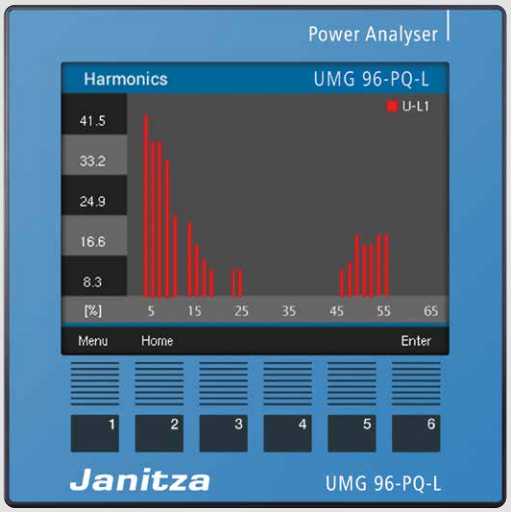
Art. no. 33.03.826



The device fronts may differ!

Doc. no. 2.061.071.2.c 11/2021

Power Analyser

UMG 96-PQ-L

(From Firmware 1.0 / Hardware-Index 1)

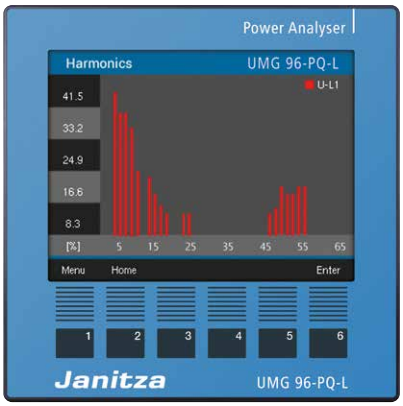
Data sheet

Janitza®

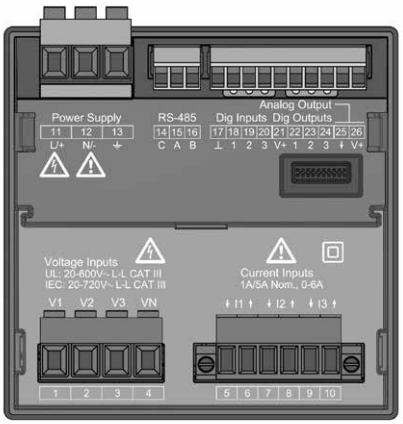
DEVICE VIEWS

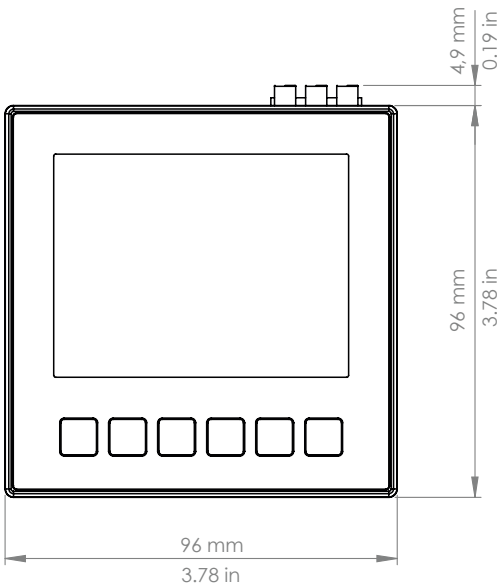
The figures are for illustration purposes only and are not to scale.

Front view

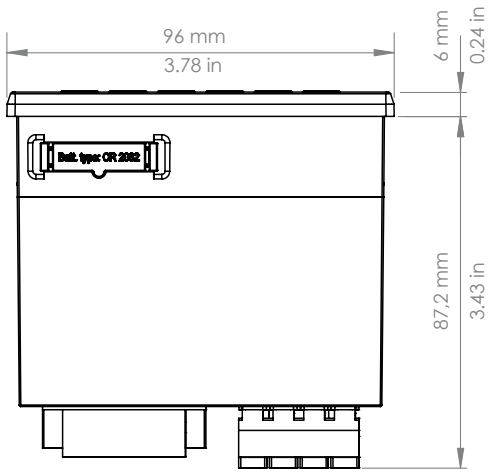


Rear view



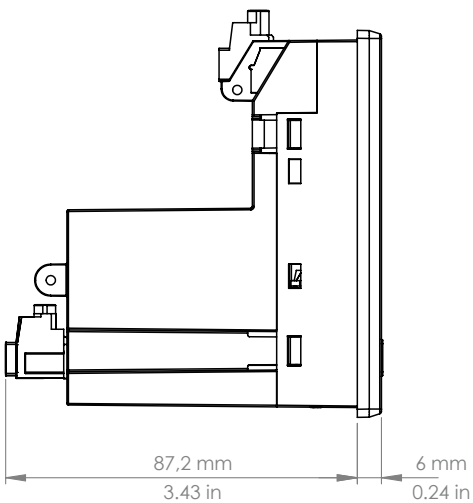


Bottom view



Cut-out size:
$92^{+0,8}$ mm x $92^{+0,8}$ mm
($3.62^{+0.03}$ x $3.62^{+0.03}$ in)

Side view



INFORMATION

You can distinguish between the **UMG 96-PQ-L and the UMG 96-PQ-L in the IT variant using the article number.** The article number can be found on the type plate of your measuring device:
· **UMG 96-PQ-L: 5236001/5236002.**
· **UMG 96-PQ-L (IT variant): 5236005.**
Detailed information can be found in the usage information for the measuring device!

TECHNICAL DATA

General	
Net weight (with attached plug-in connectors)	approx. 250 g (0.55 lb)
Package weight (incl. accessories)	approx. 500 g (1.1 lb)
Battery	Type Lithium CR2032, 3 V (Zulassung nach UL 1642)
Data memory	64 MB
Backlight service life	40000 h (backlight reduces to approx. 50% over this period)
Impact resistance	IK07 according to IEC 62262

Transport and storage The following information applies to devices that are transported or stored in their original packaging.	
Free fall	1 m (39.37 in)
Temperature	-25 °C (-13 °F) to +70 °C (158 °F)
Relative air humidity (non-condensing)	0 to 90% RH

Environmental conditions during operation	
Install the device in a weather-protected and stationary location. Protection class II according to IEC 60536 (VDE 0106, Part 1).	
Rated temperature range	-10 °C (14 °F) .. +55 °C (131 °F)
Relative air humidity (non-condensing)	0 to 75 % RH
Operating elevation	0 .. 2000 m (1.24 mi) above sea level
Pollution degree	2
Mounting orientation	As desired
Ventilation	No forced ventilation required.
Protection against foreign matter and water - Front - Rear - Front with seal	 IP40 according to EN60529 IP20 according to EN60529 IP54 according to EN60529
Electromagnetic environmental conditions	Class E2 (MID 2014/32/EU)
Mechanical environmental conditions	Class M1 (MID 2014/32/EU)

Supply voltage		
Option 230 V	Nominal range	AC 90 V - 277 V (50/60 Hz) or DC 90 V - 250 V, 300 V CATIII
	Power consumption	max. 4,5 VA / 2 W
Option 24 V	Nominal range	AC 24 V - 90 V (50/60Hz) or DC 24 V - 90 V, 150 V CATIII
	Power consumption	max. 4,5 VA / 2 W
Operating range	+-10% of nominal range	
Internal fuse, not exchangeable	Type T1A / 250 V DC / 277 V AC according to IEC 60127	
Recommended overcurrent protection device for the line protection (UL approval)		Option 230 V: 6 - 16 A (Char. B) Option 24 V: 1 - 6 A (Char. B)

Voltage measurement	
3-phase 4-conductor systems with rated voltages up to	417 V / 720 V (+-10%) according to IEC 347 V / 600 V (+-10%) according to UL
3-phase 3-conductor systems with rated voltages up to	600 V (+10%)
Single-phase 2-conductor system with rated voltages up to	480 V (+-10%)
Overvoltage category	600 V CAT III
Measurement voltage surge	6 kV
Fuse for the voltage measurement	1 - 10 A tripping characteristic B (with IEC/UL approval)
Measuring range L-N	0[1] .. 600 V_{rms} (max. overvoltage 800 V_{rms})
Measuring range L-L	0[1] .. 1040 V_{rms} (max. overvoltage 1350 V_{rms})
Resolution	0,01 V
Crest factor	2,45 (related to the measurement range)
Impedance	3 MΩ/phase
Power consumption	Approx. 0,1 VA
Sampling frequency	13,67 kHz
Sampling frequency (IT-variant)	13,98 kHz
Frequency of the fundamental oscillation - Resolution	45 Hz .. 65 Hz 0,01 Hz
Fourier analysis	1. - 65. harmonics

1) The device only determines the measured values if voltage L1-N is greater than 20 Veff (4-conductor measurement) or voltage L1-L2 is greater than 34 Veff (3-conductor measurement) on voltage measurement input V1.

Current measurement	
Rated current	5 A
Metering range	0,005 .. 6 A_{rms}
Crest factor (based on the rated current)	2 (relative to 6 A_{rms})
Overvoltage category	300 V CAT II
Rated surge voltage	2 kV
Power consumption	ca. 0,2 VA (Ri=5 mΩ)
Overload for 1 sec.	60 A (sinusoidal)
Resolution	0,1 mA (display 0.01 A)
Sampling frequency	13,67 kHz
Sampling frequency (IT-variant)	13,98 kHz
Fourier analysis	1. - 65. harmonic

Serial interface	
RS485 - Modbus RTU/Slave	9,6 kbps, 19,2 kbps, 38,4 kbps, 57,6 kbps, 115,2 kbps

Digital outputs 3 digital outputs, solid state relays, not short-circuit proof.	
Switching voltage	max. 33 V AC, 40 V DC
Switching current	max. 50 mA_{eff} AC/DC
Response time	approx. 200 ms
Pulse output	max. 50 Hz (energy pulses)

Digital inputs 3 digital inputs, solid state relays, not short-circuit proof.	
Maximum counter frequency	20 Hz
Input signal applied	18 V .. 28 V DC (typically 4 mA)
Input signal not applied	0 .. 5 V DC, current less than 0.5 mA

Cable length (digital inputs/outputs)	
Up to 30 m (32.81 yd)	Unshielded
Greater than 30 m (32.81 yd)	Shielded

Analog outputs	
External power supply	max. 33 V
Current	0 .. 20 mA
Update time	1 s
Load	max. 300 Ω
Resolution	10 bit

Connecting capacity of the terminals (supply voltage) Connectible conductors. Only connect one conductor per terminal point!	
Single core, multi-core, fine-stranded	0.2 - 4.0 mm², AWG 28-12
Wire ferrules (non-insulated)	0.2 - 2.5 mm², AWG 26-14
Wire ferrules (insulated)	0.2 - 2.5 mm², AWG 26-14
Tightening torque	0.4 - 0.5 Nm (3.54 - 4.43 lbf in)
Strip length	7 mm (0.2756 in)

Connecting capacity of the terminals (voltage measurement) Connectible conductors. Only connect one conductor per terminal point!	
Single core, multi-core, fine-stranded	0.2 - 4.0 mm², AWG 28-12
Wire ferrules (non-insulated)	0.2 - 2.5 mm², AWG 26-14
Wire ferrules (insulated)	0.2 - 2.5 mm², AWG 26-14
Tightening torque	0.4 - 0.5 Nm (3.54 - 4.43 lbf in)
Strip length	7 mm (0.2756 in)

Connecting capacity of the terminals (current measurement) Connectible conductors. Only connect one conductor per terminal point!	
Single core, multi-core, fine-stranded	0.2 - 4 mm², AWG 28-12
Wire ferrules (non-insulated)	0.2 - 4 mm², AWG 26-12
Wire ferrules (insulated)	0.2 - 2.5 mm², AWG 26-14
Tightening torque	0.4 - 0.5 Nm (3.54 - 4.43 lbf in)
Strip length	7 mm (0.2756 in)

Terminal connection capacity (serial interface) Connectible conductors. Only connect one conductor per terminal point!	
Single core, multi-core, fine-stranded	0.2 - 1.5 mm², AWG 28-16
Wire ferrules (non-insulated)	0.2 - 1.5 mm², AWG 26-16
Wire ferrules (insulated)	0.2 - 1.5 mm², AWG 26-16
Tightening torque	0.2 - 0.25 Nm (1.77 - 2.21 lbf in)
Strip length	7 mm (0.2756 in)

Connecting capacity of the terminals (digital inputs/outputs, analog output) Connectible conductors. Only connect one conductor per terminal point!	
Single core, multi-core, fine-stranded	0.2 - 1.5 mm², AWG 28-16
Wire ferrules (non-insulated)	0.2 - 1.5 mm², AWG 26-16
Wire ferrules (insulated)	0.2 - 1.5 mm², AWG 26-16
Tightening torque	0.2 - 0.25 Nm (1.77 - 2.21 lbf in)
Strip length	7 mm (0.2756 in)

FUNCTION PERFORMANCE CHARACTERISTICS

Function	Symbol	Accuracy class	Measurement range	Display range
Total active power	P	0.5[4] (IEC61557-12)	0 W .. 12.6 kW	0 W .. 999 GW *
Total reactive power	QA, Qv	1 (IEC61557-12)	0 var .. 16.6 kvar	0 var .. 999 Gvar *
Total apparent power	SA, Sv	0.5[4] (IEC61557-12)	0 VA .. 12.6 kVA	0 VA .. 999 GVA *
Total active energy	Ea	0.2[4] (IEC61557-12) 0.2S[4] (IEC62053-22)	0 Wh .. 999 GWh	0 Wh .. 999 GWh *
Total reactive energy	ErA, ErV	1 (IEC61557-12)	0 varh .. 999 Gvarh	0 varh .. 999 Gvarh *
Total apparent energy	EapA, EapV	0.5[4] (IEC61557-12)	0 VAh .. 999 GVAh	0 VAh .. 999 GVAh *
Frequency	f	0.05 (IEC61557-12)	45 Hz .. 65 Hz	45.00 Hz .. 65.00 Hz
Phase current	I	0.2 (IEC61557-12)	0 Arms .. 7 Arms	0 A .. 999 kA
Neutral conductor current calculated	INc	1.0 (IEC61557-12)	0.03 A .. 25 A	0.03 A .. 999 kA
Voltage	U L-N	0.2 (IEC61557-12)	10 Vrms .. 600 Vrms	0 V .. 999 kV
Voltage	U L-L	0.2 (IEC61557-12)	18 Vrms .. 1040 Vrms	0 V .. 999 kV
Power factor	PFA, PFV	0.5 (IEC61557-12)	0.00 .. 1.00	0.00 .. 1.00
Short-term flicker, long-term flicker	Pst, Plt	Cl. 1 (IEC61000-4-15)	0,5 Pst bis 10,0 Pst	0 .. 10
Voltage dips (L-N)	Udip	0,2 (IEC61557-12)	10 Vrms .. 600 Vrms	0 V .. 999 kV
Voltage swells (L-N)	Uswl	0,2 (IEC61557-12)	10 Vrms .. 600 Vrms	0 V .. 999 kV
Voltage interruptions	Uint	0,2 (IEC61557-12)	10 Vrms .. 600 Vrms	0 V .. 999 kV
Voltage imbalance (L-N) [1]	Unba	0,2 (IEC61557-12)	10 Vrms .. 600 Vrms	0 V .. 999 kV
Voltage imbalance (L-N) [2]	Unb	0,2 (IEC61557-12)	10 Vrms .. 600 Vrms	0 V .. 999 kV
Voltage harmonics	Uh	Cl. 1 (IEC61000-4-7)	1 .. 65	0 V .. 999 kV
THD of voltage [3]	THDu	1.0 (IEC61557-12)	0% .. 999%	0% .. 999%
Current harmonics	Ih	Cl. 1 (IEC61000-4-7)	1 .. 65	0 A .. 999 kA
THD of current [3]	THDi	1.0 (IEC61557-12)	0% .. 999%	0% .. 999%

1) Referenced to the amplitude.
2) Referenced to the phase and amplitude.
3) Referenced to the fundamental oscillation.
4) Accuracy class 0.2/0.2S with ../5A transformer.
   Accuracy class 0.5/0.5S with ../1A transformer.

*When the maximum total energy values are reached, the display returns to 0 W.

INFORMATION

Detailed information on the device functions and data can be found in the usage information that is enclosed with the device or is available for download at www.janitza.de!

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