

MULTIPHASE REACTIVE POWER TRANSDUCER

Application:

The transducer is suitable to convert the multiphase reactive power input to an analog DC voltage/current or a digital RS485 output.

Important features:

- Full digital operation (Icom System).
- Preset delivery or connecting to external device can be set (monIcom option).
- True power metering with digital multiplication.
- Plug in terminal blocks with screw.
- DIN rail case.
- EMC compliance.



Illustration only.

Technical specifications:

Input: (at external power supply)

- Nominal input voltage range (CF < 1.2): from 0...5 V to 0...600 V AC
- Current consumption: max. 0.35 mA (at nominal voltage)
- Nominal input current range (CF < 2): 0...1 A or 0...5 A AC
- Drop out voltage: max. 100 mV (5 A)
- Input measuring range: up to 120 %
- Input power factor range (cos φ): -0.5...+0.5 (C: -60° ... L: +60°)
- Input frequency range: 50 ±1 Hz or 60 ±1 Hz
- Measuring types: VARb: 3 wires balanced
VARb1: 4 wires balanced
VARc: 3 wires unbalanced
VARd: 4 wires unbalanced
- Input insulation voltage: Cat. III. 1 kV (Test: 4300 V_{eff} 1 min)

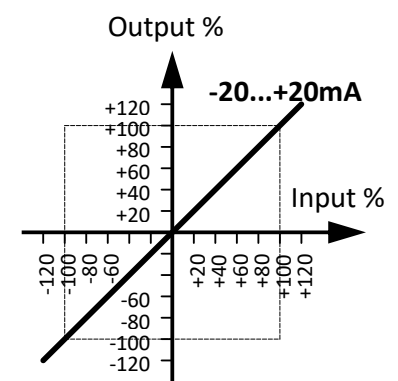
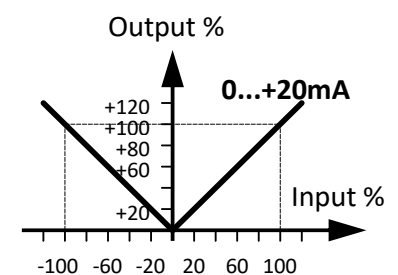
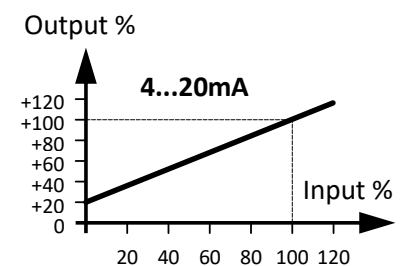
Output: (at external power supply)

- Analog output range: 0..20 mA, ±20 mA, 4..20 mA, 0..10 V, ±10 V DC
- Output load: for current: max. 500 ohm, for voltage: min. 2 kohm
- Output limits: max. 20 V, or 30 mA
- Output response time: max. 300 ms
- Digital output: RS485, Modbus-RTU, 9.6 / 19.2 kBAud
- Accuracy (EN 60688): Class 0.5 or Class 0.2 (20 %..120 % input range)
For ±20 mA and ±10 V output only ±0.5 % accuracy can be ordered.
- Temperature coefficient: max. 100 ppm/°C

Other:

- Standards applied: IEC/EN 61010-1, IEC/EN 61326, IEC/EN 60688
- Consumption: max. 2 W
- Wire cross-section of terminals: max. 2.5 mm²
- Working temperature: -10...+25...+60 °C
- Storage temperature: -40...+80 °C
- Humidity: max. 85 %
- Vibration (acceleration): max. 2 g
- Dimension (HxWxD): 101 mm x 35 mm x 119 mm
- Case protection: IP 20
- Case material: PC-GF
- Weight (with converter): approx. 0.35 kg

Typical transfer characteristics:

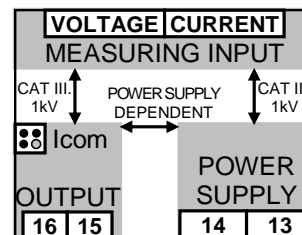


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Auxiliary Supply variations:

5 V, 12 V, 24 V, 48 V DC $\pm 50\%$, converter (Voltage / Insulation) / 1 kV
55...264 V, 47...440 Hz, and 72...370 V DC, converter / 3 kV
 At 55...264 V AC input voltage range, self powered version is also available.

Isolation scheme:

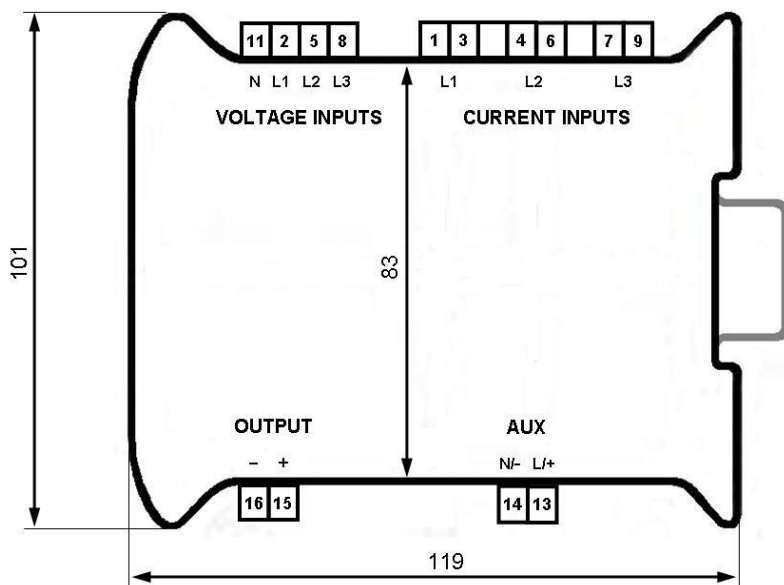


Ordering examples:

MD35-VARc _ Input: 3x 400/0.11 kV, 500/5 A, 0...300 MVAR _ Output: 4..20 mA DC, $\pm 0.2\%$ _ Aux: 72..370 V DC
MD35-VARd _ Input: 3x 400 V, 50 A, -20...+20 kVAR _ Output: -20..+20 mA DC, $\pm 0.5\%$ _ Aux: 55..264 V AC conv.
MD35-VARb _ Input: 3x 25/0.11 kV, 50/1 A, 0...2 MVAR _ Output: RS485 Modbus _ Aux: 24 V DC converter

On request for extra charge special ranges (Input, Output, Auxiliary Supply) are possible.
 To single-phase reactive power metering uses the M22-VAR transducer.

Outline dimensions and connection diagrams:



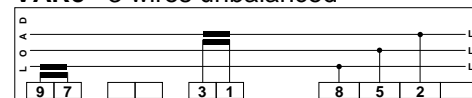
VARb 3 wires balanced



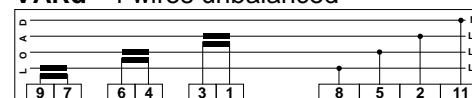
VARb1 4 wires balanced



VARc 3 wires unbalanced



VARd 4 wires unbalanced



The transducer can operate without external current transformers.