

Product Information

**GMH 3200 Series -
Precision quick response
thermometer for thermocouples**

For exchangeable sensors



- **fast: 3 measurements per second**
- **variant selection: The right one for every purpose**
- **GMH 3251: With logger and alarm**
- **serial interface (except GMH 3201/-21)**
- **ideal for penetration and surface measurements**
- **correction factor for optimized surface measurements**
- **first-class thermocouple compensation**
- **incl. test protocol**
- **optional calibration certificates**
- **reference instrument for many calibration tasks**
- **numerous interchangeable probes available**
- **Made in Germany**

Characterisitcs

High performance thermocouple thermometers with premium features.

Sophisticated compensated thermocouple inputs and a wide range of features - depending on the selected equipment variant - offer the fastest measurement with a wide range of plug-in thermocouple probes.

This versatility in application helps all users to solve the most diverse measurement tasks. In trade, industry and finally research and education, the devices measure for example differential temperatures, surface temperatures, low temperatures down to -200°C and also extremely high temperatures.

With the suitable special probes even liquid asphalt and aluminum melts are reliably and economically measurable. The simplest and at the same time smallest functional temperature sensor is a pair of wires welded at the tip - for conceivably small measuring tasks, e.g. on semiconductors in the laboratory.

Thermocouple measurements can be carried out at lightning speed due to the design of the probes - this is convenient and at the same time - simple and time-saving due to the short response time.

Calibrated sets with non accredited ISO calibration certificates or traceable DAKKS calibration certificates make the purchase of a high-quality working or factory standard based on the GMH 3200 series both amazingly affordable and simple.

For highest precision requirements: please note sister device family GMH 37xx Pt100 thermometers.

Technical data

Supported thermocouple probes:

GMH 3201/-21: type K

Meas. Range: -220.0... +1372.0 °C / -364.0... 2501.6 °F

GMH 3211/-31/-51: types K, J, N, S, T, E, B

Meas. Range: type K: -220.0... +1372.0 °C / -364.0... 2501.6 °F
type J: -200.0... +1100.0 °C / -328.0... 2012.0 °F
type N: -200.0... +1300.0 °C / -328.0... 2372.0 °F
type S: -50.0... +1750.0 °C / -58.0... 3182.0 °F
type T: -200.0... +400.0 °C / -328.0... 752.0 °F
type E: -60.0... +850.0 °C / -76.0... 1562.0 °F
type B: +300... +1750 °C / +572... 3182 °F

Accuracy J, K, N, T, E: ±(0.5 K +0.2 % of value)
S, B: ±(0.8 K +0.4 % of value)

Nominal temperature: 25° ±5°C

Measuring cycle 4 measurements per second

Connection GMH 3201/-11: 1 DIN mini thermocouple socket
GMH 3221/-31/-51: 2 DIN mini thermocouple sockets

Standard functions Min/Max/Hold
Auto power-off function

Additional functions
Zero and slope adjustment
GMH 3211/-31/-51: surface correction factor

Ambient conditions -20 to 50 °C; 0 to 95 % r.h. (non condensing)

Display two 4½-digit LCD displays (12.4 / 7 mm high),
as well as additional information arrows

Operating elements 6 membrane keys

Output (not GMH 3201/-21)
3-pole jack plug Ø 3.5 mm, serial interface or analog output
Serial interface can be connected directly to the RS232 or USB interface of a PC via electrically isolated interface converter GRS 3100 or GRS 3105 or USB 3100 N (accessory).
Analog output 0 ... 1 V, freely scalable (resolution 13 bit, accuracy 0.05 % at nominal temperature)

Power supply 9 V battery and additional power supply socket for external 10.5-12 V DC power supply
consumption 2 channel instruments 1 mA, ca. 300 h
1 channel instruments 0.6 mA, ca. 500 h

Housing made of impact-resistant ABS, membrane keyboard, transparent screen, integrated installation/hanging bracket

Protection class IP40
Dimensions 142 x 71 x 26 mm (H x W x D)
Weight approx. 155 g

Additionally for GMH 3251:

Logger functions manual: 1,000 data sets (data sampling via keyboard or interface)
cyclic: 10,000 data records (data retrieval via interface)

Cycle time: 1 s ... 1 h
The logger is started and stopped via keyboard or interface. A comfortable software GSOFT 3050 (see accessories) is available to read out the logger data

Alarm function: Beep and alarm message, configurable to CH1, CH2, CH1 and 2, DIF

Product Information

Scope of supply

- Handheld without sensor (depending on set, please refer to „ordering code“)
- Test protocol
- 9V batteries
- Manual

Ordering code

GMH3201

Precision quick response thermometer Type K

Probe connections	one 2-pin standard flat plug
Thermocouples	K

GMH3211

Precision quick response thermometer, universal

Probe connections	one 2-pin standard flat plug
Thermocouples	J, K, N, S, T, B, E

GMH3221

Precision quick response thermometer, 2 channel Type K

Probe connections	two 2-pin standard flat plugs
Thermocouples	K

GMH3231

Precision quick response thermometer, 2 channel universal

Probe connections	two 2-pin standard flat plugs
Thermocouples	J, K, N, S, T, B, E

GMH3251

Precision quick response thermometer, 2 channel, logger

Probe connections	two 2-pin standard flat plugs
Thermocouples	J, K, N, S, T, B, E
Data logger	autom. 10000 data sets, manually 1000 data sets



GMH 3211

GMH 3221

GMH 3231/51

Frontal view
with thermocouple connection
and interface

Accessories

Spare parts:

- Spare battery 9V
GB-9V Art.-No. 601115

Probes:

Standard handle, type K

- Immersion probe, Ø3 mm, -65..+550°C
GTF 400 Art. no. 600502
- Immersion probe, Ø3 mm, Ø3 mm bendable, up to 1150°C
GTF 1200/300 Art. no. 600510
- Surface probe Ø8 mm with coil spring
GOF 130 Art. no. 600490
- Surface probe with type-K spring ribbon
GOF 400VE Art. no. 600490

Compact silicon handle, type K

- Compact immersion probe, silicone handle, Ø3 mm
GF 1TK-T3 Art. no. 609695
- Compact insertion probe, silicone handle, Ø3 mm
GF 1TK-E3 Art. no. 609697
- Compact insertion probe, silicone handle, Ø1.5mm
GF 1TK-E1.5 Art. no. 609699
- Compact air probe, silicone handle, Ø3 mm
GF 1TK-L3 Art. no. 611299

Others, type K

- Wire probe for measurements in less than a second
GTF 300 Art. no. 600072
- T-handle insertion probe for bulk material, soil, compost
GTF 40K-620 Art. no. 610829
- Insertion probe without cable, Ø1.5mm
GTE 130 OK Art. no. 601483

Many more: please refer to our catalogue

Additional accessories:

- Interface converter GMH3xxx <=>PC, USB
USB 3100 N Art. no. 601092
- Windows software for GMH 3000/5000 logger
GSOFT 3050 Art. no. 601336

Please note that an interface converter (USB 3100 N) is required for interface operation of the device.

- Wall plug power supply for GMH 3XXX series
GNG 10 / 3000 Art. no. 600273
- Protective bag, leather
ST-R1 Art. no. 601066
- Case with napped foam for universal use
GKK 1100 Art. no. 601060