

EEM-MA771-EIP - Measuring instrument



2908302

<https://www.phoenixcontact.com/us/products/2908302>

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.



Multifunctional energy measuring device with direct Rogowski connection and integrated Modbus/TCP and EtherNet/IP™ 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	2908302
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	C446
Product key	CK4C21
Catalog page	Page 202 (C-5-2019)
GTIN	4055626369051
Weight per piece (including packing)	549.6 g
Weight per piece (excluding packing)	544 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 IEC 61010-1

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

Electrical isolation IEC 61010-1

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

Electrical isolation 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
------------	-----------------------

Electrical isolation Communication interface

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

Supply

Supply voltage range	100 V AC ... 400 V AC (±20 %) 150 V DC ... 250 V DC (±20 %)
Power consumption	≤ 4 W
Nominal frequency	50 Hz ... 60 Hz (AC sine)

Input data

General

Measuring principle	True r.m.s. value measurement
Measured value	AC sine (50/60 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)

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

2908302

<https://www.phoenixcontact.com/us/products/2908302>

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

Data: Network interface

Communication protocol	EtherNet/IP™
Connection method	RJ45
Number of connections	2
Note	DLR ready

Dimensions

Width	96 mm
Height	96 mm
Depth	75 mm

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

Approvals

EEM-MA771-EIP - Measuring instrument



2908302

<https://www.phoenixcontact.com/us/products/2908302>

CE

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

UKCA

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

UL, USA/Canada

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

UL data

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

UL data

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

Mounting

Mounting type	Panel mount
Mounting position	Front panel installation, horizontal

EEM-MA771-EIP - Measuring instrument



2908302

<https://www.phoenixcontact.com/us/products/2908302>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2908302>



EAC

Approval ID: RU*DE*08.B.00734/19



UL Listed

Approval ID: FILE E 357804



cUL Listed

Approval ID: FILE E 357804

cULus Listed

EEM-MA771-EIP - Measuring instrument



2908302

<https://www.phoenixcontact.com/us/products/2908302>

Classifications

ECLASS

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

ETIM

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

UNSPSC

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

EEM-MA771-EIP - Measuring instrument



2908302

<https://www.phoenixcontact.com/us/products/2908302>

Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

EEM-MA771-EIP - Measuring instrument



2908302

<https://www.phoenixcontact.com/us/products/2908302>

Accessories

EEM-MKT-DRA - DIN rail adapter

2902078

<https://www.phoenixcontact.com/us/products/2902078>



DIN rail adapter for EEM-MA770-X and EEM-MA771-X series energy measuring devices

PACT RCP-D95 - Coil

2904890

<https://www.phoenixcontact.com/us/products/2904890>



300 mm long Rogowski coil. The measuring coil diameter when installed is 95 mm. The Rogowski coil is used for AC current measurement for busbars and power lines.

EEM-MA771-EIP - Measuring instrument



2908302

<https://www.phoenixcontact.com/us/products/2908302>

PACT RCP-D140 - Coil

2904891

<https://www.phoenixcontact.com/us/products/2904891>

450 mm long Rogowski coil. The measuring coil diameter when installed is 140 mm. The Rogowski coil is used for AC current measurement for busbars and power lines.



PACT RCP-D190 - Coil

2904892

<https://www.phoenixcontact.com/us/products/2904892>

600 mm long Rogowski coil. The measuring coil diameter when installed is 190 mm. The Rogowski coil is used for AC current measurement for busbars and power lines.



EEM-MA771-EIP - Measuring instrument



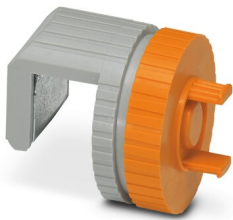
2908302

<https://www.phoenixcontact.com/us/products/2908302>

PACT RCP-CLAMP - Holder

2904895

<https://www.phoenixcontact.com/us/products/2904895>



The optional holding device ensures the Rogowski coil is securely seated on busbars with a thickness of 10 ... 15 mm. During installation, the coil housing is pushed onto the flange of the holding device and snaps in automatically.

PACT RCP-D95-5M - Coil

2910322

<https://www.phoenixcontact.com/us/products/2910322>



300 mm long Rogowski coil. The measuring coil diameter when installed is 95 mm. The Rogowski coil is used for AC current measurement for busbars and power lines.

EEM-MA771-EIP - Measuring instrument



2908302

<https://www.phoenixcontact.com/us/products/2908302>

PACT RCP-D95-10M - Coil

2910323

<https://www.phoenixcontact.com/us/products/2910323>

300 mm long Rogowski coil. The measuring coil diameter when installed is 95 mm. The Rogowski coil is used for AC current measurement for busbars and power lines.



PACT RCP-D190-10M - Coil

2910324

<https://www.phoenixcontact.com/us/products/2910324>

600 mm long Rogowski coil. The measuring coil diameter when installed is 190 mm. The Rogowski coil is used for AC current measurement for busbars and power lines.



Phoenix Contact 2023 © - 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