

# Precision Hygro- / Thermo- / Barometer



- relative humidity, temperature and air pressure in just one instrument
- additional derived units: dew point temperature, wet bulb temperature, moisture content and absolute humidity
- min-/max-value memory for all measurements
- high accuracy by means of digital works calibration
- offset and slope correction for easy adjustment
- extreme low power consumption
- optional with serial interface

**Application:** Quick-response measurement of air pressure, atmospheric humidity, temperature and further derived units 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. Due to highly accurate sensors this device has a notably higher precision than comparable devices. Via the additional displaying possibilities ('dew point temperature Td', 'wet bulb temperature Twb', 'absolute humidity [g/m<sup>3</sup>]' and 'moisture content of the air [g/kg]') the current state of the air is precisely and concretely shown. Due to the low power consumption, the device can be run permanently, for example as "weather station".

## Digital-Hygro-/Thermo-/Barometer

### GFTB 100

#### Specification:

##### Measuring range:

**temperature:** -25.0 °C ... +70.0 °C or -13.0 ... +158.0 °F  
**humidity:** 0.0 ... 100.0 %RH (recommended range: 11 ... 90 %RH)  
**air pressure:** 10.0 ... 1100.0 mbar

##### derived units:

**dew point temperature Td:** -40.0 ... 70.0 °C or -40.0 ... +158.0 °F  
**wet bulb temperature Twb:** -27.0 ... 70.0 °C or -16.6 ... +158.0 °F  
**moisture content x:** 0.0 ... 280.0 g/kg  
**absolute humidity d:** 0.0 ... 200.0 g/m<sup>3</sup>

**Resolution:** 0.1%RH, 0.1°C/°F, 0.1mbar

**Accuracy:** (±1 digit) (at nominal temperature = 25°C)  
temperature: ±0,5 % of m.v. ±0,1°C (Pt1000 1/3 DIN B)  
humidity: ±2,5 %RH (at range 11 to 90%)  
air pressure: ±1,5 mbar (750...1100 mbar)

##### Measuring probe:

temperature: Pt1000  
humidity: capacitive polymer humidity sensor  
air pressure: piezoresistive pressure sensor hybrid

**Response time:** T<sub>90</sub> = 10 sec.

**Display:** 4½-digit, approx. 11mm high LCD-display

**Operation elements:** 3 keys for ON/OFF, min-/max-value display, hold

**Nominal temperature:** 25°C

##### Operating conditions:

Electronics: -25...70 °C; 0...80 %RH (non-condensing)  
Sensors: -25...70 °C; 0...100 %RH

**Power supply:** 9V-battery type IEC 6F22

**Power consumption:** approx. 30µA at 1 meas. / 60s (mode SLOW)  
approx. 70µA at 1 measurings / sec. (mode FAST)

**Low battery warning:** „BAT“

**Auto-off function:** when Auto Off is activated, the device switches automatically off, if keypad is not attended for a longer time (selectable 1..120min).

**Interface** (optional): serial interface, direct connection to RS232 or USB interface of a PC via electrically isolated interface converter GRS3100 o. GRS3105 resp. USB3100 (accessories).

**Min./max. value memory:** Min and Max measuring values are stored for all ranges.

**Hold key:** the current measuring will be "frozen" (for all ranges)

**Configurable display:** The device can be configured by the user: display all measuring values alternating (2 or 4 sec. Cycle) or permanent with manual choice. Not required values can be suppressed.

**Sea level adjustment:** The displayed value of the barometer can be converted to air pressure at sea level. (therefore the altitude above sea level has to be entered)

**Tendency indicator** (for barometer): air pressure falling/increasing

**Offset and Scale:** digital offset- and scale adjustment of all sensors

**Housing:** impact resistant ABS-housing  
approx. 106 x 67 x 30 mm (H x W x D), plus sensor head protruding at the longer side 35 mm long and 14 mm Ø, ie. overall length 141 mm.

**Weight:** approx. 130g incl. battery

#### Options: (upon upcharge)

- **GRS** serial interface  
(ordering description: GFTB 100 / GRS)
- **KIT** USB-interface kit, consisting of:
  - interface option "GRS" for the GFTB 100
  - USB interface converter **USB 3100 N**
  - multi channel software **EBS20M** (to record all device units)  
(ordering description: GFTB 100 / KIT)

#### Complete-offering:

### GFTB 100 SET

(GFTB100 incl. infra-red thermometer GIM 530 MS)



The additional infrared thermometer contained in the **GFTB 100 SET** makes it easy to check mould-problem areas on walls etc.

The wall can easily scanned by means of the laser beam within very short time. When wall temperature falls below the critical dewpoint (this is, when the wall gets wet), the device alerts with an audible signal.

#### Additional advantages GFTB 100 SET:

- blindingly easy search for thermal bridges
- targeting laser for precise location even of inaccessible areas
- audible alarm below dewpoint
- fast evaluation of mould-problem areas

**Note:** for technical data for the infra-red thermometer GIM530MS please refer to catalog page 13.

#### Accessories:

**GKK 252** case (235 x 185 x 48mm) with foam lining

**WPF4** Certificate of calibration, humidity, for ISO9000ff (p.r.t. p. 4)

**WPD5** Certificate of calibration, pressure, for ISO9000ff (p.r.t. p. 4)

**miscellaneous accessories p.r.t. page 56 - 58**