

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 serial 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 day, month 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.

Specifications

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 an userdefined curve.

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

Accuracy: (±1 digit) (at nominal temperature = 25°C)
≤ 0,03 °C / 0,06 °F at resolution 0,01 °
≤ 0,1 °C / 0,2 °F at resolution 0,1 °

Temperature drift: ≤ 0,002 °C / K

Probe: Pt100, 4-wire, in acc. to 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%RH (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 Ø3.5 mm, choice
between seriell interface or analog output

- **serial 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 (in-
cluded) as well as additional d.c. connector for
external 10.5-12V direct voltage supply. (suitable
power supply: GNG10/3000)

Low battery warning: ' 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...120 min (can also be
deactivated).

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

Additional functions of the GMH3750:

Min-/Max-alarm: the measuring value is const-
antly 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
memorised (p.r.t. page 41)

Logger functions:

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

- **cycle:** 16.384 data sets (data recall via
interface)

- **adjustable cycle time:** 1 sec. ... 1 h


Logger start and stop via the keyboard or inter-
face. Comfortable read-out and display software
(GSOFT3050) available as additional equipment.

Real-time clock: clock with day, month and year

Accessories

plug-in probes Pt100 p.r.t. page 121

GLF 401 Mini Air probe (p.r.t. p. 121)

 for fast and accurate measu-
rements in ambient air

GKK 1100 case (340 x 275 x 83 mm)
with foam lining for universal use

USB 3100 N interface converter

GSOFT 3050 software (p.r.t. p. 56)

ST-R1 device protection bag

GNG 10 / 3000 power supply
miscellaneous accessories p.r.t. pages 56 - 58

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 optimized systems below.

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

The system optimization is done via a special
characteristic curve which is determined for each
temperature probe separately and stored in the
instrument (GMH3750) or. with probe adjusting
via offset and slope input (GMH3710).



Scope of supply:

Measuring device GMH 3750
or GMH 3710, temperature
probe GTF 401 1/3 DIN,
plastic case GKK 3500 and
certificate of calibration with
3 calibration points.

GMH 3750 / SET1

incl. certificate of calibration

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

Temperature probe: GTF 401 1/3 DIN, Pt100, 4-wire
(for tech. data please refer to p. 121)

System accuracy: better than 0,07°C (at opt. range)

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

GMH 3750 / SET2

incl. certificate of calibration

optimized measuring range: 0 .. +250°C

Temperature probe: GTF 401 1/3 DIN, Pt100, 4-wire
(for tech. data please refer to p. 121)

System accuracy: better than 0,3°C (at opt. range)

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

GMH 3710 / SET1

incl. certificate of calibration

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

Temperature probe: GTF 401 1/3 DIN, Pt100, 4-wire
(for tech. data please refer to p. 121)

System accuracy: better than 0,1°C (at opt. range)

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

GMH 3710 / DKD1

incl. DKD calibration certificate
DIN 17025

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

Temperature probe: GTF 401 1/3 DIN, Pt100, 4-wire
(for tech. data please refer to p. 121)

System accuracy: better than 0,1°C (at opt. range)

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

Calibration accessories

GMHKonfig free

(visit out homepage: Download --> Software)

Software description:

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

*Note: please note that for the interface communication
with the device a interface converter (GRS3100, GRS3105
or USB3100) is necessary (p.r.t. page 57)*