**UMG 96-PA series - 24-90V AC, 24-90V DC**

Modular universal measuring device with graphic colour display UMG 96 PA / 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, 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 2 tariffs, continuous true effective value measurement (True RMS).

2 comparator groups for logical evaluation (And / Or, etc.) of 3 direct measured values each or resulting measured values with parametrisable lead time and switch-on time as limit value switch (limit value monitoring, etc.) with a cycle of >= 200 ms.

Digital drag pointer function (positive/negative) of active and apparent powers as well as currents with external synchronisation and freely adjustable period duration (1..166 min.)

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

Sampling rate of 8.33 kHz (50 Hz) with 166 measuring points per period (voltage and current measurement) and output of the measured values via the interfaces (cycle >=200 ms).

8 MB internal measured data memory (flash), 4 MB of which can be freely configured by the user, clock with buffering.

Expandable with plug-in function modules.

Maximum number of function modules per unit: 1

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

Active energy class: 0.2S / current: 0.2 / voltage: 0.2

Front panel mounting unit, 96 x 96 x 86 mm (WxHxD), graphic LCD colour display with 320 x 240 pixels resolution (backlit) as well as user-friendly menu navigation, 6 keys, protection class (front / rear) IP 40 / IP 20 (optional sealing to IP54), protection class: II, net weight: 250 g, heat dissipation: max. 2 W

UL 61010-1 certified

Supply voltage:

Nominal range: 24 - 90 V AC, 24 - 90 V DC

Frequency range (AC): 50 / 60 Hz

Overvoltage category: 150V CAT III

Voltage measurement:

3 Ph. + N (L-N / L-L) max.: 347 / 600 V (UL)

3 Ph. + N (L-N / L-L) max.: 417 / 720 V (IEC)

3 Ph. without N/PE (L-L) max.: 600 V

Overvoltage category: 600V CAT III

Current measurement:

Quantity: 3x

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

Overvoltage category: 300V CAT II

Data interfaces:

Modbus (RS485)

Data protocols:

Modbus RTU

Digital outputs:

Number: 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

Analogue outputs:

Quantity: 1x

Type of function: Analogue current output

Output current range: 0/4 - 20 mA

Resolution: 10 bit

Update interval: 1 second

External supply voltage: max. 33V

Delivery includes:

Mounting accessories, documentation, parameterisation, & evaluation software in basic version, tuning 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, 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.

Manufacturer: Janitza electronics GmbH

Type: UMG 96-PA

Art.no.: 5232002