**UMG 96-PA MID+**

MID-certified power analyser with certified meter reading

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 purchase and delivery of active & reactive energy (4-quadrant measurement) in separate memory values as well as 2 tariffs, continuous true RMS measurement.

Measurement with commercially available voltage transformers (optional procurement) in medium/high voltage without artificial neutral point.

For energy data acquisition, power quality measurement and MID-compliant as well as tamper-proof billing metering. Approved according to EU Directive 2014 32 EU, part MI-003 incl. initial verification ex works, declaration of conformity & EC type examination certificate (module B + F).

Software separation according to MID directives with possibility of function extensions through software updates.

Accuracy class B according to EN 50470-1.

For MID-compliant measurement, current transformers (optionally voltage transformers) approved for billing must be used.

Sealable terminal covers for tamper-proof wiring according to MID guidelines.

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

Tamper-proof separate memory area for MID meter readings of the energy values (15 min. values) for recording measured values over a period of 2 years. Certified meter reading according to PTB-A 50.7.

Representation of drawn and delivered active energy measured values (15 min. interval) in kwh on the display of the entire period with representation of the plausibility (status) of the relevant parameters in connection with the time synchronisation.

Time synchronisation according to PTB-A 50.7 by means of connection to the PTB time server via NTP (additional Ethernet module required), time synchronisation via Modbus-RTU or use of a time pulse on the integrated digital input to ensure quarter-hourly time equality between generated and consumed energy.

Configuration change after initial commissioning of the current and voltage transformer ratios as well as the password and recording of the changes with the associated meter reading in a logbook in accordance with MID guidelines.

Additional 4 MB internal measured data memory (flash) freely configurable 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.

Supply voltage:

Nominal range: 90 - 277 V AC, 90 - 250V DC

Frequency range (AC): 50 / 60 Hz

Overvoltage category: 300V CAT III

Voltage measurement:

1 Ph. + N (L-N / L-L) max.: 230 / 400 V (MID)

3 Ph. + N (L-N / L-L) max.: 289 / 500 V (MID)

3 Ph. without N/PE (L-L) max.: 500 V (MID)

Overvoltage category: 600V CAT III

Current measurement:

Quantity: 3x

Measuring modes: 1-phase measurement, 3-phase measurement optionally with N or Aron connection

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

Adjustable nominal current ranges: 1A / 2A / 5A

Overvoltage category: 300V CAT II

Data interfaces:

Modbus (RS485)

Data protocols:

Modbus RTU

Digital output active energy MID:

Quantity: 1x

Type of function: Pulse output of active energy MID

Supply: 24 V DC passive, galv. insulated

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

Digital outputs:

Number: 2x optional

Type of function: 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

Function type: Analogue current output

Output current range: 0 - 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 MID+

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