



Water quality monitoring

in ground and surface water

Measuring 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)



Multiparameter-sensors



MPS-K16 / Qualilog-16



MPS-D8 / Qualilog-8



MPS-D3 / Dipper-TEC

SEBA-Measuring site Agger association / Agger dam



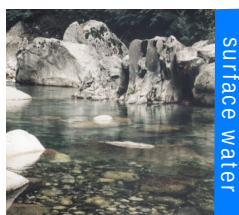
ground water

Electric contact meter type KLL-Q-2



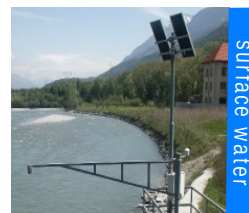
ground water

FlashCom/LogCom intelligent data transmission



surface water

Springs



surface water

Multi-channel data logger MDS-5



surface water

MPS-Checker

Multiparameter sensors MPS

MPS -D3 / -D8 / -K16 and MPS-Qualilog -8 / -16

The SEBA multiparameter sensors MPS represent yet another advancement in the development of the SEBA multiparameter product line.

Equipped for measuring up to 16 different water quality parameters, the instrument provides the highest level of information about the conditions of the monitoring site. Specifically designed for field applications, the MPS sensors can be used under harsh conditions, e.g. in tropical, arid or arctic zones. They are robust enough for all kinds of fieldwork and measure with maximum accuracy. As it is possible to use optical sensors, a long term stability with low maintenance effort is guaranteed.

The calibration process is supported by the user-friendly

calibration software SEBAConfig. The availability of high data quality is the base for proper evaluation of the hydrological environment.

To display the measured values, the MPS sensors can be combined with the SEBA electric contact meter (mainly for ground water) or with the SEBA MPS-Checker (mainly for surface water).

Monitoring sites which have to be supervised continuously can be equipped with the MPS sensors in combination with a SEBA multichannel data logger (e.g. MDS-5) or with an integrated data logger.

MPS-Types

MPS-D3: Digital multiparameter sensor with RS485 output and with up to 3 resp. 4 electrodes in a stainless steel body.

Dipper-TEC: Multiparameter sensor with data logger and electrodes for water level, temperature and conductivity.

MPS-D8: Digital multiparameter sensor with RS485 output and with up to 8 electrodes in a stainless steel body.

Qualilog-8: As MPS-D8 but additionally with data logger.

MPS-K16: Digital multiparameter sensor with RS485 output and with up to 12 electrodes in a synthetic body.

Qualilog-16: As MPS-K16 but additionally with a data logger.

No.	Parameter	MPS-D3	Dipper-TEC	MPS-D8 / Qualilog-8	MPS-K16 Qualilog-16
	minimum Ø	2"	2"	2"	4"
	application in ground water / surface water	✓ / ✓	✓ / ✓	✓ / ✓	✓ / ✓
1	water level (pressure)	✓ only possible with conductivity	✓	✓	✓
2	temperature	✓	✓	✓	✓
3	conductivity - total dissolved solids - salinity - density	✓	Dipper-TEC pls. see separate brochure	✓	✓
4	oxygen - oxygen saturation	✓		✓	✓
5	pH	✓		✓	✓
6	redox (ORP)	✓		✓	✓
7	ammonia	✓		✓	✓
8	nitrate *			✓	✓
9	chloride *			✓	✓
10	ammonium *			✓	✓
11	sodium			✓	✓
12	calcium *			✓	✓
13	fluoride *			✓	✓
14	potassium *			✓	✓
15	chlorophyll fluorometer or cyanobacteria fluorometer or rhodamine WT fluorometer				✓
16	signal at water contact (KLL)	✓		✓	✓
17	turbidity - total suspended solids			✓	✓
	maximum amount of measured parameters	7	6	13	17

All parameters marked with * (No. 8-14) need either the pH or the redox (ORP) electrode to be built in, these values are needed as reference.

Key advantages

- High flexibility: Pluggable to different end units (picture on the right) for mobile and/or stationary applications
- Intelligent construction kit system: further parameters within one type range can be added at any time
- New optical sensor technology: Possible measurement of dissolved oxygen, cyanobacteria, chlorophyll a and rhodamine WT
- Quick and uncomplicated exchange of exhausted electrodes
- Compact design: useable in pipes with min. 2" and 4" (MPS-K) diameters

Technical Data of electrodes

Parameter	Measured range	Accuracy	Resolution	
Pressure	0...100/200/500 m Temperature: -5...50°C	+/- 0,1% of measured end range	0,002%	
Temperature	-5...50°C Pressure: 0...50 bar	+/- 0,1°C	0,01°C	
Conductivity	0...200mS Temperature: -5...50°C Pressure: 0...50 bar	+/- 1µS (0...200µS) +/- 0,5% (> 200µS)	0,001mS	
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	+/- 0,2 (0...16) +/- 0,8% (>16)	0,01	
Density	988...1060 g/l Temperature: -5...50°C Pressure: 0...50 bar			
Oxygen (amperometric)	0-40mg/l Temperature: 0...50°C Pressure: 0...10 bar	+/- 0,5% of measured end range	0,01mg/l	
Oxygen (optical)	0...25mg/l (at 25°C, 1013hPa) 0...40mg/l (at 3°C, 1013hPa) Temperature/Pressure: -5...50°C/0...120 mWts	+/- 0,02mg/l (0...2mg/l) +/- 1% meas. value (>2mg/l)	0,001mg/l	
Oxygen saturation	0...400% saturation Temperature: 0...50°C Pressure: 0...10 bar	+/- 0,5% of measured end range		
pH	0...14 Temperature: 0...50°C Pressure: 0...20 bar	+/- 0,1pH	0,01pH	
Redox (ORP)	-1200mV...1200mV Temperature: 0...50°C Pressure: 0...20 bar	+/- 10mV	0,1mV	
Ammonia	0,01...17000mg/l Temperature: 0...50°C Pressure: 0...0,5 bar	+/- 0,2mg/l (24h) (0...10mg/l) +/- 2% of measured value(24h) (>10mg/l)	0,01mg/l	
Nitrate	0,4...60000mg/l Temperature: 0...40°C Pressure: 0...20 bar	+/- 2mg/l (24h) (0...40mg/l) +/- 5% of measured value(24h) (>40mg/l)	0,01mg/l	
Chloride	1...35000mg/l Temperature: 0...50°C Pressure: 0...20 bar	+/- 2mg/l (24h) (0...40mg/l) +/- 5% of measured value (24h) (>40mg/l)	0,01mg/l	
Ammonium	0,2...18000mg/l Temperature: 0...40°C Pressure: 0...1 bar	+/- 2mg/l (24h) (0...40mg/l) +/- 5% of measured value (24h) (>40mg/l)	0,01mg/l	
Sodium	0,2...20000mg/l Temperature: 0...50°C Pressure: 0...6 bar	+/- 2mg/l (24h) (0...40mg/l) +/- 5% of measured value (24h) (>40mg/l)	0,01mg/l	
Calcium	0,5...40000mg/l Temperature: 0...40°C Pressure: 0...1 bar	+/- 2mg/l (24h) (0...40mg/l) +/- 5% of measured value (24h) (>40mg/l)	0,01mg/l	
Fluoride	0,2...20000mg/l Temperature: 0...40°C Pressure: 0...1 bar	+/- 2mg/l (24h) (0...40mg/l) +/- 5% of measured value (24h) (>40mg/l)	0,01mg/l	
Potassium	0,4...39000mg/l Temperature: 0...40°C Pressure: 0...1 bar	+/- 2mg/l (24h) (0...40mg/l) +/- 5% of measured value (24h) (>40mg/l)	0,01mg/l	
Chlorophyll a (optical)	0,03...500µg/l Chl a Temperature: -2...50°C Pressure: 0...60 bar	+/- 0,1µg/l (0...3µg/l) +/- 3% (>3µg/l)	0,01µg/l	
Cyanobakteria (optical)	150...2000000 cells/ml Temperature: -2...50°C Pressure: 0...60 bar	+/- 500cells/ml(0...1500cells/ml) +/- 3% (>1500cells/ml)	100cells/ml	
Rhodamine WT (optical)	0,04...1000µg/l RWT Temperature: -2...50°C Pressure: 0...60 bar	+/- 0,2µg/l (0... 6µg/l) +/- 3% (> 6µg/l)	0,01µg/l	
Turbidity (optical)	0...1000NTU Temperature: 0...50°C Pressure: 0...10 bar with wiper 0...20 bar without wiper	+/- 0,3NTU (0...10NTU) +/- 3% (>10NTU)	0,01NTU	
Total suspended solids (TSS)	approx. 5 fold measured range turbidity mg/l Temperature: 0...50°C Pressure: 0...10 bar with wiper 0...20 bar without wiper			



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