Data sheet
testo 6631

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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 indispensible 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)
Measurerment 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)
Measurerment 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)

* Measurement uncertainty calculation according to **GUM** (**G**uide to the Expression of **U**ncertainty in **M**easurement):
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
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

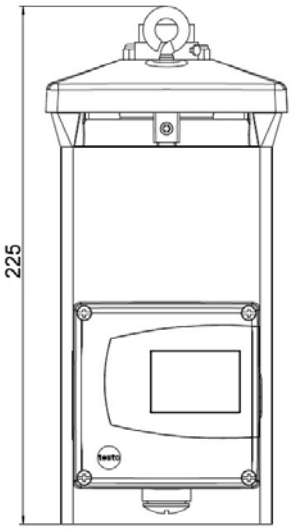
Operating temperature (sensor)	0 ... +50 °C
Storage temperature	-20 ... +70 °C

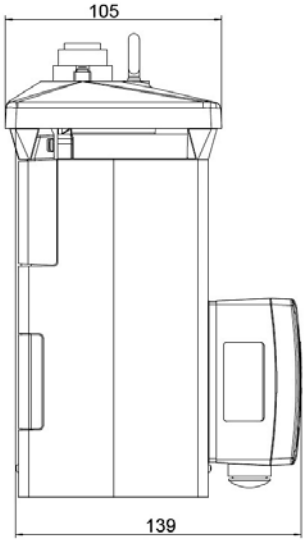
Ventilator

Max. volume flow	46.80 m^3/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

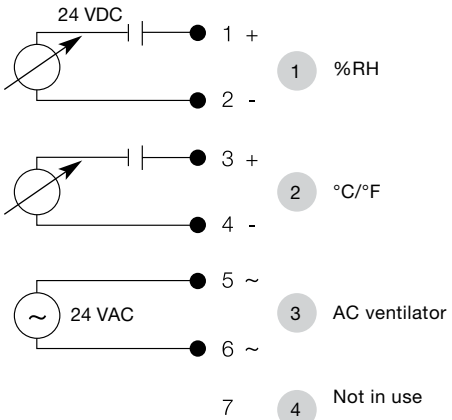




Connection plan

2-wire technology

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

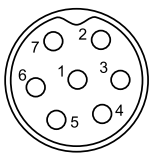


1 %RH

2 °C/°F

3 AC ventilator

4 Not in use

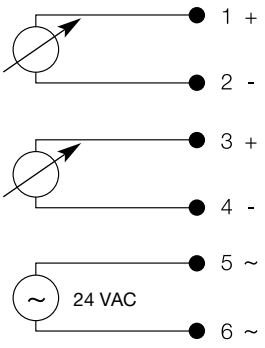


5 Top view socket

DC: Supply transmitter
AC: Supply ventilator

4-wire technology

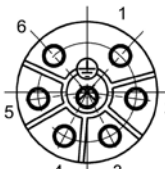
Plug manufacturer Tuchel-Amphenol
Cable socket*; Type 01630D00610010
Pin socket**; Type Eco mate instrument plug



1 %RH

2 °C/°F

3 AC ventilator + transmitter



4 Top view socket

AC: Supply transmitter and ventilator

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

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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/l/01.2015