Smart Energy & Power Quality Solutions

Multifunctional Energy Analyzer

UMG 806

Data sheet

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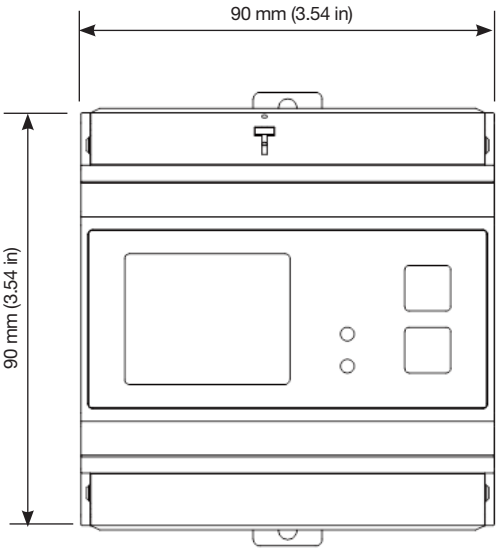
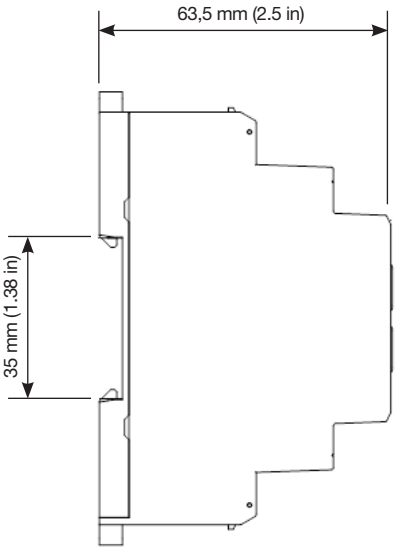
DEVICE VIEWS

Front view



View from the left



TECHNICAL DATA

General	
Net weight	approx. 300 g (0.66 lb)
Device dimensions	Approx. B = 90 mm (3.54 in), H = 90 mm (3.54 in), D = 63.5 mm (2.5 in)
Horizontal pitch	5 HP
Battery	Type Li-Mn CR1632, 3 V
Backlight service life	45000 h (50% of the initial brightness)
Mounting orientation	As desired
Impact resistance	IK04 according to IEC 62262

Transport and storage The following specifications apply for devices transported and stored in the original packaging.	
Free fall	1 m (39.37 in)
Temperature	-30° C (-22 °F) to +80° C (176 °F)
Relative humidity	5 to 95 % RH at 77 °F (25 °C), non-condensing

Environmental conditions during operation	
The device: For weather-protected and stationary use. Fulfills operating conditions according to DIN IEC 60721-3-3. Has protection class II according to IEC 60536 (VDE 0106, part 1), a ground wire connection is not required!	
Rated temperature range	-25 °C (-13 °F) to +70 °C (158 °F)
Relative humidity	5 to 95 % at 77 °F (25 °C), non-condensing
Operating elevation/overvoltage category	< 2000 m (6560 ft) above sea level
Pollution degree	2
Ventilation	No forced ventilation required.
Protection against foreign matter and water	IP20 according to EN60529

Supply voltage	
Nominal range	AC: 100 V - 300 V 50/60 Hz / DC: 100 V - 300 V OVC III
Power consumption	max. 7 VA / 3 W
Recommended overcurrent protective device for line protection	5 A, (type B), IEC/UL approval

Voltage measurement	
3-phase 4-conductor systems with rated voltages up to	277 V_{LN} / 480 V_{LL} (+/-10%) acc. to IEC 277 V_{LN} / 480 V_{LL} (+/-10%) acc. to UL
3-phase 3-conductor systems (grounded) with rated voltages up to	480 V_{LL} (+/-10%) acc. to IEC 480 V_{LL} (+/-10%) acc. to UL
Overvoltage category	300 V CAT III acc. to IEC 300 V CAT III acc. to UL
Rated surge voltage	4 kV
Protection of the voltage measurement	1 - 10 A tripping characteristic B (with IEC/UL approval)
Measuring range L-N	0[1)] .. 230 V_{rms} (max. overvoltage 277 V_{rms})
Measuring range L-L	0[1)] .. 400 V_{rms} (max. overvoltage 480 V_{rms})
Resolution	0.1 V
Crest factor	2 (referred to measuring range 230 V L-N)
Impedance	>1.7 MΩ/Phase
Power consumption	approx. 0.1 VA / phase
Sampling frequency	8 kHz / phase
Frequency of fundamental oscillation - Resolution	45 Hz .. 65 Hz 0.01 Hz
Harmonics	1 .. 31.

1) ... The device only measures if at least one voltage measurement input has an L-N voltage of > 10 Vrms or an L-L voltage of > 17 Vrms present.

Current measurement (../1 A) (../5 A)	
Nominal current	1 A / 5 A
Channels	4
Measuring range	0.005 .. 6 A_{rms}
Crest factor (relative to the nominal current)	2
Overload for 1 s	100 A (sinusoidal)
Resolution	1 mA
Overvoltage category	300 V CAT III
Rated surge voltage	4 kV
Power consumption	approx. 0.2 VA
Sampling frequency	8 kHz
Harmonics	1 .. 31.

RCM Strommessung (I5)	
Nominal current	40 mA
Measuring range	0 .. 500 mA_{rms}
Operating current	0.01 mA
Resolution	0.01 mA
Crest factor	1.141 (relative to 500 mA)
Load	0.75 Ω
Overload for 1 s	5 A
Permanent overload	1 A
Overload for 20 ms	10 A
Measurement of residual currents	Typ A

Digital outputs Energy pulse output	
Switching voltage	max. 35 V DC
Switching current	max. 10 mA_{rms} DC
Response time	approx. 500 ms
Pulse width	80 ms ±20%
Digital output (energy pulses)	max. 10 Hz

Temperature measurement	
Update time	1 s
Total load (sensor and cable)	max. 0.35 kΩ
Suitable sensor types	PT100

Cable length (digital output, temperature measurement)	
Up to 30 m (32.81 yd)	Unshielded
Greater than 30 m (32.81 yd)	Shielded

RS-485 interface 2-wire connection	
Protocol	Modbus RTU
Transmission rate	up to 115.2 kbps

Connecting capacity of the terminals (supply voltage) Connectible conductors. Only connect one conductor per terminal point!	
Single core, multi-core, fine-stranded	0.14 - 2.5 mm², AWG 26-14
Wire ferrules (non-insulated)	0.25 - 2.5 mm², AWG 23-14
Wire ferrules (insulated)	0.25 - 1.5 mm², AWG 23-16
Tightening torque	0.5 - 0.6 Nm (4.43 - 5.31 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 24-12
Wire ferrules (non-insulated)	0.25 - 2.5 mm², AWG 23-14
Wire ferrules (insulated)	0.25 - 1.5 mm², AWG 23-16
Tightening torque	0.5 - 0.6 Nm (4.43 - 5.31 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 mm², AWG 24-12
Wire ferrules (insulated/non-insulated)	0.25 - 2.5 mm², AWG 23-14
Strip length	7 mm (0.2756 in)

Connection capacity of the terminals (RS-485, digital output, temperature measurement)	
Single core, multi-core, fine-stranded	0.2 - 4 mm², AWG 24-12
Wire ferrules (non-insulated)	0.25 - 2.5 mm², AWG 23-14
Wire ferrules (insulated)	0.25 - 1.5 mm², AWG 23-16
Tightening torque	0.5 - 0.6 Nm (4.43 - 5.31 lbf in)
Strip length	7 mm (0.2756 in)

FUNCTION PERFORMANCE CHARACTERISTICS

Function	Symbol	Accuracy class	Display range	Norm
Voltage	U	0.2	0-999.9 kV	IEC61557-12
Current	I	0.2	0-99,99 kA	IEC61557-12
Active power	P	0.5	0-9999 MW	IEC61557-12
Reactive power	Q	0.5	0-9999 Mvar	IEC61557-12
Apparent power	S	0.5	0-9999 MVA	IEC61557-12
Power factor	PF	0.5	0-1.000	IEC61557-12
Frequency	F	±0.01 Hz	45.00 Hz-65.00 Hz	IEC61557-12
Active energy	EP	0.5 s	0-99999999 MWh	IEC62053-22
Reactive energy	EQ	2	0-99999999 Mvarh	IEC62053-23
Harmonic ratio of voltage	THDu	1 (50 Hz) 5 (60 Hz)	0-99.99 %	IEC61557-12
Harmonic ratio of current	THDi		0-99.99%	IEC61557-12
Sub-harmonic voltage component	THDu		0-99.99 %	IEC61557-12
Sub-harmonic current component	THDi		0-99.99 %	IEC61557-12
Voltage unbalance	Uunb	0.5	--	IEC61557-12
Current unbalance	Iunb	0.5	--	IEC61557-12
Phase sequence of the mains voltage	--	0.5	--	IEC61557-12
Phase position of the mains voltage / mains current	--	±0.1°		IEC61557-12
Phase sequence of the mains current	--	0.5	--	IEC61557-12
Extreme value	--	0.5	--	IEC61557-12
Consumption	--	0.5	--	IEC61557-12
Temperature	T	±2° C	--	--

Note:
For open type current transformers or Rogowski coils, the following applies:
· Current accuracy 0.5
· Power accuracy 1.0
· Active energy class 2

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