



SEBA
HYDROMETRIE

FlashCom-2 LogCom-2 Groundwater Monitoring - Online

The "intelligent" SEBA Top Piece for data registration and transmission

Key Features

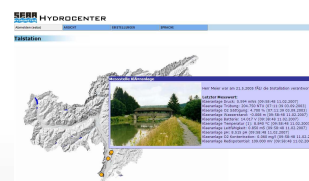
- Data transmission via GSM/GPRS networks:
 - automatic data retrieval
 - Data push to FTP-servers
 - SMS data transmission
 - SMS-Alarm
- Multichannel Data logger with LC-Display
- Suitable for 2" casing
- Battery operation / solar operation
- Reduction of expenses due to longer control intervals
- Option: Bluetooth-Interface



LogCom-2
(battery driven)



FlashCom-2
(solar driven)



Internet-Hydrocenter



LogCom with Floatsens



Configuration work at site



Data Read out with
SEBA-HDA



Water spring monitoring



LogCom-2 with DS22



System Description

The **intelligent SEBA Top Piece** is a sophisticated, compact remote transmission system for an economic control of groundwater monitoring stations. The following characteristics distinguish the SEBA top piece:

1. Compact Construction

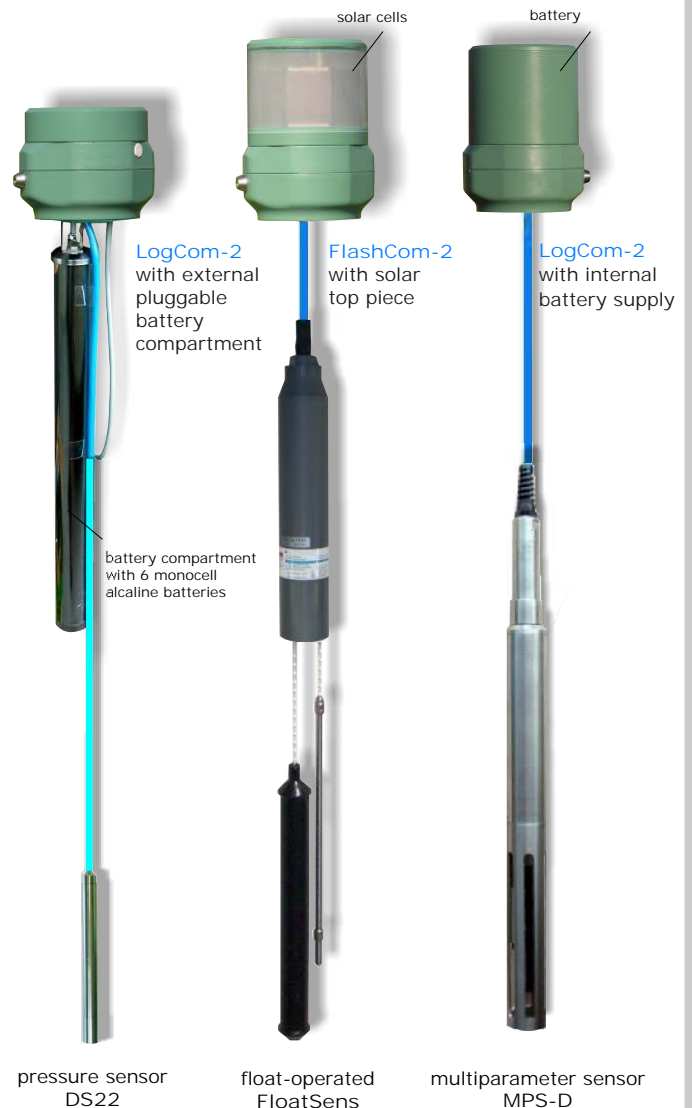
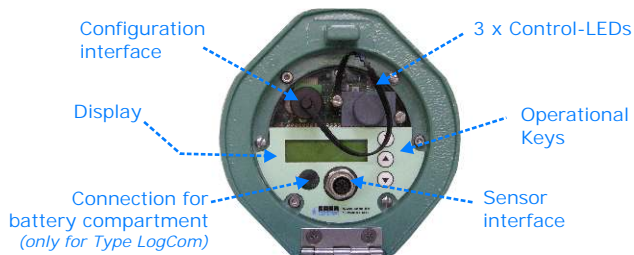
Logger, GSM/GPRS modem, antenna and LC-display are located in the upper hinged housing cover: in comparison to conventional remote transmission systems, the well-casing is freely accessible for possible control measurements (e.g. water level indicator) or sampling procedures etc. The intelligent top piece can easily be mounted onto 4" threaded casings. An installation on 2", 3", 4.5", 5" and 6" well casings is also possible by means of additional supplied adapters.

2. Energy Management

A sophisticated energy management (time-slot procedure) allows a long battery life time which leads also to low maintenance costs. The pluggable battery compartment (LogCom) is installed inside the well casing and can easily be removed without any tools due to the pluggable connections. Therefore a battery change is blindingly easy! With the optional additional solar cap battery changes become completely unnecessary.

3. Automatic data transmission and SMS-Alarm

With the comfortable data retrieval software **DEMASole**, both LogCom-2 and FlashCom-2 can transfer their data up to 8 times per day in individually programmable time slots. Independantly, alarm limits can be defined (e.g. water level, battery capacity ...) SMS alarms can be sent up to 8 different mobile phone numbers, as well as by email (GPRS) or via a provider to a facsimile instrument. Alternatively, data transmission is possible in push-operation to an FTP-Server. Registered data can also be sent via SMS if necessary.



Sensors directly connectable to LogCom-2/FlashCom-2

Water Level:

- with float-operated **FloatSens**
- with pressure sensor **DS 22**
robust, high precise differential pressure sensors with extreme long-term stability;
stainless steel encapsulation;
special cable with pressure compensation tube.

Water level/ -temperature:

- Combined sensor **DST-22** with special cable and pressure compensation tube
For measuring water level and water temperature with extreme long-term stability.

Water quality:

- multiparameter sensor **MPS-D** for measurement of
 - water level
 - water temperature
 - conductivity
 - salinity
 - pH-value
 - ORP
 - dissolved oxygen
 - turbidity
 - etc.

Operation with SEBA-HDA or notebook

The adjustment and programming of the [intelligent SEBA Top Piece](#) can be conducted with a notebook, an interface cable and the userfriendly configuration software SEBA Config. Alternatively to the notebook, SEBA recommends the trailworthy, handy SEBA HDA (Hydrological Digital Assistant) and HDA-Nomad.

SEBA-HDA - a tough and robust hand-held!

Robust PDA for tough field operations and an alternative to the notebook. Vibration, impact, dust and water resistant magnesium housing according to IP 67 for the operation between -30°C and +60°C. Operation time up to 30 hours on one charge. Simple operation resp. input of parameters (i.e. of control values) via TFT colour LC-touchscreen or stylus.

Included in delivery:



Operation software SEBA-ConfigCE for an easy programming, adjustment and operation of SEBA water level observers, as well as for the transmission of the stored values to a PC.



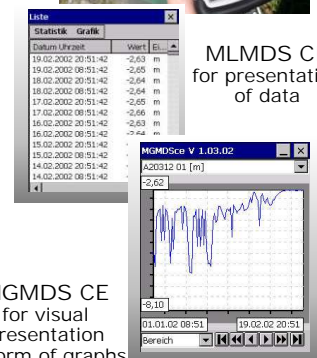
Evaluation software MGMTS/MLMDS CE for plausibility check of logged measuring data in form of hydrographs and lists.



SEBA-HDA with SEBAConfigCE



MLMDS CE
for presentation
of data



MGMDS CE
for visual
presentation
in form of graphs

Automatic monitoring data retrieval with DEMASole or with Hydrocenter via Internet

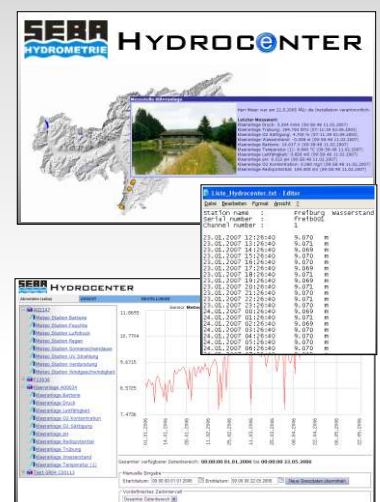
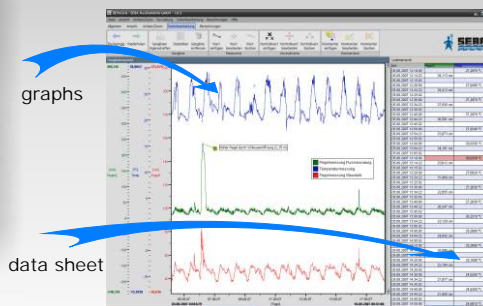
Storage of data (SQL-data base) with [DEMASdb](#)
and Visualisation of measuring values (graphs/lists) with [DEMASvis](#)

In order to conduct an automatic monitoring data retrieval from the LogCom-2 / FlashCom-2, the comfortable DEMASole software is implemented and the data can automatically be stored in DEMASdb. DEMASdb offers a comfortable graphical user interface, an automatic data retrieval software (DEMASole) as well as an evaluation module (DEMASvis) which includes various calculation functions. Standardly, DEMASdb is delivered with a Paradox data base. Optionally, DEMASdb can also be integrated into an already existing data base (e.g. Oracle, MySQL).

DEMASdb enables a simple data management of monitoring networks of various extents: small (10 sensors), middle (50 sensors) and large (> 100 sensors).



graphical user interface



- Client/Server operation, network capability, user administration
- **DEMASole**: data retrieval of monitoring stations
via GSM/GPRS, satellite, landline or TCP/IP
- **DEMASvis**: evaluation of measuring data (multi-graphs, multi data sheet)
- **DEMASdb**: storage of monitoring data (SQL-database connection)
- Alarm in case of exceeding of predefined thresholds (e.g. FAX, SMS, Email)
- Export of monitoring data to other software (automatically)

Technical Data (LogCom-2/FlashCom-2)

Electronics:

- consumption (in power down mode): < 80µA
- peak current (modem transmitting): max. 500mA
- serial flash memory with 4 MB (approx. 280.000 values)
- Flashcontroller 16bit with integrated watch-dog
- RTC (battery-backed)
- logical channels: up to 32 channels
- A/D converter 16 bit



Operation and Display:

- 3 lines, each 16 characters, 3,65mm (for indication of current measuring value, time, date, status)
- Keypad with 3 function keys (easy operation)

Inputs:

- RS485 Sensor interface (SHWP)
- Up/down counter input, phase counter, impulse (rain)
- 2 contact inputs (control, protocol)
- 2 analogue (bi/unipolar) for standard signals (e.g 0-1V, 4-20mA etc.)
- 1 SDI-12

GSM/GPRS modem (integrated):

- Frequency: 850/900MHz/1800/1900MHz (EGSM, Quadband), GPRS
- HF output max: 2W (850/900 MHz); 1W (1800/1900 MHz)
- SIM-Card: 1,8V / 3V
- electric current: 50mA/9VDC (receipt) 0.5A (transmission)
- FTP-Push Operation: in ZRXP or D-channel format
- SMS transmission: in Binary format

Interface/s:

RS 232

Option: Bluetooth 
(additional external module)

SMS-Alarm:

8 x SMS-Alarm to a mobile phone
SMS-Alarm to facsimile instrument
freely adjustable

Time-Slots:

Power Supply:

LogCom-2:
operation time: 6x1,5V Alkali-Manganese batteries
> 2 years @ 1 call/day
(depending on the quality of the GSM connection)

FlashCom-2:

operation time: solar operation
sufficient for 1 query/day
(other query intervals upon request)

Housing:

Aluminium, IP67

Dimensions: Ø 168 mm, height 133 mm
Solar cap = Ø 168 mm, height 220 mm

Antenna:

integrated in the top of the protection housing
robust, impact resistant and weatherproof

Operation temperature: -20°... +70°C

SEBA sensors

Pressure Sensor DS-22

for waterlevel registration

- high accurate, robust and long-term stable pressure transducer with stainless steel housing
- accuracy: < ± 0,1% = < 1cm WS at 10m measuring range
- long-term stability: < 0,1% /year
- measuring ranges: 2,5; 5,0; 10,0; m waterlevel etc.
- special cable for pressure transducer (food safe!) with integrated pressure compensation tube (length up to 300m)



Combined sensor DST-22:

for waterlevel and water temperature registration

Float-operated Floatsensors:

for registration of waterlevel

- SMD-Technique with automatic test routines
- 16 Bit microprocessor
- Watch-Dog to observe the CPU activities
- Serial communication interface RS 485
- Real-Time-Clock (RTC)
- encoder
- Power supply with changeable Lithium battery sufficient for >5 years (with 60 min. interval)
- operation temperature: -20... +70°C
- watertight PVC housing
- dimensions: Ø 40mm, length 280mm
- installation device for top pieces of min. 2"



Multiparameter Sensor MPS-D

for monitoring of water quality parameters:

- water level
- water temperature
- conductivity
- pH/Redox
- dissolved O₂
- turbidity etc.
- special cable (food-safe!) with integrated compensation tube (length up to 300m)



further technical information (further parameters) please see separate brochure on Waterquality Monitoring.

Read-out & Operation



HDA
hydrological
digital assistant



HDA-Pro
robust Tablet-PC

technical data HDA and HDA-Pro pls see separate brochure

The right is reserved to change or amend the foregoing technical specification without prior notice.



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