

# PowerLogic power-monitoring units

## EM4800 series multi-circuit energy meters

Technical data sheet

# 2011



# EM4800 series

## Functions and characteristics

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

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

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

Three meter models offer a choice of CT secondary ratings and installation options:

- PowerLogic EM4805: 5 A, split- or solid-core CTs
- PowerLogic EM4833: 0.333 V, split- or solid-core CTs
- PowerLogic EM4880: 80 mA, solid-core CTs

### Applications

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

### Main characteristics

#### Compact, maintenance-free design

Requires no floor space.

#### Hi-density, flexible connection

From single-pole to single- or three-phase metering -- supports up to 24 circuits. Select the connection type using an intuitive configuration tool.

#### Direct connection

For 100 - 300 V ac L-N electrical distribution systems:  
120/240 V, 120/208 V, 230/240 V, 220/380 V, 240/415 V, 277/480 V

#### Multiple CT types

Support a variety of needs in both new and retrofit installations. 1/3 V output CT option does not require shorting blocks, making it the ideal choice for retrofit installations.

#### No rewiring required

Use existing wiring to connect to existing panels.

#### Integrated communications

Onboard Ethernet and modem allows for easy integration into existing communications networks.

### Part numbers

Model	Description	Part number
EM4805	24 x 5 A inputs, 230/240 V control power, 50 Hz	<b>METSEEM480525</b>
	24 x 5 A inputs, 120 V control power, 60 Hz	<b>METSEEM480516</b>
	24 x 5 A inputs, 230/240 V control power, 60 Hz	<b>METSEEM480526</b>
EM4833	24 x 333 mV inputs, 230/240 V control power, 50 Hz	<b>METSEEM483325</b>
	24 x 333 mV inputs, 120 V control power, 60 Hz	<b>METSEEM483316</b>
	24 x 333 mV inputs, 230/240 V control power, 60 Hz	<b>METSEEM483326</b>
EM4880	24 x 80 mA inputs, 120 V control power, 60 Hz	<b>METSEEM488016</b>
	24 x 80 mA inputs, 230/240 V control power, 60 Hz	<b>METSEEM488026</b>

PE60325



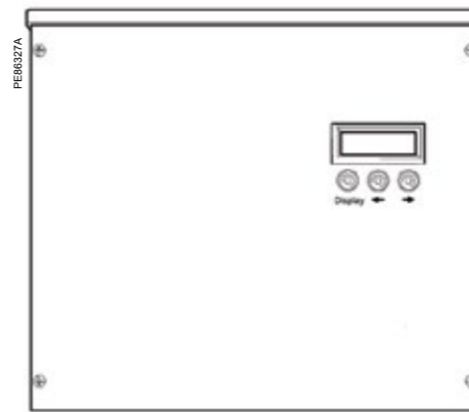
EM4800 series multi-circuit energy meter front (above), installed in panel (below)

PE60326



# EM4800 series

## Functions and characteristics (cont.)



PowerLogic EM4800 series digital panel meter.

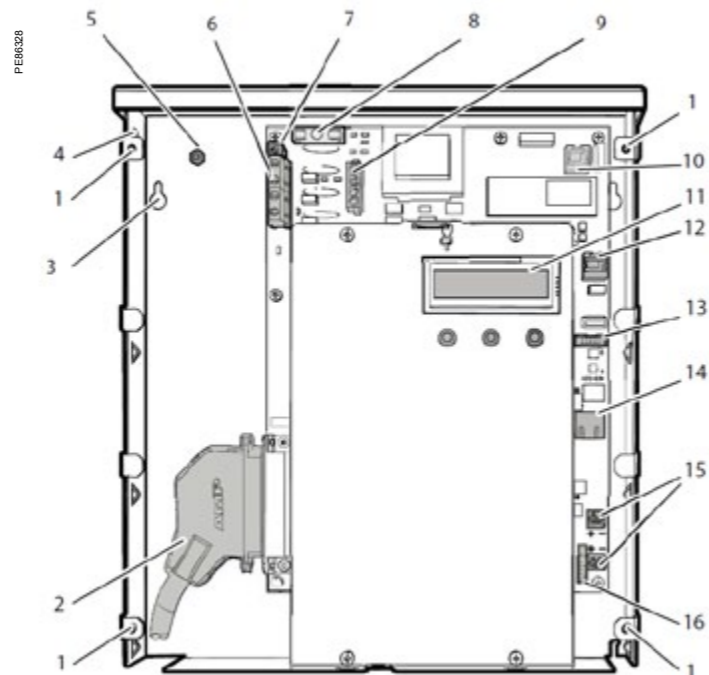
Selection guide		EM4805	EM4833	EM4880
<b>General</b>				
Use on LV systems		■	■	■
Accuracy	+/- 0.5%	■	■	■
Accuracy compliance	ANSI C12.1 and C12.20 Class 0.5; IEC 62053-22, Class 0.5S	■	■	■
Maximum circuits: single-pole / single phase / three-phase	24 / 12 / 8	■	■	■
<b>Instantaneous rms values</b>		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

# EM4800 series

## Functions and characteristics (cont.)

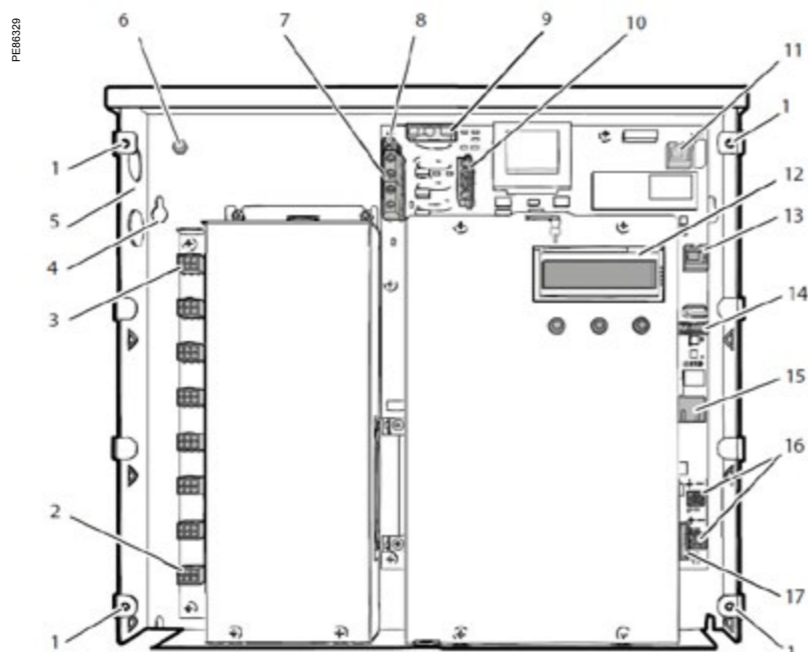
<b>Electrical characteristics</b>		
Input-voltage characteristics	Inputs	V1, V2, V3, Vn
	Measured voltage	80 - 480 V AC L-L without PTs Up to 999 kV with external PTs
	Frequency range	50/60 Hz
<b>Mechanical characteristics</b>		
Weight	EM4805	approx. 5.4 kg
	EM4833 / EM4880	approx. 4.0 kg
Dimensions	EM4805	33.5 cm x 44 cm x 5.5 cm (13.125 in x 17 in x 2.125 in)
	EM4833 / EM4880	33.5 cm x 30.5 cm x 5.5 cm (13.125 in x 12 in x 2.125 in)
<b>Environmental conditions</b>		
Operating temperature		-40°C to +70°C
Storage temperature		-40°C to +70°C
Humidity rating		0% to 90 % RH non-condensing
Enclosure		Type 1 (indoor or enclosed outdoor use)
Altitude		3000 m
Pollution degree		2
<b>Safety and standards</b>		
UL Certified to IEC/EA/CSA 61010-1		
CSA-C22.2 No 61010-1-04		
FCC Part 15 Class B		
ICES-003 EN55022, IEC 6100-4-5		
ANSI/TIA968-A: 2002		
<b>Communication</b>		
Ports		Ethernet
		V.90 modem
Pulse inputs		2
Protocols: Modbus TCP/IP, HTTP, BACnet/IP, FTP, and SNTP		
<b>Display characteristics</b>		
Integrated backlit LCD display		2 ines, 16 digits per line display; R / L arrow buttons select metering point; Display button cycles through measurements per point.

EM4800 series meter internal parts



**EM4833 and EM4880 internal view**

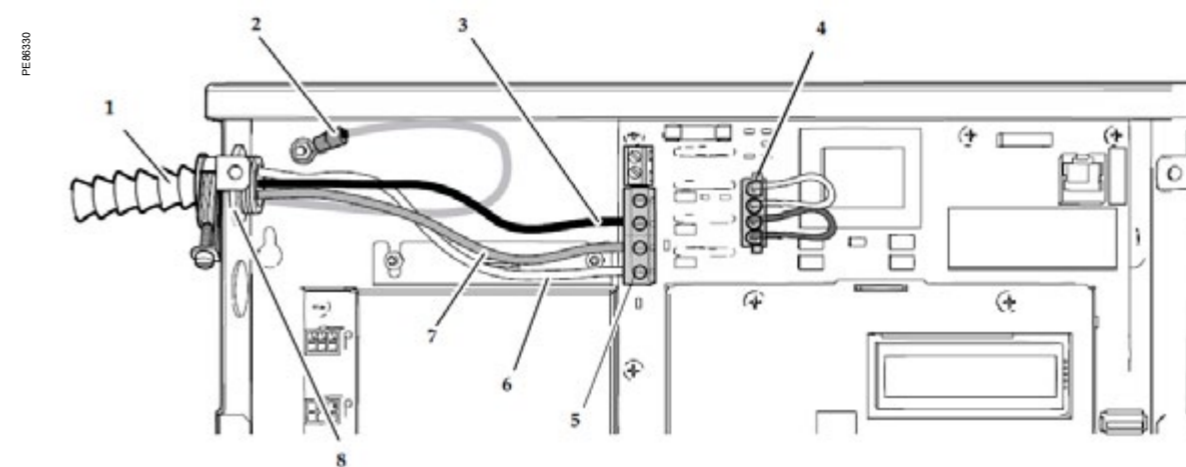
- 1 Cover screw location
- 2 Meter point input connector
- 3 Mounting keyhole
- 4 Ingress punch-outs
- 5 Earth stud
- 6 Sense voltage terminal block
- 7 Control voltage terminal block
- 8 Fuse
- 9 Control voltage jumper
- 10 Modem port
- 11 Display
- 12 Remote display connector
- 13 Serial RS232
- 14 Ethernet port
- 15 Pulse in terminal blocks
- 16 Pulse out connector



**EM4805 internal view**

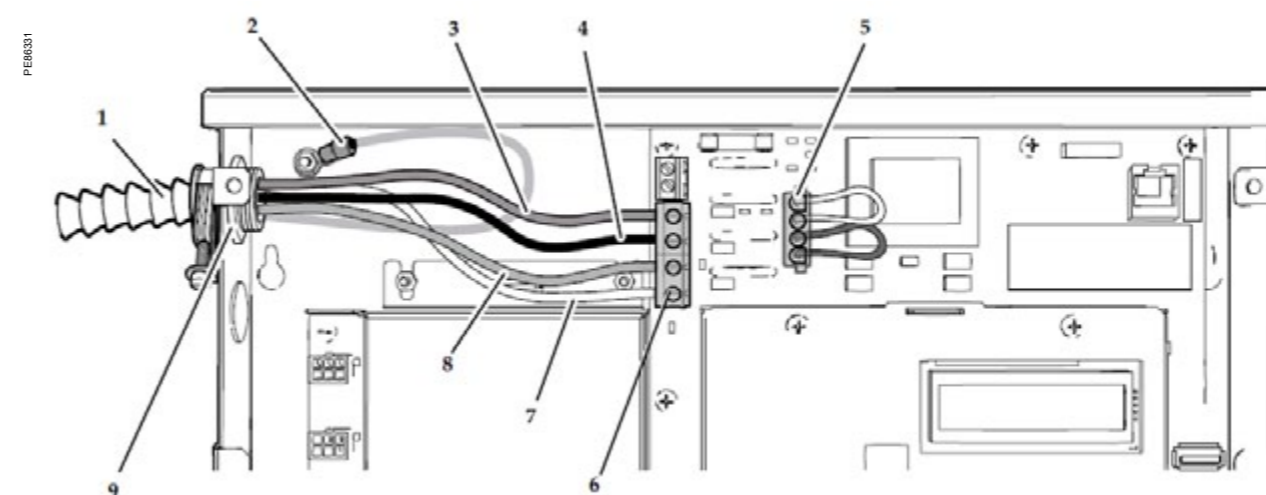
- 1 Cover screw location
- 2 Meter point input (JM8)
- 3 Meter point input (JM1)
- 4 Mounting keyhole
- 5 Ingress punch-outs
- 6 Earth stud
- 7 Sense voltage terminal block
- 8 Control voltage terminal block
- 9 Fuse
- 10 Control voltage jumper
- 11 Modem port
- 12 Display
- 13 Remote display connector
- 14 Serial RS232
- 15 Ethernet port
- 16 Pulse in terminal blocks
- 17 Pulse out connector

EM4800 in a 120/240 V single-phase connection



- 1 BX cable
- 2 Earth
- 3 Phase B (black)
- 4 Shorting jumper
- 5 Sense voltage terminal block (J3)
- 6 Neutral (white)
- 7 Phase A (red)
- 8 1.9 cm (0.75inch) strain relief

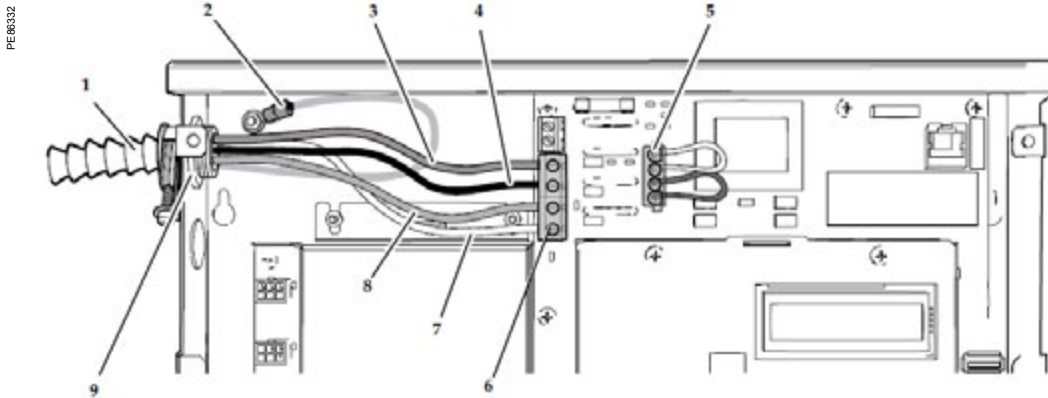
EM4800 in a 120/208 V three-phase wye service connection



- 1 BX cable
- 2 Earth
- 3 Phase C (black)
- 4 Phase B (black)
- 5 Shorting jumper
- 6 Sense voltage terminal block (J3)
- 7 Neutral (white)
- 8 Phase A (red)
- 9 1.9 cm (0.75inch) strain relief

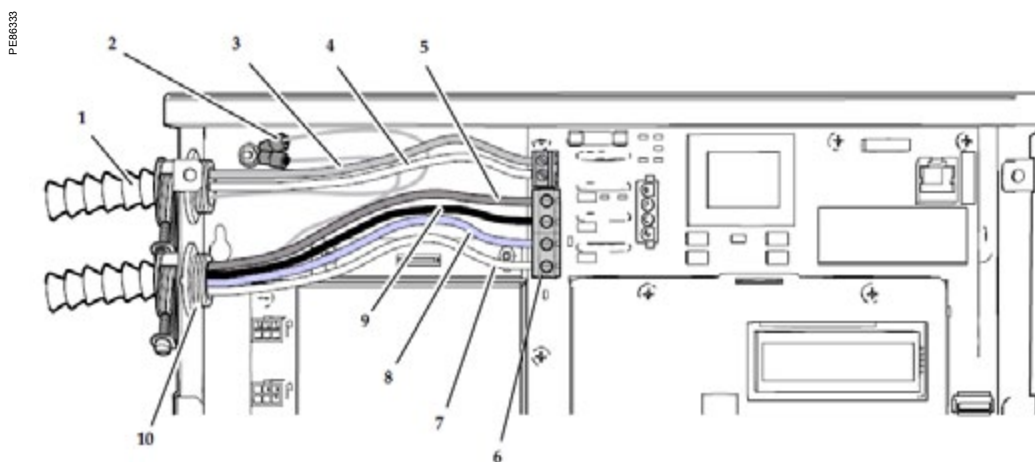
# Multi-circuit energy meters **EM4800 series** Installation and connections cont.

## EM4800 in a 240/416 V three-phase wye service panel



- 1 BX cable
- 2 Earth
- 3 Phase C (bluse)
- 4 Phase B (black)
- 5 Shorting jumper
- 6 Sense voltage terminal block (J3)
- 7 Neutral (white)
- 8 Phase A (red)
- 9 1.9 cm (0.75inch) strain relief

## EM4800 in a 277/480 V three-phase wye service connection



- 1 BX cable
- 2 Earth
- 3 AuxA (red)
- 4 AuxN (white)
- 5 Phase C (blue)
- 6 Sense voltage terminal block (J3)
- 7 Neutral (white)
- 8 Phase A (red)
- 9 Phase B (black)
- 10 1.9 cm (0.75inch) strain relief

**Schneider Electric Industries SAS**

35 Rue Joseph Monier  
CS 30323  
92506 Rueil Malmaison Cedex  
Tel : +33 (0)1 41 29 70 00

<http://www.schneider-electric.com>

PLSED310030EN ART 960558 MAY 2011  
© 2011 - Schneider Electric - All rights reserved

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



Publishing : Schneider Electric  
Production : Schneider Electric  
Printing :