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.

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
Technical Data

Models

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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

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): ±0.3 °C (±0.54 °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 ... +60 °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)

Operating Environment

**Operating temperature range:** -40 ... +80 °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: Vaisala proprietary protocol
- RDP100

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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