Flood Control / Alarm Systems

Monitoring of rivers, lakes and flood control basins

Brief Description

- Fast and reliable alarm systems via SMS
- Automatc data retrieval
- Data transmission via GSM/GPRS
- Suitable for operation in well casings starting from 2"
- Battery/Solar panel operation
- Lowcost installation & Easy Handling
- Option: with Bluetooth-interface

LogCom

FlashCom

SEBA HYDROMETRIE HYDROCENTER

Internet-Hydrocenter

Flood Control Basin

groundwater

Flood forecasting

surface water

Data Retrieval with SEBA-HDA

groundwater

Construction site monitoring

groundwater

We are certified
ISO 9001:2000
Certificate No. 01110505
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!

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 Top Piece can individually be equipped with various sensors according to the user's needs:
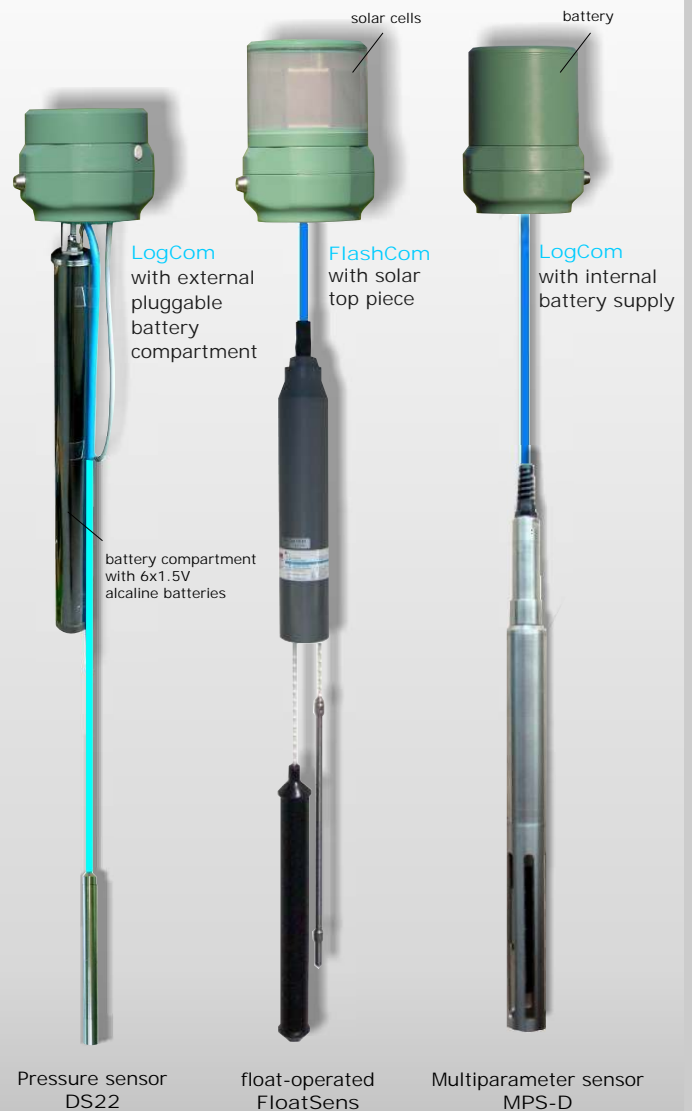
Function principle:

Whenever a threshold value of up to 4 freely programmable parameters (e.g. water level, battery capacity etc) is transgressed, an SMS alarm is sent to upt to 8 different mobile phone numbers.

Additionally to the alarm function, the measured data can be transmitted to a PC via GSM/GPRS. The data are moreover stored inside the integrated data logger. The measuring intervals can be configured freely.

With a notebook or your SEBA HDA and an interface cable, the recorded values can comfortably be downloaded via the RS 485 interface or wireless via Bluetooth (option).

The intelligent SEBA- Top Piece

solar cells   battery

LogCom
with external
pluggable
battery
compartment

FlashCom
with solar
top piece

LogCom
with internal
battery supply

battery compartment
with 6x1.5V
alcaline batteries

Pressure sensor
DS22

float-operated
FloatSens

Multiparameter sensor
MPS-D

Measuring sensors directly connectable to LogCom/FlashCom

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

Adjustment and programming of the intelligent SEBA Top Piece can be done with a notebook, an interface cable and our userfriendly configuration software. Alternatively to the notebook, we recommend our rugged and handy SEBA HDA (Hydrological Digital Assistent):

SEBA-HDA "tough and robust companion"

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.

Easy operation resp. input of parameters (e.g. of control values) via TFT colour LC-touchscreen or stylus.
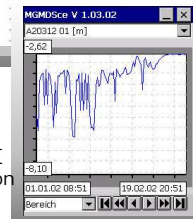
Included in the delivery:

- Operation software SEBA-WBedienCE for simple programming, adjustment and operation of SEBA water level observer, as well as for transmission of the stored values to PC.

- Evaluation software MGMDS/MLMDS CE for plausibility check of stored measuring data in form of graphs and data sheets.

SEBA-HDA
with WBedienCE

MLMDS CE
for presentation
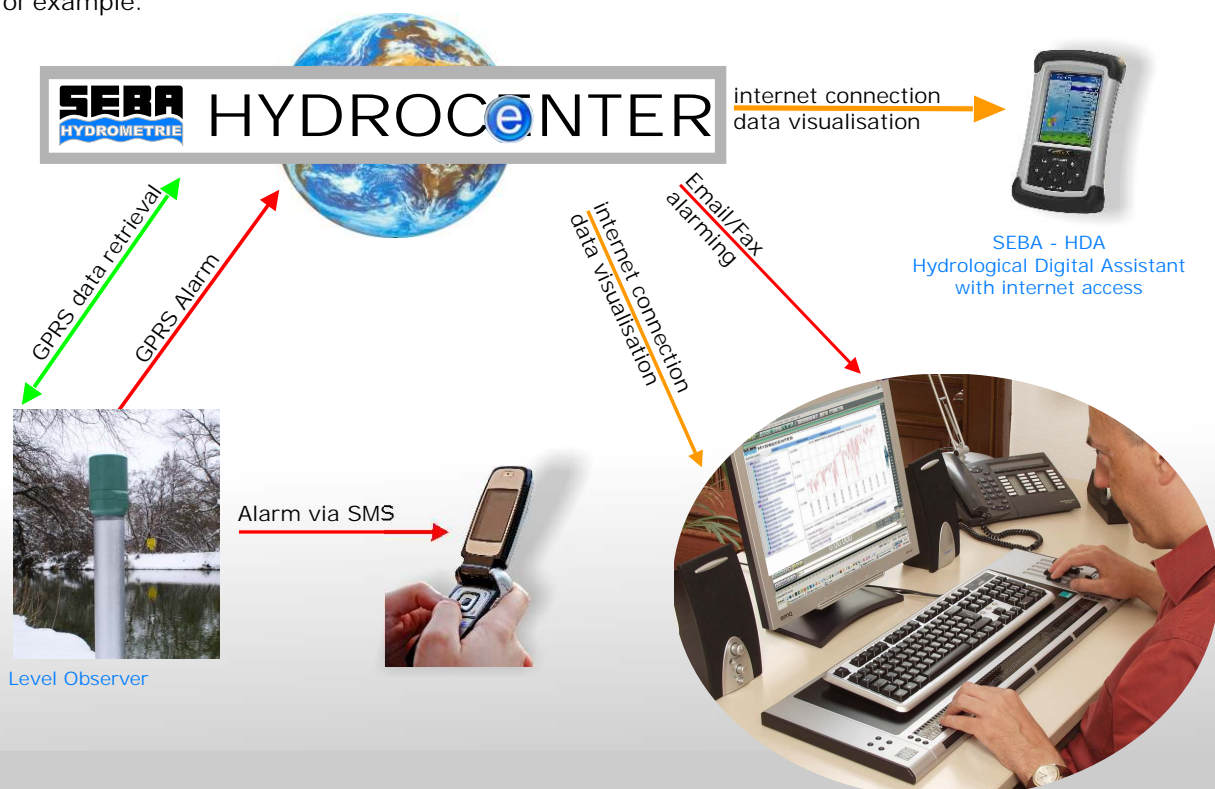in form of
data sheets

MGMDS CE
for presentation
as graphs

Automatic Data Retrieval via SEBA-Hydrocenter

If you would like to retrieve your data more comfortably and remotely, you can visualise the measuring data in form of graphs and data sheets on our internet platform SEBA-Hydrocenter - either routinely (e.g. once a day) or in case of an alarm (transgression of preset threshold values). Those data can then be downloaded for further use. In order to assure a high battery-durability, the data are only called at preset times.

In case of an emergency (e.g. flooding), the data can be downloaded at much shorter intervals (e.g. once per hour) and transmitted instantly to the SEBA-Hydrocenter (timeslot procedure)
For a constant availability of measured data, an additional power supply is neccessary. This can be done by solar panels for example.

SEBA HYDROMETRIE HYDROCeNTER

internet connection
data visualisation

SEBA - HDA
Hydrological Digital Assistant
with internet access

GPRS data retrieval

GPRS Alarm

internet connection
data visualisation

Email/Fax
alarming

Alarm via SMS

Level Observer

Technical Data SEBA Top Piece (LogCom/FlashCom)

for GSM/GPRS 900/1800MHz- networks

Housing:	Aluminium, watertight IP67 dimensions:
	LogCom: Ø168mm, height 133mm
	FlashCom : Ø168mm, height 220mm
Data logger:	integrated with MDS or DDP protocol
	Memory: 512K for 240,000 values
	option: 1MB for 480,000 values
	option: 2MB for 960,000 values
Modem:	GSM standard 850/900/1800/1900MHz (EGSM, Quadband), GPRS
Operation:	with 3V- SIM-cards
Antenna:	integrated in the top of the protection housing robust, impact resistant and weatherproof
Interfaces:	RS232
	option: Bluetooth

Display:	1 x 8 digits LC-display for indication actual measuring value clock, date, status
SMS-Alarm:	8 x SMS-alarm to mobile phone SMS-alarm to FAX
Time slots:	free programmable
Power supply	
LogCom:	6x1.5V Alkaline batteries (Mono, LR1, Am1, size D)
Operation time:	>2 years in case of 1 query/day (depending on the quality of the GSM connection and measuring interval)
FlashCom:	solar operation
Operation time:	sufficient for 1 query/day (other query intervals on request)

SEBA Sensors

Pressure sensor DS22 for water level registration
· high accurate, robust and long-term stable
  pressure transducer with stainless steel housing
· accuracy: <±0.1% = < 1cm WS
  at 10 m measuring range
· long-term stability: <0.1% /year
· measuring ranges: 2.5; 5.0; 10.0 m water level etc.
· special cable for pressure transducer (food safe)
  with integrated pressure compensation tube (length up
  to 300m)

Combined sensor DS/T-22:
for water level and water temperature registration

Float-operated Floatsens:
to measure the water level
· SMD-technique with automatic test routines
· 16 Bit microprocessor
· Watch-Dog to observe the
  microprocessor activities
· Serial communication interface RS 485
· Real-time clock
· Encoder
· Power supply with changeable Lithium
  battery sufficient for >5 years
  (with 60 min. interval)
· Operation temperature range: -20…+70°C
· Watertight PVC housing
· Dimensions: Ø 40mm, length 280mm
· Installation device for top pieces of min. 2"

Multiparameter Sensor MPS-D
for measuring water quality
· Water level: 0..10m, 0..20m, 0..50m etc.
· Water temperature: 0..25°C, 0..50°C
· Conductivity: 0..2mS, 0..10mS, 0..100mS etc.
· pH/Redox(ORP): 0..15pH / ±2000mV
· Dissolved oxygen: 0..40mg/l; 0..400%
· Turbidity: 0..1000NTU
· special cable (food safe!) with integrated pressure
  compensation tube (length up to 300m)

Further technical data please see
leaflet Water Quality Monitoring

Operation Terminal HDA

Dimensions:	165 x 95 x 45 mm (LxWxH)
Weigth:	490 g including battery
Protection class:	IP 67
Drop:	26 falls from 1.2m on concrete
Operating temperature:	-30°C until +60°C
Humidity resistance:	MIL-STD 810F method 507.4
Processor/memory:	Intel PXA 255 X-Scale CPU RECON200 - 200 MHz, 64 MB SDRAM, 64 MB NAND Flash
Display:	QVGA, 240 x 320 Pixel, colour TFT display with touchscreen and front light
Battery:	3,800mAh NiMH-Batterie for 12 – 30 hours operating depending on operation mode
Operating system:	Windows Mobile 6.0
Connections:	1 x USB-B Slave (12 Mbps), 1 x RS232 (115 Kbps) 1 x charging, 2 x CF-slots type II
Keyboard:	10 keys, on screen query softkeyboard for input of alphanumeric signs

included in delivery:
· battery-charger
· connection cable PDA-PC
· software SEBAConfig CE
· software MGMDS/MLMDS CE
  for presentation of data sheet and graphs

SEBA-HDA

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

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