Flood Control / Alarm Systems

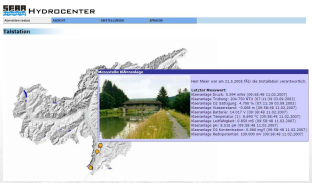
Monitoring of rivers, lakes and flood control basins

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-operated)

FlashCom-2
(solar-operated)



Internet-Hydrocenter

Surface Water

Flood forecasting

groundwater

Data Retrieval with SEBA-HDA

Surface Water

water level monitoring
in river

groundwater

Construction site monitoring

groundwater

Flood Control Basin

QZV
We are certified
ISO 9001:2008
Certificate No. 01150509
Quality is our standard

System Description

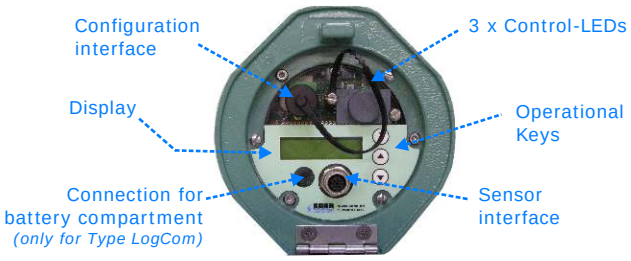
The SEBA flood control system is a sophisticated, compact remote transmission system for an economic control of groundwater monitoring stations. Following characteristics distinguish the SEBA top piece:

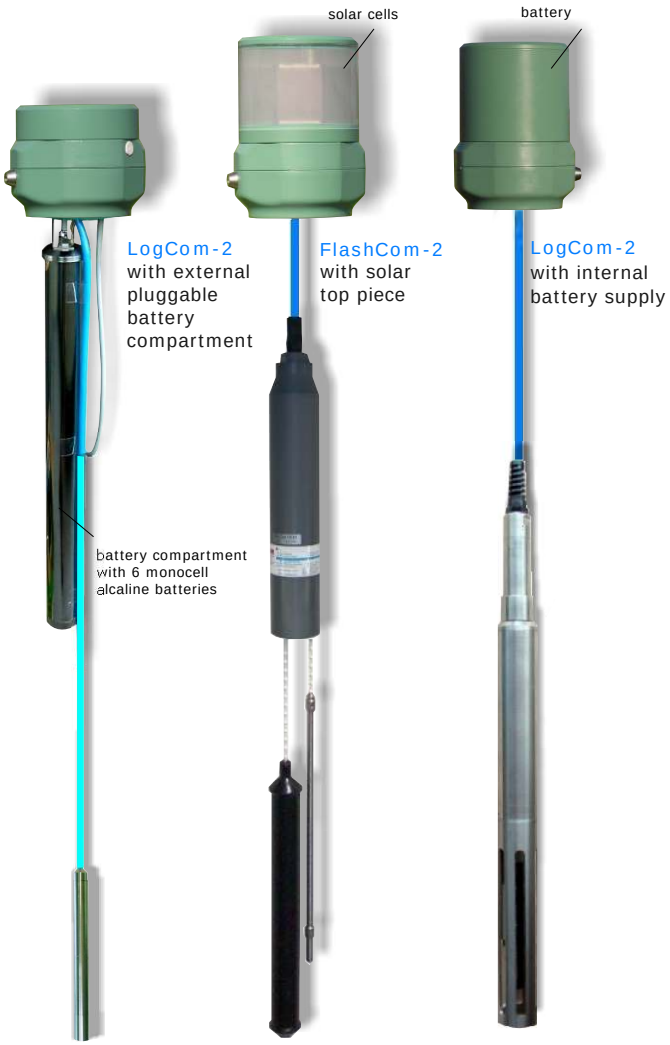
The compact and robust construction enables easy mounting of the level observer in open areas on a 4" casing with winding. Depending on the location, the sensor (e.g. pressure sensor) can be installed in an existing 4" well together with the SEBA Top Piece (e.g. on a sheet pile, bridge groundwork) or as as separate solution by means of an additional protection tube (1") which is installed in the water. This keeps the costs for setting up an alarm station rather low! An installation on 2", 3", 4.5", 5" and 6" well casings is also possible by means of additional supplied adapters.

A sophisticated energy management (time-slot procedure) allows a long battery life time which leads to low maintenance costs. With an optional additional solar cap any battery changes can be avoided.

The SEBA flood control system can individually be equipped with various sensors according to the user's needs.

Function principle:
With he comfortable data retrieval software DEMASole , theflood control system 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 neccessary.





pressure sensor DS22 | float-operated FloatSens | multiparameter sensor MPS-D

Measuring sensors directly connectable to LogCom-2/FlashCom-2

We offer a variety of sensors for the above mentioned configuration possibilities, depending on your measuring task and local conditions:

Water level:

- float-operated sensor FloatSens
- 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 DS/T with special cable and pressure compensation tube
  For measuring water level and water temperature with extreme long-term stability

Water Quality:

- Waterquality Sensor **MPS-D**
  for measurement of:
  - Water level
  - Water temperature
  - Conductivity
  - Salinity
  - pH-value
  - ORP (Redox potential)
  - Dissolved oxygen
  - Turbidity

  etc.

Operation with SEBA-HDA or notebook

The adjustment and programming of the Flood Control System 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 Assistent) 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.

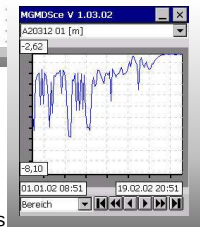
Included in delivery:

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 MGMDS/MLMDS CE for plausibility check of logged measuring data in form or hydrographs and lists.

SEBA-HDA
with SEBAConfigCE

MLMDS CE
for presentation
of data



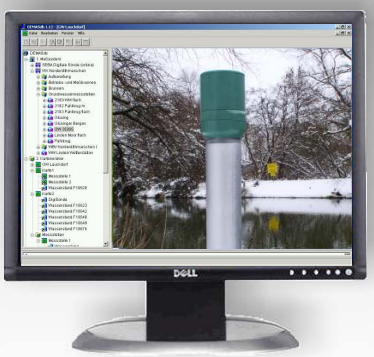
MGMDS CE
for visual
presentation
in form of graphs

Automatic monitoring data retrieval with DEMASole or with Hydrocenter via Internet

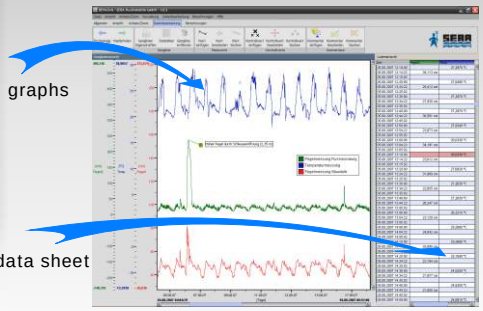
Storage of data (SQL-data base) with DEMASdb and Visualisation of measuring values (graphs/lists) with DEMASvis

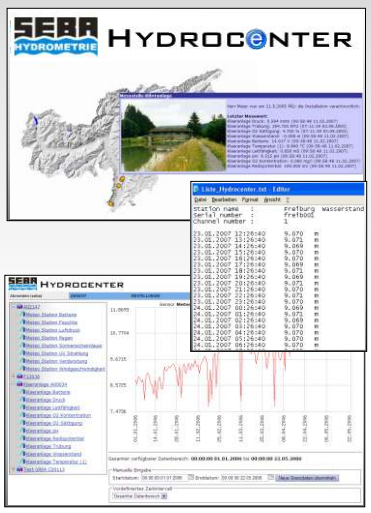
In order to conduct an automatic monitoring data retrieval from the flood control system LogCom-2 / FlashCom-2, the comfotable DEMASole software is implemented and the data can automatically be stored in DEMASdb. DEMASdb offers a comfortable graphical user interface, an automatic data retrieval software (DEMASole) as well as an evaluation module (DEMASvis) which includes various calculation functions. Standardly, DEMASdb is delivered with a Paradox data base. Optionaly, 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 (Flood Control System)

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

Time-Slots: freely adjustable

Power Supply:

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

FlashCom-2: solar operation
operation time: 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 (fodo safe!) with integrated pressure compensation tube (lenght up to 300m)

Combined sensor DST-22:
for waterlevel and water temperature registration

Float-operated Floatsens:
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 O_2
- 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 specifcation without prior notice.

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

represented by: