



OpenWay® Riva Leak Sensor

It's estimated that up to 30 percent of water pumped through distribution systems is lost to leaks. In today's conservation-driven environment, water losses and associated pumping and treatment costs add up quickly. Distribution leak detection, and keeping system losses minimal, are important operational concerns for water providers.

The OpenWay® Riva Leak Sensor (OLS) is the latest addition to Itron's advanced approach to distribution system leak detection. Part of Itron's OpenWay Riva multi-purpose IoT solution, for the OpenWay Riva Network, the OLS is the result of merging an OpenWay Riva water module with an advanced acoustic sensor to create a single point for collecting meter data and monitoring for distribution system leaks. The OLS utilizes the cutting-edge OpenWay Riva network. It offers a scalable solution that allows for parameter adjustments based on the environment.

The OLS has increased detection accuracy by being able to more readily identify noise sources/leaks. This solution reduces non-

revenue water losses, associated costs and potential service disruptions caused by major leak events.

The innovation behind the OpenWay Riva Leak Sensor is the new sensor technology. The OLS examines the pipe network more intensely over what the OLS considers the best period for detection of leaks. This results in providing a higher quality of data to mlogonline™, which in turn improves leak identification.

Every day the acoustic sensors analyze sound patterns in its environment, detecting and categorizing new, evolving and pre-existing leaks automatically. The recording period is adaptive and will self-adjust to get the best reads between 10

p.m. and 6 a.m. local time. Sensors attach to an OpenWay Riva Water Module and transmit vibration recordings along with other metering information through the OpenWay Riva network to the utility. An Itron web interface—mlogonline Network Leak Monitoring System—handles data classification and analysis of the recordings and graphically displays all sensor locations using visual maps and satellite images, highlighting the status of leak locations.

Simple, affordable and technically superior, the OpenWay Riva Leak Sensor provides advanced leak detection technology at optimal cost. Best of all, the OpenWay Riva Leak Sensor leverages the investment in Itron's OpenWay Riva multi-purpose IoT solution.

SPECIFICATIONS

How It Works

Step 1:

An Itron OpenWay Riva Leak Sensor is deployed in the water distribution system.

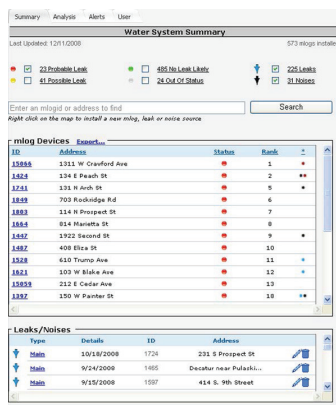
Step 2:

The Analyze process receives readings by e-delivery to mlogonline.

Step 3:

mlogonline Network Monitoring System computes a leak index for each Leak Sensor and assigns a leak status:

- Probable leak
- Possible leak
- No leak likely
- Out of Status



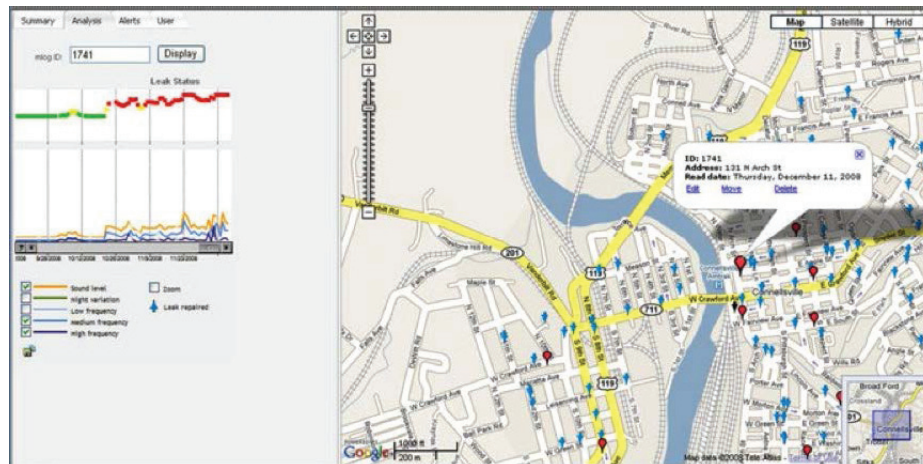
OpenWay Riva Leak Sensor information table displays all OpenWay Riva Leak Sensor data from one or more water distribution systems—sorting, searching and ranking all sensors by leak status:

- Probable Leak
- Possible Leak
- No Leak Likely
- Out of Status

Step 4:

The OpenWay Riva communication module generates messages, alerts and reports to direct leakage investigations and pinpointing activities.

The map in mlogonline Network Monitoring System shows leakage at a glance. OLS locations are overlaid, and allow highlighting of increased leak probability from green (no leak) to yellow (possible) to red (probable leak). This is all made possible using the



OpenWay Riva Leak Sensor's advanced digital signal processing.

TECHNICAL SPECIFICATIONS

mlogonline Network Monitoring System

- » Operating systems: MS Windows®
- » Maximum number of sensors: Unlimited
- » Integrated water system maps

SPECIFICATIONS BENEFITS

The OpenWay Riva Leak Sensor delivers unprecedented leak detection capabilities including:

- » Advanced acoustic leak detection monitoring and meter data collection
- » Compact form for easy field installation
- » Low cost of ownership (one sensor can cover multiple homes in a residential area)
- » Automated capture and data transmission (of actual vibration recordings)
- » Advanced analysis and applications available for in-depth analysis.
- » Stores a minimum of one year of spectral data for interpretation, prioritization and mitigation

Sensing

- » Resolution < 2µg √Hz
- » Range Up to:
 - ±500 linear feet of pipe (metal <12")
 - ±100 linear feet of pipe (PVC <6")
- » Bandwidth: 36Hz-2048Hz

- » Noise signature detection and subtraction (ex. busy highways, trains, factories, etc.) for improved leak detection in high noise environments.

Power

- » Source: Powered by an OpenWay Riva Pit or Remote Water module

Physical/Environmental

- » Operating temperature: -10°C to +50°C
- » Operating humidity: Up to 100%
- » Product identification: Numeric and barcoded serial number
- » Exposure rating: Sealed, waterproof and submersible IP68
- » Housing: Stainless Steel 316
- » Cover: ABS
- » Weight: .2 lbs, .90 grams
- » Dimensions: Height with mounting bracket from pipe to top of sensor: 2.21" 56.2 mm Diameter: 2", 51mm

Installation options:

The OpenWay Riva Leak Sensor is installed permanently either indoors or outdoors on the water service pipe (1-2"), valve nut, or even on a meter itself. Allowing for installations in most pit environments.

- » The OLS can be mounted using the pre-assembled ground clamp/mount assembly kit: CFG-1601-10X



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