

# Operating Manual for Digital Thermometer

# GTH 2448 / 2

# and GTH 2448 / 3

## Specification:

<b>Measuring range:</b>	GTH2448/2: -200 ... +650 °C GTH2448/3: -60.0 ... +199.9 °C
<b>Resolution:</b>	GTH2448/2: 1 °C GTH2448/3: 0.1 °C
<b>Probe connection:</b>	Pt100, 2-wire, (probe not included in scope of supply)
<b>Accuracy:</b>	± 0.5°C ±1 Digit
<b>Offset adjustment:</b>	An Offset of the sensor (e.g. when using long cable) can be compensated with the spindle potentiometer at the backside of the housing.
<b>Display:</b>	3½-digit, red LED-display, 10 mm high
<b>Scan rate:</b>	approx. 3 measurements/sec.
<b>Nominal temperature:</b>	25°C
<b>Working temperature:</b>	0 to 50°C
<b>Relative humidity:</b>	5 to 95 % r.h. (non-condensing)
<b>Storage temperature:</b>	-20 to 85°C
<b>Voltage supply:</b>	12 VDC (8 - 20 VDC) or 24 VDC (18 - 29 VDC) resp. 12 VAC (8 - 20 VAC) or 24 VAC (18 - 27 VAC) (to be set via soldering jumper)
<b>Power consumption:</b>	max. 20 mA
<b>Housing:</b>	glass fibre reinforced Noryl, front screen PC.
<b>Dimensions:</b>	24 x 48 mm (H x W) (dimensions of front frame)
<b>Mounting depth:</b>	approx. 65 mm (incl. screw-type/plug-in terminals)
<b>Panel mounting:</b>	by means of VA- elastic spike, allowed panel thickness: from 1 to approx. 10 mm
<b>Panel cut-out:</b>	21.7 <sup>+0.5</sup> x 45 <sup>+0.5</sup> mm (H x W).
<b>Connection terminals:</b>	4-pin screw-type/plug-in terminals for wire dias ranging from 0.14 to 1.5 mm <sup>2</sup>
<b>EMC:</b>	Device has been tested according to EN50081-1 and EN50082-2 additional fault: <1%
<b>IP rating:</b>	front IP54 (with optional O-rings IP65).

## Accessories: (small selection - for our complete accessories refer to our catalogue)

<b>GNG220/1-12V</b>	<b>power supply (230VAC) for GIA2448</b>	input: 230VAC; output: 12VDC stabilised, max. 40mA
<b>IP65 SET</b>	<b>O-rings (2 pcs.)</b>	O-rings for IP rating IP65 at the front
<b>GTF 102 / Pt100, 2-wire</b>	-200 ... +600°C -50 ... +400°C	probe e.g. for screwing in to measuring object. arbitrary tube diameters, lengths and threads are possible - refer to catalogue
<b>GTF 103 / Pt100, 2-wire</b>	-200 ... +600°C -50 ... +400°C	probe with connection head (DIN B), R1/2", FL = 100mm, D = dia 6mm (outer configuration refer to catalog)
<b>GTF 200 Pt 100</b>	-50 ... +200°C,	Pt100 4-wire, stainless steel probe head (ø5 x 50mm), app. 1m silicon cable
<b>GTF 1002</b>	-50 ... +400°C,	Pt100 4-wire, stainless steel tube (ø3 x 100mm), approx. 1m silicon cable

Note: Some of these probes are 4-wire probes. To connect them to the GTH2448 just screw the equally coloured wings together in one terminal.

## Elektrischer Anschluß:

Electric connections for the GTH 2448 / 2 or GTH 2448 / 3 are located at the back of the device.

Connection is made via screw-type/plug-in terminals (max. terminal range 1,5mm<sup>2</sup>).

*Make it a rule to always mount screw-type/plug-in terminals while they are still loose and connect only later. If terminals are mounted after connection there is a risk that soldering eyes may come loose. Please use suitable screw-driver and do not tighten screws by force.*

**Supply voltage:** 12 VDC/AC or 24 VDC/AC

Terminal assignment: +Uv = supply voltage +  
GND = supply voltage -

*Please make sure to check if supply voltage and voltage range set conform to each other.*

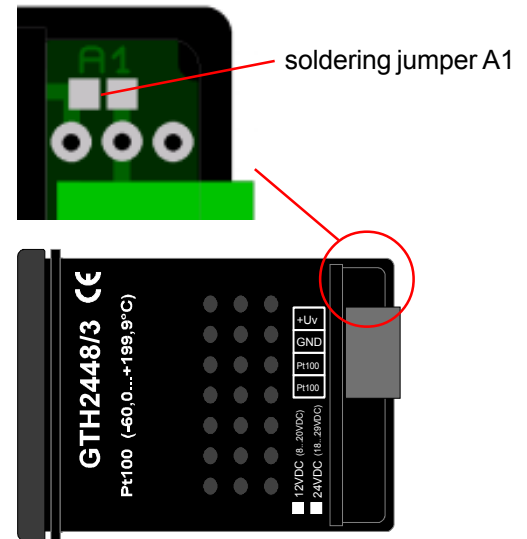
*Use the soldering jumper next to the connection terminal to select supply voltage:*

Jumper "A1" open: 24 V ( 18 - 29 V DC or 18 - 27 V AC)

Jumper "A1" closed: 12 V ( 8 - 20 V DC or 8 - 20 V AC)

**Probe connection:** Pt100, 2-wire

*Both the connection and commissioning of the device must only be carried out by skilled personnel. In case of a wrong connection, the device may be destroyed - no warranty claims can be accepted !*



## Safety regulations

Make it a rule to always observe the following points to exclude any risk whatsoever for the operator.

- In case of any obvious damage and/or functional problems disconnect device immediately
- Prior to opening it, disconnect device and supply voltage source. Make sure that all parts of the device are protected against direct touching when mounting the device and setting its connections.
- Please always adhere to the standard safety regulations for electric devices, power systems and light-current installations, and make sure that your national safety regulations (e.g. VDE 0100) are observed.
- If device is to be connected to other devices (e.g. via serial interface) the circuitry has to be designed most carefully. Internal connection in third party devices may result in not-permissible voltages.



**Warning:** When operating electric devices parts of these devices will, as a matter of course, be live. Unless the warnings are observed severe damage to life and limb or to property may be the result. Make sure that only skilled personnel is working with this device. Trouble-free operation of this device can only be guaranteed if it is properly transported and stored. Carefull installation, mounting, operation and maintenance are vital factors for the safe operation of this device.



### Warning:

Do not use these product 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.

## Skilled personnel

These are persons who are familiar with the installation, mounting, commissioning and the operation of the product and have acquired a qualification for their job:

- Training or instructions or qualification to switch on/off, isolate, ground and apply markings to circuits and devices/systems in accordance with the latest state of the art standards of safety technology.
- Training or instructions regarding the proper care and use of suitable safety equipment in accordance with the latest state of the art standards of safety technology.
- First aid training.