SEBA HYDROMETRIE

LogCom-Q, UniLogCom-Q, Q-Modul

Flow module for stationary and mobile operation

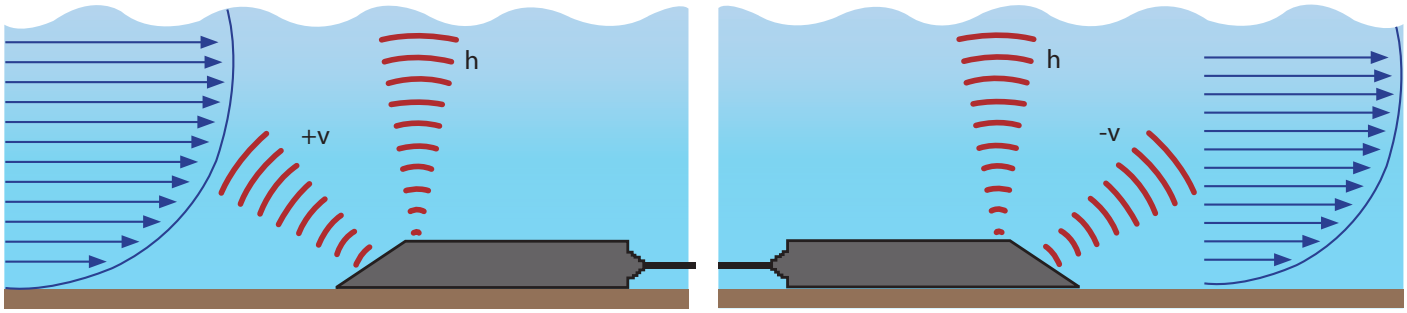
- Robust, compact, multi-channel data logger with an integrated cellular modem optimised for continuous flow measurement in small channels, streams and partially filled pipes.
- Available in various formats LogCom-Q with an impact-resistant aluminum protective housing, suspended battery compartment and a threaded connection for monitoting well pipes of Ø 4“ and UnilogCom-Q for installation in existing protective housings / switch cabinets
- LCD with three multi-function buttons to display current measured values and system state (Option: Backlit LCD)
- Vertically or horizontally insertable, 1.04 MHz pulse-doppler-sensor for detecting flow velocity profiles in max. 18 cells
- Integrated ultrasonic sensor for precise measurement of water level (0.1 % FS) up to 1.3 m
- Transfer Options: mobile data retrieval, FTP Push, TCP push, SMS push, SMS Alarms
- Connection options for additional sensors (e.g. SEBA pressure probe DS(T) 22)

D12_LogCom-Q_UnilogCom-Q_S1_4_e 13.08.2024

System Description

The flow rate is measured in up to 18 layers by an ultrasonic flow velocity sensor using the pulse Doppler method. An average flow velocity in the detection area of the sound beam is then calculated from these values. The total flow at the measurement cross-section is determined from the average flow velocity, the water level and the channel profile information.

This measurement method is suitable for free flowing water and backed up water. The data for water level, average flow velocity and calculated flow rate are stored locally in a battery-operated data logger and transmitted via mobile network to a central station.



Measurement against (left) and with flow direction (right).

The intelligent SEBA cap

The Q-module is an integral part of the data logger LogCom-Q in the intelligent SEBA cap. By means of this measuring system the parameters being watched are measured, saved and transmitted. The intelligent SEBA cap is a sophisticated and compact data transmission system for an economic control of surface water monitoring stations.
The following characteristics distinguish the SEBA cap:

Compact Construction

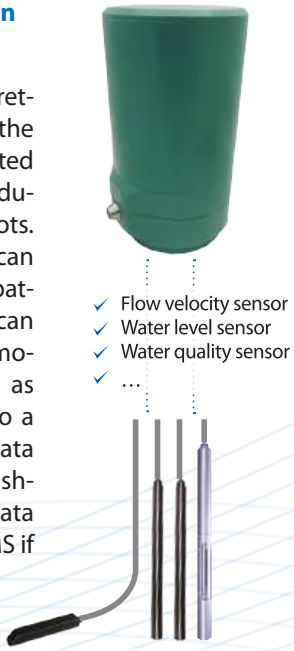
Logger, cellular modem, antenna and LC-display are located in the upper hinged housing cover: in comparison to conventional remote transmission systems the measurement location is freely accessible. The intelligent cap can easily be mounted onto 4" threaded casings. An installation on 2", 3", 4.5", 5" and 6" well casings is also possible by means of additionally supplied adapters.

Energy Management

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

Automatic data transmission and SMS-Alarm

With the comfortable data retrieval software (DEMASole) the measured data can be collected from the LogCom-Q in individually programmable time slots. Independently, alarm limits can be defined (e.g. water level, battery capacity ...), SMS alarms can be sent up to eight different mobile phone numbers as well as by e-mail or via a provider to a fax machine. Alternatively, data transmission is possible by push-operation to an FTP-server. Data can also be sent via binary SMS if necessary.

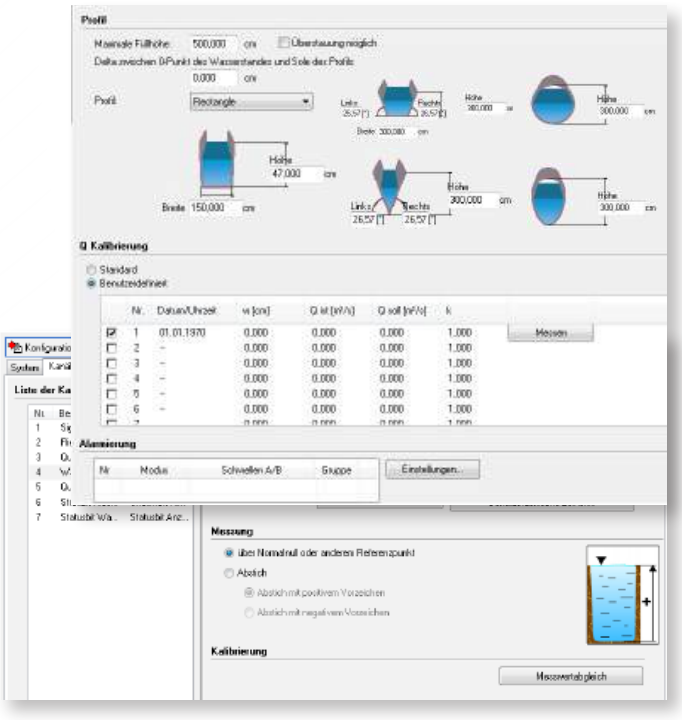


The Q-module can also be used as an external module with other sensors and data loggers (e.g UniLogCom).

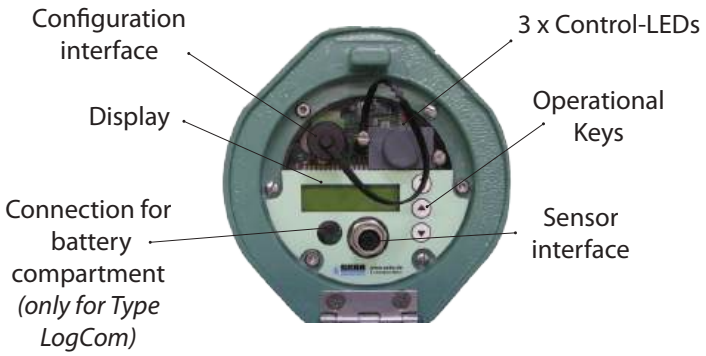
Operation with SEBA-Config

The operating software SEBAConfig offers various additional functions to simplify the operation and the configuration. The profile configuration is conducted by the following steps:

- Definition of the input channels with scaling in the basic SI unit used for calculation
- Definition of profile with the profile shapes: rectangle, trapezo , V-profile, round profile, egg-profile and mouth-profile
- Calibration: The calibration factors can either be specified explicitly, or automatically calculated by simply entering the current reference value.



Technical data



Combi sensor:	PSC
Parameters:	Flow velocity [m/s]
Sensor:	Ultrasonic pulse Doppler
Measurement principle:	Ultrasound doppler
Acoustic frequency:	1.04 MHz
Measuring range:	± 5.1 m/s (with backflow detection)
Measuring accuracy:	± 2 % FS
Particle concentration:	> 50 ppm
Number of Cells:	Max. 18 ** Depending on the water level*
Profile sector:	0.31 m - 2.44 m
Cell size:	1.7 cm - 13.6 cm ** Depending on the water level*
Parameters:	Water level [m]
Sensor:	Ultrasound
Measurement principle:	Ultrasound
Measuring range:	0.04-1.30 m
Measuring accuracy:	± 1.2 % FS
Housing:	
Material:	Epoxy
Dimensions:	110 x 25 x 15mm (L x W x H)
Protection class:	IP 68
Fastening:	Base plate
	Adaptable to clamping rings of DN200-1450
Operating temperature:	0 °C ... +60 °C
Cable length:	10 m (Standard), max. 80 m

Logger:	LogCom-Q
Controller:	32 Bit Flash controller with integrated WatchDog
	RTC IC Real Time Clock
Memory capacity:	16 MB (= 1,120,000 readings)
Save interval:	2 min - 99 hours
Channels:	max. 32
Measurement routines:	Single value, average value, event clock, Delta mode
Communications Interface:	RS 232 (standard)
	Bluetooth® (optional)
Operation:	Interface cable (USB/RS 232)
	BlueCon 2 (Bluetooth®)
Inputs:	Digital: 1 x RS 485 (SHWP) for combination sensor and other digital SEBA sensors, 1 x pulse
	Analog: 2 x 0-1 V, 0/4-20 mA
Housing:	
Material:	cast aluminum
Dimensions:	Ø 168 mm, Height: 265 mm
Display:	3-line LCD display
Keyboard:	3 multifunction buttons
Protection class:	IP 67
Fastening:	4“ Whitworth internal thread
Modem 4G:	
Supported transmission:	GPRS/EDGE/UMTS/HSDPA/HSDPA+/LTE, GSM (SMS alert)
Frequencies:	4G: B1, B2, B3, B4, B5, B7, B8, B9, B12, B13, B14, B18, B19, B20, B25, B26, B28 I 3G: B1, B2, B4, B5, B6, B8, B19 I 2G: B2, B3, B5, B8
Operating temperature:	-40 °C ... +65 °C
Q-module:	
Material:	Aluminium
Dimensions:	175 x 160 x 105 mm (L x W x H)
Interfaces:	RS 485 (SHWP)
Protection class:	IP 65

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

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