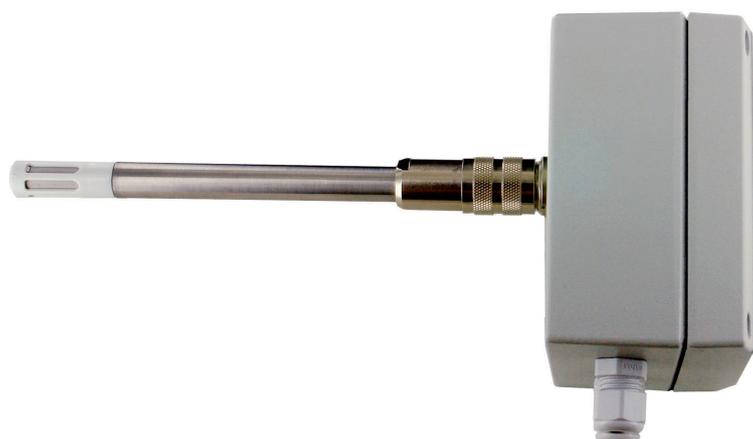


Digital temperature / humidity transmitter MH8D46C with double analog output V or mA



Transmitter with open housing

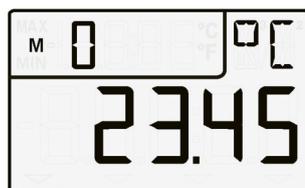
- Digital sensor element for humidity, temperature, air pressure
All key sensor characteristics, settings, and adjustment data are saved in the sensor element itself.
- Plug-in sensor element: Spare elements are inexpensive; a replacement can be fitted on site quickly and easily by virtually anyone; it will be fully accurate straight away needing no special adjustment.
- Digital transfer of measured values from the sensor element to the transmitter
- Four climate variables can be measured: Double analog output for temperature and one humidity variable relative humidity / dewpoint / mixture ratio. The air pressure dependent humidity values are automatically compensated for air pressure (the air pressure is measured directly at the measuring point in the sensor tip).
- The transmitters can be configured via the internal display and the keypad.
- The analog output type (10 V or 20 mA) can be selected (via the keypad); the analog output range can be programmed.
- Display of measured value, channel, units, humidity range, analog start, analog end, and analog type
- The sensor tube can be connected either directly by plugging onto the transmitter itself or via a connecting cable.
- Suitable for conduit mounting or wall mounting

Technical data

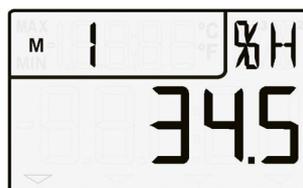
Operative range	Sensor -20 to +80 °C, 5 to 98 % RH Electronics -10 to +50 °C, IP65	Output type	0 to 10 V, 0 to 20 / 4 to 20 mA, selectable
Humidity sensor		Resolution	16 bit
Measuring range	0 to 100 % RH	Accuracy	0.1 % of final value
Sensor	CMOSens® technology	Temperature drift	10 ppm / K
Fixed measuring period / output period	approx. 3 seconds	Time constant	100 µs
Accuracy	±3 % RH in range 10 to 90 % RH (incl. hysteresis)	Connection	Cable, via screwless clamp connector, with cable bushing Cable diameter 2 to 5 mm
	±5 % RH in range 5 to < 98 % RH at nominal temperature	Standard equipment	
Hysteresis	typical ±1 % RH	Display, internal	2-row LCD 7 segments 4 1/2 and 5 characters 2 digits 16 segments
Nominal temperature	+23 °C ±5 K	Operation, internal	3 keys
Sensor operating pressure	Atmospheric pressure	Power supply	
Response time T ₆₃	typical 8 seconds at +25 °C, 1 m/s (without filter)	DC voltage	9 to 30 VDC
Temperature sensor		Current consumption	37 mA + 1.5·I _{Out}
Sensor	CMOSens® technology	Connection	Cable, via screwless clamp connector, with cable bushing Cable diameter 2 to 5 mm
Fixed measuring period / output period	approx. 3 seconds	Mechanical design	
Accuracy	typical ±0.2 K at 5 ... 60 °C, max. ±0.4 K at 5...60°C max. ±0.7 K at -20...80°C	Sensor tube	Stainless steel, diameter 12 mm
Reproducibility	typical ±0.1 K	Protective cap	SK7, metal-mesh filter
Response time T ₆₃	typical 20 seconds (without filter)	Housing	Die-cast aluminum, closed cover
Outputs		Dimensions	100 x 100 x 60 mm (LxWxH)
Double analog output	Digital-to-analog converter (DAC) electr. isol. 0 to 10 V, load >100 kilohms 0 to 20 mA, load <500 ohms	Protective class	IP65 (with sensor tube and connecting cable plugged in)

Air humidity

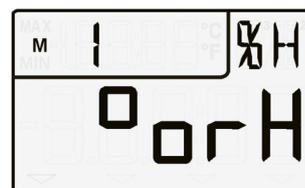
Display of measured values and programming (housing open)



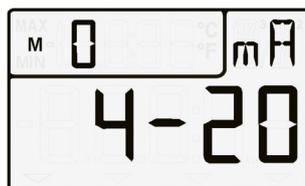
Measured value display, channel M0, temperature



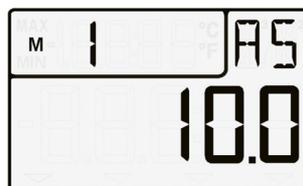
Measured value display, channel M1, humidity variable, e.g. relative humidity



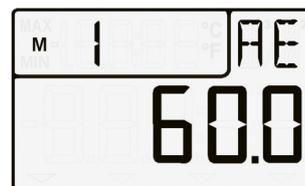
Selecting the humidity variable, e.g. relative humidity, % RH



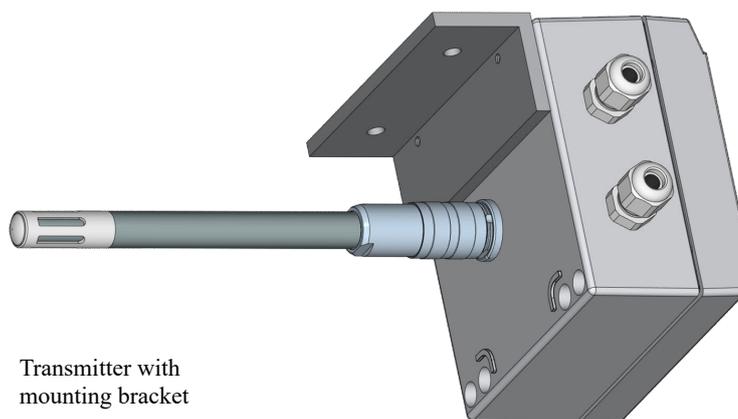
Selecting the analog output type, e.g. 4 to 20 mA



Programming the analog start



Programming the analog end



Transmitter with mounting bracket

Accessories

Order no.

Angle bracket for wall mounting	ZB8D00W	Connecting cable between sensor tube and transmitter	
Rubber gasket (mat) for mounting the housing directly on a conduit wall (immersion depth = sensor length + approx. 42 mm plug length)	ZB8D00GD	Length = 2 meters	ZH9D46VK02
Movable brass screw with plastic sealing ring (see page 194)	ZB9600KV20	Same as above Length = 5 meters	ZH9D46VK05
Connecting flange for screw connection, pitch circle diameter 38 mm (see page 194)	ZB9600F20	Same as above Length = 10 meters	ZH9D46VK10
Protective caps (see page 194)	ZB1012NA12	Spare sensor, complete Sensor element inside sensor tube including protective cap SK7	
Mains plug, 100 to 240 VAC, 12 VDC, 1.8 A		Sensor length = 125 mm	FH9D46C1K1
		Same as above Sensor length = 265 mm	FH9D46C1K2
		Same as above Sensor length = 525 mm	FH9D46C1K3
		Replacement sensor element, digital, adjusted, plug-in	FH0D46C

Variants including manufacturer's test certificate

Order no.

Digital transmitter for temperature and humidity

with double analog output, 10 V or 20 mA (selectable via keypad), internal display, 3 keys, aluminum housing, IP65, with plug-in digital sensor, sensor length = 125 mm

Same as above Sensor length = 265 mm

Same as above Sensor length = 525 mm

MH8D46C1K1

MH8D46C1K2

MH8D46C1K3

DAkkS or factory calibration KH9xxx, temperature, humidity, for digital sensor, see chapter „Calibration certificates“.
DAkkS calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.