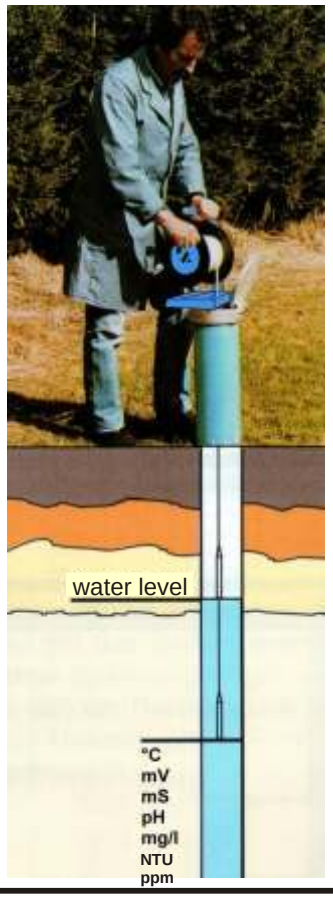
SEBA HYDROMETRIE

Water Quality Dipper KLL-Q

QZV We are certificated ISO 9001 certificate no. 01110505 Quality Is Our Standard



- water level
- temperature
- conductivity
  - total dissolved solids(TDS)
  - salinity
- pH-value
- ORP
- dissolved oxygen
  - saturation oxygen
- turbidity

Water Quality

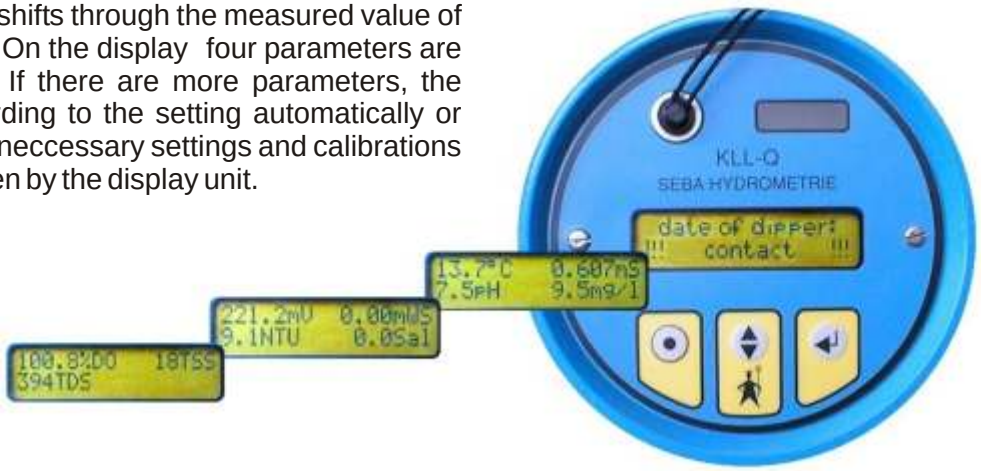
B04_23.06.2004_KLQ_e

System Description

The SEBA Multiparameter Dipper KLL-Q has been developed specifically for the instant determination of groundwater quality values in situ. Profiles in observation boreholes from 2" diameter size upwards are easily obtained, similar to quality measurements in lakes, rivers and the oceans. The portable and compact design is based upon the proven SEBA KLL electric contact meter, with its robust supporting frame and tape drum. The detachable probe is made from high quality stainless steel whilst the standard white printed measuring tape enables precise depth readings to within a centimetre accuracy. The integrated transportation quiver guarantees the fast ready to operate and sure storage of the sensors.

Display

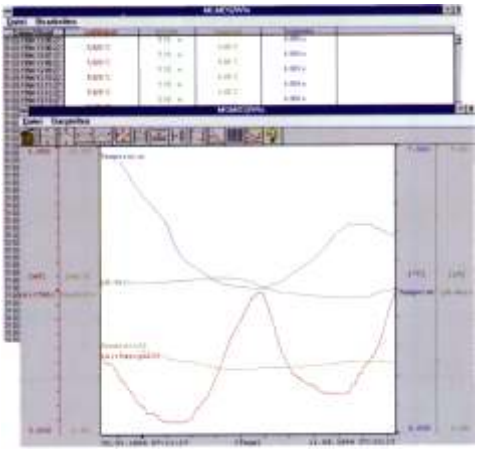
The SEBA KLL-Q is operated via an integrated key pad and liquid crystal display. The unit responds to water contact with indication and tone. At the touch of a button the tone is cancelled and the LCD shifts through the measured value of the quality parameters. On the display four parameters are shown simultaneously. If there are more parameters, the reading changes according to the setting automatically or manually. Additional all neccessary settings and calibrations can be done menu-driven by the display unit.



Memory

As an option, a memory is available for the KLL-Q. Up to 3000 values can be recorded just by pushing a button.

The downloading can be effected with SEBATERM software via an optical RS232 interface port.



Multiparameter Sensor MPS

On the standard KLL-Q the sensor is detachable from the printed tape, enabling easy service or repair. When the sensor is reconnected the microprocessor controlled KLL-Q will automatically recognize different sensors and parameters. Adjusting of range (conductivity) or zero point also runs

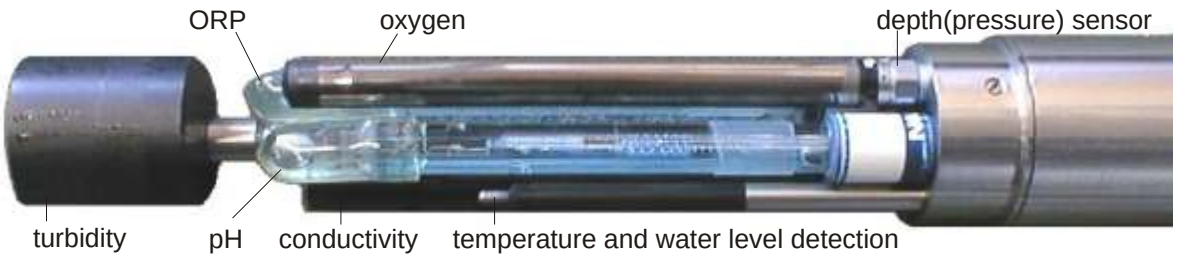
MPS-D small version

<table>
<tr><td>water level contact (KLL)</td><td rowspan="2">temperature</td><td>conductivity
salinity
TDS</td><td>pH</td><td>ORP</td><td>dissolved oyxgen saturation</td></tr>
<tr><td rowspan="2">water level sensor (DS)</td><td colspan="4">One of a. m. electrodes can be used together with water level and temperature</td></tr>
</table>

MPS-D big version

<table>
<tr><td>water level contact (KLL)</td><td rowspan="2">temperature</td><td>conductivity
salinity
TDS</td><td>pH</td><td>ORP</td><td>dissolved oxygen saturation</td><td>turbidity
TSS</td></tr>
<tr><td rowspan="2">water level sensor (DS)</td><td colspan="5">All electrodes can be used together with water level and temperature</td></tr>
</table>

Special attention has been given to the energy-management - so the system shows a warning in the display, if a certain voltage level has been passed. This signalizes, that the remaining capacity is sufficient for approx. 1 hour more. After approx. 30 minutes without function the KLL-Q switches off



All together the new standard of measuring methods at side.

KLL-Q

technical data

basic module

cable
2-cores flat cable, polyethelene V2a-wires and copper core, black cm-division with dm-marks and red m-indications

cable drum
impact resistant, temperature stable synthetic material, with aluminium supporting frame

power supply
rechargable batteries (charging time max. 5 hours) or batteries 8x 1,5 V
operation period: 8...15 hours depending on cable length and configuration of MPS-D

automatical calibration with KLL-Q: (further calibration options with sebaterm-program)

cable length
30, 50, 80, 100, 150, 200, 300, 500 m

digital indication
alphanumerical LC-display for instantaneous indication of measuring values

sensor body
non corrosive stainless steel V4a

dimensions: KLL MPS-D small version
40mm dia, length 410 mm

KLL MPS-D big version
48 mm dia, length 638 mm

KLL MPS-D big version
with turbidity, length 745 mm

sensors

water level
SEBA-pressure sensor

measuring range:	0...5m, 0...10m, 0...20m, 0...30m max. 0...500m
accuracy:	0,1%
operating temperature:	0...50°C
pressure range:	0...50bar

temperature

sensor:	semiconductor sensor
measuring range:	0...50°C
accuracy:	±0,15°C

conductivity

principle:	4-electrode measuring cell
measuring range:	0...500mS/cm with automatic range selection
accuracy:	±0,5% (act. values)
operation temperature:	0...50°C
storage temperature:	-40...+80°C
pressure range:	0...50 bar

salinity

measuring range:	0...42,0
accuracy:	0...0,8% of value

pH - value

measuring range:	0...14 pH
max. error:	±0,1 pH
operation temperature:	0...50°C
storage temperature:	-5...+70°C
compensated range:	0...40°C
pressure range:	0...16bar

ORP

measuring range:	±2000 mV
max error:	±2 mV
operation temperature:	0...50°C
storage temperature:	-5...+70°C
pressure range:	0...16bar

dissolved oxygen

measuring range:	0...40,0 mg/l
accuracy:	±0,5%
operation temperature:	0...50°C
storage temperature:	-5...+70°C
compensated range:	0...40°C
pressure range:	0...6bar

turbidity

measurement method:	90°stray ray (EN27027)
measuring range:	0...50NTU and 50...1000NTU
accuracy:	±0,2NTU (0...5NTU) ±5% (act. values) (5...1000NTU)
operation temperature:	0...50°C
pressure range:	0...50 bar

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