

SmartEAR® - Acoustic Intelligence for Your Drinking Water Network

Our smart IoT noise logger as an intelligent solution for permanent monitoring and leak detection. Precise, robust, and durable.

Permanent Leak Detection

Acoustic intelligence for your
drinking water network

The latest generation noise and frequency logger

Water is one of the most precious resources of our time and deserves systems as reliable as the people who protect it.

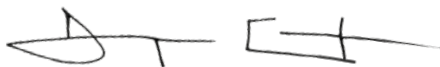
For decades, SebaKMT® has been developing solutions that make utility networks safer, smarter, and more sustainable.

With SmartEAR®, we set new standards in leak detection. Directly within the water network, precisely where it is most needed. Discreet in use, powerful in effect: connected, precise, and efficient.

The focus is not only on technical functionality but also on practical advantages in everyday work: simple operation, reliable measurement results, and intelligent data analysis that creates orientation and supports decision-making.

In combination with the app and cloud, a forward-looking system emerges that not only measures but also thinks.

For cities, municipalities, and network operators who think about tomorrow today: because protecting water means protecting our future.



Diego Escutia

Sales Manager SebaKMT®



General Information about SmartEAR®

The Latest Generation in IoT Noise Logger intelligence

In water supply, quality and efficiency are key. Modern measuring and locating technology offers powerful tools to monitor drinking water networks for leaks efficiently, thereby ensuring water supply security through continuous online monitoring.

Since 2022, SebaKMT® has been introducing a completely redesigned noise and frequency logger concept to the market. Based on extensive global feedback, the product management team identified customers' most important requirements: technical performance, battery life, maintenance, simple handling, fast installation (even in large numbers), and attractive acquisition costs. Combining them with state-of-the-art technology.

The result is the SmartEAR® IoT Noise/Frequency Logger.

Durable housing materials paired with a high-performance lithium-metal cell enable up to 9 years of lifetime. Installation can be completed in just a few automated steps via the dedicated SmartEAR®-GO! smartphone app.

Once in operation, SmartEAR® loggers use intelligent algorithms to identify and locate leaks in the drinking water network within the POSEYEDON® cloud.

Discover the new generation of IoT noise loggers – SmartEAR® from SebaKMT®.



● Note: The images shown in this brochure are provided for visual representation only and may differ in content or technical details from the actual product.

● The SmartEAR® devices transmit data via NB-IoT and LTE-M (CAT-M1), for which adequate IoT network coverage must be available at the installation site. Information on the network coverage of NB-IoT and LTE-M can be obtained from any mobile network provider. Alternatively, SebaKMT® TechSupport can be contacted to obtain such information. By using antenna extensions or amplifiers, transmission performance can be significantly improved, and battery life can be optimised.

● Please note that the information provided in this brochure for the introduction of our new product, including specifications and functions, is subject to change without prior notice. As we continuously refine and improve our offering based on customer feedback and ongoing development, discrepancies may occur between the information presented here and the final product. For the most up-to-date and detailed information, we recommend contacting our sales representatives or visiting our website. We appreciate your interest in our latest innovation and thank you for your understanding as we work to deliver the best possible products.

● Note on battery life: The stated battery life of up to 9 years is based on ideal conditions, which include an optimal measurement profile, suitable infrastructure, sufficient network coverage, professional installation, and, if applicable, the use of antenna extensions. Other environmental and operational conditions can also affect battery performance. Please note that actual battery life depends on various external factors and therefore cannot be guaranteed. Battery life is not part of the product warranty.

● The SmartEAR® devices transmit data via NB-IoT and LTE-M (CAT-M1), for which sufficient IoT network coverage must be available at the installation site. Information about NB-IoT and LTE-M network coverage can be obtained from all mobile network providers. Alternatively, you can contact SebaKMT® TechSupport for assistance. By using antenna extensions or amplifiers, transmission performance can be significantly improved and battery life optimised. The specified battery life of up to 9 years refers to average temperatures at the measurement point, optimal signal reception, and continuous use of standard measurement profiles.

All Key Features at a Glance



True Intelligence: Remote correlation results are displayed daily and directly on the pipeline map, integrating seamlessly into the pinpointing workflow of utilities and service providers.



POSEYEDON® Cloud, World class features: including an integrated ticking system to provide a clear overview of suspected, confirmed, and repaired leaks. Leak positions can be reported back to continuously refine algorithms.



Tough Performer: SmartEAR® units are IP68-certified, tested for 3 m for 120 hours and 10 m for 24 hours.



World-Class Battery Life: Up to 9 years in energy-optimised standard (night) measurement, or up to 5 years in permanent measurement mode.

POSEYEDON® ready!

The SmartEAR® from SebaKMT® has been specifically designed to meet the exact requirements of permanent monitoring in drinking water networks. The SmartEAR® IoT noise logger operates in perfect harmony with the commissioning app SmartEAR®-GO! and the industry's most advanced cloud platform, POSEYEDON®.

Whether you are working with noise, pressure, flow, or temperature sensors, POSEYEDON® provides everything you need to effectively combat water losses within your pipeline network. From remote correlation and an integrated API for smooth data exchange to the Sensor Placing function, which intelligently assists in selecting the optimal measurement points: Let yourself be inspired and impressed!



POSEYEDON® Demo

Book your free POSEYEDON® demo access today!

Product Information



Application Areas

Water Distribution Networks, Leak Detection, Condition Monitoring

The SmartEAR® enables early detection of water leaks through precise acoustic monitoring of pipeline systems. It continuously records ambient noise, detects changes, and securely transmits the collected data via NB-IoT or LTE-M to the POSEYEDON® Cloud.

Alternatively, our SmartEAR® devices can also operate with regional SIM providers. Please feel free to contact us for more information.

With its compact, IP68-certified design, the SmartEAR® is ideally suited for manholes, service connections, and urban networks. During project planning, POSEYEDON® supports you with its Sensor Placing function in selecting meaningful measurement points, helping to avoid unnecessary loggers in unsuitable positions such as service connections. This ensures your investment is used wisely and efficiently.

Installation and configuration are carried out easily via the SmartEAR®-GO! App, typically in under one minute! The SmartEAR® helps to identify water losses quickly, optimise the operation of water distribution networks, and target maintenance and repair measures effectively.



Discover more about
the product here!

Features

- SmartEAR®-GO! App available free of charge for iOS and Android in all official app stores.
- Reliable estimation of energy consumption based on your selected measurement profile during installation with the SmartEAR®-GO! App.
- SIM cards and data plans from reliable global network providers are always included ex works. However, local SIM providers can also be used without any issues if required.
- Perfect balance between device size and battery life for effective and efficient use of your noise logger fleet within the water distribution network.
- Various optional antenna extensions or booster antennas available to ensure optimal performance even under difficult reception conditions.
- NB-IoT or LTE-M (CAT-M) connectivity enabled through the use of an advanced combined modem.



Bring SmartEAR® to Life in AR!

With our Augmented Reality application, you can experience our products digitally, directly in your own environment and in impressive detail.

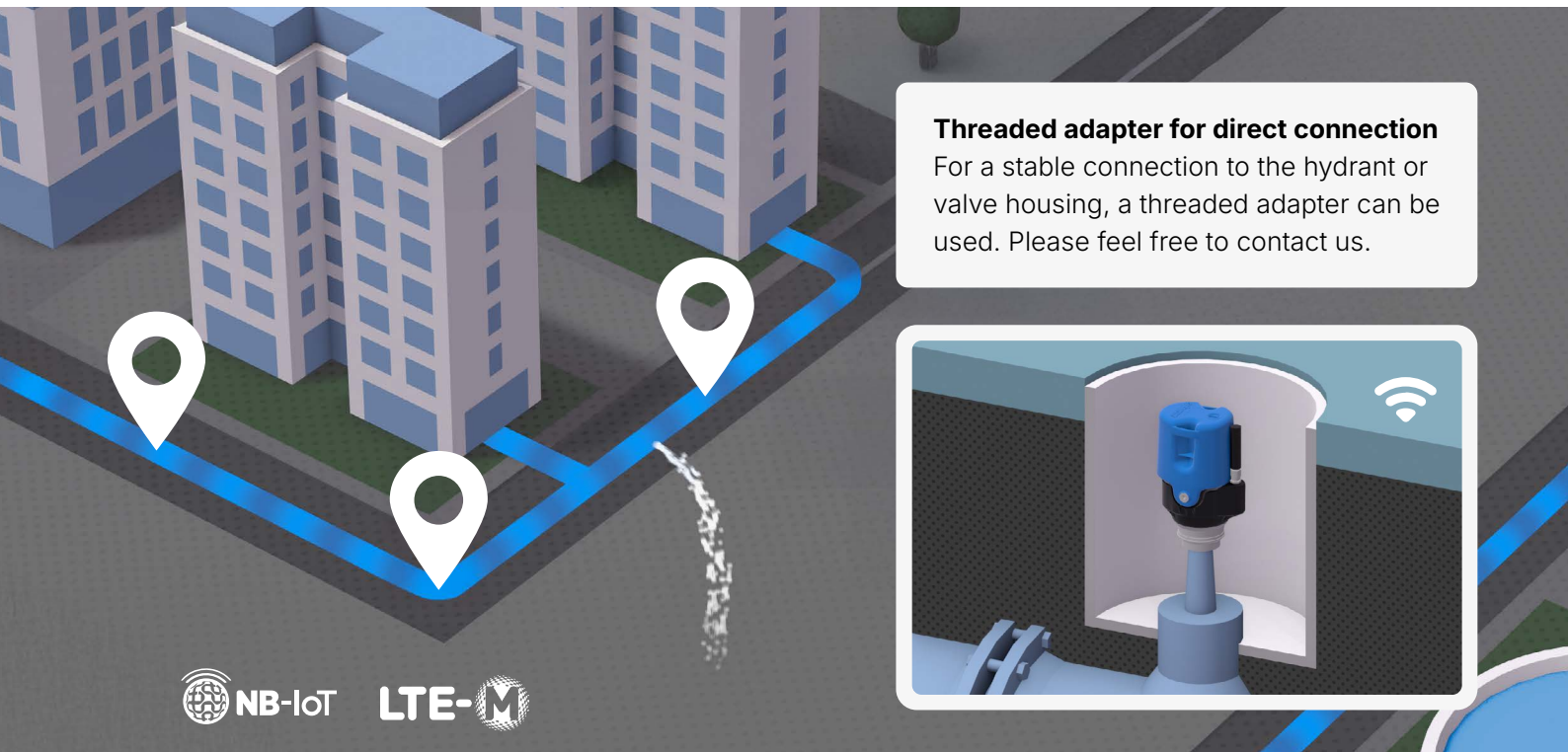


Technical Specifications

| | |
|-----------------------|--------------------------------------|
| Height | 115mm |
| Diameter | 62 mm (79 mm max.) |
| Weight | 450 g |
| Power Supply | Li-Metall cell 3,6 V / 13 Ah |
| Battery Life | up to 9 Years* |
| Operating Temperature | -20 °C to +70 °C |
| Communication | NB-IoT, LTE-M, Bluetooth® Low Energy |

* Under defined conditions

Special Features



Threaded adapter for direct connection

For a stable connection to the hydrant or valve housing, a threaded adapter can be used. Please feel free to contact us.



Fast and simple installation

Via the SmartEAR®-GO! app, the logger can be installed very easily in just a few steps. An antenna test is integrated directly in the first step, providing immediate feedback during installation.

Flexible and secure mounting

Optional mounting options such as the 360° magnetic holder ring support flexible attachment in different situations. Optionally, this is also available with a steel cable to make theft or vandalism more difficult.

GIS data import – no problem

The integrated pipeline network manager allows GIS plans from GIS or SCADA systems to be imported at any time and as often as desired, conveniently via drag & drop. POSEYEDON® can handle the common formats KML, KMZ, SHAPE, or DXF. With the GIS File Optimiser, imported GIS files can now also be optimised in content by the user to always be able to retrieve the maximum benefit from the data sets contained in the file.

Reliable radio technology

The integrated LTE-M and NB-IoT combo modem transmits measurement data securely: even from deep or closed manholes.

Pre-configured connectivity

SmartEAR® is delivered with a replaceable nano-SIM card. No additional SIM costs or configurations are necessary.

- Up to 9 years operating time in energy-optimised mode
- At least 5 years in standard measurement
- Battery status retrievable at any time via the app or POSEYEDON®
- Simple on-site battery replacement

Additional security

If, despite all care, a SmartEAR® is stolen or is put aside due to repairs or firefighting operations, the integrated motion sensor will immediately alert you.

API for data exchange

Every POSEYEDON® account also comes with the option of an export API. Use it to conveniently exchange the collected data regularly between POSEYEDON® and your database.

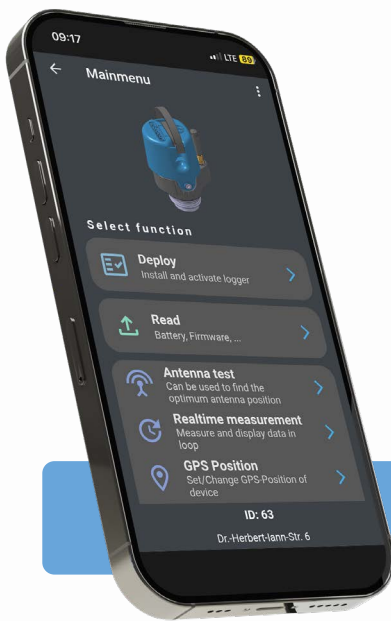
Data Transmission

1. SmartEAR®-GO! – Deploy the logger network

Switch on SmartEAR® loggers with the magnet, place them at the selected measuring points, close the manhole cover again immediately, and start the SmartEAR®-GO! app.



Bluetooth-Low-Energy (BT-LE)



2. Start the installation wizard in the SmartEAR®-GO! app

- Antenna test (signal strength check-up)
- Create measuring point (GPS position)
- Confirm or change measurement profile
- Perform real-time measurement
- System check and real-time data transmission



POSEYEDON®, GIS und Export-API

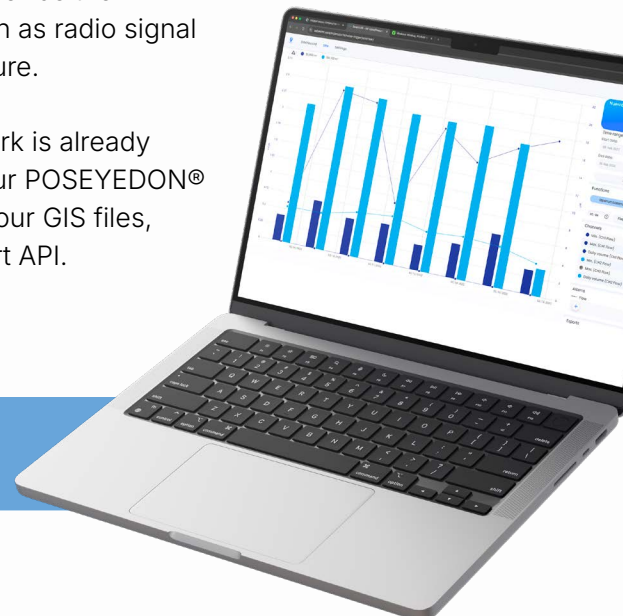
3. POSEYEDON® cloud platform

Access your account directly from the app via the POSEYEDON® symbol. POSEYEDON® shows in real time the loggers just installed as well as the generated real-time measurement data and additional data such as radio signal strength, battery status, leak probability, and ambient temperature.

After deploying the SmartEAR® fleet, your water pipeline network is already reliably and permanently monitored. Now feel free to set up your POSEYEDON® cloud to your liking. Organise your loggers into zones, import your GIS files, or link your account to your control centre system via our export API.



NB-IoT / LTE-M (CAT-M)



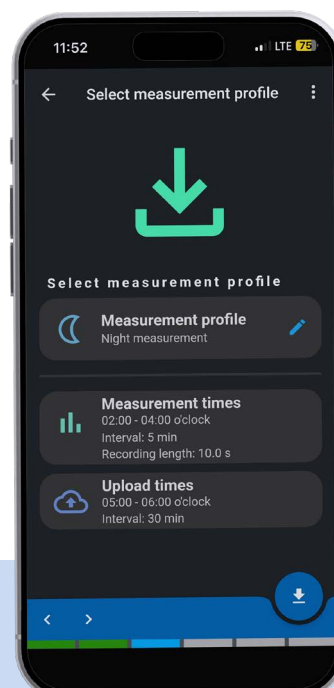
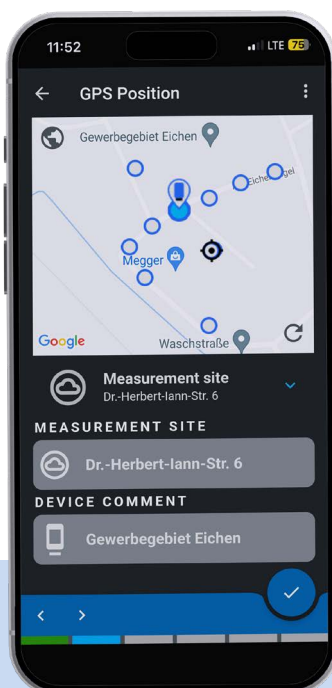
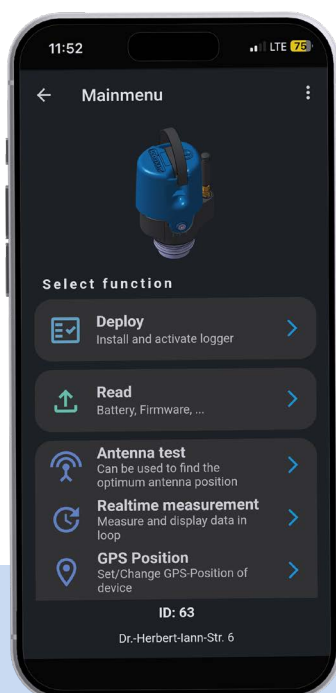
SmartEAR-GO! App



With SmartEAR®, the installation and management of loggers is simpler and more efficient than ever before. In just a few steps and supported by the intuitive SmartEAR®-GO! app, you can install each SmartEAR® logger in the shortest time: typically in under a minute.

All you need is a smartphone or tablet and the free app, optimised for Android and iOS. After the Bluetooth scan of a SmartEAR® logger, start the installation routine (Deploy) at the push of a button.

In five clear steps, the device is fully commissioned. If necessary, each step can be skipped using the navigation buttons (< >). Progress is displayed at the bottom of the screen via six bars, blue means "in progress", green "completed". In addition to the simple commissioning, the SmartEAR®-GO! app offers many other intelligent functions that make everyday work significantly easier.



App Functions

Demo mode

Would you like to show your colleagues or superiors the great functions of our app but don't have a logger to hand? Simply start demo mode. This allows you to simulate all functions, views, and processes as in a real-life situation on site. Perfect for demos, presentations with display sharing, or training.

Help & Support section

Access the help area with one click directly from the app's start screen. It provides prepared access to our online manual and FAQs, direct phone extension to the SebaKMT® headquarters in Baunach (GER), contact email to our TechSupport, provides the SebaKMT® web address, and even allows log files from SmartEAR® to be sent to us with a single tap.

Settings

This area can be used to set your personal and regional preferences such as units, bar or psi, °C or °F, volumes or flows in m³, m³/h or l/s. You do not have to do this, but you can.

Feel free to choose between light or dark mode; this can also be selected for the POSEYEDON® cloud platform display.

Integrated band-scan function

Our SmartEAR®-GO! app also enables you to check the available network providers anywhere in the world. To do this, connect to one of your SmartEARs and you can obtain all radio bands (or only those relevant to your region) regarding availability, signal strength,

signal quality, distance to the nearest radio mast, and the respective network provider.

Until now, an external signal-strength test device had to be used in such situations. SmartEAR®-GO! has this integrated directly!

Sound Recordings (sound files)

Each SmartEAR® stores in its internal ring buffer the measurement data of the last 7 days, along with the corresponding sound files. All of this can be read out with the app on site and played back directly on site or transmitted to POSEYEDON® via the smartphone. This conserves the loggers' battery and can support on-site confirmation of a LeakLine.

Firmware Updates

Firmware updates are generally announced via our POSEYEDON®. The logger fleet can thus be conveniently updated remotely. Nevertheless, the firmware can of course also be updated on site in a few seconds via Bluetooth using the SmartEAR®-GO! app.

SebaKMT® Pro Tipp

Thanks to integrated real-time measurement, possible leaks can already be detected during installation and appropriate measures can be initiated immediately.



SmartEAR® Variants

| | |
|--|-------------|
| SmartEAR without SIM card * | 1014081 |
| SmartEAR with SIM card (Telekom EU) * | 1014081-001 |
| SmartEAR with SIM card (Telekom N-AM/S-AM/ASIA/AFRI) * | 1014081-005 |
| SmartEAR with SIM card (Vodafone EU/AUS/JP) * | 1014081-210 |
| SmartEAR with SIM card (Vodafone US/CAN/MX) * | 1014081-220 |

* with loop, rod antenna, magnetic adapter and battery

Try it instead of reading. Request a demo now!

Would you like to test the SmartEAR® loggers, the SmartEAR®-GO! app, and the POSEYEDON® cloud platform in your network without obligation? We will provide you with a demo box free of charge for a period of 4 weeks. This includes a fully functional POSEYEDON® account and the SmartEAR®-GO! installation app. Please feel free to contact us, we look forward to your enquiry!



Request a product demo

Test it in your own water network without obligation now!

Accessories:

- 5 magnetic holder rings
- 5 antenna extensions 0.5 m
- 3 antenna extensions 4 m
- 1 safety wire rope

10 SmartEAR® IoT noise loggers, including SIM card and data plan



Transport case for 10 SmartEAR® including accessories

1 SebaKMT® multi-tool
1 Demo-Box Table of contents

**Article number for transport case without contents: 2014649

Optional Accessories



360° magnetic holder ring

The infinitely adjustable 360° magnetic holder ring enables maximum flexibility for installation in manholes. Individual installation situations can be solved quickly and safely without complex modifications. The magnetic adapter is included as standard with every SmartEAR® logger, for a ready-to-use solution ex works.



Safety wire rope

Secure your SmartEAR® logger reliably with the safety set consisting of the magnetic holder ring and matching wire rope. The set can be attached flexibly to fittings, pipelines, or alternatively screwed to the manhole wall. For maximum security in all installation situations.



Antenna extension in various lengths

The rod antenna, like the magnetic adapter, is included as standard with every SmartEAR® logger. For use in particularly deep or reception-weak manholes, optional antenna extensions are available in various lengths. For consistently reliable data transmission.



External antenna, angled

The angled external antenna can be attached directly to the SmartEAR® logger and wound up if necessary. With its increased transmission power (+5 dBi), it is particularly suitable for use in manholes with weak signal strength. Please note: Due to its design, the antenna requires additional installation space (length approx. 19 cm).

Discover SmartEAR® in AR!

With Augmented Reality (AR), you can experience the SmartEAR® from SebaKMT® in a completely new way: directly in your environment and in impressive detail. Thanks to state-of-the-art AR technology, you can explore our products interactively, view them from different angles and experience their design up close, without any physical sample devices.

Simply project SmartEAR® into your workspace to gain a realistic impression of size, design, and connections. This allows you to see before deployment how the device can be integrated into your existing infrastructure.

Experience the design in 3D, discover relevant connections and functions, and gain a completely new perspective on our product!

Immerse yourself in the future of SmartEAR® with AR. For an intuitive, practical, and innovative product experience!



SmartEAR®

Simply scan the QR code.





SmartEAR-GO! - App

A key element of the SmartEAR® products is the SmartEAR®-GO! app. Its user-friendly interface is designed to save time and increase efficiency. We understand that complexity often leads to frustration, especially when it comes to fine-tuning technical devices. That is why the SmartEAR®-GO! app was designed with an intuitive layout that is easy to understand even for users without technical knowledge. Whether you want to adjust your devices' environment settings or configure specific functions, the app enables you to make the desired changes quickly and efficiently.

Available in both the Apple App Store and Google Play Store, the SmartEAR®-GO! app ensures that all users, regardless of their device, have access to its advanced product features. Anyone who uses our SmartEAR® devices can enjoy full control, supported by the performance and flexibility of our app.



Download on the
App Store



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