

UR20-3EM-230V-AC

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



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 pc(s).
Replacement parts	1350930000 1562270000 2068630000

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Technical data

Dimensions and weights

Depth	76 mm	Depth (inches)	2.992 inch
Height	120 mm	Height (inches)	4.724 inch
Width	11.5 mm	Width (inches)	0.453 inch
Mounting dimension - height	128 mm	Net weight	90 g

Temperatures

Storage temperature	-40 °C ... +85 °C	Operating temperature	-20 °C ... +60 °C
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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analogue inputs

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

Connection data

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

General data

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
Air humidity (transport)	10% to 95%, non-condensing as per DIN EN 61131-2
Air pressure (operation)	≥ 795 hPa (height ≤ 2000 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 pressure (transport)	1013 hPa (height 0 m) to 700 hPa (height 3000 m) as per DIN EN 61131-2
Pollution severity	2
Rail	TS 35

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Restricted area	Positive expansion	Y coordinate	160 mm
		Z coordinate	85 mm
		X coordinate	43 mm
	Type of restricted area	thermal	
Negative expansion	Y coordinate	-40 mm	
	X coordinate	-28 mm	
	Z coordinate	0 mm	
Shock	15 g over 11 ms, half sinus wave, acc. to IEC 60068-2-27		
Surge voltage category	II		
Test voltage	500 V		
UL 94 flammability rating	V-0		
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		

Power supply

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

System data

Configuration interface	Micro USB 2.0	Field bus protocol	CANopen, DeviceNet, EtherCAT, EtherNet/IP, Modbus/TCP, PROFINET IRT, PROFIBUS DP-V1, POWERLINK
Galvanic isolation	500 V DC between the current paths	Interface	u-remote system bus
Module type	Functional module	Process data	32 Byte
Transmission speed of system bus, max. 48 Mbit			

Classifications

ETIM 6.0	EC001601	ETIM 7.0	EC001601
ETIM 8.0	EC001601	ECLASS 9.0	27-24-26-05
ECLASS 9.1	27-24-26-05	ECLASS 10.0	27-24-26-05
ECLASS 11.0	27-24-26-05	ECLASS 12.0	27-24-26-05

Approvals

Approvals



ROHS	Conform
UL File Number Search	E141197

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Technical data

Downloads

Approval/Certificate/Document of Conformity	Declaration of Conformity Compass safe distance certificate Lloyds Register certificate DNV/GL certificate ABS certificate RINA certificate Bureau Veritas - Type Approval Certificate PRS (Polish Register of Shipping) NIPPON KAIJI KYOKAI Certificate
Engineering Data	CAD data – STEP Library and function block – CoDeSys 3.5 - EN - V2.0.0 Compatibility information – Combinability of UR20 Quick start guide – Function blocks for UR20-3EM-230V-AC Library and function block – Weidmueller u-create studio 1.20.2 - EN - V2.0.0
Engineering Data	WSCAD, Zuken E3.S
Product Change Notification	Release-Notes - Firmware
Software	Firmware – Current firmware UR20-3EM-230V-AC Firmware – Archive firmware UR20-3EM-230V-AC
User Documentation	MAN U-REMOTE_DE MAN U-REMOTE_EN
Catalogues	Catalogues in PDF-format

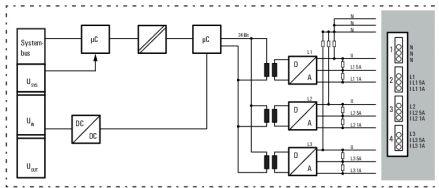
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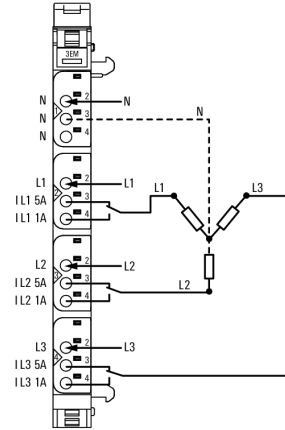
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Drawings

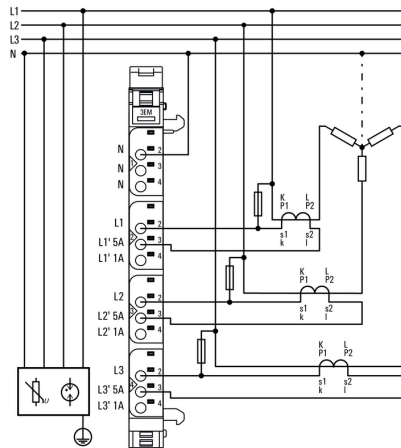
Block diagram



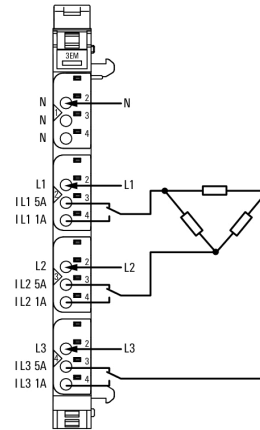
Connection diagram



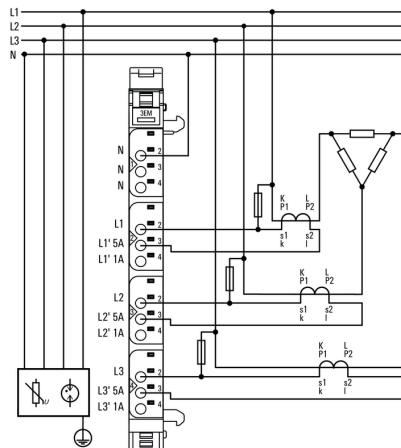
Connection diagram



Connection diagram



Connection diagram



Connection diagram

