

OPERATION MANUAL

Compact sensor humidity/temperature of the GLT series

Description



Characteristic features

- Compact stainless steel probe housing, 12 mm
- Probe head with PE Sinter filter
- Standard signal 0...10 V
- Linearised and temperature compensated
- High long term stability by the use of innovative technique
- Supplied in ready-to-connect and calibrated condition

Areas of application

- Building automation
- Industrial measurement and regulation systems
- Climate recording
- Drying systems
- Customised regulation devices

Technical data

Humidity measurement	
Measuring range	0...100 % RH, without condensation
Accuracy	±2 % RH (from 0...90% RH)
Response time t_{90}	Approx. 25 sec. (with protection filter)
Output scaling	0...100 % RH
Temperature measurement	
Temperature measuring range	-20...+80 °C
Accuracy	±0,3 °C (from 0...+90 °C)
Output scaling	-20...+80 °C
General	
CE-conformance	2014/30/EU
EMV-noise emission	DIN EN 55014-1:2018
EMV-noise withstanding	DIN EN 61000-4-2 to -6:2009 to 2015
Operating voltage	Type -10V: 15 ... 24 V AC/DC
Dimensions	Ø12 x 178 mm, see drawing
Connection	M12 connector
Article no.:	Temperature probe 0551 1140 Humidity/temperature probe 0551 3140

Application range

In the area of building instrumentation, there is a requirement for reasonably priced measuring probes which are suitable for continuous operation and protected against over voltage and transients. Further aspects are DC/AC supply, high long term stability as well as a good measuring accuracy in the application. The B+B probes of GLT-series are developed for these requirements and are specially suitable for application in this area due to the modern sensor technology and innovative construction.

A multifunctional digital sensor is used which electively measures temperature or temperature and humidity. The measurement of relative humidity is done with a precise and long term stable capacitive polymer sensor element with industrial rating. The processing of measured value is linearised and temperature compensated. The voltage supply can be done optionally with AC or DC supply.

The electronics is integrated in the probe housing of stainless steel (Ø12 mm), and because of this, it has very compact dimensions with simple mounting. The PE sintered filter integrated in the head protects the sensor against dust and from high air currents.

Attention: Do not use the humidity-/ temperature probes in an environment of aggressive or corrosive gases or steams.

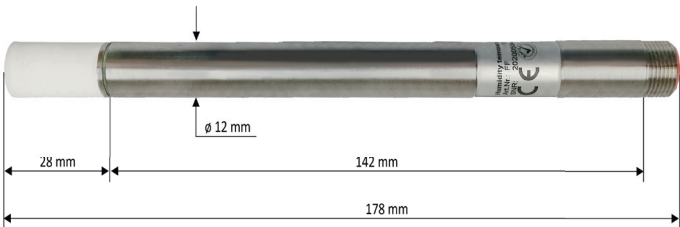
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Calibration

The measuring sensors are calibrated with reproducibility of PTB National standard. Calibration certificate as per ISO 9000 standard is also available with some extra charges .

The sensors are long term stable and maintenance free in a clean environment. Hence, a re-calibration is not required as per practice.

For re-confirming the measuring accuracy by end user, reference cells are available for specific humidity values. We recommend check-up at regular intervals for ensuring conformance to specifications.



Protection filter

The humidity probe is supplied with a 25 µm PE sinter filter as a standard package. Precipitations on the filter or sensor element can deteriorate the response behaviour. Contaminated filters should be replaced.

Supply

The device can be alternatively fed with either DC or AC voltage and also with unfiltered rectified voltage.

In case of AC supply, the neutral point of the transformer must be connected to signal ground and the connection of further probes must be absolutely done with phase balance. In case of supply with rectified unfiltered voltage, the minus must be connected to reference ground and plus to be connected to +DC/AC 24 V. Wrong connection leads to malfunctioning or can cause damage to the electronics!

Accessories	Ordering No.
connection cable, 2m, 4-pole, PVC	0409 1051
connection cable, 5m, 4-pole, PVC	KAB-M12-PVC-5M
Humidity reference cell, 32,9 % RH	REFZ-12Z-33RH
Humidity reference cell, 75,4 % RH	REFZ-12Z-75RH
Sintered filter stainless steel 1.4404, 45µm	0400 0449-10
Sintered filter PTFE, 15µm	0400 0449-50
Sintered filter PE, 25µm	0400 0449-40

Connections

Check before connection whether the supply voltage is as per operating voltage specification mentioned in the data sheet see plug configurations.

Mounting of measuring probes

The measuring location must show representative climate conditions. A slight airflow in the area of probe is of advantage.

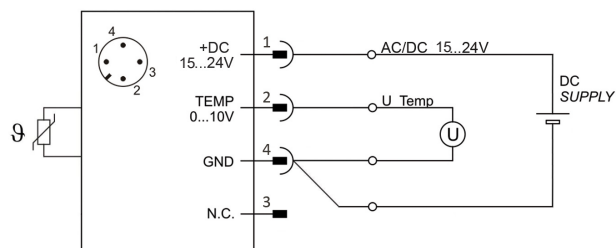
For mounting of external measuring probes, commercially available compression fitting or mounting flanges can be used. The probes are not suitable for compressed air, for this special designs are available!

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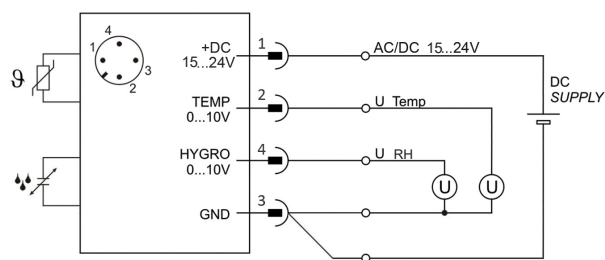
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Plug configuration

Temperature measurement 0...10 V



Humidity measurement 0 ... 10 V und Temperature measurement 0 ... 10 V



Pin	Function	Description
1	VCC	Operating voltage 15 ...24 V AC / DC
2	TEMP	Temperature-Signal 0 ... 10 V
3	GND	Reference potential
4	HYGRO	Humidity-Signal 0 ... 10 V

