

## REACTIVE POWER TRANSDUCER

### Application:

The transducer is suitable to convert the single phase 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 (monlcom option).
- True power metering with digital multiplication.
- Plug in terminal blocks with screw.
- DIN rail case.
- EMC compliance.

#### 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. 0.14 mA (at nominal voltage)
- Nominal input current range (CF < 2): ..... from 0...0.025 A to 0...5 A AC
- Drop out voltage: ..... 25 mV (at nominal current)
- Input power factor range (cos  $\phi$ ): ..... -0.5...+0.5 (C: -60° ... L: +60°)
- Input frequency range: ..... 45...65 Hz
- Input measuring range: ..... up to 120 %
- Input insulation voltage: ..... Cat. III. 1 kV (Test: 4300 V<sub>eff</sub> 1 min)

##### Output: (at external power supply)

- Analog output range: .... 0..20 mA,  $\pm$ 20 mA, 4..20 mA, 0..10 V,  $\pm$ 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  $\pm$ 20 mA and  $\pm$ 10 V output only  $\pm$ 0.5 % accuracy can be ordered.
- Temperature coefficient: ..... max. 200 ppm/°C

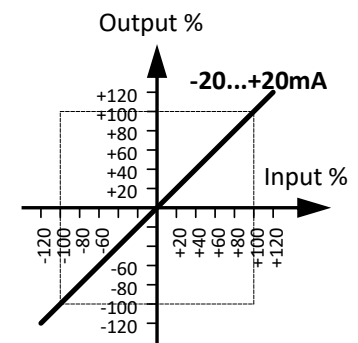
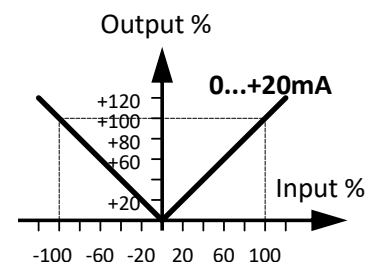
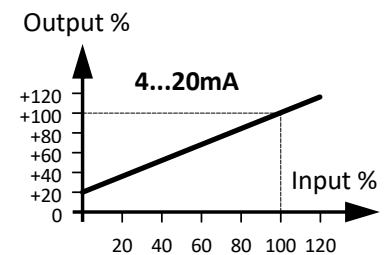
##### Other:

- Standards applied: ..... IEC/EN 61010-1, IEC/EN 61326, IEC/EN 60688
- Consumption: ..... max. 2 W
- Wire cross-section of terminals: ..... max. 2.5 mm<sup>2</sup>
- Working temperature: ..... -10...+25...+60 °C
- Storage temperature: ..... -40...+80 °C
- Humidity: ..... max. 85 %
- Vibration (acceleration): ..... max. 2 g
- Dimension (HxWxD): ..... 101 mm x 22.5 mm x 80 mm
- Case protection: ..... IP 20
- Case material: ..... PC-GF
- Weight (with converter): ..... approx. 0.25 kg



Illustration only.

#### Typical transfer characteristics:

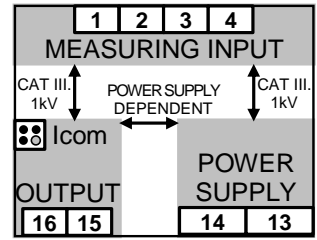


## REACTIVE POWER TRANSDUCER

### 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:

**MD22-VAR \_ Input:** 230 V, 5 A, 0...1 kVAR \_ **Output:** 4...20 mA DC,  $\pm 0.2\%$  \_ **Aux:** 55..264 V AC converter  
**MD22-VAR \_ Input:** 100/0.11 kV, 100/5 A, -10...+10 MVAR \_ **Output:** -20...+20 mA DC,  $\pm 0.5\%$  \_ **Aux:** 24 V DC  
**MD22-VAR \_ Input:** 400 V, 50/5 A, 0...20 kVAR \_ **Output:** RS485 Modbus \_ **Aux:** 72..370 V DC converter

On request for extra charge special ranges (Input, Output, Auxiliary Supply) are possible.

### Outline dimensions and connection diagrams:

