Transmitter for greenhouses and laboratories

testo 6631

- P2A software for parameterization, adjustment and analysis saves time and costs in commissioning and maintenance
- Integrated ventilator allows targeted flow impact onto the sensor, enabling the recording of an averaged climate inside the greenhouse cell
- Quick and easy ventilator replacement with ventilator drawer assembly and plug-in connection
- Easy exchange of sensor filter
- Protection of the electronics and sensor from humidity influences (e.g. sprinkler)

The testo 6631 transmitter was developed specially for monitoring critical ambient conditions in greenhouses, e.g. for bio research purposes. Precise and reliable humidity measurement is indispensable in these applications, in order to avoid costs caused by failed experiments.

Process security and system availability, among the most important factors in experimental plants, are supported by a number of properties of the testo 6631 bio research transmitter.
### Technical data

#### Measurement parameters

**Humidity**

- **Units**: %RH
- **Measuring range**: 0 to 100 %RH (not for high humidity processes)
- **Measurement uncertainty***: ±2.5 %RH (0 to 90%); 4.0 %RH (90 to 100%)
- **Sensor**: Testo humidity sensor, plug-in; exchangeable by customer, subsequent 2-point adjustment required
- **Response time**: Humidity max. 5 sec. (t63) with protective cap and ventilator in operation

**Temperature**

- **Units**: °C/°F
- **Measuring range**: -10 to +60 °C (observe operating temperature)
- **Measurement uncertainty**: ±0.5 °C
- **Sensor**: NTC
- **Inherent warming**: 0.6 °C (with M01 and M03)
- **Response time**: Temperature max. 20 sec. (t63) with protective cap and ventilator in operation

#### General technical data

**Design**

- **Material / colour**: Plastic/white, UV-proof, high chemical resistance

**Dimensions**: 105 x 139 x 225 mm

**Weight**: 0.8 kg

**Display**

- **Display**: Optional: 2-line LCD with clear text line

**Resolution**

- **Resolution**: 0.1 %RH or 0.1 °C/°F

**Operation**

- **Parameterization**: via P2A software

**Miscellaneous**

- **Protection class**: Transmitter IP65; housing IP33

**EMC**

- **EMC DIN EN 61000-6-2 (interference susceptibility) and DIN EN 61000-6-3 (interference emission)**

**Operating conditions**

- **Operating temperature (sensor)**: 0 ... +50 °C
- **Storage temperature**: -20 ... +70 °C

**Ventilator**

- **Max. volume flow**: 46.80 m³/h; 13 l/s
- **Noise level (unobstructed)**: 30 dB(A)
- **Life expectancy**: 37,000 h (40 °C)
- **Ventilator housing / vane**: Metal / metal
- **Bearing system**: Plain bearing
- **Service**: Ventilator installed in lower section with plug-in connection, in order to be exchangeable in case of service

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* Measurement uncertainty calculation according to GUM (Guide to the Expression of Uncertainty in Measurement): The following uncertainties are used in the calculation:  
  - Hysteresis  
  - Linearity  
  - Reproduceability  
  - Adjustment site/factory calibration  
  - Uncertainty contribution of the test site
Technical drawings / Connection plan

**Technical drawings**

![Technical Drawing Image]

**Connection plan**

**2-wire technology**
- Plug manufacturer: Euchner
- Cable socket*: Type BS 7K
- Pin socket*: Type SD 7K

![Connection Diagram 2-wire]

**4-wire technology**
- Plug manufacturer: Tuchel-Amphenol
- Cable socket*: Type 01630D00610010
- Pin socket**: Type Eco mate instrument plug

![Connection Diagram 4-wire]

* The cable socket is not included in delivery
** Installed in instrument ex-works
Options / Ordering example

The following options can be specified for the testo 6631:

<table>
<thead>
<tr>
<th>BXX</th>
<th>Analog output / supply</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B01  4 to 20 mA (2-wire) with separate ventilator supply</td>
</tr>
<tr>
<td></td>
<td>B06  4 to 20 mA (4-wire) with built-in ventilator supply</td>
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</tbody>
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<table>
<thead>
<tr>
<th>CXX</th>
<th>Display / menu language</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>C00  without display</td>
</tr>
<tr>
<td></td>
<td>C01  with display</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FXX</th>
<th>Humidity units</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>F01  Relative humidity</td>
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<table>
<thead>
<tr>
<th>GXX</th>
<th>Temperature units</th>
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<tbody>
<tr>
<td></td>
<td>G02  Temperature (°C)</td>
</tr>
<tr>
<td></td>
<td>G03  Temperature (°F)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>MXX</th>
<th>Protective cap selection</th>
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<tbody>
<tr>
<td></td>
<td>M01  Sintered stainless steel filter</td>
</tr>
<tr>
<td></td>
<td>M03  Sintered PTFE filter</td>
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<tr>
<td></td>
<td>M05  Plastic filter</td>
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</tbody>
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Ordering example

Order code for transmitter testo 6631 with the following options:
- 4 to 20 mA (2-wire)
- with display
- %RH / °C
- Sintered PTFE filter

0555 6631 B01 C01 F01 G02 M03