

# Measuring instrument - EEM-MA770-R - 2907944


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Multi-functional energy measuring device with 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	 4 055626 261089
GTIN	4055626261089
Weight per Piece (excluding packing)	555.000 g
Custom tariff number	90303100
Country of origin	Germany

## 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	IP52 (Display)
	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)

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## Technical data

### Input data

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)
	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 I1, I2, I3
Input current	1 A (secondary)
	5 A (secondary)
Current measuring range	1 A ... 20000 A (primary)
Overload capacity	6 A ( $I_{max}$ )
Response threshold from measuring range nominal value	10 mA (1 A)
Precision	0.2 %
Current overload	50 A for 1 s
Precision	0.5 %
Active energy (IEC 62053-22)	Class 0.5 S
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	$\leq 100$ mA

### General

Display	LCD display, two-color backlit
Supply voltage range	100 V AC ... 400 V AC (# 20 %)
Power consumption	$\leq 4$ 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

### Connection data

Connection name	Current / voltage / supply
Connection method	Screw connection
Stripping length	8 mm

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## Technical data

### Connection data

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>
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

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Classifications

### eCl@ss

eCl@ss 5.0	27200301
eCl@ss 5.1	27200301
eCl@ss 6.0	27142300
eCl@ss 7.0	27142330
eCl@ss 8.0	27142330

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## Classifications

eCl@ss

eCl@ss 9.0	27142330
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## ETIM

ETIM 4.0	EC002301
ETIM 5.0	EC002301
ETIM 6.0	EC002301
ETIM 7.0	EC002301

## Approvals

### Approvals

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Approvals

EAC

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Ex Approvals

### Approval details

EAC		RU*DE*08.B.00734/19
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## Accessories

### Accessories

#### Assembly adapter

DIN rail adapter - EEM-MKT-DRA - 2902078



DIN rail adapter for EEM-MA600 and EEM-MA400 energy meters