

EM220-RTU-4DI2DO

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

EM220-RTU-4DI2DO

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

www.weidmueller.com

Technical data

Approvals

Approvals



ROHS Conform

Dimensions and weights

Depth	74 mm	Depth (inches)	2.9134 inch
Height	96 mm	Height (inches)	3.7795 inch
Width	96 mm	Width (inches)	3.7795 inch
Net weight	360 g		

Temperatures

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

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl
REACH SVHC	Lead 7439-92-1
SCIP	90d4d0d0-bf40-4da4-b1ec-9cc14a358c13

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

Communication

Parity	none, even, odd	Stop bits	1, 2
Interface	RS485	Protocol	Modbus RTU

Inputs/outputs

Input type	3 phase AC (3P, 3P +N), Secondary side of a current transformer 0-1 A or 0-5 A	Digital output configurable	Yes
Number of digital inputs	4	Number of digital outputs	2

EM220-RTU-4DI2DO

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

www.weidmueller.com

Technical data

Temperature input	No
-------------------	----

Measurement data recording

Update interval register	1 s	Software	EM configuration tools
--------------------------	-----	----------	------------------------

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, digital input/output, Modbus RTU
Type of mounting	Frontpanel mounting	Protection degree	Front panel: IP51, IP20
Pollution severity	2	Rated current	via current transformer 1 A/5 A
Power factor input	± 0.01	Max. current	5000 A
Display monitoring (monitor)	LCD	Measurement range, voltage L-N, AC	50...345 V
Measurement range, voltage L-L, AC	50...600 V	Surge voltage category	III
Supply voltage	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

Surge voltage category	III	Pollution severity	2
------------------------	-----	--------------------	---

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 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		

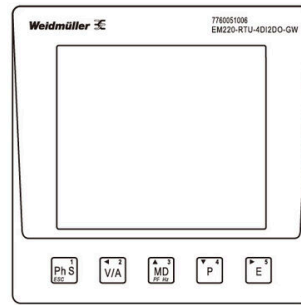
EM220-RTU-4DI2DO

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

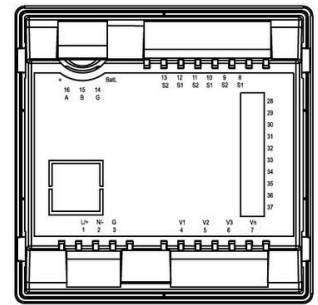
Drawings

www.weidmueller.com

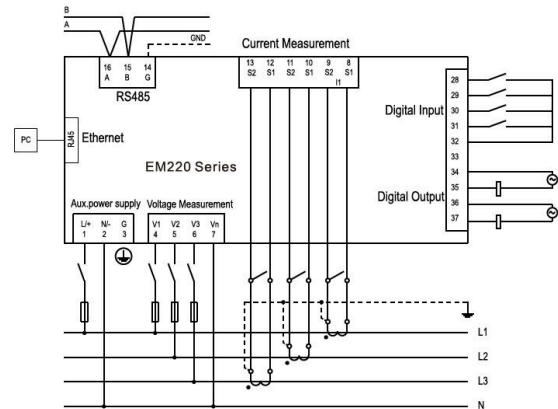
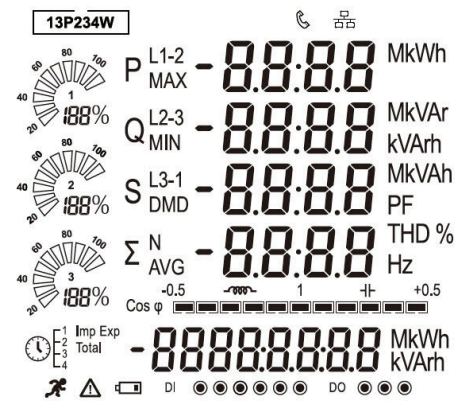
Dimensioned drawing



Front view



Rear view



EM220-RTU-4DI2DO

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

www.weidmueller.com

Accessories

Accessories



General ordering data

Type	EM220 BRACKET	Version	
Order No.	3068970000		
GTIN (EAN)	4099987062862		
Qty.	1 ST		