Wastewater Collection System
Wireless Monitoring Solutions
Providing water distribution monitoring solutions since 1987, Trimble Telog continues to offer the industry’s leading remote data acquisition system including the most comprehensive family of battery powered, environmentally rugged wireless monitors available from any single supplier.

Trimble Telog RTUs provide a monitoring solution for virtually every sensor, meter, instrument and application found throughout water conveyance systems. Trimble Telog’s data management system delivers information and alarms to your own software application, Telog Cloud Solution or Telog Enterprise.

TRIMBLE TELOG RTUs
Telog 32A Series RTUs (Recording Telemetry Units) are:

- Battery powered
- Cellular enabled
- Environmentally rugged
- Intended to operate for years on-site without maintenance.

Trimble Telog’s 3000 series recorders include an Internal Telog WM2/L1 cellular modem LTE Category 1 certified Verizon Wireless. This permits deployment of Trimble Telog RTUs wherever cellular coverage is available and data automatically transfers to any designated host computer connected to the Internet.

Trimble Telog host application software Telogers for Windows or Telogers Enterprise supports hundreds of simultaneous communication sessions with remote Trimble Telog RTUs to ensure no communications bottleneck.

TELOGERS ENTERPRISE HOST APPLICATION SOFTWARE
Telog’s Enterprise Software is a comprehensive, scalable data management system for remote water conveyance systems. It provides real-time, alarm and historic data in user configurable reports and web server views of data from remote sensors, instruments and analyzers.

Enterprise manages remote RTU call schedules, alarm configurations, RTU communications, alarm handling, data archiving, data publishing and sharing with 3rd party software, reporting and viewing. It’s computation engine performs intersite measurement analytics and post processing of reported data for automated QA/QC of measurement and system performance producing user alerts of site or measurement anomalies.

TELOG CLOUD SOLUTION
If you prefer not to install and manage Telog Enterprise on your corporate network, we offer the Telog Cloud Solution where Telog collects and manages remote Telog RTU data on servers in a certified, secure commercial data center operating Telog Enterprise software. Using the Telog Cloud Solution you obtain information and reports from the Telog web service.

TRIMBLE UNITY CLOUD AND MOBILE SOFTWARE
A GIS-centric software, integrated with Telog RTUs and remote monitoring instruments and data, providing you with situational awareness of wastewater utility asset performance, offering a cloud and mobile view of remote monitoring data, alarms and measurement reports, GIS, operational data, and work management workflows all in a single platform.
Application Descriptions

Open Channel Flow Metering
Trimeble Telog has established technical partnering relationships with many of the more popular open-channel flow meter suppliers so in most cases Telog Ru-33s easily connects to existing flow meters, eliminating flow meter replacement costs. The Telog Ru-33 supports multiple sensor interface options including RS-232, RS-485, analog and digital inputs. For example, when connected to an open-channel flow meter via RS-232 or RS-485, the Telog Ru-33 can interrogate the meter for its most recent level, flow velocity and battery voltage measurements.

Trimeble Telog also provides optional sensors that may be directly attached to the Telog Ru-33 including ultrasonic and pressure level, water quality sondes, temperature, level switches, and a rain gauge.

The Telog Ru-33 is battery powered, wireless, and built to withstand harsh sewer environments so it can be located virtually anywhere there is a flow meter.

Open Channel Flow Metering with A/V Sensor
Trimeble Telog offers an optional FloWav PSA-AV area-velocity flow sensor that directly connects to the Telog Ru-33 for monitoring open channel flow.

The Telog Ru-33 supports multiple sensor interface options and can work with multiple sensors simultaneously via RS-485. For example, the user can attach up to two A/V flow sensors, or up to two ultrasonic level sensors, or one of each.

Trimeble Telog also provides optional sensors that may be directly attached to the Telog Ru-33 including ultrasonic and pressure level, water quality sondes, temperature, level switches, and a rain gauge.

The Telog Ru-33 is battery powered, wireless, and built to withstand harsh sewer environments so it can be located virtually anywhere there is an A/V sensor for flow.

Billing/Custody Transfer Monitoring
Telog Ru-33 RTU can be provided with optional ultrasonic or pressure level sensors for monitoring weirs and/or flumes for high accuracy billing applications.

The user may choose to install multiple ultrasonic or pressure sensors (or one of each) for redundancy and improved accuracy.

The non-linear level to flow algorithm specific to the installed weir or flume can be installed and run automatically in the Enterprise Calculation Engine producing interval flow averages and totals for reports, alarms etc.

Flap Gate Monitoring
Trimeble Telog RTUs can accept the input of a switch closure that activates when a flap gate opens for recording outfalls from CSO/SSO overflow events. The event recording mode of the Trimeble Telog RTU will record the open/close time stamp to one second resolution. The duration and time of each event is then transferred to the host application software for reporting and alarming.

In addition to simple mechanical or proximity switches, the Trimeble Telog RTU can support inclinometer switches mounted to the flap that will trip on small angular changes. Trimeble Telog supplied sensors for flap gate position monitoring are powered by the Telog Ru-33 and robustly packaged for installation in wastewater environments.
CSO/SSO Monitoring with Ultrasonic, Pressure or Float

Trimble Telog offers three sensor options to monitor CSO/SSO levels in wastewater manholes: ultrasonic level, pressure level or float switch. All are powered by the Trimble Telog RTU and intended for use in harsh environments.

Trimble Telog ultrasonic sensors measure level below the sensor and are relatively easy to install near the top of the manhole. Pressure level sensors measure the level above the sensor and typically installed near or in the nominal sewer flow. Float switches provide a contact closure when the level reaches the level of the installed float.

The Telog Ru-33 can accept any one or combination of these sensors and single channel 32 series models are available for pressure and float switch sensors. Multiple alarm levels can be configured for the ultrasonic and pressure level sensor to provide immediate notification of surcharge level.

Lift Station Monitoring

Trimble Telog offers an economical lift station monitoring system which records each pump on/off cycle along with sump level. Clamp-on current sensors monitor pump run on/off to one second resolution. This data can then be used to produce pump run-time and energy efficiency reports from Telog’s Enterprise application software.

Trimble Telog also provides an algorithm that can produce a measurement of flow history through the station from the pump run data. Alarms can be produced on overflow level and pump operation anomalies.

Rainfall Monitoring

The Telog RG-32A Rain Gauge Recorder monitors the output of any tipping bucket style rain gauge to provide a record of interval rain totals of any user defined length, e.g. 5 minutes, 15 minutes etc. The Telog RG-32A can be configured to call the host computer on a fixed schedule, e.g. daily, or it can call more frequently when it is raining, for example whenever 0.1 inch of rainfall has been accumulated. This would ensure that the user always knows what total rainfall has occurred up to the most recent 0.1 inch.

Ground Water Level Monitoring

Inflow and Infiltration is a common cause of CSO/SSO overflows in sanitary systems. Extensive rainfall may also raise the ground water table causing additional inflow into the wastewater conveyance system.

Trimble Telog offers a pressure sensor solution to monitor ground water level that can be installed through the wall of manholes which provides valuable data to analysts building models of wastewater system response to storm events.

The ground water level sensor may be added to Telog Ru-33 RTUs monitoring flow and level sensors at the same site.
Sample Data Views

- Water Pressure and Hammer
- PRV Pressure & Flow
- Rainfall & Creek Level
- Pump Station Report
- Wastewater Flow Monitor
Wastewater Collection Products

Telog Ru-32mA
Telog RG-32A
Telog Ru-33

Antenna Installation Options

A-LPA Low Profile Antenna

A-MWA Mini Wing Antenna

A-CBA-TNCSS Burial Antenna

A-EMA Enclosure Mount Antenna