

## OXYGEN METER FOR DISSOLVED OXYGEN IN LIQUIDS



MEASURED VARIABLES:  
O<sub>2</sub> CONCENTRATION, O<sub>2</sub> SATURATION AND  
O<sub>2</sub> PARTIAL PRESSURE (ONLY GMH3651)



### HIGHLIGHTS:

- Automatic air pressure compensation
- Salinity correction
- Simple calibration

### ADDITIONAL FUNCTIONS GMH 3651:



### GMH 3611

Item No. 605922

Portable instrument for dissolved oxygen incl. device, sensor 4 m: GWO3600-L04, replacement GWOK 01, KOH 100

### GMH 3651

Item No. 605924

Portable instrument for dissolved oxygen with data logger incl. Device, sensor 4 m: GWO3600-L04, replacement GWOK 01, KOH 100

#### TECHNICAL SPECIFICATIONS:

##### Measuring ranges: (device)

O <sub>2</sub> concentration:	0.00..70.00 mg/l (ppm) (resolution can be selected)
O <sub>2</sub> saturation:	0.0..600.0 % O <sub>2</sub> (resolution selectable)
O <sub>2</sub> partial pressure:	3651: 0..1200 hPa O <sub>2</sub> (0.0..427.5 mmHg)
Temperature:	0.0..50.0 °C
Pressure:	3611: 10..1200 hPa abs. 3651: 300..5000 hPa abs. or 0..100.0 m water column * (with pressure connection)

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

Oxygen:	± 1.5 % of meas. MW ± 0.2 mg/l (0.25 mg/l) or ± 2.5 % of meas. MW ± 0.3 mg/l (25.70 mg/l)
Temperature:	± 0.1 °C ± 1 digit
Pressure:	± 0.5 % FS ± 1 digit ± 3 hPa or 0.1 % of meas. MW. ± 2 hPa (750..1100 hPa)

Sensor connection:	6-pole shielded mini-DIN socket
Sensor:	Active membrane type. Electrode Ø at the front: approx. 12 mm, total length: approx. 220 mm including kink protection, neck ring: Ø approx. 20 mm, 4 m long connection cable with mini-DIN plug.
Response time:	95 % in 10 s, depending on the temperature
Lifespan:	approx. 3 years, care-dependent
Working temperature:	0 .. + 40 °C
Operating pressure:	max. 3 bar operating pressure GWO 3600 sensor max. 3000 hPa rel. or 4000 hPa abs. Please note!
Approach velocity:	min. 30 cm/s
Display:	2 x 4-digit LCD (12.4/7 mm high)

Interface:	Serial interface, can be connected directly to the RS232 or USB interface of a PC via a galvanically isolated interface converter
Power supply:	9 V battery and additional power supply socket for external 10.5..12 V DC voltage supply (suitable power supply: GNG10/3000)
Battery life:	approx. 500 h
Housing:	Made of impact-resistant ABS, membrane keyboard, transparent panel, integrated pop-up/hanger bracket
Dimensions:	142 x 71 x 26 mm (H x W x D)
Weight:	approx. 300 g (cpl. with battery/probe)
Scope of delivery:	Device including electrode, GWOK01 and KOH replacement electrolyte, battery, test report, operating instructions

#### ADDITIONAL FUNCTIONS:

<b>Temperature compensation:</b>	automatically via the temperature sensor integrated in the electrode.
<b>Air pressure compensation:</b>	Automatically via integrated pressure sensor, display of the current air pressure.
<b>Salinity correction:</b>	automatic, the salinity value can be set from 0.0..70.0 using the buttons.
<b>Calibration:</b>	1-point calibration: Simple adjustment in air at the push of a button with the GMH 3651, additional 2 and 3-point calibration
<b>Calibration interval:</b>	after a selectable period (1 – 365 days or inactive) a recalibration is requested. GMH 3651: additional calibration history
<b>Analog output (GMH 3651 only):</b>	0..1 V, freely scalable
<b>Alarm (GMH 3651 only):</b>	2 alarm channels (O <sub>2</sub> and temperature) with separate alarm limits, sounder/visual/interface alarm
<b>Data logger (GMH 3651 only):</b>	Cyclic: 10,000 data records, single value: 1,000 data records (with measuring point input, 40 adjustable measuring point texts or measuring point numbers)

### VARIANTS:

<b>GMH 3611-L10</b>	Item No. 606233 Portable instruments for dissolved oxygen, device, sensor 10 m: GWO3600-L10, replacement GWOK 01, KOH 100
<b>GMH 3611-L30</b>	Item No. 415157 Portable instruments for dissolved oxygen, device, sensor 30 m: GWO3600-L30, replacement GWOK 01, KOH 100
<b>GMH 3651-L10</b>	Item No. 606105 Portable instruments for dissolved oxygen with data logger, device, sensor 10m: GWO3600-L10, replacement GWOK 01, KOH 100
<b>GMH 3651-L30</b>	Item No. 606106 Portable instruments for dissolved oxygen with data logger, device, sensor 30m: GWO3600-L30, replacement GWOK 01, KOH 100

### ACCESSORIES OR SPARE PARTS:

see the next page

\* A hydrostatic depth measurement can be made with special accessories (on request/pressure connection). Together with the logger function, very Convenient oxygen profiles in waters can be recorded.

ACCESSORIES

ACCESSORIES OR SPARE PARTS:

**GMH 3611-GL**

Item No. 606310

Portable instrument for dissolved oxygen, device only, without sensor

**GMH 3651-GL**

Item No. 606312

Portable instrument for dissolved oxygen with data logger Device only, without electrode

**GWO 3600-L04**

Item No. 603895

Replacement sensor for dissolved oxygen, GMH 36/OXY 36 Sensor with 4 m cable

**GWO 3600-L10**

Item No. 603258

Replacement sensor for dissolved oxygen, GMH 36/OXY 36 Sensor with 10 m cable

**GWO 3600-L30**

Item No. 603259

Replacement sensor for dissolved oxygen, GMH 36/OXY 36 Sensor with 30 m cable

**GWOK 01**

Item No. 601411

Replacement membrane head for GWO 3600

**GAS 3600**

Item No. 603497

Work set (3 replacement membrane heads and 100 ml KOH electrolyte)

**GSKA 3600**

Item No. 601414

Protective cap for depth measurement for sensors Ø 12 mm

**GSKA 3610**

Item No. 607267

Protective cap for depth measurement for sensors Ø 12 mm

**KOH 100**

Item No. 603356

KOH spare electrolyte, 100 ml

**GCAL 3610**

Item No. 611371

Calibration bottle for gel. Oxygen sensors with Ø 12 mm

**GKK 3001**

Item No. 611605

Case for GMH 3000 series water analysis / universal with cutouts for 1 instrument of the GMH 3xxx series and accessories for water analysis 395 x 295 x 106 mm (W x H x D)



GCAL 3610 on the sensor



OXYGEN METER SETS



**GMH 3611-SET04**

Item No. 474202

Portable instrument for dissolved oxygen, sensor 4 m: GWO3600-L04, replacement GWOK 01, KOH 100, protection GSKA3610, case GKK3001

**GMH 3651-SET04**

Item No. 474203

Portable instrument for dissolved oxygen with data logger Device, sensor 4 m: GWO3600-L04, replacement GWOK 01, KOH 100, protection GSKA3610, case GKK3001

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For further technical data see GMH 3611 and GMH 3651