

## Operating Manual

## GTH 175 PT

**Intended use:**

The GTH 175 PT measures the temperature in liquids, air/gas and soft media.

The measurement is performed with a Pt1000 probe, permanently connected to the measuring instrument.

- High accuracy and precision are the strengths of the GTH 175 PT.
- The device can be used as a reference measuring instrument for the calibration of other measuring systems.



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## General

Read through this document attentively and make yourself familiar to the of the device before you use it. Keep this document in a ready-to-hand way in order to be able to look up in the case of doubt

## Disposal Notice



Dispense exhausted batteries at destined gathering places.

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.

## Safety Instructions

This device has been designed and tested in accordance to 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 it.

1. Trouble-free operation and reliability of the device can only be guaranteed if it is not subjected to any other climatic conditions than those stated under "Specification".  
Transporting the device from a cold to a warm environment condensation may result 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. Whenever there may be 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. **Warning:** Do not use these product as safety or emergency stop device, 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.
4. Do not heat the probe over 200°C


## Operating and Maintenance Advice

- The battery has to be removed, when storing device above 50°C.
- Treat device and probes carefully. Use only in accordance with above specification. (do not throw, hit against etc.).
- Protect from soiling, especially in the area of the gas inlet at the front plate.
- Do not pull at the probe cable!

**Tip: We recommend to take out battery if device will not be operated for some time!**

## Operating

### Display and operating elements

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1. Display of temperature in °C  
2. Low battery voltage, replace battery

*Hint: when battery voltage falls to low, BAT warning cannot be indicated. check the battery in case of implausible measuring values.*

*To change battery: Remove battery cover at the backside of the device (push cover forward), change the battery and close the cover.*

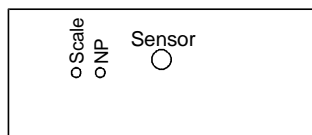
Switch „0/1“ The on/off switch is located at the left side of the instrument.

## Adjusting

The measuring device will be calibrated before leaving our works. If you want to adjust the device, please proceed as follows:

**1.Zero point adjusting (0°C):** Put ice cubes in a glass and pour cold water until ice cubes are almost covered. Put sensor into glass, and stir water. Wait for stable value and turn zero point potentiometer (NP) by means of a screw driver until display shows "0.00"

**2.Scale adjusting:** For scale adjustment a known reference temperature is needed. Expose the probe to the reference and adjust the display using the potentiometer "Scale"



## Calibration Service

calibration certificate - DKD certificate - official certifications:

If the measuring instrument is supposed to receive a calibration certificate, it has to be sent to the manufacturer. (declare test levels, e.g. 0°C; 70°C)

## Specification

<b>Measuring range:</b>	-199.9 ... +199.9 °C
<b>Accuracy:</b>	± 0.1 % of meas. value ± 2 digit (at nom. temperature) <i>(at range -70.0 ... +199.9 °C – at lower values refer to correction table below)</i>
<b>Sensor:</b>	Pt1000, electrically insulated and mounted in stainless steel tube of 3 mm dia and approx. 100 mm length, temperature-resistant up to 200 °C Probe permanently connected to the device.
<b>GTH 175 PT-T</b>	Immersion probe: large plastic handle ~ 135 mm 1 m ultra flexible silicone cable, handle and cable temperature-resistant up to 100 °C
<b>GTH 175 PT-E</b>	Insertion probe with tip: large plastic handle ~ 135 mm 1 m ultra flexible silicone cable, handle and cable temperature-resistant up to 100 °C
<b>GTH 175 PT-K</b>	Core temperature probe: small Teflon handle ~ 75 mm 1 m Teflon cable, handle and cable temperature-resistant up to 250 °C
<b>GTH 175 PT-G</b>	Core temperature probe: small Teflon handle ~ 75 mm 1 m Teflon cable, probe tube dia = 1.5 mm, handle and cable temperature-resistant up to 250 °C
<b>Resolution:</b>	0.1 °C
<b>Display:</b>	approx. 13 mm high, 3½-digit LCD
<b>Operating elements:</b>	switch for on/off, 2 adjusting potentiometer
<b>Nominal temperature:</b>	25 °C
<b>Working condition:</b>	-30 to +45 °C, 0 to 80 %RH (non condensing)
<b>Storage temperature:</b>	-30 to 70 °C (device)
<b>Power supply:</b>	9V-battery type 6F22 (included)
<b>Power consumption:</b>	1.4 mA (typ.)
<b>Battery life:</b>	~ 200 operating hours
<b>Low battery warning:</b>	"BAT" displayed automatically in case of low battery
<b>Housing:</b>	Impact-resistant ABS-housing, front IP65
<b>Dimensions:</b>	~ 106 x 67 x 30 mm (H x W x D), without probe
<b>Weight:</b>	~ 190 g incl. battery and probe
<b>EMC:</b>	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 error: <1%

## Correction table for low temperatures

temperature	display	temperature	display	temperature	display	temperature	display
-200	-201.9	-170	-171.0	-140	-140.4	-110	-110.1
-195	-196.7	-165	-165.9	-135	-135.4	-105	-105.1
-190	-191.6	-160	-160.8	-130	-130.3	-100	-100.1
-185	-186.4	-155	-155.7	-125	-125.3	-90	-90.0
-180	-181.2	-150	-150.6	-120	-120.2	-80	-80.0
-175	-176.1	-145	-145.5	-115	-115.2	-70	-70.0