

## CONDUCTIVITY MEASURING DEVICE



2-pole measuring cell GMH 3431



4-pole measuring cell GMH 3451

## HIGHLIGHTS:

- Display of resistivity, salinity or TDS (total dissolved solids)
- Conform to the regulations of the drinking water ordinance (TrinkwV 2001) and DIN EN 27888

## ADDITIONAL FUNCTIONS GMH 3451:

**GMH 3431**

Art. no. 601917

Conductivity handheld device with 2 pole measuring cell

**GMH 3451**

Art. no. 601919

Conductivity handheld device with measuring cell and data logger

**General:**

Intelligent set with 2-pole measuring cell for tap water, etc., 4-pole worry-free package also suitable for continuous measurement in high conductivity ranges (e.g. salt water)

**Specifications:****Measuring range**

<b>Conductivity:</b>	0.0 ... 200.0 $\mu\text{S}/\text{cm}$ 0 ... 2000 $\mu\text{S}/\text{cm}$ 0.00 ... 20.00 $\text{mS}/\text{cm}$ 0.0 ... 200.0 $\text{mS}/\text{cm}$ 0 ... 400 $\text{mS}/\text{cm}$ (GMH 3451 only) manually selectable or AutoRange
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**Temperature:** -5.0 ... +100.0 °C**Resistivity:** 0.005 ... 100.0  $\text{k}\Omega\text{m}^* \text{cm}$ **Salinity:** 0.0 ... 70.0 g / kg water**TDS:** 0 ... 1999 mg/l**Accuracy ( $\pm 1$  digit) (at nominal temperature = 25 °C)****Conductivity:**  $\pm 0.5$  % of m.v.  $\pm 0.3$  % FS or  $\pm 2$   $\mu\text{S}/\text{cm}$ **Temperature:**  $\pm 0.2$  % of m.v.  $\pm 0.3$  K**Cell correction:** adjustable 0.800 ... 1.200  $\text{cm}^{-1}$  manually or automatically with selectable reference solution**Temperature compensation:** automatically or off, by temperature sensor integrated to electrode

**Type of compensation:** nLF: Non-linear function of natural waters acc. to DIN EN 27888 (ISO 7888) (Reference temperature selectable: 20 °C or 25 °C)  
linear compensation from 0.3 ... 3.0 %/K (Reference temperature selectable: 20 °C or 25 °C)  
off: no compensation.

**Display:** two 4-digit LCD displays (12.4 and 7 mm high) for current conductivity (resistivity, salinity, TDS) and temperature, or for min-, max- value, hold function, etc. and additional indicator arrows**Measuring cell:** Conductivity measuring cell with integrated temperature sensor in shaft. Electrode material: graphite. Shaft material: PPE, PS (GMH 3431), Epoxide (GMH 3451). The graphite electrodes are the optimum solution for sewage and can be cleaned easily. GMH 3431: 2-pole; GMH 3451: 4-pole**Warranty for sensor element:** 12 months**Working conditions:** device: -25 ... +50 °C, 0 ... 95 % RH; measuring cell: -5 ... +80 °C (permanent), up to +100 °C (short-term)**Relative humidity:** 0 ... +95 % RH (non-condensing)**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).**Pushbuttons:** 6 membrane keys for ON/OFF-switch, selection of meas. range, min- and max-value memory, hold-function, etc.**Power supply:** 9V-battery as well as additional PSU connector (internal pin  $\varnothing$  1.9 mm) for external 10.5 ... 12 V DC supply. (suitable power supply: GNG10/3000)**Battery life:** approx. 150 h**Housing:** Impact-resistant ABS plastic housing, membrane keyboard, transparent panel, integrated pop-up clip**Dimensions:** Device: 142 x 71 x 26 mm (H x W x D)  
Dimensions (electrode shaft): approx. 120 mm long,  $\varnothing$  approx. 12 mm, 1 m of fixed connection cable between electrode and device**Weight:** approx. 230 g (incl. battery and measuring cell)**Scope of supply:** Device incl. measuring cell, battery, calibration protocol, manual**Additional functions:****Salinity determination:** Salinity is understood to be the sum of concentrations of all salts dissolved in water. Displayed in g/kg.**TDS-determination (total dissolved solids):** The dry residue of filtrate is understood to be the concentration of substances dissolved in a liquid. Displayed in mg/l.**Additional functions 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 at high conductivity values (>20  $\text{mS}/\text{cm}$ ) and for harsh environments, stable measuring values even in polluted media (e.g. sewage, salt water)**Data logger:** cyclic 10.000 data sets, manual: 1.000 data sets (with measuring point input, 40 adjustable measuring point texts or measuring point numbers)**Variants:****GMH 3431-LTG**

Art. no. 608399

**GMH 3451-LTG**

Art. no. 610028

for organic matter (alcohol, petrol, diesel) up to 1000  $\mu\text{S}/\text{cm}$  with glass shaft, platinum electrodes, 1.35 m PUR-cable permanently connected to device**Accessories and spare parts:****GKL 100**

Art. no. 601396

Conductivity control solution (100 ml bottle with 1413  $\mu\text{S}/\text{cm}$ , acc. to DIN EN 27888)