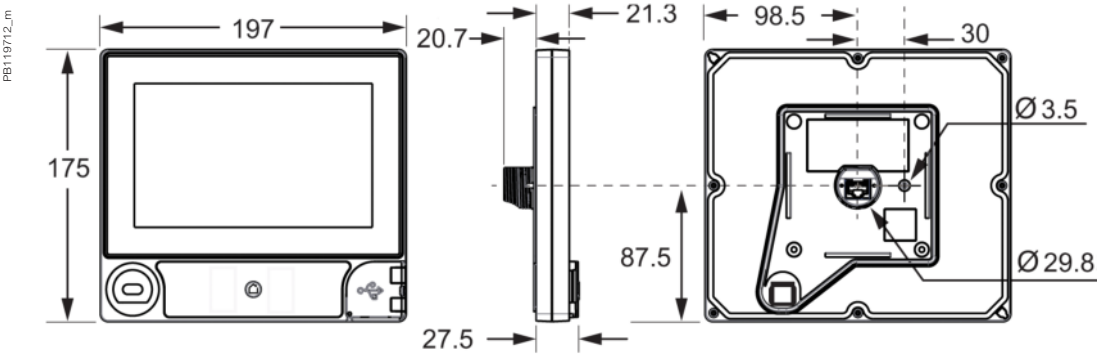
ION9000 mounting template



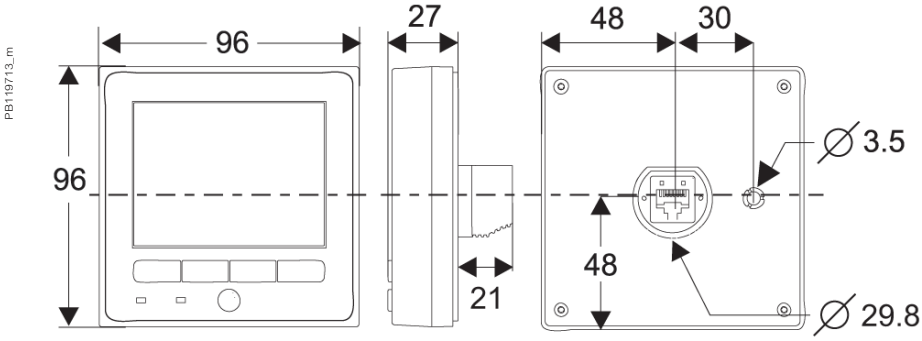
ION9000 back-to-back (B2B) dimensions



ION9000 192 mm display dimensions



ION9000 96 mm display dimensions

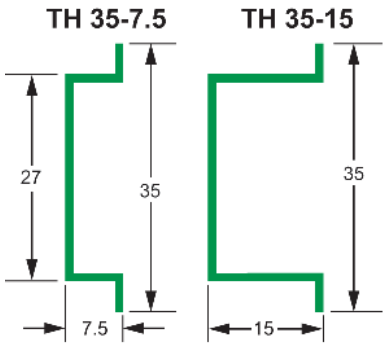


Please refer to ION9000 Series Meter Installation Sheet for accurate and complete information on the installation of this product.

ION9000 series

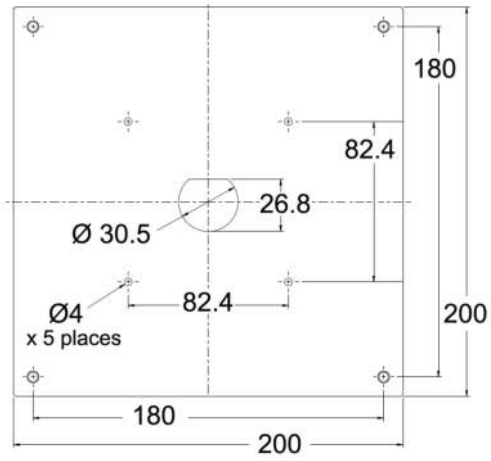
ION9000 meter DIN rail dimensions

PB119706



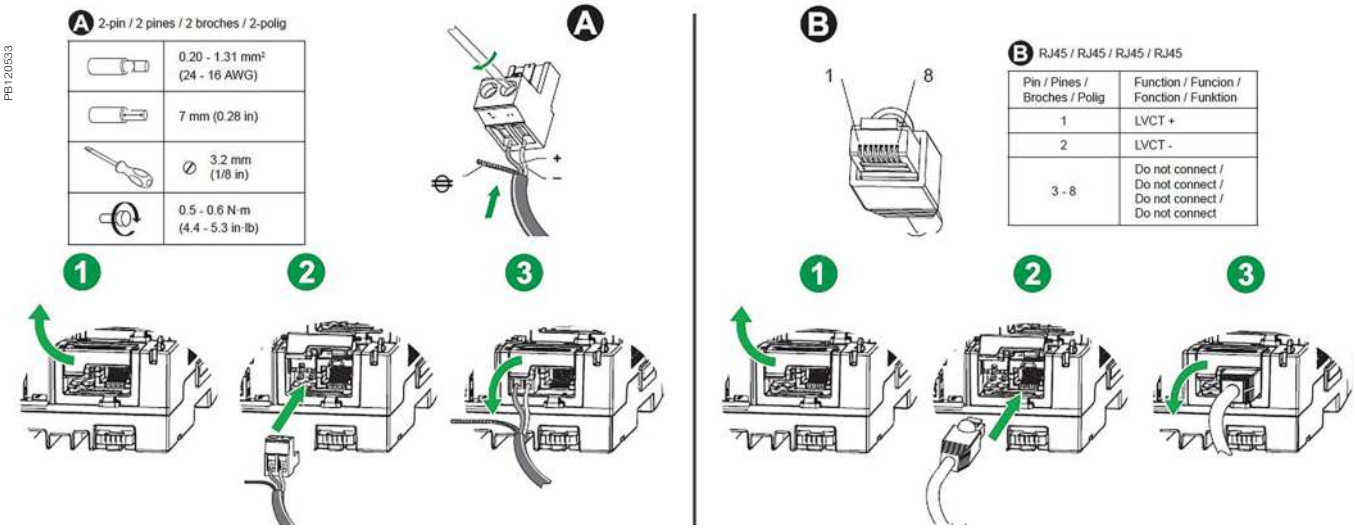
ION7x50 mounting adapter dimensions

PB119714



ION9000 LV Current Input wiring options

PB120533



Advanced utility metering

Power quality and revenue meters are designed for utility network monitoring, e.g. transmission and distribution network monitoring.

Revenue and power quality meters designed for precision metering at key transmission network inter-ties, distribution substations and service entrances to optimise power reliability and energy efficiency in utility smart grids.

- PowerLogic ION7400
- PowerLogic ION8650
- PowerLogic ION8800

PB115152
PB107500
PE86176







ION7400

ION8650

ION8800

ION7400 series

Providing high accuracy and a wide range of features for transmission and distribution metering, the versatile PowerLogic ION7400 series advanced utility meter has the flexibility to change along with your needs.

- Compact 3-phase, multifunction energy and power quality compliance
- Flexible and modular installation with object-oriented intelligence
- Accurate, precise, and highly adaptable metering

Applications

- Substation feeder metering
- Revenue metering
- Extensive power quality monitoring and cause analysis
- End feeder line monitoring
- Digital fault recording

PB115152



ION7400

The solution for

Markets that can benefit from a solution that includes PowerLogic ION7400 series meters:

- Transmission networks
- Distribution network

Benefits

- Reduce operations costs
- Improve power quality
- Improve continuity of service

Competitive advantages

- Be able to use Power Monitoring Expert software for data analysis or share operation data with SCADA systems through multiple communication channels and protocols
- Transformer/line loss compensation
- Instrument transformer correction
- Utilize disturbance direction detection to help locate fault

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

- ANSI C12.20
- CLC/TTR50579
- EN 50160
- IEC 61000-4-7
- IEC 61000-4-15
- IEC 61000-4-30
- IEC 61010-1
- IEC 61326
- IEC 61557-12
- IEC 61850
- IEC 62052-11
- IEC 62053-22
- IEC 62053-23
- IEC 62586
- IEEE 519

PB115152



PowerLogic ION7400 meter showing active alarms.

PB115161



PowerLogic ION7400 meter - rear view.

PB115162_1



PowerLogic ION7403 DIN rail mounted meter.

Applications and benefits

- Maximize profits by providing the highest output possible with the least amount of risk to availability
- Optimize availability and reliability of electrical systems and equipment
- Monitor power quality (PQ) for compliance and to prevent problems
- Meters fully supported by EcoStruxure™ Power Monitoring Expert and EcoStruxure™ Power SCADA Operation software

Main characteristics

- Precision metering:
  - IEC 61557-12 PMD/Sx/K70/0.2 3000m (performance measuring and monitoring functions)
  - IEC 62053-22 for active energy Class 0.2s accuracy and 0.5s accuracy, ANSI C12.20 Class 0.2 for active energy
  - IEC 62053-23 for reactive energy Class 2 accuracy and Class 3
  - Cycle-by-cycle RMS measurements updated every ½ cycle
  - Full 'multi-utility' WAGES metering support
  - Net metering
  - Anti-tamper protection seals
  - Test mode
- PQ Compliance and basic PQ analysis.
  - Monitors and logs parameters in support of international PQ standards,
    - IEC 61000-4-30 Class S
    - IEC 61000-4-15 Flicker
    - IEC 62586
    - EN 50160
  - Generates onboard PQ compliance reports accessible via onboard web pages:
    - Basic event summary and pass/fail reports, such as EN 50160 for power
    - Frequency, supply voltage magnitude, supply voltage dips, short and long interruptions, temporary over voltages, voltage unbalance and harmonic voltage
    - ITIC (CBEMA) and SEMI curves, with alarm categorization to support further analyses
    - Basic meter provides EN 50160 but can be configured to provide IEEE 519
  - Harmonic analysis:
    - THD on voltage and current, per phase, min/max, custom alarming
    - Individual harmonic magnitudes and angles on voltage and current, up to the 63rd harmonic (up to 127th via EcoStruxure™ software).
  - High resolution waveform capture: triggered manually or by alarm, captured waveforms available directly from the meter via FTP in a COMTRADE format or can be viewed via onboard webpages
  - Disturbance detection and capture: sag/swell on any current and voltage channel, alarm on disturbance event, waveform capture with pre-event information
  - Patented disturbance direction detection: provides indication of the captured disturbance occurring upstream or downstream of the meter; timestamped results provided in the event log, with degree of certainty of disturbance direction
- Used with EcoStruxure™ Power Monitoring Expert software, provides detailed PQ reporting across entire network:
  - EN 50160 report
  - IEC 61000-4-30 report
  - PQ compliance summary
  - Display of waveforms and PQ data from all connected meters.

PB115153



PowerLogic ION7400 with Harmonics display.

PB117743



PowerLogic remote display.

PB113671



PowerLogic I/O module.

PB117739



PowerLogic ION7400 meter with remote display.

- Onboard data and event logging
  - 512 MB of standard non-volatile memory
  - No data gaps due to network outages or server downtime
  - Min/Max log for standard values
  - 50 user-definable data logs, recording up to 16 parameters on a cycle-by-cycle or other user definable interval
  - Continuous logging or 'snapshot' triggered by setpoint and stopped after defined duration
  - Trend energy, demand and other measured parameters
  - Forecasting via web pages: average, minimum and maximum for the next four hours and next four days
  - Time-of-use in conjunction with EcoStruxure™ software
  - Event log: alarm conditions, metering configuration changes, and power outages, timestamped to 1 millisecond

- Alarming and control.
  - 50+ definable alarms to log critical event data, trigger waveform recording, or perform control function
  - Trigger on any condition, with cycle-by-cycle and 1-second response time
  - Combine alarms using Boolean logic and to create alarm levels
  - Alarm notification via email text message
  - In conjunction with EcoStruxure™ Power Monitoring Expert, software alarms and alarm frequency are categorized and trended for easy evaluation of worsening/improving conditions

- Excellent quality: ISO 9001 and ISO 14000 certified manufacturing

Usability

- Easy installation and setup
  - Panel and DIN rail mounting options, remote display option
  - Pluggable connectors
  - Free setup application simplifies meter configuration

- Front panel
  - Easy to read color graphic display
  - Simple, intuitive menu navigation with multi-language (8) support
  - Optical port
  - 2 energy pulsing LEDs
  - Alt/Norm screens.

- Flexible remote communications
  - Multiple simultaneously operating communication ports and protocols allow interfacing with other automation systems; (e.g. waveforms, alarms, billing data, etc.) can be uploaded for viewing/analysis while other systems access real-time information
  - Supports Modbus, ION, DNP3, IEC 61850, MV-90
  - Dual port Ethernet: 10/100BASE-TX; daisy-chaining capability removes need for additional switches
  - Create redundant network loop using Rapid Spanning Tree Protocol (RSTP) and managed Ethernet switches
  - Customize TCP/IP port numbers enable/disable individual ports
  - RS-485 2-wire connection, up to 115200 baud, Modbus RTU and ION protocols, DNP3 is also supported via RS-485.

PB115159



PowerLogic ION7400 series meter with phasor display.

- Flexible remote communications (cont'd)
  - Ethernet to serial gateway with Modbus Master functionality, connecting to 31 downstream serial Modbus devices. Also supports Modbus Mastering over TCP/IP (Ethernet) network.
  - Full function web server with factory and customizable pages to access real-time and PQ compliance data.
  - Push historical data via email.
  - Advanced security: Up to 16 configurable user accounts.
- Time synchronization via:
  - GPS clock (RS-485) or IRIG-B (digital input) to +/- 1 millisecond.

Also supports Network Time Protocol (NTP/SNTP) and time set function from EcoStruxure software server.

Adaptability

- ION™ frameworks allow customizable, scalable applications, object-oriented programming, compartmentalizes functions, and increases flexibility and adaptability.
- Applications include: access and aggregate data from Modbus devices on serial port or across the network (Modbus TCP/IP), logging and/or processing data by totalizing, unit conversion or other calculations, applying complex logic for alarming or control operations, data visualization via web pages.

Standard meter I/O

- 3 digital status/counter inputs.
- 1 KY (form A) energy pulse output for interfacing with other systems.

Modular I/O options

- Optional expansion modules (up to 4 per meter) add digital/analog I/O.

Option modules include:

- Digital module
  - 6 digital status/counter inputs.
  - 2 Form C relay outputs, 250 V, 8 A
- Analog module.
  - 4 analog inputs (4-20 mA; 0-30 V)
  - 2 analog outputs (4-20 mA; 0-10 V) for interfacing with building management sensors and systems

Standards

- IEC 61000-4-30
- IEC 61000-4-7
- IEC 61000-4-15
- IEC 61326-1
- ANSI C12.20
- IEC 62052-11
- IEC 62053-22
- IEC 62053-23
- CLC/TR50579

Languages supported

- English, French, Spanish, Chinese, Italian, German, Russian, Portuguese

Feature selection

Commercial reference number	Description
METSEION7400	ION7400 Panel mount meter (integrated display with optical port and 2 energy pulse LEDs)
METSEION7410	ION7400 Panel mount meter (integrated display with optical port and 2 energy pulse LEDs) 20-60 V DC control power
METSEION7403	DIN rail mount - utility meter base
METSEION7413	DIN rail mount - utility meter base 20-60 V DC control power
Accessories	**Description**
METSEPM89RD96	Remote display, 3 metre cable, mounting hardware for 30 mm hole (nut & centering pin), mounting hardware for DIN96 cutout (92 x 92 mm) adapter plate
METSEPM89M2600	Digital I/O module (6 digital inputs & 2 relay outputs)
METSEPM89M0024	Analog I/O module (4 analog inputs & 2 analog outputs)
METSECAB10	Display Cable, 10 m
METSEPM8000SK	Sealing kit

ION7400 series

PB113696



PowerLogic™ ION7400 bottom view DIN mounting.

Feature guide		ION7400
General		
Use on LV and MV systems		■
Current accuracy (5 A Nominal)		0.1 % reading
Voltage accuracy (90-690 V AC L-L, 50, 60, 400 Hz)		0.1 % reading
Active energy accuracy		0.2 %
Reactive energy accuracy		2 %
Number of samples/cycle or sample frequency		256
Instantaneous rms values		
Current, voltage, frequency		■
Active, reactive, apparent power	Total and per phase	■
Power factor	Total and per phase	■
Current measurement range (autoranging)		0.05 A - 10 A
Energy values		
Active, reactive, apparent energy		■
Settable accumulation modes		■
Demand values		
Current	Present and max. values	■
Active, reactive, apparent power	Present and max. values	■
Predicted active, reactive, apparent power		■
Synchronisation of the measurement window		■
Setting of calculation mode	Block, sliding	■
Power quality measurements		
Harmonic distortion	Current and voltage	■
Individual harmonics	Via front panel and web page	63
	Via EcoStruxure software	127
Waveform capture		■
Detection of voltage swells and sags		■
Flicker		■
Fast acquisition	1/2 cycle data	■
EN 50160 compliance checking		■
Customizable data outputs (using logic and math functions)		■
Data recording		
Min/max of instantaneous values		■
Data logs		■
Event logs		■
Trending/forecasting		■
SER (Sequence of event recording)		■
Time stamping		■
GPS synchronisation (+/- 1 ms)		■
Memory (in Mbytes)		512
Display and I/O		
Front panel display 89 mm TFT		■
Wiring self-test		■
Pulse output		1
Digital Analog		6 In / 2 Out 4 In / 2 Out
Digital or analog outputs (max, including pulse output)		1 digital 8 relay 8 analog
Communication		
RS-485 port		1
10/100BASE-TX		2
Serial port (Modbus, ION, DNP3, DLMS/COSEM)		■
Ethernet port (Modbus/TCP, ION TCP, DNP3 TCP, IEC 61850, DLMS/COSEM)		■
USB port (mini type B)		■
ANSI C12.19 Optical port		■

All the communications ports may be used simultaneously

ION7400 series

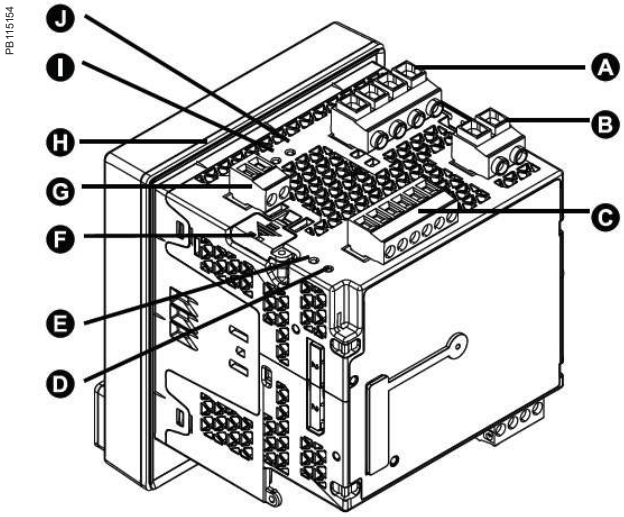
Electrical characteristics		ION7400
Type of measurement		True rms to 256 samples per cycle
Measurement accuracy	Current & voltage	Class 0.2 as per IEC 61557-12
	Active Power	Class 0.2 as per IEC 61557-12
	Power factor	Class 0.5 as per IEC 61557-12
	Frequency	Class 0.2 as per IEC 61557-12
	Active energy	Class 0.2S IEC 62053-22 (In=5A) Class 0.2 IEC 61557-12, ANSI C12.20 Class 0.2
	Reactive Energy	Class 2 IEC 62053-23
Data update rate		1/2 cycle or 1 second
Input-voltage characteristics	Specified accuracy voltage	57 V L-N/100 V L-L to 400 V L-N/690 V L-L
	Impedance	5 MΩ per phase
	Specified accuracy frequency - Frequency	42 to 69 Hz (50/60 Hz nominal)
	Limit range of operation - frequency	20 Hz to 450 Hz
Input-current characteristics	Rated nominal current	1 A (0.2S), 5 A (0.2S) , 10 A (0.2 ANSI)
	Specified accuracy current range	Starting Current: 5 mA Accurate Range: 50 mA - 10 A
	Permissible overload	200 A rms for 0.5s, non-recurring
	Impedance	0.0003 Ω per phase
	Burden	0.024 VA at 10 A
Power supply	AC/DC	90-415 V AC ±10 % 16 VA at 230 V (50/60 Hz ±10%), 110-300 V DC ±10% 18 W (max)
	LV DC	20–60 V DC, ±10 %,18 W (max)
	Ride-through time	100 ms (6 cycles at 60 Hz) min., any condition 200 ms (12 cycles at 60 Hz) typ., 120 V AC, 110-415 V DC 500 ms (30 cycles at 60 Hz) typ., 415 V AC
	Burden	Meter Only: 18 VA max at 415 V AC, 6W at 300 V DC Fully optioned meter: 36 VA max at 415 V AC, 17 W at 300 V DC.
Input/outputs	Meter Base Only	3 form A digital inputs (30 V AC/60 V DC) 1 form A (KY) solid state digital output (30 V AC/60 V DC, 75 mA).
	Optional	Digital - 6 form A digital inputs (30 V AC / 60 V DC) wetted + 2 form C relay outputs (250 V AC / 30 V DC, 8 A at 250 V AC or 5 A at 24 V DC)
		Analog - 4 analog inputs (4-20 mA, 0-30 V DC) + 2 analog outputs (4-20 mA, 0-10 V DC).
Mechanical characteristics		
Weight		Integrated Display Model 0.710 kg (without option modules) DIN rail mounted Model 0.530 kg (without remore display or option modules) IO modules 0.140 kg Remote display 0.300 kg
IP degree of protection		IP 54, UL type 12: Panel mount and Remote display, front. IP 30: Panel mount rear, DIN rail mount, I/O modules.
Dimensions	Panel mount model	98 x 112 x 78.5 mm
	DIN model	90.5 x 90.5 x 90.8 mm
	Remote display	96 x 96 x 27 mm
	IO modules	90.5 x 90.5 x 22 mm
Environmental conditions		
Operating temperature		-25 ºC to 70 ºC
Remote Display Unit		-25 ºC to 60 ºC
Storage temperature		-40 ºC to 85 ºC
Humidity rating		5 % to 95 % non-condensing
Installation category		III
Operating altitude (maximum)		3000 m above sea level

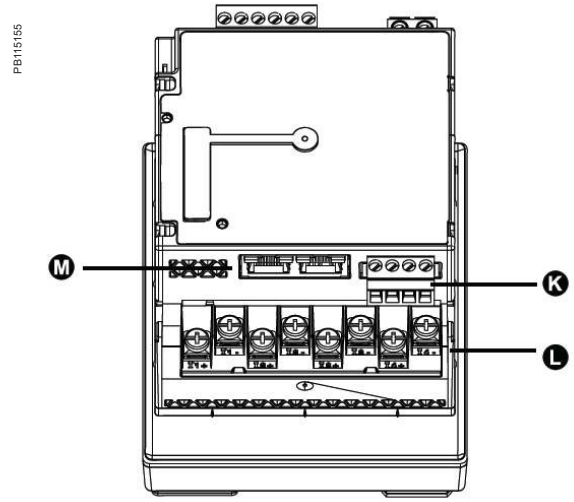
ION7400 series

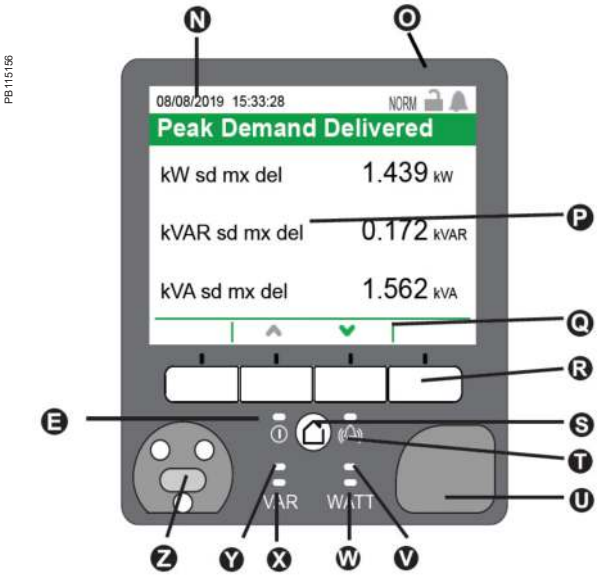
Electromagnetic compatibility	
Product standards	IEC 62052-11 and IEC 61326-1
Immunity to electrostatic discharge	IEC 61000-4-2
Immunity to radiated fields	IEC 61000-4-3
Immunity to fast transients	IEC 61000-4-4
Immunity to surges	IEC 61000-4-5
Immunity to conducted disturbances	IEC 61000-4-6
Immunity to power frequency magnetic fields	IEC 61000-4-8
Immunity to conducted disturbances, 2-150kHz	CLC/TR 50579
Immunity to voltage dips & interruptions	IEC 61000-4-11
Immunity to ring waves	IEC 61000-4-12
Conducted and radiated emissions	EN 55022, EN 55011, FCC part 15, ICES-003
Surge withstand Capability (SWC)	IEEE C37.90.1
Safety	
Safety Construction	IEC/EN 61010-1 ed.3, CAT III, 400 V L-N / 690 V L-L UL 61010-1 ed.3 and CSA-C22.2 No. 61010-1 ed.3, CAT III, 347 V L-N / 600 V L-L IEC/EN 62052-11, protective class II
Communication	
Ethernet to serial line gateway	Communicates directly with up to 32 unit load ION slave devices.
Web server	Customisable pages, new page creation capabilities, HTML/XML compatible.
Serial port RS 485	Baud rates of 2400 to 115200, pluggable screw terminal connector.
Ethernet port(s)	2 x 10/100BASE-TX, RJ45 connector (UTP).
USB port	Virtual serial port supports USB 3.0, 2.0, 1.1 using ION protocol.
Protocol	Modbus, ION, DNP3, IEC 61850, MV-90, DLMS/COSEM, HTTPS, SFTP, SNMP, SMTP, DPWS, RSTP, NTP, SNTP, GPS protocols.
Firmware characteristics	
High-speed data recording	Down to 1/2 cycle interval burst recording, stores detailed characteristics of disturbances or outages. Trigger recording by a user-defined setpoint, or from external equipment.
Harmonic distortion	Up to 63rd harmonic (via EcoStruxure™ software) for all voltage and current inputs.
Sag/swell detection	Analyse severity/potential impact of sags and swells: magnitude and duration data suitable for plotting on voltage tolerance curves per phase triggers for waveform recording, control.
Disturbance direction detection	Determine the location of a disturbance more quickly and accurately by determining the direction of the disturbance relative to the meter. Analysis results are captured in the event log, along with a timestamp and confidence level indicating level of certainty.
Instantaneous	High accuracy of standard speed (1s) and high-speed (1/2 cycle) measurements, including true rms per phase and total for: voltage, current, active power (kW),reactive power (kvar), apparent power (kVA), power factor, frequency, voltage and current unbalance, phase reversal.
Load profiling	Channel assignments (800 channels via 50 data recorders) configurable for any measurable parameter, including historical trend recording of energy, demand, voltage, current, power quality, or any measured parameter. Trigger recorders based on time interval, calendar schedule, alarm/event condition, or manually.
Trend curves	Historical trends and future forecasts to better manage demand, circuit loading, and other parameters. Provides average, min, max and standard deviation every hour for last 24 hours, every day for last month, every week for last 8 weeks and every month for last 12 months.
Waveform captures	Simultaneous capture of all voltage and current channels sub-cycle disturbance capture, maximum cycles is 100,000 (16 samples/cycle x 96 cycles, 10 MB memory), max 256 samples/cycle.
Alarms	Threshold alarms: adjustable pickup and dropout setpoints and time delays, numerous activation levels possible for a given type of alarm, user-defined or automatic alarm threshold settings, user-defined priority levels (optional automatic alarm setting).

All the communication ports may be used simultaneously.

ION7400 meter parts descriptions







A Voltage inputs

B Control power

C Digital inputs

D Revenue lock LED

E Status LED (2 green/red)

F Revenue lock switch

G Digital output

H Sealing gasket

I Infrared energy pulsing LED

J Energy pulsing LED

K RS-485

L Current inputs

M Ethernet (2)

N Date/time

O Indicator icons

NORM/ALT Mode Revenue Alarm

P Display

Q Navigation icons

Select Cancel Edit More

R Navigation buttons

S Home button

T Alarm LED (red)

U USB ports cover

V Watt energy pulsing LED

W Watt infrared energy pulsing LED

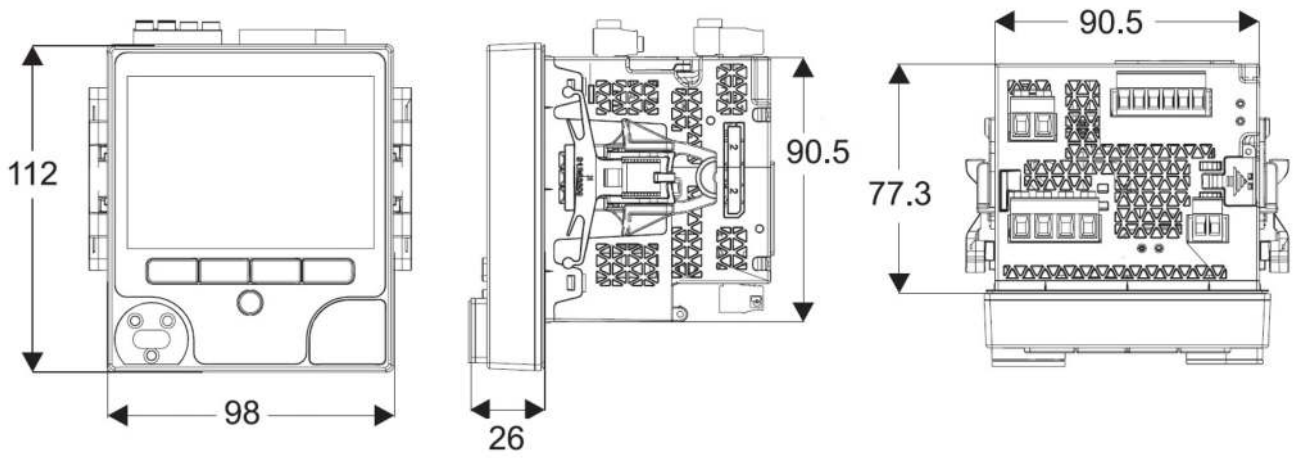
X VAR infrared energy pulsing LED

Y VAR energy pulsing LED

Z Optical port

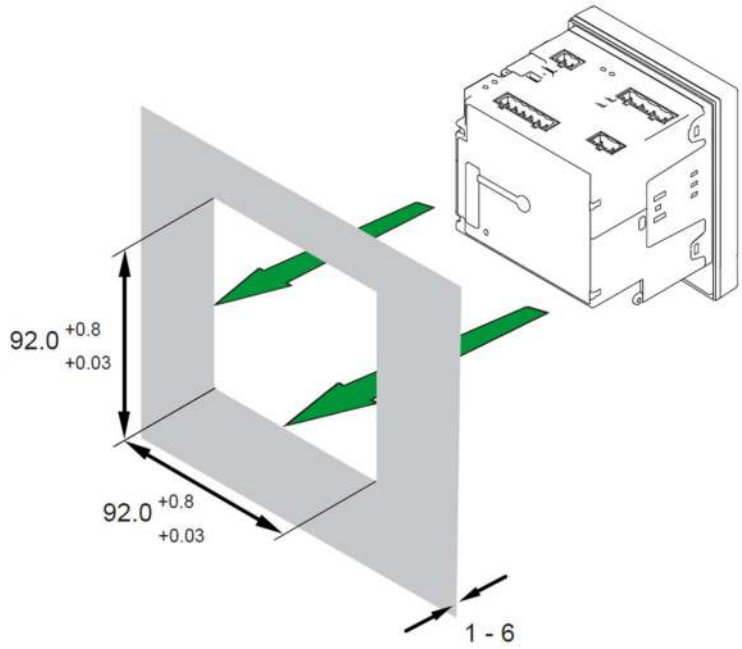
ION7400 meter dimensions

PB115157_m



ION7400 panel cutout dimensions

PB115158



For further details please see appropriate Schneider Electric Installation Guide for this product.

ION8650 series

Providing high accuracy and a wide range of features for transmission and distribution metering, the PowerLogic ION8650 advanced revenue and power quality meter has the flexibility to change along with your needs. The meter provides the tools necessary to:

- Manage energy procurement and supply contracts
- Perform network capacity planning and stability analysis
- Monitor power quality compliance, supply agreements, and regulatory requirements

Applications

- Transmission and distribution metering
- Revenue metering
- Extensive power quality monitoring and analysis
- Power quality compliance monitoring
- Digital fault recording
- Instrument transformer correction

PB107500



ION8650

The solution for

Markets that can benefit from a solution that includes PowerLogic ION8650 series meters:

- Transmission networks
- Distribution network

Benefits

- Reduce operations costs
- Improve power quality
- Improve continuity of service

Competitive advantages

- Be integrated into existing wholesale settlement system
- Be able to use Power Monitoring Expert software for data analysis or share operation data with SCADA systems through multiple communication channels and protocols
- Transformer/line loss compensation
- Instrument transformer correction

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 62053-22/23
- IEC 61000-4-30
- EN 50160
- IEC 61000-4-7
- IEC 61000-4-15
- IEEE 1159
- IEEE 519
- IEC 61000-4-2
- IEC 61000-4-3
- IEC 61000-4-4
- IEC 61000-4-5
- IEC 61000-4-6
- IEC 61000-4-12
- CISPR 22
- IEC 62052-11
- IEC 60950
- ANSI C12.20

PB107500



PowerLogic ION8650 socket meter

Main characteristics

Used to monitor electric energy provider networks, service entrances and substations, PowerLogic ION8650 meters are ideal for independent power producers and cogeneration applications that need to accurately measure energy bi-directionally in both generation and stand-by modes. These meters give utilities the tools to manage complex energy supply contracts that include commitments to power quality. Integrate them with our EcoStruxure™ Power Monitoring operations software or other energy management and SCADA systems through multiple communication channels and protocols, including Itron MV-90, Modbus, DNP, DLMS, IEC 61850 Ed. 3.

Applications

- Revenue metering.
- Cogeneration and IPP monitoring.
- Compliance monitoring.
- Power quality analysis.
- Demand and power factor control.
- Load curtailment.
- Equipment monitoring and control.
- Energy pulsing and totalisation.
- Instrument transformer correction.
- Outage Notification

Main characteristics

- ANSI Class 0.1 and IEC 62053-22/23 Class 0.2 S metering
  - For interconnection points on medium, high, and ultra-high voltage networks; twice as accurate as current IEC and meets ANSI Class standards over all conditions and including single wide range current measurement.
- Power quality compliance monitoring
  - Monitor compliance with international quality-of-supply standards (IEC 61000-4-30 Ed. 3 Class A/S, EN 50160 Ed. 4, IEC 61000-4-7, IEC 61000-4-15, IEEE 1159, IEEE 519). Also detects disturbance direction.
- Digital fault recording
  - Simultaneous capture of voltage and current channels for sub-cycle disturbance.
- Complete communications
  - Multi-port, multi-protocol ports including serial, infrared, modem and ethernet. Simultaneously supports multiple industry standard protocols including: Itron MV-90, Modbus, Modbus Master, DLMS, DNP 3.0 and IEC 61850 Ed. 2. Cell modem option using LTE.
- Multiple tariffs and time-of-use
  - Apply tariffs, seasonal rate schedules to measure energy and demand values for time periods with specific billing requirements.
- Multiple setpoints for alarm and functions
  - Use up to 65 setpoints for single/multi-condition alarms and I/O functions with response times down to 1/2 cycle.
- Multiple setpoints for alarm and functions
  - Use up to 65 setpoints.
- Instrument transformer correction
  - Save money and improve accuracy by correcting for less accurate transformers.
- Alarm notification via email
  - High-priority alarms, data logs sent directly to the user's PC. Instant notification of power quality events by email.
- Cyber security enhancements
  - Assign communication admin rights to selected user; prevention measures ensure no loss of security logs; support syslog for external security.

Feature selection

Commercial reference number	ION8650 meters
S8650A	ION8650A
S8650B	ION8650B
S8650C	ION8650C

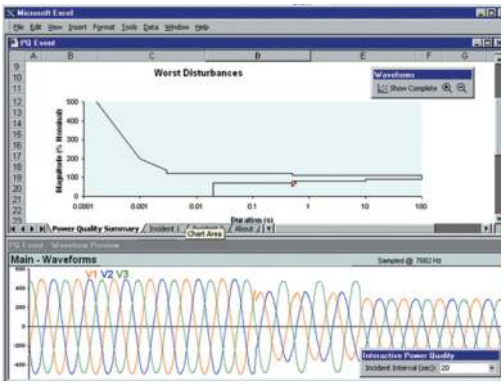
PE86302-95



PowerLogic ION8650 switchboard meter.

1 *Terminals*
2 *Optical port*
3 *Main display status bar*
4 *Watt LED*
5 *Navigation, ALT/Enter buttons*
6 *VAR LED*
7 *Nameplate label*
8 *Demand reset switch*

PE86002

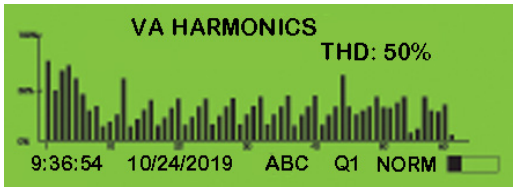


Disturbance waveform capture and power quality report

Selection guide		ION8650 A	ION8650 B	ION8650 C
General				
Use on LV, MV and HV systems		■	■	■
Current accuracy		0.1 %	0.1 %	0.1 %
Voltage accuracy		0.1 %	0.1 %	0.1 %
Power accuracy		0.1 %	0.1 %	0.1 %
Samples/cycle		1024	1024	1024
Instantaneous values				
Current, voltage, frequency		■	■	■
Active, reactive, apparent power	Total & per phase	■	■	■
Power factor	Total & per phase	■	■	■
Current measurement range		0 A - 20 A	0 A - 20 A	0 A - 20 A
Energy values				
Active, reactive, apparent energy		■	■	■
Settable accumulation modes		■	■	■
Demand values				
Current	Present & max values	■	■	■
Active, reactive, apparent power	Present & max values	■	■	■
Predicted active, reactive, apparent power		■	■	■
Synchronisation of the measurement window		■	■	■
Demand modes: Block (sliding), thermal (exponential)		■	■	■
Power quality measurements				
Harmonic distortion	Current & voltage	■	■	■
Individual harmonics	Via front panel	63	63	31
Waveform / transient capture		■ / ■	- / ■	- / -
Harmonics: magnitude, phase, and interharmonics		50	40	-
Detection of voltage sags and swells		■	■	■
IEC 61000-4-30 class A / S		A	S	-
IEC 61000-4-15 (Flicker)		■	■	-
High speed data recording (down to 10 ms)		■	■	-
EN 50160 compliance reporting		■	■	-
Programmable (logic and math functions)		■	■	■
Data recording				
Onboard Memory (in Mbytes)		128	64	32
Revenue logs		■	■	■
Event logs		■	■	■
Historical logs		■	■	■
Harmonics logs		■	■	■
Sag/swell logs		■	■	■
Transient logs		■	-	-
Time stamping to 1 ms		■	■	■
GPS synchronisation (IRIG-B standard)		■	■	■
Display and I/O				
Front panel display		■	■	■
Wiring self-test (requires PowerLogic ION Setup)		■	■	■
Pulse output (front panel LED)		2	2	2
Digital or analog inputs* (max)		11	11	11
Digital or analog outputs* (max, including pulse output)		16	16	16
Communication				
Infrared port		1	1	1
RS-485 / RS-232 port		1	1	1***
RS-485 port		1	1	1***
Ethernet port (Modbus/TCP/IP protocol) with gateway		1	1	1***
Internal modem with gateway (ModemGate)		1	1	1***
HTML web page server		■	■	■
IRIG-B port (unmodulated IRIG B00x time format)		1	1	1
Modbus TCP Master / Slave (Ethernet port)		■ / ■	■ / ■	- / ■
Modbus RTU Master / Slave (Serial ports)		■ / ■	■ / ■	- / ■
DNP 3.0 through serial, modem, and I/R ports		■	■	■
Cell modem option (LTE)		■	■	■
DLMS COSEM through serial, Ethernet and optical ports for all variants		■	■	■

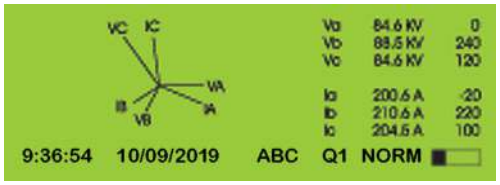
* *With optional I/O Expander.*
** *For 9S, and 36S only. For 35S system up to 480 V L-L.*
*** *C model limited to IR + 2 other ports at one time. Ports can be enabled/disabled by user.*

PE86041



PowerLogic ION8650 front panel harmonic display.

PE86042



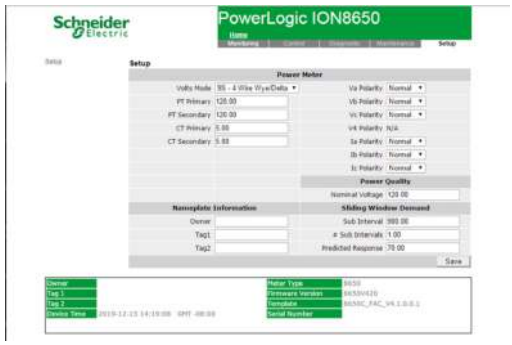
ION8650 front panel phasor display and table.

Electrical characteristics		
Type of measurement		True rms 1024 samples per cycle
Measurement accuracy	Current and voltage	0.1 % Reading
	Power	0.1 %
	Frequency	±0.001 Hz
	Power factor	0.1 %
	Energy	0.1 %, twice as accurate as ANSI Class 0.2 and IEC 62053-22/23 (0,2S)
Data update rate		0.5 cycle or 1 second (depending on value)
Input-voltage characteristics*	Nominal voltage	57 V to 277 V L-N rms 100 V to 480 V L-L rms (35S)
	Maximum voltage	347 V L-N rms, 600 V L-L rms (9S)
	Impedance	5 MΩ /phase (phase-Vref/Ground)
	Inputs	V1, V2, V3, VREF
Input-current characteristics	Rated nominal/current class	1A, 2 A, 5 A and/or 10 A (Class 1/2/10/20)
	Accuracy range	0.01 - 20 A (standard range)
	Measurement range	0.001 - 24 A
	Permissible overload	500 A rms for 1 second, non-recurring
	Burden per phase	Socket: Typical: 3 W, 8 VA/phase, 3-phase operation; Maximum: 4 W, 11 VA/phase, 3-phase operation Switchboard: 0.05 V A at 1 A (0.05 Ω max)
Power supply	Standard power supply, blade powered	120-277 V L-N RMS (-15 %/+20 %) 47-63 Hz or 120-480 V L-L RMS (-15 %/+20 %) 47-63 Hz (35S)
	Auxiliary powered low voltage	AC: 65-120 (+/- 15 %) VLN RMS, 47-63 Hz DC: 80-160 (+/- 20 %) VDC
	Auxiliary powered high voltage	AC: 160-277 (+/- 20 %) V L-N RMS, 47-63 Hz DC: 200-300 (+/- 20 %) V DC
	Ride-through time, (Standard power supply)	Socket: min guaranteed: 6 cycles at nominal frequency (minimun 50 Hz), at 120 V L-N rms (208 V L-L rms) 3-phase operation Switchboard: min guaranteed: 6 cycles at nominal frequency (minimun 50 Hz), at 120 V L-N rms (208 V L-L rms) 3-phase operation
Input/outputs**	Digital outputs	4 (Form C) Solid state relays (130 V AC/ 200 V DC) 50 mA AC/DC, 1 (Form A) output
	Digital inputs	upto 3 Self-excited, dry contact sensing inputs
Mechanical characteristics		
Weight		7.0 kg
IP degree of protection	Socket	Front IP65, back IP51
	Switchboard	Front IP50, back IP30
Dimensions	Socket	178 x 237 mm
	Switchboard	285 x 228 x 163 mm
Environmental conditions		
Operating temperature		-40 °C to 85 °C
Display operating range		-40 °C to 70 °C
Storage temperature		-40 °C to 85 °C
Humidity rating		5 % to 95 % RH non-condensing
Pollution degree		2
Installation category		Cat III
Dielectric withstand		2.5 kV
Electromagnetic compatibility		
Electrostatic discharge		IEC 61000-4-2
Immunity to radiated fields		IEC 61000-4-3
Immunity to fast transients		IEC 61000-4-4
Immunity to surge		IEC 61000-4-5
Immunity conducted		IEC 61000-4-6
Damped oscillatory waves immunity		IEC 61000-4-12
Conducted and radiated emissions		CISPR 22 (class B)
Safety		
Europe		As per IEC 62052-11
North America		As per ANSI C12.1

* *Specifications are limited by the operating range of the power supply if a non-aux power supply is used.*

** *More input and output selections available via optional I/O expander.*

PB117744



Example embedded webserver page (WebMeter) showing realtime values.

Communication	
RS-232 / RS-485 port (COM1)	User-selectable RS-232 or RS-485. 300 - 115,200 baud (RS-485 limited to 57,600 bps); protocols: ION, Modbus/RTU/Mastering, DLMS, DNP 3.0, GPSTRUETIME/DATUM.
Internal modem port (COM2)	300-57,600 bps
Cell modem option (CDMA/LTE)	CDMA2000 1xRTT / EV-DO Rev A (backwards compatible to EVDO Rev. 0 and CDMA 1x networks) 800/1900 MHz. MTSMC-LVW3 / LTE FDD Cat 1, 3GPP release 9 compliant, 4G: 1900 (B2) / 700 (B13) / AWS 1700 (B4)
ANSI 12.18 Type II optical port (COM3)	Up to 57,600 bps
RS-485 port (COM4)	Up to 57,600 baud, Modbus, direct connection to a PC or modem
Ethernet port	10/100BASE-T, RJ45 connector, protocols: DNP, ION, Modbus/TCP/Mastering, IEC 61850 Ed. 2 or 100BASE-FX multimode, male ST connectors, DLMS
EtherGate	Up to 31 slave devices via serial ports
ModemGate	Up to 31 slave devices
Firmware characteristics	
High-speed data recording	Up to 1/2-cycle interval burst recording, stores detailed characteristics of disturbances or outages. Trigger recording by a user-defined setpoint, or from external equipment.
Harmonic distortion	Up to 63rd harmonic for all voltage and current inputs
Dip/swell detection	Analyse severity/potential impact of sags and swells: – magnitude and duration data suitable for plotting on voltage tolerance curves – per phase triggers for waveform recording or control operations
Instantaneous	High accuracy measurements with 1s or 1/2 cycle update rate for: – voltage and current – active power (kW) and reactive power (kVAR) – apparent power (kVA) – power factor and frequency – voltage and current unbalance – phase reversal
Load profiling	Channel assignments are user configurable: – 800 channels via 50 data recorders (feature set A), – 720 channels via 45 data recorders (feature set B), – 80 channels via 5 data recorders (feature set C). Configure for historical trend recording of energy, demand, voltage, current, power quality, other measured parameters. Recorders can trigger on time interval basis, calendar schedule, alarm/event condition, manually.
Waveform captures	Simultaneous capture of all voltage and current channels – sub-cycle disturbance capture (16 to 1024 samples/cycle)
Alarms	Threshold alarms: – adjustable pickup and dropout setpoints and time delays, numerous activation levels possible for a given type of alarm – user-defined priority levels – boolean combination of alarms
Advanced security	Up to 50 users with unique access rights. Perform resets, time syncs, or meter configurations based on user privileges.
Transformer correction	Correct for phase / magnitude inaccuracies in current transformers (CTs), potential transformers (PTs)
Memory	128 MB (A), 64 MB (B), 32 MB (C)
Firmware update	Update via the communication ports
Display characteristics	
Type	FSTN transreflective LCD
Backlight	LED
Languages	English

PE86043-C



Example product part number.

1 *Model.*
2 *Feature set.*
3 *Form factor.*
4 *Current Inputs.*
5 *Voltage inputs.*
6 *Power supply.*
7 *System frequency.*
8 *Communications.*
9 *Input/output options.*
10 *Security.*
11 *Special order options.*

PB107507

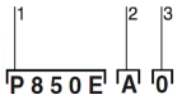


PowerLogic ION8650 meter with switchboard case

Commercial reference numbers

Item		Code	Description
1	Model	M8650	Schneider Electric energy and power quality meter.
2	Feature Set	A	128 MB Memory Class A power quality analysis, waveforms and transient capture with 1024 samples/cycle.
		B	64 MB memory, energy meter Class S EN 50160 Ed. 4 power quality monitoring.
		C	32 MB memory, basic tariff/energy metering (5 data recorders, 80 channels).
3	Form Factor (1)	0	Form 9S/29S/36S Base, 57-277 V L-N (autoranging) 3-Element, 4-Wire / 2 1/2-Element, 4-Wire
		1	Form 35S Base - 120-480 V L-L (autoranging) 2-Element, 3-Wire
		4	Form 9/29/35/36S FT21 Switchboard (meter + case) with break out panel
		7	Form 9/29/35/36S FT21 Switchboard (meter + case) with break out cable
4	Current Inputs	C	1, 2 or 5 A nominal, 20 A full scale (24 A fault capture, start at 0.001 A)
5	Voltage Inputs	0	Standard (see Form Factor above)
6	Power Supply*	E	Form 9/29/35/36S, (socket) and Form 9, 36 (FT21 switchboard): 120-277 V AC. Form 35S (socket) and Form 35 (FT21 switchboard): 120-480 V AC. Powered from the meter's voltage connections.
		H	Auxiliary Power Pigtail: 65-120 V AC or 80-160 V DC (power from external source)
		J	Auxiliary Power Pigtail: 160-277 V AC or 200-300 V DC (power from external source)
		K	Auxiliary Power Pigtail: 65-120 V AC, 80-160 V DC (power from external source), Universal Socket Style
		L	Auxiliary Power Pigtail: 160-277 V AC, 200-350 V DC (power from external source), Universal Socket Style
7	System Frequency	5	Calibrated for 50 Hz systems.
		6	Calibrated for 60 Hz systems.
8	Communications	C 7	Infrared optical port, Ethernet (10/100BASE-T), RS-232/485 port, RS-485 port (note: in addition to infrared optical port, Feature Set C can use any two ports (configurable)), 56 k universal internal modem (RJ11)
		E 1	Infrared optical port, Ethernet (10/100BASE-T), RS 232/485 port, RS-485 port (note: in addition to infrared optical port, Feature Set C can use any two ports (configurable))
		F 1	Infrared Optical port, Ethernet (100BASE-FX multi-mode) with male ST connectors (available on socket meters only, Forms 0 & 1 above. I/O card not available if this option is ordered.) RS-232/485 port, RS-485 port (Note: in addition to Infrared Optical port Feature Set C can use any two ports (configurable))
		S 1	Infrared optical port, Ethernet (10 BASE-T), RS-232/485 port, RS-485 port (note: in addition to infrared optical port, Feature Set C can use any two ports (configurable)), Verizon 4G LTE cell modem.
9	Onboard I/O	A	None.
		B	4 Form C digital outputs, 3 Form A digital inputs.
		C	4 Form C digital outputs, 1 Form A digital output, 1 digital input.
10	Security	0	Password protected no security lock.
		1	Password protected with security lock enabled
		3	RMICAN (Measurement Canada approved)
		4	RMICAN-SEAL (Measurement Canada approved, and factory sealed)
		7	Password protected, no security lock (US only)
		8	Password protected with security lock enabled (US only)
11	Special Order	A	None

* *Specifications are limited by the operating range of the power supply if a non-aux power supply is used.*



PE86044_1

Example order code. Use this group of codes when ordering the I/O Expander.

1 *Digital / Analog I/O.*
2 *I/O option.*
3 *Cable option.*



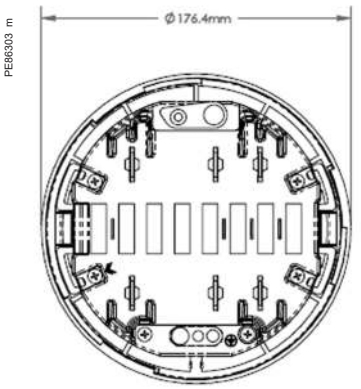
PE86131

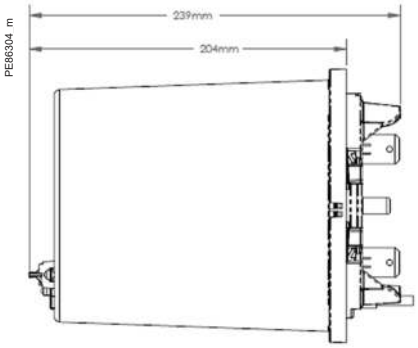
Commercial reference numbers (cont.)

I/O Expander		
Digital/Analog I/O	P850E	Schneider Electric I/O Expander for ION8600 meters: Inputs and Outputs for energy pulsing, control, energy counting, status monitoring, and analog interface to SCADA.
I/O option	A	External I/O box with 8 digital inputs and 8 digital outputs (4 Form A, 4 Form C)
	B	External I/O box with 8 digital inputs and 4 digital outputs (4 Form C) and 4 analog outputs (0 to 20 mA)
	C	External I/O box with 8 digital inputs and 4 digital outputs (4 Form C) and 4 analog outputs (-1 mA to 1 mA)
	D	External I/O box with 8 digital inputs and 4 digital outputs (4 Form C) and 4 analog outputs (two -1 to 1 mA, and two 0 to 20 mA outputs)
Cable	0	No cable - cables for the I/O box are no ordered as a separate part number. Refer to commercial reference numbers: CBL-8X00IOE5FT, CBL-8X00IOE15FT and CBL-8XX0-BOP-IOBOX under Connector cables, below.

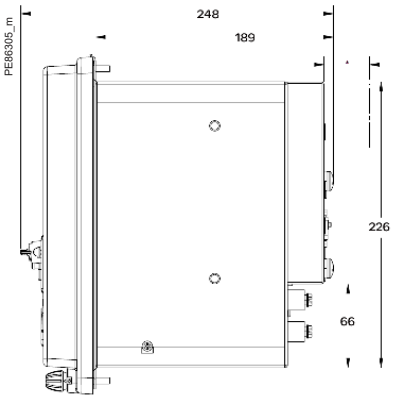
Comm. ref. no.	A-base adapters
A-BASE-ADAPTER-9	Form 9S to Form 9A adapter
A-BASE-ADAPTER-35	Form 35S to Form 35A adapter
	Optical communication interface
OPTICAL-PROBE	Optical communication interface
	Connector cables
CBL-8X00BRKOUT	1.5 m extension cable, mates with 24-pin male Molex connector from the meter to the 24-pin Molex connector on the I/O expander box (not for use with breakout panel E8, F8 & G8 form factors)
CBL-8X00IOE5FT	44.57 m extension cable, mates with 24-pin male Molex connector from the meter to the 24-pin Molex connector on the I/O expander box (not for use with breakout panel E8, F8 & G8 form factors)
CBL-8X00IOE15FT	44.57 m extension cable, mates with 24-pin male Molex connector from the meter to the 24-pin female Molex connector on the I/O Expander box (not for use with breakout panel E8, F8 & G8 form factors)
CBL-8XX0-BOP-IOBOX	1.8 m connector cable, 24-pin male to 14-pin male Molex connector for connecting an ION8000 Series meter with breakout panel to an I/O Expander Box

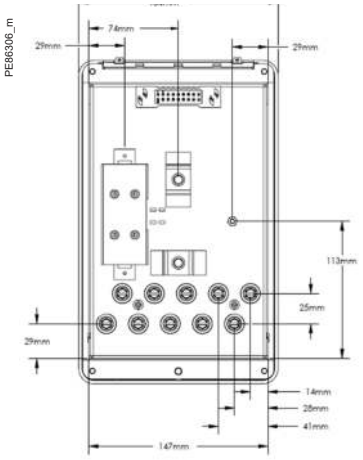
ION8650 socket dimensions



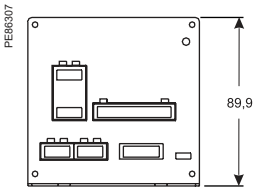


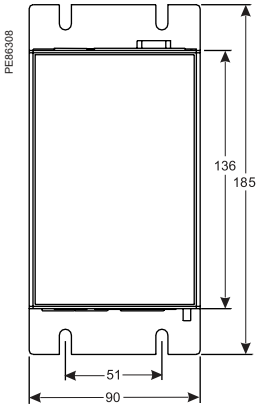
ION8650 switchboard dimensions



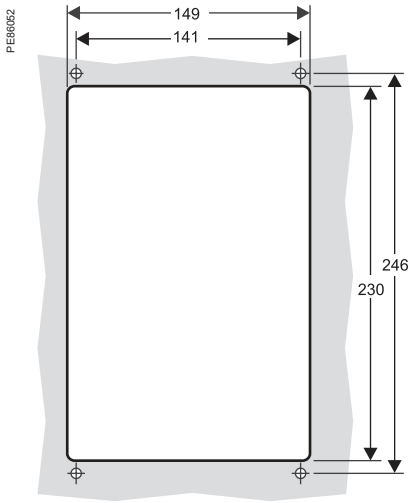


I/O Expander dimensions

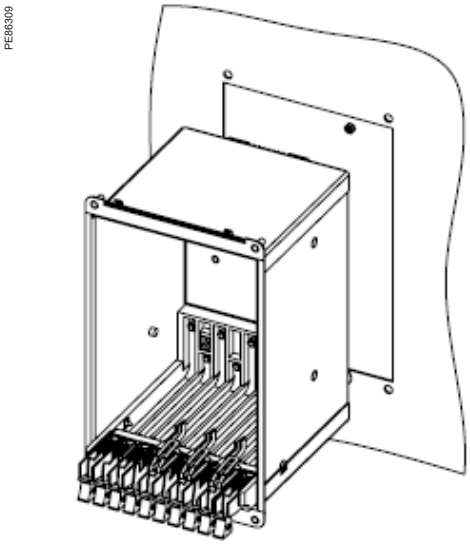


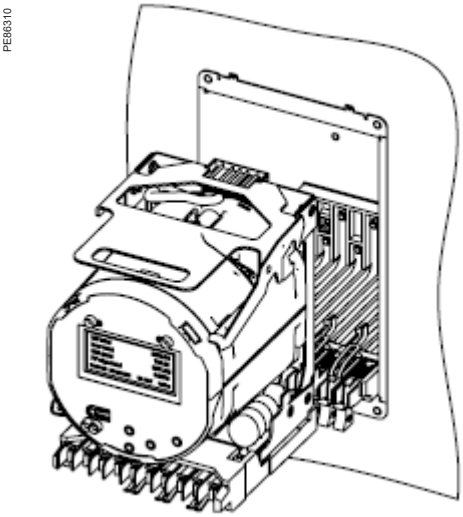


ION8650 suggested switchboard mounting dimensions



ION8650 switchboard mounting





Please see appropriate Installation Guide for these products for further details.

ION8800 series

Providing high accuracy and a wide range of features for transmission and distribution metering, the PowerLogic ION8800 advanced revenue and power quality meter has the flexibility to change along with your needs. The meter provides the tools necessary to:

- Manage energy procurement and supply contracts
- Perform network capacity planning and stability analysis
- Monitor power quality compliance, supply agreements, and regulatory requirements

Applications

- Transmission and distribution metering
- Revenue metering
- Extensive power quality monitoring and analysis
- Power quality compliance monitoring
- Digital fault recording
- Instrument transformer correction

PE86176



ION8800

The solution for

Markets that can benefit from a solution that includes PowerLogic ION8800 series meters:

- Transmission networks
- Distribution network

Benefits

- Reduce operations costs
- Improve power quality
- Improve continuity of service

Competitive advantages

- Integrated into existing wholesale settlement system
- Able to use EcoStruxure™ software for data analysis or share operation data with SCADA systems through multiple communication channels and protocols
- Transformer/line loss compensation
- Instrument transformer correction

Power management solutions

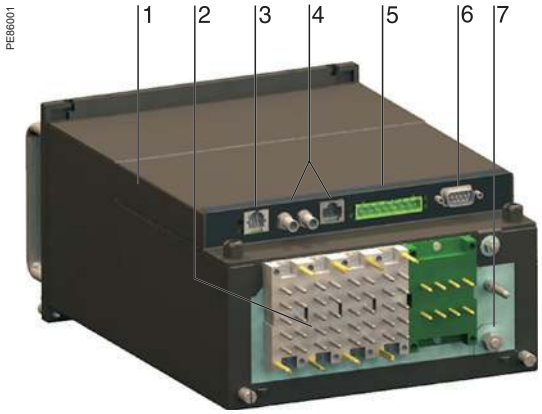
Schneider Electric provides innovative power management solutions to increase your energy efficiency and cost savings, maximise electrical network reliability and availability, and optimise electrical asset performance.

Conformity of standards

- IEC 62053-22/23
- IEC 61000-4-30
- EN 50160
- IEC 61000-4-7
- IEC 61000-4-15
- IEEE 1159
- IEEE 519
- IEC 61000-4-2
- IEC 61000-4-3
- IEC 61000-4-4
- IEC 61000-4-5
- IEC 61000-4-6
- IEC 61000-4-12
- CISPR 22
- IEC 62052-11
- IEC 60950

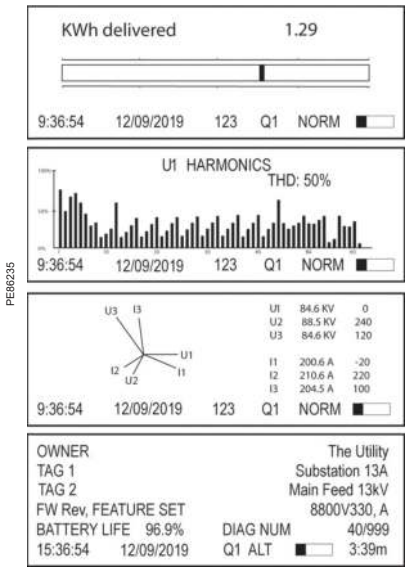
Main characteristics

- IEC 19-inch rack mount design to DIN 43862 standard
  - Use Essailec connectors with common measurement and energy pulsing pin-out to easily retrofit into existing systems.
- Accurate metering
  - Interconnection points on medium, high, and ultra-high voltage networks are in compliance with IEC 62053-22/23 Class 0,2S.
- Power quality compliance monitoring
  - Monitor compliance with international quality-of-supply standards (IEC 61000-4-30 Class A/S, EN50160, IEC 61000-4-7, IEC 61000-4-15, IEEE 1159, IEEE 519).
- Power quality summary
  - Consolidate power quality characteristics into easily viewable reports indices.
- Digital fault recording
  - Capture voltage and current channels simultaneously for sub-cycle disturbances.
- Complete communications
  - Use the IEC1107 optical port or the optional communications module that supports concurrent Ethernet, serial, and modem communications.
- Multiple tariffs and time-of-use
  - Apply tariffs and seasonal rate schedules to measure energy and demand values for time periods with specific billing requirements.
- Alarms and I/O functions
  - Use up to 65 setpoints for single/multi-condition alarms and I/O functions with response times down to 1/2 cycle.
- Alarm notification via email
  - High-priority alarms, data logs sent directly to the user's PC. Instant notification of power quality events by email.
- Software integration
  - Easily integrate the meter with EcoStruxure™ Power Monitoring Expert, EcoStruxure™ Power SCADA Operation, or other utility software; MV-90, Pacis and third-party SCADA packages.
- Transformer/line loss compensation
  - Compensate for system losses in real time directly in the meter.
- Instrument transformer correction
  - Save money and improve accuracy by correcting for less accurate transformers.



PowerLogic ION8800 meter

1 *Optional communications module.*
2 *Essailec connectors.*
3 *Internal modem.*
4 *Optional Ethernet communications.*
5 *Selectable RS-485 serial port.*
6 *Selectable RS-232 or RS-485 serial port.*
7 *Ground terminal.*



Display screen examples: KWh disk simulator, voltage harmonics histogram, phasor diagram, and name plate1.

(1) ION8800A only.

(2) ION8800B only.

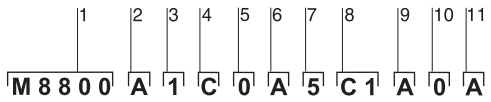
Selection guide

		ION8800A ION8800B	ION8800C
General			
Use on LV, MV and HV systems		■	■
Current accuracy		0.1 %	0.1 %
Voltage accuracy		0.1 %	0.1 %
Power accuracy		0.2 %	0.2 %
Samples/cycle		1024	1024
Instantaneous rms values			
Current, voltage, frequency (Class 0,2S)		■	■
Active, reactive, apparent power	Total and per phase	■	■
Power factor	Total and per phase	■	■
Current measurement range		0.001 - 10 A	0.001 - 10 A
Current measurement range		0.001 - 10 A	0.001 - 10 A
Energy values			
Active, reactive, apparent energy		■	■
Settable accumulation modes		■	■
Demand values			
Current		■	■
Active, reactive, apparent		■	■
Predicted active, reactive, apparent		■	■
Demand modes (block, sliding, thermal, predicted)		■	■
Power quality measurements			
Detection of voltage dips (sags) and swells		10 ms	10 ms
Symmetrical components: zero, positive, negative		■	-
Transient detection, microseconds (50 Hz)		20 (1)	20 (1)
Harmonics: individual, even, odd, total up to		63rd	63rd
Harmonics via EcoStruxure software: magnitude, phase and inter-harmonics		50th	40th
EN 50160 compliance		■	
IEC 61000-4-30 class A		■	
IEC 61000-4-30 class S		■ (2)	
IEC 61000-4-15 (Flicker)		■	-
Configurable for IEEE 519 - 1992, IEEE1159-1995		■(1)	-
Programmable (logic and math functions)		■	■
Data recording			
Min/max logging for any parameter		■	■
Historical logs	Maximum # of records	960(1) 800(2)	80
Waveform logs	Maximum # of records	96 (1)	64
Timestamp resolution in seconds		0.001	0.001
Setpoints, minimum response time		½ cycle	½ cycle
Number of setpoints		65	65
GPS time synchronisation (IRIG-B)		■	■
Could add transient logs. COMTRADE fault records.		■	■
User configurable log memory		10 MB	10 MB
Display and I/O			
Front panel display		■	■
Active/reactive energy pulser, LED and IEC 1107 style port		■	■
Digital pulse outputs, optional	Solid state Form A	8	8
Digital pulse outputs	Solid state Form C	4	4
Alarm relay output	Form C	1	1
Digital inputs (optional)		3	3
Communications			
RS-232/485 port		1	1
RS-485 port		1	1
Ethernet port		1	1
IEC 1107 optical port		1	1
Internal modem		1	1
3-port DNP 3.0 through serial, modem, Ethernet and I/R ports		■	■
Modbus RTU master / slave (serial, modem and I/R ports)		■ / ■	- / ■
Modbus TCP master / slave (via Ethernet port)		■ / ■	- / ■
DLMS/COSEM RS-485 port or Ethernet		■	■
Data transfer between Ethernet and RS-485 (EtherGate)		■	■
Data transfer between internal modem, RS-485 (ModemGate)		■	■
Alarms, single or multi-condition		■	■
Alarm notification & logged data via email		■	■
Embedded web server (WebMeter)		■	■

Part numbers

Item		Code	Description
1	Model	M8800	ION8800 IEC/DIN 43862 19" rack mount energy and power quality meter.
2	Feature Set	A	Class A power quality analysis, waveforms and transient capture with 1024 samples/cycle.
		B	Energy meter Class S EN50160 power quality monitoring.
		C	Basic tariff/energy revenue meter with sag/swell monitoring.
3	Memory/Form Factor	1	10 MB logging memory, Essailec connectors.
		2	5 MB logging memory, Essailec connectors, with IEC61850 protocol
4	Current Inputs	C	(I1-I3): Configured for 5 A nominal, 10 A full scale, 14 A fault capture, 0.001 A starting current.
		E	(I1-I3): Configured for 1 A nominal, 10 A full scale, 14 A fault capture, 0.001 A starting current.
5	Voltage Inputs	0	(V1-V3): Autoranging (57-288 VAC L-N or 99-500 VAC L-L)
6	Power Supply	B	Single phase power supply: 85-240 VAC ±10% (47-63 Hz) or 110-270 VDC.
7	System Frequency	5	Calibrated for 50 Hz systems.
		6	Calibrated for 60 Hz systems.
8	Communications module (field serviceable)	Z0	No communications module - meter includes Base Onboard I/O and comms (see below for details).
		A0	Standard communications: 1 RS 232/RS-485 port, 1 RS-485 port (COM2) (1).
		C1	Standard communications plus 10BASE-T Ethernet (RJ45), 56 k universal internal modem (RJ11).
		D1	Standard communications plus 10BASE-T/100BASE-TX Ethernet (RJ45) / 10Base-FL/100BASE-FX Ethernet Fiber, 56 k universal internal modem (RJ11)
		E0	Standard communications plus 10BASE-T/100BASE-TX Ethernet (RJ45).
		F0	Standard communications plus 10BASE-T/100BASE-TX Ethernet (RJ45) / 10Base-FL/100BASE-FX (ST male Fiber Optic connection).
		M1	Standard communications plus 56k universal internal modem (RJ11).
9	Onboard I/O and communications (not field serviceable, part of base unit)	A	Base option AND 8 Form A digital outputs (2), 1 RS-485 (COM2) port (1).
		B	Base Option AND 8 Form A digital outputs (2), 3 digital inputs (20-56 VDC/AC).
		C	Base Option AND 8 Form A digital outputs (2), 3 digital inputs (80-280 VDC/AC).
		D	Base Option AND 1 IRIG-B time sync port (2), 1 RS-485 port (COM2), 3 digital inputs (20-56 V DC/AC) (1).
		E	Base Option AND 1 IRIG-B time sync port (2), 1 RS-485 port (COM2), 3 digital inputs (80-280 V DC/AC) (1).
10	Security	0	Password protected, no security lock.
		1	Password protected with security lock enabled.
11	Special Order	A	None.
		C	Tropicalisation treatment applied.

PE86006



Example product part number.

1 *Model.*
2 *Feature set.*
3 *Memory / form factor.*
4 *Current Inputs.*
5 *Voltage inputs.*
6 *Power supply.*
7 *System frequency.*
8 *Communications.*
9 *Onboard inputs/outputs.*
10 *Security.*
11 *Special order.*

(1) Channel COM2 is available on the port at the back of the meter OR on the Comm Module (if installed). You must select which connectors your communications wiring is connected to during meter setup.
(2) All Onboard I/O and Comms (Base Option) options include: 4 Form C solid-state digital outputs, 1 Form C mechanical relay output, one IEC 1107 optical communications port, two IEC 1107 style optical pulsing ports.

ION8800 Accessories

Ordering reference	Communication Card for ION8800
P880CA0A	Std. comms: 1 RS-232/RS-485 port, **1 RS-485 port (COM2)
P880CA0C	Std. comms: 1 RS-232/RS-485 port, **1 RS-485 port (COM2), tropicalisation treatment applied
P880CC1A	Std. comms AND 10/1000BASE-TX Ethernet (RJ45), 56k universal internal modem (RJ11)
P880CC1C	Std. comms AND 10/1000BASE-TX Ethernet (RJ45), 56k universal internal modem (RJ11), tropicalisation treatment applied
P880CD1A	Std. comms AND 10/1000BASE-TX Ethernet (RJ45) / 10/100BASE-FX Ethernet Fiber, 56k universal internal modem (RJ11)
P880CD1C	Std. comms AND 10/1000BASE-TX Ethernet (RJ45) / 10/100BASE-FX Ethernet Fiber, 56k universal internal modem (RJ11), tropicalisation treatment applied
P880CE0A	Std. comms AND 10/1000BASE-TX Ethernet (RJ45)
P880CE0C	Std. comms AND 10/1000BASE-TX Ethernet (RJ45), tropicalisation treatment applied
P880CF0A	Std. comms AND 10/1000BASE-TX Ethernet (RJ45) / 10/100BASE-FX (ST Fiber Optic connection)
P880CF0C	Std. comms AND 10/1000BASE-TX Ethernet (RJ45) / 10/100BASE-FX (ST Fiber Optic connection), tropicalisation treatment applied
P880CM1A	Std. comms AND 56k universal internal modem (RJ11)
P880CM1C	Std. comms AND 56k universal internal modem (RJ11), tropicalisation treatment applied
Ordering reference	ION8800 related items
BATT-REPLACE-8XXX	Replacement batteries for the ION8600 or ION8800, quantity 10
RACK-8800-RAW	IEC/DIN 34862 19" Rack with female mating voltage/current and I/O blocks unassembled.
IEC-OPTICAL-PROBE	IEC 61107 compliant Optical Probe (DB-9) for use with ION8800 meters

PE86007_C



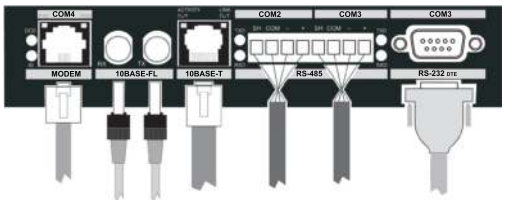
Optional ION8800 communications module

ION8800 series

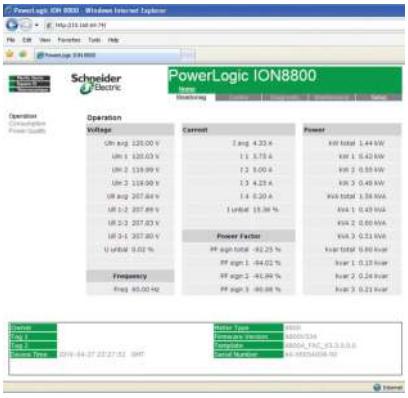
Technical Specification

Electrical characteristics		
Type of measurement		True rms 1024 samples per cycle
Measurement accuracy	Current and voltage	0.1 %
	Power	0.2 %
	Frequency	±0.005 Hz
	Power factor	0.1%
	Energy	IEC 62053-22/23 Class 0.2 S
Data update rate		½ cycle or 1 second
Input-voltage characteristics	Inputs	U1, U2, U3, Uref
	Measurement range	57-288 L-N V AC rms (99-500 L-L V AC rms)
	Dielectic withstand	3320 V AC rms
	Impedance	5 MΩ /phase (phase-Uref/Ground)
Input-current characteristics	Rated nominals	5 A, 1 A, 2 A
	Permissible overload	200A rms for 0.5s, non-recurring (IEC 62053-22)
	Impedance	10 mΩ /phase
	Burden	0.01 VA per phase (1A), 0.25 VA per phase (5 A)
Power supply	AC	85 - 240 V AC (+/- 10 %), 47-63 Hz
	DC	110 - 270 V DC (+/- 10 %)
	Burden	Typical (without comm module): 13 VA, 8 W Typical (with comm module): 19 VA, 12 W Max (without comm module): 24 VA, 10 W Max (with comm module): 32 VA, 14 W
	Ride-through time	Typical: 0.5 s to 5 s depending on configuration Min: 120 ms (6 cycles @ 50 Hz)
	Dielectric withstand	2000 V AC
Input/outputs	Mechanical alarm relay	1 Form C digital output (250 V AC / 125 V DC, 1 A AC / 0.1 A DC max)
	Digital outputs (Form C)	4 Solid state relay outputs (210 V AC / 250 V DC) 100 mA AC/DC
	Digital outputs (Form A)	8 Solid state relay outputs (210 V AC / 250 V DC) 100 mA AC/DC
	Digital inputs	3 Solid state digital inputs (low-voltage inputs 15 to 75 V AC/DC; high-voltage inputs 75 to 280 V AC/DC; 3 mA max.)
	Pulse rate	20 Hz maximum
Mechanical characteristics		
Weight		6.0 kg (6.5 kg with optional communications module)
IP degree of protection (IEC 60529)		IP51
Dimensions		202.1 x 261.51 x 132.2 mm
Environmental conditions		
Mounting location		Indoor
Maximum altitude		2000 metres above sea-level
Limit range of operation		-25 °C to 70 °C
Specified operating temperature		-10 °C to 45 °C (as per 62052-11)
Display operating range		-10 °C to 60 °C
Storage temperature		-25 °C to 70 °C
Humidity rating		5 to 95 % RH non-condensing
Pollution degree		2
Installation category		Power supply (II) Metering inputs (III)
Electromagnetic compatibility		
Electrostatic discharge		IEC 61000-4-2
Immunity to radiated fields		IEC 61000-4-3
Immunity to fast transients		IEC 61000-4-4
Immunity to surge waves		IEC 61000-4-5
Conducted immunity		IEC 61000-4-6
Damped oscillatory waves immunity		IEC 61000-4-12
Conducted and radiated emissions		CISPR 22 (class B)
Safety		
Europe		As per IEC 62052-11
International		As per IEC 60950

PE86234

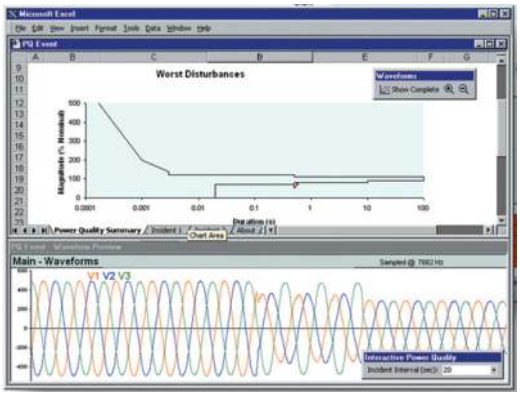


PE86233



Ports on the optional communications module.

PE86002

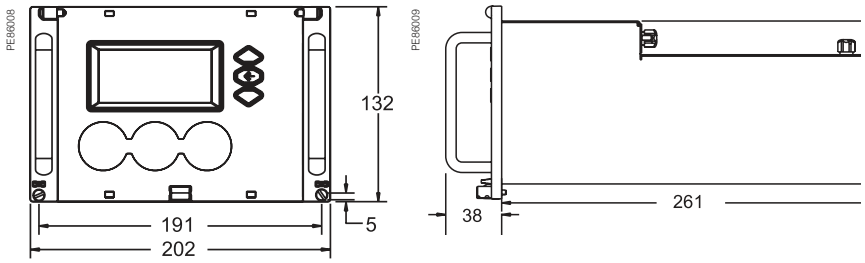


Example embedded page showing realtime values.

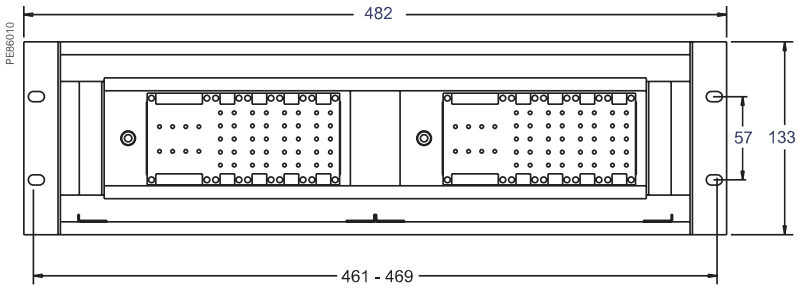
Technical Specification

Communication	
IEC 1107 optical port	2/4 wires, up to 19200 baud
RS-485 port	Up to 57600 baud, direct connection to a PC or modem, protocols: ION, Modbus RTU, Modbus Master, DNP 3.0, GPSTRUETIME/DATUM, DLMS/COSEM
Communications module (optional)	
RS-232/485 port	300 - 115,200 baud (RS-485 limited to 57,600 baud); protocols: same as RS-485 port
Internal modem port	300 baud - 56000 baud, RJ11 connector
Ethernet port	10/100BASE-TX, RJ45 connector, 100 m link; protocols: DNP TCP, ION, Modbus TCP, Modbus Master, DLMS/COSEM, IEC 61850
Fiber-optic Ethernet link	10/100BASE-FX, ST connector, 1300 nm, FO multimode with gradient index 62.5/125 µm or 50/125 µm, 2000 m link; protocols: same as Ethernet port
EtherGate	Communicates directly with up to 62 slave devices via available serial ports
ModemGate	Communicates directly with up to 31 slave devices
Firmware characteristics	
High-speed data recording	Up to ½-cycle interval burst recording, stores detailed characteristics of disturbances or outages Trigger recording by a user-defined setpoint, or from external equipment.
Harmonic distortion	Up to 63rd harmonic for all voltage and current inputs
Dip/swell detection	Analyse severity/potential impact of sags and swells: magnitude and duration data suitable for plotting on voltage tolerance curves per phase triggers for waveform recording or control operations
Instantaneous	High accuracy measurements with 1s or 1/2 cycle update rate for: voltage and current active power (kW) and reactive power (kvar) apparent power (kVA) power factor and frequency voltage and current unbalance phase reversal
Load profiling	Channel assignments (800 channels via 50 data recorders) are configurable for any measureable parameter, including historical trend recording of energy, demand, voltage, current, power quality, or any measured parameter Trigger recorders based on time interval, calendar schedule, alarm/event condition, or manually.
Modbus Master	Master up to 32 slave devices per serial channel and store their data at programmable intervals. Use this data to aggregate and sum energy values and perform complex totaling.
Waveform captures	Simultaneous capture of all voltage and current channels sub-cycle disturbance capture maximum cycles is 214,000 (16 samples/cycle x 96 cycles, 10 MB memory) 1024 samples/cycle
Alarms	Threshold alarms: adjustable pickup and dropout setpoints and time delays, numerous activation levels possible for a given type of alarm user-defined priority levels boolean combination of alarms possible
Advanced security	Up to 50 users with unique access rights. Perform resets, time syncs, or meter configurations based on user privileges.
Transformer correction	Correct for phase / magnitude inaccuracies in current transformers (CTs), potential transformers (PTs)
Memory	5 -10 MB(specified at time of order)
Firmware update	Update via the communication ports
Display characteristics	
Type	FSTN transreflective LCD
Backlight	LED
Languages	English

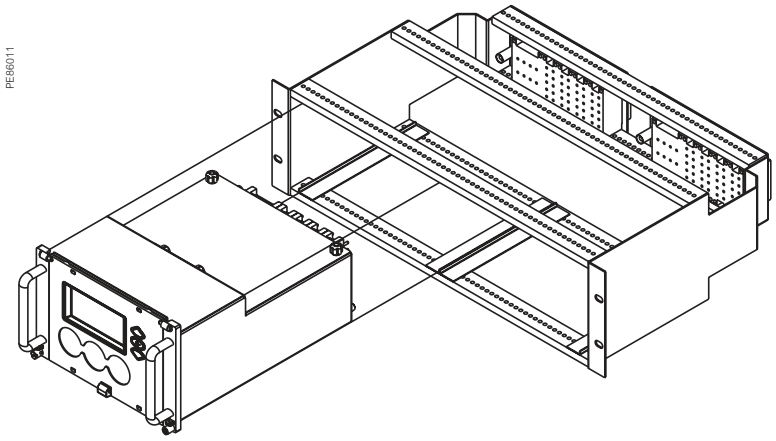
ION8800 dimensions



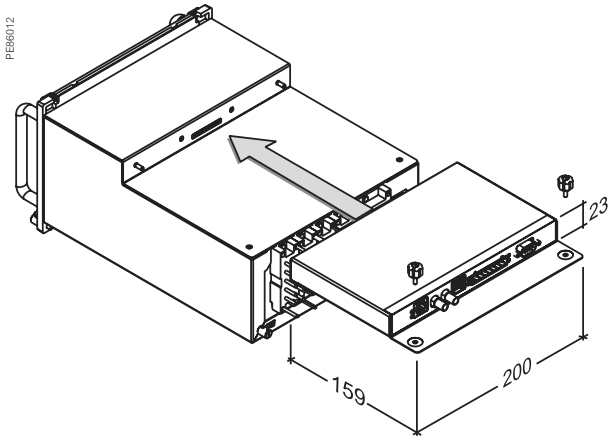
ION8800 Essailec rack dimensions



Rack mounting the ION8800



ION8800 communication module dimensions



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

Multi-circuit metering

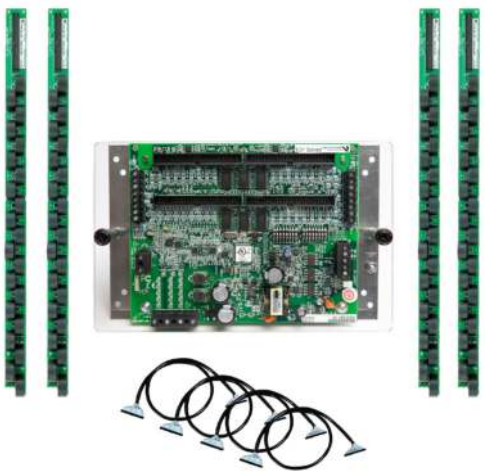
This is an integrated solution for monitoring multi-circuits and mains by using a single meter. The meter is designed for use in both new build and retrofit and is used for critical power operations in data centres and energy management in buildings.

The ideal solution for data centre managers, energy or facility managers, engineers and operational executives who are responsible for delivering power to critical applications.

In corporate and hosted data centre facilities, this technology helps you plan and optimise the critical power infrastructure to meet the demands of continuous availability.

- PowerLogic™ HDPM6000
- PowerLogic™ BCPM
- EM4000 series
- EM4800 series
- EM4900 series

PB113665 PE86325 PB113664







BCPMA084S BCPMA042S BCPMA084S

HDPM6000

The PowerLogic™ HDPM6000 sets a new standard for Power Quality Meters as both a standalone three-phase PQM and the foundation for an entire suite of devices: HDPM6000R, HDPM6000S, and HDPM6000B

The HDPM6000 is both a standalone 3-phase power quality meter (PQM) and the hub for Schneider Electric's branch circuit accessory modules (HDPM6000R, HDPM6000S, HDPM6000B). It can monitor loads up to 4000 A with utility grade system accuracy, delivers a complete range of power quality metrics (vTHD, iTHD), and provides waveform capture functionality without the need for additional proprietary software. The HDPM6000 can also maintain multiple, concurrent sessions with EPMS, DCIM or BMS applications via the Modbus, SNMP and BACnet IP protocols. Dual Ethernet ports allow multiple HDPM6000 head units to be daisy-chained in a single run.

Thanks to open protocols, the HDPM6000 is easily integrated into any data center or building management information system. Gateways or additional hardware are not required and the platform offers most standard forms of data connectivity. The on-board environmental communications port enables one-wire sensors to detect abnormal temperature and humidity conditions so adjustments can be made before problems occur.

Applications

Ideal for large critical and non-critical building applications such as data centers, industrial facilities, infrastructure and other similar environments.connectivity.

PB120560



Market solutions

Markets that benefit from a solution that includes HDPM6000S:

- Data centers
- Industrial facilities
- Healthcare facilities
- Manufacturing
- Many other critical and non-critical facilities

Benefits

- Modular platform approach provides scalability and minimizes integration costs, start up time and operational expenses.
- Provides power quality metrics down to the branch circuit allowing users to effectively monitor circuit loads, manage power consumption, allocate energy costs and maximize uptime across their facilities.
- Makes energy and power quality data immediately actionable and relevant to operational and sustainability goals

Competitive advantages

- Asset management
  - Identify increased harmonics in the rack servers to detect a potential disruption
  - Total Harmonics Distortion
  - Waveform capture
- Display and web page visualization
  - Optional touchscreen display accesses meter data
  - User-friendly web interface allows configuration of branch circuits and commissioning of meter system
- Data logging and software monitoring
  - Data logging and on-board memory storage
  - EcoStruxure™ PME and PSO integration

Power management solutions

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

Standards

- EN 55011/CISPR11
- EN 61326-1
- IEC 61000-4-2
- IEC 61000-4-3
- IEC 61000-4-4
- IEC 61000-4-5
- IEC 61000-4-6
- IEC 61000-4-11
- IEC 61010-1
- IEC 61010-030
- UL. 61010-1
- UL 61010-2-030

HDPM6000

PB120553



HDPM6000 head unit with modules

PB120548



HDPM6000 head unit

PB120549



HDPM6000 I/O module

Measurements

- Current per branch and sum of all phases
- Energy (kWh) per branch and sum of all phases
- Real Power (kW) per branch and sum of all phases
- Apparent Power (kVA) per branch and sum of all phases
- Reactive Power (kVAR) per branch and sum of all phases
- Current waveform capture (optional)
- Total Harmonic Distortion (THD)
- Power factor (signed, to show leading or lagging current), per branch and average of all phases for multi-phase logical circuits.

Features guide

Power quality analytics	Waveform capture and voltage and current THD
Web interface	For configuration and live data access
Supported protocols	Modbus TCP/IP, SNMP, BACnet
Data storage and logging	8 GB Class 10 SD card included
Alarms	On-board user-configurable alarms and alerts

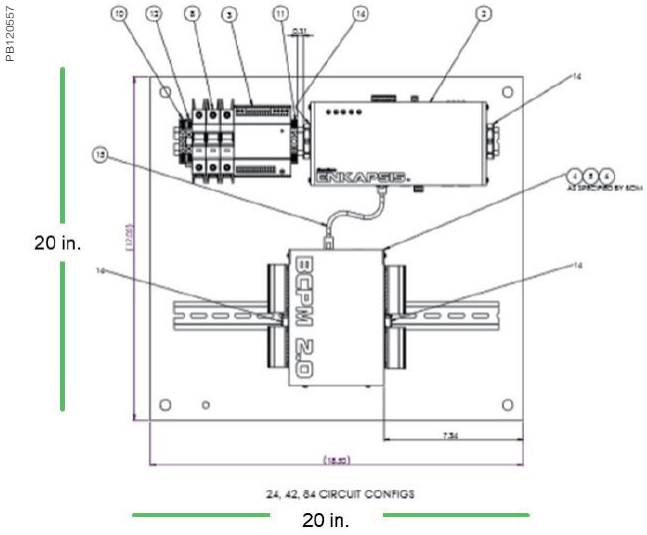
Technical specifications

Electrical characteristics	
CT support	20-4000 A with internal burdened resister and 250 mV signal (no shorting blocks required)
CT options	Solid-core or split-core type current transformers with a maximum voltage of 480 V. CTs are accurate from 1-100% of the range and are factory calibrated to ensure system accuracy.
Environmental characteristics	
Operating temperature	-20 to 60 °C
Storage temperature	-40 to 85 °C
Relative humidity	5 to 90% non-condensing
Maximum operating altitude	2,000 m
Non-operating altitude	15,000 m
Noise level	< 65 dba at six feet from the PQM
Mounting location	Not suitable for wet locations. For indoor use only.

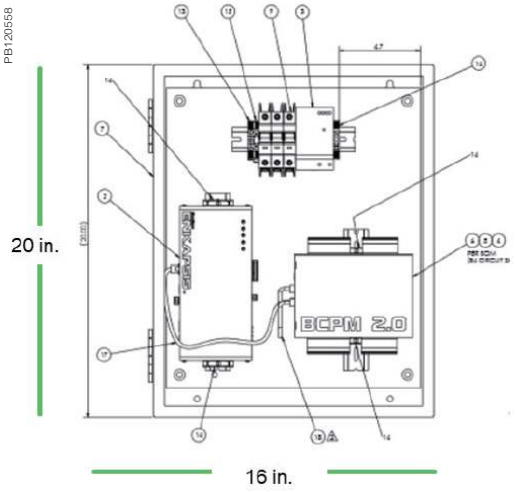
Note: For detailed electrical specifications on measurement voltage and power supply input voltage, refer to the HDPM6000 Technical Datasheet.

HDPM6000 Enclosure

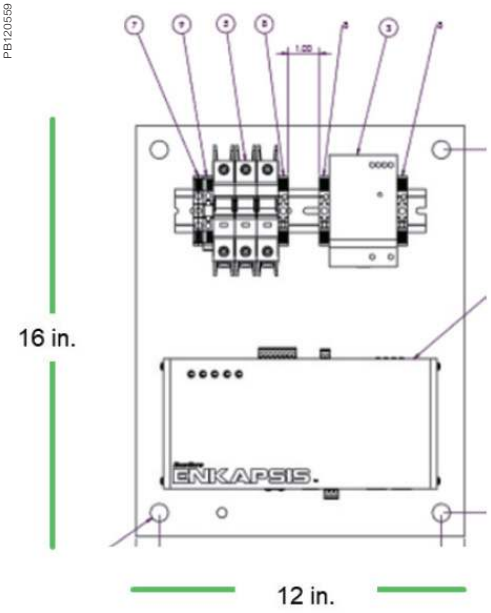
PowerLogic™ HDPM6000 Enclosure Size Options



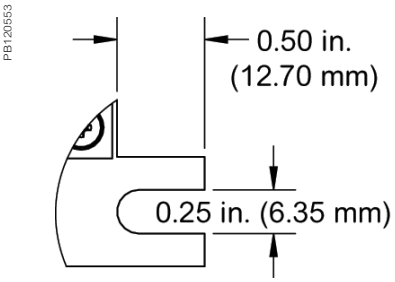
PowerLogic™ HDPM6000 large size enclosure



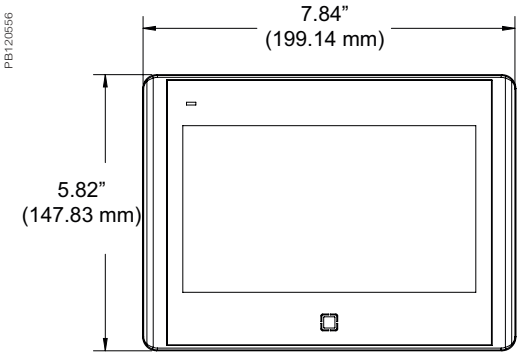
PowerLogic™ HDPM6000 medium size enclosure



PowerLogic™ HDPM6000 small size enclosure



PowerLogic™ HDPM6000 detail dimensions



HMI display dimensions

Commercial Reference Numbers

A complete list of HPDM commercial reference numbers appears in the Commercial Reference Numbers section of the PowerLogic Catalog. Contact your Schneider Electric representative for complete ordering information.

PowerLogic BCPM

The PowerLogic BCPM is a highly accurate, full-featured metering product designed for the unique, multi-circuit and minimal space requirements of a high performance power distribution unit (PDU) or remote power panel (RPP).

It offers class 1 (1 %) power and energy system accuracy (including 50 A or 100 A CTs) on all branch channels. The BCPM monitors up to 84 branch circuits and the incoming power mains to provide information on a complete PDU. Full alarming capabilities ensure that potential issues are dealt with before they become problems.

Applications

- Maximise uptime and avoid outages
- Optimise existing infrastructure
- Improve power distribution efficiency
- Track usage and allocate energy costs
- Enable accurate sub-metering

PB113665



BCPMA084S

The solution for

Markets that can benefit from a solution that includes PowerLogic BCPM series meters:

- Data centres
- Buildings

Benefits

The flexible BCPM fits any PDU or RPP design and supports both new and retrofit installations. It has exceptional dynamic range and accuracy, and optional feature sets to meet the energy challenges of mission critical data centres.

Competitive advantages

- Fit any PDU or RPP design for both new and retrofit projects
- Class 1.0 system accuracy
- Ethernet communication

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

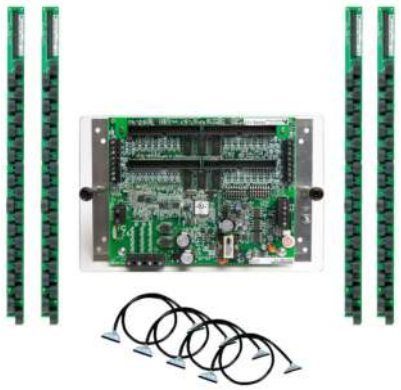
- ANSI C12.1
- IEC 61010-1
- IEC 62053-21 Class 1
- UL508

BCPM

PE86281



PB113664



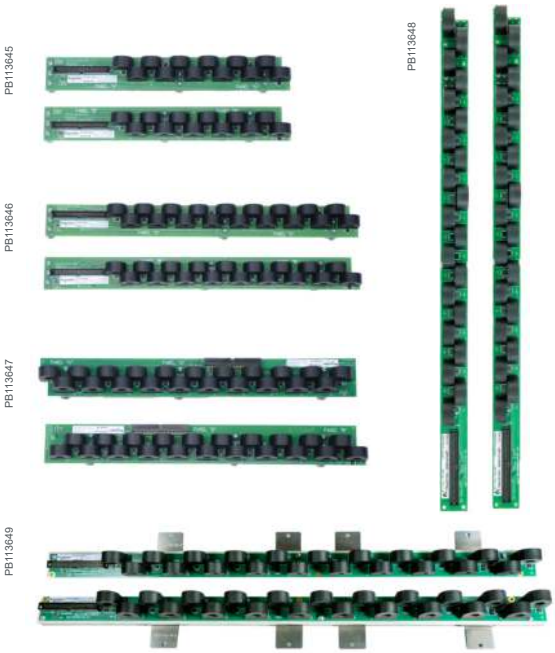
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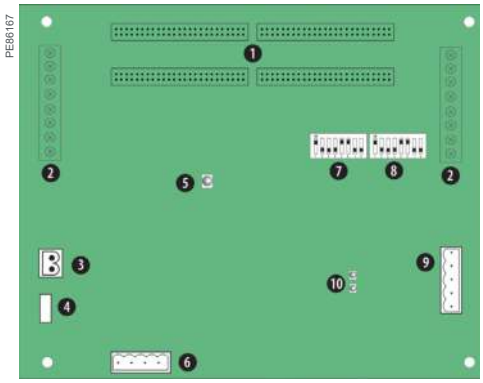
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Main characteristics

- Monitor up to 84 branch circuits with a single BCPM.
- Ideal for installation in both new PDUs and retrofit projects
- New installations:
  - BCPM with solid core CTs monitors up to 84 branch circuits using 2 or 4 CT strips. Solid core CTs are rated to 100 A CTs and are mounted on strips to simplify installation. CT strips are available with 12, 18 or 21 CTs per strip on 18 mm spacings. 21 CT strips with 3/4in or 1in spacings are also available.
- Retrofit projects:
  - BCPMSC with split-core CTs is ideal for retrofits. Any number of split-core CTs, up to 84 maximum, can be installed with a single BCPM. Three sizes of CT are supported (50 A, 100 A, and 200 A) and all three CT sizes can be used on a single BCPM. Adapter boards with terminals for split-core CTs can be mounted using DIN-rail, Snaptrack or on a common mounting plate with the main board (42 ch Y63 models only).
- IEC Class 1 metering accuracy
  - Accurately monitor very low current levels, down to a quarter-Amp.
  - Easily differentiate between the flow of low current and a trip where no current flows.
- Class 1.0 system accuracy for Revenue Grade measurements
  - Branch Power and Energy measurements fully meet ANSI and IEC class 1 accuracy requirements with 50 or 100 A CTs included. No need to de-rate meter branch accuracy to allow for CTs. Voltage and current measurement accuracy is 0.5 % and currents are measured down to 50mA. Easily differentiate between the flow of low current and a trip where no current flows.
    Class 1.0 system accuracy for Revenue Grade measurements
  - Branch Power and Energy measurements fully meet ANSI and IEC class 1 accuracy require
- Power quality: obtain basic power quality data thanks to the measurement of Total Harmonic Distortion percentages on voltages and current. (V L-L, V L-N, I L-N).
- Designed to fit any PDU or RPP design
  - Lowers your total installation costs as well as the cost per meter point by supporting both new and retrofit installations.
- Communicates with your various systems: BCPMA, and BCPMSCA have a Modbus RTU connection BCPME, and BCPMSCE, have a serial connection for either Modbus RTU or BACnet MS/TP. And there is an ethernet connection for Modbus TCP, BACnet IP and SNMP at the same time. Allowing the concurrent use of an Energy Management System, a Building Management System and an IT system.
- Compatible with PowerLogic power monitoring software
  - Easily turn the large amount of data collected by the devices into useful decision-making information.
- Flexible Configuration capability
  - Set the ordering and orientation of CT strips, assign individual CT size and phases, support for 1, 2, and 3-pole breakers in any configuration.

BCPM

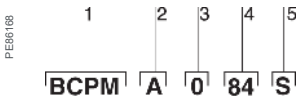


PowerLogic BCPM
1 50-pin ribbon cable connectors (data acquisition board).
2 Auxiliary inputs.
3 Control (mains) power connection.
4 Control power fuse.
5 Alive LED.
6 Voltage taps.
7 Communications address DIP switches.
8 Communications settings DIP switch.
9 RS-485 2 connection.
10 RS-485 LEDs.

Feature selection		BCPMA	BCPME
General			
Use on LV systems		■	■
Power and energy measurements			
Mains		■	■
Branch circuits		■	■
Instantaneous rms values			
Voltage, frequency		■	■
Current		■	■
Active power	Total and per phase	■	■
Power factor	Total and per phase	■	■
Energy values			
Active energy		■	■
Demand values			
Total active power	Present and max. values	■	■
Power quality measurements			
THD % (V L-L, V L-N, I L-N)		■	■
Detection of over-voltage/under-voltage		■	■
Sampling rate points per cycle		2560 Hz	2560 Hz
Alarming			
Alarms		■	■
Power supply			
AC version		90-277 V AC	100-277 V AC
Communication			
RS-485 port		■	■
Modbus RTU		RTU	■
Modbus TCP		1★	■
BACnet IP		1★	■
BACnet MS/TP		1★	■
SNMP protocol		1★	■
Ethernet Port		1★	■

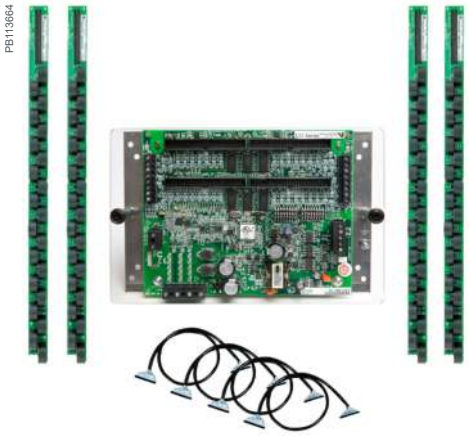
★1 Add E8951 Gateway

BCPM



Example BCPM with solid core CTs part number
1. Model
2. Feature set
3. CT spacing (solid core models only)
4. Number of circuits
5. Brand

The PowerLogic BCPM uses .333 V AC output split-core CTs for the auxiliary inputs. These CTs are ordered separately from the BCPM.





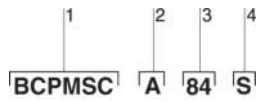
* Quantity and style of CT strips and cables included varies by model

BCPM part numbers

BCPM with solid core CTs			
Item		Code	Description
1	Model	BCPM	BCPM with solid core CTs. Highly accurate meter that monitors branch circuits and the incoming power mains and includes full alarming capabilities
2	Feature set	A	Advanced - Monitors power & energy per circuit & mains, Modbus RTU only (add E8951 for other protocols), Meter Main Board comes on an aluminum mounting plate
		E	Advanced, with Ethernet - Monitors power & energy per circuit & mains, Meter Main Board is partially enclosed in a metal housing
3	CT spacing	0	3/4in (19 mm) CT spacing
		1	1in (26 mm) CT spacing
		2	18 mm CT spacing
4	Number of circuits	24	24 circuits, (2) 12-CT strips (18 mm spacing only)
		36	36 circuits, (2) 18-CT strips (18 mm spacing only)
		42	42 circuits, (2) 21-CT strips
		48	48 circuits, (4) 12-CT strips (18 mm spacing only)
		72	72 circuits, (4) 18-CT strips (18 mm spacing only)
		84	84 circuits, (4) 21-CT strips
5	Brand	S	Schneider Electric

BCPM

PB113735



Example BCPMSC with split-core CTs part number.

1 Model.
2 Feature set.
3 Number of circuits.
4 Brand.

PB113666



PB113730



BCPM part numbers (contd.)

BCPM with split-core CTs BCPM with split-core CTs			
1	Model	BCPMSC	BCPM with split-core CTs. Highly accurate meter that monitors branch circuits and the incoming power mains and includes full alarming capabilities
2	Feature set	A	Advanced - Monitors power and energy per circuit and mains, Modbus RTU only (add E8951 for other protocols), Meter Main Board comes on an aluminum mounting plate
		B	Intermediate - Monitors current per circuit, power and energy per mains, Modbus RTU only (add E8951 for other protocols), Meter Main Board comes on an aluminum mounting plate
		C	Basic - Monitors current only per circuit and mains, Modbus RTU only (add E8951 for other protocols), Meter Main Board comes on an aluminum mounting plate
		E	Advanced, with Ethernet - Monitors power & energy per circuit & mains, Meter Main Board is enclosed in a metal housing
3	Number of circuits	1	42 circuit main and adapter boards (no branch CTs or ribbon cables, order separately)
		2	84 circuit main and adapter boards (no branch CTs or ribbon cables, order separately)
		30	30 split-core CTs (50 A)
		42	42 split-core CTs (50 A)
		60	60 split-core CTs (50 A)
		84	84 split-core CTs (50 A)
		Y63	42 circuits – main and adapter boards on single mounting plate (no branch CTs or ribbon, order separately) - Feature set A only
4	Brand	S	Schneider Electric

*The BCPMSC models with 1, 2 or Y63 as the number of circuits DO NOT INCLUDE ANY branch CTs or ribbon cables (they include only the Main board and adapater board assemblies). These models are provided to allow users to order a specific combination of CT quantities, CT sizes, CT lead lengths and ribbon cable styles and lengths. The CTs and cables must be ordered separately.

The PowerLogic BCPMSC uses .333 V AC output split-core CTs for the auxiliary inputs. These CTs are ordered separately from the BCPMSC.

BCPM

PE86284



Flat ribbon cable

CBL016

PB113650



Round ribbon cable

CBL022

Cabling and connection

Flat ribbon cables are recommended for use when the BCPM printed circuit board will be mounted inside of the PDU that is being monitored. Round ribbon cables are the prefered choice when the ribbon cable will be threaded through conduit.

BCPM part numbers for solid and split-core CTs (contd.)

BCPM with split-core CTs	
Commercial ref. no.	Description
BCPMA042S	42-circuit solid core power & energy meter, 100 A CTs (2 strips), 19 mm spacing
BCPMA084S	84-circuit solid core power & energy meter, 100 A CTs (4 strips), 19 mm spacing
BCPMA142S	42-circuit solid core power & energy meter, 100 A CTs (2 strips), 25 mm spacing
BCPMA184S	84-circuit solid core power & energy meter, 100 A CTs (4 strips), 25 mm spacing
BCPMA224S	24-circuit solid core power & energy meter, 100 A CTs (2 strips), 18 mm spacing
BCPMA236S	36-circuit solid core power & energy meter, 100 A CTs (2 strips), 18 mm spacing
BCPMA242S	42-circuit solid core power & energy meter, 100 A CTs (2 strips), 18 mm spacing
BCPMA248S	48-circuit solid core power & energy meter, 100 A CTs (4 strips), 18 mm spacing
BCPMA272S	72-circuit solid core power & energy meter, 100 A CTs (4 strips), 18 mm spacing
BCPMA284S	84-circuit solid core power & energy meter, 100 A CTs (4 strips), 18 mm spacing
BCPME042S	42-circuit solid core power & energy meter w/Ethernet, 100 A CTs (2 strips), 19 mm spacing
BCPME084S	84-circuit solid core power & energy meter w/Ethernet, 100 A CTs (4 strips), 19 mm spacing
BCPME142S	42-circuit solid core power & energy meter w/Ethernet, 100 A CTs (2 strips), 25 mm spacing
BCPME184S	84-circuit solid core power & energy meter w/Ethernet, 100 A CTs (4 strips), 25 mm spacing
BCPME224S	24-circuit solid core power & energy meter w/Ethernet, 100 A CTs (2 strips), 18 mm spacing
BCPME236S	36-circuit solid core power & energy meter w/Ethernet, 100 A CTs (2 strips), 18 mm spacing
BCPME242S	42-circuit solid core power & energy meter w/Ethernet, 100 A CTs (2 strips), 18 mm spacing
BCPME248S	48-circuit solid core power & energy meter w/Ethernet, 100 A CTs (4 strips), 18 mm spacing
BCPME272S	72-circuit solid core power & energy meter w/Ethernet, 100 A CTs (4 strips), 18 mm spacing
BCPME284S	84-circuit solid core power & energy meter w/Ethernet, 100 A CTs (4 strips), 18 mm spacing

BCPM

PB113651



BCPMSCA1S

BCPMSCxY63S 42-circuit split-core models come with the main board, (2) adapter boards and ribbon cables all mounted on a backplate, to simplify installation.

PE86183



LVCT00050S

PowerLogic™ LVCT0xxxxS Split-core Low-voltage (1/3V) CTs for Aux inputs (Mains) are ideal for retrofit applications

PB113652
PB113657
PB113658



LVCT20050S

PowerLogic™ LVCT2xxxxS Low-voltage (1/3V) solid core CTs for Aux inputs (Mains) are ideal for panel builders (small, medium, large)

BCPM part numbers for solid and split-core CTs (contd.)

BCPM with split-core CTs	
Commercial ref. no.	Description
BCPMSCA1S	42-circuit split-core power and energy meter, CTs and cables sold separately
BCPMSCA2S	84-circuit split-core power and energy meter, CTs and cables sold separately
BCPMSCA30S	30-circuit split-core power and energy meter, (30) 50 A CTs & (2) 1.2 m cables
BCPMSCA42S	42-circuit split-core power and energy meter, (42) 50 A CTs & (2) 1.2 m cables
BCPMSCA60S	60-circuit split-core power and energy meter, (60) 50 A CTs & (4) 1.2 m cables
BCPMSCAY63S	42-circuit split-core power and energy meter, all boards on backplate, CTs and cables sold separately
BCPMSCA84S	84-circuit split-core power and energy meter, with (84) 50 A CTs & (4) 1.2 m cables
BCPMSCE1S	42-circuit split-core power and energy meter w/Ethernet, CTs and cables sold separately
BCPMSCE2S	84-circuit split-core power and energy meter w/Ethernet, CTs and cables sold separately
BCPMSCE30S	30-circuit split-core power and energy meter w/Ethernet, (30) 50 A CTs & (2) 1.2 m cables
BCPMSCE42S	42-circuit split-core power and energy meter w/Ethernet, (42) 50 A CTs & (2) 1.2 m cables
BCPMSCE60S	60-circuit split-core power and energy meter w/Ethernet, (60) 50 A CTs & (4) 1.2 m cables
BCPMSCE84S	84-circuit split-core power and energy meter w/Ethernet, (84) 50 A CTs & (4) 1.2 m cables

The PowerLogic™ BCPM uses .333 V AC output split-core CTs for the auxiliary inputs.

These CTs are ordered separately from the BCPM.

BCPM

Commercial ref. no.	
BCPM split-core branch CTs and adapter boards	
BCPMSCADPBS	BCPM adapter boards, quantity 2, for split-core BCPM
BCPMSCCT0	BCPM 50 A split-core CTs, Quantity 6, 1.8 m lead lengths
BCPMSCCT0R20	BCPM 50 A split-core CTs, quantity 6, 6 m lead lengths
BCPMSCCT1	BCPM 100 A split-core CTs, Quantity 6, 1.8 m lead lengths
BCPMSCCT1R20	BCPM 100 A split-core CTs, Quantity 6, 6 m lead lengths
BCPMSCCT3	BCPM 200 A split-core CTs, Quantity 1, 1.8 m lead lengths
BCPMSCCT3R20	BCPM 200 A split-core CTs, Quantity 1, 6 m lead lengths
Commercial ref. no.	
Additional accessories for use with BCPM products	
BCPMCOVERS	BCPM circuit board cover
BCPMREPAIR	CT repair kit for solid core BCPM (includes one CT)
H6803R-0100	Additional 100 A split-core CT for use with solid core repair kit
E8951	Modbus to BACnet protocol converter
CBL016	Flat Ribbon cable (quantity 1) for BCPM, length = 1.2 m
CBL017	Flat Ribbon cable (quantity 1) for BCPM, length = 1.5 m
CBL018	Flat Ribbon cable (quantity 1) for BCPM, length = 1.8 m
CBL020	Flat Ribbon cable (quantity 1) for BCPM, length = 3.0 m
CBL021	Flat Ribbon cable (quantity 1) for BCPM, length = 6.1 m
CBL022	Round Ribbon cable (quantity 1) for BCPM, length = 1.2 m
CBL024	Round Ribbon cable (quantity 1) for BCPM, length = 6.1 m

1/3 V low-voltage Split-core CTs for Aux inputs (Mains)

Commercial ref. no.	Amperage rating	Inside dimensions
LVCT00050S	50 A	10 mm x 11 mm
LVCT00101S	100 A	16 mm x 20 mm
LVCT00202S	200 A	32 mm x 32 mm
LVCT00102S	100 A	30 mm x 31 mm
LVCT00202S	200 A	30 mm x 31 mm
LVCT00302S	300 A	30 mm x 31 mm
LVCT00403S	400 A	62 mm x 73 mm
LVCT00603S	600 A	62 mm x 73 mm
LVCT00803S	800 A	62 mm x 73 mm
LVCT00804S	800 A	62 mm x 139 mm
LVCT01004S	1000 A	62 mm x 139 mm
LVCT01204S	1200 A	62 mm x 139 mm
LVCT01604S	1600 A	62 mm x 139 mm
LVCT02004S	2000 A	62 mm x 139 mm
LVCT02404S	2400 A	62 mm x 139 mm

1/3 V low-voltage Solid core CTs for Aux inputs (Mains)

Commercial ref. no.	Amperage rating	Inside dimensions
LVCT20050S	50 A	10 mm
LVCT20100S	100 A	10 mm
LVCT20202S	200 A	25 mm
LVCT20403S	400 A	31 mm

BCPM

Technical specifications

Electrical characteristics		
Type of measurement		
Accuracy	Power/energy	1 % system accuracy (including 50A or 100A branch CTs)
	Voltage	±0.5 % of reading
	Current	±0.5 % of reading
Minimum “ON” current		50mA
Sampling rate Points per cycle		2560 Hz
Data update rate		1.8 seconds (Modbus), 14 seconds (BACnet) 20 sec (SNMP)
Input-voltage characteristics	Measured voltage	150 – 480 V AC L-L (1) 90 – 277 V AC L-N (1)
	Measurement range	150 – 480 V AC L-L (1) 90 – 277 V AC L-N (1)
Power supply	AC	100 – 277 V AC (50/60 Hz)
Auxiliary CT Current Input Range		0-0.333V; CTs must be rated for use with Class 1 voltage inputs
Mechanical characteristics		
Weight		1.5 kg
Dimensions	A/B/C model Circuit board	288 x 146 mm
E model housing (w/brackets on long sides)		253 mm W x 307 mm H x 71 mm D
E model housing (w/brackets on short ends)		210 mm W x 353 mm H x 71 mm D

Environmental conditions	
Operating temperature	0 to 60 °C
Storage temperature	-40 °C to 70 °C
Installation category	CAT III, pollution degree 2
Safety	
Europe	IEC 61010
U.S. and Canada	UL 508 Open type device
Communication	
RS-485 (A/B/C models)	Baud rate: DIP-switch selectable 9600, 19200, 38400 DIP-switch selectable 2-wire or 4-wire RS-485. Parity selectable: Even, Odd or None.
RS-485 (A models)	Baud rate: configured via Web-server. Baud selectable: 9600, 19200, 38400. Parity selectable: Even, Odd or None. 2-wire RS-485.
Ethernet (E models)	10/100 Mbit Ethernet. RJ-45 connection. Static IP or DHCP.
Protocols	Modbus RTU on all models, BCPME models also support Modbus TCP, SNMP, BACnet IP & BACnet MS/TP
Firmware characteristics	
Detection of over-voltage/under-voltage	User-defined alarm thresholds for over-voltage and under-voltage detection
Alarms	Four alarm levels: high-high, high, low and low-low (users define the setpoints for each). Each alarm has a latching status to alert the operator that an alarm has previously occurred. High and Low alarms have instantaneous status to let the operator know if the alarm state is still occurring.
Firmware update	Update via Modbus

BCPM

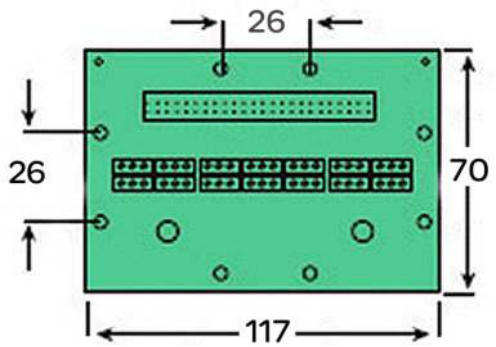
1/3 V low-voltage CT (LVCT) for Mains - Technical specifications

Electrical characteristics	
Accuracy	1 % from 10 % to 100 % of rated current(LVCT0xxxx0S/1S/2S/3S/4S [split-core]) 0.5 % from 5 % to 100 % of rated current (LVCT2xxxx0S/2S/3S [solid core])
Frequency range	50/60 Hz
Leads	18 AWG, 600 V AC, 1.8m standard length
Max. voltage L-N sensed conductor	300 V AC (LVCT0xxxx0S) 600 V AC (LVCT0xxxx1S/2S/3S/4S, LVCT2xxxxxS)
Environmental conditions	
Operating temperature	0 ºC to 70 ºC (LVCT0xxxx0S/1S) -15 ºC to 60 ºC (LVCT0xxxx2S/3S/4S less than 2400A) -15 ºC to 60 ºC (LVCT02404S [2400A]) -40 ºC to 85 ºC (LVCT2xxxx0S/2S/3S [solid core])
Storage temperature	-40 ºC to 105 ºC (LVCT0xxxx0S/1S) -40 ºC to 70 ºC (LVCT0xxxx2S/3S/4S) -50 ºC to 105 ºC (LVCT2xxxx0S/2S/3S [solid core])
Humidity range	0 to 95 % non-condensing

BCPM

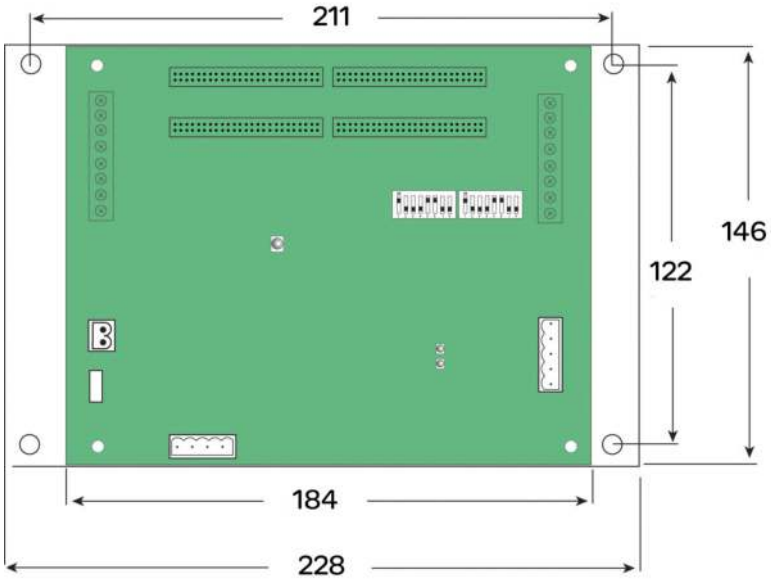
PowerLogic BCPM dimensions

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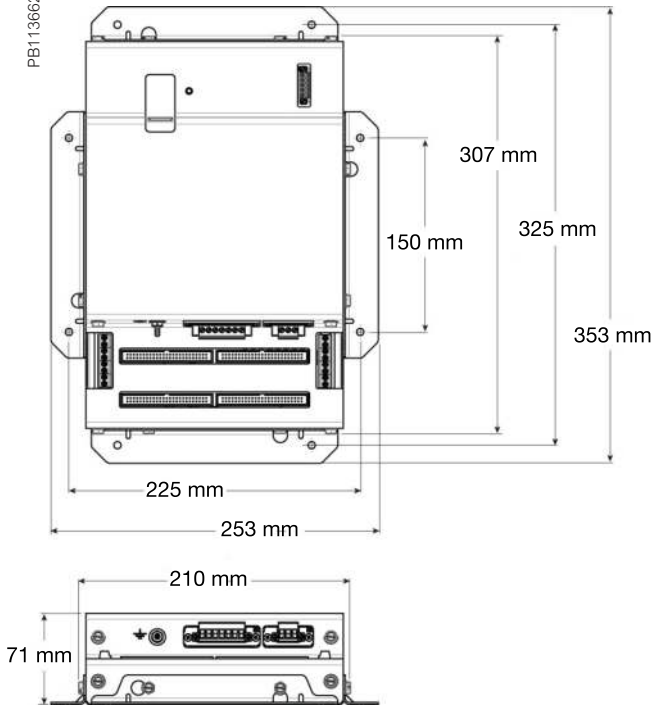


PowerLogic BCPM adapter board (one board per 21 split-core branch CTs)

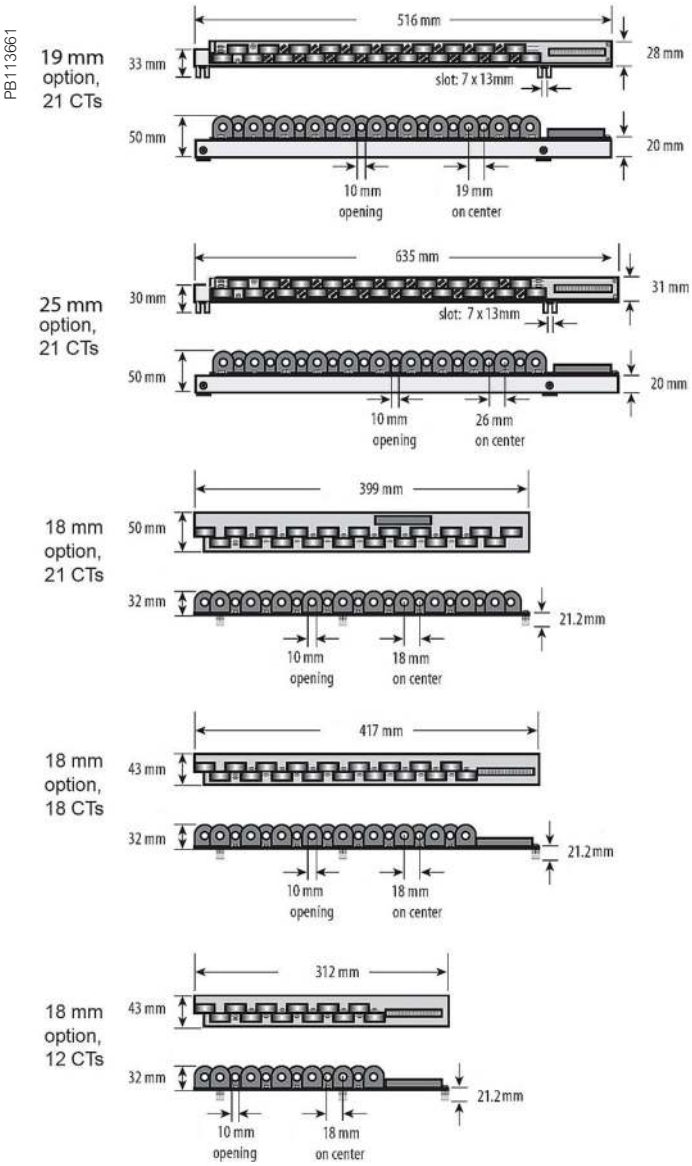
PE86169



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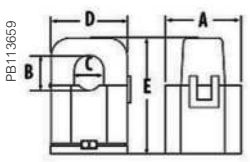


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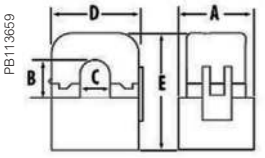
BCPM

50 A-200 A Split-core CT dimensions

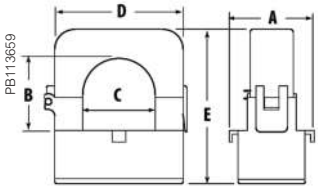


(in mm)

50 Amp
A = 26-35 w/ears
B = 11
C = 10
D = 23-29 w/hinge
E = 40



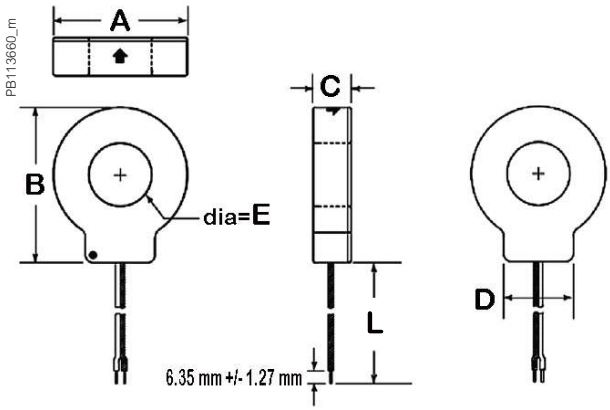
100 Amp
A = 28-37 w/ears
B = 16
C = 16
D = 40
E = 52



200 Amp
A = 37
B = 32
C = 32
D = 62
E = 69

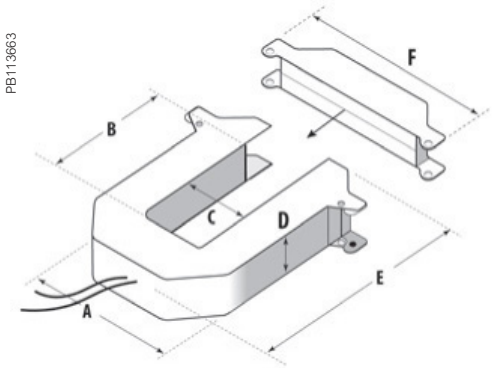
These dimensions apply to both BCPMSCCTxx (branch CTs) and LVCT0xxxx0S/1S (for Mains) 50 A-200 A CT families.

Solid core CT dimensions



Model	L	A	B	C	D	E
LVCT20050S	1.8 m	33 mm	38 mm	18 mm	21 mm	10 mm
LVCT20100S						
LVCT20202S	1.8 m	59 mm	66 mm	18 mm	31 mm	25 mm
LVCT20403S	1.8 m	70 mm	82 mm	25 mm	36 mm	31 mm

1/3 V low-voltage CT form factor



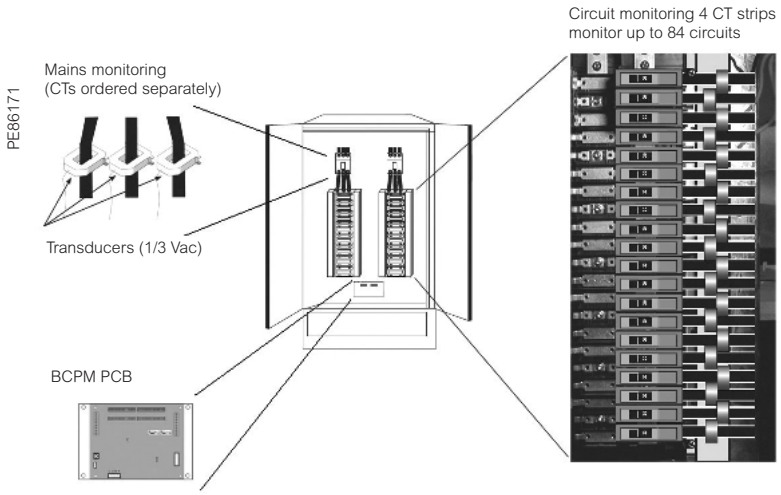
Small form factor
100/200/300 Amp
A = 96 mm
B = 30 mm
C = 31 mm
D = 30 mm
E = 100 mm
F = 121 mm

Medium form factor
400/600/800 Amp
A = 125 mm
B = 73 mm
C = 62 mm
D = 30 mm
E = 132 mm
F = 151 mm

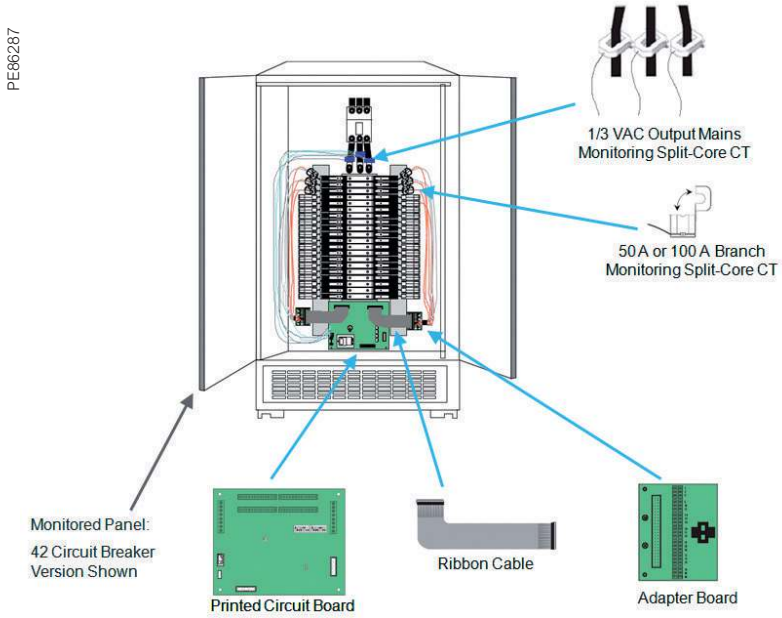
Large form factor
800/1000/1200/
1600/2000/2400 Amp
A = 125 mm
B = 139 mm
C = 62 mm
D = 30 mm
E = 201 mm
F = 151 mm

BCPM

PowerLogic BCPM with solid core CT strips installation details



PowerLogic BCPM with split-core CTs installation details



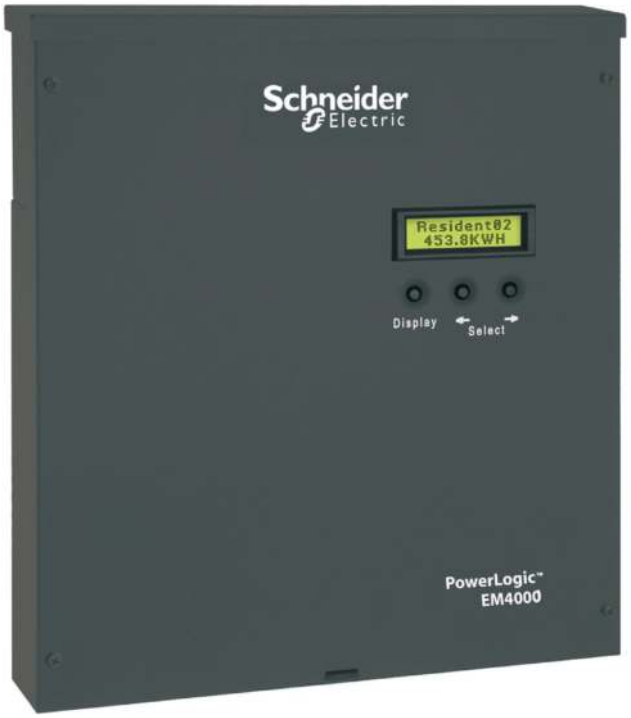
EM4000 series

The compact PowerLogic EM4000 series multi-circuit energy meter from Schneider Electric enables the reliable reliable monitoring of building electrical loads iwith a low installation cost-per-point by combining revenue-accurate electricity sub-metering with advanced communications technology.

Applications

- Energy management
- Energy cost allocation
- Utility bill verification

PB113714



METSEEM403316

The solution for

Markets that can benefit from a solution that includes PowerLogic EM4000 series meters:

- 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

- Compact, maintenance-free design
- Hi-density, flexible connection
- Direct connection
- Multiple CT types
- No rewiring required
- Integrated communications networks.

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
- 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.

EM4000 series

PB113714



EM4000 series multi-circuit energy meter

The compact PowerLogic EM4000 series multi-circuit energy meter from Schneider Electric enables the reliable monitoring of building electrical loads iwith a low installation cost-per-point by combining revenue-accurate electricity sub-metering with advanced communications technology.

The EM4000 is ideal for departmental metering applications and M&V within office towers, condominiums, apartment buildings, shopping centres and other multi-user environments, or small-footprint retail.

The PowerLogic EM4000 series meters monitor up to 24 meter points with a single device. Multiple meters can be combined to support an unlimited number of points.

Two meter models offer a choice of CTs and installation options:

- PowerLogic EM4033: 333 mV, split-core CTs
- PowerLogic EM4080: 80 mA solid core CTs

Main characteristics

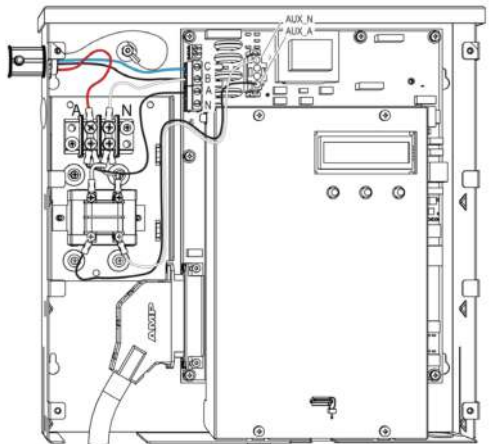
- Compact, maintenance-free design
  - Requires no floor space
- Hi-density, flexible connection
  - From single-pole to single- or three-phase metering, supports up to 24 circuits.
  - Select the connection type using an intuitive configuration tool.
- Direct connection
  - For 100 - 300 V AC L-N electrical distribution systems: 120/240 V, 120/208 V, 277/480 V
- Multiple CT types
  - Support a variety of needs in both new and retrofit installations.
  - 1/3 V output CT option does not require shorting blocks, making it the ideal choice for retrofit installations.
- 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 ref. no.	Model	Description
METSEEM403316	EM4033	PM5310 Cl 0.5, RS-485 Modbus, 2DI/2DO
METSEEM403336		PM5330 Cl 0.5, RS-485 Modbus, 2DI/2DO, Relay
METSEEM408016	EM4080	PM5331 Power & Energy meter
METSEEM408036		PM5320 Power & Energy meter

EM4000 series

PB113718

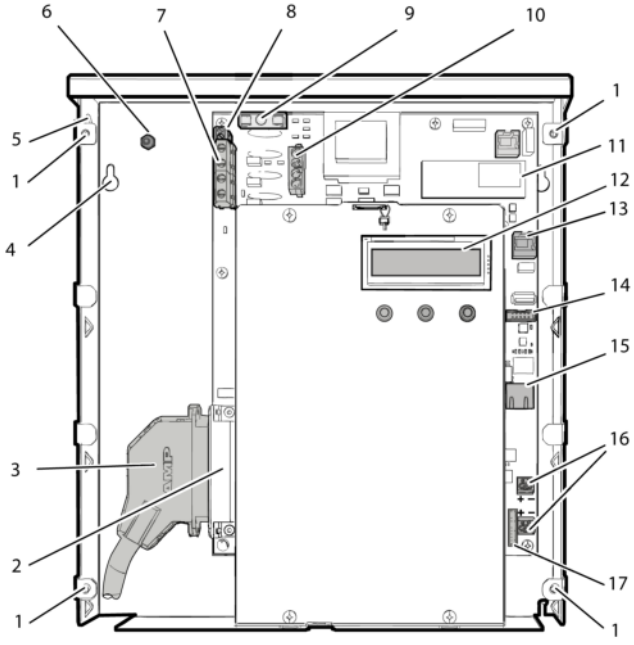


PowerLogic EM4000 meter 480Y/277V three-phase wye service connection

Selection guide

		EM4033	EM4080
General			
Use on LV systems		■	■
Accuracy	+/- 0.5 %	■	■
Accuracy compliance	ANSI C12.1 and C12.20 Class 0.5; IEC 62053-22, Class 0.5S	■	■
Maximum circuits: single-pole / single-phase / three-phase	24 / 12 / 8	■	■
Instantaneous rms values			
Energy	real, kWh received/delivered	■	■
	reactive, kvarh received/delivered	■	■
	apparent, VAh	■	■
Voltage		■	■
Pulse counts		■	■
Voltage and current	V rms, I rms per phase	■	■
Power	real, reactive, apparent	■	■
Power factor		■	■
Measurements available for data logging			
Energy	real, kWh received/delivered	■	■
	reactive, kvarh received/delivered	■	■
	apparent, VAh	■	■
Voltage		■	■
Display			
Backlit LCD display	2 lines of 16 characters	■	■
Optional remote modular display available		■	■
Communication			
Ethernet port		■	■
MODBUS-RTU over RS-485		■	■
Pulse inputs	2	■	■
Protocols: Modbus TCP/IP, HTTP, BACnet/IP, FTP, and SNTP		■	■
Installation options			
0.333 V CTs		■	
80 mA CTs			■
Split-core CT		■	
Solid core CT		■	■

PB113716



PowerLogic EM4033 and PowerLogic EM4080 internal view.

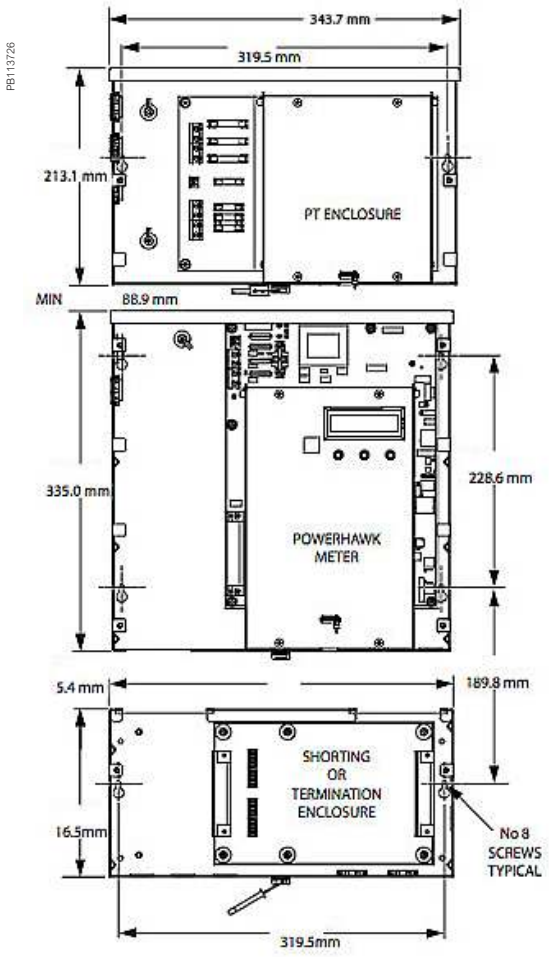
Legend:
1 Cover screw location
2 Meter point input connector
3 Cable connector
4 Mounting keyhole
5 Ingress punch-outs
6 Earth stud
6 Sense voltage terminal block
8 Control voltage terminal block
9 Fuse
10 Control voltage jumper
11 RTU interface
12 Display
13 Remote display connector
14 Serial RS-232
15 Ethernet port
16 Pulse in terminal blocks
17 Pulse out connector

EM4000 series

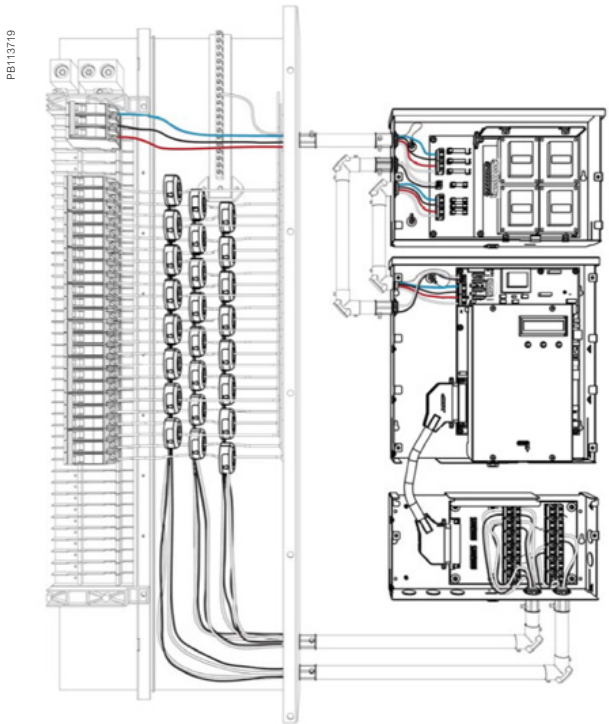
EM4000 technical specifications

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	EM4033/EM4080	approx. 4.0 kg
Dimensions	EM4033/EM4080	335 x 305 x 55 mm
Environmental conditions		
Operating temperature		-40 °C to 70 °C
Storage temperature		-40 °C to 70 °C
Humidity rating		0 % to 90 % RH non-condensing
Enclosure		Type 1 (indoor or enclosed outdoor use)
Altitude		3000 m
Pollution degree		2
Safety and standards		
UL Certified to IEC/EA/CSA 61010-1		
CSA-C22.2 No 61010-1-04		
FCC Part 15 Class B		
ICES-003 EN 55022, IEC 6100-4-5		
ANSI/TIA968-A: 2002		
Communication		
Ports		Ethernet
		MODBUS-RTU over RS-485
Pulse inputs		2
Protocols: Modbus TCP/IP, HTTP, BACnet/IP, FTP, and SNTP		
Display characteristics		
Integrated backlit LCD display		2 lines, 16 digits per line display; R / L arrow buttons select metering point; Display button cycles through measurements per point.

EM4X00, CT termination, PT module



EM4X00, CT termination, PT module



EM4000 series

PB113724



METSEPTMOD480

PT Module

The PT module provides step-down voltage connections to Schneider Electric PowerLogic meters for metering single-phase to three-phase voltages of 600 V, 347 V, or 400 V, while meeting all regulatory electrical safety and ANSI 0.5 Accuracy Class standards. The PT module provides both the per-phase input metering voltages and the auxiliary input power required by Schneider Electric PowerLogic energy meters.

There are two variants of the PT module that support the following source voltages and wiring configurations:

- 347 V Wye / 600 V Delta variant supports:
  - 347 V, three-phase, 4-wire wye
  - 600 V, three-phase, 3-wire delta
- 480V Delta variant supports:
  - 480 V, three-phase, 3-wire delta

The 347 V/600 V PT module variant has three sense voltage potential transformers for metering. The configuration of the transformers (347 V wye or 600 V delta) is selected by using the jumper provided. The 480V PT module has two sense voltage potential transformers for metering. There is a separate auxiliary power transformer in both variants to operate the meter. All voltage inputs are fused.

PowerHawk PT module specifications			
Dimensions	Height	213.1 mm	
	Width	54 mm	
	Depth	54 mm	
	Weight	5.67 kg	
Fuse ratings	High voltage inputs	F1	T315 mA, 1000 V
		F2	T315 mA, 1000 V
		F3	T315 mA, 1000 V
	Voltage inputs	F4	T250 mA, 250 V
		F5	T250 mA, 250 V
		F6	T250 mA, 250 V
		F7	T250 mA, 250 V
Transformer specifications	Input voltage	600 V	Voltage tolerance: +/-10 %
		480 V	Voltage tolerance: +/-10 %
		347 V	Voltage tolerance: +/-10 %
	Output voltage	120 V	Accuracy: 0.3 %
Environmental	Operating temperature	-40 °C to 70 °C	
	Operating humidity	5 % to 90 % non-condensing	
	Usage environment	Indoor or enclosed outdoor environment	
	Maximum altitude	3000 m	
	Pollution degree	2	

Feature selection

Commercial ref. no.	Description
METSEPTMOD480	480 V PT Module for EM4X00 meter
METSEPTMOD347600	347 V/600 V PT Module for EM4X00 meter

EM4000 series

PB113725





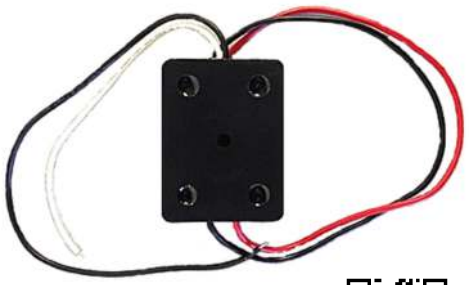
CT Module

PowerLogic 4080 meters have two shorting options that provide a seamless and sealable mechanical package. The CT Shorting Module provides CT connections via the color coded 25 pair cable routed into the breaker panel. All CTs are shorted at the same time for safe removal of the meter for maintenance when the electrical circuits are still live.

The CT Termination Module has the same shorting ability, but provides CT connections via 24 2-position screw-down terminal blocks. Individual pairs are then routed from the CT Termination Module to 1 or more breaker panels via conduit knock outs provided on the module. Thus eliminating the need for a splitter box to route CT cables to multiple panels.

Commercial ref. no.	Description
METSECTTERM	CT Termination Module for EM4X00 meter
METSECTSHORT	CT Shorting Module for EM4X00 meter

PB113729



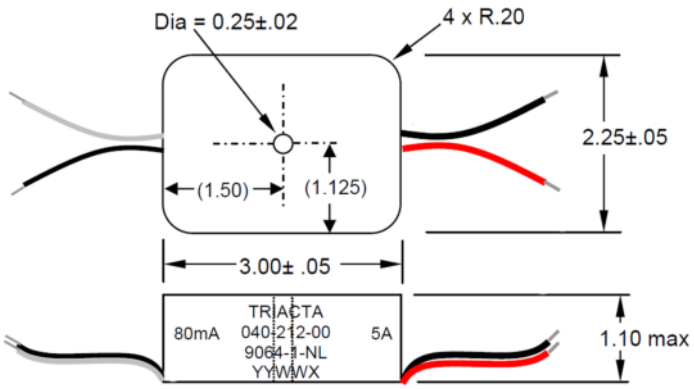
METSECONV580

Converter

The 5 A:80 mA converter is useful in applications where there are existing 5 A CT's integrated into large motors or switch gear. The 5 A:80 mA converter matches the 5 A secondary of the load to the 80 mA input of the meter. In Billing Grade applications, the 5 A:80 mA converter is also used to connect regulatory grade large aperture, large amperage CT's with 5 A secondaries to the 80 mA of PowerLogic 4 X 80 meters.

Commercial ref. no.	Description
METSECONV580	5 A : 80 mA converter for EM4X00 meter

PB111056

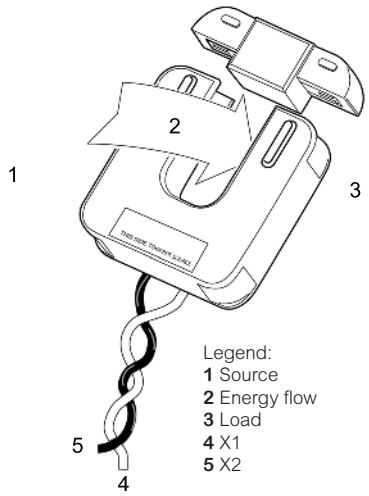


The 5 A to 80 mA converter dimensions

See appropriate Installation Guide for this product.

EM4000 series

PB111061



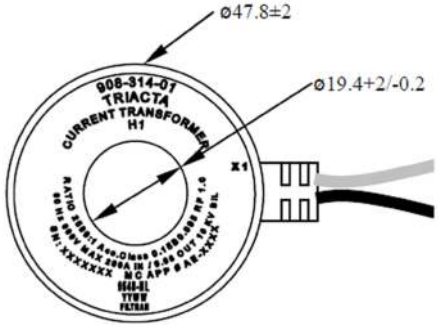
CTs

- Model 8 (80/100 mA Secondary)
- Window Size: 82.5 mm Diameters
- Application: Metering
- Frequency: 50-400 Hz
- Insulation Level: 600 Volts, 10 Kv BIL Full Wave
- Flexible leads available for all case configurations. Flexible leads are UL 1015 105 ˚C, CSA approved #16 AWG, 609.6 mm long standard length. Non-standard lengths are available upon request.
- Terminals are brass studs No. 8-32 UNC with one flat washer, one lock washer and one nut each. Terminals are only available on the square case configuration.
- Mounting brackets kits for the Model 8SHT are available when required.
- Approximate weight: 1.36 kg

PB111059



200 A CT



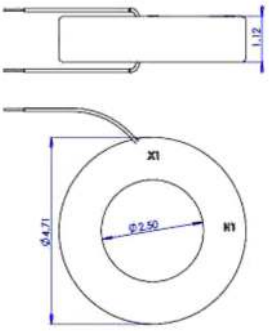
200 A CT dimensions

PB113971



400 A CT

PB113972



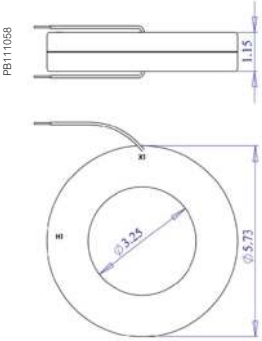
400 A CT dimensions

PB111057



METSECT80600 600 A 80 mA CT

PB111058



600 A 80 mA CT dimensions

Feature selections

Commercial reference number	Description
METSECT80200	CT, solid core, 200 A primary, 80 mA secondary, for use with EM4X80 multi-circuit meter
METSECT80400	CT, solid core, 400 A primary, 80 mA secondary, for use with EM4X80 multi-circuit meter
METSECT80600	CT, solid core, 600 A primary, 80 mA secondary, for use with EM4X80 multi-circuit meter

EM4800 series

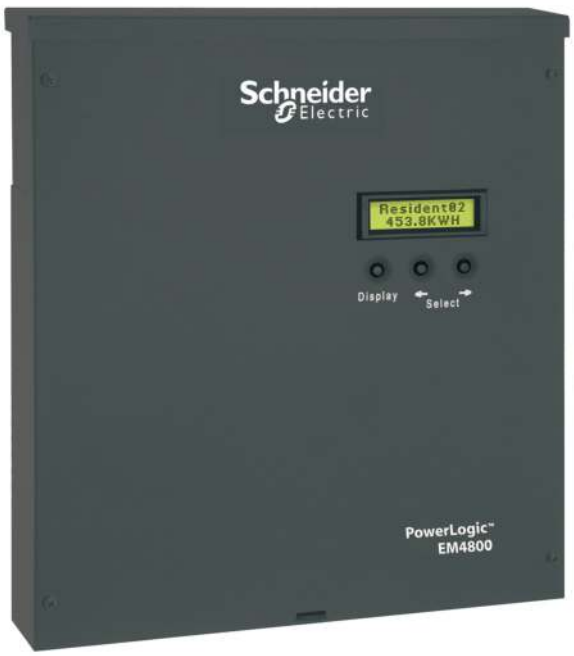
The compact PowerLogic EM4800 series multi-circuit energy meter from Schneider Electric enables reliable metering of individual tenants with a low installation cost-per-point by combining revenue-accurate electricity sub-metering with advanced communications technology.The ideal fit for high-end cost management applications, providing the measurement capabilities needed to allocate energy usage, perform tenant metering and sub-billing, pin-point energy savings, optimise equipment efficiency and utilisation, and perform a high level assessment of the power quality in an electrical network.

Applications

Capable of essential cost management:

- Multi-tenant metering
- Energy management
- Energy cost allocation
- Utility bill verification

PE86325



METSEEM480525

The solution for

Markets that can benefit from a solution that includes PowerLogic EM4800 series meters:

- 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

- Compact, maintenance-free design
- Hi-density, flexible connection
- Direct connection
- Multiple CT types
- No rewiring required
- Integrated communications

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

- IEC61557-12
- IEC62053-22
- IEC62053-24
- 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.

EM4800 series

PE86325



EM4800 series multi-circuit energy meter front (above), installed in panel (below)

PE86326



The compact PowerLogic EM4800 series multi-circuit energy meter from Schneider Electric enables reliable metering of individual tenants with a low installation cost-per-point by combining revenue-accurate electricity sub-metering with advanced communications technology.

The EM4800 is ideal for multi-tenant or departmental metering applications within office towers, condominiums, apartment buildings, shopping centres and other multi-user environments.

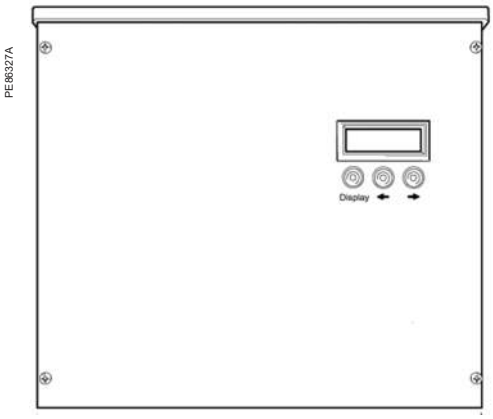
The PowerLogic EM4800 series meters monitor up to 24 tenants with a single device. Multiple meters can be combined to support an unlimited number of suites.

- Three meter models offer a choice of CT secondary ratings and installation options:
  - PowerLogic EM4805: 5 A, split or solid core CTs
  - PowerLogic EM4833: 0.333 V, split or solid core CTs
  - PowerLogic EM4880: 80 mA, solid core CTs
- Main characteristics
  - Compact, maintenance-free design
    - Requires no floor space.
- Hi-density, flexible connection
  - From single-pole to single- or three-phase metering, supports up to 24 circuits. Select the connection type using an intuitive configuration tool.
- Direct connection
  - For 100 - 300 V AC L-N electrical distribution systems:
    - 120/240 V, 120/208 V, 230/240 V, 220/380 V, 240/415 V, 277/480 V
- Multiple CT types
  - Support a variety of needs in both new and retrofit installations.
    - 1/3 V output CT option does not require shorting blocks, making it the ideal choice for retrofit installations.
- No rewiring required
  - Use existing wiring to connect to existing panels.
- Integrated communications
  - Onboard Ethernet and modem allows for easy integration into existing communications networks.

Feature selections

Commercial ref. no.	Model	Description
METSEEM480525	EM4805	24 x 5 A inputs, 230/240 V control power, 50 Hz
METSEEM480516		24 x 5 A inputs, 120 V control power, 60 Hz
METSEEM483325	EM4833	24 x 333 mV inputs, 230/240 V control power, 50 Hz
METSEEM483316		24 x 333 mV inputs, 120 V control power, 60 Hz
METSEEM488016	EM4880	24 x 80 mA inputs, 120 V control power, 60 Hz
METSEEM488025		24 x 80 mA inputs, 230/240 V control power, 50 Hz

EM4800 series



PowerLogic EM4800 series digital panel meter.

Selection guide

		EM4805	EM4833	EM4880
General				
Use on LV systems		■	■	■
Accuracy	+/- 0.5 %	■	■	■
Accuracy compliance	ANSI C12.1 and C12.20 Class 0.5; IEC 62053-22, Class 0.5S	■	■	■
Maximum circuits: single-pole / single phase / three-phase	24 / 12 / 8	■	■	■
Instantaneous rms values				
Energy	Real, kWh received/delivered	■	■	■
	Reactive, kvarh received/ delivered	■	■	■
	Apparent, VAh	■	■	■
Voltage		■	■	■
Pulse counts		■	■	■
Voltage and current	V rms, I rms per phase	■	■	■
Power	Real, reactive, apparent	■	■	■
Power factor		■	■	■
Measurements available for data logging				
Energy	Real, kWh received/delivered	■	■	■
	Reactive, kvarh received/ delivered	■	■	■
	Apparent, VAh	■	■	■
Voltage		■	■	■
Display				
Backlit LCD display	2 lines of 16 characters	■	■	■
Optional remote modular display available		■	■	■
Communication				
Ethernet port		■	■	■
V.90 modem port		■	■	■
Pulse inputs	2	■	■	■
Protocols: Modbus TCP/IP, HTTP, BACnet/IP, FTP, and SNTP		■	■	■
Installation options				
5 A CTs		■		
0.333 V CTs			■	
80 mA CTs				■
Split-core CT		■	■	
Solid core CT		■	■	■
Remote modular display		■	■	■

EM4800 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	50/60 Hz
Mechanical characteristics		
Weight	EM4805	approx. 5.4 kg
	EM4833/EM4880	approx. 4.0 kg
Dimensions	EM4805	335 x 44 x 55 mm
	EM4833 / EM4880	335 x 305 x 55 mm
Environmental conditions		
Operating temperature		-40 °C to 70 °C
Storage temperature		-40 °C to 70 °C
Humidity rating		0 % to 90 % RH non-condensing
Enclosure		Type 1 (indoor or enclosed outdoor use)
Altitude		3000 m
Pollution degree		2
Safety and standards		
UL Certified to IEC/EA/CSA 61010-1		
CSA-C22.2 No 61010-1-04		
FCC Part 15 Class B		
ICES-003 EN55022, IEC 6100-4-5		
ANSI/TIA968-A: 2002		
Communication		
Ports		Ethernet
		V.90 modem
Pulse inputs		2
Protocols: Modbus TCP/IP, HTTP, BACnet/IP, FTP, and SNTP		
Display characteristics		
Integrated backlit LCD display		2 ines, 16 digits per line display; R / L arrow buttons select metering point; Display button cycles through measurements per point.

EM4900 series

The PowerLogic EM4900 Series Multi-Circuit Meters make it easy to add many metering points without having to purchase, mount, wire and commission individual energy meters. Simply add a single device with common voltage inputs and communication interface that can measure the current, voltage, power, energy consumption, and Total harmonic Distorion (THD) of up to (14) 3-phase circuits with a single board or up to (28) 3-phase circuits with a two board configuration. Save on both equipment cost and installation.

Applications

- Commercial and residential subtenant billing
- Load-based cost allocation
- Measuring for load balancing and demand response
- Overload protection

PB117150

PB117149





METSEEM4904E

METSEEM4904A

The solution for

Markets that can benefit from a solution that includes PowerLogic EM4900 series meters:

- Buildings
- Industry
- Healthcare
- Hotels, Multi-Dweller Units (condos)

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

- Lower cost and space per metering point
- Adapts to any mix of metering needs (1ph, 2ph, 3ph with or without Neutral wire)
- Class 0.5 accuracy for Revenue Grade measurement
- THD monitoring to help identify problem loads and early wear and tear
- Capable of concurrent communication to software packages, including PowerLogic software packages and third party systems

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

- EN 61000-6-3 Class B - Part 6-3
- EN 61000-6-3 Class B - Part 6-3
- EN 61000-6-4 Class A - Part 6
- EN 61010-1 - Part 1
- EN 61326-1 Class A - Part 1
- EN 61326-1 Class B - Part 1
- IEC 62053-22 Class 0.5 - Part 21
- FCC 47 CFR Part 15 Class A & Class B
- UL 508 Open Device Type
- IEC 61010-1 - Part 1

EM4900 series

PB117149



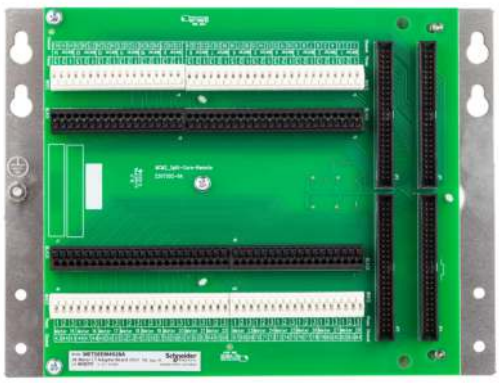
PowerLogic™ EM4914A

PB117153



PowerLogic™ EM4914E

PB117151



28 Meter adapter board (EM4928A and EM4928E)

To aid in commissioning, a configuration software tool, an Ethernet discovery tool (for the EM49xxE) and a User Guide are available online at www.schneider-electric.com.

- Main characteristics
  - Add lots of metering points without lots of cost
    - Add up to 28 3-phase meters by installing a single product small enough to fit inside many distribution panels. Save on both equipment cost and installation cost. Common voltage and communication connections and color-coded push-in CT connections save installation time and effort.
  - Class 0.5 accuracy for Revenue Grade measurements
    - Power and Energy measurements with ANSI and IEC class 0.5 accuracy provide the accuracy needed for tenant billing applications. Voltage and current measurement accuracy is 0.5 % and currents are measured down to 0.1% of the CT range. Easily differentiate between the flow of low current and a trip or load disconnect where no current flows.
  - Total Harmonics Distorion measurements
    - Helps assess basic power quality to reduce risks to the load and provide indication of potential early wear and tear of the electrical network and its load.
  - Common CTs, 1/3V outputs
    - CTs with low-voltage outputs eliminate the need for shorting blocks that add cost and labor to the installation. They also allow long CT lead extensions without compromising accuracy. Choose from a range of our CT styles and sizes or use any CTs with industry-standard 0.333V outputs.
  - Models with integrated Ethernet offer broad protocol support
    - All models integrate easily into existing networks using Modbus RTU communications over an RS-485 serial link. EM49xxE models offer integrated Ethernet and add support for Modbus TCP, BACnet IP, BACnet MS/TP and SNMP. Those Ethernet protocols can be run in parallel allowing multiple software to access the device (Building Management System, Energy Management System, etc.) An optional external gateway can be added to EM49xxA models to offer the same capability.
  - Compatible with PowerLogic power monitoring software
    - Easily turn the large amount of data collected by the devices into useful decision making information.
  - Configure the meters you want
    - Choose 4, 8, 14 or 28 3-phase meters. User-configurable to any combination of 1-, 2-, 3-phase meters. Reconfigure channels as needed to monitor neutral current.

EM4900 series specifications

Measurements	
Measurement voltage	90 t0 300 V AC L-N, 50/60 Hz
Total Harmonic Distortion (THD)	THD % voltage L-L, L-N and THD % on current
Control power	
EM49xxA	90 to 277 V AC L-N, 50/60 Hz
EM49xxE	100 to 277 V AC L-N, 50/60 Hz
Accuracy	
Power/Energy	IEC 62053-21 Class 0.5, ANSI C12.20 class 0.5
Voltage	±0.5% of reading 90 to 277 V L-N
Current	±0.5% of reading from 2% to 100% of full-scale
Operation	
Sampling frequency	2560 Hz
Update rate	1.8 seconds (both panels)
Overload capability	22 kAIC
EM49xxA serial communication	
Type	Modbus RTU
Connection	DIP switch-selectable 2-wire or 4-wire, RS-485
Address	DIP switch-selectable address 1 to 247 (in pairs of 2) (See Installation Guide)
Baud rate	DIP switch-selectable 9600, 19200, 38400
Parity	DIP switch-selectable NONE, ODD, EVEN
Communication format	8 data bits, 1 start bit, 1 stop bit
Termination	5-position plug-in connector (TX+ TX- SHIELD TX+/RX+ TX-/RX-)
EM49xxE serial communication	
Physical Interface	2-wire RS-485
Serial protocols supported	Modbus RTU or BACnet MS/TP
Address range	1 to 247 for Modbus RTU; 0 to 127 for BACnet MS/TP
Baud rate	9600, 19200, 38400
Parity	Modbus RTU: NONE, ODD, EVEN BACnet MS/TP: NONE (fixed)
Communication format	8 data bits, 1 start bit, 1 stop bit
Termination	2x3 position connector
EM49xxE Ethernet communication	
Physical interface	Protocols Supported
Protocols supported	Modbus TCP, BACnet IP, SNMP V2c
Wire size range	
Removable connectors on main board	24 to 12 AWG
CT Terminals and EM49xxE serial connector terminals	26 to 16 AWG
Terminal block torque	
Removable connectors	0.5 to 0.6 N-m
Mechanical	
Ribbon cable support (28-meter models only)	0.9 m round ribbon cable ships standard; up to 6 m flat or round available
Operating conditions	
Operating temperature range	0 to 60 °C (<95% RH non-condensing)
Storage temperature range	-40 to 70 °C
Altitude of operation	3000 m
Mounting location	Not suitable for wet locations. For indoor use only.
Compliance information	
Agency approvals	UL 508 open type device[+1], IEC/EN 61010-1
Installation category	Cat III, pollution degree 2[+2]
Conducted emissions	EM49xxA Models: FCC part 15 Class B, EN 61000-6-3, EN 61326-1 Class B (residential & light industrial)
Radiated emissions	EM49xxE Models: FCC part 15 Class A, EN 6100-6-4, EN 61326-1 Class A
Conducted and radiated immunity	EN 61000-6-2 and EN 61326-1

[+1]Install EM49xx in apprpropriate fire enclosure; if used with circuits higher than product ratings, circuits must be segregated per UL 508A Sec 17.5 (EM49xx internal circuitry are not circuits as defined by UL 508A).

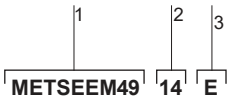
[+2] A Pollution Degree 2 environment must control conductive pollution and the possibility of condensation or high humidity. Consideration must be given to the enclosure, the correct use of ventilation, thermal properties of the equipment and the relationship with the environment.

EM4900 series

1/3 V low-voltage CT (LVCT)

Electrical characteristics	
Accuracy	1 % from 10 % to 100 % of rated current(LVCT0xxxx0S/1S/2S/3S/4S [split-core]) 0.5 % from 5 % to 100 % of rated current (LVCT2xxxx0S/2S/3S [solid core])
Frequency range	50/60 Hz
Leads	18 AWG, 600 V AC, 1.8 m standard length
Max. voltage L-N sensed conductor	300 V AC (LVCT0xxxx0S) 600 V AC (LVCT0xxxx1S/2S/3S/4S, LVCT2xxxxxS)
Measurements	
Real time measurements	Current: multi-phase average and per phase Current phase angle per branch Real power (kW): multi-phase total and per phase Apparent power (kVA): multi-phase total and per phase Power factor: multi-phase average and per phase
Demand measurements	Current present demand: multi-phase average and per phase Real power (kW) present demand: multi-phase average and per phase
Historic maximums	Maximum instantaneous current: multi-phase average and per phase Maximum current demand: multi-phase average and per phase Maximum real power demand: multi-phase total and per phase
Accumulate energy	Energy (kWh): multi-phase total and per phase
Energy snapshots	Energy (kWh): multi-phase total and per phase

EM4900 series



1 Model.
2 Number of 3-phase meters (without neutral current)
3 Communication interfaces & protocols.

PB117149



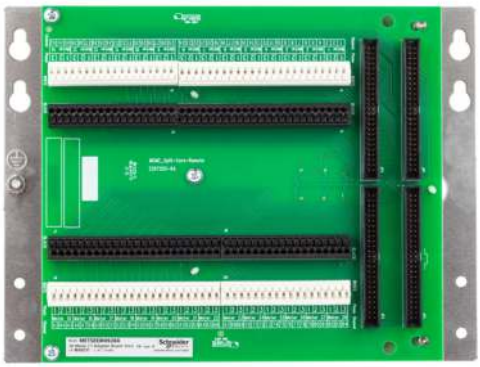
EM49xxA Main Board

PB117150



EM49xxE Main Unit

PB117151



CT Adapter Assembly (28-Meter models only)

EM4900 series part numbers - BCPM with solid core CTs

	Item	Code	Description
1	Model	METSEEM49	Multi-Circuit Meter
2	Number of 3-phase Meters	04	Up to (4) 3-phase Meters (see table for variations)
		08	Up to (8) 3-phase Meters (see table for variations)
		14	Up to (14) 3-phase Meters (see table for variations)
		28	Up to (28) 3-phase Meters (see table for variations)
3	Communication Interfaces & Protocols	A	RS-485 Serial with Modbus RTU (add E8951 for other protocols)
		E	Ethernet with Modbus TCP, BACnet IP and SNMP protocols and RS-485 Serial with Modbus RTU or BACnet IP

		Number of meters		
Commercial ref. no.	"E" - Integrated Ethernet	3-phase	2-phase	1-phase
METSEEM4904A	**METSEEM4904E**	4	6	12
METSEEM4908A	**METSEEM4908E**	8	12	24
METSEEM4914A	**METSEEM4914E**	14	21	42
METSEEM4928A	**METSEEM4928E**	28	42	84

Number of meters supported:

EM4900 models are all factory-configured as all 3-phase meters (w/o neutral). They can be easily re-configured to any combination of 1-ph, 2-ph or 3-ph meters (with ION Setup). Any unused channels can be used to measure neutral current. Label overlays (to re-number CT connections) are provided for 1-ph/2-ph applications.

Commercial ref. no.	EM4900 multi-circuit meters
METSEEM4904A	Multi-Circuit Meter – (4) 3-phase meters - Modbus RTU only
METSEEM4908A	Multi-Circuit Meter – (8) 3-phase meters - Modbus RTU only
METSEEM4914A	Multi-Circuit Meter – (14) 3-phase meters - Modbus RTU only
METSEEM4928A	Multi-Circuit Meter – (28) 3-phase meters - Modbus RTU only
METSEEM4904E	Multi-Circuit Meter – (4) 3-phase meters - Ethernet and Serial (Modbus, BACnet & SNMP)
METSEEM4908E	Multi-Circuit Meter – (8) 3-phase meters - Ethernet and Serial (Modbus, BACnet & SNMP)
METSEEM4914E	Multi-Circuit Meter – (14) 3-phase meters - Ethernet and Serial (Modbus, BACnet & SNMP)
METSEEM4928E	Multi-Circuit Meter – (28) 3-phase meters - Ethernet and Serial (Modbus, BACnet & SNMP)

EM4900 series

PE86284



CBL008

Flat ribbon cable

PB117152



CBL022

Round ribbon cable

PE86183



LVCT00050S

PowerLogic™ LVCT0xxxxS split-core Low-voltage (1/3V) CTs are ideal for retrofit applications

PB113652
PB113657
PB113658



LVCT20050S

PowerLogic™ LVCT2xxxxS Low-voltage (1/3V) solid core CTs are ideal for panel builders (small, medium, large)

EM4900 series accessories

Commercial reference number	Description
BCPMCOVERS	EM4900 circuit board cover
E8951	Modbus to BACnet protocol converter
Ribbon cables for 28-meter models	
1.22 m cables are standard – others must be ordered separately	
CBL008	Flat Ribbon cable (quantity 1) for BCPM, length = 0.45 m
CBL016	Flat Ribbon cable (quantity 1) for BCPM, length = 1.2 m
CBL017	Flat Ribbon cable (quantity 1) for BCPM, length = 1.5 m
CBL018	Flat Ribbon cable (quantity 1) for BCPM, length = 1.8 m
CBL019	Flat Ribbon cable (quantity 1) for BCPM, length = 2.4 m
CBL020	Flat Ribbon cable (quantity 1) for BCPM, length = 3.0 m
CBL021	Flat Ribbon cable (quantity 1) for BCPM, length = 6.1 m
CBL022	Round Ribbon cable (quantity 1) for BCPM, length = 1.2 m
CBL023	Round Ribbon cable (quantity 1) for BCPM, length = 3 m
CBL024	Round Ribbon cable (quantity 1) for BCPM, length = 6.1 m
CBL031	Round Ribbon cable (quantity 1) for BCPM, length = 0.5 m
CBL033	Round Ribbon cable (quantity 1) for BCPM, length = 0.8 m

1/3 V low-voltage Split-core CTs

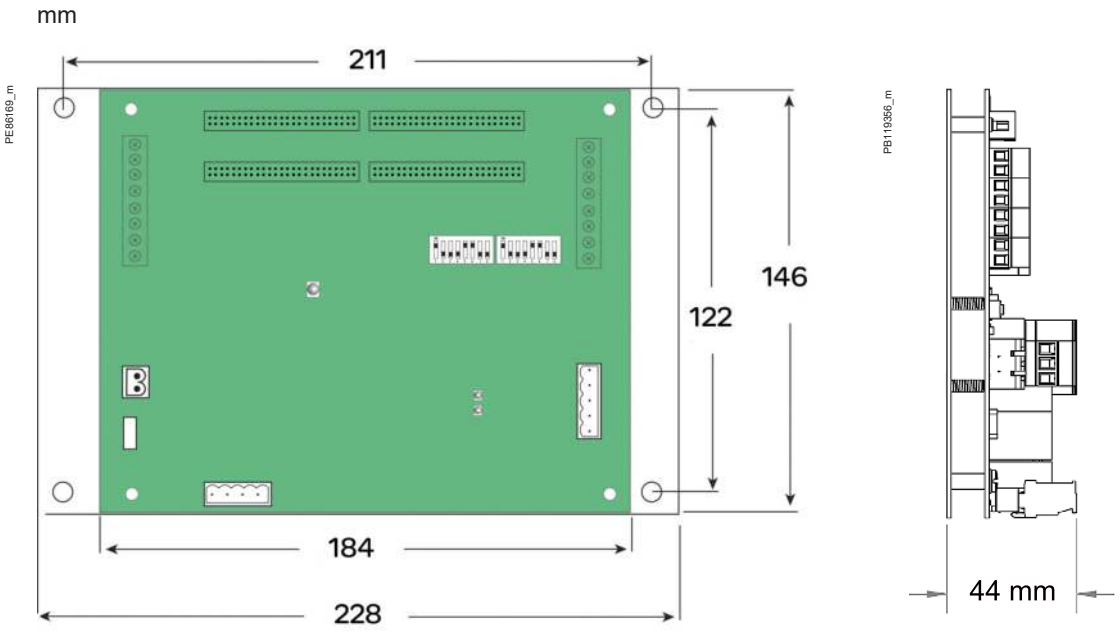
Commercial reference number	Amperage rating	Inside dimensions
LVCT00050S	50 A	10 x 11 mm
LVCT00101S	100 A	16 x 20 mm
LVCT00201S	200 A	32 x 32 mm
LVCT00102S	100 A	30 x 31 mm
LVCT00202S	200 A	30 x 31 mm
LVCT00302S	300 A	30 x 31 mm
LVCT00403S	400 A	62 x 73 mm
LVCT00603S	600 A	62 x 73 mm
LVCT00803S	800 A	62 x 73 mm
LVCT00804S	800 A	62 x 139 mm
LVCT01004S	1000 A	62 x 139 mm
LVCT01204S	1200 A	62 x 139 mm
LVCT01604S	1600 A	62 x 139 mm
LVCT02004S	2000 A	62 x 139 mm
LVCT02404S	2400 A	62 x 139 mm

1/3 V low-voltage Solid core CTs

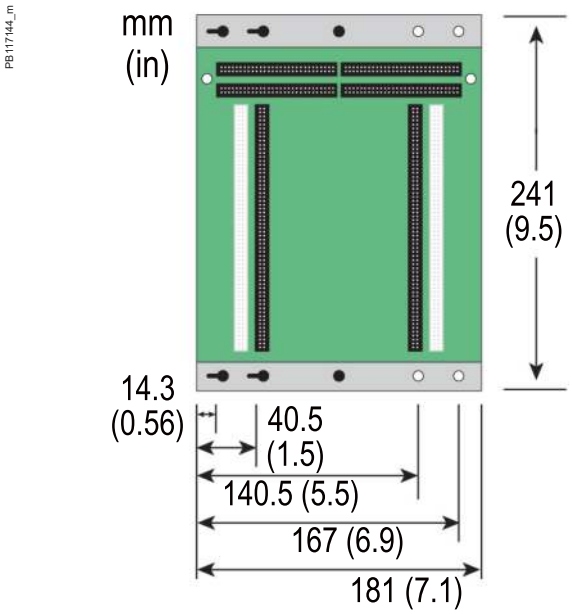
Commercial reference number	Amperage rating	Inside dimensions
LVCT20050S	50 A	10 mm
LVCT20100S	100 A	10 mm
LVCT20202S	200 A	25 mm
LVCT20403S	400 A	31 mm

EM4900 series

EM49xxA main board dimensions



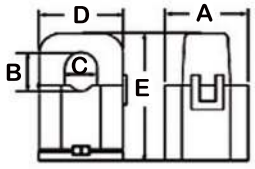
28-Meter CT adapter assembly dimensions

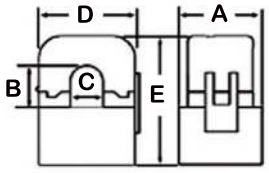


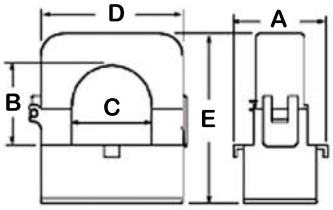
EM4900 series

50 A-200 A Split-core CT dimensions

PB113659



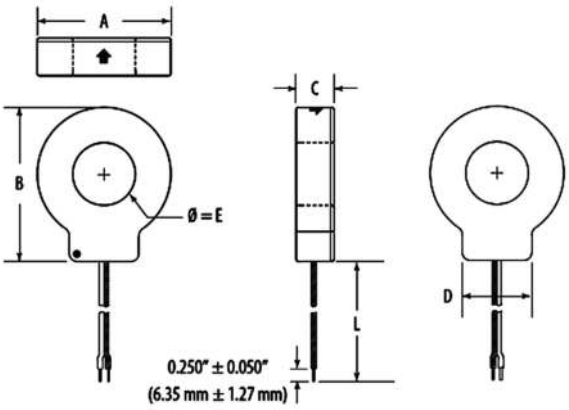




CT rating	A	B	C	D	E
50 A	26 mm	11 mm	10 mm	23 mm	40 mm
100 A	28 mm	16 mm	16 mm	40 mm	52 mm
200 A	37 mm	32 mm	32 mm	62 mm	69 mm

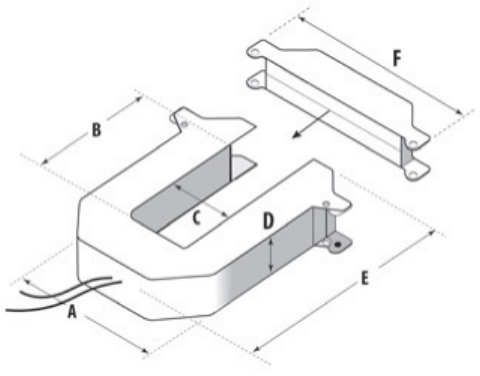
Solid core CT dimensions

PB113660



Model	L	A	B	C	D	E
LVCT20050S	1.8 m	33 mm	38 mm	18 mm	21 mm	10 mm
LVCT20100S						
LVCT20202S	1.8 m	59 mm	66 mm	18 mm	31 mm	25 mm
LVCT20403S	1.8 m	70 mm	82 mm	25 mm	36 mm	31 mm

PB113663



Split-core CT dimensions - see table.

1/3 V low-voltage CT form factor

Small form factor 100/200/300 A	Medium form factor 400/600/800 A	Large form factor 800/1000/1200/ 1600/2000/2400 A
A = 96 mm	A = 125 mm	A = 125 mm
B = 30 mm	B = 73 mm	B = 139 mm
C = 31 mm	C = 62 mm	C = 62 mm
D = 30 mm	D = 30 mm	D = 30 mm
E = 100 mm	E = 132 mm	E = 201 mm
F = 121 mm	F = 151 mm	F = 151 mm

Retrofit products

The advantages of using retrofit products throughout your power monitoring system are numerous and proven. Whether you install these products as part of an upgrade or as add-on modules in a new build environment, ease of installation and commissioning will reap huge economic benefits. The PowerLogic range is designed to retrofit existing switchboards and enhance the energy efficiency of buildings for many years.

These products are:

- Easy and cost-effective to install
- Able to collect a broad scop of electrical data
- Able to utilize a variety of meters to measure WAGES (Water, Air, Gas, Electricity, Steam) usage
- Transmit all data to a centralized data concentrator for detailed analysis

PB105431

PB115451



METSEEM3502



METSEEM4235

EM3500 series

The EM3500 Series DIN Rail Meter combines exceptional performance and easy installation to deliver a cost-effective solution for power monitoring applications.

The EM35xx can be installed on standard DIN rail or surface mounted as needed. Pulse output and phase alarms provide additional versatility.

Applications

Capable of essential cost management:

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

PB105431



METSEEM3502

The solution for

Markets that can benefit from a solution that includes PowerLogic EM3500 series meters:

- 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

- DIN rail mounting option; easy installation
- Real energy output and phase loss alarm output
- 90-600 V AC; application versatility with fewer models to stock
- Bright backlit LCD; easy visibility in dark enclosures
- Data logging capability safeguard during power failures
- EM35xx models compatible with LVCTs from 5 A to 32000 A
- User-enabled password protection prevents tampering
- Native BACnet MS/TP support (no gateway)

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
- 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.

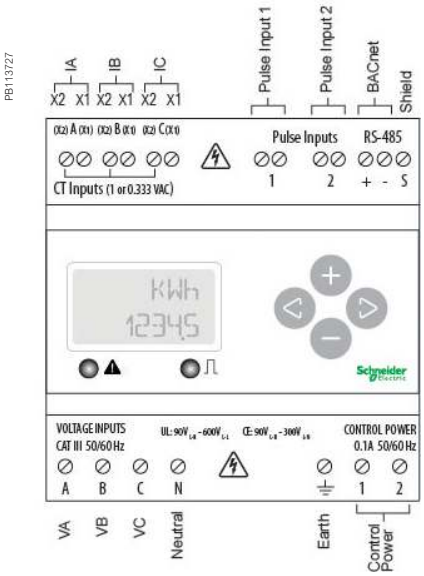
EM3500 series

PB105431



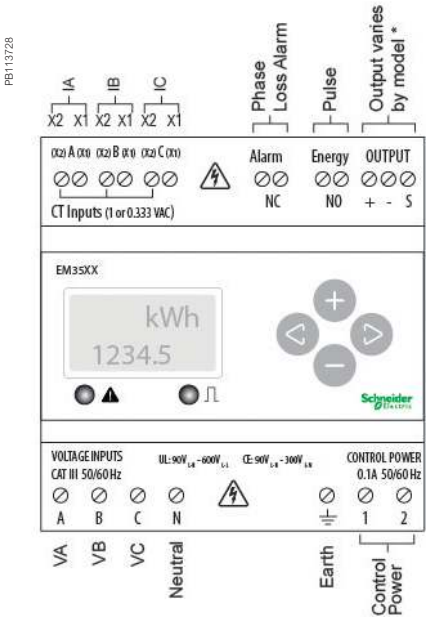
PowerLogic™ EM3500

PB113727



EM3500 parts and connection terminals

PB113728



EM3502/EM355x parts and connection terminals

The data logging capability (EM3555 and EM3560) protects data in the event of a power failure. Modbus, pulse output, and phase alarms are all provided to suit a wide variety of applications. Additional pulse inputs on EM3560 provide an easy way to incorporate simple flow sensors to track gas, water, steam, or other energy forms using a BACnet system in addition to full monitoring of electrical energy.

EM35xxA (Pulse, Modbus, BACnet) models designed for use exclusively with Rogowski coil CTs where integrator and power supply for the CTs are built into the meter, resulting in fewer devices to purchase and faster to install. (Not recommended for high harmonic applications.)

The EM3555 models adds a bi-directional monitoring feature designed expressly for renewable energy applications, allowing measurement of power imported from the utility grid as well as power exported from the renewable energy source (e.g. solar panels). In this way, a facility administrator track all energy data, ensuring accuracy in billing and crediting.

- Features
  - All Models: A compact solution for panelboard monitoring
    - DIN rail mounting option; easy installation
    - ANSI 12.20 0.2% accuracy, IEC 62053-22 Class 0.2S for all 35xx models; great for cost allocation
    - ANSI C12.20 0.5% accuracy, IEC 62053-22 Class 0.5S for EM35xxA models
    - Real energy output and phase loss alarm output on EM3502(A), EM3550(A), and EM3555 models; one device serves multiple applications
    - 90-600 VAC; application versatility with fewer models to stock
    - Bright backlit LCD; easy visibility in dark enclosures
    - Data logging capability EM3555 & EM3560(A); safeguard during power failures
    - EM35xx models compatible with LVCTs from 5 A to 32000 A; wide range of service types
    - User-enabled password protection; prevents tampering
    - EM35xxA models are designed to work exclusively with Rogowski coil CTs 20-5000 A range. Eliminate site walks, save time and money. (Not recommended in high harmonic applications.)
    - System integration via Modbus EM355xx(A) or BACnet MS/TP EM356xx(A); convenient compatibility with existing systems
    - Native BACnet MS/TP support (no gateway) with serial rates up to 115.2 kbaud EM3560, EM3561, EM3560A, & EM3561A
  - EM3555 Models: An essential solution for Solar and other renewable energy applications
    - Bi-directional metering (4-quadrant); allows net metering
    - Data logging capability; ensures long term data retrieval
    - CSI approved

EM3500 series

PB105437



EM3500 in enclosure with door open

Selection guide

Electrical characteristics			
Inputs	Control Power, AC		50/60 Hz; 5 VA max.; 90 V min.; UL Maximums: 600 V L-L (347V L-N); CE Maximums: 300 V L-N (520V L-L)
	Control Power, DC		3W max.; UL and CE: 125 to 300 V DC (external DC current limiting required)
	Voltage Input		UL: 90 V L-N to 600 V L-L ; CE: 90 V L-N to 300 V L
	Current Input	Scaling	5 A to 32,000 A Non "A" models only 20 A to 5000 A for "A" models only
		Input Range	1/3V and 1V nominal LVCT (selectable) Non "A" models only Rogowski coil CTs only for "A" models
	Pulse Inputs (EM3560 & EM3560A)		Two sets of contact inputs to pulse accumulators
Accuracy	Real Power and Energy		0.2 % (ANSI C12.20, IEC 62053-22 Class 0.2S) EM35xx models only 0.5 % (ANSI C12.20, IEC 62053-22 Class 0.5S) EM35xxA models only
Outputs	All Models (EM3560, EM3560A, EM3561 & EM3561A)		Real Energy Pulse: N.O. static; Alarm contacts: N.C. static
	EM3502		Reactive energy pulse 30 VAC/DC
	EM3550, EM3555, EM3550A		RS-485 2-wire Modbus RTU (1200 baud to 38.4 kbaud)
	EM3560, EM3560A, EM3561, EM3561A		RS-485 2-wire BACnet MS/TP (9600 baud to 115.2 kbaud)
Mechanical characteristics			
Mounting			DIN Rail or 3-point screw mount
Environmental conditions			
Operating temperature Range			-30 °C to 70 °C
Storage Temperature Range			-40 °Cto 85°C
Humidity Range			<95 % RH non-condensing
Accessories			
NEMA 4x enclosure (EM3500-ENC, pictured)			
Split-core low voltage CTs (LVCTxx)			
Fuse kits (EFP1, EFP2, EFP3)			
Safety			
US and Canada (cULus) UL508 (open type device)/CSA 22.2 No. 14-05			
Europe (CE) EN61010-1:2001			

Feature selection

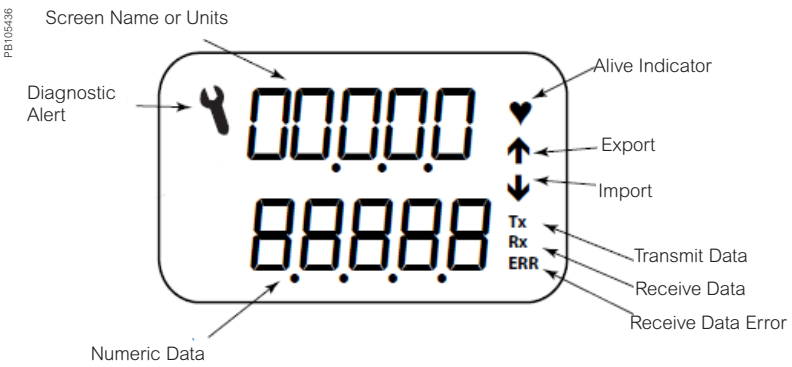
Commercial reference number	Model	Description
METSEEM3502	EM3502	Pulse out only
METSEEM3550	EM3550	Modbus - 2 quadrant
METSEEM3555	EM3555	Modbus - 4 quadrant with logging
METSEEM3560	EM3560	BACnet with logging
METSEEM3502A	EM3502A	Pulse Rope CT model
METSEEM3550A	EM3550A	Modbus Rope CT Model
METSEEM3560A	EM3560A	BACnet w/ logging Rope CT Model
METSEEM3561	EM3561	BACnet without logging
METSEEM3561A	EM3561A	BACnet without logging Rope CT Model

EM3500 series

EM3500 series

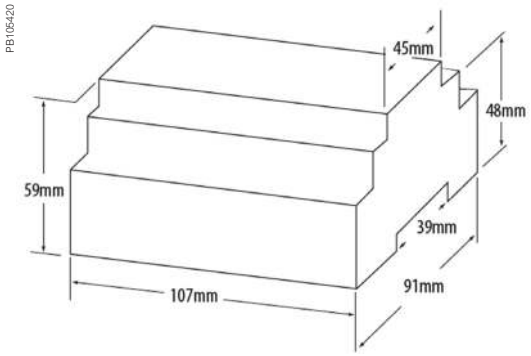
	EM3502	EM3550	EM3560	EM3561	EM3555	EM3502A	EM3550A	EM3560A	EM3561A
Measurement Capability, Full Data Set									
Bi-directional Energy Measurements					■				
Power (3-phase total and per phase): Real (kW) Reactive (kVAR), and Apparent (kVA)	■	■	■	■	■	■	■	■	■
Power Factor: 3-phase average & per phase	■	■	■	■	■	■	■	■	■
Present Power Demand: Real (kW), Reactive (kVAR), and Apparent (kVA)	■	■	■	■	■	■	■	■	■
Import and Export totals of Present Power Demand: Real (kW), Reactive (kVAR), & Apparent (kVA)					■				
Peak Power Demand: Real (kW), Reactive (kVAR), and Apparent (kVA)	■	■	■	■	■	■	■	■	■
Current (3-phase average and per phase)	■	■	■	■	■	■	■	■	■
Voltage: Line-Line and Line-Neutral (3-phase average and per phase)	■	■	■	■	■	■	■	■	■
Frequency	■	■	■	■	■	■	■	■	■
ANSI C12.20 0.5 % accuracy, IEC 62053-22 Class 0.5S						■	■	■	■
ANSI C12.20 0.2 % accuracy, IEC 62053-22 Class 0.2S	■	■	■	■	■				
Accumulated Net Energy: Real (kWh), Reactive (kVARh), and Apparent (kVAh)	■	■	■	■	■	■	■	■	■
Accumulated Real Energy by phase (kWh)	■	■	■	■	■	■	■	■	■
Import and Export Accumulators of Real and Apparent Energy					■				
Reactive Energy Accumulators by Quadrant (3-phase total & per phase)					■				
Demand Interval Configuration: Fixed or Rolling Block	■	■	■	■	■	■	■	■	■
Demand Interval Configuration: External Sync to Comms		■	■	■	■		■	■	■
Data Logging (Store up to 60 days at 15-minute interval)									
Data Logging: 10 16-Bit Configurable (can include Date/Time) Data Buffers					■				
Data Logging: 3 Timestamped 32-Bit Configurable Data Buffers			■					■	
Outputs									
Alarm Output (N.C.)	■	■	■		■	■	■	■	
1 Pulse Output (N.O.)		■			■		■		
2 Pulse Outputs (N.O.)	■					■			
RS-485 Serial (Modbus RTU Protocol)		■			■		■		
RS-485 Serial (BACnet MS/TP Protocol)			■	■				■	■
LON FT Serial (LonTalk Protocol)									
Inputs									
2 Pulse Contact Accumulator Inputs				■					■
1 Pulse Contact Accumulator Input			■					■	

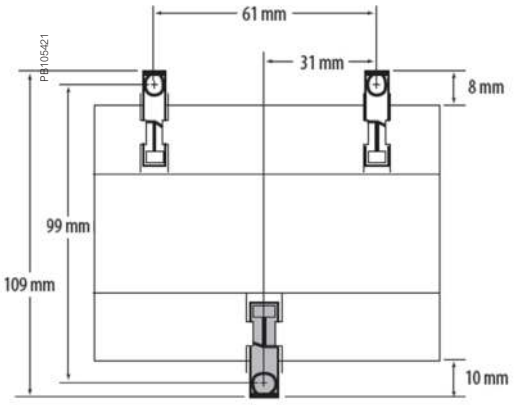
Display Screen Diagram

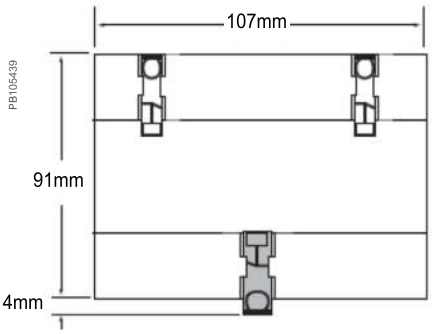


EM3500 series

EM3500 dimensions

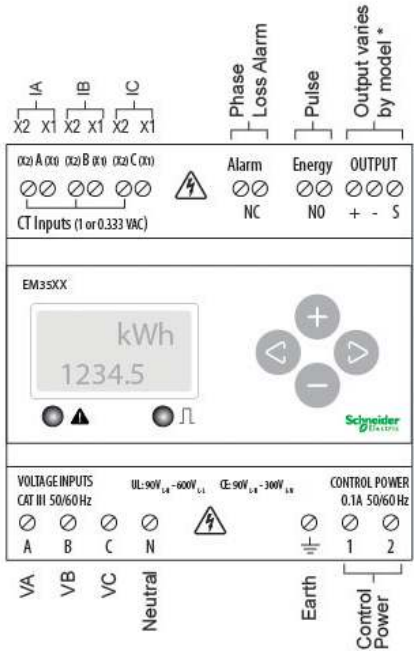






Bottom View (DIN Mount Option)

EM3500 connections



Two 5-character rows of display text.
Top row alphanumeric;
Bottom row numeric only

The red Alarm LED lights when any of the 3 phase voltages drop below the selected threshold.

The green Energy LED lights momentarily each time the Energy output pulse is active.

Please see EM3500 User Guide and EM3500 Installation Guide for safe and correct wiring and connection information.

EM4200 series

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

Designed for simplicity, the range includes two main offers: System Calibrated and Flex. The EM4200 System Calibrated offers system accuracy, pre-mounted Current Transducers, with a simple to quote and order single part number.

The EM4200 Flex offers the flexibility of a wide range of Current Transducers to match most applications, no matter how varied.

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

PB120808



METSEEM4235

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 high system, or meter accuracy.
- Single part to order a metering chain (System Calibrated).
- Supports a large range of Sensor options. Flex can adapt to CTs from 50 to 5000 A, or different Rogowski coil sizes rated for up to 5000 A.
- Modbus and BACnet protocols along with uni-directional and bi-directional feature sets.
- Wide 90 to 480 V AC input range.
- DIN rail or screw-mount options, including mounting bracket for easy installation.
- 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

- CAN/CSA-C22.2
- EN 61000-6-2
- EN 61000-6-4 Class A
- EN 61010-1
- EN 61326-1 Class A
- FCC 47 CFR Part 15 Class A
- UL 61010-1

Accuracy standards

Flex models

- ANSI C12.20-2015 Class 0.2
- IEC 62053-24 Class 1S

When used with 1/3 V CT (Meter accuracy)

- IEC 62053-22 Class 0.2S 0.2%

When used with Rogowskil Coils (Meter accuracy)

- IEC 62053-22 Class 0.5S

System calibrated

- ANSI C12.1, 1%
- IEC 62053-22 Class 1S 1%

EM4200 series

PB120809



EM4200 Flex Power Meter

PB119361



EM4200 System Calibrated with calibrated Rogowski coils

The EM4200 meter series provides a highly flexible retrofit option ideal when adding metering to an existing building, or to integrate in an OEM solution. Designed to simplify the ordering process, the meter is declined in 2 major options:

System Calibrated offers the simplest way to order, deploy and meet requirements. The meter comes with pre-mounted Current Transducers (CT), or Rogowski Coils. A single reference provides a System calibrated accuracy meter with a 100, 200, 400A CT, or 5,000A Rogowski coil.

Flex offers the flexibility required when the CT, or Rogowksi coil, rating or size needs to further adapt to the site. CTs can range from 50 to 5,000A and Rogowski coils can be different sizes with a 5,000 A rating.

- General features
  - Uni and Bi-Directional metering to support to power generation application.
  - Data logging.
  - Modbus and BACnet serial communication with auto-protocol and baud rate detection.
  - Configurable with or without power.
  - DIN rail or screw-mount options, including mounting brackets for easy installation.
  - Seamless integration in Power Monitoring Operations and Power SCADA Operations.
  - Wide input range of 90 to 480 V AC.
  - Approvals: UL 61010-1, IEC/EN 61010-1
- System calibrated features
  - Three factory mounted and calibrated Current Transducers (100, 200 or 400 A), or Rogowski coils (5,000 A, 12” or 18” (304.8 mm or 457.2 mm)). Simplifies ordering and commissioning.
  - ANSI version only: Fuse packs factory mounted.
  - System Accuracy from 1% to 100% load:
    - Real Power and Energy: ANSI C12.1 1%, IEC 62053-22 Class 1S, 1%.
    - Reactive Power and Energy: IEC 62053-24 Class 1, 1%
- Flex features
  - Supports generic 1/3 V CTs from 50 to 5,000 A.
    Or 1/3 V 5,000 A Rogowski coils.
  - ANSI: Optional fuse packs available.
  - Meter Accuracy from 1% to 100% of load (CT mode):
    - Real Power and Energy: ANSI C12.20 0.2%,
      IEC 62053-22 Class 0.2S, 0.2%.
    - Reactive Power and Energy: IEC 62053-24 Class 1, 1%.

EM4200 series

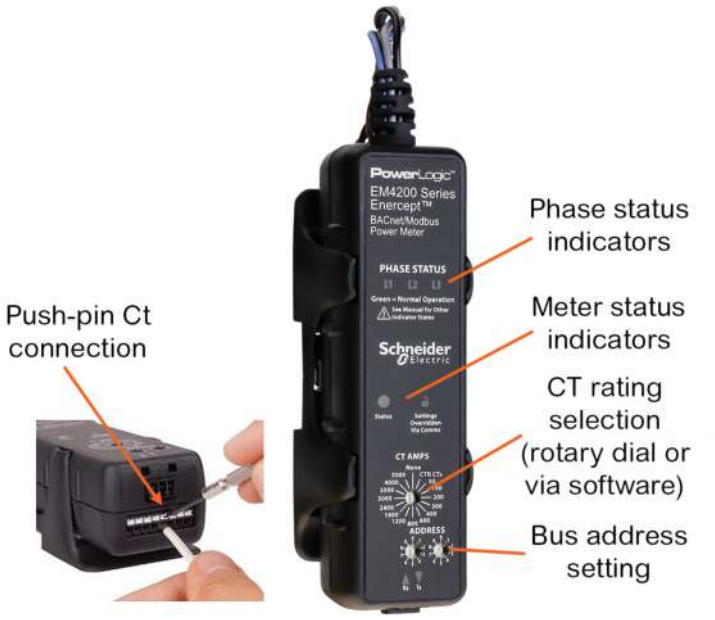
EM4200 series selection guide

Advantage	EM4200 Flex		EM4200 System Calibrated			
	METSEEM4235	METSEEM4236	METSEEM4235Axx	METSEEM4236Axx	METSEEM4235Bxx	METSEEM4236Bxx
General						
Market	IEC	ANSI	IEC	ANSI	IEC	ANSI
Single part to order			Yes	Yes	Yes	Yes
Factory mounted CTs/Rogowski coil			Yes	Yes	Yes	Yes
CT						
Rating	50 to 5000 A user choice	50 to 5000 A user choice	Three		Three 100, 200 or 400 A supplied	Three 100, 200 or 400 A supplied
Type	1/3 V Solid or Split Core	1/3 V Solid or Split Core			Split Core	Split Core
Rogowski Coil						
Rating	5000 A	5000 A	5000 A supplied	Three 5000 A supplied		
Type						
Size	User choice	User choice	12” or 18”	12” or 18”		
Accuracy						
Meter	0.2% with CTs 0.5% with Rogowski Coil	0.2% with CTs 0.5% with Rogowski Coil				
System			1%	1%	1%	1%
Fuse pack						
	Option sold separately	Option sold separately		Factory mounted		Factory mounted
Communication						
	BACnet MS/TP Modbus RTU over RS485	BACnet MS/TP Modbus RTU over RS485	BACnet MS/TP Modbus RTU over RS485	BACnet MS/TP Modbus RTU over RS485	BACnet MS/TP Modbus RTU over RS485	BACnet MS/TP Modbus RTU over RS485

EM4200 parts descriptions and advantages

EM4200 Flex meter

PB120811



EM4200 System calibrated

PB120812



EM4200 series

Electrical characteristics		EM4200 Flex	EM4200 System calibrated
Input-voltage characteristics	Inputs	V1, V2, V3, Vn	V1, V2, V3, Vn
	Measured voltage	90 - 277 V AC L-N UL max 480 V L-L CE max 300 V L-N	90 - 277 V AC L-N UL max 480 V L-L CE max 300 V L-N
	Frequency range	50/60 Hz	50/60 Hz
Mechanical characteristics			
Weight		Approx 1/0 kg (2.2 lb)	1.4 to 2.2 Kg (3.10 to 4.85 lb) (model dependent)
Dimensions		46.63 x 35.81 x 152.36 mm (1.84 x 1.41 x 6.0 in)	46.63 x 35.81 x 152.36 mm (1.84 x 1.41 x 6.0 in) (Meter alone), CT/ Rogowski size varies with model
Environmental conditions			
Operating temperature		-30 °C to 70 °C (-22 to 158 °F)	0 to 70 °C (32 to 158 °F)
Storage temperature		-40 °C to 85 °C (-40 to 185 °F)	With Split Core CTs: -40 to 85 °C (-40 to 185 °F) With Rogowski Coils: -40 to 70 °C (-40 to 158 °F))
Humidity rating		<95 % RH non-condensing	<95 % RH non-condensing
Enclosure		Indoor use only - not suitable for wet locations	Indoor use only - not suitable for wet locations
Altitude		3000 m (10,000 ft)	3000 m (10,000 ft)
Pollution degree		2	2
Electromagnetic compatibility			
Compliance			
Certified to IEC/BTL		CAN/CSA-C22.2 EN 61000-6-2 EN 61000-6-4 Class A EN 61010-1 EN 61326-1 Class A FCC 47 CFR Part 15 Class A UL 61010-1	CAN/CSA-C22.2 EN 61000-6-2 EN 61000-6-4 Class A EN 61010-1 EN 61326-1 Class A FCC 47 CFR Part 15 Class A UL 61010-1
Accuracy			
		ANSI C12.20-2015 Class 0.2	ANSI C12.20-2015 Class 0.2
		IEC 62053-24 Class 1S	IEC 62053-24 Class 1S
		ANSI C12.20 2015 Class 0.2 IEC 62053-24 Class 1S When used with 1/3 V CT (Meter accuracy) IEC 62053-22 Class 0.2S 0.2% When used with Rogowski coils (Meter accuracy) IEC 62053-22 Class 0.5S	ANSI C12.1 1% IEC 62053-21 Class 1S 1% IEC 62053-24 Class 1 1%

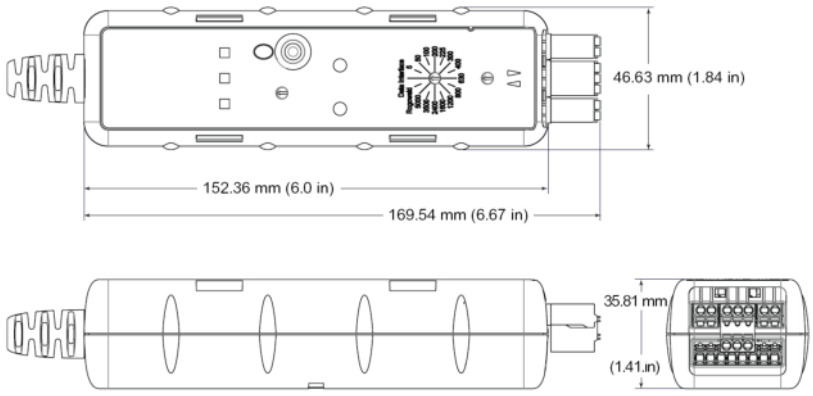
Commercial Reference Numbers

Market	Commercial Reference	Rating	CTR type	CT size	Fuse pack	CT lead length	System calibrated
IEC	**METSEEM4235**	User choice					
IEC	**METSEEM4235A12**	Up to 5000 A (3 coils supplied)	Rogowski	12" (304.8 mm)		6 ft (1828.8 mm)	Yes
IEC	**METSEEM4235A18**	Up to 5000 A (3 coils supplied)	Rogowski	18" (457.2 mm)		6 ft (1828.8 mm)	Yes
IEC	**METSEEM4235B101**	100 A (3 CTs supplied)	Split core			6 ft (1828.8 mm)	Yes
IEC	**METSEEM4235B201**	200 A (3 CTs supplied)	Split core			6 ft (1828.8 mm)	Yes
IEC	**METSEEM4235B401**	400 A (3 CTs supplied)	Split core			6 ft (1828.8 mm)	Yes
ANSI	**METSEEM4236**	User choice			Option		
ANSI	**METSEEM4236A12**	Up to 5000 A (3 coils supplied)	Rogowski	12" (304.8 mm)	Yes	6 ft (1828.8 mm)	Yes
ANSI	**METSEEM4236A18**	Up to 5000 A (3 coils supplied)	Rogowski	18" (457.2 mm)	Yes	6 ft (1828.8 mm)	Yes
ANSI	**METSEEM4236B101**	100 A (3 CTs supplied)	Split core		Yes	6 ft (1828.8 mm)	Yes
ANSI	**METSEEM4236B201**	200 A (3 CTs supplied)	Split core		Yes	6 ft (1828.8 mm)	Yes
ANSI	**METSEEM4236B401**	400 A (3 CTs supplied)	Split core		Yes	6 ft (1828.8 mm)	Yes

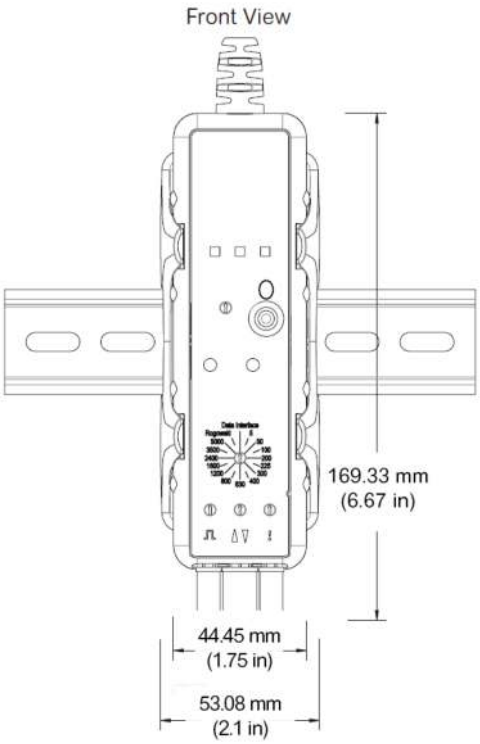
EM4200 series

EM4200 dimensions

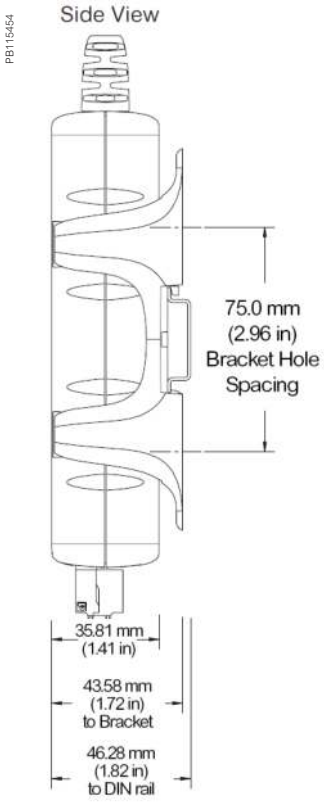
PB115452



PB115453



PB115454



Insulation monitoring devices

An IT earthing system allows your electrical distribution system to continually operate, even in the presence of an insulation fault, without endangering people or property. Required as part of an IT earthing system, an insulation monitoring device (IMD) detects the initial fault so you can make repairs before a second fault occurs, which could trigger protective devices and halt operations.

PB118026

PB118027

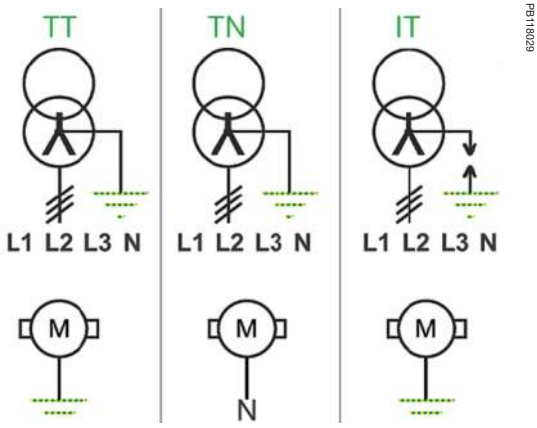
PB118026



Insulation Monitoring of IT / Ungrounded Networks

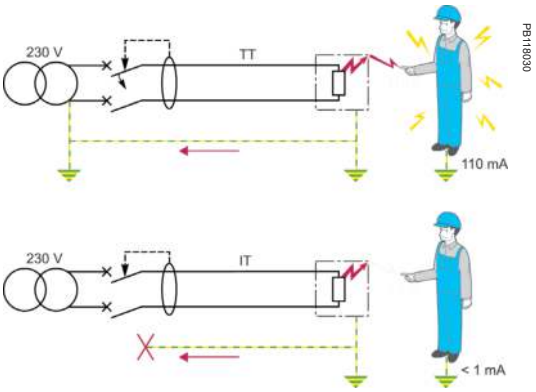
Unlike the TT or TN earthing systems, the neutral of the transformer is isolated from the ground for an IT earthing system (also called Ungrounded system).

This is applicable to both Low Voltage systems (up to 1000VAC, 1500VDC) and medium Voltage (up to 63 kV on IMDs only)

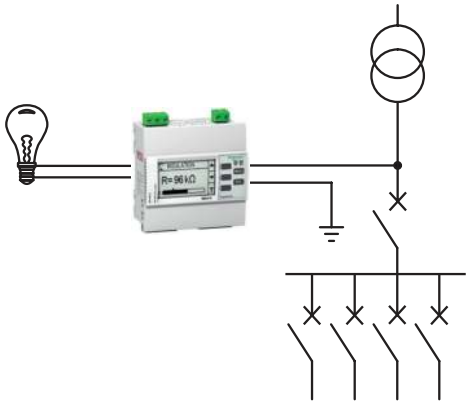


The main interest of IT systems is that in case of one insulation fault.

- Enhanced continuity of service of the network (no trip if there is one insulation fault on the network).
- Reduced risk of electric shock.
- Reduced risk of fire or explosion (low faulty current in case of insulation fault).
- Reduced stress on the network and increased equipment life (low faulty current in case of insulation fault).



- In TT or TN systems, in a situation with an insulation fault, the faulty current will not be negligible and will cause trip of the protections.
- For this reason, Insulation Monitoring Devices are used on IT networks in order to detect a first insulation fault so that the fault can be repaired; hence avoiding situations with several insulation faults and maintaining the continuity of service on the network.
- Using an Insulation Fault Locator (IFL) allows the operator to locate the fault in multiple feeders installations.



Example of simple insulation monitoring system

The Vigilohm catalog offers a range of products suitable for these various applications, from the simplest insulation monitoring systems to the most advanced ones, including individual insulation monitoring per feeder and communication with supervision.

Insulation Monitoring of IT / Ungrounded Networks

IT earthing systems are used for applications requiring continuity of service, such as:

- Healthcare: critical rooms in medical premises such as operating theaters, intensive care units, recovery rooms.
- Industry: critical processes in cement, steel, aluminium, oil and gas, chemical factories, food processing, car manufacturing, (painting area, other...) water, and waste water.
- Infrastructure: control tower and take-off path in airports, railways, seaports, tunnels, and signaling networks in rail.
- Utilities: power plants and control command systems.
- Photovoltaic: solar farms.
- Marine: electrical distribution of any type of ship.
- DC applications such as electrical vehicle charging stations.
- Medium Voltage: cable monitoring, distribution in industrial sites, MV loads-transformers and motors.

Vigilohm Range Overview for Low Voltage Networks, Except Healthcare

Product		LV	MV
IMD		IMD-IM9 IMD-IM10 IMD-IM20 IMD-IM400 IMDIM400L * IMD-IM400C **	IMDIM400THR IMDIM400LTHR *
LV > 480 V AC		IM20 + IM20-1700 IM400 + IM400-1700 IM400C+ IM400-1700C IMD with Fault Locator IM400 / 400L /400C + PHT1000 and IFL12MC series + IFL12VA1T	1460872 (P1N)
IFL		IMDIFL12 IMDIFL12L * IMDIFL12C *** IMDIFL12MC *** IMDIFL12LMC * IMDIFL12MCT ****	None
TOROIDS		50437 (TA30) 50438 (PA50) 50439 (IA80) 50440 (MA120) 50441 (SA200) 50442 (GA300) 50420 (TOA80) 50421 (TOA120)	None
HRG, Cardew Mobile Locators		50278, (XRM) 50282, (XGR) 50494,498, 499 (Open CTs) 50159 (ZX Imp -HRG) 50170, 171, 172, 183 (Cardew)	Voltage Transformers 03811728N0 (6.6 kV) 03811746N0 (22 kV) 03811749N0 (33 kV)

L* Power supply 24-48 V AC/DC
C ** Tropicalized (conformal coated)
C *** Communication
MC *** Measurement & Communication
MCT **** Measurement & Communication & Tropicalized (conformal coated)

Vigilohm Range Overview for Low Voltage Networks, Except Healthcare

A simple range to meet your needs

Industrial networks

Monitoring and Control

Power Monitoring & SCADA system

Communication and Simple Monitoring

Gateway, Data logger & Web Server

Insulation Monitoring Devices

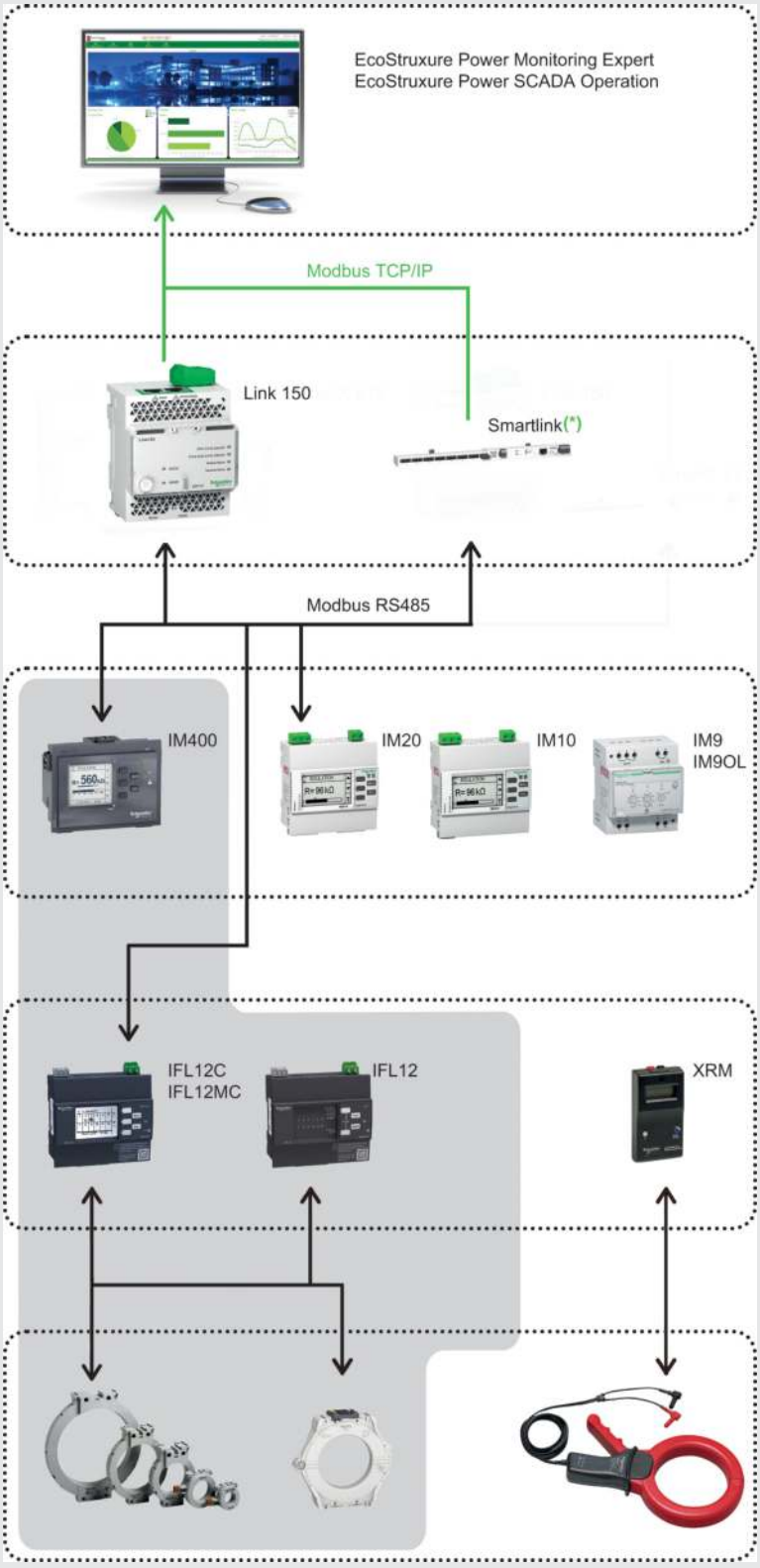
Identification of a leakage to ground in the complete system

Insulation Fault Locators

Identification of the faulty feeder

Toroids

Used along with the Fault Locators



Vigilohm Range Overview for Medium Voltage Networks

A simple range to meet your needs

Industrial networks

Monitoring and Control

Power Monitoring & SCADA system

Communication and Simple Monitoring

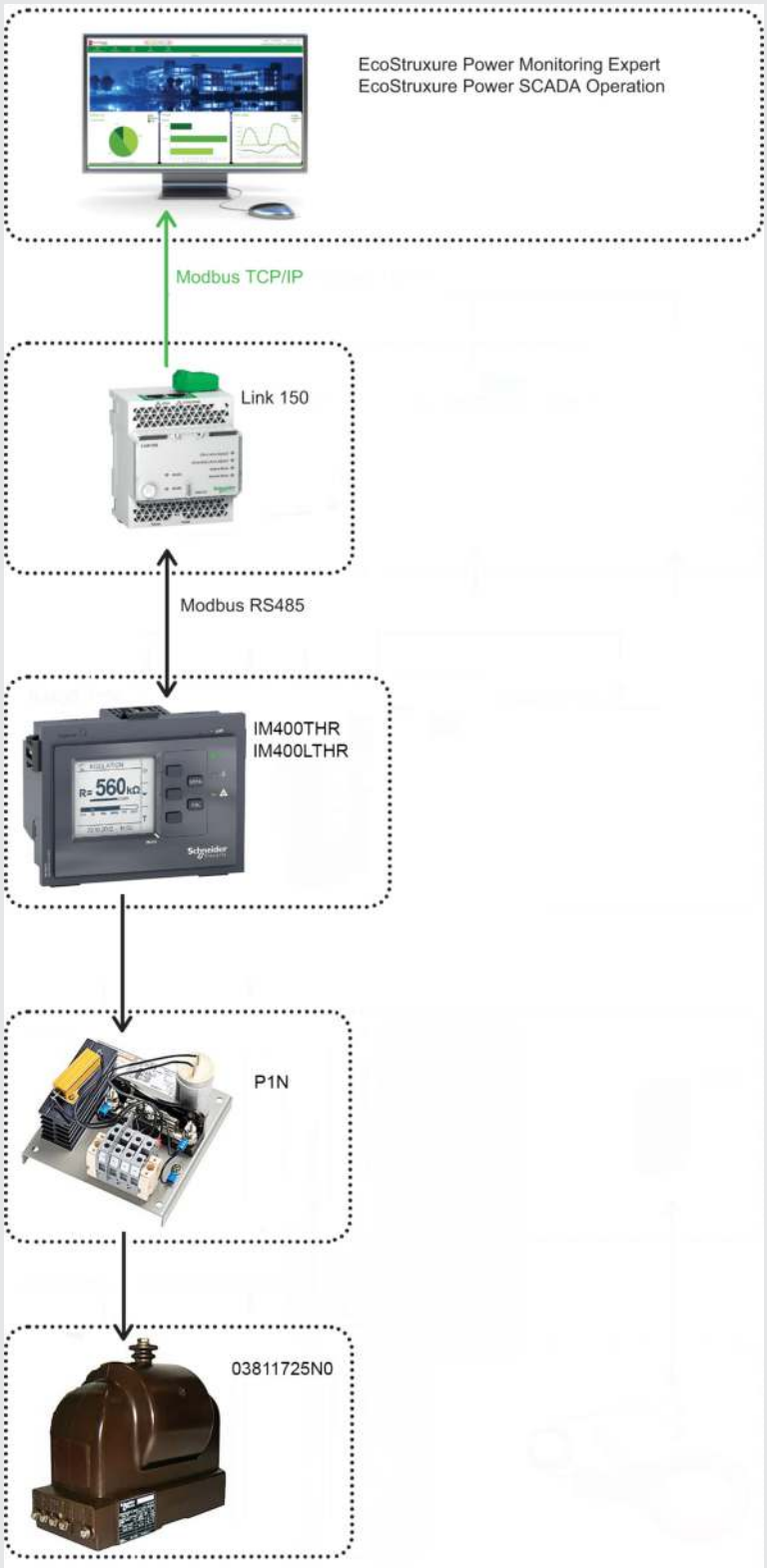
Gateway, Data logger & Web Server

Insulation Monitoring Devices

Identification of a leakage to ground in the complete system

Voltage adaptor

Voltage transformer



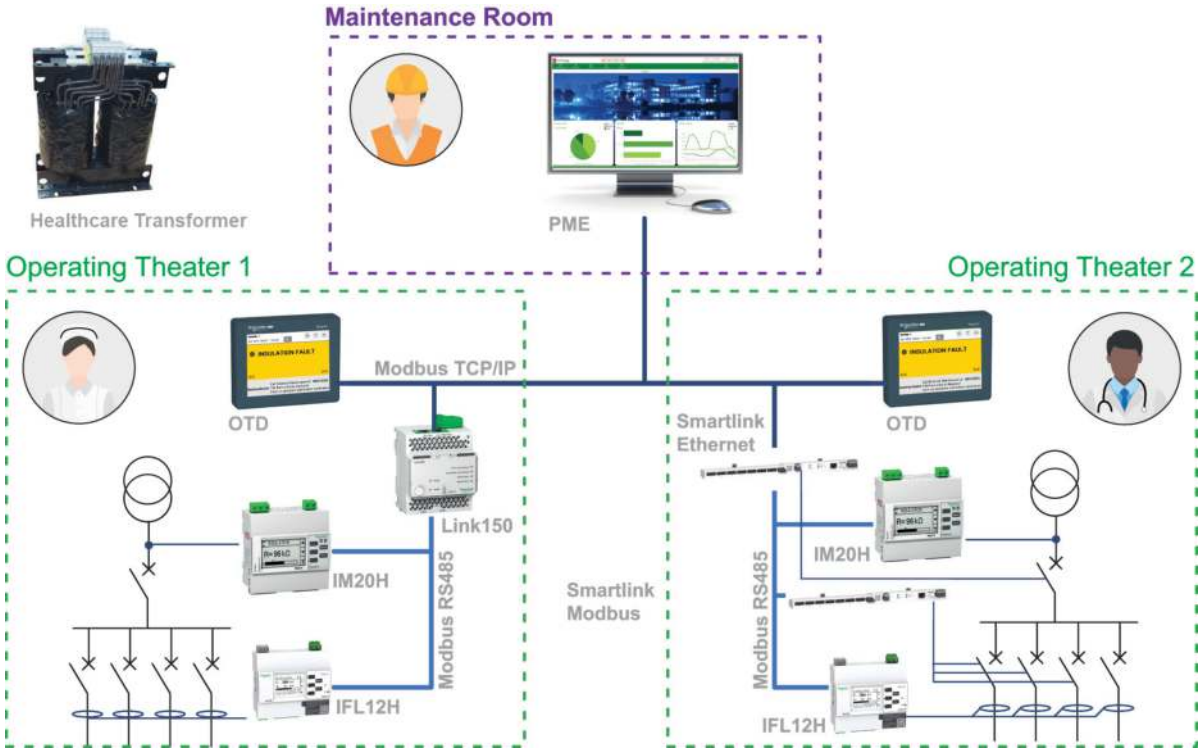
Vigilohm Range Overview for Healthcare

Example of Healthcare network monitored by Vigilohm Insulation Monitoring Devices in compliance with IEC 60364-7-710.

The same hospital may have differing architectures, as shown below.

Operating Theater 1 uses Link 150 to send data to the supervision system.
Operating Theater 2 uses Smartlink to send data to the supervision system,knowing that Smartlink can also collect data from the circuit breaker, tripped or not.

PB118032



Medical staff is informed of electrical faults in the operating theater room through the local HMI

Technical staff is informed of any fault in the various operating theaters via a supervision system such as EcoStruxure Power Monitoring Expert.

This range of products, dedicated to Medical premises, meets requirements from IEC61364-7-710.

IMD and IFL are also “MED” certified, as they meet their product standard:

- IEC61557-8, annex A & B for IMDs and the remote panel
- IEC61557-9, annexA for IFLs

Commercial reference numbers required for the healthcare application:	
Isolation Transformer	IMD-IT-S63-H,or IMD-IT-S80-H, or IMD-IT-S100-H
IMDs	IMD-IM10-H, or IMDIM15H, or IMD-IM20/-H
Remote panel	50168 (HRP) or IMDLRDH
Locator	IMDIFL12H
Toroids	with IM20-H: METSECT5CC004 or METSECT5CC005 with IFL: 50437 (TA30)
Gateway Link150	Link150

Vigilohm Range Commercial Reference Numbers

Commercial ref. no.	Description
	Insulation Monitoring
	Vigilohm Insulation Monitoring
50159	ZX impedance
50168	HOSPITAL REMOTE PANEL
50169	CARDEW Holder
50170	CARDEW 250V CA Surge arestor
50171	CARDEW 440V CA Surge arestor
50172	CARDEW 660V CA Surge arestor
50183	CARDEW 1000V CA Surge arestor
50248	PHT1000
50278	XRM
50281	XGR 115-127VCA
50282	XGR 220-240VCA
50283	XGR 380-415VCA
50420	TOA80 open toroid
50421	TOA120 open toroid
50437	TA30 toroid
50438	PA50 toroid
50439	IA80 toroid
50440	MA120 toroid
50441	SA200 toroid
50442	GA300 toroid
50494	XP15 Open CT for XRM
50498	XP50 Open CT for XRM
50499	XP100 Open CT for XRM
1460872	Voltage Adaptor P1N
IMDCP100	Current Probe 100mm
IMDCP15	Current Probe 15mm
IMDCP50	Current Probe 50mm
IMDIFL12	Ins Fault locator Entry
IMDIFL12C	Ins Fault locator Entry Com
IMDIFL12H	Ins Fault locator HC

Commercial ref. no.	Description
IMDIFL12L	Ins Fault locator Entry 24-48VDC
IMDIFL12LMC	Ins Fault locator Adv 24-48VDC
IMDIFL12MC	Ins Fault locator Adv
IMDIFL12MCT	Ins Fault locator Adv Tropic
IMDIFL12VA1T	Voltage Adaptor for IFL12MC series_1000V
IMDIFLK1	Mobile Ins Fault locator 1 feeder
IMDIFLK12	Mobile Ins Fault locator 12 feeders
IMD-IM10	IM10
IMD-IM10-H	IM10 H
IMDIM15H	IM15 H
IMD-IM20	IM20
IMD-IM20-1700	Voltalge Adaptor for IM20
IMD-IM20-H	IM20 H
IMD-IM400	IM400
IMD-IM400-1700	Voltage adaptor for IM400
IMD-IM400-1700C	Voltage adaptor for IM400 Conformal coated
IMD-IM400C	IM400C
IMDIM400L	IM400L
IMDIM400LTHR	IM400LTHR
IMDIM400THR	IM400THR
IMD-IM400VA2	Voltage adaptor for PV application Coated
IMD-IM9	IM9
IMD-IM9-OL	IM9OL
IMD-IT-S63-H	Single Phase, Isolated Transformer, 6,3KVA
IMD-IT-S80-H	Single Phase, Isolated Transformer, 8KVA
IMD-IT-S100-H	Single Phase, Isolated Transformer, 10KVA
IMDLRDH	Remote Display Hospital

Please see your Schneider Electric representative for complete ordering information.

Commercial reference numbers

Commercial ref. no.	Description	Page
	Current Transformers	**15**
	CT Ip/5 A ratio	15
16550	44 x 66 x 37 Adapter for DIN rails Mounting plate	
16551	56 x 84 x 60 Adapter for DIN rails Mounting plate, insulated locking screw	
16552	56 x 84 x 60 Adapter for DIN rails Mounting plate Insulated locking screw sealable cover	
16553	77 x 107 x 64 Adapter for DIN rails Mounting plate Insulated locking screw	
METSECT5CC004	CC 40 A	
METSECT5CC005	CC 50 A	
METSECT5CC006	CC 60 A	
METSECT5CC008	CC 75 A	
METSECT5CC010	CC 100 A	
METSECT5CC013	CC 125 A	
METSECT5CC015	CC 150 A	
METSECT5CC020	CC 200 A	
METSECT5CC025	CC 250 A	
METSECT5MB025	MB 250 A	
METSECT5MB030	MB 300 A	
METSECT5MB040	MB 400 A	
METSECT5MA015	MA 150 A	
METSECT5MA020	MA 200 A	
METSECT5MA025	MA 250 A	
METSECT5MA030	MA 300 A	
METSECT5MA040	MA 400 A	
METSECT5MC025	MC 250 A	
METSECT5MC030	MC 300 A	
METSECT5MC040	MC 400 A	
METSECT5MC050	MC 500 A	
METSECT5MC060	MC 600 A	
METSECT5MC080	MC 800 A	
METSECT5MD050	MD 500 A	
METSECT5MD060	MD 600 A	
METSECT5MD080	MD 800 A	
METSECT5CYL1	Cylinder 8.5 mm dia.	
METSECT5CYL2	Cylinder 10.5 mm dia.	
METSECT5COVER	sealable cover 60.5 x 22 x 23.5 mm for CT TI	
METSECT5VV500	CT tropicalised 5000 5 bars 55x165	
METSECT5VV600	CT tropicalised 6000 5 bars 55x165	
METSECT5DA040	CT tropicalised 400 5 dual out. bars 32x65	
METSECT5DA050	CT tropicalised 500 5 dual out. bars 32x65	
METSECT5DA060	CT tropicalised 600 5 dual out. bars 32x65	
METSECT5DA080	CT tropicalised 800 5 dual out. bars 32x65	
METSECT5DA100	CT tropicalised 1000 5 dual out. bars 32x65	
METSECT5DA125	CT tropicalised 1250 5 dual out. bars 32x65	
METSECT5DA150	CT tropicalised 1500 5 dual out. bars 32x65	
METSECT5DB100	CT tropicalised 1000 5 dual out. bars 38x127	
METSECT5DB125	CT tropicalised 1250 5 dual out. bars 38x127	
METSECT5DB150	CT tropicalised 1500 5 dual out. bars 38x127	

Commercial ref. no.	Description	Page
METSECT5DB200	CT tropicalised 2000 5 dual out. bars 38x127	
METSECT5DB250	CT tropicalised 2500 5 dual out. bars 38x127	
METSECT5DB300	CT tropicalised 3000 5 dual out. bars 38x127	
METSECT5DC200	CT tropicalised 2000 5 dual out. bars 52x127	
METSECT5DC250	CT tropicalised 2500 5 dual out. bars 52x127	
METSECT5DC300	CT tropicalised 3000 5 dual out. bars 52x127	
METSECT5DC400	CT tropicalised 4000 5 dual out. bars 52x127	
METSECT5DD100	CT tropicalised 1000 5 dual out. bars 34x84	
METSECT5DD125	CT tropicalised 1250 5 dual out. bars 34x84	
METSECT5DD150	CT tropicalised 1500 5 dual out. bars 34x84	
METSECT5DE100	CT tropicalised 1000 5 dual out. bars 54x102	
METSECT5DE125	CT tropicalised 1250 5 dual out. bars 54x102	
METSECT5DE150	CT tropicalised 1500 5 dual out. bars 54x102	
METSECT5DE200	CT tropicalised 2000 5 dual out. bars 54x102	
METSECT5DH125	CT tropicalised 1250 5 dual out. bars 38x102	
METSECT5DH150	CT tropicalised 1500 5 dual out. bars 38x102	
METSECT5DH200	CT tropicalised 2000 5 dual out. bars 38x102	
	Split core CTs	26
	Busbar Type H	
	Frame 1	
METSECT5HA015	IEC Split Core CT Cable 150/5 A 1 VA cl.1	
METSECT5HA020	IEC Split Core CT Cable 200/5 A 1.5 VA cl.1	
METSECT5HA025	IEC Split Core CT Cable 250/5 A 1 VA cl.0.5	
	Frame 2	
METSECT5HD025	IEC Split Core CT Cable 250/5 A 1 VA cl.1	
METSECT5HD030	IEC Split Core CT Cable 300/5 A 1.5 VA cl.1	
METSECT5HD040	IEC Split Core CT Cable 400/5 A 2.5 VA cl.1	
METSECT5HD050	IEC Split Core CT Cable 500/5 A 1VA cl.0.5	
	Frame 3	
METSECT5HG010	IEC Split Core CT Cable 100/5 A 1.5 VA cl.3	
METSECT5HG013	IEC Split Core CT Cable 125/5 A 2.5 VA cl.3	
METSECT5HG015	IEC Split Core CT Cable 150/5 A 3 VA cl.3	
METSECT5HG020	IEC Split Core CT Cable 200/5 A 3 VA cl.3	
METSECT5HG025	IEC Split Core CT Cable 250/5 A 3 VA cl.3	
METSECT5HG030	IEC Split Core CT Cable 300/5 A 2.5 VA cl.1	
METSECT5HG040	IEC Split Core CT Cable 400/5 A 5 VA cl.1	
METSECT5HG050	IEC Split Core CT Cable 500/5 A 5 VA cl.1	
METSECT5HG060	IEC Split Core CT Cable 600/5 A 5 VA cl.1	
	Frame 4	
METSECT5HJ030	IEC Split Core CT Cable 300/5 A 2.5 VA cl.1	
METSECT5HJ040	IEC Split Core CT Cable 400/5 A 5VA cl.1	
METSECT5HJ050	IEC Split Core CT Cable 500/5 A 5VA cl.1	
METSECT5HJ060	IEC Split Core CT Cable 600/5 A 2.5 VA cl.0.5	
METSECT5HJ075	IEC Split Core CT Cable 750/5 A 2.5 VA cl.0.5	
METSECT5HJ080	IEC Split Core CT Cable 800/5 A 2.5 VA cl.0.5	

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	Frame 5	
METSECT5HM030	IEC Split Core CT Cable 300/5 A 2.5 VA cl.1	
METSECT5HM040	IEC Split Core CT Cable 400/5 A 5 VA cl.1	
METSECT5HM050	IEC Split Core CT Cable 500/5 A 5 VA cl.1	
METSECT5HM060	IEC Split Core CT Cable 600/5 A 2.5 VA cl.0.5	
METSECT5HM075	IEC Split Core CT Cable 750/5 A 2.5 VA cl.0.5	
METSECT5HM080	IEC Split Core CT Cable 800/5 A 2.5 VA cl.0.5	
	Frame 6	
METSECT5HP025	IEC Split Core CT Cable 250/5 A 1.5 VA cl.1	
METSECT5HP030	IEC Split Core CT Cable 300/5 A 2.5 VA cl.1	
METSECT5HP040	IEC Split Core CT Cable 400/5 A 5 VA cl.1	
METSECT5HP050	IEC Split Core CT Cable 500/5 A 5 VA cl.1	
METSECT5HP060	IEC Split Core CT Cable 600/5 A 5 VA cl.1	
METSECT5HP075	IEC Split Core CT Cable 750/5 A 5 VA cl.1	
METSECT5HP080	IEC Split Core CT Cable 800/5 A 5 VA cl.1	
METSECT5HP100	IEC Split Core CT Cable 1000/5 A 5 VA cl.1	
	Busbar Type G	
	Frame 7	
METSECT5GA010	IEC CT Split Core Busbar 100/5 A 1.25 VA cl.3	
METSECT5GA015	IEC CT Split Core Busbar 150/5 A 1.5 VA cl.3	
METSECT5GA020	IEC CT Split Core Busbar 200/5 A 2.5 VA cl.3	
METSECT5GA025	IEC CT Split Core Busbar 250/5 A 1.5 VA cl.1	
METSECT5GA030	IEC CT Split Core Busbar 300/5 A 3.75 VA cl.1	
METSECT5GA040	IEC CT Split Core Busbar 400/5 A 1 VA cl.0.5	
	Frame 8	
METSECT5GD025	IEC CT Split Core Busbar 250/5 A 1.5 VA cl.1	
METSECT5GD030	IEC CT Split Core Busbar 300/5 A 2.5 VA cl.1	
METSECT5GD040	IEC CT Split Core Busbar 400/5 A 1 VA cl.0.5	
METSECT5GD050	IEC CT Split Core Busbar500/5 A 2.5 VA cl.0.5	
METSECT5GD060	IEC CT Split Core Busbar 600/5 A 2.5 VA cl.0.5	
METSECT5GD075	IEC CT Split Core Busbar 750/5 A 2.5 VA cl.0.5	
METSECT5GD080	IEC CT Split Core Busbar 800/5 A 2.5 VA cl.0.5	
METSECT5GD100	IEC CT Split Core Busbar 1000/5 A 5 VA cl.0.5	
	Frame 9	
METSECT5GG025	IEC CT Split Core Busbar 250/5 A 1.5 VA cl.1	
METSECT5GG030	IEC CT Split Core Busbar 300/5 A 2.5 VA cl.1	
METSECT5GG040	IEC CT Split Core Busbar 400/5 A 2.5 VA cl.1	
METSECT5GG050	IEC CT Split Core Busbar 500/5 A 2.5 VA cl.0.5	
METSECT5GG060	IEC CT Split Core Busbar 600/5 A 2.5 VA cl.0.5	
METSECT5GG075	IEC CT Split Core Busbar 750/5 A 2.5 VA cl.0.5	
METSECT5GG080	IEC CT Split Core Busbar 800/5 A 2.5 VA cl.0.5	
METSECT5GG100	IEC CT Split Core Busbar 1000/5 A 5 VA cl.0.5	
METSECT5GG120	IEC CT Split Core Busbar 1200/5 A 5 VA cl.0.5	
METSECT5GG125	IEC CT Split Core Busbar 1250/5 A 7.5 VA cl.0.5	
METSECT5GG150	IEC CT Split Core Busbar 1500/5 A 7.5 VA cl.0.5	
	Frame 10	
METSECT5GJ100	IEC CT Split Core Busbar 1000/5 A 10 VA cl.0.5	
METSECT5GJ120	IEC CT Split Core Busbar 1200/5 A 10 VA cl.0.5	
METSECT5GJ150	IEC CT Split Core Busbar 1500/5 A 10 VA cl.0.5	
METSECT5GJ160	IEC CT Split Core Busbar 1600/5 A 10 VA cl.0.5	
METSECT5GJ200	IEC CT Split Core Busbar 2000/5 A 10 VA cl.0.5	
METSECT5GJ250	IEC CT Split Core Busbar 2500/5 A 10 VA cl.0.5	
METSECT5GJ300	IEC CT Split Core Busbar 3000/5 A 15 VA cl.0.5	
METSECT5GJ400	IEC CT Split Core Busbar 4000/5 A 15 VA cl.0.5	

Commercial ref. no.	Description	Page
	Rogowski CTs	31
METSECTR30500	Rogowski CT, 250 mm core length, 96 mm dia.	
METSECTR46500	Rogowski CT, 250 mm core length, 146 mm dia.	
METSECTR60500	Rogowski CT, 250 mm core length, 191 mm dia.	
METSECTR90500	Rogowski CT, 250 mm core length, 287 mm dia.	
	0.333 V 3-in-1 CTs with RJ45 for PM53xR	
METSECTV25006	LVCT SolidC 3in1 RJ45 25mmCtr 60A:1/3V	
METSECTV25010	LVCT SolidC 3in1 RJ45 25mmCtr 100A:1/3V	
METSECTV25013	LVCT SolidC 3in1 RJ45 25mmCtr 125A:1/3V	
METSECTV25016	LVCT SolidC 3in1 RJ45 25mmCtr 160A:1/3V	
METSECTV35006	LVCT SolidC 3in1 RJ45 35mmCtr 60A:1/3V	
METSECTV35010	LVCT SolidC 3in1 RJ45 35mmCtr 100A:1/3V	
METSECTV35012	LVCT SolidC 3in1 RJ45 35mmCtr 120A:1/3V	
METSECTV35013	LVCT SolidC 3in1 RJ45 35mmCtr 125A:1/3V	
METSECTV35015	LVCT SolidC 3in1 RJ45 35mmCtr 150A:1/3V	
METSECTV35016	LVCT SolidC 3in1 RJ45 35mmCtr 160A:1/3V	
METSECTV35020	LVCT SolidC 3in1 RJ45 35mmCtr 200A:1/3V	
METSECTV35025	LVCT SolidC 3in1 RJ45 35mmCtr 250A:1/3V	
METSECTV45025	LVCT SolidC 3in1 RJ45 45mmCtr 250A:1/3V	
METSECTV45030	LVCT SolidC 3in1 RJ45 45mmCtr 300A:1/3V	
METSECTV45040	LVCT SolidC 3in1 RJ45 45mmCtr 400A:1/3V	
METSECTV45050	LVCT SolidC 3in1 RJ45 45mmCtr 500A:1/3V	
METSECTV45060	LVCT SolidC 3in1 RJ45 45mmCtr 600A:1/3V	
METSECTV45063	LVCT SolidC 3in1 RJ45 45mmCtr 630A:1/3V	
METSECTV29006	LVCT SolidC 3in1 RJ45 29mmCtr 60A:1/3V	
METSECTV29010	LVCT SolidC 3in1 RJ45 29mmCtr 100A:1/3V	
METSECTV29012	LVCT SolidC 3in1 RJ45 29mmCtr 120A:1/3V	
METSECTV29013	LVCT SolidC 3in1 RJ45 29mmCtr 125A:1/3V	
METSECTV29015	LVCT SolidC 3in1 RJ45 29mmCtr 150A:1/3V	
METSECTV29016	LVCT SolidC 3in1 RJ45 29mmCtr 160A:1/3V	
METSECTV29020	LVCT SolidC 3in1 RJ45 29mmCtr 200A:1/3V	
METSECTV70080	LVCT SolidC 3in1 RJ45 70mmCtr 800A:1/3V	
METSECTV70100	LVCT SolidC 3in1 RJ45 70mmCtr 1000A:1/3V	
METSECTV70125	LVCT SolidC 3in1 RJ45 70mmCtr 1250A:1/3V	
	Panel Instruments	**32**
	DIN rail analog ammeters, voltmeters	32
16029	0-30 A no 8	
16030	X/5 8	
16031	0-5 A	
16032	0-50 A 50/5	
16033	0-75 A 75/5	
16034	0-100 A 100/5	
16035	0-150 A 150/5	
16036	0-200 A 200/5	
16037	0-250 A 250/5	
16038	0-300 A 300/5	
16039	0-400 A 400/5	
16040	0-500 A 500/5	
16041	0-600 A 600/5	
16042	0-800 A 800/5	
16043	0-1000 A 1000/5	
16044	0-1500 A 1500/5	
16045	0-2000 A 2000/5	
16060	0-300 V 8	
16061	0-500 V 8	

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	DIN rail digital ammeters, voltmeter, freq meter	34
15202	Direct reading iAMP 0-10 A No 4	
15209	Multi-rating iAMP 0-5000 A As per rating 4	
15201	iVLT 0-600 V 4	
15208	iFRE 20-100 Hz 4	
	72x72 analog ammeter, voltmeter	35
16003	AMP for motor feeder	
16004	AMP for standard feeder X/5	
16009	AMP for standard feeder 0-50 A 50/5	
16010	AMP for standard feeder 0-100 A 100/5	
16011	AMP for standard feeder 0-200 A 200/5	
16012	AMP for standard feeder 0-400 A 400/5	
16013	AMP for standard feeder 0-600 A 600/5	
16014	AMP for standard feeder 0-1000 A 1000/5	
16015	AMP for standard feeder 0-1250 A 1250/5	
16016	AMP for standard feeder 0-1500 A 1500/5	
16019	AMP for standard feeder 0-2000 A 2000/5	
16003	AMP for motor feeder X/5	
16006	AMP for motor feeder 0-30-90 A 30/5	
16007	AMP for motor feeder 0-75-225 A 75/5	
16008	AMP for motor feeder 0-200-600 A 200/5	
16005	VLT 0-500 V	
	96x96 analog ammeter, voltmeter	36
16074	AMP for standard feeder X/5	
16079	AMP for standard feeder 0-50 A 50/5	
16080	AMP for standard feeder 0-100 A 100/5	
16081	AMP for standard feeder 0-200 A 200/5	
16082	AMP for standard feeder 0-400 A 400/5	
16083	AMP for standard feeder 0-600 A 600/5	
16084	AMP for standard feeder 0-1000 A 1000/5	
16085	AMP for standard feeder 0-1250 A 1250/5	
16086	AMP for standard feeder 0-1500 A 1500/5	
16087	AMP for standard feeder 0-2000 A 2000/5	
16088	AMP for standard feeder 0-2500 A 2500/5	
16089	AMP for standard feeder 0-3000 A 3000/5	
16090	AMP for standard feeder 0-4000 A 4000/5	
16091	AMP for standard feeder 0-5000 A 5000/5	
16092	AMP for standard feeder 0-6000 A 6000/5	
16073	AMP for motor feeder X/5	
16076	AMP for motor feeder 0-30-90 A 30/5	
16077	AMP for motor feeder 0-75-225 A 75/5	
16078	AMP for motor feeder 0-200-600 A 200/5	
16075	VLT 0-500 V	
	48x48 CMA, CMV selector switches	37
16017	CMA 20 4	
16018	CMV 500 7	
	DIN rail iCMA, iCMV selector switches	38
15126	iCMA 10 415 4	
15125	iCMV 10 415 4	
	iCH hour counter	39
15440	iCH "DIN" 230 V AC ± 10 %/50 Hz 4mm	
15607	CH "48 x 48" 24 V AC ± 10 %/50 Hz	
15608	CH "48 x 48" 230 V AC ± 10 %/50 Hz	
15609	CH "48 x 48" 12 to 36 V DC	
	iCI impulse counter	**40**
15443	iCI 4mm impulse counter DIN	
	Basic Energy Metering	**43**
	iEM2000	44
A9MEM2000T	iEM2000T basic energy meter, no display	
A9MEM2000	iEM2000 basic energy meter	
A9MEM2010	iEM2010 energy meter, kWh pulse output	
A9MEM2100	iEM2100 basic energy meter	

Commercial ref. no.	Description	Page
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	
	iEM3000	51
A9MEM3100	iEM3100 basic energy meter	
A9MEM3110	iEM3110 energy meter with pulse output	
A9MEM3115	iEM3115 multi-tariff energy meter	
A9MEM3135	iEM3135 advanced multi-tariff energy meter & electrical parameter plus M-Bus comm port	
A9MEM3150	iEM3150 energy meter & electrical parameter plus Modbus RS-485 comm port	
A9MEM3155	iEM3155 advanced multi-tariff energy meter & electrical parameter plus Modbus RS-485 comm port	
A9MEM3165	iEM3165 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	
A9MEM3175	iEM3175 advanced multi-tariff energy meter & electrical parameter plus LON TP/FT-10 comm port	
A9MEM3200	iEM3200 basic energy meter	
A9MEM3210	iEM3210 energy meter with pulse output	
A9MEM3215	iEM3215 multi-tariff energy meter	
A9MEM3235	iEM3235 advanced multi-tariff energy meter & electrical parameter plus M-Bus comm port	
A9MEM3250	iEM3250 energy meter & electrical parameter plus Modbus RS-485 comm port	
A9MEM3255	iEM3255 advanced multi-tariff energy meter & electrical parameter plus Modbus RS485 comm port	
A9MEM3265	iEM3265 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	
A9MEM3275	iEM3275 advanced multi-tariff energy meter & electrical parameter plus LON TP/FT-10 comm port	
A9MEM3300	iEM3300 basic energy meter	
A9MEM3310	iEM3310 energy meter with pulse output	
A9MEM3335	iEM3335 advanced multi-tariff energy meter & electrical parameter plus M-Bus comm port	
A9MEM3350	iEM3350 energy meter & electrical parameter plus Modbus RS-485 comm port	
A9MEM3355	iEM3355 advanced multi-tariff energy meter & electrical parameter plus Modbus RS485 comm port	
A9MEM3365	iEM3365 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	
A9MEM3375	iEM3375 advanced multi-tariff energy meter & electrical parameter plus LON TP/FT-10 comm port	
A9MEM3455	iEM3455 advanced multi-tariff energy meter & electrical parameter plus Modbus RS-485 comm port	
A9MEM3465	iEM3465 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	
A9MEM3555	iEM3555 advanced multi-tariff energy meter & electrical parameter plus Modbus RS-485 comm port	
A9MEM3565	iEM3565 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	
	LVCTs	49
LVCT00050S	CT, split-core, Size 0, 50 A to 0.333 V	
LVCT00101S	CT, split-core, Size 1, 100 A to 0.333 V	
LVCT00201S	CT, split-core, Size 1, 200 A to 0.333 V	
LVCT00102S	CT, split-core, Size 2, 100 A to 0.333 V	
LVCT00202S	CT, split-core, Size 2, 200 A to 0.333 V	
LVCT00302S	CT, split-core, Size 2, 300 A to 0.333 V	
LVCT00403S	CT, split-core, Size 3, 400 A to 0.333 V	

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LVCT00603S	CT, split-core, Size 3, 600 A to 0.333 V	
LVCT00803S	CT, split-core, Size 3, 800 A to 0.333 V	
LVCT00804S	CT, split-core, Size 4, 800 A to 0.333 V	
LVCT01004S	CT, split-core, Size 4, 1000 A to 0.333 V	
LVCT01204S	CT, split-core, Size 4, 1200 A to 0.333 V	
LVCT01604S	CT, split-core, Size 4, 1600 A to 0.333 V	
LVCT02004S	CT, split-core, Size 4, 2000 A to 0.333 V	
LVCT02404S	CT, split-core, Size 4, 2400 A to 0.333 V	
	PM3000	58
METSEPM3200	PM3200 basic power meter	
METSEPM3210	PM3210 power meter with pulse output	
METSEPM3250	PM3250 power meter with RS485 port	
METSEPM3255	PM3255 power meter plus 2 digital inputs, 2 digital outputs with RS-485 port	
	PowerTag Energy	64
A9MEM1520	PowerTag Energy M63 1P+W	
A9MEM1521	PowerTag Energy M63 1P+N Top	
A9MEM1522	PowerTag Energy M63 1P+N Bottom	
A9MEM1540	PowerTag Energy M63 3P	
A9MEM1541	PowerTag Energy M63 3P+N Top	
A9MEM1542	PowerTag Energy M63 3P+N Bottom	
A9MEM1543	PowerTag Energy M63 3P 230 V LL	
A9MEM1560	PowerTag Energy F63 1P+N	
A9MEM1561	PowerTag Energy P63 1P+N Top	
A9MEM1562	PowerTag Energy P63 1P+N Bottom	
A9MEM1563	PowerTag Energy P63 1P+N B RCBO	
A9MEM1564	PowerTag Energy F63 1P+N 110 V	
A9MEM1570	PowerTag Energy F63 3P+N	
A9MEM1571	PowerTag Energy P63 3P+N Top	
A9MEM1572	PowerTag Energy P63 3P+N Bottom	
A9MEM1573	PowerTag Energy F63 3P	
A9MEM1574	PowerTag Energy F63 3P+N 127/220 V	
A9MEM1580	PowerTag Energy F160 3P / 3P+N	
A9MEM1590	PowerTag Energy R200 3P / 3P+N	
A9MEM1591	PowerTag Energy R600 3P / 3P+N	
A9MEM1592	PowerTag Energy R1000 3P / 3P+N	
A9MEM1593	PowerTag Energy R2000 3P / 3P+N	
LV434020	PowerTag Energy M250 3P	
LV434021	PowerTag Energy M250 3P+N	
LV434022	PowerTag Energy M630 3P	
LV434023	PowerTag Energy M630 3P+N	
R9M20	PowerTag Energy R9 M63 1P+W	
R9M21	PowerTag Energy R9 M63 1P+N Top	
R9M22	PowerTag Energy R9 M63 1P+N Bottom	
R9M40	PowerTag Energy R9 M63 3P	
R9M41	PowerTag Energy R9 M63 3P+N Top	
R9M42	PowerTag Energy R9 M63 3P+N Bottom	
R9M43	PowerTag Energy R9 M63 3P 230 V LL	
R9M60	PowerTag Energy R9 F63 1P+N	
R9M70	PowerTag Energy R9 F63 3P+N	
	Wireless Products	**103**
	PowerTag Control	**104**
A9XMC2D3	PowerTag C 2DI 230V digital input module	
	HeatTag	**108**
SMT10020	HeatTag smart sensor cable overheating	
	Basic Multi-Function Metering	**111**
	PM5000	112
METSEPM5100	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 15th harmonic, no communication, 1DO	
METSEPM5110	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 15th harmonic, RS-485 Modbus, 1DO	
METSEPM5111	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 15th harmonic, RS-485 Modbus, 1DO, MID cert	

Commercial ref. no.	Description	Page
METSEPM5310	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, RS-485 Modbus, 2DI/2DO	
METSEPM5310R	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, RJ45 LVCT, RS-485 Modbus, 2DI/2DO	
METSEPM5320	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, Ethernet, 2DI/2DO	
METSEPM5320R	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, RJ45 LVCT, Ethernet, 2DI/2DO	
METSEPM5330	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, RS-485 Modbus, 2DI/2DO, 2Relay	
METSEPM5331	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, RS-485 Modbus, 2DI/2DO, 2Relay, MID cert	
METSEPM5340	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, Ethernet, 2DI/2DO, 2Relay	
METSEPM5341	Power Meter range 72 mm depth, control power to 415 V AC, Cl 0.5S, 31st harmonic, 256 kB, Ethernet, 2DI/2DO, 2Relay, MID cert	
METSEPM5560	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, Modbus and Ethernet, 4DI/2DO	
METSEPM5561	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, Modbus and Ethernet, MID cert	
METSEPM5562	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, RMICAN approved, HW lockable, 4DI/2DO	
METSEPM5562MC	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, RMICAN approved, factory sealed, 4DI/2DO	
METSEPM5563*	Power Meter range 77 mm depth, control power to 480 V AC, Cl 0.2S, 63rd harmonic, 1.1 MB, DIN mount, no display, 4DI/2DO	
METSEPM5563RD*	PM5500 power meter, ETH-serial + 4DI-2DO out, remote display	
METSEPM5RD*	Remote display for PM5563 power meter	
***METSEPM5563RD includes both METSEPM5563 and METSEPM5RD**		
METSEPM51HK	Hardware kit for PM51XX (voltage, current, comms & IO connectors + moulding clips)	
METSEPM53HK	Hardware kit for PM53XX (voltage, current, comms & IO connectors + moulding clips)	
METSEPM51_3RSK	Revenue sealing kit for PM51XX & PM53XX (sealing covers for voltage & current connectors)	
METSEPM55HK	Hardware kit for PM55XX (voltage, current, comms & IO connectors & moulding clips)	
METSEPM55RSK	Revenue sealing kit for PM55XX (sealing covers for voltage & current connectors)	
	Cables	123
METSEPM5CAB3	Remote Display cable	
DCEPCURJX5GYM	Category 5e, Patch Cord, UTP, 0.5 M, Grey	
DCEPCURJ01GYM	Category 5e, Patch Cord, UTP, 1 M, Grey	
DCEPCURJ02GYM	Category 5e, Patch Cord, UTP, 2 M, Grey	
DCEPCURJ03GYM	Category 5e, Patch Cord, UTP, 3 M, Grey	
DCEPCURJ05GYM	Category 5e, Patch Cord, UTP, 5 M, Grey	
DCEPCURJ10GYM	Category 5e, Patch Cord, UTP, 10 M, Grey	
	PM5350/PM5350IB/PM5350PB/PM5350P	125
METSEPM5320	PM5320 Power & Energy meter with THD, alarming	
METSEPM5340	PM5320 Power & Energy meter with THD, alarming	
METSEPM5350	PM5350 Power & Energy meter with THD, alarming	
METSEPM5350PB/IB	PM5350PB/IB	
METSEPM5350P	PM5350 Power & Energy meter with THD, alarming, multi-tariff and individual harmonics	
	Advanced Metering	**132**
	PM8000	133
METSEPM8210	96 x 96 panel mount meter, LV DC power	
METSEPM8240	DIN96 panel mount meter	
METSEPM8243	DIN rail mount meter	
METSEPM8244	DIN rail mount meter with remote display	
METSEPM89RD96	Remote display, 3 metre cable, mounting hardware for 30mm hole (nut & centering pin), mounting hardware for DIN96 cutout (92x92mm) adapter plate	

PowerLogic Commercial Reference Numbers

Commercial ref. no.	Description	Page
METSEPM8000SK	Terminal covers for utility sealing	
METSEPMAK	Adapters for mounting meter and remote display back to back & ANSI 4ï, 0.3 metre (1 ft.) Ethernet cable	
METSECAB1	Display Cable, 1 metre	
METSECAB3	Display Cable, 3 metres	
METSECAB10	Display Cable, 10 metres	
METSEPM8HWK	PM8000 hardware kit	
METSEPM8RDHWK	PM8000 remote display hardware kit	
METSEPM89M2600	Digital I/O module (6 digital inputs & 2 relay outputs)	
METSEPM89M0024	Analog I/O module (4 analog inputs & 2 analog outputs)	
	ION9000	143
METSEION92030	ION9000 meter, DIN mount, no display, hardware kit	
METSEION92040	ION9000 meter, DIN mount, 192 mm display, B2B adapter, hardware kit	
METSEION92130	ION9000 Meter, 20-60 Vdc control input, DIN mount, no display, hardware kit	
METSEION92140	ION9000 Meter, 20-60 Vdc control input, DIN mount, 192 mm display, B2B adapter, hardware kit	
METSEION93030	ION9000 meter, LVCS, DIN mount, no display, hardware kit	
METSEION93040	ION9000 meter, LVCS, DIN mount, 192 mm display, B2B adapter, hardware kit	
METSEION93130	ION9000 Meter, LVCS, 20-60 Vdc control power, DIN mount, no display, hardware kit	
METSEION93140	ION9000 Meter, LVCS, 20-60 Vdc control power, DIN mount, 192 mm display, B2B adapter, hardware kit	
METSEION95030	ION9000T meter, HSTC meter, DIN mount, no display, hardware kit	
METSEION95040	ION9000T HSTC meter, DIN mount, 192 mm display, B2B adapter, hardware kit	
METSEPM89RD96	Remote display, color LCD, 96 x 96 mm	
METSERD192	Remote display, color touchscreen, 192 x 192 mm	
METSEPM89M2600	I/O module, 2 relay outputs, 6 digital inputs	
METSEPM89M0024	I/O module, 2 analog outputs, 4 analog inputs	
METSE9HWK	ION9000 meter hardware kit – plugs, terminal guards, spare grounding screw, DIN clips	
METSE9CTHWK	ION9000 Current Input hardware kit - terminal screws, CT covers	
METSERD192HWK	RD192 remote display hardware kit	
METSE9B2BMA	ION9000 B2B (back to back) mounting adapter	
METSE9HWKLVCS	ION9000 hardware kit for LVCS	
METSE9USBK	ION9000 USB cover hardware kit	
METSE7X4MAK	ION7X50 mounting adapter kit	
	Advanced Utility Metering	**155**
	ION7400	156
METSEION7400	ION7400 Panel mount meter (integrated display with optical port and 2 energy pulse LEDs)	
METSEION7403	DIN rail mount - utility meter base	
METSEPM89RD96	Remote display, 3 m cable, mounting hardware for 30 mm hole and DIN96 cutout (92 x 92 mm) adapter plate	
METSEPM89M2600	Digital I/O module (6 digital inputs (wetted) & 2 relay outputs)	
METSEPM89M0024	Analog I/O module (4 analog inputs & 2 analog outputs)	
METSEPM8000SK	Revenue sealing kit	
METSECAB10	Display Cable, 10 m	
	ION8650	166
M8650A	ION8650A meter	
M8650B	ION8650B meter	
M8650C	ION8650C meter	
A-BASE-ADAPTER-9	Form 9S to Form 9A adapter	
A-BASE-ADAPTER-35	Form 35S to Form 35A adapter	
CBL-8X00BRKOUT	Break out cable 1.5 m	
CBL-8X00IOE5FT	Cable para I/O expander 1.5 m	
CBL-8X00IOE15FT	I/O extension cable 4.6 m	
CBL-8XX0-BOP-IOBOX	Cat.3 25PR UTP cable 205 m reel	

Commercial ref. no.	Description	Page
	ION8800	176
M8800A	ION8800A meter	
M8800B	ION8800B meter	
M8800C	ION8800C meter	
OPTICAL-PROBE	ION8800 optical probe with DB9 connector	
OPTICAL-PROBE-USB	ION8800 optical probe with USB connector	
	Multi-Circuit Metering	**185**
	HDPM6000	186
METSEHDPM6R24LC	HDPM6000R 24 Ckt Bundle 60Hz 208v	
METSEHDPM6R24WLC	HDPM6000R 24 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPM6R42LC	HDPM6000R 42 Ckt Bundle 60Hz 208v	
METSEHDPM6R42WLC	HDPM6000R 42 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPM6R84LC	HDPM6000R 84 Ckt Bundle 60Hz 208v	
METSEHDPM6R84WLC	HDPM6000R 84 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPM6B84LC	HDPM6000R 84 Ckt (2 x 42ckt) Bundle 60Hz 208v	
METSEHDPM6B84WCL	HDPM6000R 84 Ckt (2 x 42ckt) W/ Wave Form Bundle 60Hz 208v	
METSEHDPM6108LC	HDPM6000R 108 Ckt Bundle 60Hz 208v	
METSEHDPM6108WLC	HDPM6000R 108 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPM6126LC	HDPM6000R 126 Ckt Bundle 60Hz 208v	
METSEHDPM6126WLC	HDPM6000R 126 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPM6168LC	HDPM6000R 168 Ckt Bundle 60Hz 208v	
METSEHDPM6168WLC	HDPM6000R 168 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPM6192LC	HDPM6000R 192 Ckt Bundle 60Hz 208v	
METSEHDPM6192WLC	HDPM6000R 192 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPM6R24MC	HDPM6000R 24 Ckt Bundle 60Hz 480v	
METSEHDPM6R24WMC	HDPM6000R 24 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPM6R42MC	HDPM6000R 42 Ckt Bundle 60Hz 480v	
METSEHDPM6R42WMC	HDPM6000R 42 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPM6R84MC	HDPM6000R 84 Ckt Bundle 60Hz 480v	
METSEHDPM6R84WMC	HDPM6000R 84 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPM6B84MC	HDPM6000R 84 Ckt (2 x 42ckt) Bundle 60Hz 480v	
METSEHDPM6B84WMC	HDPM6000R 84 Ckt (2 x 42ckt) W/ Wave Form Bundle 60Hz 480v	
METSEHDPM6108MC	HDPM6000R 108 Ckt Bundle 60Hz 480v	
METSEHDPM6108WMC	HDPM6000R 108 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPM6126MC	HDPM6000R 126 Ckt Bundle 60Hz 480v	
METSEHDPM6126WMC	HDPM6000R 126 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPM6168MC	HDPM6000R 168 Ckt Bundle 60Hz 480v	
METSEHDPM6168WMC	HDPM6000R 168 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPM6192MC	HDPM6000R 192 Ckt Bundle 60Hz 480v	
METSEHDPM6192WMC	HDPM6000R 192 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPM6R24LD	HDPM6000R 24 Ckt Bundle 50Hz 208v	
METSEHDPM6R24WLD	HDPM6000R 24 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPM6R42LD	HDPM6000R 42 Ckt Bundle 50Hz 208v	
METSEHDPM6R42WLD	HDPM6000R 42 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPM6R84LD	HDPM6000R 84 Ckt Bundle 50Hz 208v	
METSEHDPM6R84WLD	HDPM6000R 84 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPM6B84LD	HDPM6000R 84 Ckt (2 x 42ckt) Bundle 50Hz 208v	
METSEHDPM6B84WLD	HDPM6000R 84 Ckt (2 x 42ckt) W/ Wave Form Bundle 50Hz 208v	
METSEHDPM6108LD	HDPM6000R 108 Ckt Bundle 50Hz 208v	
METSEHDPM6108WLD	HDPM6000R 108 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPM6126LD	HDPM6000R 126 Ckt Bundle 50Hz 208v	
METSEHDPM6126WLD	HDPM6000R 126 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPM6168LD	HDPM6000R 168 Ckt Bundle 50Hz 208v	
METSEHDPM6168WLD	HDPM6000R 168 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPM6192LD	HDPM6000R 192 Ckt Bundle 50Hz 208v	
METSEHDPM6192WLD	HDPM6000R 192 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPM6R24MD	HDPM6000R 24 Ckt Bundle 50Hz 480v	
METSEHDPM6R24WMD	HDPM6000R 24 Ckt W/ Wave Form Bundle 50Hz 480v	

PowerLogic Commercial Reference Numbers

Commercial ref. no.	Description	Page
METSEHDPM6R42MD	HDPM6000R 42 Ckt Bundle 50Hz 480v	
METSEHDPM6R42WMD	HDPM6000R 42 Ckt W/ Wave Form Bundle 50Hz 480v	
METSEHDPM6R84MD	HDPM6000R 84 Ckt Bundle 50Hz 480v	
METSEHDPM6R84WMD	HDPM6000R 84 Ckt W/ Wave Form Bundle 50Hz 480v	
METSEHDPM6B84MD	HDPM6000R 84 Ckt (2 x 42ckt) Bundle 50Hz 480v	
METSEHDPM6B84WMD	HDPM6000R 84 Ckt (2 x 42ckt) W/ Wave Form Bundle 50Hz 480v	
METSEHDPM6108MD	HDPM6000R 108 Ckt Bundle 50Hz 480v	
METSEHDPM6108WMD	HDPM6000R 108 Ckt W/ Wave Form Bundle 50Hz 480v	
METSEHDPM6126MD	HDPM6000R 126 Ckt Bundle 50Hz 480v	
METSEHDPM6126WMD	HDPM6000R 126 Ckt W/ Wave Form Bundle 50Hz 480v	
METSEHDPM6168MD	HDPM6000R 168 Ckt Bundle 50Hz 480v	
METSEHDPM6168WMD	HDPM6000R 168 Ckt W/ Wave Form Bundle 50Hz 480v	
METSEHDPM6192MD	HDPM6000R 192 Ckt Bundle 50Hz 480v	
METSEHDPM6192WMD	HDPM6000R 192 Ckt W/ Wave Form Bundle 50Hz 480v	
METSEHDPM6S42LC	HDPM6000 Strip 42 Ckt Bundle 60Hz 208v	
METSEHDPM6S42WLC	HDPM6000 Strip 42 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPM6S84LC	HDPM6000 Strip 84 Ckt Bundle 60Hz 208v	
METSEHDPM6S84WLC	HDPM6000 Strip 84 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPMS126LC	HDPM6000 Strip 126 Ckt Bundle 60Hz 208v	
METSEHDPMS126WLC	HDPM6000 Strip 126 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPMS168LC	HDPM6000 Strip 168 Ckt Bundle 60Hz 208v	
METSEHDPMS168WLC	HDPM6000 Strip 168 Ckt W/ Wave Form Bundle 60Hz 208v	
METSEHDPM6S42MC	HDPM6000 Strip 42 Ckt Bundle 60Hz 480v	
METSEHDPM6S42WMC	HDPM6000 Strip 42 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPM6S84MC	HDPM6000 Strip 84 Ckt Bundle 60Hz 480v	
METSEHDPM6S84WMC	HDPM6000 Strip 84 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPMS126MC	HDPM6000 Strip 126 Ckt Bundle 60Hz 480v	
METSEHDPMS126WMC	HDPM6000 Strip 126 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPMS168MC	HDPM6000 Strip 168 Ckt Bundle 60Hz 480v	
METSEHDPMS168WMC	HDPM6000 Strip 168 Ckt W/ Wave Form Bundle 60Hz 480v	
METSEHDPM6S42LD	HDPM6000 Strip 42 Ckt Bundle 50Hz 208v	
METSEHDPM6S42WLD	HDPM6000 Strip 42 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPM6S84LD	HDPM6000 Strip 84 Ckt Bundle 50Hz 208v	
METSEHDPM6S84WLD	HDPM6000 Strip 84 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPMS126LD	HDPM6000 Strip 126 Ckt Bundle 50Hz 208v	
METSEHDPMS126WLD	HDPM6000 Strip 126 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPMS168LD	HDPM6000 Strip 168 Ckt Bundle 50Hz 208v	
METSEHDPMS168WLD	HDPM6000 Strip 168 Ckt W/ Wave Form Bundle 50Hz 208v	
METSEHDPM6S42MD	HDPM6000 Strip 42 Ckt Bundle 50Hz 480v	
METSEHDPM6S42WMD	HDPM6000 Strip 42 Ckt W/ Wave Form Bundle 50Hz 480v	
METSEHDPM6S84MD	HDPM6000 Strip 84 Ckt Bundle 50Hz 480v	
METSEHDPM6S84WMD	HDPM6000 Strip 84 Ckt W/ Wave Form Bundle 50Hz 480v	
METSEHDPMS126MD	HDPM6000 Strip 126 Ckt Bundle 50Hz 480v	
METSEHDPMS126WMD	HDPM6000 Strip 126 Ckt W/ Wave Form Bundle 50Hz 480v	
METSEHDPMS168MD	HDPM6000 Strip 168 Ckt Bundle 50Hz 480v	
METSEHDPMS168WMD	HDPM6000 Strip 168 Ckt W/ Wave Form Bundle 50Hz 480v	
	HDPM6000 Head Unit	
METSEHDPM6S208VC	HDPM6000, 60Hz, 208v	
METSEHDPM6S480VC	HDPM6000, 60Hz, 480v	
METSEHDPM6S208VD	HDPM6000, 50Hz, 208v	
METSEHDPM6S480VD	HDPM6000, 50Hz, 480v	
	HDPM6000S High Density Power meter 6000 Strip	
METSEHDPM6S42W	HDPM6000 Strip Left & Right Set for 42ckts w/ wave form	
METSEHDPM6S42	HDPM6000 Strip Left & Right Set for 42ckts	
METSEHDPM6S21WF	HDPM6000 Strip 21ckt Right with wave form	
METSEHDPM6S21R	HDPM6000 Strip 21ckt Right	
METSEHDPM6S21WH	HDPM6000 Strip 21ckt Left with wave form	
METSEHDPM6S21L	HDPM6000 Strip 21ckt Left	

Commercial ref. no.	Description	Page
	HDPM6000R High Density Power Meter 6000 Retrofit	
METSEHDPM6R24	HDPM6000R 24 Ckt Module	
METSEHDPM6R24WF	HDPM6000R 24 Ckt Module W/ Wave Form	
METSEHDPM6R42	HDPM6000R 42 Ckt Module	
METSEHDPM6R42WF	HDPM6000R 42 Ckt Module W/ Wave Form	
METSEHDPM6R84	HDPM6000R 84 Ckt Module	
METSEHDPM6R84WF	HDPM6000R 84 Ckt Module W/ Wave Form	
	HDPM6000B High Density Power Meter 6000 Busway	
METSEHDPM6BT4	HDPM6000 4ckt Bus Tap Card	
METSEHDPM6BT8	HDPM6000 8ckt Bus Tap Card	
	HDPM6000 Accessories	
METSEHDPM6IO	HDPM6000 I/O Module	
METSEHDPM6HMI4	HDPM6000 4.3" Color Touchscreen HMI Display	
METSEHDPM6HMI7	HDPM6000 7" Color Touchscreen HMI Display	
METSEHDPM6PSV240	HDPM6000 Power Supply 100-240VAC to 24VDC 60 watt	
METSEHDPM6PSV500	HDPM6000 Power Supply 400-500VAC to 24VDC 90 watt	
	HDPM6000, HDPM6000R & I/O Module CTs	
METSEHD1000A12	CTSF-1000-0400-0400-12	
METSEHD1000A30	CTSF-1000-0400-0400-30	
METSEHD1200A12	CTSF-1200-0400-0600-12	
METSEHD1200A30	CTSF-1200-0400-0600-30	
METSEHD150A12	CTSF-0150-0100-0100-12	
METSEHD150A30	CTSF-0150-0100-0100-30	
METSEHD150A60	CTSF-0150-0100-0100-60	
METSEHD1600A12	CTSF-1600-0400-0600-12	
METSEHD1600A12L	CTSF-1600-0450-0450-12	
METSEHD1600A30	CTSF-1600-0400-0600-30	
METSEHD1600A30L	CTSF-1600-0450-0450-30	
METSEHD2000A12	CTSF-2000-0400-0600-12	
METSEHD2000A12L	CTSF-2000-0600-0300-12	
METSEHD2000A30	CTSF-2000-0400-0600-30	
METSEHD2000A30L	CTSF-2000-0600-0300-30	
METSEHD3000A12	CTSF-3000-0400-0400-12	
METSEHD3000A12L	CTSF-3000-0400-0600-12	
METSEHD3000A12XL	CTSF-3000-0500-1200-12	
METSEHD3000A30	CTSF-3000-0400-0400-30	
METSEHD3000A30L	CTSF-3000-0400-0600-30	
METSEHD3000A30XL	CTSF-3000-0500-1200-30	
METSEHD300A12	CTSF-0300-0100-0100-12	
METSEHD300A12L	CTSF-0300-0200-0200-12	
METSEHD300A30	CTSF-0300-0100-0100-30	
METSEHD300A30L	CTSF-0300-0200-0200-30	
METSEHD300A60	CTSF-0300-0100-0100-60	
METSEHD300A60L	CTSF-0300-0200-0200-60	
METSEHD4000A12	CTSF-4000-0500-1200-12	
METSEHD4000A30	CTSF-4000-0500-1200-30	
METSEHD400A12	CTSF-0400-0125-0125-12	
METSEHD400A12L	CTSF-0400-0250-0250-12	
METSEHD400A30	CTSF-0400-0125-0125-30	
METSEHD400A30L	CTSF-0400-0250-0250-30	
METSEHD400A60	CTSF-0400-0125-0125-60	
METSEHD400A60L	CTSF-0400-0250-0250-60	
METSEHD600A12	CTSF-0600-0300-0300-12	
METSEHD600A30	CTSF-0600-0300-0300-30	
METSEHD600A60	CTSF-0600-0300-0300-60	
METSEHD800A12	CTSF-0800-0400-0400-12	
METSEHD800A30	CTSF-0800-0400-0400-30	
METSEHD800A60	CTSF-0800-0400-0400-60	
METSEHDP150A12H	CTN3-0150-0070-0070-12	
METSEHDP150A30H	CTN3-0150-0070-0070-30	

For any CT rating not available in the reference list, please contact the Schneider Electric sales representative.

PowerLogic Commercial Reference Numbers

Commercial ref. no.	Description	Page
METSEHDP300A12H	CTN4-0300-0125-0125-12	
METSEHDPM125A12	CTTG-0125-C039-C039-012	
METSEHDPM125A30	CTTG-0125-C039-C039-030	
METSEHDPM150A12	CTS4-0150-0125-125-012	
METSEHDPM150A30	CTS4-0150-0125-125-030	
METSEHDPM150A60	CTS4-0150-0125-125-060	
METSEHDPM20A12H	CTN2-0020-0040-0040-012	
METSEHDPM20A30H	CTN2-0020-0040-0040-030	
METSEHDPM300A12	CTS4-0300-0125-125-012	
METSEHDPM300A30	CTS4-0300-0125-125-030	
METSEHDPM300A30H	CTN4-0300-0125-0125-30	
METSEHDPM300A60	CTS4-0300-0125-125-060	
METSEHDPM400A12	CTS4-0400-0125-125-012	
METSEHDPM400A12H	CTN4-0400-0125-0125-12	
METSEHDPM400A30	CTS4-0400-0125-125-030	
METSEHDPM400A30H	CTN4-0400-0125-0125-30	
METSEHDPM400A60	CTS4-0400-0125-125-060	
METSEHDPM600A12	CTS4-0600-0125-125-012	
METSEHDPM600A30	CTS4-0600-0125-125-030	
METSEHDPM600A60	CTS4-0600-0125-125-060	
METSEHDPM75A12	CTMF-0075-0040-0040-12	
METSEHDPM75A12H	CTN3-0075-0070-0070-12	
METSEHDPM75A30	CTMF-0075-0040-0040-30	
METSEHDPM75A30H	CTN3-0075-0070-0070-30	
METSEHDPM75A60	CTMF-0075-0040-0040-60	
	HDPM6000S CTs	
METSEHDPM125A4	CTTG-125-C039-C039-i04A	
METSEHDPM125A10	CTTG-0125-C039-C039-i10A	
METSEHDPM75A4	CTMF-0075-0040-0040-I04A	
METSEHDPM150A5	CTS4-0150-0125-125-I05A	
METSEHDPM300A5	CTS4-0300-0125-125-I05A	
METSEHDPM400A5	CTS4-0400-0125-125-I05A	
METSEHDP600A5	CTS4-0600-0125-125-I05A	
	HDPM6000B CTs	
METSEHDPM125A16	CTTG-0125-C039-C039-i16	
METSEHDPM75A16	CTMF-0075-0040-0040-I16	
METSEHDPM150A16	CTS4-0150-0125-125-I16	
METSEHDPM300A16	CTS4-0300-0125-125-I16	
METSEHDPM400A16	CTS4-0400-0125-125-I16	
METSEHDP600A16	CTS4-0600-0125-125-I16	
	BCPM (Branch Circuit Power Meter)	190
BCPMA084S	84-circuit solid-core power & energy meter, 100 A CTs (4 strips), 19.05 mm spacing	
BCPMA184S	84-circuit solid-core power & energy meter, 100 A CTs (4 strips), 25.4 mm spacing	
BCPMA042S	42-circuit solid-core power & energy meter, 100 A CTs (2 strips), 19.05 mm spacing	
BCPMA142S	42-circuit solid-core power & energy meter, 100 A CTs (2 strips), 25.4 mm spacing	
BCPMA224S	24-circuit solid-core power & energy meter, 100 A CTs (2 strips), 18 mm spacing	
BCPMA236S	36-circuit solid-core power & energy meter, 100 A CTs (2 strips), 18 mm spacing	
BCPMA242S	42-circuit solid-iEM2000core power & energy meter, 100 A CTs (2 strips), 18 mm spacing	
BCPMA248S	48-circuit solid-core power & energy meter, 100 A CTs (4 strips), 18 mm spacing	
BCPMA272S	72-circuit solid-core power & energy meter, 100 A CTs (4 strips), 18 mm spacing	
BCPMA284S	84-circuit solid-core power & energy meter, 100 A CTs (4 strips), 18 mm spacing	
BCPMB084S	84-circuit solid-core branch current, mains power meter, 100 A CTs (4 strips), 19.05 mm spacing	
BCPMB184S	84-circuit solid-core branch current, mains power meter, 100 A CTs (4 strips), 25.4 mm spacing	
BCPMB042S	42-circuit solid-core branch current, mains power meter, 100 A CTs (2 strips), 19.05 mm spacing	

Commercial ref. no.	Description	Page
BCPMB142S	42-circuit solid-core branch current, mains power meter, 100 A CTs (2 strips), 25.4 mm spacing	
BCPMB224S	24-circuit solid-core branch current, mains power meter, 100 A CTs (2 strips), 18 mm spacing	
BCPMB236S	36-circuit solid-core branch current, mains power meter, 100 A CTs (2 strips), 18 mm spacing	
BCPMB242S	42-circuit solid-core branch current, mains power meter, 100 A CTs (2 strips), 18 mm spacing	
BCPMB248S	48-circuit solid-core branch current, mains power meter, 100 A CTs (4 strips), 18 mm spacing	
BCPMB272S	72-circuit solid-core branch current, mains power meter, 100 A CTs (4 strips), 18 mm spacing	
BCPMB284S	84-circuit solid-core branch current, mains power meter, 100 A CTs (4 strips), 18 mm spacing	
BCPMC084S	84-circuit solid-core branch current meter, 100 A CTs (4 strips), 19.05 mm spacing	
BCPMC184S	84-circuit solid-core branch current meter, 100 A CTs (4 strips), 25.4 mm spacing	
BCPMC042S	42-circuit solid-core branch current meter, 100 A CTs (2 strips), 19.05 mm spacing	
BCPMC142S	42-circuit solid-core branch current meter, 100 A CTs (2 strips), 25.4 mm spacing	
BCPMC224S	24-circuit solid-core branch current meter, 100 A CTs (2 strips), 18 mm spacing	
BCPMC236S	36-circuit solid-core branch current meter, 100 A CTs (2 strips), 18 mm spacing	
BCPMC242S	42-circuit solid-core branch current meter, 100 A CTs (2 strips), 18 mm spacing	
BCPMC248S	48-circuit solid-core branch current meter, 100 A CTs (4 strips), 18 mm spacing	
BCPMC272S	72-circuit solid-core branch current meter, 100 A CTs (4 strips), 18 mm spacing	
BCPMC284S	84-circuit solid-core branch current meter, 100 A CTs (4 strips), 18 mm spacing	
BCPME042S	42-circuit solid-core power & energy meter w/ Ethernet, 100 A CTs (2 strips), 19.05 mm spacing	
BCPME084S	84-circuit solid-core power & energy meter w/ Ethernet, 100 A CTs (4 strips), 19.05 mm spacing	
BCPME142S	42-circuit solid-core power & energy meter w/ Ethernet, 100 A CTs (2 strips), 25.4 mm spacing	
BCPME184S	84-circuit solid-core power & energy meter w/ Ethernet, 100 A CTs (4 strips), 25.4 mm spacing	
BCPME224S	24-circuit solid-core power & energy meter w/ Ethernet, 100 A CTs (2 strips), 18 mm spacing	
BCPME236S	36-circuit solid-core power & energy meter w/ Ethernet, 100 A CTs (2 strips), 18 mm spacing	
BCPME242S	42-circuit solid-core power & energy meter w/ Ethernet, 100 A CTs (2 strips), 18 mm spacing	
BCPME248S	48-circuit solid-core power & energy meter w/ Ethernet, 100 A CTs (4 strips), 18 mm spacing	
BCPME272S	72-circuit solid-core power & energy meter w/ Ethernet, 100 A CTs (4 strips), 18 mm spacing	
BCPME284S	84-circuit solid-core power & energy meter w/ Ethernet, 100 A CTs (4 strips), 18 mm spacing	
BCPMSCA1S	42-circuit split-core power and energy meter, CTs and cables sold separately	
BCPMSCA2S	84-circuit split-core power and energy meter, CTs and cables sold separately	
BCPMSCA30S	30-circuit split-core power and energy meter, (30) 50 A CTs & (2) 1.21 m cables	
BCPMSCA42S	42-circuit split-core power and energy meter, (42) 50 A CTs & (2) 1.21 m cables	
BCPMSCA60S	60-circuit split-core power and energy meter, (60) 50 A CTs & (4) 1.21 m cables	
BCPMSCA84S	84-circuit split-core power and energy meter, with (84) 50 A CTs & (4) 1.21 m cables	
BCPMSCB1S	42-circuit split-core branch current, mains power meter, CTs and cables sold separately	
BCPMSCB2S	84-circuit split-core branch current, mains power meter, CTs and cables sold separately	
BCPMSCB30S	30-circuit split-core branch current, mains power meter, (30) 50 A CTs & (2) 1.21 m cables	
BCPMSCB42S	42-circuit split-core branch current, mains power meter, (42) 50 A CTs & (2) 1.21 m cables	

PowerLogic Commercial Reference Numbers

Commercial ref. no.	Description	Page
BCPMSCB60S	60-circuit split-core branch current, mains power meter, (60) 50 A CTs & (4) 1.21 m cables	
BCPMSCBY63S	42-circuit split-core branch current, mains, all boards on backplate, CTs and cables sold separately	
BCPMSCB84S	84-circuit split-core branch current, mains power meter, (84) 50 A CTs & (4) 1.21 m cables	
BCPMSCC1S	42-circuit split-core current meter, CTs and cables sold separately	
BCPMSCC2S	84-circuit split-core current meter, CTs and cables sold separately	
BCPMSCC30S	30-circuit split-core current meter, (30) 50 A CTs & (2) 1.21 m cables	
BCPMSCC42S	42 circuit split-core current meter, (42) 50 A CTs & (2) 1.21 m cables	
BCPMSCC60S	60-circuit split-core current meter, (60) 50 A CTs & (4) 1.21 m cables	
BCPMSCCY63S	42-circuit split-core current meter, all boards on backplate, CTs and cables sold separately	
BCPMSCC84S	84-circuit split-core current meter, (84) 50 A CTs & (4) 1.21 m cables	
BCPMSCE1S	42-circuit split-core power and energy meter w/ Ethernet, CTs and cables sold separately	
BCPMSCE2S	84-circuit split-core power and energy meter w/ Ethernet, CTs and cables sold separately	
BCPMSCE30S	30-circuit split-core power and energy meter w/ Ethernet, (30) 50A CTs & (2) 1.21 m cables	
BCPMSCE42S	42-circuit split-core power and energy meter w/ Ethernet, (42) 50 A CTs & (2) 1.21 m cables	
BCPMSCE60S	60-circuit split-core power and energy meter w/ Ethernet, (60) 50 A CTs & (4) 1.21 m cables	
BCPMSCE84S	84-circuit split-core power and energy meter w/ Ethernet, (84) 50 A CTs & (4) 1.21 m cables	
BCPMSCADPBS	BCPM adapter boards, quantity 2, for split core BCPM	
BCPMSCCT0	BCPM 50 A split core CTs, Quantity 6, 1.8 m lead lengths	
BCPMSCCT0R20	BCPM 50 A split core CTs, quantity 6, 6 m lead lengths	
BCPMSCCT1	BCPM 100 A split core CTs, Quantity 6, 1.8 m lead lengths	
BCPMSCCT1R20	BCPM 100 A split core CTs, Quantity 6, 6 m lead lengths	
BCPMSCCT3	BCPM 200 A split core CTs, Quantity 1, 1.8 m lead lengths	
BCPMSCCT3R20	BCPM 200 A split core CTs, Quantity 1, 6 m lead lengths	
BCPMCOVERS	BCPM circuit board cover	
BCPMREPAIR	CT repair kit for solid core BCPM (includes one CT)	
H6803R-0100	H6803R-0100 Additional 100A split core CT for use with solid core repair kit	
E8951	Modbus to BACnet protocol converter	
CBL008	Flat Ribbon cable for BCPM, length = 0.45 m	
CBL016	Flat Ribbon cable for BCPM, length = 1.2 m	
CBL017	Flat Ribbon cable for BCPM, length = 1.5 m	
CBL018	Flat Ribbon cable for BCPM, length = 1.8 m	
CBL019	Flat Ribbon cable for BCPM, length = 2.4 m	
CBL020	Flat Ribbon cable for BCPM, length = 3.0 m	
CBL021	Flat Ribbon cable for BCPM, length = 6.1 m	
CBL022	Round Ribbon cable for BCPM, length = 1.2 m	
CBL023	Round Ribbon cable for BCPM, length = 3 m	
CBL024	Round Ribbon cable for BCPM, length = 6.1 m	
CBL031	Round Ribbon cable for BCPM, length = 0.5 m	
CBL033	Round Ribbon cable for BCPM, length = 0.8 m	
LVCT00050S	50 A 10 mm x 11 mm	
LVCT00101S	100 A 16 mm x 20 mm	
LVCT00102S	100 A 30 mm x 31 mm	
LVCT00202S	200 A 30 mm x 31 mm	
LVCT00302S	300 A 30 mm x 31 mm	
LVCT00403S	400 A 62 mm x 73 mm	
LVCT00603S	600 A 62 mm x 73 mm	

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LVCT00803S	800 A 62 mm x 73 mm	
LVCT00804S	800 A 62 mm x 139 mm	
LVCT01004S	1000 A 62 mm x 139 mm	
LVCT01204S	1200 A 62 mm x 139 mm	
LVCT01604S	1600 A 62 mm x 139 mm	
LVCT02004S	2000 A 62 mm x 139 mm	
LVCT02404S	2400 A 62 mm x 139 mm	
LVCT20050S	50 A 10 mm	
LVCT20100S	100 A 10 mm	
LVCT20202S	200 A 25 mm	
	EM4000	204
METSEEM403316	24 x 333 mV inputs, 120V control power 60 Hz	
METSEEM403336	24 x 333 mV inputs, 277V control power 60 Hz	
METSEEM408016	24 x 80 mA inputs, 120V control power 60 Hz	
METSEEM408036	24 x 80 mA inputs, 277V control power 60 Hz	
METSECONV580	EM4000 5 A : 80 mA converter	
METSEPTMOD480	480 V PT Module for EM4X00 meter	
METSEPTMOD347600	347 V/600 V PT Module for EM4X00 meter	
METSECTTERM	EM4000 CT termination module	
METSECTSHORT	EM4000 CT shorting module	
METSECT80200	EM4000 solid-core CT 200 A / 80 mA secondary	
METSECT80400	EM4000 solid-core CT 400 A / 80 mA secondary	
METSECT80600	EM4000 solid-core CT 600 A / 80 mA secondary	
	EM4800	213
METSEEM480525	24 x 5 A inputs, 230/240 V control power, 50 Hz	
METSEEM480516	24 x 5 A inputs, 120 V control power, 60 Hz	
METSEEM483325	24 x 333 mV inputs, 230/240 V control power, 50 Hz	
METSEEM483316	24 x 333 mV inputs, 120 V control power, 60 Hz	
METSEEM488016	24 x 80 mA inputs, 120 V control power, 60 Hz	
METSEEM488026	24 x 80 mA inputs, 230/240 V control power, 50 Hz	
METSECONV580	EM4000 5 A : 80 mA converter	
METSEPTMOD480	480 V PT Module for EM4X00 meter	
METSEPTMOD347600	347 V/600 V PT Module for EM4X00 meter	
METSECTTERM	EM4000 CT termination module	
METSECTSHORT	EM4000 CT shorting module	
METSECT80200	EM4000 solid-core CT 200 A / 80 mA secondary	
METSECT80400	EM4000 solid-core CT 400 A / 80 mA secondary	
METSECT80600	EM4000 solid-core CT 600 A / 80 mA secondary	
	EM4900	218
METSEEM4904A	EM4900 (4) 3-phase meters - Modbus RTU only	
METSEEM4908A	EM4900 (8) 3-phase meters - Modbus RTU only	
METSEEM4914A	EM4900 (14) 3-phase meters - Modbus RTU only	
METSEEM4928A	EM4900 (28) 3-phase meters - Modbus RTU only	
METSEEM4904E	EM4900 (4) 3-phase meters - Ethernet and Serial (Modbus, BACnet & SNMP)	
METSEEM4908E	EM4900 (8) 3-phase meters - Ethernet and Serial (Modbus, BACnet & SNMP)	
METSEEM4914E	EM4900 (14) 3-phase meters - Ethernet and Serial (Modbus, BACnet & SNMP)	
METSEEM4928E	EM4900 (28) 3-phase meters - Ethernet and Serial (Modbus, BACnet & SNMP)	
	Retrofit Products	**227**
	EM3500	228
METSEEM3502	EM3502 Pulse out only	
METSEEM3550	EM3550 Modbus - 2 quadrant	
METSEEM3555	EM3555 Modbus - 4 quadrant with logging	
METSEEM3560	EM3560 BACnet with logging	
METSEEM3502A	EM3502A Pulse Rope CT model	
METSEEM3550A	EM3550A Modbus Rope CT Model	
METSEEM3560A	EM3560A BACnet w/ logging Rope CT Model	
METSEEM3561	EM3561 BACnet without logging	
METSEEM3561A	EM3561A BACnet without loggingRope CT Model	
	EM4200	234

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METSEEM4235	Enercept, Class 0.2S meter, Modbus/BACnet communication, Uni-Directional/Bi-Directional, RS-485, IEC wire code, single circuit, Modbus/BACnet	
METSEEM4236	Enercept, Class 0.2S meter, Modbus/BACnet communication, Uni-Directional/Bi-Directional, RS-485, ANSI wire code, single circuit, Modbus/BACnet	
	Insulation Monitoring Devices	**240**
	Vigilohm Insulation Monitoring	240
50159	ZX impedance	
50168	HOSPITAL REMOTE PANEL	
50169	CARDEW Holder	
50170	CARDEW 250V CA Surge arestor	
50171	CARDEW 440V CA Surge arestor	
50172	CARDEW 660V CA Surge arestor	
50183	CARDEW 1000V CA Surge arestor	
50248	PHT1000	
50278	XRM	
50281	XGR 115-127VCA	
50282	XGR 220-240VCA	
50283	XGR 380-415VCA	
50420	TOA80 open toroid	
50421	TOA120 open toroid	
50437	TA30 toroid	
50438	PA50 toroid	
50439	IA80 toroid	
50440	MA120 toroid	
50441	SA200 toroid	
50442	GA300 toroid	
50494	XP15 Open CT for XRM	
50498	XP50 Open CT for XRM	
50499	XP100 Open CT for XRM	
1460872	Voltage Adaptor P1N	
IMDCP100	Current Probe 100mm	
IMDCP15	Current Probe 15mm	
IMDCP50	Current Probe 50mm	
IMDIFL12	Ins Fault locator Entry	
IMDIFL12C	Ins Fault locator Entry Com	
IMDIFL12H	Ins Fault locator HC	
IMDIFL12L	Ins Fault locator Entry 24-48VDC	
IMDIFL12LMC	Ins Fault locator Adv 24-48VDC	
IMDIFL12MC	Ins Fault locator Adv	
IMDIFL12MCN	Ins Fault locator Adv	
IMDIFL12MCT	Ins Fault locator Adv Tropic	
IMDIFL12VA1T	Voltage Adaptor for IFL12MC series_1000V	
IMDIFLK1	Mobile Ins Fault locator 1 feeder	
IMDIFLK12	Mobile Ins Fault locator 12 feeders	
IMD-IM10	IM10	
IMD-IM10-H	IM10 H	
IMDIM15H	IM15 H	
IMD-IM20	IM20	
IMD-IM20-1700	Voltalge Adaptor for IM20	
IMD-IM20-H	IM20 H	
IMD-IM400	IM400	
IMD-IM400-1700	Voltage adaptor for IM400	
IMD-IM400-1700C	Voltage adaptor for IM400 Conformal coated	
IMD-IM400C	IM400C	
IMDIM400L	IM400L	
IMDIM400N	IM400N	
IMDIM400LTHR	IM400LTHR	
IMDIM400THR	IM400THR	
IMDIM400THRN	IM400THRN	
IMD-IM400VA2	Voltage adaptor for PV application Coated	
IMD-IM9	IM9	
IMD-IM9-OL	IM9OL	
IMD-IT-S63-H	Single Phase, Isolated Transformer, 6,3KVA	
IMD-IT-S80-H	Single Phase, Isolated Transformer, 8KVA	
IMD-IT-S100-H	Single Phase, Isolated Transformer, 10KVA	
IMDLRDH	Remote Display Hospital	

For any enclosure or product configuration not listed, please see your Schneider Electric Representative for complete ordering information.

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