

**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