

POWER FACTOR TRANSDUCER

Application:

The transducer is suitable to convert the single phase power factor 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).
- The scale is linear in $\cos \varphi$.
- 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 ($\cos \varphi$): -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_{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 (20 %..120 % input range)
- Temperature coefficient: max. 200 ppm/°C

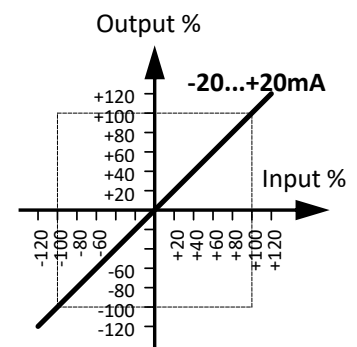
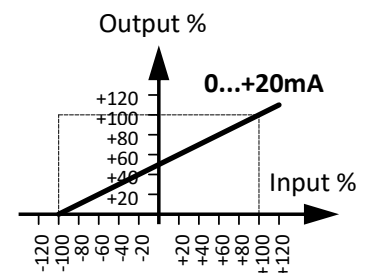
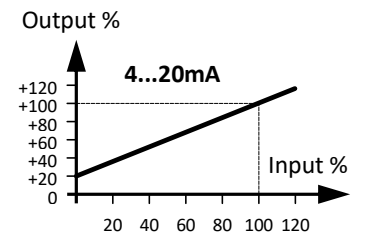
Other:

- Standards applied: IEC/EN 61010-1, IEC/EN 61326, IEC/EN 60688
- Consumption: max. 2 W
- Wire cross-section of terminals: max. 2.5 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 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:



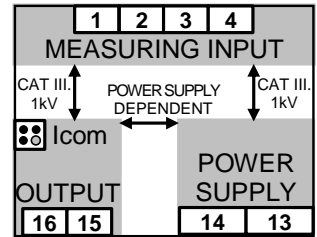
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Auxiliary Supply variations:

	(Voltage / Insulation)
5 V, 12 V, 24 V, 48 V DC ±50 %, converter	/ 1 kV
55...264 V, 47...440 Hz, and 72...370 V DC, converter	/ 3 kV

At 55...264V AC input voltage range, self powered version is also available.

Isolation scheme:



Ordering examples:

MD22-PF _ Input: 230 V, 5 A, $\cos \varphi -0.4...+0.4$ _ **Output:** 4...20 mA DC, $\pm 0.5 \%$ _ **Aux:** 55..264 V AC converter
MD22-PF _ Input: 400 V, 50/5 A, $\cos \varphi -0.5...+0.5$ _ **Output:** RS485 Modbus _ **Aux:** 24 V DC converter

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

Outline dimensions and connection diagrams:

