

## PH / ORP / TEMPERATURE MEASURING DEVICES



STANDARD-FUNCTIONS:



ORP MODE ALLOWS FOR AUTOMATIC CONVERSION  
TO HYDROGEN SYSTEM ELECTRODES

AUTOMATIC OR MANUAL TEMPERATURE COMPENSATION

AUTOMATIC BUFFER DETECTION

RATING FUNCTION OF ELECTRODE'S QUALITY

ADDITIONAL FUNCTIONS GMH 3551:



NEW: ANALOG OUTPUT  
FOR ALL VARIANTS



SUCCESSOR OF  
GPR1 1400 & GPHR 1400

**GMH 3511**

Product-ID: 604953

pH / ORP / temp. measuring device w/o accessories

**GMH 3531**

Product-ID: 602076

pH / ORP / temp. measuring device w/o accessories

**GMH 3551**

Product-ID: 602817

pH / ORP / temperature measuring device with data logger w/o accessories

**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 hydrogen system:  
-1792 ... +2207 mV<sub>H</sub> (DIN38404)

**rH:** 0.0 ... 70.0 rH (not GMH 3511)

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

**Temperature:** ±0.2 °C (at range -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 socket for Pt1000, 2-wire

**pH, Redox:** BNC socket

**Display:** two 4-digit LCD displays  
(12.4 and 7 mm high)

**Working temperature:** 0 ... +50 °C

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

**Interface:** serial interface; connectable to  
RS232 or USB interface of PCs  
via electrically isolated interface  
converter GRS 3100, GRS 3105  
or USB 3100 N (accessories).

**Power supply:** 9 V battery, additional socket for  
external 10.5-12 V direct current  
power supply  
(adequate PSU: GNG10/3000).

**Current consumption:** < 1 mA

**Housing:** Impact-resistant ABS housing,  
membrane keyboard, transparent  
panel. Front side IP65, inte-  
grated pop-up clip for table top or  
suspended use.

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

**Weight:** approx. 170 g

**Scope of supply:** Device, battery, manual

**Functions:****Automatic temperature compensation:**

In operation mode „pH“ an automatic temperature compensation (ATC) is possible in the range 0 ... 105 °C if a temperature probe is connected. Otherwise a manual input of temperature is possible.

**pH calibration:**

Buffer selection, temperature compensation and sensor rating according to calibration result (from 10 ... 100 %) is done automatically.

**GMH 3511:** 2-point calibration with Greisinger buffer capsules (GPH 4, 7, 10)

**GMH 3531, GMH 3551:** Either 1-, 2- of 3- point calibration with Greisinger standard buffer, buffer according to DIN19266 (A, C, D, F, G) or manual buffer selection.

**Calibration interval (not for GMH 3511):**

The device asks for a recalibration after a selectable time period (1 - 365 days or inactive)  
GMH 3551: Calibration history additional

**ORP measurement (Redox):**

There are 2 choices:

„mV“: standard ORP or mV measurement  
„mV<sub>H</sub>“: temp. compensated conversion to hydrogen system acc. to DIN38404 part 6, table 1 based on the standard ORP electrode (e.g. GE105 with Ag/AgCl system and 3 mol KCl) used.

**rH measurement: (except GMH 3511):**

Calculation of the rH value by means of a ORP measurement and by manually entering the pH-value. The pH-value may also be taken from a previous pH measurement.

**Analog output:**

0 ... 1 V, not changeable 0 ... 1 V  $\Delta$  0 ... 14 pH or -2000 ... 2000 mV, connection via 3-pole jack socket  $\varnothing$  3.5 mm, resolution 13 bit, accuracy 0.05 % at nominal temperature  
**GMH 3551:** Analog output freely scalable

**data logger (GMH 3551 only):**

cyclic 10,000 data sets, manual: 1,000 data sets (with measuring point input, 40 adjustable measuring point texts or measuring point numbers)

**GMH 3511-Set**

Product-ID: 605021

Full set for pH/temperature measurements

**General:**

For comfortable measurements of pH value and temperature. Even easier operation ensured by a menu reduced to 5 points for GMH 3511. Minimal measuring effort because of maintenance-free gel-electrode and automatic temperature compensation.

**Specifications:**

p.r.t. GMH 3511

**Scope of supply:** GMH 3511, pH electrode GE 114, temperature probe GTF 55 B, buffer capsules 5 x GPH 4, 5 x GPH 7, 2 plastic wide mouth bottles GPF 100

**Accessories:****GKK 1105**

Product-ID: 601050  
appropriate case

**Accessories and spare parts:****GMH 55 ES**

Product-ID: 603066

Additional set: pH-electrode GE 100 BNC, temperature probe GTF 55 B (Pt1000), case GKK3500, GAK1400

**GTF 55 B**

Product-ID: 602764

Temperature probe, Pt1000 (see page 47)

**GE 100-BNC**

Product-ID: 600704

Standard electrode, BNC plug

**GE 117-BNC**

Product-ID: 600730

pH electrode with integrated Pt1000 sensor (see p. 48)

**GNG 10/3000**

Product-ID: 600273

Plug-in power supply

**GKK 3000**

Product-ID: 601048

Case with cut-outs for GMH 3xxx

**USB 3100 N**

Product-ID: 601092

Interface converter to USB, electrically isolated

**EBS 20M**

Product-ID: 601158

Software for read-out, recording and archiving of measuring data (see page 76).

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