

EM120-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-, 3-phase mains, use of CT, pulse output, Modbus RTU
Order No.	7760051004
Type	EM120-RTU-2P
GTIN (EAN)	6944169818202
Qty.	1 items

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Technical data

Approvals

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ROHS Conform

Dimensions and weights

Depth	65 mm	Depth (inches)	2.5591 inch
Height	94.5 mm	Height (inches)	3.7205 inch
Width	72 mm	Width (inches)	2.8346 inch
Net weight	240 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, 7cl
REACH SVHC	Lead 7439-92-1

Measuring current input

Housing main material	Plastic	Rated current	via current transformer 1 A/5 A
Current-measuring channels	3	Measuring accuracy for current	0.5 %
Max. current	5000 A		

Measuring voltage input

Low voltage network	1 phase 2 wire (L + N), 3 phase 3 wire (L1 + L2 + L3), 3 phase 4 wire (L1 + L2 + L3 + N)	Voltage type	AC
Frequency range, max.	60 Hz	Frequency range, min.	50 Hz
Measuring accuracy for voltage	0.5 %	Three-wire system	Yes
Quadrants	4	Measurement range, voltage L-L, AC	240...480 V
Measurement range, voltage L-N, AC	138...276 V	Four-wire system	Yes

Communication

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

Inputs/outputs

Input type	3 phase AC (3P, 3P +N), Secondary side of a	Digital output configurable	Yes
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	current transformer 0-1 A or 0-5 A		
Number of digital inputs	0	Number of digital outputs	0
Number of pulse outputs	2	Temperature input	No

Measurement data recording

Update interval register	100 ms	Software	EM configuration tools
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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-, 3-phase mains, use of CT, pulse output,, Modbus RTU
Display	LCD	Type of mounting	DIN rail
Protection degree	IP5 1	Pollution severity	2
Rated current	via current transformer 1 A/5 A	Power factor input	1 %
Max. current	5000 A	Display monitoring (monitor)	LCD
Measurement range, voltage L-N, AC	138...276 V	Measurement range, voltage L-L, AC	240...480 V
Surge voltage category	III	Supply voltage	85...275 V AC
Three-wire system	Yes	Four-wire system	Yes
Quadrants	4	Sampling frequency 50/60 Hz	14.4 kHz
Measurement result per second	100 ms	Current-measuring channels	3
Measuring accuracy for voltage	0.5 %	Measuring accuracy for current	0.5 %
Measurement accuracy for active energy Class 0.5 (kWh, .../5 A)			

Insulation coordination

Surge voltage category	III	Pollution severity	2
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Connection data

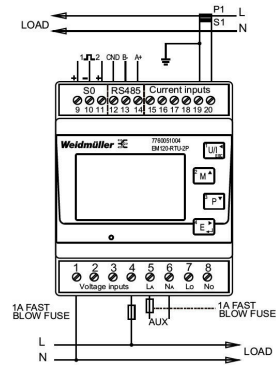
Stripping length	8 mm	Type of connection	Screw connection
Wire cross-section, solid, min.	0.5 mm ²	Wire cross-section, solid, max.	1.5 mm ²
Wire connection cross section, finely stranded, min.	0.5 mm ²	Wire connection cross section, finely stranded, max.	1.5 mm ²
Wire connection cross section, finely stranded, two clampable wires, min.	0.5 mm ²	Wire cross-section, finely stranded, two clampable wires, max.	1.5 mm ²

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		

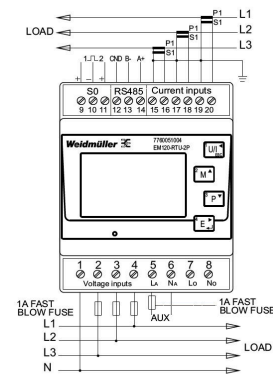
Drawings

Wiring example



1P2W

Wiring example



3P4W

Layout



Full screen