

PH/ORP/TEMPERATURE MEASURING DEVICES



HIGHLIGHTS:

- In the case of redox, automatic conversion to the hydrogen system is possible
- Temperature compensation
- Automatic buffer recognition
- Rating of electrode's quality
- New: analog output for all variants

ADDITIONAL FUNCTIONS OF GMH 3551:



**GMH 3511**

Item No. 604953  
pH/ORP/temperature meter  
Device only (without pH electrode)

**GMH 3531**

Item No. 602076  
pH/ORP/temperature meter  
Device only (without pH electrode)

**GMH 3551**

Item No. 602817  
pH/ORP/temperature meter with logger  
Device only (without pH electrode)

**TECHNICAL SPECIFICATIONS:**

**Measuring ranges**

Temperature:	-5.0 .. + 150.0 °C or 23.0 .. + 302.0 °F
pH:	0.00..14.00 pH
Redox (ORP):	-1999 .. + 2000 mV based on the hydrogen system: -1792 .. + 2207 mV <sub>H</sub> (DIN 38404)
rH:	0.0..70.0 rH (not GMH 3511)

**Accuracy (device) ± 1 digit at nominal temperature = 25 °C**

Temperature:	± 0.2 °C (at -5 .. + 100 °C)
pH:	± 0.01 pH
Redox (ORP):	± 0.1 % FS (mV or mV <sub>H</sub> )
rH:	± 0.1 rH (not GMH 3511)

**Sensor connections**

Temperature:	2 x 4 mm banana for Pt 1000, 2-wire
pH, redox:	BNC socket

Display:	2 four-digit LCD displays (12.4 mm or 7 mm high)
----------	--------------------------------------------------

**Working temperature:** 0 .. + 50 °C

**Storage temperature:** -20 .. + 70 °C

**Interface:** serial interface, can be connected directly to a PC via galvanically isolated interface converter GRS 3100 or GRS 3105 or USB 3100 N (accessory).

**Power supply:** 9 V battery, power supply socket for external 10.5..12 V DC voltage supply (suitable power supply: GNG 10/3000)

**Battery life:** approx. 300 h

**Housing:** Made of impact-resistant ABS, membrane keyboard, transparent panel, integrated pop-up clip

**Dimensions:** 142 x 71 x 26 mm (H x W x D)

**Weight:** approx. 170 g

**Scope of delivery:** Device, battery, test report, operating instructions

**FUNCTIONS:**

**Automatic temperature compensation:**  
If the temperature sensor is plugged in and the "pH" operating mode is active, there is automatic temperature compensation (ATC) in the range of 0..150 °C. The temperature can be entered manually without a temperature sensor.

**pH calibration:**  
There is an automatic buffer recognition, temperature compensation and a sensor evaluation depending on the calibration (from 10..100 %).

**GMH 3511:** 2-point calibration with Greisinger buffer capsules (GPH 4, 7, 10)  
**GMH 3531, GMH 3551:** Either 1-, 2- or 3-point calibration with characteristic curve kink for Greisinger standard buffers, buffers according to DIN19266 (A, C, D, F, G) or manual buffer entry.

**Calibration interval (not GMH 3511):** after a selectable period (1 .. 365 days or inactive) a recalibration is requested.

**GMH 3551:** additional calibration history

**Redox measurement (ORP):** 2 options are available:  
"mV": Standard redox or mV measurement  
"mV<sub>H</sub>": Starting from the standard redox electrode used (eg GE 105 with the Ag / AgCl system and 3 mol KCl), a temperature-compensated conversion to the hydrogen system is carried out in accordance with DIN38404 Part 6, Table 1.

**rH measurement (not GMH 3511):** The rH value is calculated using a redox measurement and manual entry of the pH value. The pH value can also be taken from a previous pH measurement.

**Analog output:** 0..1 V, permanently set 0.1 V ± 0.14 pH or -2000 .. + 2000 mV, connection via 3-pole jack socket Ø 3.5 mm, resolution 13 bit,  
Accuracy 0.05 % at nominal temperature

**GMH 3551:** Analog output freely scalable

**Data logger (only GMH 3551):**  
Cyclic: 10,000 data records, single value: 1,000 data records (with measuring point input, 40 adjustable measuring point texts or measuring point numbers)

**ACCESSORIES OR SPARE PARTS:**

**GMH 55 ES**  
Item No. 603066  
pH add-on set for GMH 35xx and GMH 55xx  
pH electrode GE 100 BNC, temperature probe GF1T-T3-B-BS, case GKK3500, calibration set GAK1400

**GF 1T-T3-B-BS**  
Item No. 611088  
compact Pt1000 hand probe with silicone handle, Pt1000 class B, with 2 banana plugs

**GE 100-BNC**  
Item No. 600704  
Universal pH electrode, BNC connector

**GE 117-BNC**  
Item No. 600730  
pH electrode with Pt1000, pressure-resistant

**GNG 10/3000**  
Item No. 600273  
Plug in power supply for GMH 3XXX series

**GKK 3001**  
Item No. 611605  
Case for GMH 3000 series water analysis / universal 395 x 295 x 106 mm (W x H x D)

**USB 3100 N**  
Item No. 601092  
Interface converter GMH3xxx <=> PC, USB, galvanic isolation

**EBS 20M**  
Item No. 601158  
Measurement data acquisition software for EASYBus & GMH