

Product Information

GMH 3431 / 3451

GMH 3431 / 3451 conductivity measuring device



- Made in Germany
- Display of resistivity, salinity or TDS (total dissolved solids)
- Conforms to Drinking Water Ordinance requirements (TrinkwV 2001) and DIN EN 27888

Features

Intelligent set GMH 3431 with 2-pole measuring cell for tap water, etc., GMH 3451 4-pole worry-free package also suitable for continuous measurement in high conductivity ranges (e.g. salt water).

Technical data

Measuring range

Conductivity 0.0..200.0 $\mu\text{S} / \text{cm}$
0..2000 $\mu\text{S} / \text{cm}$
0.00..20.00 mS / cm
0.0..200.0 mS / cm
0..400 mS / cm (only GMH 3451)
Manually adjustable or AutoRange

Spec. resistance 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 (± 1 digit) (at rated temperature = 25 °C)

Conductivity ± 0.5 % of measured value ± 0.3 % FS or ± 2 $\mu\text{S}/\text{cm}$

Temperature ± 0.2 % of measured value ± 0.3 K

Cell correction Manually adjustable 0.800..1.200 cm^{-1} or automatically with selectable reference solutions

Temperature compensation Automatically or deactivatable, via temperature sensor integrated in the sensor

Compensation type nLF: Non-linear function of natural water according to DIN EN27888 (ISO 7888) (Adjustable reference temperature: 20 °C or 25 °C)
Lin: Linear compensation of 0.3..3.0 % / K (Adjustable reference temperature: 20 °C or 25 °C)
off: No compensation.

Display

2 four-digit LCDs (12.4 mm and 7 mm high) for conductivity (resistance, salinity, TDS) and temperature or for min and max value, hold function, etc., as well as additional indicator 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 extremely well-suited for use in waste water and are easy to clean. GMH 3431: 2-pole; GMH 3451: 4-pole, the following applies for LTG options: 2-pole glass/platinum measuring cell for use in alcohol, petrol, diesel, paint

Measuring cell warranty

12 months

Operating environment

Device: -25..+50 °C, 0..95 % relative humidity
Measuring cell: -5..+80 °C (continuous) up to +100 °C (temporary)

Interface

Serial interface with direct connection to RS232 or USB interface of the PC via galvanically isolated interface converter GRS 3100 or GRS 3105 or USB 3100 N (accessory)

Operating elements

A total of 6 touch keys for On/Off switches, measuring range selection, min/max value memory, hold function, etc.

Current supply

9 V battery and additional mains adapter socket (1.9 mm inside pin diameter) for external 10.5..12 V DC voltage supply (suitable mains adapter: GNG10/3000)

Battery life

approx. 150 h

Housing

Made of impact-resistant ABS, foil keypad, clear viewing pane, integrated stand/suspension clip

Dimensions

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 over approx. 1 m, cable permanently attached to the device.

Weight

approx. 230 g (incl. battery and measuring cell)

Additional functions

Salinity determination: Salinity is the sum of the concentration of all dissolved salts in sea water. The variable is specified in g / kg.

TDS determination (total dissolved solids): Total dissolved solids is the designation for the mass concentration of substances dissolved in a liquid. The variable is specified in mg / l .

Additional functions with the GMH 3451

Analogue output: 0..1 V, freely scalable, connection via 3-pole jack socket $\varnothing$ 3.5 mm, 13-bit resolution, 0.05 % accuracy at nominal temperature

4-pole measuring cell: Better long-term stability with use in high conductivities (>20 mS / cm) and in harsh use, stable measurements also in contaminated media (e.g. waste water, salt water)

Data logger: Cyclical: 10,000 data records, individual value: 1,000 data records (with measuring point entry, 40 adjustable measuring point texts or measuring point numbers).

Product Information

Measuring cell

(permanently connected, cannot be unplugged)



LF 202 2-pole graphite conductivity cell



LF 400 4-pole graphite conductivity measuring cell



LF 210 2-pole glass/platinum conductivity measuring cell

Scope of delivery

- Device, including measuring cell, battery, test report, operating manual

Accessories

GKL 100, art. no. 601396
100 ml conductivity control solution (100 ml bottle with 1413 µS / cm, in accordance with DIN EN 27888)

- Additional accessories on request or in our catalogue

Ordering code

1.
GMH 3431 - ☐

1.	Option
	Device, LF 202 measuring cell, 2-pole graphite, 1 m, permanently connected
LTG	Device, LF 210 measuring cell, 2-pole glass/platinum, 1 m, permanently connected

1.
GMH 3451 - ☐

1.	Option
	Device, LF 400 measuring cell, 4-pole graphite, 1 m, permanently connected
LTG	Device, LF 210 measuring cell, 2-pole glass/platinum, 1 m, permanently connected