



Badger Meter

Telog® Ru-32mA

Wireless Multi-Channel Recording Telemetry Unit for Underground Monitoring



UNDERGROUND MONITORING IN HARSH ENVIRONMENTS

The Telog Ru-32mA provides real-time monitoring and alarming of pressure, flow sensors, valves, and meters found in harsh environments typical of water distribution and wastewater collection systems such as underground water vaults. When you combine the Telog Ru-32mA RTU with a Telog software option, you have a powerful system of wireless water infrastructure monitoring that is consistently delivering real-time data from the field straight to your desktop. Imagine your data on one platform straight to your computer screen.

Sensor Support

The Ru-32mA is a versatile eight-channel RTU that can be supplied with one or two pressure sensors and can interface up to two digital inputs (pulse and/or event), one 4...20 mA current loop from a process instrument, one analog voltage or potentiometer input, and two additional inputs to capture the encoded register reading of single or dual water meters, such as master meters and compound meters.

Wireless Communication

Using cellular technology enables unmanned monitoring of remote sites as well as instant updates and alarm notifications. The Ru-32mA uses a low power, LTE Category M1 cellular communication modem certified on multiple cellular systems. This ensures maximum coverage, reliability of service and alignment with cellular carriers technology roadmaps. Additional communication options are also available on request.

Collecting Data

The Telog Ru-32mA may be configured to call its server application on a schedule (for example, once per day; every four hours) and/or in response to site alarm conditions (for example, high or low pressure or level exceedance). The recorder can sample the sensor up to four times/second and store the data statistics (minimum, average, maximum or totals) at user-defined intervals.

Packaging

The cellular modem, data recorder and battery are integrated into an IP67 rated, environmentally rugged enclosure weighing 3 lb (1.4 kg) and measuring 8 in. (204 mm) L × 8 in. (204 mm) W × 4 in. (102 mm) H. The unit is provided with a panel mount TNC coax connector and will support a variety of certified antennas. All connectors and fittings are watertight and the product is environmentally rated IP67 to 9.8 ft (3 m) of depth.

Battery Powered

The Telog Ru-32mA are battery powered and use a single, user-replaceable battery pack, Telog BP-4, providing an operating life of up to five years, depending on the user-defined call schedule. A five year battery life example would be sampling two pressure sensors every 10 seconds and water meter registers hourly and transferring data to a host server on a daily schedule. The recorder can also be connected to optional, customer-supplied DC or solar power.



Software Support

Telog wireless recorders are compatible with all our software applications, including Remote Monitoring Software, Telog Online (cloud), Telog Enterprise and Telogers for Windows application software. This ensures that utilities have a complete solution addressing all their remote monitoring requirements delivered in a manner that suits each individual utility's operations and IT needs.

APPLICATIONS

- Water system pressure monitoring
- Underground water level monitoring
- Mag meter monitoring
- Pressure reducing valve (flow and pressure) monitoring
- Pressure relief valves
- Single or dual water meter monitoring
- Meter register input monitoring

BENEFITS

- Insight into consumption for Non-Revenue Water
- Optimized water and site operations and compliance
- Real-time situational awareness on Pressure or Bursts

FEATURES

- Wireless communication via cellular (LTE)
- Alarm notification
- Time stamped events
- User programmable
- IP67 Rating



TELOG RECORDER MODEL RU-32MA SPECIFICATIONS

Type	Eightchannel, underground RTU with embeddedcellularmodem (4 samples per second max. - 250 ms, 1 second interval max.):		
	I2C Pressure Sensors Channels 1 & 2	Resolution	12 bits (0.025%)
		Accuracy	±0.075% of full scale at 73° F (23° C) ±40 ppm/°F
		Temperature Range	40...149° F (4...65° C) For applications below this operating range please contact your Badger Meter support team.
	Current Loop (Channel 3) (4...20 mA) Input	Resolution	12 bits (0.025%)
		Accuracy	±0.075% of full scale at 70° F (21° C) ±40 ppm/°F
	Analog Input (Channel 4) 0...5V DC	Resolution	12 bits (0.025%)
		Accuracy	±0.075% of full scale at 70° F (21° C) ±40 ppm/°F
	Digital Input 2 Channels (5 & 6)	Type	Selectable pulse counter or event recorder
		Input	Contact closure or logic driven
		Excitation	3V at 20 µAmps maximum
		Pulse Width	10 ms minimum
Recording	Meter Register Inputs (Channels 7 & 8)	Reads absolute encoded register values; 4...9 digits in length; 3-wire synchronous interface, ASCII coded (for example, Sensus ECR, Neptune ProRead [3-wire], Badger Meter ADE & HR-E)	
	Sample Rate	4 per second to 1 per 8 hours; programmable	
	Clock Accuracy	0.01%	
	Memory Size	128 kbytes; 80,000 data values	
	Storage Method	Wrap around (first-in; first-out)	
Communication	Local	RS-232 5-pin circular connector rated IP67; Auto-selected baud rate to 19.2 K	
	Cellular	Internal Telog Cellular Modem WM2_MWW embedded LTE certified for Cat M1 on Verizon (US) and Bell (Canada); FirstNet available in USA	
		Module: Telit HE910-GL module/less than 2 W	
		Operational Modes: 1) GSM: B2 (1900 MHz) B3 (1800 MHz) B5 (850 MHz), B8 (900 MHz) 2) UMTS: B1 (2100 MHz), B2 (1900 MHz), B4 (AWS1700), B5 (850 MHz), B6 (800 MHz), B8 (900 MHz), B19 (800 MHz)	
Power	Bluetooth	Local Bluetooth BLE 4.1	
	Battery	Factory installed, field replaceable Telog BP-4 lithium battery pack	
	Battery Life	Up to 2800 data calls to host computer. Examples (@ medium to excellent signal strength):	
		Call Frequency	BatteryLife
Enclosure		1/day	5 years
		2/day	3 years
	External Power	9...30V DC @ 1A optional via customer supplied DC or solar. Battery becomes backup if external power is lost	
	Size	8 in. (204 mm) L × 8 in. (204 mm) W × 4 in. (102 mm) H	
Environmental	Weight	3 lb (1.4 kg)	
	Material	Polycarbonate	
	Temperature	-40...158° F (-40...70° C)	
Support Software	Rating	NEMA 6 (IP67)	
	Telogs for Windows® 6.77 or later		
	Telog Online		
Support Software	Remote Monitoring Software		

Telog Sensor Model PT-DS Series

Type	Strain gauge pressure sensor		
Range	Selectable 5, 10, 30, 100, 300, 1000 PSIG		
Cable	Vented Polyurethane 0.225 in. (5.715 mm) diameter		
Pressure Over Range	2× full scale with negligible calibration change; 4× containment pressure up to 2900 psi max.		
Physical	Pressure Fitting	1/4 in. NPT female	
	Environmental	Submersible to NEMA 6P (IP68)	
	Sensor Length	4.5 in. (114 mm)	
	Sensor Diameter (max)	1.0 in. (25.5 mm)	
	Sensor Body Material	316 stainless steel	
	Cable Weight	0.027 lb/ft	

ENCLOSURE DIMENSIONS



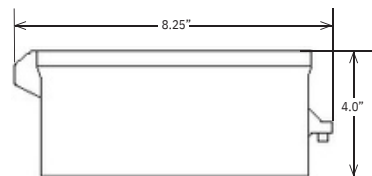
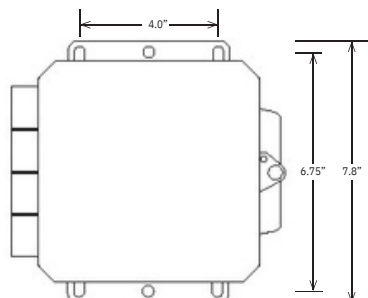
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