

Duct humidity transmitter high with display 4-20 mA

Article number: 803710 3022

Our channel humidity transmitter High with 4-20 mA current output and display offers a robust plastic housing with quick-release screws. The device reliably measures humidity and optionally temperature, with four switchable temperature measuring ranges available. The relative humidity is precisely recorded by a digital humidity sensor housed in a durable plastic sintered filter. The two-line display shows either the humidity or the temperature in large format. The transmitter can be calibrated and enables fine adjustment for maximum accuracy. Installation is simple and is carried out directly in the ventilation duct using the mounting flange included in the scope of delivery.



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	$R_a \text{ (Ohm)} = (U_b - 14 \text{ V}) / 0,02 \text{ A}$
Sensors	Digital humidity sensor, optionally with integrated temperature sensor
Process connection	by means of plastic mounting flange and mounting brackets

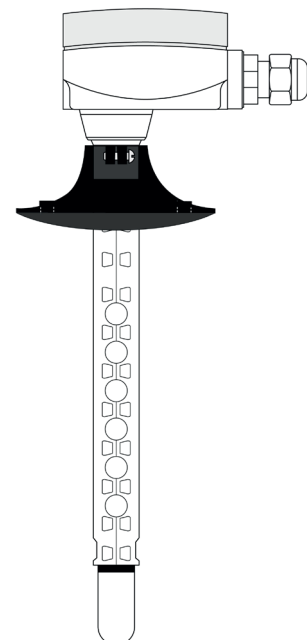
Humidity	
Measuring element humidity	Digital humidity sensor (low hysteresis, high long-term stability)
Measuring range humidity	0 % RH to 100 % RH
Output humidity	4-20 mA
Accuracy humidity	$\pm 2.0 \%$ (20 % RH to 80 % RH) at +25 °C, otherwise $\pm 3.0 \%$
Long-term stability	$\pm 1 \%$ / year

Temperature	
Measuring element Temperature	Pt1000, DIN EN 60751, Class B
Measuring range temperature	Factory configuration: 0 °C to 50 °C multi-range switching with 4 switchable measuring ranges
Output temperature	4 - 20 mA
Accuracy temperature	typically $\pm 0.2 \text{ K}$ at +25 °C

Ambient conditions	
Storage temperature	-35 °C to +85 °C
Operating temperature	-30 °C to +70 °C
Permissible air humidity	< 95 % RH, non-condensing air

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



MW / KC / 05.09.2024

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Please find our whole temperature probe and transmitter portfolio in our webshop at: www.testo-sensor.shop

Managing Director: Prof. Burkart Knospe, Martin Arndt, Timo Löffler

Amtsgericht Freiburg HRB 706025 | Umsatzsteuer-ID.: DE274417683

Housing			
Material	Plastic, UV-resistant Material polyamide, 30 % glass bead reinforced		
Dimensions (L/W/H) (mm)	Aluminum die casting		
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 mm ² , via screw terminals on circuit board		
Closure	with quick release screws		
Display			
Cut-out (B/H) (mm)	ca. 36 x 15		
Two lines, lighted For display of actual temperature and self-diagnostics (overrange, underrange, probe break, probe short-circuit)			
Probe shaft	Sensor protection (Included in delivery)		
	Plastic sintered filter replaceable		
Material	Polyamide	Material	Plastic
Ø (mm)	20	Ø (mm)	16
Length (mm)	55	Length (mm)	32

Your order code			
Article number	Measured variable	code	Measured variable
803710 3022	---	M1	% RH (Relative humidity)
		M2	°C + % RH (Temperature and relative humidity)

Delivery and Packing	
Delivery	Transmitter, Plastic flange MF-20-K, Operating instructions
Packing	individually packed in cardboard box

Plastic flange MF-20-K (Included in delivery)

Material	Plastic
Mounting	2 x Ø 5,2 mm drill holes
Hole (mm)	Ø 20

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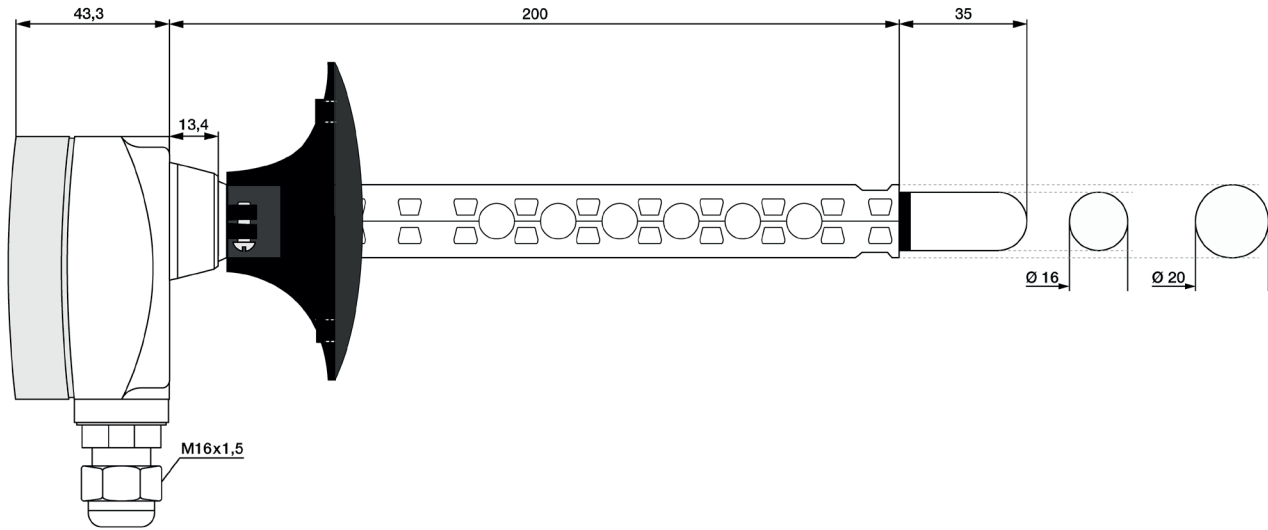
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Technical drawing

Configurable options
M - Measured variable

All dimensions in mm

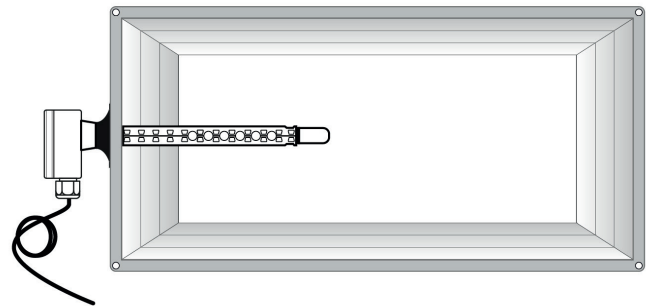


Important assembly instructions

Installation using the mounting flange (included in the scope of delivery): Please ensure that the Ø of the mounting flange matches the Ø of the protection sleeve.

To minimize measurement errors due to heat dissipation, place the probe shaft in the middle of the duct and make sure that the probe can be easily removed if necessary.

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																		
<p>Werkseinstellungen: Skalierung: 0 .. 50 °C</p>	<p>Messbereichumschaltung via DIP-Schalter Changing measuring range via DIP switches</p> <table border="1"> <tr> <td>on</td> <td>on</td> <td></td> </tr> <tr> <td>DIP 1</td> <td>DIP 2</td> <td>Scaling Range</td> </tr> <tr> <td>on</td> <td>on</td> <td>-35 .. +75°C</td> </tr> <tr> <td>off</td> <td>off</td> <td>-35 .. +35°C</td> </tr> <tr> <td>off</td> <td>on</td> <td>0 .. +50°C</td> </tr> <tr> <td>on</td> <td>off</td> <td>0 .. +80°C</td> </tr> </table> <p>Temperature table in OI</p>	on	on		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	<p>DIP-Schalter Messbereichumschaltung DIP switches Measuring range changeover</p>	<p>1 = +UB 24V DC 2 = Output Humidity 4-20mA 3 = free 4 = UB GND (for display lighting)</p> <p>Assignment °C + % RH</p> <p>1 = +UB 24V DC 2 = Output Humidity 4-20mA 3 = Output temperature 4 -20mA 4 = UB GND (for display lighting)</p>
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The humidity path must be connected for the current version! Please refer to the operating instructions for the correct connection.

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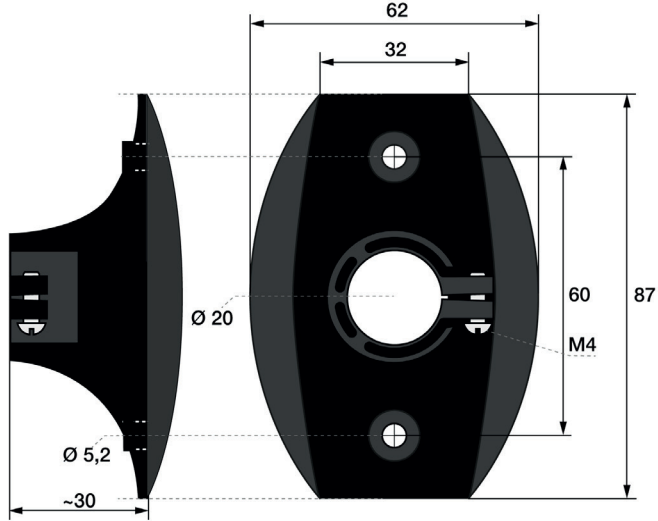
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Accessoires: Mounting flange

Plastic flange MF-20-K





Your order code	
Article number	809500 8000
Material	Plastic
Mounting	2 x Ø 5,2 mm drill holes
Hole (mm)	Ø 20


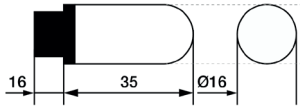


Accessoires: Sintered filter

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
		

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