

EM122-RTU-2P**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Energy meters - BasicLine

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-, 3-phase mains, 100 A, direct measurement, pulse output, Modbus RTU
Order No.	7760051003
Type	EM122-RTU-2P
GTIN (EAN)	6944169818196
Qty.	1 pc(s).

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Technical data**Dimensions and weights**

Depth	66 mm	Depth (inches)	2.598 inch
Height	100 mm	Height (inches)	3.937 inch
Width	72 mm	Width (inches)	2.835 inch
Net weight	350 g		

Temperatures

Storage temperature	-40 °C...80 °C	Operating temperature	-25 °C...55 °C
Humidity	0...90 % (no condensation)		

Measuring current input

AC input cable connection	Screw connection	Current-measuring channels	3
Housing main material	Plastic	Max. current	100 A
Measuring accuracy for current	0.5 %	Rated current	10 A

Measuring voltage input

Four-wire system	Yes	Frequency range, max.	60 Hz
Frequency range, min.	50 Hz	Low voltage network	1 phase 2 wire (L + N), 3 phase 3 wire (L1 + L2 + L3), 3 phase 4 wire (L1 + L2 + L3 + N)
Measurement range, voltage L-L, AC	240...480 V	Measurement range, voltage L-N, AC	176...276 V
Measuring accuracy for voltage	0.5 %	Three-wire system	Yes
Voltage type	AC		

Communication

Addressing	1 - 247	Baud rate	9600/19200/38400 bit/s
Communication	Bi-directional	Parity	none, even, odd
Stop bits	1, 2	Interface	RS485
Protocol	Modbus RTU		

Inputs/outputs

Digital output configurable	Yes	Number of digital inputs	0
Number of digital outputs	0	Number of pulse outputs	2

Measurement data recording

Update interval register	100 ms	Software	EM configuration tools
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Technical data

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Display	LCD	Display monitoring (monitor)	LCD
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	Max. current	100 A
Pollution severity	2	Power factor input	1 %
Protection degree	IP51	Rated current	10 A
Type of mounting		Version	Power measurement/display for 1-, 3-phase mains, 100 A, direct measurement, pulse output, Modbus RTU
	DIN rail	Measurement range, voltage L-L, AC	240...480 V
Measurement range, voltage L-N, AC	176...276 V	Three-wire system	Yes
Surge voltage category	III	Sampling frequency 50/60 Hz	4.1 kHz
Four-wire system	Yes	Measurement result per second	100 ms
Continuous measurements	Yes	Measuring accuracy for voltage	0.5 %
Current-measuring channels	3	Measurement accuracy for active energy (kWh, .../5 A)	Class 0.5
Measuring accuracy for current	0.5 %		

Insulation coordination

Impulse withstand voltage	6 kV (1.2/50 µs)	Insulation voltage input or output/supply	4 kV _{eff} / 1 min.
Pollution severity	2	Surge voltage category	III

Connection data

Stripping length	8 mm	Type of connection	Screw connection
Wire cross-section, solid, min.	2.5 mm ²	Wire cross-section, solid, max.	25 mm ²
Wire connection cross section, finely stranded, min.	0.5 mm ²	Wire connection cross section, finely stranded, max.	2 mm ²
Wire connection cross section, finely stranded, two clampable wires, min.	2.5 mm ²	Wire cross-section, finely stranded, two clampable wires, max.	25 mm ²

Classifications

ETIM 6.0	EC002301	ETIM 7.0	EC002301
ETIM 8.0	EC002301	ETIM 9.0	EC002301
ETIM 10.0	EC002301	ECLASS 9.0	27-14-23-30
ECLASS 9.1	27-21-03-01	ECLASS 10.0	27-14-23-30
ECLASS 11.0	27-14-23-30	ECLASS 12.0	27-14-23-30
ECLASS 13.0	27-14-23-30	ECLASS 14.0	27-14-23-30
ECLASS 15.0	27-14-23-30		

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www.weidmueller.com**Technical data****Approvals**

Approvals



Approvals MAMID

https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/

ROHS

Conform

Environmental Product Compliance

RoHS Compliance Status

Compliant without exemption

REACH SVHC

No SVHC above 0.1 wt%

Downloads

Approval/Certificate/Document of Conformity

[Declaration of Conformity](#)

Engineering Data

[CAD data – STEP](#)

Software

[EM configuration tools](#)[Device description – Device description – MODBUS address list](#)

User Documentation

[Manual EM configuration tools Chinese](#)[Manual EM configuration tools English](#)[Manual EM122 Chinese](#)[Manual EM122 English](#)

Catalogues

[Catalogues in PDF-format](#)

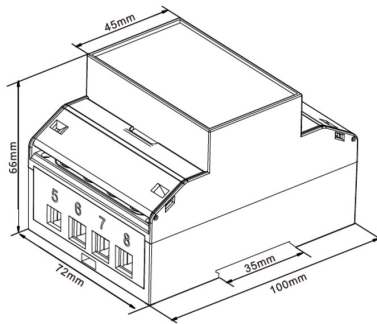
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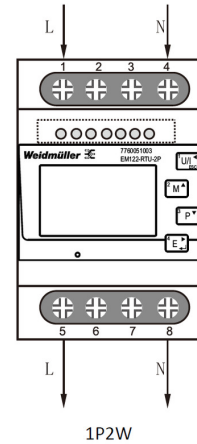
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Drawings

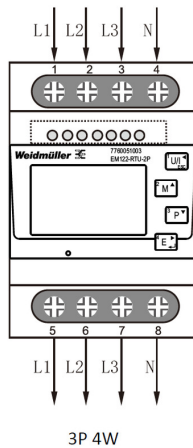
Dimensioned drawing



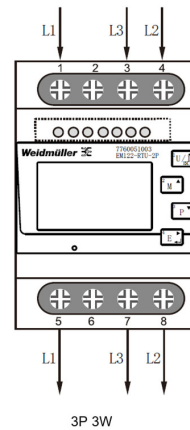
Wiring example



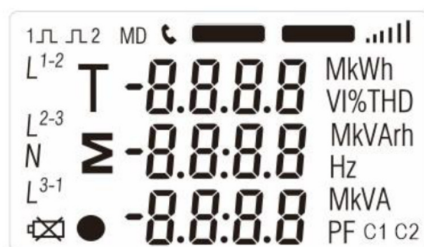
Wiring example



Wiring example



Layout



Full screen