

## CONDUCTIVITY METER



2-pole measuring cell  
GMH 3431



4-pole Measuring cell  
GMH 3451

### HIGHLIGHTS:

- Display of resistance, salinity or TDS (total dissolved solids)
- Complies with the requirements of the Drinking Water Ordinance (TrinkwV 2001) and DIN EN 27888

### ADDITIONAL FUNCTIONS OF GMH 3451:



### GMH 3431

Item No. 601917

Conductivity meter with 2-pole measuring cell

### GMH 3451

Item No. 601919

Conductivity meter with 4-pole measuring cell and data logger

#### GENERAL:

Inexpensive set with 2-pole measuring cell for drinking water etc., 4-pole carefree package also for permanent measurements with high conductivity levels (e.g. sea water)

#### TECHNICAL SPECIFICATIONS:

##### Measuring ranges

<b>Conductivity:</b>	0.0..200.0 $\mu\text{S/cm}$ 0..2000 $\mu\text{S/cm}$ 0.00..20.00 $\text{mS/cm}$ 0.0..200.0 $\text{mS/cm}$ 0..400 $\text{mS/cm}$ (only GMH 3451) manually adjustable or AutoRange
<b>Temperature:</b>	-5.0 .. + 100.0 °C
<b>Spec. Resistance:</b>	0.005..100.0 $\text{k}\Omega\text{m}^*$ cm
<b>Salinity:</b>	0.0..70.0 g/kg water
<b>TDS:</b>	0..1999 $\text{mg/l}$

##### Accuracy ( $\pm 1$ digit) (at nominal temperature = 25 °C)

<b>Conductivity:</b>	$\pm 0.5\%$ of meas. Mean $\pm 0.3\%$ FS or $\pm 2 \mu\text{S/cm}$
<b>Temperature:</b>	$\pm 0.2\%$ of meas. MW $\pm 0.3$ K
<b>Cell correction:</b>	adjustable 0.800..1.200 $\text{cm}^{-1}$ manually or automatically via selectable reference solutions

**Temperature compensation:** automatically or can be switched off with the help of the temperature sensor integrated in the electrode

<b>Compensation type:</b>	nLF: Nonlinear function of natural waters according to DIN EN27888 (ISO 7888) (Reference temperature adjustable: 20 °C or 25 °C) Lin: Linear compensation of 0.3..3.0 %/K (Reference temperature adjustable: 20 °C or 25 °C) off: No compensation.
---------------------------	--

**Display:** 2 four-digit LCD display (12.4 mm or 7 mm high) for conductivity (resistance, salinity, TDS) and temperature, or for min., Max. Value, hold function, etc., and additional indication arrows.

**Measuring cell:** Conductivity measuring cell with temperature sensor integrated in the shaft. Electrode material: graphite. Shaft material: PPE, PS (GMH 3431), epoxy (GMH 3451). The graphite measuring cells are also ideally suited for use in wastewater and can be cleaned without any problems. GMH 3431: 2-pole, GMH 3451: 4-pole

**Warranty on measuring cell** 12 months

**Working environment:** Device: -25 .. + 50 °C, 0.95 % r. F. Measuring cell: -5 .. + 80 °C (permanent) to +100 °C (short-term)

**Relative humidity:** 0 .. + 95 % RH (not condensing)

<b>Interface:</b>	Serial interface, can be connected directly to the RS232 or USB interface of the PC via galvanically isolated interface converter GRS 3100 or GRS 3105 or USB 3100 N (accessory)
<b>Control elements:</b>	A total of 6 membrane buttons for on / off switch, measuring range selection, min / max value memory, hold function, etc.
<b>Power supply:</b>	9 V battery and additional power supply socket (1.9 mm internal diameter) for external 10.5..12 V DC voltage supply (suitable power supply unit: GNG10/3000)
<b>Battery life:</b>	approx. 150 h
<b>Housing:</b>	Made of impact-resistant ABS, membrane keyboard, transparent panel, integrated pop-up clip
<b>Dimensions:</b>	Device: 142 x 71 x 26 mm (H x W x D), measuring cell dimensions (shaft): approx. 120 mm long, $\varnothing$ approx. 12 mm, measuring cell firmly connected to the device via approx. 1 m cable.
<b>Weight:</b>	approx. 230 g (including battery and measuring cell)
<b>Scope of delivery:</b>	Device including measuring cell, battery, test report, operating manual

#### ADDITIONAL FUNCTIONS:

**Salinity determination:** Salinity is the sum of the concentration of all dissolved salts in the water. The information is given in g/kg.  
**TDS determination (total dissolved solids):** The total dissolved solids describes the mass concentration of the dissolved substances in a liquid. The information is given in mg/l.

#### ADDITIONAL FUNCTIONS WITH GMH 3451:

**Analog output:** 0.1 V, freely scalable, connection via 3-pole jack socket  $\varnothing$  3.5 mm, resolution 13 bit, accuracy 0.05 % at nominal temperature  
**4-pole measuring cell:** Better long-term stability when used in high conductivities (> 20  $\text{mS/cm}$ ) and in rough use, stable measured values even in polluted media (e.g. sewage, salt water)  
**Data logger:** 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:

**GMH 3431-LTG**  
Item No. 608399  
**GMH 3451-LTG**  
Item No. 610028  
for organic substances (alcohol, gasoline, diesel) up to max. 1000  $\mu\text{S/cm}$  with glass shaft, **measuring cell:** 2-pole glass/platinum, 1.35 m PUR cable, permanently connected to the device



#### ACCESSORIES OR SPARE PARTS:

**GKL 100**  
Item No. 601396  
Conductivity control solution (Control solution 1413  $\mu\text{S/cm}$ , 100 ml bottle, according to DIN EN 27888)

**GKK 3001**  
Item No. 611605  
Case for GMH 3000 series water analysis / universal with recesses for 1 device of the GMH 3xxx series and accessories for water analysis, 395 x 295 x 106 mm (W x H x D)