



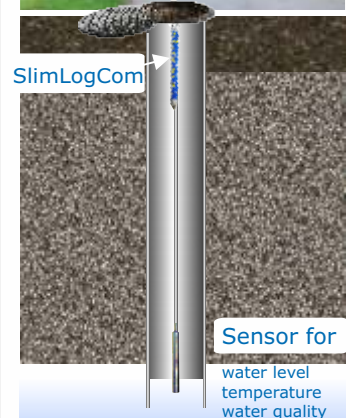
# SlimLogCom

## Groundwater Monitoring - Online

Data collection and transmission of water level and quality

### Key Features

- Data transmission via mobile network:
  - automatic data retrieval
  - Data push to FTP-servers
  - SMS data transmission
  - SMS-Alarm
- Time-Server synchronisation
- Memory for 1.120.000 values
- Possibility of event-driven data acquisition
- Watch-dog function for safe operation and high data security
- Cost reduction due to longer control intervals
- for observation tubes starting from  $\text{Ø } 1 \frac{1}{2}''$
- Subsurface installation possible



Subsurface installation



Internet-Hydrocenter



Longtime Monitoring



Groundwater Monitoring site



Measuring site installation



Fresh water reservoirs



Flow measurement



Configuration with SEBA-HDA-Tablet



# System Description

The transmission and datalogging system **SlimLogCom** is a **miniature data transmission system** with integrated data logger for an economic control of groundwater monitoring stations. The following features are characteristic for the **SlimLogCom** System:

## 1. Compact Construction

Our **SlimLogCom** module with integrated modem and antenna is suitable for installation in observation wells starting from 1 1/2" diameter. For observation wells 2" or bigger, control measurements with electric contact meters (KLL) are possible without removing the system from the casing.

## 2. Energy Management

Standardly, the system comes with four 1,5V Alkali manganese batteries. A sophisticated energy management (time slot procedure) provides high battery lifetime and therefore a minimum amount of maintenance. A battery change is blindingly easy.

## 3. Automatic call of the measuring sites and SMS alarm

The **SlimLogCom** System can be called comfortably in individually programmable time slots via the software DEMASole. Independently, alarm limits can be defined (e.g. water level, battery capacity). SMS alarms can be sent to up to 8 different mobile phone numbers, as well as by email 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 SlimLogCom

### Water level:

- with DS22

measuring ranges:  
0-2, 0-5, 0-10, 0-20 m

accuracy  
± 0,1% = <1cm WL  
at 10m measuring range

dimensions: Ø 22 mm  
182 mm length



### Water level/Temperature:

- with DST-22

as DS22  
incl. temperature sensor

measuring range:  
0°...25°C  
(further ranges upon request)

accuracy:  
± 0,1°C

dimensions: Ø 22 mm  
182 mm length



### Water quality:

- with MPS-PTEC, MPS-D8

for monitoring of  
parameters like:

- water level
- conductivity
- pH
- etc.

further technical information on the MPS  
please see Waterquality brochure

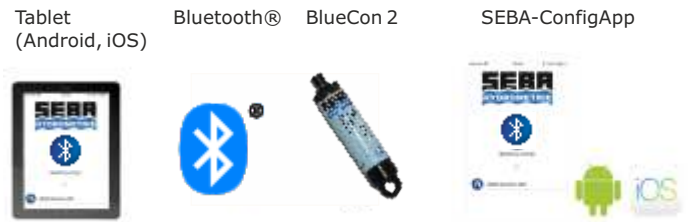
dimensions:

MPS-PTEC Ø 22mm  
MPS-D8 Ø 48mm



# Operation with SEBA-HDA-Tablet 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-Tablet.



## SEBA ConfigApp

The users of tablet PCs and smartphones can also use SEBA-Config on their devices.

With SEBA-ConfigApp for Android and iOS operating systems, programming is clear and simple. With just one click, the retrieved time series are delivered to the user in the form of graphs and/or a list for plausibility checking.



# Automatic monitoring data retrieval with DEMASole or with Hydrocenter via Internet

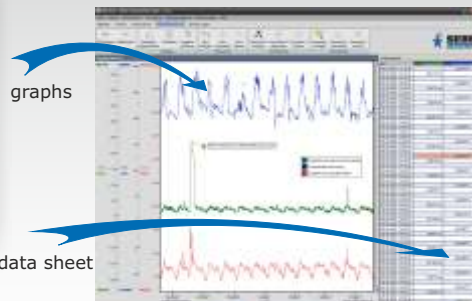
## Storage of data (SQL-data base) with DEMASdb and Visualisation of measuring values (graphs/lists) with DEMASvis

In order to conduct an automatic monitoring data retrieval from the SlimLogCom, 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. 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).

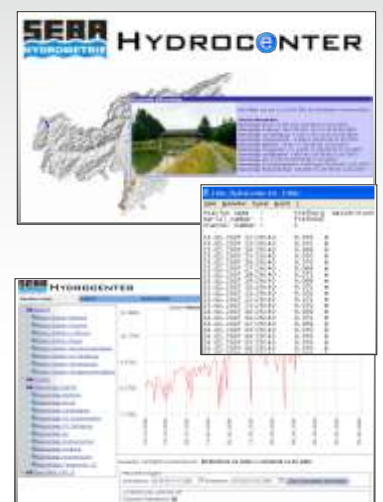


graphical user interface



graphs

data sheet



- Client/Server operation, network capability, user administration
- **DEMASole**: data retrieval of monitoring stations via mobile data, satellite 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 SlimLogCom

## Electronics:

- consumption (in power down mode): < 50µA
- peak current (modem transmitting): max. 500mA
- serial flash memory with 16 MB (approx. 1.120.000 values)
- Flashcontroller 32bit with integrated watch-dog
- RTC (battery-backed)
- logical channels: up to 32 channels
- A/D converter 16 bit

## 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.)

## Modem: 3G

**Supported networks:** GSM/GPRS/EDGE/UMTS/HSDPA/HSDPA+  
**Frequencies:** 850/900/1700/1900/2100 MHz (Worldwide)

## Modem: 4G

**Supported networks:** GPRS/EDGE/UMTS/HSDPA/HSDPA+/LTE  
**Frequencies:** 800/900/1800/2100/2600 MHz (Worldwide)

**Modem:** GSM: only SMS-alarm and SMS-push; no GSM-retrieval



## 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:

**Standard:** 4x1,5V Alkali-Manganese batteries  
 operation time: > 1 year @ 1 call/day

## Housing:

aluminium, IP67  
 dimensions: Ø 35 mm, height 380 mm  
 height incl. antenna 420 mm

## Antenna:\*)

screwed on, robust, weather-proof  
 standardly with dualband mini rod antenna

**Operating temperature:** -20°...+70°C

\*) Possibility to connect external antenna (e.g. subsurface antenna, Puck antenna, angle rod antenna etc.)

# SEBA Data logger

## Pressure Sensor DS-22

for water level registration

- high accurate, robust and long-term stable pressure transducer with stainless steel housing
- accuracy: <math>< \pm 0,1\% = < 1\text{cm WS}</math>  
 at 10m measuring range
- long-term stability: <math>< 0,1\% / \text{year}</math>
- 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

## Multiparameter Sensor MPS-PTEC/MPS-D8

for monitoring of water quality parameters:

- waterlevel
- water temperature
- conductivity
- pH/Redox
- dissolved O<sub>2</sub>
- turbidity etc.

- special cable (food-safe!) with integrated compensation tube (length up to 300m)

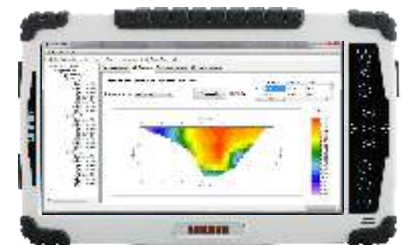


further technical information (further parameters) please see separate brochure on Waterquality Monitoring.

## Read-out & Operation



HDA-Tablet



HDA-Pro  
 robust Tablet-PC

technical data HDA-Tablet 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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