

EEM-MA771-24DC - Measuring instrument



1127060

<https://www.phoenixcontact.com/us/products/1127060>

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Multi-functional energy measuring device with 24 V DC supply, 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	1127060
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C446
Product key	CK4C21
GTIN	4063151054779
Weight per piece (including packing)	492.7 g
Weight per piece (excluding packing)	470 g
Customs tariff number	90303100
Country of origin	DE

Technical data

Product properties

Product type	Energy measuring device
Product family	EMpro

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

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
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Electrical isolation Voltage measurement input against all other potentials IEC 61010-1

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

Electrical isolation Digital I/Os

Insulation	Functional insulation
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Electrical isolation Communication interface

Insulation	Functional insulation
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Supply

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

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

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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)

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)

Connection data

Current / voltage / supply

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

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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	96 mm
Height	96 mm
Depth	58 mm

Material specifications

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

Ambient conditions

Degree of protection (Housing)	IP20 (Housing)
Degree of protection (Display)	IP54 (Display (+ EEM-MA-IP))
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
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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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UL data

Operating mode	Indoor use
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Mounting

Mounting type	Panel mount
Mounting position	Front panel installation, horizontal

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Classifications

ECLASS

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

ETIM

ETIM 9.0	EC002301
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UNSPSC

UNSPSC 21.0	41113600
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Environmental product compliance

REACH SVHC

Lead 7439-92-1

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