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GREISINGER

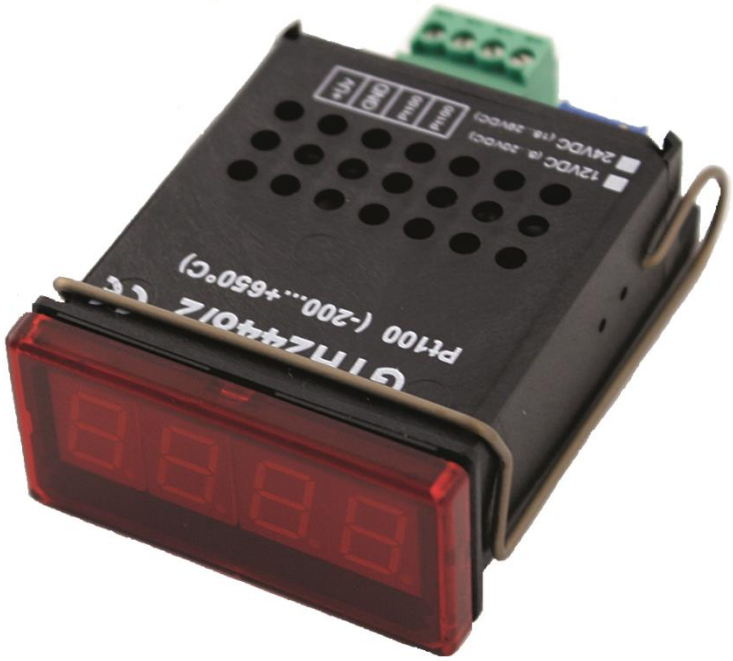
Member of GHM GROUP

EN

Digital-Thermometer

Operating Manual

GTH 2448 / 1



CE

Made in Germany

WEEE-Reg.-Nr. DE93889386

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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.

Mounting, start-up, operating, maintenance and removing from operation must be done by qualified, specially trained staff that have carefully read and understood this manual before starting any work.

The manufacturer will assume no liability or warranty in case of usage for other purpose than the intended one, ignoring this manual, operating by unqualified staff as well as unauthorized modifications to the device. The manufacturer is not liable for any costs or damages incurred at the user or third parties because of the usage or application of this device, in particular in case of improper use of the device, misuse or malfunction of the connection or of the device.

The manufacturer is not liable for misprints.

2 Safety

2.1 Intended Use

The GTH2448 / 1 is a digital thermometer; only actuate it in the intended use.

2.2 Safety signs and symbols

Warnings are labeled 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

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

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. When connecting the device to other devices the connection has to be designed most thoroughly as internal connections in third-party devices (e.g. connection GND with protective earth) may lead to undesired voltage potentials that can lead to malfunctions or destroying of the device and the connected devices.

This device must not be run with a defective or damaged power supply unit.
Danger to life due to electrical shock!

4. 

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.

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.

3 Scope of supply

The scope of supply includes:

- Digital thermometer GTH 2448 / 1
- User’s guide

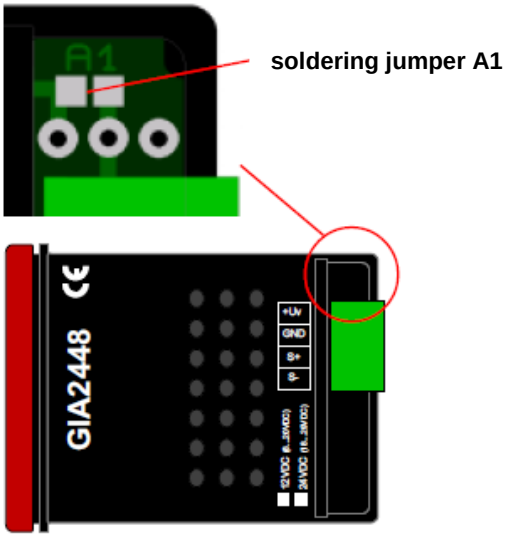
4 Electric Connection

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

Connection is made via screw-type/plug-in terminals (max. terminal range 1,5mm²).

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 a suitable screw-driver and do not tighten screws by force.

Terminal assignment	
+UV	Supply voltage +
GND	Supply voltage –
S+	Probe +(NiCr-Ni)
S–	Probe - (NiCr-Ni)



Supply voltage: 12 V DC or 24 V DC

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

Probe connection: NiCr-Ni (type K)

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!

5 Correction table

Correctiontable:

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		

6 Specifications

Measuring range:	-50 … +1150 °C
Resolution:	1 °C
Probe connection:	NiCr-Ni, (probe not included in scope of supply)
Accuracy:	< 1 % ± Digit (from -20 to +550°C and 920 to 1150°C); < 1.5 % ± 1 Digit from 550 to 920°C. For more detailed values please refer to att. correction table.
Display:	3½-digit, red LED-display, 10mm high
Scan rate:	approx. 3 measurements / sec
Nominal temperature:	25 °C
Working temperature:	0 … 50 °C
Relative humidity:	5 … 95 % r.h. (non-condensing)
Storage temperature:	-20 … +70 °C
Voltage supply:	12 V DC (8 - 20 V DC) or 24 V DC (18 - 29 V DC)(*to be set via soldering jumper)*
Power consumption:	max. 20 mA
Housing:	glass fibre reinforced Noryl, front screen PC.
Dimensions:	24 x 48 mm (H x B) (dimensions of front frame)
Mounting depth:	approx. 65 mm (incl. Screw-type/plug-in terminals)
Panel mounting:	by means of VA-elastic spike, allows panel thickness: from 1 to approx. 10 mm
Panel cut-out:	$21.7^{+0.5}$ x $45^{+0.5}$ mm (H x B).
Connection terminals:	4-pin screw-type/plug-in terminals for wire dias ranging from 0.14 to 1.5 mm²
EMC:	This 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) It has been tested according to EN61326-1 : 2013 (table 2, class B) Additional fault: <1%
IP rating:	front IP54.

7 Reshipment and Disposal

7.1 Reshipment

DANGER

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

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.