



## Product overview

- Noise level and frequency logger
- Pressure and flow measurement
- Correlators
- Ground microphones
- Accessories
- Water test vans
- Software

# SEBAKMT – SINCE 1951

## Company profile

SebaKMT is a world-wide known developer and producer of measurement equipment for locating leaks in drinking water distribution networks. For over 60 years we have been a partner to all significant operators of water networks. Our products make an important contribution to the reliable - and thus to the economic - operation of our customer's installations.

Since 2012 we are member of the **Megger** Group.

## Sites

SebaKMT has representatives in **130 countries** worldwide, with excellently trained staff and the most modern technology. With that we have the most comprehensive service and consulting network in the industry.

## Seminars

In our water seminars, you will learn about the latest processes and technologies that enable early leak detection in your drinking water systems, which helps you reduce costly water losses. Whether you need simple acoustic leak detection, zone measurements, or the latest high-tech equipment for permanent network monitoring – we'll show you how to minimize water losses and save hidden costs.

## Assignments abroad

### From Germany, for the world.

Water is important for all countries in the world. Particularly in conflict-affected regions, our presence on site and our technology provide rapid reconstruction of destroyed water supply systems.

## Memberships



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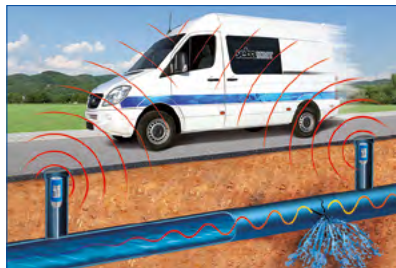
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# NOISE LEVEL AND FREQUENCY LOGGER

## Sebalog N-3 mobil

### Network-compatible noise level loggers for acoustic zone monitoring

- Audible and visual leak detection
- Stores noise level and frequency
- Audio data recorded directly in the logger
- History function and comparison of measured data
- Real-time measurements
- TNC version with external antenna available



### Operating principle

Water escaping a leak under pressure causes the pipe wall to vibrate. These vibrations can be sensed acoustically on valves using the latest noise level logger technology. Sebalog N-3 noise level loggers not only detect the noise level of a leak, but also the frequency. Using both these factors, the leak probability can be determined, as well as the relative leak position in relation to adjacent loggers. User-friendly computer software as well as the established SebaKMT „easy-GO“ principle help the user to locate leaks efficiently.

### Technical data

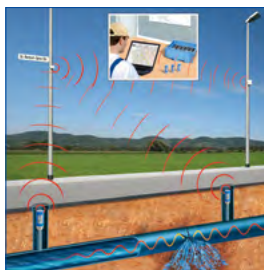
Sebalog N-3 logger	
Dimensions	115 x 45 mm Ø
Gewicht	400 g
Power supply	Internal Li-ion battery
Operating time	5 years in standard conditions
IP rating	IP 68
Operating temperature	-20 °C ... +60 °C
Measured data memory	100 days
Transmission power	80 m, depending on local conditions
Interface	Bi-directional wireless transmission

# NOISE LEVEL AND FREQUENCY LOGGER

## Sebalog N-3 network

### Automatic leak location – correlating network

- Daily data transmission
- No time-consuming patrol of individual loggers
- Remote configuration
- Most simple installation process
- Cost-effective data transmission
- Correlation function



### Operating principle

Time is most important when detecting and locating leaks. The latest monitoring systems, such as the Sebalog N-3 noise logger network, are therefore designed to identify existing leaks, to detect new leaks as fast as possible, and thus minimise losses in the network in the long term.

The Sebalog N-3 network provides you with the latest measured data on a day-to-day basis. Automatic data transmission saves you the time-consuming task of patrolling each logger. It also offers a wide range of analyses, such as the ESA value or the history function, so that you can track the condition of the network over a long period. This means critical sections of the network are easy to identify and there won't be any nasty surprises.

### Technical data

Sebalog N-3 network	
Number of loggers per GSM box	Max. 50
Number of SIM cards for an inter-network connection	1
Typical service life of a GSM box	3 years under standard conditions
Typical service life of other components	5 years under standard conditions
Communication	Bi-directional wireless transmission



[www.sebakmt.com/n3-network](http://www.sebakmt.com/n3-network)



# NOISE LEVEL AND FREQUENCY LOGGER

## GSM Transmitter 3

### Portable GSM Data Transmitter for Sebalog N-3 and Sebalog P-3

- Offers remote data transmission
- Fits even into small valve boxes
- Uses field replaceable batteries
- Is fully submersible
- Operates Wireless
- Carries data from up to three devices



### Operating principle

Patrolling noise and pressure loggers is time consuming and costly. The GSM Transmitter 3 (GT-3) can save you this trouble. It is designed to transmit data collected by noise and pressure loggers from the site to your office. Using GSM/GPRS, on site patrolling is no longer necessary. Save time, money and monitor your network from the office with the GT-3.

Small and fully submersible, the GSM Transmitter 3 is specifically designed to fit into valve boxes and hydrant chambers.

Up to three devices can be connected to the GSM Transmitter 3 - a benchmark in cost efficiency for GSM data transmission out of an underground chamber.

### Technical data

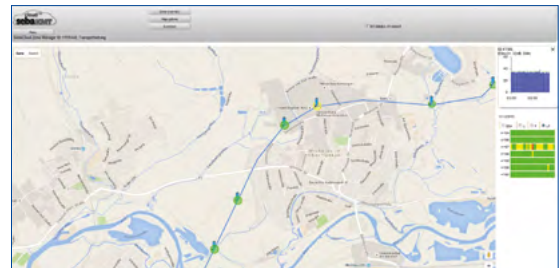
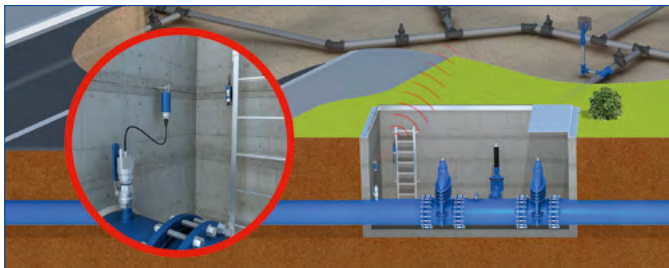
GMS Transmitter 3	
Dimensions (incl. antenna)	44 x 44 x 124mm (44 x 44 x 160mm)
Weight	225 g
Power supply	2 x AA 1.5 V Lithium
Operating time	Up to 2 years
Operating temperature	-20 °C ... +60 °C
Data transmission	GPRS / GSM
Alarm targets	Text message, email
Communication	Bi-directional radio
IP protection class	IP 68

# NOISE LEVEL AND FREQUENCY LOGGER

## TMM – Trunk Main Monitoring

Permanent monitoring system for pipelines

- Quick and easy to programm
- Short installation times
- Measurement parameters can be configured remotely



### Operating principle

The TMM system consists of the three already successfully used individual components GT-3 (GSM transmitter), N-3-Hydro (data logger) and the PAM Hydro-3 (highly sensitive hydrophone sensor).

The system can be installed in the maintenance shaft of your pipeline within minutes with relative ease. For measuring with the PAM Hydro-3 hydrophone sensors you need access to the water column. This can be done via standard connections such as GeKa or bulkhead couplings.

The measuring procedure is simple: The N-3-Hydro data logger receives and saves the measurement data via the connecting line on the hydrophone. Depending on the measuring period programmed, the GT-3 then transmits the saved data to the SebaCloud web software via GPRS.

### Technical data

GSM transmitter GT-3	
Dimensions (incl. antenna)	44 x 44 x 124 mm (44 x 44 x 160)
Weight	225 g
Power supply	2 x AA 1.5 V lithium
Operating time	Up to 2 years
Operating temperature	-20 °C ... +60 °C
Data transmission	GSM / GPRS
Alerting system	Text message, email
Communication	Bi-directional wireless
Protection class	IP68
Data logger N-3-Hydro	
Dimensions	115 x 45 mm
Weight	289 g
Power supply	Internal battery
Operating time	Up to 5 years
Protection class	IP68
Operating temperature	-20 °C ... +60 °C
Communication	Bi-directional wireless
Hydrophone PAM Hydro-3	
Dimensions	110 x 64 mm
Weight	400 g
Power supply	Logger / correlator
Protection class	IP68
Operating temperature	0 °C ... +60 °C
Connections	1.5" thread
Communication	Connection cable 3 m

**Watch video at**  
[\*\*www.reduce-nrw.com\*\*](http://www.reduce-nrw.com)

# PRESSURE AND FLOW MEASUREMENT

## SebaFlow

### Continuous zone monitoring and flow measurement with ultrasonics

- Maintenance-free flow measurement
- Early leak detection
- Installation without supply interruption
- No chamber construction necessary
- Precise measurements even at low flow rates



### Operating principle

SebaFlow enables the continuous flow and zone monitoring of a pipe network section (DMA District Metering Area) through the use of ultrasonics. Installation is managed without interrupting the water supply by means of attaching sensors to the outside wall of the pipe. SebaFlow is robust and maintenance-free, allowing installation without chamber construction.

SebaFlow operates regardless of the material. This means measuring or monitoring is possible on all types of pipe.

All the data collected is sent via GSM modem to an FTP server. Using the SebaCloud or SebaDataView, the measured data can be easily read and evaluated.

### Technical data

Measurement unit	
Operating range	max. DN 2500
Power supply	230 V external; battery operation possible
USV (battery-buffered)	up to 48 h (5 h charging time)
Operating temperature	-30 °C to +100 °C
Recording	1 s to 24 h
Measurement range of the sensors	
Flow speed	0.001 m/s to 25 m/s
Resolution	0.025 cm/s
Reproducibility	0.25% of measured value $\pm 1$ cm/s
Volumetric flow	1.8% of measured value $\pm 1$ cm/s
Dimensions	
Distribution box without base	350 x 272 x 1300 mm
Distribution box with base	350 x 272 x 1710 mm
Measurement unit	max. 560 x 126 x 120 mm



Watch video at [www.reduce-nrw.com](http://www.reduce-nrw.com)





# PRESSURE AND FLOW MEASUREMENT

## Sebalog D-3

### Pressure and flow rate data loggers with GPRS

- Simple installation
- Alarms conveniently sent to smartphone
- Memory for over 1 million readings
- Remote configuration via GSM / GPRS / 3G / UMTS
- Compact and robust design for maximum safety



### Operating principle

Thanks to its compact and robust design and the totally waterproof housing, the Sebalog D-3 data logger is very hard-wearing. It reliably informs you of the flow rate status from the pressure and flow measurements in your supply network on up to 4 channels. It sends the latest data automatically on a day-to-day basis via GSM / GPRS / 3G or UMTS to your control centre or saves it in the specially developed SebaCloud.

Great emphasis was placed on user-friendliness with the Sebalog D-3. It supports online measurements on all channels which enables you as the user to access any saved measurement data and up-to-date readings at any time from the convenience of your smartphone.

The Sebalog D-3 alarm feature can inform you immediately if there is a significant change in the pressure level or flow rate.

### Technical data

Features	
Protection class	IP 68
Temperature range	-20 °C to +60 °C
Status control	LED
Weight	900 gr.
Dimensions	185 mm x 115 mm
Power supply	
Internal lithium battery	5 year service life (standard)
External battery (rechargeable)	optional
External power supply via VK 76	12 V 1.5 A
Inputs (max. 4)	
Digital	4, frequency / pulse
Analogue	2. 0 ... 5 V / 0 ... 20 mA
Relay inputs	2
Relay outputs	2
Data entry	
Integr. pressure sensor	0 - 16 bar (standard), 25 bar, 35 bar
Measurement interval	1 sec - 24 h
Internal memory	up to 1.7 million readings
External memory	SebaCloud
Alarm feature	text message, email

## Sealog P-3-Mini

Small and robust logger for pressure monitoring and pressure surge recording

- Pressure surge recording using very short measurement intervals
- Virtually indestructible housing with protection class IP 68
- Fits in every shaft due to extremely compact design
- Long operating time and very large data storage



### Operating principle

The Sealog P-3-Mini is the ideal device for monitoring pressure in water supply networks. When registering a rapid rise in pressure, the measurement interval of the logger is automatically reduced to 10 Hz, enabling the exact course of a pressure surge to be precisely analysed later.

The extremely robust housing of the Sealog P-3-Mini makes it particularly suitable for continuous use in the field. Furthermore, the compact design of the pressure logger constitutes a great advantage in shafts with limited mounting space.

With the Sealog P-3-Mini it is possible to get a wireless readout without opening a shaft lid and to remotely download data with ease in combination with the GSM Transmitter 3.

The Sealog P-3-Mini has numerous setting options and its huge storage capacity also allows it to carry out measurements at short intervals over extended periods of time.

### Technical data

Sealog P-3 Mini	
Measuring range	0 ... 25 bar
Dimensions (W x H)	120 x 63 mm Ø
Weight	ca. 365 g
Protection class	IP 68
Operating temperature	-20 °C ... +60 °C
Power supply	Internal lithium battery
Battery life	approx. 5 years or 10 million measured values
Memory	> 1.500.000 readings
Interface	Bi-directional wireless transmission
Maximum error of pressure sensor	1 %
Sampling rate for pressure surge measurements	0.1 s
Log interval	1 s ... 24 h

# PRESSURE AND FLOW MEASUREMENT

## Sebalog P-3

Pressure logger especially for drinking water suppliers

- Ideal for pressure surge measurements
- Freely adaptable for all connection types
- Highly accurate pressure sensor
- Low height
- Large data memory
- Wireless data transmission



### Operating principle

The Sebalog P-3 is a pressure logger, especially developed for the requirements of drinking water suppliers. It is used for short-term measurements, in permanent installations for pressure monitoring and for determining pressure surges.

Due to its small size, the Sebalog P-3 easily fits into all underground hydrants. Depending on the application, additional adapters (e.g. Storz or BS) can be easily attached to fasten the logger. This enables flexible use of the logger for all types of connections.

The pressure logger is additionally equipped with a venting valve to maximise measurement accuracy. A unique feature of the pressure logger is the wireless data transfer, which allows the user to communicate with the logger even when the hydrant covers are closed or inaccessible. The data can be read and analysed in real time, using a wireless display (Reader-3) or a radio receiver (LOG RI).

### Technical data

Sebalog P-3	
Pressure level	0 ... 25 Bar
Dimensions	110 x 96 mm Ø
Weight	approx. 1 kg
IP protection class	IP 68
Operating temperature	-20 °C ... +60 °C
Power supply	Internal lithium battery
Operating time	> 5 years or 10,000,000 measurements
Memory	> 1.500.000 readings
Interface	Bi-directional wireless transmission
Maximum error of pressure sensor	1 %
Sampling rate for pressure surge measurements	0.1 s
Log interval	1 s ... 24 h

# PRESSURE AND FLOW MEASUREMENT

## UDM 300

### Portable ultrasonic flow meter

- Very high measurement accuracy (also bidirectional)
- Accurate even at extremely low flow rates (e.g. minimum night flow)
- Successful even with difficult pipe material (e.g. reinforced concrete pipes)



### Operating principle

The UDM 300 is an extremely robust and easy-to-operate device for monitoring flows temporarily. The non-invasive installation of sensors on the outside wall of the pipe takes only a few minutes, yet the recorded data have a very high accuracy and reproducibility.

The standard 1 MHz sensors of the UDM 300 allow high-quality measurements even on pipes made of difficult material (e.g. glass-fibre reinforced plastic or reinforced concrete). We offer our extremely powerful 0.5 MHz sensors as an option for pipe diameters up to 3,100 mm.

The ability of the UDM 300 to measure bidirectionally and to detect very low flow rates makes it an ideal device for identifying potential leaks using volume comparisons. Precisely because of its high resolution in the low flow range, the UDM 300 is also used to determine the minimum night flow of isolated areas of the network (called DMAs).

### Technical data

Measurement	
Measuring principle	Ultrasonic transit time difference correlation method
Measuring range of flow velocity	0.01 to 25 m/s
Resolution	0.025 cm/s
Reproducibility	0.25% of measured value $\pm$ 0.01 m/s
Medium	Water with gas and solid content < 6% of the volume
Measurement error (volume flow)	$\pm$ 2% of measured value $\pm$ 0.01 m/s
Measured values	Volume flow, mass flow, flow rate
Quantity counter	Volume, mass
Sensors	
<b>Maximum nominal width:</b>	
1 MHz sensor pair	50 to 1,500 mm
0.5 MHz sensor pair	100 to 3,100 mm
2 MHz sensor pair	25 to 400 mm
Cable length	12 m
Protection class	IP 68 Test conditions: 3 months / 2 bar (20 m water column)
Operating temperature	-40 to +100 °C

# PRESSURE AND FLOW MEASUREMENT

## UDM 500

### Portable Ultrasonic Flow Measurement of Liquids

- Portable device
- Modern non-invasive clamp-on technology
- Usable for all materials
- Exact measurement during low flow conditions
- Installed within 10 minutes



### Operating principle

The UDM 500 is a portable ultrasonic measurement device, especially designed for the tough circumstances on site. The small, light weight and modern housing ensures a comfortable working. Due to the non-invasive clamp on technology the UDM 500 can be installed very quickly and without interrupting the network. The ultrasonic method makes the measurement independent from the pipe material. An integrated data logger with a capacity of more than 100.000 values in combination with a powerful Li-ion battery with 14 hours operating time make sure that the device is ready for use all the time and also for long term measurements.

Two addressable flow channels are saving a second main unit. A serial interface enables the UDM 500 to communicate with the computer software where the data from the internal logger will be evaluated and stored

### Technical data

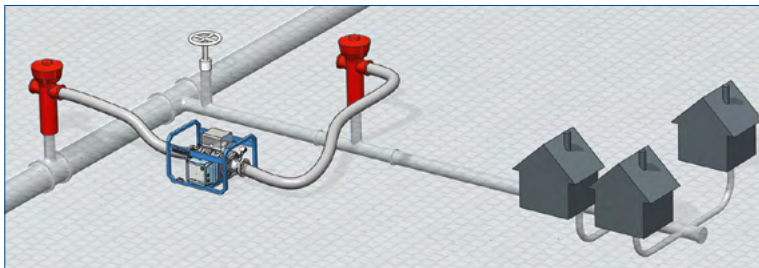
UDM 500	
<b>Current output</b>	
Range	0/4 ... 20 mA
Accuracy	0.1% of reading +/- 15 $\mu$ A
Active output	$R_{ext} < 200 \text{ Ohm}$
Passive output	$U_{ext} = 4 \dots 16 \text{ V}$ , dependent on $R_{ext}$ $R_{ext} < 500 \text{ Ohm}$
<b>Frequency output</b>	
Range	0 ... 5 kHz
Open collector	24 V/4 mA
<b>Binary output</b>	
Optorelay	26 V/100 mA
Binary output as alarm output-functions	Limit, change of flow directions or error
Binary output as pulse output	
- Pulse value	0.01 ... 1000 units
- Pulse width	1 ... 1000 ms
Flow velocity	0.01 ... 25m/s
Repeatability	0.15 % of reading $\pm$ 0.01 m/s
Accuracy (std)	$\pm$ 1.6 % of reading $\pm$ 0.01 m/s
Temperature range	-10 °C ... +60 °C
Weight	1.9 kg

# PRESSURE AND FLOW MEASUREMENT

## TDM 300

### Portable flow and pressure meter

- Ideal for temporary flow measurements
- Wireless communication
- Optional alarm transmission
- Integrated pressure sensor
- Adaptable for all connections



### Operating principle

The TDM 300 flow meter is easy to install and enables a quick and exact flow measurement.

The user can watch the actual flow on the flow meter's LCD display or send the flow data wirelessly to a hand-held data collector. The TDM 300 is equipped with an internal data logger on which all measurements can be stored or send automatically via GSM / GPRS / 3G or UMTS to your control centre or saved in the specially developed SebaCloud.

The TDM 300 is an ideal tool for different applications. Whether you want to verify a meter, check the DMA inflow or control the night minimum flow, the TDM 200 is exactly what you need.

Our flow and pressure meter can even carry out load measurements to verify and monitor the available amount of firefighting water through hydrants. By default, the TDM 300 is equipped with Storz connectors (DIN „B-type“), but can be also adapted to any other type of connectors.

### Technical data

Flow meter	
Dimension	DN 65
Accuracy	0.3 % of value
Repeatability	0.1 %
Flow rate	up to 143 m <sup>3</sup> /h
Protection class	IP 66
Hardware	
Dimension	530 x 380 x 350 mm
Weight	approx. 25 kg
Power supply	12 V
Temperature range	- 10 °C ... + 50 °C
Communication	GSM / GPRS
Pressure gauge	0..16 bar
Operation time	approx. 24 h

# CORRELATORS

## Correlux P-250

### Notebook correlator for water leak location

- Reliable, fast results from automation
- Innovative documentation options
- Optimised for plastic pipes
- Automatic plausibility tests
- Multi-correlation



### Operating principle

The Correlux P-250 is a PC-based correlator system for locating leaks in water pipes. The latest, most sophisticated correlation methods help the user to avoid incorrect measurements and expensive unnecessary digging.

Automatic plausibility tests make measurement even more reliable. The integrated damage sketch program means leaks can be easily recorded in detail.

The P-250 allows you to quickly and efficiently locate leaks in pipes of any material; with its innovative automated frequency analysis, plus manual override, it is the perfect correlator for anyone looking for leaks.

### Technical data

Correlux USB E-Box	
Power supply	via USB from PC
Connection	USB, headphones
Operating temperature	-20 °C ... +60 °C
Weight	0.5 kg
Dimensions	160 x 112 x 45 mm
Radio transmitter	
Display	2 x 16 digits
Operational time / charge time	>18 hours / <3 hours
Supply	External 12V DC / 230 V AC
Interfaces	Sensor/hydrophone, antenna, headphones
Protection class	IP 67
Operating temperature	-20 °C ... +60 °C
Dimensions	230 x 110 x 190 mm
Weight	2.3 kg
PAM CORR sensor	
Sensors	Piezo sensors with active amplifier
Adapter	Magnetic adapter
Operating temperature	-20 °C ... +60 °C
Dimensions	38 x 78 mm
Weight	0.4 kg

# CORRELATORS

## Correlux C-3

### Hybrid correlator for online and offline correlation

- Easy to use with colour touch display
- Long operating time and inductive sensor charging
- Pinpointing with multi-sensors or ground microphone
- Perfect for plastic pipes and trunk mains
- Multi-correlation without pipe parameter input



Watch video at  
[www.reduce-nrw.com](http://www.reduce-nrw.com)

### Operating principle

The Correlux C-3 correlator locates leaks in drinking water pipes. Pressurized water at the leak location creates a noise which travels out in all directions of the pipe.

The Correlux C-3 is suitable for both immediate measurement (online) as well as night measurement (offline). If the measuring point is easily accessible and is not in a danger area, then online measurement comes into effect. Power transmitters are deployed in this case (transmitter and microphone). These transmit the live signal directly to the correlator and you receive the result immediately.

However, if the measuring point is in an area which is difficult to access or if there is lots of interference, then you have the option to conduct an offline measurement using the power transmitters or up to 8 multi-sensors. The multi-sensors are programmed accordingly with the correlator and then deployed. Following the measurement the power transmitters and multi-sensors are collected and the data can be read and evaluated by the correlator.

### Technical data

Correlux C-3	
Display	5.7" VGA colour display, 640 x 480 pixels
Data entry	Touch display, rotary encoder with enter function
Power supply	Internal lithium-ion rechargeable battery, ext. power supply 12 V DC
Operating time	min. 16 hours
PC-interface	USB
Connection options	Sensor, hydrophone, two ext. antennas, headphones, GPS, ground microphone
Protection class	IP65
Dimensions / weight	250 x 190 x 100 mm / 1.9 kg
Correlation offline	digital wireless
Correlation online	analogue long range wireless
Multi-sensors	
Sensor	Integrated piezo sensor with active amplifier
Adapter	Magnetic adapter
Operating time	min. 16 hours
Power supply	Internal rechargeable battery, inductively chargeable
Protection class	IP 68
Dimension / weight	Ø 45 x 115 mm / 0.4 kg
Correlation offline	digital wireless

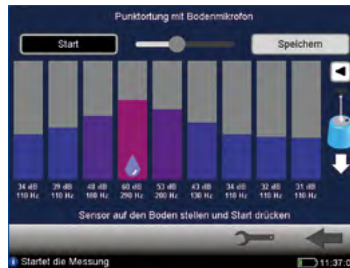


# CORRELATORS

## Correlux C-3 HL

Modern ground-borne sound microphone and C-3 hybrid correlator in one

- Expandable to C-3 correlator
- Pitch function
- Colour touch display and rotary encoder
- Pinpointing function with histogram
- Freely selectable filter adjustment
- Easy to use menu structure



### Operating principle

As its modern successor, the Correlux C-3 HL completes the successful Hydrolux equipment range.

In addition to the already familiar DSA technology (double-segment analysis) from the HL-5000, the C-3 HL now also features a pitch function. This C-3 HL function allows the user to transfer low-frequency leak noises into more audible frequency ranges with the simple press of a button. Users are thus provided with the greatest possible safety in the analysis of potential leak noises.

With the optionally available PT-3 power transmitters or the MS-3 digital multisensors, you can expand the Correlux C-3 HL simply and cost-efficiently into a powerful correlator system. The corresponding functions are already integrated into the Correlux C-3 HL, making the system "correlation ready".

Features such as an operating time of 16 hours and the protection class IP65 top off the package offered by the C-3 HL.

### Technical data

Correlux C-3 HL	
Display	5.7" VGA colour display 640 x 480 pixels
Data entry	Touch display, rotary encoder with enter function
Power supply	Internal lithium-ion battery, ext. power supply 12 V DC
Operating time	min. 16 h
PC-interface	USB
Connection options	PAM W2, PAM Corr
Protection class	IP 65
Dimensions / weight	250 x 190 x 100 mm / 1.9 kg
Filter range	freely selectable
Pinpointing function	histogram

# CORRELATORS

## Sebalog Corr

### The multipoint correlator

- Correlation with up to 8 sensors at the same time
- GPS navigation directly to the leak
- Radio communication to the sensors
- No staff needed for night measurement
- Sound velocity assistant (V-assistant)
- Unique pinpointing mode



### Operating principle

Sebalog Corr is the new generation of leak pinpointing. This hybrid form of a field correlator and a kit of noise loggers combines the independent operation mode and the high number of the loggers' sensors with the correlators' ability to calculate the exact distance to the leak using the sound it makes.

This form of leak detection allows the user to locate even the most difficult leaks quickly and precisely, thus saving valuable time and money. The unique pinpointing feature enables the operator to confirm correlations directly on site.

One of the most remarkable features of Sebalog Corr is the leak navigator. Just like a navigation system, the GPS-based leak navigator leads you to the previously correlated leak position. During navigation, your position is continuously displayed on the map so that you know exactly in which direction you should go to reach the leak.

### Technical data

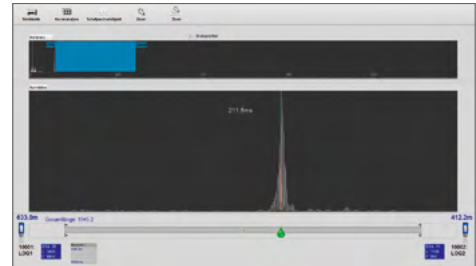
Sebalog Corr	
Dimensions	115 x 45 mm Ø
Weight	400 g
Power supply	Internal Lithium Battery
Betriebsdauer	5 years, when standard settings are used
Protection class	IP 68
Operating temperature	-20 °C ... +60 °C
Radio output power	10 mW
Communications	Bi-directional radio
Sebalog Radio Interface (RI)	
Dimensions	80 x 47 x 17 mm
Weight	50 g
Power supply	USB
Protection class	IP 52
Communications	Bi-directional radio, USB

# CORRELATORS

## Sealog HydroCorr

### Correlating hydrophone sensors – for trunk mains and non-metallic pipes

- Unsurpassed correlation ranges on trunk mains
- Leak location even on non-metallic pipes with low operating pressure
- Programmable for instantaneous measurements and night measurements
- Professional evaluating software with extended frequency analysis



### Operating principle

The location of leaks on trunk mains represents a major challenge. The limited availability of locations for placing sensors and the large wall thicknesses of trunk mains make taking acoustic measurements difficult.

A further challenge are non-metallic pipes with low operating pressures as they have a greatly reduced sound propagation. The location of leaks is then frequently only possible if the distance between sensors is very small.

Using the Sealog HydroCorr leaks on trunk mains as well as on non-metallic pipes can be correlated very accurately. The system consists of two highly sensitive hydrophone sensors, two data loggers and an advanced evaluating software.

The extremely long measuring duration of the sensors used is ideal for the detection and analysis of the often very low frequency leak noises on trunk mains and non-metallic pipes.

### Technical data

Sealog HydroCorr	
Dimensions	115 x 45 mm Ø
Weight	400 g
Power supply	Internal lithium battery
Operating time	> 5 years in standard conditions
Operating temperature	-20 to +60 °C
IP protection class	IP 68
Communication	Bi-directional wireless transmission
Pam Hydro-2	
Dimensions	110 x 96 mm Ø
Weight	Approx. 1 kg
IP protection class	IP 68
Operating temperature	-20 to +70 °C
Frequency range	0 to 1000 Hz
Connections	2" thread incl. adaptor
Log RI	
Dimensions	80 x 47 x 17 mm
Weight	50 g
Power supply	USB
IP protection class	IP 52
Communication	Bi-directional wireless; USB

# CORRELATORS

## Sebalog PAM Hydro-3

### Hydrophone for trunk mains and plastic pipes

- Best results for plastic pipes
- Small and rugged housing
- Suitable for drinking water
- Adaptable for all fittings
- Compatible with Seba correlators
- Can also be used in N3 networks



### Operating principle

Hydrophones are directly connected to the water columns. Their suitability for drinking water is a key point here.

It is usually the hydrants which form the connection points, whereas house connections or taps in houses are also possible here.

Due to its high sensitivity, the PAM-Hydro 3 from Seba KMT is particularly suitable for measuring over long distances, for example on plastic pipes or pipelines with large diameters and low pressure.

Handling is extremely simple and enables quick mounting on aboveground and underground hydrants and all adaptable connections.

The versatility of the hydrophone can be seen in its compatibility with N3 networks, use with correlators or the uploading of data when "drive by" with a laptop or tablet.

### Technical data

Sebalog PAM Hydro-3	
Dimensions	110 x 64 mm Ø
Weight	400 g
Power supply	Correlator / logger
IP protection class	IP 68
Operating temperature	0 to + 70 °C
Connections	1.5" thread incl. adaptor
Communication	Connection cable 3 m

# GROUND MICROPHONES

## Hydrolux HL 50

### Hand-held leak locator with integrated sensor and wireless headphones

- Easy to operate with only two operation buttons
- Frequency filter for different field applications
- Always ready to use thanks to extremely long battery life
- For professional leak detection, external ground microphones can be connected



### Operating principle

Thanks to its particularly ergonomic shape the HL 50 is a single hand operated instrument. Two operation buttons and a thumb - that's all you need to use the HL 50.

In the standard version, the HL 50 offers an integrated sensor and wireless headphones. There are no irritating connection cables. The HL 50 therefore offers optimal mobility and is highly suitable for listening to valve spindles and hydrants, but also to fittings in buildings.

A large LCD display shows the measured sound level simultaneously in numerical form and as a bar graph. In addition, the currently set frequency filter is displayed. When a measurement has been completed, the previous measured sound level is indicated on the bar graph.

For great flexibility and professional use, three optional external microphones are available for the HL 50.

### Technical data

HL 50	
Dimensions	90 x 185 x 60 mm
Weight	400 g
Power supply	2 x AA 1.5 V or 2 x AA 1.2 V with at least 1800 mAh
Operating time	> 50 hours
Operating temperature	-10 °C to +50 °C
Display	LCD, value 0-99
Memory	Last recorded value
Filter	Broadband, ground microphone, contact microphone
External microphones	PAM B-2, PAM W-2, PAM T-3

# GROUND MICROPHONES

## Hydrolux series

### Devices for acoustic water leak location

- See and hear leaks with DSA technology
- High audio quality
- Non-tiring work
- Line location mode
- Improved leak identification with frequency analysis



### Technical data

Function	HL 500	HL 5000
LCD display	x	x
DSA technology	x	x
DSP technology, 16 bit audio codec	x	x
Histogram	x	x
Drag display	x	x
Frequency analysis		x
Fixed filter sets	x	
Sound logger function		x
Free filter setting		x
Line location mode		x
Back-light	x	x
Software updates	x	x
Sound insulation to VBG121 (< 85 dB)	x	x
Weight	1200 g	1200 g
Dimensions	215 x 95 x 110 mm	215 x 95 x 110 mm
Operating time	> 35 h	> 35 h
Power supply	10 Mignon 1,5 V (opt. rechargeable)	10 Mignon 1,5 V (opt. rechargeable)
Microphones (connection options): PAM W-1, PAM B-1, PAM U	x	x

# GROUND MICROPHONES

## PAM T-3-1

Listening stick with piezo-microphone  
for HL 50 and HL 500/5000

- Stable and robust design
- The mute switch on the handle enables ergonomic and effortless operation
- Good results also with valves, hydrants and soft ground
- Work is easier as long sensor rod avoids constant bending down



### Operating principle

The PAM T-3-1 is the newly developed listening stick with piezo-microphone from SebaKMT. With his rugged design it is optimized for your daily work.

The Pam T-3-1 is highly sensitive, which means it is ideal for testing valves and hydrants on metallic and non-metallic pipes.

Thank to the listening key you are aware of any unwanted noises like grounding noises. The PAM T-3-1 is the best addition for your leakdetection sets HL 50 HL 500 and HL 5000 H2.

There are extension rods with a magnet and sensor head as a set for listening to shafts. This allows the PAM T-3-1 to be lengthened to 2.50 m. The PAM T-3 can also be used as a soft-soil-microphone.

### Technical data

PAM T-3-1	
Length	60 cm mikrophone 40 cm head
Weight	950 g
Power supply	HL 50, HL 500 or HL 5000 H2
Connection cable	1.5 m
Protection class	IP 67

## Log RI, Log RI+

### Radio interface for mobile data collection and wireless programming

- Wireless communication to all current Sebalog devices
- Compact, lightweight, and always ready-to-use
- USB power supply
- Time-saving drive-by data collection



LOG RI+



LOG RI

### Operating principle

The Sebalog Radio Interface Plus (also: LOG RI+) is a small USB device for wireless communication between Sebalog devices and a computer.

The LOG RI+ handles, among other things, the programming and reading of devices as well as the transmission of real-time measurements.

Wireless data transmission enables convenient cable-free working, whether at your desk or in the field. Using the well-proven radio protocol of SebaKMT, the LOG RI+ is compatible with all current instruments of the Sebalog series.

The small size and USB power supply make the LOG RI+ an ideal, always ready-to-use partner in field applications.

### Technical data

Merkmale	Log RI	Log RI+
Antenna	internal	external
Dimensions	70 x 60 x 42 mm	70 x 60 x 116 mm
Weight	approx. 125 g	approx. 145 g
Power supply	USB	USB
Operating temperature	IP 54	IP 54
Available radio frequencies	868 MHz, 916 MHz	868 MHz, 916 MHz
Communication	Bi-directional radio	Bi-directional radio
Compatible Instruments	Sebalog N-3, Sebalog P-3, TDM 200, Sebalog Corr, Sebalog Dx, Sebalog D-3	Sebalog N-3, Sebalog P-3, TDM 200, Sebalog Corr, Sebalog Dx, Sebalog D-3



**LOG RI+ is optimised for field use and patrolling.**



## Sebalog Reader 3

### Portable data reader

- Convenient, easy & secure data readout
- Efficient patrolling
- Observation of ongoing measurements
- Versatile use
- Long operating time



### Operating principle

A Sebalog Reader 3 can communicate wirelessly with all "Sebalog" measuring devices. Therefore, entering manholes, connecting read-out cables, and even getting out of a vehicle is not necessary anymore. Blocked manholes, problematic traffic situations or iced up manhole covers no longer hinder work.

Operation using a selector knob can be mastered and implemented within minutes. No need for prolonged instruction – you can start work at once.

An integrated battery supplies the Reader 3 with power for an entire workday, making it ready for use any time you need it.

Regardless whether logging noise levels, pressure, or data, the Reader 3 is compatible with all "Sebalog" devices made by SebaKMT. The Reader 3 can be connected to a PC using a docking station, enabling additional functions.

### Technical data

Sebalog Reader 3	
Dimensions	210 x 100 x 65 mm
Weight	400 g
Display	128 x 64 pixel LCD with backlighting
Powersupply	Internal Li-ion battery
Operating time	10 hours
Protection class	IP 22
Operating temperature	-20 °C ... +60 °C
Memory	2 GB SD card
Interfaces	Bi-directional wireless, docking station
Transmission power	10 mW, 868 MHz
Transmission range	depending on local conditions
Dockingstation	
Dimensions	155 x 100 x 50 mm
Weight	200 g
Interfaces	Reader 3, USB, charging device

# WATER LEAK DETECTION VANS

Features	Van models		
	STORE	FLOW	BOOSTER
<p><b>Interior fitting</b></p> <p><u>Office compartment:</u></p> <ul style="list-style-type: none"> <li>» Bolted swivel chair</li> <li>» L-shaped desk</li> <li>» Aluminum shelves with rubber matting</li> <li>» Wardrobe</li> <li>» Ceiling-mounted light over desk and sliding door</li> <li>» Heat insulation on ceiling and side walls with washable and robust PVC covering</li> <li>» Wooden floor with washable and robust PVC covering</li> <li>» Sun protection foil on windows</li> </ul> <p><u>Equipment compartment:</u></p> <ul style="list-style-type: none"> <li>» Aluminum shelves with rubber matting for storing equipment</li> <li>» Corrugated aluminum flooring with draining holes</li> <li>» Ceiling-mounted working lights</li> </ul>	✓	✓	✓
<p><b>Inbuilt pressure and flow monitoring circuit</b></p> <p><u>Water circuit:</u></p> <ul style="list-style-type: none"> <li>» High-grade steel V2A</li> <li>» Equipped with drainage and ventilation valves</li> <li>» Fitted with B-couplings</li> <li>» Lockable flap in the rear door for hose connections</li> </ul> <p><u>Measuring system:</u></p> <ul style="list-style-type: none"> <li>» Magnetic-inductive flow meter DN 65 with pressure gauge 0 - 16 bar</li> <li>» Flow rate: approx. 3.5 - 143 m<sup>3</sup>/h; Repeatability: 0.1%</li> <li>» Data logger for flow and pressure measurements</li> <li>» Software for evaluating and visualizing flow and pressure measurements</li> </ul>		✓	✓
<p><b>Power management system in office compartment</b></p> <ul style="list-style-type: none"> <li>» Power charger and inverter</li> <li>» Deep cycle gel accumulator</li> <li>» 12 V/DC sockets</li> <li>» External mains supply socket</li> </ul>		✓	✓
<p><b>Inbuilt power generator</b></p> <ul style="list-style-type: none"> <li>» 230 V, 50 Hz and 5 kVA</li> </ul>		✓	
<p><b>Booster pump (attached to water circuit)</b></p> <ul style="list-style-type: none"> <li>» Linearly controllable</li> <li>» 4 kW</li> <li>» 400 V</li> </ul>			✓
<p><b>Underfloor power generator</b></p> <ul style="list-style-type: none"> <li>» 400 V, 50 Hz and 7 kVA</li> <li>» Powered by a second drive shaft</li> </ul>			✓
<p><b>Wheel base (Mercedes, Iveco or VW)</b> Not all models are available in all countries</p>	short medium long	medium long	medium long
<p><b>Recommended options</b></p> <ul style="list-style-type: none"> <li>» Air-conditioning system for office compartment</li> <li>» Customer logo on the outside of the van</li> </ul>	optional	optional	optional



Check out our „Water leak detection vans“ brochure.

# SOFTWARE

## SebaCloud™

Online access to all your data – anytime and anywhere:

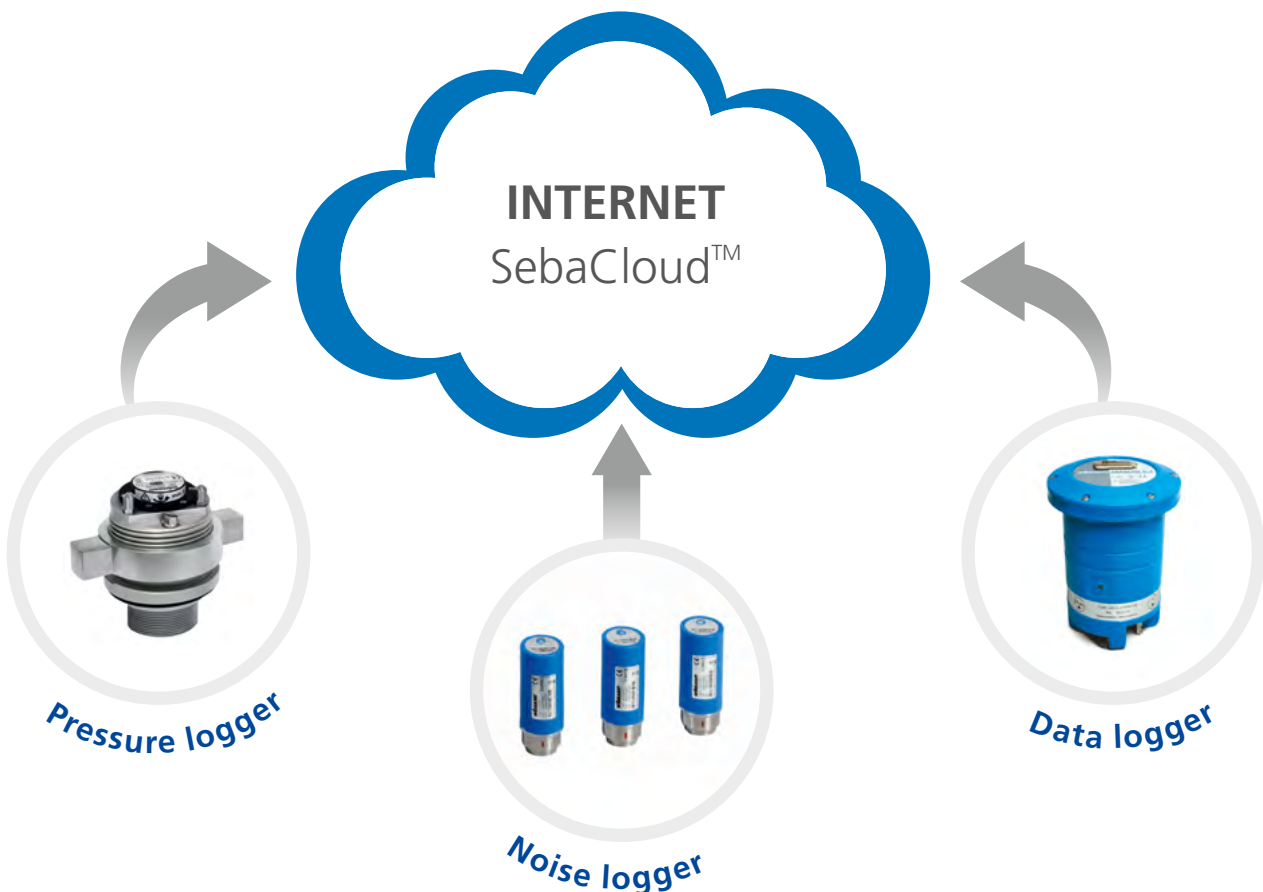
- Leak noises
- Meter readings
- Flow rates
- Pressure ratios
- Alarm messages



### Operating principle

SebaCloud™ is the web software of SebaKMT and it provides an overview of your entire network all the time, enabling you to view current and historical measurement data and track how the readings change over long periods. As well as this, you can save pipe network data, correlate measurement results and use network diagnostic functions.

**SebaCloud™ is compatible with all operating systems and terminal devices.**

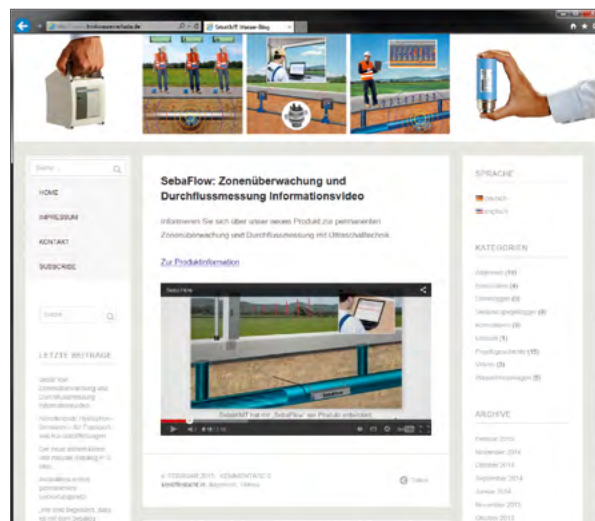


## Blog

### Application videos and worldwide field reports

What's going on in the world of drinking water supply? Which products are setting new standards? What's new in the industry? Whether you're a water supplier or service provider – our blog keeps you in the loop about the latest developments and industry events.

[www.reduce-nrw.com](http://www.reduce-nrw.com)



## Brochures

Have you heard about our new single brochures?

You are welcome to order them!



Brochure  
SebaFlow



Brochure  
Correlux C-3



Brochure  
Sebalog D-3



Brochure  
SebaCloud

Over 60 years of experience in the manufacture of measurement systems for water leak and line location

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