

SOLINST TECHNICAL BULLETIN

Remote Monitoring Using Closed Loop Networks



Groundwater Monitoring

More and more projects and operations require continuous on-site monitoring of their groundwater resources, including landfills, mining operations, golf courses, construction sites and remedial operations.

Their groundwater managers require an efficient way to access data from a number of different locations and ideally connect them to a central database for on-going site assessment and review.

Using radio telemetry, creating a closed loop groundwater monitoring network at these sites can be a quick, easy and very cost effective means to meet these requirements.

Radio Telemetry

Radio telemetry systems save time and money by limiting the need to travel to each remote location for data collection. It also reduces the inherent error in manual data collection and transcription, collects continuous real-time data and allows data to be stored and organized in a convenient manner. Frequent and scheduled access to detailed data can allow early detection and resolution of problems, and allows for confident decision making.

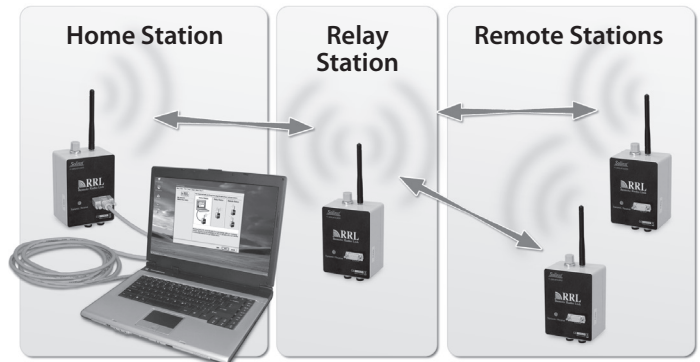
By using free unlicensed radio bands (ISM), radio telemetry has the advantage of being a lower cost option when compared to cellular or satellite based systems - contracts and monthly fees with services providers are eliminated.

RRL Gold Remote Radio Link

The Solinst RRL Gold Remote Radio Link System offers a very simple and inexpensive method for creating a closed loop monitoring network. Remote Stations collect and store data from up to four connected Levelloggers in the field.

Water level, temperature, conductivity and rainfall data is sent from the Remote Station via short-distance radio to a Home Station with a laptop or PC. If the distance between the RRL Stations is too great, Relay Stations can be added to increase the coverage area. Each Relay Station can also support up to four Levelloggers.

Radio systems work with omnidirectional antennas line-of-sight transmission, providing flexibility and the ability to be set up almost anywhere. If on site needs change, radio stations are easy to reconfigure and relocate. All RRL Gold Stations use the same hardware, making them interchangeable. They can be set up as a Home Station, Relay Station, or Remote Station, which allows modification of networks as required.



*RRL Stations use the same hardware, and can be programmed to behave as Home Station, Relay Station or Remote Station.
Each Station supports up to four Levelloggers*

RRL Stations are programmed and scheduled using a convenient software wizard, making setup and data collection easy. Data is stored in a Microsoft® Access® database on the Home Station PC, and can be exported for use in other programs, allowing self-management of your data.

Each RRL Station is powered by six replaceable lithium batteries, and can be powered by AC or solar panels. The compact all-in-one design allows discrete placement in wells as small as 4.5" (115 mm). The case is rugged and waterproof with an IP66 rating.

Built for Levelloggers

RRL Gold Telemetry Systems have been specifically designed and developed to work with the Levellogger Gold series. This provides the advantage of combining user-friendly telemetry systems with high quality dataloggers, and using their own independent memory as a back-up.



A telemetry system is only as good as the dataloggers it utilizes. The highly accurate, low maintenance Levellogger Gold is ideal for long-term remote monitoring. Independent user-defined logging schedule, non-volatile memory, built-in-battery, corrosion resistant design and power surge protection operate regardless of the status of the remote radio station.

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High Quality Groundwater and Surface Water Monitoring Instrumentation

Solinst®

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