

Pt100 - High-Precision Thermometer

Reference meter for any calibration requirement



- Suitable for all Pt100 4-wire probes with 4-pin miniature DIN-plug
- Highest accuracy and resolution (0,01°C)
- Freely adjustable analog output 0-1V or seriell interface
- Offset and slope input
- Min-/max- value memory, hold function

Additional functions of the GMH3750:

- 2 integrated logger functions
- Optical and acoustic min-/max- alarm
- Userdefined sensor curve (50 interpolation points)
- Real-time clock with date and year

GMH 3710 access. not incl.

GMH 3750 access. not incl.

Microprocessor precision thermometer for Pt100 4-wire

Application: reference measurings in liquids, soft media, air/gases.

Specification:

Measuring range:

-199,99 ... +199,99°C resp. -200,0 ... + 850,0°C
-199,99 ... +199,99°F resp. -328,0 ... +1562,0 °F

Resolution: 0,01°C resp. 0,1°C
0,01°F resp. 0,1 °F

Linearisation: digital stored characteristic curve
GMH3750 add. supports a userdefined curve.

Auto-range: automatically or manually choose of the measuring range.

Accuracy: (at nominal temperature = 25°C)
≤ 0,03 °C at meas. range -199,99... 199,99°C

Temperature drift: ≤ 0,002 °C / K

Probe: Pt100, 4-wire, nach DIN EN 60751
probe connection via 4-pin miniature DIN-plug

Nominal temperature: 25°C

Working temperature: -25 to +50°C

Relative humidity: 0 to +95%r.F. (non-condensing)

Storage temperature: -25 to +70°C

Display: two 4½ digit LCDs (12,4mm or 7mm high),
as well as additional arrows.

Pushbuttons: 6 membrane keys

Output: 3-pin jack connector Ø3,5mm, choice
between seriell interface or analog output

- **seriell interface:** direct connection to
RS232 or USB interface of a PC via electrically
isolated interface adapter GRS3100 or GRS3105
resp. USB3100 (p.r.t. accessories).

- **analog output:** 0...1V, freely adjustable
(resolution 13bit, accuracy 0.05% at nom. temp.)

Power supply: 9V-battery, type IEC 6F22
(included) as well as additional d.c. connector
for external 10.5-12V direct voltage supply.
(suitable power supply: GNG10/3000)

Low battery warning: Δ and ' bAt '

Power consumption: approx. 1 mA

Dimensions: 142 x 71 x 26 mm (H x W x D)
Impact-resistant ABS plastic housing, membrane
keyboard, transparent panel. Front side IP65,
integrated pop-up clip.

Weight: approx. 155 g

Functional range:

Min./Max. value memory: Memorizing of max.
and min. values.

Hold function: By pressing a button the
current values will be "frozen".

Auto-Off-Function: 1...120min (can also be
deactivated).

Offset and slope input: offset- and scale
correction can be entered digitally.

Additional functions of the GMH3750:

Min-/Max-alarm: the measuring value is
constantly monitored if they remain within the
min./max. limits set.

- **Alarm:** 3 different alarm settings
off: alarm function not activated
on: visual alarm via display, integrated
buzzer and interface
no Sound: alarm via display and interface

- **Regulating function:** with the help of the
switching module GAM3000 (optionally) electric
equipment can be switched on/off or alarm
memoried (p.r.t. page 35)

Logger functions:

- **manually:** 99 data sets (data recall via
keyboard or interface)

- **cycle:** 16.200 data sets (data recall via
interface)

- **adjustable cycle time:** 1sec. ... 1h
Logger start and stop via the keyboard or
interface. Comfortable read-out and display
software (GSOFT3050) available as additional
equipment.

Real-time clock: clock with date and year

Accessories:

plug-in probes Pt100 p.r.t. page 85

GKK 3000 case (275 x 229 x 83 mm)
with punched lining for all GMH3xxx-devices

GRS 3100 interface converter

GSOFT 3050 software (p.r.t. p. 34)

GAM 3000 switching module (p.r.t. p. 35)

ST-R1 device protection bag
with cut out for probe connection

GB 9 V spare battery

GNG 10 / 3000 power supply

miscellaneous accessories p.r.t. pages 34, 35

Calibrated Systems

General:

The overall error of a measuring consists of the
sum of the instrument error and the probe error.
To minimise the overall error, we offer calibrated
and optimised systems below.

Due to their excellent system accuracy they are
especially suitable for quality assurance
according to ISO9000ff, as reference instruments
in manufacturing processes, laboratory, service
and maintenance, etc.

The system optimisation is done via a special
characteristic curve which is determined for each
temperature probe separately and stored in the
instrument.



Scope of supply:

Measuring device GMH3750,
temperature probe GTF 401
or GTF 601, plastic case
GKK 3500 and certificate
of calibration with 3
calibration points.

GMH 3750 / SET1

incl. certificate of calibration

optimiced measuring range: -20 .. +70°C

Temperature probe: GTF 401, Pt100, 4-wire
(for technical data please refer to page 85)

System accuracy: better than 0,07°C

Calibration points: -20°C / 0°C / 70°C

GMH 3750 / SET2

incl. certificate of calibration

optimiced measuring range: 0 .. +250°C

Temperature probe: GTF 401, Pt100, 4-wire
(for technical data please refer to page 85)

System accuracy: better than 0,3°C

Calibration points: 0°C / 100°C / 250°C

GMH 3750 / SET3

incl. certificate of calibration

optimiced measuring range: 0 .. +500°C

Temperature probe: GTF 601, Pt100, 4-wire
(for technical data please refer to page 85)

System accuracy: better than 0,5°C

Calibration points: 0°C / 250°C / 500°C

Calibration accessories:

GMHKonfig

(visit out homepage: Service --> Download)

free

Software description:

Comfortable software to edit the userdefined
sensor curve of the GMH3750. (e.g. for
calibration laboratories etc.)

By means of this software probes can be
adjusted to the instrument. As result an overall
accuracy of ≤0.03°C can be achieved depending
of the measuring range.

Similar resistance curves (e.g. Ni100) can be
loaded to.

The sensor curve can stored external and
reloaded to the device.