

# Transmitter for greenhouses and laboratories

testo 6631

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P2A software for parameterization, adjustment and analysis saves time and costs in commissioning and maintenance

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Integrated ventilator allows targeted flow impact onto the sensor, enabling the recording of an averaged climate inside the greenhouse cell

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Quick and easy ventilator replacement with ventilator drawer assembly and plug-in connection

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Easy exchange of sensor filter

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Protection of the electronics and sensor from humidity influences (e. g. sprinkler)

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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)

## 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
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### Supply

Voltage supply	24 V ±10%
Current consumption	<1A (ventilator + transmitter)
Connection	2-wire plug manufacturer (Euchner) 4-wire plug manufacture (Tuchel-Amphenol)

\* 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

## General technical data

### Design

Material / colour	Plastic/white, UV-proof, high chemical resistance
Dimensions	105 x 139 x 225 mm
Weight	0.8 kg
<b>Display</b>	
Display	Optional: 2-line LCD with clear text line
Resolution	0.1 %RH or 0.1 °C/°F
<b>Operation</b>	
Parameterization	via P2A software
<b>Miscellaneous</b>	
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

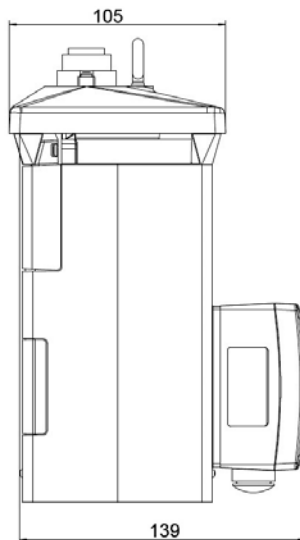
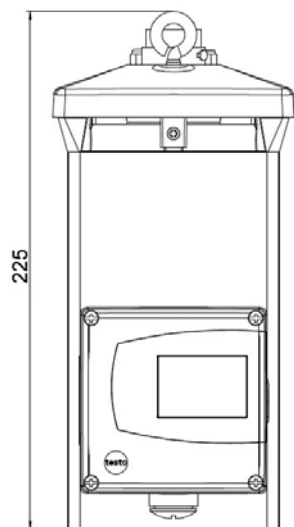
Operating temperature (sensor)	0 ... +50 °C
Storage temperature	-20 ... +70 °C

## 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 order to be exchangeable in case of service

# Technical drawings / Connection plan

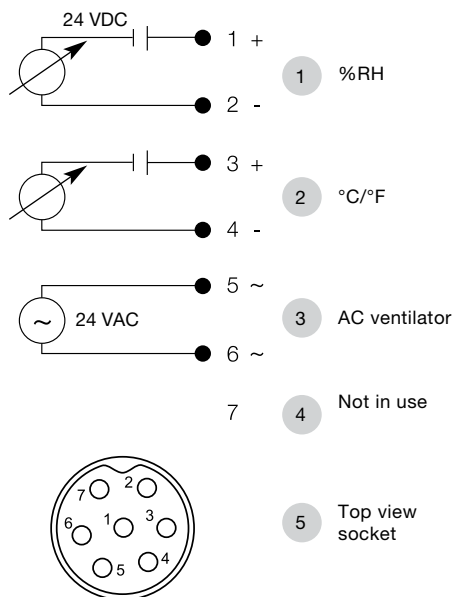
## Technical drawings



## Connection plan

### 2-wire technology

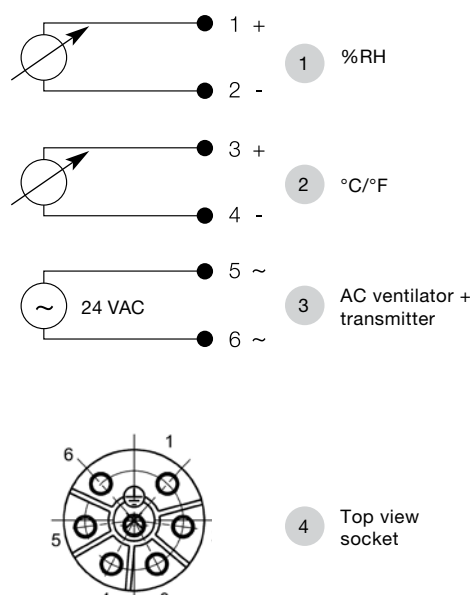
Plug manufacturer Euchner  
 Cable socket\*; Type BS 7K  
 Pin socket\*; Type SD 7K



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

# Options / Ordering example

The following options can be specified for the testo 6631:

- BXX Analog output / supply
- CXX Display
- FXX Humidity units
- GXX Temperature units
- MXX Protective cap selection

### BXX Analog output / supply

- B01 4 to 20 mA (2-wire) with separate ventilator supply
- B06 4 to 20 mA (4-wire) with built-in ventilator supply

### CXX Display/menu language

- C00 without display
- C01 with display

### FXX Humidity units

- F01 Relative humidity

### GXX Temperature units

- G02 Temperature (°C)
- G03 Temperature (°F)

### MXX Protective cap selection

- M01 Sintered stainless steel filter
- M03 Sintered PTFE filter
- M05 Plastic filter

### 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

0981 8224/msp//01.2015

Subject to change without notice.

## (주)누비콤

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