

# Operating Manual for Digital Thermometer

# GTH 2448 / 1



## Specification:

<b>Measuring range:</b>	-50 ... +1150 °C
<b>Resolution:</b>	1°C
<b>Probe connection:</b>	NiCr-Ni, (probe not included in scope of supply)
<b>Accuracy:</b>	< 1% ±1 Digit (from -20 to +550°C and 920 to 1150°C); <1.5% ±1 Digit from 550...920°C. For more detailed values please refer to att. correction table.
<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 - 20VDC) or 24 VDC (18 - 29 VDC) (to be set via soldering jumper)
<b>Power consumption:</b>	max. 30 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>	Unit has been tested according to EN50081-1 and EN50082-2 additional fault: <1%
<b>IP rating:</b>	front IP54 (with optional O-rings IP65).

## Correction table:

Temperature	Display	Temperature	Display	Temperature	Display	Temperature	Display	Temperature	Display	Temperature	Display
-50	-46	160	160	370	369	580	587	790	802	1000	1007
-40	-37	170	169	380	379	590	597	800	812	1010	1016
-30	-28	180	179	390	390	600	607	810	822	1020	1026
-20	-19	190	189	400	400	610	618	820	832	1030	1035
-10	-10	200	198	410	410	620	628	830	842	1040	1045
0	0	210	208	420	421	630	639	840	852	1050	1054
10	10	220	218	430	431	640	649	850	862	1060	1063
20	20	230	228	440	441	650	659	860	871	1070	1073
30	29	240	238	450	452	660	670	870	881	1080	1082
40	39	250	248	460	462	670	680	880	891	1090	1091
50	49	260	258	470	472	680	690	890	901	1100	1100
60	59	270	268	480	483	690	700	900	911	1110	1110
70	70	280	278	490	493	700	711	910	920	1120	1119
80	80	290	288	500	504	710	721	920	930	1130	1128
90	90	300	298	510	514	720	731	930	940	1140	1137
100	100	310	308	520	524	730	741	940	949	1150	1146
110	110	320	318	530	535	740	751	950	959	1160	1155
120	120	330	328	540	545	750	762	960	969	1170	1164
130	130	340	339	550	556	760	772	970	978	1180	1173
140	140	350	349	560	566	770	782	980	988		
150	150	360	359	570	576	780	792	990	997		

## Elektrischer Anschluß:

Electric connections for the GTH 2448 / 1 are located at the back of the unit.

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 or 24 VDC  
 Terminal assignment: +Uv = supply voltage +  
 GND = supply voltage -

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

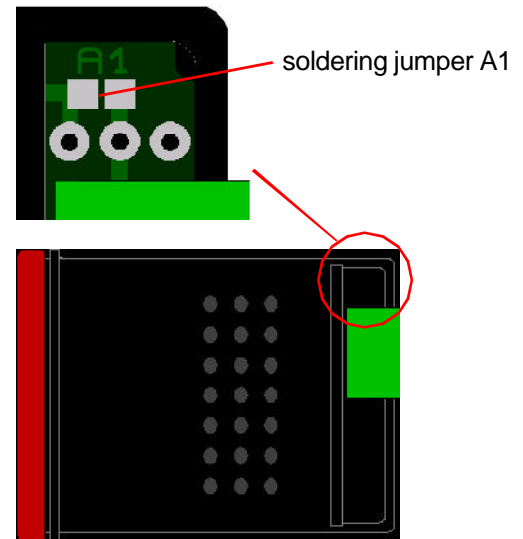
*Use the soldering jumper next to the connection terminal to select supply voltage:*

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

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

**Probe connection:** NiCr-Ni (type K)

*Both the connection and commissioning of the unit must only be carried out by skilled personnel. In case of a wrong connection, the unit 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 unit immediately
- Prior to opening it, disconnect unit and supply voltage source. Make sure that all parts of the unit are protected against direct touching when mounting the unit 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 unit 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 units 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.

## 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.

## 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</b>	O-rings for IP rating IP65 at the front (2 pcs.)
<b>GTF101-5/15150</b>	<b>Immersion probe</b>	-220 ... +1150°C Immersion probe for highest temperatures. (Stainless steel probe tube, flexible, cable lenght approx. 1m, probe lenght 150mm, dia 1.5mm - outer configuration refer catalogue)
<b>GTF 300 - AdH</b>	<b>Wire probe</b>	-65 ... +300°C Probe for quick-response measurements in liquids, gases and for small surfaces (probe lenght approx. 1m).
<b>GMF 250 - AdH</b>	<b>Surface probe</b>	-65 ... +250°C Magnetic surface probe, sticks of magnetic materials (probe with approx. 1m cable)

When ordering standard probes (offered in catalogue with NiCr-Ni-plug), append "- AdH" or "no plug" to the type name!