EE08 Series

High-Precision Miniature
Humidity / Temperature Transmitter

Accurate humidity / temperature measurement over a wide working range, fitted in a small-sized housing and high flexibility have been the main goals for the development of the EE08 series.

Low power consumption and short start-up time support efficient energy management for battery operated systems. For this application an additional version (V10) with supply voltage 4.5-15V DC has been developed.

Calibration data and other relevant functions like linearization or temperature compensation are stored in the probe. This feature, together with the optional connector, allows for easy replacement of the probe without a need for re-adjustment of the reading device (interchangeability).

The humidity and temperature measurement are available as analogue outputs (0-1/2.5/5V) and as a digital interface (E2-interface). Easy implementation and data processing is warranted. Humidity and temperature reading can be re-adjusted using the calibration software; available as an accessory. The configuration equipment allows humidity and temperature adjustment of the sensor.

**Typical Applications**

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<tr>
<th>Meteorology / Weather Stations</th>
<th>Small Dimensions</th>
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<td>Humidity / Temperature Data Logging</td>
<td>Wide Working Range, High Accuracy</td>
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<td>Incubators</td>
<td>Traceable Calibration</td>
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<td>Fermentation Chambers</td>
<td>Customer Adjustment Possible</td>
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<td>Greenhouses</td>
<td>Interchangeable in Seconds</td>
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<td>Snow Machines</td>
<td>Low Power Consumption / Short Start-up Time</td>
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<tr>
<td>Dry Storage Facilities</td>
<td>Analogue Outputs / Digital Interface</td>
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</table>

**Technical Data**

**Measuring Values**

| Relative Humidity
<table>
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<tr>
<td>Sensor</td>
<td>HC101</td>
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<tr>
<td>Working range</td>
<td>0...100% RH</td>
</tr>
<tr>
<td>Digital output (2 wire)</td>
<td>output value: 0.00...100.00% RH</td>
</tr>
<tr>
<td>Analogue output 0...100% RH</td>
<td>0-1/2.5/5/10V</td>
</tr>
<tr>
<td>Accuracy at 20°C (68°F) and 12V DC</td>
<td>±2% RH (0...90% RH) ±3% RH (90...100% RH)</td>
</tr>
<tr>
<td>Temperature dependence</td>
<td>typ. 0.03% RH/°C (typ. 0.02% RH/°F)</td>
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</table>

**Temperature**

| Sensor           | Pt 1000 (DIN A) |
| Digital output (2 wire) | output value: -40.00...+80.00°C (-40...176°F) |
| Analogue output 0-1/2.5/5/10V | -0.2mA < I < 0.2mA |

**General**

| Supply voltage | output 0-1V / 0-2.5V 4.5-15V DC or 7-30V DC |
| Current consumption | typ. < 1.3mA |
| Digital Interface | E2-interface level = 3.3V / ±0.1V |
| Housing          | Polycarbonate / IP65 |
| Sensor protection | Metal Grid Filter |
| Electromagnetic Compatibility | EN61326-1 EN61326-2-3 |
| Temperature Ranges | Working Temperature: -40...80°C (-40...176°F) |
|                  | Storage Temperature: -40...80°C (-40...176°F) |

1) refer to the working range of the humidity sensor HC101  
2) serial protocol refer to www.epulse.com
**Dimensions (mm)**

<table>
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<tr>
<th>EE08 with cable (Type E)</th>
<th>EE08 with connector (Type D)</th>
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</thead>
<tbody>
<tr>
<td>M12x1</td>
<td>M16x1.5</td>
</tr>
<tr>
<td>61 (2.4&quot;)</td>
<td>83 (3.2&quot;)</td>
</tr>
<tr>
<td>25 (1&quot;)</td>
<td>71 (2.8&quot;)</td>
</tr>
<tr>
<td>73 (2.8&quot;)</td>
<td></td>
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</tbody>
</table>

**Connection Diagram**

**Type E:**
- **Temp. active**
  - T-passive: white (not connected)
  - GND: pink
  - T-out: grey (not connected)
  - RH-out: yellow (not connected)
- **Temp. passive, 4-wire**
  - T-passive: blue (not connected)
  - GND: pink
  - T-out: grey (not connected)
  - RH-out: yellow (not connected)

**Type D:**
- **T-passive.**
- **SDA**
- **SCL**
- **RH-out**
- **T-out**
- **GND**
- **T-passive**
- **+UB**

**Ordering Guide**

**Filter**
- metal grid filter

**Coating**
- without coating (no code)
- with coating (HC01)

**Cable Length**
- 1m (3.3ft) (01)
- 2m (6.6ft) (02)
- 5m (16.4ft) (05)

**T-Unit**
- metric (no code)
- non metric (E01)

**T-Scaling**
- -40...80°C (T22)
- -40...60°C (T02)
- -30...70°C (T08)
- -20...80°C (T24)
- -20...50°C (T48)
- other (Tx)

**Order Example**

**EE08-PFT2V11E602T22**
- housing: polycarbonate
- model: humidity active / temp. active
- supply: 7 - 30V DC
- type: with cable

**Accessories / Replacement Parts**
- M12 connection cable for type D, length 1.5m (5ft) (HA010322)
- M12 connection cable for type D, length 3m (10ft) (HA010323)
- M12 connection cable for type D, length 5m (16.4ft) (HA010324)
- M12 connection cable for type D, length 10m (32.8ft) (HA010325)
- M12 connection cable for type D, length 1,5m (5ft) (HA010326)
- M12 female socket with wires (HA010703)
- M12 female cable connector assembly possible (HA010704)
- metal grid filter (HA010113)

**Configuration equipment:** The configuration equipment allows humidity and temperature adjustment of the sensor.
- configuration cable (HA011005)
- configuratin software: free download under www.epluse.com/EE08