PERMANENT
NETWORK MONITORING
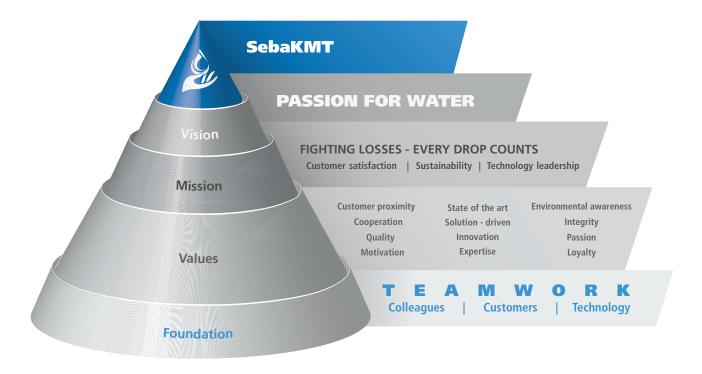
sebaKMT
by Megger®

Actively reduce water losses

Permanent network monitoring

Fresh water is crucial for life on earth and is a human right. Only 3% of the water on the earth is drinkable (97% is saltwater). The population is increasing continuously, and as human impact on nature increases, freshwater resources and the conservation thereof are vital for human life and for all life on Earth. According to the World Bank, only 65% to 85% of all water that is conveyed reaches the end consumer.

The other 15% to 35% is lost within the water network during transportation. The main task of water utility companies is to provide continuous access to clean and fresh drinking water for their customers. All endeavors are therefore geared towards living in a clean and healthy environment and acting responsibly with regard to the resources of our environment.

Since every drop counts for us, we have developed the Permanent Remote Monitoring System, and can offer you our expertise and solutions. In this way, we give you the opportunity to comprehensively monitor your water distribution as far as the end user.

SebaKMT

Vision

Mission

Values

Foundation

PASSION FOR WATER

FIGHTING LOSSES - EVERY DROP COUNTS
Customer satisfaction | Sustainability | Technology leadership

Customer proximity	State of the art	Environmental awareness
Cooperation	Solution - driven	Integrity
Quality	Innovation	Passion
Motivation	Expertise	Loyalty

T E A M W O R K
Colleagues | Customers | Technology

Every drop counts!

What is the Permanent Remote Monitoring System (PRMS)?

The Permanent Remote Monitoring System (PRMS) is an expandable monitoring system that provides water utility companies with a simple and effective way of monitoring the conditions within their distribution network. The system consists of measuring locations which can be attached to hydrants, gate valves, other fittings or directly to the pipeline itself, and cloud-based software that makes permanent online monitoring possible. Time-consuming visits to the individual measuring locations are no longer required thanks to automatic data transmission. The installation of the measuring units in the existing pipeline network is simple and user-friendly.

Our system makes it possible to monitor all critical parameters in the water supply network such as flow rate, pressure, noise level, frequency and temperature.

FLOW

PRESSURE & TEMPERATURE

ACUSTIC & FREQUENCY

Airport

Hospital

Companies

Bürogebäude

Industry

Residental area

Farming

Scan the QR code and watch the new monitoring video
(2:47 Min)

Zone monitoring

In order to monitor your drinking water network in the best possible way, it is advisable to divide the network into zones. These zones can now be monitored using ultrasonic flow rate measurement. SebaKMT has developed two options for this purpose:

1 – SebaFlow Classic

SebaFlow makes continuous flow rate and zone monitoring of a pipe network section possible using ultrasonics. SebaFlow CLASSIC works completely independently of the material. This means that measuring or monitoring is possible on all types of pipe. The pre-existing infrastructure can be used for the power supply (e.g. street lighting). A battery is also incorporated, ensuring full operational readiness for several days. The data that is collected is sent to the new SebaKMT Cloud POSEYEDON (www.poseyedon.com) via an LTE/GSM modem. See also last page.
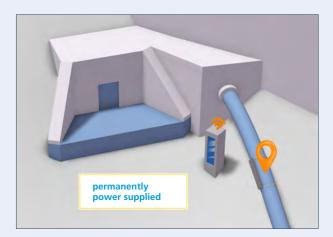
2 – SebaFlow-BAT

SebaFlow-BAT extends and optimizes the SebaKMT SebaFlow device series. As the first manufacturer of fully comprehensive measuring systems to date, SebaKMT has had completely self-sufficient, battery-powered ultrasonic flow rate measurement, including data transmission, in its product range since the end of 2020.

SebaFlow

Advantages of the SebaFlow application

Unlike other techniques, potential contamination and additional costs are prevented, since SebaFlow does not come into contact with the drinking water due to the use of ultrasonic technology with the "clamp-on method". Another advantage of SebaFlow technology is the precise and reproducible measurements which you receive, particularly at the very low flow rates < 0.2 m/s which exist in the drinking water network of many water distributors. The sensor pairs are pre-calibrated in the factory, which both simplifies and speeds up commissioning. SebaFlow is also wear-free and drift-free, which prevents erroneous measurement results and reduces potential follow-up costs.

SebaKMT therefore provides effective and environmentally friendly monitoring systems, with which even small amounts of water loss can be detected and rapid intervention is possible.

permanently
power supplied

autonomously battery
power supplied

Do you also know our product brochure of the SebaFlow series?

SEBAFLOW SERIE
Permanent zone monitoring
with ultrasonic flow measurement

sebaKMT
by Megger®

Now also
battery powered!

W-BAT NEW

first battery-powered ultrasonic flow
monitoring system

...AT now extends and optimizes the SebaKMT device series SebaFlow.
...nufacturer of fully comprehensive measuring systems to date, SebaKMT has had a
...sufficient, battery-powered ultrasonic flow measurement including data transmission
...ange since the end of 2020. Following the requirements of our customers from the a
... network planning, as well as balancing and billing, the following requirements were
...cularly important:

...nt power supply necessary
...68 housing variant
...f 1 year or more
...oint equipment can be flexibly adapted
...requirements

SebaFlow

Logger networks

Now that the zones are monitored by ultrasonic flow rate measurement, we recommend examining other parameters within the individual zones. Two options are also available for this requirement.

1 – NB-IoT noise logger network

The NB-IoT network records the minimum noise level and the associated frequency within a pipe section over a defined measuring period, and saves a noise file at the same time. Once or twice per day, your data is automatically transmitted to the POSEYEDON software via NB-IoT (see back page).

A measuring location contains two devices, the N-3 Noise Logger and the GT-3 NB-IoT transmitter, which is responsible for data transmission. The pair of measuring locations is supplied ready for use and pre-programmed in the factory.

All you require to install the network is the pair of measuring devices, a Smartphone and the GPS4GT app which has been developed for the transmitters. With this app, which is available free of charge in the Google Play and Apple App Store, you scan the QR code on the transmitter and then use it in the required installation site. The GPS4GT app transmits all of the data that is important for this measuring location (GPS & device ID) to the POSEYEDON software. There you can see your measuring location directly on a Google Maps map and make setting changes if necessary.

A new feature of the GT-3 NB-IoT is the possibility of choosing between two preset measuring modes. For traditional leak detection, use night measurement or select permanent measurement for 24-hour monitoring at 15-minute intervals.

Night measurement
This is the mode that is pre-programmed in the factory. The logger becomes active between 2 o'clock and 4 o'clock during the night, and records the current noise with its microphone. The evaluation of the noise, and also the audio data if required, is transmitted to the POSEYEDON software at the set time period. New leakages can be detected promptly, which helps to reduce large amounts of water loss at an early stage.

Permanent measurement
In permanent measurement mode, the noise logger records over 24 hours at 15-minute intervals, and transmits 4 data pairs (level & frequency) to the POSEYEDON software at hourly intervals. This allows you to monitor your drinking water network almost in real time and, if necessary, react to events in the network at short notice.

Another advantage of the NB-IoT network is the possibility of using it as a mobile network. By using the programming option via the GPS4GT app, you can change individual measuring locations or the entire network at any time without reprogramming. This feature allows you to react to sudden events in the network, because you can change your network within seconds.

Do you already know our product brochure for the GT-3 series?

2 – GT-3-1 Network

With the GT-3-1 network, up to three devices (noise and pressure loggers) can be connected to the transmitter in parallel, which makes it very efficient when measuring several parameters at one measuring point.

The GT-3-1 network also records the minimum noise level and the associated frequency within a pipe section over a defined measuring period, and saves a noise file at the same time.
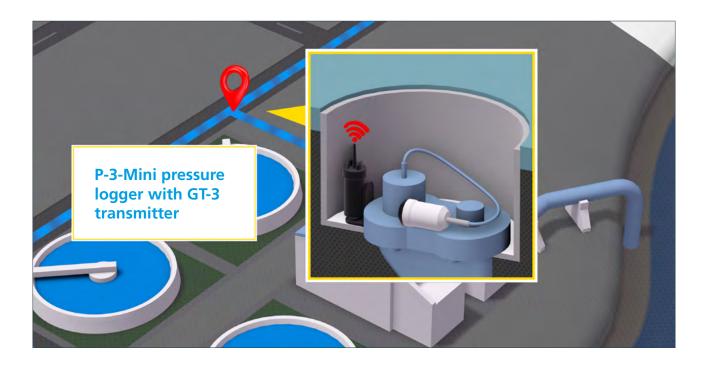
The following devices are available for pressure monitoring:

Sebalog P-3-1 and P-3-Mini

Sebalog P-3 pressure loggers are ideal for monitoring the pressure within drinking water distribution systems. They are used for short term measurements, for pressure monitoring in permanent installations and for detecting pressure surges. Due to its small size, the P-3-1 pressure logger will fit into any underground hydrant without problems. Due to its particularly small design, the P-3-Mini even fits into manholes with limited installation space. Thanks to the extremely robust housing, the P-3 pressure loggers are particularly suitable for continuous use in the field.

With the Sebalog P-3-Mini it is possible to get a wireless readout without opening a manhole cover, or conveniently download data remotely in combination with the GSM transmitter. The Sebalog P-3-Mini has a wide range of setting options. Its very large memory capacity allows measurements to be taken at short intervals, even over long periods of time.

The data that is collected is uploaded once per day as standard, but can be increased to twice per day. Programming is completely wireless, and therefore provides the best flexibility and a simple working procedure.

P-3-Mini pressure logger with GT-3 transmitter

The measuring devices in the GT-3-1 network can be programmed with the PocketServer PS-3 or with the LOG RI and LOG RI+ USB radio interfaces.

PocketServer PS-3

The PocketServer is a compact digital interface which fits comfortably into your pocket. The PocketServer-3 allows the user to program the GSM transmitters of the GT series as well as the noise and pressure loggers as standard. The Pocket-Server-3 therefore follows in the footsteps of its predecessor, the Commander CDR-3. Any WiFi-enabled terminal device such as a Smartphone or tablet can be used to operate the PocketServer-3, regardless of the operating system.

RADIO WLAN

PocketServer-3

> (i) **The PocketServer-3 can be operated using any WiFi-enabled terminal device such as a Smartphone or tablet, regardless of the operating system.**

LOG RI / LOG RI+

The Sebalog LOG RI and LOG RI+ radio interfaces are small USB devices for wireless communication between Sebalog devices and a computer. Among other things, the LOG RI+ looks after the programming and readout of devices and the transmission of real-time measurements. Data transmission takes place via wireless radio signal and makes convenient wireless working possible, be it at your desk or in the field. Thanks to the tried and tested SebaKMT radio protocol, the LOG RI and LOG RI+ are compatible with all of the current devices on the Sebalog series. The compact size and the USB power supply make the LOG RI an ideal companion in the field which is ready for use at all times.

Comparison Logger-Netzwerke

Noise logger network	NB-IoT	GT-3-1
Data transmission	NarrowBand (NB-IoT)	4G (LTE)
Protection class	IP 68	IP 68
Supported loggers	N-3 GT-3-NB-IoT	N-3 GT-3-1 P-3 P-3-Mini
Batter lifetime logger / transmitter	5 years / 5 years	5 years / 3 years
Battery replacement in field	✓	✓
Installation via	Smartphone app (GPS4GT)	PocketServer PS-3 SDV-3 (with laptop and RI)
External antenna	✓	✓
Values per measurement	100 (freely adjustable)	100 (freely adjustable)
Measurement mode	night-time measurement (e.g. 2-4 am) Real-time measurement (every 15 min.)	night-time measurement (e.g. 2-4 am)
Remote configuration	✓	🚫
SIM	integrated ex works	selectable
Software	POSEYEDON (*see also last page*)	POSEYEDON (*see also last page*)

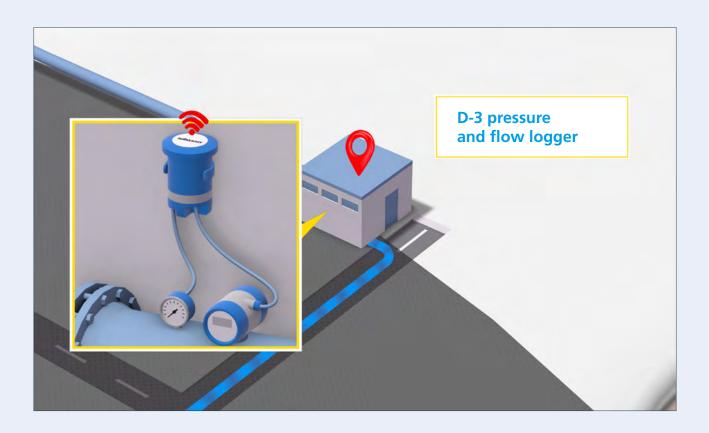# Additional cloud-based solution
for pressure and flow rate measurement

Sebalog D-3

The D-3 reliably informs you of the status of the pressure and the flow rate in your supply network on up to 4 channels. The D-3 transmits the latest data to your control center automatically on a daily basis via GSM / GPRS / 3G or UMTS, or saves it in the specially developed POSEYEDON software.

The D-3 supports online measurements on all channels, allowing you as the user to conveniently access saved measurement data and up-to-date readings at any time using your Smartphone.

The alarm function notifies you immediately in the event of significant pressure level or flow rate changes. The current measurement data of the D-3 is also available directly online after an alarm.

We would be pleased to configure a D-3 that is suitable for your application specifically for you. You can choose from a variety of options such as 2 or 4 measurement channels, with or without a GSM modem for permanent data transmission and with an internal 16 bar, 25 bar or even 35 bar pressure sensor.

D-3 pressure and flow logger

POSEYEDON

The cloud solution for leak detection and asset management that helps you to minimize water losses!

- All live data and evaluations are under control anytime, anywhere
- Easy to understand and clear user interface
- Stable, fast, secure and energy-efficient data transfer
- Automatic online correlation
- Continuous further development of functions (e.g. pattern recognition)
- Supports N-3, P-3-Mini, GT-3, D-3, SebaFlow

Scan the QR code and watch the new POSEYEDON video

POSEYEDON

www.poseyedon.com

SebaKMT

Megger Germany GmbH · Dr.-Herbert-Iann-Str. 6 · D-96148 Baunach

Tel. +49 9544 - 680 · Fax +49 9544 - 2273

sales@sebakmt.com

www.sebakmt.com

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