Smart Energy & Power Quality Solutions



Modular expandable energy analyzer

UMG 800

Data sheet

Doc. no. 2.053.225.1.c 10/2026

Janitza

Modular expandable energy analyzer
UMG 800



UMG 800
Modular multifunctional meter for recording energy quantities

Doc. no.: 2.053.225.1.c
Status: 10/2026
The German version is the original version of the documentation.

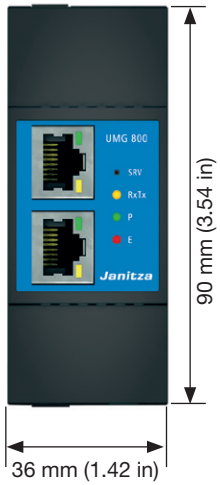
Subject to technical changes.

The content of our documentation has been compiled with the utmost care and is based on the latest information available to us. Nevertheless, we would like to point out that the updating of this document cannot always be performed simultaneously with the further technical development of our products. Information and specifications can be changed at any time.
Please consult www.janitza.com for information on the current version.

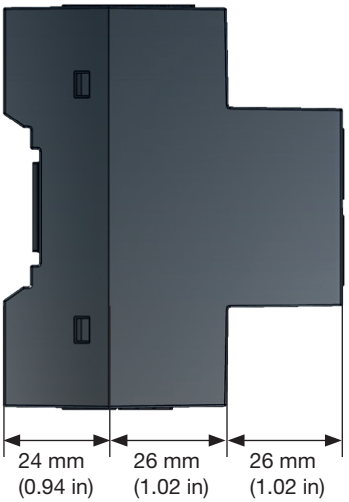
DEVICE VIEWS

· The figures serve as illustrations and are not true to scale.
· Please also note the dimensions of the terminals used during installation!
· Specifications in mm (in).

Front view



View from the left



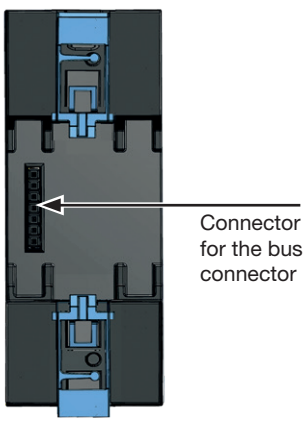
View from below



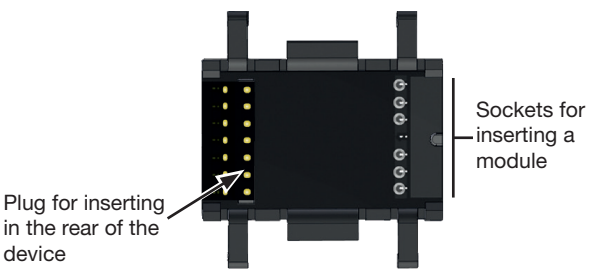
View from above



Rear view



Bus connector



TECHNICAL DATA

General	
Net weight (with plug-in terminals)	approx. 120 g (0.265 lb)
Device dimensions	approx. B = 36 mm (1.42 in), H = 90 mm (3.54 in), D = 76 mm (2.99 in)
Width of the device in horizontal pitches	2 HP (1 HP = 18 mm)
Battery	Type Lithium CR1632, 3 V, not changeable (UL1642 approval)
Integrated memory	4 GB
Mounting orientation	As desired
Fastening/mounting - Suitable DIN rails - 35 mm (1.38 in)	· TS 35/7.5 according to EN 60715 · TS 35/10 · TS 35/15 x 1.5
Clock error - in the temperature range from 18 °C (64 °F) .. 28 °C (82 °F)	± 5 ppm (corresponds to 3 min./year)
Impact resistance	IK07 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	-25 °C (-13 °F) to +70 °C (158 °F)
Relative humidity	5 to 95% at 25 °C (77 °F), no condensation

Environmental conditions during operation	
The device: · Is 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	-10 °C (14 °F) to +55 °C (131 °F)
Relative humidity	5 to 95% at 25 °C (77 °F), no condensation
Operating elevation	0 ... 2000 m (1.24 mi) 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	DC: 24 V, PELV (grounded power supply unit)
Operating range	+/-10% of nominal range
Power consumption	2.5 W
Maximum power consumption with modules and external display	14 W
Recommended overcurrent protective device for line protection	2-6 A, (Char. B), IEC/UL approval

Voltage measurement	
Three-phase 4-conductor systems with rated voltages up to	277 V_{LN} / 480 V_{LL} (+/-10%) according to IEC 277 V_{LN} / 480 V_{LL} (+/-10%) according to UL
3-phase 3-conductor systems (grounded) with rated voltages up to	480 V_{L-L} (+/-10%) according to IEC 480 V_{L-L} (+/-10%) according to UL
3-phase 3-conductor systems (non-grounded) with rated voltages up to	480 V_{L-L} (+/-10%) according to IEC 480 V_{L-L} (+/-10%) according to UL
Overvoltage category	300 V CAT III according to IEC 300 V CAT III according 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 .. 300 V_{rms} (max. overvoltage 520 V_{rms}) The device only measures if a voltage L-N greater than 20 V_{rms} is applied to L1.
Measuring range L-L	0 .. 520 V_{rms} (max. overvoltage 900 V_{rms}) The device only measures if a voltage L-N of greater than 34 V_{rms} is applied to L1-L2 or L1-L3.
Measuring range N-PE	0 .. 300 V_{rms}
Resolution	0.01 V
Crest factor	2 (referred to measuring range)
Impedance	3 MΩ/phase
Power consumption	approx. 0.1 VA
Sampling frequency	51.2 kHz
Frequency of fundamental oscillation - Resolution	40 Hz .. 70 Hz 0.01 Hz
Harmonics	1 .. 63.

Periphery

RS485 interface 3-wire connection with A, B, GND.	
Protocol	Modbus RTU/Server (formerly Slave) Modbus RTU/Gateway
Transmission rate	9.6 kbps, 19.2 kbps, 38.4 kbps, 57.6 kbps, 115.2 kbps
Termination	DIP switches (S1)

Ethernet interfaces	
Connection	2 x RJ45 · 10BASE-T/100BASE-TX with auto-negotiation of transmission speed and duplex mode (half/full) in accordance with IEEE 802.3u · No manual configuration of transmission speed or duplex mode · 1000BASE-T is not supported
Function	Modbus Gateway, Embedded Webserver (HTTP)
Protocols	TCP/IP, DHCP-Client (BootP), Modbus/TCP (Port 502), ICMP (Ping), NTP, FTP

USB interface	
Connection	USB 2.0, Type A
Function	Connection for · external Display. · USB memory stick (FAT32 formatted) with commissioning configuration.

Connection capacity of the terminals - Supply voltage Connectible conductors: Only connect one conductor per terminal point!	
Single core, multi-core, fine-stranded	0.2 - 4 mm², AWG 28-12
Wire ferrules (insulated/non-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)

Connection capacity of the terminals - Voltage measurement Connectible conductors: Only connect one conductor per terminal point!	
Single core	0.5 - 1.5 mm², AWG 21-16
Fine-stranded	0.5 - 2.5 mm², AWG 21-14
Wire ferrules (insulated/non-insulated)	0.5 - 2.5 mm², AWG 21-14
Strip length	10 mm (0.3937 in)

Connection capacity of the terminals - RS485	
Single core, multi-core, fine-stranded	0.2 - 1.5 mm², AWG 28-16
Wire ferrules (insulated/non-insulated)	0.2 - 1.5 mm², AWG 28-16
Tightening torque	0.2 - 0.25 Nm (1.77 - 2.21 lbf in)
Strip length	7 mm (0.2756 in)

Potential isolation and electrical safety of the interfaces

The interfaces (RS485, Ethernet und USB) have:
- a double insulation to the voltage measurement inputs.
- a functional insulation against each other, to the supply voltage, to the measuring inputs.

The interfaces of the connected devices require double or reinforced insulation against mains voltages (according to IEC 61010-1).

FUNCTION PERFORMANCE CHARACTERISTICS

Function	Symbol	Accuracy class	Measurement range
Frequency	f	0.05 (IEC61557-12)	40 .. 70 Hz
Voltage	U_{L-N}	0.2 (IEC61557-12)	20 .. 300 V_{eff}
Voltage	U_{L-L}	0.2 (IEC61557-12)	34 .. 520 V_{eff}
Voltage harmonics	Uh	Kl. 1 (IEC61000-4-7)	1 .. 63.
THD of the voltage	THDu	1.0 (IEC61557-12)	0 .. 999%

INFORMATION

Detailed information on the device functions and data can be found in the usage information, which is enclosed with the device or is available as a download at www.janitza.com!

NOTES

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