

# oxygen measuring devices for dissolved oxygen in liquids



- Double display for oxygen and temperature
- Meas. units: O<sub>2</sub>-concentration, O<sub>2</sub>-saturation and O<sub>2</sub>-partial pressure (GMH3630 only)
- Automatic air pressure compensation by means of integrated pressure sensor
- Salinity correction
- Extremely small measuring probe (dimensions as for pH-probe)
- Min./Max. value memory, Hold function,
- Serial interface, device can be connected to bus system (up to 5 devices can be connected to one PC interface)
- Battery and d.c. operation
- Simple calibration in atmospheric air

## GMH 3610

## GMH 3630

### Specification :

#### Measuring ranges:

**O<sub>2</sub>-concentration:** GMH3610: 0,0 ... 25,0 mg/l  
GMH3630: 0,0 ... 70,0 mg/l or  
0,00 ... 25,00 mg/l

**O<sub>2</sub>-saturation:** GMH3610: 0 ... 300 %  
GMH3630: 0 ... 600 % or 0,0 ... 250,0 %

**O<sub>2</sub>-partial pres.:** GMH3630: 0,0 ... 570,0 hPa or 0 ... 1200 hPa  
(0,0 ... 427,5 mmHg or 0 ... 900 mmHg)

**Temperature:** 0,0 ... 50,0 °C

**Pressure:** GMH3630 500 ... 1100 hPa abs.

**Accuracy:** (at nominal temperature = 25°C)

**Oxygen:** GMH3610: ±1,5% of m.v. ±0.2 mg/l  
GMH3630: ±1,5% of m.v. ±0.2 mg/l (0...25mg/l) or  
±2,5% of m.v. ±0.3 mg/l (25...70mg/l)

**Temperature:** ±0,1°C ±1digit  
**Pressure:** ±0,5% FS ±1digit

**Sensor connection:** 6-pin screened Mini-DIN-socket.

**Electrode:** active membrane type. Electrode-Ø front: approx. 12mm, overall length: approx. 220 mm, anti buckling glanding, neck collar: Ø approx. 20 mm, 4m connection cable with Mini-DIN-plug.

**Response time:** 95% in 10sec., depending on temperature.  
**Operation life:** approx. 3 years or more, depending on maintenance  
**Working temperature:** 0 to +40°C  
**Working pressure:** max. 3 bar  
**Flow rate:** min. 30 cm/sec.

**Display:** 2 four digit LCDs (12.4mm and 7mm high) for oxygen, temperature or pressure, as well as additional functional arrows.

**Pushbuttons:** 6 membrane keys

**Working temperature:** 0 to +50°C

**Relative humidity:** 0 to +95%r.h. (non-condensing)

**Storage temperature:** -20 to +70°C (Electrode: 0 to 60°C)

**Interface:** 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).

**Min./Max-value memory:** max. and min.values will be memorized.

**Hold function:** by pressing a button the current meas. value will be memorized.

**Power supply:** 9V-battery, type IEC 6F22 (included) as well as additional d.c. connector for external 10.5-12V direct voltage supply. (suitable power pack: GNG10/3000)

**Power consumption:** approx. 3 mA

**Auto-Off-Function:** 1...120min (can also be deactivated).

**Low battery warning:**  $\Delta$  and 'bAt'

### **Difference between GMH3630 and GMH3610:**

Additional features of GMH3630:

- Measuring of air pressure by means of integrated pressure sensor
- Ext. meas. range for O<sub>2</sub> and temperature
- O<sub>2</sub>-partial pressure measurement
- Correction of salinity

**Housing 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 for table top or suspended use.

**Weight:** approx. 300 g (complete with battery and probe)

**Temperature compensation:** automatic via temperature sensor integrated in electrode.

**Air pressure compensation:**

GMH3610: enter current air pressure by means of keys

GMH3630: automatic via integrated pressure sensor. Display of current air pressure.

**Correction of salinity (GMH3630):** automatic  
Salinity value can be set via keyboard from 0,0 ... 70,0

**Calibration:** 1-point calibration: extremely simple quick calibration in atmospheric air.

2-point calibration (GMH3630 only): first point at atmospheric air, second point at upper measuring range (with calibration set GKS3600).

**Scope of supply:** device incl. electrode, GWOK01 and KOH100

### Upcharges, accessories:

**GWO 3600 Spare electrode** with 4 m cable

**Upcharge for electrode with 10 m cable**

**Upcharge for electrode with 30 m cable**

**GSKA 3600** protection cap for depth measuring

Provides sufficient flow for the electrode permanently, therefore the minimum flow is ensured (e.g. for measurings in large depths).

**GKS 3600** calibration set

(consisting of calibration device, 100 ml calibration solution, 10 ml catalytic solution, measuring pipette and measuring bottle)

**GKN 3600** calibration refill set

(consisting of 100ml calibration solution, 10ml catalytic solution, meas. pipette)

**GAS 3600** working set

(consisting of 3 spare diaphragm heads and 100ml KOH-electrolyte)

**GWOK 01** spare diaphragm head per piece

**KOH 100** spare electrolyte KOH 100 ml-bottle

**ST-R1** device protection bag with cut out for sensor connection

punch: 1 round hole, suitable for: GMH3610, GMH3630, GMH3691... (p.r.t. page 35).

for add. spare parts and accessories p.r.t. pages 35, 36