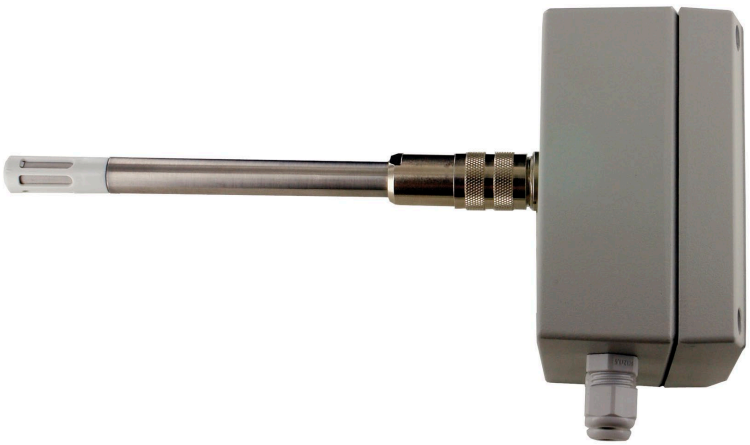
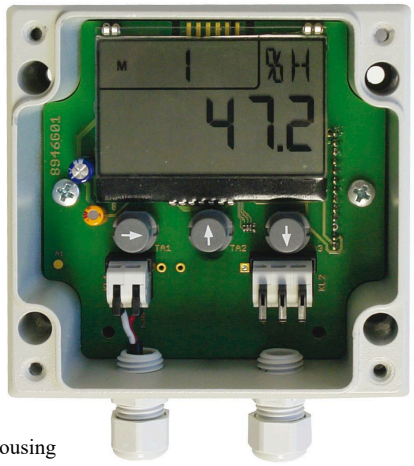
Digital temperature / humidity transmitter MH8D46 with double analog output V or mA





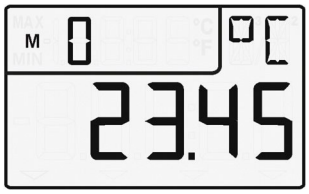
Transmitter
with open housing

- Digital sensor element
  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
- Factory or DAkkS calibration is erformed on the sensor element alone. Fully accurate - irrespective of connecting cable and transmitter
- Four climate variables can be measured: Double analog output for temperature and one humidity variable relative humidity / dewpoint / mixture ratio
- Limit value relays available on request
- 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

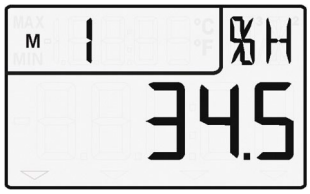
Technical data

Operative range	Sensor -20 to +80 °C, 5 to 98 % RH Electronics -10 to +60 °C, IP65
Humidity sensor	
Measuring range	0 to 100 % RH
Sensor	CMOSens® technology
Fixed measuring period / output period	approx. 3 seconds
Accuracy	±1.8 % RH in range 20 to 90 % RH ±2.3 % RH in range 10 to < 20 % RH at nominal temperature
Hysteresis	typical ±1 % RH
Nominal temperature	+25 °C
Sensor operating pressure	Atmospheric pressure
Response time T_{63}	typical 8 seconds at +25 °C, 1 m/s (without filter)
Temperature sensor	
Sensor	CMOSens® technology
Fixed measuring period / output period	approx. 3 seconds
Accuracy	±0.3 K at +25 °C ±0.4 K at +10 to +40 °C ±1.3 K at -20 to +80 °C
Reproducibility	typical ±0.1 K
Response time T_{63}	typical 20 seconds (without filter)
Outputs	
Double analog output	Digital-to-analog converter (DAC) electr. isol. 0 to 10 V, load >100 kilohms 0 to 20 mA, load <500 ohms
Output type	0 to 10 V, 0 to 20 / 4 to 20 mA, selectable
Resolution	16 bit
Accuracy	0.1 % of final value
Temperature drift	10 ppm / K
Time constant	100 µs
Connection	Cable, via screwless clamp connector, with cable bushing Cable diameter 2 to 5 mm Limit value relays available on request
Standard equipment	
Display, internal	2-row LCD 7 segments 4 1/2 and 5 characters 2 digits 16 segments
Operation, internal	3 keys
Power supply	
DC voltage	9 to 30 VDC
Current consumption	30 mA + 1.2·IOut
Connection	Cable, via screwless clamp connector, with cable bushing Cable diameter 2 to 5 mm
Mechanical design	
Sensor tube	Stainless steel, diameter 12 mm
Protective cap	SK7, metal-mesh filter
Housing	Die-cast aluminum, closed cover
Dimensions	100 x 100 x 60 mm (LxWxH)
Protective class	IP65 (with sensor tube or connecting cable plugged in)

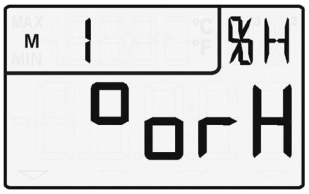
Display of measured values and programming (housing open)



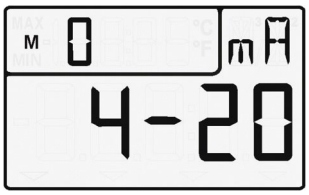
Measured value
display, channel M0, temperature



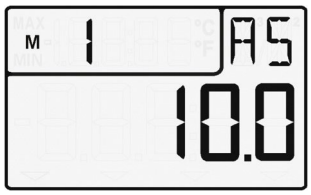
Measured value display, channel
M1, humidity variable,
e.g. relative humidity



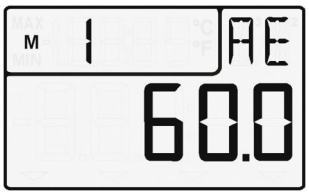
Selecting the humidity variable,
e.g. relative humidity, % RH



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



Programming the analog start



Programming the analog end

Accessories

	Order no.
Angle bracket for wall mounting	**ZB8D00W**
Rubber gasket (mat) for mounting the housing directly on a conduit wall (immersion depth = sensor length + approx. 42 mm plug length)	**ZB8D00GD**
Movable brass screw with plastic sealing ring (see page 08.09)	**ZB9600KV20**
Connecting flange for screw connection, pitch circle diameter 38 mm (see page 08.09)	**ZB9600F20**
Protective caps (see page 08.09)	
Mains plug, 100 to 240 VAC, 12 VDC, 2 A	**ZB1012NA10**
Connecting cable between sensor tube and transmitter	
Length = 2 meters	**ZH9D46VK02**
Same as above Length = 5 meters	**ZH9D46VK05**
Same as above Length = 10 meters	**ZH9D46VK10**
Spare sensor, complete Sensor element inside sensor tube including protective cap SK7	
Sensor length = 125 mm	**FH9D461K1**
Same as above Sensor length = 265 mm	**FH9D461K2**
Same as above Sensor length = 525 mm	**FH9D461K3**
Replacement sensor element, digital, adjusted, plug-in	**FH0D46**

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	**MH8D461K1**
Same as above Sensor length = 265 mm	**MH8D461K2**
Same as above Sensor length = 525 mm	**MH8D461K3**

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.