

Outdoor humidity transmitter with display 4-20 mA

Article number: 801012 2022

Our outdoor humidity transmitter with a current output of 4-20 mA and display has a plastic housing with quick-release screws. This device measures the humidity and optionally the temperature. Four switchable measuring ranges are available for temperature measurement. The relative humidity is recorded by a digital humidity sensor housed in a plastic sintered filter. The two-line display shows you either the humidity or the temperature in large format.

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

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

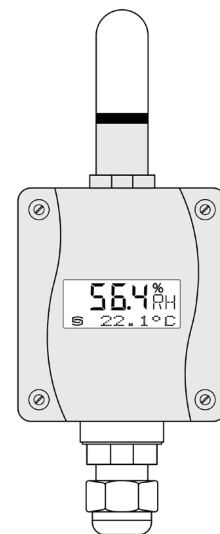
Temperatur	
Measuring element Temperature	Pt1000, DIN EN 60751, Class B
Measuring range temperature	Factory configuration: 0 °C to 50 °C multi-range switching with 4 switchable measuring ranges
Output temperature	4 - 20 mA
Accuracy temperature	typically $\pm 0.6 \text{ K}$ at +25 °C

Ambient conditions	
Storage temperature	-35 °C to +85 °C
Operating temperature	-30 °C to +70 °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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Managing Director: Prof. Burkart Knospe, Martin Arndt, Timo Löffler

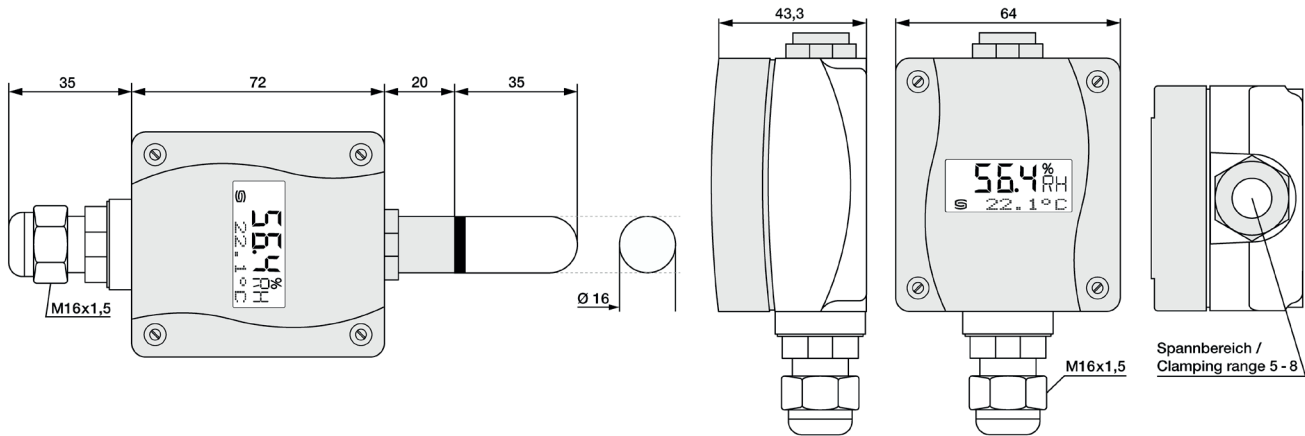
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Housing		Drilling template
Material	Plastic, UV-resistant Material polyamide, 30 % glass bead reinforced	
Dimensions (L/W/H) (mm)	Aluminum die casting	
Color	Traffic white (similar to RAL9016)	
Electrical connection	0.14 - 1.5 mm ² , via screw terminals on circuit board	
Closure	with quick release screws	
Screw connection	Cable gland, Plastic, M16x1,5, Strain relief, replaceable, max. 10,4 mm Ø Inner	
Display		
Cut-out (B/H) (mm)	ca. 36 x 15	Two lines, lighted, For display of actual temperature and self-diagnostics

Protection sleeve		Sensor protection - Plastic sintered filter (replaceable)	
Material	Stainless steel 1.4301 SUS 304	Material	Plastic
Ø (mm)	16	Ø outside (mm)	16
Length (mm)	55	Length (mm)	32

Your order code		M - Measured variable		Delivery and Packing	
Article number	Measured variable	code	Measured variable		
801012 2022	—	M1	% RH (Relative humidity)	Packing	individually packed in cardboard box
		M2	°C + % RH (Temperature and relative humidity)	Delivery	Transmitter, Operating instructions

Technical drawing	
Configurable options M - Measured variable	All dimensions in mm



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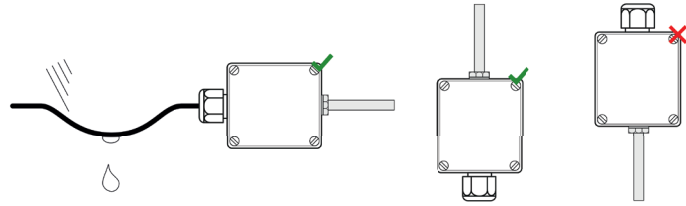
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Important assembly instructions

Mount your outdoor transmitter at a sufficient distance from ventilation openings, windows or doors and preferably on the north wall, alternatively on the west or east wall of the building. Avoid direct sunlight and rain. Use Sun Protection if necessary. Please lay the cables downwards so that rainwater can drip off in a defined manner. Please observe the permissible ambient conditions during installation.

The device may 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</p> <p>2 = Output Humidity 4-20mA</p> <p>3 = free</p> <p>4 = UB GND (for display lighting)</p> <p>Assignment °C + % RH</p> <p>1 = +UB 24V DC</p> <p>2 = Output Humidity 4-20mA</p> <p>3 = Output temperature 4 -20mA</p> <p>4 = UB GND (for display lighting)</p>
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on	off	0 .. +80°C																			

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

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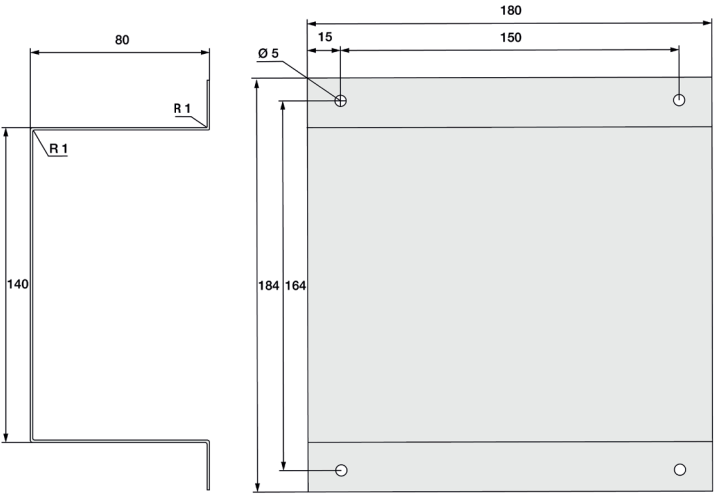
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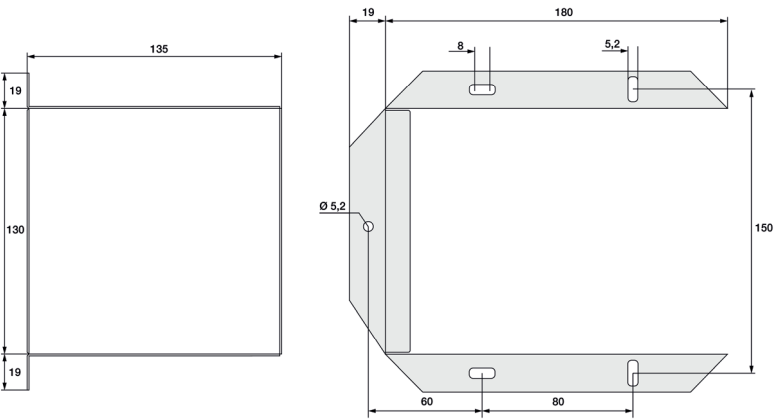
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Accessoires: Sun protection

Sun Protection WS-01	
Article image	Technical drawing
	
Your order code	
Article number	809510 3000
Material	Stainless steel 1.4301 SUS 304
Dimension (L/W/H) (mm)	184 x 180 x 80
Material thickness (mm)	1
Fastening	4 x Ø 5 mm drill holes

Sun Protection WS-04	
Article image	Technical drawing
	
Your order code	
Article number	809510 4000
Material	Stainless steel 1.4301 SUS 304
Dimension (L/W/H) (mm)	130 x 180 x 135
Material thickness (mm)	1
Fastening	5 x Ø 5,2 mm drill holes

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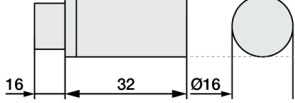
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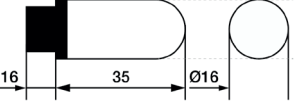
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Accessoires: Sintered filter

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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