PowerLogic™

Energy Management, Revenue Metering and Power Quality Monitoring

Electrical Network Management

www.se.com

Life Is On | Schneider Electric

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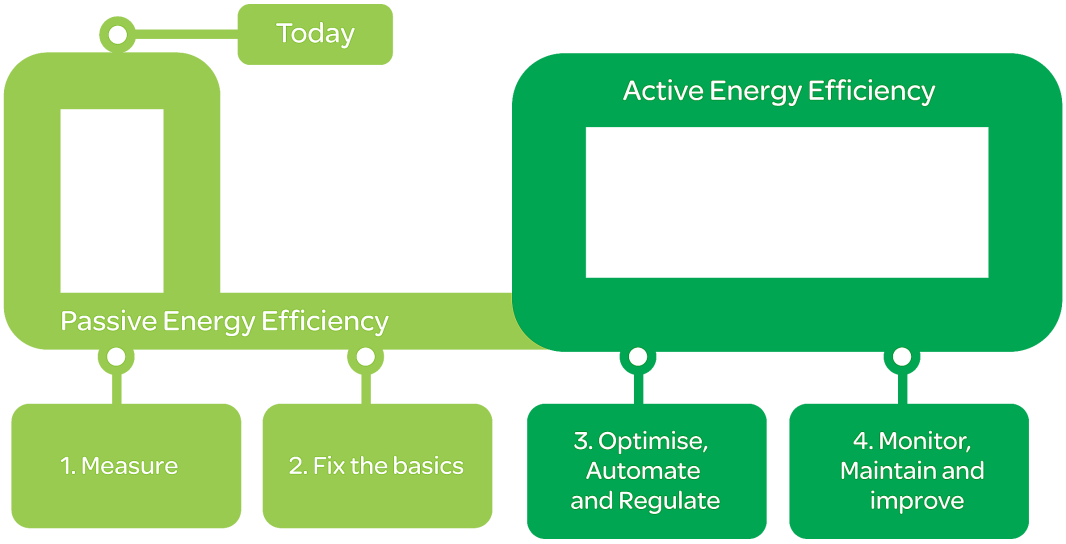
PowerLogic™ System is…

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.

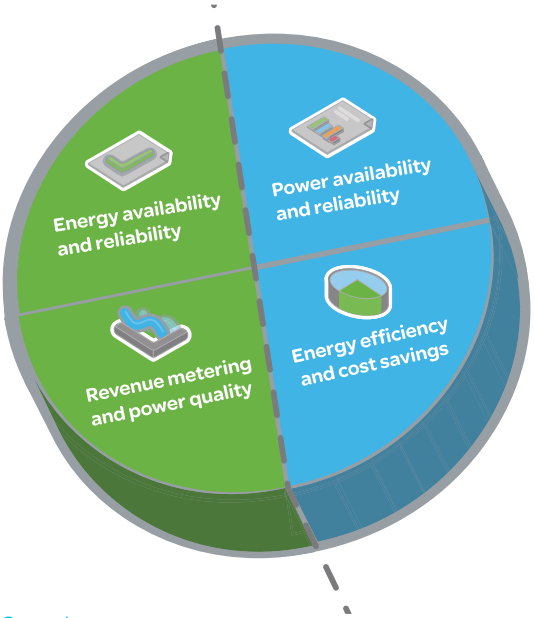
Our expert services can help you audit your energy use and build your energy action plan. From power factor correction systems, harmonic filtering and variable speed drives to HVAC and lighting controls, we offer a complete range of energy efficient technologies.

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 load curtailment 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

Name	5 A Current Transformers		LVCT - 0.333 V	Rogowski Coils
				
	METSECT5CCXXX	METSECT5DXXXX	METSECTLVXXXXXX	METSECTRXXXXXX
Type	Solid Core	Solid Core	Solid Core	Rogowski Coils
Primary Current	40 A to 250 A	500 A to 4000 A	50 A to 400 A	50 A to 5000 A
Secondary Output	5 A	5 A	0.333 V	"58.3 mV/kA @ 50 Hz 70 mV/kA @ 60 Hz"
Accuracy Class	Class 0.5 to Class 3	Class 0.5 to Class 1	Class 1	Class 1 A1
Profile Suitable	Cable	Bar	Cable	Bar
Operating Temperature	-25 to 60 °C	-25 to 60°C	-40 to 85 °C	-35 to 60 °C
			 	
	METSECT5MXXXX	METSECT5VVXXX	METSECTLVXXXXX	
Type	Solid Core	Solid Core	Split Core	
Primary Current	150 A to 800 A	5000 A to 6000 A	50 A to 2400 A	
Secondary Output	5 A	5 A	0.333 V	
Accuracy Class	Class 0.5 to Class 1	Class 0.5	Class 1	
Profile Suitable	Bar/Cable	Bar	Bar	
Operating Temperature	-25 to 60°C	-25 to +50°C	-15 to 60°C	
				
	METSECT5GXXXX	METSECT5HXXXX		
Type	Split Core	Split Core		
Primary Current	100 A to 4000 A	100 A to 1000 A		
Secondary Output	5 A	5 A		
Accuracy Class	Class 0.5 to Class 3	Class 0.5 to Class 1		
Profile Suitable	Bar	Cable		
Operating Temperature	-5 to 40 °C	-5 to 50 °C		

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Panorama of the PowerLogic™ range (cont'd)

Basic energy metering



Name	iEM2xxx Range iEM2000, iEM2400	EM3000 Series	iEM3000 Series
Function	kilowatt-hour meter IEC 62052-31:2015 BS/EN/IEC 62053-21 BS/EN/IEC 62053-23 EN 50470-1:2006 EN 50470-3:2006 IEC 61557-12:2018	kilowatt-hour meters power and energy meters	kilowatt-hour meters power and energy meters metering & sub-metering IEC 62052-31:2015 BS/EN/IEC 62053-21:2020 ed 2 BS/EN/IEC 62053-22:2020 ed 2 BS/EN/IEC 62053-23:2020 ed 2 EN 50470-1:2006 EN 50470-3:2006 IEC 61557-12:2018

Applications

Panel instrumentation			
Panel instrumentation	**E (in all range) I, U, F, P, Q ,S, PF (in selected ranges)**	**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	Class 1 (Wh)/ Class 2 (VARh)	Class 0.5/ 0.5s/ Class 1 (Wh) Class 2 (VARh)	Class 0.5S / Class 1 (Wh) Class 2 (VARh)
Installation	DIN rail 1, 2 x 18 mm modules	DIN rail	DIN rail 5, 7 x 18 mm modules
Voltage measurement	up to 276 V (Ph-N) AC direct	90 - 347 V L-N- EM3570 156 - 600 V L-L- EM3570 100-277 V L-N (Others) 173- 480 V L-L (Others)	100 - 277 V L-N, 173 - 480 V L-L up to 1MV AC (ext VT)
Current measurement	40 to 100 A direct	45 A Direct- EM3100 63 A Direct - EM3200 100 A Direct - EM3300 125 A Direct - EM3400 LVCT/Rog - EM3570 External CT (1/5A) - EM3700	external CT (iEM3200), external LVCT(iEM3400/3500) direct 63 A (iEM3100), direct 125 A (iEM3300)
Communication ports Inputs / Outputs Memory capacity	RS-485, M-Bus in selected references 1/1 (in selected)	RS485, Dual Ethernet Port (EM3570) Upto 2 Inputs and 1 Output	RS-485, M-Bus, BACnet, LonWorks in selected references up to 2 Inputs and 1 Output
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Panorama of the PowerLogic™ range (cont'd)

Basic energy metering

Name	PM3000 Series	PowerTag Energy Series
Function	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	**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 only**
Demand & load management		
Billing analysis		
Power availability & reliability		
Compliance monitoring		
Dip/swell, transient		
Harmonics		
Revenue metering		
Revenue meter		
Characteristics		
Measurement accuracy	Class 0.5	IEC 61557-12 PMD/DD Class 1 (active energy)
Installation	DIN rail	on product or on cables depending on the reference
Voltage measurement	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	external CT	63 to 2000 A
Communication ports	1	Wireless
Inputs / Outputs	2 I/O	
Memory capacity		
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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 IEC 62052-31:2015 BS/EN/IEC 62053-22:2020 ed 2 BS/EN/IEC 62053-23:2020 ed 2 EN 50470-1:2006 EN 50470-3:2006 IEC 61557-12:2018	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			■	■
Residual current M			■	
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 96 mm x 96 mm or DIN rail (PM5563)	Flush mount 96 mm x 96 mm
Voltage measurement			20 V to 400 V AC L-N 35 V to 690 V AC L-L	20 V to 300 V L-N 35 V to 520 V L-L
Current measurement			external CT	external CT
Communication ports Inputs / Outputs Memory capacity	Wireless 2 I/O		RS-485, Ethernet, BACnet, Ethernet IP up to 4 inputs/ 2 outputs Available	RS-485 up to 4 inputs/ 2 outputs
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Panorama of the PowerLogic™ range (cont'd)

Advanced metering

Name	PM8000 Series	ION9000
Function	Energy & Advanced Power 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 IEC62052-11 ed.2 Class 0.1S ANSI C12.20 Class 0.1 PQI 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 signaling, 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 only**	■
Compliance monitoring	■	■
Revenue metering		
Revenue metering		

Characteristics

Measurement accuracy (active energy)	IEC 62053-22 Class 0.2S ANSI C12.20 Class 0.2	IEC62052-11 ed.2 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 and LVCT
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	B	C
Function	Energy & Advanced 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 & Advanced Power Quality Meter IEC 62052-11 IEC 62053-22/23 Class 0.2S IEC 61000-4-30 Class A		
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)**		
Energy efficiency & cost				
Sub-billing and cost allocation	■	■	■	■
Demand and load management	■	■	■	■
Billing analysis	■	■	■	■
Power availability & reliability				
Harmonics	■	■	■	■
Dip/swell, transient	**dip/swell only**	■	■	■
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		
Installation	Flush & DIN rail mount 96 mm x 96 mm	ANSI socket mount 9S, 35S, 36S, 39S and 76S; FT21 switchboard case		
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)		
Current measurement	external CT	external CT		
Communication ports	3	5		
Inputs / Outputs	up to 27 DI, 9 DO up to 16 AI, 8 AO	up to 22 I/O		
Memory capacity	512 MB	10 MB	4 MB	2 MB
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Panorama of the PowerLogic™ range (cont'd)

Multi-circuit metering



Name	HDPM6000	EM4000	EM4800
Function	3-phase power quality meter; branch-circuit accessory module hub	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)**
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 0.5S
Installation		Panel or enclosure	Panel or enclosure
Voltage measurement		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		Split- or solid-core CTs	Split- or solid-core CTs
Communication ports		2	2
Inputs / Outputs		2	2
Memory capacity			
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Panorama of the PowerLogic™ range (cont'd)

Retrofit products

Name	EM3500	EM4200
Function	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)**
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)	ANSI C12.20 Class 0.2S IEC 62053-22 Class 0.2S
Installation	Panel or enclosure	DIN or screw, clip-on or hook
Voltage measurement	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	EM35xxA models work exclusively with Rogowski coil CTs.	5 A to 5000 A
Communication ports	1 for main	2
Inputs/Outputs	(see Datasheet)	
Memory capacity		
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Panorama of the PowerLogic™ range (cont'd)

	Insulation monitoring Devices	EcoStruxure™ Panel Server
		
Name	**Vigilohm™ Insulation monitoring devices**	**EcoStruxure™ Panel Server**
Function	Insulation monitoring for IT / Ungrounded networks	IoT gateway for intelligent power network
Features		
RS-485 / Ethernet gateway	RS-485	Supports IEEE 802.15.4 and Modbus devices
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	Wired devices communicating though Modbus-SL, Modbus TCP/IP, or digital inputs: Circuit breakers and switch-disconnectors, Protection relays, Power meters, Energy meters, Pulse meters, IO modules, Gateways Wireless devices: PowerTag Energy sensors, Environmental sensors, Acti9 Active, HeatTage sensors, PowerTag Control modules, Wireless indication auxiliaries for ComPacT NSX and ComPacT NSXm, circuit breakers
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	Available on web server embedded in Panel Server
Historical data	Available on product supervision e.g.PME, Com'X 510	Available on web server embedded in Panel Server (Advanced Panel Server only)
Automatic notification	Available in supervision PME	Available on embedded web server (Advanced Panel Server only), edge control system & cloud-hosted application
Alarm and event logs	Available in supervision PME	Available on embedded web server (Advanced Panel Server only), edge control system & cloud-hosted application
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.	Two Ethernet 10Base-T/100Base-T port Wi-Fi Bluetooth communication for commissioning Modbus RS485 serial communication IEEE 802.15.4 wireless communication Modbus TCP/IP server and client Support of HTTPS, NTP, SNTP, DHCP client and server with proxy management Modbus RS485 to Modbus/TCP Gateway Wireless devices concentrator to Modbus/TCP Two digital inputs (24VDC version only) Commissioning through EcoStruxure™ Power Commission or through Embedded Web-Pages
RS-485 (2-wire / 4-wire) ports, Modbus protocol		
Number of devices connected directly		
RS-232 configuration ports		
Miscellaneous		
Installation		
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Panorama of the PowerLogic™ range (cont'd)

I/O Smartlink

Name	I/O Smart Link
Function	IO Smart Link is an Input / Output device with communication enabled. Device is able to detect the Circuit Breaker status, Protection Trip status and monitor the Operation cycle of the load. Device is capable to measure the consumption from WAGES pulse meters.
Input Characteristics	
Number of channels	11 of 2-input channels
Type of input	Current collector Type 1 IEC 61131-2
	500 m
Rated voltage	24 Vdc
Voltage limits	24 Vdc ± 20 %
Rated current	2.5 mA
Maximum current	5 mA
Output Characteristics	
Number of output channels	11
Type of output	24 Vdc 0.1 A current source
Maximum cable length	500 m
Rated voltage	24 Vdc
Maximum current	100 mA
Filtering time	2 ms (In state 1) 2 ms (In state 0)
Voltage drop (voltage in state 1)	1 Vmax

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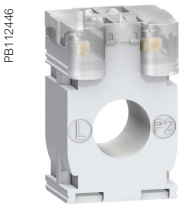
PowerLogic™ Current Transformers (CT) Technical Datasheet

5A Solid and Split core

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.

Solid core CTs



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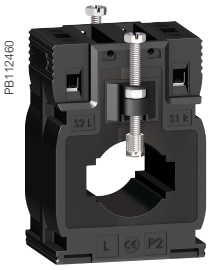

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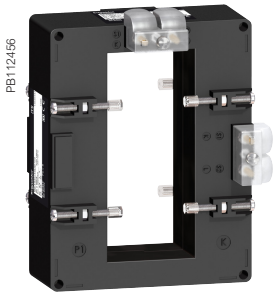

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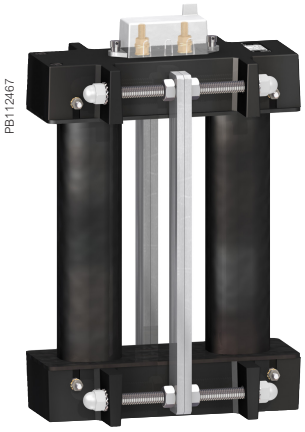


METSECT5VVxxx

Split core CTs

METSECT5HAxxx

METSECT5GAxxx

METSECT5GJxxx

METSECT5HJxxx

Solid Core CTs

These current transformers from Schneider Electic are a comprehensive offer, ideally suited throughout the entire low voltage network, from 40 A to 6000 A. They deliver secondary current (0-5 A) proportional to the current measured at the primary. They can be used in combination with measurement devices (switchboard instrumentation, Ammeters, kilowatt-hour meters, power-monitoring units, control relays etc.). CTs with low VA burden allows them to be used in combination of measurement equipments.

The solution for

- Perfect for new and existing installations and expansion projects in a variety of markets:
- Commercial buildings
- Industrial facilities
- Medical facilities
- Data centers
- Education
- Oil & Gas

Benefits

- Safety: sealable insulating cover
- Installation: on symmetrical DIN rail, on mounting plate, on busbar
- Well adpated CT as the accuracy class is better than rated accuracy
- Multiple secondary terminal options for different mounting profile
- Current Transformers for coaxial cable
- Current Transformers for vertical or horizontal bar
- Current Transformers for cable or bar profile
- Compact size suitable for different sizes of conductors
- Tropicalized rating for harsh environmental condition
- Adaptable for different conductor profile and primary current intensity

Features

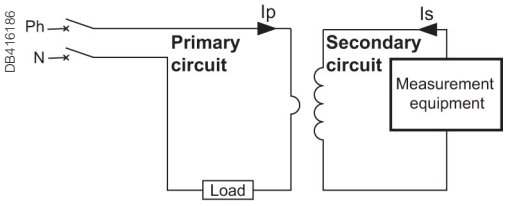
- A broad selection of ratings: from 40 A to 6000 A Ip with 120% max. range
- Fully compatible with Schneider Electric's complete portfolio of industry leading metering products as well as Third Party measurement devices.
- Safety through sealable insulating cover
- Compliance with IEC measurment standards with accuracy class ranges from Class 0.5 to Class 3
- Higher safety factor during installation and for facility
- For indoor use

Conformity of standards

- BS / EN 61869-1:2009
- BS / EN 61869-2:2012
- BS / EN 63000:2018
- VDE 0414
- Green Premium Ecolabel
- CE / UKCA certified
- EAC, Metrology

Ip/5 A ratio

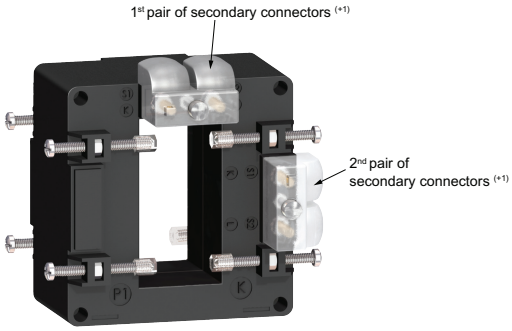
When the primary is energized, the measurement equipment nearly acts as a short circuit which keeps the secondary voltage very low. This voltage will increases significantly if the short circuit is removed. Hence, always keep the secondary circuit connected to low impedence path or current signal terminals of the measuring instrument.



Application diagram of a CT.

Ip - Primary Current
Is -Secondary Current

CTs with multi secondary output



(+1) Two pairs of secondary connectors are provided (parallel internal wiring - only one secondary winding) for easier cable access. 1 lateral + 1 on one extremity.

Hence, only one pair of secondary connectors must be used at a time.

Solid Core CTs

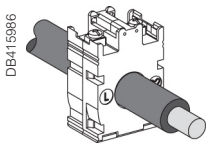
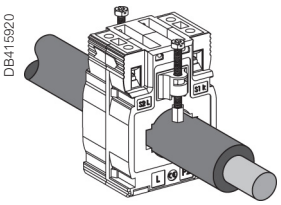
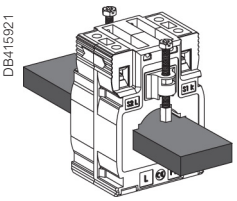
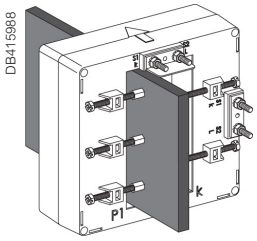
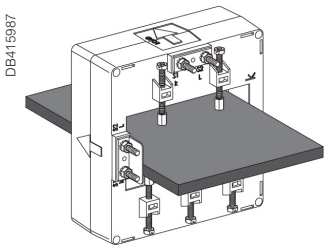
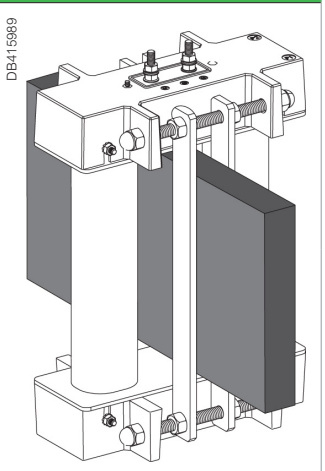
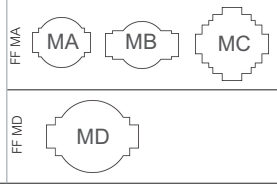
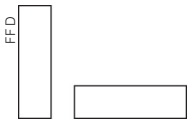
CT selection - conductor rating aspects

- The choice depends on the conductor profile and the maximum intensity of the primary circuit.
- CTs are available in different form factors and sizes to meet varied applications

Primary current can be measured in two ways:

- CT with let-through primary
- CT with connection of primary by screws and nuts

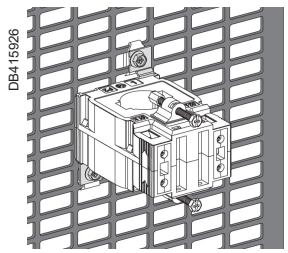
CT with let-through primary

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	400 to 4000	5000 to 6000
CT internal	Type C	Type M	Type D (+1)	Type V
				

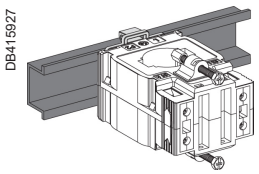
(+1) Two pairs of secondary connectors are provided (parallel internal wiring - only one secondary winding) for easier cable access. 1 lateral + 1 on one extremity. Hence, only one pair of secondary connectors must be used at a time.

Mounting method

CT Mounting



Panel mounting

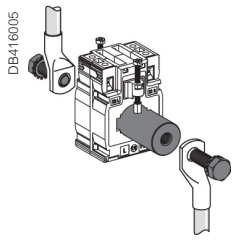


DIN rail mounting

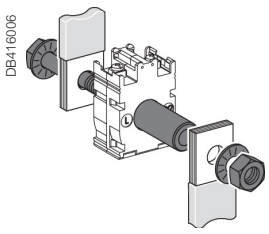
Specific mounting: use of cylinder

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 criterion - Electrical aspect of I primary (Ip)/5 A

- **We recommend that you choose the ratio immediately higher than the maximum load current.**
  Example: Maximum load current = 1103 A; ratio chosen = 1250/5 (Ip = 1250 or Inom = 1250).
- **For lower ratings:** From 40/5 to 75/5 and for an application with digital devices, we recommend that you choose the next higher rating of Ip, for example 50/5 for 40/5, 60/5 for 50/5, and so on.
- **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 (mm^2)	Approximate Power burden 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 make power monitoring device	Maximum VA burden at Nominal current (secondary) input (VA)
Analog Ammeter, form factor 72 x 72 mm / 96 x 96 mm	1.1
Digital ammeter	0.3
PM8000	0.15
PM3000 / iEM3200	0.3
PM5000 / PM2000	0.15
PM / EM1000H / EM64xxH	0.15

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 maximum VA burden is **7 VA** (for "Accuracy class 1" which is specified in the project).

Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Commercial reference number	Accuracy class 0.5	1	3
					Max. power (VA)		
MA							
FF ME 	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 m length of 2.5 mm^2 cable: 0.41 x 4 = 1.64 VA.

Calculated burden: 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.

Typical limits of current error and phase displacement error for measuring current transformers (classes from 0.1 to 1)

Accuracy Class	± Percentage current (ratio) error at percentage of rated current shown below				± Phase displacement at percentage of rated current as shown below							
					Minutes				Centiradians			
	5	20	100	120	5	20	100	120	5	20	100	120
0.1	0.4	0.2	0.1	0.1	15	8	5	5	0.45	0.24	0.15	0.15
0.2	0.75	0.35	0.2	0.2	30	15	10	10	0.9	0.45	0.3	0.3
0.5	1.5	0.75	0.5	0.5	90	45	30	30	2.7	1.35	0.9	0.9
1.0	3.0	1.5	1.0	1.0	180	90	60	60	5.4	2.7	1.8	1.8

Solid Core CTs

Type C

PB112446

METSECT5CCxxx

Type V

PB112467

METSECT5VVxxx

Type M

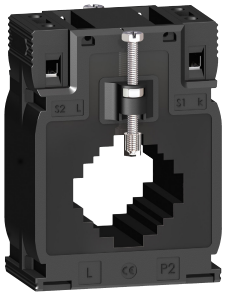
PB112461

METSECT5MBxxx

PB112460

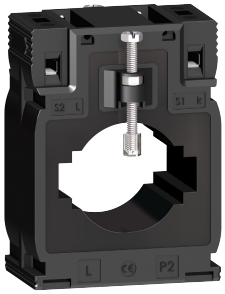
METSECT5MAxxx

PB112462



METSECT5MCxxx

PB112463



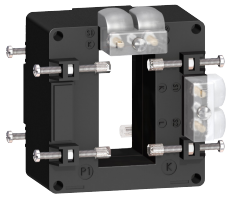
METSECT5MDxxx

General characteristics

Secondary current Is (A)	5 A (S1- S2 terminals, multiple secondary terminal options for different mounting profile)
Maximum voltage rating Ue (V)	720 V
Dielectric strength test	3 kV, 50 Hz for one minute
Frequency (Hz)	50/60 Hz nominal (47 - 63 Hz)
Instrument security/ safety factor (FS/sf)	40 to 4000 A: FS ≤ 5 5000 to 6000 A: FS ≤ 10
Rated short time thermal current (I*th*)	60 times the Ip current for 1 s (max 60 kA)
Rated dynamic current (I*dyn*)	2.5 I*th*
Degree of protection	IP20
Operating temperature	Tropicalised range: -25 to 60 °C (for Ip upto 1000 A), -25 to 50 °C (for Ip 1250 A up to 6000A) Relative humidity - 5 % to 95 %
Storage temperature	-40°C to +85°C
Compliance with standards	BS / EN 61869-1:2009, BS / EN 61869-2:2012, BS / EN 63000:2018 VDE 0414
Secondary connection (as per model)	by terminals for lug or by tunnel terminals or by screws
Pollution degree	2
Installation category	III
Insulation class	B
Altitude	≤ 3000 m (9843 ft)

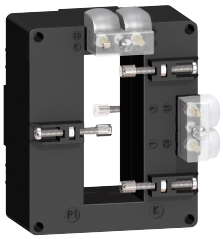
Type D

PB112454



METSECT5DAxxx

PB112457

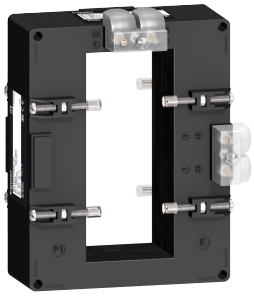


METSECT5DDxxx

PB112455

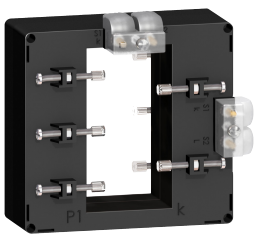
METSECT5DBxxx

PB112456



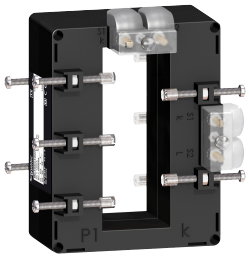
METSECT5DCxxx

PB112458



METSECT5DExxx

PB112459



METSECT5DHxxx

Solid Core CTs

Representation of commercial reference numbers for CTs

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 (Rounded off to next digit)

Examples:

Solid core

METSECT5CC008

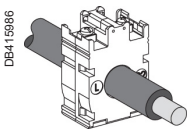
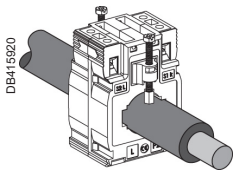
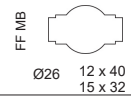
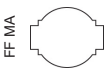
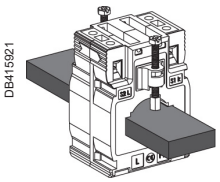
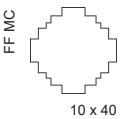
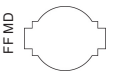
CT - Current transformer
5 - 5 A CT secondary
CC - Form factor suitable for Coaxial cable (round) only
008 - 75 A primary rating, divide by 10

Split core

METSECT5GA020

CT - Current transformer
5 - 5 A CT secondary
GA - Form factor suitable for bus bars of max. size 23 x 33 mm
020 - 200 A primary rating, divide by 10

Commercial reference scheme

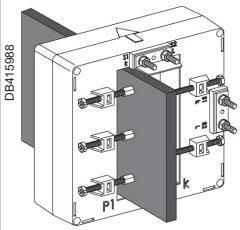
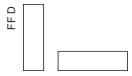
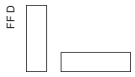
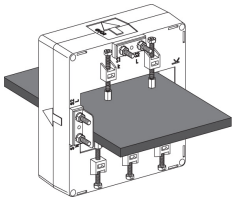
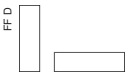
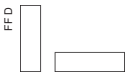
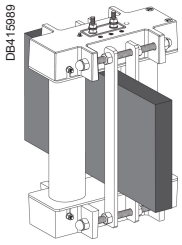
CT with let-through primary	CT internal type	Internal profile type and dimension in mm	Fastening mode	Ip/5 A rating (A)(+1)	Accuracy class VA rating			CT Commercial reference	Accessories commercial reference	
					0.5	1	3		Cylinder	Sealable cover
Type C - solid-core CT (cable profile)										
 DB415986	CC	 FF CC Ø21	• Adapter for DIN rails • Mounting plate	40	-	-	1	METSECT5CC004	METSECT5CYL1	Included
				50	-	1.25	1.5	METSECT5CC005		
				60	-	1.25	2	METSECT5CC006		
				75	-	1.5	2.5	METSECT5CC008		
				100	2	2.5	3.5	METSECT5CC010		
				125	2.5	3.5	4	METSECT5CC013		
				150	3	4	5	METSECT5CC015		
				200	4	5.5	6	METSECT5CC020		
				250	5	6	7	METSECT5CC025		
Type M - solid-core CT (mixed: cable/bar profile)										
 DB415920	MB	 FF MB Ø26 12 x 40 15 x 32	• Adapter for DIN rails • Mounting plate	250	3	4	-	METSECT5MB025	-	METSECT5COVER
				300	4	6	-	METSECT5MB030		
				400	6	8	-	METSECT5MB040		
	MA	 FF MA Ø27 10 x 32 15 x 25		150	3	5	-	METSECT5MA015	METSECT5CYL2	METSECT5COVER
				200	4	7	-	METSECT5MA020		
				250	6	8	-	METSECT5MA025		
				300	8	10	-	METSECT5MA030		
				400	10	12	-	METSECT5MA040		
 DB415921	MC	 FF MC Ø32 10 x 40 20 x 32 25 x 25		250	3	5	-	METSECT5MC025	-	METSECT5COVER
				300	5	8	-	METSECT5MC030		
				400	8	10	-	METSECT5MC040		
				500	10	12	-	METSECT5MC050		
				600	12	15	-	METSECT5MC060		
				800	10	12	-	METSECT5MC080		
	MD	 FF MD Ø40 10 x 50 20 x 40		500	4	6	-	METSECT5MD050	-	METSECT5COVER
				600	6	8	-	METSECT5MD060		
				800	10	12	-	METSECT5MD080		

(+1) Maximum rated current (Imax) is 120% of the primary current (Ip).

Please contact your Schneider Electric representative for complete ordering information.

Solid Core CTs

Commercial reference scheme (contd.)

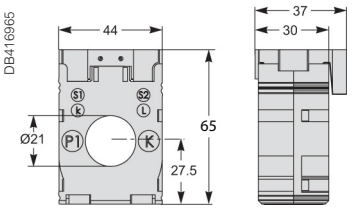
CT with let-through primary	CT internal type	Internal profile type and dimension in mm	Fastening mode	Ip/5 A rating (A)(+1)	Accuracy class VA rating			CT Commercial reference	Accessories commercial reference	
					0.5	1	3		Cylinder	Sealable cover
Type D(+2) - solid-core CT (vertical or horizontal bar - dual secondary terminals)										
 DB415988	DA	 FF D 32 x 65	Insulated locking screw	400	4	8	-	METSECT5DA040	-	Included
				500	8	10	-	METSECT5DA050		
				600	8	12	-	METSECT5DA060		
				800	12	15	-	METSECT5DA080		
				1000	15	20	-	METSECT5DA100		
				1250	15	20	-	METSECT5DA125(+3)		
				1500	20	25	-	METSECT5DA150(+3)		
	DB	 FF D 38 x 127	Insulated locking screw	1000	6	10	-	METSECT5DB100	-	Included
				1250	8	12	-	METSECT5DB125(+3)		
				1500	10	15	-	METSECT5DB150(+3)		
				2000	15	20	-	METSECT5DB200(+3)		
				2500	20	25	-	METSECT5DB250(+3)		
				3000	25	30	-	METSECT5DB300(+3)		
DB415987 	DC	 FF D 54 x 127	Insulated locking screw	2000	25	30	-	METSECT5DC200(+3)	-	Included
				2500	30	50	-	METSECT5DC250(+3)		
				3000	30	50	-	METSECT5DC300(+3)		
				4000	30	50	-	METSECT5DC400(+3)		
	DD	 FF D 34 x 84	Insulated locking screw	1000	10	15	-	METSECT5DD100	-	Included
				1250	12	15	-	METSECT5DD125(+3)		
				1500	15	20	-	METSECT5DD150(+3)		
	DE	 FF D 55 x 103	Insulated locking screw	1000	12	15	-	METSECT5DE100	-	Included
				1250	15	20	-	METSECT5DE125(+3)		
				1500	20	25	-	METSECT5DE150(+3)		
				2000	20	25	-	METSECT5DE200(+3)		
	DH	 FF D 40 x 103	Insulated locking screw	1250	12	15	-	METSECT5DH125(+3)	-	Included
				1500	12	15	-	METSECT5DH150(+3)		
				2000	20	25	-	METSECT5DH200(+3)		
Type V - solid-core CT (vertical bar profile)										
 DB415989	VV	 FF V2 55 x 165	Insulated locking screw	5000	60	-	-	METSECT5VV500(+3)	-	Included
				6000	70	-	-	METSECT5VV600(+3)		

(+1) Maximum rated current (Imax) is 120% of the primary current (Ip).
(+2) Two pairs of secondary connectors are provided (parallel internal wiring - only one secondary winding) for easier cable access. One lateral and one on extremity. Hence, only one pair of secondary connector must be used at a time.
(+3) Operating temperature: -25 to +50 °C (-13 to +122 °F)

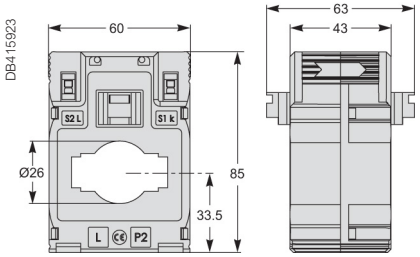
Please contact your Schneider Electric representative for complete ordering information.

Solid core CT dimensions

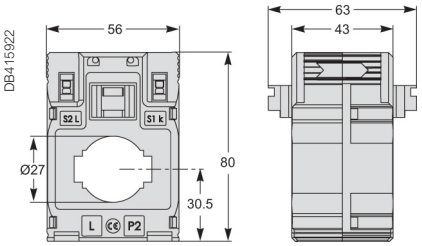
CC internal profile type



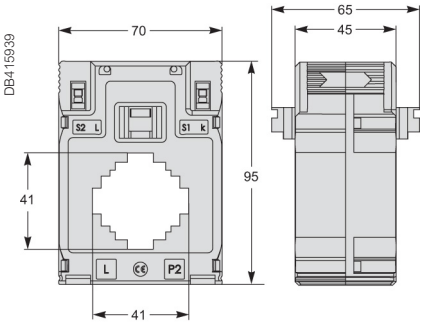
MB internal profile type



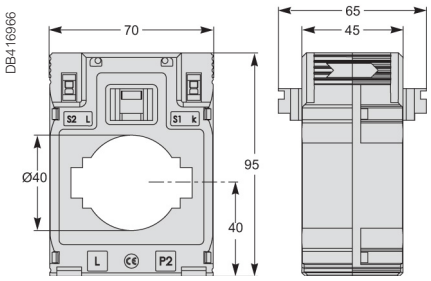
MA internal profile type



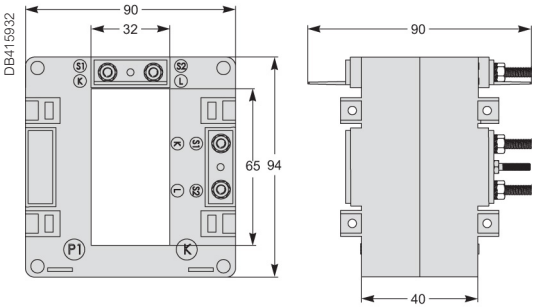
MC internal profile type



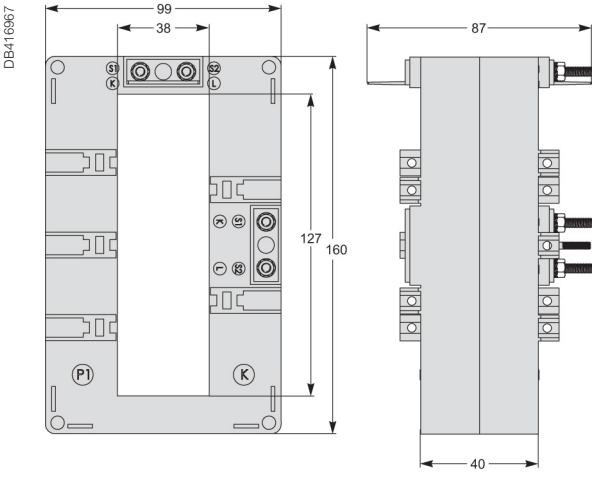
MD internal profile type



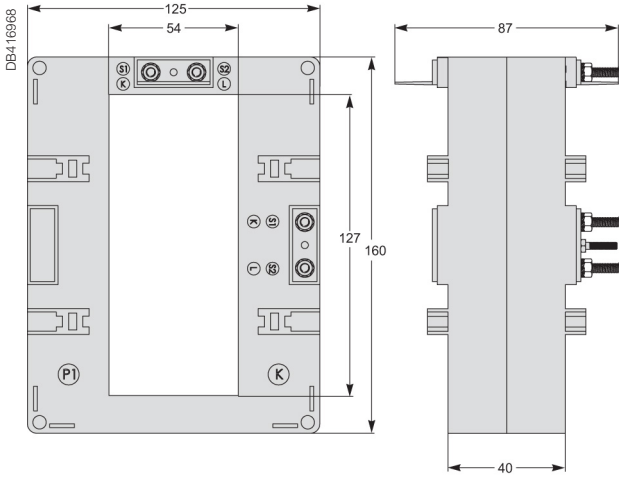
DA internal profile type



DB internal profile type

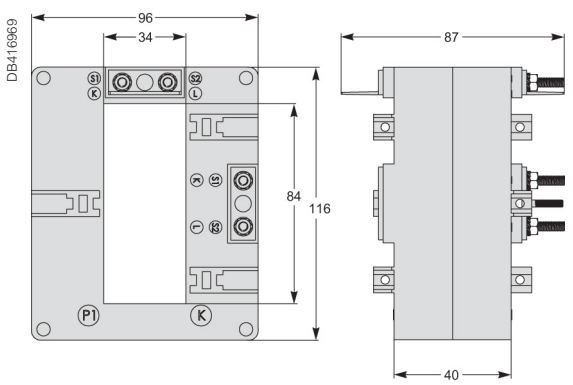


DC internal profile type

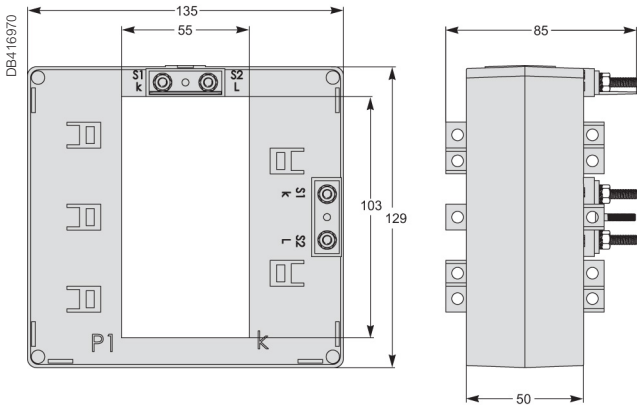


Solid core CT dimensions contd.

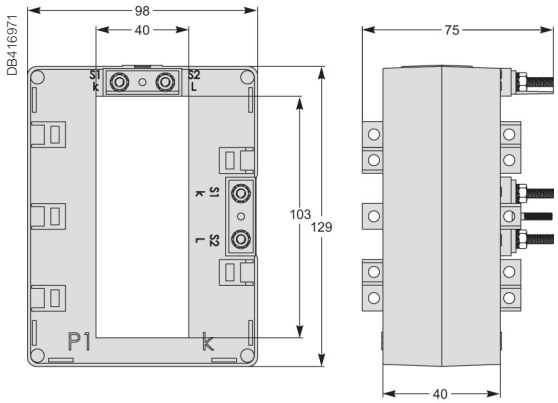
DD internal profile type



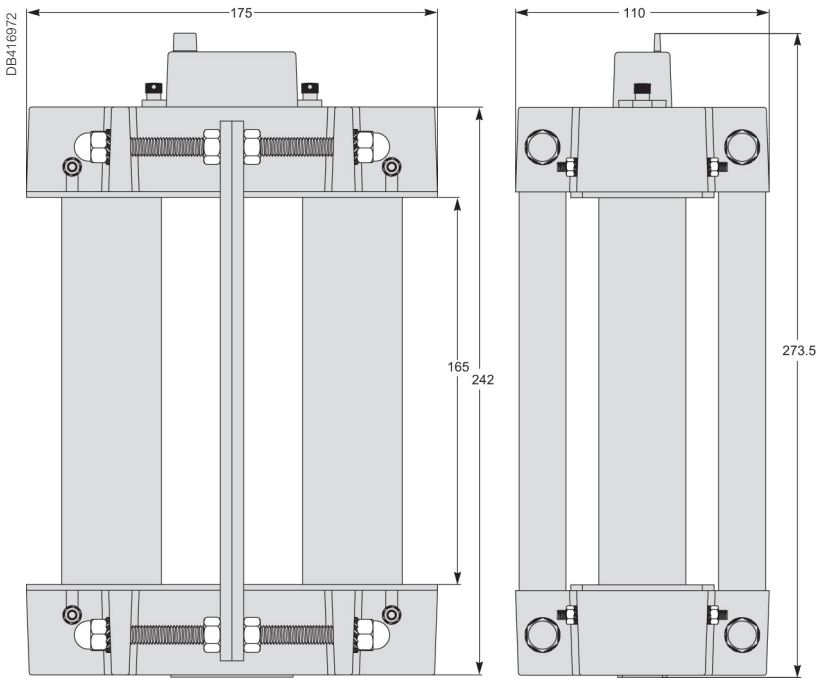
DE internal profile type



DH internal profile type



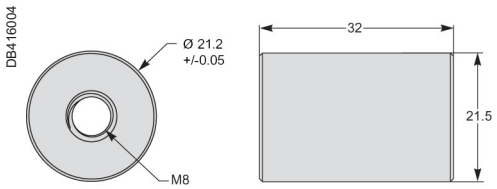
VV internal profile type



Solid core cylinders dimensions

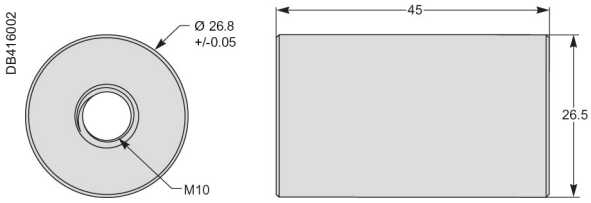
Cylinders

METSECT5CYL1



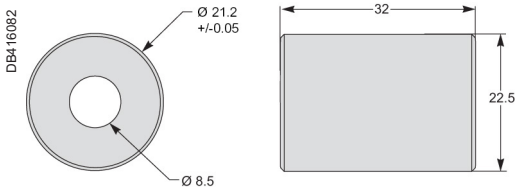
Aluminium

METSECT5CYL2



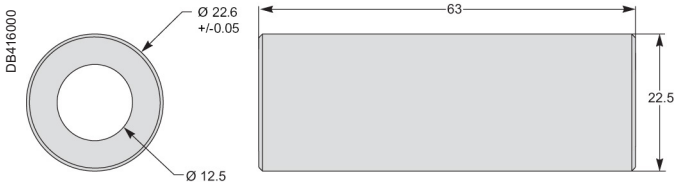
Aluminium

16550



Brass

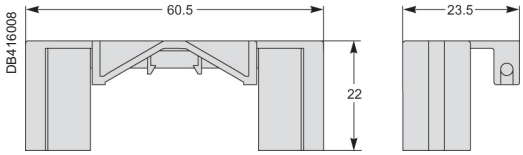
16551



Brass

Covers

METSECT5COVER



See the appropriate **Installation Guide** for correct installation instructions.

Split core CTs

These current transformers from Schneider Electic are a comprehensive offer, ideally suited throughout the entire low voltage network, from 100 A to 4000 A. They deliver secondary current (0-5 A) proportional to the current measured at the primary. They can be used in combination with measurement devices (switchboard instrumentation, Ammeters, kilowatt-hour meters, power-monitoring units, control relays etc.). CTs with low VA burden allows them to be used in combination of measurement equipments.

The solution for

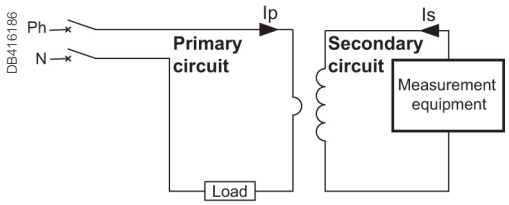
- Perfect for new and existing installations and expansion projects in a variety of markets:
- Commercial buildings
- Industrial facilities
- Medical facilities
- Data centers
- Education
- Oil & Gas

Benefits

- Installation: on symmetrical DIN rail, on mounting plate, on busbar
- Well adpated CT as the accuracy class is better than rated accuracy
- Current Transformers for coaxial cable (input range 100 A to 1000 A)
- Current Transformers for bus bar (input range 100 A to 4000 A)
- Current Transformers for cable or bar profile
- Compact size suitable for different sizes of conductors
- Tropicalized rating for harsh environmental condition
- Adaptable for different conductor profile and primary current intensity

Ip/5 A ratio

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. Hence, always keep the secondary circuit connected to low impedence path or current signal terminals of the measuring instrument.



Application diagram of a CT.

Ip - Primary Current
Is- Secondary Current

Features

- A broad selection of ratings: from 100 A to 4000 A Ip with 120% max. range
- Split core design allows for CT installation without the need to uninstall and reinstall power conductor
- The split core CTs are designed for easy fit and assembly into existing installations, without separating the primary conductor.
- Click-system and fixing clasps allow single-handed mounting
- Fully compatible with Schneider Electric's complete portfolio of industry leading metering products as well as Third Party measurement devices.
- Safety through sealable insulating cover
- Compliance with IEC measurment standards with accuracy class ranges from Class 0.5 to Class 3
- Higher safety factor during installation and for facility
- For indoor use

Conformity of standards

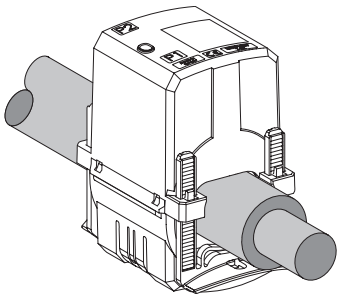
- BS / EN 61869-1:2009
- BS / EN 61869-2:2012
- BS / EN 63000:2018
- VDE 0414
- Green Premium Ecolabel
- CE / UKCA certified
- EAC, Metrology

Split Core CTs

Mounting method

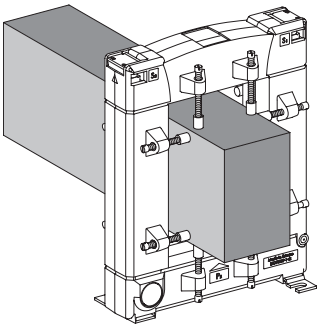
CT Mounting

DB445254



Type H

DB445255



Type G

General characteristics

Secondary current Is (A)	5 A (S1- S2 terminals)
Maximum voltage rating Ue (V)	720 V
Dielectric strength test	3 kV, 50 Hz for one minute
Frequency (Hz)	50/60 Hz nominal (47 - 63 Hz)
Instrument security/ safety factor (FS/sf)	upto 1000 A: FS ≤ 5 ≥1000 A: FS ≤ 10
Rated short time thermal current (I*th*)	60 times the Ip current for 1 s (max 60 kA)
Rated dynamic current (I*dyn*)	2.5 I*th*
Degree of protection	IP20
Operating temperature	Tropicalised range: -5 to +60 °C Relative humidity: 5 % to 85 %
Storage temperature	-25°C to +70°C
Compliance with standards	BS / EN 61869-1:2009, BS / EN 61869-2:2012, BS / EN 63000:2018 VDE 0414
Secondary connection (as per model)	by terminals for lug or by tunnel terminals or by screws
Pollution degree	2
Installation category	III
Insulation class	E
Altitude	≤ 3000 m (9843 ft)

Type H

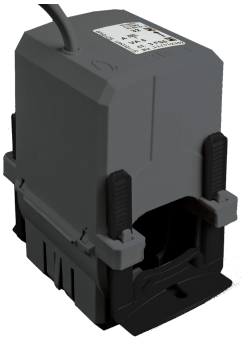
PB119872

METSECT5HAxxx

PB119872

METSECT5HDxxx

PB119874



METSECT5HGxxx

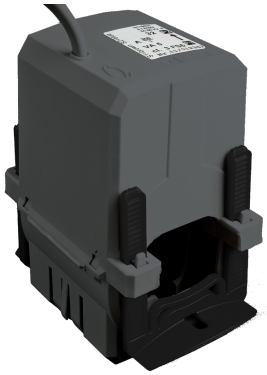
PB119876

METSECT5HJxxx

PB119878

METSECT5HMxxx

PB119874



METSECT5HPxxx

Split Core CTs

Type G

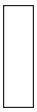
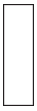
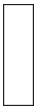
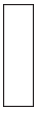
METSECT5GAxxx

METSECT5GDxxx

METSECT5GGxxx

METSECT5GJxxx

Commercial reference scheme

CT with let-through primary	CT internal type	Internal profile type and dimension in mm	Ip/5 A rating (A)(+1)	Accuracy class VA rating			CT Commercial reference
				0.5	1	3	
Type G - split core CT (bus bar)							
PB119862 	GA	FF V2  23 x 33	100	-	-	1.25	METSECT5GA010
			150	-	-	1.5	METSECT5GA015
			200	-	-	2.5	METSECT5GA020
			250	-	1.5	-	METSECT5GA025
			300	-	3.75	-	METSECT5GA030
			400	1	-	-	METSECT5GA040
PB119864 	GD	FF V2  55 x 85	250	-	1.5	-	METSECT5GD025
			300	-	2.5	-	METSECT5GD030
			400	1	-	-	METSECT5GD040
			500	2.5	-	-	METSECT5GD050
			600	2.5	-	-	METSECT5GD060
			750	2.5	-	-	METSECT5GD075
			800	2.5	-	-	METSECT5GD080
			1000	5	-	-	METSECT5GD100
PB119866 	GG	FF V2  85 x 125	250	-	1.5	-	METSECT5GG025
			300	-	2.5	-	METSECT5GG030
			400	-	2.5	-	METSECT5GG040
			500	2.5	-	-	METSECT5GG050
			600	2.5	-	-	METSECT5GG060
			750	2.5	-	-	METSECT5GG075
			800	2.5	-	-	METSECT5GG080
			1000	5	-	-	METSECT5GG100
			1200	5	-	-	METSECT5GG120
			1250	7.5	-	-	METSECT5GG125
			1500	7.5	-	-	METSECT5GG150
PB119868 	GJ	FF V2  85 x 165	1000	10	-	-	METSECT5GJ100
			1200	10	-	-	METSECT5GJ120
			1500	10	-	-	METSECT5GJ150
			1600	10	-	-	METSECT5GJ160
			2000	10	-	-	METSECT5GJ200
			2500	10	-	-	METSECT5GJ250
			3000	15	-	-	METSECT5GJ300
			4000	15	-	-	METSECT5GJ400

(+1) Maximum rated current (Imax) is 120% of the primary current (Ip).

Split Core CTs

Commercial reference scheme (contd.)

CT with let-through primary	CT internal type	Internal profile type and dimension in mm	Ip/5 A rating (A)(+1)	Accuracy class VA rating			CT Commercial reference
				0.5	1	3	
Type H - split core CT (cable)							
PB119872 	HA	 18.4 x 19	150	-	1	-	METSECT5HA015
			200	-	1.5	-	METSECT5HA020
			250	1	-	-	METSECT5HA025
	HD	 27.9 x 27	250	-	1	-	METSECT5HD025
			300	-	1.5	-	METSECT5HD030
			400	-	2.5	-	METSECT5HD040
			500	1	-	-	METSECT5HD050
PB119874 	HG	 Ø32.5	100	-	-	1.5	METSECT5HG010
			125	-	-	2.5	METSECT5HG013
			150	-	-	3	METSECT5HG015
			200	-	-	3	METSECT5HG020
			250	-	-	3	METSECT5HG025
			300	-	2.5	-	METSECT5HG030
			400	-	5	-	METSECT5HG040
			500	-	5	-	METSECT5HG050
			600	-	5	-	METSECT5HG060
PB119876 	HJ	 42.4 x 43	300	-	2.5	-	METSECT5HJ030
			400	-	5	-	METSECT5HJ040
			500	-	5	-	METSECT5HJ050
			600	2.5	-	-	METSECT5HJ060
			750	2.5	-	-	METSECT5HJ075
			800	2.5	-	-	METSECT5HJ080
PB119878 	HM	 42.4 x 85	300	-	2.5	-	METSECT5HM030
			400	-	5	-	METSECT5HM040
			500	-	5	-	METSECT5HM050
			600	2.5	-	-	METSECT5HM060
			750	2.5	-	-	METSECT5HM075
			800	2.5	-	-	METSECT5HM080
PB119874 	HP	 Ø44	250	-	1.5	-	METSECT5HP025
			300	-	2.5	-	METSECT5HP030
			400	-	5	-	METSECT5HP040
			500	-	5	-	METSECT5HP050
			600	-	5	-	METSECT5HP060
			750	-	5	-	METSECT5HP075
			800	-	5	-	METSECT5HP080
			1000	-	5	-	METSECT5HP100

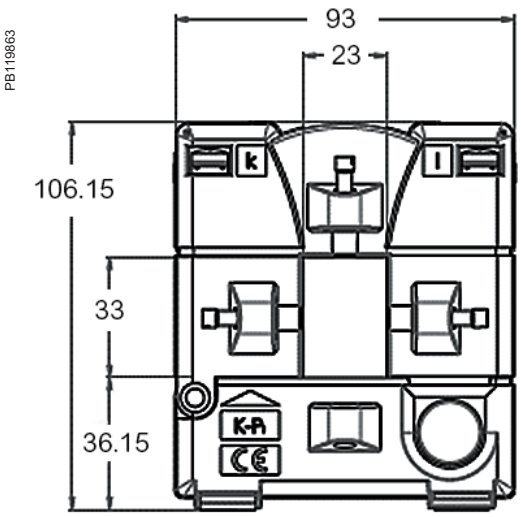
* Maximum rated current (Imax) is 120% of the primary current (Ip).

Please contact your Schneider Electric representative for complete ordering information.

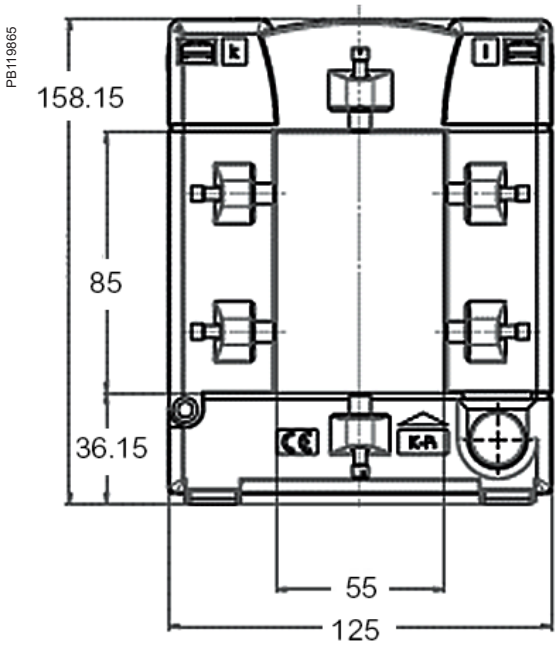
Split core CT dimensions

Gx products

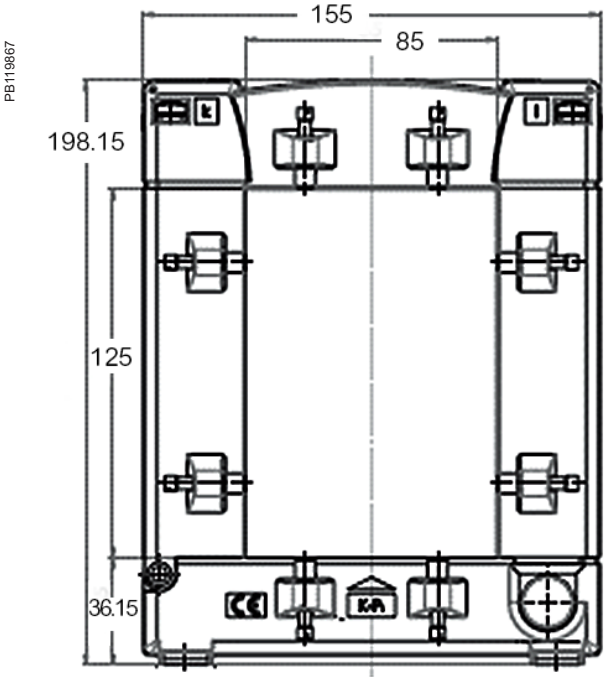
GA Dimensions



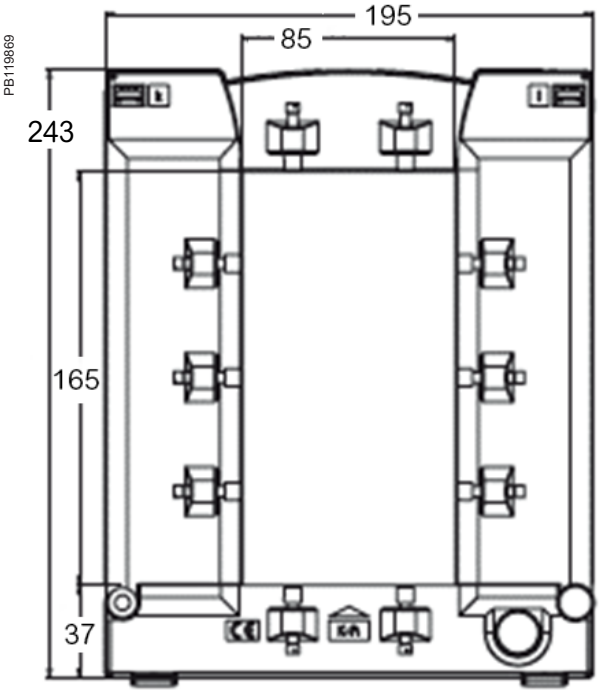
GD Dimensions



GG Dimensions



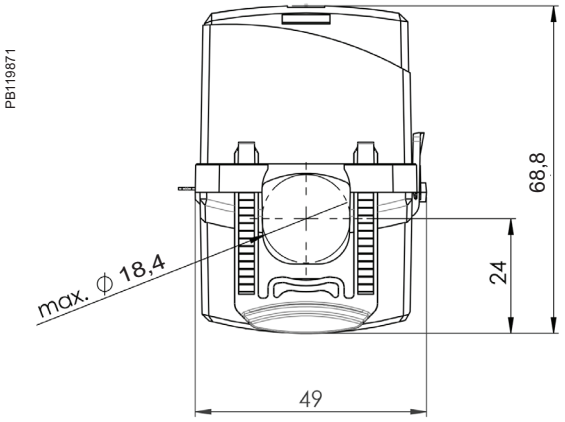
GJ Dimensions



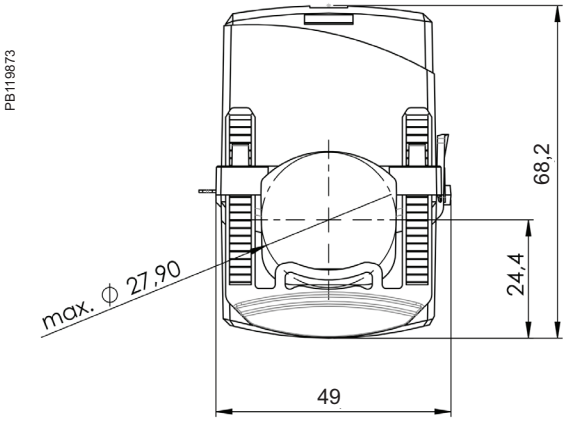
Split core CT dimensions (contd.)

Hx products

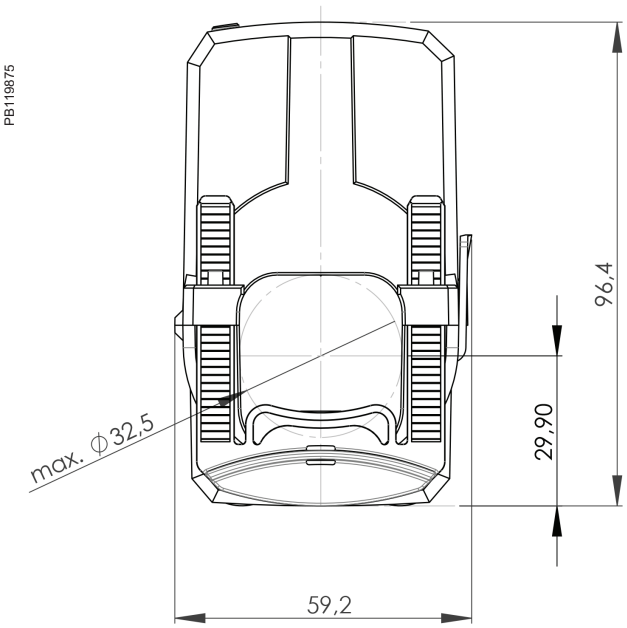
HA Dimensions



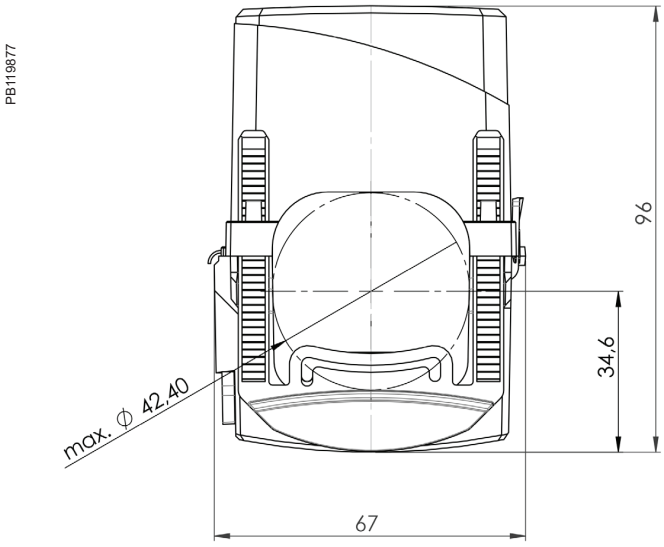
HD Dimensions



HG Dimensions



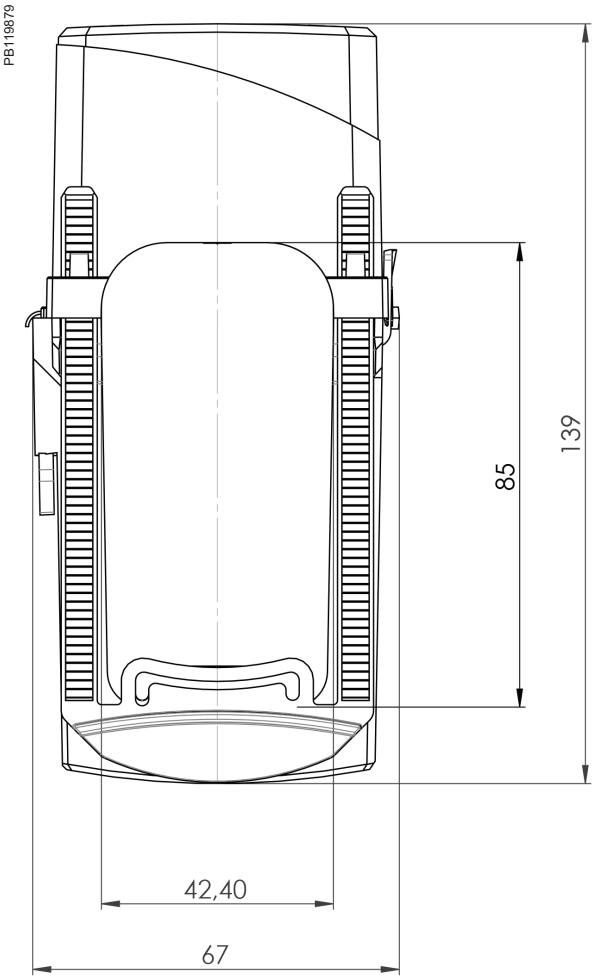
HJ Dimensions



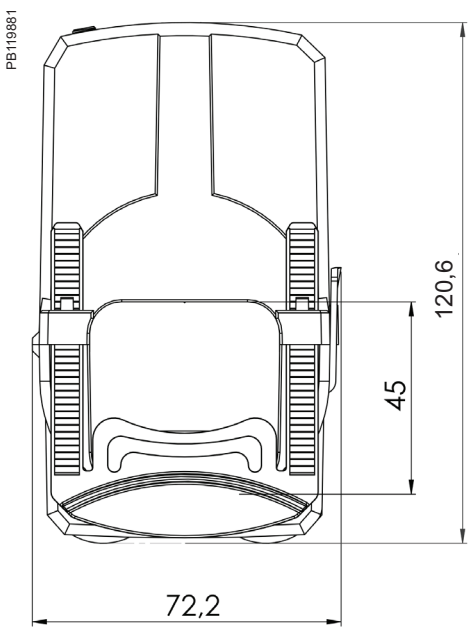
Split core CT dimensions (contd.)

Hx products

HM Dimensions



HP Dimensions



See the appropriate **Installation Guide** for correct installation instructions.

PowerLogic Low Voltage Current Transformers (LVCT)

Solid Core, Split Core types, and Rogowski Coil

Schneider Electric's Low Voltage Current Transformers (CTs) offer secondary voltage AC proportional to the primary (sensed) current. These CTs are designed for use with power meters, data loggers, chart recorders, and other instruments, providing a cost-effective means to convert electrical service amperages to a voltage compatible with monitoring equipment.

The Low Voltage CTs are available in Split Core and Solid Core models, with 0.333 Vac output versions.

Schneider Electric provides four proven models of PowerLogic™ Rogowski flexible core current transducers, ranging from 250 to 900 mm in length and operating within a current range of 50 to 5000 A.

Solid core CTs - Micro

Rogowski Coil

Split core CTs - Small, Medium and Large

Split core CTs - Micro

Solid Core CTs

The listed Current Transformers from Schneider Electric are a comprehensive offer, ideally suited for low voltage network, from 50 to 400 A. They deliver secondary output in the form of 0.333 V proportional to the current measured at the primary. They can be used in combination with measurement devices (switchboard instrumentation, Ammeters, kilowatt-hour meters, power-monitoring units and, control relays etc.).

Solution

- Perfect for new and existing installations and expansion projects in a variety of markets:
  - Commercial buildings
  - Industrial facilities
  - Data centers
  - Oil and Gas
  - Infrastructure

Benefits

- Safety: UL multi listed
- Installation: on cable or bar profiles
- Well adpated CTs as the accuracy class is better than rated accuracy
- CTs for coaxial cable
- CTs for cable or bar profile
- Tropicalized rating for harsh environmental condition

Features

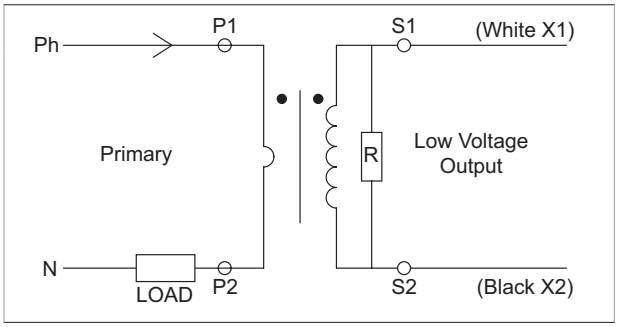
- Option of CT primary selection: from 50 to 400 A Ip with 120% max. range
- Fully compatible with Schneider Electric's complete portfolio of industry leading metering products as well as third party measurement devices.
- Compliance with IEC measurement standards with accuracy Class 0.5
- Higher safety factor during installation and for facility
- For indoor use
- Low voltage output for safer installation

Conformity of Standards

- UL/CSA 61010-1
- UL/CSA 61010-2-030
- IEC/EN 61010-1
- IEC/EN 61010-2-030
- EN IEC 63000:2018
- UL/CSA 2808
- IEC 61869-2
- CE/UKCA certified

CT Principle

When the primary circuit of a Current Transformer is energized, the Current Transformer presents a very low impedance to the secondary circuit, resulting in a low secondary voltage across the burden.



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Solid Core LVCTs

CT selection - conductor rating aspects

- The choice depends on the conductor size and the maximum current of the primary circuit.
- Primary current can be measured through CT with let-through primary.

Solid Core LVCT - Micro Dimension

mm (in)

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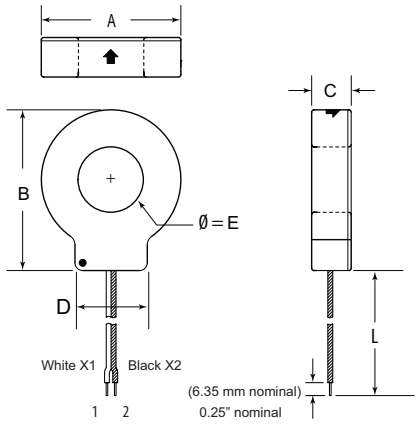


Model	L	A	B	C	D	E
METSECTLV10005U	1800 (70.9)	33 (1.3)	38 (1.5)	20 (0.8)	20 (0.8)	10 (0.4)
METSECTLV10010U						
METSECTLV25020U	1800 (70.9)	58 (2.3)	66 (2.6)	18 (0.7)	31 (1.2)	25 (1.0)
METSECTLV31040U	1800 (70.9)	71 (2.8)	78 (3.1)	25 (1.0)	36 (1.4)	31 (1.22)

Typical limits of current error and phase displacement error for measuring Current Transformers (classes from 0.1 to 1)

Accuracy Class	± Percentage current (ratio) error at percentage of rated current shown below				± Phase displacement at percentage of rated current as shown below							
					Minutes				Centiradians			
	5	20	100	120	5	20	100	120	5	20	100	120
0.1	0.4	0.2	0.1	0.1	15	8	5	5	0.45	0.24	0.15	0.15
0.2	0.75	0.35	0.2	0.2	30	15	10	10	0.9	0.45	0.3	0.3
0.5	**1.5**	**0.75**	**0.5**	**0.5**	**90**	**45**	**30**	**30**	**2.7**	**1.35**	**0.9**	**0.9**
1.0	3.0	1.5	1.0	1.0	180	90	60	60	5.4	2.7	1.8	1.8

50 - 100 Amp

METSECTLV10005U
METSECTLV10010U

200 Amp

METSECTLV25020U

400 Amp

METSECTLV31040U

Solid Core LVCTs

Technical Specification

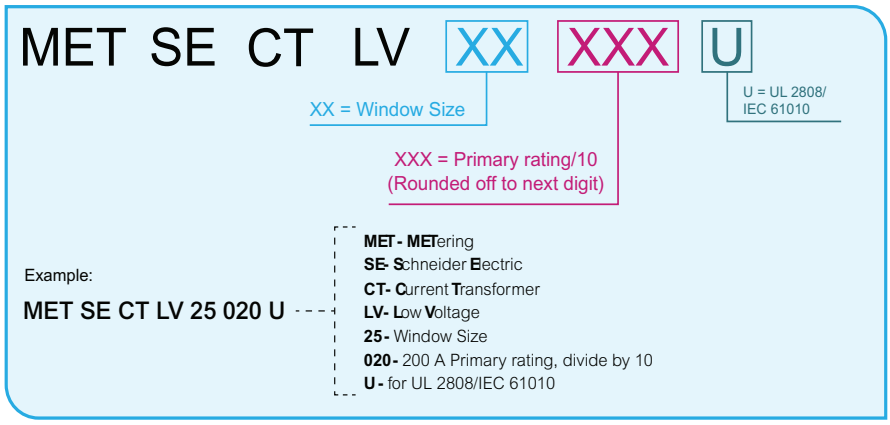
Type	Solid Core
Output at rated current	0.333 Vac
Accuracy	Class 0.5 as per IEC 61869-2
Frequency	50/60 Hz ± 3
Leads	18 AWG Twisted pair, 1.8m (6 ft.)standard length
Dielectric strength	3310 Vrms, 60 Hz, 5 Seconds.
Rated dynamic current (I_{dyn})	2.5 I_{th}
Operating temperature range	-40...85 °C (-40...185 °F)
Storage temperature range	-50...105 °C (-58...221 °F)
Humidity range	0-95% non-condensing
Max. voltage L-N sensed conductor	600 Vac (basic insulation rating)
Altitude of operation	3000 m max.
Mounting location	Not suitable for wet locations. For indoor use only.
Approvals	UL/CSA 61010-1, UL/CSA 61010-2-030, IEC/EN 61010-1, IEC/EN 61010-2-030, EN IEC 63000:2018, UL/CSA 2808
Installation category	Cat III, pollution degree 2

Commercial Reference Scheme

CT with let-through primary	CT internal type	Internal profile type and Dimension (mm (In))		Ip/0.333 V rating (+3) (A)	Accuracy class	Rated short time thermal current I_{th} (kA)	CT Commercial reference
Solid Core CT (cable)							
	Micro		10 (0.39)	50	0.5	0.5	METSECTLV10005U
				100	0.5	1	METSECTLV10010U
			25 (1.0)	200	0.5	2	METSECTLV25020U
			31 (1.22)	400	0.5	4	METSECTLV31040U

(+3) Maximum rated current (Imax) is 120% of the primary current (Ip).

Representation of Commercial Reference Numbers for Solid Core LVCTs



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Commercial Refernce Number	Description
METSECTLV10005U	Solid core LVCT, 50 A primary, 0.333 V output, 1.8m (6 ft.) lead length
METSECTLV10010U	Solid core LVCT, 100 A primary, 0.333 V output, 1.8m (6 ft.) lead length
METSECTLV25020U	Solid core LVCT, 200 A primary, 0.333 V output, 1.8m (6 ft.) lead length
METSECTLV31040U	Solid core LVCT, 400 A primary, 0.333 V output, 1.8m (6 ft.) lead length

Split Core LVCTs

The listed Split Core Current Sensors from Schneider Electric are a comprehensive offer, ideally suited for low voltage network, from 50 to 2400 A. They deliver secondary output in the form of 0.333 V proportional to the current measured at the primary. They can be used in combination with measurement devices (switchboard instrumentation, Ammeters, kilowatt-hour meters, power-monitoring units, control relays etc.). Split Core CTs are available in four distinctive frame sizes for LVCT options to accomodate different sizes of bus bars or round cables.

The solution for

- Perfect for new and existing installations and expansion projects in a variety of markets targetting retrofit application:
  - Commercial buildings
  - Industrial facilities
  - Data centers
  - Oil and Gas
  - Infrastructure

Benefits

- Safety: UL multi listed
- Well adpated Current Transformers as the accuracy class is better than rated accuracy
- Current Transformers for coaxial cable
- Current Transformers for cable or bar profile
- Tropicalized rating for harsh environmental condition
- Quick retrofitment in existing panels

Features

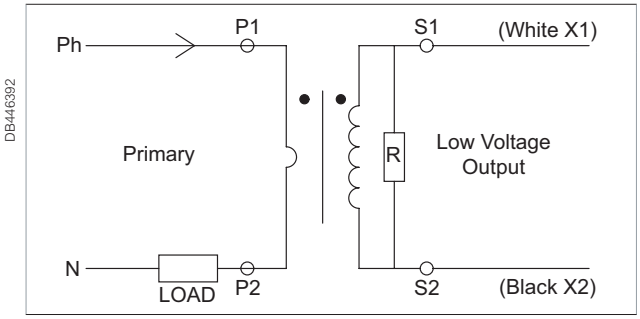
- Option of Current Transformers primary selection: from 50 to 2400 A Ip with 120% max. range
- Fully compatible with Schneider Electric's complete portfolio of industry leading metering products as well as third party measurement devices.
- Compliance with IEC measurement standards with accuracy Class 1
- Higher safety factor during installation and for facility
- For indoor use
- Low voltage output for safer installation

Conformity of Standards

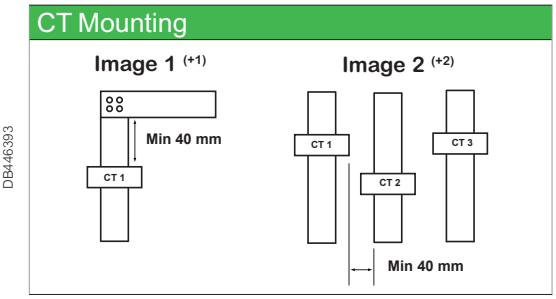
- BS/EN 61869-2:2012
- UL 2808 multi listed
- EN 61010-1
- CE/UKCA certified
- UL/CSA 61010-1
- UL/CSA 61010-2-030
- IEC/EN 61010-1
- IEC/EN 61010-2-030
- EN IEC 63000:2018
- UL/CSA 2808
- IEC 61869-2

CT Principle

When the primary circuit of a Current Transformers is energized, the CTs presents a very low impedance to the secondary circuit, resulting in a low secondary voltage across the burden.



Mounting Method



(+1) To install CS in Elbow joint of the busbars, it is recommended to separate them at a minimum of 40 mm (1.57 in) rating from 1000 to 3000 A CT.

(+2) To reduce magnetic interference between CS on adjacent busbars, it is recommended to separate them at a minimum of 40 mm (1.57 in) rating from 1000 to 3000 A CT.

Split Core LVCTs

Technical Specification

Type	Split Core (LVCT frame size - small, medium and large)	Split Core (LVCT frame size - micro)
Output at rated current	0.333 Vac	0.333 Vac
Accuracy	Class 1 as per IEC 61869-2*	Class 1 as per IEC 61869-2*
Frequency	50/60 Hz ± 3	50/60 Hz ± 3
Leads	16 AWG Twisted pair, 8 ft. (2.4 m) standard length	18 AWG Twisted pair, 6 ft. (1.8 m) standard length
Dielectric strength	5400 Vrms, 60 Hz, 60 s	METSECTLV1005U : 2210 Vrms, 60 Hz, 5 s. All other Split Core models : 3310 Vrms 60 Hz, 5 s
Rated dynamic current (I_{dyn})	2.5 I_{th}	2.5 I_{th}
Operating temperature range	-15...60 °C (5...140 °F)	0...70 °C (32...158 °F)
Storage temperature range	-40...70 °C (-40...158 °F)	-40...105 °C (-40...221 °F)
Humidity range	0...95% non-condensing	0...95% non-condensing
Max. voltage L-N sensed conductor	600 Vac (basic insulation rating)	METSECTLV1005U : 250 Vac (basic insulation rating) All other Split Core models : 600 Vac (basic insulation rating)
Altitude of operation	2000 m (6561.68 ft) max.	3000 m (9842.52 ft) max
Mounting location	Not suitable for wet locations. For indoor use only.	Not suitable for wet locations. For indoor use only.
Approvals	UL/CSA 61010-1, UL/CSA 61010-2-030, IEC/EN 61010-1, IEC/EN 61010-2-030, EN IEC 63000:2018, UL/CSA 2808	U UL/CSA 61010-1, UL/CSA 61010-2-030, IEC/EN 61010-1, IEC/EN 61010-2-030, EN IEC 63000:2018, UL/CSA 2808 L2808
Installation category	Cat III, pollution degree 2	Cat III, pollution degree 2

*Not applicable for 50 A – class 1 for ratio error and Phase displacement < ± 144 Minutes.
**Not applicable for small internal type 200...300 A CTs - Class 1 for ratio error, Phase displacement < ± 300 Minutes.

Representation of Commercial Reference Numbers for Split Core LVCTs

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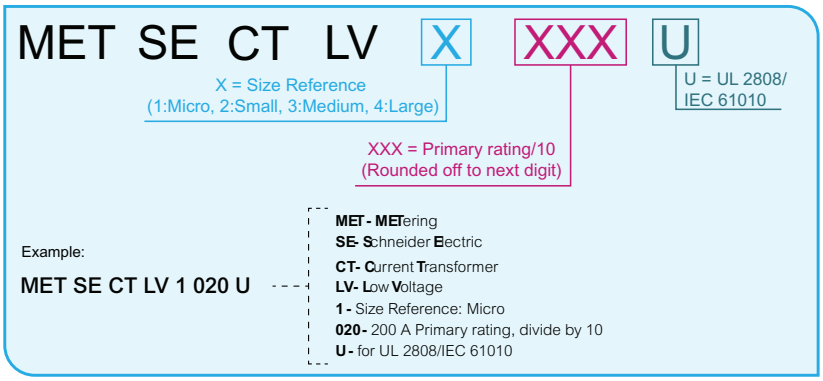
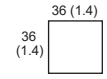
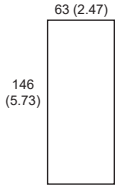
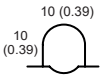
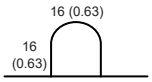
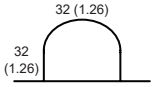


Split Core LVCTs

Commercial Reference Scheme

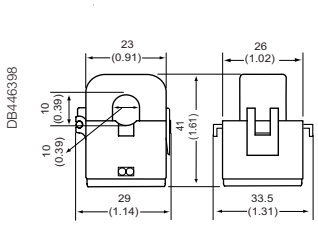
CS with let-through primary	CT internal type	Internal profile type and Dimension (mm (in))	Ip/0.333 V rating (+3) (A)	Accuracy class	Rated short time thermal current I_{th} (kA)	CT commercial reference
Split Core CT (bus bar)						
	Small		100	1	10.4	METSECTLV2010U
			200	1	10.8	METSECTLV2020U
			300	1	10	METSECTLV2030U
			400	1	13.8	METSECTLV2040U
	Medium		600	1	20.6	METSECTLV3060U
			800	1	35	METSECTLV3080U
	Large		800	1	35	METSECTLV4080U
			1000	1	34	METSECTLV4100U
			1200	1	41	METSECTLV4120U
			1600	1	87	METSECTLV4160U
			2000	1	109	METSECTLV4200U
			2400	1	105	METSECTLV4240U
Split Core CT (cable)						
	Micro		50	1	0.5	METSECTLV1005U
			100	1	1	METSECTLV1010U
			200	1	2	METSECTLV1020U

Split Core LVCTs

Split Core LVCT Micro Dimension

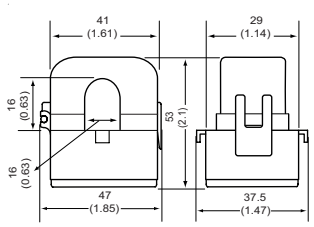
mm (in)

50 A



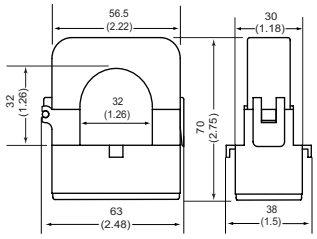
METSECTLV1005U

100 A



METSECTLV1010U

200 A

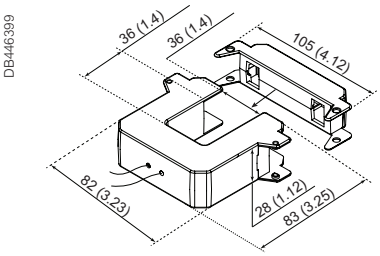


METSECTLV1020U

Split Core LVCT (Small, Medium and Large) Dimension

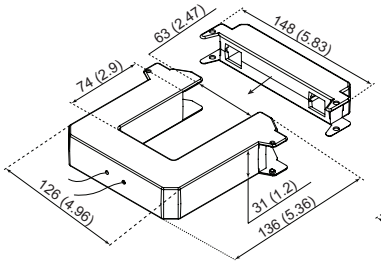
mm (in)

100...400 A



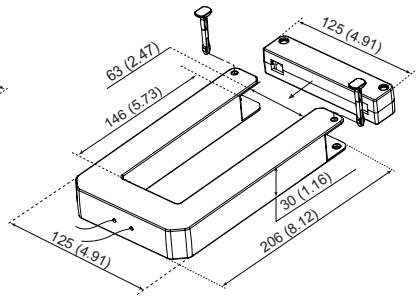
METSECTLV2010U
METSECTLV2020U
METSECTLV2030U
METSECTLV2040U

600...800 A



METSECTLV3060U
METSECTLV3080U

800...2400 A



METSECTLV4080U
METSECTLV4100U
METSECTLV4120U
METSECTLV4160U
METSECTLV4200U
METSECTLV4240U

Rogowski Coil Current Transducer Technical Datasheet

Schneider Electric is the global specialist in energy management with the most complete power monitoring product line. From simple indicators (analogue meters) and CTs, to world class energy meters and powerful compact power meters, these proven products satisfy any requirement.

Schneider Electric currently offers four proven models of PowerLogic™ Rogowski flexible core Current Tranducer. These are available from 250 to 900 mm in length operating in a current range of 50 to 5000 A.

PB118060

Rogowski Coil Current Transducer

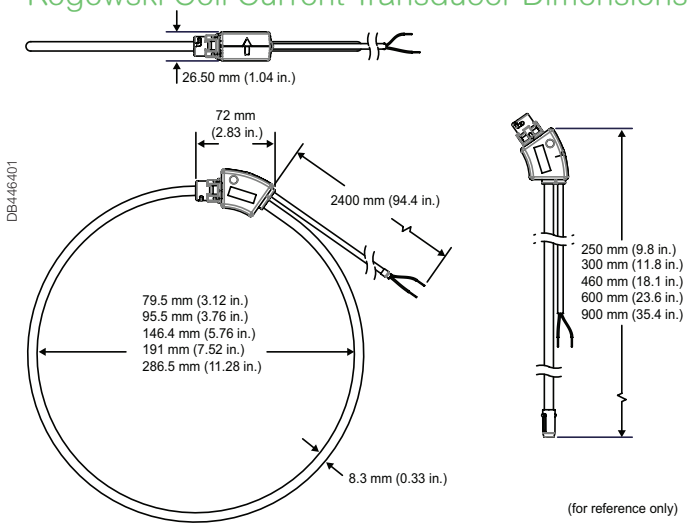
The CTRx Series of Rogowski flexible rope style Current Transducer provide secondary AC voltage proportional to the primary (sensed) current. Recommended to use with Schneider make EM35xxA, iEM35x5, EM42xx and EM3570 series power meters.
The CTRx Series Current Transducers provide a cost-effective means to transform electrical service amperages to a voltage compatible with monitoring equipment. The flexible core makes it easy to fit in tight enclosures. These products provide reinforced insulation between the sensed conductor and the output leads.

Technical specification

Specification for commercial reference	METSECTR25500U, METSECTR30500U, METSECTR46500U, METSECTR60500U, METSECTR90500U
Range	PowerLogic™
Product or component type	Current Transducer
Accessory/part category	Measurement accessory
Range compatibility	PowerLogic™ EM3500 - EM3555A EM3502A EM3560 EM3550A EM3560 EM3561A EM3570 PowerLogic™ EM4200 - EM4236 EM4235 Acti9 iEM3000 - iEM3555 iEM3565
Current transformer type	Flexible core
Specification	
Connecting cable - flying lead	2.4 m (8 ft), 600 V L-N AC max.
Connecting cable specification	1000 V awm style 20167 cable with 24 AWG leads
Coil current range	50...1000 A for METSECTR25500U 50...2000 A for METSECTR30500U 50...5000 A for all models except for METSECTR25500U and METSECTR30500U
Output voltage	58.3 mV/kA @ 50 Hz, 70 mV/kA @ 60 Hz
Network frequency of coil	50/60 Hz
Measurement accuracy of coil	Class 1-A1 as per IEC 61869-10
Installation category of coil	600 Vac Cat IV
Pollution degree of coil	2
Environmental characteristics	
Approvals	ANSI/CAN/UL 2808 Ed.3, CSA C22.2 NO. 61010-1-12, IEC 61010-1, EN IEC 63000:2018
Ambient air temperature for operation	-35 to 75 °C (-31 to 167 °F) up to 2 kA -35 to 60 °C (-31 to 140 °F) from 2 to 5 kA
Ambient air temperature for storage	-40 to 90 °C (-40 to 158 °F)
Humidity range	0...95 % non-condensing
Altitude	2000 m (6561.68 ft) max.
Protection degree	IP65
Commercial Reference Numbers	
METSECTR25500U	CT Rogowski 250 mm (9.8 in) coil, 1000 A, Lead length 2.4 m (8 ft)
METSECTR30500U	CT Rogowski 300 mm (11.8 in) coil, 2000 A, Lead length 2.4 m (8 ft)
METSECTR46500U	CT Rogowski 460 mm (18.1 in) coil 5000 A, Lead length 2.4 m (8 ft)
METSECTR60500U	CT Rogowski 600 mm (23.6 in) coil 5000 A, Lead length 2.4 m (8 ft)
METSECTR90500U	CT Rogowski 900 mm (35.4 in) coil 5000 A, Lead length 2.4 m (8 ft)

Please contact your Schneider Electric representative for complete ordering information.

Rogowski Coil Current Transducer Dimensions



Commercial Reference Numbers	CT core thickness (mm (In))	CT core length (open) (mm (In))	Diameter (closed) (mm (In))
METSECTR25500U	8.3 (0.33) dia	250 (9.8)	79.5 (3.12)
METSECTR30500U	8.3 (0.33) dia.	300 (11.8)	95.5 (3.76)
METSECTR46500U	8.3 (0.33) dia.	460 (18.1)	146.4 (5.76)
METSECTR60500U	8.3 (0.33) dia.	600 (23.6)	191 (7.52)
METSECTR90500U	8.3 (0.33) dia.	900 (35.4)	286.5 (11.28)

See the appropriate **Installation Guide** for correct installation instructions.

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.

- Acti9 iEM2000 series
- Acti9 iEM2400 series
- Acti9 iEM3000 series
- PowerLogic™ EM3570 series
- PowerLogic™ EM3000 series
- PowerLogic™ PM3000 series
- PowerLogic™ PowerTag Energy series

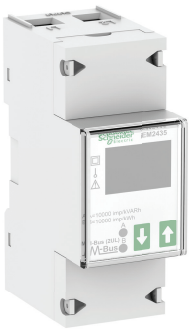
PB108451

A9MEM2000

PB118059

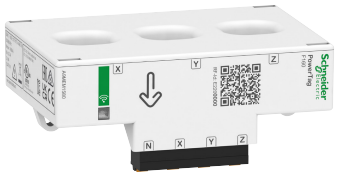
A9MEM2055

PB113702



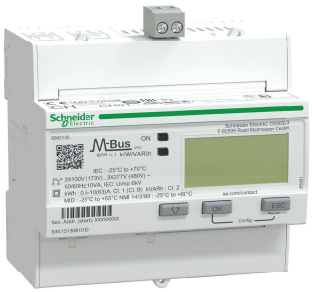
A9MEM2435

A9MEM1580



A9MEM1580

PB108450



A9MEM3135

PB108450

METSEPM3250

PB125756

METSEEM3122

PB124812

METSEEM3570A

Acti9 iEM2xxx Range Technical Datasheet

iEM2000 and iEM2400 series

The Acti9 iEM2xxx range energy meters offer a cost-attractive, competitive range of single-phase DIN rail-mounted energy meters ideal for sub-billing, cost allocation applications and support two protocols (Modbus RS-485 or M-Bus) that allow them to integrate seamlessly into any energy monitoring system.

Applications

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

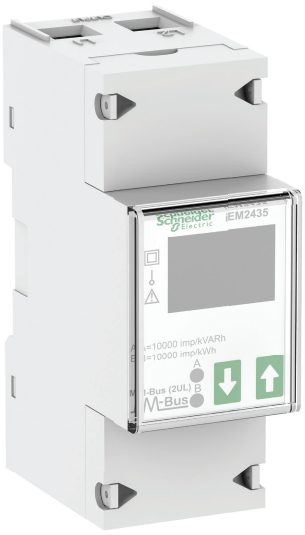
PB108451

A9MEM2000

PB118059

A9MEM2055

PB113702



A9MEM2435

The solution for:

All markets that can benefit from a solution that includes Acti9 PowerLogic™ iEM2000 and iEM2400 series meters:

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

Benefits

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

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

Energy management system:

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

*in selected references.

Competitive advantages*

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

Conformity of standards

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

iEM2xxx Range Feature selection

Functions	iEM2000T	iEM2000/iEM2010	iEM2050/ iEM2055	iEM2435/ iEM2455
40A Imax	■	■		
45A Imax			■	
63A Imax				
100A Imax				■
Communication port			RS-485	M-Bus (iEM2435) RS-485 (iEM2455)
Pulse output (Energy)	1	1 (iEM2010)	1	2
Digital inputs (Tariff switching)				
Display Type	No	Electromechanical Counter	LCD	
Width (mm)	18		17.5	35.7
Multi Tariff counter			2	2
Wh accuracy (BS/EN/IEC 62053-21)	Class 1			
Compliance to BS/EN/IEC 61557-12	■	■		
VARh accuracy (BS/EN/IEC 62053-23)	Class 2			
4 Quadrants measurement			■	
MID Class B (BS/EN 50470-3), 50 Hz		■	■ (iEM2055)	■
V A F PF			■	
Power (P Q S)			■	

See your Schneider Electric representative for complete ordering information.

Acti9 iEM2xxx Range technical specifications

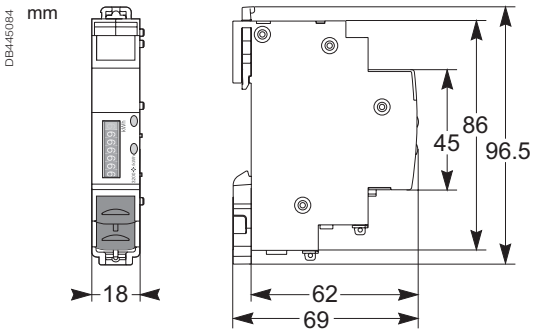
iEM2000, iEM2100, iEM2400 series technical specifications

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

* in selected references.

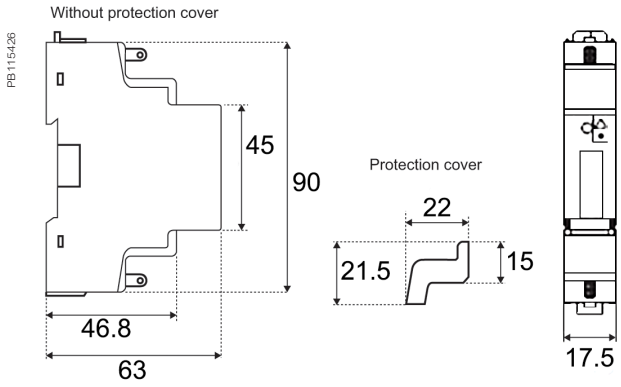
Acti9 iEM2xxx range dimensions

iEM2000/iEM2000T/iEM2010 dimensions



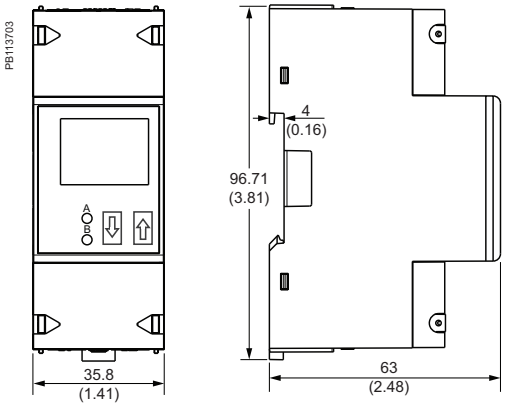
Maximum diameter power connection clamps 8 mm² (solid copper). See the appropriate product Installation Guide for complete instructions

iEM2050/iEM2055 dimensions



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

iEM2435/iEM2455 dimensions



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

Acti9 iEM2xxx range commercial reference numbers

iEM2000, iEM2100, iEM2400 series commercial/ordering reference numbers

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

See your Schneider Electric representative for complete ordering information.

PowerLogic™ EM3570 Series Technical Datasheet

The PowerLogic™ EM3570 series DIN rail mount energy meters with Ethernet are the new benchmark for affordable and precision metering application.

Engineered on the trusted PowerLogic platform, Ethernet-enabled EM3570 DIN rail meters are designed to install easily and integrate seamlessly with existing BACnet/IP and Modbus TCP/IP networks common in today's building and power management systems. With wide range CT compatibility, high reliability, IEC 61557-12 and UL2808 compliance, as well as ASHRAE 90.1 for power and energy logging capability, EM3570 meters support the energy efficiency designs of most buildings and are ideally suited for energy cost management applications.

Applications

Capable of essential cost management:

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

Also ideal for electrical network management:

- Track real-time power conditions
- Monitor control functions
- Provide basic power quality values
- Extended data log feature support up to 3 years
- Analyze equipment and network status
- BACnet/IP and Ethernet TCP/IP protocol support

The solution for

Markets that can benefit from a solution that includes PowerLogic™ EM3570 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
- Externally powered with LVDC control power
- Digital inputs
- Relay output

End users' benefit

- Retrofitment in existing panel with Split core LVCT or Rogowski coil
- Ease of use
- Comprehensive, consistent and superior performance
- Maximize uptime, eliminate faults, and enhance safety
- Cybersecurity features

Competitive advantages

- Easy to install and operate
- Easy for circuit breaker monitoring and control
- 2GB memory for data logging up to 3 years with 16 parameters in 15 min interval. Flexibility of selecting parameters from 75 different parameters with option of setting the logging interval from 10 sec to 32767 sec
- Load management combined with alarm and timestamping
- High performance and accuracy
- Onboard BACnet/IP and EthernetTCP/IP protocol support
- Low voltage DC control powered for safer installation

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.

Features

- Open, robust communications
  - Ethernet protocol and daisy-chain functionality with two RJ45 connectors at 10/100 Mbps
  - Supports HTTPS, SNMP, DHCP, Modbus TCP/IP, BACnet/IP
  - Easy remote management through web/ mobile devices
- Easy installation
  - DIN-mounted form factor option for easy, plug-in installation
  - Industry standard Modbus register and BACnet object list
- ASHRAE 90.1 compliant data logging
  - Two (2) GB capacity power and energy data logging in 15-minute increments over a 36 month period
  - Wide CT compatibility: LVCTs (0.333 V and 1 V), and Rogowski Coils (up to 5000 A)
- High reliability
  - IEC 61557-12 standards with capacity to measure up to 600 VAC
- Cybersecurity
  - Adheres to IEC 62443 SL1 requirements
  - California CA 2020
- BTL-certified BACnet communication
  - Conformance based on independent testing

Conformity of standards

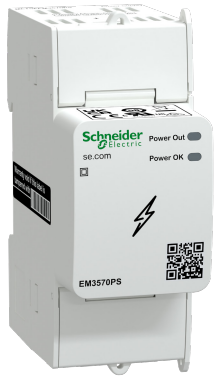
- BS/EN/IEC 61557-12:2018/ AMD1:2021
- BS/EN/IEC 61326-1: edition 3
- cULus as per UL 61010-1 edition 3
- BS/EN/IEC 61010-2-30:2017
- CE and UKCA as per IEC/BS 61010-1 edition 3
- CSA 22.2 UL 61010-1:2010/2019
- CSA 22.3 61010-2-030:2017
- BACnet/IP - BTL listed (B-ASC)
- Align with cyber security guidelines as per IEC 62443

EM3570 series

PB124812

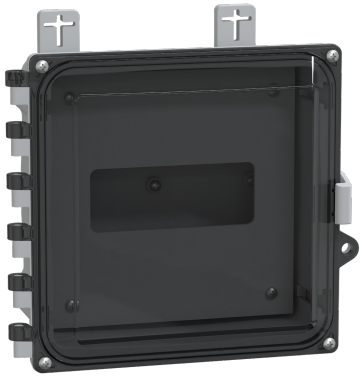
EM3570 meter front ISO view

PB124813



Power supply for EM3570 front ISO view

PB124814



NEMA enclosure for EM3570 front ISO view

PowerLogic™ EM3570 series

The PowerLogic™ EM3570 energy 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 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 DIN Rail mount 5 module width unit, with a graphical display, all three phases and neutral 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. Ethernet communication port are enriched with cyber security guidelines.

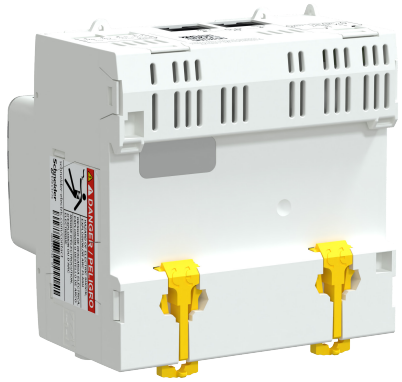
Applications

- Cost management: Cost saving opportunities become clear once you understand how and when your facility uses electricity. The PowerLogic™ EM3570 series meters are ideal for:
  - Sub-billing: Allows a landlord, property management firm, condominium association, homeowners association, or other multi-tenant property to bill tenants for individual measured utility (electricity) usage depending on the local regulations.
  - 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 and power factor will help you to ensure proper operation and maintenance of your electrical network and equipment. PowerLogic™ EM3570 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 that 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.
  - Data logging: reproduce the data logging mentioned feature section

- Main characteristics
  - Easy to install
    - DIN rail mount, no tools required. Compact meter with 90 mm width, current input through LVCT or Rogowski coil, connectable up to 600 V L-L without voltage transformers for installations compliant with category III.
  - Easy to operate
    - Intuitive navigation with self-guided, selectable menus. 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 show real-time and logged information, and verify communications.
  - Easy circuit breaker monitoring and control
    - The EM3570 provides 1 relay output (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.
  - Alarms
    - 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 relay.
    - The EM3570 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.

EM3570 series

PB124815



EM3570 meter rear ISO view

- 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, 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.
- NEMA Enclosure
  - METSEEM3570ENC enclosure offers a mounting option for EM3570 DIN Ethernet Meters with NEMA 4x level protection from the elements. The enclosure is equipped with DIN rail mounting hardware for convenient installation and a swing panel kit for electrical protection.
  - NEMA 4x level protection - weather-proofing and durability
  - Clear front panel - maximum visibility
  - Swing panel kit - clean and pleasing look
- Power Supply
  - The METSEEM3570PS Power Supply provides 24 V DC, 0.3 A output control power to the EM3570 series power and energy meter. The power supply supports the same voltage range as the EM3570 meter.
  - Wide input range: 90 to 600 V AC (600V LL/347V LN) or 125 to 300 V DC

PB124816

Power supply for EM3570 rear ISO view

Native multi-protocol support

The EM3570 series is easy 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 EM3570 series has been tested and certified in accordance with BACnet Testing Laboratories (BTL) requirements.

- EM3570 series metering:
  - Power Quality analysis
  - The EM3570 offers Total Demand
- 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 and drop point driven alarms from array of 17 different alarm

PB124817

NEMA enclosure for EM3570 rear ISO view

	EM3570 series
Set point driven alarms	17
Custom defined	■

EM3570 series

EM3570 Series Feature Selection

	METSEEM3570	METSEEM3570A	METSEEM3570X	METSEEM3570AX
Installation				
Fast installation, DIN rail mount with integrated display	■	■	■	■
Accuracy				
Class	CL 0.5S	CL 0.5S	CL 0.5S	CL 0.5S
Display				
Backlit LCD, multilingual, 4 lines, 4 concurrent values	■	■	■	■
Power and energy metering				
3-ph voltage, current, power, demand, energy, frequency, power factor	■	■	■	■
Multi-tariff	4	4	4	4
I/Os and relays				
Digital inputs	2	2	2	2
Relay output	1	1	1	1
Alarms and control				
Alarms	17	17	17	17
Set point response time, seconds	1	1	1	1
Single and multi-condition alarms	■	■	■	■
Memory for data logging	2 GB	2 GB	2 GB	2 GB
Communications				
Ethernet port with Modbus TCP protocol	■	■	■	■
BACnet/IP protocol	■	■	■	■
Onboard web server with web pages	■	■	■	■

EM3570 Commercial References

Comm. ref numbers	Description
METSEEM3570	DIN Ethernet power meter, LVCT input with external Power Supply module
METSEEM3570A	DIN Ethernet power meter, Rogowski coil input with external Power Supply module
METSEEM3570X	DIN Ethernet power meter, LVCT input without external Power Supply module
METSEEM3570AX	DIN Ethernet power meter, Rogowski coil input without external Power Supply module
METSEEM3570PS	24V DC Power Supply Module for DIN Ethernet meter 600V AC input
METSEEM3570ENC	NEMA enclosure accessory for Din Ethernet meter METSEEM35x Schneider brand

Please contact your Schneider Electric representative for complete ordering information.

EM3570 series

EM3570 Series Technical Specifications

		METSEEM3570	METSEEM3570A	METSEEM3570X	METSEEM3570AX
Use on LV systems		■			
Basic metering with min/max readings		■			
Instantaneous rms values					
Current		■			
Voltage		■			
Frequency		■			
Real, reactive, and apparent power		■			
True Power Factor		Signed, Four Quadrant			
Displacement PF		■			
V L-N, V L-L		■			
Calculated neutral current		■			
Energy values					
Accumulated Active, Reactive and Apparent Energy		Received/Delivered			
Demand value					
Current average		Present, Last, Peak, and Peak Date Time			
Active power		Present, Last, Peak, and Peak Date Time			
Reactive power		Present, Last, Peak, and Peak Date Time			
Apparent power		Present, Last, Peak, and Peak Date Time			
Peak demand with timestamping D/T for current and three powers		■			
Demand calculation method	Sliding, fixed and rolling block	■			
Synchronisation of the measurement window to input, communication command or internal clock		■			
Settable Demand intervals		■			
Other measurements					
I/O timer		■			
Operating timer		■			
Alarm counters and alarm logs		■			
Power quality measurements					
Calculated Neutral current		■			
samples/cycle		32			
Data recording					
Min/max of instantaneous values, plus phase identification (+1)		■			
Alarms with 1s timestamping (+1)		■			
Data logging		2GB memory up to 3 years with 16 parameters in 15 min interval. Flexibility of selecting parameters from 75 different parameters with option of setting the logging interval from 10 s to 32767 s			
Min/max log		■			
Maintenance, alarm and event logs		■			
Customisable data logs		■			
RTC with battery back up		3 years (when meter is in Power OFF condition)			
Display resolution		5 digits for Energy and other parameters with auto scaling			

EM3570 series

EM3570 Series Technical Specifications (Contd.)

			METSEEM3570	METSEEM3570A	METSEEM3570X	METSEEM3570AX
Inputs / Outputs / Mechanical Relays						
Digital inputs			2	2	2	2
Form A Relay (SPST) output			1	1	1	1
Timestamp resolution in seconds			1	1	1	1
Type of measurement: True rms on three-phase (3P, 3P + N)			■			
			METSEEM3570	METSEEM3570A	METSEEM3570X	METSEEM3570AX
Measurement accuracy	IEC 61557-12		PMD/[SD|SS]/K70/0.5			
	Active Energy		Class 0.5 as per BS/EN/IEC 61557-12			
	Reactive Energy		Class 2.0 as per BS/EN/IEC 61557-12			
	Active Power		Class 0.5 as per BS/EN/IEC 61557-12			
	Apparent Power		Class 0.5 as per BS/EN/IEC 61557-12			
	Reactive Power		Class 2.0 as per BS/EN/IEC 61557-12			
	Current, Phase		Class 0.5 as per BS/EN/IEC 61557-12			
	Voltage, L-N		Class 0.5 as per BS/EN/IEC 61557-12			
	Frequency		Class 0.5 as per BS/EN/IEC 61557-12			
	Power Factor		Class 0.5 as per IEC 61557-12/±0.005 count			
	Calculated neutral current		Class 0.5 as per IEC 61557-12			
Input-voltage (up to 1.0 MV AC max, with voltage transformer)	Nominal Measured Voltage range		90 V L-N/156 V L-L to 347 V L-N/600 V L-L			
	Impedance		5 MΩ			
	Frequency nominal		50 Hz/60 Hz ± 10%			
Input-current (configurable for 0.333 V or 1 V secondary CTs)	I nominal		0.333 V (0.4 V max) or 1 V nominal (1.1 V max)			
	Measured Amps with over range		0.00333...0.4 V			
	Frequency nominal		50 Hz/60 Hz ± 10%			
DC control power	Operating range		12...36 V DC ±20 %			
	Burden		< 5 W			
Outputs	Relay outputs	Max output frequency	0.5 Hz maximum (1 s ON/1 s OFF - min times)			
		Switching current, at resistive load	5 A @250 V AC and 5 A @30 V DC			
		Isolation	2.5 kV rms			
Status Inputs	ON Voltage		11...40 V DC			
	OFF Voltage		0...5 V DC			
	Minimum pulse width		10 ms			
	Opto Isolation		3.75 kV rms			
Mechanical characteristics						
IP degree of protection (IEC 60529)			IP40 front display, IP20 body			
Dimensions W x H x D	Meter		90 x 91.4 x 70.6 mm			
	Power Supply (optional)		36 x 91.4 x 67.6 mm			
	NEMA enclosure (optional approx.)		271 x 277 x 135 mm			
Mounting position			Meter and power supply - Vertical DIN rail mount NEMA enclosure (optional) - Projection type			

EM3570 series

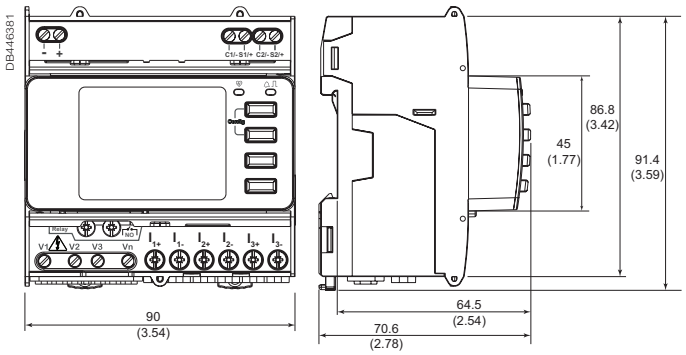
EM3570 Series Technical Specifications (Contd.)

		METSEEM3570	METSEEM3570A	METSEEM3570X	METSEEM3570AX
Environmental characteristics					
Operating temperature	Operating temperature	-25...70 °C			
	Display (reduced display performance at -25 ºC)	-25...70 °C			
Storage temperature		-40...85 °C			
Humidity range		5...95 % RH at 50 °C (non-condensing)			
Pollution degree		2			
Altitude		≤ 3000 m (9842 ft) above sea level			
Mission profile / Life span		15 years, 45 °C (113 °F) 60% RH, refer Mission Profile document			
Protective treatment		Conformal coating			
Safety					
Europe		CE/UKCA as per BS/EN/IEC 61557-12, BS/EN/IEC 61326-1, BS/EN/IEC 61010-1, BS/EN/IEC 61010-2-30			
U.S. and Canada		UL/EN 61010-1, UL/EN 61010-2-030			
Measurement category (Voltage & Current inputs)		CAT III up to 400 V L-N/690 V L-L			
Dielectric		As per IEC/UL 61010-1 (Edition 3)			
Protective Class		II, Double insulated for user accessible parts			
Communication					
Ethernet Port speed		100 Mbps = Green/10 Mbps = Off			
Protocol		BACnet/ IP and Ethernet TCP/IP			
FTPS		Yes			
SNMP, SNTP		Yes			
HTTPS		Yes			
Firmware and language file update		Yes			
Isolation		2.5 kV rms, double insulated			
Human machine interface					
Display type		Monochrome Graphics LCD			
Resolution		126 x 94 pixels			
Backlight		White LED			
Keypad		4-button			
Indicator Heartbeat / Communication activity		Green LED			
Energy pulse output / Active alarm (configurable)		Orange LED			
Wavelength		590...635 Nm			
Maximum pulse rate		2.5 kHz			

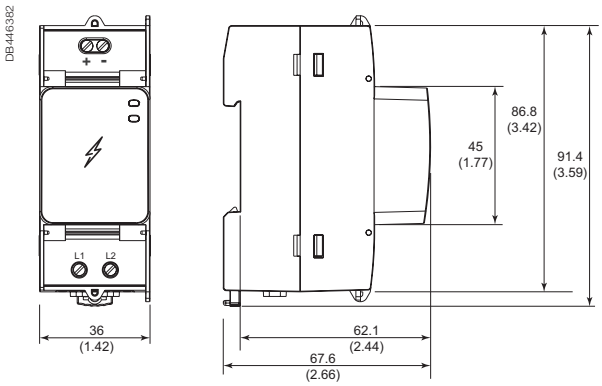
EM3570 series

Note: The dimensions are in mm (in).

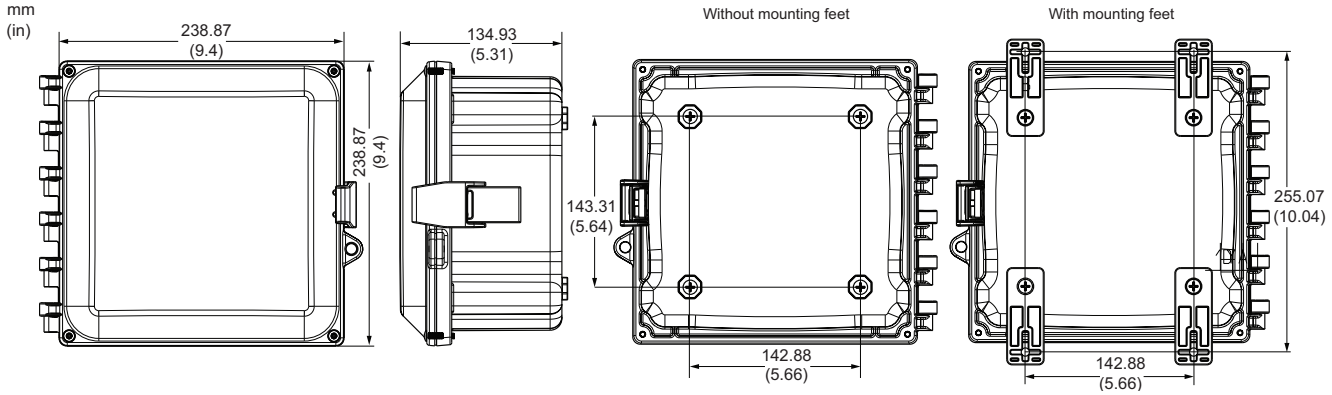
EM3570 Meter Dimensions



EM3570 Power Supply Dimensions



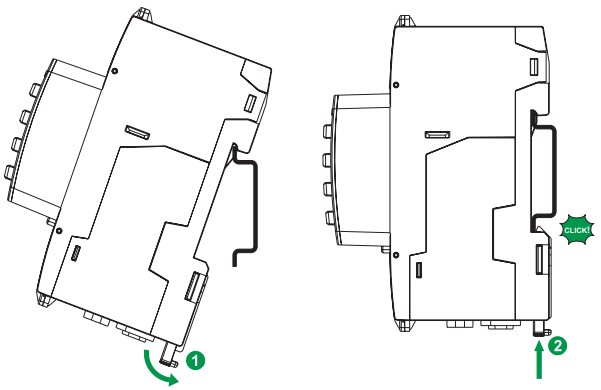
EM3570 Enclosure Dimensions



EM3570 series

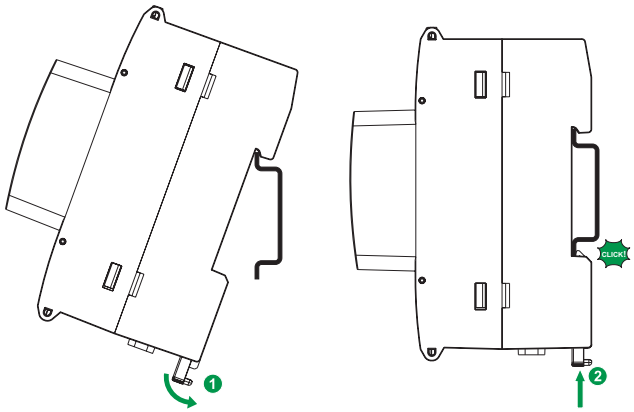
EM3570 Meter Mounting

DB446383



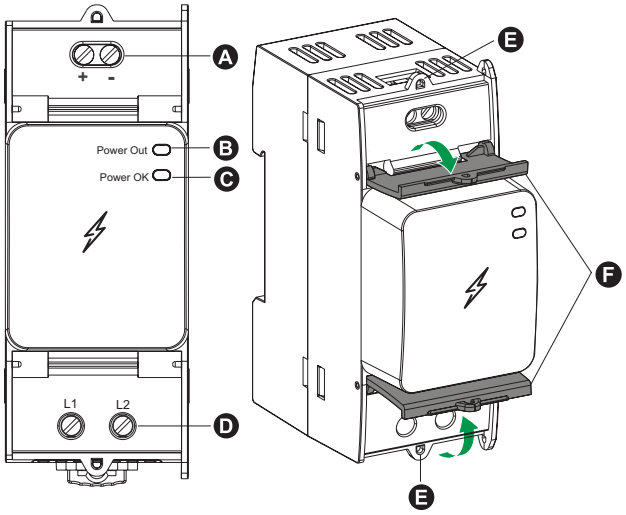
EM3570 Power Supply Mounting

DB446384



EM3570 Power Supply Description

DB446385

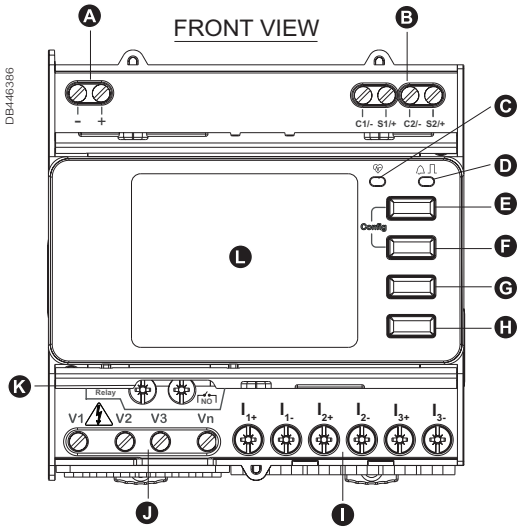


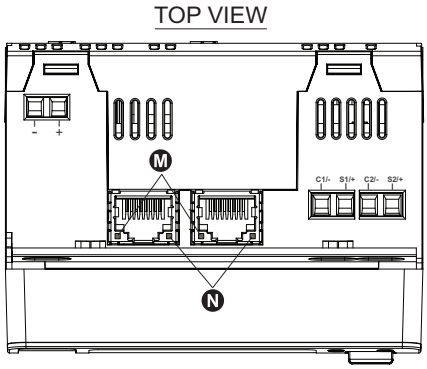
- A 24 V DC Output (+,-)
- B Power Out status LEDED
- C Power OK status LED
- D Input L1, L2
- E Sealing points
- F Sealable covers

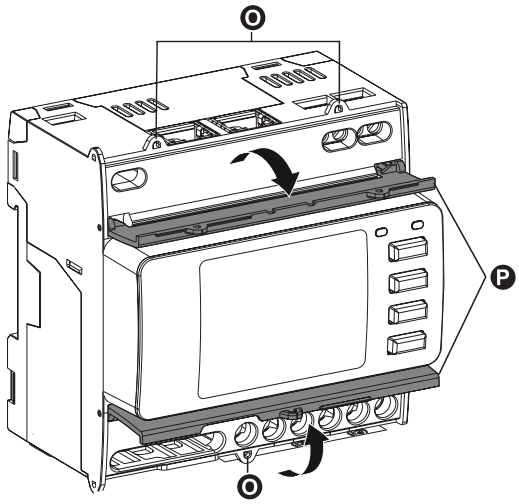
*Please see the appropriate **Installation Guide** for accurate and complete information on the installation of this product.*

EM3570 series

EM3570 Meter Description







- A Control power input 24 V DC (-,+)
- B Status inputs (C1/-, S1/+, C2/-, S2/+)
- C Operation LED (Green)
- D Alarm / Energy pulse LED (Orange)
- E Cancellation button
- F Confirmation button
- G Up button
- H Down button
- I Current inputs (I_{1+}, I_{1-}, I_{2+}, I_{2-}, I_{3+}, I_{3-})
- J Voltage inputs (V1, V2, V3, Vn)
- K Relay output (NO (┌┤))
- L Display with white backlight
- M Ethernet port link/Activity LED (Green)
- N Ethernet port Speed LED (Green)
  (100 Mbps=Green / 10 Mbps=Off)
- O Three sealing points
- P Two sealable covers

PowerLogic™ EM3000 Series Technical Datasheet

The PowerLogic™ EM3000 series energy meters is a cost-attractive, feature-rich energy metering offer for DIN rail, modular enclosures. With Modbus and 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 active energy consumption.
- Aggregation of energy consumption.

Network management applications

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

PB125611

METSEEM3122

PB125612

METSEEM3322

PB125613

METSEEM3712

The solution for

All markets that can benefit from a solution that includes PowerLogic™ EM3000 series meters:

- Buildings & industry
- Data centres and networks
- Infrastructure

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 energy savings opportunities and monitor continuously
- 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

Features

- Multi-line circuit: Measure individual phase energy in three phase network system
- Partial and Total energy: Seperate counters for measuring active energy
- Current: Direct connected or whole current with the option of 45 A/63 A/100 A/125 A, 1 A or 5 A CT operated
- Internal clock: Quartz crystal based back up by super capacitor

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.

Competitive advantages

- Compact size
- MID compliant for Wh (selected models) providing certified accuracy and data security
- Onboard Modbus communication
- Configurable Baud Rate
- Communication protection: enable or disable through communication
- A complete range of energy meters
- Compatible with Power Logic range
- Direct connect upto 125 A
- Password: configurable from 0-9999*
- Pulse output*: configurable pulse constant (imp/kWh), pulse width (ms)

Conformity of standards*

- BS /EN/IEC61557-12:2021
- BS/EN/IEC 61326-1
- BS/EN/IEC 62052-11:2020
- BS/EN/IEC 62053-21
- BS/EN/IEC62052-31:2015
- BS/EN/IEC 61010-1:2010
- UL 61010-1:2010
- BS/EN/IEC 61010-2-30
- UL 61010-2-30
- BS/EN 50470-3
- BS/EN 50470-1
- ANSI C12.16
- ANSI C12.20
- CE, UL and UKCA certified

* Available in selected references

PowerLogic™ EM3000 Series

Feature selection

Current Input/ Wh Accuracy	EM3000 series Energy meters		
45 A Direct/ Class 1	EM3122		
63 A Direct/ Class 1		EM3212	EM3224
1 A or 5 A CT/ Class 0.5S /Class 1		EM3712	EM3724
100 A Direct/ Class 1	EM3322		
125 A Direct/ Class 1		EM3412	EM3424
Communication Protocol			
Non-Communication		✓	
MODBUS	✓		✓
Measurement (Intergrated)			
Active energy - Total and Partial energy	✓	✓	✓
2 Quadrant Active	✓	✓	✓
MID compliant (Wh)			✓
Digital outputs			
Pulse output only		✓	
Internal clock			
Quartz crystal based			✓
Date/time format (DD-MMM-YYYY/hh:mm)			✓
Commercial reference			
Commercial References/ordering references	METSEEM3122 METSEEM3322	METSEEM3212 METSEEM3712 METSEEM3412	METSEEM3224 METSEEM3724 METSEEM3424

Measurement accuracy

		As per EN / IEC 62053-21/22/23	As per BS / EN / IEC 61557-12	As per EN 50470-3	Current range of operation
EM31xx	Active Energy	Class 1 (IEC 62053-21)	Class 1 (PMD DD)		Imax=45 A, Iref=10 A, Imin=0.5 A, and Ist=0.04 A
EM32xx	Active Energy	Class 1 (IEC 62053-21)	Class 1 (PMD DD)	Class B (Select model)	Imax=63 A, Iref=10 A, Imin=0.5 A, and Ist=0.04 A
EM33xx	Active Energy	Class 1 (IEC 62053-21)	Class 1 (PMD DD)		Imax=100 A, Iref=20 A, Imin=1 A, and Ist=0.08 A
EM34xx	Active Energy	Class 1 (IEC 62053-21)	Class 1 (PMD DD)	Class B (Select model)	Imax=125 A, Iref=20 A, Imin=1 A, and Ist=0.08 A
EM37xx (x/1 A Current input)	Active Energy	Class 1 (IEC 62053-21)	Class 1 (PMD SD, PMD Sx)	Class B (Select model)	Imax=1.2 A, Inom=1 A, and Ist=0.002 A
EM37xx (x/5 A Current input)	Active Energy	Class 0.5S (IEC 62053-22)	Class 0.5S (PMD SD, PMD Sx)	Class C (Select model)	Imax=6 A, Inom=5 A, and Ist=0.005 A

See your Schneider Electric representative for complete ordering information.

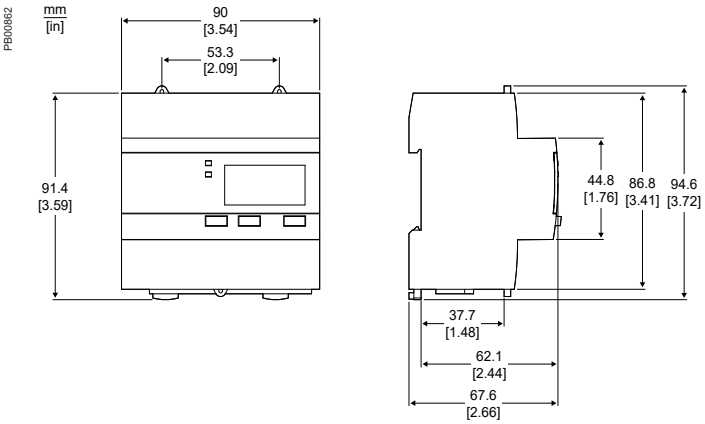
PowerLogic™ EM3000 Series

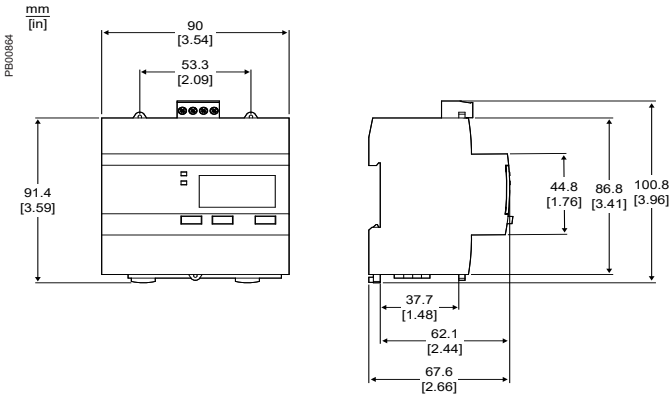
Technical Specifications

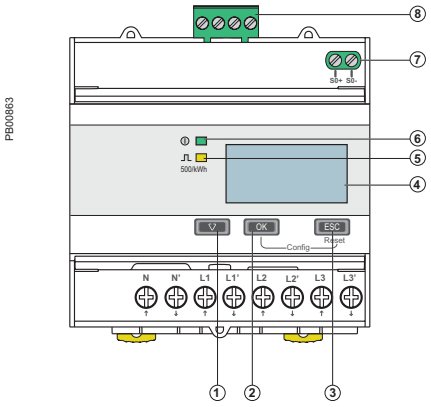
		EM3122	EM3212/EM3224	EM3322	EM3412/EM3424	EM3712/EM3724
Width in mm x number of modules		18 mm x 5		18 mm x 7		18 mm x 5
Wiring type (scheme)		3PH3W, 3PH4W, 1PH2W L-N, 1PH2W L-L, 1PH3W L-L-N				
Operating Temperature		-25...70 °C (-13...158 °F)				
Storage temperature		-40...85 °C (-40...185 °F)				
Wiring capacity		16 mm²		50 mm²		6 mm² for I and 4 mm² for V
LCD display		99999999.9 kWh				99999999.9 kWh / MWh
IP Protection		IP40 front, IP20 casing				
Over voltage and measurement		Category III, Pollution Degree 2				
Control Power/Self Powered Meter		Self Powered Meter				
Operating Voltage		3 x 100/173 Vac to 3 x 277/480 Vac (50/60 Hz)				
Altitude		< 3000 m (9842 ft)				
Humidity		5%–95%				
Voltage inputs	Measured voltage	Wye: 100 - 277 V L-N, 173 - 480 V L-L ±20% Delta: 173 - 480 V L-L ±20%				
	Overload	332 V L-N or 575 V L-L				
	Impedance	3 MΩ		6 MΩ		3 MΩ
	Frequency	50/60 Hz ±10%				
	Measurement category	III				
	Maximum device consumption	< 10 VA at 45 A	< 10 VA at 63 A	< 10 VA at 100 A	< 10 VA at 125 A	< 10 VA at 125 A
	Wire	16mm² / 6 AWG		50 mm² / 1 AWG		2.5 mm² / 14 AWG
Current inputs	Nominal current (In)	10 A	10 A	20 A	20 A	5 A 1A
	Measured current (I)	0.5...45 A	0.5...63 A	1...100 A	1...125 A	50 mA...6 A (for In:5 A) 10 mA...1.2 A (for In:1 A)
	Maximum Current (Imax)	45 A	63 A	100 A	125 A	6 A (for In:5 A) 1.2 A (for In:1 A)
	Withstand	45 A continuous, 114 A at 10 sec/hr	63 A continuous, 160 A at 10 sec/hr	100 A continuous, 256 A at 10 sec/hr	125 A continuous, 320 A at 10 sec/hr	20 A continuous (for In: 5 A), 10 A continuous (for In: 1A) at 10 sec/hr
	Frequency	50/60 Hz ±10%				

PowerLogic™ EM3000 Series dimensions

EM3122/EM3212/EM3224 series dimensions



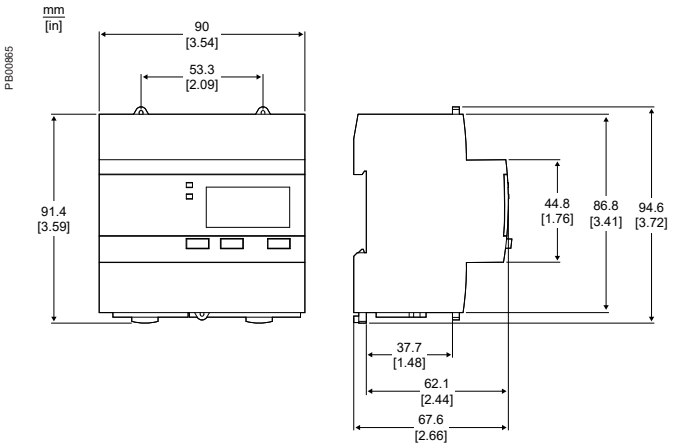


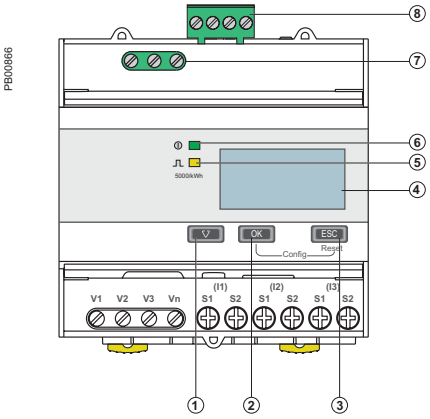


Power Logic EM3122/EM3212/ EM3224 Series parts

1. Selection
2. Confirmation
3. Cancellation
4. Display for measurement and configuration
5. Flashing yellow meter indicator to check accuracy
6. Green indicator: on/off, error
7. Pulse out for remote transfer (EM3212)
8. RS485 Communication (EM3122/EM3224)

EM3712 series dimensions





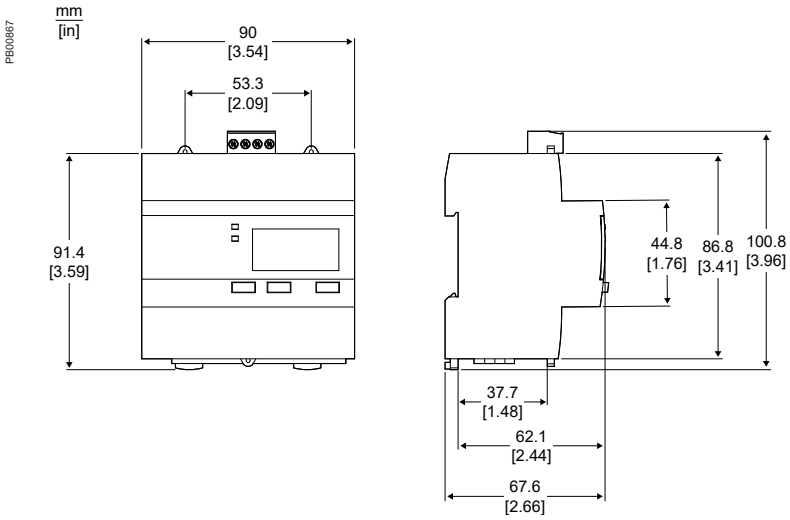
Power Logic EM3712/EM3724 Series parts

1. Selection
2. Confirmation
3. Cancellation
4. Display for measurement and configuration
5. Flashing yellow meter indicator to check accuracy
6. Green indicator: on/off, error
7. Pulse Output(EM3712)
8. RS485 Communication (EM3724)

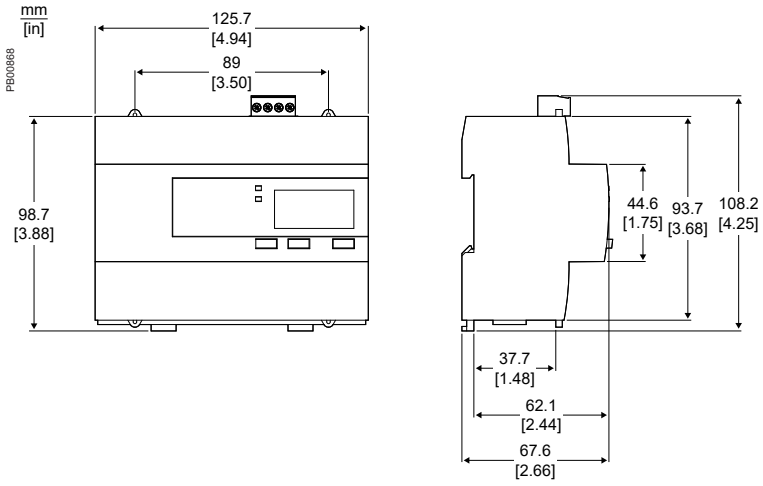
Please see the appropriate **Installation Guide** for accurate and complete information on the installation of this product.

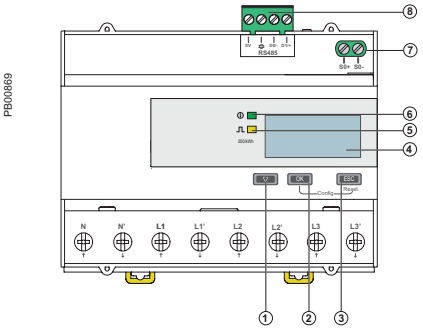
PowerLogic™ EM3000 Series dimensions

EM3724 series dimensions



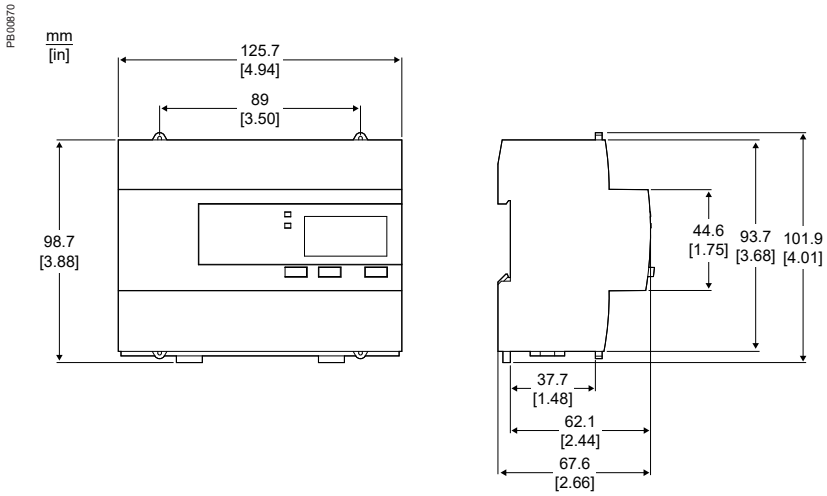
EM3322/EM3412/EM3424series dimensions





Power Logic EM3322/EM3412/EM3424 Series parts

1. Selection
2. Confirmation
3. Cancellation
4. Display for measurement and configuration
5. Flashing yellow meter indicator to check accuracy
6. Green indicator: on/off, error
7. Pulse Output for remote transfer
8. RS485 Communication



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

Acti 9 iEM3000 Series Technical Datasheet

The Acti 9 iEM3000 series energy meters is a cost-attractive, feature-rich energy metering offer for DIN rail, modular enclosures. With Modbus, BACnet, M-Bus and LonWorks 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

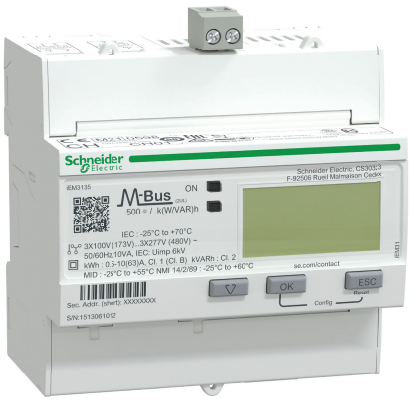
Cost management applications

- 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.

PB108450



A9MEM3135

PB113704

A9MEM3355

PB113705

A9MEM3255

More than just kWh meters, the Acti 9 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
- Identify energy savings opportunities and monitor continuously
- 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

Features

- Multi-line circuit: Measure individual phase energy in three phase network system
- Partial and Total energy: Seperate counters for measuring active, reactive and apparent energy
- 4 Quadrant measurement: For measuring quadrant based power and energy
- Multi tariff energy: Upto 4 counters activated through RTC, digital inputs or command register
- Digital input/output: For status monitoring/tariff control and energy pulsing/overload alarm
- Demand measurement: Per-phase and average current, total power for active, reactive and apparent
- Current: Direct connected/ whole current with the option of 63 A or 125 A, 1 A or 5 A CT operated, LVCT or Rogowski coil supported
- Internal clock: Quartz crystal based back up by super capacitor

Competitive advantages

- Compact size
- MID compliant for Wh and VARh (selected models) providing certified accuracy and data security
- Programmable digital inputs/ouputs
- Multi-tariff capability
- Onboard Modbus, LonWorks, M-Bus or BACnet communication*
- Baud Rate configurable
- Communication protection: enable or disable through communication
- A complete range of energy meters
- Compatible with Acti 9 range
- Direct connect upto 125 A
- Password: configurable from 0-9999*
- Pulse output*: configurable pulse constant (imp/kWh, imp/kVARh), pulse width (ms)

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*

- BS / EN / IEC 61557-12
- EN / IEC 62053-21
- EN / IEC 62053-22
- EN / IEC 62053-23
- EN 50470-3
- EN 50470-1
- METAS
- EN / IEC 62052-11
- BS / EN / IEC 61326-1
- EN / IEC 62052-31:2015
- BS / IEC / EN / UL 61010-1
- ANSI C12.20 / ANSI C12.16
- NMI M 6-1, RCM
- UL, CE and UKCA certified
- CAN/CSA-C22.2
- EAC, KZ

* Available in selected references

Acti 9 iEM3000 Series

Feature selection

Current Input/ Wh Accuracy	iEM3000 series Energy meters						
63 A Direct/ Class 1	iEM3115	iEM3110	iEM3135	iEM3150	iEM3155	iEM3165	iEM3175
1 A or 5 A CT/ Class 0.5S (+1)	iEM3215	iEM3210	iEM3235	iEM3250	iEM3255	iEM3265	iEM3275
125 A Direct/ Class 1		iEM3310	iEM3335	iEM3350	iEM3355	iEM3365	iEM3375
1/3rd or 1 V LVCT/ Class 0.5S					iEM3455	iEM3465	
Rogowski coil/ Class 0.5S					iEM3555	iEM3565	
Communication Protocol							
Modbus				■	■		
M-Bus			■				
BACnet						■	
LonWorks							■
Measurement (Intergrated)							
Active energy - Total and Partial energy	■	■	■	■	■	■	■
4 Quadrant Active, Reactive energy and Apparent energy			■		■	■	■
MID compliant (Wh) (+2) MID compliant (VARh) (+2)	■	■	■		■	■	■
Demand (per-ph & average current, total power for P Q S) (+3)					■	■	
Peak Demand (per-ph & average current, total power for P Q S) (+3)					■	■	
Measurement (Instantaneous)							
Voltage			■	■	■	■	■
Current			■	■	■	■	■
Power - P Q S			■	■	■	■	■
Power factor			■	■	■	■	■
Frequency			■	■	■	■	■
Multi-Tariff, control by							
Internal clock	4		4		4	4	4
Digital Inputs	4		2		2	2	2
Communication	-		4		4	4	4
Digital inputs							
For Status, Tariff control or Input monitoring			1		1	1	1
Tariff control only	2						
Digital outputs							
Energy pulsing or Overload alarm			1		1	1	
Pulse output only		1					
Internal clock							
Quartz crystal based	■		■		■	■	■
Date/time format (DD-MMM-YYYY/hh:mm)	■		■		■	■	■
Commercial reference							
Commercial References/ordering references	A9MEM3115 A9MEM3215	A9MEM3110 A9MEM3210 A9MEM3310	A9MEM3135 A9MEM3235 A9MEM3335	A9MEM3150 A9MEM3250 A9MEM3350	A9MEM3155 A9MEM3255 A9MEM3355 A9MEM3455 A9MEM3555	A9MEM3165 A9MEM3265 A9MEM3365 A9MEM3465 A9MEM3565	A9MEM3175 A9MEM3275 A9MEM3375

(+1) MID certification available for x/5 A and x/1 A.
(+2) MID certification not applicable for iEM34xx and iEM35xx series.
(+3) Demand parameters available in iEM34xx and iEM35xx series only.

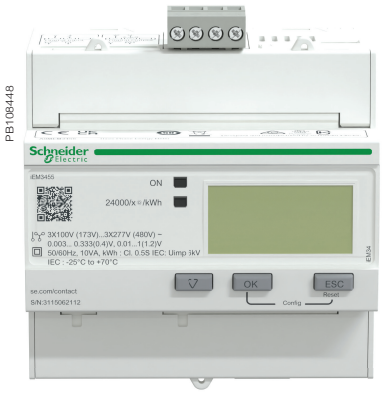
See your Schneider Electric representative for complete ordering information.

Acti 9 iEM3000 Series

Technical Specifications

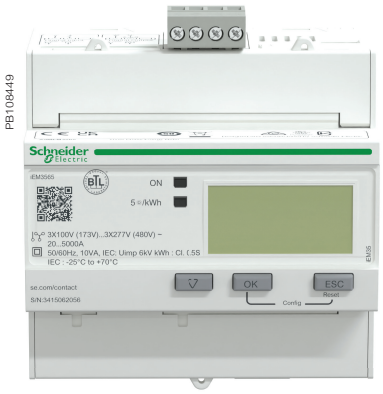
		iEM31xx	iEM32xx	iEM33xx	iEM34xx	iEM35xx
Width in mm x number of modules		18 mm x 5	18 mm x 5	18 mm x 7	18 mm x 5	18 mm x 5
Wiring type (scheme)		3PH3W, 3PH4W, 1PH2W L-N, 1PH2W L-L, 1PH3W L-L-N				
Operating Temperature		-25°C to 70°C (-13 °F to 158 °F)				
Storage temperature		-40 °C to 85 °C (-40 °F to 185 °F)				
Wiring capacity		16 mm²	6 mm² for I and 4 mm² for V	50 mm²	6 mm² for I and 4 mm² for V	
LCD display		99999999.9 kWh	99999999.9 kWh / MWh	99999999.9 kWh	99999999.9 kWh / MWh	
IP Protection		IP40 front, IP20 casing				
Over voltage and measurement		Category III, Pollution Degree 2				
Operating Voltage		3 x 100/173 V AC to 3 x 277/480 V AC (50/60 Hz)				
Operating Current		0.5 A to 63 A	*Inom* 5 A: 50 mA to 6 A *Inom* 1 A: 10 mA to 1.2 A	1 A to 125 A	0.022 V to 0.4 V (0.333 V *Inom*) or 0.05 V to 1.2 V (1 V *Inom*) LVCTs	50 to 5000 A Rogowski Coil
Altitude		< 3000 m (9842 ft)				
Humidity		5% – 95%				
Voltage inputs	Measured voltage	Wye: 100 - 277 V L-N, 173 - 480 V L-L ±20% Delta: 173 - 480 V L-L ±20%				
	Overload	332 V L-N or 575 V L-L				
	Impedance	3 MΩ	3 MΩ	6 MΩ	3 MΩ	
	Frequency	50 / 60 Hz ±10%				
	Measurement category	III				
	Minimum wire temperature rating required	90 °C (194 °F)	90 °C (194 °F)	105 °C (221 °F)	90 °C (194 °F)	
	Maximum device consumption	-	< 10 VA	-	< 10 VA	
	Wire	16 mm² / 6 AWG	2.5 mm² / 14 AWG	50 mm² / 1 AWG	2.5 mm² / 14 AWG	
	Wire strip length	11 mm / 0.43 in	8 mm / 0.31 in	13 mm / 0.5 in	8 mm / 0.31 in	
	Torque	1.8 Nm / 15.9 in•lb	0.5 Nm / 4.4 in•lb	3.5 Nm / 30.9 in•lb	0.5 Nm / 4.4 in•lb	
Current inputs	Nominal current	-	1 A or 5 A	-	-	-
	Measured current	0.5 A to 63 A	20 mA to 6 A	1 A to 125 A	-	
	Withstand	10 A continuous, 20 A at 10 sec/hr			-	-
	Minimum wire temperature rating required	-	90 °C (194 °F)	-	90 °C (194 °F)	
	Impedance	< 0.3 mΩ	< 1 mΩ	< 0.2 mΩ	-	-
	Frequency	50 / 60 Hz ±10%				
	Burden	< 10 VA at 63 A	< 0.036 VA at 6 A	< 10 VA at 125 A		
	Wire	16 mm² / 6 AWG	6 mm² / 10 AWG	50 mm² / 1 AWG	6 mm² / 10 AWG	
	Wire strip length	11 mm / 0.43 in	8 mm / 0.31 in	13 mm / 0.5 in	8 mm / 0.31 in	
	Torque	1.8 Nm / 15.9 in•lb	0.8 Nm / 7.0 in•lb	3.5 Nm / 30.9 in•lb	0.8 Nm / 7.0 in•lb	
	Split-core LVCTs	-	-	-	0.333 V or 1 V nominal	
	Rogowski Coil	-	-	-	U018 Series of Rogowski Coils (up to 5000 A)	
	Minimum wire temperature rating required	-	-	-	90 °C (194 °F)	

Acti 9 iEM3000 Series



A9MEM3455

METSECTLV2010U



A9MEM3565

METSECTR25500

Recommended* Schneider make Split-core LVCT for iEM3455 and iEM3465

Part Number	Sensing Current	Frequency	Output
METSECTLV2010U	100A	50/60Hz	0 to 1/3V
METSECTLV2020U	200A	50/60Hz	0 to 1/3V
METSECTLV2030U	300A	50/60Hz	0 to 1/3V
METSECTLV2040U	400A	50/60Hz	0 to 1/3V
METSECTLV3060U	600A	50/60Hz	0 to 1/3V
METSECTLV3080U	800A	50/60Hz	0 to 1/3V
METSECTLV4080U	800A	50/60Hz	0 to 1/3V
METSECTLV4100U	1000A	50/60Hz	0 to 1/3V
METSECTLV4120U	1200A	50/60Hz	0 to 1/3V
METSECTLV4160U	1600A	50/60Hz	0 to 1/3V
METSECTLV4200U	2000A	50/60Hz	0 to 1/3V
METSECTLV4240U	2400A	50/60Hz	0 to 1/3V
METSECTLV1005U	50A	50/60Hz	0 to 1/3V
METSECTLV1010U	100A	50/60Hz	0 to 1/3V
METSECTLV1020U	200A	50/60Hz	0 to 1/3V

* Split core LVCT with 1 V output can also be used.

Rogowski Coil for iEM3555 and iEM3565

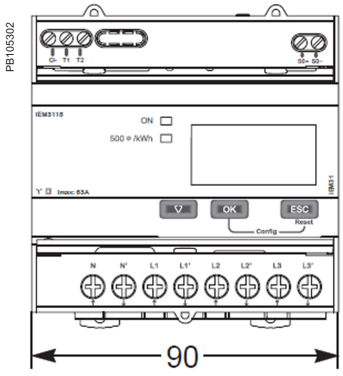
Part Number	Sensing Current	Frequency	Lead length (m)	Approximate Inside Diameter (mm)
METSECTR25500U	1000A	50/60Hz	2.4	79.5
METSECTR30500U	2000A	50/60Hz	2.4	95.5
METSECTR46500U	5000A	50/60Hz	2.4	146.4
METSECTR60500U	5000A	50/60Hz	2.4	191
METSECTR90500U	5000A	50/60Hz	2.4	286.5

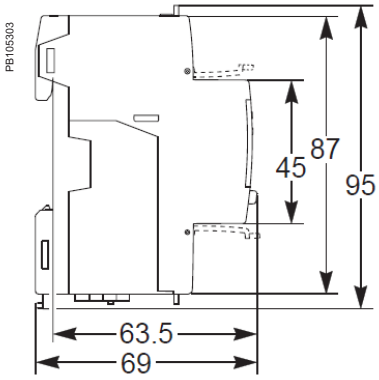
Measurement accuracy

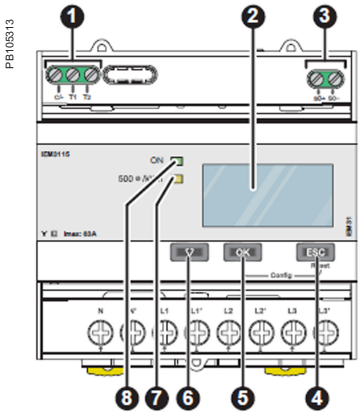
		As per EN / IEC 62053-21/22/23	As per BS / EN / IEC 61557-12	As per EN 50470-3	Current range of operation
iEM31xx	Active energy	Class 1 (IEC 62053-21)	Class 1 (PMD DD)	Class B	*Imax*=63 A, *Iref*=10 A, *Imin*=0.5 A, and *Ist*=0.04 A
	Reactive energy	Class 2 (IEC 62053-23)	Class 2 (PMD DD)	-	*Imax*=63 A, *Ib*=10 A, and *Ist*=0.05 A
iEM33xx	Active energy	Class 1 (IEC 62053-21)	Class 1 (PMD DD)	Class B	*Imax*=125 A, *Iref*=20 A, *Imin*=1 A, and *Ist*=0.08 A
	Reactive energy	Class 2 (IEC 62053-23)	Class 2 (PMD DD)	-	*Imax*=125 A, *Ib*=20 A, and *Ist*=0.1 A
iEM32xx (x/1 A Current input)	Active energy	Class 1 (IEC 62053-21)	Class 1 (PMD SD, PMD Sx)	Class B	*Imax*=1.2 A, *Inom*=1 A, and *Ist*=0.002 A
	Reactive energy	Class 2 (IEC 62053-23)	Class 2 (PMD Sx)	-	*Imax*=1.2 A, *Inom*=1 A, and *Ist*=0.003 A
iEM32xx (x/5 A Current input)	Active energy	Class 0.5S (IEC 62053-22)	Class 1 (PMD SD, PMD Sx)	Class C	*Imax*=6 A, *Inom*=5 A, and *Ist*=0.005 A
	Reactive energy	Class 2 (IEC 62053-23)	Class 2 (PMD Sx)	-	*Imax*=6 A, *Inom*=5 A, and *Ist*=0.015 A
iEM34xx (LVCT, 0.333/1.0 V at *Inom*) Field selectable	Active energy	±1%	-	-	Low voltage output for 0.333 V LVCT, *Imax*=0.399 V, *Inom*=0.333 V, and *Imin*=0.022 V
	Reactive energy	±2%	-	-	
iEM35xx (from 50 A to 5000 A)	Active energy	±1%	-	-	*Imax*=5000 A, *Imin*=50 A
	Reactive energy	±2%	-	-	

Acti 9 iEM3000 Series dimensions

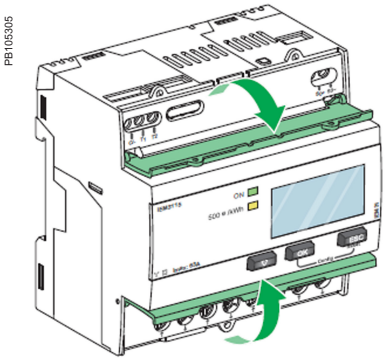
iEM3000/iEM3200 series dimensions

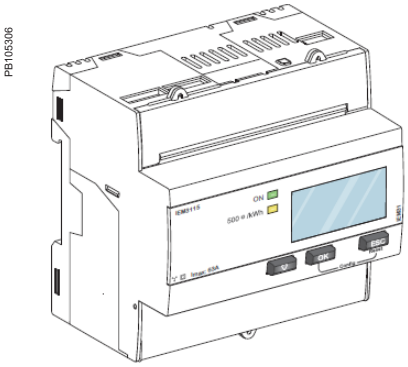






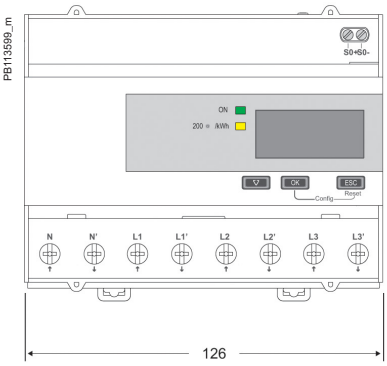
Acti 9 iEM3100/iEM3200 Series front flaps open and closed

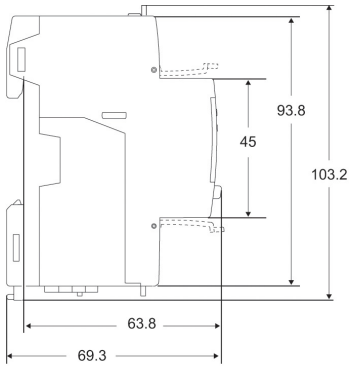




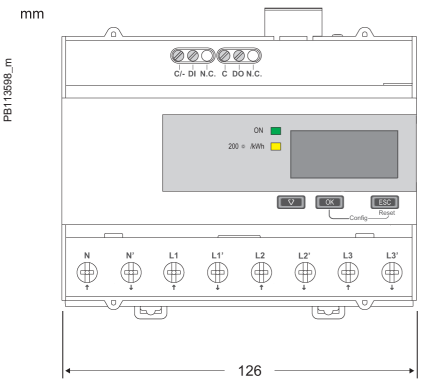
Acti 9 iEM3000 Series parts
1. Digital inputs for tariff control (iEM3115 / iEM3215)
2. Display for measurement and configuration
3. Pulse out for remote transfer (iEM3110 / iEM3210)
4. ESC Cancellation
5. OK Confirmation
6. ▽ Selection
7. Flashing yellow meter indicator to check accuracy
8. Green indicator: on/off, error

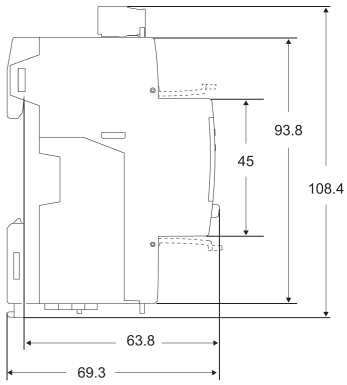
iEM3300 series dimensions

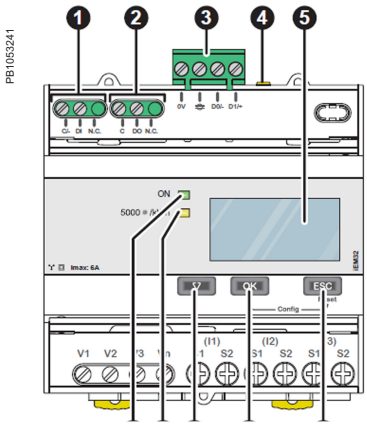




mm







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*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

PM3200

PM3250

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

PowerLogic™ PM3200 front view

PowerLogic™ PM3250 front view

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

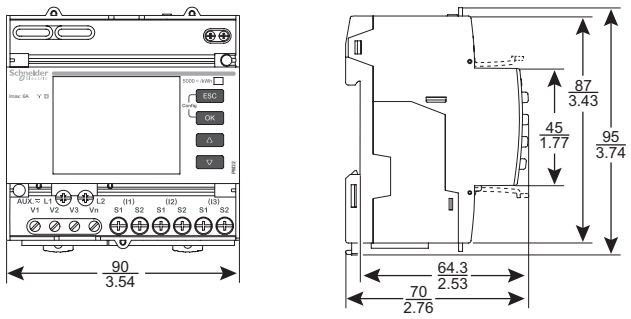
PM3000 technical specifications

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

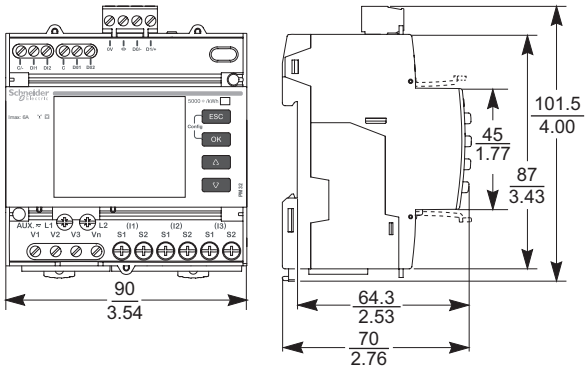
★ *Protected throughout by double insulation*

PM3000 dimensions

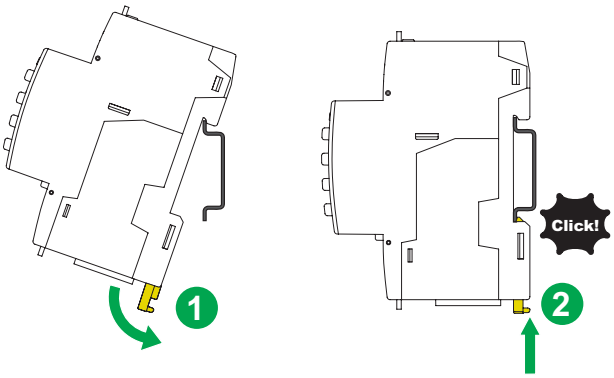
PM3200/PM3210 dimensions



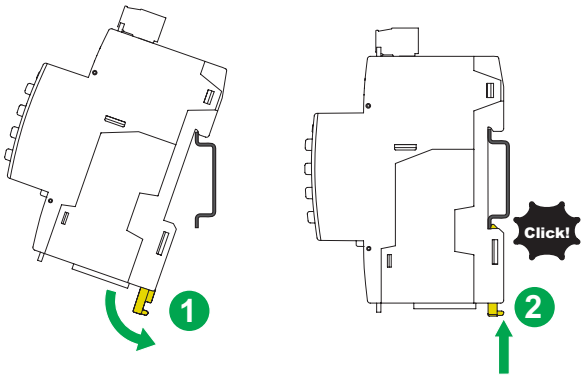
PM3250/PM3255 dimensions



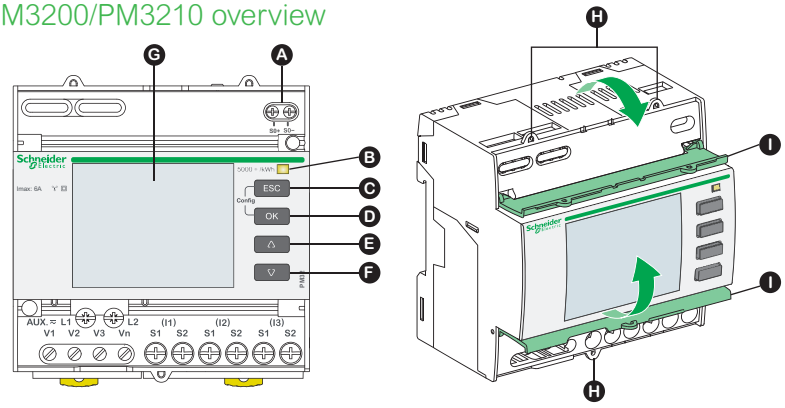
PM3200/PM3210 mounting



PM3250/PM3255 mounting

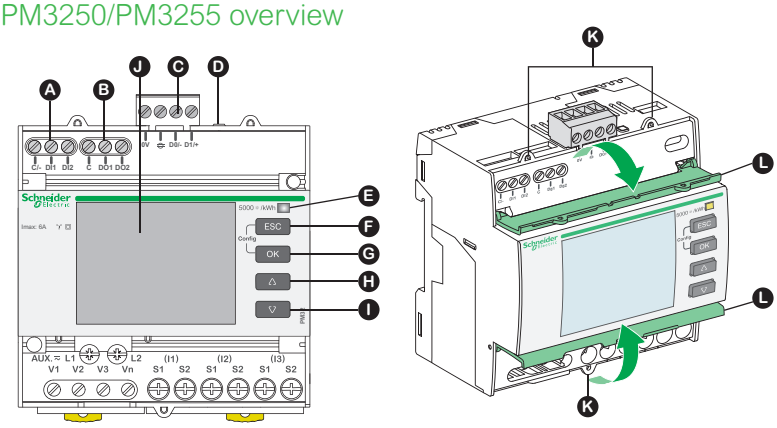


PM3200/PM3210 overview



- A Pulse output for remote transfer (PM3210)
- B Energy pulse LED (5000 / kWh)
- C Cancellation
- D Confirmation
- E Up
- F Down
- G Display with white backlight
- H Sealing points
- I Sealable covers

PM3250/PM3255 overview



- A Digital inputs x 2 (PM3255)
- B Digital outputs x 2 (PM3255)
- C Communications port
- D Communications LED
- E Energy pulse LED (5000 / kWh)
- F Cancellation
- G Confirmation
- H Up
- I Down
- J Display with white backlight
- K Sealing points
- L Sealable covers

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

PowerLogic™ PowerTag Energy series

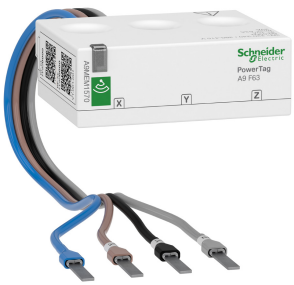
PowerTag Energy is a wireless-communication energy sensor.

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, as per IEC 61557-12, 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)

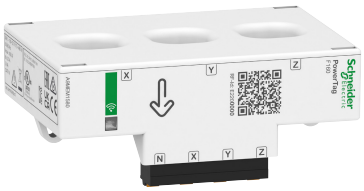
LV434020

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 (Industrial Environment)
- IEC 62311
- ETSI EN 300 328
- ETSI EN 301 487-1
- ETSI EN 301 489-17 (Radiated EMC)

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
Basic current (Ib) A	10	10	10	25	40
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
Basic current (Ib) A	100	30	100	150	300
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

Source
Power flow
Load

1 PowerTag Energy Connected Upstream (U and I)

■ When breaker is OFF, PowerTag Energy remains energized.

Source
Power flow
Load

■ 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)

Load
Power flow
Source

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.

Load
Power flow
Source

■ 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		
EcoStruxure™ Panel Server		SpaceLogic
		
PAS400, PAS600, PAS600L with Cloud and SCADA		**Automation Server V3 Premium**

For Small Business applications		For Residential applications	For Industrial applications	
EcoStruxure™ Panel Server		Wiser Home Hub Wiser Hub	Harmony Hub	EcoStruxure™ Panel Server
				
PAS400, PAS600, PAS600L with Cloud	**PAS800, PAS800L standalone**	**CCT501801 CCT501901**	**ZBRN1, ZBRN2, ZBRN32**	**PAS600, PAS600L**

(*) Refer to Selection Guide for complete compatibility (CA908058)

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.

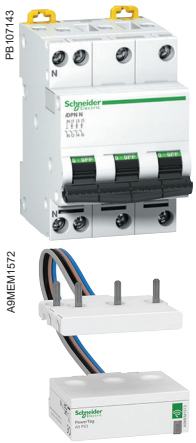
Main characteristics

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)

PowerTag Energy

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 %
	A9MEM1575	Un	Phase-to-phase	480 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)	Device 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 no.	Type	Mounting	Description	Certification
A9MEM1520	1P+wire	Top or bottom	M63 1PW	DNV
A9MEM1521	1P+N	Top	M63 1PN T	DNV
A9MEM1522		Bottom	M63 1PN B	DNV
A9MEM1540	3P	Top or bottom	M63 3P	DNV
A9MEM1543			M63 3P 230V LL	DNV
A9MEM1541	3P+N	Top	M63 3PN T	DNV
A9MEM1542		Bottom	M63 3PN B	DNV

Designed to fit the following devices: iC60, Reflex iC60, DT60, iID.
Check the Concentrators /Gateways compatibility and the list of Schneider Electric compatible devices with the selection guide CA908058.


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 no.	Type	Mounting	Description	Certification
A9MEM1561	1P+N	Top	P63 1PN T	DNV
A9MEM1562	1P+N	Bottom	P63 1PN B	DNV
A9MEM1563	1P+N RCBO	Bottom	P63 1PN B RCBO 18mm	DNV
A9MEM1571	3P+N	Top	P63 3PN T	DNV
A9MEM1572	3P+N	Bottom	P63 3PN B	DNV

Designed to fit the following devices: DT40, iDPN, C40, i DPN Vigi.
Check the Concentrators /Gateways compatibility and the list of Schneider Electric compatible devices with the selection guide CA908058.


A9MEM1560


A9MEM1564


A9MEM1573
A9MEM1575


A9MEM1570
A9MEM1574

PowerTag Energy Flex 63 A Commercial reference numbers

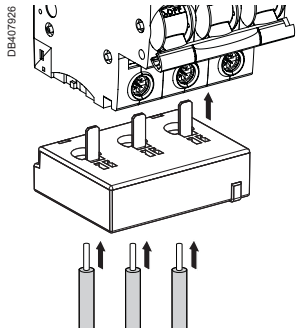
PowerTag Energy **Flex** for other devices and specific installations, rating less than or equal to 63 A.

Commercial reference no.	Type	Mounting	Description	Certification
A9MEM1560	1P+N	Top or bottom	F63 1PN	DNV
A9MEM1564	1P+N	Top or bottom	F63 1PN 110V	DNV
A9MEM1573	3P	Top or bottom	F63 3P	DNV
A9MEM1575	3P	Top or bottom	F63 3P 480V LL IEC/UL	c UL us LISTED
A9MEM1570	3P+N	Top or bottom	F63 3PN	DNV
A9MEM1574	3P+N	Top or bottom	F63 3PN 127/220V	DNV

Designed to fit the following devices: Vigi iDT40, Vigi iC40, Vigi iC60, iC60 double terminal, iID double terminal.
Check the Concentrators /Gateways compatibility and the list of Schneider Electric compatible devices with the selection guide CA908058.

Contact your Schneider Electric representative for complete ordering information.

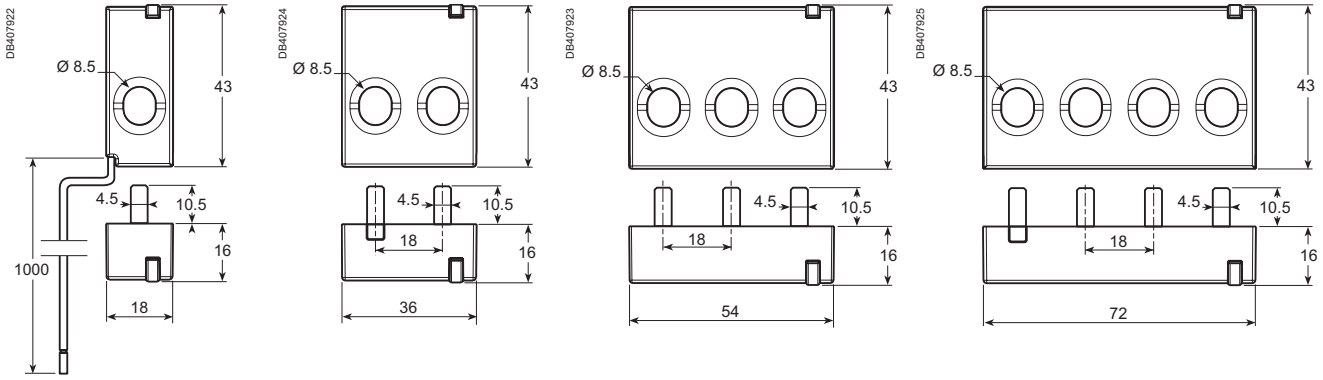
PowerTag Energy Monoconnect 63 A connection



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)



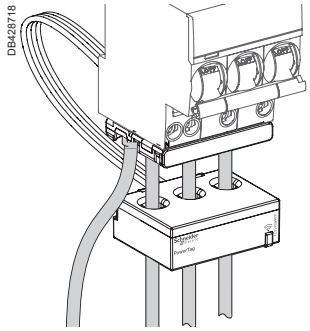
1P+wire 1P+N 3P 3P+N

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.

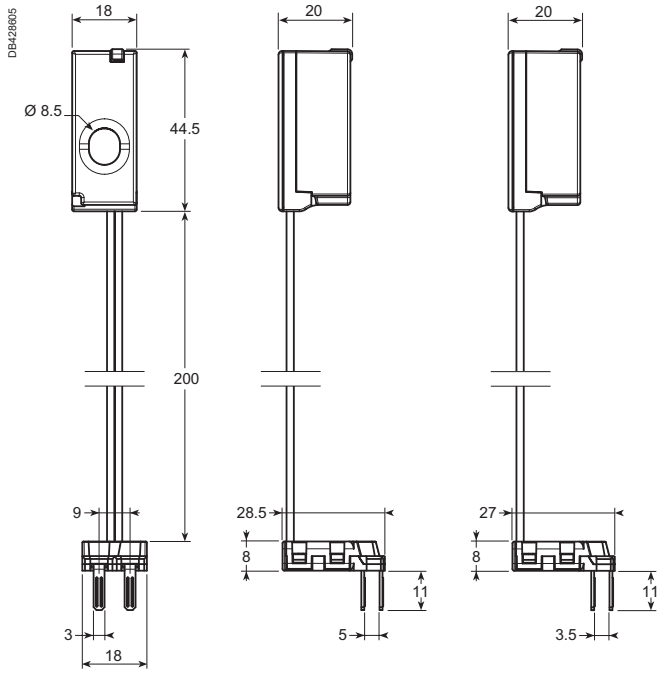
PowerTag Energy PhaseNeutral 63 A connection



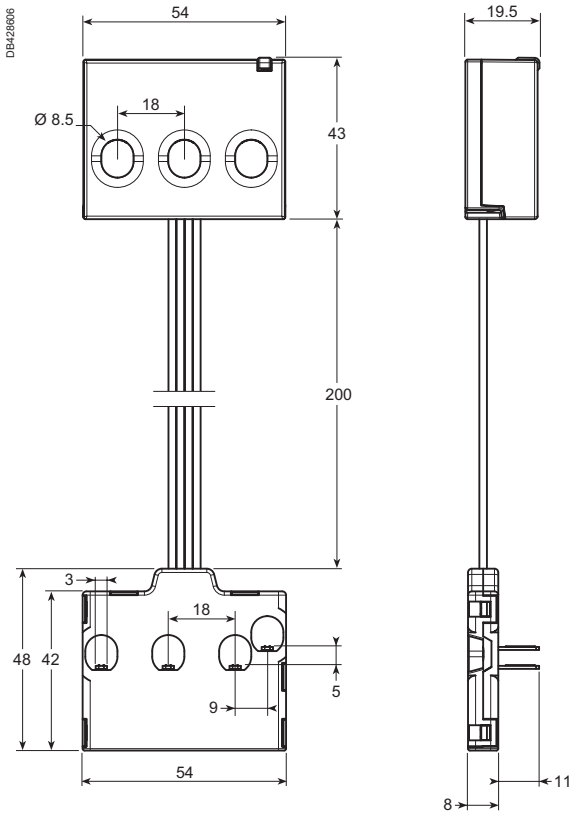
Copper cables					
Rigid		Flexible		Flexible with ferrule	
					
1.5 to 16 mm^2 AWG: 16...6	2 x 1.5 to 2.5 mm^2 AWG: 16...14	1.5 to 16 mm^2 AWG: 16...6	2 x 1.5 to 2.5 mm^2 AWG: 16...14	1.5 to 16 mm^2 AWG: 16...6	2 x 1.5 to 2.5 mm^2 AWG: 16...14

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



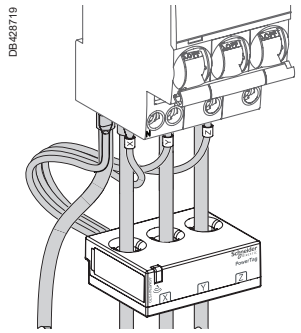
3P+N

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.

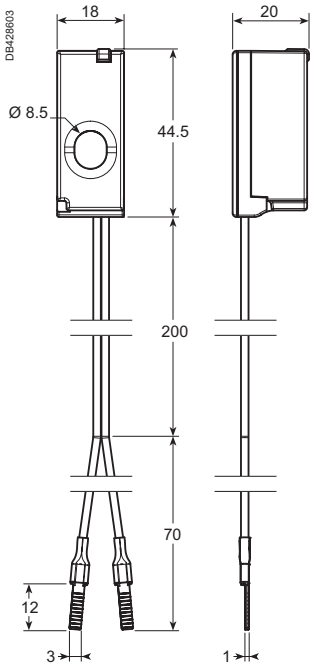
PowerTag Energy Flex 63 A connection



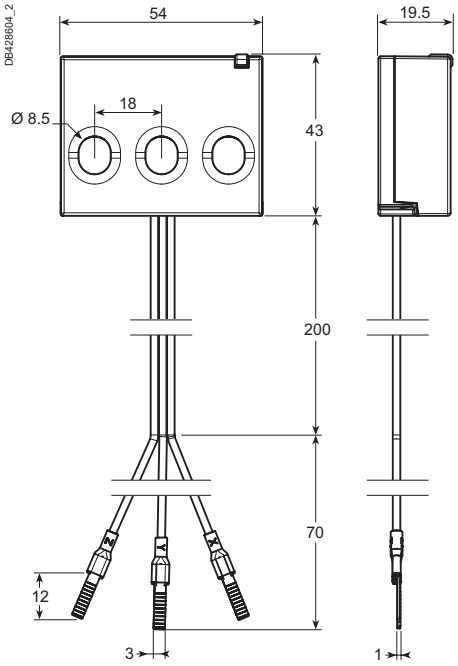
Copper cables					
Rigid		Flexible		Flexible with ferrule	
					
1.5 to 16 mm^2 AWG: 16...6	2 x 1.5 to 2.5 mm^2 AWG: 16...14	1.5 to 16 mm^2 AWG: 16...6	2 x 1.5 to 2.5 mm^2 AWG: 16...14	1.5 to 16 mm^2 AWG: 16...6	2 x 1.5 to 2.5 mm^2 AWG: 16...14

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

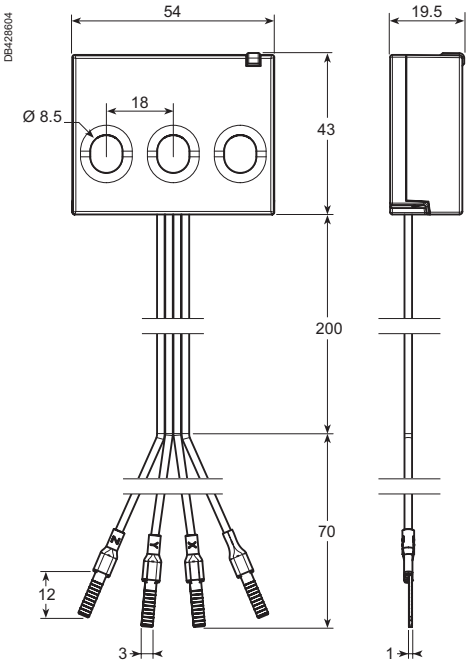
PowerTag Energy Flex 63 A dimensions (mm)



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 Wiser concentrators/gateways.

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)

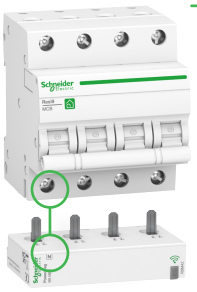
PowerLogic™ PowerTag Energy 63 A Resi9

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)	Device 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.

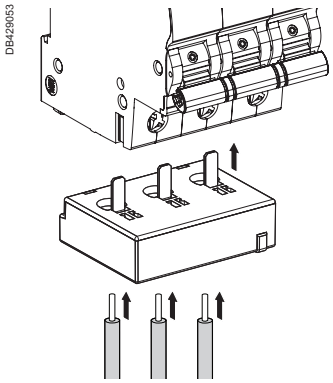
Commercial reference number	Type	Mounting	Description
R9M60	1P+N	Top or bottom	PowerTag Energy R9 F63 1PN
R9M70	3P+N	Top or bottom	PowerTag Energy R9 F63 3PN

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.

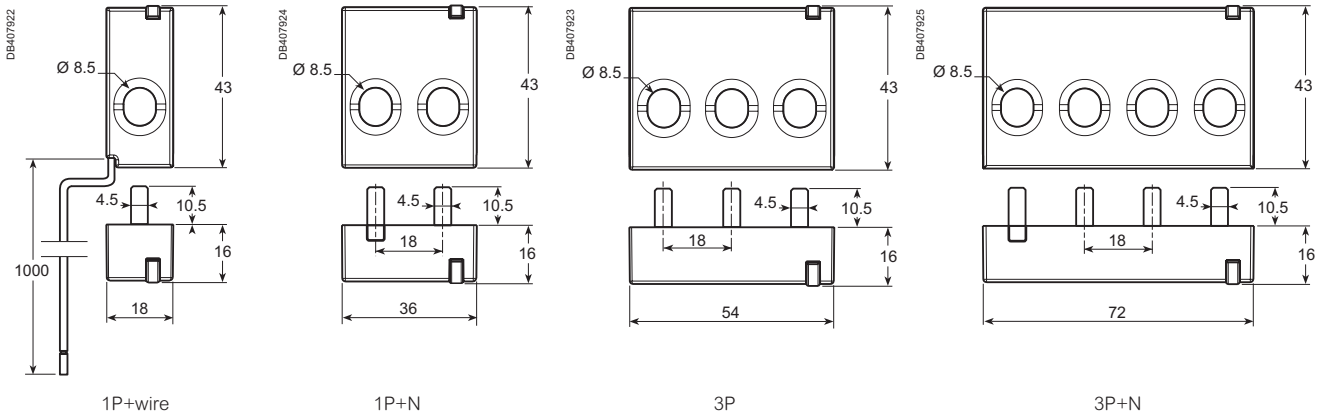
PowerLogic™ PowerTag Energy 63 A Resi9

PowerTag Energy R9 M63 connection



Stripping length : 18 mm

PowerTag Energy R9 M63 dimensions (mm)

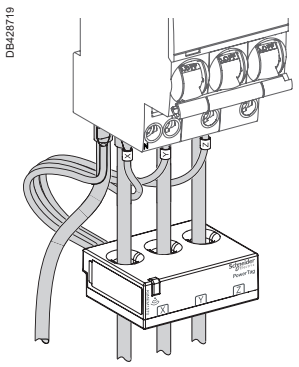


PowerTag Energy R9 M63 weight

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

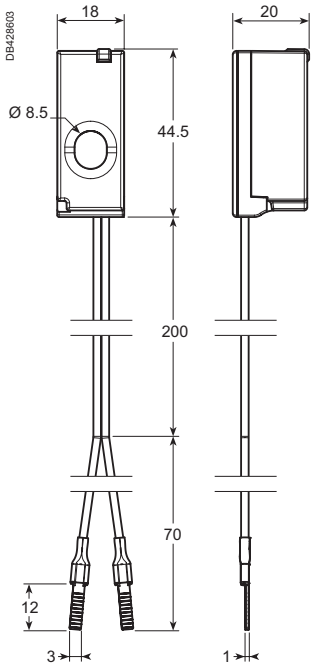
PowerLogic™ PowerTag Energy 63 A Resi9

PowerTag Energy R9 F63 connection

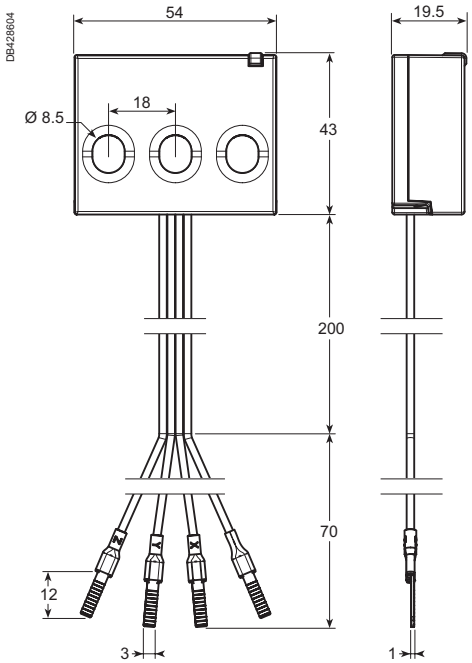


Stripping length: respect the stripping length stated on the device the PowerTag Energy is associated with.

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

PowerTag Energy

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 VAC ± 20 %
		Phase-to-phase	173...480 VAC ± 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)	Device measuring range
		Class	
Total active power (Active power per phase)	P	1	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	45 to 65 Hz
Phase current	I	1	100 mA to 320 A
Neutral current	I_{NC}	2	
Voltages (Line to Line)	U	0.5	138 to 576 VAC
Power factor (per phase, total)	PF_A	1	-1 to 1

(1) Above 2000 m, please consult us.

PowerLogic™ PowerTag Energy Flex 160 A

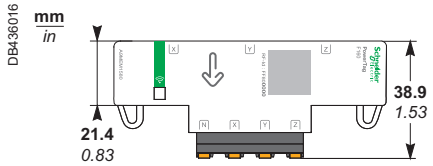
A9MEM1580

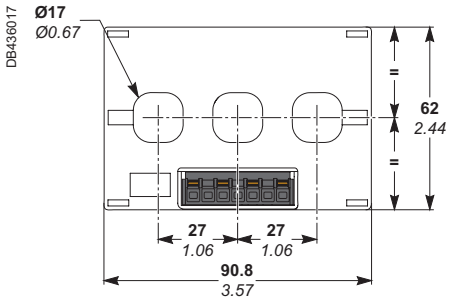
PowerTag Energy Flex 160 A Commercial reference numbers

Commercial reference number	Type	Description	Certification
A9MEM1580	F160 3P/3P+N	Flex 160 A 3P / 3P+N	cULus LISTED DNV

Check the Concentrators /Gateways compatibility and the list of Schneider Electric compatible devices with the selection guide CA908058.

PowerTag Energy Flex 160 A dimensions





PowerTag Energy Flex 160 A weight

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

Contact your Schneider Electric representative for complete ordering information.

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, EasyPact CVS 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.

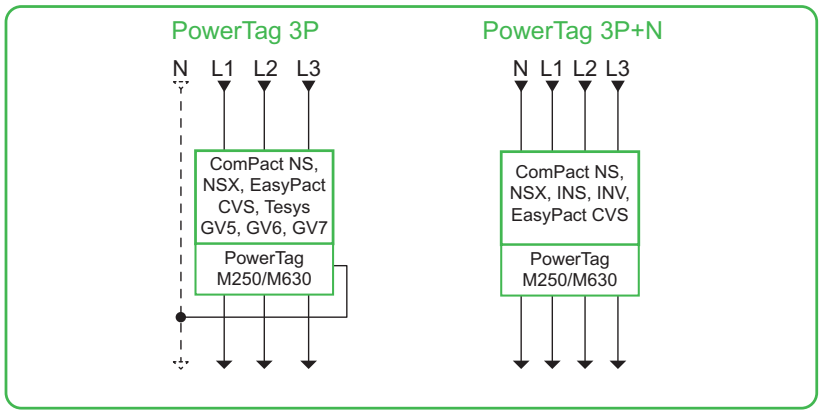
PowerTag Energy Monoconnect 250 A

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 3P/4P 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, EasyPact CVS 100-250, EasyPact CVS 400-630, TeSys GV5, TeSys GV6 and TeSys GV7.

Important notice : A derating coefficient may apply for the circuit-breaker on which the PowerTag is mounted on. Refer to the circuit breaker catalogue for derating coefficient.

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.

LV434022_image-NSX630-3P

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)	Device measuring range (250 A / 630 A)
		Class	
Total active power (Active power per phase)	P	1	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
Phase current	I	1	160 mA to 500 A / 400 mA to 1260 A
Voltages (Line to Line)	U	0.5	320 to 480 VAC
Power factor	PF_A	1	-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	Certifications	Connection adapter for mounting on plug-in base only
LV434020	M250 3P	PowerTag Energy 250 A 3P	DNV	LV429306
LV434021	M250 3P+N	PowerTag Energy 250 A 3P+N	DNV	LV429307
LV434022 (1)	M630 3P	PowerTag Energy 630 A 3P	DNV	LV432584
LV434023 (1)	M630 3P+N	PowerTag Energy 630 A 3P+N	DNV	LV432585

Check the Concentrators /Gateways compatibility and the list of Schneider Electric compatible devices with the Selection Guide pages 95 to 105.

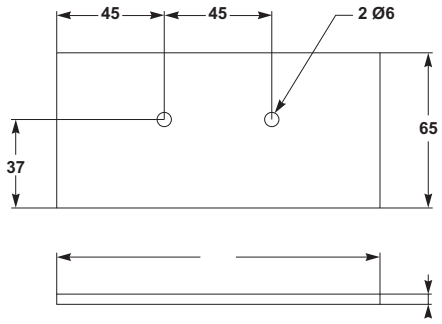
Contact your Schneider Electric representative for complete ordering information.

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

LV434021_Image-NSX250-4P-W

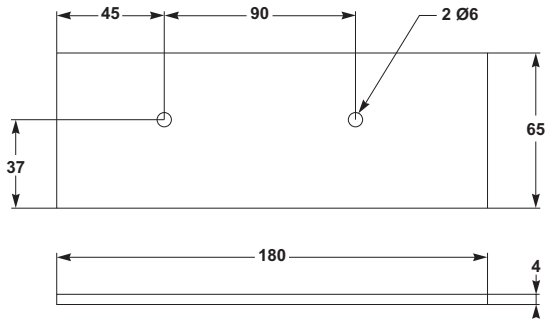
DB432580

3P



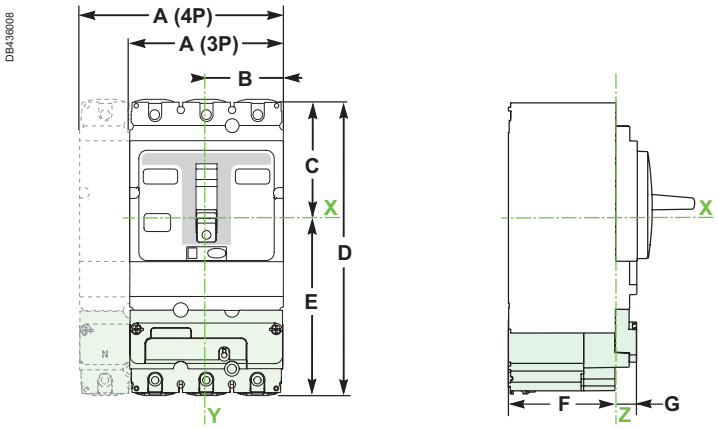
DB432581

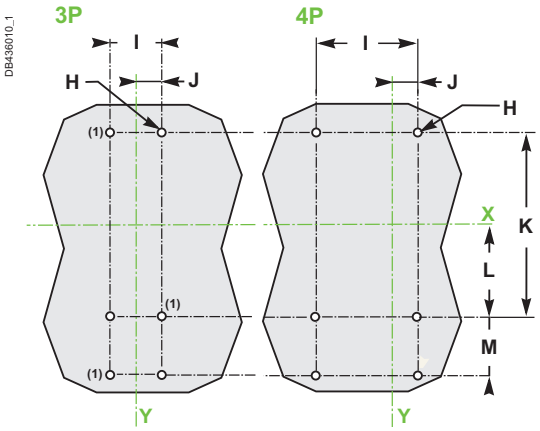
3P + N



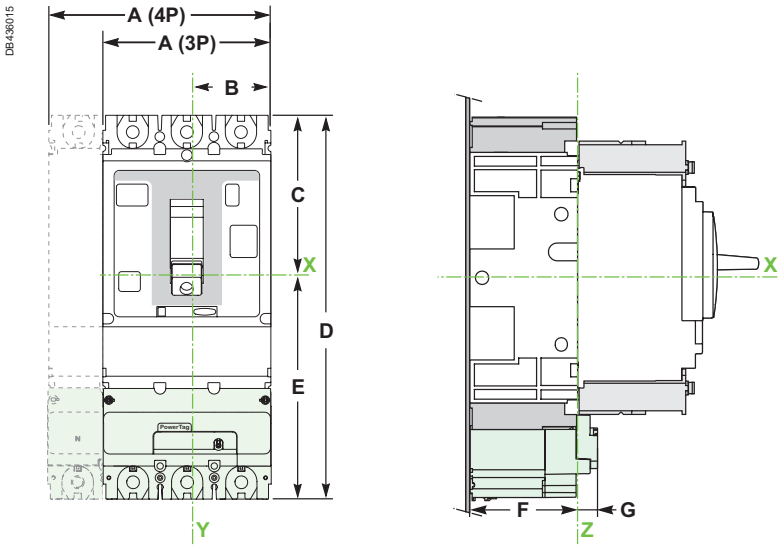
PowerLogic™ PowerTag Energy Monoconnect 250 A & 630 A

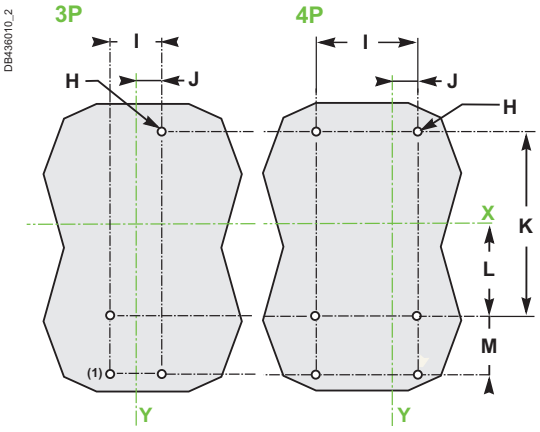
NSX100-250 / NSX400-630 / CVS100-250 / CVS400-630





(1) Only for PowerTag M630





(1) Only for PowerTag M630

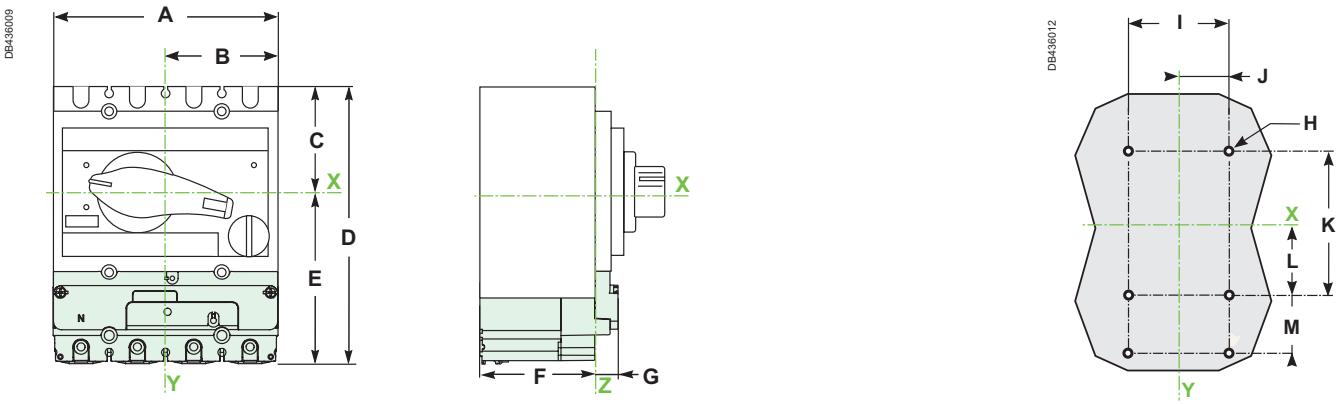
mm in	A		B	C	D	E	F	G	H		I		J		K	L	M
	3P	4P							3P	4P	3P	4P	3P	4P			
NSX100-250 CVS 100-250	105 4.13	140 5.51	52.5 2.06	80.5 3.17	201 7.91	120.5 4.74	72 2.83	14 0.55	3 Ø6 3 Ø0.23	6 Ø6 6 Ø0.23	35 1.34	70 2.75	17. 5 0.68	17. 5 0.68	125 4.92	62.5 2.46	40 1.57
NSX400-630 CVS 400-630	140 5.51	185 7.28	70 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

PowerTag Energy

Installation

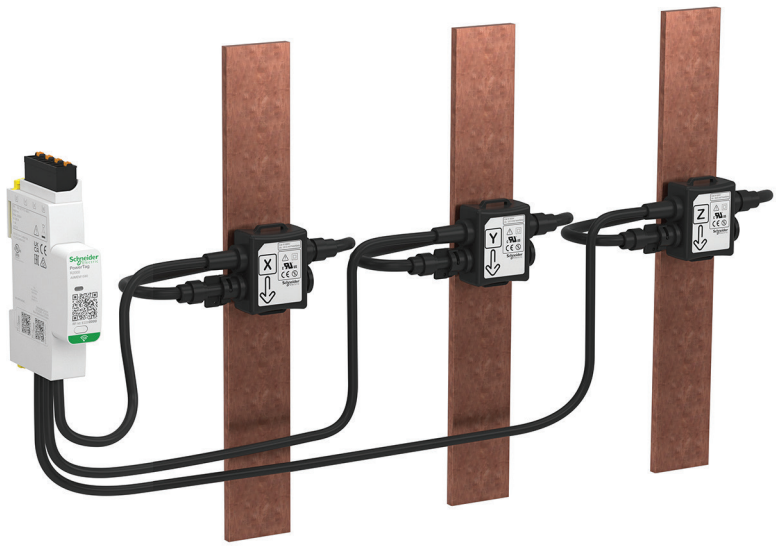
PowerTag Energy Rope 18 mm module can be mounted on DIN rail or fastened with brackets anywhere in a panel. Then its openable current sensors have to be installed around conductors, cables or busbars, whatever they are insulated or not. Voltage pickings removable spring terminal has to be wired by 1 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)	Device measuring range (200 A / 600 A / 1000 A / 2000 A)
		Class	
Total active power (Active power per phase)	P	1	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	45 to 65 Hz
Phase current	I	1	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	138 to 576 VAC
Power factor (per phase, total)	PF_A	1	-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

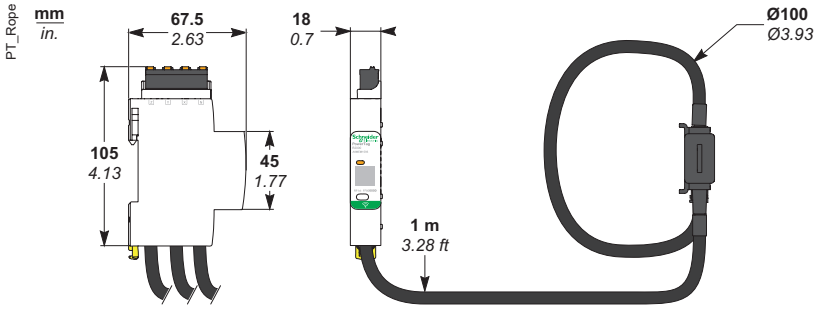
A9MEM159●

PowerTag Energy Rope 200 A to 2000 A Commercial reference numbers

Commercial reference number	Type	Description	Certification
A9MEM1590	R200 3P/3P+N	Rope 200 A 3P / 3P+N	c UL us LISTED DNV
A9MEM1591	R600 3P/3P+N	Rope 600 A 3P / 3P+N	c UL us LISTED DNV
A9MEM1592	R1000 3P/3P+N	Rope 1000 A 3P / 3P+N	c UL us LISTED DNV
A9MEM1593	R2000 3P/3P+N	Rope 2000 A 3P / 3P+N	c UL us LISTED DNV

Check the Concentrators /Gateways compatibility and the list of Schneider Electric compatible devices with the selection guide CA908058.

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	

Contact your Schneider Electric representative for complete ordering information.

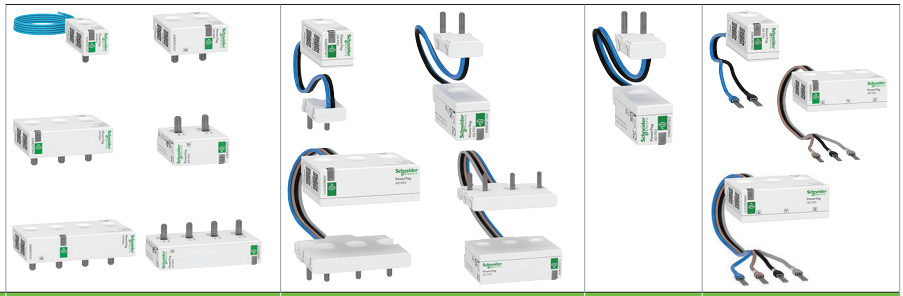
Please refer to PowerTag Energy Rope 200 A to 2000 A Installation Sheet for accurate and complete information on the installation of this product.

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	Top	NA	-	-	-
	Bottom	☑	-	-	-
N40	Top	-	☑	-	-
	Bottom	-	☑	-	-
Reflex iC60	Top	☑	-	-	-
	Bottom	☑	-	-	-
Reflex XC40	Top	☑	-	-	-
	Bottom	-	-	-	☑ (1)
Multi9 OEM (C60BP/C60BPR/ C60SP) 3P 480VAC only	Top	-	-	-	☑ A9MEM1575 (UL/IEC)
	Bottom	-	-	-	
Multi9 OEM (C60N/H/L)	Top	☑	-	-	-
	Bottom	☑	-	-	-
C32/C45/C60/C65/K60/T60	Top	☑	-	-	-
	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) Product usually associated with a comb busbar

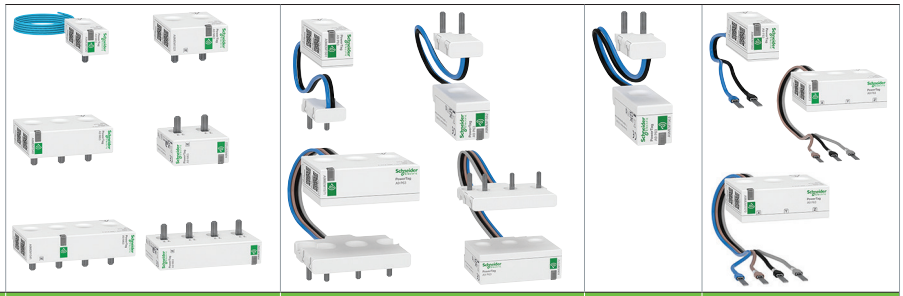
(*) Refer to the product catalog for technical characteristics

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					
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)
C120 ⩽ 63 A NG125 ⩽ 63 A with Vigi module	Top	-	-	-	☑ (1) (CB)
	Bottom	-	-	-	☑ (1) (Vigi)
Circuit breakers equipped with Arc fault detection unit					
iC60 with ARC unit	Top	☑ (CB)	-	-	-
	Bottom	-	-	-	☑ (add-on block)
iC40 with ARC unit	Top	-	☑ (CB)	-	-
	Bottom	-	-	-	☑ (add-on block)
Arc fault detection devices					
iC40N ARC / iCV40N VigiARC	Top	☑	-	-	-
	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) 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					
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

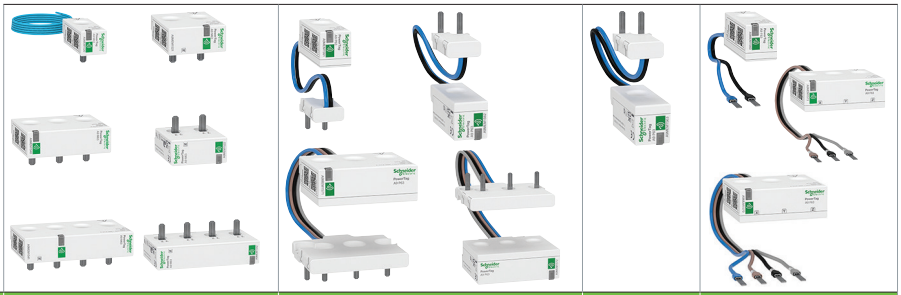
(*) Refer to the product catalog for technical characteristics

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)

(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.

(*) 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
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 mm^2) 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	-	-	☑	-
EasyPact						
Circuit breakers						
CVS100-250	3P	Bottom	☑	-	-	-
	4P	Bottom	-	☑	-	-
CVS400-630	3P	Bottom	-	-	☑	-
	4P	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

					
		EcoStruxure™ Panel Server Entry, Universal and Advanced PAS400, PAS600/600L, PAS800	Harmony Hub ZBRN1 ZBRN2 ZBRN32	Smartlink SI B A9XMZA08(2) Smartlink SI D A9XMWA20(2)	PowerTag Link A9XMWD20(2) PowerTag Link HD A9XMWD100(2)
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	☑	-	-	☑
	A9MEM1575	☑ (1)	-	-	-
PowerTag Energy F63 Resi9					
	R9M60	-	-	-	-
	R9M70	-	-	-	-

(1) From firmware release 2.4
(2) Discontinued product

(*) Refer to the product catalog for technical characteristics

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

Concentrators / gateways

			
		Wiser Home Hub CCT501801	Wiser Hub CCT501901
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	-	-
	A9MEM1575	-	-
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

					
		EcoStruxure™ Panel Server Entry, Universal and Advanced PAS400, PAS600/600L, PAS800●	Harmony Hub ZBRN1 ZBRN2 ZBRN32	Smartlink SI B A9XMZA08(2) Smartlink SI D A9XMWA20(2)	PowerTag Link A9XMWD20(2) PowerTag Link HD A9XMWD100(2)
PowerTag Energy F160					
	A9MEM1580	☑	☑	-	☑
PowerTag Energy M250-M630					
	LV434020	☑	☑	☑	☑
	LV434021	☑	☑	☑	☑
	LV434022	☑	☑	☑	☑
	LV434023	☑	☑	☑	☑
PowerTag Energy R200-R600-R1000-R2000					
	A9MEM1590	☑	☑	-	☑
	A9MEM1591	☑	☑	-	☑
	A9MEM1592	☑	☑	-	☑
	A9MEM1593	☑	☑	-	☑

(2) Discontinued product

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

Concentrators / gateways

			
		Wiser Home Hub CCT501801	Wiser Hub CCT501901
PowerTag Energy F160			
	A9MEM1580	-	-
PowerTag Energy M250-M630			
	LV434020	-	-
	LV434021	-	-
	LV434022	-	-
	LV434023	-	-
PowerTag Energy R200-R600-R1000-R2000			
	A9MEM1590	-	-
	A9MEM1591	-	-
	A9MEM1592	-	-
	A9MEM1593	-	-

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

- PowerLogic™ PowerTag Control
- PowerLogic™ HeatTag

A9XMC2D3

SMT10020

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:

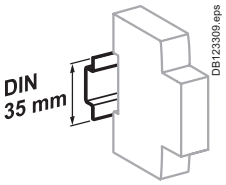
- Monitors your electrical installation from main incomer down to load level
- Suitable for various business, buildings, industrial and residential applications with easy integration in upper systems
- Supports and enables Energy efficiency programs and standards such as:

  - 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 System”

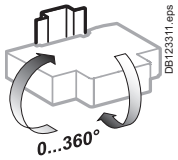
A9XMC2D3 Image2

A9XMC2D3

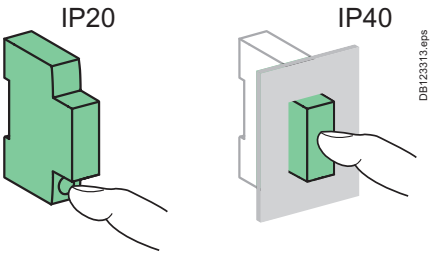
PowerTag Control



Clip on DIN rail 35 mm.



Indifferent position of installation.

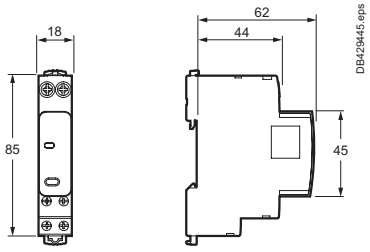


Technical characteristics

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

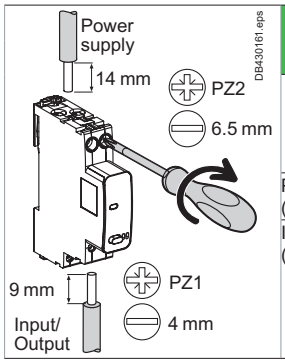
Dimensions (mm)



Weight (g)

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

Connection

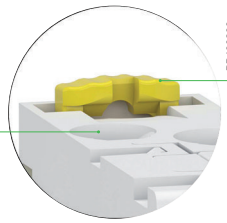


Terminals	Tightening torque	Copper cables		
		Rigid	Flexible	Flexible with ferrule
		DB122945.eps	DB123007.eps	DB122946.eps
Power supply (Top)	2 N.m	1 to 16 mm² (AWG: 18...6)	0.5 to 10 mm² (AWG: 21...8)	-
Input/Output (Bottom)	1 N.m	1x: 1 to 6 mm² (AWG: 18...10) 2x: 1.5 to 2.5 mm² (AWG: 16...14)	1x: 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

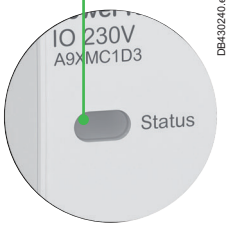
PowerTag C IO module

- 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

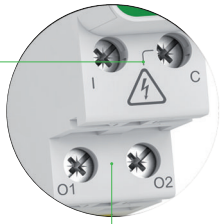
Status LED
- Provide information about PowerTag C status



- Insulated terminals IP20

Logo
- Wireless communication device

Push button
- Local output control
- Decommissioning



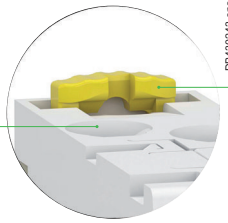
Monitoring / Back loop circuit
- "I" digital input terminal
- "C" common powered terminal 230 V AC

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

PowerTag Control

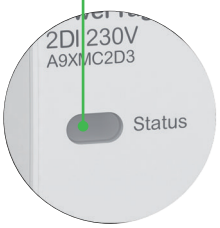
PowerTag C 2DI module

- 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

SMT10020

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
- Continuous 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

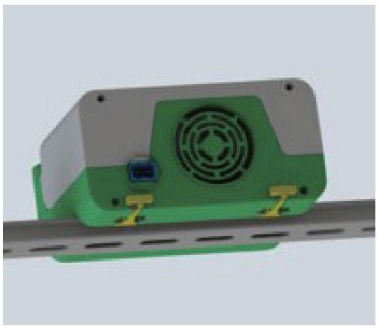
- IEC/UL 61010-1
- IEC 61010-2-201
- IEC 61326-1
- IEC61326-2-3
- ETSI EN 301 489-1
- ETSI EN 301 489-17
- ETSI EN 300 328
- EN 62311
- EN IEC 63000
- IEEE 802.15.4 protocol
- FCC and IC certified

HeatTag sensors

PB120568

PowerLogic™ HeatTag sensor

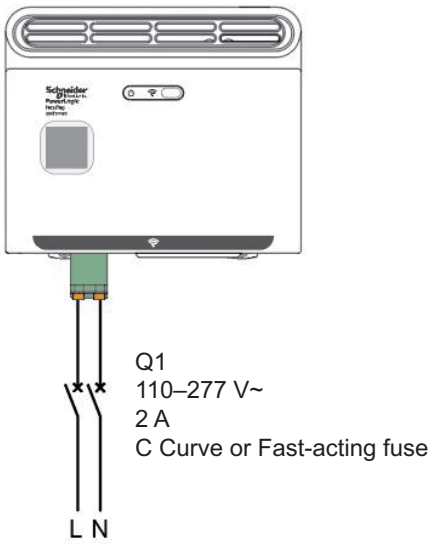
PB120569



HeatTag rear view showing fan

PB120570

HeatTag sensor DIN mounted



HeatTag features

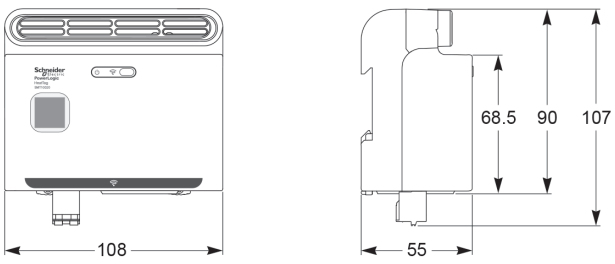
Sensor Characteristics		
Temperature measurement	Measurement range	-15 °C / +70 °C (5 °F to 158 °F)
	Measurement accuracy	-1.1 °C / +1.1 °C
	Default transmission period	60 seconds (higher in case of high wireless data traffic)
Humidity measurement	Measurement range	15–90 %
	Measurement accuracy	±9 RH %
	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

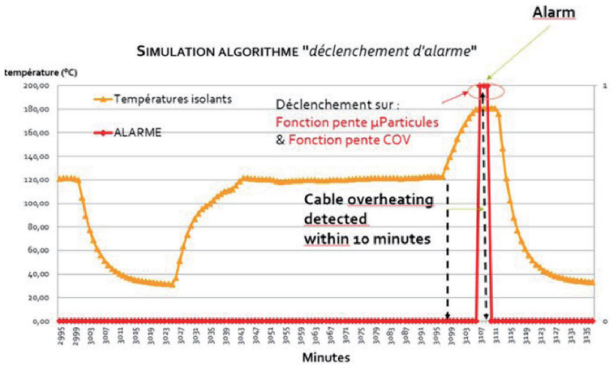
Commercial Reference Number	
PowerLogic™ HeatTag Sensor	SMT10020

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

PB117510

METSEPM5110

PB111770

METSEPM5560

PowerLogic™ 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 (+1)
- 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

(+1) Subjected to local regulations.

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
- Low Voltage DC control power option
- Analog inputs options

End users' benefit

- Ease of use
- Precision metering & sub-billing (+2)
- Billing flexibility
- Comprehensive, consistent and superior performance
- Maximize uptime, eliminate faults, and enhance safety
- Cybersecurity features

Competitive advantages

- Easy to install and operate
- Easy for circuit breaker monitoring and control
- WAGES monitoring
- Data logging up to 16 parameters
- Power quality analysis up to 63rd harmonics
- Load management combined with alarm and timestamping
- High performance and accuracy
- Residual Current Monitoring (RCM) in PM56xx(+4) and PM57xx(+4)
- Voltage sag and swell detection with waveform capture
- MID ready compliance for legal billing application
- Onboard BACnet/IP, EtherNet/IP, and DNP3.0 protocol support
- PM5310R (+3) and PM5320R (+3) are enabled to connect with LVCT for faster installations

(+2) Subjected to local regulations.
(+3) PM5310R and PM5320R must be used with Schneider Electric's "Quick Click" 3-in-1 LVCTs.
(+4) PM5660, PM5661, PM5760, PM5761 must be used with Toroids.

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

- BS/EN/IEC 61557-12:2018/ AMD1:2021
- BS/EN/IEC 62052-11:2020 edition 2
- IEC 62052-31:2015
- BS/EN/IEC 62053-22:2020 edition 2
- BS/EN/IEC 62053-23:2020 edition 2
- IEEE 802.3
- EN 50470-1:2006
- EN 50470- 3:2006
- CE and UKCA as per IEC/BS 61010-1 edition 3
- cULus as per UL 61010-1 edition 3
- BS/EN/IEC 61010-2-30:2017
- BS/EN/IEC 61326-1: edition 3
- FCC part 15 Class B
- EN 55022 Class B
- BACnet/IP - BTL listed (B-ASC)
- EtherNet/IP - ODVA certified
- ANSI C12.1-2008 (PM55xx)
- ANSI C12.20 Class 0.2 & 0.5
- Align with cyber security guidelines as per IEC 62443
- Type A as per IEC 62020 for RCM

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, PM5600, PM5700

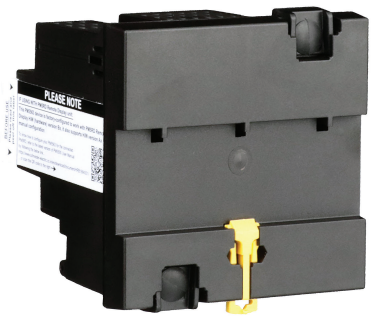
- Legal billing compliance
  - MID compliance is compulsory for billing applications across Europe
  - In addition to billing applications, for facility managers responsible for energy cost
  - MID means same level of quality as a billing meter

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

PM5000 series

PB118062



PowerLogic™ PM5563 meter

PB118063

PowerLogic™ PM5563 remote display front ISO

PB118064

PowerLogic™ PM5563 remote display rear ISO

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 depending on the local regulations. 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
IEC 62053-23 (Reactive Energy)	Class 1.0	Class 1.0	Class 1.0	Class 1.0	Class 1.0

PM5000 series

PB111777

PowerLogic™ PM5500 meter

PB111772

PowerLogic™ PM5300 meter

PB111768

PowerLogic™ PM5100 meter

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 and Ethernet IP protocol as per ODVA 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.

PM5000 series

PM5000 series feature selection

	PM5100		PM5300					
	PM5100	PM5110	PM5310	PM5310R (+5)	PM5320	PM5320R (+5)	PM5330	PM5340
Installation								
Fast installation, panel mount with integrated display	■	■	■	■	■	■	■	■
Fast installation, DIN rail mountable	–	–	–	–	–	–	–	–
Accuracy								
Class	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								
Digital inputs/ Digital output	1DO	1DO	2DI/2DO	2DI/2DO	2DI/2DO	2DI/2DO	2DI/2DO	2DI/2DO
Relays	–	–	–	–	–	–	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	–	–	–	–	–	–	–	–
Ref. number followed with METSE*	PM5100	PM5110	PM5310	PM5310R (+5)	PM5320	PM5320R (+5)	PM5330	PM5340
*See table below for complete commercial reference numbers								

(+5) 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								
Class	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								
Digital inputs/ solid state Digital output	4DI/2DO	4DI/2DO	4DI/2DO	2DI/2DO	4DI/2DO	4DI/2DO	2DI/2DO	2DI/2DO
Relays	–	–	–	–	–	–	–	–
Analog inputs	–	–	–	2	–	–	–	–
Residual Current inputs	–	–	–	–	–	–	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 (+6)	2 (+6)	2 (+6)	2 (+6)	2 (+6)	2 (+6)	2 (+6)	2 (+6)
BACnet/IP protocol	■	■	■	■	■	■	■	■
EtherNet/IP protocol	■	■	■	■	■	■	■	■
DNP3.0 over Ethernet	■	■	■	■	■	■	■	■
Onboard web server with web pages	■	■	■	■	■	■	■	■
Serial to Ethernet gateway	■	■	■	■	■	■	■	■
Ref. numbers with METSE*	PM5560	PM5563	PM5563RD	PM5570	PM5580	PM5650	PM5660	PM5760
*See table below for complete commercial reference numbers								

(+6) 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	Average, per phase, neutral and ground (PM5500)	■				
Voltage	Average, per phase L–L and L–N	■				
Frequency	Any available phase	■				
Real, reactive, and apparent power	Total and per phase	Signed, Four Quadrant				
True Power Factor	Average and per phase	Signed, Four Quadrant				
Displacement PF	Average 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 three 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, V L-N, V L-L		I, V L-N, V L-L				
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 (+7)		■				
Alarms with 1s timestamping (+7)		■				
Data logging			2 fixed parameters kWh and kVAh with configurable interval & duration (e.g. 2 parameters for minimum 60 days at 15–minute intervals)	Up to 14 selectable parameters with configurable interval and duration (e.g. 6 parameters for minimum 90 days at 15–minute intervals)		
Min/max log		■	■	■		
Maintenance, alarm and event logs			■	■		
Customisable data logs		–		■		
RTC with battery back up		3 years (when meter is in Power OFF condition)				
Display resolution		5 digits for Energy and other parameters with auto scaling				
Preset Energy and Energy scaling		Available in selected references				

(+7) 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, PM5561, PM5562, PM5563, PM5580, PM5650 2 in PM5570, PM5660, PM5661, PM5760, PM5761		
Digital outputs		1 (kWh only)	2	2 (Solid state)		
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 0.5 as per IEC 61557-12/ ± 0.5%		Class 0.2S as per IEC 62053-22/ Class 0.2 as per IEC 61557-12/ ± 0.2%		
	Reactive Energy	Class 2 as per IEC 62053-23/ Class 1.0 as per IEC 61557-12/ ± 1.0%		Class 2 as per IEC 62053-23/ Class 1.0 as per IEC 61557-12/ ± 1.0%		
	Active Power	Class 0.5 as per IEC 61557-12/ ± 0.5%		Class 0.2 as per IEC 61557-12/ ± 0.2%		
	Apparent Power	Class 0.5 as per IEC 61557-12/ ± 0.5%		Class 0.5 as per IEC 61557-12/ ± 0.5%		
	Reactive Power	Class 1.0 as per IEC 61557-12/ ± 1.0%		Class 1.0 as per IEC 61557-12/ ± 1.0%		
	Current, Phase	Class 0.5 as per IEC 61557-12/ ±0.5 %		Class 0.2 as per IEC 61557-12/ ±0.15 %		
	Voltage, L-N	Class 0.5 as per IEC 61557-12/ ± 0.5 %		Class 0.2 as per IEC 61557-12/ ± 0.1 %		
	Frequency	Class 0.05 as per IEC 61557-12/ ±0.05 %		Class 0.05 as per IEC 61557-12/ ±0.05 %		
	Power Factor	Class 0.5 as per IEC 61557-12/ ±0.005 count		Class 0.5 as per IEC 61557-12/ ±0.005 count		
	Voltage unbalance	Class 5/ ±5%		Class 2/ ±2%		
	Voltage harmonics	Class 5/ ±5%		Class 2/ ±2%		
	Voltage THD Class	Class 5/ ±5%		Class 2/ ±2%		
	Current harmonics	Class 5/ ±5%		Class 2/ ±2%		
	Current THD Class	Class 5/ ±5%		Class 2/ ±2%		
	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 nominal	50 or 60 Hz ±5 %		50 or 60 Hz ±10 %		
Input-current (configurable for 1 or 5 A secondary CTs)	I nominal	5 A				–
	Measured Amps with over range	Starting current: 5 mA Operating range: 50 mA to 8.5 A		Starting current: 5 mA Operating range: 50 mA to 10 A (with Crest Factor)		
	Withstand	Continuous 20 A, 10 s/hr 50 A, 1 s/hr 500 A				
	Impedance	< 0.3 mΩ				
	Frequency nominal	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 at maximum burden	80 mS typical at 120V AC 100 mS typical at 230 V AC 100 mS typical at 415 V AC		35 ms typical at 120 V L-N 129 ms typical at 230 V L-N		
DC control power	Operating range	125–250 V DC ±20 % (100 to 300 V DC)				
	Burden	<4 W at 250 V DC		typical 3.1 W at 125 V DC, max. 5 W		
	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 outputs	Max output frequency	–	0.5 Hz maximum (1 s ON / 1 s OFF - min times)	–	–	–
		Switching current, at resistive load	–	250 V AC at 8.0 Amps, 25 k cycles 30 V DC at 2.0 Amps, 75 k cycles 30 V DC at 5.0 Amps, 12.5 k cycles	–	–	–
		Isolation	–	2.5 kV rms	–	–	–
	Digital outputs	Max load voltage	40 V DC		40 V AC / 60 V DC (PM5500 and PM 5650) 30 V AC / 40 V DC (PM5660, PM5661, PM5760, PM5761)		
		Max load current	20 mA		125 mA (Solid state)		
		On Resistance	50 Ω max		8 Ω		
		Meter constant	from 1 to 9,999,999 pulses per k_h (kWh, kVAh, kVARh)				
		Pulse width for Digital Output	50 % duty cycle				
		Pulse frequency for Digital Output	25 Hz max.				
		Leakage current	0.3 micro Amps		1 micro Amps		
		Isolation	5 kV rms		2.5 kV rms for 60 s		
	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 (kWh, kVAh, kVARh)				
Status Inputs	ON Voltage		–	18.5 to 36 V DC	15 to 30 V AC / 15 to 60 V DC max		
	OFF Voltage		–	0 to 4 V DC	0 to 6 V AC / 0 to 6 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	10 ms		
	Opto Isolation		–	5 kV rms	2.5 kV rms for 60 s		
	Whetting output		–	24 V DC/ 8 mA max	-		
	Input Burden		–	2 mA @24V DC	2 mA @ 24 V AC/DC 2.5 mA @ 60 V AC/DC		
Analog inputs (PM5570)			–		4 - 20 mA DC (nominal), Accuracy: 1% of full-scale reading, Impedance < 20 Ω, Operating voltage: 24 V DC max	–	
Residual Current inputs (PM5660, PM5661, PM5760, PM5761) Type A as per IEC 62020			–			5 uA to 1200 uA (nominal), 1500 uA max (continuous), Input type: AC 45 to 65 Hz, Burden: 150 Ω, 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				
LVCT (+8) inputs for PM5310R and PM5320R - Nominal voltage of 0.333V							
Measurement range			-	0.00333V - 0.4V	-	-	-

(+8) PM5310R and PM5320R must be used with Schneider Electric's "Quick Click" 3-in-1 LVCTs

PM5000 series

PM5000 technical specifications

		PM5100	PM5300	PM5500	PM5600	PM5700
Environmental characteristics						
Operating temperature	Operating temperature	-25 °C to 70 °C				
	Display (reduced display performance at -25 ° C)	-25 °C to 70 °C				
Storage temperature		-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		
Mission profile / Life span		>15 years				
Protective treatment		Conformal coating				
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				
Immunity to damped oscillatory waves		–	–	IEC 61000-4-12		
Radiated and 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 (Edition 3)				
Measurement category (Voltage & Current inputs)		CAT III up to 400 V L-N / 690 V L-L				
Dielectric		As per IEC/UL 61010-1 (Edition 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
FTP / FTPS		–	–	Yes	Yes	Yes
SNMP, SNTP, SMTP		–	–	Yes	Yes	Yes
HTTPS		–	–	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 pixels				
Backlight		White LED				
Viewable area (W x H)		67 x 62.5 mm				
Keypad		4-button				
Indicator Heartbeat / Communication 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

Comm. ref numbers	Description
METSEPM5100	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 15th harmonic, 1DO
METSEPM5110	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 15th harmonic, 1DO, RS-485
METSEPM5111	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 15th harmonic, 1DO, RS-485, MID
METSEPM5310	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO, RS-485
METSEPM5310R	Power Meter, 600V AC L-L/ RJ45 LVCT input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO, RS-485
METSEPM5320	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO, Ethernet
METSEPM5320R	Power Meter, 600V AC L-L/ RJ45 LVCT input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO, Ethernet
METSEPM5330	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO/2-Relay, RS-485
METSEPM5331	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO/2-Relay, RS-485, MID
METSEPM5340	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO/2-Relay, Ethernet
METSEPM5341	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO/2-Relay, Ethernet, MID
METSEPM5560	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet
METSEPM5561	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, MID
METSEPM5562	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, RMI CAN approved, Hardware lockable
METSEPM5562MC	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, RMI CAN approved, Factory sealed
METSEPM5563	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, DIN mount, No display
METSEPM5563RD	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, DIN mount, Remote display
METSEPM5570	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 2DI/2AI/2-DO, RS-485, Ethernet
METSEPM5580	Power Meter, 690V AC L-L/ 5A or 1A input, 24 to 64V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet
METSEPM5650	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, Wave Form Capture and Sag/swell
METSEPM5660	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 2DI/2-DO, RS-485, Ethernet, Residual Current Monitor
METSEPM5661	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 2DI/2-DO, RS-485, Ethernet, Residual Current Monitor, MID
METSEPM5760	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 2DI/2-DO, RS-485, Ethernet, Wave Form Capture and Sag/swell, Residual current monitor
METSEPM5761	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 2DI/2-DO, RS-485, Ethernet, Wave Form Capture and Sag/swell, Residual current monitor, MID

For selection of compatible current transformers with 5 A output in Schneider range: Refer **PLSED310169EN** in solid core and split core IEC type

For Residual Current Monitoring Toroids (Vigirex) - Closed Toroids, A Type (applicable for PM5660, PM5661, PM5760, PM5761)	
50437	TA30 - closed toroid A type, for RCM enabled power meters, 30 mm inner diameter, rated current 65 Amps, 1000 turns
50438	PA50 - closed toroid A type, for RCM enabled power meters, 50 mm inner diameter, rated current 85 Amps, 1000 turns
50439	IA80 - closed toroid A type, for RCM enabled power meters, 80 mm inner diameter, rated current 160 Amps, 1000 turns
50440	MA120 - closed toroid A type, for RCM enabled power meters, 120 mm inner diameter, rated current 250 Amps, 1000 turns
50441	SA200 - closed toroid A type, for RCM enabled power meters, 200 mm inner diameter, rated current 400 Amps, 1000 turns
50442	GA300 - closed toroid A type, for RCM enabled power meters, 300 mm inner diameter, rated current 630 Amps, 1000 turns
Accessories for Closed Toroids (applicable for PM5660, PM5661, PM5760, PM5761)	
56055	Magnetic ring/ Iron screen accessory for TA30 toroid sensor
56056	Magnetic ring/ Iron screen accessory for PA50 toroid sensor
56057	Magnetic ring/ Iron screen accessory for IA80 toroid sensor
56058	Magnetic ring/ Iron screen accessory for MA120 toroid sensor
Residual Current Monitoring Toroids (Vigirex) - Split Toroids, OA Type (applicable for PM5660, PM5661, PM5760, PM5761)	
50420	TOA80 - split toroid OA type, 80 mm inner diameter, rated current 160 Amps, 1000 turns
50421	TOA120 - split toroid OA type, 120 mm inner diameter, rated current 250 Amps, 1000 turns
56053	L1 type - rectangular sensor, width 280 x height 115 mm, rated current 1600 Amps, 1000 turns
56054	L2 type - rectangular sensor, width 470 x height 160 mm, rated current 3200 Amps, 1000 turns

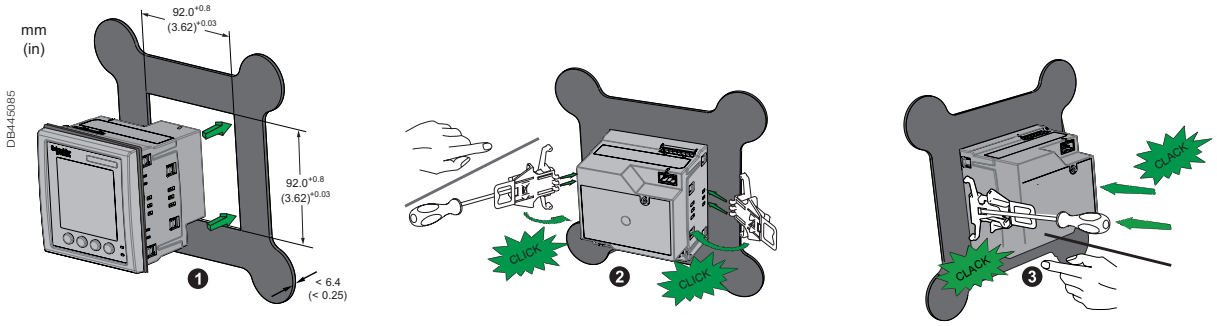
Current Transformer commercial reference numbers for PM53xxR

Comm. ref numbers	Description
0.333V (1/3 Volts), 3-in-1 CTs with RJ45 connectors for PM53x0R LVCT enabled power meter	
METSECTV25006	LVCT Solid core 3 in 1 with RJ45 cable, 25 mm phase center, 60 Amps, 0.333V output
METSECTV25010	LVCT Solid core 3 in 1 with RJ45 cable, 25 mm phase center, 100 Amps, 0.333V output
METSECTV25013	LVCT Solid core 3 in 1 with RJ45 cable, 25 mm phase center, 125 Amps, 0.333V output
METSECTV25016	LVCT Solid core 3 in 1 with RJ45 cable, 25 mm phase center, 160 Amps, 0.333V output
METSECTV35006	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 60 Amps, 0.333V output
METSECTV35010	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 100 Amps, 0.333V output
METSECTV35012	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 120 Amps, 0.333V output
METSECTV35013	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 125 Amps, 0.333V output
METSECTV35015	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 150 Amps, 0.333V output
METSECTV35016	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 160 Amps, 0.333V output
METSECTV35020	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 200 Amps, 0.333V output
METSECTV35025	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 250 Amps, 0.333V output
METSECTV45025	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 250 Amps, 0.333V output
METSECTV45030	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 300 Amps, 0.333V output
METSECTV45040	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 400 Amps, 0.333V output
METSECTV45050	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 500 Amps, 0.333V output
METSECTV45060	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 600 Amps, 0.333V output
METSECTV45063	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 630 Amps, 0.333V output
METSECTV29006	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 60 Amps, 0.333V output
METSECTV29010	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 100 Amps, 0.333V output
METSECTV29012	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 120 Amps, 0.333V output
METSECTV29013	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 125 Amps, 0.333V output
METSECTV29015	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 150 Amps, 0.333V output
METSECTV29016	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 160 Amps, 0.333V output
METSECTV29020	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 200 Amps, 0.333V output
METSECTV70080	LVCT Solid core 3 in 1 with RJ45 cable, 70 mm phase center, 800 Amps, 0.333V output
METSECTV70100	LVCT Solid core 3 in 1 with RJ45 cable, 70 mm phase center, 1000 Amps, 0.333V output
METSECTV70125	LVCT Solid core 3 in 1 with RJ45 cable, 70 mm phase center, 1250 Amps, 0.333V output
Cables for PM5563 and PM5563RD	
METSEPM5CAB03	RJ25 cable assembly for interfacing PM5563 meter and PM5RD remote display with 0.3 meter cable length
METSEPM5CAB1	RJ25 cable assembly for interfacing PM5563 meter and PM5RD remote display with 1.0 meter cable length
METSEPM5CAB10	RJ25 cable assembly for interfacing PM5563 meter and PM5RD remote display with 10 meter cable length
METSEPM5CAB3	RJ25 cable assembly for interfacing PM5563 meter and PM5RD remote display with 3 meter cable length
METSEPM5CAB4	RJ25 cable assembly for interfacing PM5563 meter and PM5RD remote display with 4 meter cable length
Other related products or accessories	
METSEPM5RD	Remote display unit for PM5563 power meter supplied with mounting bracket, gasket, anti-rotation pin and RJ25 cable METSEPMCABxy
METSEPM51HK	Hardware kit for PM51xx comprises 2 retainer clips and spare connectors for - Voltage in, Control power in, Digital IO & RS-485
METSEPM53HK	Hardware kit for PM51xx comprises 2 retainer clips and spare connectors for - Voltage in, Control power in, Digital IO, Relay & RS-485
METSEPM51_3RSK	Revenue sealing kit for PM51XX & PM53XX
METSEPM55RSK	Revenue sealing kit for PM55XX
METSEPM55HK	Hardware kit for PM55xx

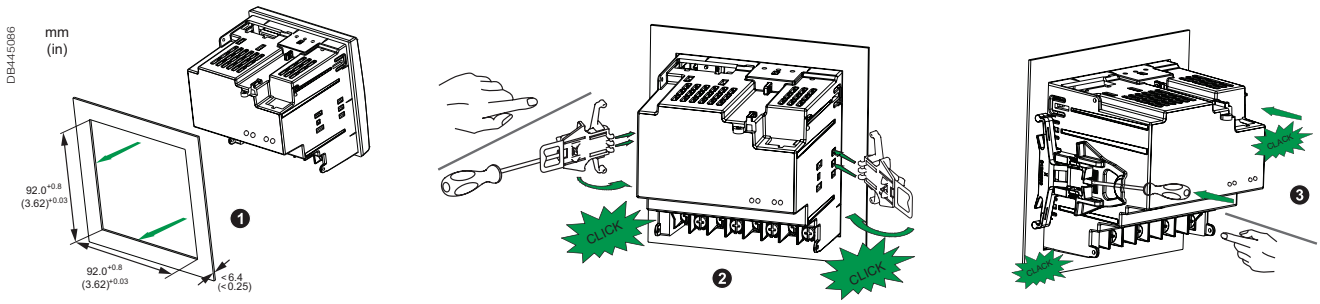
Please contact your Schneider Electric representative for complete ordering information.

PM5000 series

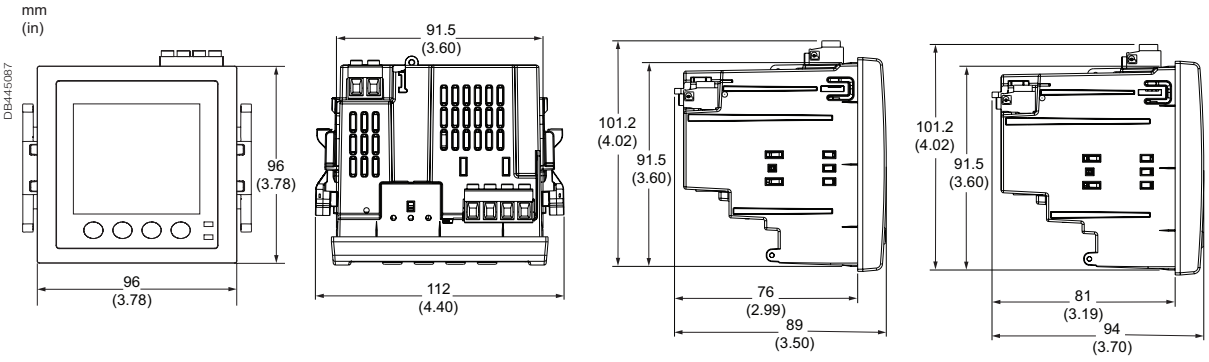
PM5100/PM5300 Series meter mounting



PM5500/PM5600/PM5700 series meter mounting



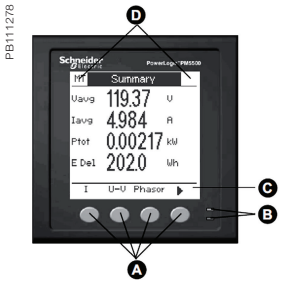
PM5000 series meter dimensions



PM5100/PM5300

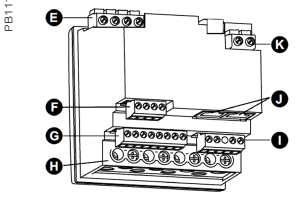
PM5500/PM5600/PM5700

PM5000 series overview



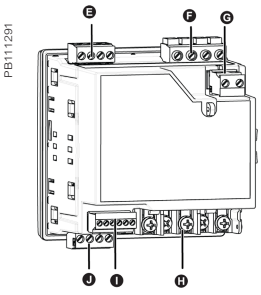
PM5000 meter parts

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



PM5500/PM5600/PM5700 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.*

PowerLogic™ 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 meters offer 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 series 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

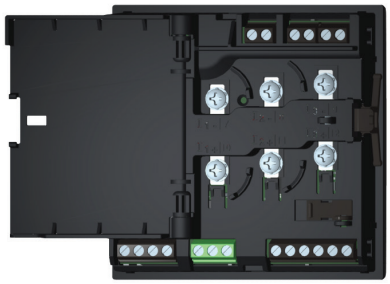
Electrical characteristics			PM5350	PM5350P	PM5350PB/IB
Type of measurement		True rms measurement in 1P, 2P, 3P network, supports 13 wiring schemes. 32 samples per cycle, zero blind	■	31st	■
Measurement accuracy	Current, Phase(1)	±0.30 %	■	0.2% (Avg A)	■
	Voltage, L-N (1)	±0.30 %	■	0.2% (Avg A)	■
	Power 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

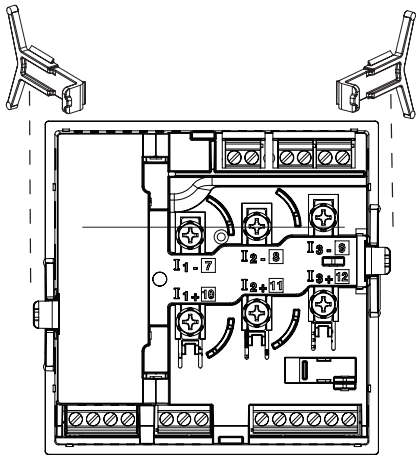
Rear of meter - open

PE86279

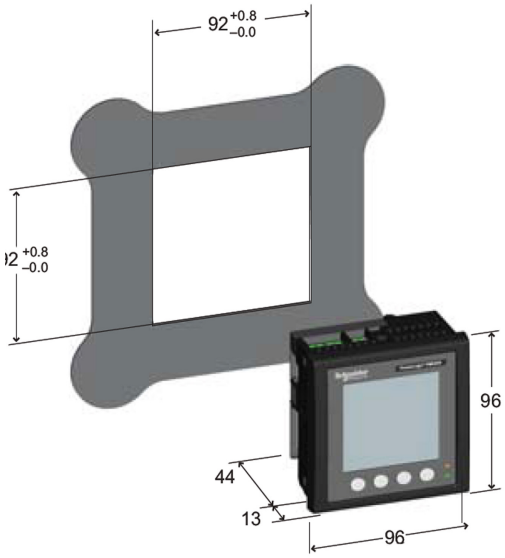


Rear view retainers - installation

PE86274

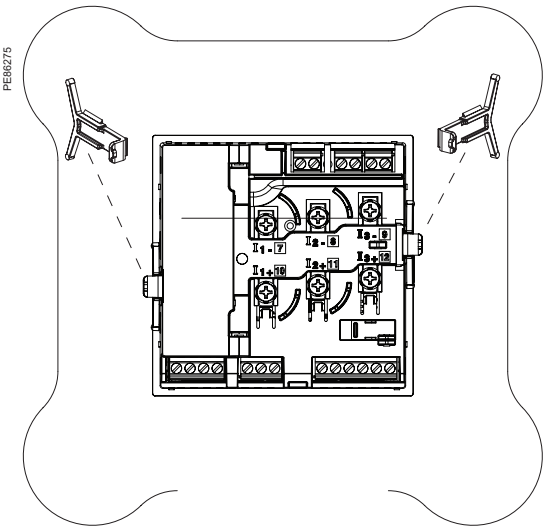


PB113626



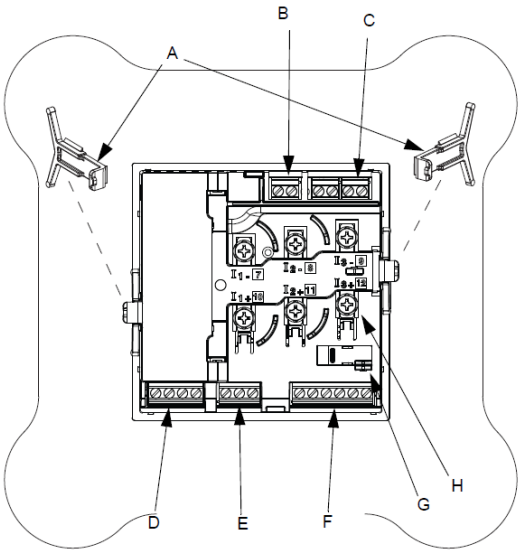
Rear view retainers - users

PE86275



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

PB113626

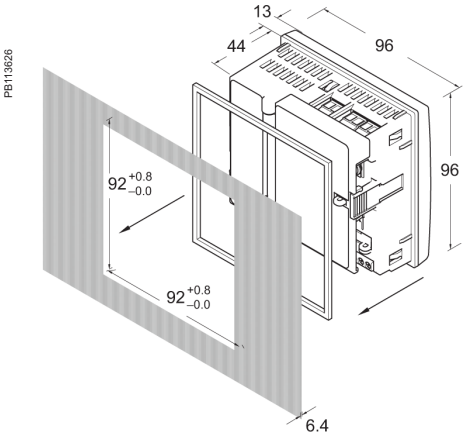


PM5350 / PM5350P meter parts

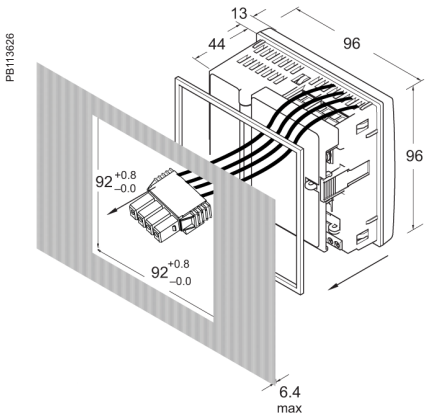
A Retainer clips.
B Control power supply connector.
C Voltage inputs.
D Digital outputs.
E RS-485 port (COM1).
F Digital input.
G Optical revenue switch.
H Current inputs.

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

PM5350IB/PB series

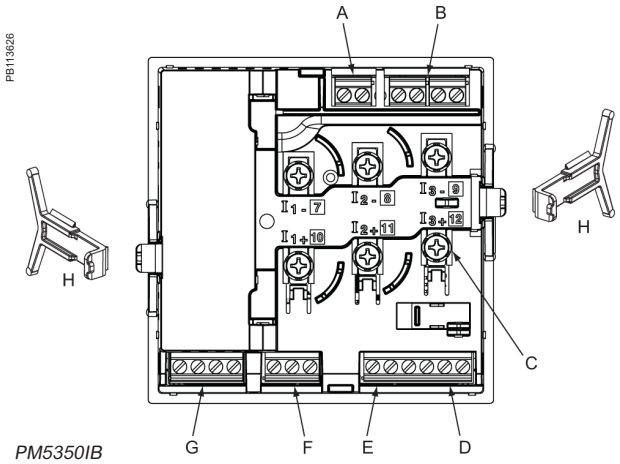


Dimensions PM5350IB

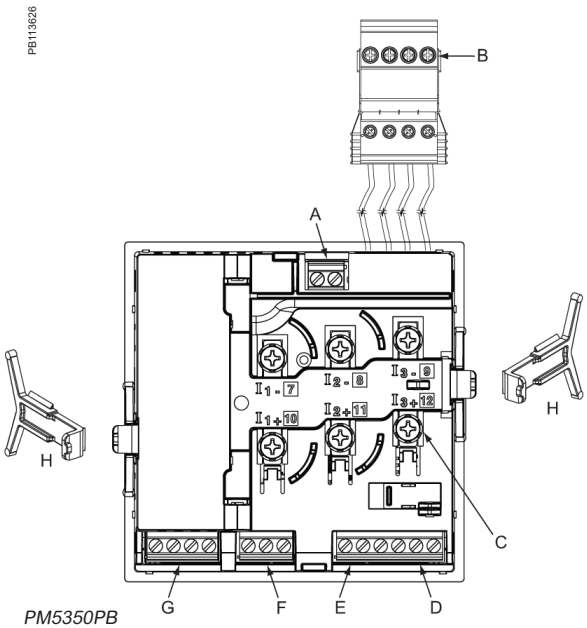


Dimensions PM5350PB

Parts of PM5350IB and PM5350PB (rear panel door removed)

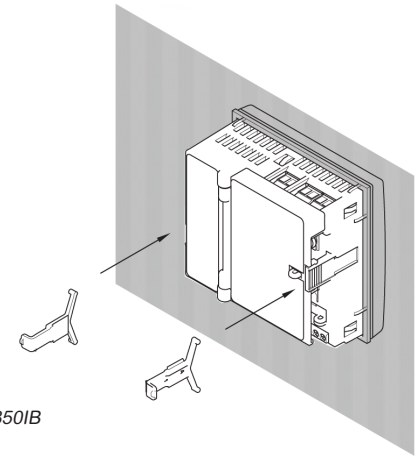


PM5350IB

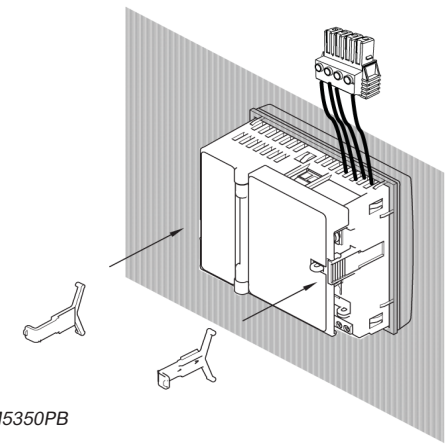


PM5350PB

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

PB115917

PM8000

ION9000

PowerLogic™ PM8000 Series Technical Datasheet

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

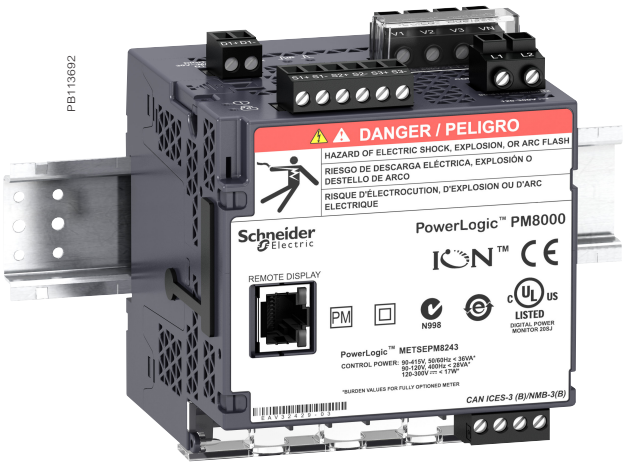
PB113696

PowerLogic™ PM8000 DIN rail meter- underside

PB113668

PowerLogic™ PM8000 series meter - rear view

PB113692



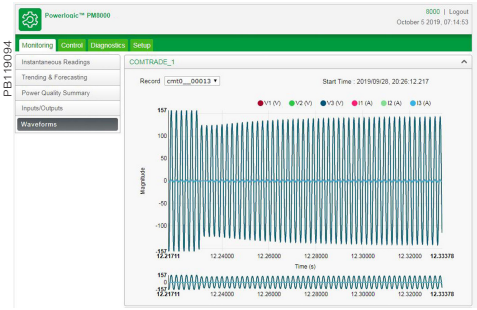
PowerLogic™ PM8000 DIN rail mounted meter

PM8000 series

PB113641

PowerLogic™ PM8000 series meter

PB119094

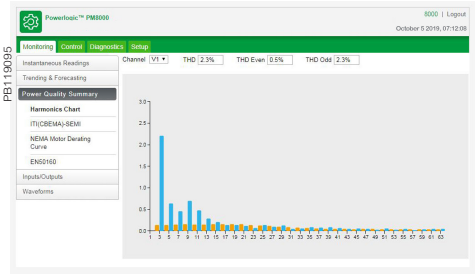


PowerLogic™ PM8000 series waveform web page sample

PB119093

PowerLogic™ PM8000 series CBEMA web page sample

PB119095



PowerLogic™ PM8000 series PQ harmonics web page sample

Feature selection

Commercial reference number	PM8000 meters
PM81XX	Essential Feature Set
PM82XX	Standard Feature Set
PM83XX	Advanced Feature Set

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 and hardware metrology lock.

- PQ compliance reporting and basic PQ analysis:
  - Monitors and logs parameters in support of international PQ standards,
    - IEC 61000-4-30 Class A/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 SFTP 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.

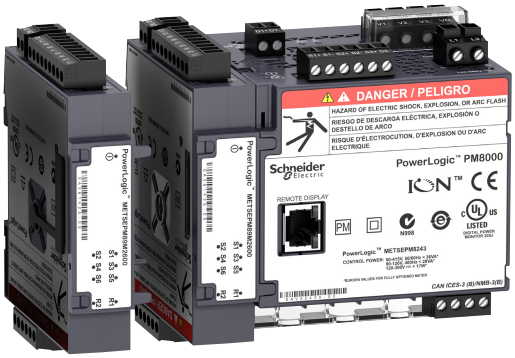
- Data and event logging:
  - Onboard data and event logging.
  - 512 MB storage.

PM8000 series

PB113669

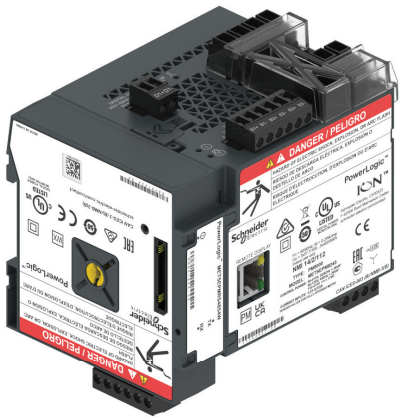
PowerLogic™ PM8000 series meter with remote display

PB113686_1



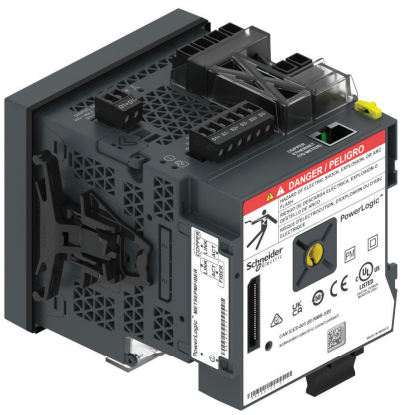
PowerLogic™ PM8000 series meter with option modules

PB113682



PowerLogic™ PM8000 series with RS-485 4-Wire module

PB113699



PowerLogic™ PM8000 series with Fiber-Ethernet Module

Main characteristics (contd.)

- No data gaps due to network outages or server downtime.
- Min/Max log for standard values.
- Up to 64 user definable data logs, recording up to 50 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

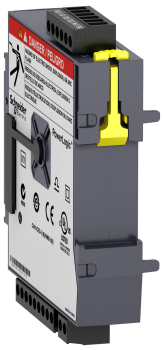
- Easy installation and setup:
  - Panel and DIN rail mounting options, remote display option.
  - Pluggable connectors.
  - Free setup application simplifies meter configuration.
  - Auto-discovery using DPWS (Device Profile Web Services).
  - DHCP for automatic IP address configuration.

- 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, BACnet/IP.
  - Dual port Ethernet: 10/100BASE-TX; supports IPV4 and IPV6; daisy-chaining capability removes need for additional switches.
  - Fiber-Ethernet option module: Multi-mode 100Base-FX with SC duplex connector
  - 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.
  - 4-Wire RS-485 option module: 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.

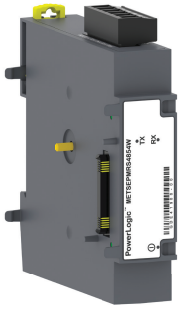
PM8000 series

PB113671_1



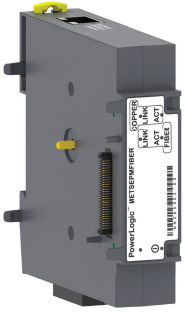
PowerLogic™ I/O module

PB113672



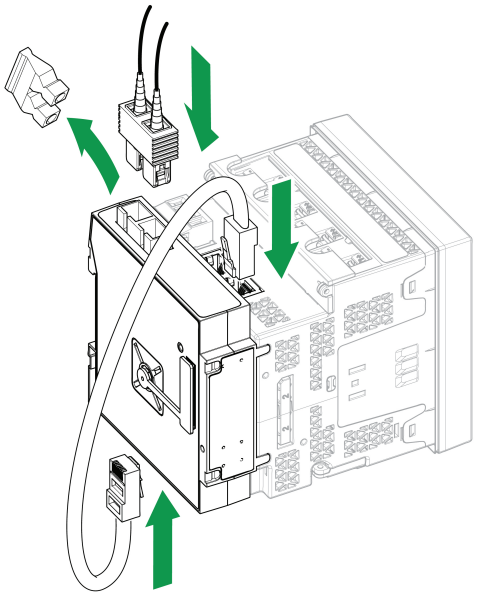
4-Wire RS-485 Option Module

PB113673



Fiber-Ethernet Option Module

PB113678



PowerLogic™ PM8000 connection with Fiber-Ethernet module

- 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 are customizable, scalable applications with object-oriented programming that compartmentalizes functions, and increases flexibility and adaptability.
- Applications include: accessing and aggregating data from downstream Modbus devices over serial or across the network (Modbus TCP/IP), logging and/or processing data through totalization, unit conversion or other calculations, applying complex logic for alarming or control operations, and visualization via webpages.

Standard meter I/O

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

Advanced Metering Option Modules

- Expanding meter's flexibility with communication and I/O option modules
- Powered from meter base

I/O Expansion Option Modules

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.

Communication Option Modules

Option modules include:

- 4-Wire RS-485 Module [(+1)]:
  - Adds 4-wire support to the meter i.e. eliminating the cost and efforts of rewiring while replacing/retrofitting legacy 4-Wire RS-485 systems
  - Pluggable screw terminal connector
- Fiber-Ethernet Module [(+2)]:
  - Provides isolated data transmission through fiber optics up to 2000 m length
  - Supports multi-mode 100Base-FX type
  - SC duplex connector

[(+1)] Onboard 2-Wire RS-485 port is disabled with the optional module.
[(+2)] Connected to the meter base using Ethernet patch cable (included with the module)

Maximum of 4 optional modules in total (Fiber-Ethernet, 4-Wires RS-485, I/O modules) can be connected to the meter. Only 1 Fiber-Ethernet and 1 4-Wire RS-485 option module is supported per meter.

Please refer to the option module Installation Guides for more details.

PM8000 series

Feature guide

		PM8000 Essential	PM8000 Standard	PM8000 Advanced
General				
Use on LV, MV, and HV systems		■	■	■
Current accuracy		0.1 % reading	0.1 % reading	0.1 % reading
Voltage accuracy		0.1 % reading	0.1 % reading	0.1 % reading
Active energy accuracy		0.2 Class	0.2 Class	0.2 Class
Number of samples/cycle or sample frequency		256 (+3)	256	512
ION programability		■	■	■
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	0.05...10 A	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	31	63	63
	Via EcoStruxure™ software	-	127	127
Waveform capture		■ (+3)	■	■
Detection of voltage swells and sags		■	■	■
Fast acquisition	1/2 cycle data	■	■	■
IEC 61000-4-30 Class A/S		-	S	A
EN 50160 Interharmonic		-	-	■
IEC 61000-4-15		-	-	■
EN 50160 compliance checking		-	■	■
IEEE 519 compliance checking		-	■	■
Disturbance Direction Detection		-	■	■
Rapid Voltage Change		-	■	■
Customizable data outputs (using logic and math functions)		■	■	■
Data recording				
Min/max of instantaneous values		■	■	■
Event logs		■	■	■
Trending/forecasting		-	■	■
SER (Sequence of event recording)		■	■	■
Time stamping		■	■	■
GPS synchronization (±1 ms)		■	■	■
Data Recorder		10	50	64
Memory Channels		500	2500	3200
Storage (in Mbytes)		64	512	512

(+3) Waveform capture is limited to 128 Samples/cycle recording.

PM8000 series

Feature guide (Contd.)

	PM8000 Essential	PM8000 Standard	PM8000 Advanced
Display and I/O			
Front panel display	■	■	■
Wiring self-test	■	■	■
Pulse output	1	1	1
Digital or analog inputs (max)	27 digital 16 analog	27 digital 16 analog	27 digital 16 analog
Digital or analog outputs (max, including pulse output)	1 digital 8 relay 8 analog	1 digital 8 relay 8 analog	1 digital 8 relay 8 analog
Communication			
2-Wire RS-485 port	1	1	1
Ethernet port	2	2	2
Serial port (Modbus, ION, DNP3)	■	■	■
Ethernet port (Modbus/TCP, ION TCP, DNP3 TCP, DHCP, DNS, IPv4, IPv6, IEC 61850 and BACnet/IP)	■	■	■
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	■	■	■
Option module with 4-Wire RS-485 port	■	■	■
Option module with Fiber-Ethernet port	■	■	■

Commercial references

Essential	Standard	Advanced	Description
METSEPM8140	METSEPM8240	METSEPM8340	96 x 96 panel mount meter, AC/DC power
METSEPM8110	METSEPM8210	METSEPM8310	96 x 96 panel mount meter, LVdc power
METSEPM8143	METSEPM8243	METSEPM8343	DIN rail mount meter, AC/DC power
METSEPM8113	METSEPM8213	METSEPM8313	DIN rail mount meter, LVdc power
METSEPM8144	METSEPM8244	METSEPM8344	DIN rail mount meter with remote display, AC/DC power
METSEPM8114	METSEPM8214	METSEPM8314	DIN rail mount meter with remote display, LVdc power
METSEPM81401	METSEPM82401	METSEPM83401	MID approved panel mount meter (+4)
-	METSEPM82403	-	RMICAN approved panel mount meter (+5)
METSEPM81404	METSEPM82404	METSEPM83404	RMICAN sealed panel mount meter (+5)
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		
METSEPM8HWK	Replacement hardware kit (connectors, screws, retainer clips, mounting template)		
METSEPMRS4854W	4-Wire RS 485 option module		
METSEPMFIBER	Fiber-Ethernet option module		
METSEPM8000SK	Sealing kit		

(+4) For UK + EU only.
(+5) For Canada only.

PM8000 series

Technical Specifications

Electrical characteristics		
Type of measurement		True rms to 512 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...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 0.5 s, non-recurring
	Impedance	0.0003 Ω per phase
	Burden	0.01 VA max at 5 A
Power supply AC/DC	AC	90...415 Vac ±10 % (50/60 Hz ±10 %) 90...120 Vac +/- 10% (400 Hz)
	DC	110...415 Vdc ±15 % (20...60 Vdc ±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 Vac 500 ms (30 cycles at 60 Hz) typ., 415 Vac
	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 LVdc	DC	20...60 Vdc ±10 %
	Burden	Fully optioned: max. 18 W at 18...60 Vdc
Input/outputs	Meter Base Only	3 digital inputs (30 Vac/60 Vdc) 1 form A (KY) solid state digital output (30 Vac/60 Vdc, 75 mA)
	Optional	Digital - 6 digital inputs (30/60 Vdc) wetted + 2 form C relay outputs (250 Vac, 8 A)
		Analog - 4 analog inputs (4...20 mA, 0...30 V DC) + 2 analog outputs (4...20 mA, 0...10 Vdc)
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
Environmental conditions		
Operating temperature		-25...70 ºC
Remote Display Unit		-25... 60 ºC
Storage temperature		-40...85 ºC
Humidity rating		5 ...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

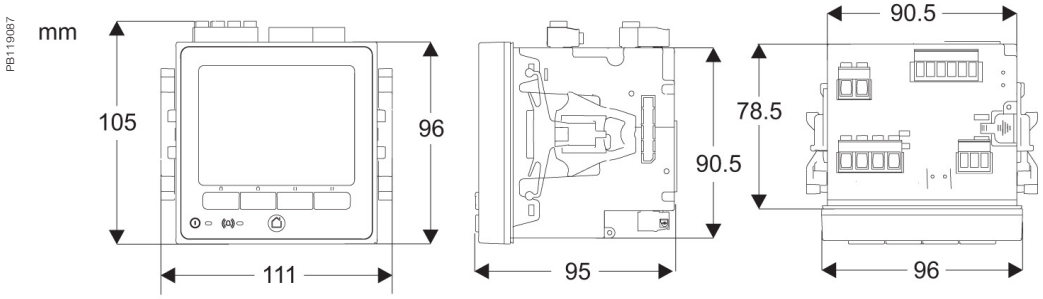
PM8000 series

Technical Specifications(Contd.)

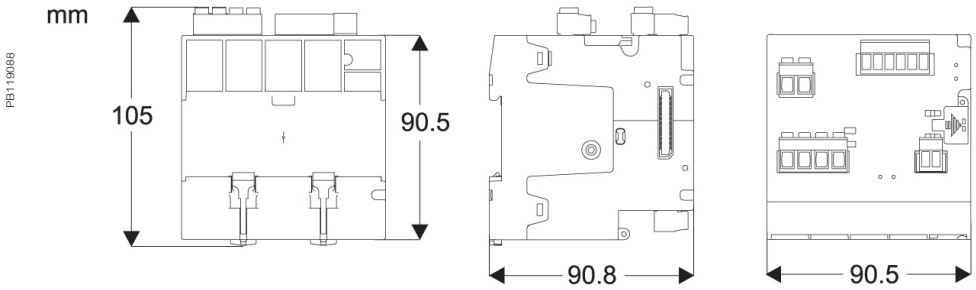
Safety	
Safety Construction	IEC/EN 61010-1 ed.3, CAT III, 400 V L-N / 690 V L-L UL 61010-1 ed.3 and CSA-C22.2 No. 61010-1 ed.3, CAT III, 347 V L-N / 600 V L-L IEC/EN 62052-11, protective class II
Communication	
Ethernet to serial line gateway	Communicates directly with up to 31 unit load devices
Web 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	BACnet/IP, Modbus, ION, DNP3, IEC 61850, HTTPS, FTP, SNMP, SMTP, DPWS, RSTP, NTP, PTP, NTP/SNTP, GPS, IPv4 /IPv6, DHCP and Syslog protocols
Communication Option Modules	
Optional 4-Wire RS-485 serial port	Baud rates of 2400 to 115200, pluggable screw terminal connector
Optional Fiber-Ethernet port	Ethernet patch cable from base meter, multi-mode 100Base-FX, SC duplex connector
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 (Up to 3200 Channels via 64 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 320 cycles at 512 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
Advanced security	Up to 50 users with unique access rights. Perform resets, time sync, or meter configurations based on user privileges
Storage	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

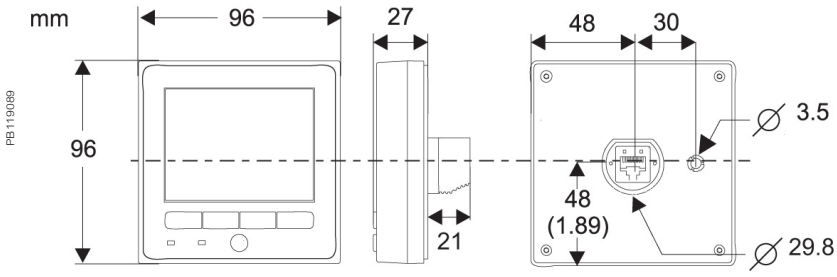
PM8000 panel mount meter dimensions



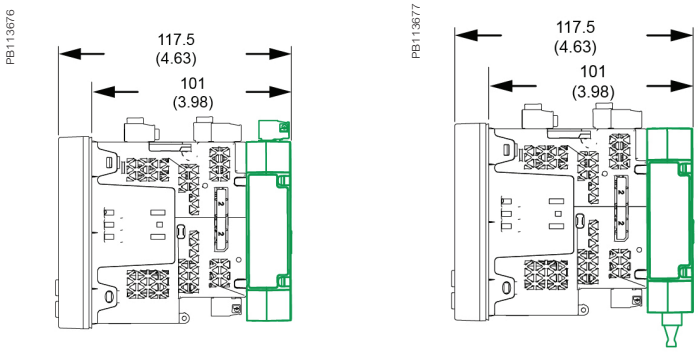
PM8000 DIN rail mount meter dimensions



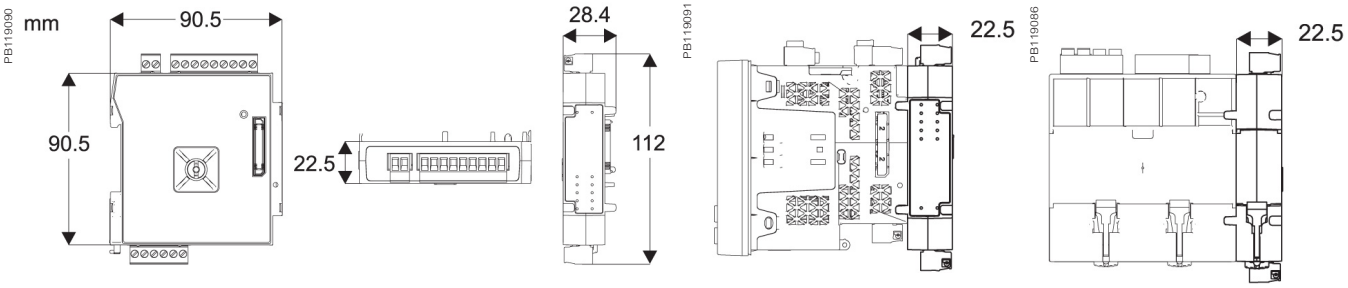
PM8000 remote display dimensions



PM8000 with communication option modules



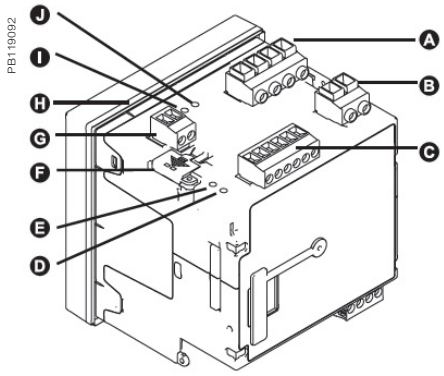
PM8000 with I/O modules dimensions

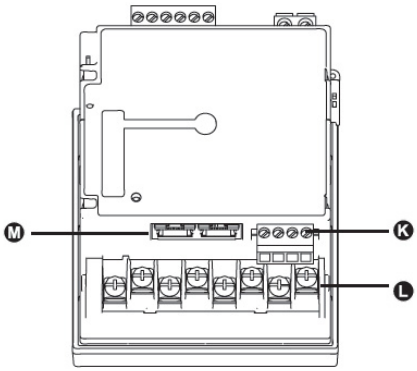


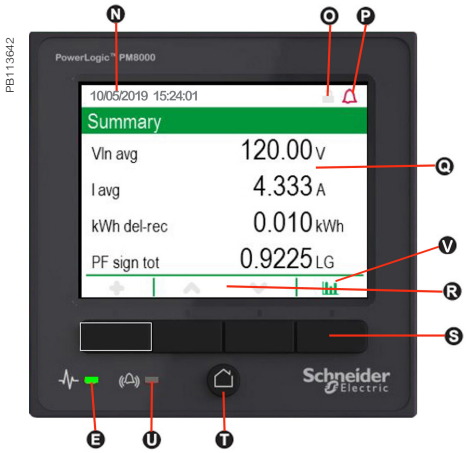
Please see the appropriate Installation Guide for accurate and complete information on the installation of this product.

PM8000 series

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

PowerLogic™ ION9000 series Technical Datasheet

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

ION9000 series

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 to the 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

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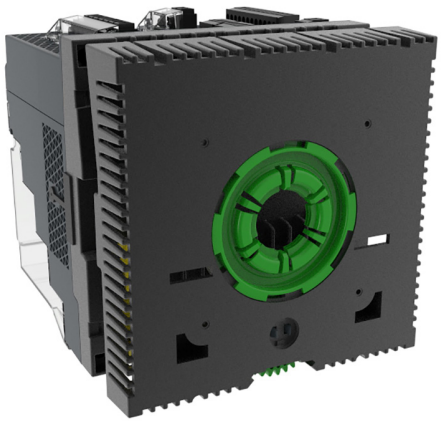
PowerLogic™ ION9000 front view

PB115916



PowerLogic™ ION9000 with panel mounting adapter

ION9000 series

PB115917

PowerLogic™ ION9000 series meter with RD192 display

PB115914

PowerLogic™ ION9000 RD192 remote display

PB115915

PowerLogic™ ION9000 Harmonics display

Main characteristics

- PQ compliance reporting and basic PQ analysis:
  - Recognized as a Power Quality Instrument Class A to IEC62586-1 and IE62586-2
  - 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)).
  - Industry leading Class 0.1S accuracy IEC 62052-11 ed.2, ANSI C12.20 Class 0.1 (active energy).
  - 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.

- 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.

ION9000 series

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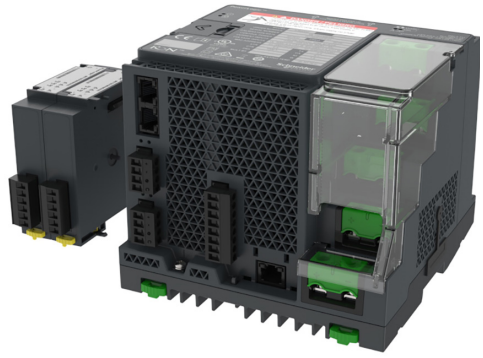
PowerLogic™ ION9000 front with two option modules

PB115920



PowerLogic™ ION9000 bottom with two option modules

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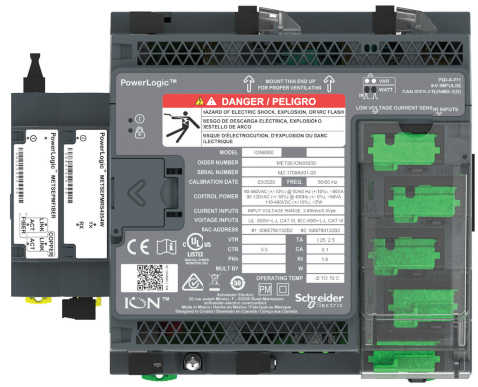
PowerLogic™ ION9000 iso with two communication option modules

PB113675



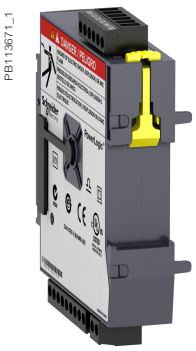
PowerLogic™ ION9000 with two communication option modules

- 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 50 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.

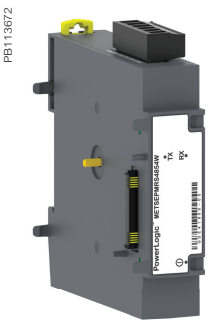
Usability

- 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.
- 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: BACnet/IP, 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.
  - Fiber-Ethernet option module: Multi-mode 100Base-FX with SC duplex connector
  - 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.
  - 4-Wire RS-485 option module: 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.

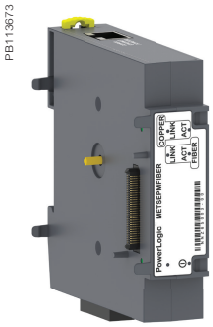
ION9000 series



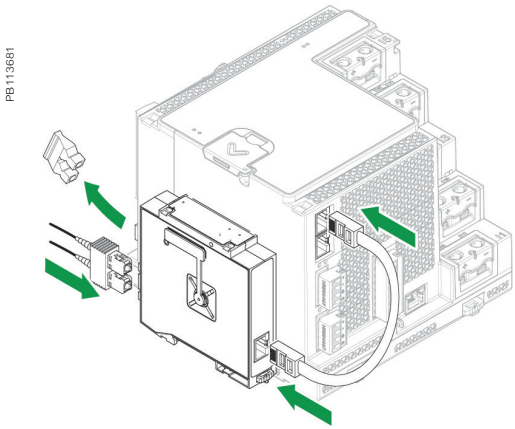
PowerLogic™ I/O module



4-Wire RS-485 Option Module



Fiber-Ethernet Option Module



PowerLogic™ ION9000 connected with Fiber-Ethernet

  - Full function web server with factory and customizable pages to access real-time and PQ compliance data.

- 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: accessing and aggregating data from downstream Modbus devices over serial or across the network (Modbus TCP/IP), logging and/or processing data through totalization, unit conversion or other calculations, applying complex logic for alarming or control operations, and visualization via webpages.

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.

Advanced Metering Option Modules

- Expanding meter's flexibility with communication and I/O option modules
- Powered from meter base

I/O Expansion Option Modules

Option modules include:

- Digital module:
  - 6 digital status/counter inputs.
  - 2 Form C relay outputs, 250 Vac, 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.

Communication Option Modules

Option modules include:

- 4-Wire RS-485 Module [(+1)]:
  - It adds 4-wire support to the meter i.e. eliminating the cost and efforts of rewiring while replacing/retrofitting legacy 4-Wire RS-485 systems
  - Pluggable screw terminal connector
- Fiber-Ethernet Module [(+2)]:
  - Provides isolated data transmission through fiber optics up to 2000 m length
  - Supports multi-mode 100Base-FX type
  - SC duplex connector

[(+1)] One of the onboard 2-Wire RS-485 port is disabled with the optional module
[(+2)] Connected to the meter base using Ethernet patch cable (included with the module)

Maximum of 4 optional modules in total (Fiber-Ethernet, 4-Wires RS-485, I/O modules) can be connected to the meter. Only 1 Fiber-Ethernet and 1 4-Wire RS-485 option module is supported per meter.

Please refer to the option module Installation Guides for more details.

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		
2-Wire RS-485 port	■	■
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 (BACnet/IP, Modbus, ION, DNP3, DLMS/COSEM and 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	■	■
Option module with 4-Wire RS-485 port	■	■
Option module with Fiber-Ethernet port	■	■

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...69 Hz (50/60 Hz nominal)	■	■
	Limit range of operation - frequency	20...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	■ (+3)	-
	Minimum signal	1 mV	■ (+3)	-
	Withstand	30 V pk continuous	■ (+3)	-
	Input impedance	200 k Ω	■ (+3)	-
	Safety	For use with listed Energy Monitoring current transformers	■ (+3)	-
Power supply AC/DC	AC	90...480 Vac ±10 % (50/60 Hz ±10 %) 90...120 Vac ±10% (400 Hz)	■	■
	DC	110...480 Vdc ±10 %	■	■
	Ride-through time (Values for meters with no optional accessories)	100 ms (5 cycles at 50/60 Hz) typ., 120 Vac 400 ms (20 cycles at 50/60 Hz) typ., 240 Vac 1,200 ms (60 cycles at 50/60 Hz) typ., 480 Vac	■	■
	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 LVdc	DC	20 to 60 Vdc ±10 %	■	-
	Burden	Typical: 15 W at 20...60 Vdc Fully optioned: 38 W at 20...60 Vdc	■	-
Input/outputs	Meter base Only	8 digital inputs (30 Vac/60 Vdc) 4 Form A (KY) solid state digital output (30 Vac/60 Vdc, 75 mA) 2 Form C relays (8 A at 250 Vac, 5 A at 24 Vdc)	■	■
	Optional	Digital - 6 digital inputs (30 Vac / 60 Vdc) wetted + 2 Form C relay outputs (250 Vac, 8 A)	■	■
		Analog - 4 analog inputs (0...20 mA, 4...20 mA, 0...30 Vdc) + 2 analog outputs (0...20 mA, 4...20 mA, 0...10 Vdc).	■	■

(+3) 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...70 °C		■	■
Remote Display Unit	-25...60 °C		■	■
Storage temperature	-40...85 °C		■	■
Humidity rating	5...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 to115,200, 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, BACnet/IP		■	■
Communication option module				
Optional port 4-Wire RS-485	Baud rates of 2400 to 115200, pluggable screw terminal connector		■	■
Optional Fiber-Ethernet port	Ethernet patch cable from base meter, multi-mode 100Base-FX, SC duplex connector		■	■

ION9000 series

Firmware characteristics		ION9000	ION9000T
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	■	■
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 (5000 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

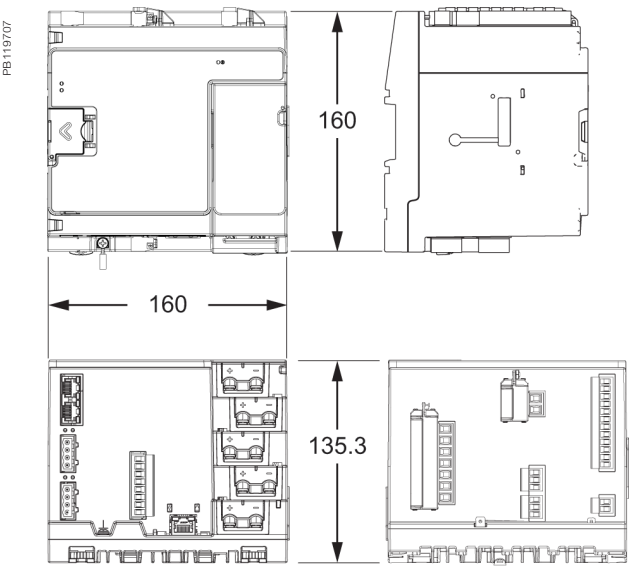
ION9000 Commercial reference numbers

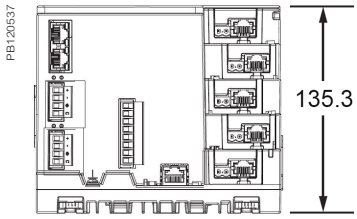
Comm ref number	Description
METSEION92030	ION9000 meter, DIN mount, no display, hardware kit
METSEION92040	ION9000 meter, DIN mount, 192 mm display, B2B adapter, hardware kit
METSEION92043	ION9000 meter, DIN mount, 192 mm display, B2B adapter, hardware kit, Measurement Canada Ready (Canada only)
METSEION92044	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
METSERD192	Remote display, color touchscreen, 192 x 192 mm
METSEPM89RD96	Remote display, color LCD, 96 x 96 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
METSEPMRS4854W	4-Wire RS 485 option module
METSEPMFIBER	Fiber-Ethernet option module

Contact your Schneider Electric representative for complete ordering information.

ION9000 series

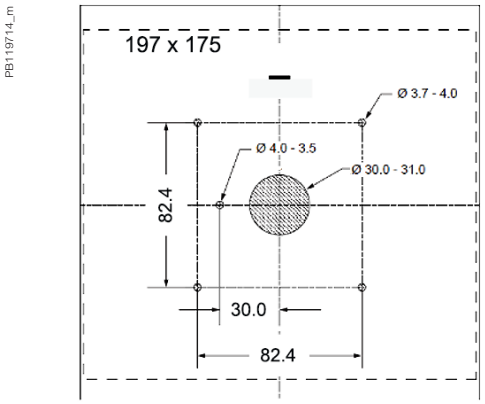
ION9000 meter dimensions



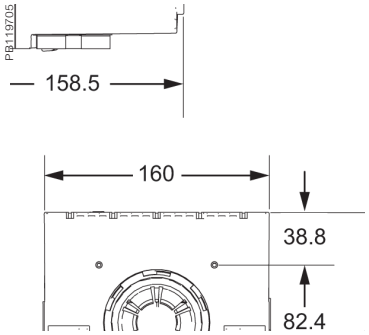


LVCS Input-current option

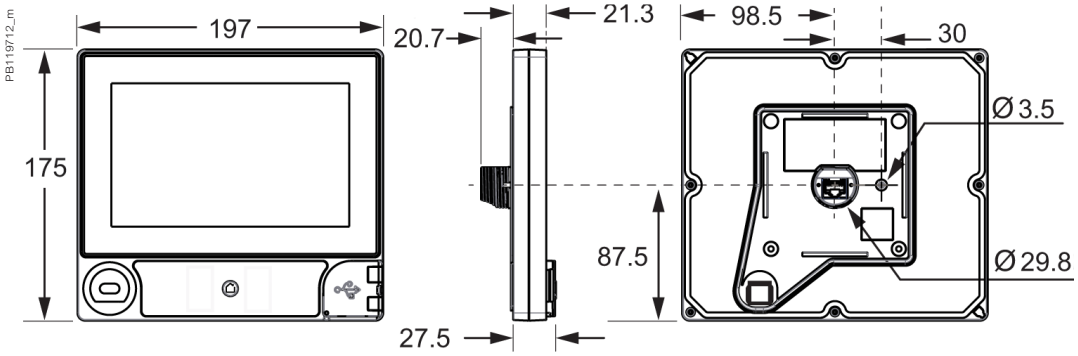
ION9000 mounting template



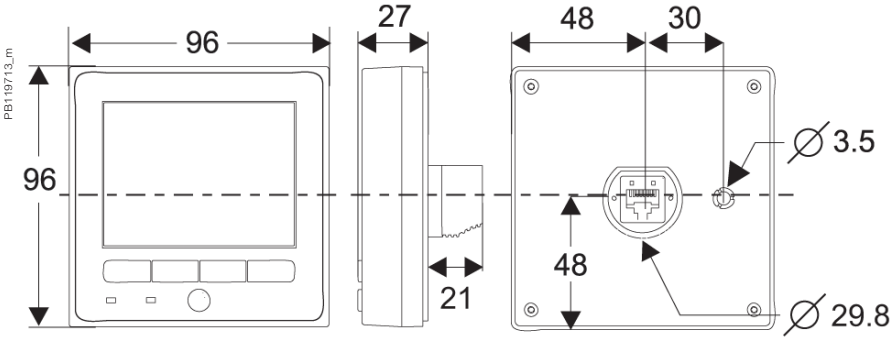
ION9000 back-to-back (B2B) dimensions



ION9000 192 mm display dimensions



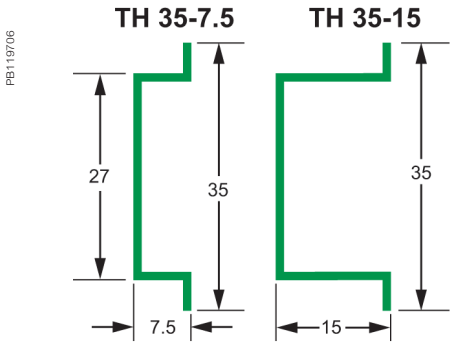
ION9000 96 mm display dimensions



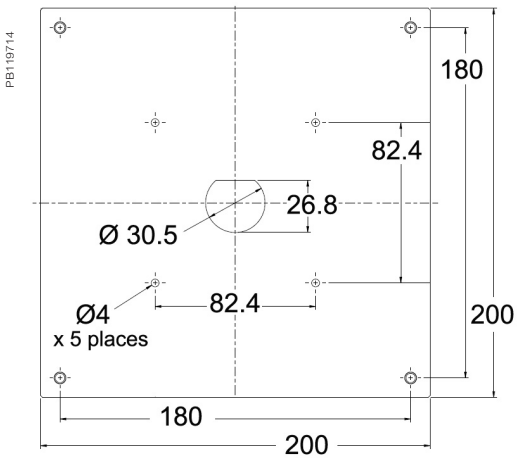
Please refer to ION9000 Series Meter Installation Sheet for accurate and complete information on the installation of this product.

ION9000 series

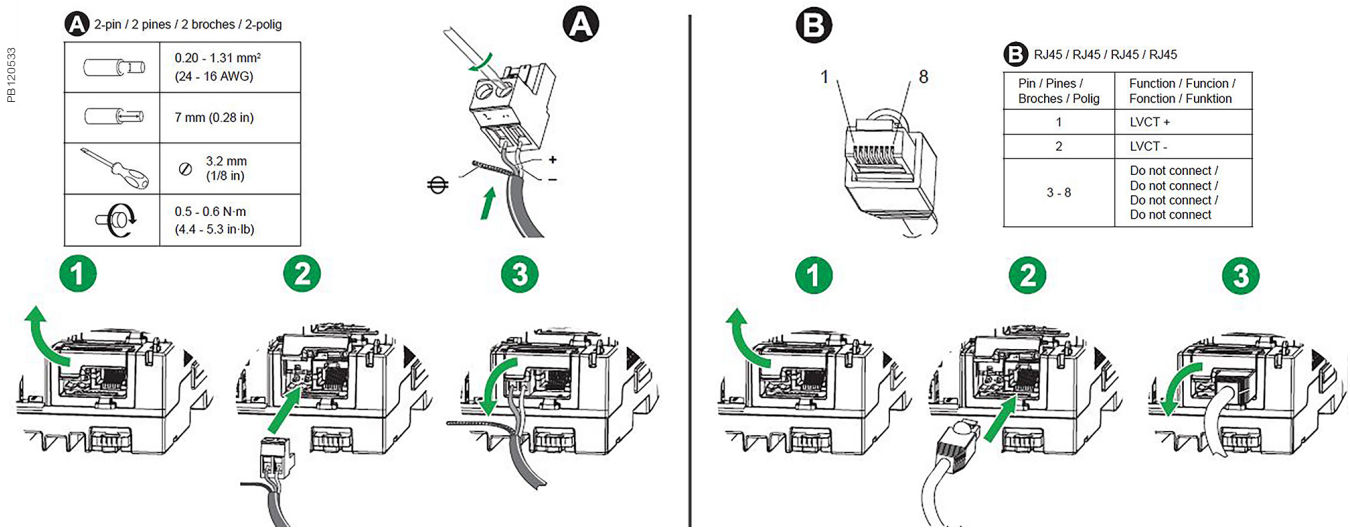
ION9000 meter DIN rail dimensions



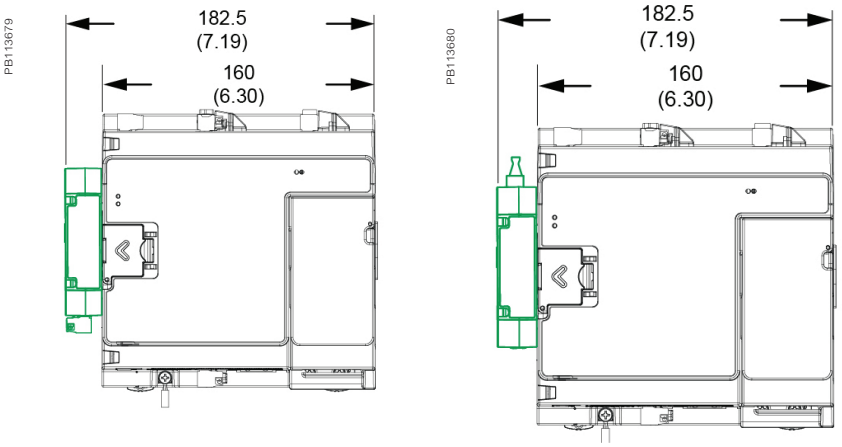
ION7x50 mounting adapter dimensions



ION9000 LV Current Input wiring options



ION9000 with communication option modules



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

PB115152

ION7400

PB107500

ION8650

PowerLogic™ ION7400 Series Technical Datasheet

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

METSEION7400

ION7400 series

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.

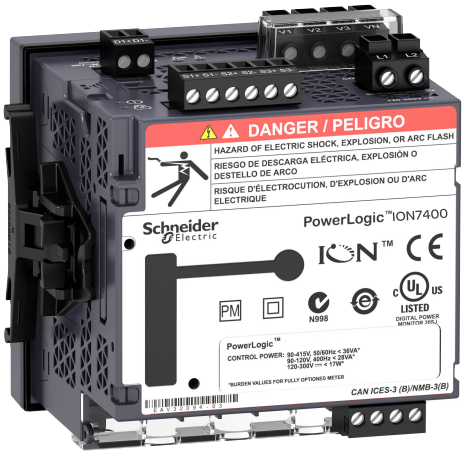
Conformity of standards

- 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

PB113696

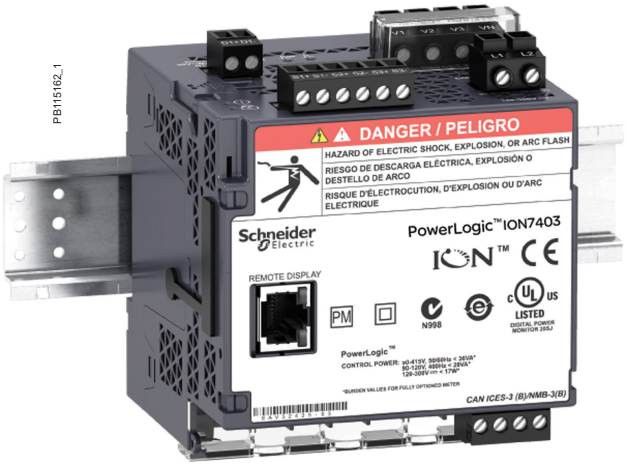
PowerLogic™ ION7400 DIN rail mounted meter- bottom view

PB115161



PowerLogic™ ION7400 meter - rear view

PB115162_1



PowerLogic™ ION7400 DIN rail mounted meter

ION7400 series

PB115152

PowerLogic™ ION7400 meter showing active alarms.

PB115153

PowerLogic™ ION7400 with Harmonics display.

PB115159

PowerLogic™ ION7400 series meter with phasor display.

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 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 and hardware metrology lock
  - Test mode
- PQ Compliance and basic PQ analysis.
  - Monitors and logs parameters in support of international PQ standards,
    - IEC 61000-4-30 Class A/S
    - IEC 61000-4-15 Flicker
    - IEC 62586
    - EN 50160
  - Generates onboard PQ compliance reports accessible via onboard webpages:
    - 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 SFTP in 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.
- 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

ION7400 series

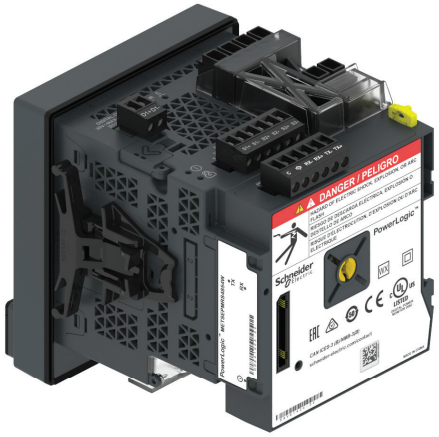
PB117743

PowerLogic™ remote display.

PB117739

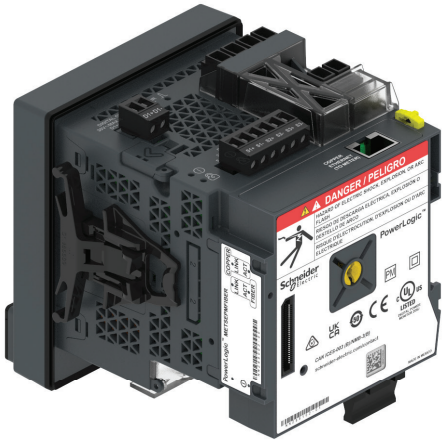
PowerLogic™ ION7400 meter with remote display.

PB113700



PowerLogic™ ION7400 with RS-485 4-Wire module

PB113701



PowerLogic™ ION7400 with Fiber-Ethernet Module

  - Up to 64 user definable data logs, recording up to 50 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

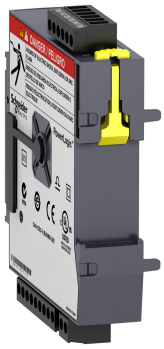
Usability

- 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, BACnet/IP
  - Dual port Ethernet: 10/100BASE-TX; daisy-chaining capability removes need for additional switches
  - Fiber-Ethernet option module: Multi-mode 100Base-FX with SC duplex connector
  - 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.
  - 4-Wire RS-485 option module: up to 115200 baud, Modbus RTU and ION protocols, DNP3 is also supported via RS-485.
  - 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.
- 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.

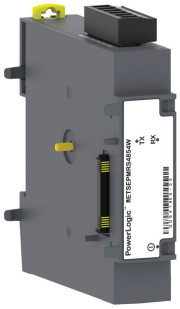
ION7400 series

PB113671_1



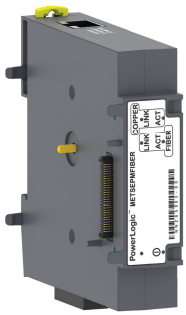
PowerLogic™ I/O module

PB113672



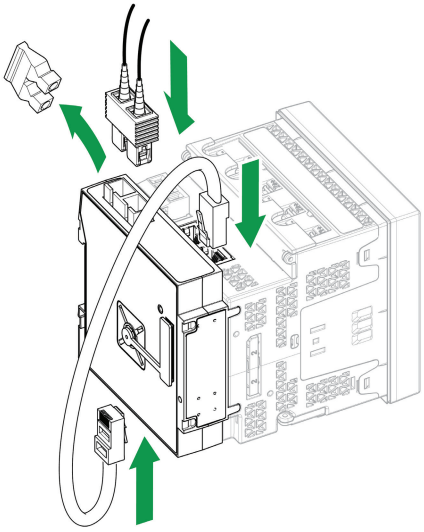
4-Wire RS-485 Option Module

PB113673



Fiber-Ethernet Option Module

PB113678



PowerLogic™ ION7400 connection with Fiber-Ethernet

Adaptability

- ION™ frameworks are customizable, scalable applications with object-oriented programming that compartmentalizes functions, and increases flexibility and adaptability.
- Applications include: accessing and aggregating data from downstream Modbus devices over serial or across the network (Modbus TCP/IP), logging and/or processing data through totalization, unit conversion or other calculations, applying complex logic for alarming or control operations, and visualization via webpages.

Standard meter I/O

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

Advanced Metering Option Modules

- Expanding meter's flexibility with communication and I/O option modules
- Powered from meter base

I/O Expansion Option Modules

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.

Communication Option Modules

Option modules include:

- 4-Wire RS-485 Module (+1):
  - Adds 4-wire support to the meter i.e. eliminating the cost and efforts of rewiring while replacing/retrofitting legacy 4-Wire RS-485 systems
  - Pluggable screw terminal connector
- Fiber-Ethernet Module (+2):
  - Provides isolated data transmission through fiber optics up to 2000 m length
  - Supports multi-mode 100Base-FX type
  - SC duplex connector

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

(+1) Onboard 2-Wire RS-485 port is disabled with optional module
(+2) Connected to the meter base using Ethernet patch cable (included with the module)

Maximum of 4 optional modules in total (Fiber-Ethernet, 4-Wires RS-485, I/O modules) can be connected to the meter. Only 1 Fiber-Ethernet and 1 4-Wire RS-485 option module is supported per meter.

Please refer to the option module Installation Guides for more details.

ION7400 series

Feature guide

		ION7400 ESSENTIAL	ION7400 STANDARD	ION7400 ADVANCED
General				
Use on LV and MV systems		■	■	■
Current accuracy (5 A Nominal)		0.1 % reading	0.1 % reading	0.1 % reading
Voltage accuracy (90...690 Vac L-L, 50, 60, 400 Hz)		0.1 % reading	0.1 % reading	0.1 % reading
Active energy accuracy		0.2 Class	0.2 Class	0.2 Class
Reactive energy accuracy		2 %	2 %	2 %
Number of samples/cycle or sample frequency		256 (+3)	256	512
ION programability		■	■	■
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	0.05...10 A	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		■	■	■
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	31	63	63
	Via EcoStruxure™ software	-	127	127
Waveform capture		■ (+3)	■	■
Detection of voltage swells and sags		■	■	■
Flicker		-	■	■
Fast acquisition	1/2 cycle data	■	■	■
IEC61000-4-30 Class A/S		-	S	A
EN 50160 compliance checking		-	■	■
IEEE 519 compliance checking		-	■	■
Disturbance Direction Detection		-	■	■
Rapid Voltage Change		-	■	■
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)		■	■	■
Data Recorder		10	50	64
Memory Channels		500	2500	3200
Storage (in Mbytes)		64	512	512

(+3) Waveform capture is limited to 128 Samples/cycle recording.

ION7400 series

Feature guide (Contd.)

	ION7400 ESSENTIAL	ION7400 STANDARD	ION7400 ADVANCED
Display and I/O			
Front panel display 89 mm TFT	■	■	■
Wiring self-test	■	■	■
Pulse output	1	1	1
Digital or analog inputs (max)	27 digital 16 analog	27 digital 16 analog	27 digital 16 analog
Digital or analog outputs (max, including pulse output)	1 digital 8 relay 8 analog	1 digital 8 relay 8 analog	1 digital 8 relay 8 analog
Communication			
2-Wire RS-485 port	1	1	1
10/100BASE-TX	2	2	2
Serial port (Modbus, ION, DNP3, DLMS/COSEM)	■	■	■
Ethernet port (Modbus/TCP, ION TCP, DNP3 TCP, IEC 61850, DLMS/COSEM and BACnet/IP)	■	■	■
USB port (mini type B)	■	■	■
ANSI C12.19 Optical port	■	■	■
Option module with 4-Wire RS-485 port	■	■	■
Option module with Fiber-Ethernet port	■	■	■

Feature selection

Commercial reference number	ION7400 meters
ION74xxE	Essential Feature Set
ION74xx	Standard Feature Set
ION74xxA	Advanced Feature Set

Commercial references

Essential	Standard	Advanced	Description
METSEION7400E	METSEION7400	METSEION7400A	ION7400 Panel mount meter (integrated display with optical port and 2 energy pulse LEDs)
METSEION7410E	METSEION7410	METSEION7410A	ION7400 Panel mount meter (integrated display with optical port and 2 energy pulse LEDs) 20-60 Vdc control power
METSEION7403E	METSEION7403	METSEION7403A	DIN rail mount - utility meter base
METSEION7404E	METSEION7404	METSEION7404A	DIN rail mount - utility meter base with remote display
METSEION7413E	METSEION7413	METSEION7413A	DIN rail mount - utility meter base 20-60 Vdc control power
METSEION74001E	METSEION74001	METSEION74001A	MID approved panel mount meter (+4)
METSEION74003E	METSEION74003	-	RMICAN sealed panel mount meter (+5)
METSEION74004E	METSEION74004	-	RMICAN sealed panel mount meter (+5)

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
METSEPMRS4854W	4-Wire RS 485 option module
METSEPMFIBER	Fiber-Ethernet option module
METSEPM8000SK	Sealing kit

(+4) For UK + EU only.
(+5) For Canada only.

ION7400 series

Technical Specifications

Electrical characteristics		ION7400
Type of measurement		True rms to 512 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...69 Hz (50/60 Hz nominal)
	Limit range of operation - frequency	20 Hz...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 Vac ±10 % 16 VA at 230 V (50/60 Hz ±10%), 110...300 Vdc ±10% 18 W (max)
	LV DC	20...60 Vdc, ±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 Vac, 110...415 Vdc 500 ms (30 cycles at 60 Hz) typ., 415 Vac
	Burden	Meter Only: 18 VA max at 415 Vac, 6W at 300 Vdc Fully optioned meter: 36 VA max at 415 Vac, 17 W at 300 Vdc.
Input/outputs	Meter Base Only	3 form A digital inputs (30 Vac/60 Vdc) 1 form A (KY) solid state digital output (30 Vac/60 Vdc, 75 mA).
	Optional	Digital - 6 form A digital inputs (30 Vac/ 60 Vdc) wetted + 2 form C relay outputs (250 Vac/ 30 Vdc, 8 A at 250 Vac or 5 A at 24 Vdc)
		Analog - 4 analog inputs (4...20 mA, 0...30 Vdc) + 2 analog outputs (4...20 mA, 0...10 Vdc).
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...70 ºC
Remote Display Unit		-25...60 ºC
Storage temperature		-40...85 ºC
Humidity rating		5...95 % non-condensing
Installation category		III
Operating altitude (maximum)		3000 m above sea level

ION7400 series

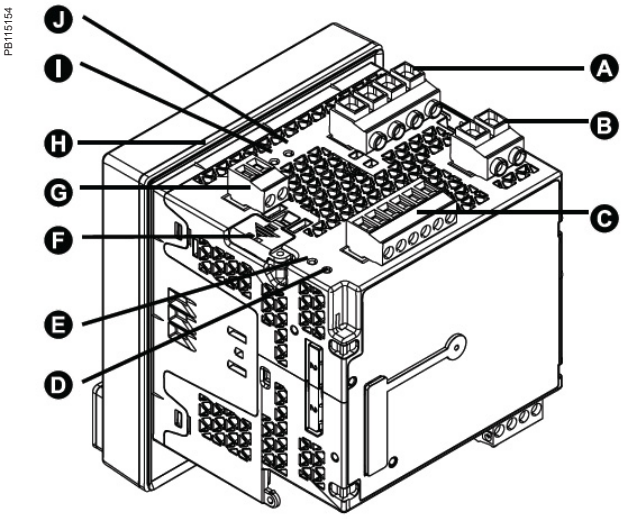
Technical Specifications (Contd.)

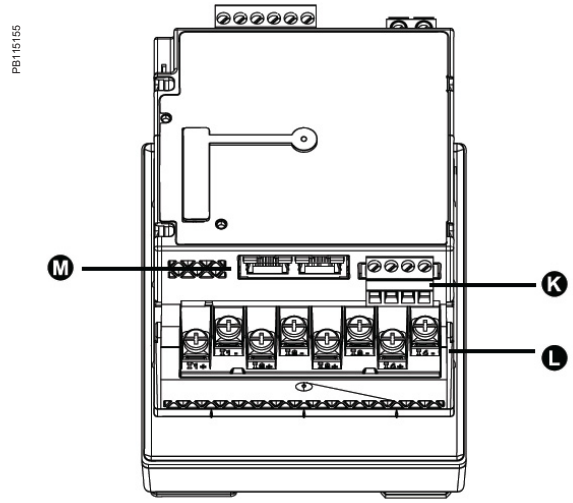
Electromagnetic compatibility	
Product standards	IEC 62052-11 and IEC 61326-1
Immunity to electrostatic discharge	IEC 61000-4-2
Immunity to radiated fields	IEC 61000-4-3
Immunity to fast transients	IEC 61000-4-4
Immunity to surges	IEC 61000-4-5
Immunity to conducted disturbances	IEC 61000-4-6
Immunity 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 client 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 and BACnet/IP.
Communication option modules	
Optional 4-Wire RS-485 serial port	Baud rates of 2400 to 115200, pluggable screw terminal connector.
Optional Fiber-Ethernet port	Ethernet patch cable from meter base, multi-mode 100Base-FX, SC duplex connector
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 (1024 channels via 64 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 512 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).

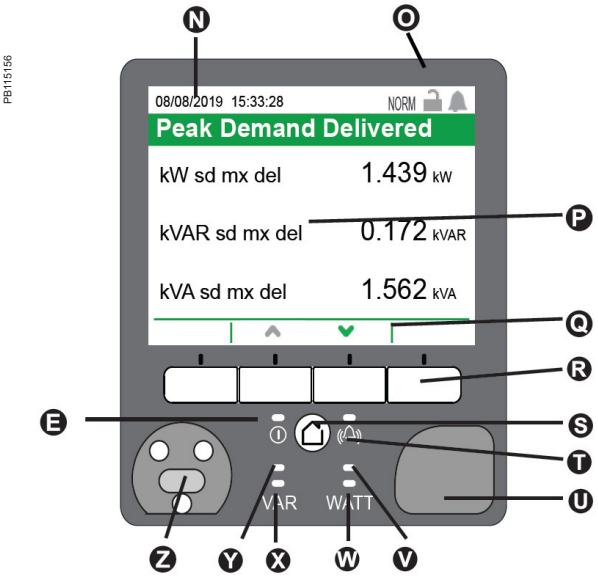
All the communication ports may be used simultaneously.

ION7400 series

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

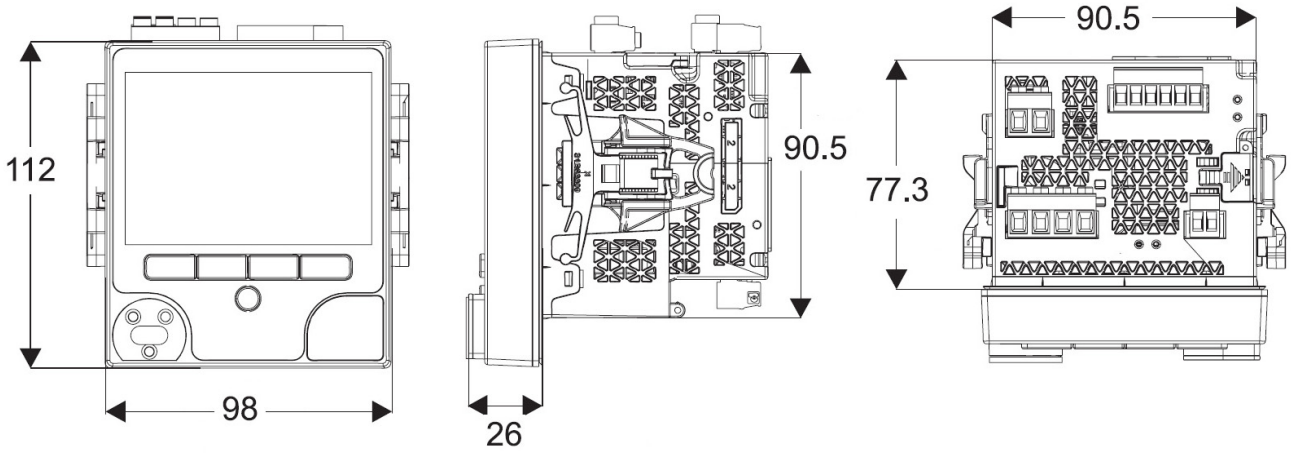
Select Cancel Edit More

- 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 series

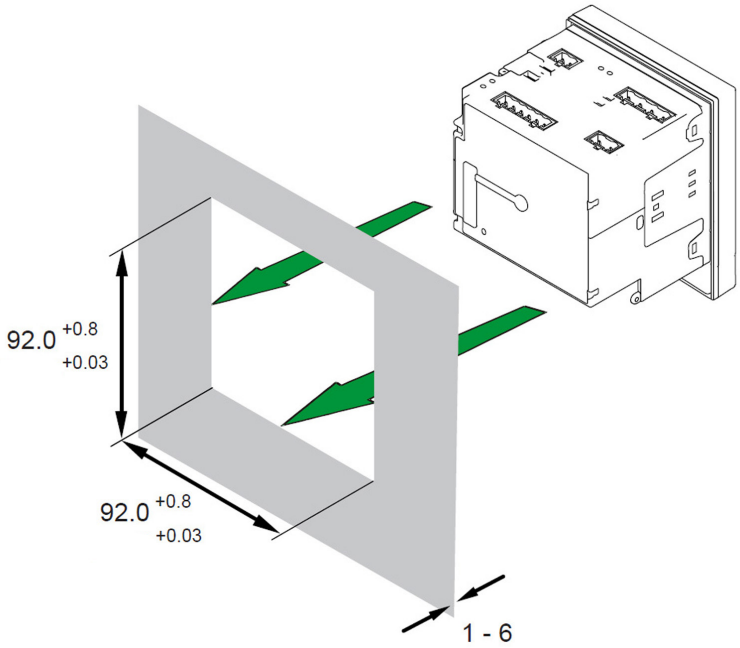
ION7400 meter dimensions

PB115157_m



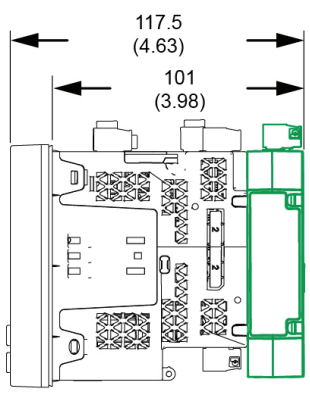
ION7400 panel cutout dimensions

PB115158



ION7400 with communication option modules

PB113676



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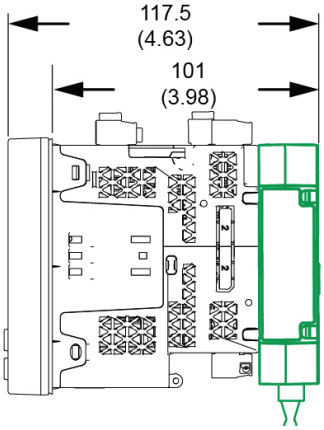


For further details please see appropriate Schneider Electric Installation Guide for this product.

PowerLogic™ ION8650 series Technical Datasheet

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

ION8650 series

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

ION8650 series

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 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.

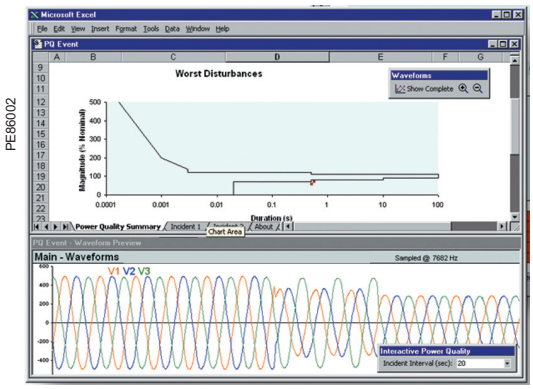
Feature selection

Commercial reference number	ION8650 meters
M8650A	ION8650A
M8650B	ION8650B
M8650C	ION8650C

ION8650 series

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*



Disturbance waveform capture and power quality report

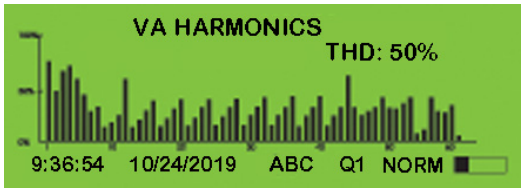
Selection guide

		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		■	■	■

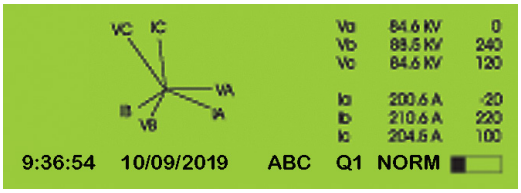
** With optional I/O Expander.*
*** For 9S, and 36S only. For 35S system up to 480 V L-L.*
**** C model limited to IR + 2 other ports at one time. Ports can be enabled/disabled by user.*

ION8650 series

PE86041



PowerLogic™ ION8650 front panel harmonic display



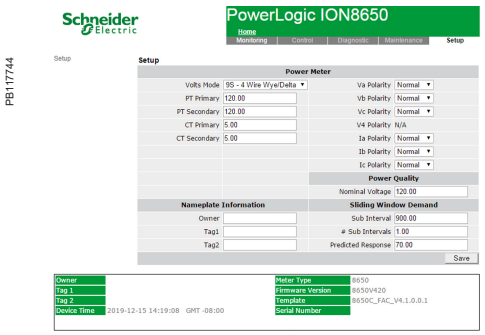
PowerLogic™ ION8650 front panel phasor display and table

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 IEC 62053-22 Class 0.2S IEC 62053-23 (Reactive) Class 2
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 MW /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 Current Class 2/10/20 Input-Current burden: 0.05VA per phase at 5 A (2 milliOhms max) Switchboard Current Class 2/10/20 Input-Current burden: 0.05VA per phase at 1 A (50 milliOhms 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
	Burden	Standard Power Supply: Typical: 8 W total, 7 VA/phase Max: 15 W total, 20 VA/phase
		Auxiliary Power Supply: Typical: 7 W, 14 VA Max: 15 W, 20 VA
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 IP51, 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.*

ION8650 series



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

ION8650 series

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.*

PowerLogic™ ION8650 meter with switchboard case

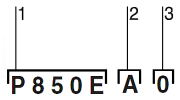
Commercial reference numbers

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.*

ION8650 series

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.*

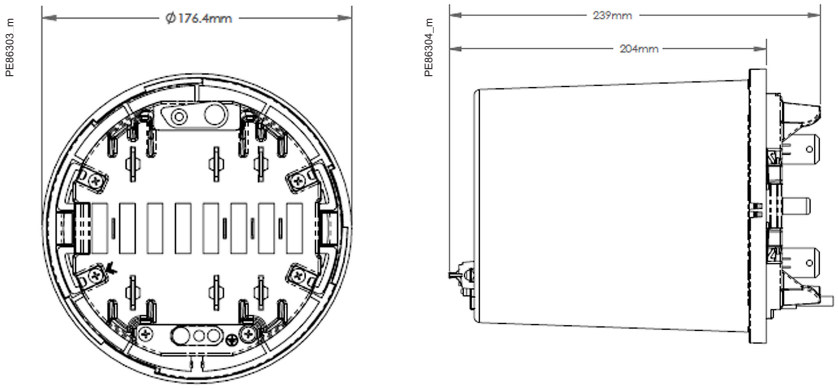
PE86131

Commercial reference numbers (cont.)

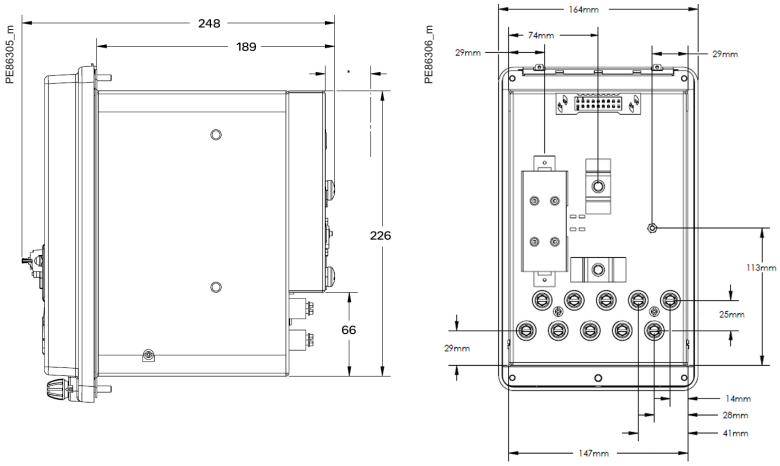
I/O Expander		
Digital/Analog I/O	P850E	Schneider Electric I/O Expander for ION8600 meters: Inputs and Outputs for energy pulsing, control, energy counting, status monitoring, and analog interface to SCADA.
I/O option	A	External I/O box with 8 digital inputs and 8 digital outputs (4 Form A, 4 Form C)
	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	5 ft Breakout Cable: 24-pin female Molex connector to one DB9 female connector for RS 232, and 2 sets of twisted pair wires for two RS 485 port connections	
CBL-8X00IOE5FT	5 ft extension cable, mates with 24-pin male Molex connector from the meter to the 24-pin Molex connector on the I/O Expander box	
CBL-8X00IOE15FT	15 ft 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	
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 series

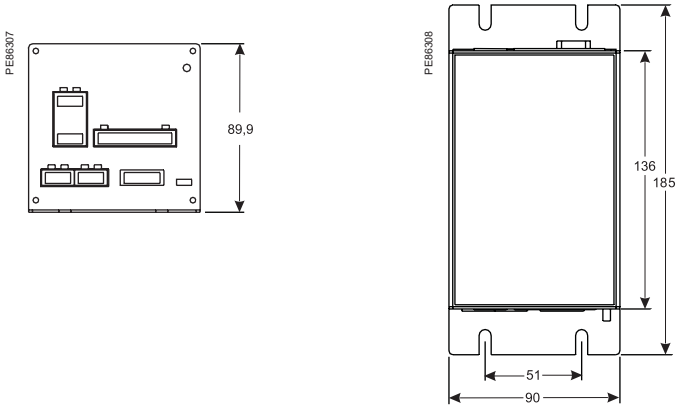
ION8650 socket dimensions



ION8650 switchboard dimensions

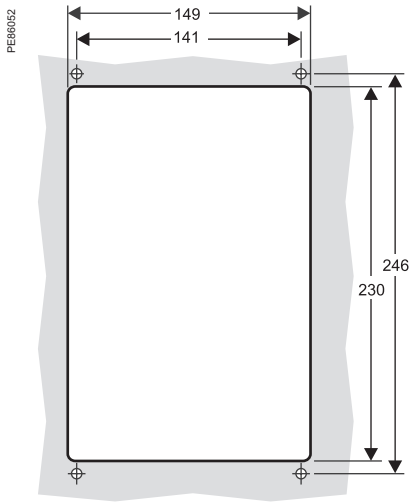


I/O Expander dimensions

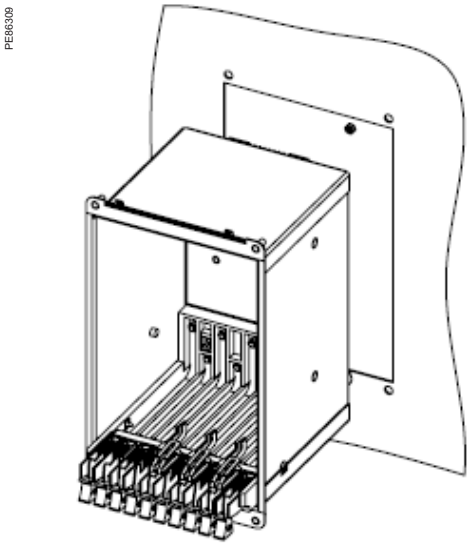


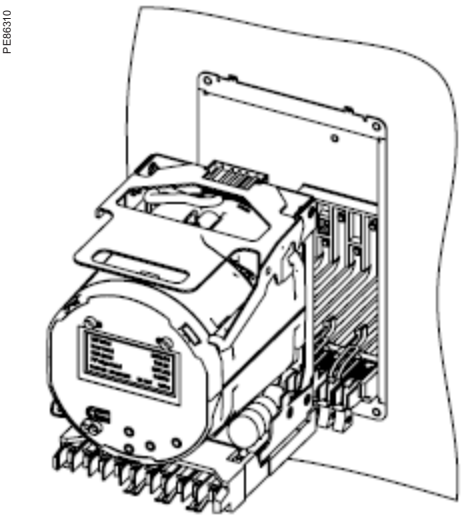
ION8650 series

ION8650 suggested switchboard mounting dimensions



ION8650 switchboard mounting





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

Multi-circuit Metering

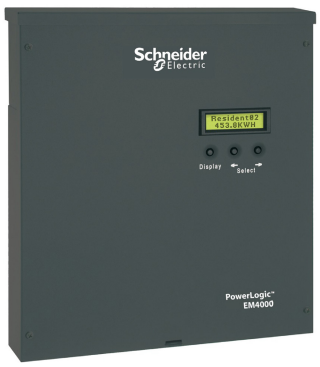
This is an integrated solution for monitoring multi-circuits and mains by using a single meter. The meter is designed for use in both new build and retrofit and is used for critical power operations in data centres and energy management in buildings.

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

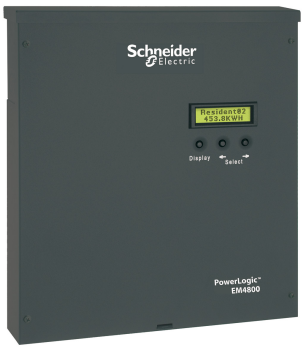
In corporate and hosted data centre facilities, this technology helps you plan and optimise the critical power infrastructure to meet the demands of continuous availability.

- PowerLogic™ HDPM6000
- EM4000 series
- EM4800 series

PB113714



PE86325



PB124374

PowerLogic™ HDPM6000 Technical Datasheet

High-density, multi-circuit busway and panelboard power meters for cost and network management in large and critical power applications

The PowerLogicTM HDPM6000 provides the data you need to achieve energy accountability and regulatory compliance. It helps you improve your power quality to avoid downtime by monitoring power problems at the circuit level, giving you visibility across your entire electrical infrastructure.

The HDPM6000 multi-circuit power metering system is modular, scalable and adaptable to almost any situation. It is the perfect high-density metering solution for main circuits and branch circuits in any type of electrical panel or busway system.

Applications

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

PB124374

HDPM6000

Market solutions

Markets that benefit from a solution with PowerLogic™ HDPM6000 include:

- Data centers
- Industrial facilities
- Healthcare facilities
- Manufacturing

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 Power Operation integration
- Busway solution
  - Modular, distributed architecture meets data center requirements in an all-in-one solution

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.

HDPM6000 Head Unit and Modules

Technical specifications

Features	
Web interface	For configuration and live data access
Supported protocols	Modbus TCP/IP, SNMP, BACnet IP HTTPS, IPV6 are supported
Data storage	Min. 8 GB SD card to store log data and waveform captures provided
Alarms	On-board user-configurable alarms and alerts
Power quality analytics	Waveform capture (natively with Head Unit, Busway, Strip 24 Circuit modules- optional with Retrofit and Strip 21 Circuit modules), voltage THD (Head Unit only), current THD, voltage imbalance (Head Unit only), current imbalance, current Total Demand Distortion (Head Unit only)
Electrical Characteristics	
Measurement voltage	Per UL 61010-1: up to 277 Vac L-N/480 Vac L-L
	Per IEC 61010-1: up to 277 Vac L-N/480 Vac L-L
	Single phase 2-wire plus ground, 3-wire plus ground or 4-wire plus ground
Specified accuracy range	108 Vac L-N/187 Vac L-L to 332 Vac L-N/576 Vac L-L
Maximum continuous overvoltage at voltage measurement inputs	580 Vac L-L
Input frequencies	50/60 Hz
24 Vdc power supply	The HDPM6000 Head Unit needs to be powered with a 24 Vdc power supply. The input voltage for the power supplies available in the HDPM catalogue are: 100...240 Vac or 264...575 Vac to 24 Vdc output. The HDPM6000 branch circuit modules receive the 24 Vdc from the Head Unit via the bus port CAT6 cable
Measurement category	CAT III
CT support	UL2808, 20-4000 A with internal burden resistor 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
Supported Protocols	
Maximum number of concurrent Modbus TCP connections	25
Environmental Characteristics	
Operating temperature	-20...60 °C (-4...140 °F)
Storage temperature	-40...85 °C (-40...185 °F) - for IO and EIM Module: -20...70 °C (-4...158 °F)
Relative humidity	5...90% non-condensing
Maximum operating altitude	2,000 m (6,562 ft)
Non-operating altitude	15,000 m (49,213 ft)
Noise level	< 65 dba at 6 ft (72 in) from the HDPM6000
Mounting location	Not suitable for wet locations, for indoor use only
Pollution degree (Head Unit)	2

HDPM6000 Head Unit and Modules

Technical specifications (cont'd)

Measurement Accuracy		
The HDPM6000 Head Unit Real Energy (kWh) meets the accuracy limits of ANSI C12.20 Class 0.5 and IEC 62053-22 Class 0.5S according to the following tests:		
Measurement type	IEC 62053-22 2021	ANSI C12.20-2015
	IEC 62053-22 2021 Class 0.5	ANSI C12.20-2015 Class 0.5
Variation of current	IEC 62052-11:2020, 9.4.12	NA
Equality of circuits	NA	Test 7
Variation of voltage	IEC 62052-11:2020, 9.4.3	Test 5
Variation of frequency	IEC 62052-11:2020, 9.4.6	Test 6
Variation of ambient temperature	IEC 62052-11:2020, 9.4.4	Test 19
Load performance	NA	Test 3
Variation of PF	NA	Test 4

Waveform Capture Specifications				
Modules	Frequency (Hz)	Number of samples per cycle	Number of cycles per current and voltage waveform	Portion of waveform capture that is pre-event
HDPM6000,HDPM6000R, HDPM6000S, HDPM6000S24	50	160	12.8	2/3
	60	133.3	15.3	2/3
HDPM6000B	50	160	6.4	1/2
	60	133.3	7.6	1/2

HDPM6000 Head Unit

PB124375

HDPM6000 Head Unit

The HDPM6000 Head Unit is both a standalone 3-phase power meter and the hub for the HDPM6000 branch circuit accessory modules (Retrofit, Strip, Busway, I/O modules).

It monitors loads up to 4000 A, delivers a complete range of power quality metrics (vTHD, iTHD), the ambient temperature and humidity via add-on sensor and provides waveform capture functionality without the need for additional proprietary software.

It can 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.

Due to open protocols, the HDPM6000 seamlessly integrates into any data center or building management information system without the need for gateways or extra hardware. Additionally, the platform supports various standard forms of data connectivity.

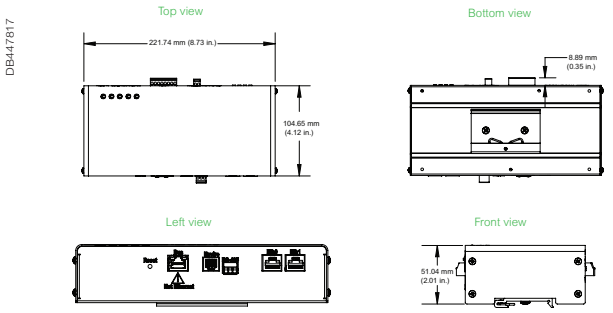
The on-board environmental communications port enables one-wire sensor to detect abnormal temperature and humidity conditions.

Measurements

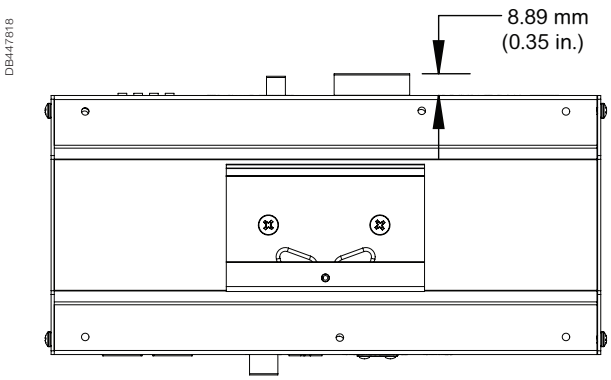
- Accumulated Real Energy (kWh) per phase and total of all phases
- Accumulated Reactive Energy (kVARh) per phase and totals for all phases
- Accumulated Apparent Energy (kVAh) per phase and total of all phases
- Real (kW), Reactive (kVAR) and Apparent (kVA) Power Demand, per phase and total of all phases
- Instantaneous Real (kW), Reactive (kVAR) and Apparent Power (kVA), by phase and in total
- Current (amps) per phase and total of all phases
- Phase-to-phase voltage per phase and average of all phase pairs
- Phase-to-neutral voltage per phase and average of all phases
- Power factor per phase and average of all phases
- Frequency
- Voltage and current waveform capture
- Voltage and current harmonics
- Voltage and Current THD
- Total Demand Distortion (TDD)
- Voltage and current imbalance

HDPM6000 Head Unit Dimensions

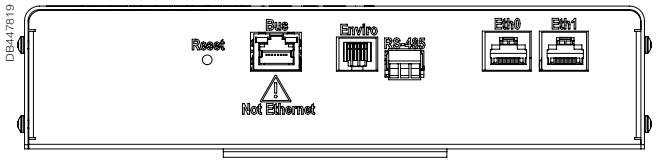
Top view



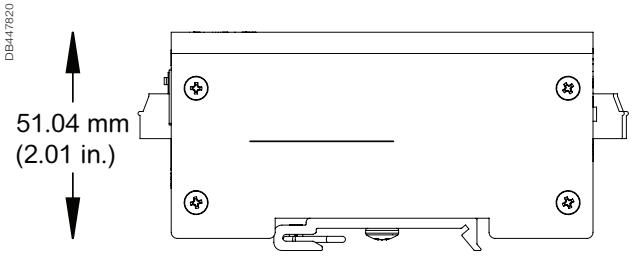
Bottom view



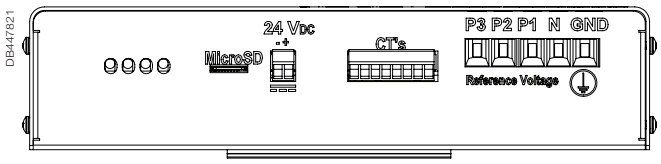
Left view



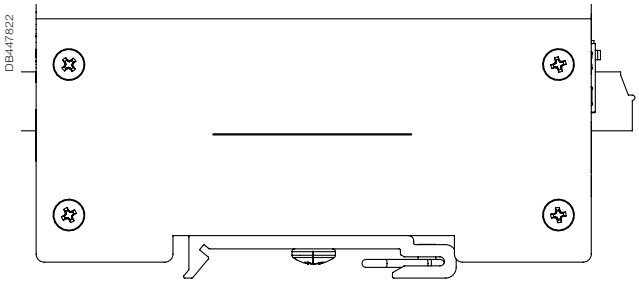
Front view



Right view



Back view



Note: Dimensions shown are within ±3.175 mm (±0.125 in.).

HDPM6000B Busway Module

PB124376

HDPM6000B busway meter

PB125792

Metering Architecture

The HDPM6000B Busway Module is the ideal high density power meter solution for your busway system. Paired with an HDPM6000 Head Unit, the Busway Module provides power quality analysis with waveform capture, voltage and current Total Harmonic Distortion (THD).

HDPM6000B features metrics for amps, volts, power factor, kW and kWh and monitors the ambient temperature and humidity via add-on sensor.

Each Busway Module can monitor either four or eight circuits, and supports 120/208 V, 240/416 V, 230/400 V and 277/480 V busway systems.

HDPM6000B supports standard CT sizes from 75 to 4000 amps, all from the same board.

Combine up to 24 four-circuit or eight-circuit modules for up to 192 circuits.

The flexible design of the HDPM6000 platform is ideal for today's environment of constant additions, continual moves and location adjustments. Its design allows for easy installation, as well as simple integration and operation.

Measurements

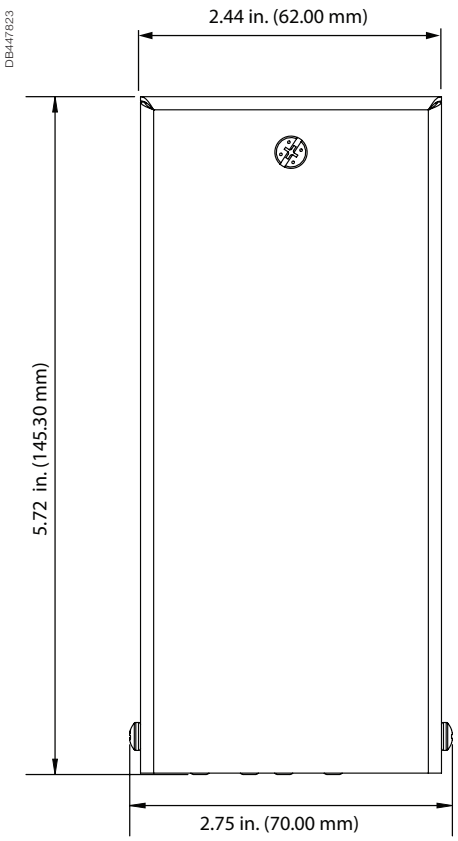
- Current per branch and sum of all phases
- Energy (kWh) per branch and sum of all phases
- Real Power (kW) per branch and sum of all phases
- Apparent Power (kVA) per branch and sum of all phases
- Reactive Power (kVAR) per branch and sum of all phases
- Real Power (kW) demand per circuit
- Current waveform capture
- Current THD
- Power factor (sign indicates leading or lagging current), per branch and average of all phases for multi-phase circuits
- Temperature and humidity (one input for optional sensor)

**The device may experience measurement accuracy deviation. Contact Schneider Electric technical support for more information.*

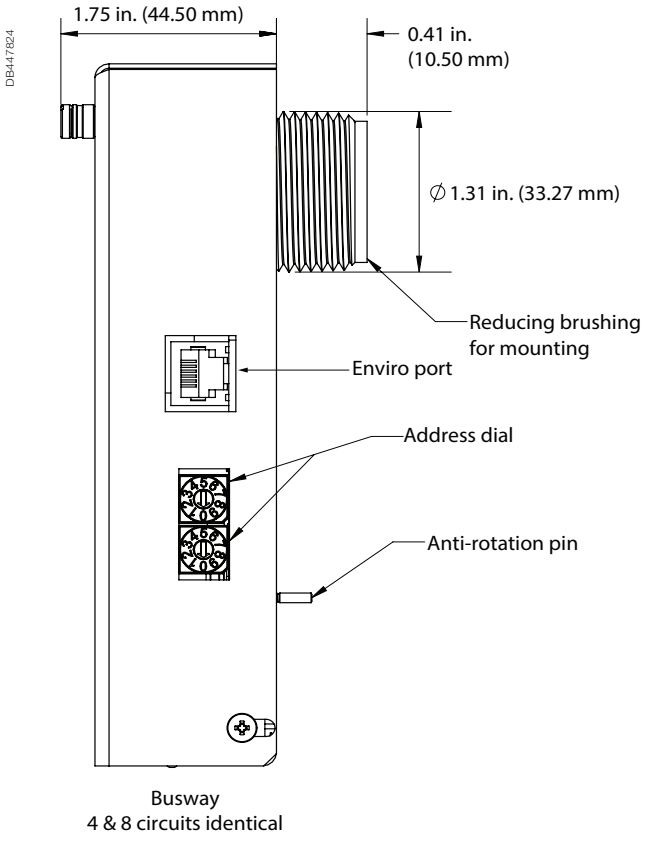
HDPM6000B Busway Module Dimensions

HDPM Busway Module with Busway Tap Box Mount

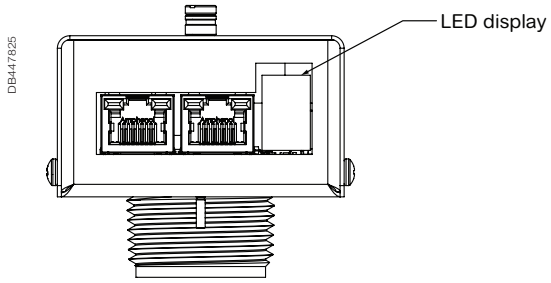
Top view



Side view



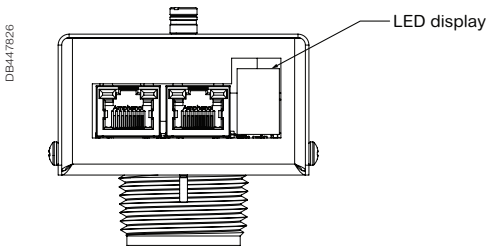
Front view



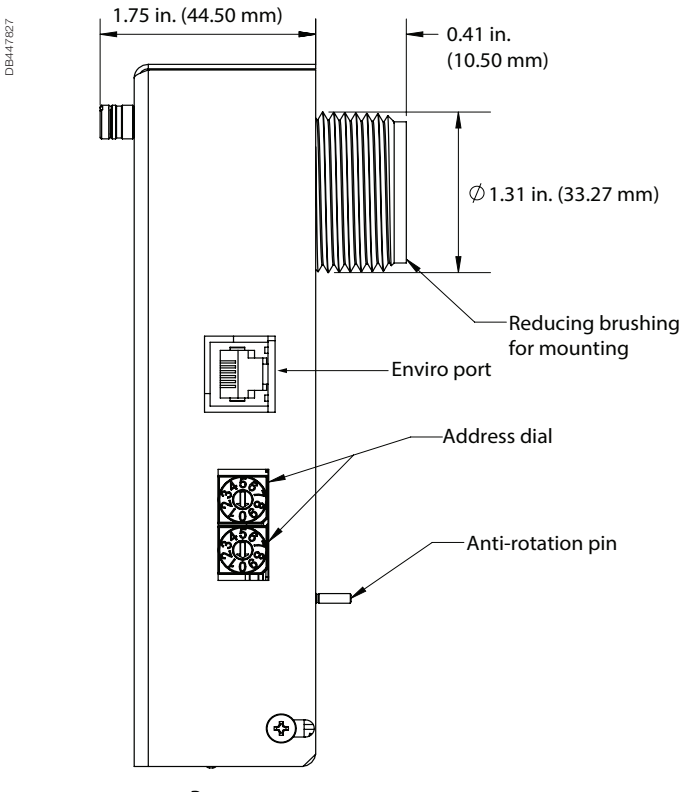
HDPM6000B Busway Module Dimensions

HDPM Busway Module with DIN Mount

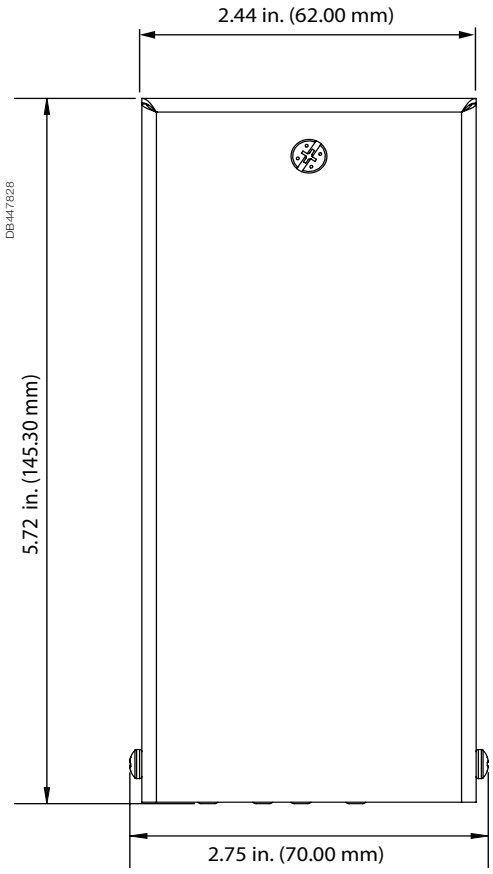
Top view



Side view



Front view



HDPM6000R Retrofit Module

PB124377

HDPM6000R Retrofit Module

DB447829

Metering Architecture

The HDPM6000R Retrofit Module is a highly versatile meter which can be integrated into any switchgear, distribution panel, cabinet or retrofit enclosure with a high density of circuits.

Paired with an HDPM6000 Head Unit, the Retrofit Module provides power quality analysis with waveform capture (optional), current Total Harmonic Distortion (THD).

The HDPM6000R is installed with little down time and is available in 24, 42, 84, 108, 126, 168 and 192 circuit solutions.

The flexible design of the HDPM6000R is ideal for today's environment of constant additions, continual moves and location adjustments. The design allows for easy installation, as well as simple integration and operation.

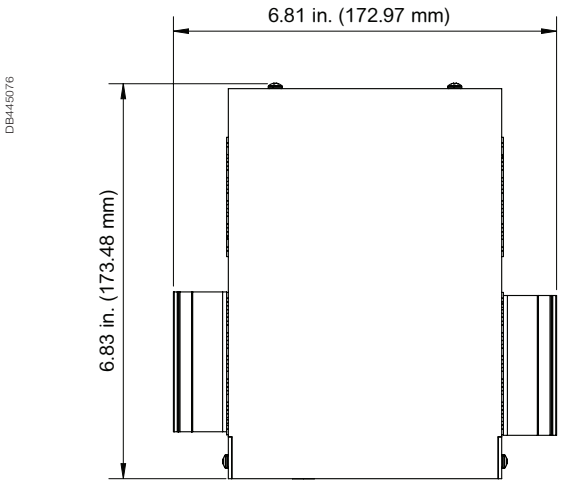
Measurements

- 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
- Real Power (kW) demand per circuit
- Total Harmonic Distortion (THD)
- Current waveform capture (optional)
- Power factor (sign indicates leading or lagging current), per branch and average of all phases for multi-phase circuits

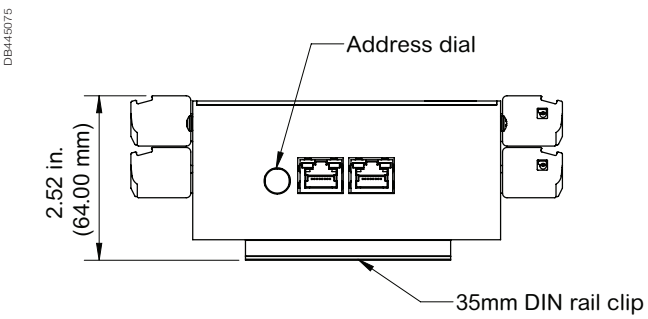
HDPM6000R Retrofit Module Dimensions

24-Circuit

Top view

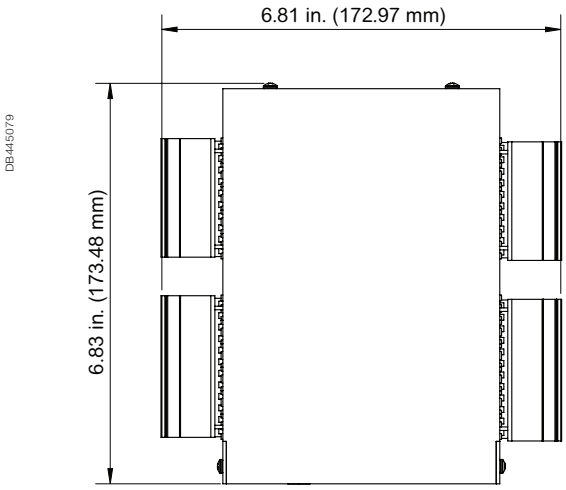


Side view

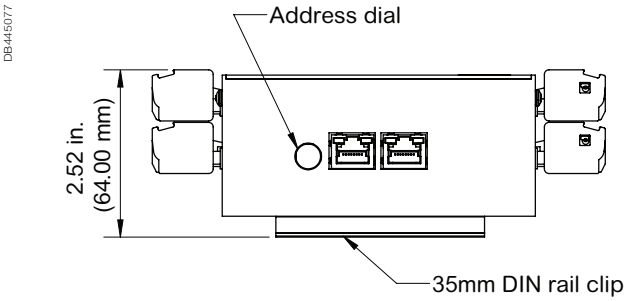


42-Circuit

Top view

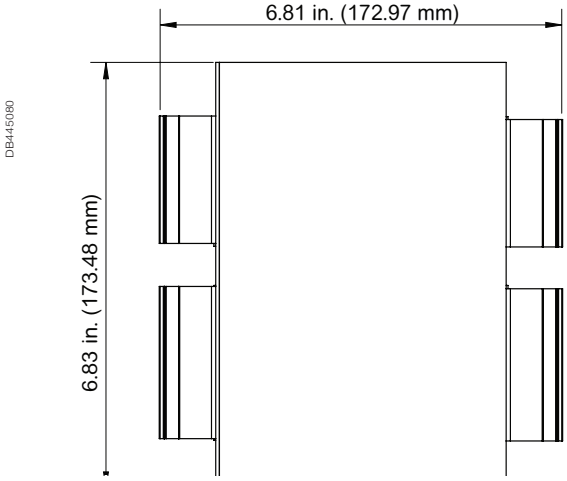


Side view

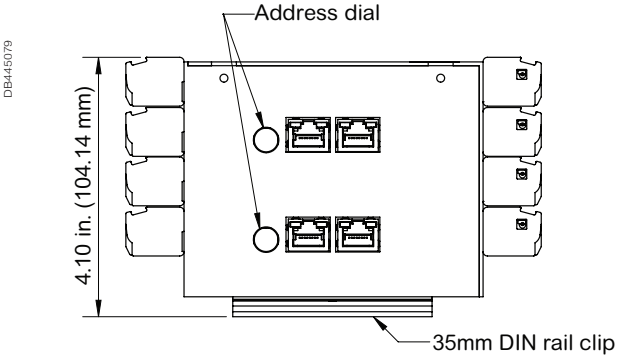


84-Circuit

Top view



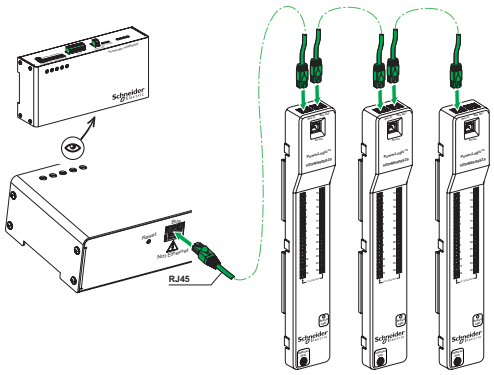
Side view



HDPM6000S24 Strip 24 Circuit Module

PB125793

DB447830



Note: CAT6 cable must be <30m (98ft.) in length between the HDPM6000 head unit and the first module on the bus daisy chain.

The HDPM6000S Strip 24 Circuit Module is a perfect fit for modern panel boards and power distribution units.

When paired with an HDPM6000 Head Unit, the Strip Module provides power quality analysis with waveform capture, current Total Harmonic Distortion (THD). It can also track temperature and humidity using additional sensors.

One Head Unit can connect to upto 8 Strip Modules, allowing monitoring up to 192 circuits.

Inputs and Outputs

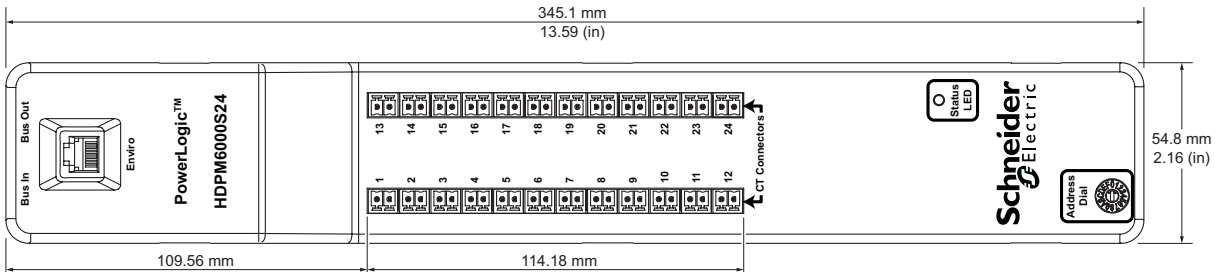
- Current per branch and sum of all phases
- Energy (kWh) per branch and sum of all phases
- Real Power (kW) per branch and sum of all phases
- Apparent Power (kVA) per branch and sum of all phases
- Reactive Power (kVAR) per branch and sum of all phases
- Real Power (kW) demand per circuit
- Current waveform capture (optional)
- Total Harmonic Distortion (THD)
- Power factor (sign indicates leading or lagging current), per branch and average of all phases for multi-phase circuits
- Temperature and humidity (one input for optional sensor)

HDPM6000S24 Strip 24 Circuit Module Dimensions

Top view

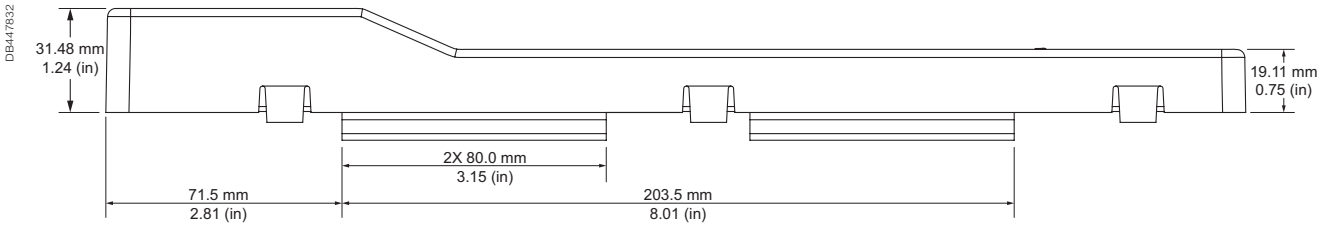
DB447831

Top view



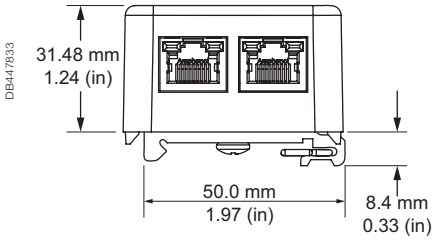
Front view

DB447832



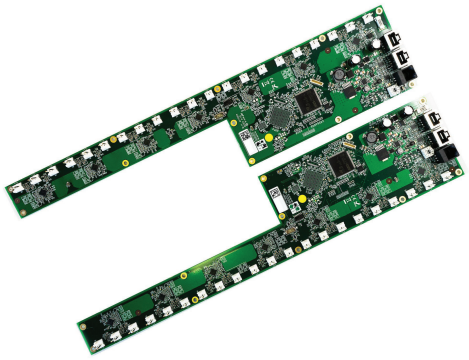
Side view

DB447833



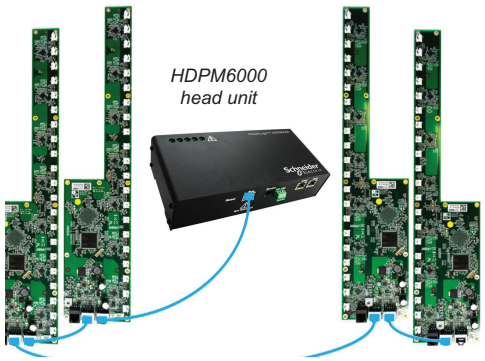
HDPM6000S Strip 21 Circuit Module

PB124378



HDPM6000S Strip Module

PB124379



Metering Architecture

The HDPM6000S Strip 21 Circuit Module is the ideal solution for new panel boards and power distribution units.

Paired with an HDPM6000 Head Unit, the Strip Module provides power quality analysis with waveform capture (optional), current Total Harmonic Distortion (THD), and can also monitor the ambient temperature and humidity via add-on sensor.

Left and right options of the strip are available to fit on both sides of the panel. Use a combination of metering circuit boards to monitor up to 168 branch circuits with one HDPM6000 Head Unit.

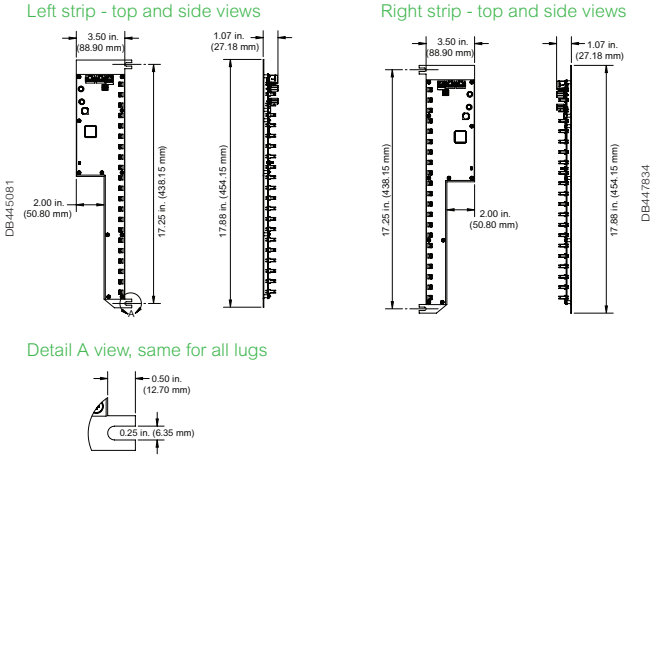
Measurements

- 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
- Real Power (kW) demand per circuit
- Current waveform capture (optional)
- Total Harmonic Distortion (THD)
- Power factor (sign indicates leading or lagging current), per branch and average of all phases for multi-phase circuits
- Temperature and humidity (one input for optional sensor)

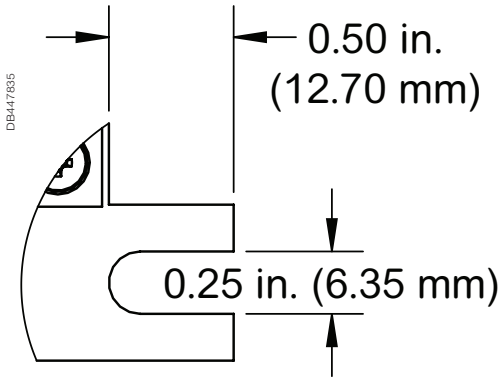
HDPM6000S Strip 21 Circuit Module Dimensions

Left strip - top and side views

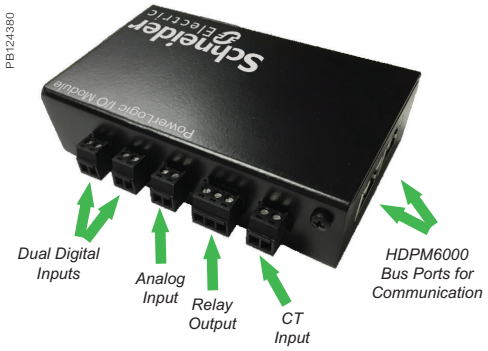
Right strip - top and side views



Detail A view, same for all lugs



HDPM6000 I/O Module



HDPM6000 I/O Module

The I/O module is built on the HDPM6000 platform technology and is available to add digital and analog inputs, as well as a digital output to the connected system.

The I/O module provides two digital inputs, one analog input (10 Vdc), one relay output and one CT input. The HDPM6000 head unit outputs the data directly to your network and the I/O points can integrate with any BMS or DCIM system via Modbus TCP/IP, SNMP and BACnet/IP.

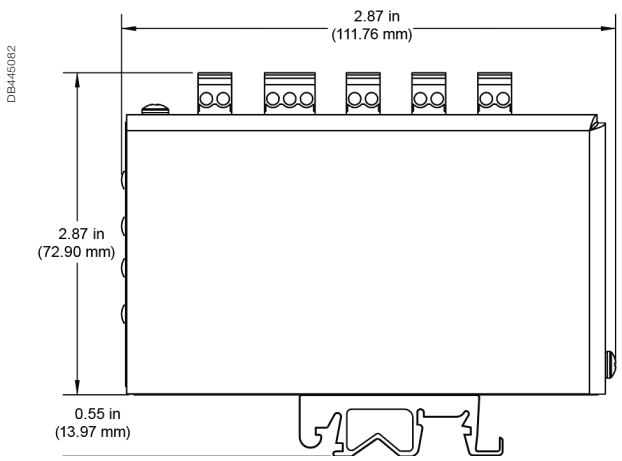
Up to 10 I/O modules can be added to an HDPM6000 bus, including those with branch circuit modules (HDPM6000R, HDPM6000S, HDPM6000S24, HDPM6000B).

Inputs and Outputs

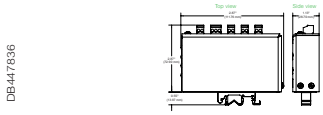
- Digital input 1 and 2: Dry contacts to monitor accessory equipment. 5 Vdc, 11 mA max supplied across dry contact input. Dry contact impedance maximum 50 Ω
- Analog input 1: 0 to 10 Vdc sensor input. 0 to 10 Vdc, 0.05 V accuracy, 0.01 V resolution
- Relay output: Form-C (NO, NC, Common). 30 Vdc at 1 A. 48 Vac at 0.5 A
- Current transformer Input: 0 to 250 mVac (CT output). No shorting blocks required.
- HDPM6000 bus ports: Two RJ-45 ports for daisy chaining and connection to the HDPM6000 head unit)

HDPM6000 I/O Module Dimensions

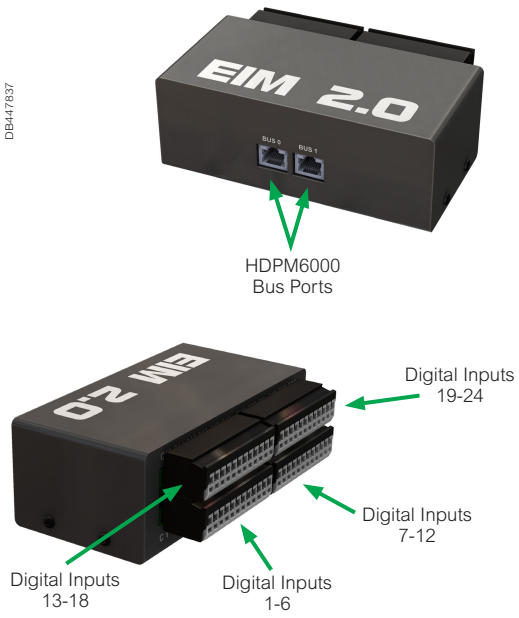
Top view



Side view



HDPM6000 Expanded Input Module



The Expanded Input Module (EIM 2.0) is built on the HDPM6000 platform technology and is available to add dry contact inputs to the connected system.

Powered by the HDPM6000 platform, the EIM 2.0 provides 24 channels to monitor digital state from equipment with dry contact outputs such as fan controllers, breaker auxiliary contacts and power supplies. The HDPM6000 head unit outputs the data directly to your network and the digital points can integrate with any BMS or DCIM system via Modbus TCP/IP, SNMP and BACnet/IP.

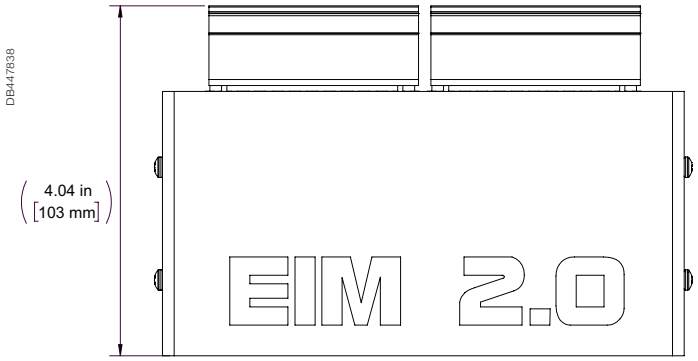
Up to 10 EIM 2.0 modules can be added to an HDPM6000 bus, including those with branch circuit modules (HDPM6000R, HDPM6000S, HDPM6000S24, HDPM6000B).

Inputs and Outputs

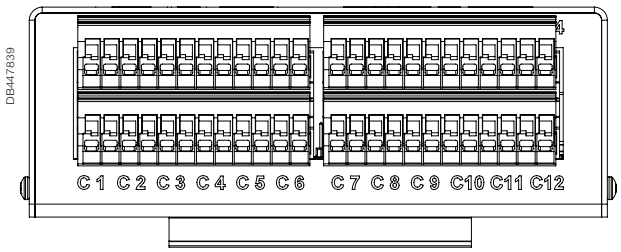
- Digital Inputs: Dry contacts to monitor accessory equipment. Supplied circuit voltage: 5 VDC from Expanded Input Module. Maximum impedance input to common (C): 40 Ohms. Maximum current: 5 mA per input.
  - Digital Inputs 1-6
  - Digital Inputs 7-12
  - Digital Inputs 13-18
  - Digital Inputs 19-24
- HDPM6000 Bus Ports: Two RJ-45 ports for daisy chaining and connection to the HDPM6000 head unit

HDPM6000 Expanded Input Module Dimensions

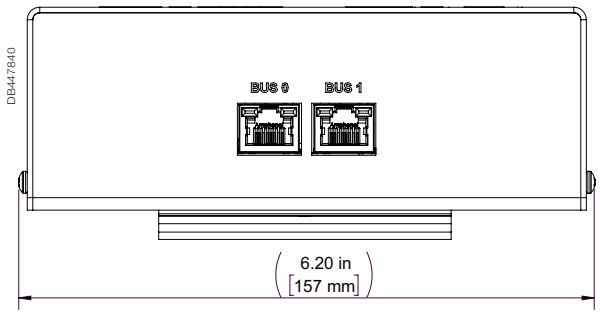
Top view



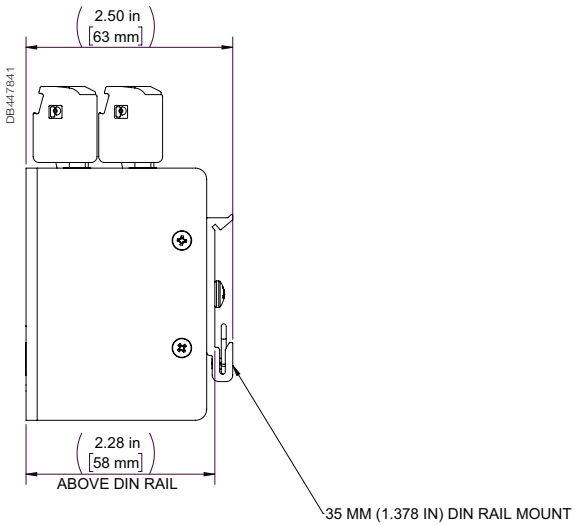
Back view



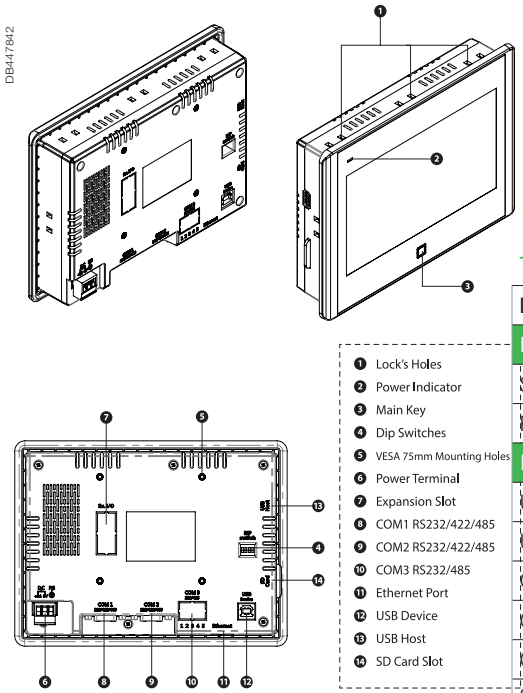
Front view



Side view



HDPM6000 HMI



The HMI is a panel-mount, 4.3-inch or 7-inch color touchscreen, designed to display a selection of measurements from up to 4 HDPM6000 Head Units. Measurements displayed include voltage, current, power, and energy for the Head Unit and Branch Circuits.

The HMI is powered by 24 VDC and communicates with Head Units via an RS-485 serial connection.

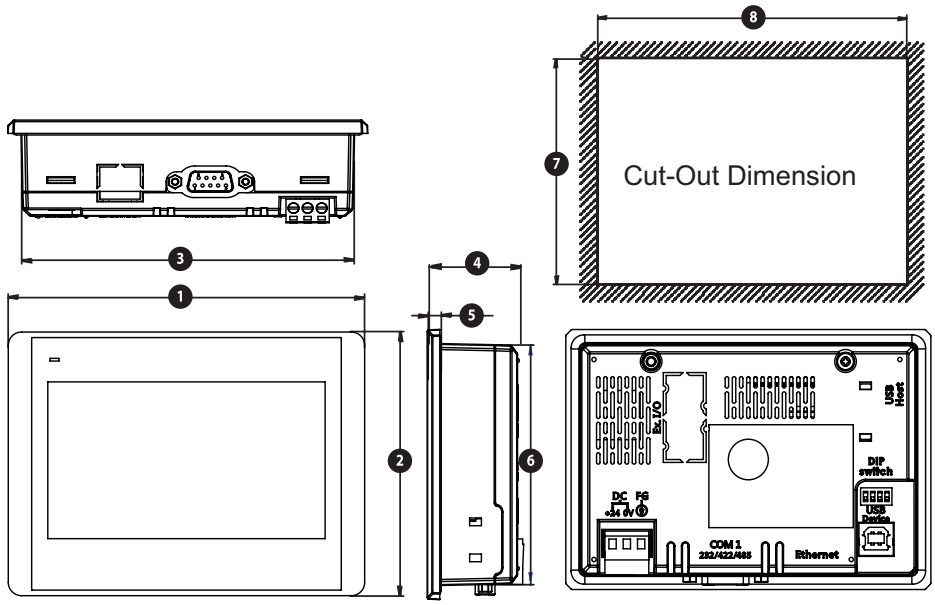
Technical specifications

Display	4.3-inch	7-inch
Electrical Characteristics		
Supply voltage	24 Vdc	
Power consumption	6 W	8 W
Input/Output		
USB	USB 1.1 host Type A	
USB	USB 2.0 device Type B	
COM1	1xRS232 1xRS422/485	RS232/422/485
COM2	N/A	RS232/422/485
COM3	N/A	RS232/485
SD card	N/A	SD card slot
Ethernet port	10/100 Mbps	
Physical Characteristics		
Type	4.3-inch TFT	7-inch TFT
Resolution	480 x 272 pixels	800 x 480 pixels
Colors	64,000	65,536
Luminance	330 cd/m^2	300 cd/m^2
View angle	140/120 (H°/V°)	
Backlight type	LED	
Backlight lifetime	20,000 hours	
Contrast ratio	500:1	
Display dimensions	127.7 (W) x 89.7 (H) x 36.7 (D) mm 5.02 (W) x 3.53 (H) x 1.445 (D) in	199.8 (W) x 147.8 (H) x 39.8 (D) mm 7.866 (W) x 5.819 (H) x 1.567 (D) in
Panel cut-out dimensions	119.3 (W) x 81.3 (H) mm 4.697 (W) x 3.201 (H) in	185.2 (W) x 133.2 (H) mm 7.291 (W) x 5.244 (H) in
Mounting	Panel mount	Panel or VESA 75x75 mount
Net weight	0.25 kg	0.66 kg
Enivronmental Characteristics		
Operating temperature	0...45 °C (32...113 °F)	0...50 °C (32...122 °F)
Storage temperature	-20...60 °C (-4...140 °F)	
Relative humidity	10...90% @ 40% non-condensing	

HDPM6000 HMI Dimensions

4.3-inch HMI

DB447843

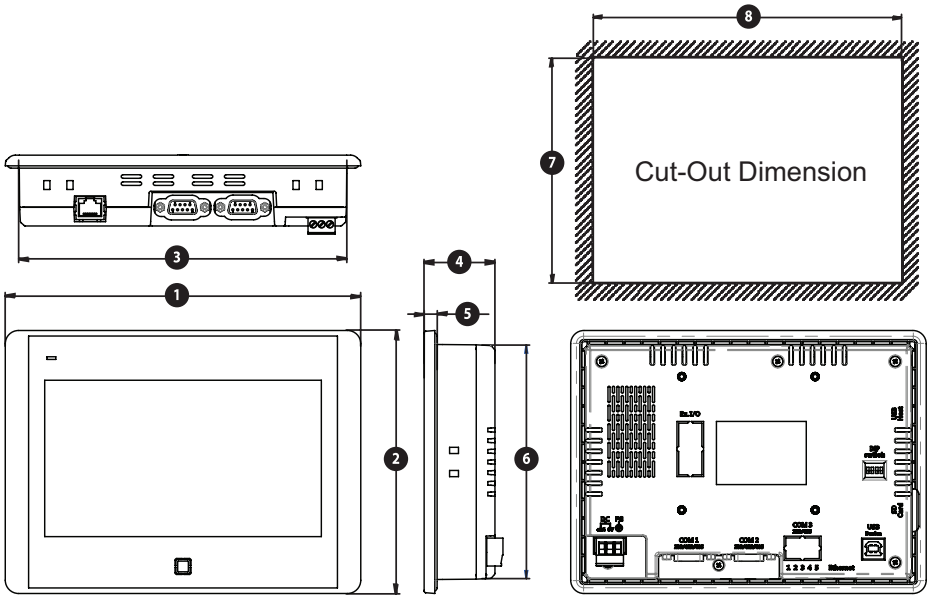


Dimension Unit : inch

	1	2	3	4	5	6	7	8
4.3-inch	5.02	3.53	4.65	1.44	0.19	3.16	3.2	4.7

7-inch HMI

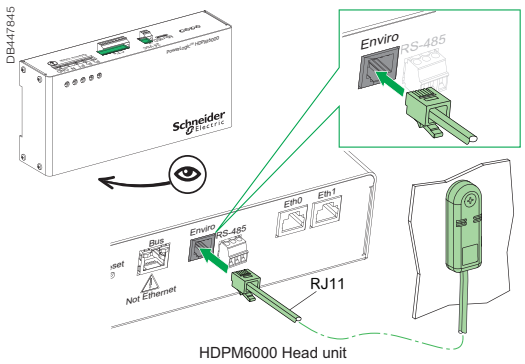
DB447844



Dimension Unit : inch

	1	2	3	4	5	6	7	8
7-inch	7.86	5.82	7.2	1.56	0.29	5.2	5.2	7.2

HDPM6000 Temperature and Humidity Sensors



Connection of Temperature sensor to the Head Unit Enviro Port

The HDPM6000 Temperature and Humidity sensors allow to monitor the environmental parameters of the panel where the HDPM6000 system is installed.

The HDPM6000 head unit outputs the data directly to your network and the digital points can integrate with any BMS or DCIM system via Modbus TCP/IP, SNMP and BACnet/IP.

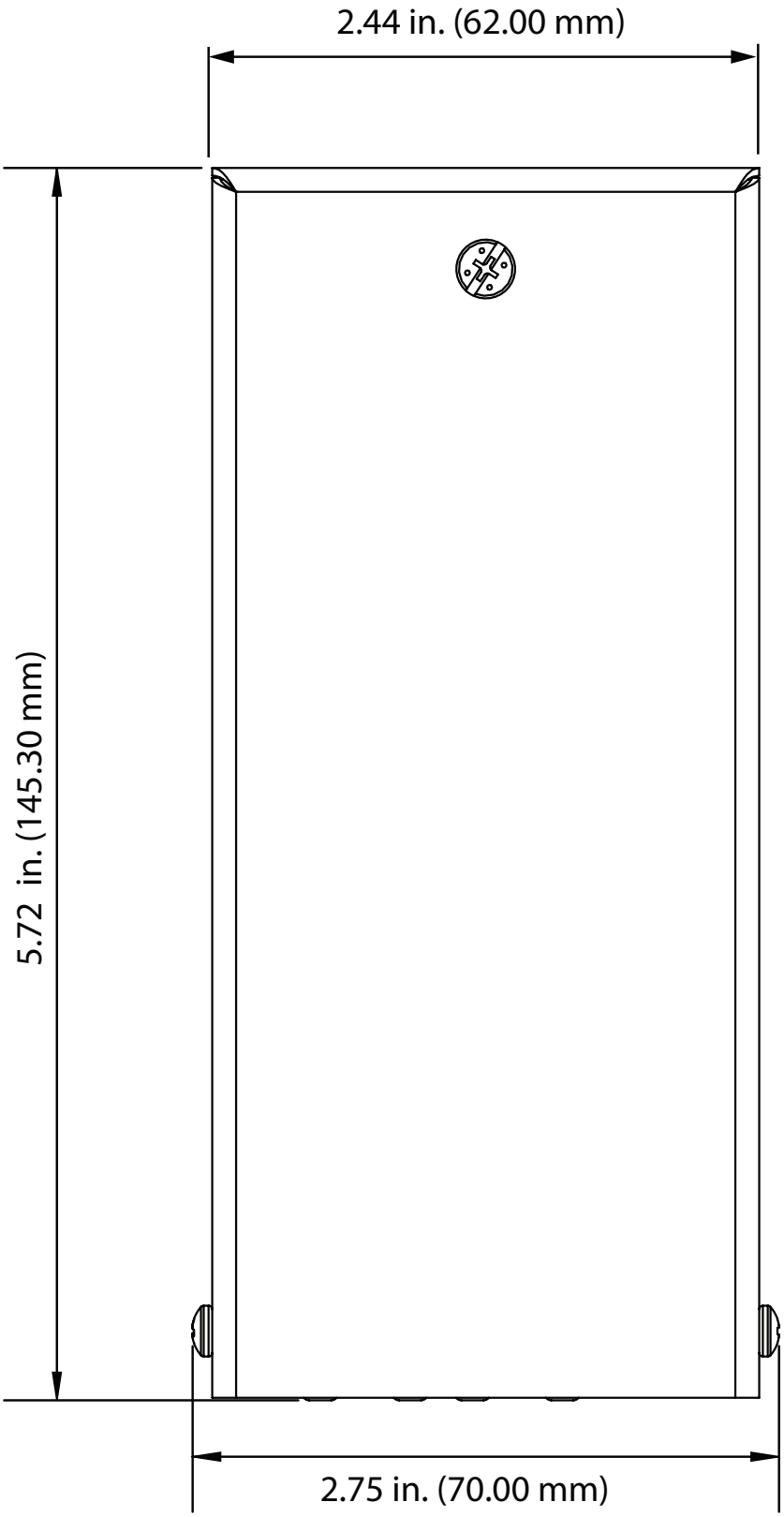
One Temperature or Temperature and Humidity sensor can be connected per HDPM6000 Head Unit, Busway Module, Strip 21 or 24 Circuit.

Technical Specifications

Features	
Control power	Low supply voltage: 5 V (Powered by Enviro port)
Communication	Data refresh rate: 0.5 Hz Interface: 1 wire protocol
Measurement range - Temperature	-10...65 °C (14...149 °F) Resolution of 0.01 °C (0.018 °F)
Measurement accuracy - Temperature	± 0.6 °C (± 1.08 °F) typical (5...60 °C (41...140 °F))
Measurement range - Humidity	5...95% RH Resolution of 0.01%
Measurement accuracy - Humidity	± 3% typical (20...80%)
Environmental Characteristics	
Operating temperature	-10...65 °C (14...149 °F)
Storage temperature	-20...85 °C (-4...185 °F)
Humidity rating	5...95% RH non-condensing
Pollution degree	2
Altitude	≤ 2000 m (6562 ft) above sea level
Mounting location	For indoor use only

HDPM6000 Temperature and Humidity Sensors Dimensions

DB447846



HDPM6000 Power Supplies

The power supplies provided as part of the HDPM6000 catalogue for the Head Unit are Class II precision power supplies, manufactured by Phoenix Contact.

Technical Specifications

Input/Output		
Power supply	METSEHDPM6PSV240	METSEHDPM6PSV500
Input	1 phase	2 phase
Nominal input voltage range	100 Vac ... 240 Vac	2x 400 Vac ... 500 Vac
Input voltage range	85 Vac ... 264 Vac	2x 264 Vac ... 575 Vac
Frequency	45...65 Hz	
Volts output	24 Vdc ± 1%	
Amps output	2.5 A	3.75 A
Power output	60 Watt	90 Watt
Physical Characteristics		
Dimensions	72 (W) x 90 (H) x 61 (D) mm 2.835 (W) x 3.543 (H) x 2.401 (D) in	55 (W) x 90 (H) x 84 (D) mm 2.165 (W) x 3.543 (H) x 3.307 (D) in
Weight	320	363.6 g
Degree of pollution	20	
Degree of protection	IP20	
Environmental Characteristics		
Operating temperature	-25...70 °C (-13...158 °F)	
Storage temperature	-40...85 °C (-40...185 °F)	
Relative humidity	95% (at 25 °C non-condensing)	

Commercial Reference Numbers

Model	Description
HDPM6000 Head Unit	
METSEHDPM6S480VC	HDPM 50/60 Hz up to 480 V
HDPM6000R Retrofit Modules	
METSEHDPM6R24	HDPM 24 Ckt Module
METSEHDPM6R24WF	HDPM 24 Ckt Module WFC
METSEHDPM6R42	HDPM 42 Ckt Module
METSEHDPM6R42WF	HDPM 42 Ckt Module WFC
METSEHDPM6R84	HDPM 84 Ckt Module
METSEHDPM6R84WF	HDPM 84 Ckt Module WFC
HDPM6000S and HDPM6000S24 Strip Module	
METSEHDPM6S24WF	HDPM 24 Ckt Strip Module WFC
METSEHDPM6S42	HDPM Strip Left and Right Set for 42 Ckts
METSEHDPM6S42W	HDPM Strip Left and Right Set for 42 Ckts WFC
METSEHDPM6S21R	HDPM Strip Right Set 21 Ckt
METSEHDPM6S21WF	HDPM Strip Right Set 21 Ckt WFC
METSEHDPM6S21L	HDPM Strip Left Set 21 Ckt
METSEHDPM6S21WH	HDPM Strip Left Set 21 Ckt WFC
HDPM6000B Busway Modules	
METSEHDPM6BT4	HDPM 4 Ckt Busway Module with Busway Tap Box mount
METSEHDPM6BT8	HDPM 8 Ckt Busway Module with Busway Tap Box mount
METSEHDPM6BT8DIN	HDPM 8 Ckt Busway Module with DIN mount
HDPM6000 Temperature and Humidity Sensors	
METSEHDPMTEMP12B	HDPM Temperature Sensor with 12 ft Blue Cable
METSEHDPMTEMP25B	HDPM Temperature Sensor with 25 ft Blue Cable
METSEHDPMTEMPHM25B	HDPM Temperature and Humidity Sensor with 25 ft Blue Cable
METSEHDPMTEMPHM06B	HDPM Temperature and Humidity Sensor with 6 ft Blue Cable
HDPM6000 I/O Module	
METSEHDPM6IO	HDPM I/O Module
METSEHDPM6DI	Expanded Input Module 2.0, 24 Channel
HDPM6000 CTs	
Refer to HDPM6000 CT manual for full list	
HMI Displays	
METSEHDPM6HMI4	HDPM 4 inch Color Touchscreen HMI Display
METSEHDPM6HMI7	HDPM 7 inch Color Touchscreen HMI Display
Power Supplies	
METSEHDPM6PSV240*	HDPM PS 24 Vdc 60 W
METSEHDPM6PSV500*	HDPM PS 24 Vdc 90 W

**Phoenix Contact power supply.*

PowerLogic™ EM4000 series

The compact PowerLogic™ EM4000 series multi-circuit energy meter from Schneider Electric enables the reliable reliable monitoring of building electrical loads with 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

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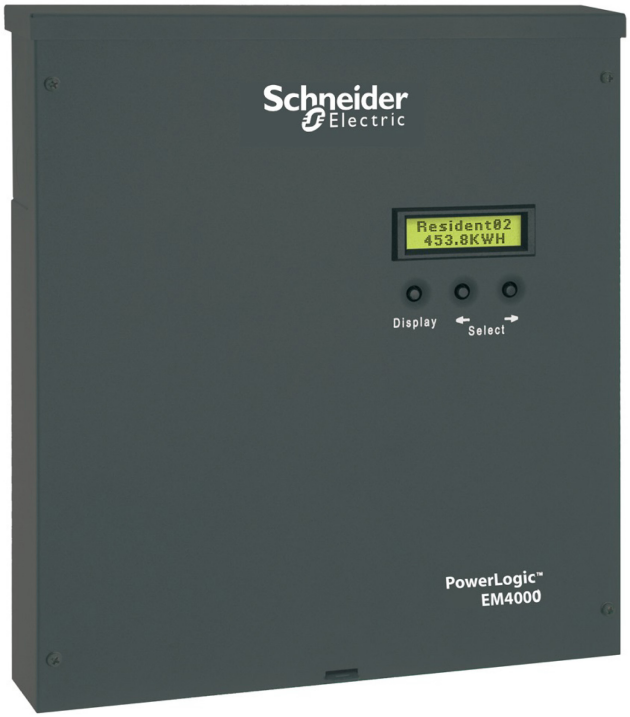

METSEEM403316

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

EM4000 series

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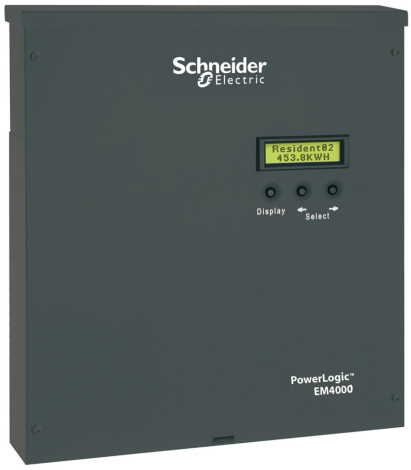


EM4000 series multi-circuit energy meter

The compact PowerLogic™ EM4000 series multi-circuit energy meter from Schneider Electric enables the reliable monitoring of building electrical loads with 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

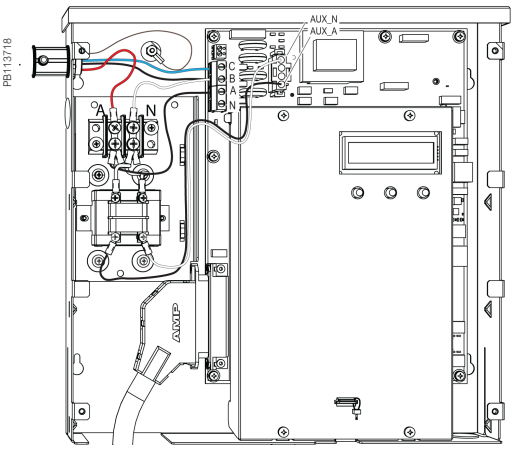
Main characteristics

- 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	24 x 333 mV inputs, 120 V control power 60 Hz
METSEEM403336		24 x 333 mV inputs, 277 V control power 60 Hz
METSEEM408016	EM4080	24 x 80 mA inputs, 120 V control power 60 Hz
METSEEM408036		24 x 80 mA inputs, 277 V control power 60 Hz

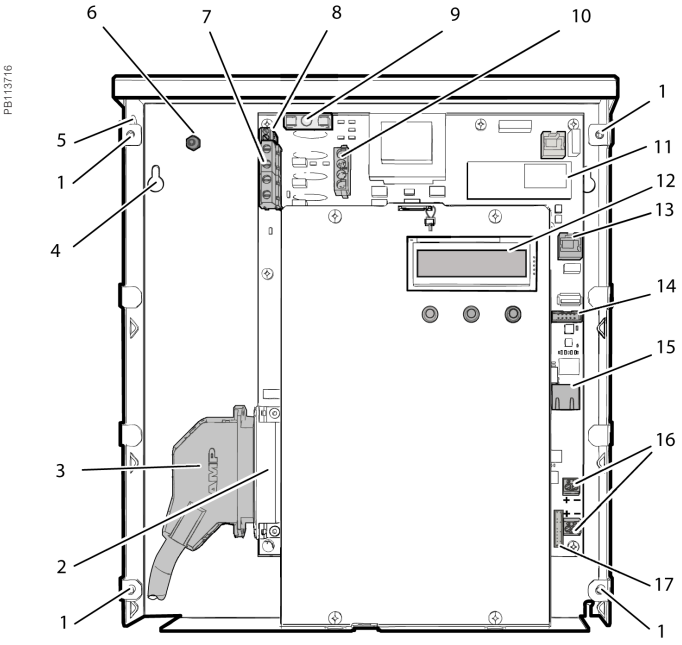
EM4000 series



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

Selection guide

General		EM4033	EM4080
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		■	■



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

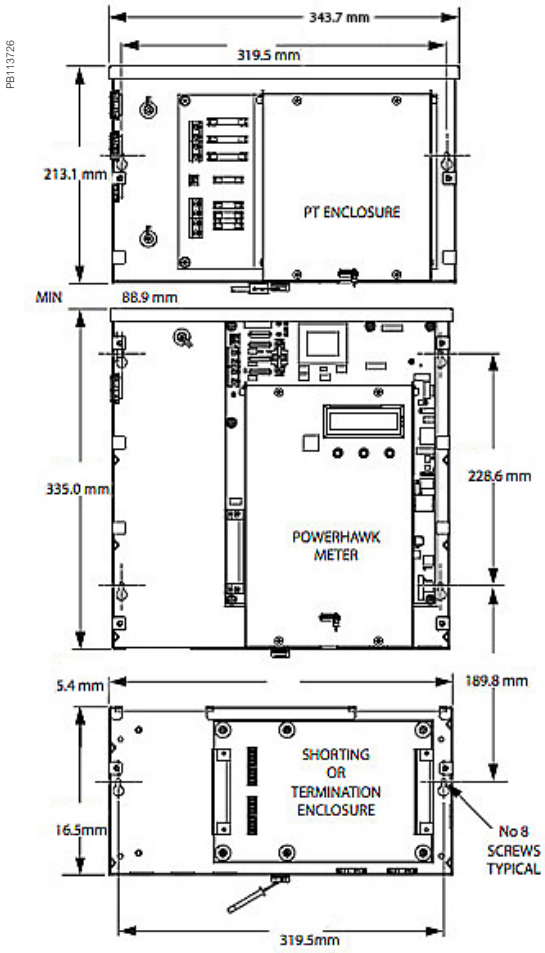
EM4000 series

EM4000 technical specifications

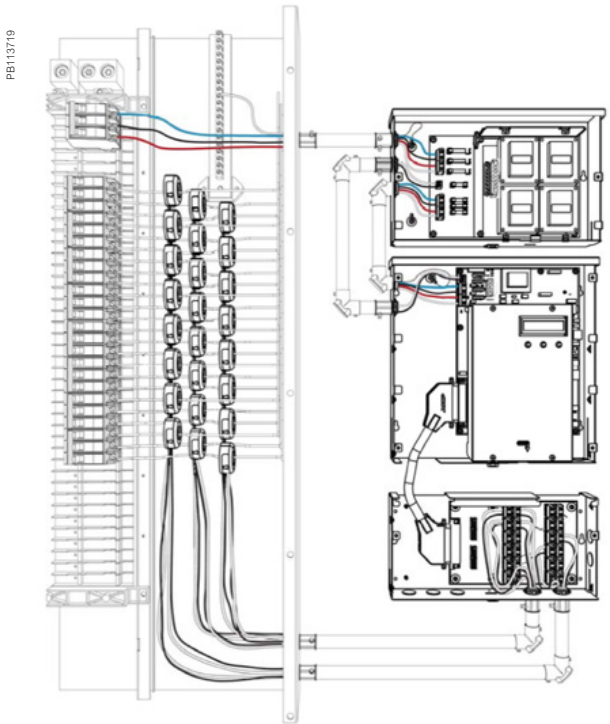
Electrical characteristics		
Input-voltage characteristics	Inputs	V1, V2, V3, Vn
	Measured voltage	80 - 480 V AC L-L without PTs Up to 999 kV with external PTs
	Frequency range	60 Hz
Mechanical characteristics		
Weight	EM4033/EM4080	approx. 4.0 kg
Dimensions	EM4033/EM4080	335 x 305 x 55 mm
Environmental 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.

EM4000 series

EM4X00, CT termination, PT module

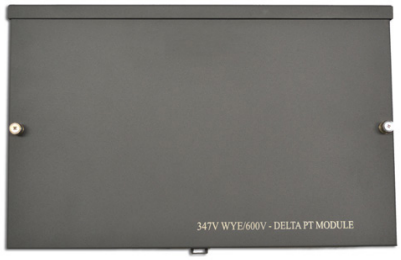


EM4X00, CT termination, PT module



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

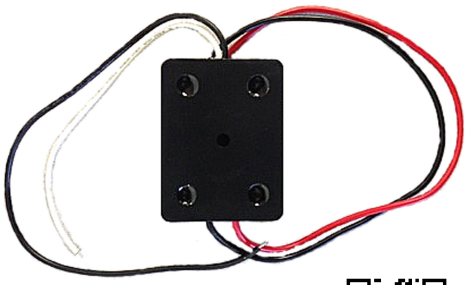
CT Module

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



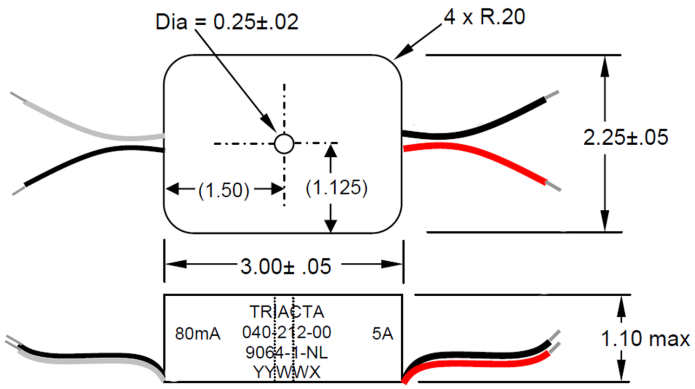
METSECONV580

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™ 4X80 meters.

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

PB111056

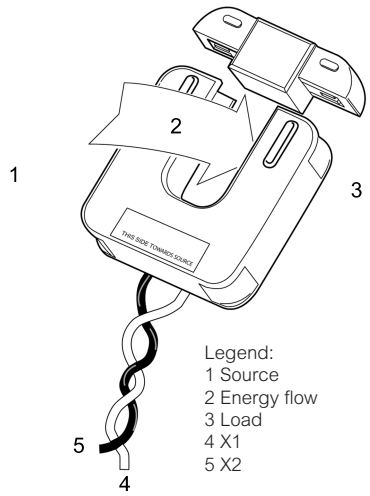


The 5 A to 80 mA converter dimensions

*See appropriate **Installation Guide** for this product.*

EM4000 series

PB111061



Legend:
1 Source
2 Energy flow
3 Load
4 X1
5 X2

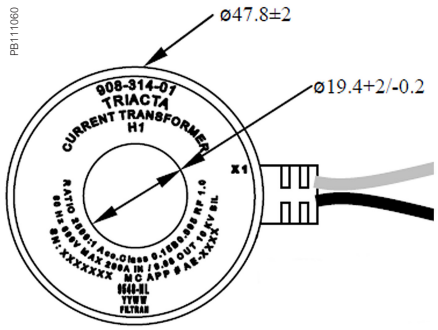
CTs

- 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

PB111060

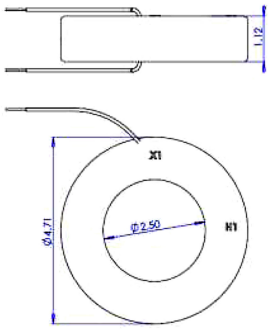


200 A CT dimensions

PB113971

400 A CT

PB113972

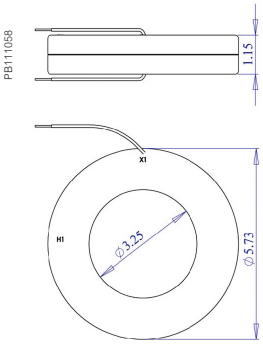


400 A CT dimensions

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

PowerLogic™ 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

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

Selection guide

General		EM4805	EM4833	EM4880
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.

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

METSEEM3502

METSEEM4235

PowerLogic™ EM3500 series

The PowerLogic™ 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

EM3500 series

PB105431

PowerLogic™ EM3500

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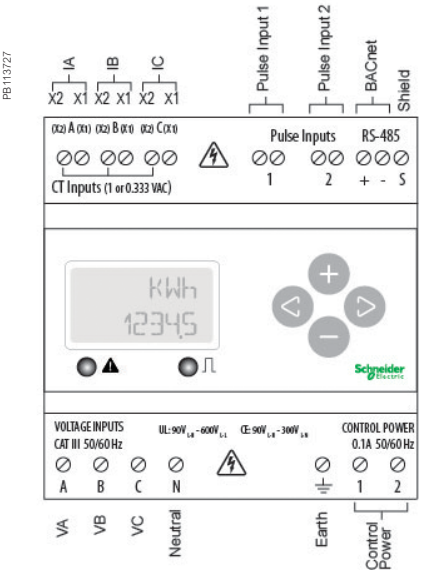

EM3500 parts and connection terminals

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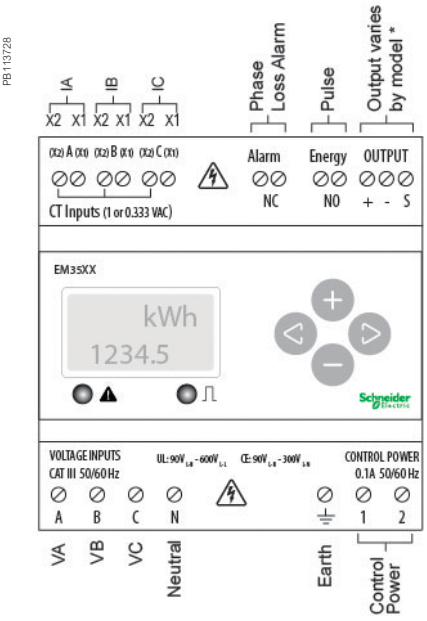

EM3502/EM355x parts and connection terminals

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

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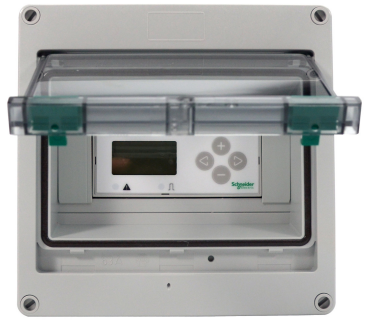


EM3500 in enclosure with door open

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 °C to 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

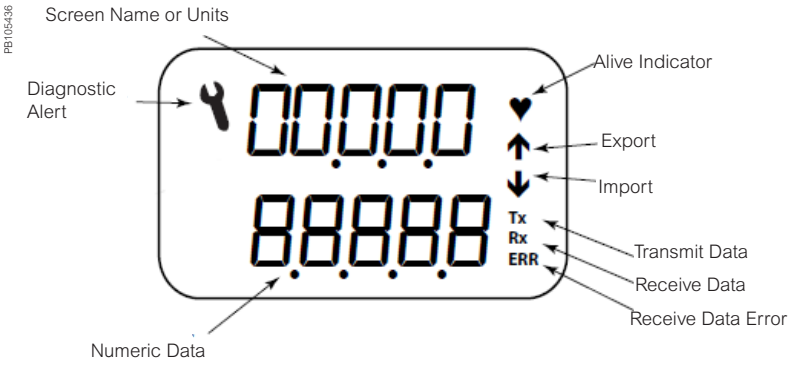
Commercial reference number	Model	Description
METSEEM3502	EM3502	Pulse out only
METSEEM3550	EM3550	Modbus - 2 quadrant
METSEEM3555	EM3555	Modbus - 4 quadrant with logging
METSEEM3560	EM3560	BACnet with logging
METSEEM3502A	EM3502A	Pulse Rope CT model
METSEEM3550A	EM3550A	Modbus Rope CT Model
METSEEM3560A	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

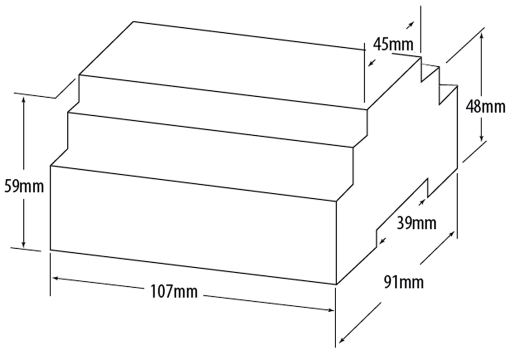
PB105436



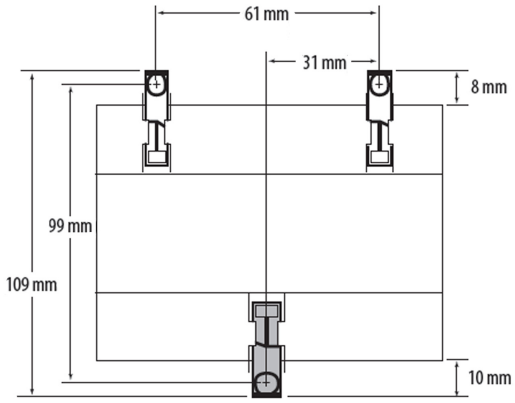
EM3500 series

EM3500 dimensions

PB105420



PB105421



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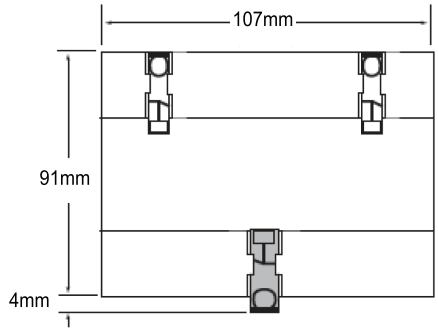
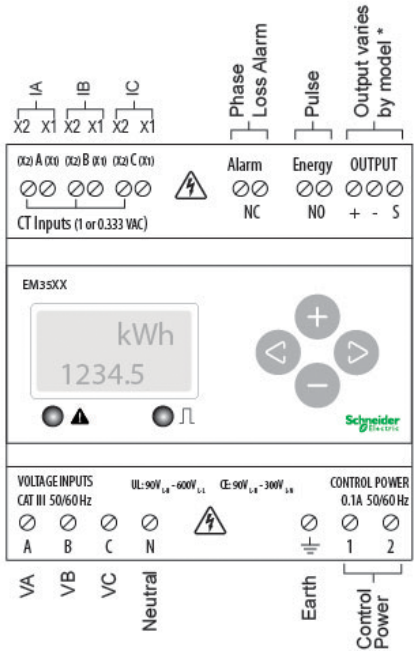


Bottom View (DIN Mount Option)

EM3500 connections

PB113728



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.

PowerLogic™ 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 No. 61010-1-12
- 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

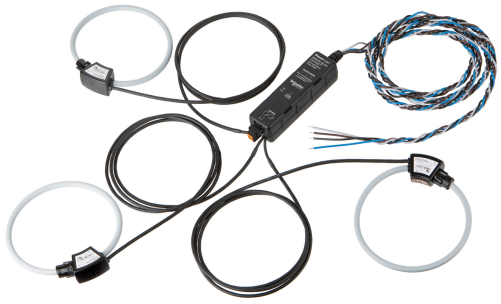
- ANSI C12.1, 1%
- IEC 62053-22 Class 1S 1%

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

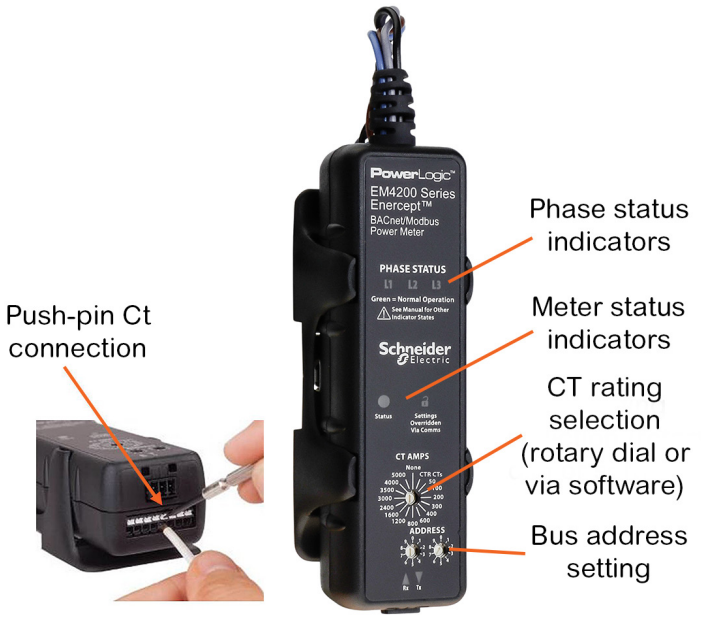
EM4200 series selection guide

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

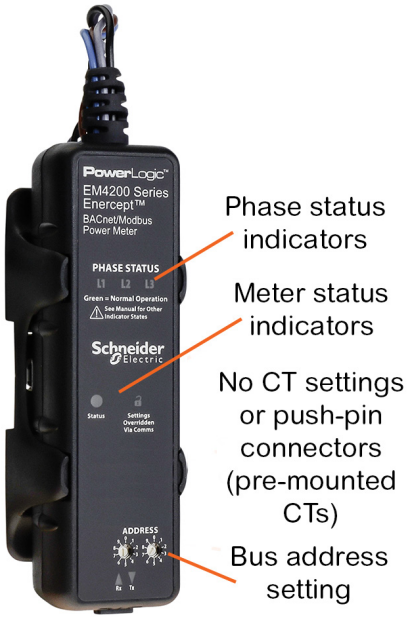
EM4200 Flex meter

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 No. 61010-1-12	CAN/CSA C22.2 No. 61010-1-12
		EN 61000-6-2	EN 61000-6-2
		EN 61000-6-4 Class A	EN 61000-6-4 Class A
		EN 61010-1	EN 61010-1
		EN 61326-1 Class A	EN 61326-1 Class A
		FCC 47 CFR Part 15 Class A	FCC 47 CFR Part 15 Class A
		UL 61010-1	UL 61010-1
Accuracy			
Accuracy standards		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%

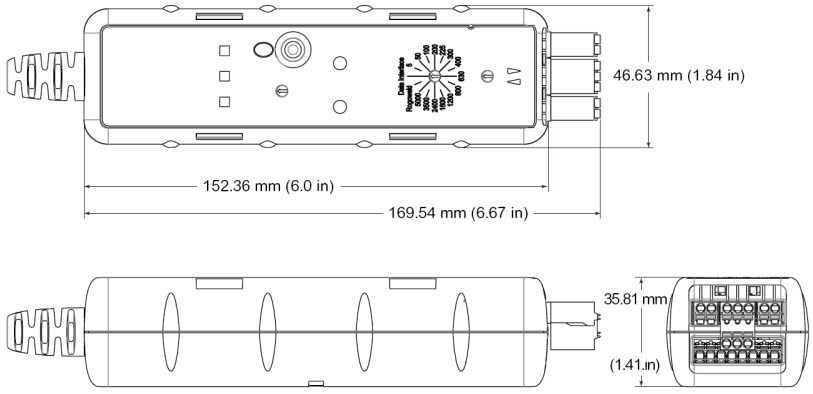
Commercial Reference Numbers

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



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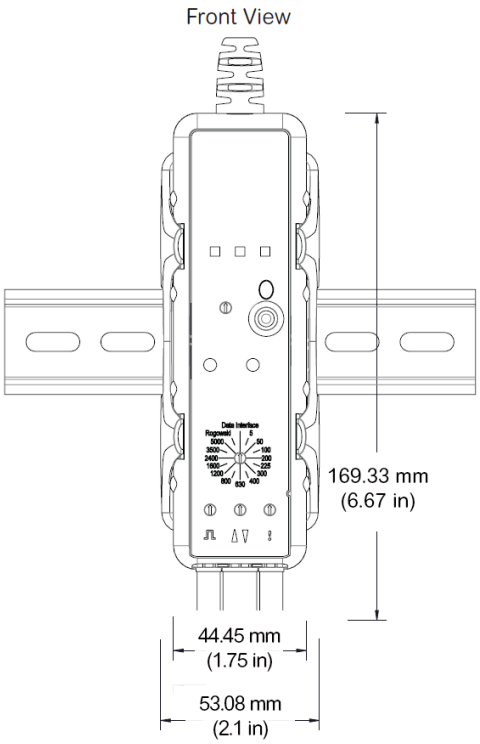

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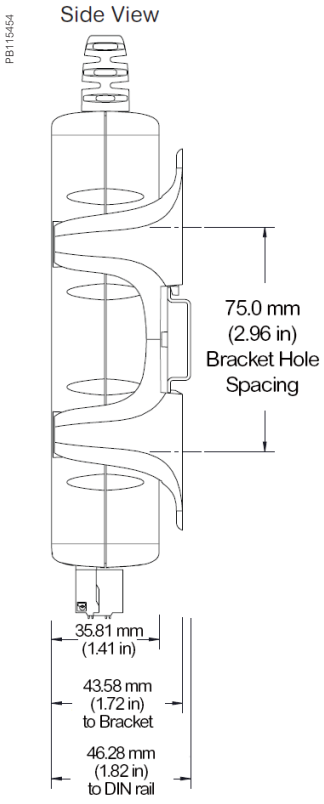


Insulation Monitoring Devices

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.

Insulation Monitoring of IT / Ungrounded Networks

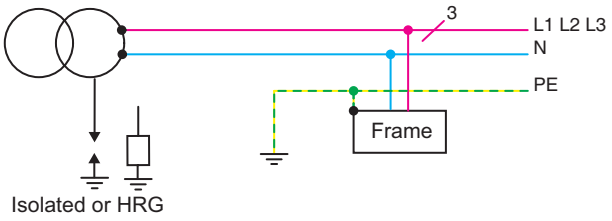
Any electrical installation must ensure both the safety of people and the protection of its assets. Over time, loads and conductors may experience insulation degradation to earth, leading to potential safety risks. One way to protect the installation and people is to install protection devices that will cut power to all or part of the installation in case of an insulation fault.

The consequences of this loss of power can be significant:
- Total or partial stoppage of critical processes including people safety processes.
- Total or partial loss of production and stocks.
- Increased operational costs and delays.

Continuity of service is thus an essential operational and safety requirement for many power network applications.

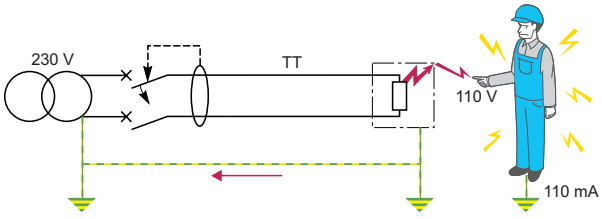
One way to ensure the protection of an installation and maintain service continuity is to isolate all or part of it from earth. This is what is called an IT earthing network or ungrounded network.

This is done simply by disconnecting the neutral of the transformer secondary windings from earth or connecting it through a high resistance (HRG).

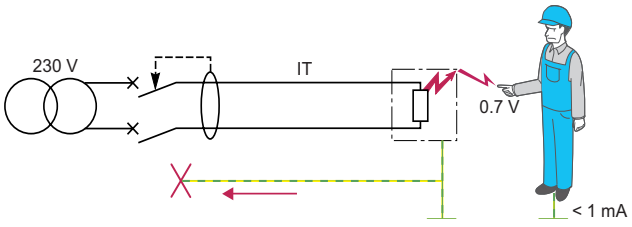


As such, in the event of an insulation fault, current cannot loop via the transformer's neutral resulting in:
- No dangerous contact voltage when touching metal parts.
- Very low fault currents.

Consequently, protective devices are not triggered, power is maintained, and therefore, an IT earthing system provides the best continuity of service.



TT or TN earthing systems: people protection vs residual currents thanks to RCD but power is cut.



IT earthing system: no RCD tripping as there is no current loop back to transformer.

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 All Networks, Except Healthcare

Product		LV	MV
Insulation Monitoring Devices (IMDs)		IMD-IM9, IMD-IM9-OL IMD-IM10, IMD-IM20 IMD-IM10-H, IMDIM15H, IMD-IM20-H IMD-IM400, IMDIM400L, IMD-IM400C IMD-IM400THR, IMD-IM400LTHR	IMDIM400THR IMDIM400LTHR
Insulation Fault Locators (IFLs)		IMDIFL12 IMDIFL12L IMDIFL12C IMDIFL12MC IMDIFL12LMC IMDIFL12MCT	None
Voltage Adaptors		IM20-1700 IM400-1700C IM400VA2 PHT1000 IFL12VA1T	1460872 (P1N)
Toroids		50437 (TA30) 50438 (PA50) 50439 (IA80) 50440 (MA120) 50441 (SA200) 50442 (GA300) 50420 (TOA80) 50421 (TOA120)	None
Manual Fault Locating		IMDMFLK1 + Clamps IMDCP15, MDCP50, IMDCP100	None
Accessories		50159 (ZX Plate) 50171, 50172, 50183 (Cardew)	Voltage Transformers 03811728N0 (6.6 kV) 03811746N0 (22 kV) 03811749N0 (33 kV)

Vigilohm Range Overview for Low Voltage Networks, Except Healthcare

A complete solution to meet your needs

Monitoring and Control

Power Monitoring and SCADA system

Communication and Simple Monitoring

Gateway, Data logger and Web Server

Insulation Monitoring Devices

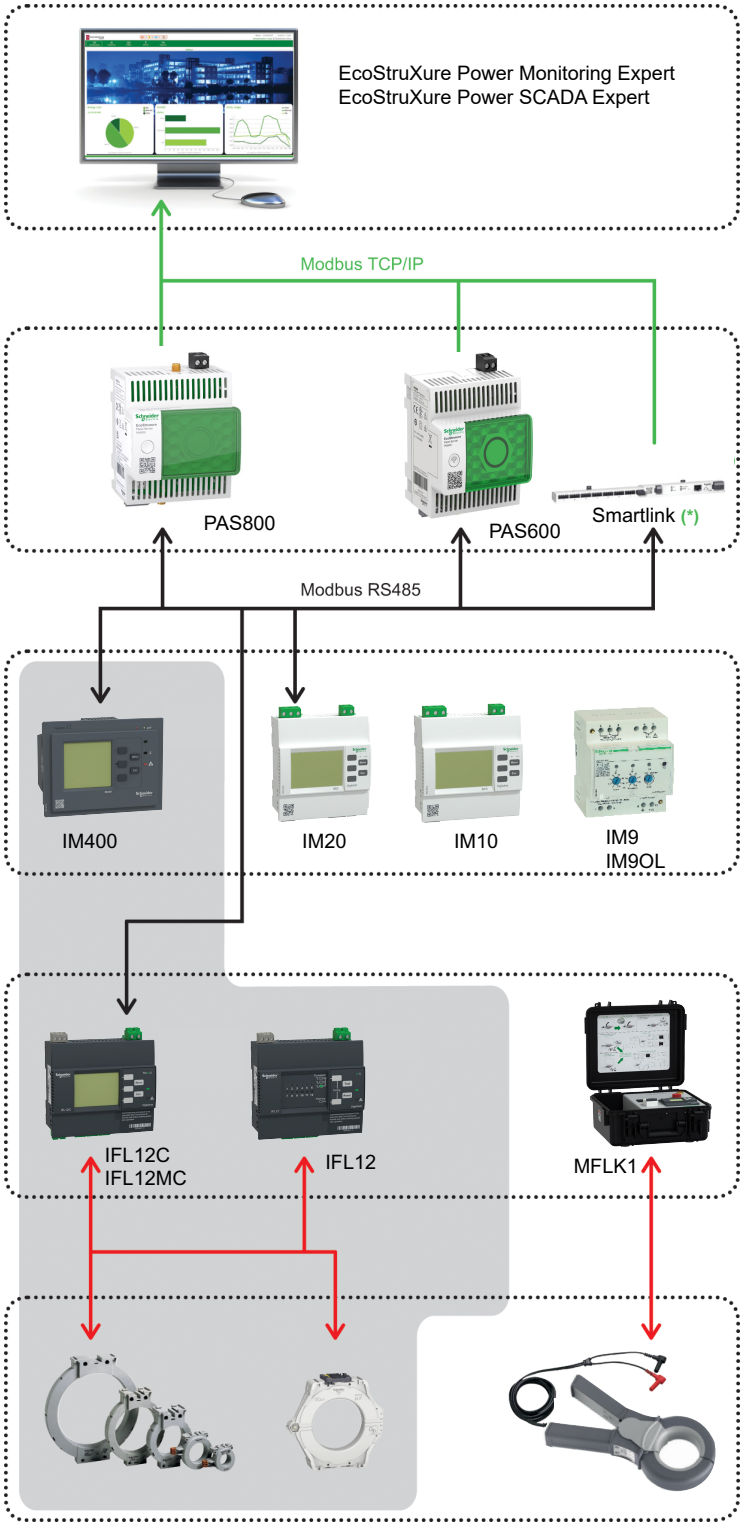
Monitoring of the global network insulation

Insulation Fault Locators

Identification of the faulty feeder

Toroids

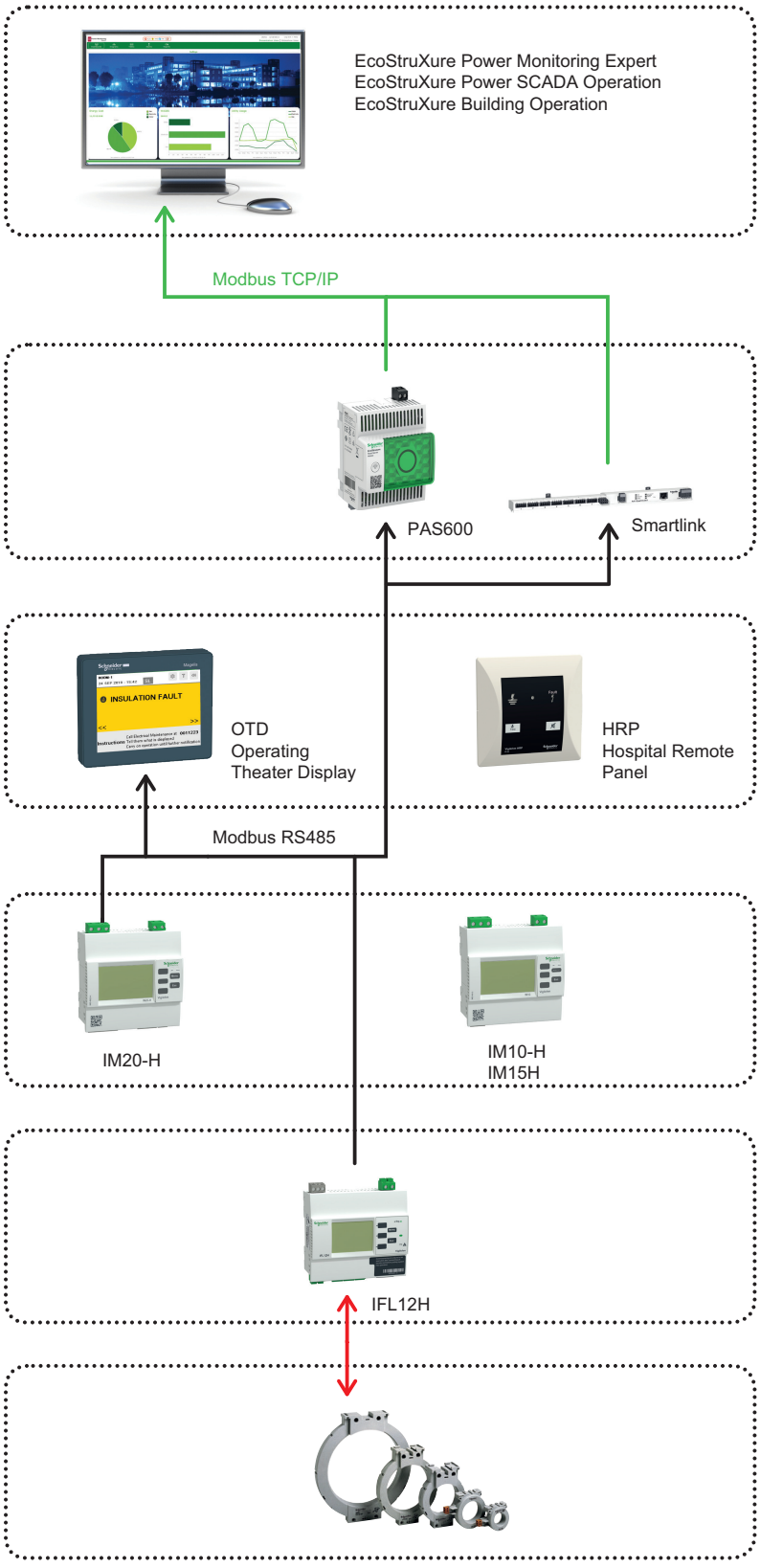
Used along with the Fault Locators



(*) Alarm relay position can be sent to a supervisor via a SmartLink.

Vigilohm Range Overview for Healthcare Networks

Dedicated offers for critical rooms compliant with IEC60364-7-710



Monitoring and Control

Power Monitoring & SCADA system

Communication

Gateway

Local Displays

HMI in the medical room

Insulation Monitoring Devices

Monitoring of the global network insulation

Insulation Fault Locators

Identification of the faulty

Toroids

Used along with the Fault Locators

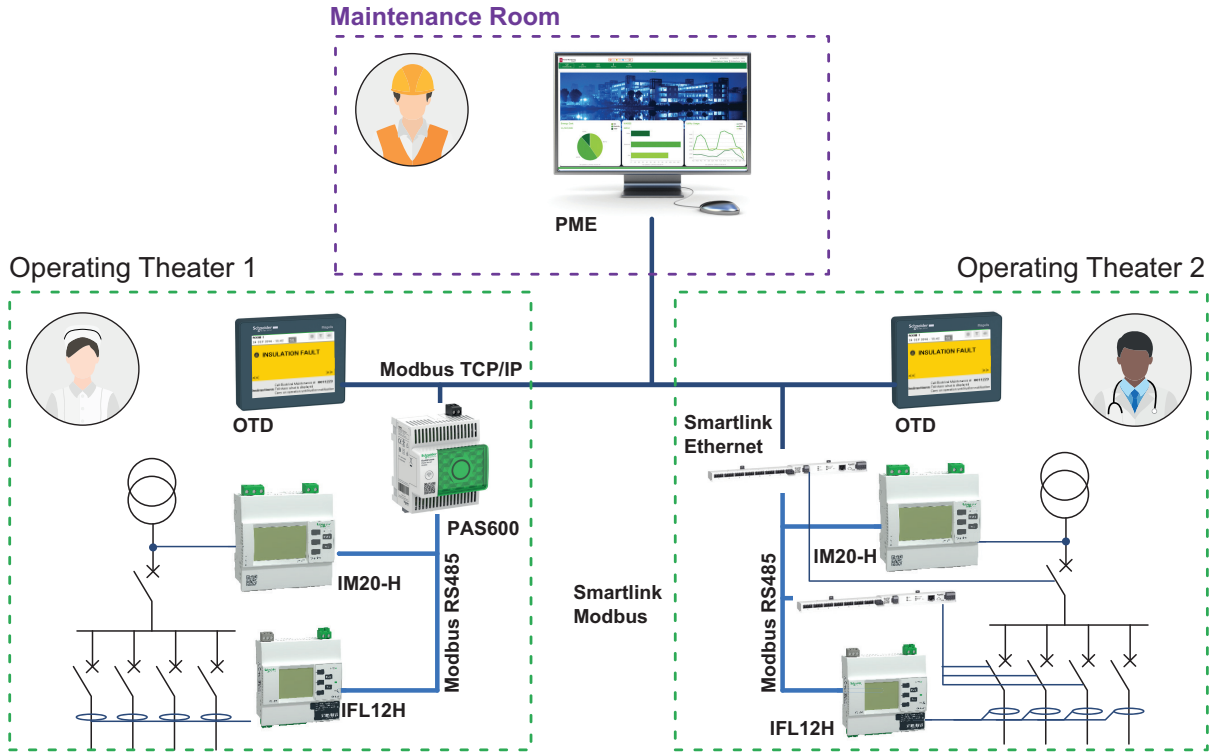
Vigilohm Range Overview for Healthcare

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 PAS600 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 IEC60364-7-710.

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)
Modbus Gateway	PAS600

Vigilohm Range Commercial Reference Numbers

Commercial ref. no.	Description
Vigilohm Insulation Monitoring	
50159	ZX Impedance
50168	Hospital Remote Panle
50169	CARDEW Holder
50171	CARDEW 440V CA Surge Arestor
50172	CARDEW 660V CA Surge Arestor
50183	CARDEW 1000V CA Surge Arestor
50248	PHT1000
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
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
IMDIFL12MCT	Ins Fault locator Adv Tropic
IMDIFL12VA1T	Voltage Adaptor for IFL12MC Series_1000V
IMDMFLK1	Mobile Localisation Kit Case with IM400 and Probes, 1 Channel
IMD-IM10	IM10

Commercial ref. no.	Description
IMD-IM10-H	IM10 H
IMDIM15H	IM15 H
IMD-IM20	IM20
IMD-IM20-1700	Voltage Adaptor for IM20
IMD-IM20-H	IM20 H
IMD-IM400	IM400
IMD-IM400-1700	Voltage Adaptor for IM400
IMDIM400-1700C	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.

EcoStruxure™ Panel Server

IoT for an intelligent power network

The EcoStruxure™ Panel Server is the next generation of gateway, providing a seamless connection of wired or unwired smart IoT devices to your edge control software or cloud-based applications and analytics. It is a foundational enabler for Schneider Electric EcoStruxure™ solutions.

Electrical safety

Panel Server is an integral part of Schneider Electric's continuous thermal monitoring application, helping reduce risk of electrical fires, increase people and assets protection. Implement the thermal monitoring of your electrical panel by connecting thermal and heat sensors to your Panel Server.

Power availability

Electrical distribution monitoring and power event analysis help avoid unplanned downtime caused by electrical failure. Panel Server collects real-time data and alarms, presenting information through embedded webpages, making it available to edge control software or cloud-based applications and analytics for electrical system diagnostics. Use embedded webpages for first-level monitoring or monitor from your edge or cloud control system.

Optimize energy efficiency

Improve your facility's energy efficiency and reduce energy consumption with energy usage analysis and performance tracking. Panel Server collects and shares energy data to help achieve your energy conservation initiatives. It is part of an energy data management system certified for compliance with ISO 50001, 50002, and 50006 requirements.

Cybersecurity

Guarding your electrical assets and systems against cyber attacks is vital. Discover the enhanced cybersecurity benefits of Panel Server and its IEC62443-4-1 compliant development lifecycle. Explore its cybersecurity features through a dedicated guide, and discover how Panel Server empowers you to retrieve security logs, providing valuable insights into system security and activity.

DB410992

EcoStruxure Panel Server gives you access to the information you need to protect, maximize and optimize your power system.

- Help keep people and assets safer
- Maximize power availability
- Optimize energy efficiency
- Improve cybersecurity

All-in-one gateway

- Separates your OT network from your IT network
- Wireless data concentrator
- Modbus RS485 to Modbus TCP/IP
- Supports multiple Ethernet connections for serving information to edge control software and cloud applications

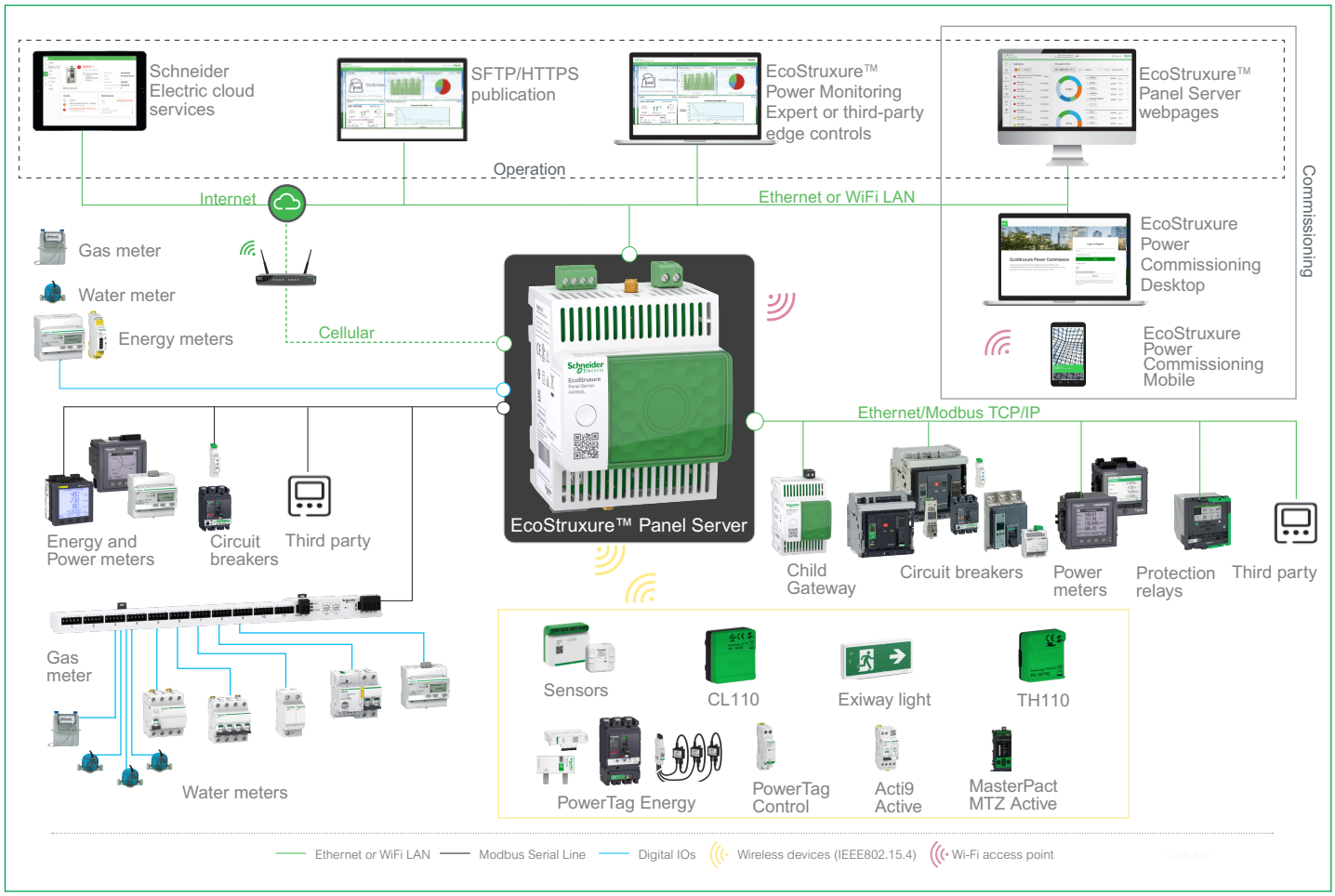
Simple commissioning

- EcoStruxure™ Power Commission software
- Device auto discovery
- Generation of acceptance reports to validate gateway configuration
- Commissioning via Ethernet or Wi-Fi infrastructure
- Mobile Comissioning via Wi-Fi Access point

Intuitive operation

- User-friendly webpages offer first-level monitoring
- Contextualized data and operational insights
- Simple alarm setup for email notification
- Standardized IEC 62974-1 compliant datalogger and energy server

Architecture overview



Panel Server Entry

Panel Server Entry - Front ISO view

Standards & certifications

- IEC 61010-1
- IEC 61010-2-201
- UL 61010-1
- UL 61010-2-201
- IEC 62974-1
- ETSI EN 301 489-1 V.2.2.3
- ETSI EN 301 489-17 V.3.2.4
- IEC 61326-1
- IEC 62974-1
- EN50581
- EN 62321
- EN 62474
- ETSI EN 300 328 V2.2.2

Compatible with a large set of wireless sensors, PowerTag Energy, Heat Tag, and others. PAS400 is the perfect fit for small networks or installations where space is a challenge.

Functions

- Optimized gateway to retrieve data from your wireless devices.
- Connect to your monitoring and control software such as EcoStruxure™ Power Monitoring Expert, EcoStruxure™ Power Operation or to your Building Management System.
- Connect to Schneider Electric cloud applications such as EcoStruxure™ Energy Hub or Asset Advisor.
- Ease of commissioning with EcoStruxure™ Power Commission software or directly through the Panel Server webpages, enabling device plug-and-play and auto-discovery features.
- Ease of operation with user friendly embedded webpages and data contextualization for more relevant analytics.

Main features

- Power Supply 110...277 Vac/dc
- Designed to match with electrical switchboard environment (temperature and humidity electromagnetic compatibility).
- One Ethernet 10Base-T/100Base-T port
- Connect easily to the embedded webpages through your Wi-Fi infrastructure or Ethernet connection.
- IEEE 802.15.4 wireless communication
- Modbus TCP/IP server
- Support of HTTPS, NTP, SNTP, and DHCP client with proxy management.
- Wireless devices concentrator to Modbus TCP/IP
- Designed through a Secured Development Life Cycle in accordance to IEC 62443-4-1.
- Commissioning through EcoStruxure™ Power Commission or through Embedded Web-Pages.
- Wi-Fi Access point connection for seamless commissioning with EPC-Mobile.
- Embedded web server for real-time measurement visualization, and power consumption.
- Real-time alarm display

Comm. Reference	Description
PAS400	Panel Server Entry 110...277 V ac/dc

Panel Server Entry

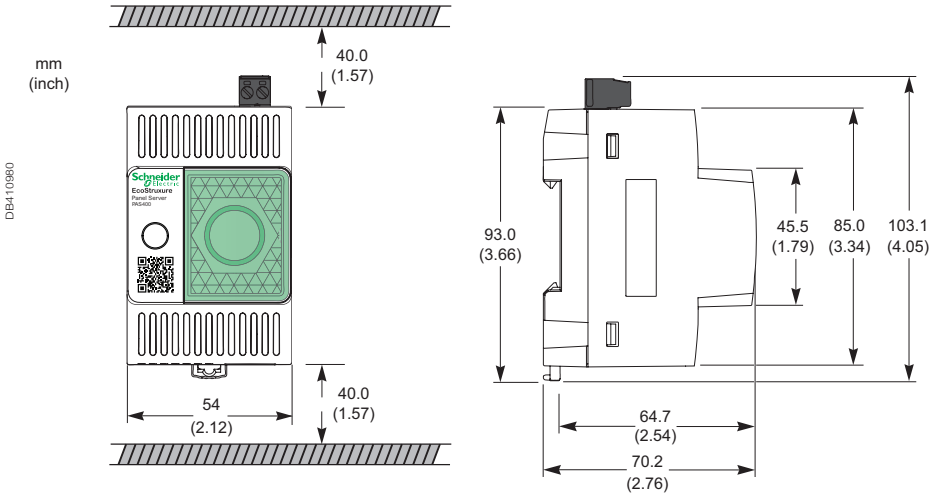
Panel Server Entry technical specification

Technical data		EcoStruxure™ Panel Server Entry
Commercial Reference		PAS400
Power Supply		
Voltage		110...277 Vac/dc
Tolerance		± 10%
Frequency		45...65 Hz
Maximum consumption		3 W, 10 VA
Ethernet & Wi-Fi		
Ethernet 10/100base T	Number of Ports	Single RJ45 Port
	PoE 802.3af and 802.3at Class 0	NA
Wi-Fi infrastructure	Supported Frequency	2.4 and 5 GHz
Wi-Fi acces point	Supported Frequency	2.4 GHz
TCP/IP		Yes
IP V4/IP V6		Yes
DPWS		Yes
DHCP	Client	Yes
	Server (Separate Nework)	No
Modbus TCP/IP Server	Max. number of client connection	64
Modbus TCP/IP Client	Max. number of Modbus TCP/IP devices	NA
Schneider Electric Cloud Services		Yes
HTTPS		Yes
External Wi-Fi/Antenna		No
Wireless Devices (IEEE 802.15.4)		
Number of devices	Total for mixed network	20 devices
	PowerTag Energy and Easergy TH110/ CL110	20 devices
	Other type of devices [+1]	20 devices
External IEEE 802.15.4 Antenna		No
Serial Ports		
Modbus RS485 Client	Max. number of devices w/o repeater	NA
	Max. number of devices with repeater	NA
	Maximum Length	NA
	Baud Rate	NA
Functionality		
Data Buffering for Data Publication		1 month[+3]
Data Publication		Over Cloud Application SFTP or HTTPS server
Data Logger and Web-Server	Historical Data Logging	No[+2]
	Historical Event Logging	No
	Real-Time data and event monitoring	Yes
	Historical data trending	No
Time Management	RTC (with battery)	Yes
	TimeUpdate (NTP and SNTP)	Yes
Digital inputs		
Two DI	WAGES & Dry-Contact	No
Environmental		
Protection Degree	Front Face	IP40
	Others	IP20
Overvoltage Category		OVC III
Polution Degree		2
Temperature	Operation	-25...+60 °C
	Storage	-40...+85 °C
Altitude Maximum		< 2000 m
Relative Humidity		5...95 %
Mechanical		
Form factor		Acti9
Installation		Din Rail
Width		54 mm
Weight		163 g
Standard and Certification		
Certifications		CE, CULus, CB, RCM, UKCA, FCC, IC, RF and, Marine certification (DNV)
Standards		EN/ IEC 61010-1, EN/IEC 61010-2-201, UL 61010-1, UL 61010-2-201, CSA C22.2 No 61010-1-12, CAN/ CSA C22.2 No 61010-2-201, EN IEC 62974-1, EN/IEC 61326-1, ETSI EN 301-489-1, ETSI EN 301-489-17, ETSI EN 300-328, IEEE 802.15.4, IEEE 802.11b/g/n, IEEE 802.3 af/at, EN 301-893, 47 CFR FCC Part 15, Subpart B, Class A, EN IEC 62311, ANSI C63, IACS UR E10 and, DNVGL-CG-0339

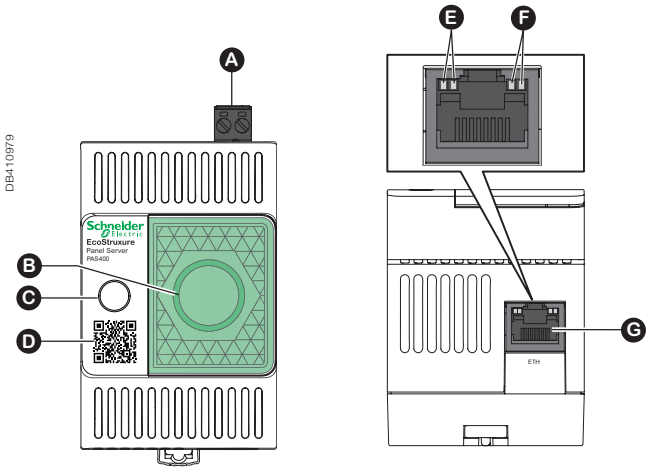
[+1] Consult the User Manual or other documentations to check the limit applicable to your wireless device.
[+2] Lower limits may apply depending on the firmware version, the serial line length, and the type of device(s). Consult the User Manual, Releas Notes or other documentations.
[+3] Applicable for Cloud, SFTP and HTTPS publication. Lower limits may apply according to the size of your network.

Panel Server Entry

Panel Server Entry dimensions



Panel Server Entry physical descriptions



- A Power supply terminal block
- B EcoStruxure™ Panel Server status LED
- C Restart button
- D QR code to product information
- E Ethernet LED 1: Speed
- F Ethernet LED 2: Activity
- G Ethernet communication port

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

Panel Server Universal

Panel Server Universal - Front ISO view

Standards and certifications

- IEC 61010-1
- IEC 61010-2-201
- UL 61010-1
- UL 61010-2-201
- IEC 62974-1
- ETSI EN 301 489-1 V.2.2.3
- ETSI EN 301 489-17 V.3.2.4
- IEC 61326-1
- IEC 62974-1
- EN50581
- EN 62321
- EN 62474
- ETSI EN 300 328 V2.2.2

Comm. Reference	Description
PAS600	Panel Server Universal with 110...277 Vac/dc power supply
PAS600L	Panel Server Universal with 24 Vdc power supply
PAS600LWD	Wired by Design Panel Server Universal with 24 Vdc power
PAS600PWD	Wired by Design Panel Server Universal with PoE power supply

All-in-one and Wired by Design Panel Server

- The All-in-one Panel Server Universal, PAS600 and PAS600L are designed to retrieve data from wireless, Modbus, and Ethernet based protocols to offer versatility and adaptability.
- Panel Server Universal Wired by Design, PAS600LWD and PAS600PWD are designed for specific cybersecure sensitive installations, dedicated to wired communication protocols (Modbus, Ethernet) and PAS embedded digital inputs (PAS600LWD).

Functions

- Connect to your monitoring and control software such as EcoStruxure™ Power Monitoring Expert, EcoStruxure™ Power Operation or to your Building Management System.
- Connect to Schneider Electric cloud applications such as EcoStruxure™ Energy Hub or Asset Advisor.
- Ease of commissioning with EcoStruxure™ Power Commission software or directly through the Panel Server webpages, enabling device plug-and-play and auto-discovery features.
- Ease of operation with user friendly embedded webpages, and data contextualization for more relevant analytics.

Main features

- Power Supply 24 Vdc, 110...277 Vac/dc, PoE-PD (CLASS 0 and IEEE 802.3af/at)
- Designed to match demanding electrical switchboard environment (temperature and humidity electromagnetic compatibility).
- Two Ethernet 10Base-T/100Base-T port (supporting switched or separated network topology).
- Connect easily to the embedded webpages through your Wi-Fi Infrastructure (All-in-one Panel Server) or Ethernet connection.
- Modbus RS485 serial communication
- IEEE 802.15.4 wireless communication (All-in-one Panel Server Universal).
- Modbus TCP/IP server and client
- Support of HTTPS, NTP, SNTP, and DHCP client with proxy management.
- Modbus RS485 to Modbus TCP/IP Gateway
- Wireless devices concentrator to Modbus TCP/IP. (All-in-one Panel Server Universal)
- Two digital inputs (24 Vdc version) for contact information or WAGES pulse meter.
- Designed through a Secured Development Life Cycle in accordance to IEC 62443-4-1.
- Commissioning through EcoStruxure™ Power Commission or through Embedded Web-Pages.
- Wi-Fi Access point connection for seamless commissioning with EPC-Mobile (All-in-one Panel Server Universal).
- Support for RSTP protocol to help IT specialists re-establish communication paths through Ethernet after an interruption is detected.
- Embedded web server for real-time measurement visualization, and power consumption.
- Real-time alarm display

Accessories for All-in-one Panel Server Universal

- Wi-Fi external antenna (PASA-ANT1) for PAS600 and PAS600L
- IEEE 802.15.4 external antenna (PASA-ANT1) for PAS600 and PAS600L depending on hardware version [+1]

Panel Server Universal

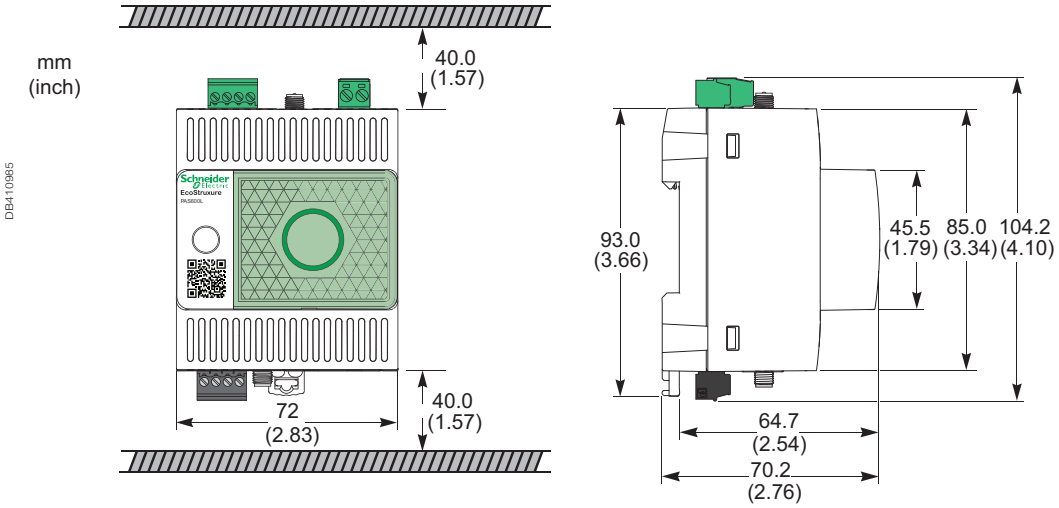
Panel Server Universal technical specification

Technical data		EcoStruxure™ Panel Server Universal			
Commercial Reference		PAS600	PAS600L	PAS600LWD	PAS600PWD
Power Supply					
Voltage		110...277 Vac/dc	24 Vdc	24 Vdc	via POE
Tolerance		± 10%		± 10%	NA
Frequency		45...65 Hz	NA		
Maximum consumption		3 W/10 VA	3 W		
Ethernet & Wi-Fi					
Ethernet 10/100base T	Number of Ports	Two RJ45 ports			
	PoE 802.3af and 802.3at Class 0	No		No	1 port (PD)
Wi-Fi infrastructure	Supported Frequency	2.4 and 5 GHz[+1]		NA	NA
Wi-Fi acces point	Supported Frequency	2.4 GHz		NA	NA
TCP/IP		Yes			
IP V4/IP V6		Yes			
DPWS		Yes			
DHCP	Client	Yes			
	Server (Separate Nework)	No			
Modbus TCP/IP Server	Max. number of client connection	64			
Modbus TCP/IP Client	Max. number of Modbus TCP/IP devices	128 [+2]			
Schneider Electric Cloud Services		Yes			
HTTPS		Yes			
External Wi-Fi/Antenna		PASA-ANT1		NA	NA
Wireless Devices (IEEE 802.15.4)					
Number of devices	Total for mixed network	up to 40 devices [+2]		NA	NA
	PowerTag Energy, Acti9 Active, Wireless breaker auxiliaries	up to 85 devices [+2]		NA	NA
	Easergy TH110/CL110, environmental sensors	up to 100 devices [+2]		NA	NA
External IEEE 802.15.4 Antenna		PASA-ANT1[+1]		NA	NA
Serial Ports					
Modbus RS485 Client	Max. number of devices	32 devices			
	Maximum Length	1000 m			
	Baud Rate	1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200			
Functionality					
Data Buffering for Data Publication		1 month[+3]			
Data Publication		Over Cloud Application, SFTP or HTTPS server			
Data Logger and Web-Server	Historical Data Logging	No			
	Historical Event Logging	No			
	Real-Time data and event monitoring	Yes			
	Historical data trending	No			
Time Management	RTC (with battery)	Yes			
	TimeUpdate (NTP and SNTP)	Yes			
Digital inputs					
Two DI	WAGES & Dry-Contact	No	Yes	Yes	No
Environmental					
Protection Degree	Front Face	IP40			
	Others	IP20			
OverVoltage Category		OVC III			
Polution Degree		2	3	3	2
Temperature	Operation	-25...+70 °C			
	Storage	-40...+85 °C			
Altitude Maximum		< 2000 m	< 5000 m [+4]	< 5000 m [+4]	< 2000 m
Relative Humidity		5...95%			
Mechanical					
Form factor		Acti9			
Installation		Din Rail			
Width		72 mm			
Weight		201 g	181 g	180 g	182 g
Standard & Certification					
Certifications		CE, CULus, CB, RCM, UKCA, FCC, IC, RF and, Marine certification (DNV)		CE, CULus, CB, RCM, UKCA, FCC, IC and, Marine certification (DNV)	
Standards		EN/ IEC 61010-1, EN/IEC 61010-2-201, UL 61010-1, UL 61010-2-201, CSA C22.2 No 61010-1-12, CAN/CSA C22.2 No 61010-2-201, EN IEC 62974-1, EN/IEC 61326-1, ETSI EN 301-489-1, ETSI EN 301-489-17, ETSI EN 300-328, IEEE 802.15.4, IEEE 802.11b/g/n, IEEE 802.3 af/at, IEC 60945, 47 CFR FCC Part 15, Subpart B, Class A, EN IEC 62311, ANSI C63, IACS UR E10, DNVGL-CG-0339 and, EC62443-3-3 (PAS600L)		EN/ IEC 61010-1, EN/IEC 61010-2-201, UL 61010-1, UL 61010-2-201, CSA C22.2 No 61010-1-12, CAN/CSA C22.2 No 61010-2-201, EN IEC 62974-1, EN/IEC 61326-1, IEC 60945, 47 CFR FCC Part 15, Subpart B, Class A, IACS UR E10, DNVGL-CG-0339 and, EN 62947-1	

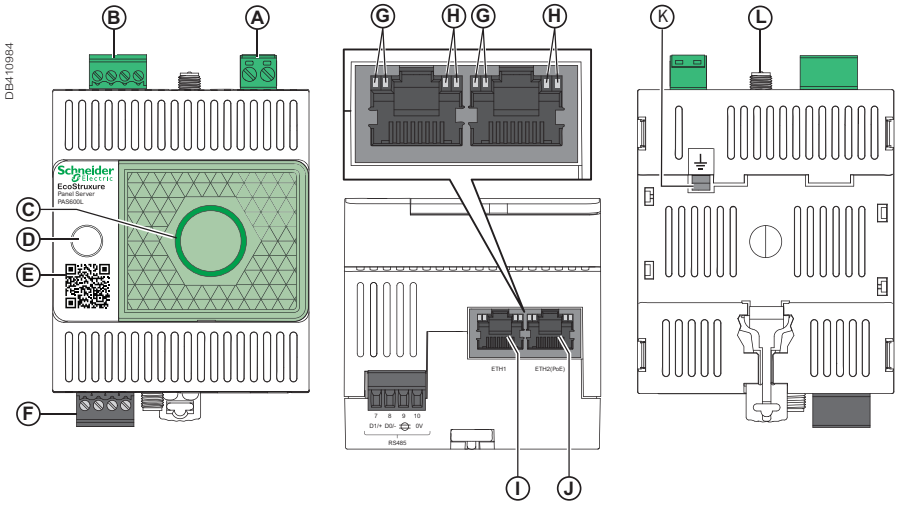
[+1] Lower limits may apply according to your hardware version. Consult the User Manual to check the limit applicable to your devices.
[+2] Lower limits may apply depending on the firmware version, the serial line length, and the type of device(s). Consult the User Manual, Release Notes or other documentations.
[+3] Applicable for cloud, SFTP and HTTPS publication. Lower limits may apply according to the size of your network.
[+4] With an altitude between 2000 m and 4000 m, the operating temperature tolerance is of -25...+60 °C. Between 4000 m and 5000 m, the operating temperature tolerance will be decreased of 1 °C every additional 200 m.

Panel Server Universal

Panel Server Universal dimensions



Panel Server Universal physical descriptions



- A Power supply terminal block (PAS600, PAS600L and PAS600LWD)
- B Digital input terminal block (PAS600L and PAS600LWD)
- C EcoStruxure™ Panel Server status LED
- D Restart button
- E QR code to product information
- F RS-485 Modbus communication port
- G Ethernet LED 1: Speed
- H Ethernet LED 2: Activity
- I Ethernet 1 communication port
- J Ethernet 2 communication port (PAS600, PAS600L, and PAS600LWD)/Ethernet 2 communication port - PoE (PAS600PWD)

  Grounding connection
- K IEEE802.15.4 external antenna port
- L (PAS600 and PAS600L depending on hardware version [+1])

[+1] Lower limits may apply according to your hardware version. Consult the User Manual to check the limit applicable to your devices.

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

Panel Server Advanced

Panel Server Advanced- Front ISO view

Panel Server has Data Logger and Local Energy Server capabilities. It embodies the first step into energy monitoring.
Follow, analyze and compare your loads consumption to enable energy savings.

Functions

- An all-in-one gateway to retrieve data from both your wireless IEEE 802.15.4 devices and Modbus devices.
- Monitor up to three years historized data and analyze your energy consumption directly through the Panel Server Advanced embedded webpages.
- Connect to your monitoring and control software such as EcoStruxure™ Power Monitoring Expert, EcoStruxure™ Power Operation or to your Building Management System.
- Connect to Schneider Electric cloud applications such as **EcoStruxure™ Energy Hub** or Asset Advisor.
- Ease of commissioning with EcoStruxure™ Power Commission software or directly through the Panel Server webpages, enabling device plug-and-play and auto-discovery features.
- Ease of operation with user friendly embedded webpages, and data contextualization for more relevant analytics.

Main features

- Power Supply 24 Vdc, 110...277 Vac/dc, PoE-PD (CLASS 0, IEEE802.3af/at)
- Designed to match demanding electrical switchboard environment (temperature, humidity electromagnetic compatibility)
- Two Ethernet 10Base-T/100Base-T port (supporting switched or separated network topology)
- Connect easily to the embedded webpages through your Wi-Fi Infrastructure or Ethernet connection
- Modbus RS485 serial communication
- IEEE 802.15.4 wireless communication
- Modbus TCP/IP server and client
- Support of HTTPS, NTP, SNTP, and DHCP client with proxy management
- Modbus RS485 to Modbus TCP/IP Gateway
- Wireless devices concentrator to Modbus TCP/IP
- Two digital inputs (24 Vdc version only) for contact information or WAGES pulse meter
- Designed through a Secured Development Life Cycle in accordance to IEC 62443-4-1
- Commissioning through EcoStruxure™ Power Commission or though Embedded Web-Pages
- Wi-Fi Access point connection for seamless commissioning with EPC-Mobile
- Support for RSTP protocol to help IT specialists re-establish communication paths through Ethernet after an interruption is detected
- Embedded web server for real-time measurement and alarm visualization, energy and power consumption by usage and location, 3 years historical trending and dashboarding
- 3 years Data Logger with 32 GB memory
- Real-time alarm display and e-mail notification
- Event and alarm historization and dashboarding

Compatible accessories

- Wi-Fi external antenna (PASA-ANT1)
- IEEE 802.15.4 external antenna (PASA-ANT1)

Standards & certifications

- IEC 61010-1
- IEC 61010-2-201
- UL 61010-1
- UL 61010-2-201
- IEC 62974-1
- ETSI EN 301 489-1 V.2.2.3
- ETSI EN 301 489-17 V.3.2.4
- IEC 61326-1
- IEC 62974-1
- EN50581
- EN 62321
- EN 62474
- ETSI EN 300 328 V2.2.2

Comm. Reference	Description
PAS800L	Panel Server Advanced with 24 Vdc power supply
PAS800P	Panel Server Advanced with PoE power supply
PAS800	Panel Server Advanced with 110...277 Vac/dc power supply

Panel Server Advanced

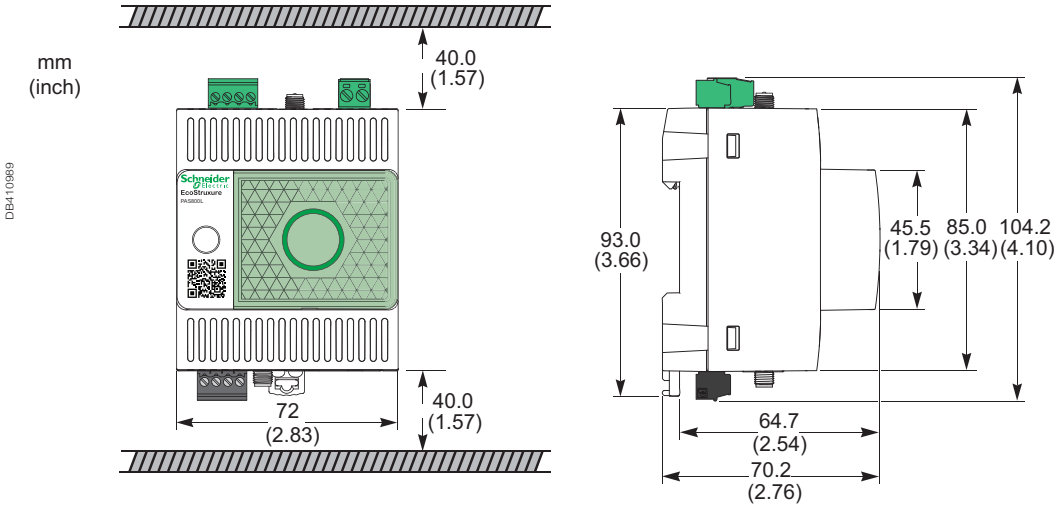
Panel Server Advanced technical specification

Technical data			EcoStruxure™ Panel Server Advanced	
Commercial Reference		PAS800	PAS800L	PAS800P
Power Supply				
Voltage		110...277 Vac/dc	24 Vdc	PoE
Tolerance		± 10 %	± 10 %	
Frequency		45...65 Hz	NA	
Maximum consumption		3 W/10 VA	3 W	3.5 W
Ethernet and Wi-Fi				
Ethernet 10/100base T	Number of Ports	Two RJ45 ports		
	PoE 802.3af and 802.3at Class 0	No		1 port (PD)
Wi-Fi Infrastructure	Supported Frequency	2.4 & 5 GHz		
Wi-Fi acces point	Supported Frequency	2.4 GHz		
TCP/IP		Yes		
IP V4/IP V6		Yes		
DPWS		Yes		
DHCP	Client	Yes		
	Server (Separate Nework)	No		
Modbus TCP/IP Server	Max. number of client connection	64		
Modbus TCP/IP Client	Max. number of Modbus TCP/IP devices	128 [+2]		
Schneider Electric Cloud Services		Yes		
HTTPS		Yes		
External Wi-Fi/Antenna		PASA-ANT1		
Wireless Devices (IEEE 802.15.4)				
Number of devices	Total for mixed network	up to 40 devices [+2]		
	PowerTag Energy, Acti9 Active, Wireless breaker auxiliaries	up to 85 devices [+2]		
	Easergy TH110/CL110, environmental sensors	up to 100 devices [+2]		
External IEEE 802.15.4 Antenna		PASA-ANT1		
Serial Ports				
Modbus RS485 Client	Max. number of devices	32 devices		
	Maximum Length	1000 m		
	Baud Rate	1200, 4800, 9600, 19200, 38400, 57600, and 115200		
Functionality				
Data Buffering for Data Publication		3 months [+3]		
Data publication		Over Cloud Application, SFTP or HTTPS server		
Data Logger and Web-Server	Historical Data Logging	3 years		
	Historical Event Logging	Yes [+2]		
	Real-Time data and event monitoring	Yes		
	Historical data trending	Yes		
Time Management	RTC (with battery)	Yes		
	TimeUpdate (NTP & SNTP)	Yes		
Digital inputs				
Two DI	WAGES & Dry-Contact	No	Yes	No
Environmental				
Protection Degree	Front Face	IP40		
	Others	IP20		
OverVoltage Category		OVC III		
Polution Degree		2	3	2
Temperature	Operation	-25...70 °C		
	Storage	-40...85 °C		
Altitude Max.		< 2000 m	< 5000 m [+4]	< 2000 m
Relative Humidity		5...95%		
Mechanical				
Form factor		Acti9		
Installation		Din Rail		
Width		72 mm		
Weight		206 g	186 g	184 g
Standard & Certification				
Certifications		CE, CULus, CB, RCM, UKCA, FCC, IC, RF, and Marine certification (DNV)		
Standards		EN/ IEC 61010-1, EN/IEC 61010-2-201, UL 61010-1, UL 61010-2-201, CSA C22.2 No 61010-1-12, CAN/CSA C22.2 No 61010-2-201, EN IEC 62974-1, EN/IEC 61326-1, ETSI EN 301-489-1, ETSI EN 301-489-17, ETSI EN 300-328, IEEE 802.15.4, IEEE 802.11b/g/n, IEEE 802.3 af/at, EN 301-893, IEC 60945, 47 CFR FCC Part 15, Subpart B, Class A, and EN IEC 62311		

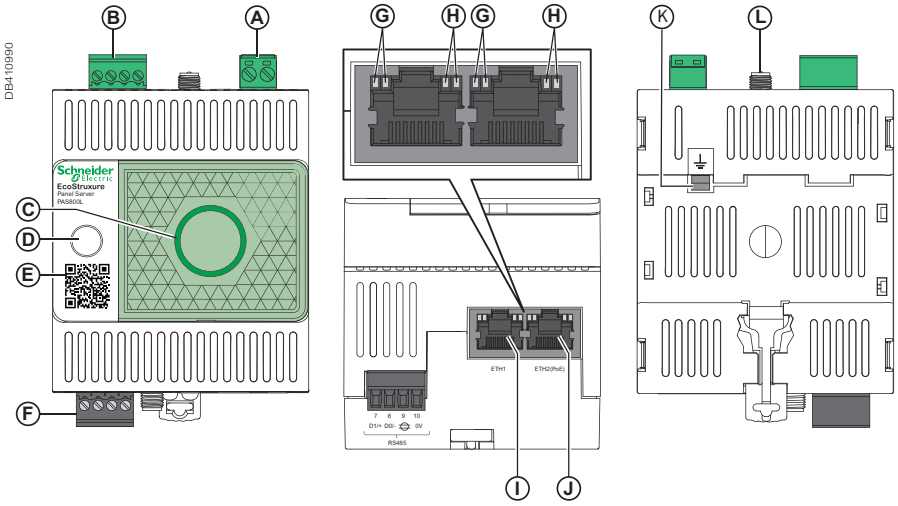
[+1] Lower limits may apply according to your hardware version. Consult the User Manual to check the limit applicable to your wireless devices.
[+2] Lower limits may apply depending on the firmware version, the serial line length, and the type of device(s). Consult the User Manual, Release Notes or other documentations.
[+3] Applicable for Cloud, SFTP and HTTPS publication. Lower limits may apply according to the size of your network.
[+4] With an altitude between 2000 m and 4000 m, the operating temperature tolerance is of -25...+60 °C. Between 4000 m and 5000 m, the operating temperature tolerance will be decreased of 1 °C every additional 200 m.

Panel Server Advanced

Panel Server Advanced dimensions



Panel Server Advanced physical descriptions



- Ⓐ Power supply terminal block (PAS800 & PAS800L only)
- Ⓑ Digital input terminal block (PAS800L only)
- Ⓒ EcoStruxure™ Panel Server status LED
- Ⓓ Restart button
- Ⓔ QR code to product information
- Ⓕ RS-485 Modbus communication port
- Ⓖ Ethernet LED 1: Speed
- Ⓗ Ethernet LED 2: Activity
- Ⓘ Ethernet 1 communication port
- Ⓙ Ethernet 2 communication port (PAS800 & PAS800L only)/Ethernet 2 communication port - PoE (PAS800P only)
- Ⓚ Grounding connection
- Ⓛ IEEE802.15.4 external antenna port

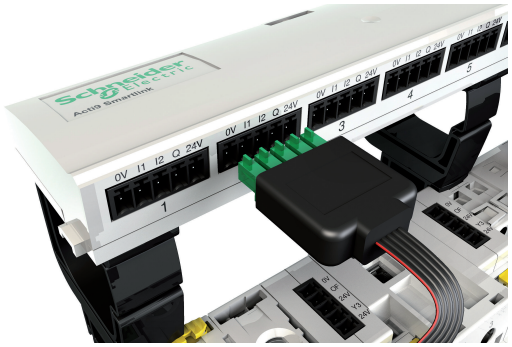
Please see the appropriate Installation Guide for accurate and complete information on the installation of this product.

EcoStruxure™ I/O Smart Link

Monitoring, Remote Control, Indication

PB107753-175

PB107797-47



DB404502

ComReady

DB406142

Country approval pictograms

IEC/EN 61131-2

I/O Smart Link Modbus Slave is used to transfer data from I/O devices to a PLC or monitoring system via the communication system:
■ Modbus serial line for I/OSmart Link Modbus Slave

Functions

Data transmission between the network and I/O devices
■ Circuit breakers, residual current circuit breakers, residual current devices:
□ open/closed state
□ tripped state
□ number of opening/closing cycles
□ number of tripping actions.
■ Contactors, impulse relays:
□ opening control
□ closing control
□ open/closed state
□ number of opening/closing cycles
□ total period of operation of the load (device closed).
■ Remote controlled circuit breaker/Reflex iC60:
□ opening control
□ closing control
□ open/closed state
□ tripped state
□ number of opening/closing cycles
□ total period of operation of the load.
■ Power meters:
□ number of pulses recorded
□ pulse value setting (e.g. kWh)
□ total consumption recorde
□ estimate of power consumption.

All the data are stored in memory: number of cycles, consumption, period of operation, even in the event of a power failure.

I/O Smart Link can be interfaced with any device having 24 V DC digital inputs/outputs.
No configuration of the connected products is required.

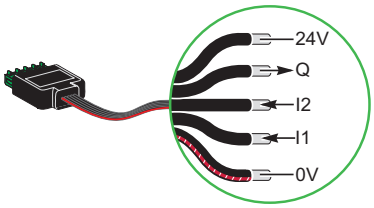
When I/O Smart Link is switched on, communication automatically adjusts to the Modbus Master or Ethernet (PLC, control station) communication parameters.

Installation
■ Mounting in switchboards:
□ width 24 modules per row
□ minimum spacing between rails 150 mm.
■ Mounting on
□ DIN rail, with mounting kit A9XMFA04
□ Linergy FM 80 A, with locking clips supplied
□ Linergy FM 200 A, wtih mounting kit A9XM2B04.

PB107753-68

I/O Smart Link Modbus Slave

DB404941



A9XCAU06

Catalog numbers

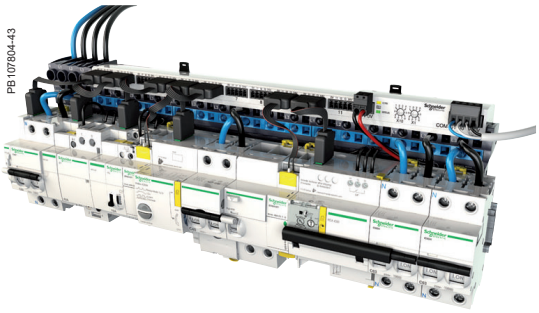
I/O Smart Link			
Type		**Set of**	
I/O Smart Link Modbus Slave		1	**A9XMSB11**
Supplied with	Modbus connector	1	
	24 V DC power supply connector	1	
	Locking clips for mounting on Linergy FM 80	2	
Accessories			
Prefabricated cables			
With 2 connectors	100 mm	6	**A9XCAS06**
	160 mm	6	**A9XCAM06**
	450 mm	6	**A9XCAH06**
	870 mm	6	**A9XCAL06**
With 1 connector	870 mm	6	**A9XCAU06**
	4000 mm	1	**A9XCAC01**
Connectors	5-pin connectors (Ti24)	12	**A9XC2412**
Mounting kit	DIN rail (4 feet, 4 straps, 4 adapters)	1	**A9XMFA04**
	Linergy FM 200 A (4 adapters)	1	**A9XM2B04**
	Back panel (2 angle brackets)	1	**A9XMBP02**
Spare parts	Lock for Linergy FM 80 A (2 clips)	1	**A9XMLA02**

PB107754-12

PB107755-5

PB107756-7

PB107804-43



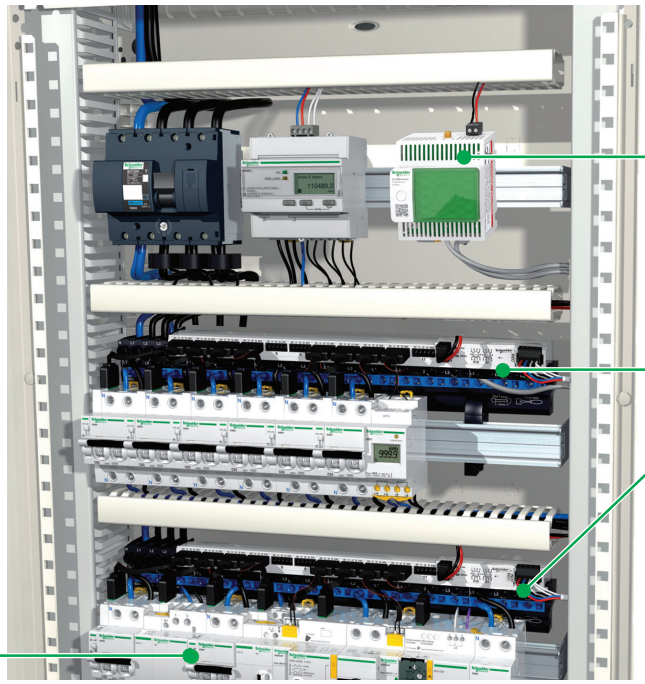
Connectable devices

With Ti24 interface		
Type	**Reference**	**Description**
iACT24	A9C15924	Low-level control and indication auxiliary for iCT contactors
iATL24	A9C15424	Low-level control and indication auxiliary for iTL impulse relays
iOF+SD24	A9A26897 A9A26898	Low-level indication auxiliary for iC60, iID, ARA, RCA, iSW-NA
OF+SD24	A9N26899	Low-level indication auxiliary for C60, C120, DPN, RCCB/ID, C60H-DC
RCA	See module CA904011	Remote control with Ti24 interface
Reflex iC60	See module CA904012	Reflex iC60 with Ti24 interface

Without Ti24 interface
Power meters with pulse output, e.g. IEM2000T
Impulse meters complying with the IEC 62053-21 standard
24 V DC indicator lamps, Harmony XVL range
All loads not exceeding 100 mA, 24 V DC
Light sensitive switches: example IC2000
Timers, thermostats, time switches, load shedding devices
All 24 V DC auxiliary contacts, IEC 61131-2 type 1

Example of an Installation

PB113600-94



I/O Smart Link Modbus Slave

PB107753-175

Ti24 connector
11 input/output channels
Protected at input against voltage reversals
Protected at output by current limiting
- Pin 1: 0 V
- Pin 2: I1 Input 1
- Pin 3: I2 Input 2
- Pin 4: Q Output
- Pin 5: +24 V DC

24 V DC power supply connector
Protected against voltage reversals
- Pin1: 0 V
- Pin2:+24 V DC

Serial port connector
RS485 Modbus (Slave)
- Pin 1: D1 Modbus
- Pin 2: D0 Modbus
- Pin 3: shielding
- Pin 4: common/0 V

Signalisation
- Indication of operation of the communication system and the state of I/O Smart Link Modbus Slave

Thumbwheels
- Definition of the address in the Modbus network

Common technical characteristics

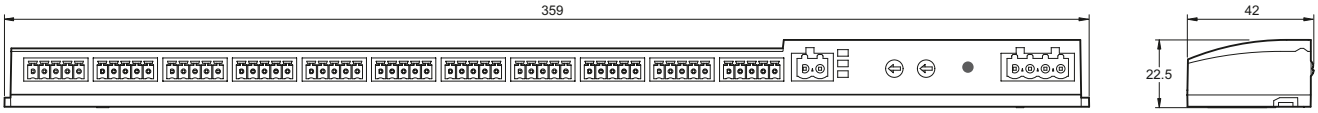
Power supply		
Rated		24 V DC ± 20 %
Maximum input current		1.5 A
Maximum inrush current		3 A
Meter		
Capacity		2^{32} pulses per input
Input characteristics		
Number of channels	I/O Smart Link Modbus Slave	11 of 2-input channels
Type of input		Current collector Type 1 IEC 61131-2
Maximum cable length		500 m
Rated voltage		24 V DC
Voltage limits		24 V DC ± 20 %
Rated current		2.5 mA
Maximum current		5 mA
Filtering time	In state 1	2 ms
	In state 0	2 ms
Isolation		No isolation between channels
Negative sequence voltage protection		Yes
Output characteristics		
Number of output channels	I/O Smart Link Modbus Slave	11
Type of output		24 V DC 0.1 A current source
Maximum cable length		500 m
Rated voltage	Voltage	24 V DC
	Maximum current	100 mA
Filtering time	In state 1	2 ms
	In state 0	2 ms
Voltage drop (voltage in state 1)		1 V max
Maximum inrush current		500 mA
Leakage current		0.1 mA
Overvoltage protection		33 V DC
Environmental characteristics		
Temperature	Operating	-25°C ... +60°C (if vertical mounting, limited to 50°C)
	Storage	-40°C…+80°C
Tropicalization		Treatment 2 (relative humidity of 93% at 40°C)
Resistance to voltage dips		10 ms, class 3 as per IEC 61000-4-29
Degree of protection		IP20
Pollution degree		3
Altitude	Operating	0 … 2000 m
Vibration resistance	As per IEC 60068.2.6	1 g / ± 3.5 mm - 5 Hz to 300 Hz - 10 cycles
Shock resistance	As per IEC 60068.2.2 7	15 g / 11 ms
Immunity to electrostatic discharge	As per IEC 61000-4-2	Air: 8 kV Contact: 4 kV
Immunity to radiated magnetic fields	As per IEC 61000-4-3	10 V/m - 80 MHz to 3 GHz
Immunity to fast transients	As per IEC 61000-4-4	1 kV for inputs/outputs and Modbus communication. 2 kV for 24 DC power supply - 5 kHz - 100 kHz
Immunity to conducted magnetic fields	As per IEC 61000-4-6	10 V from 150 kHz to 80 MHz
Immunity to magnetic fields at mains frequency	As per IEC 61000-4-8	30 A/m
Resistance to corrosive atmospheres	As per IEC 60721-3-3	Level 3C2 on H_2S / SO_2/ NO_2 / Cl_2
Fire resistance	For live parts	At 960°C 30 s / 30 s as per IEC 60 695-2-10 and IEC 60 695-2-11
	For other parts	At 650°C 30 s / 30 s as per IEC 60 695-2-10 and IEC 60 695-2-11
Salt spray test	As per IEC 60068.2.52	Severity 2
Environment		In compliance with the RoHS directive
Additional characteristics		
Duration of saving memory		10 years
Prefabricated cables characteristics		
Dielectric resistance		1 kV / 5 min
Minimum draw-out resistance		20 N

I/O Smart Link Modbus Slave technical characteristics

Characteristics of the Modbus link		
Link		Modbus, RTU, RS485 serial connection
Transmission	Transfer rate	9600 baud ... 115200 baud, self-adaptable
	Medium	Shielded cable, double twisted pair
Protocol		Master/Slave
Type of device		Slave
Modbus addressing range		1 to 99
Maximum length of the bus		1000 m
Type of bus connector		4-pin connector

Dimensions (mm)

DB124330



I/O Smart Link Modbus Slave

Weight (g)

I/O Smart Link	
Type	
I/O Smart Link Modbus Slave	195

Commercial Reference Numbers

Commercial reference number	Description
	Current Transformers
	CT Ip/5 A ratio
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
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
METSECT5DB200	CT tropicalised 2000 5 dual out. bars 38x127

Commercial reference number	Description
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
	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

PowerLogic™ Commercial Reference Numbers

Commercial reference number	Description
METSECT5HJ080	IEC Split Core CT Cable 800/5 A 2.5 VA cl.0.5
	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

Commercial reference number	Description
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
	Low Voltage Current Transformers (LVCT)
	Solid Core CT LVCTs
METSECTLV10005U	Solid core LVCT, 50 A primary, 0.333 V output, 1.8m (6 ft.) lead length
METSECTLV10010U	Solid core LVCT, 100 A primary, 0.333 V output, 1.8m (6 ft.) lead length
METSECTLV25020U	Solid core LVCT, 200 A primary, 0.333 V output, 1.8m (6 ft.) lead length
METSECTLV31040U	Solid core LVCT, 400 A primary, 0.333 V output, 1.8m (6 ft.) lead length
	Split Core CT (bus bar)
METSECTLV2010U	Split core CT, .3V, 100A UL2808
METSECTLV2020U	Split core CT, .3V, 200A UL2808
METSECTLV2030U	Split core CT, .3V, 300A UL2808
METSECTLV2040U	Split core CT, .3V, 400A UL2808
METSECTLV3060U	Split core CT, .3V, 600A UL2808
METSECTLV3080U	Split core CT, .3V, 800A UL2808
METSECTLV4080U	Split core CT, .3V, 800A UL2808
METSECTLV4100U	Split core CT, .3V, 1000A UL2808
METSECTLV4120U	Split core CT, .3V, 1200A UL2808
METSECTLV4160U	Split core CT, .3V, 1600A UL2808
METSECTLV4200U	Split core CT, .3V, 2000A UL2808
METSECTLV4240U	Split core CT, .3V, 2400A UL2808
	Split Core CT (cable)
METSECTLV1005U	Split core CT, 5A, 2400A UL2808
METSECTLV1010U	Split core CT, 5A, 600A UL2808
METSECTLV1020U	Split core CT LargeSize 800A 5A UL2808
	Rogowski Coil Current Transducer
METSECTR25500U	CT Rogowski 250 mm (9.8 in) coil, 1000 A, Lead length 2.4 m (8 ft)
METSECTR30500U	CT Rogowski 300 mm (11.8 in) coil, 2000 A, Lead length 2.4 m (8 ft)
METSECTR46500U	CT Rogowski 460 mm (18.1 in) coil 5000 A, Lead length 2.4 m (8 ft)
METSECTR60500U	CT Rogowski 600 mm (23.6 in) coil 5000 A, Lead length 2.4 m (8 ft)
METSECTR90500U	CT Rogowski 900 mm (35.4 in) coil 5000 A, Lead length 2.4 m (8 ft)
	Panel Instruments
	DIN rail analog ammeters, voltmeters
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
	DIN rail digital ammeters, voltmeter, frequency meter
15202	Direct reading iAMP 0-10 A No 4
15209	Multi-rating iAMP 0-5000 A As per rating 4

PowerLogic™ Commercial Reference Numbers

Commercial reference number	Description
15201	iVLT 0-600 V 4
15208	iFRE 20-100 Hz 4
	72x72 analog ammeter, voltmeter
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
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
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
16017	CMA 20 4
16018	CMV 500 7
	DIN rail iCMA, iCMV selector switches
15126	iCMA 10 415 4
15125	iCMV 10 415 4
	iCH hour counter
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
15443	iCI 4mm impulse counter DIN
	Basic Energy Metering
	iEM2xxx
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

Commercial reference number	Description
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
A9MEM2435	iEM2435 power and energy meter, Class 1, 230 V, 100 A, M-Bus, MID, 2 tariffs, 2 pulse outputs, 4 quadrants, LCD display
A9MEM2455	iEM2455 power and energy meter, Class 1, 230 V, 100 A, RS-485, MID, 2 tariffs, 2 pulse outputs, 4 quadrants, LCD display
	iEM3000
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

PowerLogic™ Commercial Reference Numbers

Commercial reference number	Description
METSECTLV1005U	CT, split-core, Size 0, 50 A to 0.333 V
METSECTLV1010U	CT, split-core, Size 1, 100 A to 0.333 V
METSECTLV1020U	CT, split-core, Size 1, 200 A to 0.333 V
METSECTLV2010U	CT, split-core, Size 2, 100 A to 0.333 V
METSECTLV2020U	CT, split-core, Size 2, 200 A to 0.333 V
METSECTLV2030U	CT, split-core, Size 2, 300 A to 0.333 V
METSECTLV2040U	CT, split-core, Size 3, 400 A to 0.333 V
METSECTLV3060U	CT, split-core, Size 3, 600 A to 0.333 V
METSECTLV3080U	CT, split-core, Size 3, 800 A to 0.333 V
METSECTLV4080U	CT, split-core, Size 4, 800 A to 0.333 V
METSECTLV4100U	CT, split-core, Size 4, 1000 A to 0.333 V
METSECTLV4120U	CT, split-core, Size 4, 1200 A to 0.333 V
METSECTLV4160U	CT, split-core, Size 4, 1600 A to 0.333 V
METSECTLV4200U	CT, split-core, Size 4, 2000 A to 0.333 V
METSECTLV4240U	CT, split-core, Size 4, 2400 A to 0.333 V
	EM3570
METSEEM3570	DIN Ethernet power meter, LVCT input with external Power Supply module
METSEEM3570A	DIN Ethernet power meter, Rogowski coil input with external Power Supply module
METSEEM3570X	DIN Ethernet power meter, LVCT input without external Power Supply module
METSEEM3570AX	DIN Ethernet power meter, Rogowski coil input without external Power Supply module
METSEEM3570PS	24V DC Power Supply Module for DIN Ethernet meter 600V AC input
METSEEM3570ENC	NEMA enclosure accessory for Din Ethernet meter METSEEM35x Schneider brand
	EM3000
METSEEM3122	EM3122 45A Cl 1 Energy Meter RS-485
METSEEM3212	EM3212 63A Cl 1 Energy Meter
METSEEM3224	EM3224 63A Cl 1 MID Energy Meter RS-485
METSEEM3322	EM3322 100A Cl 1 Energy Meter RS-485
METSEEM3412	EM3412 125A Cl 1 Energy Meter
METSEEM3424	EM3424 125A Cl 1 MID Energy Meter RS-485
METSEEM3712	EM3712 CT Op Cl0.5S/Cl1 Energy Meter
METSEEM3724	EM3724 CT Op Cl0.5S/Cl1 MID Energy Meter
	PM3000
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
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

Commercial reference number	Description
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
	PowerTag Control
A9XMC2D3	PowerTag C 2DI 230V digital input module
	HeatTag
SMT10020	HeatTag smart sensor cable overheating
	Basic Multi-Function Metering
	PM5000
METSEPM5100	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 15th harmonic, 1DO
METSEPM5110	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 15th harmonic, 1DO, RS-485
METSEPM5111	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 15th harmonic, 1DO, RS-485, MID
METSEPM5310	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO, RS-485
METSEPM5310R	Power Meter, 600V AC L-L/ RJ45 LVCT input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO, RS-485
METSEPM5320	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO, Ethernet
METSEPM5320R	Power Meter, 600V AC L-L/ RJ45 LVCT input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO, Ethernet
METSEPM5330	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO/2-Relay, RS-485
METSEPM5331	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO/2-Relay, RS-485, MID
METSEPM5340	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO/2-Relay, Ethernet
METSEPM5341	Power Meter, 600V AC L-L/ 5A or 1A input, 415V AC L-L or 250V DC control power, Cl 0.5S, 31st harmonic, 256 kB, 2DI/2DO/2-Relay, Ethernet, MID
METSEPM5560	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet
METSEPM5561	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, MID
METSEPM5562	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, RMI CAN approved, Hardware lockable
METSEPM5562MC	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, RMI CAN approved, Factory sealed

PowerLogic™ Commercial Reference Numbers

Commercial reference number	Description
METSEPM5563	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, DIN mount, No display
METSEPM5563RD	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, DIN mount, Remote display
METSEPM5570	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 2DI/2AI/2-DO, RS-485, Ethernet
METSEPM5580	Power Meter, 690V AC L-L/ 5A or 1A input, 24 to 64V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet
METSEPM5650	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 4DI/2-DO, RS-485, Ethernet, Wave Form Capture and Sag/swell
METSEPM5660	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 2DI/2-DO, RS-485, Ethernet, Residual Current Monitor
METSEPM5661	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 2DI/2-DO, RS-485, Ethernet, Residual Current Monitor, MID
METSEPM5760	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 2DI/2-DO, RS-485, Ethernet, Wave Form Capture and Sag/swell, Residual current monitor
METSEPM5761	Power Meter, 690V AC L-L/ 5A or 1A input, 480V AC L-L or 250V DC control power, Cl 0.2S, 63rd harmonic, 1.1 MB, 2DI/2-DO, RS-485, Ethernet, Wave Form Capture and Sag/swell, Residual current monitor, MID
	Residual Current Monitoring Toroids (Vigirex) - Closed Toroids, A Type
50437	TA30 - closed toroid A type, for RCM enabled power meters, 30 mm inner diameter, rated current 65 Amps, 1000 turns
50438	PA50 - closed toroid A type, for RCM enabled power meters, 50 mm inner diameter, rated current 85 Amps, 1000 turns
50439	IA80 - closed toroid A type, for RCM enabled power meters, 80 mm inner diameter, rated current 160 Amps, 1000 turns
50440	MA120 - closed toroid A type, for RCM enabled power meters, 120 mm inner diameter, rated current 250 Amps, 1000 turns
50441	SA200 - closed toroid A type, for RCM enabled power meters, 200 mm inner diameter, rated current 400 Amps, 1000 turns
50442	GA300 - closed toroid A type, for RCM enabled power meters, 300 mm inner diameter, rated current 630 Amps, 1000 turns
	Accessories for Closed Toroids
56055	Magnetic ring/ Iron screen accessory for TA30 toroid sensor
56056	Magnetic ring/ Iron screen accessory for PA50 toroid sensor
56057	Magnetic ring/ Iron screen accessory for IA80 toroid sensor
56058	Magnetic ring/ Iron screen accessory for MA120 toroid sensor
	Residual Current Monitoring Toroids (Vigirex) - Split Toroids, OA Type
50420	TOA80 - split toroid OA type, 80 mm inner diameter, rated current 160 Amps, 1000 turns
50421	TOA120 - split toroid OA type, 120 mm inner diameter, rated current 250 Amps, 1000 turns
56053	L1 type - rectangular sensor, width 280 x height 115 mm, rated current 1600 Amps, 1000 turns
56054	L2 type - rectangular sensor, width 470 x height 160 mm, rated current 3200 Amps, 1000 turns
	0.333V (1/3 Volts), 3-in-1 CTs with RJ45 connectors for PM53x0R LVCT enabled power meter

Commercial reference number	Description
METSECTV25006	LVCT Solid core 3 in 1 with RJ45 cable, 25 mm phase center, 60 Amps, 0.333V output
METSECTV25010	LVCT Solid core 3 in 1 with RJ45 cable, 25 mm phase center, 100 Amps, 0.333V output
METSECTV25013	LVCT Solid core 3 in 1 with RJ45 cable, 25 mm phase center, 125 Amps, 0.333V output
METSECTV25016	LVCT Solid core 3 in 1 with RJ45 cable, 25 mm phase center, 160 Amps, 0.333V output
METSECTV35006	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 60 Amps, 0.333V output
METSECTV35010	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 100 Amps, 0.333V output
METSECTV35012	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 120 Amps, 0.333V output
METSECTV35013	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 125 Amps, 0.333V output
METSECTV35015	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 150 Amps, 0.333V output
METSECTV35016	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 160 Amps, 0.333V output
METSECTV35020	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 200 Amps, 0.333V output
METSECTV35025	LVCT Solid core 3 in 1 with RJ45 cable, 35 mm phase center, 250 Amps, 0.333V output
METSECTV45025	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 250 Amps, 0.333V output
METSECTV45030	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 300 Amps, 0.333V output
METSECTV45040	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 400 Amps, 0.333V output
METSECTV45050	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 500 Amps, 0.333V output
METSECTV45060	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 600 Amps, 0.333V output
METSECTV45063	LVCT Solid core 3 in 1 with RJ45 cable, 45 mm phase center, 630 Amps, 0.333V output
METSECTV29006	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 60 Amps, 0.333V output
METSECTV29010	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 100 Amps, 0.333V output
METSECTV29012	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 120 Amps, 0.333V output
METSECTV29013	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 125 Amps, 0.333V output
METSECTV29015	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 150 Amps, 0.333V output
METSECTV29016	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 160 Amps, 0.333V output
METSECTV29020	LVCT Solid core 3 in 1 with RJ45 cable, 29 mm phase center, 200 Amps, 0.333V output
METSECTV70080	LVCT Solid core 3 in 1 with RJ45 cable, 70 mm phase center, 800 Amps, 0.333V output
METSECTV70100	LVCT Solid core 3 in 1 with RJ45 cable, 70 mm phase center, 1000 Amps, 0.333V output
METSECTV70125	LVCT Solid core 3 in 1 with RJ45 cable, 70 mm phase center, 1250 Amps, 0.333V output
	Cable
METSEPM5CAB03	RJ25 cable assembly for interfacing PM5563 meter and PM5RD remote display with 0.3 meter cable length
METSEPM5CAB1	RJ25 cable assembly for interfacing PM5563 meter and PM5RD remote display with 1.0 meter cable length
METSEPM5CAB10	RJ25 cable assembly for interfacing PM5563 meter and PM5RD remote display with 10 meter cable length
METSEPM5CAB3	RJ25 cable assembly for interfacing PM5563 meter and PM5RD remote display with 3 meter cable length
METSEPM5CAB4	RJ25 cable assembly for interfacing PM5563 meter and PM5RD remote display with 4 meter cable length
	Other related products
METSEPM5RD	Remote display unit for PM5563 power meter supplied with mounting bracket, gasket, anti-rotation pin and RJ25 cable METSEPMCABxy
METSEPM51HK	Hardware kit for PM51xx comprises 2 retainer clips and spare connectors for - Voltage in, Control power in, Digital IO & RS-485
METSEPM53HK	Hardware kit for PM51xx comprises 2 retainer clips and spare connectors for - Voltage in, Control power in, Digital IO, Relay & RS-485

PowerLogic™ Commercial Reference Numbers

Commercial reference number	Description
METSEPM51_3RSK	Revenue sealing kit for PM51XX & PM53XX
METSEPM55RSK	Revenue sealing kit for PM55XX
METSEPM55HK	Hardware kit for PM55xx
METSEPM5CAB3	Remote Display cable
	PM5350
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
	Advanced Metering
	PM8000
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
METSEPM8000SK	Terminal covers for utility sealing
METSEPM8HWK	PM8000 hardware kit
METSEPM89M2600	Digital I/O module (6 digital inputs & 2 relay outputs)
METSEPM89M0024	Analog I/O module (4 analog inputs & 2 analog outputs)
METSEPM8213	DIN rail mount meter, LV 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.
METSEPMRS4854W	4-Wire RS 485 option module
METSEPMFIBER	Fiber-Ethernet option module
METSEPM8140	PM8000E integrated display
METSEPM8143	PM8000E tran
METSEPM8144	PM8000E tran with RD96 display
METSEPM81401	PM8000E MID, integrated display
METSEPM81404	PM8000E integrated display, MC SEAL
METSEPM8110	PM8000E LVDC, integrated display
METSEPM8113	PM8000E LVDC
METSEPM8114	PM8000E LVDC, tran with RD96 display
METSEPM8340	PM8000 Adv integrated display
METSEPM8343	PM8000 Adv tran
METSEPM8344	PM8000 Adv tran with RD96 display
METSEPM8310	PM8000 Adv LVDC, integrated display
METSEPM8313	PM8000 Adv LVDC, Tran
METSEPM83404	PM8000 Adv integrated display, RMICAN
METSEPM83401	PM8000 Adv MID, integrated display
METSEPM8314	PM8000 Adv LVDC, Tran with RD96 display
	ION9000
METSEION92030	ION9000 meter, DIN mount, no display, hardware kit
METSEION92040	ION9000 meter, DIN mount, 192 mm display, B2B adapter, hardware kit

Commercial reference number	Description
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
METSERD192	Remote display, color touchscreen, 192 x 192 mm
METSEPM89RD96	Remote display, color LCD, 96 x 96 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
METSEPMRS4854W	4-Wire RS 485 option module
METSEPMFIBER	Fiber-Ethernet option module
	Advanced Utility Metering
	ION7400
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
METSEION74001	MID approved panel mount meter
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
METSEPMRS4854W	4-Wire RS-485 option module
METSEPMFIBER	Fiber-Ethernet option module
	ION8650
M8650A	ION8650A meter
M8650B	ION8650B meter

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

PowerLogic™ Commercial Reference Numbers

Commercial reference number	Description
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
	Multi-Circuit Metering
	HDPM6000S24 Strip Module
METSEHDPM6S24WF	HDPM6000S 24 Ckt WFC
	HDPM6000 Head Unit
METSEHDPM6S480VC	HDPM 50 / 60 Hz up to 480 V
	HDPM6000B Busway Modules
METSEHDPM6BT4	HDPM 4 Ckt Busway Module with Busway Tap Box mount
METSEHDPM6BT8	HDPM 8 Ckt Busway Module with Busway Tap Box mount
METSEHDPM6BT8DIN	HDPM 8 Ckt Busway Module with DIN mount
	HDPM6000R Retrofit Modules
METSEHDPM6R24	HDPMR 24 Ckt Module
METSEHDPM6R24WF	HDPMR 24 Ckt Module WFC
METSEHDPM6R42	HDPMR 42 Ckt Module
METSEHDPM6R42WF	HDPMR 42 Ckt Module WFC
METSEHDPM6R84	HDPMR 84 Ckt Module
METSEHDPM6R84WF	HDPMR 84 Ckt Module WFC
	HDPM6000S Strip Modules
METSEHDPM6S42W	HDPM Strip Left and Right Set for 42 Ckts WFC
METSEHDPM6S42	HDPM Strip Left and Right Set for 42 Ckts
METSEHDPM6S21WF	HDPM Strip Right 21 Ckt WFC
METSEHDPM6S21R	HDPM Strip Right 21 Ckt
METSEHDPM6S21WH	HDPM Strip Left 21 Ckt WFC
METSEHDPM6S21L	HDPM Strip Left 21 Ckt
	HDPM6000 Temperature and Humidity Sensors
METSEHDPMTEMP08B	HDPM Temperature Sensor with 8ft Blue Cable
METSEHDPMTEMP08Y	HDPM Temperature Sensor with 8ft Yellow Cable
METSEHDPMTEMP12B	HDPM Temperature Sensor with 12ft Blue Cable
METSEHDPMTEMP12Y	HDPM Temperature Sensor with12ft Yellow Cable
METSEHDPMTEMP25B	HDPM Temperature Sensor with 25ft Blue Cable
METSEHDPMTEMP25Y	HDPM Temperature Sensor with 25ft Yellow Cable
METSEHDPMTEMPHM25B	HDPM Temperature and Humidity Sensor with 25ft Blue Cable
METSEHDPMTEMPHM25Y	HDPM Temperature and Humidity Sensor with 25ft Yellow Cable
METSEHDPMTEMPHM06B	HDPM Temperature and Humidity Sensor with 25ft Yellow Cable
METSEHDPMTEMPHM06Y	HDPM Temperature and Humidity Sensor with 6ft Yellow Cable
	HDPM6000 I/O Module
METSEHDPM6IO	HDPM I/O Module
METSEHDPM6DI	Expanded Input Module 2.0, 24 Channel
	HDPM6000 CT's
HDPM6000 CT's	Refer to HDPM6000 CT manual for full list
	HMI Displays
METSEHDPM6HMI4	HDPM 4.3" Color Touchscreen HMI Display
METSEHDPM6HMI7	HDPM 7" Color Touchscreen HMI Display
	Power Supplies
METSEHDPM6PSV240*	HDPM PS 24 VDC 60 watt
METSEHDPM6PSV500*	HDPM PS 24 VDC 90 watt

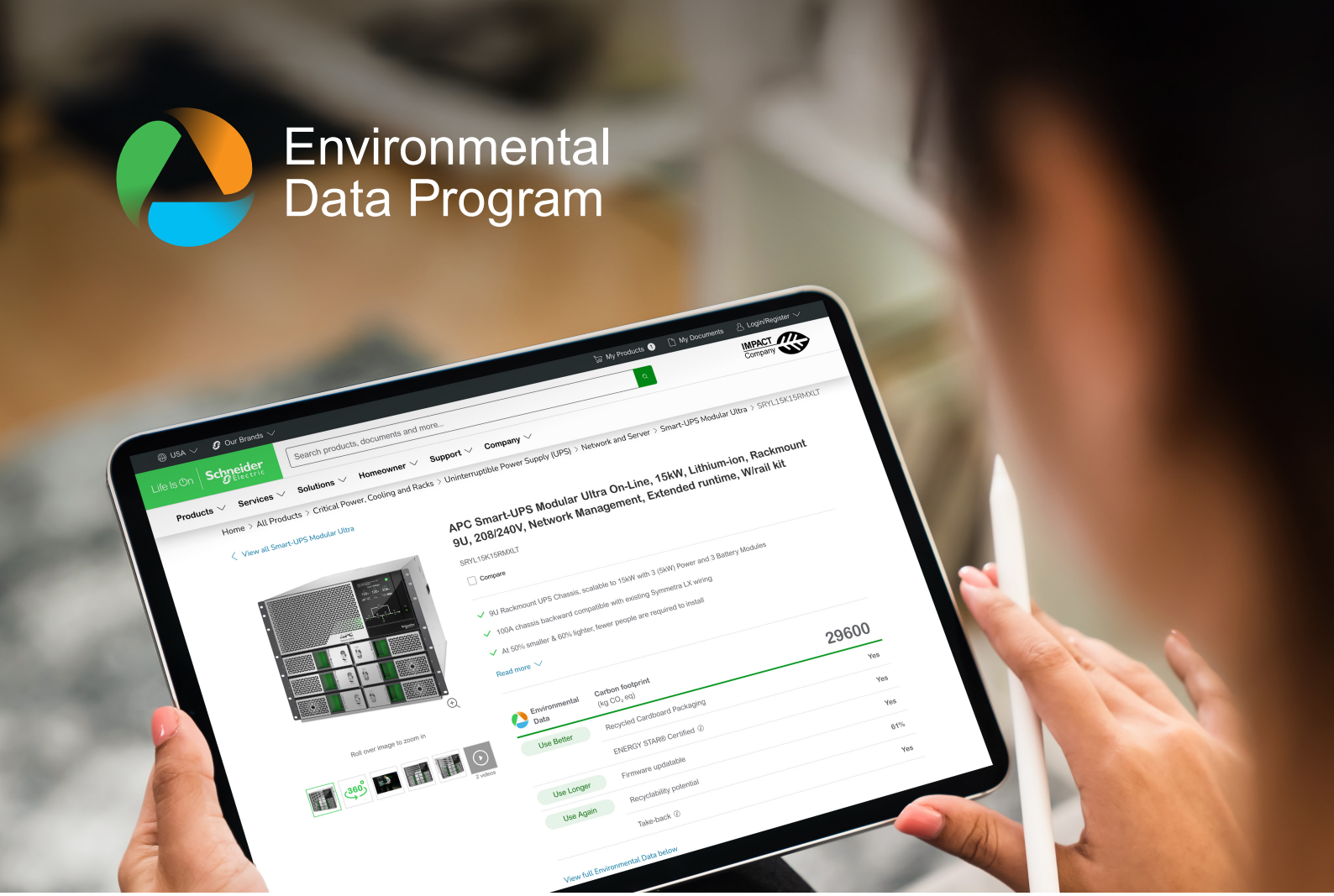
Commercial reference number	Description
*Phoenix Contact power supply.	
	EM4000
METSEEM403316	24 x 333 mV inputs, 120V control power 60 Hz
METSEEM403336	24 x 333 mV inputs, 277V control power 60 Hz
METSEEM408016	24 x 80 mA inputs, 120V control power 60 Hz
METSEEM408036	24 x 80 mA inputs, 277V control 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
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
	Retrofit Products
	EM3500
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
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
	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

PowerLogic™ Commercial Reference Numbers

Commercial reference number	Description
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	Voltage 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
	EcoStruxure™ Panel Server
	Panel Server Entry
PAS400	Panel Server Entry 110..277 V AC/DC
	Panel Server Universal
PAS600L	Panel Server Universal with 24 V DC power supply
PAS600LWD	Wired by Design Panel Server Universal with 24 Vdc power
PAS600PWD	Wired by Design Panel Server Universal with PoE power supply
PAS600T	Panel Server Universal with 100-240 V AC/DC power supply
PAS600	Panel Server Universal with 100-277 V AC/DC power supply
	Panel Server Advanced
PAS800L	Panel Server Advanced with 24 V DC power supply
PAS800P	Panel Server Advanced with PoE power supply
PAS800	Panel Server Advanced with 100-277 V AC/DC power supply

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

Environmental Data Program

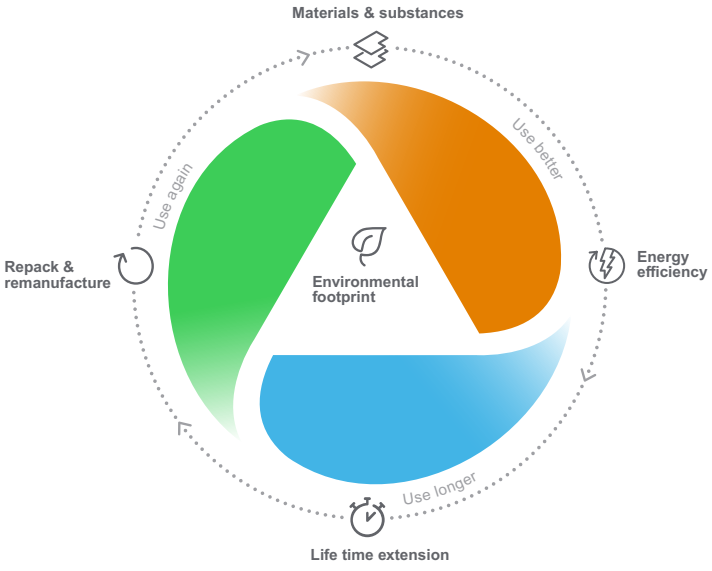


Next-level transparency for better-informed product choices

The Environmental Data Program is a framework for how we measure, categorize, and compare the environmental attributes and footprint of our products.

Using a rigorous, fact-based methodology, the program provides environmental data from across the product lifecycle.

Five data categories across the product lifecycle



Use Better: How sustainable a product is, including environmental footprint, materials and substances, packaging, and energy efficiency.

Use Longer: How a product's life time can be effectively extended in terms of repairability and updatability.

Use Again: How a product can be reused, from dismantling and remanufacturing to recyclability and manufacturer take back.

With this transparent, verified data, customers and partners are empowered to make conscious environmental choices and accurately evaluate and report on sustainability performance.

All our hardware offers have an associated environmental data available on se.com product pages.

Learn more about the Environmental Data Program

www.se.com

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