geotech

In-Situ Rugged TROLL® Water Level Monitor and Logger

The Rugged TROLL 100 and 200 instruments are designed for long- and short-term groundwater and surface-water monitoring. The non-vented (absolute) instruments monitor and record changes in water level, pressure, and temperature. Use with a Rugged BaroTROLL® instrument for optimum accuracy. All instruments are compatible with the user-friendly Win-Situ® 5 or VuSitu® Mobile App software platform for programming and data retrieval.

FEATURES

Affordable Titanium Data Loggers

- Use instruments in harsh environments – Titanium construction offers chemical- and corrosion-resistance.
- Customize data logs for your application – Linear, fast linear, and event logging modes are available.

Simplified Setup and Data Retrieval

- Program and download data from a Rugged TROLL 100/200 or Rugged BaroTROLL with the Rugged TROLL® docking station.
- Communicate with a deployed Rugged TROLL 200 by using the low-cost Rugged TROLL® Com device, which connects to either a RuggedReader® handheld PC or a desktop/laptop computer, or mobile device.

Flexible Deployment Options

- Use suspension wire with hanger for long-term deployments requiring minimal instrument access (for all instruments).
- Use direct-read cable with the Rugged TROLL 200 or Rugged BaroTROLL for applications requiring real-time data access.
- Access data when you need it — The Rugged TROLL 200 or Rugged BaroTROLL can be connected to a TROLL® Link telemetry system or SCADA system via Modbus/RS485 or SDI-12.

APPLICATIONS

- **Coastal wetland and estuary research**
- **Crest stage gaging**
- **Drilling and well development**
- **Flood and storm surge monitoring**
- **Landfill monitoring**

Wireless Rugged TROLL Com

CALL GEOTECH TODAY **(800) 833-7958**

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In-Situ Rugged TROLL® Water Level Monitor and Logger

SPECIFICATIONS

General	Rugged TROLL 100 & 200	Rugged BaroTROLL®
Temperature Ranges[1]	Operational: 32-122°F (0-50°C) Storage: -40-176°F (-40-80°C) Calibrated: 32-122°F (0-50°C)	Operational: 32-122°F (0-50°C) Storage: -40-176°F (-40-80°C) Calibrated: 32-122°F (0-50°C)
Diameter	1.03 in. (2.62 cm)	1.03 in. (2.62 cm)
Length	5.68 in. (14.43 cm)	5.68 in. (14.43 cm)
Weight	137 g (0.30 lb.)	137 g (0.30 lb.)
Materials	Titanium body; Delrin® nose cone, hanger, backend	Titanium body; Delrin nose cone, hanger, backend
Output Options	Rugged TROLL 100: USB or RS232 via docking station Rugged TROLL 200: USB or RS232 via docking station; Modbus/RS485 or SDI-12 via Rugged TROLL 200 cable	USB or RS232 via docking station; Modbus/RS485 or SDI-12 via Rugged TROLL 200 cable
Battery Type & Life[2]	3.6V lithium; 10 years or 2M readings	3.6V lithium; 10 years or 2M readings
External Power	Rugged TROLL 100: NA Rugged TROLL 200: 8-36 VDC	8-36 VDC
Measurement Current	14 mA typical	14 mA typical
Sleep Current	20 µA typical	20 µA typical
Memory *Data Records*[3] *Data Logs*	2.0 MB 120,000 Rugged TROLL 100: 1 log Rugged TROLL 200: 2 logs	2.0 MB 120,000 2 logs
Fastest Logging Rate	1 per second	1 per minute
Fastest Output Rate	Rugged TROLL 200 only Modbus & SDI-12: 1 per second	Modbus & SDI-12: 1 per second
Log Types	Linear, Fast Linear, and Event	Linear
Sensor		
Range	30 ft. (9.0 m) (Burst: 60 ft.) 100 ft. (30 m) (Burst: 134 ft.) 250 ft. (76 m) (Burst: 368 ft.)	7.0 to 30.0 psi; 0.5 to 2 bar
Accuracy	±0.05% FS from -5 to 50°C	±0.05% FS from -5 to 50°C
Resolution	±0.01% FS or better	±0.01% FS or better
Units of Measure	Pressure: psi, kPa, bar, mbar, mmHg Level: in., ft., mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg
Temperature Sensor		
Range	Calibrated: 32-122°F (0-50°C)	Calibrated: 32-122°F (0-50°C)
Accuracy	±0.3°C	±0.3°C
Resolution	0.01°C or better	0.01°C or better
Units of Measure	Fahrenheit, Celsius	Fahrenheit, Celsius
Warranty	2 year	2 year

ACCESSORIES

Rugged TROLL® 200 Cable

Use the non-vented Rugged TROLL 200 cable to access a Rugged TROLL 200 or Rugged BaroTROLL. Use the Rugged TROLL 200 cable suspension kit to anchor the cable in place. The following configurations are available:

- Modbus/RS485 stripped and tinned cable or SDI-12 stripped and tinned cable — Use with PLC, telemetry system, or logger.
- Modbus/RS485 top-of-well cable — Use with Rugged TROLL Com and laptop PC or RuggedReader® handheld PC.

Wireless Rugged TROLL Com

The Wireless Rugged TROLL Com provides wireless communication between a cabled, deployed Rugged TROLL 100/200 and a PC/laptop, iOS, or Android mobile device. You can use the Wireless Rugged TROLL Com as a replacement for a standard wired communication cable/or docking station.

Rugged TROLL® Com Communication Device

Use the Rugged TROLL Com device for communication between a cabled Rugged TROLL 200 or Rugged BaroTROLL instrument and a RuggedReader handheld PC or a desktop/laptop computer. The Rugged TROLL Com communicates via Modbus/RS485.

Rugged TROLL® Docking Station

Use the docking station to program and download data from the Rugged TROLL 100 or 200 or from the Rugged BaroTROLL. The docking station is available with either a USB or RS232 communication interface. USB communication allows fast data transfer to a PC. The RS232 version is used with a PC or a RuggedReader handheld PC.

NOTES:

1 Temperature range for non-freezing liquids.

2 Typical battery life when used within the factory-calibrated temperature range.

3 1 data record = date/time plus 2 parameters logged for a total of 360,000 data points, no wrapping.

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