

## Product Information

# Conductivity measuring device GMH 5430 / 5450



- Made in Germany
- Waterproof and impact-resistant
- Conductivity, resistance, salinity, TDS
- Large double display with backlighting
- Automatic adjustment with reference solutions including test report
- perfect for quality assurance

## Features

Conductivity and concentration monitoring in aquaculture, aquariums and in drinking water supply. Numerous agricultural applications (e.g. soil studies). Also suitable for quality assurance and control in industrial applications and in food production. Especially well-suited for investigation at water treatment, e.g. in humidification systems and for countless cleaning processes. Also suitable for medical, pharmaceutical and industrial laboratories. Designed for harsh environments: Impact-resistant and protected from water, the device even floats.

## Technical data

### Measuring ranges

|                            |                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------|
| Number of measuring ranges | 5                                                                                          |
| Smallest measuring range   | 0.000..5.000 µS/cm * or 0.0..500.0 µS/cm **                                                |
| Largest measuring range    | 0..5000 µS/cm * or 0...1000 mS/cm **                                                       |
| Spec. resistance           | 0.005..500.0 kOhm * cm (depending on cell constants)                                       |
| TDS                        | 0..5000 mg/l (depending on cell constants)                                                 |
| Salinity                   | 0.0..70.0 (g salt / kg water)                                                              |
| Temperature                | -5.0..+100.0 °C, Pt1000 or NTC 10 k                                                        |
| Supported cell constants   | 4.000..15.000 / cm - 0.4000..1.5000 / cm - 0.04000..0.15000 / cm - 0.004000..0.015000 / cm |

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

|              |                                                   |
|--------------|---------------------------------------------------|
| Conductivity | ±0.5 % of MW ±0.1 % FS (measuring cell dependent) |
| Temperature  | 0.2 K                                             |

## Connections

|                                 |                                                                                                                                                                                       |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conductivity, temperature       | 1 x 7-pole bayonet connection for connection of various measuring cells, supported temperature sensors Pt1000 or NTC 10 k                                                             |
| Interface / ext. power supply   | 4-pole bayonet connection for serial interface and supply (with accessories: USB adapter USB 5100)                                                                                    |
| Analogue output (only GMH 5450) | 0..1 V, freely scalable, connection via 4-pole bayonet jack, 13 bit resolution, 0.05 % accuracy at nominal temperature                                                                |
| Data logger (only GMH 5450)     | Cyclical: 10,000 data records, Variable cycle: 1 s..60 min<br>Single: 1,000 data records (with measuring point entry, 40 adjustable measuring point texts or measuring point numbers) |
| Display                         | 4 ½ digit 7-segment, illuminated (white)                                                                                                                                              |
| Operating conditions            | Device: -25..+50 °C                                                                                                                                                                   |
| Storage temperature             | -25 ... +70 °C                                                                                                                                                                        |
| Backlighting                    | Adjustable lighting duration (off, 5 s ... 2 min)                                                                                                                                     |
| Current supply                  | 2 x AAA batteries, power consumption: 6.25 mA                                                                                                                                         |
| Battery life                    | approx. 160 h (without lighting)                                                                                                                                                      |
| Protection rating               | IP65 / IP67                                                                                                                                                                           |
| Housing                         | Impact-resistant ABS, with stand/suspension clip                                                                                                                                      |
| Dimensions                      | 160 x 86 x 37 mm (H x W x D)<br>incl. silicone protective cover                                                                                                                       |
| Weight                          | approx. 250 g incl. battery and protective cover                                                                                                                                      |

Depending on cell constant of the LF electrode

\* Cell constant 0.01 / cm \*\* Cell constant 0.1..1.2 / cm (standard)

## Additional functions

**Adjustment:** Manual or automatic cell constant via reference solutions.

**Automatic temperature compensation:** The conductivity depends heavily on the temperature so that it is only applicable for the relevant temperature. Therefore, the device offers the option of compensating the conductivity to a reference temperature (adjustable to 20 °C or 25 °C).

### Supported compensation types:

|      |                                                                                                       |
|------|-------------------------------------------------------------------------------------------------------|
| nLF: | Non-linear function of natural water according to DIN EN27888 (ISO 7888, reference temperature 25 °C) |
| Lin: | Adjustable linear compensation                                                                        |
| off: | No compensation                                                                                       |

**Salinity determination:** Salinity is the sum of the concentration of all dissolved salts in sea water. The variable is specified in g / kg (corresponding to PSU = Practical Salinity Unit).

**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.

**GLP (Good Laboratory Practice):** Variable calibration interval, GMH 5450: Calibration memory for last 16 calibrations

## Scope of delivery

- Device, K 50 BL, battery, test report, operating manual, data logger, electrode not included

## Product Information

**GMH 5430 / 5450**

### Accessories

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

**GKL 101**, art. no. 601398  
Conductivity control solution  
(250 ml bottle with 84 µS/cm)

**GKL 102**, art. no. 601400  
Conductivity control solution  
(100 ml bottle with 50 mS/cm)

**EBS 20M**, art. no. 601158  
Software for long-term monitoring

**GSOFT 3050**, art. no. 601336  
Software for operation of logger devices

**USB 5100**, art. no. 601095  
galvanically isolated interface converter with device power supply via USB

**GNG 5 / 5000**, art. no. 602287  
Plug-type mains adapter 5 V DC, suitable for GMH 5000 series

**GKK 5001**, art. no. 611606  
with cut-outs for 1 device of the GMH 5xxx-/7500 series and accessories for water analysis (395 x 295 x 106 mm)

### Measuring cells

**LF 200 RW**, art. no. 602841  
2-pole stainless steel/Peek, Ø 12 mm, cable length 1 m  
Pure and purest water up to max. 200.0 µS/cm

**LF 210**, art. no. 602969  
2-pole glass/platinum, Ø 12 mm, cable length 1 m  
for alcohol, benzene, diesel, paint 0 .. 1000 µS/cm

**LF 400**, art. no. 602968  
4-pole graphite/plastic, Ø 12 mm, economy, cable length 2 m  
universal use with max. 200 mS/cm

**LF 425**, art. no. 602840  
4-pole graphite/plastic, Ø 16 mm, wide-range, cable length 1 m  
Our best: up to 1000 mS/cm with the highest accuracy

- Additional accessories on request or in our catalogue

### Ordering code

1.  
**GMH 5430** - ☐

| 1.      | Option                                                             |
|---------|--------------------------------------------------------------------|
|         | Device alone (without electrode)                                   |
| 200-L01 | Device, LF 200 RW measuring cell, 2-pole stainless steel/Peek, 1 m |
| 210-L01 | Device, LF 210 measuring cell, 2-pole glass/platinum, 1 m          |
| 400-L02 | Device, LF 400 measuring cell, 4-pole graphite economy, 2 m        |
| 425-L01 | Device, LF 425 measuring cell, 4-pole graphite wide-range, 1 m     |
| Set     | Device, LF425-L01, GKK 5001                                        |

1.  
**GMH 5450** - ☐

| 1.      | Option                                                             |
|---------|--------------------------------------------------------------------|
|         | Device alone (without electrode)                                   |
| 200-L01 | Device, LF 200 RW measuring cell, 2-pole stainless steel/Peek, 1 m |
| 210-L01 | Device, LF 210 measuring cell, 2-pole glass/platinum, 1 m          |
| 400-L02 | Device, LF 400 measuring cell, 4-pole graphite economy, 2 m        |
| 425-L01 | Device, LF 425 measuring cell, 4-pole graphite wide-range, 1 m     |
| Set     | Device, LF425-L01, GKK 5001                                        |