

HMT100 Series Humidity and Temperature Transmitter for Demanding HVAC Applications



HMT100 remote probe and wall mount models.

Features/Benefits

- Full 0 ... 100 %RH measurement
- Two-wire loop-powered or three-wire voltage output configurations
- Fixed and remote probe models
- Display available
- Relative humidity, dewpoint, temperature outputs
- Vaisala HUMICAP® sensor
- Interchangeable probe module for minimal maintenance downtime
- Different output scalings
- Compatible with hand-helds HM70 and HMI41 for calibration
- IP65 (NEMA 4) housing
- NIST traceable (certificate included)

The Vaisala HUMICAP® Humidity and Temperature Transmitter Series HMT100 are designed for humidity and temperature monitoring in demanding environments.

Typical applications include stability rooms, HVAC, livestock farms, greenhouses, indoor swimming pools, and outdoor applications.

Performance

HMT100 incorporates Vaisala HUMICAP® technology that measures relative humidity accurately and reliably. Vaisala HUMICAP® is also resistant to dust and most chemicals.

Available options

The HMT100 is available as a wall mount or remote probe model with an optional display. For high temperature applications or where space is limited, the remote probe is ideal.

HMT100 can show relative humidity only, dewpoint only, or relative humidity and temperature, or dewpoint and temperature readings. The probes are interchangeable without having to calibrate or adjust the transmitter.

HMT100 can also be installed outdoors using an installation kit, or directly into an air conditioning channel using a duct installation kit.

Annual calibration

Calibration is recommended typically at an interval of one year using either the Vaisala HUMICAP® Hand-held Humidity and Temperature Meter HM70 or the Vaisala HUMICAP® Humidity Indicator HMI41.

The accuracy of the instrument can also be checked using the Vaisala Humidity Calibrator HMK15, which is based on saturated salt solutions.

Technical data

Performance

RELATIVE HUMIDITY

Measurement range 0 ... 100 %RH

Accuracy against factory standards including non-linearity, hysteresis, and repeatability

at +15 ... +25 °C (+59 ... +77 °F) ±1.7 %RH (0 ... 90 %RH)

±2.5 %RH (90 ... 100 %RH)

at ±0 °C ... +40 °C (+32 ... +104 °F) ±(1.7 + 0.015 x reading) %RH

at -40 ... ±0 °C, +40 ... +80 °C ±(2.0 + 0.025 x reading) %RH

(-40 ... +32 °F, +104 ... +176 °F)

Factory calibration uncertainty ±1.0 %RH (0 ... 15 %RH)

at +20 °C (+68 °F) ±1.5 %RH (>15 ... 78 %RH)

Response time (90 %) at 20 °C in still air 8 s with plastic grid
20 s with membrane filter
40 s with sintered filter

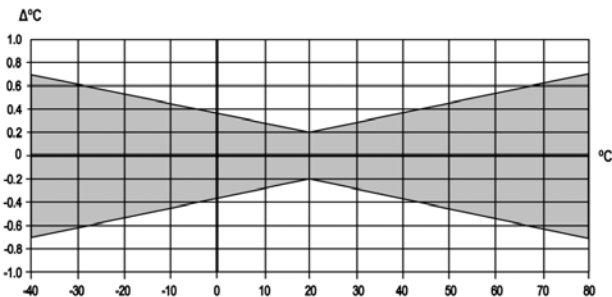
Humidity sensor Vaisala HUMICAP® 180

TEMPERATURE

Measurement range -40 ... +80 °C (-40 ... 176 °F)

Accuracy at +20 °C (+68 °F) ±0.2 °C (±0.36 °F)

ACCURACY OVER TEMPERATURE RANGE



Temperature sensor Pt1000 IEC 751 1/3 class B

DEWPOINT TEMPERATURE (CALCULATED)

Measuring range -20 ... +80 °C (-4 ... +176 °F)

Operating Environment

Operating temperature range

transmitter body, no display -40 ... +60 °C (-40 ... +140 °F)

transmitter body, with display -30 ... +60 °C (-22 ... +140 °F)

probe (remote probe only) -40 ... +80 °C (-40 ... +176 °F)

Storage temperature range -40 ... +60 °C (-40 ... +140 °F)

Electromagnetic EN61326-1,

compatibility Industrial Environment

Inputs and outputs

Two-wire output signal	4 ... 20 mA
External loop load	10 ... 35 VDC ($R_L = 0$ ohms) 20 ... 35 VDC ($R_L = 500$ ohms)
Voltage output signals	0 ... 1 V, 0 ... 5 V, 0 ... 10 V (0 ... XV see order form)
Supply voltage	10 ... 35 VDC/24 VAC
Current consumption, 35 VDC/24 VAC	max. 12 mA
External load	R_L min. 10 k Ω

Mechanics

Material

Housing ABS/PC plastic

Probe chrome coated aluminum

Mounting plate GM45160 ABS plastic

Housing classification IP65 (NEMA 4)

Sensor protection

Plastic grid DRW010522

Plastic grid with membrane filter DRW010525

Sintered stainless steel filter HM46670SP

Connections screw terminals 0.5 ... 1.5 mm²

Probe cable lengths 3 m, 5 m, 10 m

Calibration with HM70, HMI41,

or with internal 11 %RH & 75 %RH buttons

Display option

One line fixed variable or changing variables when two variables

are ordered

Options and accessories

Spare probe	HMP100
Spare extension cable (10 m)	DRW220095
Radiation shield	DTR502B
Rain shield with installation kit	215109
Installation plate	DRW010699
Duct installation kit	215619
Connection cable for HMI41	2591722
Connection cable for HM70	211339

VAISALA

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