

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).

EM220-RTU-4DI2DO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

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	Housing main material	Plastic
Max. current	5000 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
--------------------------	-----	----------	------------------------

EM220-RTU-4DI2DO

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Technical data

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		
Max. current	5000 A	Pollution severity	2
Power factor input	± 0.01	Protection degree	Front panel: IP51, IP20
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
--------------------	---	------------------------	-----

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
ECLASS 14.0	27-14-23-30		

Environmental Product Compliance

RoHS Compliance Status	Compliant
REACH SVHC	No SVHC above 0.1 wt%

EM220-RTU-4DI2DO**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com**Technical data****Approvals**

Approvals



Approvals MAMID

https://mdcop.weidmueller.com/mediadelivery/rendition/900_319222/-T1z1mm-S800/

ROHS

Conform

Downloads

Approval/Certificate/Document of Conformity

[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](#)

EM220-RTU-4DI2DO

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

www.weidmueller.com

Drawings
Dimensioned drawing
