Data sheet

EM110-RTU-2P

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com



Core functions of energy data acquisition
The BasicLine devices measure power characteristics of single-phase or three-phase loads.
For this purpose, basic values are provided to make the energy demand of a system transparent.
The essential values are displayed directly on the unit and communicated via a network.
Our devices are suitable either for mounting on top hat rails or in the front panel.
By focusing on core functions, the BasicLine devices have a very good cost-benefit ratio.

General ordering data

Version	Power measurement/display for 1-phase mains, use of CT, pulse output,, Modbus RTU
Order No.	7760051002
Type	EM110-RTU-2P
GTIN (EAN)	6944169818189
Qty.	1 items

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Technical data

Approvals

Approvals	
ROHS	Conform

Dimensions and weights

Depth	62 mm	Depth (inches)	2.4409 inch
Height	90 mm	Height (inches)	3.5433 inch
Width	17.5 mm	Width (inches)	0.689 inch
Net weight	78 g		

Temperatures

Storage temperature	-40 °C...70 °C	Operating temperature	-25 °C...55 °C
Humidity	0...95 % (no condensation)		

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	6c, 7a, 7cI
REACH SVHC	Lead 7439-92-1

Measuring current input

Housing main material	Plastic	Rated current	via current transformer 1 A/5 A
AC input cable connection	Screw connection	Current-measuring channels	1
Measuring accuracy for current	0.5 %	Max. current	5000 A

Measuring voltage input

Low voltage network	1 phase 2 wire (L + N)	Voltage type	AC
Frequency range, max.	60 Hz	Frequency range, min.	50 Hz
Measuring accuracy for voltage	0.5 %	Three-wire system	No
Measurement range, voltage L-N, AC	176...276 V	Four-wire system	No

Communication

Baud rate	≤ 9600 Bd	Communication	Bi-directional
Parity	none, even, odd	Stop bits	1, 2
Addressing	1 - 247	Interface	RS485
Protocol	Modbus RTU		

Inputs/outputs

Input type	1 phase AC (L1, N), Secondary side of a current transformer 0-1 A or 0-5 A	Number of digital inputs	0
Number of digital outputs	0	Number of pulse outputs	2

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Technical data

Measurement data recording

Update interval register	100 ms	Software	EM configuration tools

Technical data

Display value	Voltage, current measured value, Apparent power, Reactive power, Power factor, Frequency, Import / export active power demand, Total import / export active energy, Total import / export reactive energy, Total system power demand	Version	Power measurement/ display for 1-phase mains, use of CT, pulse output,, Modbus RTU
Display	LCD	Type of mounting	DIN rail
Protection degree	Front panel: IP51, IP20	Pollution severity	2
Rated current	via current transformer 1 A/5 A	Power factor input	1 %
Measurement accuracy	Class 1 (IEC 62053-21), Class B (EN 50470-3), 0.5% in relation to final value (U / I)	Max. current	5000 A
Display monitoring (monitor)	LCD	Measurement range, voltage L-N, AC	176...276 V
Surge voltage category	II	Three-wire system	No
Four-wire system	No	Sampling frequency 50/60 Hz	3.2 kHz
Continuous measurements	Yes	Measurement result per second	100 ms
Current-measuring channels	1	Measuring accuracy for voltage	0.5 %
Measuring accuracy for current	0.5 %	Measurement accuracy for active energy (kWh, .../5 A)	Class 1 (IEC 62053-21), Class B (EN 50470-3)

Insulation coordination

Impulse withstand voltage	6 kV (1.2/50 µs)	Surge voltage category	II
Pollution severity	2	Insulation voltage input or output/supply	4 kVeff / 1 min.

Connection data

Stripping length	7 mm	Type of connection	Screw connection
Connection torgue	1.3 Nm	Wire cross-section, solid, min.	0.5 mm²
Wire cross-section, solid, max.	1.5 mm²	Wire connection cross section, finely stranded, min.	0.5 mm²
Wire connection cross section, finely stranded, max.	2.5 mm²	Wire connection cross section, finely stranded, two clampable wires, min.	0.5 mm²
Wire cross-section, finely stranded, two clampable wires, max.	2.5 mm²		

Classifications

ETIM 8.0	EC002301	ETIM 9.0	EC002301
ETIM 10.0	EC002301	ECLASS 14.0	27-14-23-30
ECLASS 15.0	27-14-23-30		

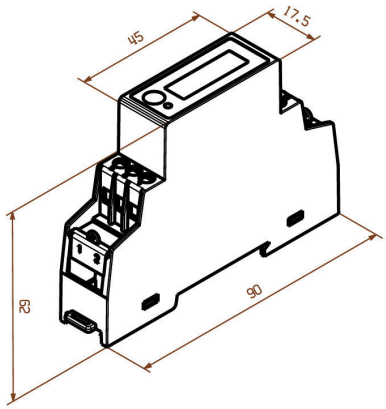
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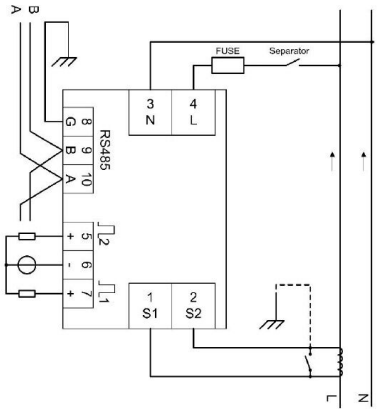
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Drawings

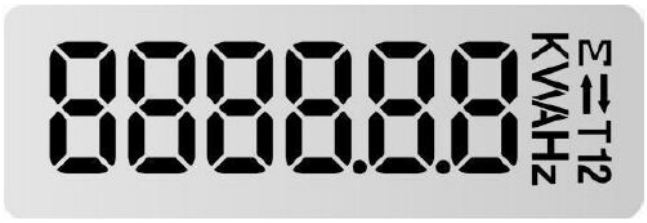
Dimensioned drawing



Wiring



Layout



Full screen