

UR20-3EM-230V-AC

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



Power measurement module

Power measurement module for 1 or 3 phases, rated voltage up to 300 Veff

The power module serves to measure and process currents & voltages of single-phase or three-phase loads up to a rated voltage of 300 Veff AC (phase & neutral conductor). Reactive, apparent, harmonic and active power, energy consumption, phase angle and many other electrical parameters are measured and calculated directly with the module. Which data are transmitted via the process data of the various fieldbuses can be selected using parameters.

The power measurement module can easily be integrated into existing automation solutions using u-remote. If using conversion current measuring transducers, no intervention needs to be made into the existing installation.

Currents up to 1 A or 5 A can be measured directly, higher currents can be measured with plug-on or conversion current measuring transducers from Weidmüller.

General ordering data

| | |
|---------------------|--|
| Version | Remote I/O module, IP20, 6-channel, Input, Power measurement, PUSH IN connection |
| Order No. | 2007420000 |
| Type | UR20-3EM-230V-AC |
| GTIN (EAN) | 4050118392777 |
| Qty. | 1 items |
| Delivery status | This article will no longer be available in the future. |
| Available until | 2026-12-31T00:00:00+01:00 |
| Alternative product | UR20-3EM-400V-AC-CT1A |

UR20-3EM-230V-AC

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Technical data

Approvals

Approvals



| | |
|---------------------------|----------------------------|
| ROHS | Conform |
| UL File Number Search | UL Website |
| Certificate no. (cULus) | E141197 |
| Certificate no. (cULusEX) | E223527 |

Dimensions and weights

| | | | |
|-----------------------------|---------|-----------------|-------------|
| Depth | 76 mm | Depth (inches) | 2.9921 inch |
| Height | 120 mm | Height (inches) | 4.7244 inch |
| Width | 11.5 mm | Width (inches) | 0.4528 inch |
| Mounting dimension - height | 128 mm | Net weight | 90 g |

Temperatures

| | | | |
|---------------------|-------------------|-----------------------|----------------|
| Storage temperature | -40 °C ... +85 °C | Operating temperature | -20 °C...60 °C |
|---------------------|-------------------|-----------------------|----------------|

Environmental Product Compliance

| | | | |
|--------------------------------------|--------------------------------------|------------------|--|
| RoHS Compliance Status | Compliant with exemption | | |
| RoHS Exemption (if applicable/known) | 7a, 7cI | | |
| REACH SVHC | Lead 7439-92-1 | | |
| SCIP | 82327f13-cd27-455a-ab5b-a62e1996dcf8 | | |
| Product Carbon Footprint | Cradle to gate | 8,889 kg CO2 eq. | |

analogue inputs

| | | | |
|--------------------------------------|--------------------------------------|-----------------------|---|
| Number | 3 | Insulation | 1.5 kVeff.(input / system) |
| Resolution | 16 bit per channel (internal 24 bit) | Rated voltage | 300 Veff (L-N), 520 Veff (L-L) |
| Frequency of the supply system | 45...65 Hz | Measurement accuracy | 0.5% in relation to final value (U / I), 1% for the calculated values |
| Connectable converter ratios | 1 ... 1000 | Analysis of harmonic | 31 (Blackmann-Harris Window) |
| Measurement resistance (shunt) | 4 mΩ (at 5 A), 20 mΩ (at 1 A) | Nominal peak voltage | 4 kV |
| Sampling rate of current measurement | 3,300 samples/s | Nominal load capacity | 0...1 A / 0...5 A AC |
| Category for voltage measurements | CAT II (IEC 61010 Part 1) | Measurement method | High Resolution Delta Sigma (current measurement in outer conductor) |
| Input impedance voltage | 2.4 MΩ per channel | Module diagnosis | Yes |

Connection data

| | | | |
|--|---------------------|--|----------------------|
| Wire cross-section, finely stranded, max. (AWG) | AWG 16 | Wire cross-section, finely stranded, min. (AWG) | AWG 26 |
| Wire cross-section, solid, max. (AWG) | AWG 16 | Wire cross-section, solid, min. (AWG) | AWG 26 |
| Type of connection | PUSH IN | Number | 3 |
| Wire cross-section, solid, max. | 1.5 mm ² | Wire cross-section, solid, min. | 0.14 mm ² |
| Wire connection cross section, finely stranded, max. | 1.5 mm ² | Wire connection cross section, finely stranded, min. | 0.14 mm ² |

UR20-3EM-230V-AC

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

www.weidmueller.com

Technical data

General data

| | | | |
|--------------------------|--|---------------------------|--|
| Vibration resistance | 5 Hz ≤ f ≤ 8.4 Hz: 3.5-mm amplitude as per IEC 60068-2-6, 8.4 Hz ≤ f ≤ 150 Hz: 1 g acceleration as per IEC 60068-2-6 | UL 94 flammability rating | V-0 |
| Test voltage | 500 V | Surge voltage category | II |
| Pollution severity | 2 | Mounting rail | TS 35 |
| Air pressure (operation) | ≥ 795 hPa (height ≤ 2000 m) as per DIN EN 61131-2 | Air humidity (transport) | 10% to 95%, non-condensing as per DIN EN 61131-2 |
| Air pressure (transport) | 1013 hPa (height 0 m) to 700 hPa (height 3000 m) as per DIN EN 61131-2 | Air pressure (storage) | 1013 hPa (height 0 m) to 700 hPa (height 3000 m) as per DIN EN 61131-2 |
| Air humidity (operation) | 10% to 95%, non-condensing as per DIN EN 61131-2 | Air humidity (storage) | 10% to 95%, non-condensing as per DIN EN 61131-2 |
| Shock | 15 g over 11 ms, half sinus wave, acc. to IEC 60068-2-27 | | |

Power supply

| | | | |
|--|--|---|-------|
| Supply voltage | 24 V DC +20 %/ -15 %, via the system bus | Current consumption from IIN (the respective power segment) | 12 mA |
| Current consumption from I _{sys} , typ. | 8 mA | | |

System data

| | | | |
|-------------------------|------------------------------------|--------------------|---|
| Module type | Functional module | Interface | u-remote system bus |
| Galvanic isolation | 500 V DC between the current paths | Process data | 32 Byte |
| Configuration interface | Micro USB 2.0 | Field bus protocol | PROFINET IRT, PROFINET RT, PROFIBUS DP-V1, EtherCAT, Modbus/TCP, EtherNet/IP, CANopen, DeviceNet, POWERLINK, CC-Link, CC-Link IE TSN, IEC 61162-450 |

Transmission speed of system bus, max. 48 MBit/s

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 8.0 | EC001601 | ETIM 9.0 | EC001601 |
| ETIM 10.0 | EC001601 | ECLASS 14.0 | 27-24-26-05 |
| ECLASS 15.0 | 27-24-26-05 | | |

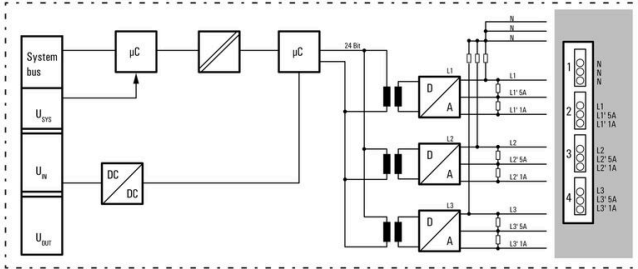
UR20-3EM-230V-AC

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

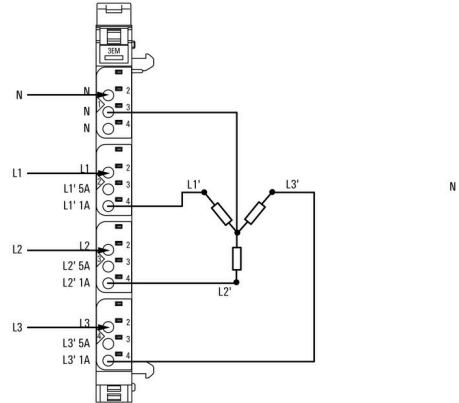
www.weidmueller.com

Drawings

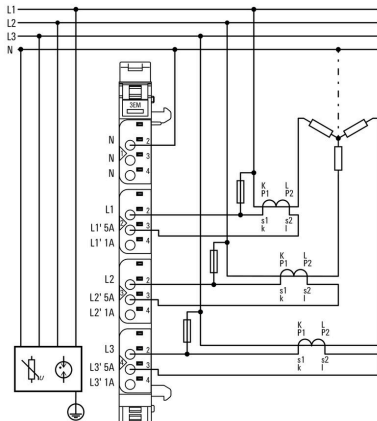
Block diagram



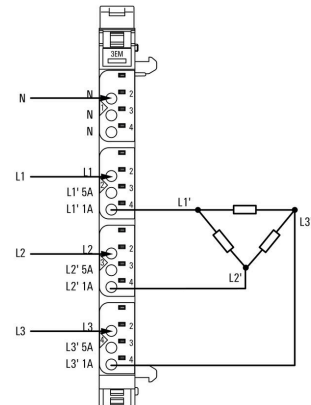
Connection diagram



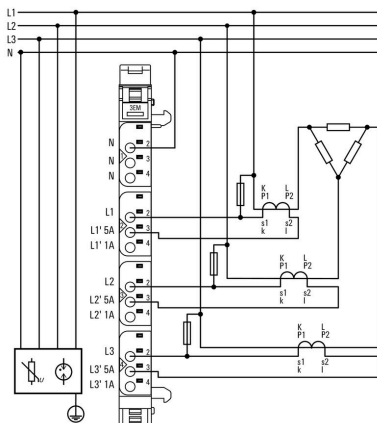
Connection diagram



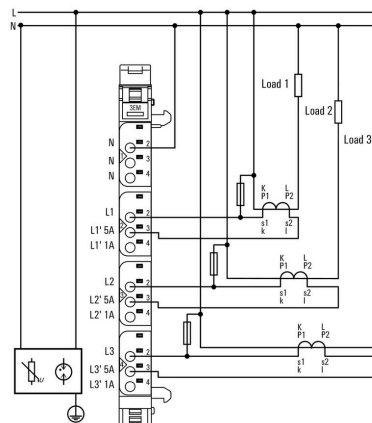
Connection diagram



Connection diagram



Connection diagram



UR20-3EM-230V-AC

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

www.weidmueller.com

Drawings

Explanation of abbreviations

Power measurement module

