[ GB ] Temperature, Relative humidity and Dew Point transmitters

HD4801T...
HD48V01T...
HD4817T...
HD48V17T...
HD4877T...
HD48V77T...
**Technical specifications**

**Relative humidity measurement**

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Capacitive polymer 150pF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>5...98%RH</td>
</tr>
<tr>
<td>Measurement accuracy</td>
<td>±2% (15...90%RH), ±2.5% in the remaining range</td>
</tr>
<tr>
<td>Repeatability</td>
<td>0.4%RH</td>
</tr>
</tbody>
</table>

**Temperature measurement**

<table>
<thead>
<tr>
<th>Sensor</th>
<th>NTC 10kΩ</th>
</tr>
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<tbody>
<tr>
<td>Measuring range</td>
<td>-20...+80°C</td>
</tr>
<tr>
<td>Measurement accuracy</td>
<td>±0.3°C (0...+70°C)</td>
</tr>
<tr>
<td>Repeatability</td>
<td>0.05°C</td>
</tr>
</tbody>
</table>

**Dew Point**

<table>
<thead>
<tr>
<th>Sensor</th>
<th>calculated parameter from relative humidity and temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measuring range</td>
<td>-20...+80°C DP</td>
</tr>
<tr>
<td>Measurement accuracy</td>
<td>±1°C DP (0...40°C, 15...90%RH)</td>
</tr>
<tr>
<td>Repeatability</td>
<td>0.5°C DP</td>
</tr>
</tbody>
</table>

**Analog output**

<table>
<thead>
<tr>
<th>HD4801T...models</th>
<th>Relative humidity output 4…20mA (0...100%RH), R&lt;500Ω</th>
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<tbody>
<tr>
<td>HD48V01T models</td>
<td>Relative humidity output 0...10Vdc (0...100%RH), R&gt;10kΩ</td>
</tr>
<tr>
<td>HD4817T...models</td>
<td>Relative humidity output 4...20mA (0...100%RH), R&lt;500Ω</td>
</tr>
<tr>
<td>HD4817T...models</td>
<td>Temperature output 4...20mA (-20...+80°C), R&lt;500Ω</td>
</tr>
<tr>
<td>HD4817T...models</td>
<td>22mA out of measuring range</td>
</tr>
<tr>
<td>HD4817T...models</td>
<td>11Vdc out of measuring range</td>
</tr>
<tr>
<td>HD4877T...models</td>
<td>Dew point output 4...20mA (-20...+80°C DP), R&lt;500Ω</td>
</tr>
<tr>
<td>HD4877T...models</td>
<td>Temperature output 4...20mA (-20...+80°C), R&lt;500Ω</td>
</tr>
<tr>
<td>HD4877T...models</td>
<td>22mA out of measuring range</td>
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<tr>
<td>HD4877T...models</td>
<td>11Vdc out of measuring range</td>
</tr>
<tr>
<td>HD4877T...models</td>
<td>11Vdc out of measuring range</td>
</tr>
</tbody>
</table>

**Power supply and connections**

<table>
<thead>
<tr>
<th>Supply voltage</th>
<th>16...40Vdc or 24 Vac ±10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical connections</td>
<td>Terminal block and PG9 cable grip</td>
</tr>
</tbody>
</table>

### Installation notes

- To fix the probe inside a ventilation duct, a pipe, etc. you can use, for example, HD9008.31 flange, a PG16 metal cable gland (10…14mm) or a 3/8” universal biconical connection.

**HD9008.31**

**PG16 metal cable gland**

- D = 10...14mm
- L = 6.5mm
- H = 23mm
- A = PG16

**Universal biconical connection**

- L = 35mm
- D = 14mm
- A = 3/8”
Electrical connections

Power supply

Power the instrument at the voltage shown in the electrical specifications: power supply terminals are marked as +Vcc and GND.

Analogue output

According to the model, the output signal comes from:
- RH and AGND terminals for relative humidity transmitters,
- RH and AGND, Ta and AGND terminals for temperature / relative humidity transmitters.
- DP and AGND, Ta and AGND terminals for temperature / dew point transmitters.

Relative humidity calibration

The instruments are supplied factory calibrated and ready to use. If it is necessary, it is possible to perform the calibration of the relative humidity sensor using the saturated salt solutions HD75 (75% RH saturated salt solution) and HD33 (33% RH saturated salt solution) and connecting the instrument to the PC using HD48TCAL kit.

HD48TCAL kit includes RS232 cable for connecting HD4801T, HD4817T and HD4877T to the PC and a CD Rom for operative systems Windows 98 to XP that guides the user in the relative humidity calibration procedure.
### Probe dimensions:

**TO series**
- TO1 L = 135mm
- TO2 L = 335mm

**TC series**
- TC1 L = 135mm
- TC2 L = 335mm

**TV series**
- 44.0 mm
- 84.0 mm

### Ordering codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
</table>
| HD48 | Wall mounting digital transmitter for measuring relative humidity. | ![Diagram](image.png)
| HD4801TV | Relative humidity range 5...98%RH. Analog output: 4...20mA (0...100%RH). Sensor operating temperature -20...+80°C, electronics operating temperature -10...+60°C. Power supply 16...40Vdc or 24Vac. |
| HD4817TO1 | Digital transmitter for measuring temperature and relative humidity in ducts. Version with AISI304 steel probe, 14mm diameter and 135mm length, joined to the electronics enclosure. Relative humidity range 5...98%RH, temperature range -20...+80°C. Analog outputs: 4...20mA (0...100%RH) for RH and 4...20mA (-20...+80°C) for temperature. Sensors operating temperature -20...+80°C, electronics operating temperature -10...+60°C. Power supply 16...40Vdc or 24Vac. |
| HD48V17TC2.5 | Digital transmitter for measuring temperature and relative humidity. Version with AISI304 steel probe, 14mm diameter and 335mm length, connected to the electronics through cable 5m long. Relative humidity range 5...98%RH, temperature range -20...+80°C. Analog outputs: 0...10V (0...100%RH) for RH and 0...10V (-20...+80°C) for temperature. Sensors operating temperature -20...+80°C, electronics operating temperature -10...+60°C. Power supply 16...40Vdc or 24Vac. |
| HD4877TO2 | Digital transmitter for measuring dew point temperature (°C DP) and temperature in ducts. Version with AISI304 steel probe, 14mm diameter and 335mm length, joined to the electronics enclosure. Dew point range -20...80°C DP, temperature range -20...+80°C. Analog outputs: 4...20mA (-20...80°C DP) for DP and 4...20mA (-20...+80°C) for temperature. Sensors operating temperature -20...+80°C, electronics operating temperature -10...+60°C. Power supply 16...40Vdc or 24Vac. |

### Code examples

- **HD4801TV:** Wall mounting digital transmitter for measuring relative humidity. Relative humidity range 5...98%RH. Analog output: 4...20mA (0...100%RH). Sensor operating temperature -20...+80°C, electronics operating temperature -10...+60°C. Power supply 16...40Vdc or 24Vac.

### Accessories

- **HD48TCAL:** The kit includes RS27, RS232 null modem serial connection cable with 9 poles sub-D 9 female and 3 pole connector for COM port, and CDROM for operative systems Windows 98 to XP that guides the user in the relative humidity calibration procedure.
- **HD75:** 75% RH saturated solution for calibrating the relative humidity sensor, complete with thread for probes with Ø 14mm and Ø 26mm.
- **HD33:** 33% RH saturated solution for calibrating the relative humidity sensor, complete with thread for probes with Ø 14mm and Ø 26mm.
- **HD9008.31:** Wall flange with cable outlet to fix probes with Ø 14mm.
- **PG16:** Stainless steel gland (AISI304) for probes with Ø 14mm.
- **P5:** Stainless steel grid protection for probes Ø 14mm.
- **P6:** 20µs sintered stainless steel protection for probes Ø 14mm.
- **P7:** 10µm PTFE protection for probes Ø 14mm.
- **P8:** Stainless steel grid and Pocan protection for probes Ø 14mm.
Manufacture of portable and bench top instruments
Current and voltage loop transmitters
Temperature - Humidity - Pressure
Air speed - Light - Acoustics
pH - Conductivity - Dissolved Oxygen - Turbidity
Elements for weather stations - Thermal Microclimate

SIT CENTRE N°124
Temperature - Humidity - Pressure - Air speed
Photometry/Radiometry - Acoustics

CE CONFORMITY
• Safety: EN61000-4-2, EN61010-1 Level 3
• Electrostatic discharge: EN61000-4-2 Level 3
• Electric fast transients: EN61000-4-4 livello 3, EN61000-4-5 Level 3
• Voltage variations: EN61000-4-11
• Electromagnetic interference susceptibility: IEC1000-4-3
• Electromagnetic interference emission: EN55020 class B