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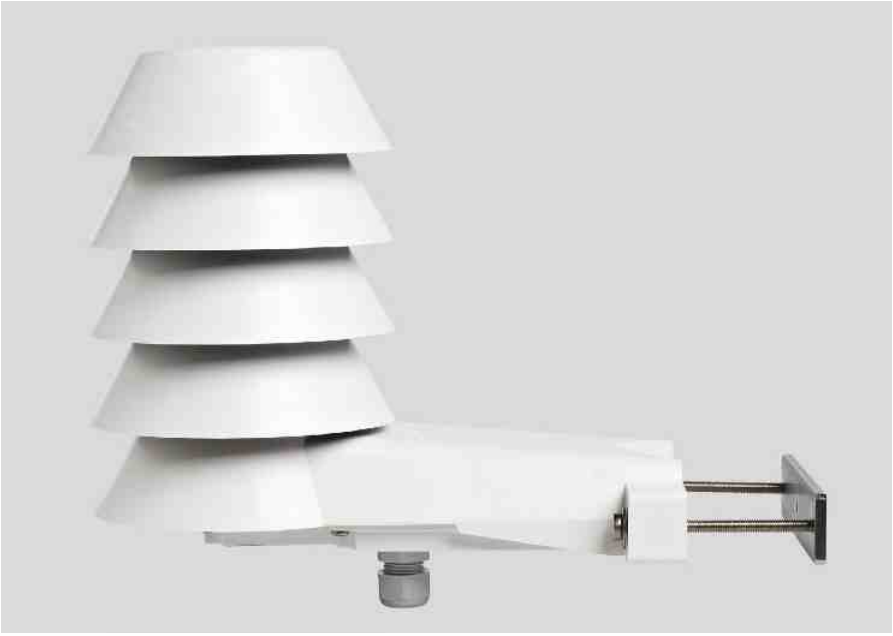
HMS110 Series Humidity and Temperature Transmitters for High-Accuracy Outdoor Measurements in Building Automation Applications



HMS110 Series Humidity and Temperature Transmitters with HUMICAP® sensor.

Features/Benefits

- Reliable outdoor transmitters with integrated radiation shields
- ±2 %RH accuracy
- Proven HUMICAP® 180R sensor for long-lasting accuracy
- 3-point NIST traceable calibration (certificate included)
- Default output parameters are relative humidity and temperature. Dew point temperature, wet bulb temperature, and enthalpy outputs selectable with a PC connection.
- Current output (4...20 mA)
- On-site calibration with HM70 Hand-Held Meter or PC connection
- Ingress protection IP65

Vaisala HUMICAP® Humidity and Temperature Transmitter Series HMS110 are designed for demanding outdoor measurements in building automation applications. These ±2% transmitters include an integrated radiation shield to reduce the influence of solar radiation on temperature and humidity measurements.

Proven Vaisala HUMICAP® Performance for Outdoor Measurements

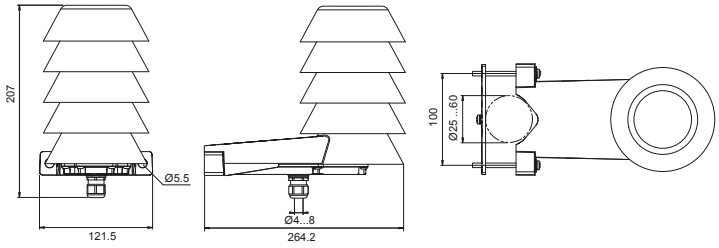
HMS110 transmitters are equipped with the trusted HUMICAP® 180R – a robust, general-purpose humidity sensor that functions well in high humidity. The sensor's superior stability ensures long-lasting accuracy and minimal maintenance throughout the transmitter's lifetime.

The integrated radiation shield allows unrivaled measurement performance, reducing the impact of sunshine on temperature and humidity measurements and ensuring measurement accuracy in outdoor conditions.

Easy Installation and Maintenance

HMS110 transmitters are easy to install. They can be mounted directly onto a wall or pole without any extra accessories. There are no loose parts, screws are retained in the enclosure, all connectors are clearly labeled, and the connectors are within easy reach.

The HUMICAP® sensor's excellent long-term stability and high-quality materials ensure minimal need for maintenance. If necessary, the transmitter can be field-calibrated using either an HM70 Hand-Held Humidity and Temperature Meter, or a PC connection.



Technical Data

Models

MODEL NUMBER	TYPE	OUTPUT	SPECIAL FEATURES	INGRESS PROTECTION
HMS110	Outdoor, RH+T	2-wire, current output	Delivered with customer specific output settings, including calculated humidity parameters and special scaling of outputs.	IP65
HMS112	Outdoor, RH+T	2-wire, current output		IP65

Performance

RELATIVE HUMIDITY	
Measurement range	0 ... 100 %RH
Accuracy	
Temperature range	+10 ... +30 °C (+50 ... +86 °F)
0 ... 90 %RH	±2 %RH
90 … 100 %RH	±3 %RH
Temperature range	-20 ... +10° C, +30 ... +60 °C (-4 ... +50 °F, +86 ... +140 °F)
0 … 90 %RH	±3 %RH
90 … 100 %RH	±4 %RH
Temperature range	-40 ... -20 °C (-40 ... -4 °F)
0 ... 100%RH	±4 %RH
Stability in typical HVAC applications	±0.5 %RH/year
Humidity sensor	Vaisala HUMICAP® 180R
TEMPERATURE	
Measurement range	-40 ... +60 °C (-40 ... +140 °F)
Accuracy	
At +20 °C (+68 °F)	±0.2 °C (±0.36 °F)
Temperature dependence	±0.01 °C/ °C
Temperature sensor	Pt1000 RTD Class F0.1 IEC 60751
CALCULATED PARAMETERS	
Measurement range for dew point temperature and wet bulb temperature	-40 ... +60 °C (-40 ... +140 °F)
Measurement range for enthalpy	-40 ... 460 kJ/kg (-10 ... +190 BTU/lb)
Accuracy of the calculated parameters should be calculated at the actual condition based on the RH and temperature specification. Accuracy at 20°C (68°F) and 80%RH:	
Dew point	±0.7°C (1.2°F)
Wet bulb temperature	±0.5°C (0.9°F)
Enthalpy	±1.6kJ/kg (0.7 BTU/lb
Factory calibration uncertainty at 20 °C (+68 °F)	±1.5%RH/±0.2 °C

Operating Environment

Operating temperature range	-40 ... +60 °C (-40 ... +140 °F)
Operating humidity range	0 ... 100 %RH
Maximum wind/flow speed	30 m/s
Storage temperature	-40 ... +60 °C (-40 ... +140 °F)
Electromagnetic compliance	EN61326-1, Industrial Environment

Mechanics

Max wire size	1.5 mm² (AWG 16)
Standard housing color	White (RAL9003)
Housing material	PC + 10%GF (UL-V0 approved)

Inputs and Outputs

Analog output	4 ... 20 mA, loop powered
Loop resistance	0 ... 600 Ω
Supply voltage	20 ... 28VDC at 600 Ω load 10 ... 28VDC at 0 Ω load
Data input for RDP100 Remote Panel Display	RS485, Vaisala proprietary protocol

Spare Parts and Accessories

Remote Panel Display	RDP100
Conduit fitting + O-ring (M16x1.5 / NPT1/2 Inch)	210675SP
Conduit fitting + O-ring (M16x1.5 / PG9, RE-MS)	210674SP
Fastening set HMS110	237805
Membrane Filter	ASM210856SP
Terminal Block, Blue	236620SP
USB cable for PC connection	219690
Connection cable for HM70 hand-held meter	219980SP
HUMICAP® 180R sensor	HUMICAP180R

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