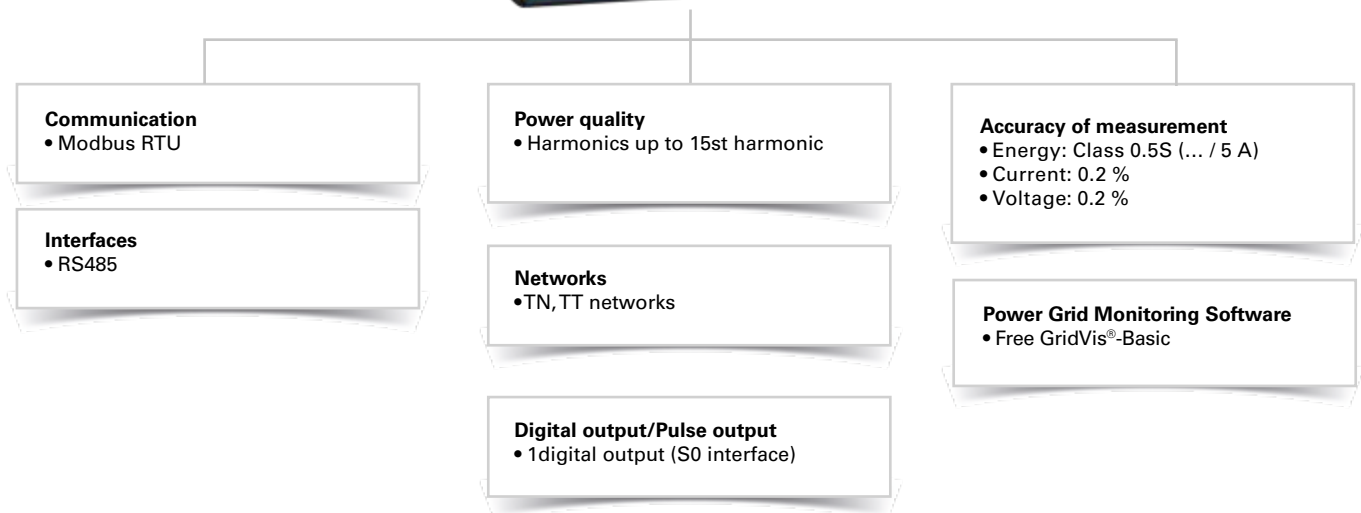


UMG 96-S2

Universal energy measurement device



Areas of application



- Measurement and checking of electrical characteristics and energy consumption in energy distribution systems
- Cost centre management
- Threshold value monitoring, measured value transducer for building management systems or PLC
- Monitoring of harmonics



UMG 96-S2 rear view

Main features



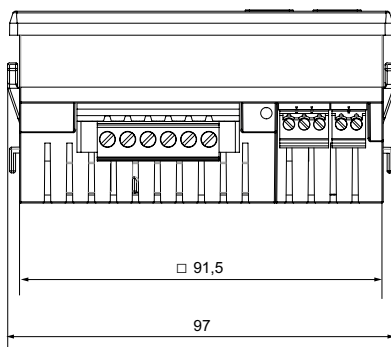
Leistungsmerkmale

- 4 Voltage measurement inputs (300 V CATIII)
- 3 Current measurement inputs
- Continuous sampling of voltage and current measurement inputs
- Sampling frequency 8 kHz
- Transfer of the measured values via a serial interface
- Harmonics analysis up to 15th harmonic

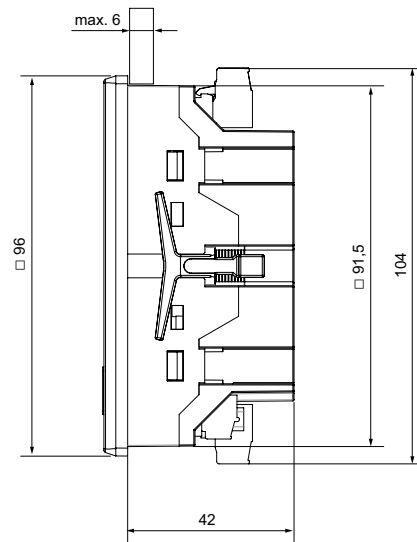


Dimension diagrams

All dimensions in mm



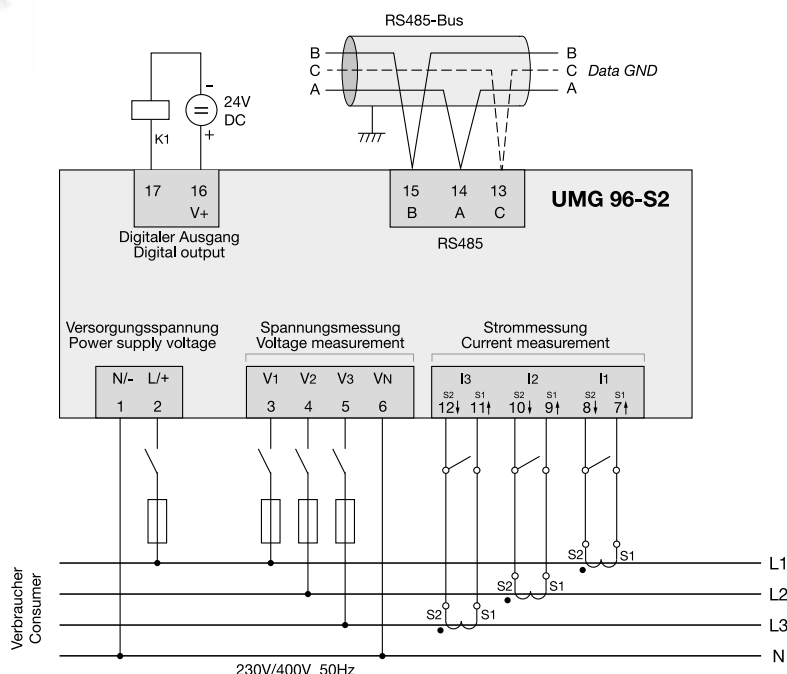
UMG 96-S2 bottom view



UMG 96-S2 side view



Typical connection variant



Device overview and technical data module

UMG 96-S2		52.34.002
General information		
Net weight (with attached connectors)	approx. 250 g (0.55 lb)	
Packaging weight (including accessories)	approx. 500 g (1.1 lb)	
Impact resistance	IK07 according to IEC 62262	
Transport and storage		
The following information applies to devices which are transported and stored in the original packaging.		
Free fall	1 m	
Temperature	K55 (-25 °C to +70 °C) (-13 °F ..to 158 °F)	
Relative humidity	0 to 90% RH	
Ambient conditions during operation		
Use the UMG 96-S2 in a weather-protected, stationary application. Protection class II in accordance with IEC 60536 (VDE 0106, Part 1).		
Operating temperature range	K55 (-10 °C to +55 °C) (50 °F ..to 131 °F)	
Relative humidity	0 to 75% RH	
Operating altitude	0 to 2000 m above sea level	
Degree of pollution	2	
Installation position	any	
Ventilation	no external ventilation required	
Protection against foreign bodies and water		
- Front	IP40 in acc. with EN60529	
- Rear	IP20 in acc. with EN60529	
- Front side with sealing	IP54 in acc. with EN60529	



Device overview and technical data module

Supply voltage	
Nominal range	AC 90 V – 265 V (50/60 Hz) or DC 90 V – 250 V, 300 V CATIII
Operating range	± 10% of nominal range
Power consumption	max. 1.5 VA / 0.5 W
Internal fuse, not exchangeable	Type T1A / 250 V DC / 277 V AC according to IEC 60127
Recommended overcurrent protection device for the line protection	6-16 A (Char. B, IEC-/UL approval)

Voltage measurement	
Three-phase 4-conductor systems with nominal voltages up to	230 V/400 V (± 10%) according to IEC
Overvoltage category	300 V CAT III
Measurement voltage surge	4 kV
Fuse for the voltage measurement	1 – 10 A (with IEC-/UL approval)
Measuring range L-N	0 ¹⁾ ... 300 Vrms (max. overvoltage 400 Vrms)
Measuring range L-L	0 ¹⁾ .. 425 Vrms (max. overvoltage 620 Vrms)
Measurement range exceedance L-N	$U_{L-N} > 300$ Vrms
Resolution	0.01 V
Crest factor	1.9 (related to the measurement range)
Impedance	3 MΩ/phase
Power consumption	approx. 0.1 VA
Sampling frequency	8 kHz
Frequency of the basic oscillation - resolution	45 Hz to 65 Hz 0.01 Hz

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	×/1 and ×/5 A
Metering range	0 to 6 Arms
Measurement range exceedance	$I > 7$ Aeff
Crest factor (based on the rated current)	2
Resolution	1 mA (display 0.01 A) at .../5 A 1/4 mA at .../1 A
Overvoltage category	300 V CAT II
Measurement voltage surge	2 kV
Power consumption	approx. 0.2 VA (Ri = 5 mΩ)
Overload 1 s	60 A (sinusoidal)
Sampling frequency	8 kHz

Serial interface	
RS485 - Modbus RTU/Slave	9.6 kbps, 19.2 kbps, 38.4 kbps

Digital output 1 digital output, semiconductor relay, not short-circuit proof.	
Switching voltage	approx. 60 V DC
Switching current	approx. 50 mAeff DC
Pulse output (energy pulse)	approx. 12.5 Hz

Terminal connection capacity (supply voltage/voltage measurement/current measurement) Connectable conductor (Connect only one conductor per terminal!):	
Single core, multi-core, fine-stranded	0.08 – 2.5 mm ² , AWG 28 – 12
Terminal pins, core end sheath	0.2 – 2.5 mm ²
Tightening torque	0.4 – 0.5 Nm (3.54 - 4.43 lbf in)
Stripping length	7 mm (0.2756 in)

Terminal connection capacity (serial interface/digital interface)	
Single core, multi-core, fine-stranded	0.2 – 1.5 mm ² , AWG 28 – 16
Terminal pins, core end sheath	0.2 – 1.5 mm ²
Tightening torque	0.2 – 0.25 Nm (1.77 - 2.21 lbf in)
Stripping length	7 mm (0.2756 in)