Technical Data basic module

Cable
robust, 2m long spiral cable made from polyurethan with copper core

Housing
impact-resistant, temperature stable synthetic material, (watertight)

protection class: IP65

Power Supply
rechargable batteries 4x 2 V incl. external charger
operation period: up to 15 hours depending on measuring mode and connected sensor

Digital indication
alphanumerical 3 line LC-Display for indication of current value

Operation and Display:
- Display (3 lines, 16 characters 3.65mm)
- 3 keys

Interfaces:
- RS 232 (communication & charging)
- RS 485 (sensor-interface)

Operating Temperature:
- working temperature: -15°C to +50°C
- storage temperature: -40°C to +80°C

Dimensions:
- height 150mm, with handle 225mm; Ø 130mm;
- range of spiral cable: 0,6...2m
- weight without probe: approx. 2,5 kg

Connectable Sensors:
- multiparameter sensor MPS-D3 (V4a steel)
- multiparameter sensor MPS-D8 (V4a steel)
- multiparameter sensor MPS-K16 (plastic)

Sensor Body
non corrosive V4a steel or PVC

Data logger function (optional)

Electronics:

Power consumption in power-down Mode: 140µA
Flash-Controller: M16C 16-Bit with integrated Watch-dog
IC-Clock

Memory: serial Flash-Memory with 1MB (approx. 70,000 measuring values)
Channels: max. 32
Measuring interval: user-selectable > 2 minutes (automatic storage) as well as manual storage possible

Technical Data Sensors

Parameter	Measuring ranges
water level	0...200 m temperature: -5...50°C
temperature	-5...50°C pressure: 0...50 bar
conductivity	0...200mS temperature: -5...50°C pressure: 0...50 bar
total dissolved solids (TDS)	0...200,000mg/l temperature: -5...50°C pressure: 0...50 bar
salinity	0...70 temperature: -5...50°C pressure: 0...50 bar
density	988...1,060 g/l temperature: -5...50°C pressure: 0...50 bar
oxygen (amperometric)	0...40mg/l temperature: 0...50°C pressure: 0...10 bar
oxygen (optical)	0...25mg/l temperature: 0...50°C pressure: 0...10 bar
oxygen saturation	0..400% saturation temperature: 0...50°C pressure: 0...10 bar
pH	0..14 temperature: 0...50°C pressure: 0...20 bar
redox (ORP)	-1,200mV...1,200mV temperature: 0...50°C pressure: 0...20 bar
ammonia	0.01...17000mg/l temperature: 0...50°C pressure: 0...0,5 bar
nitrate	0.4...60,000mg/l temperature: 0...40°C pressure: 0...20 bar
chloride	1...35,000mg/l temperature: 0...50°C pressure: 0...20 bar
ammonium	0.2...18,000mg/ temperature: 0...40°C pressure: 0...1 bar
natrium	0.2..20,000mg/l temperature: 0...50°C pressure: 0...6 bar
calcium	0.5...40,000mg/l temperature: 0...40°C pressure: 0...1 bar
fluoride	0.2...20,000mg/l temperatuer: 0...40°C pressure: 0...1 bar
potassium	0.4...39,000mg/l temperature: 0...40°C pressure: 0...1 bar
chlorophyll a (optical)	0.03…500µg/l Chl a temperature: -2...50°C pressure: 0...60 bar
cyanobacteria (optical)	150...2,000,000 cells/ml temperature: -2...50°C pressure: 0...60 bar
rhodamine WT (optical)	0.04...1,000ppb RWT temperature: -2...50°C pressure: 0...60 bar
turbidity (optical)	0...1,000NTU temperature: 0...50°C pressure: 0...10 bar with wiper 0...20 bar without wiper
total suspendid solids (TSS)	approx. 5 fold measuring range turbidity mg/l temperature: 0...50°C pressure: 0...10 bar with wiper 0...20 bar without wiper

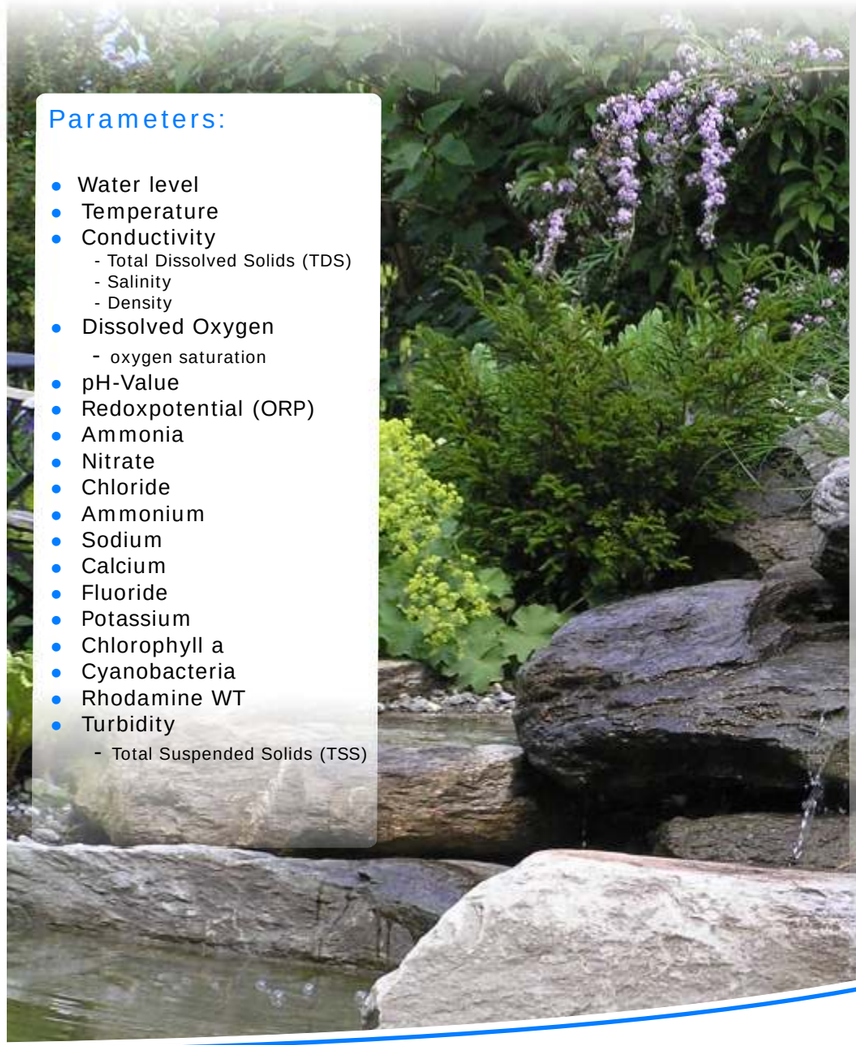
For further information on Multiparameter Sensors please see separate brochure on Water Quality Monitoring.

SEBA Hydrometrie GmbH
Gewerbestr. 61a • 87600 Kaufbeuren/GER
Phone.: +49 (0)8341 / 9648-0
Fax: +49 (0)8341 / 9648-48
E-Mail: info@seba.de
Internet: www.seba.de

represented by:

SEBA Checker-2

Versatile water quality measurement in surface water



Parameters:

- Water level
- Temperature
- Conductivity
  - Total Dissolved Solids (TDS)
  - Salinity
  - Density
- Dissolved Oxygen
  - oxygen saturation
- pH-Value
- Redoxpotential (ORP)
- Ammonia
- Nitrate
- Chloride
- Ammonium
- Sodium
- Calcium
- Fluoride
- Potassium
- Chlorophyll a
- Cyanobacteria
- Rhodamine WT
- Turbidity
  - Total Suspended Solids (TSS)

Checker-2
incl. Multiparameter Probe

Connecting the MPS

Application in river

Mobile water quality measurement

We are certified
ISO 9001:2000
Certificate No. 01110505
Quality is our standard

www.seba.de

B04_Checker-2_e_S1-4_§ 15.10.2008

Quality Measurements with SEBA Checker-2

The SEBA Multi-parameter system Checker-2 has been developed as a mobile field laboratory especially for determination of water quality parameters in surface water.

The Checker-2 has an extremely compact design, easy operation with fast and precise acquisition of various water quality parameters. The current measured values are clearly displayed.

Optionally, the instrument can be equipped with an integrated data logger with a storage capacity of up to 70,000 values for an automatic or manual data recording.

RS 232
Interface & Charging

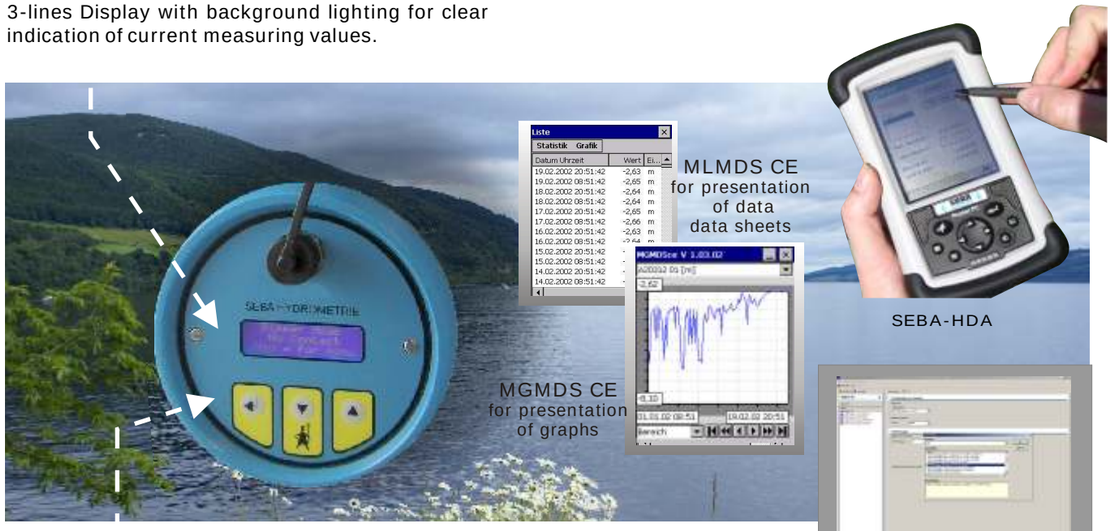
for operation of the data logger, adjustment and calibration of the multiparameter sensors.

Charging of the internal batteries with included charger

Checker-2 in Detail

Display

3-lines Display with background lighting for clear indication of current measuring values.



SEBAConfig operation via Laptop

Operation

The instrument can be operated via 3 watertight keys on the front. It is very user-friendly and menu-guided.

SEBA-HDA

Your alternative to using a Notebook for programming, read-out of the stored files as well as for local visualisation of measuring data.

Multiparameter Sensor

Double plug-in, maintenance-friendly high-quality-steel probe (MPS-D3, MPS-D8) or single plug-in plastic probe MPS-K16 for connection to Checker-2 or KLL-Q-2.

Individually configurable with various sensors (e.g pH, O_2, conductivity etc.)

For a detailed description of possible configurations refer to our Water Quality Monitoring brochure.

RS 485

for connection of the MPS on the backside of the instrument

- Water level
- Temperature
- Conductivity
  - total disolved solids(TDS)
  - salinity
  - water density
- Oxygen
  - Oxygen saturation
- pH-value
- Redox (ORP)
- Ammonia
- Nitrate
- Chloride
- Ammonium
- Sodium
- Calcium
- Fluoride
- Potassium
- Chlorophyll a
- Cyanobacteria
- Rhodamine WT
- Turbidity
  - total suspended solids(TSS)

Data Logger

Full data logger functionality (optional) is possible for the automatic storage of up to 70,000 measured values. Instant logs can be obtained manually at the push of a button, suitable for quick assimilation of water quality profiles.

Read-out and setting of measuring frequency via RS 232-interface with SEBA-HDA or laptop.