



## Level TROLL® 400, 500 & 700 Data Loggers

**GET WATER LEVEL DATA THE WAY YOU WANT IT, WHEN YOU WANT IT WITH INDUSTRY-LEADING WATER LEVEL/PRESSURE AND TEMPERATURE DATA LOGGERS. BY PARTNERING WITH IN-SITU, YOU RECEIVE DURABLE LEVEL TROLL® DATA LOGGERS THAT PROVIDE YEARS OF SERVICE, ACCURATE RESULTS, INTUITIVE SOFTWARE, AND REAL-TIME FUNCTIONALITY. USE THE VUSITU® MOBILE APP TO MANAGE YOUR DATA ON YOUR SMARTPHONE OR TABLET.**

### STREAMLINE DATA MANAGEMENT

- Reduce training and installation time by connecting your instrument to a TROLL® Com Plus for access to the intuitive VuSitu Mobile App.
- VuSitu simplifies instrument setup with user-friendly guides like Log Setup Assistant. Features like Spot-Check Assistant and Panoramic Live Data make spot checking easy. And you can tag data with site photos and GPS coordinates for convenient organization.
- VuSitu automatically uploads all logs, live recordings, calibration reports and other files to your HydroVu® account for secure data access, storage and management.
- Connect data loggers to VuLink Telemetry to access real-time data and critical event notifications from remote monitoring sites in HydroVu Data Services or a third-party data collection platform.

[in-situ.com](http://in-situ.com)

### RELIABLE

- **Deploy in all environments:** Install loggers in fresh water, saltwater, and contaminated waters. Solid titanium and sealed construction outperforms and outlasts specially coated data loggers. Patented twist-lock connectors, included on Level TROLL Data Loggers and RuggedCable® Systems, ensure error-free deployments.
- **Log accurate data:** Get optimal accuracy under all operating conditions. Sensors undergo a 3D, NIST®-traceable factory calibration across the full pressure and temperature range. For applications requiring the highest levels of accuracy, use a vented (gauged) system.
- **Get long-lasting operation:** Reduce trips to the field with low-power loggers that typically operate for 10 years.

### TOTAL FIELD SUPPORT

- **Receive technical support and online resources.**
- **Order data loggers and accessories from the In-Situ website.**
- **Get guaranteed 7-day service for maintenance (U.S. only).**

### Applications:

- **AQUIFER CHARACTERIZATION: SLUG & PUMPING TESTS**
- **COASTAL: TIDAL, WETLAND & ESTUARY STUDIES**
- **HYDROLOGIC EVENTS: STORM SURGE & FLOOD CONTROL SYSTEMS**
- **LONG-TERM, REAL-TIME GROUNDWATER & SURFACE WATER MONITORING**
- **MINING & REMEDIATION**

GENERAL	LEVEL TROLL 400	LEVEL TROLL 500	LEVEL TROLL 700	LEVEL BaroTROLL
TEMPERATURE RANGES <sup>1</sup>	Operational: -20 to 80° C (-4 to 176° F) Storage: -40 to 80° C (-40 to 176° F) Calibrated: -5 to 50° C (23 to 122° F)	Operational: -20 to 80° C (-4 to 176° F) Storage: -40 to 80° C (-40 to 176° F) Calibrated: -5 to 50° C (23 to 122° F)	Operational: -20 to 80° C (-4 to 176° F) Storage: -40 to 80° C (-40 to 176° F) Calibrated: -5 to 50° C (23 to 122° F)	Operational: -20 to 80° C (-4 to 176° F) Storage: -40 to 80° C (-40 to 176° F) Calibrated: -5 to 50° C (23 to 122° F)
DIAMETER	1.83 cm (0.72 in.)			
LENGTH	21.6 cm (8.5 in.)			
WEIGHT	124 g (0.27 lb)			
WETTED MATERIALS	Titanium, EPDM, Acetal	Titanium, EPDM, Acetal	Titanium, EPDM, Acetal	Titanium, EPDM, Acetal
OUTPUT OPTIONS	Modbus/RS485, SDI-12, 4 to 20 mA			
BATTERY TYPE & LIFE <sup>2</sup>	3.6V lithium; 10 years or 2M readings			
EXTERNAL POWER	8 to 36 VDC			
MEMORY Data records <sup>3</sup> Data logs	2.0 MB 120,000 50 logs	2.0 MB 120,000 50 logs	4.0 MB 250,000 50 logs	1.0 MB 60,000 2 logs
FASTEST LOGGING RATE	2 per second	2 per second	4 per second	1 per minute
FASTEST OUTPUT RATE	Modbus: 2 per second SDI-12 & 4 to 20 mA: 1 per second	Modbus: 2 per second SDI-12 & 4 to 20 mA: 1 per second	Modbus: 2 per second SDI-12 & 4 to 20 mA: 1 per second	Modbus: 2 per second SDI-12 & 4 to 20 mA: 1 per second
LOG TYPES	Linear, Fast Linear, and Event	Linear, Fast Linear, and Event	Linear, Fast Linear, Linear Average, Event, Step Linear, True Logarithmic	Linear
ENVIRONMENTAL RATINGS	IP67 without cable installed, IP68 with cable installed			

SENSOR TYPE/MATERIAL	PIEZORESISTIVE; TITANIUM	PIEZORESISTIVE; TITANIUM	PIEZORESISTIVE; TITANIUM	PIEZORESISTIVE; TITANIUM
RANGE	Absolute (non-vented) 30 psia: 11 m (35 ft) 100 psia: 60 m (197 ft) 300 psia: 200 m (658 ft) 500 psia: 341 m (1120 ft)	Gauged (vented) 5 psig: 3.5 m (11.5 ft) 15 psig: 11 m (35 ft) 30 psig: 21 m (69 ft) 100 psig: 70 m (231 ft) 300 psig: 210 m (692 ft) 500 psig: 351 m (1153 ft)	Absolute (non-vented) 30 psia: 11 m (35 ft) 100 psia: 60 m (197 ft) 300 psia: 200 m (658 ft) 500 psia: 341 m (1120 ft) 1000 psia: 693 m (2273 ft)  Gauged (vented) 5 psig: 3.5 m (11.5 ft) 15 psig: 11 m (35 ft) 30 psig: 21 m (69 ft) 100 psig: 70 m (231 ft) 300 psig: 210 m (692 ft) 500 psig: 351 m (1153 ft)	30 psia (usable up to 16.5 psi; 1.14 bar)
BURST PRESSURE	Max. 2x range; burst > 3x range	Max. 2x range; burst > 3x range	Max. 2x range; burst > 3x range	Vacuum/over-pressure above 16.5 psi damages sensor
ACCURACY	±0.05% FS from -5 to 50° C	±0.05% FS from -5 to 50° C	±0.05% FS from -5 to 50° C	±0.05% FS from -5 to 50° C
LONG-TERM STABILITY <sup>4</sup>	<0.1% FS	<0.1% FS	<0.1% FS	<0.1% FS
RESOLUTION	±0.005% FS or better	±0.005% FS or better	±0.005% FS or better	±0.005% FS or better
UNITS OF MEASURE	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH2O, inH2O Level: in., ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH2O, inH2O Level: in., ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH2O, inH2O Level: in., ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH2O, inH2O

TEMPERATURE SENSOR	SILICON	SILICON	SILICON	SILICON
ACCURACY	±0.1° C	±0.1° C	±0.1° C	±0.1° C
RESOLUTION	0.01° C or better			
UNITS OF MEASURE	Celsius or Fahrenheit	Celsius or Fahrenheit	Celsius or Fahrenheit	Celsius or Fahrenheit
WARRANTY <sup>5</sup>	3 YEARS	3 YEARS	3 YEARS	3 YEARS

NOTES: <sup>1</sup>Temperature range for non-freezing liquids. <sup>2</sup>Typical battery life when used within the factory-calibrated temperature range. <sup>3</sup>1 data record = date/time plus 2 parameters logged for a total of 360,000, 750,000, and 180,000 data points. (No wrapping) <sup>4</sup>Includes linearity and hysteresis over 1 year. <sup>5</sup>Up to 5-year (total) extended warranties are available for all sensors. Delrin is a registered trademark of E.I. du Pont de Nemours and Company. Specifications are subject to change without notice.