

## MULTIPHASE ACTIVE POWER TRANSDUCERS

### Application:

The transducer is suitable to convert the multiphase active 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: ..... Wb: 3 wires balanced  
Wb1: 4 wires balanced  
Wc: 3 wires unbalanced  
Wd: 4 wires unbalanced
- Input insulation voltage: ..... Cat. III. 1 kV (Test: 4300 V<sub>eff</sub> 1 min)

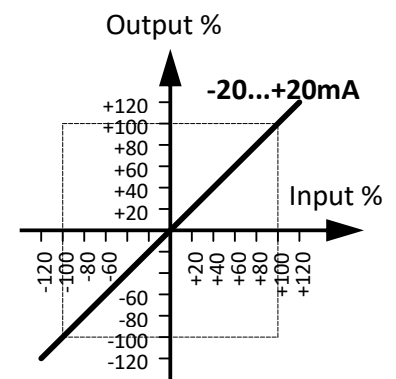
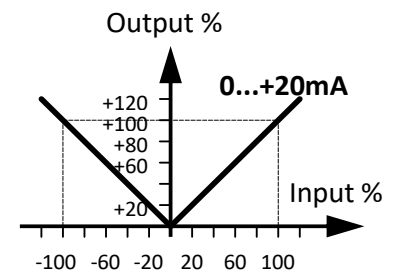
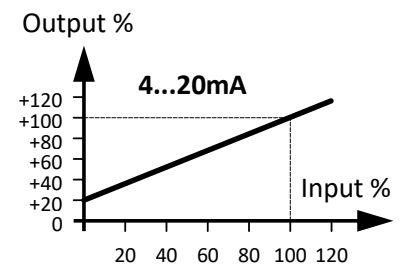
##### Output: (at external power supply)

- Analog output range: .... 0..20 mA, ±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 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 35 mm x 119 mm
- Case protection: ..... IP 20
- Case material: ..... PC-GF
- Weight (with converter): ..... approx. 0.35 kg

#### Typical transfer characteristics:



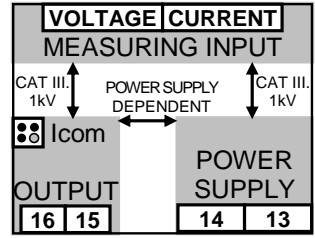
# MD35-Wb, MD35-Wb1, MD35-Wc, MD35-Wd

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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:

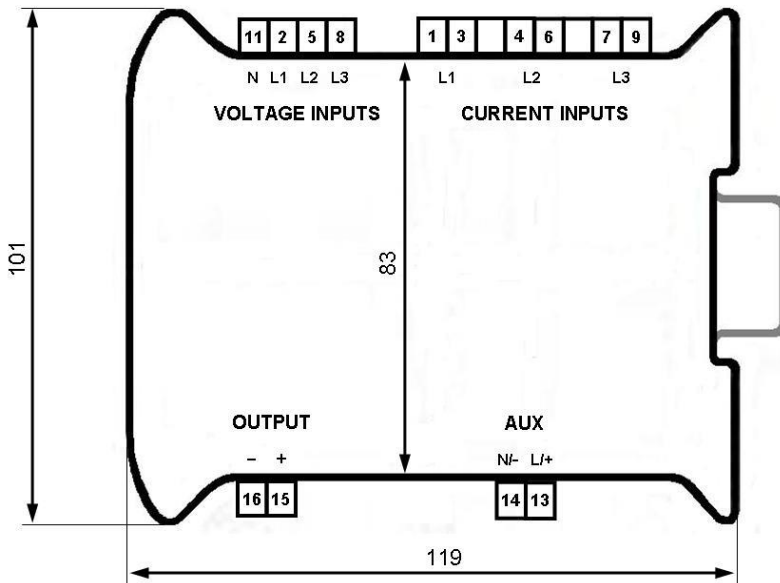


### Ordering examples:

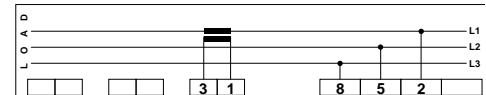
**MD35-Wc** \_ Input: 3x 400/0.11 kV, 500/5 A, 0...300 MW \_ Output: 4..20 mA DC,  $\pm 0.2\%$  \_ Aux: 72..370 V DC  
**MD35-Wd** \_ Input: 3x 400 V, 50 A, -20...+20 kW \_ Output: -20..+20 mA DC,  $\pm 0.5\%$  \_ Aux: 55..264 V AC conv.  
**MD35-Wb** \_ Input: 3x 25/0.11 kV, 50/1 A, 0...2 MW \_ Output: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

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

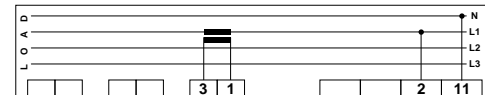
### Outline dimensions and connection diagrams:



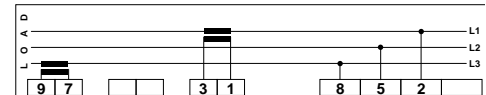
#### Wb 3 wires balanced



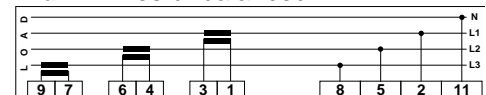
#### Wb1 4 wires balanced



#### Wc 3 wires unbalanced



#### Wd 4 wires unbalanced



The transducer can operate without external current transformers.