

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

EM120-RTU-2P

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Dimensions and weights

Depth	65 mm	Depth (inches)	2.559 inch
Height	94.5 mm	Height (inches)	3.72 inch
Width	72 mm	Width (inches)	2.835 inch
Net weight	240 g		

Temperatures

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

Measuring current input

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

Measuring voltage input

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	138...276 V	Measuring accuracy for voltage	0.5 %
Quadrants	4	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	Input type	3 phase AC (3P, 3P +N), Secondary side of a current transformer 0-1 A or 0-5 A
Number of pulse outputs	2	Temperature input	No

Measurement data recording

Update interval register	100 ms	Software	EM configuration tools
--------------------------	--------	----------	------------------------

EM120-RTU-2P

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Technical data

Display	LCD	Display monitoring (monitor)	LCD digital
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	5000 A
Pollution severity	2	Power factor input	1 %
Protection degree	IP51	Rated current	via current transformer 1 A/5 A
Type of mounting	DIN rail	Version	Power measurement/display for 1-, 3-phase mains, use of CT, pulse output,, Modbus RTU
Measurement range, voltage L-N, AC	138...276 V	Measurement range, voltage L-L, AC	240...480 V
Surge voltage category	III	Voltage supply	85...275 V AC
Three-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 (kWh, .../5 A)	Class 0.5

Insulation coordination

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 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 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

EM120-RTU-2P

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Downloads

Approval/Certificate/Document of Con-
formity

[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 EM120 Chinese](#)

[Manual EM120 English](#)

Catalogues

[Catalogues in PDF-format](#)

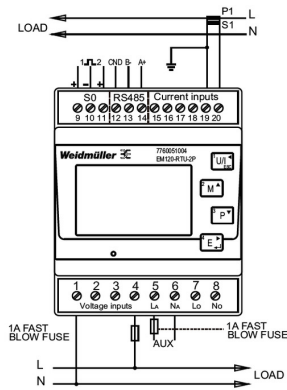
EM120-RTU-2P

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

www.weidmueller.com

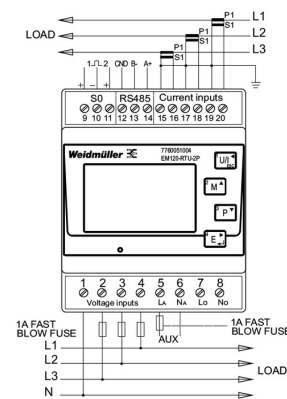
Drawings

Wiring example



1P2W

Wiring example



3P4W

Layout



Full screen