# Pendulum humidity transmitter with housing 4-20 mA

## Article number: 801311 1022

Our pendulum humidity transmitter with 4-20 mA current output has a robust plastic housing with quick-release screws. The device measures both humidity and optionally temperature, with four switchable measuring ranges available. The relative humidity is recorded by a digital humidity sensor, which is housed in a plastic sintered filter and attached to the housing with a two-meter cable.

### Supply and output

| | |
|---|---|
| Output | 4 - 20 mA |
| Power consumption | < 1,1 VA / 24 V DC |
| Voltage supply | 15 - 36 V DC |
| Connection type | See connection diagrams |

### General information

| | |
|---|---|
| Load | Ra (Ohm) = (Ub -14 V) / 0,02 A |
| Sensors | Digital humidity sensor, optionally with integrated temperature sensor |

### Humidity

| | |
|---|---|
| Measuring element humidity | Digital humidity sensor (low hysteresis, high long-term stability) |
| Measuring range humidity | 0 % RH to 100 % RH |
| Output humidity | 4-20 mA |
| Accuracy humidity | ± 2.0 % (20 % RH to 80 % RH) at +25 °C, otherwise ± 3.0 % |
| Long-term stability | ± 1 % / year |

### Temperature

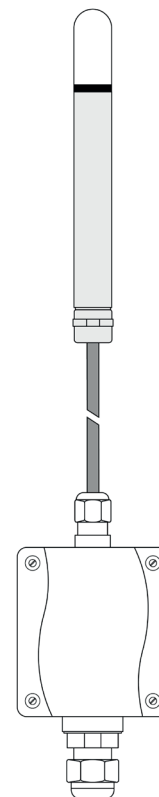| | |
|---|---|
| Measuring element Temperature | Pt1000, DIN EN 60751, Class B |
| Measuring range temperature | multi-range switching with 4 switchable measuring ranges |
| Output temperature | 4 - 20 mA |
| Accuracy temperature | typically ± 0.2 K at +25 °C |

### Ambient conditions

| | |
|---|---|
| Storage temperature | -5 °C to +60 °C |
| Operating temperature | -5 °C to +60 °C |
| Permissible air humidity | 0 % RH to 95 % RH (without condensation) |

### Certifications / Standards

| | |
|---|---|
| Protection class | III (according to EN 60 730) |
| Protection type | IP 65 according to EN 60 529 |
| Standards | CE conformity electromagnetic compatibility according to EN 61326 according to EMC Directive 2014/ 30/ EU |

**Configurable options**
M - Measured variable

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| Housing | | Drilling template |
|---|---|---|
| Material | Plastic, UV-resistant<br>Material polyamide, 30 % glass bead reinforced | |
| Dimensions (L/W/H) (mm) | 72 x 64 x 37,8 | |
| Color | Traffic white (similar to RAL9016) | |
| Screw connection | Cable gland, Plastic, M16x1,5, Strain relief, replaceable, max. 10,4 mm Ø Inner | |
| Electrical connection | 0.14 - 1.5 mm², via screw terminals on circuit board | |
| Closure | with quick release screws | |

Drilling template dimensions: 39, Ø 4.3, 49

| Cable | | Pendulum | | Sensor protection: Plastic sintered filter | |
|---|---|---|---|---|---|
| Cable material | PVC, LiYY | Material | Stainless steel 1.4301 \| SUS 304 | Material | Plastic |
| Cable length (m) | 2 | Ø (mm) | 16 | Length (mm) | 35 |
| Color | White | Length (mm) | 55 | Ø outside (mm) | 16 |
| Cross section (mm²) | 6 x 0,14 | | | Plastic sintered filter | replaceable |

Drawing dimensions: 20, 2000, 142, 14, 93, 35, Ø 16
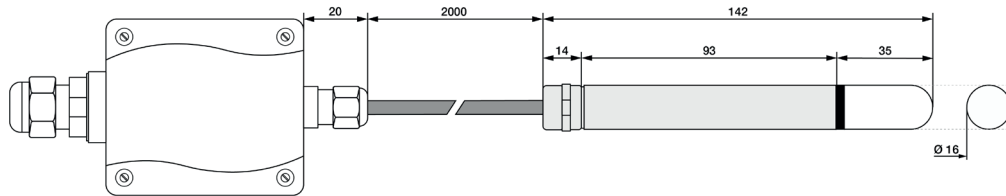
| Delivery and Packing | |
|---|---|
| Delivery | Transmitter, Operating instructions |
| Packing | individually packed in cardboard box |

| Your order code | | M - Measured variable | |
|---|---|---|---|
| **Article number** | **Measured variable** | **code** | **Measured variable** |
| 801311 1022 | ____ | M1 | % RH (Relative humidity) |
| | | M2 | °C + % RH (Temperature and relative humidity) |

## Technical drawing

| Configurable options<br>M - Measured variable | All dimensions in mm |
|---|---|
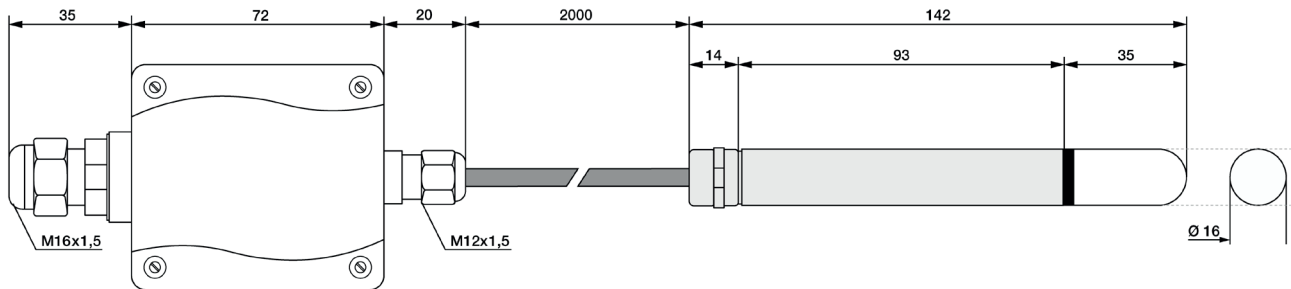
Technical drawing dimensions: 35, 72, 20, 2000, 142, 14, 93, 35, M16x1,5, M12x1,5, Ø 16

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## Important assembly instructions

For an accurate measurement of the humidity and temperature in the room, it is important to take the temperature dynamics into account. Air circulation should not distort the measurement. For this reason, the transmitter should be installed away from objects or obstacles that shield air movements. Please also avoid uncontrolled air currents (draughts) and uncontrolled solar radiation by installing the device near doors or windows (or other heat sources).

The device should only be used in pollutant-free, non-condensing air (< 95 % RH). The sintered filter protects the humidity sensor in outdoor and duct probes from dust, which can falsify the measurement result. Maintenance in the event of contamination is therefore important. Avoid touching the humidity element to prevent incorrect measurements.
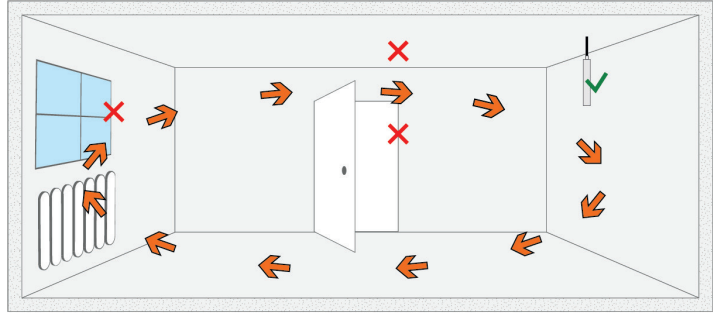
## Circuit diagrams and assignment (Please also read the operating instructions before connecting the transmitter)

| Default configuration | Set scaling via DIP switch | Wiring diagram | Assignment % RH |
|---|---|---|---|
| Werkseinstellungen: Skalierung: 0 .. 50 °C | Messbereichsumschaltung via DIP-Schalter / Changing measuring range via DIP switches | DIP-Schalter Messbereichsumschaltung / DIP switches Measuring range changeover | 1 = +UB 24V DC |
| | | | 2 = Output Humidity 4-20mA |
| | | | 3 = free |
| | | | 4 = UB GND |

| DIP 1 | DIP 2 | Scaling Range |
|---|---|---|
| on | on | -35 .. +75°C |
| off | off | -35 .. +35°C |
| off | on | 0 .. +50°C |
| on | off | 0 .. +80°C |

Temperature table in OI

| Assignment °C + % RH |
|---|
| 1 = +UB 24V DC |
| 2 = Output Humidity 4-20mA |
| 3 = Output temperature 4 -20mA |
| 4 = UB GND |

°C   r.H.
Offset

1  2  3  4

The humidity path must be connected for the current version! Please refer to the operating instructions for the correct connection.

# Accessoires: Monuting flange

| Plastic flange MF-16-K | |
|---|---|
| **Article number** | **809500 7000** |
| Material | Plastic |
| Fastening | 2 x Ø 5,2 mm drill holes |
| Hole (mm) | 16,2 |



# Accessoires: Sintered filter

| Metal sintered filter | | |
|---|---|---|
| **Article image** | **Your order code** | **Technical drawing** |
|  | **Article number**    **809990 0005** |  |
| | Material    Stainless steel 1.4404 \| 316L | |
| | Length (mm)    32 | |
| | Ø outside (mm)    16 | |

| Plastic sintered filter | | |
|---|---|---|
| **Article image** | **Your order code** | **Technical drawing** |
|  | **Article number**    **809990 0006** |  |
| | Material    Plastic | |
| | Length (mm)    35 | |
| | Ø outside (mm)    16 | |