

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

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://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.	<a href="#">7760051003</a>
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
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.		Low voltage network	1 phase 2 wire (L + N), 3 phase 3 wire (L1 + L2 + L3), 3 phase 4 wire (L1 + L2 + L3 + N)
	50 Hz		
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 pulse outputs	2
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## Measurement data recording

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

## Connection data

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

## Classifications

ETIM 6.0	EC002301	ETIM 7.0	EC002301
ETIM 8.0	EC002301	ETIM 9.0	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

## Approvals

Approvals



ROHS

Conform

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## Technical data

### 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](#)

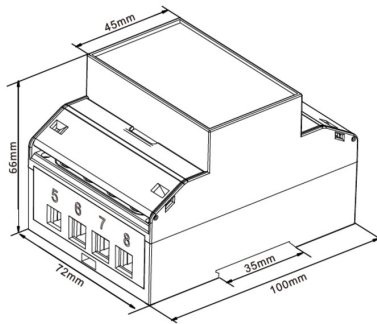
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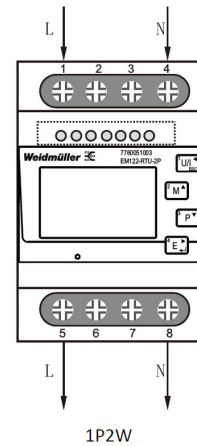
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## Drawings

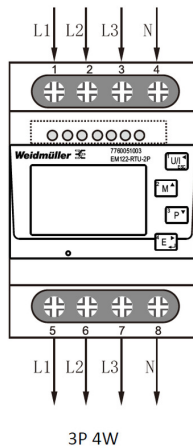
### Dimensioned drawing



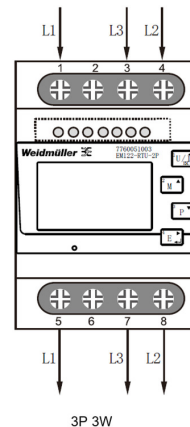
### Wiring example



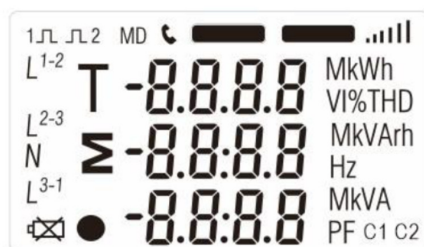
### Wiring example



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### Layout



Full screen