Aqua TROLL® CTD Data Loggers

Conductivity, Temperature, Plus Water Level Logging

Measure and record water level, water pressure, conductivity, and temperature with the Aqua TROLL 200, or only conductivity and temperature with the Aqua TROLL 100. Unique conductivity cell allows for a wide, accurate measurement range in a narrow diameter instrument (sub-1 inch).

Accurate Results

- **Use dynamic density compensation** to collect accurate water level data in environments where salinity values may vary.
- **Receive factory-calibrated instruments** that are validated with NIST®-traceable standards.
- **Deploy for long-term monitoring**. Instruments operate with very low drift.

Flexible Communications

- **Streamline data management:** Use the VuSitu Mobile App to consolidate all site information on your smartphone, and tag data with site photos and GPS coordinates. Simply connect the instrument to a Wireless TROLL Com or power pack, launch the mobile app, and start reading results. The mobile app guides you through instrument and log setup, and data management. Log data to your smartphone and download results in a standard .csv file format.
- **Integrate into telemetry and SCADA systems and HydroVu™ Data Services** for real-time data and automatic event alerts. Outputs include standard Modbus/RS485, SDI-12, and 4-20 mA.
- **Streamline data collection and analysis**. Simplify instrument setup, automate site management, and generate reports with user-friendly VuSitu Mobile and Win-Situ® PC Software.

Rugged, Compact Design

- **Use in harsh environments** such as coastal, remediation, and mine water monitoring projects. Titanium construction resists fouling and is chemical- and corrosion-resistant.
- **Sub-1 inch design** fits narrow diameter, 1-inch wells.
- **Use RuggedCable® Systems** with titanium twist-lock connectors for quick, reliable connections. Integrate with the Rugged Cable Splitter to attach multiple In-Situ instruments in a single water column with a single connector, allowing you to measure multiple paramaters at various depths simultanously.

World Class Support

- **One-stop-shop for purchasing and support.**
- **24/7/365 technical support is just a phone call away.**
- **Guaranteed 7-day service for maintenance (U.S.A only).**

Applications

- **Aquifer storage and recovery systems**
- **Coastal deployments—saltwater intrusion monitoring, storm surge analysis, and estuary/wetland research**
- **Remediation site and mine water monitoring**
- **Stormwater monitoring programs**

CALL OR CLICK TO PURCHASE OR RENT
1-800-446-7488 (toll-free in U.S.A. and Canada)
1-970-498-1500 (U.S.A. and international)
WWW.IN-SITU.COM

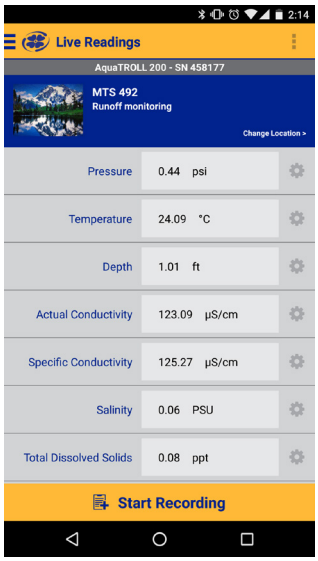
Aqua TROLL® 100 and 200 Data Loggers

Spec Sheet

In-Situ

Aqua TROLL 100 and 200 Instruments	
Temperature ranges[1]	Operational: -5 to 50° C (23 to 122° F) Storage: -40 to 65° C (-40 to 149° F) Calibrated: 0 to 50° C (32 to 122° F)
Dimensions & Weight	Diameter (OD): 1.83 cm (0.72 in.) Length: 31.5 cm (12.4 in.) Weight: 188 g (0.41 lb)
Materials	Titanium body and sensors, Delrin® nose cone, and PVC conductivity cell
Output options	Modbus/RS485, SDI-12, and 4-20 mA
Battery type & life[2]	3.6V lithium. 5 years or 200,000 readings[3]
External power	8-36 VDC; Measurement current: 15 mA; Sleep current: 40 mA
Memory **Data records**[4] **Data logs**	4.0 MB 190,000 50
Log types[5]	Linear, Linear Average, and Event
Fastest logging rate	Linear: 1 per minute. Linear Average: 1 per minute. Event: 1 per second
Fastest output rate	1 per second
Conductivity Sensor	Type: Balanced 4-electrode cell
Methods	EPA Method 120.1; Standard Methods 2510
Range, accuracy, & resolution	Range: 0 to 100,000 µS/cm Accuracy: ± 0.5% of reading + 1 µS/cm when reading less than 80,000 µS/cm ± 1.0% of reading when reading above 80,000 µS/cm Resolution: 0.1 µS/cm
Parameters supported[6]	*Range* / *Units*
Actual conductivity	0 to 100,000 µS/cm / µS/cm, mS/cm
Specific conductivity[7]	0 to 100,000 µS/cm / µS/cm, mS/cm
Salinity[8]	0 to 42 PSU / PSU
Total dissolved solids	0 to 82 ppt / ppt, ppm
Resistivity	10 to 200,000 Ohms-cm / Ohms-cm
Density (water salinity)	0.98 to 1.14 g/cm^3 / g/cm^3
Pressure/Level/Sensor[9]	Type: Piezoresistive. Pressure/level are available only on the Aqua TROLL 200 Instrument.
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 (1,120 ft) *Guaged (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)
Burst Pressure	Maximum 2x range; burst > 3x range
Max Pressure for Aqua TROLL 100	500 psi (1,153 ft)
Accuracy & resolution[10]	Accuracy @ 15° C: ±0.05% full scale (FS)[11] Accuracy 0 to 50° C: ±0.1% FS[12] Resolution: 0.005% FS or better
Long-Term Stability	<0.1% FS
Units of Measure	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH_2O, inH_2O. Level: in, ft, mm, cm, m
Temperature Sensor	
Method	EPA Method 170.1
Accuracy & resolution	Accuracy: ±0.1° C. Resolution: 0.01° C or better
Units of measure	Celsius or Fahrenheit
Warranty	2 years. Up to 5-year (total) extended warranties available—please call for details.

VuSitu Mobile App



Use the VuSitu Mobile App to access and manage data on your Android™ smartphone or tablet. Intuitive , free mobile app is an all-in-one software package that provides auto-configuration, simplified calibration, guided log setup, directed data anaysis, and automated report creation. Tag data with site photos and GPS coordinates. View results in the field and email data on the spot. Download through the Google Play Store.

HydroVu Data Services

Get decision-quality data anywhere, anytime, with cloud-based HydroVu Data Services. Integrate with In-Situ instruments and telemetry systems for real-time feedback on all your remote water monitoring sites.

[1] Temperature range for non-freezing liquids
[2] Typical battery life when used within the factory-calibrated temperature range, dependent on site conditions
[3] 1 reading = date/time plus all available parameters polled or logged from device
[4] 1 data record = date/time plus 3 parameters logged (no wrapping) from device
[5] External power or battery pack is recommended when using Linear Average or Event logging modes.
[6] Parameters derived from temperature at 25° C and actual conductivity range of 0 to 100,000 µS/cm with a ±0.5% + 1 µS/cm accuracy
[7] Derived from Standard Methods 2510B
[8] Defined by the Practical Salinity Scale 1978; Standard Methods 2520B
[9] Real-time level compensation based on water density
[10] Accuracy with 4-20 mA output option: ±0.25% FS
[11] Across factory-calibrated pressure range
[12] Across factory-calibrated pressure and temperature ranges
Specifications are subject to change without notice.

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