

EM110-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-phase mains, use of CT, pulse output,, Modbus RTU |
| Order No. | 7760051002 |
| Type | EM110-RTU-2P |
| GTIN (EAN) | 6944169818189 |
| Qty. | 1 pc(s). |

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Technical data

Dimensions and weights

| | | | |
|------------|---------|-----------------|------------|
| Depth | 62 mm | Depth (inches) | 2.441 inch |
| Height | 90 mm | Height (inches) | 3.543 inch |
| Width | 17.5 mm | Width (inches) | 0.689 inch |
| Net weight | 80 g | | |

Temperatures

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

Measuring current input

| | | | |
|--------------------------------|------------------|----------------------------|---------------------------------|
| AC input cable connection | Screw connection | Current-measuring channels | 1 |
| 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) | Measurement range, voltage L-N, AC | 176...276 V |
| Measuring accuracy for voltage | 0.5 % | Voltage type | AC |

Communication

| | | | |
|---------------|----------------|-----------|-----------------|
| Addressing | 1 - 247 | Baud rate | ≤ 9600 Bd |
| Communication | Bi-directional | Parity | none, even, odd |
| Stop bits | 1, 2 | Interface | RS485 |
| Protocol | Modbus RTU | | |

Inputs/outputs

| | | | |
|------------|--|-------------------------|---|
| Input type | 1 phase AC (L1, N), Secondary side of a current transformer 0-1 A or 0-5 A | Number of pulse outputs | 2 |
|------------|--|-------------------------|---|

Measurement data recording

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

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| | | | |
|--------------------------------|---|--|--|
| Display | | 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 | | |
| Measurement accuracy | Class 1 (IEC 62053-21), Class B (EN 50470-3), 0.5% in relation to final value (U / I) | Pollution severity | 2 |
| Power factor input | 1 % | Protection degree | IP20, Front panel: IP51 |
| Rated current | via current transformer 1 A/5 A | Type of mounting | DIN rail |
| Version | Power measurement/display for 1-phase mains, use of CT, pulse output, Modbus RTU | Measurement range, voltage L-N, AC | 176...276 V |
| Surge voltage category | II | Sampling frequency 50/60 Hz | 3.2 kHz |
| Continuous measurements | Yes | Measurement result per second | 100 ms |
| Current-measuring channels | 1 | Measuring accuracy for voltage | 0.5 % |
| Measuring accuracy for current | 0.5 % | Measurement accuracy for active energy | Class 1 (IEC 62053-21), Class B (EN 50470-3) |

Insulation coordination

| | | | |
|---------------------------|------------------|---|------------------------------|
| Impulse withstand voltage | 6 kV (1.2/50 µs) | Insulation voltage input or output/supply | 4 kV _{eff} / 1 min. |
| Pollution severity | 2 | Surge voltage category | II |


Connection data

| | | | |
|--|---------------------|---|---------------------|
| Stripping length | 7 mm | Type of connection | Screw connection |
| Tightening torque | 1.3 Nm | 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 Conformity

[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 EM110 Chinese](#)

[Manual EM110 English](#)

Catalogues

[Catalogues in PDF-format](#)

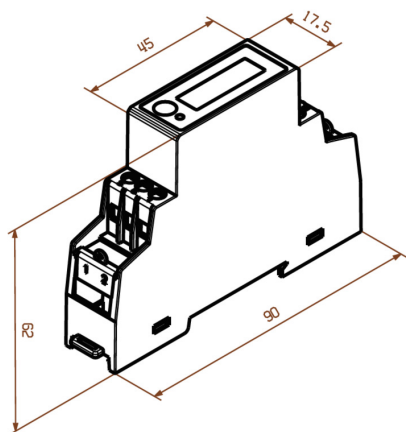
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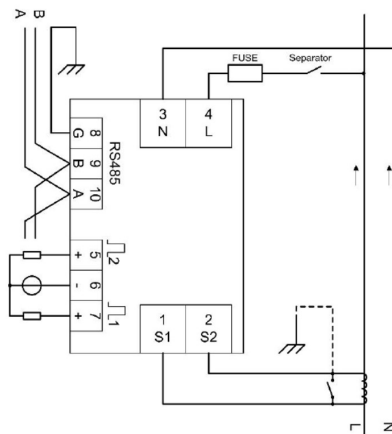
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Drawings

Dimensioned drawing



Wiring



Layout



Full screen