The Vaisala HUMICAP® Humidity and Temperature Transmitters HMT120 and HMT130 are designed for humidity and temperature monitoring in cleanrooms and are also suitable for demanding HVAC and light industrial applications.

Performance
The HMT120/130 incorporates Vaisala HUMICAP® technology that measures relative humidity accurately and reliably. The Vaisala HUMICAP® is resistant to dust and most chemicals. The transmitter enclosure is optimized for use in cleanrooms. The smooth surface of the enclosure makes it easy to clean and the enclosure material is chosen to tolerate purifying agents. Furthermore, the cabling can be done through the back wall of the transmitter.

Interchangeable Probe
The HMT120/130 transmitters use a fully interchangeable relative humidity probe. The probe can be easily removed and replaced with a new one without having to adjust the transmitter, which allows for easy and quick recalibration of the transmitter. The probe can be adjusted using one of Vaisala’s portable meters as a reference. Also available is a constant output probe with fixed RH and T output for convenient inspection of the monitoring system and signal transfer line.

Available Options
The HMT120 and HMT130 transmitters are available as wall mounted or with remote probe. For high temperature applications or where space is limited, the remote probe is ideal. The transmitters come with an optional LCD display, which shows the measurement results of selected parameters in selected units. The parameters are displayed simultaneously at two separate rows on the display.

Features/Benefits
- Vaisala HUMICAP® technology with humidity sensor HUMICAP® 180R
- Humidity parameter options: relative humidity, dew point/frost point, wet bulb temperature, enthalpy, absolute humidity, mixing ratio, vapor pressure, and saturation vapor pressure
- 2-wire loop-powered or 3-wire voltage output configurations
- Interchangeable probe (easy field calibration)
- Accurate and reliable
- Resistant to dust and most chemicals
- Optional LCD display
- USB cable available for a PC connection for maintenance
- Wall-mounted or with a remote probe
- Constant output probe available
- Can be mounted outdoors using a Vaisala installation kit and the Vaisala Radiation Shield DTR504A
- Enclosure IP65
- 3-point NIST traceable calibration (certificate included)
- Suitable for cleanrooms and demanding HVAC and light industrial applications
## Technical Data

### Performance

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relative Humidity</strong></td>
<td></td>
</tr>
<tr>
<td>Measurement range</td>
<td>0 ... 100 %RH</td>
</tr>
<tr>
<td>Accuracy including non-linearity, hysteresis, and repeatability</td>
<td>±1.5 %RH</td>
</tr>
<tr>
<td>Temperature range</td>
<td>0 °C ... +40 °C (32 °F ... 104 °F)</td>
</tr>
<tr>
<td>0 ... 90 %RH</td>
<td>±2.5 %RH</td>
</tr>
<tr>
<td>90 ... 100 %RH</td>
<td>±3.0 %RH</td>
</tr>
<tr>
<td>Factory calibration uncertainty at +20 °C (+68 °F)</td>
<td>±1.1 %RH</td>
</tr>
<tr>
<td>0 ... 90 %RH</td>
<td>±1.8 %RH</td>
</tr>
<tr>
<td>Humidity sensor</td>
<td>Vaisala HUMICAP® 180R</td>
</tr>
<tr>
<td>Stability</td>
<td>±2 %RH over 2 years</td>
</tr>
<tr>
<td>In typical HVAC applications</td>
<td>±0.5 %RH per year</td>
</tr>
</tbody>
</table>

### Operating Environment

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Temperature</strong></td>
<td></td>
</tr>
<tr>
<td>Measurement range</td>
<td>-40 °C ... +80 °C</td>
</tr>
<tr>
<td>Accuracy over temperature range</td>
<td></td>
</tr>
<tr>
<td>at +15 °C ... +25 °C (59 °F ... 77 °F)</td>
<td>±0.2 °C (±0.36 °F)</td>
</tr>
<tr>
<td>at 0 ... +15 °C and at +25 °C ... +40 °C</td>
<td>±0.25 °C</td>
</tr>
<tr>
<td>(at 32 °F ... 59 °F and at 77 °F ... 104 °F)</td>
<td>(±0.45 °F)</td>
</tr>
<tr>
<td>at -40 °C ... +40 °C and at +40 °C ... +80 °C</td>
<td>±0.4 °C</td>
</tr>
<tr>
<td>(at -40 °F ... 32 °F and at 104 °F ... 176 °F)</td>
<td>(±0.72 °F)</td>
</tr>
<tr>
<td>Temperature sensor</td>
<td>Pt1000 RTD Class F0.1 IEC 60751</td>
</tr>
</tbody>
</table>

### Other Variables (Optional)

- Dew point/frost point, wet bulb temperature, enthalpy, absolute humidity, mixing ratio, vapor pressure, and saturation vapor pressure

### Inputs and Outputs

#### HMT120 Two-Wire Transmitter (Loop Powered)

- **Current output signals**: 4 ... 20 mA
- **External loop voltage**: 10 ... 30 VDC (R_L = 0 ohms)
- **Probe interface**: 4-pin M8 female panel connector
- **Probe cable lengths**: 3 m, 5 m, 10 m - up to 50 m

#### HMT130 Three-Wire Transmitter

- **Voltage output signals**: 0 ... 1 V, 0 ... 5 V, 0 ... 10 V (or user defined between 0 ... 10 V)
- **Min output resistance**: 1 kohm
- **Serial output**: RS485, non-isolated
- **Relay output**: 1 relay (max. 50 VDC, 200 mA)
- **Supply voltage**: 10 ... 35 VDC (when output 0 ... 10 V)
- **Current consumption at 24 VDC**: 8 mA, if relay closed 15 mA

### Accessories

- **Humidity and temperature probe**: HMP110*
- **Humidity and temperature replacement probe**: HMP110R*
- **Constant output probe**: HMP110REF*
- **Standard humidity sensor**: HUMICAP® 180R
- **Catalytic humidity sensor for H2O2**: HUMICAP® 180V
- **Probe mounting flange**: 226061
- **Probe mounting clamps, 10 pcs**: 226067
- **HMP110 sensor protection**: Plastic grid filter DRW010522SP, Plastic grid with membrane filter DRW010525SP, Stainless steel sintered filter HM46670SP, Teflon sintered filter DRW244938SP
- **Probe cable 3 m**: HMT120Z300
- **Probe cable 5 m**: HMT120Z500
- **Probe cable 10 m**: HMT120Z1000
- **Probe cable 20 m**: HMT120Z2000
- **Radiation shield**: DTR504A
- **Rain shield with installation kit**: 215109
- **Duct installation kit**: 215619
- **HM70 connection cable**: 211339
- **USB serial interface cable**: 219685

*See separate order form*
Dimensions

Dimension in mm

Remote probe dimensions

Dimensions

Dimension in mm