Humidity/Temperature Transmitters

**Series RHP**

**Humidity/Temperature Transmitter**

Passive Temperature Outputs, Sintered Filter Options

The Series RHP Temperature and Humidity Transmitter combine the voltage or current humidity transmitter output with a passive temperature thermistor or RTD output. The polymer capacitance humidity sensor is not affected by condensation, fog, high humidity, or contaminants. The humidity sensors are available with 2%, 3%, or 5% accuracies. Duct mounted transmitters are available with an optional two-line alphanumeric LCD display. The Series RHP is available with interchangeable filter options as well as replaceable sensors.

**SPECIFICATIONS**

- **Relative Humidity Range:** 0 to 100% RH.
- **Temperature Range:** -40 to 140°F (-40 to 60°C).
- **Accuracy, RH:**
  - RHP-2XXX ±2% 10-90% RH @ 25°C;
  - RHP-3XXX ±3% 20-80% RH @ 25°C;
  - RHP-5XXX ±5% 20-80% RH @ 25°C.
- **Accuracy, Thermistor Temp Sensor:** ±0.2°C @ 25°C (±0.36°F @ 77°F).
- **Accuracy, RTD Temp Sensor:** DIN Class B; ±0.3°C @ 0°C (±0.54°F @ 32°F).
- **Accuracy, Solid State Band Gap:** ±0.9°F @ 77°F (±0.3°C @ 25°C).
- **Hysteresis:** ±1%.
- **Repeatability:** ±0.1% typical.
- **Temperature Limits:** -40 to 140°F (-40 to 60°C).
- **Storage Temperature:** -40 to 176°F (-40 to 80°C).
- **Compensated Temperature Range:** -4 to 140°F (-20 to 60°C).
- **4 to 20 mA Loop Powered Models:** Power requirements: 10 to 35 VDC; Output signal: 4 to 20 mA.
- **0-5/10V Output Models:** Power requirements: 15 to 35 VDC or 15 to 29 VAC; Output signal: 0 to 10V @ 5 mA max.
- **Solid State Band Gap Temperature Sensor Output Ranges:** Switch selectable, -20 to 140°F (-28.9 to 60°C); 0 to 100°F (-17.8 to 37.8°C); 40 to 90°F (4.4 to 32.3°C); 4 to 140°F (-20 to 60°C).
- **Response Time:** 15 seconds.
- **Electrical Connections:** Removable screw terminal block.
- **Conduit Connection:** Duct mount: 1/2˝ NPT; OSA: 1/2˝ (22.3 mm).
- **Drift:** <1% RH/year.
- **RH Sensor:** Capacitance polymer.
- **Temperature Sensor:** Types 1, 2, 3, Solid state band gap; Curves A, B, C: Thermistors; Curves D, E: Platinum RTD DIN 385.
- **Enclosure:** Duct mount: PBT; OSA: Polycarbonate.
- **Enclosure Rating:** NEMA 4X (IP66) for OSA mount only.
- **Display:** Duct mount only, optional 2-line alphanumeric, 8 characters/line.
- **Display Resolution:** RH: 0.1% (0.1°C).
- **Weight:** Duct mount: .616 lb (.3 kg); OSA: 1 lb (.45 kg).
- **Agency Approvals:** CE.

**Example Table**

<table>
<thead>
<tr>
<th>Example</th>
<th>Series</th>
<th>Housing Type</th>
<th>RH Output</th>
<th>Temperature Sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>RH/Passive Temperature Sensor Transmitter</td>
<td>Duct Mount</td>
<td>None</td>
<td>4 to 20mA</td>
<td>4 to 20mA</td>
</tr>
<tr>
<td>2% Accuracy</td>
<td>0 to 10 VDC</td>
<td>0 to 10 VDC</td>
<td>0 to 5 VDC</td>
<td>0 to 10 VDC</td>
</tr>
<tr>
<td>3% Accuracy</td>
<td>10K @ 25°C Thermistor Type II</td>
<td>10K @ 25°C Thermistor Type III</td>
<td></td>
<td></td>
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<tr>
<td>5% Accuracy</td>
<td>3K @ 25°C Thermistor Type III</td>
<td>5K @ 25°C Thermistor Type II</td>
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<td></td>
</tr>
</tbody>
</table>

*Model RHRS Radiation Shield is required for sintered filter OSA models.*

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