Schneider Electric

Energy and power meters catalogue for Panel Builders

Life Is On | **Schneider Electric**

Schneider Electric

Energy and power meters catalogue for panel builders

Contents

Why Panel Builders Choose Schneider Electric?

Schneider Electric is the global specialist in energy management and as such it has the most complete power motoring product line, going from simple indicators (analogue meters) and CTs, to world class accurate energy meters and powerful compact power meters. These proven products come with multiple options to satisfy any requirement.

Schneider Electric products are safe and reliable. We comply with the most stringent standards, including IEC, MID, UL, etc., and we thoroughly test all products with third-party laboratories. This gives our partners the peace of mind and the confidence that they are maintaining a good reputation while delivering the best value in equipment and service to their customers.

Our products are simple to install, configure, and use. This saves our partners time and money and lets them deliver the best solutions in a timely and cost-effective manner.

Whatever the size or type of application, the PowerLogic™ product line is an integral part of smart panels.

Panorama of the PowerLogic range

Current transformers

CTs
Ip / 5 A

current transformer

Installation

- insulated cable, diameter 21 to 35 mm, through transformer
- busbar through transformer
- cable connections

Characteristics

- transformation ratio: 40/5 A to 6000/5 A
- accuracy: class 0.5 to 3
- maximum rated operational voltage: 720 V AC
- tropicalised

Panel Instruments

Product	iAMP/iVLT	AMP/VLT	iFRE	iCH/iCI
Function	ammeter, voltmeter		frequency meter	hour counter pulse counter

Applications
Panel instrumentation

	iAMP/iVLT	AMP/VLT	iFRE	iCH/iCI
Panel instrumentation	I / U	I / U	F	hours /pulses

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

	iAMP/iVLT	AMP/VLT	iFRE	iCH/iCI
Measurement accuracy	class 1.5	± 0.5 % ± 1 digit	class 1.5	± 0.5 % ± 1 digit	
Installation	DIN rail 4 x 18 mm modules	DIN rail 2 x 18 mm modules	flush mounted 72 x 72 mm 96 x 96 mm	DIN rail 2 x 18 mm modules	iCI, iCH: DIN rail 2 x 18 mm modules CH: flush mount
Voltage measurement	iVLT,: 500 V AC direct or external VT	iVLT: 600 V AC direct or external VT	VLT: 500 V AC direct or external VT	400 V AC direct	
Current measurement	iAMP: 30 A direct or external CT	iAMP: 10 A direct or external CT	AMP: external CT		
Communication ports					
Inputs / Outputs					
Memory capacity					

Panorama of the PowerLogic range (cont.)

Basic energy metering

metering

Product	iEM2000/iEM2010/ iEM2000T/iEM2100	iEM3000 Series	PM3000 Series	PM5100/PM5300/ PM5500
Function	kilowatt-hour meters		metering & sub-metering Class 0.5S IEC 62053-22 Class 1 IEC 62053-21 Class 2IEC 62053-23	metering & sub-metering Class 0.5S IEC 62053-22 Class 0.2S (PM55xx) IEC 62053-22 Class 1/2 IEC 62053-24

Applications
Panel instrumentation

Panel instrumentation	E	I, U, F, P, Q, S, PF, E (Power demand and current demand)	I, U, F, P, Q, S, PF, E (Power demand and current demand)	I, U, F, P, Q, S, PF, E (Power demand and current demand)

Energy efficiency and cost

Sub billing and cost allocation			███	███
Demand and load management				
Billing analysis				

Power availability and reliability

Compliance monitoring				
Sag/swell, transient				
Harmonics				███

Revenue metering

Revenue meter				

Characteristics

Measurement accuracy	Class 0.5S / Class 1		Class 0.5	Class 0.2S (PM55xx) Class 0.5S
Installation	DIN rail 1, 2, 5, or 7 x 18 mm modules		DIN rail	Flush mount 96 mm x 96 mm
Voltage measurement	400 V AC direct	50 V to 330 V (Ph-N) 80 V to 570 V (Ph-Ph) up to 1MV AC (ext VT)	50 V to 330 V AC (Ph-N) 80 V to 570 V AC (Ph-Ph) up to 1M V AC (ext VT)	20 V L-N / 35 V L-L to 277 V L-N /480 V L-L /600 V L-L (PM55xx)
Current measurement	40 to 125 A direct or external CT		external CT	external CT
Communication ports			1	2
Inputs / Outputs			2 I/O	4 I/O 6 I/O (PM55xx)
Memory capacity				256 kb 1.1 MB (PM55xx)

Communications & gateways

Name	Link150	Com'X 200 Com'X 210 Com'X 510
Function	Modbus Serial to Modbus TCP/IP protocol gateway	Modbus gateway plus Energy Server and Cloud connector

## Features

RS-485 / Ethernet gateway	Ethernet Gateway	Ethernet Gateway
Devices supported	All Modbus devices	100+ known Schneider Electric devices and the ability to create custom Modbus models. EM3000 Series, iEM3000 Series, Acti 9 Smartlink Masterpact, PM5000 Series, Compact NSX, iEM1, iEM2000 series, PM3000 Series, PM5350, PM5000, PM8000, ION7550/7650, CM4000
Web server with standard HTML pages	Configuration only	Com'X 510 - full support Com'X 200/210 - configuration only
Web server with custom HTML pages		Custom web page support
Real time data		Real time data available **on Com'X 510**
Historical data		Com'X 510 onboard storage Com'X 200/210 - publish to database server
Automatic notification		Event Notification to FI
Alarm and event logs		
Waveform display		
Custom animated graphics		
Manual/automatic reports		

Characteristics

Ethernet ports Modbus TCP/IP protocol	2 (switch mode only)	2
RS-485 (2-wire / 4-wire) ports Modbus protocol	2w/4w - 1 (rj45)	1
Number of devices connected directly	32	64 devices/32 max Modbus, 2 analogue sensors
RS-232 configuration ports	1	
Miscellaneous	Serial line to Ethernet connectivity - serial or Ethernet master	Connectivity: WiFi, Ethernet, Zigbee, GPRS, + 3G
Installation	9 DIN rail	DIN rail

CT current transformers
Ip/5 A ratio
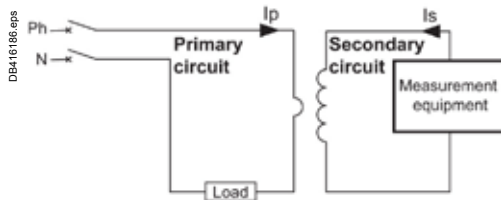
Application diagram of a CT.

The Ip/5 A ratio current transformer delivers at the secondary a current (Is) of 0 to 5 A that is proportional to the current measured at the primary (Ip).
This allows them to be used in combination with measurement equipment:
■ Ammeters.
■ Kilowatt-hour meters.
■ Measurement units.
■ Control relays.
■ etc.

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

CT selection – conductor rating aspects

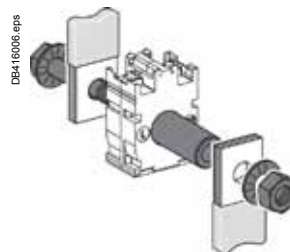The choice depends on the conductor profile and the maximum intensity of the primary circuit.

CT with let-through primary				
Conductor type	Cable	Mixed, bars or cables	Vertical or horizontal bars	Vertical bars
Suggested Current Transformer and mounting				
Ratings (A)	40 to 250	150 to 800	200 to 4000	500 to 600	5000 to 6000
CT internal profile	Type C	Type M	Type D [1]	Type V	
	○	MA MB MC MD ME MF		VF	VV

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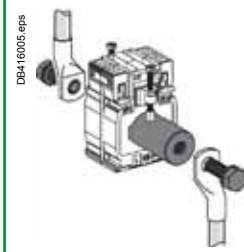
Specific mounting: use of cylinder

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

CT with primary connection by screw and nut (example: use of cylinder with bar or cable)	
16550 (brass)	*METSECT5CYL1 (aluminium)*

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Current transformers

CT current transformers (cont.)
Ip/5 A ratio

CT selection – Electrical aspect Ip/5 A

■ We recommend that you choose the ratio immediately higher than the maximum measured current (In).

Example:
In = 1103 A; ratio chosen = 1250/5.

■ For small ratings:
from 40/5 to 75/5 and for an application with digital devices, we recommend that you choose a higher rating, for example 100/5.

This is because small ratings are less accurate and the 40 A measurement, for example, will be more accurate with a 100/5 CT than with a 40/5 CT.

■ Specific case of the motor starter:
to measure motor starter current, you must choose a CT with primary current Ip = Id/2 (Id = motor starting current).

Validation of measurement solution according accuracy class

It consists in controlling the right adaptation of the CT on the assucary 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 modify to fit the requirement.

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

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

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

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

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

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							
	Ø27	10 x 32	150	METSECT5MA015	3	4	-
		15 x 25	200	**METSECT5MA020**	4	7	-
			250	METSECT5MA025	6	8	-
			300	METSECT5MA030	8	10	-
			400	METSECT5MA040	10	12	-

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

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

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

CT, Ip/5 A ratio
Catalogue numbers

Presentation of commercial reference numbers

MET SE CT **R** **FF** **XXX**

First digit = secondary rating, R = 5 Amps

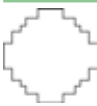Last 3 digits = primary rating/10

2 letters = Form Factor

Examples:
- METSECT5CC008 = 5 A secondary, Cables only, 75 A primary
- METSECT5MC080 = 5 A secondary, Mixed for cables and bars, 800 A primary.

PB112446.eps

METSECT5CC●●●

PB112464.eps
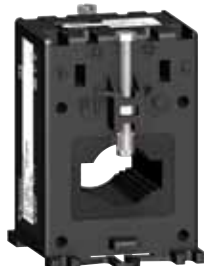
METSECT5ME●●●

PB112461.eps

METSECT5MB●●●

PB112460.eps

METSECT5MA●●●

PB112462.eps

METSECT5MC●●●

PB112465.eps
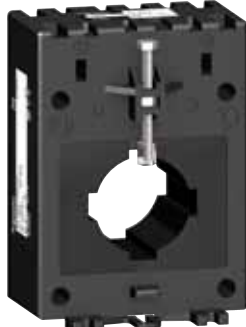
METSECT5MF●●●

PB112463.eps

METSECT5MD●●●

Type C - current transformer (cable profile)

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

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

Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Commercial reference number
ME				
	Ø22	10 x 30	150	**METSECT5ME015**
		11 x 25	200	**METSECT5ME020**
		12 x 20	250	**METSECT5ME025**
			300	**METSECT5ME030**
			400	**METSECT5ME040**
			500	**METSECT5ME050**
			600	**METSECT5ME060**
MB				
	Ø26	12 x 40	250	**METSECT5MB025**
		15 x 32	300	**METSECT5MB030**
			400	**METSECT5MB040**
MA				
	Ø27	10 x 32	150	**METSECT5MA015**
		15 x 25	200	**METSECT5MA020**
			250	**METSECT5MA025**
			300	**METSECT5MA030**
			400	**METSECT5MA040**
MC				
	Ø32	10 x 40	250	**METSECT5MC025**
		20 x 32	300	**METSECT5MC030**
		25 x 25	400	**METSECT5MC040**
			500	**METSECT5MC050**
			600	**METSECT5MC060**
			800	**METSECT5MC080**
MF				
	Ø35	10 x 40	250	**METSECT5MF025**
			300	**METSECT5MF030**
			400	**METSECT5MF040**
			500	**METSECT5MF050**
MD				
	Ø40	12 x 50	500	**METSECT5MD050**
		20 x 40	600	**METSECT5MD060**
			800	**METSECT5MD080**

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CT,
Ip/5 A ratio
Catalogue numbers

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

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

Type C - current transformer (cable profile)

Internal profile type	Accuracy class 0.5	1	3	Overall dimensions (refer to drawing pages for details) W x H x D (mm)	Fastening mode	Accessories Cylinder	Sealable cover
	Max. power (VA)						
CC							
	-	-	1	44 x 66 x 37	■ Adapter for DIN rails. ■ Mounting plate.	16550 METSECT5CYL1	Included
	-	1.25	1.5				
	-	1.25	2				
	-	1.5	2.5				
	2	2.5	3.5				
	2.5	3.5	4				
	3	4	5				
	4	5.5	6				
	5	6	7				

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

| Internal profile type	0.5	1	3	W x H x D (mm)	Fastening mode	Comm. ref. no.	
	1.5	5.5	6.5	56 x 84 x 60	■ Adapter for DIN rails. ■ Mounting plate. ■ Insulated locking screw.	16551	16552
	4	7	8.5				
	6	9	11				
	7.5	11	14				
	10.5	15	18				
	12	18	22				
	14.5	21.5	26				
MB							
	3	4	-	60 x 85 x 63	■ Adapter for DIN rails. ■ Mounting plate.	-	METSECT5COVER
	4	6	-				
	6	8	-				
MA							
	3	4	-	56 x 80 x 63	■ Adapter for DIN rails. ■ Mounting plate.	METSECT5CYL2	METSECT5COVER
	4	7	-				
	6	8	-				
	8	10	-				
	10	12	-				
MC							
	3	5	-	70 x 95 x 65	■ Adapter for DIN rails. ■ Mounting plate.	-	METSECT5COVER
	5	8	-				
	8	10	-				
	10	12	-				
	12	15	-				
	10	12	-				
MF							
	2.5	5	8	77 x 107 x 64	■ Adapter for DIN rails. ■ Mounting plate. ■ Insulated locking screw.	-	16553
	4	8	12				
	8	12	15				
	10	12	15				
MD							
	4	6	-	70 x 95 x 65	■ Adapter for DIN rails. ■ Mounting plate.	-	METSECT5COVER
	6	8	-				
	8	12	-				

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CT,
Ip/5 A ratio
Catalogue numbers

METSECT5VF●●●

METSECT5VV●●●

Type V current transformers (vertical bar profile)				
Internal profile type	Cables (mm)	Bars (mm)	Rating Ip/5 A (A)	Commercial reference number
VF				
	-	11 x 64	500	**METSECT5VF050**
		31 x 51	600	**METSECT5VF060**
VV				
	-	55 x 165	5000	**METSECT5VV500** ★
			6000	**METSECT5VV600** ★

METSECT5DA●●●

METSECT5DB●●●

METSECT5DC●●●

METSECT5DD●●●

METSECT5DE●●●
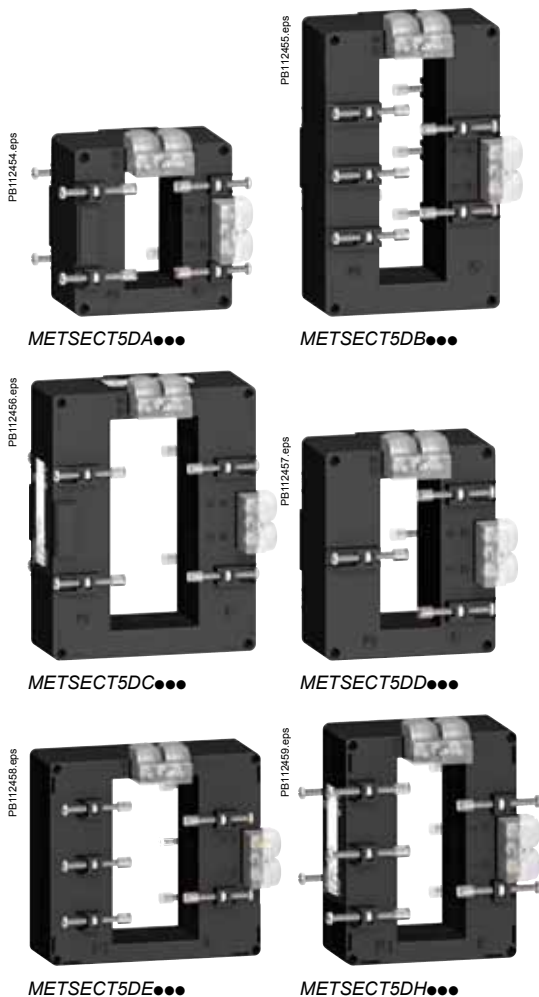
METSECT5DH●●●

Type D - current transformers (vertical or horizontal bar - dual secondary terminals)				
DA				
	-	32 x 65	200	**METSECT5DA020**
			250	**METSECT5DA025**
			300	**METSECT5DA030**
			400	**METSECT5DA040**
			500	**METSECT5DA050**
			600	**METSECT5DA060**
			800	**METSECT5DA080**
			1000	**METSECT5DA100**
			1250	**METSECT5DA125** ★
			1500	**METSECT5DA150** ★
DB				
	-	38 x 127	1000	**METSECT5DB100**
			1250	**METSECT5DB125** ★
			1500	**METSECT5DB150** ★
			2000	**METSECT5DB200** ★
			2500	**METSECT5DB250** ★
			3000	**METSECT5DB300** ★
DC				
	-	52 x 127	2000	**METSECT5DC200** ★
			2500	**METSECT5DC250** ★
			3000	**METSECT5DC300** ★
			4000	**METSECT5DC400** ★
DD				
	-	34 x 84	1000	**METSECT5DD100**
			1250	**METSECT5DD125** ★
			1500	**METSECT5DD150** ★
DE				
	-	54 x 102	1000	**METSECT5DE100**
			1250	**METSECT5DE125** ★
			1500	**METSECT5DE150** ★
			2000	**METSECT5DE200** ★
DH				
	-	38 x 102	1250	**METSECT5DH125** ★
			1500	**METSECT5DH150** ★
			2000	**METSECT5DH200** ★

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

CT,
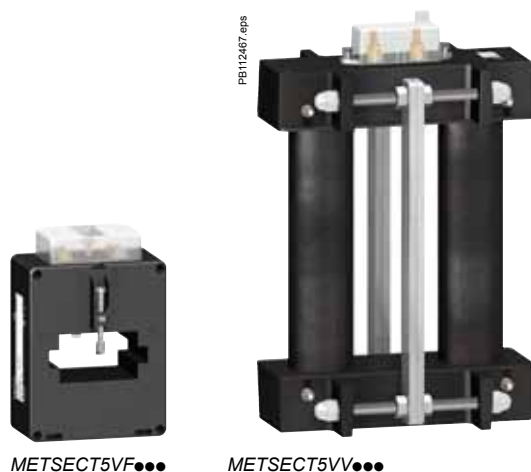# Ip/5 A ratio
Catalogue numbers

Type V current transformers (vertical bar profile)

Internal profile type	Accuracy class			Overall dimensions (refer to drawing pages for details) W x H x D (mm)	Fastening mode	Accessories	
	0.5	1	3			Cylinder	Sealable cover
	Max. power (VA)						
VF							
	2	4	-	**90 x 130 x 66**	■ Mounting plate.	-	**Included**
	4	6	-		■ Insulated locking screw.		
VV							
	60	-	-	**175 x 273.5 x 110**	■ Insulated locking screw.	-	**Included**
	70	-	-				

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

	0.5	1	3	W x H x D (mm)	Fastening mode	Cylinder	Sealable cover
DA							
	-	2	5	**90 x 94 x 90**	■ Insulated locking screw.	-	**Included**
	1	4	-				
	1.5	6	-				
	4	8	-				
	8	10	-				
	8	12	-				
	12	15	-				
	15	20	-				
	15	20	-				
	20	25	-				
DB							
	6	10	-	**99 x 160 x 87**	■ Insulated locking screw.	-	**Included**
	8	12	-				
	10	15	-				
	15	20	-				
	20	25	-				
	25	30	-				
DC							
	25	30	-	**125 x 160 x 87**	■ Insulated locking screw.	-	**Included**
	30	50	-				
	30	50	-				
	30	50	-				
DD							
	10	15	-	**96 x 116 x 87**	■ Insulated locking screw.	-	**Included**
	12	15	-				
	15	20	-				
DE							
	12	15	-	**135 x 129 x 85**	■ Insulated locking screw.	-	**Included**
	15	20	-				
	20	25	-				
	20	25	-				
DH							
	12	15	-	**98 x 129 x 75**	■ Insulated locking screw.	-	**Included**
	12	15	-				
	20	25	-				

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

CT current transformers (cont.)
Ip/5 A ratio

CT current transformers

CC internal profile type
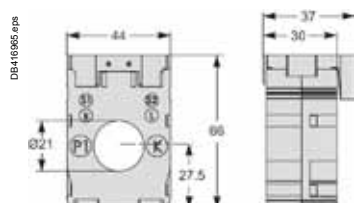
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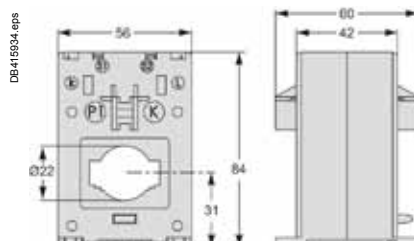
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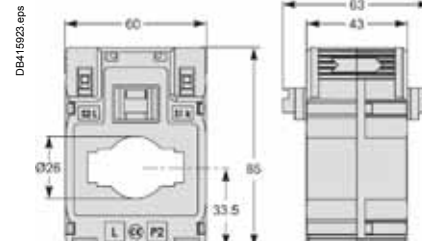
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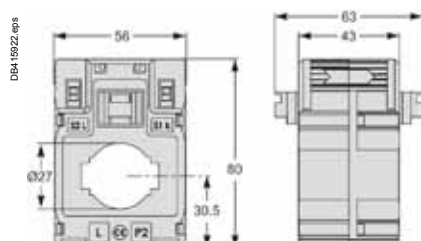
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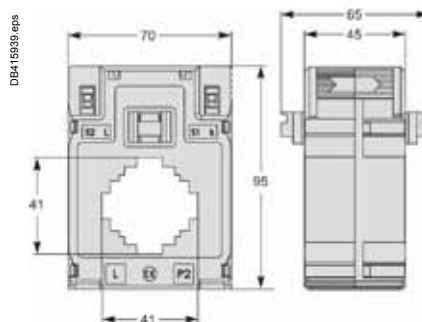
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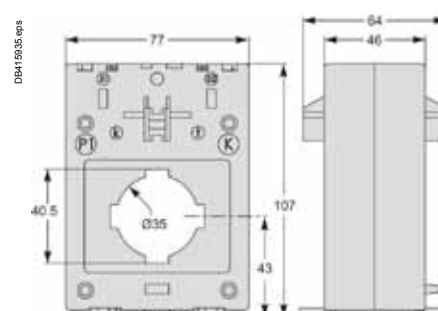
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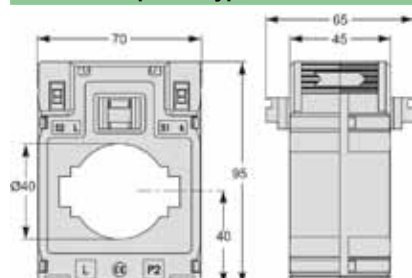
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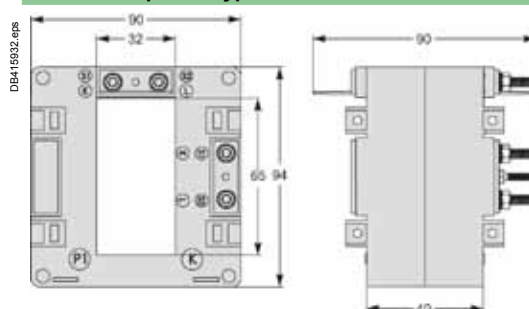
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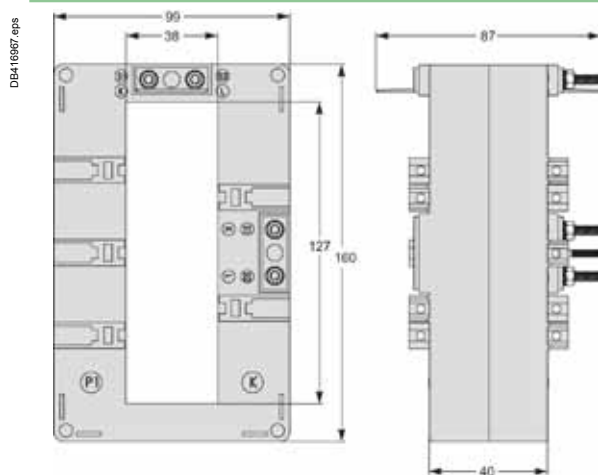
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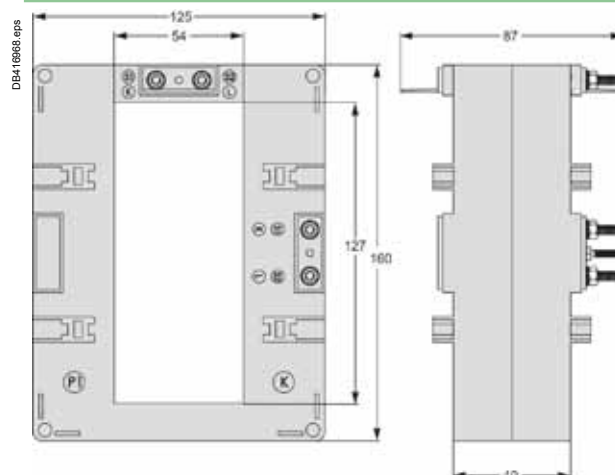
CT current transformers (cont.)
Ip/5 A ratio

CT current transformers

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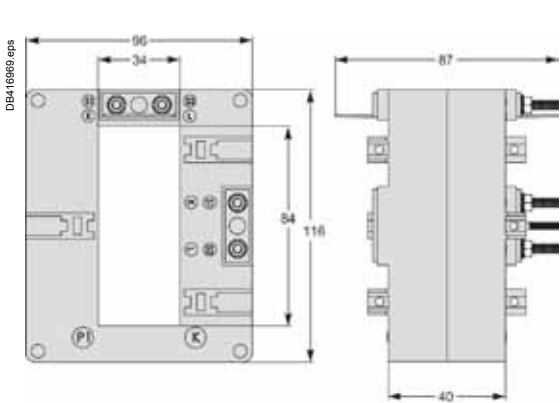
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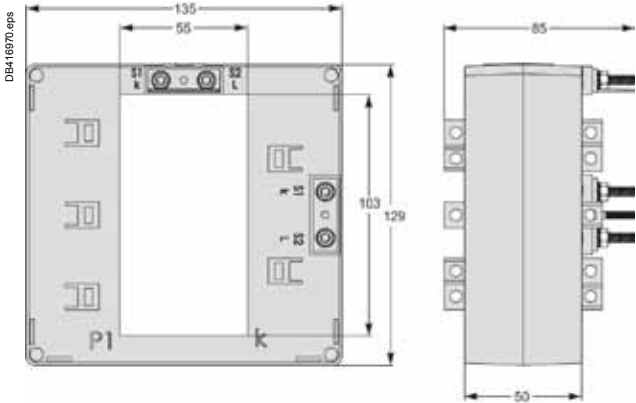
DH internal profile type
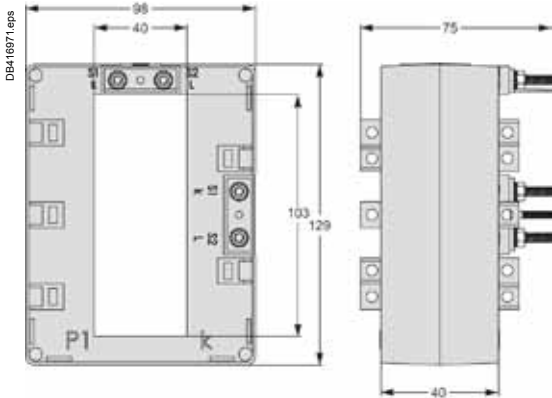
VV internal profile type

VF internal profile type

CT current transformers (cont.)
Ip/5 A ratio
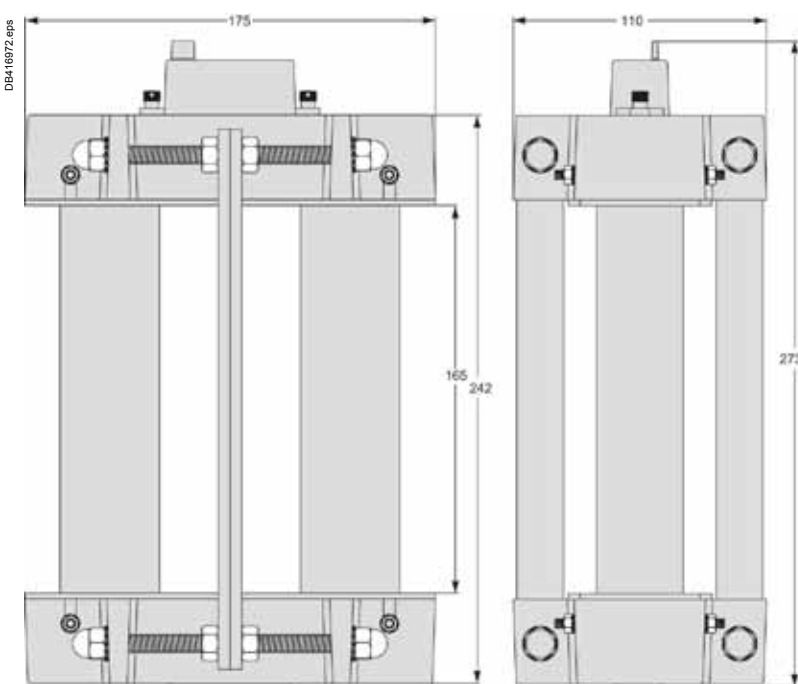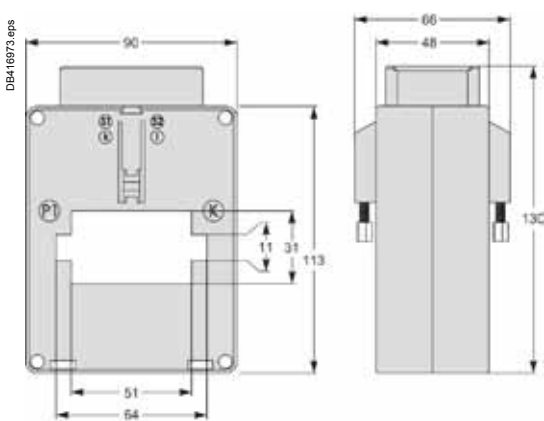
Cylinders

METSECT5CYL1

Ø 21.5
M8
32
21.5

Aluminium

METSECT5CYL2

Ø 26
M10
45
26.5

Aluminium

16550

Ø 22
Ø 8.5
32
22.5

Brass

16551

Ø 22.5
Ø 12.5
63
22.5

Brass

Covers

16552

82
56
31

16553

61
54.5
26

METSECT5COVER

60.5
23.5
22

DIN rail analogue ammeters and voltmeters
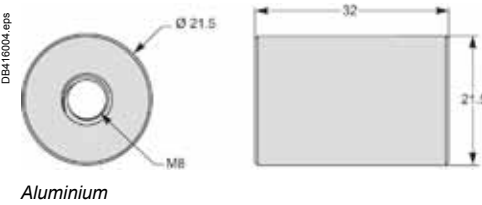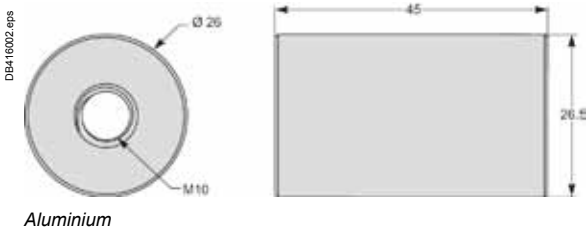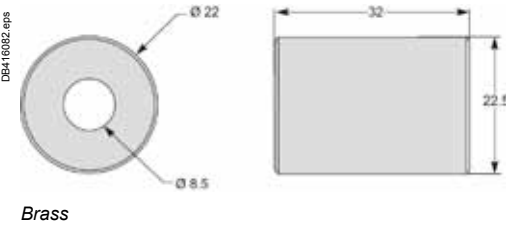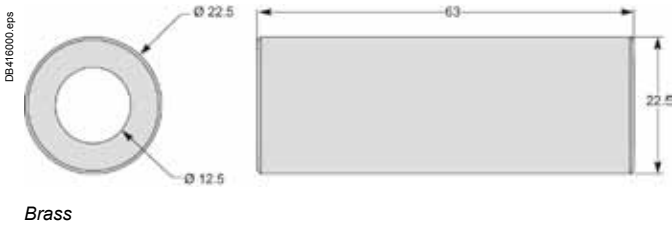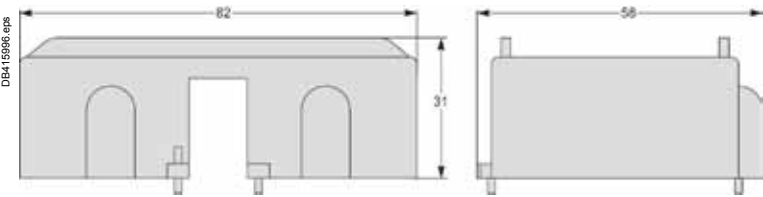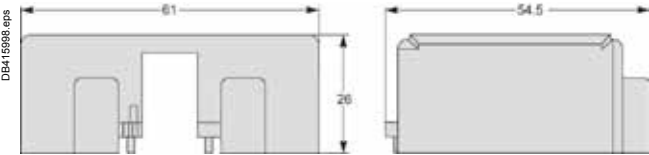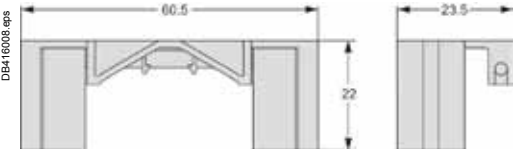
iAMP.

iVLT.

Function

iAMP
Ammeters measure the current flowing through an electric circuit in amps.

iVLT
Voltmeters measure the potential (voltage) difference of an electric circuit in volts.

Common technical data
- Accuracy: class 1.5.
- Complies with standards IEC 60051-1, IEC 61010-1 and IEC 61000-4.
- Ferromagnetic device.
- Pseudo-linear scale over 90°.
- Ammeters (except catalogue number 16029):
□ connection on CT, ratio In/5, to be ordered separately
□ interchangeable dials.
- Temperature:
□ operating temperature: -25 °C to +55 °C.
□ reference temperature: 23 °C.
- Influence of temperature on accuracy: ±0.03 % / °C.
- Utilisation frequency: 50/60 Hz.
- Consumption:
□ AMP: 1.1 VA
□ VLT catalogue number 15060: 2.5 VA
□ VLT catalogue number 16061: 3.5 VA.
- Permanent overload:
□ AMP: 1.2 In
□ VLT: 1.2 Un.
- Maximum overload for 5 s:
□ AMP: 10 In
□ VLT: 2 Un.
- Connection: tunnel terminals for 1.5 to 6 mm² rigid cables.

Catalogue numbers

Type	Scale	Connection with CT	Width in mod. of 9 mm	Cat. no.
iAMP with direct connection				
	0-30 A	no	8	**16029**
iAMP with connection on CT				
Basic device (delivered without dial)		X/5	8	**16030**
Dial	0-5 A			**16031**
	0-50 A	50/5		**16032**
	0-75 A	75/5		**16033**
	0-100 A	100/5		**16034**
	0-150 A	150/5		**16035**
	0-200 A	200/5		**16036**
	0-250 A	250/5		**16037**
	0-300 A	300/5		**16038**
	0-400 A	400/5		**16039**
	0-500 A	500/5		**16040**
	0-600 A	600/5		**16041**
	0-800 A	800/5		**16042**
	0-1000 A	1000/5		**16043**
	0-1500 A	1500/5		**16044**
	0-2000 A	2000/5		**16045**
iVLT				
	0-300 V		8	**16060**
	0-500 V		8	**16061**

Schneider Electric

DIN rail digital ammeters, voltmeter and frequency meter

iAMP.

iVLT.

iFRE.

Function

iAMP
Ammeters measure in amps the current flowing through an electric circuit.

iVLT
Voltmeters measure in volts the potential (voltage) difference of an electric circuit.

iFRE
The frequency meter measures in hertz the frequency of an electric circuit from 20 to 600 V AC.

Common technical data

- Supply voltage: 230 V.
- Operating frequency: 50/60 Hz.
- Display by red LED: 3 digits, h = 8 mm.
- Accuracy at full-scale : 0.5 % ±1 digit.
- Consumption: max. 5 VA or rated 2.5 VA.
- Degree of protection:
  □ IP40 on front face
  □ IP20 at terminal level.
- Connection: tunnel terminals for 2.5 mm² cables.

Specific data

10 A direct reading ammeter
- Minimum value measured: 4 % of rating.
- Measurement input consumption: 1 VA.

Multi-rating ammeter
- Ratings:
  □ in direct reading: 5 A
  □ by CT (not supplied) configurable on the front face of the ammeter: 10, 15, 20, 25, 40, 50, 60, 100, 150, 200, 250, 400, 500, 600, 800, 1000, 1500, 2000, 2500, 4000, 5000 A.
- Minimum value measured: 4% of rating.
- Measurement input consumption: 0.55 VA.

Voltmeter
- Direct measurement: 0...600 V.
- Input impedance: 2 MΩ.
- Minimum value measured: 4 % of rating.

Frequency meter
- Minimum value measured: 20 Hz.
- Maximum value measured: 100 Hz.
- Full-scale display: 99.9 Hz.

Compliance with standards
- Safety: IEC/EN 61010-1.
- EMC electromagnetic compatibility: IEC/EN 65081-1 and IEC/EN 65082-2.

Catalogue numbers

Type	Scale	Connection with CT	Width in mod. of 9 mm	Cat. no.
Direct reading iAMP				
	0-10 A	No	4	**15202**
Multi-rating iAMP				
	0-5000 A	As per rating	4	**15209**
iVLT				
	0-600 V		4	**15201**
iFRE				
	20-100 Hz		4	**15208**

72 x 72 analogue ammeters and voltmeter

AMP for standard feeder.

AMP for motor feeder.

VLT.

Function

The 72 x 72 measurement devices are designed for flush-mounted installation on doors, wicket doors and front plates of enclosures and cubicles.

AMP

The ammeters measure in amps the current flowing through an electrical circuit.

VLT

The voltmeter measure in volts the potential difference (voltage) of an electrical circuit.

Common technical data

■ Accuracy: class 1.5.
■ Compliance with standard IEC 60051-1, IEC 61010-1 and IEC 61000-4.
■ Ferromagnetic device.
■ Scale length: 62 mm over 90°.
■ Mounting in enclosure or in cubicle.
■ Degree of protection: IP52.
■ Maximum operating position: 30° / vertical.
■ Temperature:
□ operation: -25 °C to +50 °C
□ reference: 23 °C.
■ Influence of temperature on accuracy: ±0.003 % / °C.
■ Utilisation frequency: 50/60 Hz.

AMP specific technical data

■ Needs a In/5 CT to be ordered separately.
■ Interchangeable dials to be ordered separately.
■ Consumption: 1.1 VA.
■ Permanent overload: 1.2 In.
■ Maximum overload for 5 s: 10 In.

VLT specific technical data

■ Consumption: 3 VA.
■ Permanent overload: 1.2 Un.
■ Maximum overload for 5 s: 2 Un.

Catalogue numbers

Type	Scale	Connection on CT	Cat. no.
AMP for standard feeder			
Basic device (delivered without dial)		X/5	**16004**
1.3 In dial	0-50 A	50/5	**16009**
	0-100 A	100/5	**16010**
	0-200 A	200/5	**16011**
	0-400 A	400/5	**16012**
	0-600 A	600/5	**16013**
	0-1000 A	1000/5	**16014**
	0-1250 A	1250/5	**16015**
	0-1500 A	1500/5	**16016**
	0-2000 A	2000/5	**16019**
AMP for motor feeder			
Basic device (delivered without dial)		X/5	**16003**
3 In dial	0-30-90 A	30/5	**16006**
	0-75-225 A	75/5	**16007**
	0-200-600 A	200/5	**16008**
VLT			
	0-500 V		**16005**

96 x 96 analogue ammeters and voltmeter

AMP for standard feeder.

AMP for motor feeder.

VLT.

Function

The 96 x 96 measurement devices are designed for flush-mounted installation on doors, wicket doors and front plates of enclosures and cubicles.

AMP
The ammeters measure in amps the current flowing through an electrical circuit.

VLT
The voltmeter measure in volts the potential difference (voltage) of an electrical circuit.

Common technical data

- Accuracy: class 1.5.
- Compliance with standard IEC 60051-1, IEC 61010-1 and IEC 61000-4.
- Ferromagnetic device.
- Scale length: 80 mm over 90°.
- Mounting in enclosure or in cubicle.
- Degree of protection: IP52.
- Maximum operating position: 30° / vertical.
- Temperature:
- □ operation: -25 °C to +50 °C
- □ reference: 23 °C.
- Influence of temperature on accuracy: ±0.003 % / °C.
- Utilisation frequency: 50/60 Hz.

AMP specific technical data

- Needs a In/5 CT to be ordered separately.
- Interchangeable dials to be ordered separately.
- Consumption: 1.1 VA.
- Permanent overload: 1.2 In.
- Maximum overload for 5 s: 10 In.

VLT specific technical data

- Consumption: 3 VA.
- Permanent overload: 1.2 Un.
- Maximum overload for 5 s: 2 Un.

Catalogue numbers

Type	Scale	Connection on CT	Cat. no.
AMP for standard feeder			
Basic device (delivered without dial)		X/5	**16074**
1.3 In dial	0-50 A	50/5	**16079**
	0-100 A	100/5	**16080**
	0-200 A	200/5	**16081**
	0-400 A	400/5	**16082**
	0-600 A	600/5	**16083**
	0-1000 A	1000/5	**16084**
	0-1250 A	1250/5	**16085**
	0-1500 A	1500/5	**16086**
	0-2000 A	2000/5	**16087**
	0-2500 A	2500/5	**16088**
	0-3000 A	3000/5	**16089**
	0-4000 A	4000/5	**16090**
	0-5000 A	5000/5	**16091**
	0-6000 A	6000/5	**16092**
AMP for motor feeder			
Basic device (delivered without dial)		X/5	**16073**
3 In dial	0-30-90 A	30/5	**16076**
	0-75-225 A	75/5	**16077**
	0-200-600 A	200/5	**16078**
VLT			
	0-500 V		**16075**

48 x 48 CMA and CMV selector switches

CMA.

CMV.

Function

The 48 x 48 selector switches are designed for flush-mounted installation on doors, wicket doors and front plates of enclosures and cubicles.

CMA

The ammeter selector switch uses a single ammeter (by means of current transformers) for successive measurement of the currents of a three-phase circuit.

CMV

The voltmeter selector switch uses a single voltmeter for successive measurement of the voltages (phase-to-phase and phase-to-neutral) of a three-phase circuit.

Common technical data

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

Catalogue numbers

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

Connection
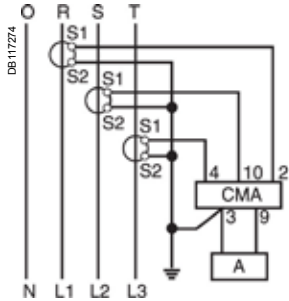
CMA.
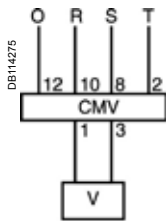
CMV.
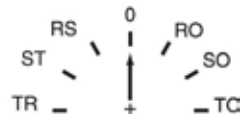
Reading 3 phase-to-earth voltages + 3 phase-to-phase voltages.

Note: *when connecting do not remove the pre-cabling.*

Schneider Electric

DIN rail iCMA and iCMV selector switches

iCMA.

iCMV.

Function

iCMA
This 4-position ammeter selector switch uses a single ammeter (using current transformers) for successive measurement of the currents of a three-phase circuit.

iCMV
This 7-position voltmeter selector switch uses a single voltmeter for successive measurement of voltages (phase-to-phase and phase-to-neutral) of a three-phase circuit.

Common technical data

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

Catalogue numbers

Type	Rating (A)	Voltage (V AC)	Width in mod. of 9 mm	Cat. no.
iCMA	10	415	4	**15126**
iCMV	10	415	4	**15125**

Connection

iCMA.

iCMV.

iCH hour counters
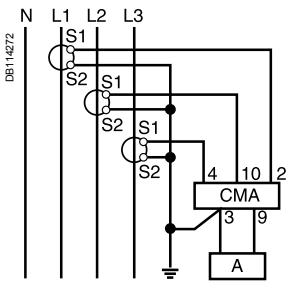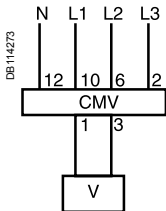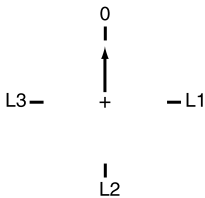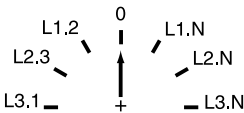
iCH "DIN".

CH "48 x 48".

Function

Electromechanical counter that counts the operating hours of a machine or piece of electrical equipment. Giving a precise indication of operating time, the counter is used to decide when to carry out preventive maintenance.

Common technical data

■ Electromechanical display.
■ Maximum display: 99999.99 hours.
■ Display accuracy: 0.01 %.
■ Without reset.
■ Storage temperature: -25 °C to +85 °C.
■ Connection: tunnel terminals for 2.5 mm² cable.

Specific technical data

iCH "DIN"
■ Consumption: 0.15 VA.
■ Operating temperature: -10 °C to +70 °C.
■ Mounting on DIN rail.

CH "48 x 48"
■ Consumption:
□ 15607: 0.25 VA
□ 15608: 0.15 VA
□ 15609: 0.02 VA to 12 V and 0.3 VA to 36 V.
■ Operating temperature: -20 °C to + 70 °C.
■ Degree of protection: IP65 on front face.
■ Mounting on front face of monitoring switchboards.

Catalogue numbers

Type	Voltage (V)	Width in mod. of 9 mm	Cat. no.
iCH "DIN"	230 V AC ± 10%/50 Hz	4	**15440**
CH "48 x 48"	24 V AC ± 10%/50 Hz		**15607**
	230 V AC ± 10%/50 Hz		**15608**
	12 to 36 V DC		**15609**

Connection

iCH "DIN".

CH "48 x 48".

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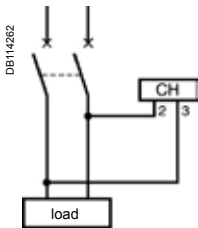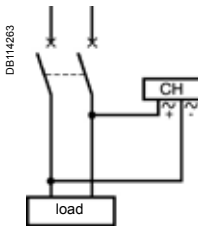
iCI impulse counter

iCL.eps

iCI impulse counter

Function

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

Common technical data

- Supply and metering voltage: 230 V AC ± 10%, 50/60 Hz.
- Consumption: 0.15 VA.
- Maximum display: 9 999 999 impulses.
- Without reset.
- Metering data:
- □ minimum impulse time: 50 ms
- □ minimum time between 2 impulses: 50 ms.
- Storage temperature: -25 °C to +85 °C.
- Operating temperature: -10 °C to +70 °C.
- Connection: tunnel terminals for 2.5 mm² cable.

Catalogue number

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

Connection

DB114271
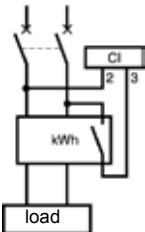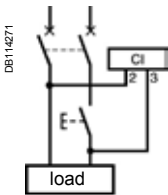
Dimensions
Ammeters, voltmeters, selector switches, impulse counter, hour counters

Analogue ammeters and voltmeters iAMP, iVLT
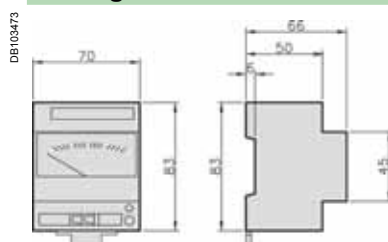
DB103473
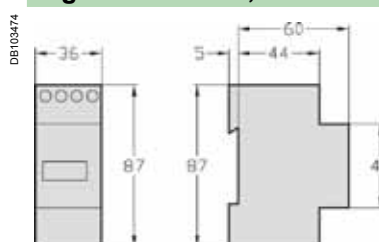
70 | 66 | 50 | 83 | 83 | 45

Digital ammeters, voltmeter and frequency meter iAMP, iVLT

DB103474

36 | 60 | 5 | 44 | 87 | 87 | 45

iCMA and iCMV selector switches

DB103475

36 | 4 | 71 | 60 | 60

72 x 72 analogue ammeters and voltmeter

DB103476

Protection cover
Terminal M4

72 | 72 | 66 x 66 | 25 | 44 | 6 | 68 | 68

96 x 96 analogue ammeters and voltmeter

DB103481

Protection cover
Terminal M4

96 | 96 | 90 x 90 | 25 | 44 | 6 | 92 | 92

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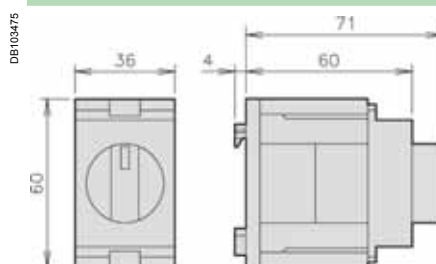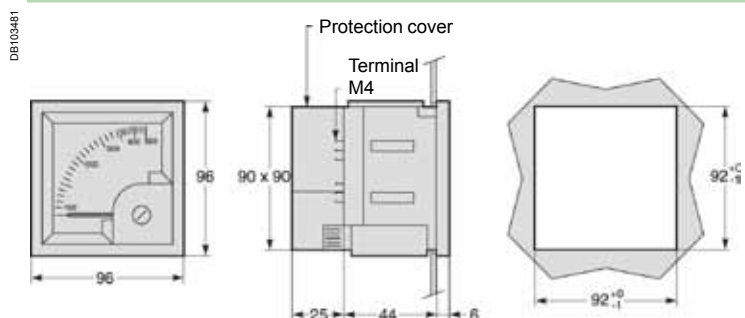
Dimensions (cont.)
Ammeters, voltmeters, selector switches, impulse counter, hour counters

48 x 48 CMA and CMV selector switches

DB103477

3 → | 48 | 43 | 57 | 12 | 3.2 (or 4.8) | 24.1 (or 33) | 22.3 (or 30.5)

(with adapter)
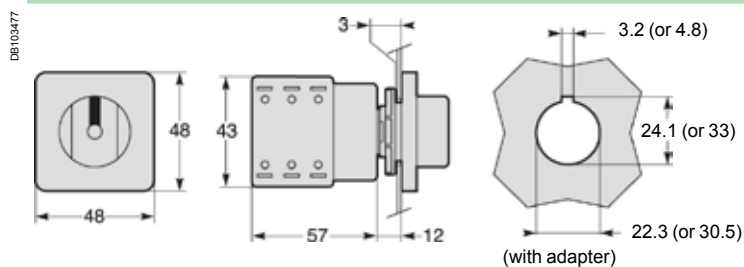
iCI impulse counter and iCH hour counter

DB103479

36 | 90 | 6 | 59 | 44 | 90 | 45

48 x 48 CH hour counters

DB108825

48 | 48 | 34 | 5 | 45 | $45.2^{+0.3}_{0}$ | $45.2^{+0.3}_{0}$

Acti 9 iEM2000 Series Energy Meters

iEM2000T

iEM2010

iEM2105

iEM2155
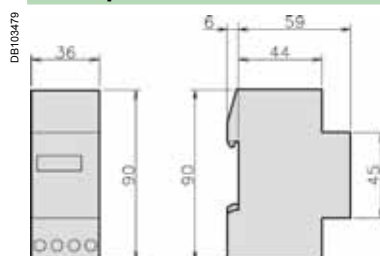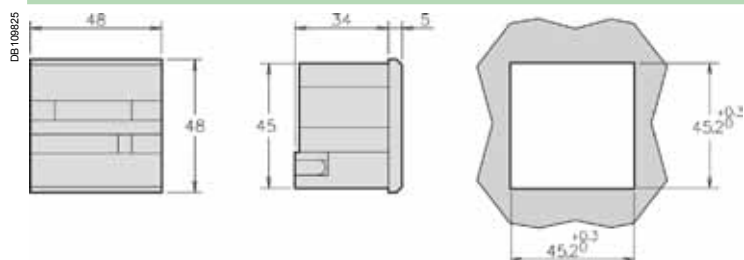
The Acti 9 iEM2000 and iEM2100 Series Energy Meters offer a cost-attractive, competitive range of single-phase DIN rail-mounted energy meters ideal for sub-billing and cost allocation applications.

Combined with communication systems, like Smart Link, the Acti 9 iEM2000 Series makes it easy to integrate electrical distribution measurements into customer's energy management systems. It's the right energy meter at the right price for the right job.

Two versions are available: 40 A direct measure (iEM2000 models), and 63 A direct measure (iEM2100 models). Within each set of models, there are different versions to match the specific application, from basic to more advanced:

■ iEM2000T single-phase kilowatt-hour meter without display, with kWh pulse output.
■ iEM2000 single-phase kilowatt-hour meter, MID certified.
■ iEM2100 single-phase kilowatt-hour meter.
■ iEM2105 single-phase kilowatt-hour meter, with partial counter, kWh pulse output.
■ iEM2010 single-phase kilowatt-hour meter, kWh pulse output, MID certified.
■ iEM2110 single-phase kilowatt-hour meter, multi-tariffs with partial counter and current, voltage, power measurement, pulse outputs, MID certified.
■ iEM2135 single-phase kilowatt-hour meter, multi-tariffs with partial counter and current, voltage, power measurement. M-Bus communication, MID certified.
■ iEM2150 single-phase kilowatt-hour meter with partial counter and current, voltage, power measurement. Modbus communication.
■ iEM2155 single-phase kilowatt-hour meter, multi-tariffs with partial counter and current and voltage, power measurement. Modbus communication, MID certified.

Innovative design makes the meters smart and simple:
■ Easy to install for panel builders.
■ Easy to commission for contractors and installers.
■ Easy to operate for end users.

Applications
■ Cost management applications.
■ Bill verification.
■ Sub-billing and cost allocation, including two tariffs.

Network management applications.
■ Basic electrical parameters like current, voltage and power.

Market segments
■ Buildings & Industry.
■ Data centres and networks.
■ Infrastructure (airports, road tunnels, telecom).

Characteristics
■ Self-powered meters.
■ Compliance with IEC 62053-21, IEC 62053-23, EN 50470-3.
■ Compact, 1 or 2 module width.
■ Onboard Modbus or M-Bus communication.
■ Anti-tamper security features ensure the integrity of your data.
■ Single phase circuit plus neutral.
■ IP40 front panel and IP20 casing.
■ Operating frequency 50/60 Hz.
■ MID compliant (selected models) providing certified accuracy and data security.

Meter model and description	Current measurement	Comm. ref. no.
iEM2000T basic energy meter, without display	Direct connected to 40 A	**A9MEM2000T**
iEM2000 basic energy meter, MID certified	Direct connected to 40 A	**A9MEM2000**
iEM2010 energy meter, kWh pulse output, MID certified	Direct connected to 40 A	**A9MEM2010**
iEM2100 basic energy meter	Direct connected to 63 A	**A9MEM2100**
iEM2105 energy meter, kWh pulse output with partial meter	Direct connected to 63 A	**A9MEM2105**
iEM2110 energy meter, kWh and kvarh pulse outputs with two tariffs, four quadrant energy measurement, MID certified	Direct connected to 63 A	**A9MEM2110**
iEM2135 energy meter, M-Bus communication, four quadrant energy measurement, two tariffs, MID certified	Direct connected to 63 A	**A9MEM2135**
iEM2150 energy meter, Modbus communication, four quadrant energy measurement	Direct connected to 63 A	**A9MEM2150**
iEM2155 energy meter, Modbus communication, four quadrant energy measurement, two tariffs, MID certified	Direct connected to 63 A	**A9MEM2155**

Schneider Electric

Acti 9 iEM2000 Series Energy Meters

iEM2000 & iEM2100 technical specifications

FUNCTION GUIDE	iEM2000T	iEM2000	iEM2010	iEM2100	iEM2105	iEM2110	iEM2135	iEM2150	iEM2155
Direct connection	Up to 40 A			Up to 63 A					
Width	1 x 18 mm module (18 mm)			2 x 18 mm modules (36 mm)					
MID compliance		■	■			■	■		■
Multi-tariff					2 tariffs		2 tariffs		2 tariffs
Four quadrant energy measurement						■	■	■	■
Communication							M-Bus	Modbus	
Digital input (tariff switching)						1	1		1
Pulse output for kWh/ kvarh	1		1		1	2			
Pulse output operation	100 pulses / kWh (120 ms long)				1 pulse / kWh (200 ms long)	1 to 1000 pulses / kWh or kvarh (30 to 100 ms long)			
Accuracy class: Active Energy	Class 1 IEC 62053-21	Class 1 IEC 62053-21 Class B EN50470-3	Class 1 IEC 62053-21 Class B EN50470-3	Class 1 IEC 62053-21	Class 1 IEC 62053-21	Class 1 IEC 62053-21 Class B EN50470-3	Class 1 IEC 62053-21 Class B EN50470-3	Class 1 IEC 62053-21	Class 1 IEC 62053-21 Class B EN50470-3
Accuracy class: Reactive Energy						Class 2 (according to IEC62053-23)			
Display capacity	999999.9 kWh			99999 kWh or 999.99 MWh		999999.99 kWh			
Voltage range (L-N)	184 to 276 V AC			184 to 276 V AC		92 to 276 V AC			
Meter constant LED	3200 flashes per kWh			1000 flashes per kWh					
Wiring capacity (Top)	4 mm^2			6 mm^2		4 mm^2			
Wiring capacity (Bottom)	10 mm^2			16 mm^2		32 mm^2			
Consumption	<10 VA			2.5 VA		3 VA			
Temperature	-10°C to 55°C			-25°C to 55°C					
kWh	■	■	■	■	■	■	■	■	■
kVARh						■	■	■	■
Active power						■	■	■	■
Reactive power						■	■	■	■
Power Factor						■	■	■	■
Current and voltage						■	■	■	■
Frequency						■	■	■	■

Acti 9 iEM2000 Series Energy Meters

iEM2000 dimensions
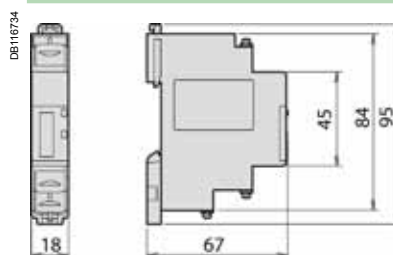
iEM2100/iEM2105 dimensions
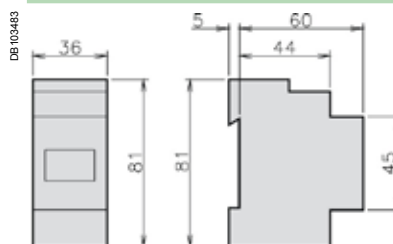
iEM2110/iEM2135/iEM2150/iEM2155 dimensions
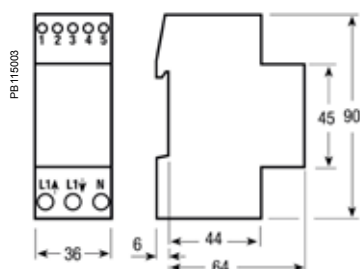
NOTE: See the appropriate product *Installation Guide* for complete instructions.

Schneider Electric

Acti 9 iEM3000 Series Energy Meters
Functions and characteristics

Acti 9 iEM3100/3200 energy meter

Acti 9 iEM3300 energy meter
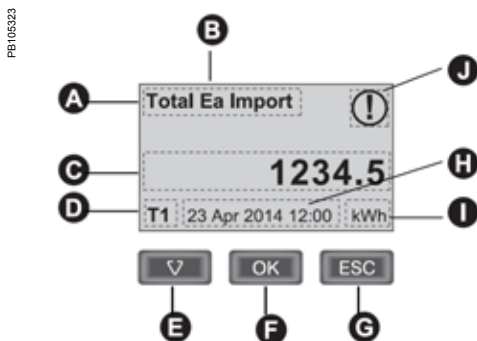
Front Panel Display and Buttons

A Measurement
B Ea /Er = active / reactive energy (if available)
C Value
D Active tariff (if applicable)
E Scroll through the available screens
F View more screens related to the measurement category (if available)
G Go back to previous screen
H Date and time (if applicable)
I Unit
J Icon indicating date / time not set

The Acti 9 iEM3000 Energy Meter Series offers a cost-attractive, competitive range of DIN rail-mounted energy meters ideal for sub-billing and cost allocation applications. Combined with communication systems, like Smart Link, the Acti 9 iEM3000 Series makes it easy to integrate electrical distribution measurements into customer's facility management systems. It's the right energy meter at the right price for the right job.

Several versions are available: 63 A direct measure (iEM3100 models), current transformers associated meter (iEM3200 models), and 125 A direct measure (iEM3300 models). low voltage current transformers (iEM3400 models), and Rogowski coils (iEM3500 models). For each range, eight versions are available (seven for the iEM3300) to satisfy basic to advanced applications:

■ iEM3100/iEM3200/iEM3300: kWh meter with partial counter
■ iEM3110/iEM3210/iEM3310: kWh meter with partial counter and pulse output. MID certified.
■ iEM3115/iEM3215: multi-tariff meter controlled by digital input or internal clock, MID certified.
■ iEM3135/iEM3235/iEM3335: energy meter, four quadrant, multi-tariffs with partial counter and current, voltage, power measurement. M-Bus communication, digital I/O and MID certified.
■ iEM3150/iEM3250/iEM3350: kWh meter with partial counter and current, voltage, power measurement. Modbus communication.
■ iEM3155/iEM3255/iEM3355/iEM3455/iEM3555: energy meter, four quadrant, multi-tariffs with partial counter and current, voltage, power measurement. Modbus communication, digital I/O, MID certified (iEM3155, iEM3255, iEM3355 only).
■ iEM3165/iEM3265/iEM3365/iEM3465/iEM3565: energy meter, four quadrant, multi-tariffs with partial counter and current, voltage, power measurement. BACnet communication, digital I/O and MID certified (iEM3165, iEM3265, iEM3365 only).
■ iEM3175/iEM3275/iEM3375: energy meter, four quadrant, multi-tariffs with partial counter and current, voltage, power measurement. LON communication, digital input and MID certified.

Innovative design makes the meters smart and simple:
■ Easy to install for panel builders (LVCT safer to install).
■ Easy to commission for contractors and installers.
■ Easy to operate for end users.

Applications
Cost management applications
■ Bill verification.
■ Sub-billing, including WAGES view (four user-defined tariffs).
■ Cost allocation, including WAGES view.

Network management applications
■ Basic electrical parameters like current, voltage and power.
■ Onboard overload alarm to avoid circuit overload and trip.
■ Easy integration with PLC systems by input/output interface.

■ Market segments
■ Buildings & Industry.
■ Data centres and networks.
■ Infrastructure (airports, road tunnels, telecom).

■ Characteristics
■ Self-powered meters.
■ Chain measurement (meters + CTs) accuracy Class 1 (selected models).
■ Compliance with IEC 61557-12, IEC 62053-21/22, IEC 62053-23, EN50470-3.
■ Compact, 5 module width.
■ Graphical display for easy viewing.
■ Onboard Modbus, LON, M-Bus or BACnet communication.
■ Easy wiring (without CTs) Acti 9 iEM3100 and iEM3300 models.
■ Double fixation on DIN rail (horizontal or vertical).
■ Anti-tamper security features ensure the integrity of your data.
■ MID compliant (selected models) providing certified accuracy and data security.
■ LVCT support (iEM3455 and iEM3465).
■ Rogowski support (iEM3555 and iEM3565).

Function guide	iEM3100 iEM3200 iEM3300	iEM3110 iEM3210 iEM3310	iEM3115 iEM3215	iEM3135 iEM3235 iEM3335	iEM3150 iEM3250 iEM3350	iEM3155 iEM3255 iEM3355 iEM3455 iEM3555	iEM3165 iEM3265 iEM3365 iEM3465 iEM3565	iEM3175 iEM3275 iEM3375
Width (18 mm module, DIN rail mounting)	5 / 5 / 7	5 / 5 / 7	5 / 5	5 / 5 / 7	5 / 5 / 7	5 / 5 / 7 / 5 / 5	5 / 5 / 7 / 5 / 5	5 / 5 / 7
Direct measurement (up to 63 A or 125 A)	63 A / − / 125 A	63 A / − / 125 A	63 A / −	63 A / − / 125 A	63 A / − / 125 A	63 A / − / 125 A / LVCT / Rog.	63 A / − / 125 A / LVCT / Rog.	63 A / − / 125 A
Measurement inputs through CTs (1 A, 5 A)	− / ■ / −	− / ■ / −	− / ■	− / ■ / −	− / ■ / −	− / ■ / − / LVCT / Rog.	− / ■ / − / LVCT / Rog.	− / ■ / −
Measurement inputs through VTs				− / ■ / −	− / ■ / −	− / ■ / − / ■ / ■	− / ■ / − / ■ / ■	− / ■ / −
Active Energy measurements class (Total & partial kWh)	1 / 0.5S / 1	1 / 0.5S / 1	1 / 0.5S	1 / 0.5S / 1	1 / 0.5S / 1	1 / 0.5S / 1 / 0.5S / 0.5S	1 / 0.5S / 1 / 0.5S / 0.5S	1 / 0.5S / 1
Four Quadrant Energy measurements				■		■	■	■
Electrical measurements (I, V, P, ...)				■	■	■	■	■
Multi-tariff (internal clock)			4	4		4	4	4
Multi-tariff (external control)			4	2		2	2	2
Measurement display (number of lines)	3	3	3	3	3	3	3	3
Digital inputs — Programmable (Tariff control or WAGES input)				1		1	1	1
Digital inputs — Tariff control only			2					
Digital outputs — Programmable (kWh pulse or kW alarm)				1		1	1	
Digital outputs — kWh pulse only		1						
kW overload alarm				1		1	1	
M-Bus protocol				■				
Modbus protocol					■	■		
BACnet protocol							■	
LON								■
MID (legal metrology certification)		■	■	■		3155 / 3255 / 3355	3165 / 3265 / 3365	■

Acti 9 iEM3100 models direct connected (63 A) Direct connected up to 63 A

Acti 9 iEM3200 models (1 A / 5 A CT connected)

Connectivity advantages

Programmable digital input	External tariff control signal (4 tariffs) Remote Reset partial counter External status, e.g. breaker status Collect WAGES pulses
Programmable digital output	kWh overload alarm (iEM3135, iEM3155, iEM3165 iEM3235, iEM3255, iEM3265, EM3335, iEM3355, iEM3365, iEM3455, iEM3465, iEM3555, iEM3565) kWh pulses
Graphic LCD display	Scroll energies Current, voltage, power, frequency, power factor
Communication	Serial communication options are available with M-Bus, Modbus, BACnet or LON protocols

Standards

Industry standards	IEC 61557-12, IEC 61036, IEC 61010, UL61010-1, IEC 62053-21/22 Class 1 and Class 0.5S, IEC 62053-23 ANSI C12.20 0.5 %

Multi-tariff capability

The Acti 9 iEM3000 Series allows arrangement of 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 working time and non working time, and between working days and weekends.
- Follow up feeders consumption in line with utility tariff rates.

Specification guide	iEM3100/iEM3300 Models							
	iEM3100 iEM3300	iEM3110 iEM3310	iEM3115	iEM3135 iEM3335	iEM3150 iEM3350	iEM3155 iEM3355	iEM3165 iEM3365	iEM3175 iEM3375
Current (max.) Direct connected (iEM31xx)	63 A for iEM3100 models, 125 A for iEM3300 models							
Meter constant LED	500/kWh							
Pulse output		Up to 1000p/kWh		Up to 1000p/kWh		Up to 1000p/kWh		
Multi-tariff			4 tariffs	4 tariffs		4 tariffs		
Communication				M-bus	Modbus	Modbus	BACnet	LON
DI/DO		0/1	2/0	1/1		1/1	1/1	1/0
MID (EN50470-3)		■		■		■	■	■
Network	1P+N, 3P, 3P+N							
Accuracy class	Class 1 (IEC 62053-21 and IEC 61557-12) Class B (EN50470-3)							
Wiring capacity	16 mm² for iEM3100 models, 50 mm² for iEM3300 models							
Display max.	LCD 99999999.9kWh							
Voltage (L-L)	3 x 100/173 V AC to 3 x 277/480 V AC (50/60 Hz)							
IP protection	IP40 front panel and IP20 casing							
Temperature	-25°C to 55°C (K55)							
Product size	5 x 18 mm for iEM3100 models, 8 x 18 mm for iEM3300 models							
Overvoltage and measurement	Category III, Degree of pollution 2							
kWh	■	■	■	■	■	■	■	■
kVARh				■		■	■	■
Active power				■	■	■	■	■
Reactive power				■		■	■	■
Currents and voltages				■	■	■	■	■
Overload alarm				■		■	■	■
Hour counter				■		■	■	■

Specification guide	iEM3200 Models							
	iEM3200	iEM3210	iEM3215	iEM3235	iEM3250	iEM3255	iEM3265	iEM3275
1 A / 5 A CTs (max current)	6 A							
Meter constant LED	5000/kWh							
Pulse output frequency		Up to 500p/kWh		Up to 500p/kWh		Up to 500p/kWh		
Multi-tariff			4 tariff	4 tariffs		4 tariffs		
Communication				M-bus	Modbus	Modbus	BACnet	LON
DI/DO		0/1	2/0	1/1		1/1	1/1	1/0
MID (EN 50470-3)		■	■	■		■	■	■
Network	1P+N, 3P, 3P+N support CTs			1P+N, 3P, 3P+N support CTs & VTs				
Accuracy class	Class 0.5S (IEC 62053-22 and IEC 61557-12) Class C (EN50470-3)[1]							
Wiring capacity	6 mm² for currents and 4 mm² for voltages							
Display max.	LCD 99999999.9kWh or 99999999.9MWh							
Voltage (L-L)	3 x 100/173 V AC to 3 x 277/480 V AC (50/60 Hz)							
IP protection	IP40 front panel and IP20 casing							
Temperature	-25°C to 55°C (K55)							
Product size	5 steps of 18 mm							
Overvoltage & measurement	Category III, Degree of pollution 2							
kWh	■	■	■	■	■	■	■	■
kVARh				■		■	■	■
Active power				■	■	■	■	■
Reactive power				■		■	■	■
Currents and voltages				■	■	■	■	■
Overload alarm				■		■	■	■
Hour counter				■		■	■	■

(1) For 1 A CTs Class 1 (IEC 6253-21 and IEC 61557-12 Class B (EN 50470-3)

Acti 9 iEM3000 Series Energy Meters
Functions and characteristics

Split core LVCT00101S 100 A

Split core LVCT00102S 100 A

Split core LVCT00201S 200 A

Split core LVCT01004S 400 A

Ropestyle

Specification guide	iEM3400/iEM3500 Models			
	iEM3455	**iEM3465**	**iEM3555**	**iEM3565**
Max current	0.333V-1.0V LVCTs	0.333V-1.0V LVCTs	Rogowski coils	Rogowski coils
Meter constant LED	5000/kWh			
Pulse output frequency	Up to 500p/kWh			
Multi-tariff	4 tariffs			
Communication	Modbus	BACnet	Modbus	BACnet
DI/DO	1/1			
Network	1P+N, 3P, 3P+N support LVCTs, Rogowski coils, and VTs			
Wiring capacity	6 mm² for currents and 4 mm² for voltages			
Display max.	LCD 99999999.9kWh or 99999999.9MWh			
Voltage (L-L)	3 x 100/173 V AC to 3 x 277/480 V AC (50/60 Hz)			
IP protection	IP40 front panel and IP20 casing			
Temperature	-25°C to 70°C (K55)			
Product size	5 steps of 18 mm			
Overvoltage & measurement	Category III, Degree of pollution 2			
kWh	■			
kVARh	■			
Active power	■			
Reactive power	■			
Currents and voltages	■			
Overload alarm	■			
Hour counter	■			

iEM3455

iEM3455 with sealing covers open LVCT00201S 200 A

Schneider Electric

Acti 9 iEM3000 Series Energy Meters
Dimensions
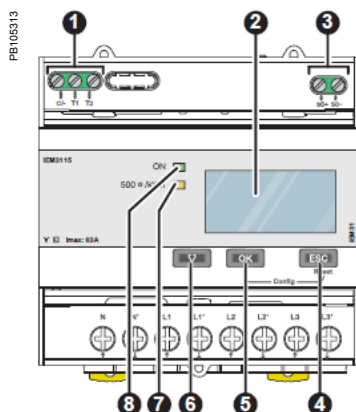
Acti 9 iEM3000 Series parts
1. Digital inputs for tariff control (iEM3115 / iEM3215)
2. Display for measurement and configuration
3. Pulse out for remote transfer (iEM3110 / iEM3210)
4. ESC Cancellation
5. OK Confirmation
6. ▽ Selection
7. Flashing yellow meter indicator to check accuracy
8. Green indicator: on/off, error
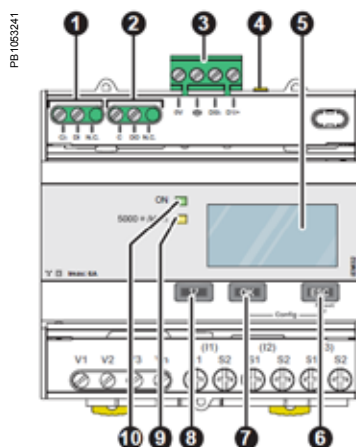
Acti 9 iEM3000 Series parts
1. Digital inputs for tariff control (iEM3155 / iEM3255)
2. Digital output (iEM3155 / iEM3255)
3. Communication port
4. Yellow indicator for communication diagnosis
5. Display for measurement and configuration
6. ESC Cancellation
7. OK Confirmation
8. ▽ Selection
9. Flashing yellow meter indicator to check accuracy
10. Green indicator: on/off, error

iEM3200/iEM3400/iEM3500 series dimensions

A Without communications
B With communications
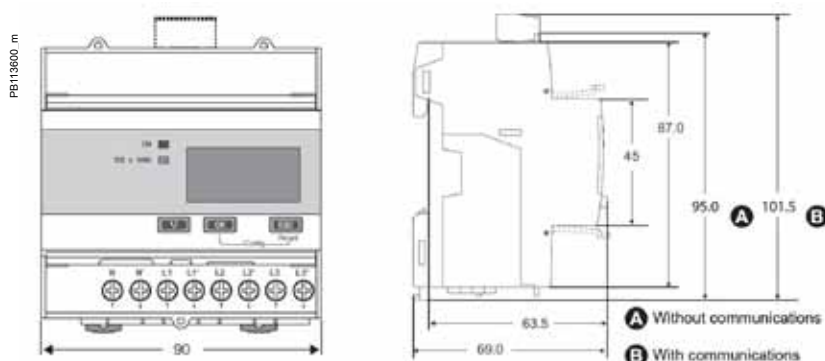
iEM3100/iEM3200/iEM3400/iEM3500 Series front sealing covers open and closed

iEM3300 series dimensions

See appropriate product Install Guide for further details.

Acti 9 iEM3000 Series Energy Meters
Commercial reference numbers

iEM31xx / iEM32xx / iEM33xx Meter model and description	Current measurement	Commercial ref. no.
iEM3100 basic energy meter	Direct connected 63 A	A9MEM3100
iEM3110 energy meter with pulse output	Direct connected 63 A	A9MEM3110
iEM3115 multi-tariff energy meter	Direct connected 63 A	A9MEM3115
iEM3135 advanced multi-tariff energy meter & electrical parameter plus M-Bus comm port	Direct connected 63 A	A9MEM3135
iEM3150 energy meter & electrical parameter plus Modbus RS485 comm port	Direct connected 63 A	A9MEM3150
iEM3155 advanced multi-tariff energy meter & electrical parameter plus Modbus RS485 comm port	Direct connected 63 A	A9MEM3155
iEM3165 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	Direct connected 63 A	A9MEM3165
iEM3175 advanced multi-tariff energy meter & electrical parameter plus LON TP/FT-10 comm port	Direct connected 63 A	A9MEM3175
iEM3200 basic energy meter	Transformer connected 5 A	A9MEM3200
iEM3210 energy meter with pulse output	Transformer connected 5 A	A9MEM3210
iEM3215 multi-tariff energy meter	Transformer connected 5 A	A9MEM3215
iEM3235 advanced multi-tariff energy meter & electrical parameter plus M-Bus comm port	Transformer connected 5 A	A9MEM3235
iEM3250 energy meter & electrical parameter plus Modbus RS485 comm port	Transformer connected 5 A	A9MEM3250
iEM3255 advanced multi-tariff energy meter & electrical parameter plus Modbus RS485 comm port	Transformer connected 5 A	A9MEM3255
iEM3265 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	Transformer connected 5 A	A9MEM3265
iEM3275 advanced multi-tariff energy meter & electrical parameter plus LON TP/FT-10 comm port	Transformer connected 5 A	A9MEM3275
iEM3300 basic energy meter	Direct connected 125 A	A9MEM3300
iEM3310 energy meter with pulse output	Direct connected 125 A	A9MEM3310
iEM3335 advanced multi-tariff energy meter & electrical parameter plus M-Bus comm port	Direct connected 125 A	A9MEM3335
iEM3350 energy meter & electrical parameter plus Modbus RS485 comm port	Direct connected 125 A	A9MEM3350
iEM3355 advanced multi-tariff energy meter & electrical parameter plus Modbus RS485 comm port	Direct connected 125 A	A9MEM3355
iEM3365 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	Direct connected 125 A	A9MEM3365
iEM3375 advanced multi-tariff energy meter & electrical parameter plus LON TP/FT-10 comm port	Direct connected 125 A	A9MEM3375

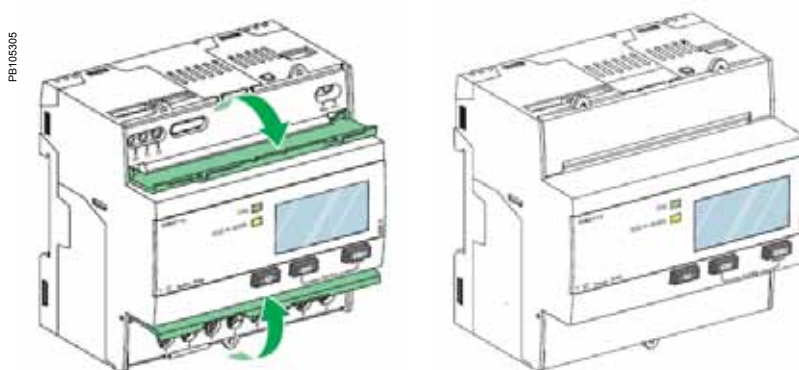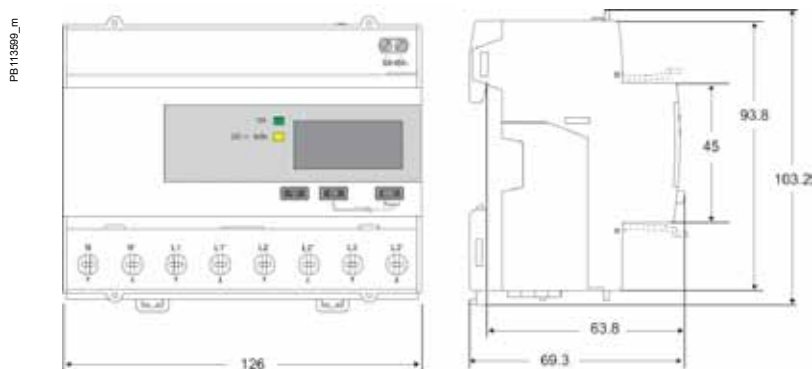| iEM34xx / iEM35xx	Current measurement	Commercial ref. no.
iEM3455 advanced multi-tariff energy meter & electrical parameter plus Modbus MS/TP comm port	LVCT	A9MEM3455
iEM3465 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	LVCT	A9MEM3465
iEM3555 advanced multi-tariff energy meter & electrical parameter plus Modbus MS/TP comm port	Rogowski coil	A9MEM3555
iEM3565 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	Rogowski coil	A9MEM3565

LVCTs*	Commercial ref. no.
CT, split-core, Size 0, 50 A to 0.333 V	LVCT00050S
CT, split-core, Size 1, 100 A to 0.333 V	LVCT00101S
CT, split-core, Size 1, 200 A to 0.333 V	LVCT00201S
CT, split-core, Size 2, 100 A to 0.333 V	LVCT00102S
CT, split-core, Size 2, 200 A to 0.333 V	LVCT00202S
CT, split-core, Size 2, 300 A to 0.333 V	LVCT00302S
CT, split-core, Size 3, 400 A to 0.333 V	LVCT00403S
CT, split-core, Size 3, 600 A to 0.333 V	LVCT00603S
CT, split-core, Size 3, 800 A to 0.333 V	LVCT00803S
CT, split-core, Size 4, 800 A to 0.333 V	LVCT00804S
CT, split-core, Size 4, 1000 A to 0.333 V	LVCT01004S
CT, split-core, Size 4, 1200 A to 0.333 V	LVCT01204S
CT, split-core, Size 4, 1600 A to 0.333 V	LVCT01604S
CT, split-core, Size 4, 2000 A to 0.333 V	LVCT02004S
CT, split-core, Size 4, 2400 A to 0.333 V	LVCT02404S

See your Schneider Electric representative for complete ordering information.

Rogowski coils for iEM3555 and iEM3565 meters	Commercial ref. no.
ROGCOIL 12 in (0.30 m) 8 ft (2.40 m) 5000 A	**U018-0001**
ROGCOIL 18 in (0.45 m) 8 ft (2.40 m) 5000 A	**U018-0002**
ROGCOIL 24 in (0.60 m) 8 ft (2.40 m) 5000 A	**U018-0003**
ROGCOIL 36 in (0.90 m) 8 ft (2.40 m) 5000 A	**U018-0004**

* Available in select countries (as used for BCPM accessories).
See your Schneider Electric representative for complete ordering information.

LVCT Split-core dimensions

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

Split-Core CTs

PB113659

50 Amp
A = 26 mm
B = 11 mm
C = 10 mm
D = 23 mm
E = 40 mm

100 Amp
A = 29 mm
B = 20 mm
C = 16 mm
D = 40 mm
E = 53 mm

200 Amp
A = 66 mm
B = 28 mm
C = 19 mm
D = 74 mm
E = 90 mm
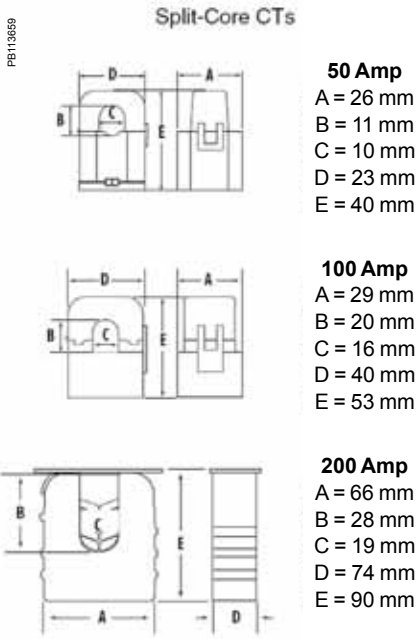
See appropriate product Install Guide for further information

Power Meter Series PM3200
Functions and characteristics

Power Meter Series PM3200

Power Meter Series PM3255
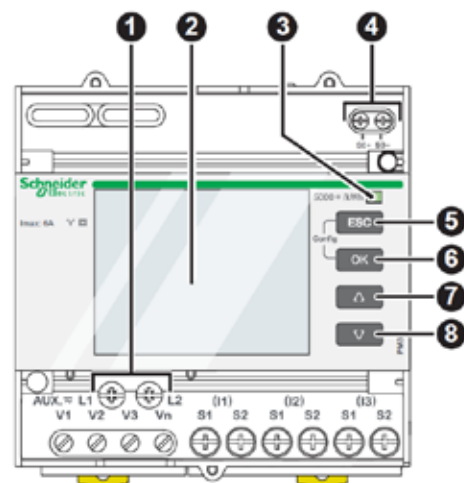
Front of meter parts
1 Control power
2 Display with white backlit
3 Flashing yellow meter indicator (to check accuracy)
4 Pulse output for remote transfer (PM3210)
5 ESC Cancellation
6 OK Confirmation
7 △ Up
8 ▽ Down

This PowerLogic Power meter offers basic to advanced measurement capabilities. With compact size and DIN rail mounting, the PM3200 allows mains and feeders monitoring in small electrical cabinets. Combined with current transformers and voltage transformers, these meters can monitor 2-, 3- and 4-wire systems. The graphic display has intuitive navigation to easily access important parameters.

Four versions are available offering basic to advanced applications:
■ PM3200.
□ Electrical parameters I, In, U, V, PQS, E, PF, Hz.
□ Power/current demand.
□ Min/max.
■ PM3210 .
□ Electrical parameters I, In, U, V, PQS, E, PF, Hz, THD.
□ Power/current demand, peak demand.
□ Min/max.
□ 5 timestamped alarms.
□ kWh pulse output.
■ PM3250
□ Electrical parameters I, In, U, V, PQS, E, PF, Hz, THD
□ Power/current demand, peak demand
□ Min/max.
□ 5 timestamped alarms
□ LED to indicate communications
□ RS-485 port for Modbus communication
■ PM3255.
□ Electrical parameters I, In, U, V, PQS, E, PF, Hz, THD.
□ Power/current demand and peak demand.
□ Flexible power and energy data logging.
□ Min/max. and 15 timestamped alarms.
□ LED to indicate communications.
□ Up to 4 tariffs management.
□ 2 digital inputs, 2 digital outputs.
□ Memory for load profile (demand 10mn to 60mn).
□ Memory for Energy (kWh, kVARh, kVAh) logging at 10, 15, 20, 30 or 60 minutes.
□ RS-485 port for Modbus communication.

■ Innovative design makes the meters smart and simple.
■ Easy to install for panel builders.
■ Easy to commission for contractors and installers.
■ Easy to operate for end users.

Applications

Cost management applications
■ Bill checking
■ Sub-billing, including WAGES view
■ Cost allocation, including WAGES view

Network management applications
■ Panel instrumentation
■ Up to 15 onboard timestamped alarms to monitor events
■ Easy integration with PLC system by input/output interface

Market segments
■ Buildings
■ Industry
■ Data centres and networks
■ Infrastructure (airports, road tunnels, telecom)

Commecial Reference numbers

Meter model and description	Performance	Comm. ref. no.
PM3200 basic power meter	Basic power meter	**METSEPM3200**
PM3210 power meter with pulse output	Power, current, THD, peak demand	**METSEPM3210**
PM3250 power meter with RS-485 port	Power, current, THD, peak demand	**METSEPM3250**
PM3255 power meter plus 2 digital inputs, 2 digital outputs with RS485 port	Power, current, THD, peak demand, memory for load profile	**METSEPM3255**

Power Meter Series PM3200
Functions and characteristics (cont.)

Function guide		PM3200 Range			
		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 1 A/5 A		■	■	■	■
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 time stamping			5	5	15
Digital inputs/digital outputs			0/1		2/2
Communication					
RS-485 port				■	■
Modbus protocol				■	■

Power Meter Series PM3210

Connectivity advantages	
Programmable digital input	External tariff control signal (4 tariffs). Remote Reset partial counter. External status like breaker status. Collect WAGES pulses.
Programmable digital output	Alarm (PM3255) kWh pulses
Graphic LCD display	Backlit graphic display allows smart navigation in relevant information and in multi languages
Communication	Modbus RS-485 with screw terminals allows connection to a daisy chain

Power Meter Series PM3200
Functions and characteristics (cont.)

Specifications	PM3200 Range
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/5 A CTs	0.3 % from 0.5 A to 6 A
Current with x/1 A 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 0.1 A to 1.2 A with x/1 A CTs and from 0.5 L to 0.8 C
Active/Apparent Power with x/5 A CTs	Class 0.5
Active/Apparent Power with x/1 A CTs	Class 1
Reactive power	Class 2
Frequency	0.05 % from 45 to 65 Hz
Active energy with x/5 A CTs	IEC 62053-22 Class 0.5S
Active energy with x/1 A 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 M V 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 %), 3W/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, <=4 mA maximum burden, 3.5 kVrms insulation
Output	
Digital output (PM3210)	Optocoupler, polarity sensitive, 5 to 30 V, 15 mA max, 3.5 kVrms insulation
Digital outputs (PM3255)	Solid state relay, polarity insensitive, 5 to 40 V, 50 mA max, 50 Ω max, 3.5 kVrms insulation

Schneider Electric

Power Meter Series PM3200
Functions and characteristics (cont.)

Specifications (continued)	PM3200 Range
Mechanical characteristics	
Weight	0.26 kg
IP degree of protection (IEC60529)	IP40 front panel, IP20 meter body
Dimension	90 x 95 x 70 mm
Environmental conditions	
Operating temperature	-25 ºC to 55 ºC
Storage temperature	-40 ºC to 85 ºC
Humidity rating	5 to 95 % RH at 50 ºC (non-condensing)
Pullution 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	3000m (984 ft) max
Electromagnetic compatibility	
Electrostatic discharge	Level IV (IEC61000-4-2)
Immunity to radiated fields	Level III (IEC61000-4-3)
Immunity to fast transients	Level IV (IEC61000-4-4)
Immunity to surge	Level IV (IEC61000-4-5)
Conducted immunity	Level III (IEC61000-4-6)
Immunity to power frequency magnetic fields	0.5mT (IEC61000-4-8)
Conducted and radiated emissions	Class B (EN55022)
Safety	
	CE as per IEC61010-1 ★
Communication	
RS-485 port	Half duplex, from 9600 up to 38400 bauds, Modbus RTU (double insulation)
Display characteristics	
Dimensions (VA)	43 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*

Power Meter Series PM3250

Multi-tariff capability

The PM3200 range allows arrangement of 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 working time and non working time, and between working days and weekends.
■ Follow up feeders consumption in line with utility tariff rates.

Power Meter Series PM3200
Dimensions and connection
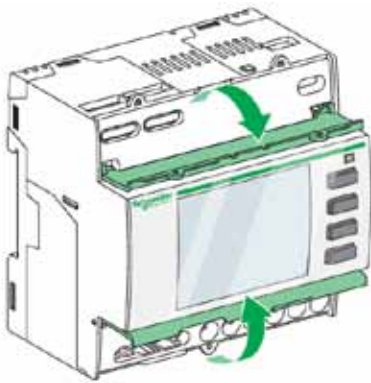
PM3200 top and lower flaps

PM3200 series dimensions
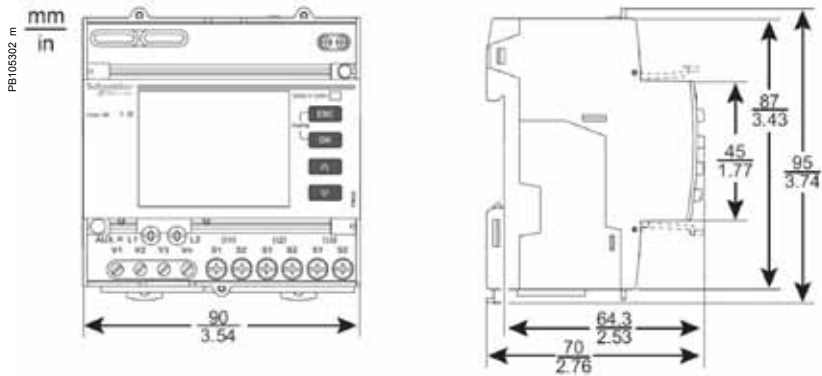
PM3200 series easy installation
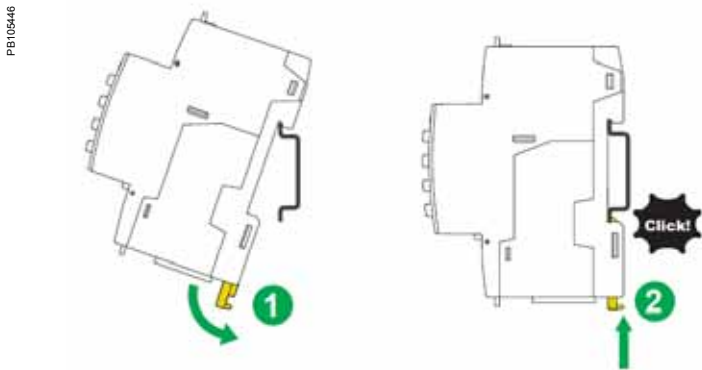
See appropriate product Install Guide for further information.

PM5000 Series
Functions and characteristics

PowerLogic™ PM5000 Series meter

PowerLogic™ PM5563 remote dispaly

PowerLogic™ PM5100, PM5300 and PM5500 series

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

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

Applications

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

Network management: Improving reliability of the electrical network is key for success in any business. Monitoring values such as voltage levels, harmonic distortion and voltage unbalance 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.

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. 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
IEC 62053-22 (Active Energy)	Class 0.5S	Class 0.5S	Class 0.2S

PM5000 Series
Functions and characteristics (cont.)

PowerLogic™ PM5500 meter

PowerLogic™ PM5300 meter

PowerLogic™ PM5100 meter

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

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

Native multi-protocol support

The PM5500 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 PM5500 series has been tested and certified in accordance with BACnet Testing Laboratories (BTL) requirements.

Direct metering of neutral current

The PM5500 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. In addition, the PM5500 provides a calculated ground current value, not available in meters with 3 CTs.

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	PM5500
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	PM5500
Set point driven alarms	29	29	29
Unary	4	4	4
Digital	–	2	4
Boolean / Logic	–	–	10
Custom defined	–	–	5

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

Load timer

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

High Performance and accuracy

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

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

Legal billing compliance

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

PLSED310126EN

PM5000 Series
Functions and characteristics (cont.)

General	PM5100	PM5300	PM5500
Use on LV and MV systems		■	
Basic metering with THD and min/max readings		■	
Instantaneous rms values			
Current — per phase, neutral and ground (PM5500)		■	
Voltage — Total, per phase L-L and L-N		■	
Frequency		■	
Real, reactive, and apparent power — Total and per phase		Signed, Four Quadrant	
True Power Factor — Total and per phase		Signed, Four Quadrant	
Displacement PF — Total and per phase		Signed, Four Quadrant	
% Unbalanced I, V L-N, V L-L		■	
Direct monitoring of neutral current			■
Energy values★			
Accumulated Active, Reactive and Apparent Energy		Received/Delivered; Net and absolute; Time Counters	
Demand values★			
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 time stamping D/T for current and powers		■	
Demand calculation — Sliding, fixed and rolling block, thermal methods		■	
Synchronization of the measurement window to input, communication command or internal clock		■	
Settable Demand intervals		■	
Demand calculation for Pulse input (WAGES)			■
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 per phase		I, V L-N, V L-L	
TDD (Total Demand Distortion)		■	
Individual harmonics (odds)	15th	31st	63rd
Neutral Current metering with ground current calculation			■
Data recording			
Min/max of instantaneous values, plus phase identification*		■	
Alarms with 1s timestamping★		■	
Data logging		2 selectable parameters from kWh, kVAh, kVARh with configurable interval and duration (e.g. 2 parameters for 60 days at 15 minutes interval)	Up to 14 selectable parameters with configurable interval and duration (e.g. 6 parameters for 90 days at 15 minutes interval)
Memory capacity		256 kB	1.1 MB
Min/max log	■	■	■
Maintenance, alarm and event logs		■	■
Customizable data logs			■
Inputs / Outputs / Mechanical Relays			
Digital inputs		2	4
Digital outputs	1 (kWh only)	2 (configurable)	
Form A Relay outputs		2	
Timestamp resolution in seconds		1	
Whetting voltage		■	

★*Stored in non-volatile memory*

PM5000 Series
Functions and characteristics (cont.)

Electrical characteristics			PM5100	PM5300	PM5500
Type of measurement: True rms on three-phase (3P, 3P + N), zero blind			64 samples per cycle		128 samples per cycle
Measurement accuracy	Active Energy		0.5 %		0.2 %
	Reactive Energy		2 %		1 %
	Active Power		0.5 %		0.2 %
	Apparent Power		0.5 %		
	Current, Phase		0.5 %		0.15 %
	Voltage, L-N		0.5 %		0.1 %
	Frequency		0.05 %		
Measurement accuracy compliance	Measurement accuracy		IEC 61557-12 PMD/[SD|SS]/K70/0.5		IEC 61557-12 PMD/[SD|SS]/ K70/0.2
	Active energy accuracy		IEC 62053-22 Class 0.2 S ANSI C12.20 Class 0.5		IEC 62053-22 Class 0.2 S ANSI C12.20 Class 0.2
	Reactive energy accuracy		IEC 62053-23 Class 2		
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 M Ω		
	F nom		50 or 60 Hz ±2 %		50 or 60 Hz ±10 %
Input-current	I nom		1 A or 5 A		
	Measured Amps with over range and Crest Factor		Starting current: 5 mA Operating range: 50 mA to 8.5 A		Starting current: 5 mA Operating range: 50 mA to 10 A
	Withstand		Continuous 20 A, 10s/hr 50 A, 1s/hr 500 A		
	Impedance		< 0.3 mΩ		
	F nom		50 or 60 Hz ±2 %		50 or 60 Hz ±10 %
	Burden		<0.026 VA at 8.5 A		< 0.024 VA at 10 A
AC control power	Operating range		100-415 V AC +/- 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 415 V L-L		<5W/16.0 VA at 480 V AC
	Frequency		45 to 65 Hz		
	Ride-through time		80 mS typical at 120 V AC and maximum burden 100 mS typical at 230 V AC and maximum burden 100 mS typical at 415 V AC and maximum burden		35 ms typical at 120 V L-N and maximum burden 129 ms typical at 230 V L-N and maximum burden
DC control power	Operating range		125-250 V DC ±20 %		
	Burden		4 W max at 125 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		
Outputs	Relay	Max output frequency		0.5 Hz maximum (1 second ON / 1 second OFF - minimum times)	
		Switching current		250 V AC at 8.0 Amps, 25 k cycles, resistive 30 V DC at 2.0 Amps, 75 k cycles, resistive 30 V DC at 5.0 Amps, 12.5 k cycles, resistive	
		Isolation		2.5 kV rms	
	Digital outputs		1	2	2
		Max load voltage	40 V DC		30 V AC / 60 V DC
		Max load current	20 mA		125 mA
		On Resistance	50 Ω max		8 Ω
		Meter constant	from 1 to 9,999,999 pulses per kWh k_h (Configurable for delivered or received or delivered+received energy for kWh or kVARh or kVAh)		
		Pulse width for Digital Output	50% duty cycle		
		Pulse frequency for Digital Output	25 Hz max.		
		Leakage current	0.03 micro Amps		1 micro Amps
		Isolation	5 kV rms		2.5 kV rms
	Optical outputs				
		Pulse width (LED)	200 micro seconds		
		Pulse frequency	50 Hz. max.		2.5 kHz. max
		Meter constant	from 1 to 9,999,999 pulses per kWh k_h (Configurable for delivered or received or delivered+received energy for kWh or kVARh or kVAh)		

PM5000 Series
Functions and characteristics (cont.)

Electrical characteristics (cont'd)		PM5100	PM5300	PM5500
Status Inputs	ON Voltage		18.5 to 36 V DC	30 V AC / 60 V DC max
	OFF Voltage		0 to 4 V DC	
	Input Resistance		110 k Ω	100 k Ω
	Maximum Frequency		2 Hz (T ON min = T OFF min = 250 ms)	25 Hz (T ON min = T OFF min = 20 ms)
	Response Time		20 ms	10 ms
	Opto Isolation		5 kV rms	2.5 kV rms
	Whetting output		24 V DC/ 8 mA max	
	Input Burden		2 mA @ 24 V DC	2 mA @ 24 V AC/DC
Mechanical characteristics				
Product weight		380 g	430 g	450 g
IP degree of protection (IEC 60529)		IP52 front display, IP20 meter body		
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		
Environmental characteristics				
Operating temperature	Meter	-25 °C to 70 °C		
	Display (Display functions to -25º with reduced performance)	-25 °C to 70 °C		
Storage temp.		-40 °C to 85 °C		
Humidity range		5 % to 95 % RH at 37 °C (non-condensing)		
Polution degree		2		
Altitude		2000 m CAT III / 3000 m CAT II		3000 m max. CAT III
Electromagnetic compatibility★★				
Harmonic current emissions		IEC 61000-3-2		
Flicker emissions		IEC 61000-3-3		
Electrostatic discharge		IEC 61000-4-2		
Immunity to radiated fields		IEC 61000-4-3		
Immunity to fast transients		IEC 61000-4-4		
Immunity to surge		IEC 61000-4-5		
Conducted immunity 150kHz to 80MHz		IEC 61000-4-6		
Immunity to magnetic fields		IEC 61000-4-8		
Immunity to voltage dips		IEC 61000-4-11		
Radiated emissions		FCC part 15, EN 55022 Class B		
Conducted emissions		FCC part 15, EN 55022 Class B		

★ PM5563 is DIN mounted

★★ Tests are conducted as per IEC 61557-12 (IEC 61326-1), 62052-11 and EN 50470

PM5000 Series
Functions and characteristics (cont.)

Safety	PM5100	PM5300	PM5500
Europe	CE, as per IEC 61010-1 Ed. 3, IEC 62052-11 & IEC 61557-12		
U.S. and Canada	cULus as per UL61010-1 (3rd Edition)		
Measurement category (Voltage and Current inputs)	CAT III up to 400 V L-N / 690 V L-L		
Dielectric	As per IEC/UL 61010-1 Ed. 3		
Protective Class	II, Double insulated for user accessible parts		
Communication			
RS-485 port Modbus RTU, Modbus ASCII (7 or 8 bit), JBUS	2-Wire, 9600,19200 or 38400 baud, Parity - Even, Odd, None, 1 stop bit if parity Odd or Even, 2 stops bits if None; (Optional in PM51x and PM53x)		
Ethernet port: 10/100 Mbps; Modbus TCP/IP		1 Optional	2 (for daisy chain only, one IP address); BACnet/IP
Firmware and language file update	Meter firmware update via the communication ports		
Isolation	2.5 kVrms, double insulated		
Human machine interface			
Display type	Monochrome Graphics LCD		
Resolution	128 x 128		
Backlight	White LED		
Viewable area (W x H)	67 x 62.5 mm		
Keypad	4-button		
Indicator Heartbeat / Comm activity	Green LED		
Energy pulse output / Active alarm indication (configurable)	Optical, amber LED		
Wavelength	590 to 635 nm		
Maximum pulse rate	2.5 kHz		

	PM5100		PM5300				PM5500	
Features and Options	PM5100	PM5110	PM5310	PM5320	PM5330	PM5340	PM5560	PM5563
Installation								
Fast panel mount with integrated display	■	■	■	■	■	■	■	–
Remote display (optional)	–	–	–	–	–	–	–	■
Fast installation, DIN rail mountable	–	–	–	–	–	–	–	■
Accuracy	CI 0.5S	CI 0.5S	CI 0.5S	CI 0.5S	CI 0.5S	CI 0.5S	CI 0.2S	CI 0.2S
Display								
Backlit LCD, multilingual, bar graphs, 6 lines, 4 concurrent values	■	■	■	■	■	■	■	–
Power and energy metering								
3-phase voltage, current, power, demand, energy, frequency, power factor	■	■	■	■	■	■	■	■
Multi-tariff	–	–	4	4	4	4	8	8
Power quality analysis								
THD, thd, TDD	■	■	■	■	■	■	■	■
Harmonics, individual (odd) up to	15th	15th	31st	31st	31st	31st	63rd	63rd
I/Os and relays								
I/Os	1DO	1DO	2DI/2DO	2DI/2DO	2DI/2DO	2DI/2DO	4DI/2DO	4DI/2DO
Relays	0	0	0	0	2	2	0	0
Alarms and control								
Alarms	33	33	35	35	35	35	52	52
Set point response time, seconds	1	1	1	1	1	1	1	1
Single and multicondition alarms	–	–	■	■	■	■	■	■
Boolean alarm logic	–	–	–	–	–	–	■	■
Communications								
Serial ports with Modbus protocol	–	1	1	–	1	–	1	1
Ethernet port with Modbus TCP protocol	–	–	–	1	–	1	2★★	2★★
Ethernet port with BACnet/IP protocol★	–	–	–	–	–	–	2★★	2★★
Ethernet-to-serial gateway	–	–	–	–	–	–	■	■
Onboard web server with web pages	–	–	–	–	–	–	■	■
MID ready compliance, EN50470-1/3, Annex B and Annex D Class C	PM5111			PM5331	PM5341	PM5561		

★PM5300 series models with BACnet/IP coming soon. Ability to simultaneously communicate via Modbus TCP/IP and BACnet/IP.
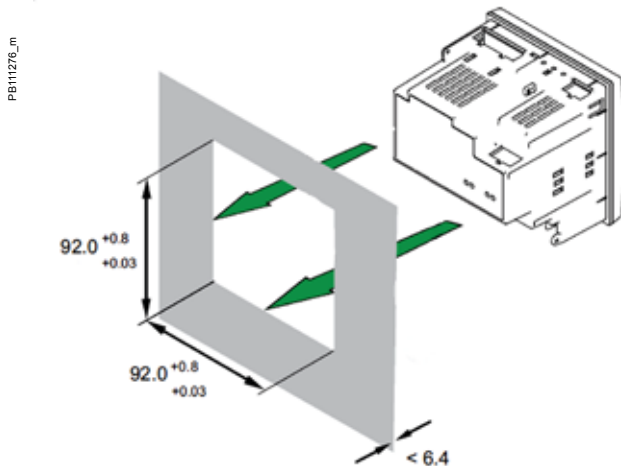
★★ 2 Ethernet ports for daisy chain, one IP address. One IP address. Ability to simultaneously communicate via Modbus TCP/IP and BACnet/IP.
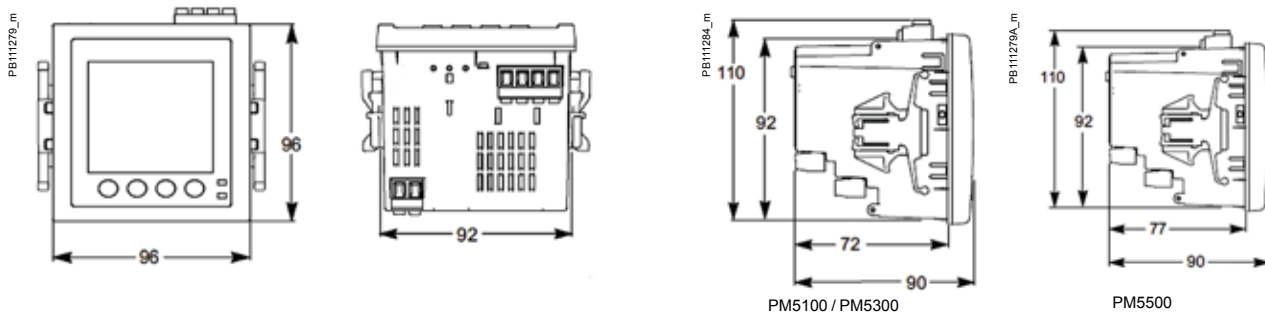
PM5000 Series
Dimensions and connection

Commercial reference numbers	
Part description	**Commercial ref. no.**
PM5100 power meter, pulse out	**METSEPM5100**
PM5100 power meter, pulse + serial out	**METSEPM5110**
PM5100 power meter, pulse + serial out, MID	**METSEPM5111**
PM5300 power meter, serial + 2DI-2DO out	**METSEPM5310**
PM5300 power meter, ETH + 2DI-2DO out	**METSEPM5320**
PM5300 power meter, serial + 2DI-2DO-2relay out	**METSEPM5330**
PM5300 power meter, serial + 2DI-2DO-2relay out, MID	**METSEPM5331**
PM5300 power meter, ETH + 2DI-2DO-2relay out	**METSEPM5340**
PM5300 power meter, ETH + 2DI-2DO-2relay out, MID	**METSEPM5341**
PM5560 power meter, ETH-serial + 4DI-2DO out	**METSEPM5560**
PM5561 power meter, ETH-serial + 4DI-2DO out, MID	**METSEPM5561**
PM5563 power meter, ETH-serial + 4DI-2DO out, no disp	**METSEPM5563**
PM5500 power meter, ETH-serial + 4DI-2DO out, remote display	**METSEPM5563RD**
Remote display for PM5563 power meter	**METSEPM5RD**
Hardware kit for PM51XX (voltage, current, comms & IO connectors + moulding clips)	**METSEPM51HK**
Hardware kit for PM53XX (voltage, current, comms & IO connectors + moulding clips)	**METSEPM53HK**
Revenue sealing kit for PM51XX & PM53XX (sealing covers for voltage & current connectors)	**METSEPM51-3RSK**
Hardware kit for PM55XX (voltage, current, comms & IO connectors & moulding clips)	**METSEPM55HK**
Revenue sealing kit for PM55XX (sealing covers for voltage & current connectors)	**METSEPM55RSK**

PM5000 Series
Functions and characteristics (cont.)

PM5000 Series meter flush mounting*

92.0 +0.8 / +0.03

92.0 +0.8 / +0.03

< 6.4

PM5000 Series meter dimensions

96

96

92

110

92

72

90

PM5100 / PM5300

110

92

77

90

PM5500

PM5000 Series remote display dimensions

96

27

48

30

96

48

Ø 3.5

Ø 29.8

28   21

Remote display dimensions

A Remote display connector
B Connection cable (provided)
C DIN-mount meter connector
Display power provided by meter

PM5000 Series meter parts

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

PM5500

PM5500 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)

Communication interfaces and associated services

Switchboard-data acquisition and monitoring make it possible to anticipate events. In this way, they reduce customer costs in terms of operation, maintenance and investment.

Serial link

With communication technology, it is no longer necessary to be physically present at the site to access information. Data is transmitted by networks, sometimes by wireless connections.

In all architectures, the communication interface serves as the link between the installation devices and the PC running the operating software. It provides the physical link a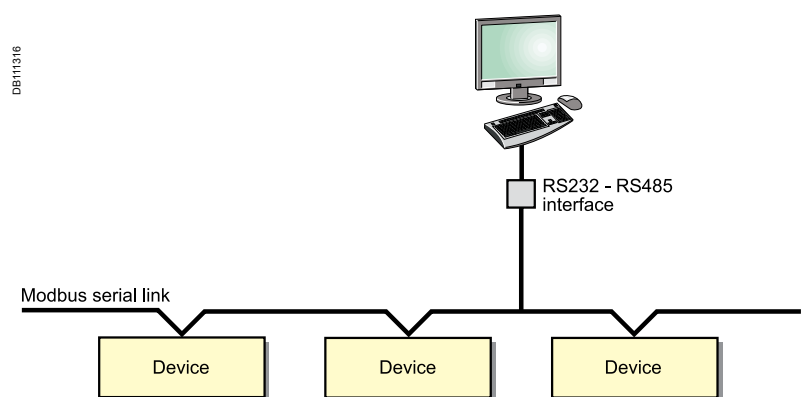nd protocol adaptation. Adaptation is required because the communication systems used by the PC (Modbus via RS-232 and/or Ethernet) are generally not those used by the installation devices (e.g. the Modbus protocol via RS-485).

Dedicated application software prepares the information for analysis under the best possible conditions.

Modbus communication architecture.

In addition, a Link150 serial port slave mode allows a serial Modbus master device to access information from other devices across a Modbus TCP/IP network.
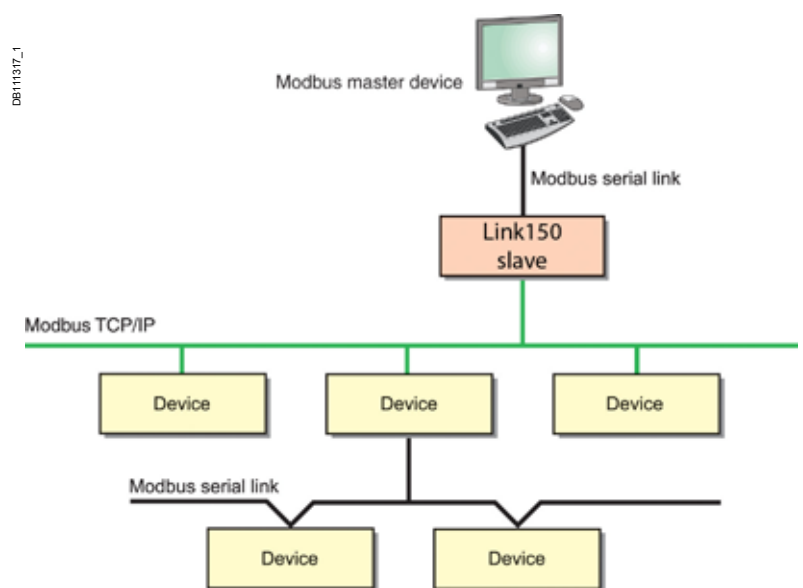
Modbus communication across Ethernet network

Schneider Electric

Ethernet link
Using modern Web technologies, the operator can access information from monitoring and protection devices using any PC connected to the network, with all the required security.

The Link150 Ethernet gateway provides reliable connectivity between Modbus RS-485 and Ethernet Modbus TCP/IP.
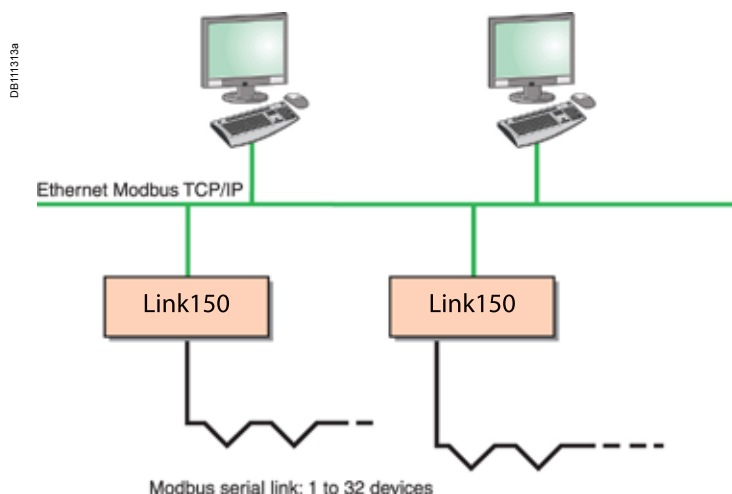
Typical Ethernet communication architecture.

The services available with these technologies considerably simplify the creation, maintenance and operation of these supervision systems.

The application software is now standardised: the web interface into the system does not require custom web pages to be created. It is personalised by simply identifying the components in your installation and can be used as easily as any internet application.

Power management software (StuxureWare Power Monitoring Expert and StruxureWare PowerSCADA Expert), running on a PC, provide broader coverage for more specific needs.

Link150
Ethernet gateway

PB115131

The Link150

The Link150 gateway provides fast, reliable Ethernet connectivity in the most demanding applications, from a single building to a multi-site enterprise.
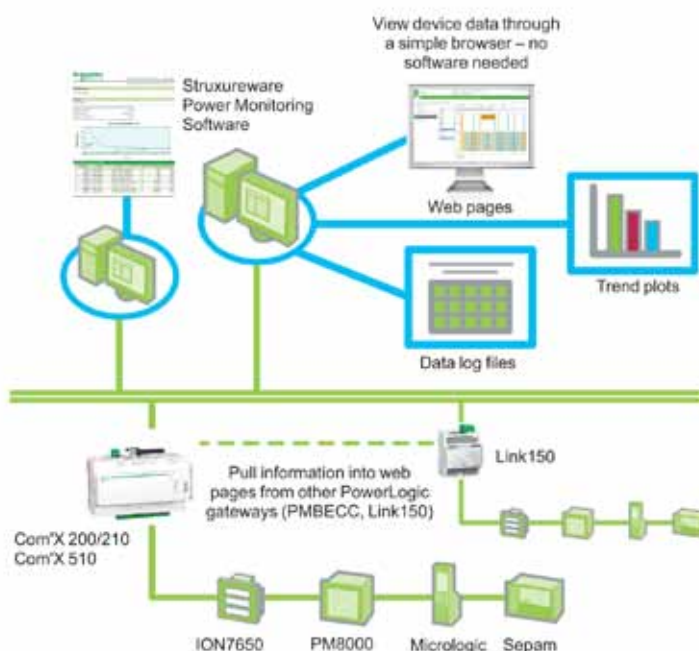This gateway supports meters, monitors, protective relays, trip units, motor controls and other devices that need to communicate data quickly and efficiently.
It is your simple, cost-effective serial line to full Ethernet connectivity.

Applications
■ Energy management.
■ Power distribution.
■ Building automation.
■ Factory automation.

Security
■ Secure user interface including user's name and password for login.
■ Advanced security features to allow users to specify which Modbus TCP/IP master devices may access attached serial slave devices.
□ Modbus TCP/IP filtering feature.
□ Allows user to specify the level of access for each master device as Read-only or Full access.
■ Web pages provide easy configuration and setup.

Advantages
■ Easy to install and setup.
■ Easy to maintain.
■ Compatible with Schneider Electric software offerings (StruxureWare Power Monitoring Expert, StruxureWare PowerSCADA Expert, etc.).
■ Compatible with Com'X 200/210 and Com'X 510 Energy Servers.
■ Reliable Modbus to Ethernet protocol conversion.

Commercial reference numbers

Powerlogic Link150	Commercial ref. no.
Link150	EGX150
Modbus 3M cable RJ45 to free wires	VW3A8306D30

Contact your Schneider Electric representative for complete ordering information.

Link150
Ethernet gateway

Link150 front view

Characteristics	
	Link150
Weight	175 g without packing
Dimensions (HxWxD)	72 x 105 x 71 mm
Mounting	DIN rail
Power-over-Ethernet (PoE)	Class 3
Power supply	24 V DC (-20/+10 %) or Power over Ethernet (PoE Class 3 IEEE 802.3 af) at 15 W
Consumption (typical)	24 V DC, 130 mA at 20 °C PoE 48 V DC, 65 mA at 20 °C
Ambient operating temperature	-25 °C to 70 °C
Ambient storage temperature	-40 °C to 85 °C
Humidity rating	5 % to 95 % relative humidity (without condensation) at +55 ºC
Pollution Degree	Level 2
IP Ratings	On the front panel (wall-mounted enclosure): IP4x Connectors: IP20 Other parts: IP30
Regulatory/standards compliance for electromagenetic interference	
Emissions (radiated and conducted)	EN 55022/EN 55011/FCC class A
Immunity for industrial environments:	
electrostatic discharge	EN 61000-6-2
radiated RF	EN 61000-4-2
electrical fast transients	EN 61000-4-3
surge	EN 61000-4-4
conducted RF	EN 61000-4-5
power frequency	EN 61000-4-6
magnetic field	EN 61000-4-8
Regulatory/standards compliance for safety	
Safety - IEC	IEC 60950
Safety - UL*	UL 60950 UL 61010-2-201
EMC	IEC 6100-6-2
Australia	C-tick - RCM
Sustainability	Green Premium
Serial ports	
Number of ports	2 (1 available at a time)
Types of ports	RS-232 or RS-485 (2-wire or 4-wire), depending on settings
Protocol	Modbus, Serial
Baud rates	19200 bps (factory setting), 2400 bps, 4800 bps, 9600 bps, 38400 bps, 56000 bps**, 57600 bps**
Maximum number of connected devices	32 (directly) 247 (indirectly)
Ethernet ports (used as a switch)	
Number of ports	2
Type of port	10/100BASE-TX (802.3af) port
Protocol	HTTP, Modbus TCP/IP, FTP, SNMP (MIB II)

* Dual listed for US and Canada
** Only available when Physical Interface is set to RS-232 and Transmission Mode is set to Modbus ASCII

Schneider Electric

Link150
Ethernet gateway

Parts

PB115431
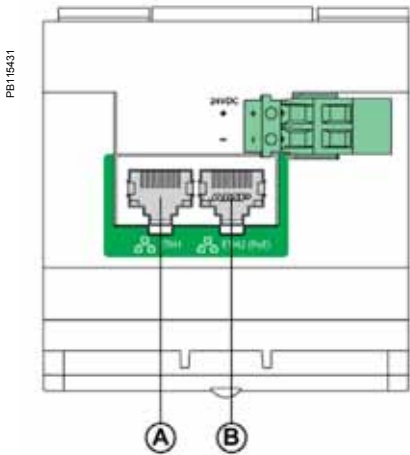
Ⓐ Ethernet 1 communication port

Ⓑ Ethernet 2 (PoE) communication port

PB115432
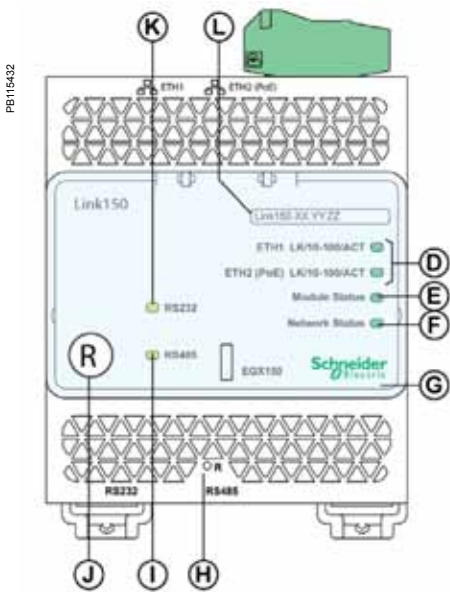
Ⓓ Ethernet communication LEDs

Ⓔ Module status LED

Ⓕ Network status LED

Ⓖ Sealable transparent cover

Ⓗ IP reset pin

Ⓘ RS-485 traffic status LED

Ⓙ Device soft restart button
(Accesible through closed cover)

Ⓚ RS-232 traffic status LED

Ⓛ Device name label

PB115433
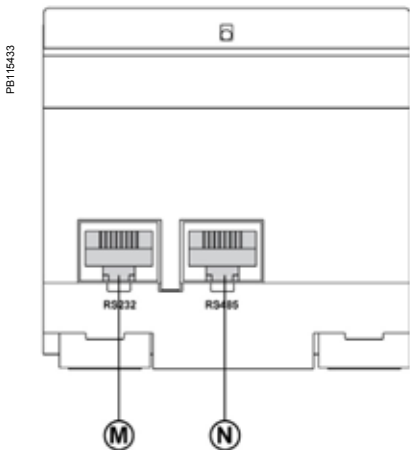
Ⓜ RS-232 port

Ⓝ RS-485 port

Link150
Ethernet gateway

Dimensions
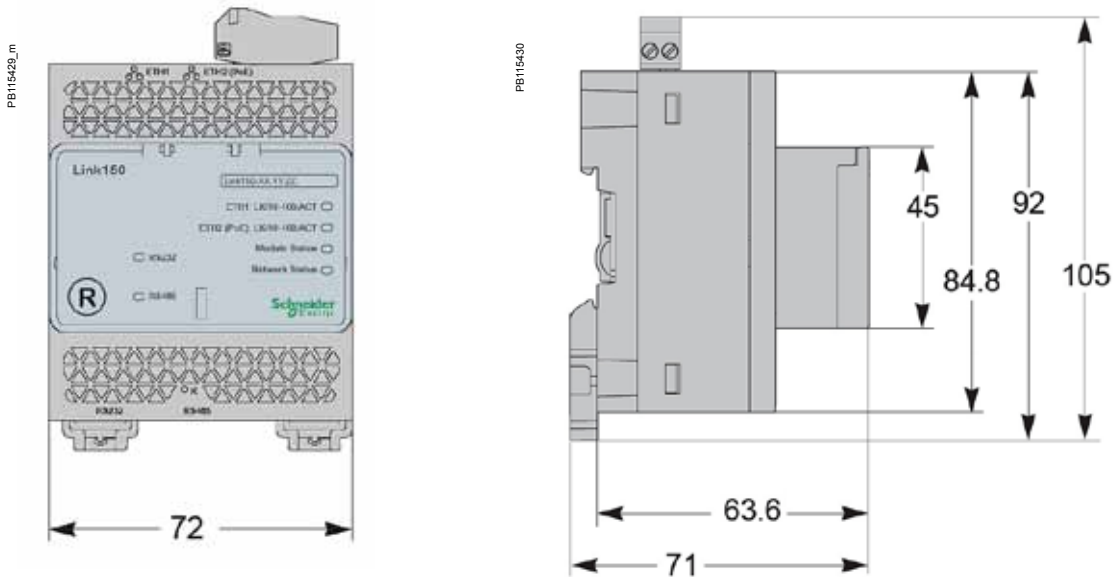
DIN rail mounting
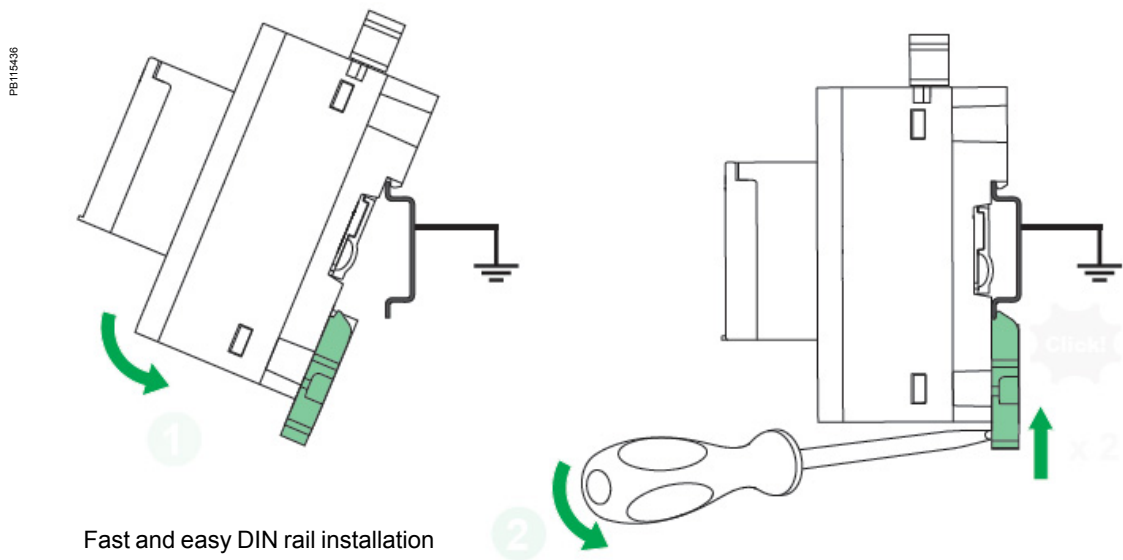
Fast and easy DIN rail installation

See appropriate Install Guide for this product.
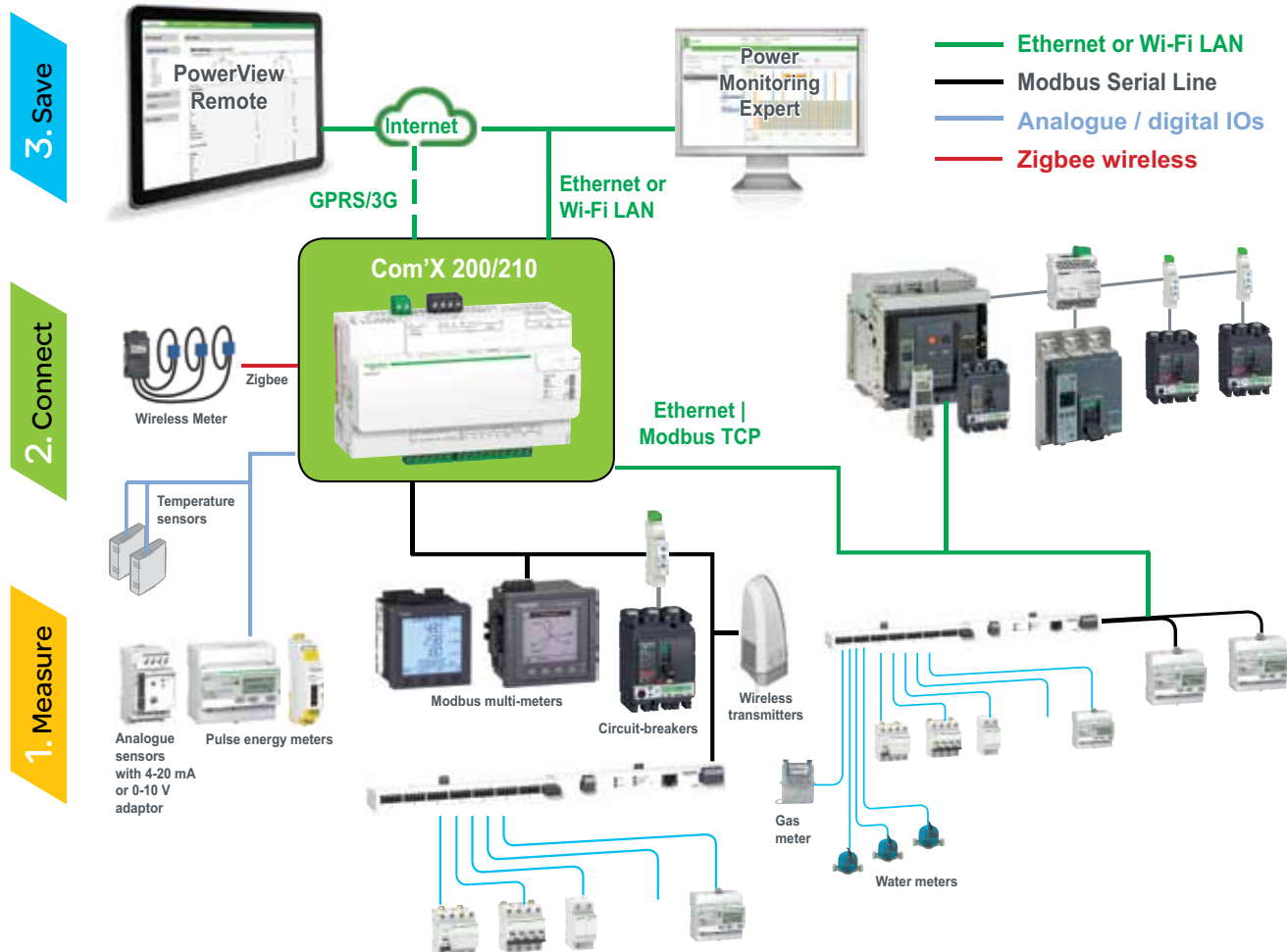
Schneider Electric

Com'X 200 / 210
Energy data loggers

Main functions

Legend	
Ethernet or Wi-Fi LAN	
Modbus Serial Line	
Analogue / digital IOs	
Zigbee wireless	

Data collector

Collects and stores energy data from up to 64 field devices, connected to either:
■ Ethernet TCP/IP field network.
■ Modbus Serial line network (up to 32 devices).
■ Embedded digital and analogue inputs.

"Field devices" consist of :
■ PowerLogic devices for power and energy monitoring.
■ Masterpact or Compact circuit-breakers for protection and monitoring.
■ Acti 9 protection devices, meters, remote controlled switches, etc.
■ Water, Air, Gas, Electricity, and Steam consumption meters, from specialized manufacturers, delivering pulses as per standard (see table next page).
■ Environmental sensors such as temperatures, humidity, and CO_2 levels in a building, providing analogue information.

Data logging and storage capabilities include:
■ Configurable logging interval, from every minute to once a week.
■ Data storage duration of several weeks, depending on quanitity of of collected data.

Com'X 200/210
Functions and characteristics
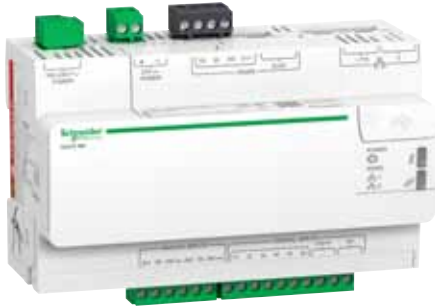
Energy Server Com'X 200 data logger

Energy Server Com'X 210 data logger

Data publisher
Batches of collected data periodically transmitted to an Internet server, as:

■ XML files, for processing by StruxureWare™ web services, such as Facility Insights.
■ CSV files for viewing in Excel or transformed for upload into programs such as StruxureWare™ Power Monitoring Expert or any compatible software.
■ Support for Weather Sentry™.

Data publishing function supports 4 transfer protocols over Ethernet or Wi-Fi:

■ HTTP.
■ HTTPS.
■ FTP.
■ SMTP.

Additional functions

Gateway
If selected by the user, the Com'X 200/210 can also make all data from connected devices available in real-time:

■ In Modbus TCP/IP format over Ethernet or Wi-Fi.
■ For requests by an energy management software.
■ Gateway to Zigbee device data by external Modbus TCP/IP clients.

Modbus packets can be sent from managing software to field devices through Modbus serial line or Modbus TCP/IP over Ethernet.

Com'X 200/210 Commercial reference numbers	
Com'X 200 data logger 24 V DC or 230 V AC power supplied	**EBX200**
Com'X 210 data logger 24 V DC power supplied UL rated	**EBX210**
Com'X Wi-Fi USB interface	**EBXA-USB-WiFi**
Com'X GPRS interface with SIM card for RSP only	**EBXA-GPRS-SIM**
Com'X GPRS interface	**EBXA-GPRS**
Com'X External GPRS antenna	**EBXA-ANT-5M**
Com'X Zigbee USB interface	**EBXA-USB-Zigbee**

Please see your Schneider Electric representative for complete ordering information.

Schneider Electric

Com'X 510
Energy server

Main functions

Ethernet or Wi-Fi LAN
Modbus Serial Line
Analogue / digital IOs

Energy dashboard comparing accumulated over time energy values (partial screen)
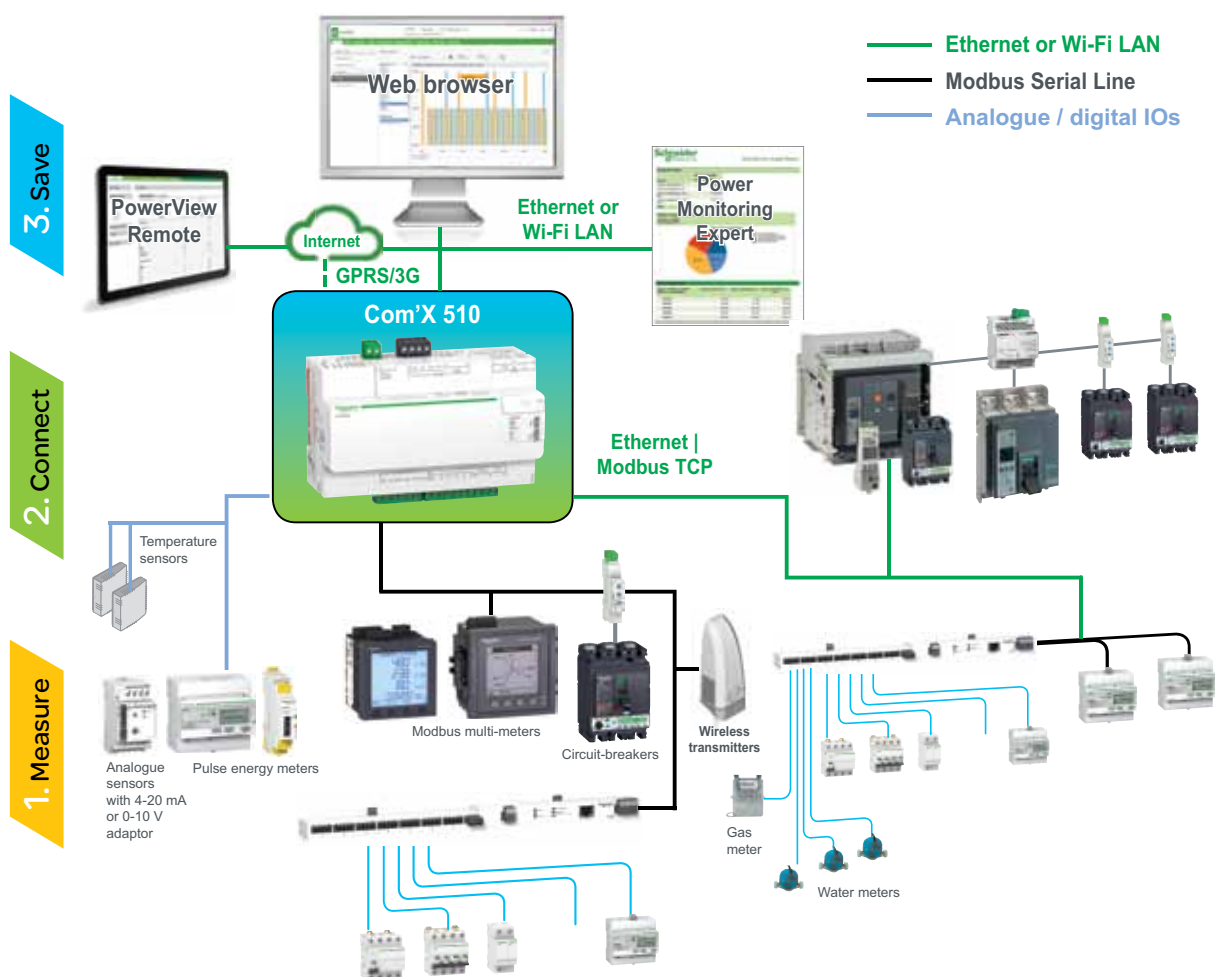
Data collector
Collects and stores energy data from up to 64 field devices, connected to either:
- Ethernet TCP/IP field network.
- Modbus Serial line network (up to 32 devices).
- Embedded digital and analogue inputs.

"Field devices" consist of :
- PowerLogic meters for power and energy monitoring.
- Masterpact, Powerpact, or Compact circuit-breakers for protection and monitoring.
- Acti 9 protection devices, meters, remote controlled switches, etc.
- Water, Air, Gas, Electricity, and Steam consumption meters, from specialized manufacturers, delivering pulses as per standard (see table at end of this document).
- Environmental sensors such as temperatures, humidity, and CO_2 levels in a building, providing analogue information.

Data logging and storage capabilities include:
- Data logging period: configurable from every minute to once a week.
- Data storage duration: up to 2 years, depending on quanitity of collected data.
- Able to set time and send reset instructions to field devices.

Embedded energy management software
The Com'X provides the end-user with immediate visibility into energy consumption throughout the site. As soon as the Com'X is connected to the Local Area Network (LAN), several web pages are accessible via any standard web browser, (without plug-in or additional components).

These web pages display real-time data as it is collected, in easy to understand tabular and summary formats. In addition, users can get simple analysis of historical data in bar graph or trending formats.

Com'X 510
Energy server

Energy Server Com'X 510 data logger

Raw data and measurements from one field device (partial screen)

Historical trending comparing multiple devices or multiple topics (partial screen)

Additional functions

Data publisher
Batches of collected data can also be periodically transmitted to an Internet server, as:
■ XML files, for processing by StruxureWare™ web services, such as Facility Insights.
■ CSV files for viewing in Excel or transformed or uploading to programs such as StruxureWare™ Power Monitoring Expert or any compatible software.

Data publishing function supports 4 transfer protocols over Ethernet or Wi-Fi:
■ HTTP.
■ HTTPS.
■ FTP.
■ SMTP.

Gateway
■ If selected by the user, the Com'X510 can make data from connected devices available in real time:
■ In Modbus TCP/IP format over Ethernet or Wi-Fi.
■ For requests by energy management software.
■ Gateway to Zigbee device data by external Modbus TCP/IP clients.

Modbus packets can be sent from managing software to field devices through Modbus serial line or Modbus TCP/IP over Ethernet.

■ Real-time Trending.
■ Custom Web Page Support.

Com'X 510 Commercial reference numbers

Com'X 510 energy server 24 V DC power supplied UL rated	**EBX510**
Com'X Wi-Fi USB interface	**EBXA-USB-WiFi**
Com'X GPRS interface SIM card	**EBXA-GPRS-SIM**
Com'X GPRS interface	**EBXA-GPRS**
Com'X External GPRS antenna	**EBXA-ANT-5M**
Com'X Zigbee USB interface	**EBXA-USB-Zigbee**

Please see your Schneider Electric representative for complete ordering information.

Com'X 200/210/510
Connectivity

Connection points
1 Terminal block
2 RJ45 cable
3 Ethernet port #1
4 Ethernet port #2

Power supply to analogue and digital inputs

Connectivity

Modbus SL /RS-485 connections to field devices
■ By cable with RJ45 connector.

2 Ethernet ports
■ Used to either separate upstream connection from field devices network or to daisy chain Ethernet devices.
■ RJ45 10/100BASE connectors.
■ Static IP address.

Ethernet port #1
■ Connection to Local Area Network (LAN).
■ PoE Class 3 (802.3af) can act as main/backup power supply for the Com'X.
■ DHCP client.

Ethernet port # 2
■ Connection to field devices.
■ DHCP cleint or server.

Power supply to analogue and digital outputs
Outputs to supply sensors and inputs when Com'X is supplied through 24 V DC input on top:
■ 12 V DC 60 mA for digital inputs.
■ 24 V DC for analogue inputs.
Compliant with electrical switchboard environment (temperature, electromagnetic compatibilty).

2 inputs for analogue sensors
■ PT100 or PT1000 temperature probes.
■ Various sensors (humidity, CO^2, etc.) with 0-10 V output.
■ Various sensors with 4-20 mA output

6 inputs for dry contact sensors or pulse counters
■ Max 25 pulses per second (min duration 20 ms)
■ IEC 62053-31 Class A

Wi-Fi USB stick

Wi-Fi USB stick
■ As an alternative to publication over Ethernet, connects Com'X to the site Wi-Fi router for regular data transmission.
■ Can also be used for Com'X 510 configuration through one-to-one connection with laptop or tablet.
■ Simply plugs into USB port 2 under front cover.

GPRS modem

GPRS/3G modem
■ For connection to the data processing server through cellular or user's APN network.
■ Also connect to Schneider Electric's Digital Service Platform.
■ Especially suitable for sites with no internet access.
■ Simply plugs into dedicated port under the front cover.

GPRS antenna

GPRS antenna
■ Improves GPRS signal strength in case of poor transmission conditions.
■ Recommended for Com'X located inside metallic electrical panels.

Zigbee dongle (not shown)
For connection to wireless digital enabled field devices such as PowerLogic EM4300 meters. Plugs into USB ports.

PowerLogic WT4200 wireless transmitters, connected to Modbus RS-485, enables collecting data also from water, air, gas or steam meters.

Device settings page (partial), as displayed after auto-discovery, enabling user to assign circuit identifications and select data for logging and publication.

Installation

■ DIN rail fitting (Front face IP40, terminals IP20).
■ Weight 450 g
■ Dimensions (H x W x D) 91 x 144 x 65.8 mm

Setup and configuration

Connection to LAN
As soon as they are connected to the LAN, it can be detected and assigned an IP address by DHCP. Your operating system's DPWS feature allows your computer to automatically recognize the device as Com'X. Embedded web pages are then immediately accessible by clicking each Com'X device icon or by typing the assigned IP address into your web browser.

Field device auto-discovery
The user-activated device discovery function automatically identifies all field devices connected to Modbus SL, Ethernet port or Zigbee dongle.
■ Known Schneider Electric devices display with the product image.
■ Other devices appear as "unknown," allowing the user to manually assign a device type.
■ User can assign their own device types.
Users can complete additional device identification fields, such as circuit ID or building zone.

Custom Library available for unknown field devices
■ Ability to create your own custom model based upon Modbus RTU/TCP, Pulse, sensor, etc.
■ Log data from the custom model
■ Export / Import the custom model into other Com'X devices.

Data selection for logging and publication
Web page configuration tabs allow you to configure, in just a few clicks, which connected field devices collect and publish data.

Advanced diagnostics and troubleshooting features
■ Modbus serial and TCP/IP device statistics.
■ Ethernet network statistics.
■ Communications check wizard.
■ Direct reading of register values from local and remote devices.

Additional features and benefits

■ Cybersecurity - works well with your cybersecurity architecture.
■ 2 Ethernet ports to separate upstream cloud connection, or to daisy chain with other Ethernet devices, from field device network.
■ Data storage in case of communications failure.
■ Local backup of configuration parameters - back up your system to a USB storage device and have it available for system restore or to duplicate the configuration on another box.

When associated with Schneider Electric Services:
■ Remotely managed (configuration backup, troubleshooting, parameter setting).
■ GPRS SIM contract management (with EBXA-GPRS-SIM).

Com'X 200/210/510
Specifications

Com'X 200/210/510 Environment	
Operating temperature	-25 ºC to 60 °C Com'X 200
	-25 ºC to 70 °C Com'X 210/510
Storage temperature	-40 ºC to 85 °C
GPRS dongle Operating temperature	-20 ºC to 60 °C
GPRS dongle Storage temperature	-40 ºC to 85 °C
Wif-Fi dongle Operating temperature	0 ºC to 50 °C
Wi-Fi dongle Storage temperature	-20 ºC to 80 °C
Humidity	5 % to 95 % relative humidity (without condensation) at 55 ºC
Pollution	Class III
Safety standards / regulation	
International (CB scheme)	IEC 60950
USA	UL 508
USA	UL 60950 (Com'X 210 and Com'X 510 only)
Canada	cUL 60950 (Com'X 210 and Com'X 510 only)
Canada	cULus 508
Europe	EN 60950
Quality Brands	
	CE, UL

Power Supply		Com'X 200	Com'X 210	Com'X 510
AC	100 to 230 V (+/- 15 %) (50-60 Hz)	■		
DC	24 V (+/- 10 %)	■	■	■
Power over Ethernet	15.4 W DC	■	■	■
Max power	26 W max	■	■	■
Mechanical				
IP	Front face IP40, terminals IP20	■	■	■
Dimensions (HxWxD)	91 x 144 x 65.8 mm	■	■	■
Weight	450 g	■	■	■

Comm. Ref. No.	Description	
	CURRENT TRANSFORMERS	
	CT Ip/5 A ratio	7
16550	44 x 66 x 37 Adapter for DIN rails Mounting plate	
16551	56 x 84 x 60 Adapter for DIN rails Mounting plate Insulated locking screw	
16552	56 x 84 x 60 Adapter for DIN rails Mounting plate Insulated locking screw sealable cover	
16553	77 x 107 x 64 Adapter for DIN rails Mounting plate Insulated locking screw	
METSECT5CC004	CC 40 A	
METSECT5CC005	CC 50 A	
METSECT5CC006	CC 60 A	
METSECT5CC008	CC 75 A	
METSECT5CC010	CC 100 A	
METSECT5CC013	CC 125 A	
METSECT5CC015	CC 150 A	
METSECT5CC020	CC 200 A	
METSECT5CC025	CC 250 A	
METSECT5ME015	ME 150 A	
METSECT5ME020	ME 200 A	
METSECT5ME025	ME 250 A	
METSECT5ME030	ME 300 A	
METSECT5ME040	ME 400 A	
METSECT5ME050	ME 500 A	
METSECT5ME060	ME 600 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	
METSECT5MF025	MF 250 A	
METSECT5MF030	MF 300 A	
METSECT5MF040	MF 400 A	
METSECT5MF050	MF 500 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.	
	sealable cover 60.5 x 22 x 23.5 mm for current transformer TI	
METSECT5VF050	CT tropi. 500 5 bars 11x64 or 31x51	
METSECT5VF060	CT tropi. 600 5 bars 11x64 or 31x51	
METSECT5VV500	CT tropi. 5000 5 bars 55x165	
METSECT5VV600	CT tropi. 6000 5 bars 55x165	
	CT tropi. 200 5 dual out. bars 32x65	
	CT tropi. 250 5 dual out. bars 32x65	
	CT tropi. 300 5 dual out. bars 32x65	
	CT tropi. 400 5 dual out. bars 32x65	
	CT tropi. 500 5 dual out. bars 32x65	
	CT tropi. 600 5 dual out. bars 32x65	
	CT tropi. 800 5 dual out. bars 32x65	
	CT tropi. 1000 5 dual out. bars 32x65	
	CT tropi. 1250 5 dual out. bars 32x65	
	CT tropi. 1500 5 dual out. bars 32x65	
	CT tropi. 1000 5 dual out. bars 38x127	
	CT tropi. 1250 5 dual out. bars 38x127	
	CT tropi. 1500 5 dual out. bars 38x127	
	CT tropi. 2000 5 dual out. bars 38x127	

Comm. Ref. No.	Description	
	CT tropi. 2500 5 dual out. bars 38x127	
	CT tropi. 3000 5 dual out. bars 38x127	
	CT tropi. 2000 5 dual out. bars 52x127	
	CT tropi. 2500 5 dual out. bars 52x127	
	CT tropi. 3000 5 dual out. bars 52x127	
	CT tropi. 4000 5 dual out. bars 52x127	
	CT tropi. 1000 5 dual out. bars 34x84	
	CT tropi. 1250 5 dual out. bars 34x84	
	CT tropi. 1500 5 dual out. bars 34x84	
	CT tropi. 1000 5 dual out. bars 54x102	
	CT tropi. 1250 5 dual out. bars 54x102	
	CT tropi. 1500 5 dual out. bars 54x102	
	CT tropi. 2000 5 dual out. bars 54x102	
	CT tropi. 1250 5 dual out. bars 38x102	
	CT tropi. 1500 5 dual out. bars 38x102	
	CT tropi. 2000 5 dual out. bars 38x102	
	PANEL INSTRUMENTS	16
	AMP meters and VLT	16
16003	AMP for motor feeder	
16004	AMP for standard feeder	
16005	VLT 0-500 V	
16006	AMP for motor feeder	
16007	AMP for motor feeder	
16008	AMP for motor feeder	
16009	AMP for standard feeder	
16010	AMP for standard feeder	
16011	AMP for standard feeder	
16012	AMP for standard feeder	
16013	AMP for standard feeder	
16014	AMP for standard feeder	
16015	AMP for standard feeder	
16016	AMP for standard feeder	
16017	CMA 20 4	
16018	CMV 500 7	
16019	AMP for standard feeder	
	DIN rail analogue ammeters, voltmeters	16
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, freq meter	17
15202	Direct reading iAMP 0-10 A No 4	
15209	Multi-rating iAMP 0-5000 A As per rating 4	
15201	iVLT 0-600 V 4	
15208	iFRE 20-100 Hz 4	

Comm. Ref. No.	Description	
	72x72 analogue ammeter, voltmeter	18
16004	AMP for standard feeder X/5	
16009	AMP for standard feeder 0-50 A 50/5	
16010	AMP for standard feeder 0-100 A 100/5	
16011	AMP for standard feeder 0-200 A 200/5	
16012	AMP for standard feeder 0-400 A 400/5	
16013	AMP for standard feeder 0-600 A 600/5	
16014	AMP for standard feeder 0-1000 A 1000/5	
16015	AMP for standard feeder 0-1250 A 1250/5	
16016	AMP for standard feeder 0-1500 A 1500/5	
16019	AMP for standard feeder 0-2000 A 2000/5	
16003	AMP for motor feeder X/5	
16006	AMP for motor feeder 0-30-90 A 30/5	
16007	AMP for motor feeder 0-75-225 A 75/5	
16008	AMP for motor feeder 0-200-600 A 200/5	
16005	VLT 0-500 V	
	96x96 analogue ammeter, voltmeter	19
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	20
16017	CMA 20 4	
16018	CMV 500 7	
	DIN rail iCMA, iCMV selector switches	21
15126	iCMA 10 415 4	
15125	iCMV 10 415 4	
	iCH hour counter	22
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	23
15443	iCI 4mm impulse counter DIN	
	BASIC ENERGY METERING	26
	iEM2000	26
A9MEM2000T	iEM2000T basic energy meter, without display	
A9MEM2000	iEM2000 basic energy meter	
A9MEM2010	iEM2010 energy meter, kWh pulse output	
A9MEM2100	iEM2100 basic energy meter	
A9MEM2105	iEM2105 energy meter, kWh pulse output with partial meter	
A9MEM2110	iEM2110 energy meter, kWh and kvarh pulse outputs with two tariffs, four quadrant energy measurement, MID certified	
A9MEM2135	iEM2135 energy meter, M-Bus communication, four quadrant energy measurement, two tariffs, MID certified	
A9MEM2150	iEM2150 energy meter, Modbus communication, four quadrant energy measurement	
A9MEM2155	iEM2155 energy meter, Modbus communication, four quadrant energy measurement, two tariffs, MID certified	

Comm. Ref. No.	Description	
	iEM3000	44
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 MS/TP 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 MS/TP comm port	
A9MEM3565	iEM3565 advanced multi-tariff energy meter & electrical parameter plus BACnet MS/TP comm port	
	LVCTs	40
LVCT00050S	CT, split-core, Size 0, 50 A to 0.333 V	
LVCT00101S	CT, split-core, Size 1, 100 A to 0.333 V	
LVCT00201S	CT, split-core, Size 1, 200 A to 0.333 V	
LVCT00102S	CT, split-core, Size 2, 100 A to 0.333 V	
LVCT00202S	CT, split-core, Size 2, 200 A to 0.333 V	
LVCT00302S	CT, split-core, Size 2, 300 A to 0.333 V	
LVCT00403S	CT, split-core, Size 3, 400 A to 0.333 V	
LVCT00603S	CT, split-core, Size 3, 600 A to 0.333 V	
LVCT00803S	CT, split-core, Size 3, 800 A to 0.333 V	
LVCT00804S	CT, split-core, Size 4, 800 A to 0.333 V	
LVCT01004S	CT, split-core, Size 4, 1000 A to 0.333 V	
LVCT01204S	CT, split-core, Size 4, 1200 A to 0.333 V	
LVCT01604S	CT, split-core, Size 4, 1600 A to 0.333 V	
LVCT02004S	CT, split-core, Size 4, 2000 A to 0.333 V	
LVCT02404S	CT, split-core, Size 4, 2400 A to 0.333 V	

Comm. Ref. No.	Description	
	Rogowski coils	41
U018-0001	ROGCOIL 12 in (0.30 m) length, 3.8 in (0.10 m) diameter, 8 ft (2.44 m) lead	
U018-0002	ROGCOIL 18 in (0.46 m) length, 5.7 in (0.14 m) diameter, 8 ft (2.44 m) lead	
U018-0003	ROGCOIL 24 in (0.61 m) length, 7.6 in (0.19 m) diameter, 8 ft (2.44 m) lead	
U018-0004	ROGCOIL 36 in (0.91 m) length, 11.5 in (0.29 m) diameter, 8 ft (2.44 m) lead	
	BASIC MULTI-FUNCTION METERING	**36**
	PM3000	**44**
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	
	PM5000	**49**
METSEPM5100	PM5100 power meter, pulse out	
METSEPM5110	PM5100 power meter, pulse + serial out	
METSEPM5111	PM5100 power meter, pulse + serial out, MID	
METSEPM5310	PM5300 power meter, serial + 2DI-2DO out	
METSEPM5330	PM5300 power meter, serial + 2DI-2DO-2relay out	
METSEPM5331	PM5300 power meter, serial + 2DI-2DO-2relay out, MID	
METSEPM5320	PM5300 power meter, ETH + 2DI-2DO out	
METSEPM5340	PM5300 power meter, ETH + 2DI-2DO-2relay out	
METSEPM5341	PM5300 power meter, ETH + 2DI-2DO-2relay out, MID	
METSEPM5560	PM5560 power meter, ETH-serial + 4DI-2DO out	
METSEPM5561	PM5561 power meter, ETH-serial + 4DI-2DO out, MID	
METSEPM5563	PM5563 power meter, ETH-serial + 4DI-2DO out, no disp	
	PM5500 power meter, ETH-serial + 4DI-2DO out, remote display	
METSEPM5RD	Remote display for PM5563 power meter	
METSEPM51HK	Hardware kit for PM51XX (voltage, current, comms & IO connectors + moulding clips)	
METSEPM53HK	Hardware kit for PM53XX (voltage, current, comms & IO connectors + moulding clips)	
METSEPM51-3RSK	Revenue sealing kit for PM51XX & PM53XX (sealing covers for voltage & current connectors)	
METSEPM55HK	Hardware kit for PM55XX (voltage, current, comms & IO connectors & moulding clips)	
METSEPM55RSK	Revenue sealing kit for PM55XX (sealing covers for voltage & current connectors)	
M765RDS	SE remote display with power supply	
OPTICAL-PROBE	Optical probe with DB9 connector	
OPTICAL-PROBE-USB	Optical probe with USB connector	
ADPT-37XX-7500	Adapter plate to fit meter into a 3710 or 3720 ACM panel cutout	
TERMCVR-7500	Terminal strip cover for the ION7550 or ION7650	
M1UB10A1V-10A	10 A / 1 V AC Universal Technic Clamp On Current Probe	
P32UEP813-1000A	1000 A / 1 V AC Universal Technic Clamp On Current Probe	
P32UEP815-3000A	3000 A / 1 V AC Universal Technic Clamp On Current Probe	
SCT0750-005-5A	5 A / 0.333 V AC Magnelabs Split Core Current Probe	
SCT1250-300-300A	300 A / 0.333 V AC Magnelabs Split Core Current Probe	
	COMMUNICATIONS & GATEWAYS	**57**
	Link150 Ethernet gateway	**59**
EGX150	Link150 Ethernet gateway	
	Com'X200/210/510	**63**
EBX200	Com'X 200 data logger 24 V DC or 230 V AC power supplied	
EBX210	Com'X 210 data logger 24 V DC power supplied UL rated	

Comm. Ref. No.	Description	
EBX510	Com'X 510 energy server 24 V DC power supplied UL rated	
EBXA-USB-WiFi	Com'X Wi-Fi USB interface	
EBXA-GPRS-SIM	Com'X GPRS interface SIM card	
EBXA-GPRS	Com'X GPRS interface	
EBXA-ANT-5M	Com'X External GPRS antenna	
EBXA-USB-Zigbee	Com'X Zigbee USB interface	

Please see your Schneider Electric Representative for complete ordering information.

Catalogue for Panel Builders
PLSED310126EN

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