**Universal measuring device UMG 96 RM-E / 24-90V AC / DC**

Suitable for measurement in all levels of TN & TT networks for recording current, voltage, frequency, active, apparent & reactive power (per phase & total) in the frequency range 45 - 65 Hz, power factor & cos phi, active, apparent & reactive energy total as well as consumption and output of active & reactive energy (4-quadrant measurement) in separate memory values as well as 7 tariffs, continuous real effective value measurement (True RMS).

Modbus RTU & TCP master function for network connection to own or higher-level software systems of max. 31 DIN rail or front panel devices as well as energy meters, data loggers & expansion modules per master device of the manufacturer's current product series. Ethernet gateway function as well as integration of Modbus RTU-certified third-party products after specific integration test via generic Modbus profiles. Simultaneous supply of the communication interfaces as well as parallel operation of 4 Modbus TCP ports.

Function extensions via installable APPs on the unit's internal web server. 5 comparator groups for logical evaluation (And / Or) of 10 direct measured values or resulting measured values each with parametrisable lead time and switch-on time as limit switches (limit value monitoring, etc.) with a cycle of >= 200 ms.

Digital slave pointer function (positive/negative) of active and apparent powers as well as currents with external synchronisation and freely adjustable period duration (1..60 min.)

Measurement of the positive, negative and zero sequence as well as rotating field direction. Total harmonic distortion (THD-I & THD-U), single harmonics (even / odd) for current & voltage up to the 40th harmonic.

Sampling rate of 20 kHz (50 Hz) with 400 measuring points per period (voltage measurement) as well as output of the measured values via the interfaces (cycle >=200 ms). Acquisition of over-, & undervoltage, 256 MB internal measurement data memory (flash) freely configurable by the user, clock with buffering.

Accuracy classes according to IEC 61557-12 at 50/60 Hz:

Active energy: 0.5 / 0.5S & 1 (/5A & /1A converter) / Current: 0.2 / Voltage: 0.2

Front panel mounting unit, 96 x 96 x 90 mm (WxHxD), monochrome 3-line LCD display (backlit), 2 keys, protection class (front / rear) IP 40 / IP 20, protection class: II, net weight: 370 g, heat dissipation: max. 4 W, UL 61010-1 certified.

Supply voltage:

Nominal range: 24-90V AC / DC

Frequency range (AC): 50 / 60 Hz

Overvoltage category: 300V CAT III

Voltage measurement:

3 Ph. + N (L-N / L-L) max.: 277 / 480 V

3 Ph. without N/PE (L-L) max.: 480 V

Overvoltage category: 300V CAT III

Current measurement:

Quantity: 4x

Measuring range / resolution: 5 mA to 6 A rms / 0.1 mA

Overvoltage category: 300V CAT II

Residual current measurement:

Quantity / type: 2x type A with dyn. limit value

Measuring range / resolution: 50 µA to 40 mA rms / 1 µA

Data interfaces:

Modbus (RS485), Ethernet (RJ45)

Data protocols:

Modbus RTU & TCP, TCP/IP, DHCP, HTTP, NTP, SMTP

Ethernet gateway, FTP, TFTP, BACnet IP (optional).

Digital outputs:

Number: 2x + 3x optional

Function type: Pulse or limit value output

Supply: 24 V DC passive, galvanically insulated

Switching current / voltage / frequency: 50 mA effective / 60 V DC / 50 Hz

Digital inputs:

Number: 3x optional

Function type: Digital or pulse input

Switching voltage level: 0 - 28 V DC

Counting frequency: max. 20 Hz

Temperature measurement:

Quantity: 2x optional at I5/I6

Compatible sensors: PT100/1000, KTY83/84

Delivery includes:

Mounting accessories, documentation, parameterisation, & evaluation software in basic version, adjustment of the design to the practical application as well as the measured variables incl. their recording intervals, compatible current transformer set min. Kl. 0.5 all-phase, measuring transformer disconnect terminals with screw connection 0.2 - 10 mm², bridges as well as DIN rail clamp for DIN rail mounting according to DIN VDE 0100 - 557.5.3.1, compatible residual current transformers, configuration and parameterisation of the unit (e.g. mains form, transformer ratios, addressing of the communication interfaces), delivery, installation as well as connection.

Primary current at measuring point: '.........'. A

Unit version with data communication protocol

BACnet / IP (Yes / No): '.........'.

Manufacturer: Janitza electronics GmbH

Type: UMG 96RM-E

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