

# EEM-SB370-C - Measuring device

1158951

<https://www.phoenixcontact.com/in/products/1158951>



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Multi-functional energy measuring device without display, with integrated Ethernet and Proficloud.io interface for measuring electrical parameters in low-voltage installations up to 690 V. ([phoenixcontact.com/emprom-help](https://www.phoenixcontact.com/emprom-help))

## Commercial data

Item number	1158951
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	CK4
Product key	CMMC21
GTIN	4063151166410
Weight per piece (including packing)	336.09 g
Weight per piece (excluding packing)	447 g
Customs tariff number	90303100
Country of origin	DE

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## Technical data

### Product properties

Product type	Energy measuring device
Product family	EMpro

### System properties

IoT capability: PROFICLOUD

IoT platform	PROFICLOUD
Supports cloud computing	yes
Protocol / IP-Port	MQTT / 8883 HTTPS / 443
Smart Services	Device Management Service Time Series Data Service EMMA Service

### 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 against all other potentials IEC 61010-1

Standards/regulations	IEC 61010-1
Overvoltage category	III (300 V AC) II (600 V AC)
Insulation	Reinforced 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 Current measurement input against all other potentials

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Insulation	Functional insulation
Electrical isolation Digital I/Os	
Insulation	Functional insulation
Electrical isolation Communication interface	
Insulation	Functional insulation
Supply	
Supply voltage range	100 V AC ... 230 V AC ( $\pm 20\%$ )
	150 V DC ... 250 V DC ( $\pm 20\%$ )
Power consumption	$\leq 4\text{ W}$
Nominal frequency	50 Hz ... 60 Hz (AC sine)

## Input data

### General

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	$< 2\text{ VA}$

### Measurement: Current

Input name	Current measurement I1, I2, I3
Input current	1 A (secondary)
	5 A (secondary)
Measuring range	1 A ... 20000 A (primary)
Overload capacity	6 A ( $I_{\max}$ )
Response threshold from measuring range nominal value	10 mA (1 A)
	50 mA (5 A)
Precision	0.2 %

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Current overload	50 A for 1 s
	20 A (4 x I <sub>N</sub> , continuous)
Power consumption	< 0.5 VA

## Measurement: Power

Precision	0.5 %
Active energy (IEC 62053-22)	Class 0.5 S
Reactive power (IEC 62053-23)	Class 2
ANSI C12.20	Class 0.5 S

## 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

Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 6 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
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 <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
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

### Data: Network interface

Communication protocol	MQTT for Proficloud.io
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Connection method	RJ45
Number of connections	2

## Dimensions

Width	90 mm
Height	80 mm
Depth	82 mm

## Material specifications

Color	gray (RAL 7042)
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection (Housing)	IP20 (Housing)
Ambient temperature (operation)	-10 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Altitude	≤ 2000 m
Max. permissible relative humidity (operation)	≤ 95 % (non-condensing)

## Approvals

### CE

Certificate	CE-compliant
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### UKCA

Certificate	UKCA-compliant
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### UL, USA/Canada

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

Operating mode	Indoor use
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## Standards and regulations

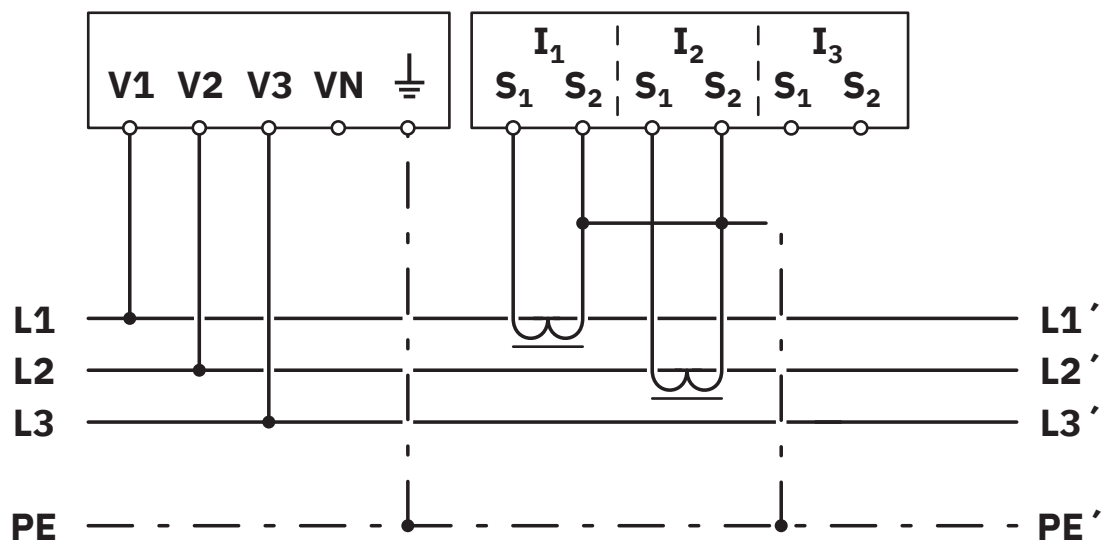
Standards/regulations	IEC 61010-1
	IEC 61326-1
	IEC 61557-12

## Mounting

Mounting type	DIN rail mounting
Mounting position	Horizontal DIN rail

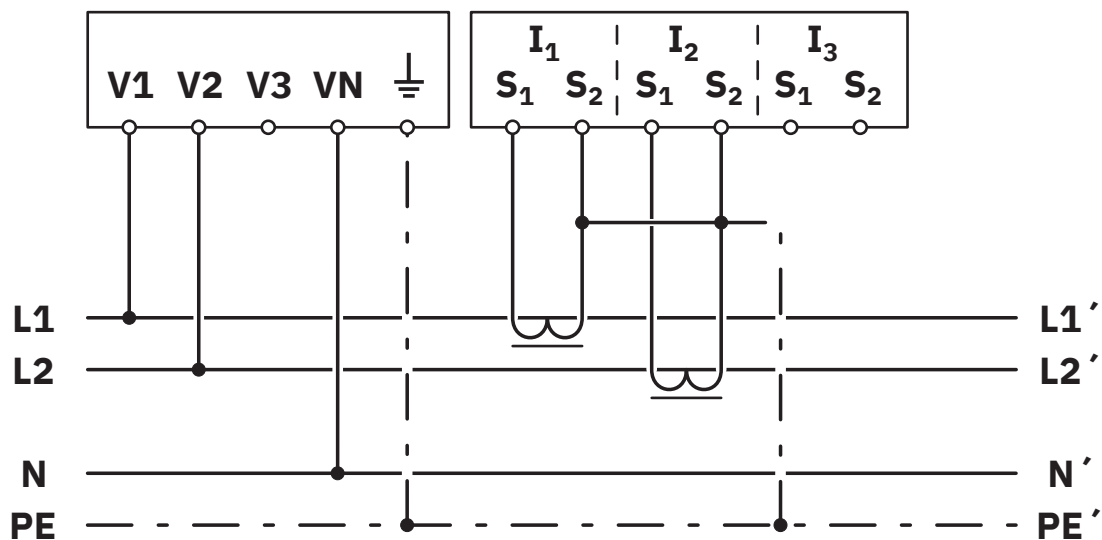
## Drawings

Connection diagram



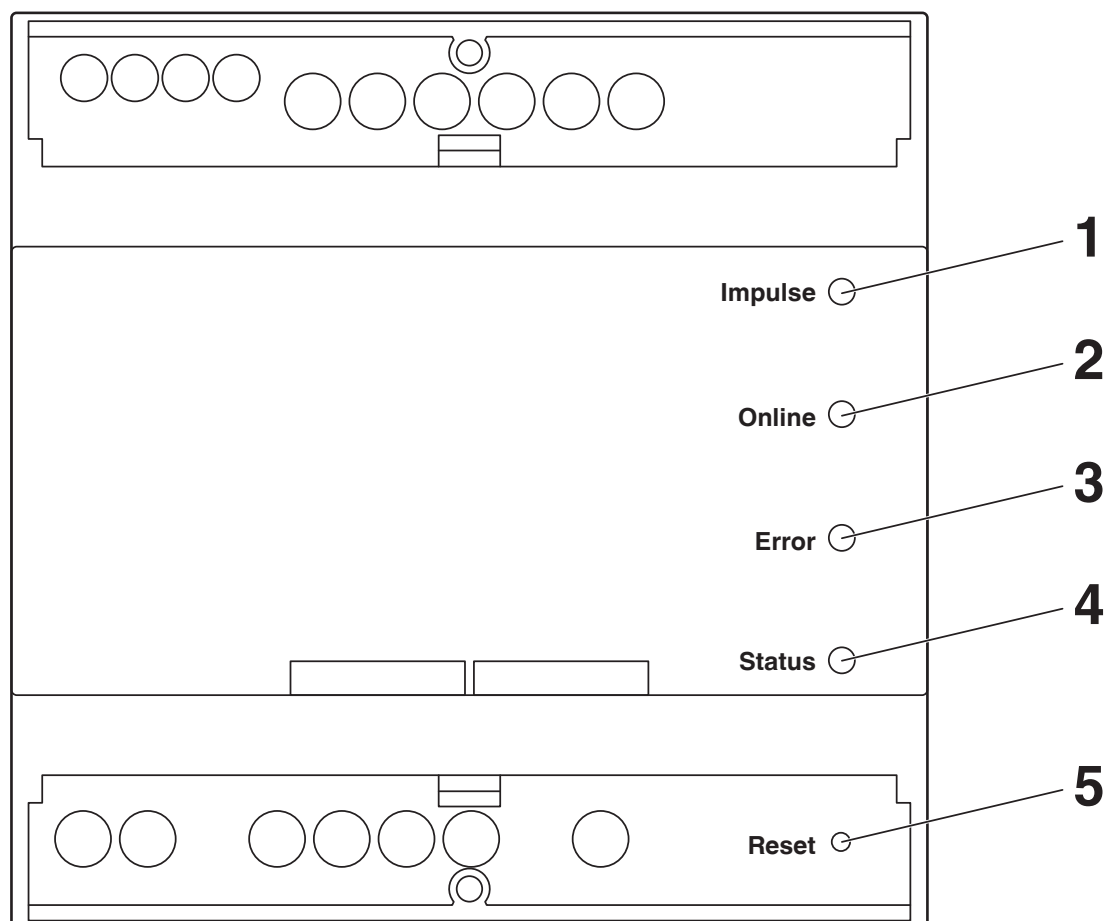
Network type: 3PH-3W-2CT

Connection diagram



Network type: 2PH-3W-2CT

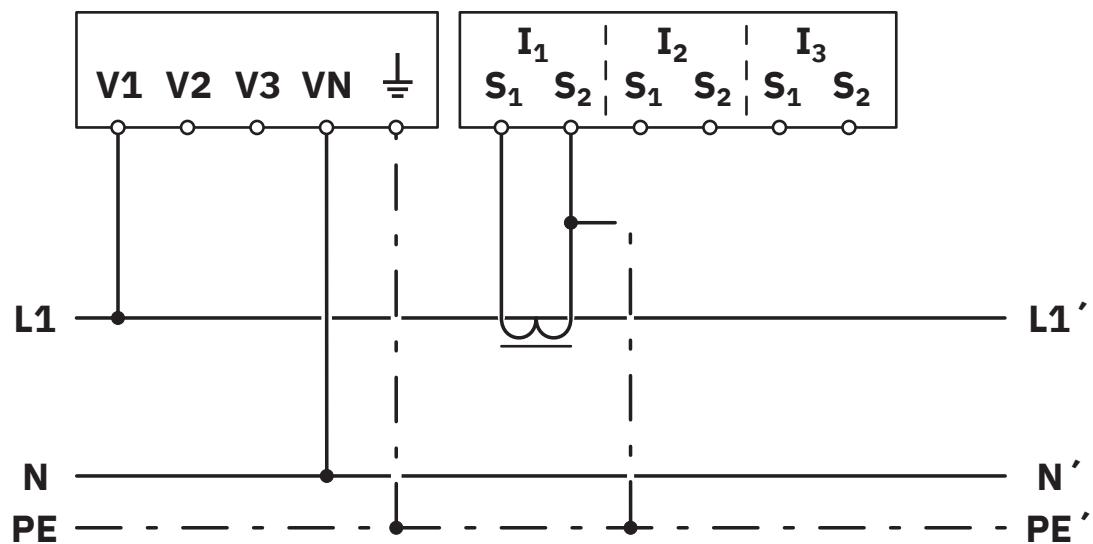
Schematic diagram



## Operating and indication elements

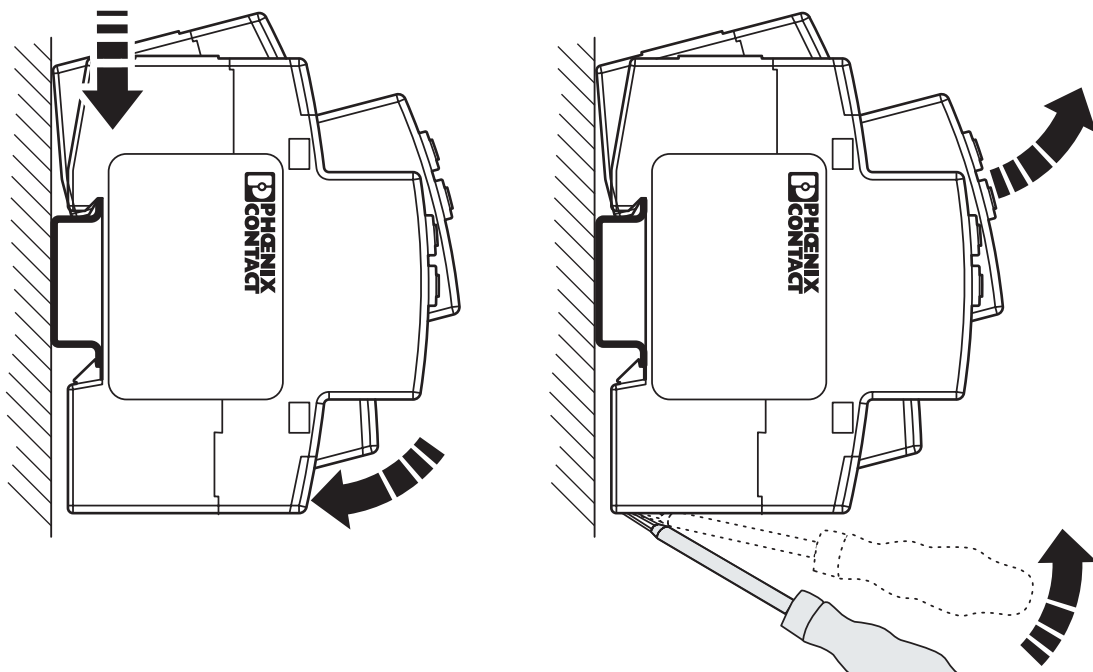
- 1 Reset button
- 2 Online LED
- 3 Error LED
- 4 Status LED
- 5 Reset button

Connection diagram



Network type: 1PH-2W-1CT

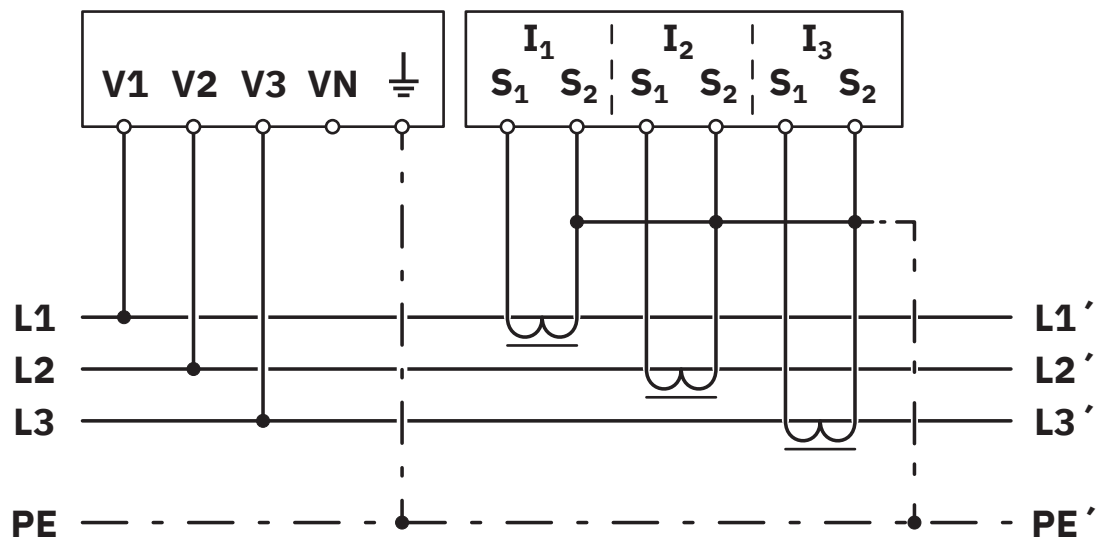
Schematic diagram



Mounting

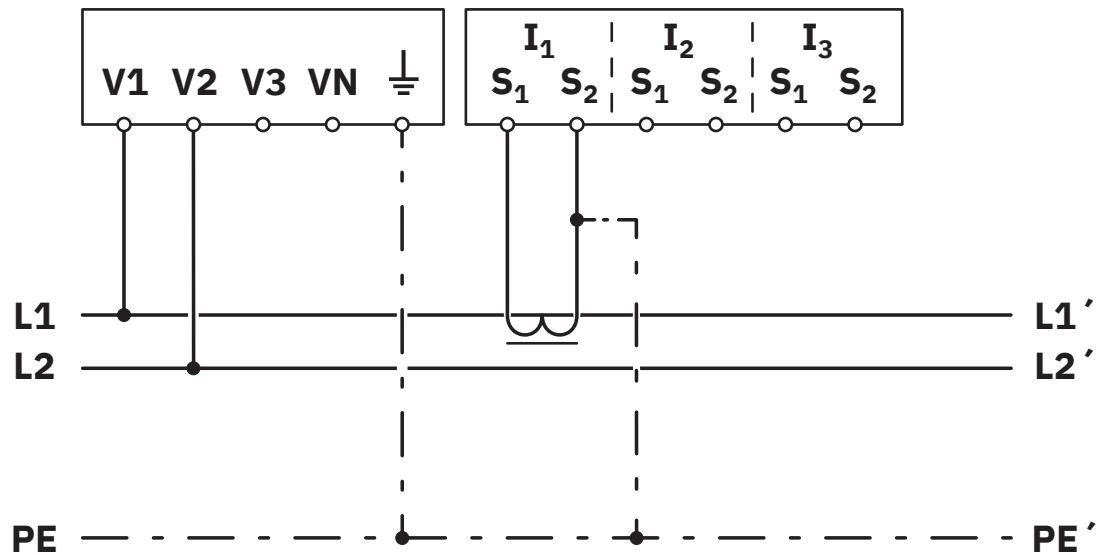


Connection diagram



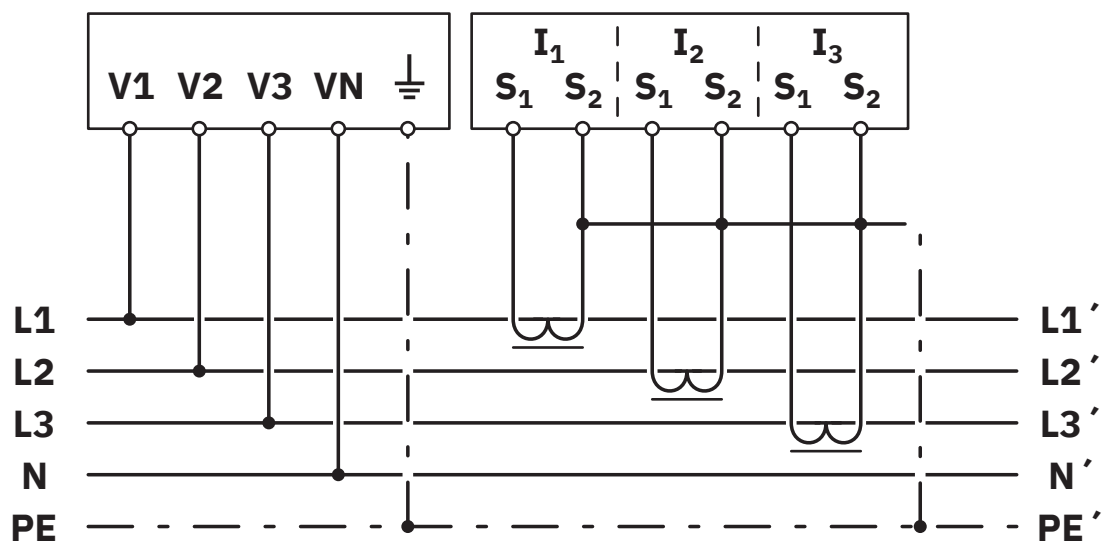
Network type: 3PH-3W-3CT

Connection diagram



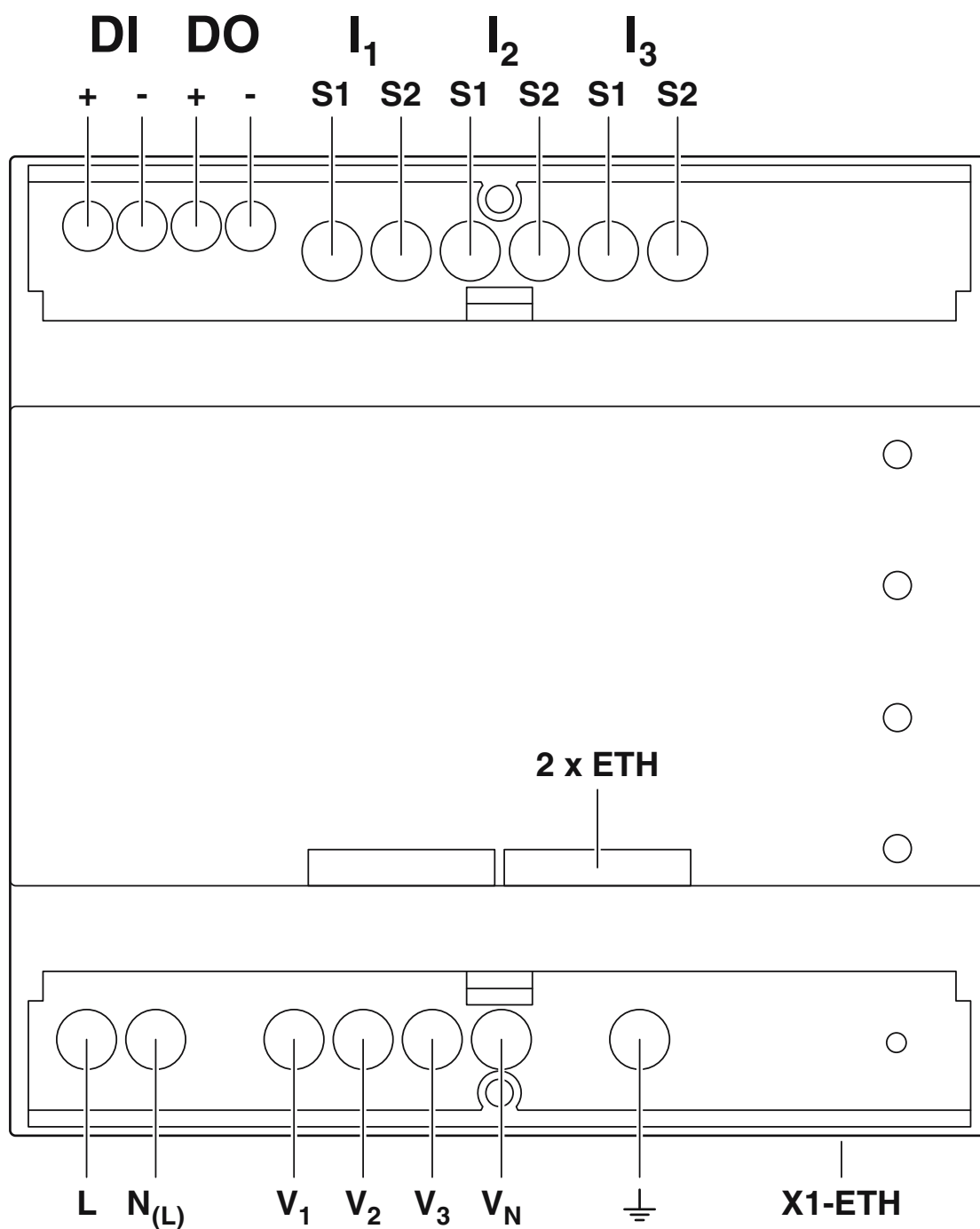
Network type: 2PH-2W-1CT

Connection diagram



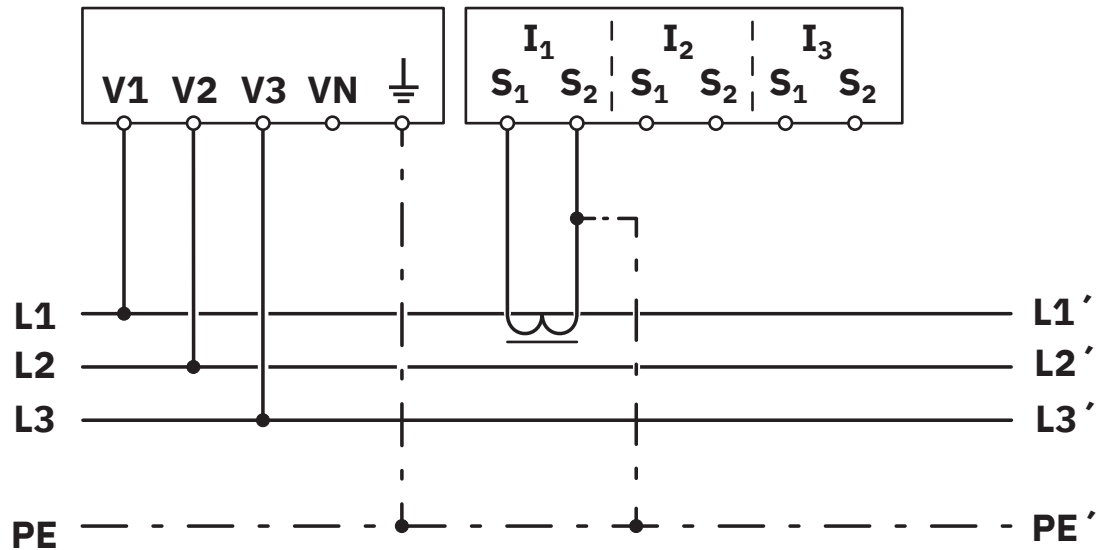
Network type: 3PH-4W-3CT

Connection diagram



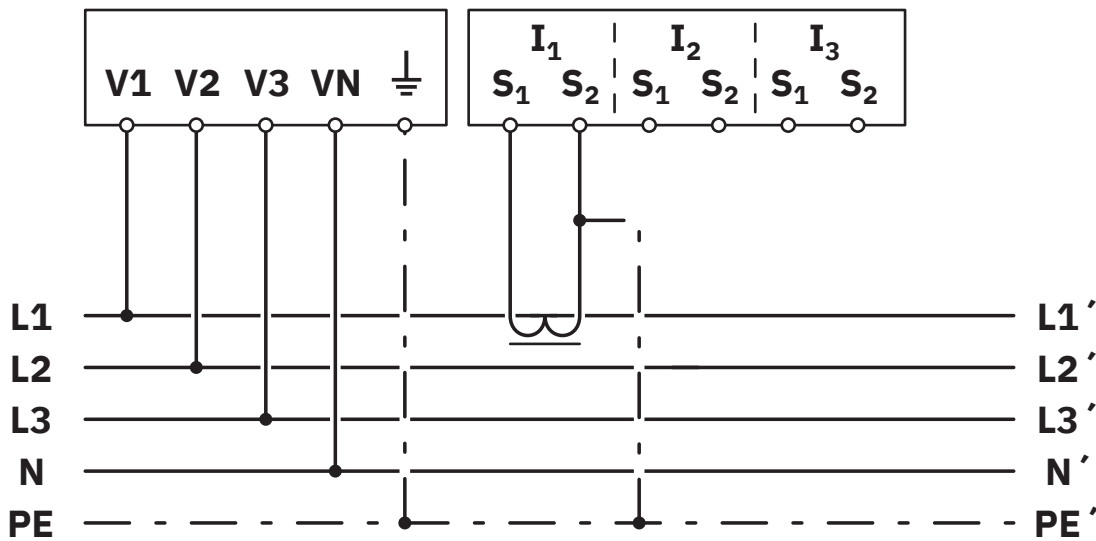
Pin assignment

Connection diagram



Network type: 3PH-3W-1CT

Connection diagram



Network type: 3PH-4W-1CT

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## Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/in/products/1158951>



**UL Listed**  
Approval ID: E357804



**cUL Listed**  
Approval ID: E357804



**cULus Listed**  
Approval ID: E357804

**cULus Listed**

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## Classifications

### ECLASS

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

### ETIM

ETIM 9.0	EC002301
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### UNSPSC

UNSPSC 21.0	41113600
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## 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	90eee90a-403a-491d-a689-815f4d7b22cc

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## Accessories

### PACT MCR-V1-21-44 - Current transformer

2277268

<https://www.phoenixcontact.com/in/products/2277268>



Bus-bar current transformer, primary current can be selected between 50...500 A AC; secondary current can be selected as 1 A AC or 5 A AC; accuracy class can be selected as 0.5 or 1; rated power can be selected

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### PACT MCR-V2- 3015- 60 - Current transformer

2277271

<https://www.phoenixcontact.com/in/products/2277271>



Window-type current transformer, primary current can be selected between 50...750 A AC; secondary current can be selected as 1 A AC or 5 A AC; accuracy class can be selected as 0.5 or 1; rated power can be selected



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## PACT MCR-V2-3015-60-PT - Current transformer

2907413

<https://www.phoenixcontact.com/in/products/2907413>



Window-type current transformer with screw and Push-in connection technology, conductor connection for Push-in: from directly above, no tools required. The following can be selected: primary current (50 ... 750) A AC, secondary current (1 or 5) A AC, accuracy class 0.5 or 1, VA power

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## PACT MCR-V2- 4012- 70 - Current transformer

2277284

<https://www.phoenixcontact.com/in/products/2277284>



Window-type current transformer, primary current can be selected between 75... 1000 A AC; secondary current can be selected as 1 A AC or 5 A AC; accuracy class can be selected as 0.5 or 1; rated power can be selected

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## PACT MCR-V2-4012-70-PT - Current transformer

2907414

<https://www.phoenixcontact.com/in/products/2907414>



Window-type current transformer with screw and Push-in connection technology, conductor connection for Push-in: from directly above, no tools required. The following can be selected: primary current (100 ... 1000) A AC, secondary current (1 or 5) A AC, accuracy class 0.5 or 1, VA power

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## PACT MCR-V2- 5012- 85 - Current transformer

2277297

<https://www.phoenixcontact.com/in/products/2277297>



Window-type current transformer, primary current can be selected between 100..1500 A AC; secondary current can be selected as 1 A AC or 5 A AC; accuracy class can be selected as 0.5 or 1; rated power can be selected

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## PACT MCR-V2-5012-85-PT - Current transformer

2907416

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Window-type current transformer with screw and Push-in connection technology, conductor connection for Push-in: from directly above, no tools required. The following can be selected: primary current (100 ... 1500) A AC, secondary current (1 or 5) A AC, accuracy class 0.5 or 1, VA power

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## PACT MCR-V2- 6015- 85 - Current transformer

2277336

<https://www.phoenixcontact.com/in/products/2277336>



Window-type current transformer, primary current can be selected between 200 . . . 1,250 A AC; secondary current can be selected as 1 A AC or 5 A AC; accuracy class can be selected as 0.5 or 1; rated power can be selected

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## PACT MCR-V2-6015-85-PT - Current transformer

2907417

<https://www.phoenixcontact.com/in/products/2907417>



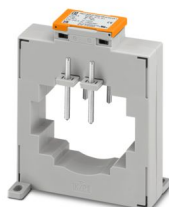
Window-type current transformer with screw and Push-in connection technology, conductor connection for Push-in: from directly above, no tools required. The following can be selected: primary current (200 ... 1600) A AC, secondary current (1 or 5) A AC, accuracy class 0.5 or 1, VA power

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## PACT MCR-V2-10020-129 - Current transformer

2277378

<https://www.phoenixcontact.com/in/products/2277378>



Window-type current transformer, primary current can be selected between 800 and 4,000 A AC, secondary current can be selected 1 A AC or 5 A AC, accuracy class can be selected 0.5 or 1, rated power can be selected

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## PACT MCR-V3-60 - Current transformer

2277417

<https://www.phoenixcontact.com/in/products/2277417>



Winding current transformer, primary current can be selected between 1...40 A AC; secondary current can be selected as 1 A AC or 5 A AC; accuracy class can be selected as 0.5 or 1; rated power can be selected

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