



# IN-SITU®

## TROLL® Link Telemetry Systems



### REAL-TIME DATA ACCESS

In-Situ® TROLL Link Telemetry Systems offer reliable, secure access to remote site data 24 hours a day. Use these systems for a variety of applications—long-term aquifer monitoring, stream and tide gaging, flood warning, storm surge monitoring, and water monitoring networks.

- **Save time and money:** Quickly access data while reducing site visits, labor costs, and travel expenditures.
- **Access real-time data from any location:** Satellite telemetry ensures communication with your sites. Event-driven sampling and real-time alarm notifications alert you to changing conditions. View and analyze data from anywhere by using Win-Situ® Plus Software or by using the secure In-Situ Data Center web site.
- **Network multiple wells or sites:** Build wireless monitoring networks with Banner MultiHop Radios, lower data service fees, and reduce the need for a telemetry system at each site.
- **Reduce power consumption:** Eliminate the need for on-site line power by combining low-power telemetry systems with energy saving In-Situ instruments. Solar power preserves probe battery life.

### REMOTE SITE CONTROL

View data when you need to and configure equipment without site visits.

### TROLL LINK 201 SYSTEMS FOR WEB-BASED ACCESS

This system offer access to many In-Situ probes with the In-Situ Data Center. The TROLL Link 201 System transmits data via the Iridium Satellite Network. Use this system to:

- Remotely configure the telemetry system.
- Provide access to real-time data for large user groups.
- Set up alarms and receive notifications of events via SMS, email, or phone call (multiple users/multiple parameters).
- Conduct event sampling and automatically increase data transmission during an event.
- Provide external power to attached instruments.
- Get guaranteed 7-day service for maintenance (U.S.A. only).

### Applications:

- LONG-TERM GROUNDWATER AND SURFACE WATER MONITORING
- EVENT NOTIFICATION-CREST STAGE GAGES, FLOOD WARNING SYSTEM, STORM SURGE, SLOPE STABILITY
- MINE DEWATERING AND ACID MINE DRAINAGE
- STORMWATER MANAGEMENT
- TIDE GAGING

COMMUNICATIONS	
TECHNOLOGY	TROLL LINK 201** Iridium Satellite Network
FREQUENCY RANGE	1616 to 1626.5 MHz
INTEGRATES WITH RADIO	Yes
DATA ACCESS MODE	
TCP/IP; DIAL-UP/CSD; SMS DATA	No
IN-SITU DATA CENTER	Yes
ALARM NOTIFICATIONS	
SMS AND EMAIL	Yes
PHONE	Yes
SINGLE CONTACT; SINGLE PARAMETER	Yes
MULTIPLE CONTACTS; MULTIPLE PARAMETERS	Yes
PROBE OPTIONS	
	Aqua TROLL 100, 200, & 400, BaroTROLL & Rugged BaroTROLL, Level TROLL 300, 500, & 700, RDO PRO Probe, Rugged TROLL 200, TROLL 9500
TROLL LINK TELEMETRY SPECIFICATIONS	
ENCLOSURE	NEMA 4X/IP67
OPERATIONAL TEMP. RANGE	Cellular: -20° to 60° C (-4° to 140° F) Satellite: -40° to 70° C (-40° to 158° F)
DIMENSIONS (WXHxD)	25.4 x 30.5 x 12.7 cm (10 x 12 x 5 in.)
WEIGHT	6.8 kg (15 lbs) – Includes battery
COMMUNICATION OPTIONS	Satellite
POWER SUPPLY OPTIONS	1-W solar panel (direct to system) 10-W solar panel (into External Battery Kit with charge controller) 20-W solar panel (into External Battery Kit with charge controller) 12 V, 7 Ah sealed lead-acid battery kit with charge controller
WARRANTY	1 year
TROLL NET HUB SPECIFICATIONS	
MODELS	4-port bulkhead; 8-port bulkhead; 4-port strain relief; 8-port strain relief. Models with strain relief are used with stripped-and-tinned cables.
ENCLOSURE	NEMA 4X/IP67
OPERATIONAL TEMP. RANGE	-40° to 60° C (-40° to 140° F); 95% relative humidity
STORAGE TEMP. RANGE	-40° to 85° C (-40° to 185° F); 95% relative humidity, non-condensing
DIMENSIONS (WXHxD)	16 x 16 x 9.04 cm (6.3 x 6.3 x 3.56 in.)
WEIGHT	4-port bulkhead: 694 g (1.53 lbs) 8-port bulkhead: 838 g (1.85 lbs) 4- and 8-port strain relief: 632 g (1.39 lbs)
POWER REQUIREMENTS	9-36 VDC (refer to instrument documentation for cable length and voltage limitations)
CURRENT DRAW	20 µA sleep mode (without instrument load) 60 mA wake mode (without instrument load)
WARRANTY	1 year

\* Discrete Input/Counter included. \*\*Optional Discrete Input/Counter available.  
Specifications are subject to change without notice.

**MULTIHOP RADIOS LOWER OPERATING COSTS**

With Banner Engineering MultiHop Data Radios, you can build wireless water monitoring networks that use In-Situ instruments, provide realtime data, improve project efficiency, and reduce expenses. Radios can be networked with In-Situ instruments into a TROLL Link Telemetry System. Call for details or visit [www.in-situ.com](http://www.in-situ.com).

**TROLL® NET HUB NETWORKS MULTIPLE PROBES**

- Networks up to eight devices into one telemetry system
- Maximum cable length of 1,219 m (4,000 ft) per Modbus/RS485 protocol
- Uses 9-36 VDC power source
- Passes power to attached probes when connected to external power

