

T E C H N O L O G Y W I T H A F U T U R E



Ortomat-MT

- Signal-level, frequency and wideband analysis
- Data communication via GSM network
- Can be operated in radio networks
- 24h-monitoring
- Hydrant alert
- Transmission of audio-file
- Simple fitting
- Intelligent and robust

Ortomat-MT – How to make savings in the supply of water

Ortomat is an investment in making savings in two ways:

If you can detect leakage, repair costs can be saved.

Early recognition and rapid location of leaks can prevent damage caused by water which, at worst, could cost as much as a complete Ortomat system.

If you can detect leakage, you can save water.

Small, concealed leaks can cause amazingly high losses of water: At a mains pressure of 3 bar, a leak with a diameter of 8 mm leads to an annual loss of 24,870 m³ of water; at 10 bar a loss of even 52,580 m³.

Application

Ortomat-MT – permanent leak monitoring for buried drinking water piping

Using the latest technology and various measurement methods, the Ortomat MT leak monitoring system offers the possibility of detecting the locations of leaks at an early stage.

Water pipes that are operated under pressure can be checked or monitored for leaks in a fast and efficient way – either permanently or just temporarily.

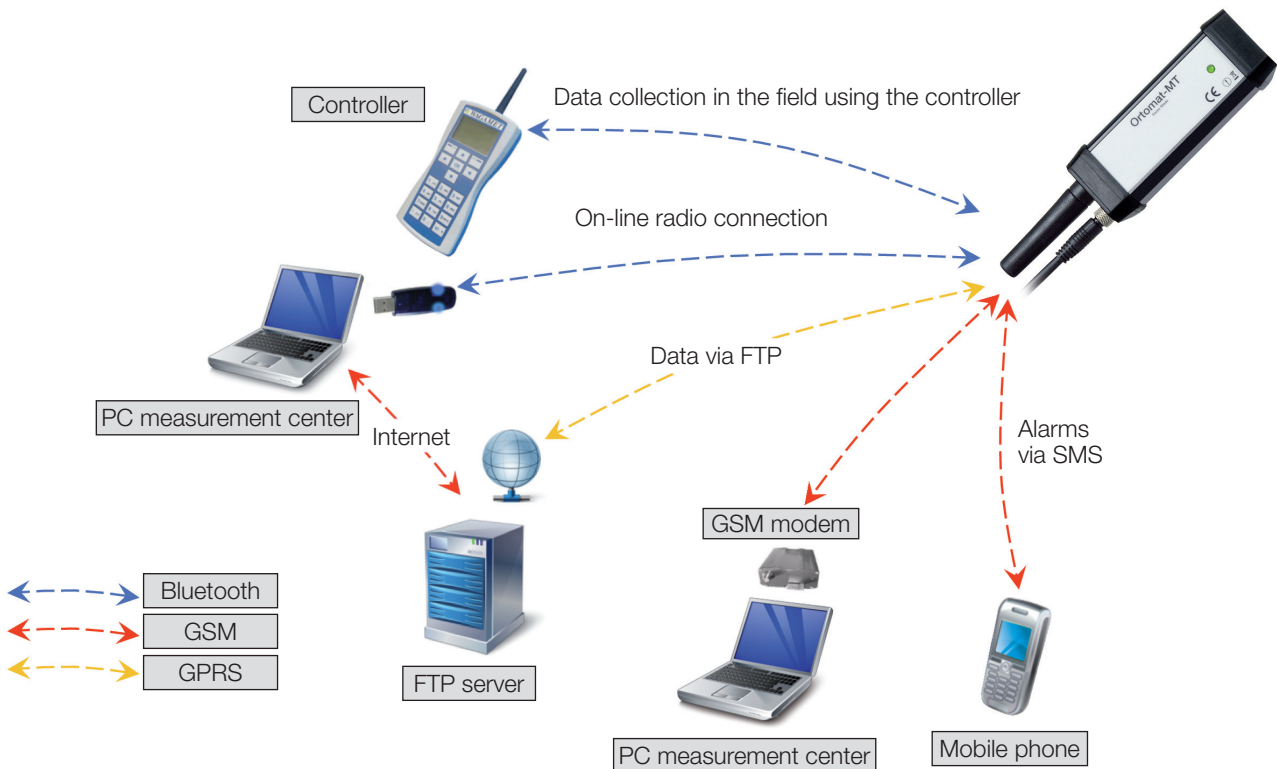
As in the case of the proven earlier Ortomat system, the customer is provided with simple but meaningful leakage information. The operator receives simple and meaningful leakage information like in the previous Ortomat system.

Installation methods

The Ortomat-MT is either fitted in slide-valve manholes, fire-hydrants or directly onto the water pipe.

An especially convenient possibility for the installation is offered by vonRoll-hydro's own fire-hydrants.

The devices have a robust housing that meets IP68 protection standards and is consequently suitable for the most adverse operating conditions. The batteries can be changed individually.



Measuring principle

The highly sensitive vibration sensor records the finest leakage-noise occurrences in the water mains.

There are three measurements which can be monitored and adjusted individually. The first is the main measurement, which registers the least noise level between 2:00 – 4:00 A.M. The other one is the 24-h noise recording, which enables to monitor the water mains permanently. Last but not least, the fire hydrant-alert function enables to control suspected areas, where water-theft is assumed. Illegal water consumptions can be detected and reported within approx. 60 seconds.

In addition to the ordinary leakage monitoring are frequency- and wide-band analysis carried out.

Data evaluation

The Ortomat MT in its basic version offers the possibility of data communication with a controller or computer via BLUETOOTH® or 868-MHz radio technology.

Optionally, the device offers the possibility of completely automating the communication with a central data-collection system by means of its built-in GSM module. As a result, leakage alarm reports can be received without delay on mobile telephones and this on up to four receivers simultaneously.



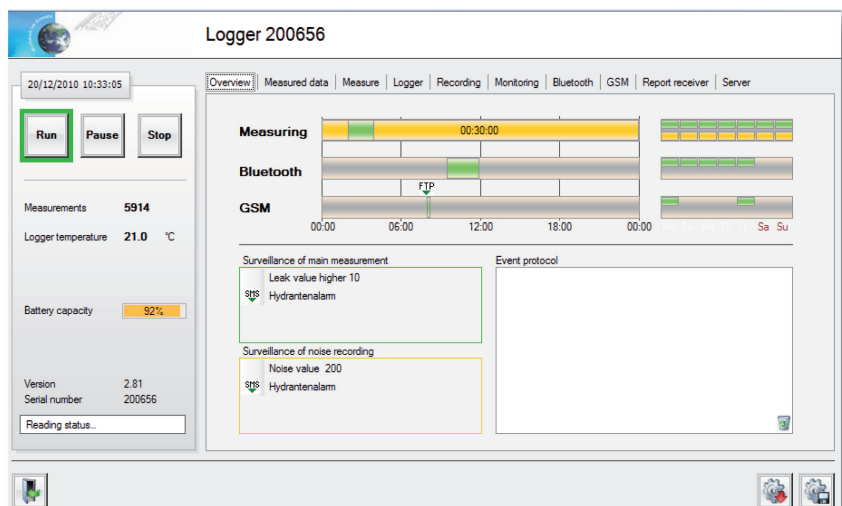
The automated, periodic data transfer to a FTP server is via GPRS. In order to keep the amount of data low, the logger only sends that data which has been collected since the last data transfer.



Software

In addition to the leak values obtained during the previous night-time measurements, the noise-graphics data and an audio file of the last night-time measurement period are also transmitted. The locally-installed Ortomat MT PC software can be synchronised with the FTP server by mouse click. The only requirement is a connection to the Internet.

If the loggers are read out in the field, the controller is used for the graphic representation of the measured data. The data read out are buffered automatically in the controller and are available for further analysis in the Ortomat MT PC software. Audio data for the acoustic checking of the point of measurement can be directly transmitted.



Settings

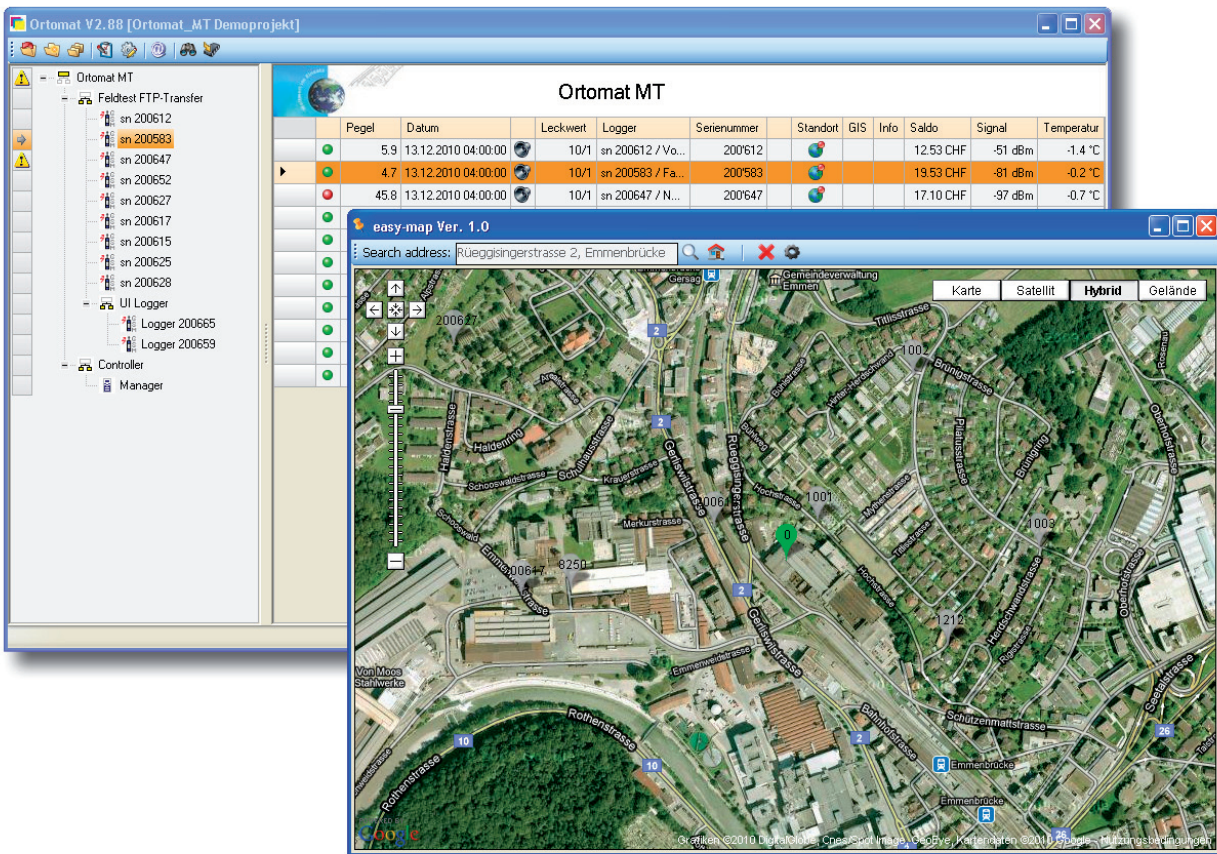
Software

Ortomat MT PC software is used for the graphic representation and administration of the measured data. The data can be retrieved and the settings can be reprogrammed by means of a radio-/bluetooth PC-adaptor to the logger resp. controller bidirectionally. If the logger are fitted with GSM-modules, the PC software communicates completely autonomously with them via an FTP server.

The Ortomat-GIS software is optionally available for the visualisation of the location of the points of measurement being used in the water supply network. Ortomat-GIS is a high-quality mapping tool based on the water utility's current digital pipeline data. Alternatively, we provide Ortomat easy-map, which is based on Google-maps.

Experience gained with the Ortomat MT system

The Ortomat system operates in Switzerland and internationally and convinces users of its usefulness by providing good leak detection and early diagnosis.



Ortomat easy-map