



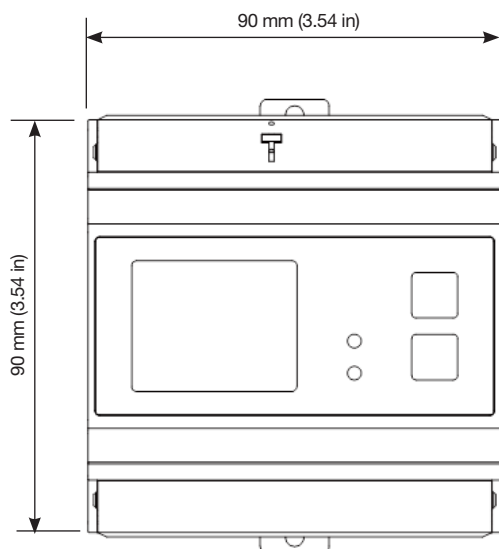
Multifunctional Energy Analyzer

UMG 806-LP

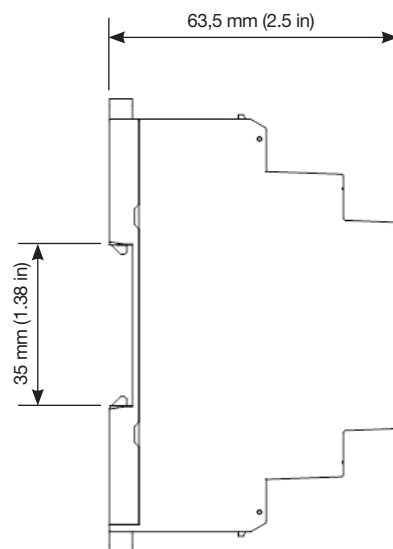
Data sheet

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	< 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 V_{rms} or an L-L voltage of > 17 V_{rms} present.

Current measurement	
Nominal input signal	.. / 333 mV
Channels	4
Measuring range	0,3 .. 400 mV _{rms}
Crest factor	< 2,4
Overload for 1 s	1 V
Resolution	0,00333 mV
Power consumption	< 0,1 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 k Ω
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 mm ² , AWG 26-14
Wire ferrules (non-insulated)	0.25 - 2.5 mm ² , AWG 23-14
Wire ferrules (insulated)	0.25 - 1.5 mm ² , 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 mm ² , AWG 24-12
Wire ferrules (non-insulated)	0.25 - 2.5 mm ² , AWG 23-14
Wire ferrules (insulated)	0.25 - 1.5 mm ² , 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 mm ² , AWG 24-12
Wire ferrules (insulated/non-insulated)	0.25 - 2.5 mm ² , 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 mm ² , AWG 24-12
Wire ferrules (non-insulated)	0.25 - 2.5 mm ² , AWG 23-14
Wire ferrules (insulated)	0.25 - 1.5 mm ² , AWG 23-16
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FUNCTION PERFORMANCE CHARACTERISTICS

Function	Symbol	Accuracy class	Display range	Norm
Voltage	U	0.2	0-999.9 kV	IEC61557-12
Current	I	0.5	0-99.99 kA	IEC61557-12
Active power	P	1	0-9999 MW	IEC61557-12
Reactive power	Q	1	0-9999 Mvar	IEC61557-12
Apparent power	S	1	0-9999 MVA	IEC61557-12
Power factor	PF	1	0-1.000	IEC61557-12
Frequency	F	± 0.01 Hz	45.00 Hz-65.00 Hz	IEC61557-12
Active energy	EP	1	0-99999999 MWh	IEC62053-22
Reactive energy	EQ	2	0-99999999 Mvarh	IEC62053-23
Harmonic ratio of voltage	THDu	Class S	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	1	--	IEC61557-12
Phase sequence of the mains voltage	--	0.5	--	IEC61557-12
Phase position of the mains voltage / mains current	--	$\pm 0.1^\circ$		IEC61557-12
Phase sequence of the mains current	--	1	--	IEC61557-12
Extreme value	--	1	--	IEC61557-12
Consumption	--	1	--	IEC61557-12
Temperature	T	$\pm 2^\circ$ 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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