

HMD60/70 Humidity and Temperature Transmitters for ducts in HVAC applications



Vaisala HUMICAP® Humidity and Temperature Transmitters HMD60 and HMD70 are designed for use in air conditioning applications where accurate and stable control of relative humidity and temperature are required.

The duct mounted Vaisala HUMICAP® Humidity and Temperature Transmitters HMD60 and HMD70 are designed for monitoring relative humidity and temperature in building energy management systems. The combination of high accuracy, stability and reliable operation, make these products the ideal choice for demanding applications.

Resistant to chemicals and dust

The duct mount HMD60 and HMD70 transmitters can also be used in many industrial humidity monitoring applications, where their stability and resistance to chemicals and dust are of great value. A useful feature of these duct mount transmitters is the ability to remove the electronics without removing the unit from the duct.

Measures both humidity and temperature

The HMD60 and HMD70 transmitters are available in three models: U for humidity measurement-only, Y for humidity and temperature measurement, and T for temperature only.

Fast, on-site calibration

The accuracy of the transmitters is simple to check using either the Vaisala HUMICAP® Hand-Held Humidity and Temperature Meter HM70 or the Vaisala HUMICAP® Humidity Indicator HMI41. The calibration can be done in seconds with a single potentiometer without disturbing the operation, resulting in great savings both in maintenance time and costs.

Features/Benefits

- Full 0 ... 100 %RH measurement
- Accuracy up to ± 2 %RH
- True two-wire transmitters with 4 ... 20 mA loop powered output (HMD60)
- Selectable signal output of 0 ... 1 V, 0 ... 5 V or 0 ... 10 V (HMD70) with optional current module also 0 ... 20 mA (HMD70)
- Vaisala HUMICAP® Sensor for excellent accuracy and long-term stability, negligible hysteresis and resistance to dust and most chemicals.
- Temperature compensated
- IP65 (NEMA 4) housing
- Also available as temperature-only transmitters HMD 60T/70T
- NIST traceable (certificate included)

Technical data

60 series: 2-wire, 4 to 20 mA output

| | | |
|------------|---------|--------|
| Duct mount | RH only | HMD60U |
| | RH & T | HMD60Y |
| | T only | HMD60T |

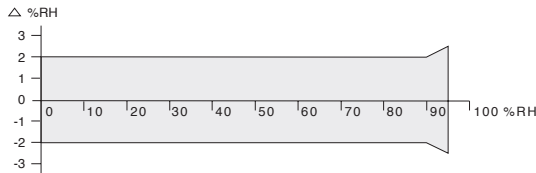
70 series: 3-wire, variable voltage output

| | | |
|------------|---------|--------|
| Duct mount | RH only | HMD70U |
| | RH & T | HMD70Y |
| | T only | HMD70T |

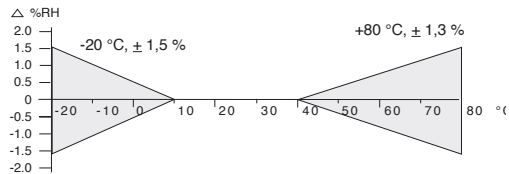
Relative humidity

Measurement range
duct mount 0 ... 100 %RH*

Accuracy at +20 °C



Temperature dependence



Response time at +20 °C (+68 °F),
90% response 15 s (with membrane filter)

Stability ± 2 %RH / 2 years

Sensor HUMICAP® 180

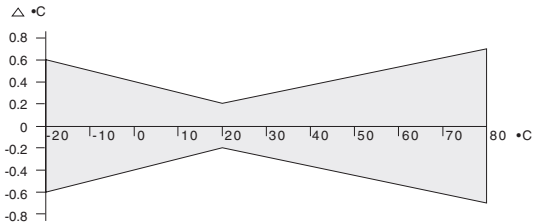
Temperature (Y and T models)

Linearity better than 0.1 °C

Sensor Pt 1000 IEC 751 class B

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

Accuracy



** Optional temperature scales are available on request.

General - 60 series

| | |
|----------------|------------------------------|
| Supply voltage | 10 ... 35 VDC (RL = 0 ohm) |
| | 20 ... 35 VDC (RL = 500 ohm) |
| Output signal | 4 ... 20 mA |

General - 70 series

| | | |
|--|-------------|---------------|
| Supply voltage range depends on the selected output signal | | |
| | DC | AC |
| 0 ... 1V | 10 ... 35 V | 9 ... 24 V |
| 0 ... 5V | 14 ... 35 V | 12 ... 24 V |
| 0 ... 10V | 19 ... 35 V | 16 ... 24 V |
| WITH OPTIONAL CURRENT MODULE | | |
| 0 ... 20 mA (RL = 0 ohm) | 10 ... 35 V | 11 ... 24 V |
| **0 ... 20 mA (RL = 500 ohm) | 20 ... 35 V | 17 ... 24 V |
| Power consumption @ 24 VAC | | |
| HMD70U | | 10 mA typical |
| HMD70Y | | 12 mA typical |

General

| | |
|--|--|
| Operating temperature range | |
| electronics | -5 ... +55 °C (+23 ... +131 °F) |
| probe | -20 ... +80 °C (-4 ... +176 °F) |
| Storage temperature range -40 ... +80 °C (-40 ... +176 °F) | |
| Maximum flow speed | 50 m/s |
| Current module | part no. 18945 HM |
| Housing | |
| probe | stainless steel |
| electronics | cast aluminum |
| Connections | screw terminals 0.5 ... 1.5 mm ² |
| Sensor protection | |
| standard | membrane filter (part no. DRW010525) |
| optional | stainless steel sintered filter (part no. HM46670SP) |
| Cable thread-through | |
| bushing for 7 ... 10 mm (PG9) | |
| cable housing IP65 (NEMA 4) | part no. 18941HM |
| armoured cable glands | part no. 10528HM |
| (must be ordered separately) | |

Complies with EMC standard EN61326 and EN55022



For more information, visit
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