

EEM-MB371-24DC - Measuring device



1127055

<https://www.phoenixcontact.com/us/products/1127055>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Multi-functional energy measuring device without display with 24 V DC supply, with direct Rogowski connection and integrated Modbus/TCP interface for measuring electrical parameters in low-voltage installations up to 690 V ([phoenixcontact.com/empro-help](https://www.phoenixcontact.com/empro-help))

Commercial data

Item number	1127055
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C446
Product key	CK4C21
GTIN	4063151055127
Weight per piece (including packing)	262.5 g
Weight per piece (excluding packing)	262.5 g
Customs tariff number	90303100
Country of origin	DE

EEM-MB371-24DC - Measuring device



1127055

<https://www.phoenixcontact.com/us/products/1127055>

Technical data

Product properties

Product type	Energy measuring device
Product family	EMpro

Data management status

Article revision	07
------------------	----

Electrical properties

Maximum power dissipation for nominal condition	10 VA
Mains type	3-phase (3 or 4-conductor), 2-phase (2-conductor), and single-phase (1-conductor)

Electrical isolation

Test voltage	4 kV AC (50 Hz, 60 s)
Pollution degree	2
Insulation	Reinforced insulation

Electrical isolation Housing against all potentials IEC 61010-1

Standards/regulations	IEC 61010-1
Overvoltage category	III (300 V AC)
	II (600 V AC)
Insulation	Reinforced insulation

Electrical isolation Supply voltage

Insulation	Functional insulation
------------	-----------------------

Electrical isolation Voltage measurement input against all other potentials IEC 61010-2-030

Standards/regulations	IEC 61010-2-030
Measuring category	III (300 V AC)
	II (600 V AC)
Insulation	Reinforced insulation

Electrical isolation Digital I/Os

Insulation	Functional insulation
------------	-----------------------

Electrical isolation Communication interface

Insulation	Functional insulation
------------	-----------------------

Supply

Supply voltage	24 V DC $\pm$ 25 %
Supply voltage range	18 V DC ... 30 V DC
Power consumption	< 4 W

Input data

General

EEM-MB371-24DC - Measuring device



1127055

<https://www.phoenixcontact.com/us/products/1127055>

Measuring principle	True r.m.s. value measurement
Measured value	AC sine (50 Hz/60 Hz)
Acquisition of harmonics	up to 63rd harmonic
Description of the input	Digital input in accordance with IEC/EN 61131-2 (type 3)
Number	1
Voltage input signal	24 V DC 0 V DC ... 30 V DC
Current input signal	2 mA ... 15 mA
Protection	250 mA (fast-blow)
Protective circuit	Protection against incorrect DC connection (max. 30 V)

Measurement: Voltage

Input name	Voltage measuring input V1, V2, V3
Input voltage range direct	35 V AC ... 690 V AC (Phase/Phase) 20 V AC ... 400 V AC (Phase/neutral conductor)
Input voltage range via external transformers	60 V AC ... 2000000 V AC (primary) 60 V AC ... 400 V AC (secondary)
Surge voltage capacity	760 V AC (Phase/Phase)
Precision	0.2 %
Power consumption	< 2 VA

Measurement: Current

Input name	Current measurement RC1, RC2, RC3
Input current	≤ 400 A (Measurement level 1) ≤ 4000 A (Measurement level 2)
Input measuring range voltage	500 µV ... 400 mV (1000 A)
Response threshold from measuring range nominal value	5 A
Operate threshold	500 µV (5 A)
Precision	0.5 %

Measurement: Power

Precision	1 %
Real energy (IEC 62053-21)	Class 1
Reactive power (IEC 62053-23)	Class 2

Output data

Output description	Digital output in accordance with IEC/EN 61131-2 (type 3)
Number	1
Current output signal	≤ 100 mA
Voltage output signal	24 V DC
Protection	250 mA (fast-blow)
Protective circuit	Protection against incorrect DC connection (max. 30 V)

Connection data

Current / voltage / supply

EEM-MB371-24DC - Measuring device



1127055

<https://www.phoenixcontact.com/us/products/1127055>

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm ² ... 6 mm ²
Conductor cross section flexible	0.2 mm ² ... 4 mm ²
Conductor cross section AWG	24 ... 10
Tightening torque	0.5 Nm ... 0.6 Nm

Digital I/O / communication

Connection method	Screw connection
Stripping length	7 mm
Screw thread	M3
Conductor cross section rigid	0.14 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG	26 ... 14
Tightening torque	0.5 Nm ... 0.6 Nm

Interfaces

Data: Network interface

Communication protocol	Modbus/TCP
	REST
Connection method	RJ45

Dimensions

Width	90 mm
Height	80 mm
Depth	64 mm

Material specifications

Color	gray (RAL 7042)
-------	-----------------

Environmental and real-life conditions

Ambient conditions

Degree of protection (Housing)	IP20 (Housing)
Ambient temperature (operation)	-25 °C ... 70 °C
Ambient temperature (storage/transport)	-30 °C ... 80 °C
Altitude	≤ 2000 m
Max. permissible relative humidity (operation)	≤ 95 % (non-condensing)

Approvals

CE

Certificate	CE-compliant
-------------	--------------

UKCA

EEM-MB371-24DC - Measuring device



1127055

<https://www.phoenixcontact.com/us/products/1127055>

Certificate	UKCA-compliant
-------------	----------------

UL, USA/Canada

Identification	UL/C-UL Listed UL 61010-1
----------------	---------------------------

UL data

Operating mode	Indoor use
----------------	------------

Standards and regulations

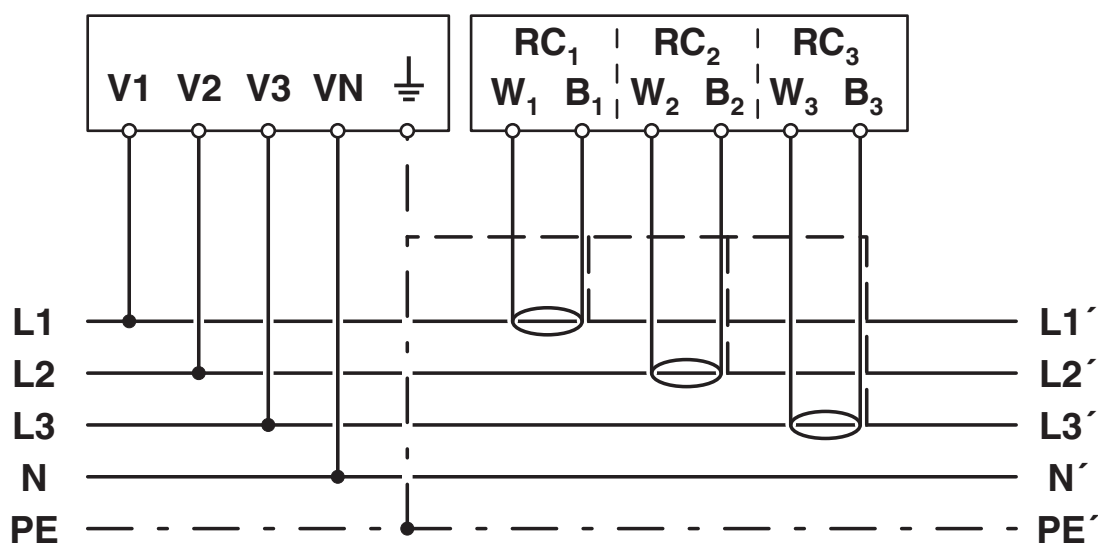
Standards/regulations	IEC 61010-1
	IEC 61326-1
	IEC 61557-12

Mounting

Mounting type	DIN rail mounting
Mounting position	Horizontal DIN rail

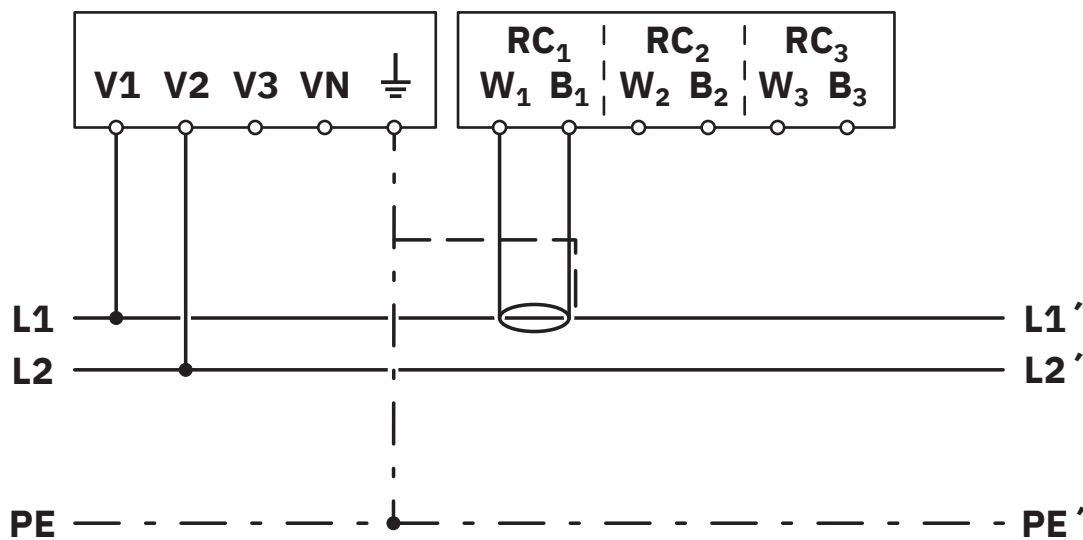
Drawings

Connection diagram



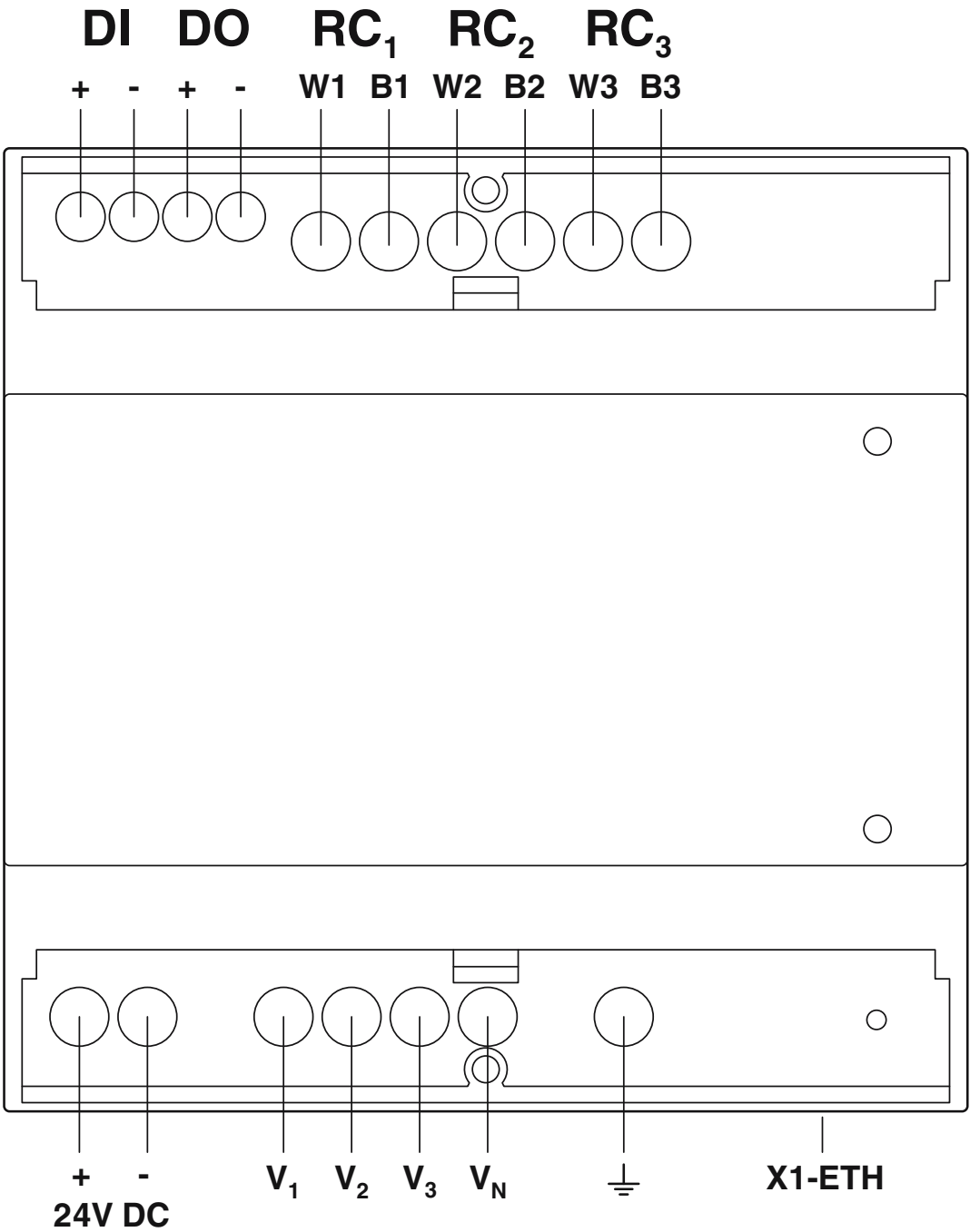
Network type: 3PH-4W-3RC

Connection diagram



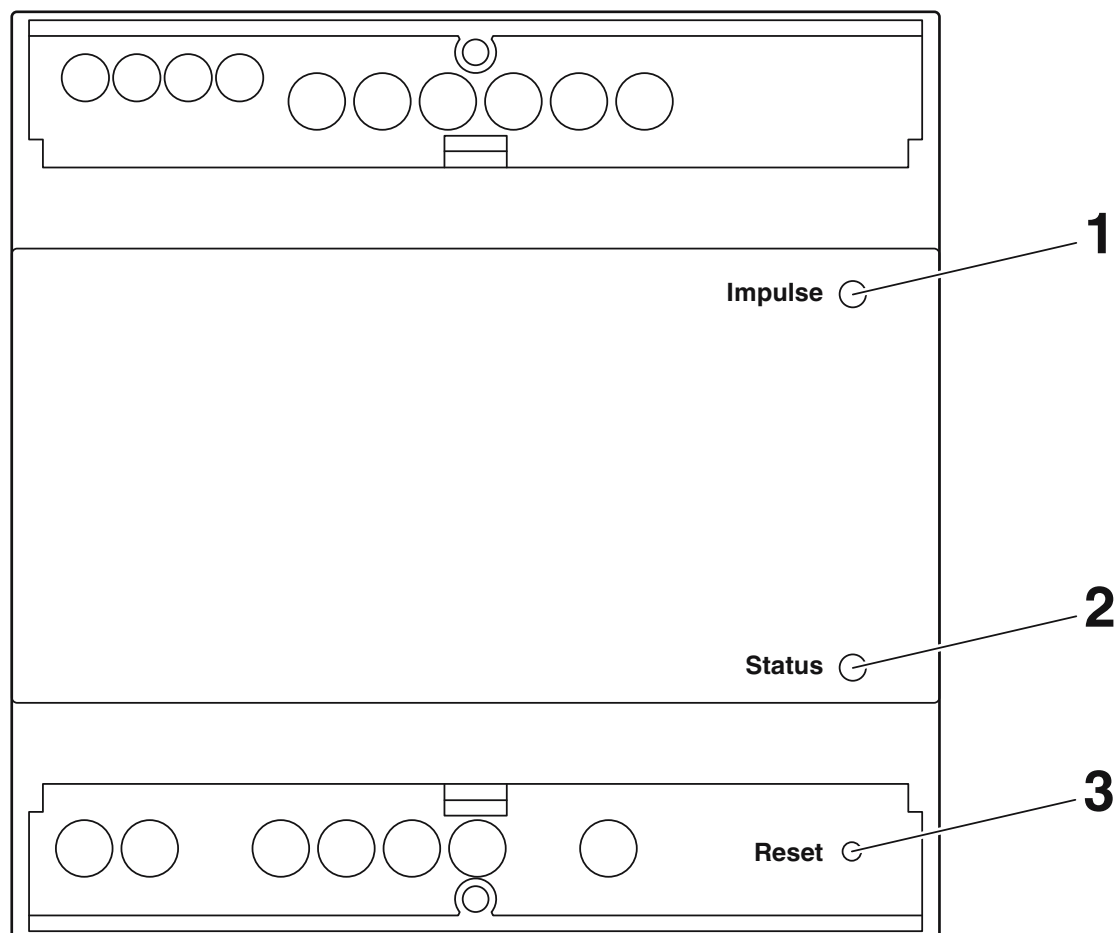
Network type: 2PH-2W-1RC

Connection diagram



Pin assignment

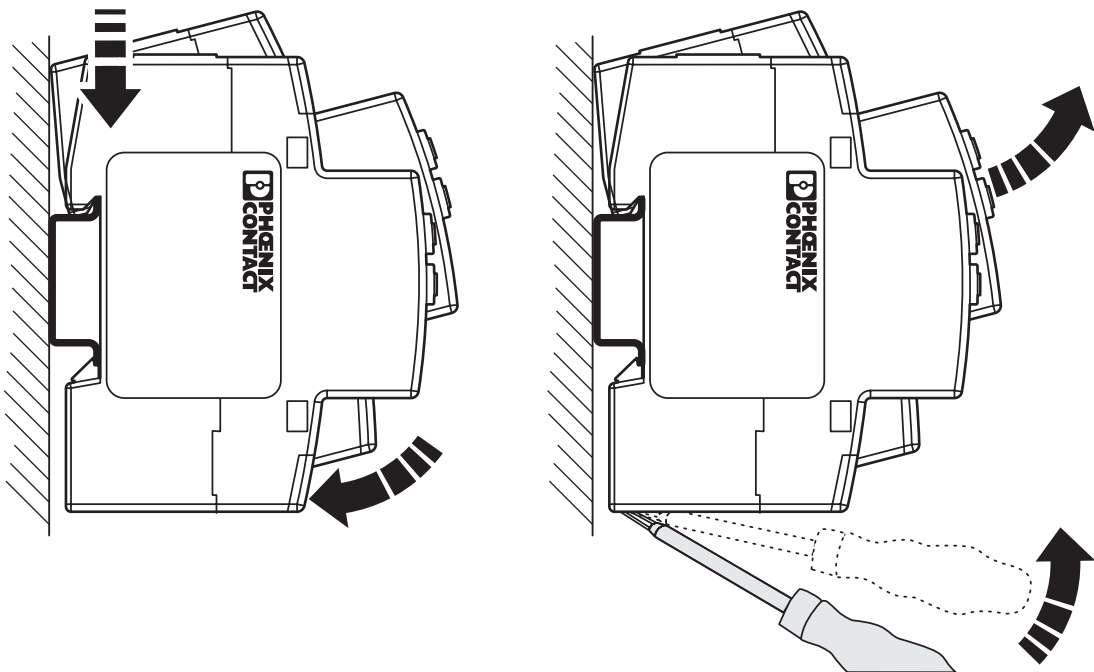
Schematic diagram



Operating and indication elements

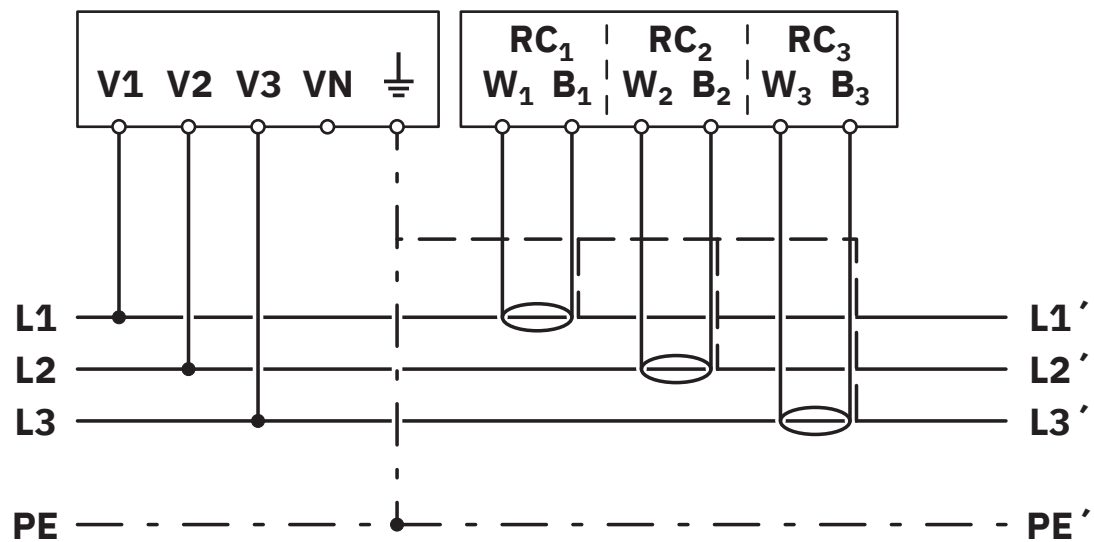
- 1 Reset button
- 2 Status LED
- 3 Pulse LED

Schematic diagram



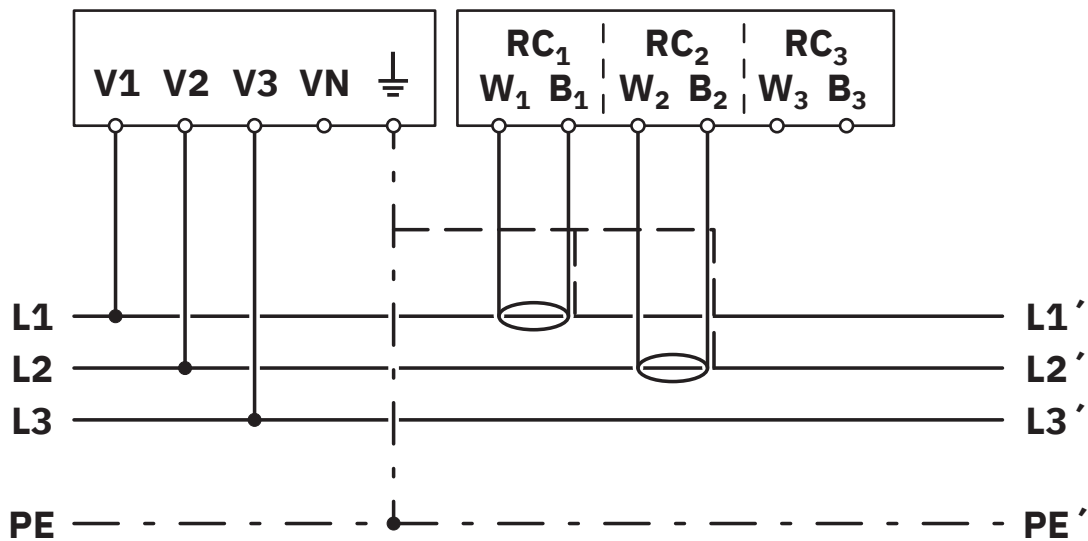
Mounting

Connection diagram



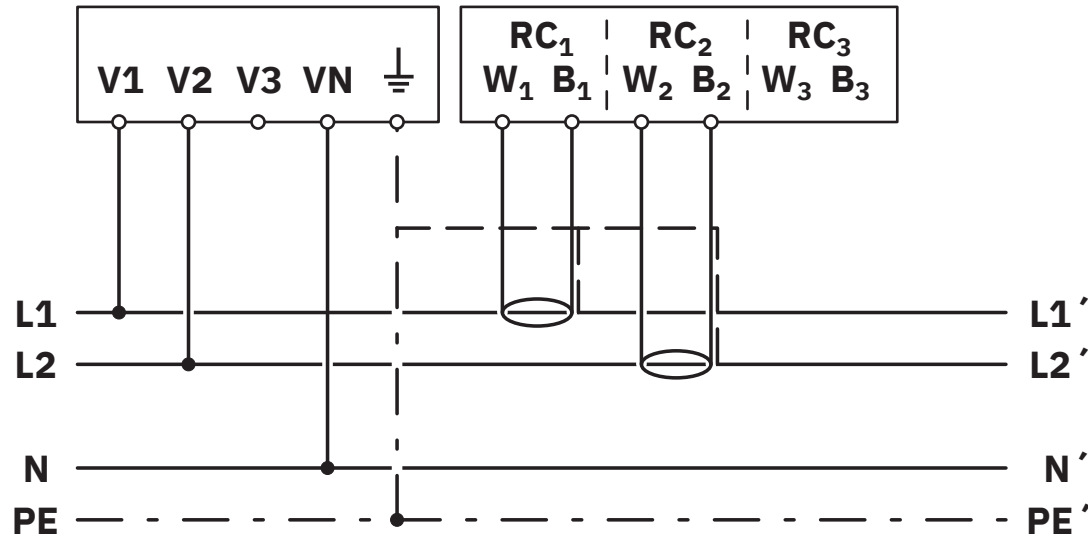
Network type: 3PH-3W-3RC

Connection diagram



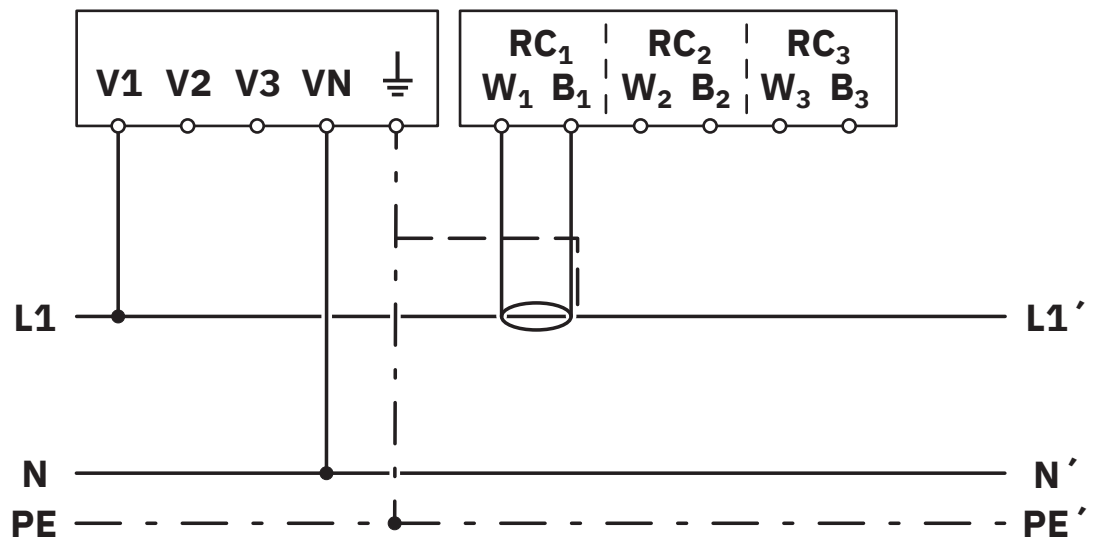
Network type: 3PH-3W-2RC

Connection diagram



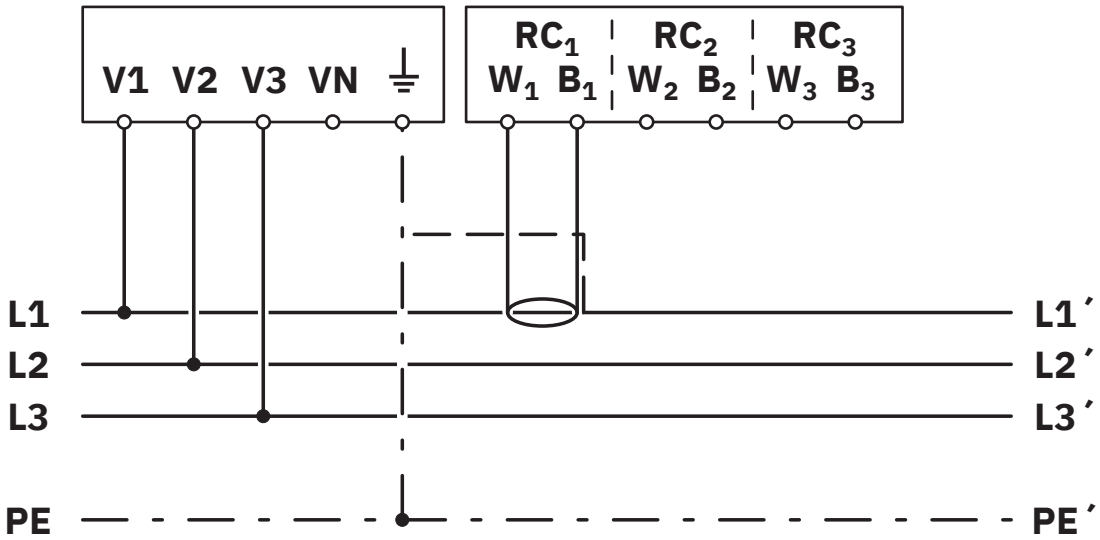
Network type: 2PH-3W-2RC

Connection diagram



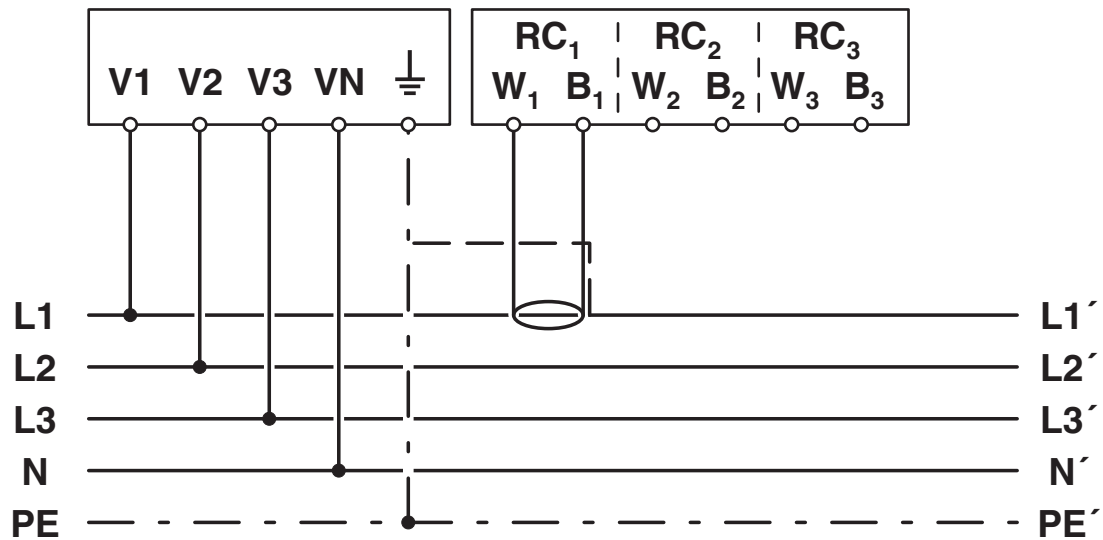
Network type: 1PH-2W-1RC

Connection diagram



Network type: 3PH-3W-1RC

Connection diagram



Network type: 3PH-4W-1RC

EEM-MB371-24DC - Measuring device



1127055

<https://www.phoenixcontact.com/us/products/1127055>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1127055>



UL Listed
Approval ID: E357804



cUL Listed
Approval ID: E357804

cULus Listed

EEM-MB371-24DC - Measuring device



1127055

<https://www.phoenixcontact.com/us/products/1127055>

Classifications

ECLASS

ECLASS-11.0	27142330
ECLASS-13.0	27142330
ECLASS-12.0	27142330

ETIM

ETIM 9.0	EC002301
----------	----------

UNSPSC

UNSPSC 21.0	41113600
-------------	----------

EEM-MB371-24DC - Measuring device



1127055

<https://www.phoenixcontact.com/us/products/1127055>

Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS	
Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC	
REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	744b512c-cb15-44b9-8b32-f087f0503bb3

Phoenix Contact 2024 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com