VAISALA

HMW90 Series Humidity and Temperature Transmitters for High Performance HVAC Applications

The HMW90 Series Humidity and Temperature Transmitters are designed for demanding HVAC applications.

The wall-mounted Vaisala HMW90 Series HUMICAP® Humidity and Temperature Transmitters measure relative humidity and temperature in indoor environments, where high accuracy, stability, and reliable operation are required.

The HMW90 series includes models for both current and voltage output. These flexible transmitters offer a variety of options and features. Transmitters include a display and a sliding cover with either a display opening or a solid front. Output options include both special scalings and calculated dew point and mixing ratio parameters.

Install with Ease and Speed

The HMW90 series transmitters are quick and easy to install. The wiring is connected through the back plate and the electronics with the sensors can then be easily snapped on after wiring is completed.

Dip switches for transmitter configuration can be accessed when the enclosure is open. The most common settings, such as metric/ non-metric unit selection and relay set-point, can be easily changed without special tools.

Choose from a Wide Variety of Calibration Options

On-site calibration and adjustment is exceptionally easy. The sliding lid exposes offset trimmers for 1-point calibration of both humidity and temperature parameters. The included display makes adjustment clear and

convenient by instantly indicating the effects of changes. A service port enables 2-point calibration, using either a PC or the Vaisala HUMICAP® Hand-Held Humidity and Temperature Meter HM70.

The HMW90 series transmitters include a user exchangeable Humidity and Temperature Module HTM10, which can be ordered as a spare part. The module is delivered with a calibration certificate.

Calibration and repair services are available through all Vaisala Service Centers.

Features/Benefits

- Easy installation, configuration, and field adjustment
- Vaisala HUMICAP® 180R Sensor with superior long-term stability
- Humidity parameter options: relative humidity, dew point, and mixing ratio
- Full 0 ... 100 %RH measurement range
- Up to ±1.7 %RH accuracy
- Special output scaling available
- One relay (HMW93 model only)
- UL V0 materials
- User exhangeable humidity and temperature module
- NIST traceable calibration (certificate included)

Typical applications:

- Museums and archive facilities
- Production and warehouse facilities
- Data centers
- Laboratories
- Testing environments

The sliding cover exposes offset trimmers and service port for calibration.

Technical Data

Models (RH & T)

HMW92	2-wire, current output
HMW92D	2-wire, current output with display
HMW93	3-wire, voltage output
HMW93D	3-wire, voltage output with display

Performance

RELATIVE HUMIDITY

Measurement range	0 ... 100 %RH
Accuracy	
Temperature range	+10 ... +40 °C (+50 ... +104 °F)
0 ... 90 %RH	±1.7 %RH
90 ... 100 %RH	±2.5 %RH
Temperature range	-5 ... +10 °C, +40 ... + 55 °C
	(+23 ... +50 °F, +104 ... +131°F)
0 ... 90 %RH	±3 %RH
90 ... 100 %RH	±4 %RH
Stability in typical HVAC applications	±0.5 %RH/year
Humidity sensor	Vaisala HUMICAP® 180R

TEMPERATURE

Measurement range	-5 ... +55 °C (+23 ... +131 °F)
Accuracy	
+20 ... +30 °C (+68 ... +86 °F)	±0.2 °C (± 0.36 °F)
+10 ... +20 °C, +30 ... +40°C	
(+50 ... +68 °F, +86 ... +104 °F)	±0.3 °C (± 0.54 °F)
-5 ... +10 °C, +40...+55°C	
(+23 ... +50 °F, +104 ... +131 °F)	±0.5 °C (± 0.90 °F)
Temperature sensor	Digital temperature sensor

Operating Environment

Operating temperature range	-5 ... +55 °C (+23 ... +131 °F)
Storage temperature range	-20 ... +60 °C (-4 ... +140 °F)
Electromagnetic	Complies with EMC standard
compliance	EN61326-1, Industrial Environment

Mechanics

IP class	IP30
Housing color	RAL9003
Housing material	ABS/PC, UL-V0 approved
Output connector	Screw terminals
	max. wire size 2 mm² (AWG14)
Service port connector	4-pin M8
Weight	155 g

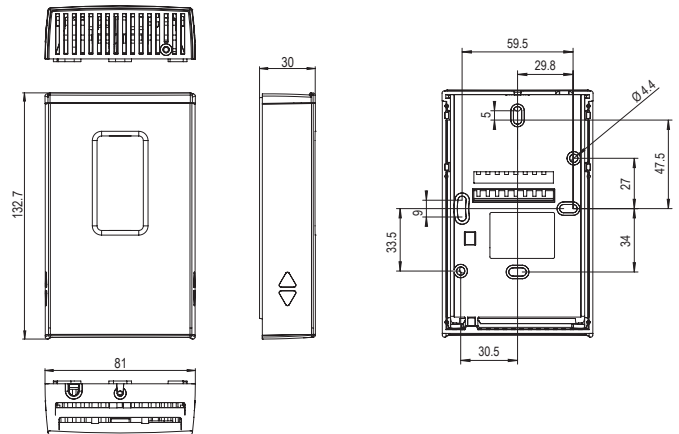## Inputs and Outputs

HMW92 and HMW92D	
Outputs	2 x 4 ... 20 mA, loop powered
Loop resistance	0 ... 600 Ω
Supply voltage	20 ... 28VDC at 500 Ω load
	10 ... 28VDC at 0 Ω load
Isolation between output channels	500VDC
HMW93 and HMW93D	
Outputs	2 x 0 ... 5V, 0 ... 10 V
Load resistance	10 kΩ min.
Supply voltage	18 ... 35 VDC
	24 VAC ±20 % 50/60 Hz
Max. current consumption	12 mA
	max. with relay 25 mA
Relay	1 pcs (max. 50 VDC, 500 mA)
Service port	RS-485 line for temporary service use

Spare Parts and Accessories

Humidity and Temperature Module	HTM10SP
Connection cable for HM70 hand-held meter	219980
USB cable for pc connection	219690

Dimensions

Dimensions in mm.

CE