# OPERATION MANUAL

## Humidity-, Temperature probe with standard Signal GLT-Series

Description

### Characteristic features

- Compact stainless steel probe housing, 12 mm
- Probe head with PE Sinter filter
- Standard signal 0...10 V or 4...20 mA
- 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 measuringrange | -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 | EN 61000-6-3:2011 |
| EMV-noise withstanding | EN 61000-6-1:2007 |
| Operating voltage | Type –10V: 15 ... 24 V AC/DC<br>Type –20MA: 16 ... 24 V DC |
| Dimensions | Ø12 x 178 mm, see drawing |
| Connection | M12 connector |

### 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 tempera-ture 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 for the 0 ... 10 V model can be done alternatively with AC or DC supply. The 4... 20 mA model is meant for only DC supply.
The electronics is integrated in the shaft shaped 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.

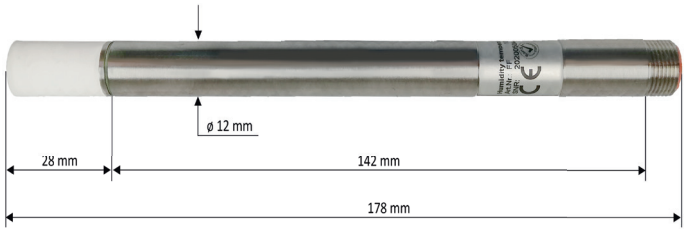
### Connections

The connection cable attached to the probe is shielded. The shielding should be grounded at the regulation device: this should be essentially taken care of in an EMI-disturbed environment. For also an extension to the connection cable, a shielded connection wire should be used.
Check before connection whether the supply voltage is as per operating voltage specification mentioned in the data sheet.

### Mounting of measuring probes

The measuring location must show representative climate conditions. Air currents or heat radiation should be avoided. The mounting should be done with probe cap upside down so that there is no measuring error due to self heating of electronics. 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!
For outdoor applications, a special weather protection housing with mast/ wall holder as well as a special hydrophobic PE sintered filter is recommended.

### Dimensioned drawing




| 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 | SHOP 0400 0449-10 |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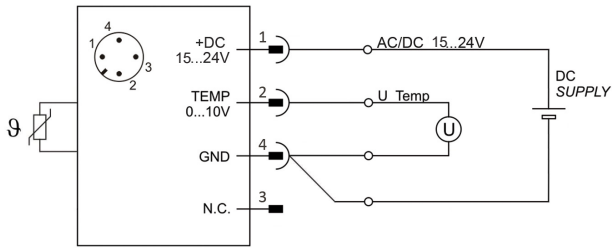
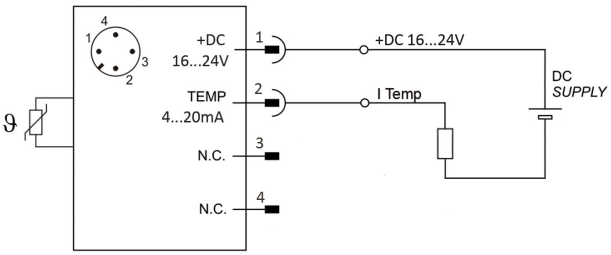
### Plug conviguration

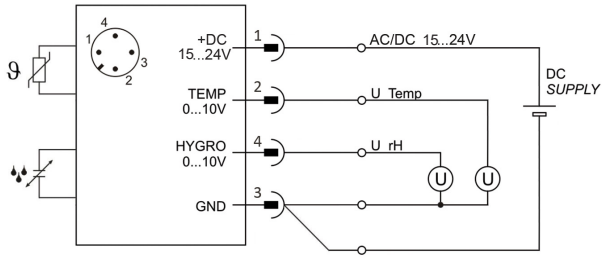
Temperature measurement 0...10 V



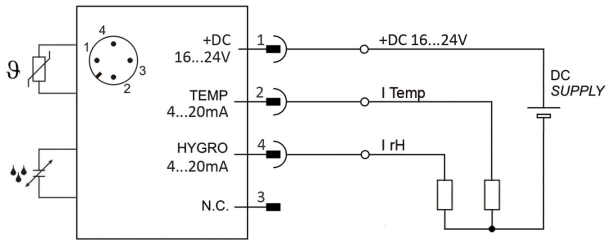

Temperature measurement 4...20 mA




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

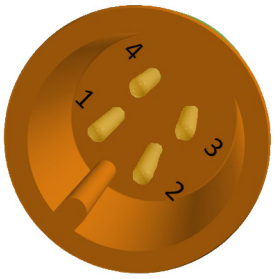



Humidity measurement 4 ... 20 mA und TTemperature measurement 4 ... 20 mA




| 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 |

| Pin | Function | Description |
|---|---|---|
| 1 | VCC | Operating voltage 16 ...24 V AC / DC |
| 2 | TEMP | Temperature-Signal 4 ... 20 mA |
| 3 | NC | ------- |
| 4 | HYGRO | Humidity-Signal 4 ... 20 mA |



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## Humidity-, Temperature probe with standard Signal GLT-Series

### Product key

**Product key for humidity- temperature probe**

example: 0551 3 2 0 1

0551 ☐☐☐☐

| Sensor | |
|---|---|
| 1 | Temperature digital (STS) |
| 3 | Humidity- Temperature digital (SHT) |

| Output signal calibration | |
|---|---|
| 1 | 0...10 V Standard |
| 2 | 4...20 mA Standard |
| 3 | 0...10 V Measuring range Customized |
| 4 | 4...20 mA Measuring range Customized |

| Options | |
|---|---|
| 0 | Without display |
| 1 | With display |

| Design | |
|---|---|
| 0 | Wall mounting indoor |
| 1 | B+B housing / wall mounting |
| 2 | B+B housing / duct mounting |
| 3 | B+B housing / with cable |
| 4 | Compact / probe |

### Guarantee

On our high quality measuring probes, you get a guarantee of 24 months. Mechanically damaged sensors or tampering into electronics makes the sensors devoid of guarantee claims. Calibration services are not covered in the guarantee.

### Attention

Please avoid extreme mechanical and inappropriate exposure.

The device/product is not suitable for potential explosive areas and medical-technical applications.



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