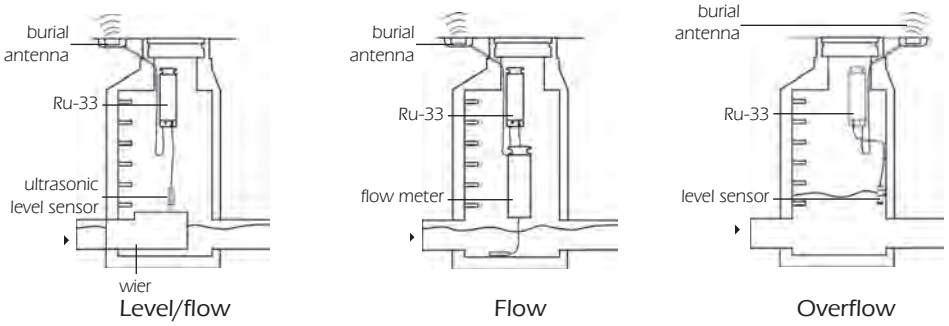
Ru-33 Recording Telemetry Unit

Wireless RTU for underground monitoring

Ru-33 pictured with the Telog ultrasonic sensor

Applications



Telog's Ru-33 **R**ecording **T**elemetry **U**nit, (RTU), provides real-time monitoring and alarming of instruments and sensors found in the harsh environment of sewers and underground water vaults.

The Ru-33 has low power requirements and automatically monitors level, flow, pressure and water quality sensors. Data is forwarded wirelessly to a host computer operating Telog host application software, Telogers for Windows or Telog Enterprise. Data communication may be scheduled frequently (e.g. daily, hourly, every five minutes, etc.) and/or immediately in response to site alarm conditions.

The Ru-33 supports multiple sensor interface options including RS-232, RS-485, analog and digital inputs. For example, when connected to an open-channel flowmeter via RS-232, the RTU can interrogate the meter for it's most recent level, flow velocity and battery voltage measurements.

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

Wireless communication is supported via an embedded, m2m cellular data modem. An optional burial antenna may be embedded in the street pavement producing a complete underground wireless monitoring solution.

The RTU is powered from a single, 6-volt lantern battery providing an operating life of six months to two years depending on sensor interface and call schedule.

For more information call us at **585.742.3000,** email **TelogSales@telog.com,** or visit us at **www.telog.com**.

Directly Monitor:
- **Popular Open-channel Wastewater Flowmeters**
- **Pressure Level Sensors**
- **Ultrasonic Level Sensors**
- **Water Quality Sensors and Sondes**

Communicate Via:
- **Local Connection**
- **Cellular**
- **Land-line Telephone**

Powered by:
- **6V Lantern Battery**
- **External DC**

Alarm Notification

Two Year Battery Life

Burial Antenna Option

Submersible Enclosure

Supported by Telog Enterprise Telogers for Windows & Telog's Data Hosting Service

Ru-33 Specifications

Recorder

Model	Telog Ru-33
Type	Multi- channel underground RTU (Recording Telemetry Unit)
Recording	
Sample rate	Programmable from 1/sec up to 8 hours; each channel
Data interval	Programmable from 1/sec up to 8 hours; each channel
Memory	
Size:	512 Kbytes
Storage method	Wrap around (first-in; first-out)
Data capacity	Dynamically allocated to active channels, any combination of:
Analog input	270,000 values
Pulse input	200,000 values
Event input	67,000 values
ComSensor input	100,000 values
Communication:	
Standard:	Standard: 4 pin circular connector rated IP-67 Auto-selected baud rate to 19.2K
Optional	Land line telephone Telog M-324 2400 baud modem Auto-dial/auto-answer FCC and CSA approved
Cellular	Internal Telog WM/C embedded 1xRTT modem certified on Sprint & Verizon in USA WM/H HSPA modem certified on Bell in Canada Dual band internal antenna
Inputs	Limited to one ComSensor + one analog + one digital
ComSensor/meter	Selectable RS-232 or RS-485 to 19.2 Kbaud. Protocol determined by meter or sensor
Analog	
Selectable ranges	0-1 VDC, 0-5 VDC, 4-20 ma
Excitation	Pulsed +5 or +12 VDC, (selectable duration)
Resolution	0.025%; 12 bits
Accuracy	±0.1% of full range at 70° F ±50 ppm
Digital (one channel)	
Type	Selectable pulse counter or event recorder
Input	Contact closure or logic driven input
Excitation	5 VDC at 20 μAmps (max)
Pulse width	10 mS minimum
Battery	
Factory installed	Single 6V alkaline lantern battery Eveready Energizer model 529 Optional extended life battery available
Battery Life Example:	
Input ComSensor	Sigma 900 series flowmeter
Sample rate	Five minutes
Communication	Wireless 1xRTT
Call schedule	
5 minutes	Battery life=1 month
15 minutes	Battery life=3 months
2 hours	Battery life=1 year
24 hours	Battery life=2 years
External Power Input	9 to 15 VDC @ 1 amp max
Enclosure	
Size	Cylindrical 4.5" x 15.4"
Weight	7 lbs.
Material	PVC
Environmental	
Temperature	32 to 160°F -22 to +160°F powered externally
Submersible	IP67 (NEMA 6)
Support Software	
S-3PC	Telogers for Windows
S-3EP	Telogers Enterprise
Data transfer unit	IP-67 rated PDA running Palm OS and Telog application program

Supported Sensors

Pressure Level Sensor	Submersible pressure sensor
Model	Telog PT-3Vu
Ranges	0-5 PSI thru 0-200 PSI
Accuracy	±0.25% of full scale
Construction	316 stainless steel
Vent	In-line dry box with user replaceable desiccant
Ultrasonic Level Sensor	Ultrasonic transmitter (ComSensor)
Model	Telog UT-33u/95
Frequency	95 KHz
Range	one foot to 13 feet
Beam Angle	8° conical
Accuracy	±0.25% over any range segment exceeding 12 inches (homogeneous environment)
Temperature Sensor	
Model	AT-3u ambient temperature sensor
Range	-4 to +160°F
Accuracy	±0.3°F
Size	Stainless Steel probe (4" x ¼") with 10 feet of cable

Ru-33 Telog Supplied Options

Burial Antenna

Ultrasonic sensor

Pressure sensor

Temperature sensor

Ru-33 Supported Meters & Sensors

Flowmeters	
Via RS-232 or RS-485	ADS Flow Shark
Interface to meter	Hach Sigma 900 Series
Serial interface port	FloWav PSA-AV
	ISCO 2150
	Marsh McBirney Flo-Dar & Flo-Tote3 Meters
	MGD ADFM & accQmin
Sensors	
	Hydrolab Sondes
	Hach WMD Pipe Sonde
Water Quality	
	Hach Hydrolab Multiparameter Sondes
	DataSonde 4a, MiniSonde 4a
	DS5X, DS5, MS5
	Hach WDM Pipe Sonde

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