

Hygro-/Thermometer

Operating Manual

GFTH 95



Made in
Germany

WEEE-Reg.-No. DE93889386

GHM Messtechnik GmbH • Standort Greisinger

Hans-Sachs-Str. 26 • D-93128 Regenstauf

☎ +49 (0) 9402 / 9383-0 📠 +49 (0) 9402 / 9383-33 📧 info@greisinger.de

Contents

- 1 GENERAL NOTE.....3**
- 2 SAFETY3**
 - 2.1 INTENDED USE3
 - 2.2 SAFETY SIGNS AND SYMBOLS.....3
 - 2.3 SAFETY GUIDELINES.....3
- 3 PRODUCT SPECIFICATION.....4**
 - 3.1 SCOPE OF SUPPLY4
 - 3.2 OPERATION AND MAINTENANCE ADVICE4
- 4 NOTES FOR DEVICE FUNCTIONS.....5**
 - 4.1 CHOICE OF MEASURING UNIT5
- 5 SYSTEM MESSAGES.....5**
- 6 SPECIFICATION5**
- 7 RESHIPMENT AND DISPOSAL6**
 - 7.1 RESHIPMENT.....6
 - 7.2 DISPOSAL INSTRUCTIONS6

1 General Note

Read this document carefully and get used to the operation of the device before you use it. Keep this document within easy reach near the device for consulting in case of doubt.

The manufacturer is not liable for misprints.

2 Safety

2.1 Intended Use

The safety requirements (see below) have to be observed.

The device must be used only according to its intended purpose and under suitable conditions.

Use the device carefully and according to its technical data (do not throw it, strike it, ...)

Protect device from dirt.

Quick-response measurement of atmospheric humidity, temperature in EDP rooms, museums, churches, administrative and residential buildings, storage rooms, green houses, pools, production rooms, for cooling technology and air conditioning as well as for building engineers and for the evaluation of damage to buildings etc.

2.2 Safety signs and symbols

Warnings are labelled in this document with the followings signs:



Caution! This symbol warns of imminent danger, death, serious injuries and significant damage to property at non-observance.



Attention! This symbol warns of possible dangers or dangerous situations which can provoke damage to the device or environment at non-observance.





Note! This symbol point out processes which can indirectly influence operation or provoke unforeseen reactions at non-observance.

2.3 Safety guidelines

This device has been designed and tested in accordance with the safety regulations for electronic devices.

However, its trouble-free operation and reliability cannot be guaranteed unless the standard safety measures and special safety advises given in this manual will be adhered to when using the device.

1. Trouble-free operation and reliability of the device can only be guaranteed if the device is not subjected to any other climatic conditions than those stated under "Specification".
If the device is transported from a cold to a warm environment condensation may cause in a failure of the function. In such a case make sure the device temperature has adjusted to the ambient temperature before trying a new start-up.

2.  If there is a risk whatsoever involved in running it, the device has to be switched off immediately and to be marked accordingly to avoid re-starting. Operator safety may be a risk if:
- there is visible damage to the device
 - the device is not working as specified
 - the device has been stored under unsuitable conditions for a longer time.
- In case of doubt, please return device to manufacturer for repair or maintenance.
3.  Do not use these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury or material damage. Failure to comply with these instructions could result in death or serious injury and material damage.

3 Product Specification

3.1 Scope of supply

The scope of supply includes:

- Device GFTH 95, incl. 9V battery block
- Operation manual

3.2 Operation and maintenance advice

• Battery operation:

If „BAT„ appears in the left hand corner of the display, the battery is used up and needs to be replaced. However, the instrument can still be operated for a short period of time. If „bAt“ is displayed in large letters the battery is finally used up and has to be replaced. Measuring is no more possible.



***The battery has to be taken out, when storing device above 50 °C.
We recommend taking out battery if device is not used for a longer period of time.***

- The humidity and temperature sensor are located in the protruding sensor head. Make sure that the openings are not soiled. In case of soiling do not try to remove the dirt. Improper use may damage the sensors. Prevent any mechanical impact on the device as this may also lead to a destruction of the sensors (supporting material glass or ceramics)!



In the sensor area there is ESD-sensitive. Never touch or hold sensor head!

- In order to guarantee accurate measurements the device has to be adjusted to ambient temperature. If necessary wait for the temperature of the device to adjust to the ambient temperature. If this is not possible, please proceed as follows:
Move device around while holding it at an arm's length (fanning), to speed up the exchange of air and the temperature adjustment process. As soon as the display value is steady, readings can be made. This procedure shall be used for temperature and for humidity measurements.
- If you hold the device during measurements your body heat as well as your breath will change the temperature and the humidity. In order to minimise these factors, hold the device at as great a distance from the sensor as possible. Also try to prevent your breath coming into contact with the sensor. For optimum measuring results put down device and read display from a certain distance as soon as a constant measuring value is displayed.
Always take into account that any humidity measurements in an open space cannot be made to an accuracy of more than 0.1% due to factors such as movement in the air, temperature changes etc.
- A user-calibration at the users site is not possible. To ensure highest accuracies it should be returned to the manufacturer every 12 months (when used in clean air) for checking or, if necessary: recalibration.
If desired a calibration certificate can be made (acc. ISO 9000 ff). Price upon request.
- Probe tube and case are not 100% proof. If there are pressure differences between probe tube and case, there may be made wrong measuring.
For measuring in channels with over/under pressure or strong air flow we recommend our GMH3330 or GMH3350 with humidity probe TFS0100 or TFS0100E.

4 Notes for Device Functions

4.1 Choice of Measuring Unit

The measuring unit can be chosen by means of the slide switch at the right side of the instrument.

| | |
|---------------------------|--|
| Temp ⇒ slide switch up: | The instrument shows the current temperature |
| % RH ⇒ slide switch down: | The instrument shows the current humidity |

5 System Messages

In case of measuring range overruns, etc. according error messages are displayed:

- Er. 1 = measuring range has been exceeded
- Er. 2 = meas. values have fallen below perm. range
- Er. 7 = System fault - the device has detected a system fault

6 Specification

| | | |
|--|--|---|
| Measuring range: | temperature: | -20,0 °C ... +70.0 °C |
| | humidity: | 10.0 ... 95.0 %RH (recommended range for application: 30 to 80 %RH) |
| Resolution: | temperature: | 0,1 °C |
| | humidity: | 0,1 %RH |
| Accuracy: (±1 digit) (at nominal temperature = 25°C) | temperature: | ± 0.5 % of m. v. ± 0.1 °C (same as Pt1000 1/3 DIN) |
| | humidity: | ± 3 % RH (range: 30 ... 80 %RH) |
| Measuring probe: | temperature: | Pt1000 |
| | humidity: | capacitive polymer humidity sensor |
| Response time: | T90 = 15 sec. | |
| Display: | approx. 13 mm high, 3½-digit LCD-display | |
| Operation elements: | Slide switch for selection of measuring range | |
| Nominal temperature: | 25°C | |
| Operating conditions: | electronics: | -20 ... 70 °C; 0 ... 80 % RH (non-condensing) |
| | sensors: | -20 ... 70 °C; 0 ... 100 %RH. |
| Power supply: | 9V battery (in scope of supply) | |
| Power consumption: | approx. 0.1mA | |
| Low battery warning: | "BAT" automatically displayed if battery is low | |
| Housing: | impact resistant ABS-housing: approx. 106 x 67 x 30 mm (HxWxD), in addition, sensor head protruding vertically, length 35 mm, diameter 14 mm, overall length 141 mm. | |
| Weight: | approx. 135g incl. battery | |
| EMC: | The device corresponds to the essential protection ratings established in the Regulations of the Council for the Approximation of Legislation for the member countries regarding electromagnetic compatibility (2004/108/EG). Additional fault: <1% | |

7 Reshipment and Disposal

7.1 Reshipment



All devices returned to the manufacturer have to be free of any residual of measuring media and other hazardous substances. Measuring residuals at housing or sensor may be a risk for persons or environment



Use an adequate transport package for reshipment, especially for fully functional devices. Please make sure that the device is protected in the package by enough packing materials.

7.2 Disposal instructions



Batteries must not be disposed in the regular domestic waste but at the designated collecting points.



The device must not be disposed in the unsorted municipal waste! Send the device directly to us (sufficiently stamped), if it should be disposed. We will dispose the device appropriate and environmentally sound.