HMD60/70 Humidity and Temperature Transmitters for Ducts in HVAC Applications

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)

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.

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.

Features/Benefits

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- 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)
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- NIST traceable (certificate included)

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.
# Technical Data

**60 Series: 2-wire, 4 to 20 mA Output**

<table>
<thead>
<tr>
<th>Duct mount</th>
<th>RH only</th>
<th>HMD60U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RH &amp; T</td>
<td>HMD60Y</td>
</tr>
<tr>
<td></td>
<td>T only</td>
<td>HMD60T</td>
</tr>
</tbody>
</table>

**70 Series: 3-wire, Variable Voltage Output**

<table>
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<tr>
<th>Duct mount</th>
<th>RH only</th>
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**Relative Humidity**

<table>
<thead>
<tr>
<th>Measurement range</th>
<th>0 ... 100 %RH*</th>
</tr>
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<tbody>
<tr>
<td>Accuracy at +20 °C</td>
<td>0 ... 100 %RH*</td>
</tr>
</tbody>
</table>

**Temperature (Y and T Models)**

<table>
<thead>
<tr>
<th>Linearity</th>
<th>better than 0.1 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>Pt 1000 RTD Class F0.3 IEC 60751</td>
</tr>
<tr>
<td>Measurement range</td>
<td>-20 ... +80 °C (-4 ... 176 °F) **</td>
</tr>
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**Temperature (Y and T Models)**

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<th>Accuracy</th>
<th><strong>°C</strong></th>
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**Relative Humidity**

<table>
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<tr>
<th>Standard</th>
<th>cable housing IP65 (NEMA 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connections</td>
<td>screw terminals 0.5 ... 1.5 mm²</td>
</tr>
</tbody>
</table>

**General - 60 Series**

- **Supply voltage**: 10 ... 35 VDC (RL = 0 ohm)
- **Output signal**: 4 ... 20 mA
- **Power consumption @ 24 VAC**:
  - HMD60U: 10 mA typical
  - HMD60Y: 12 mA typical

**General - 70 Series**

- **Supply voltage range depends on the selected output signal**
  - DC
  - AC
  - 0 ... 10 V
  - 19 ... 35 V
  - 16 ... 24 V
- **See User’s guide for other output signals**
- **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 mm²
- **Sensor protection**
  - standard membrane filter (part no. DRW010525)
  - optional stainless steel sintered filter (part no. HM46670SP)
- **Humidity sensor**: HUMICAP180
- **Cable thread-through**
  - bushing for T ... 10 mm (PG9)
  - bushing for NPT1/2" cable glands
- **Cable housing**: IP65 (NEMA 4)
- **Armoured cable glands**: part no. 10528HM
- **(must be ordered separately)**
- **Complies with EMC standard EN61326 and EN55022**

**Dimensions**

<table>
<thead>
<tr>
<th>Dimension in mm (inches)</th>
<th><strong>°C</strong></th>
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<td>-20 ... +80 °C (-4 ... 176 °F) **</td>
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**Dimensions**

**Dimensions in mm (inches)**

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**Note**: Optional temperature scales are available on request.