

## Transmitter for greenhouses and laboratories



### SPECIFICATIONS

testo 6631



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:



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testo 6631

- Testo humidity sensor guarantees highest long-term stability and accuracy  $\pm 2.5$  %RH
- P2A software for parameterization, adjustment and analysis saves time and costs in commissioning and maintenance
- Optimum concept for fast adjustment and calibration (1-point, 2-point and analog adjustment) for increasing accuracy and long-term stability
- 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)
- Optional two-line LCD.

Areas of application:

Monitoring critical climate bio research, e.g. in greenhouses for research purposes:

- Research institutes, pharmaceutical and chemical companies for the research and development of insecticides, pesticides and fertilizers.



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### 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)

#### Inputs and outputs

Analog outputs	
Quantity	2 channels (humidity and temperature)
Output type	4 to 20 mA (2- or 4-wire)
Measurement rate	1/s
Resolution	12 bit
Max. load	<500 Ω
Further outputs	
Digital	Mini DIN for P2A software
Supply	
Voltage supply	24 V ±10%
Current consumption	<1A (ventilator + transmitter)
Connection	2-wire plug manufacturer (Euchner) 4-wire plug manufacture (Tuchel- Amphenol)

#### 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	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 m <sup>3</sup> /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 to be exchangeable in case of service

\* Measurement uncertainty calculation according to **GUM** (Guide to the Expression of Uncertainty in Measurement):

The following uncertainties are used in the calculation:

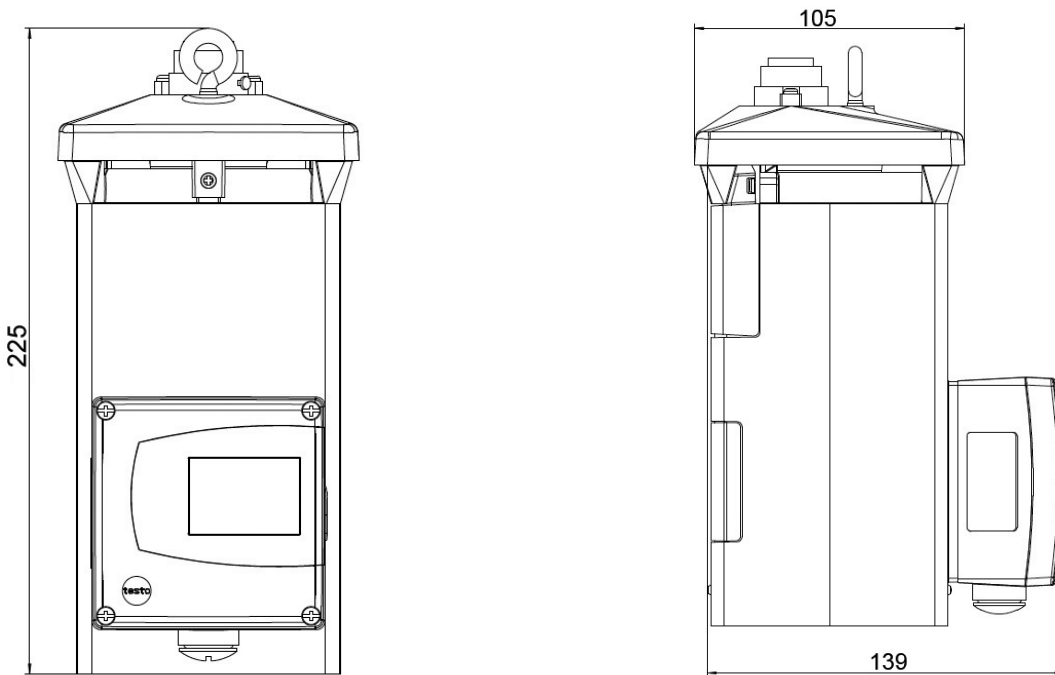
- Hysteresis
- Linearity
- Reproduceability
- Adjustment site/factory calibration
- Uncertainty contribution of the test site

Subject to change without notice.

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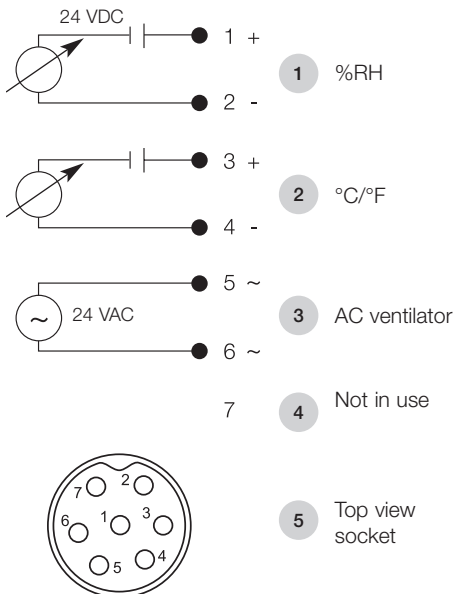
## Technical drawings



## Connection plan

## 2-wire technology

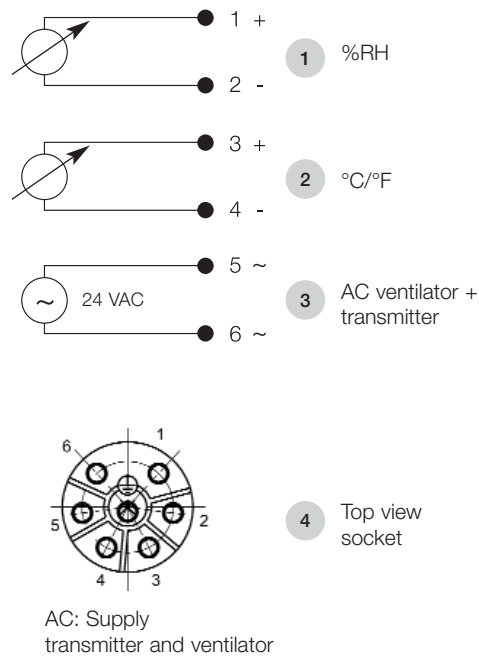
Plug manufacturer Euchner  
Cable socket\*; Type BS 7K  
Pin socket\*; Type SD 7K



DC: Supply transmitter  
AC: Supply ventilator

## 4-wire technology

Plug manufacturer Tuchel-Amphenol  
Cable socket\*; Type 01630D00610010  
Pin socket\*\*; Type Eco mate instrument plug



AC: Supply transmitter and ventilator

\* The cable socket is not included in delivery  
\*\* Installed in instrument ex-works



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The following options can be specified for the testo 6631:

<b>Bxx</b>	<b>Analog output / supply</b>	<b>BXX Analog output / supply</b>	<b>GXX Temperature units</b>
<b>Cxx</b>	<b>Display / menu language</b>	B01 4 to 20 mA (2-wire) with separate ventilator supply	G02 Temperature (°C)
<b>FXX</b>	<b>Humidity units</b>	B06 4 to 20 mA (4-wire) with built-in ventilator supply	G03 Temperature (°F)
<b>GXX</b>	<b>Temperature units</b>	<b>CXX Display/menu language</b>	<b>MXX Protective cap selection</b>
<b>MXX</b>	<b>Protective cap selection</b>	C00 without display	M01 Sintered stainless steel filter
<b>KXX</b>	<b>Instruction manual language</b>	C01 with display / English	M03 Sintered PTFE filter
		<b>FXX Humidity units</b>	<b>KXX Instruction manual language</b>
		F01 Relative humidity	K01 IM German-English
			K02 IM French-English
			K03 IM Spanish-English
			K04 IM Italian-English
			K05 IM Dutch-English
			K06 IM Japanese-English
			K07 IM Chinese-English

### Example:

Order code for transmitter testo 6631 with the following options:

- 4 to 20 mA (2-wire)
- with display
- %RH / °C
- Sintered PTFE filter
- Instruction manual language German-Englisch

**0555 6631 B01 C01 F01 G02 M03 K01**