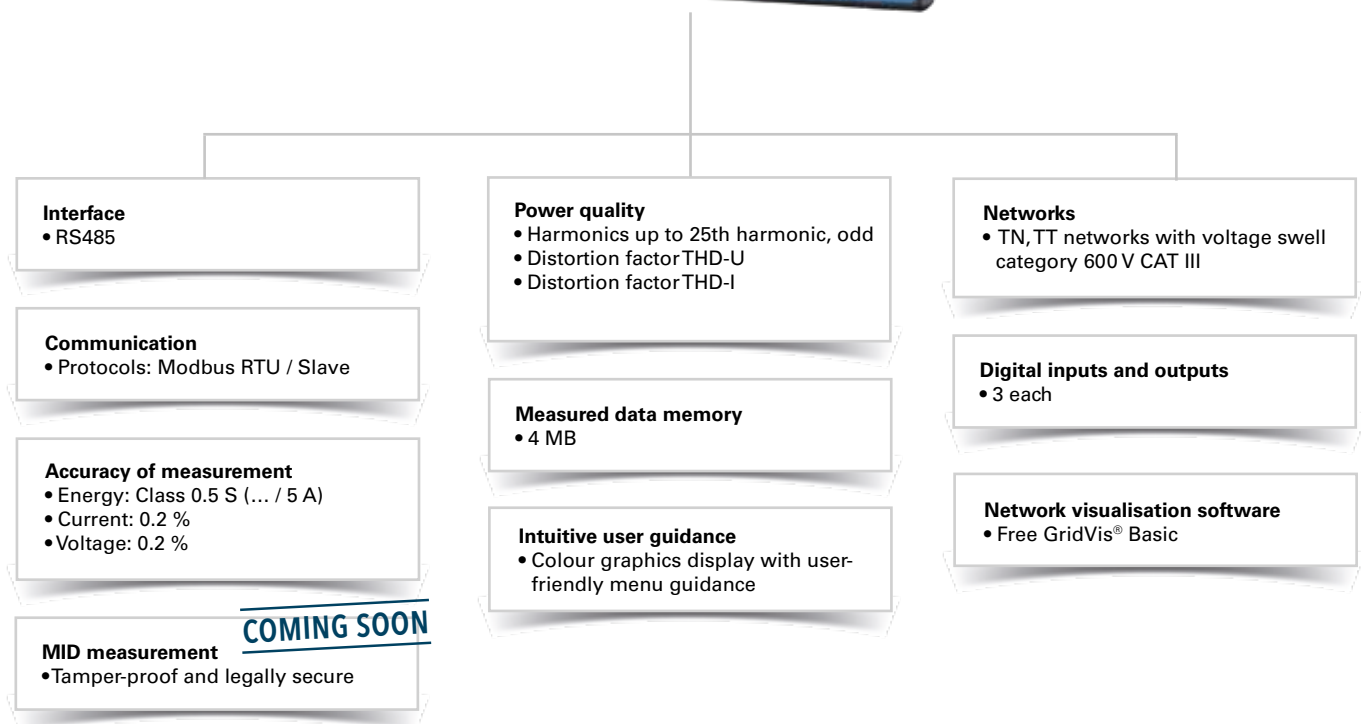


UMG 96-PA

4-in-1 energy measurement device – four functions one solution



COMING SOON

Areas of application



- Measurement, monitoring and checking of electrical characteristics in energy distribution systems
- Recording of load profiles in energy management systems (e.g. ISO 50001)
- Acquisition of the energy consumption for cost centre analysis
- Measured value transducer for building management systems or PLC (Modbus)
- As MID variant, suitable for accounting applications
- Optional module-based extension for residual and leakage current measurement
- Near-realtime reactions for triggering countermeasures
- Permanent RCM measurement for systems in permanent operation without the opportunity to switch off



Main features



Power quality

- Harmonics analysis up to 25th harmonic, indirect
- Distortion factor THD-U / THD-I
- Minimum and maximum values
- Measurement of positive, negative and zero sequence component

Features

- 3 Voltage measurement inputs (600 V CATIII)
- 3 Current measurement inputs
- Continuous sampling of the voltage and current measurement inputs
- Measurement of the reactive distortion power
- Sampling rate 8.33 kHz
- Transfer of the measured values via a serial interface



Fig.: UMG 96-PA energy measurement device



Extension of functions by add-on modules

- 2 analogue inputs – can be selected as 0–20 mA analogue inputs or as RCM measuring inputs with detection of cable breaks and additional temperature measurement
- Module – selectable with Ethernet interface
- Continuous monitoring of residual currents (Residual Current Monitoring, RCM)



Fig.: UMG 96-PA incl. module with Ethernet connection

Digital IOs

- Additional application options with comprehensive peripherals (three digital inputs and outputs and an analogue output)
- Extensive configuration of IOs for intelligent integration for monitoring of limit values and message upon exceedance



User-friendly, colour graphical display with intuitive user guidance

- High resolution colour graphical display 320 x 240 pixels, 6 buttons
- User-friendly, self-explanatory and intuitive operation
- Illustration of measured values in numeric form, as a bar graph or line graph



Fig.: UMG 96-PA colour graphics display

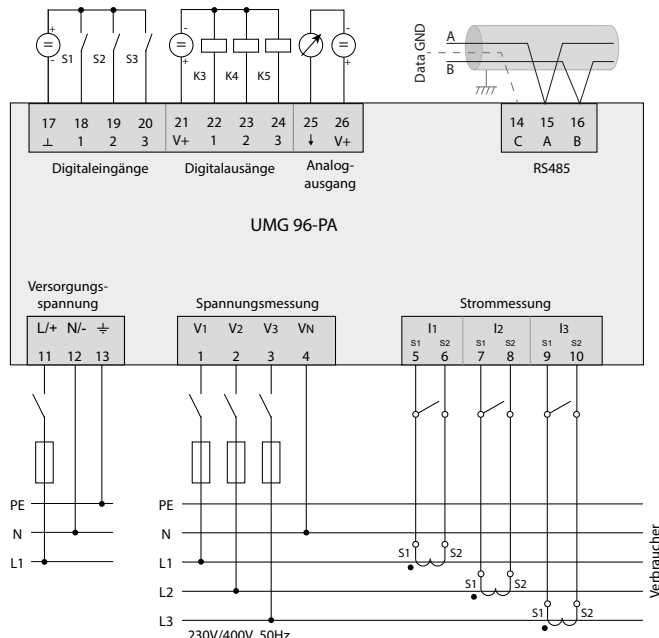


MID-compliant measurement

- Certified and tamper-proof measurement
- Legally secure accounting & energy acquisition (EEG [German renewable energy sources] law, StromStG [German electricity tax law])
- Fulfilment of legal stipulations



Typical connection variant



Device overview and technical data, basic device

Basic device without MID ¹	UMG 96-PA
Item number	52.32.001
Measured voltage (L-N/L-L)	417 / 720 V AC
Supply voltage (from 3-phase network)	-
General	
Use in low and medium voltage networks	•
Accuracy of measurement with voltage	0.2 %
Accuracy of measurement with current	0.2 %
Accuracy of measurement with active energy (kWh, .../5 A)	Class 0.5S
Number of measurement points per period	166
Uninterrupted measurement	•
RMS - momentary value	
Current, voltage, frequency	•
Active, reactive and apparent power / total and per phase	•
Power factor / total and per phase	•
Energy measurement	
Active, reactive and apparent energy [L1,L2,L3, Σ L1-L3]	•
Number of tariffs	HT / LT
Recording of the mean values	
Voltage, current / present and maximum	•
Active, reactive and apparent power / present and maximum	•
Frequency / present and maximum	•

Comment:
For detailed technical information, please refer to the operation manual and the Modbus address list.

• = included - = not included
¹ MID certification applied for

	UMG 96-PA
Measurement of the power quality	
Harmonics per order / current	1. – 25th.
Harmonic per order / voltage	1. – 25th.
Distortion factor THD-U in %	•
Distortion factor THD-I in %	•
Current and voltage, positive, zero and negative sequence component	•
Measured data recording	
Current measurement channels	3
Recording period	Up to 144 days
Memory (Flash)	4 MB
Battery	CR2032
Clock	•
Mean, minimum, maximum values	•
Communication	
Interfaces	
RS485: Autobaud, 9.6 – 115.22 kbps (Screw-type terminal)	•
Protocols	
Modbus RTU	•
Software GridVis® Basic¹	
Online graphs	•
Databases (Janitza DB, Derby DB)	•
Manual reports (energy, power quality)	•
Topology views	•
Manual read-out of the measuring devices	•
Graph sets	•
Programming / threshold values / alarm management	
Technical data	
Comparator (2 Groups with 3 comparators each)	•
Type of measurement	Continuous real effective value measurement up to the 25th harmonic
Nominal voltage, three-phase, 4-conductor (L-N, L-L)	417 / 720 V AC (+ 10%)
Measurement in quadrants	4
Networks	TN, TT
Measured voltage input	
Overvoltage category	600 V CAT III
Maximum metering range, voltage L-N, AC (without transformer)	10 - 660 Vrms
Maximum metering range, voltage L-L, AC (without transformer)	18 - 1150 Vrms
Resolution	0.01 V
Frequency measuring range	45 to 65 Hz
Power consumption	4.5 VA
Measurement voltage surge	6 kV
Sampling rate	8.33 kHz / phase
Measured current input	
Rated current	1 / 5 A
Resolution	0.1 mA
Metering range	0.005 - 6 Amps
Overvoltage category	300 V CAT II
Measurement voltage surge	2 kV
Power consumption	Approx. 0.2 VA (Ri = 5 mOhm)
Overload for 1 sec.	60 A (sinusoidal)
Sampling rate	8.33 kHz / phase
Mechanical properties	
Weight	250 g
Device dimensions in mm (H x W x D)	Approx. 96 x 96 x 86
Protection class per EN 60529	Front IP40 / back IP20
Assembly per IEC EN 60999-1 / DIN EN 50022	Front panel installation
Connecting phase (U), Single core, multi-core, fine-stranded Terminal pins, core end sheath	0.08 to 4.0 mm ² 0.2 to 2.5 mm ²
Connecting phase (I), Single core, multi-core, fine-stranded Terminal pins, core end sheath	0.2 to 2.5 mm ² 0.2 to 2.5 mm ²

Environmental conditions	
Temperature range	Operation: K55 (-10 ... +55 °C)
Relative humidity	Operation: 0 to 75 %
Operating altitude	0 to 2,000 m above sea level
Pollution degree	2
Installation position	any
Electromagnetic compatibility	
Electromagnetic compatibility of equipment	Directive 2004/108/EC
Electrical equipment for use within certain voltage limits	Directive 2006/95/EC
Equipment safety	
Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements	IEC/EN 61010-1
Part 2-030: Particular requirements for testing and measuring circuits	IEC/EN 61010-2-030
Immunity from interference	
Industrial area	IEC/EN 61326-1
Electrostatic discharge	IEC/EN 61000-4-2
Voltage dips	IEC/EN 61000-4-11
Emissions	
Class A: Residential area	IEC/EN 61326-1
RFI Field Strength 30 – 1,000 MHz	IEC/CISPR11/EN 55011
Radiated interference voltage 0.15 – 30 MHz	IEC/CISPR11/EN 55011
Safety	
Europe	CE labelling
Firmware	
Firmware update	Update via GridVis® software. Firmware download (free of charge) from the website: http://www.janitza.de

*1 Optional additional functions with the packages GridVis®-Professional, GridVis®-Service and GridVis®-Ultimate.

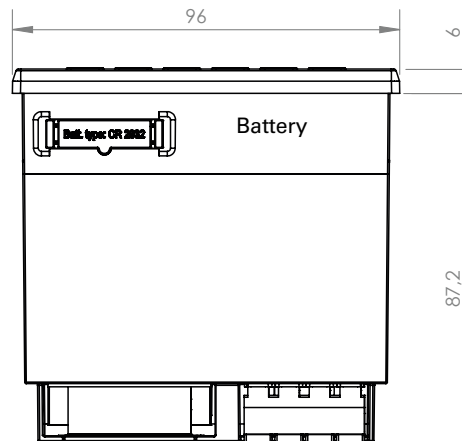
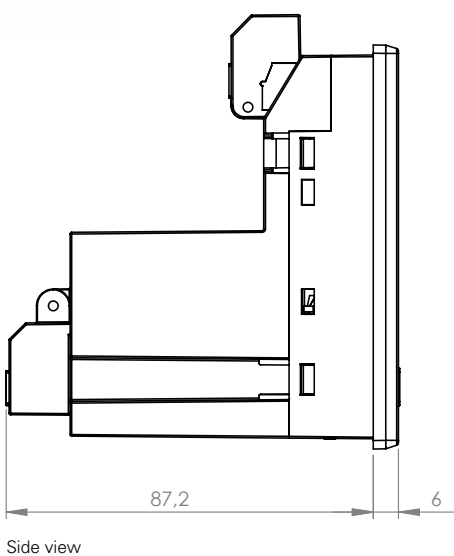
Comment: For detailed technical information please refer to the operation manual and the Modbus address list.

• = included - = not included



Dimension diagrams

All dimensions in mm



Cut-out size: $92^{+0,8} \times 92^{+0,8}$ mm