

EM220-RTU-4DI2DO**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, digital input/output, Modbus RTU
Order No.	7760051005
Type	EM220-RTU-4DI2DO
GTIN (EAN)	6944169818219
Qty.	1 pc(s).

Creation date May 23, 2024 6:42:31 AM CEST

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Technical data

Dimensions and weights

Depth	74 mm	Depth (inches)	2.913 inch
Height	96 mm	Height (inches)	3.78 inch
Width	96 mm	Width (inches)	3.78 inch
Net weight	360 g		

Temperatures

Storage temperature	-40 °C...70 °C	Operating temperature	-25 °C...55 °C
Humidity	0...90 % (no condensation)		

Measuring current input

Current-measuring channels	3	Max. current	9999 A
Measuring accuracy for current	0.5 %	Rated current	via current transformer 1 A/5 A

Measuring voltage input

Four-wire system	Yes	Frequency range, max.	65 Hz
Frequency range, min.	45 Hz	Low voltage network	1 phase 2 wire (L + N), 1 phase 2 wire (L1 + L2), 3 phase 3 wire (L1 + L2 + L3), 3 phase 4 wire (L1 + L2 + L3 + N)
Measurement range, voltage L-L, AC	50...600 V	Measurement range, voltage L-N, AC	50...345 V
Measuring accuracy for voltage	0.5 %	Three-wire system	Yes
Voltage type	AC		

Communication

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 digital inputs	4	Number of digital outputs	2
Temperature input	No		

Measurement data recording

Update interval register	1 s	Software	EM configuration tools
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Display monitoring (monitor)		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 digital		
Max. current	9999 A	Pollution severity	2
Power factor input	± 0.01	Protection degree	IP20, Front panel: IP51
Rated current	via current transformer 1 A/5 A	Type of mounting	Frontpanel mounting
Version	Power measurement/display for 1-, 3-phase mains, use of CT, pulse output, digital input/output, Modbus RTU	Measurement range, voltage L-N, AC	50...345 V
Measurement range, voltage L-L, AC	50...600 V	Surge voltage category	III
Voltage supply	75...270 V AC, 100...380 V DC	Three-wire system	Yes
Four-wire system	Yes	Sampling frequency 50/60 Hz	14.4 kHz
Continuous measurements	Yes	Measurement result per second	1 s
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 0.5S (IEC 62053-22), Class 0.5 (IEC 61557-12)
Clock	Yes		

Insulation coordination

Pollution severity	2	Surge voltage category	III
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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.	2.5 mm ²
Wire connection cross section, finely stranded, min.	0.5 mm ²	Wire connection cross section, finely stranded, max.	2.5 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.	2.5 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

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Technical data

Downloads

Approval/Certificate/Document of Con-
formity

[Declaration of Conformity](#)

Engineering Data

[CAD data – STEP](#)

Software

[EM configuration tools](#)

[MODBUS address list](#)

User Documentation

[Manual EM220 English](#)

[Manual EM configuration tools Chinese](#)

[Manual EM configuration tools English](#)

[Manual EM220 Chinese](#)

Catalogues

[Catalogues in PDF-format](#)

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Drawings
Dimensioned drawing
