

# Measuring instrument - EEM-MA771-R - 2908285

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Multi-functional energy measuring device with direct Rogowski connection and integrated Modbus RTU/TCP interface for measuring electrical parameters in low-voltage installations up to 690 V.



## Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4055626471952

## Technical data

### Dimensions

Width	96 mm
Height	96 mm
Depth	58 mm

### Ambient conditions

Ambient temperature (operation)	-10 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Maximum altitude	≤ 2000 m
Max. permissible relative humidity (operation)	≤ 95 % (non-condensing)
Degree of protection	IP54 (Display (+ EEM-MA-IP))
	IP20 (Housing)

### Input data

Measuring principle	True r.m.s. value measurement
Acquisition of harmonics	up to 63rd harmonic
Measured value	AC sine (50/60 Hz)
Input name	Voltage measuring input V1, V2, V3
Input voltage range	35 V AC ... 690 V AC (Phase/Phase)
	20 V AC ... 400 V AC (Phase/neutral conductor)

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## Technical data

### Input data

	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 %
Input name	Current measurement RC1, RC2, RC3
Input current	4000 A
Response threshold from measuring range nominal value	5 A
Precision	< 1 %
	1 %
Reactive power (IEC 62053-23)	Class 2
Description of the input	Digital input in accordance with IEC/EN 61131-2 (type 3)
Number	1
Voltage input signal	0 V DC ... 30 V DC
Current input signal	2 mA ... 15 mA

### Output data

Output description	Digital output in accordance with IEC/EN 61131-2 (type 3)
Number	1
Current output signal	≤ 100 mA

### Device interface

Designation	Network interface
Communication protocol	Modbus/TCP
	REST
Connection method	RJ45
Designation	Network interface
Communication protocol	Modbus/RTU
Communication standard	RS-485
Connection method	Screw connection
Transmission speed range	2.4 kbps ... 115.2 kbps
Resistance	120 Ω (integrated)

### General

Display	LCD display, two-color backlit
Supply voltage range	100 V AC ... 400 V AC (±20 %)
	150 V DC ... 250 V DC (±20 %)
Power consumption	≤ 4 W
Mains type	3-phase (3 or 4-wire), 2-phase (2-wire), and single-phase (1-wire)
Color	gray
Conformance	CE-compliant
Test voltage	4 kV AC (50 Hz, 1 min.)
Product family	EMpro

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## Technical data

### Connection data

Connection name	Current / voltage / supply
Connection method	Screw connection
Stripping length	8 mm
Screw thread	M3
Conductor cross section solid	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
Torque	0.5 Nm ... 0.6 Nm

### Connection data 2

Connection name	Digital I/O / communication
Connection method	Screw connection
Stripping length	7 mm
Screw thread	M3
Conductor cross section solid	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
Torque	0.5 Nm ... 0.6 Nm

### Connection data 3

Connection name	RS-485
Connection method	Screw connection
Stripping length	7 mm
Screw thread	M3
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12
Torque	0.5 Nm ... 0.6 Nm

### UL data

Operating mode	Indoor use
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### Standards and Regulations

Conformance	CE-compliant
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### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

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## Classifications

### eCl@ss

eCl@ss 10.0.1	27142330
eCl@ss 8.0	27142330
eCl@ss 9.0	27142330

### ETIM

ETIM 5.0	EC002301
ETIM 6.0	EC002301
ETIM 7.0	EC002301

## Approvals


### Approvals

#### Approvals


EAC / UL Listed / cUL Listed / cULus Listed

#### Ex Approvals

### Approval details

EAC		RU*DE*08.B.00734/19
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UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 357804
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cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 357804
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cULus Listed			
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## Accessories

### Accessories

Assembly adapter

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### Accessories

DIN rail adapter - EEM-MKT-DRA - 2902078



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

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### Mounting material

Holder - PACT RCP-CLAMP - 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.

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### Rogowski coil

Coil - PACT RCP-D95 - 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.

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Coil - PACT RCP-D140 - 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.

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Coil - PACT RCP-D190 - 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.

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## Measuring instrument - EEM-MA771-R - 2908285

### Accessories

#### Coil - PACT RCP-D95-5M - 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.



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#### Coil - PACT RCP-D95-10M - 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.



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#### Coil - PACT RCP-D190-10M - 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.



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