

GMH DATASHEET

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Water-proof handheld device for conductivity measurement with external electrodes

Features

- Water-proof
- Serial interface and analog output
- Data logger and alarm function
- Measurement of conductivity, resistance, salinity, TDS
- Robust silicone protection cover
- Large double display
- Background illumination
- Incl. calibration protocol

Application

Mobile use for:

- industry and craft
- measurements of waters and aquaristics
- fish farming
- drinking water monitoring, process control, soil measurements
- food production and control
- quality management

Additional applications at laboratory:

- medicine, pharmacy, chemistry



GMH 5430 without electrode

GMH 5450 analog output and data logger, without electrode

Specifications	GMH 5430 and GMH 5450
Measuring range:	
Number of meas. Ranges:	5
<i>smallest range:</i>	0.000 ... 5.000 $\mu\text{S/cm}^*$ or 0.0 ... 500.0 $\mu\text{S/cm}^{**}$
<i>biggest range:</i>	0 ... 5000 $\mu\text{S/cm}^*$ or 0 ... 1000 mS/cm^{**}
Resistivity:	0.005 ... 500.0 $\text{k}\Omega\text{m/cm}$ (depends on cell constant)
TDS:	0 ... 5000 mg/l cm (depends on cell constant)
Salinity:	0.0 ... 70.0 (g salt / kg water equals PSU = Practical Salinity Unit)
Temperature:	-5.0 ... +100.0 $^{\circ}\text{C}$, Pt1000 or NTC (10k)
Supported cell constants:	4.0000 ... 12.000 / cm - 0.4000 ... 1.2000 / cm - 0.04000 ... 0.12000 / cm - 0.004000 ... 0.012000 / cm
Accuracy (at nominal temp. 25 $^{\circ}\text{C}$):	
Conductivity:	$\pm 0.5\%$ of m.v. $\pm 0.1\%$ FS (depends on electrode)
Temperature:	$\pm 0.2\text{ K}$
Connection:	
Conductivity, temperature:	1x 7-pole bayonet connector for connection of different measuring cells supported temperature sensors: Pt1000 or NTC (10k)
Interface / ext. supply:	4-pole bayonet connector for serial interface and supply (with accessory: USB adapter USB 5100)
Display:	4 ½ digit 7-segment, illuminated (white)
Housing:	
Protection class:	IP65 / IP67
Dimensions:	160 x 86 x 37 mm (W x H x D) incl. silicone protection cover
Weight:	approx. 250 g incl. battery and protection cover
Power supply:	2x AAA battery (included), power consumption 6.25 mA (Battery life time ca. 160 h)
	<i>depends on cell constant of used electrode</i>
	<i>* cell constant 0.01 / cm ** cell constant 0.1 ... 1.2 / cm</i>



Handheld device for conductivity measurement

GMH 5430 without electrode





NEW

GMH 5450 analog output and data logger, without electrode



Functions	GMH 5430	GMH 5450
Min / max value memory	x	x
Hold / auto-hold	x	x
Auto power off	x	x
Low battery display "BAT"	x	x
Display of condition of battery	x	x
Background lightning	x	x
Period selectable (on/off or 5 s ... 2 min)		
Adjustment	Cell constant manually or automatically by selectable reference solution	
GLP (Good Laboratory Practice)	adjustable calibration intervals	adjustable calibration intervals Calibration memory: latest 16 calibrations
Real-time clock	x	x
Analog output	-	0 - 1 V, freely adjustable, connection with 4-pole bayonet connector, Resolution 13 bit, accuracy 0.05% at nominal temp.
Data logger	-	cyclic: 10.000 data sets Single value: 1.000 data sets (with measuring point input, 40 adjustable measuring point texts or measuring point numbers)
Min-/max-alarm	-	Permanent monitoring of alarm boundaries for conductivity and temperature: 3 alarm conditions - off: Alarm function inactive - on: Alarm report via display, integrated buzzer and interface - no Sound: Alarm report only via display and interface

Electrodes

	Type	Measuring range	Cell constant	Temperature measurement	Dimensions	Characteristics	Applications
	LF 200 RW	0 ... 100 µS/cm	0,1	NTC 10k	Ø 12 mm	2-pole stainless steel	Pure and ultra pure water
	LF 210	0 ... 1000 µS/cm	1	NTC 10k	Ø 12 mm	2-pole glass/platinum	Alcohol, fuel, diesel
	LF 400	0 ... 200 mS/cm	0,55	NTC 10k	Ø 12 mm	4-pole graphite	Universal application, Economy Class
	LF 425	0 ... 1000 mS/cm	0,42	Pt 1000	Ø 16 mm	4-pole graphite	Tight tolerances, robust and precise for highest demands, High End Class

General function description

Min / Max Value Memory: highest and lowest measured value is saved

Auto-Hold: automatic freezing of a constant measuring value

Auto Power Off: device is automatically switched off after a selected period if unused (0 to 120 min, or deactivated)

Additional Display for Battery and Low Battery Display "BAT"

Automatic temperature compensation: As conductivity depends strongly on temperature, each conductivity value is only valid at the corresponding temperature. Therefore the device supports temperature compensation, i.e. referring the conductivity to a reference temperature (selectable: 20 °C or 25 °C).

Salinity measurement: Salinity means the sum of the concentrations of all dissolved salts in water. The unit is g/kg.

TDS measurement (total dissolved solids): TDS means the mass concentration of dissolved media in a liquid. The unit is mg/l.

Accessories

EBS 20M software for long-term monitoring (p.r.t. page 58)

GSOFT 3050 (p.r.t. page 58)

Software for operation of logger devices

USB 5100

Electrically isolated interface converter, supplied via USB

GKK 3500 (p.r.t. page 56)

Device case with eggcrate foam and cut-outs for 1 device (394 x 294 x 106 mm)

GEH 1 (p.r.t. page 56)

Electrode holder for measuring electrodes with plastic handle

GNG 05/5000 (p.r.t. page 61)

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