



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 Wireless TROLL® Com for access to the intuitive VuSitu Mobile App.
- VuSitu simplifies instrument setup with user-friendly guides like the Calibration and Log Setup Assistants. 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 instantly 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

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 ¹ | 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.) | 1.83 cm (0.72 in.) | 1.83 cm (0.72 in.) | 1.83 cm (0.72 in.) |
| LENGTH | 21.6 cm (8.5 in.) | 21.6 cm (8.5 in.) | 21.6 cm (8.5 in.) | 21.6 cm (8.5 in.) |
| WEIGHT | 124 g (0.27 lb) | 124 g (0.27 lb) | 124 g (0.27 lb) | 124 g (0.27 lb) |
| MATERIALS | Titanium, EPDM, Acetal | Titanium, EPDM, Acetal | Titanium, EPDM, Acetal | Titanium, EPDM, Acetal |
| OUTPUT OPTIONS | Modbus/RS485, SDI-12, 4 to 20 mA | Modbus/RS485, SDI-12, 4 to 20 mA | Modbus/RS485, SDI-12, 4 to 20 mA | Modbus/RS485, SDI-12, 4 to 20 mA |
| BATTERY TYPE & LIFE ² | 3.6V lithium; 10 years or 2M readings | 3.6V lithium; 10 years or 2M readings | 3.6V lithium; 10 years or 2M readings | 3.6V lithium; 10 years or 2M readings |
| EXTERNAL POWER | 8 to 36 VDC | 8 to 36 VDC | 8 to 36 VDC | 8 to 36 VDC |
| MEMORY Data records ³ 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 |
| 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 ⁴ | <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 | 0.01° C or better | 0.01° C or better | 0.01° C or better |
| UNITS OF MEASURE | Celsius or Fahrenheit | Celsius or Fahrenheit | Celsius or Fahrenheit | Celsius or Fahrenheit |
| WARRANTY ⁵ | 3 YEARS | 3 YEARS | 3 YEARS | 3 YEARS |

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, 750,000, and 180,000 data points. (No wrapping) ⁴ Includes linearity and hysteresis over 1 year. ⁵ 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.