



Operation via:



Bluetooth LE



Android



Apple



Windows

Data Logger LogCom/FlashCom

The „intelligent“ SEBA Top Piece for data registration and transmission

- Robust, compact multi-channel data logger with an integrated cellular modem
- Impact-resistant aluminum housing with threaded connector, optimised for level tubes of Ø 4"
- Either with an external battery or integrated solar module (type FlashCom)
- Backlit LCD with three multi-function buttons to display current measured values and system states
- Transfer Options: mobile data call, FTP Push, TCP push, SMS push, SMS Alarms
- Can be connection to DS(T)-22, MPS-PTEC/-D8/-K16 and other external sensors

System Description

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

1. Compact Construction

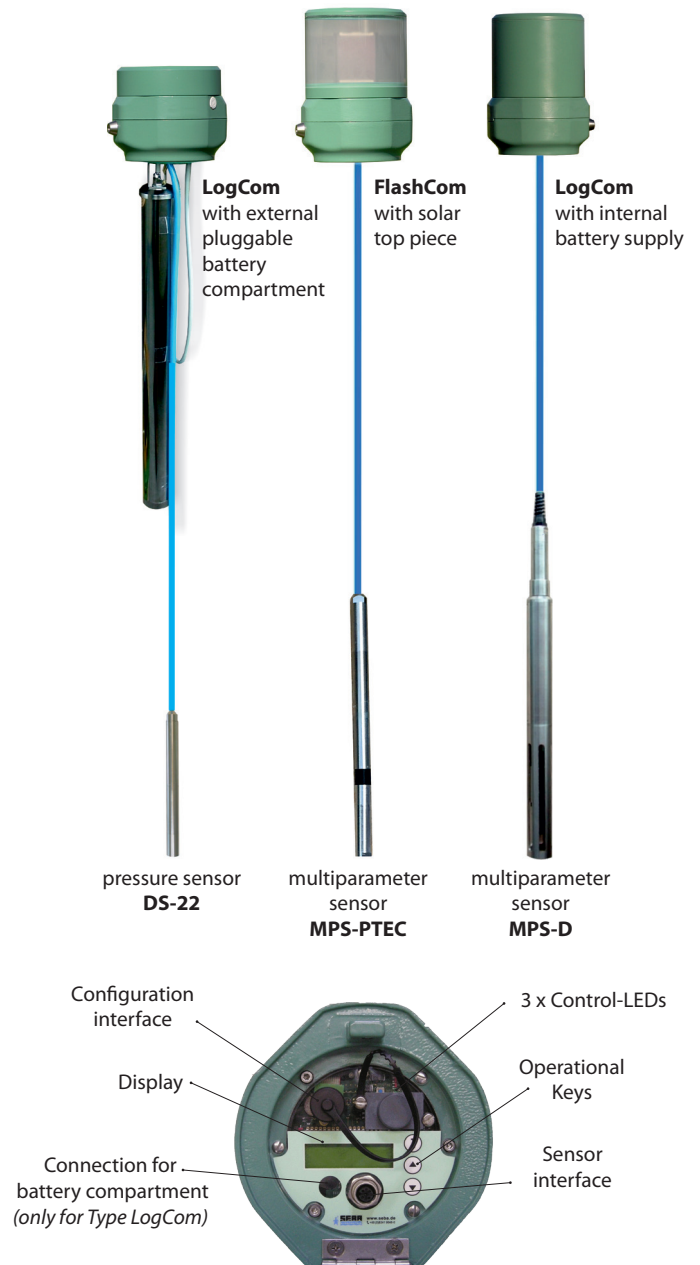
Logger, modem, antenna and LC-display are located in the upper hinged housing cover: in comparison to conventional remote transmission systems, the well-casing is freely accessible for possible control measurements (e.g. water level indicator) or sampling procedures etc. The intelligent top piece can 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 and FlashCom 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 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/FlashCom

Water Level

- **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-PTEC/ MPS-D3/ MPS-D8/ MPS-K16** for measurement of:
 - water level
 - water temperature
 - conductivity
 - salinity
 - pH-value
 - ORP
 - dissolved oxygene
 - turbidity
 - etc.

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 SEBAConfig. Alternatively to the notebook, SEBA recommends the trailworthy, handy SEBA HDA-Tablet.

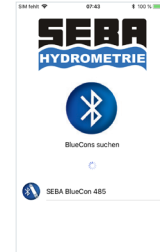
Tablet (Android, iOS)



Bluetooth® BlueCon 2



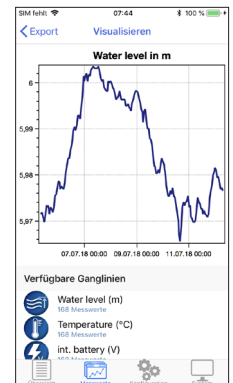
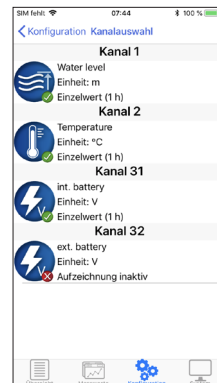
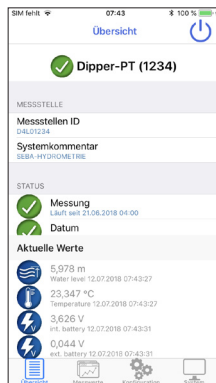
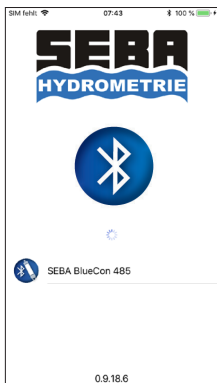
SEBA-ConfigApp



SEBAConfigApp

The users of tablet PCs and smartphones can also use SEBAConfig 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 LogCom/FlashCom, 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).

- 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

Sensors:	DS(T)-22, MPS-PTEC, MPS-D3, MPS-D8, MPS-K16		
Logger:	Controller:	LogCom/FlashCom:	32 Bit Flash controller with integrated WatchDog
			RTC-IC Real-Time Clock
	Memory capacity:	LogCom/FlashCom:	16 MB (= 1.120.000 measuring values)
	Save interval:	LogCom/FlashCom:	2 min - 99 hours
	Channels:	LogCom/FlashCom:	max. 32
	Measurement routines:	LogCom/FlashCom:	single value, average value, event clock, Delta Mode
	Communications Interface:	LogCom/FlashCom:	RS 232 (standard), Bluetooth® (optional)
	Operation:	LogCom/FlashCom:	Interface cable (USB/RS 232), BlueCon 2 (Bluetooth®)
	Inputs:	LogCom/FlashCom:	digital: 1 x RS 485 (SHWP) for digital SEBA sensors, 1 x pulse
			analog: 2 x 0-1 V, 0/4-20 mA
Housing:	Material:	LogCom/FlashCom:	cast aluminum
	Dimensions:	LogCom:	Ø 168 mm, height 133 mm
		FlashCom:	Ø 168 mm, height: 220 mm
	Display:	LogCom/FlashCom:	3-line LCD display
	Keyboard:	LogCom/FlashCom:	3 multi-function buttons
	Protection class:	LogCom/FlashCom:	IP 67
	Fastening:	LogCom/FlashCom:	4" Whitworth internal thread
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		
Power supply:	LogCom:	6 x 1.5 V alkaline manganese Size D* batteries (* Suspended battery compartment)	
	FlashCom:	solar cells with a buffer battery	
Operating temperature:	LogCom:	-40 °C ... +85 °C	
	FlashCom:	-40 °C ... +65 °C	

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

Contact:

SEBA Hydrometrie GmbH & Co. KG • Gewerbestraße 61 A • 87600 Kaufbeuren • Germany
Telefon: +49 (0) 8341 96 48 - 0 • E-Mail: info@seba.de • Web: www.seba.de