



Aqua TROLL® 600 Multiparameter Sonde

REDUCE OPERATIONAL EXPENSES WITH THIS CUSTOMIZABLE, POWERFUL, AND EASY-TO-USE MULTIPARAMETER SONDE. THE AQUA TROLL 600 COMBINES UNIQUE INDUSTRY-LEADING WATER QUALITY TECHNOLOGY, BUILT-IN LCD DISPLAY, AND REVOLUTIONARY SMARTPHONE MOBILITY. LOW POWER CONSUMPTION AND ADVANCED ANTIFOULING FOR UP TO 9+ MONTH DEPLOYMENT SUPPORTS LONG-TERM INSTALLATION IN ANY APPLICATION.

The Aqua TROLL 600 water quality platform is rugged in groundwater and corrosion-resistant in surface water, delivering accurate, reliable data in an easy-to-use, flexible instrument that performs for years. Base sensor configuration includes EPA-approved optical dissolved oxygen, pH/ORP, turbidity, conductivity, temperature, and pressure. Integrate with In-Situ telemetry systems and HydroVu™ Data Services for real-time feedback on your remote monitoring sites.

BE MOBILE

- **Use the Aqua TROLL 600 anywhere:** Titanium components and vented or non-vented options make it perfect for challenging environments and long-term deployments in fresh and salt water. Every detail has been engineered to be easy, reliable, and cost-effective.
- **Save time in the field:** VuSitu's Calibration Assistant reduces errors and ensures accurate calibration values every time. Calibrate multiple sensors at once with Quick-Cal Solution.

www.in-situ.com

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1-800-446-7488 (toll-free in U.S.A. and Canada)
1-970-498-1500 (U.S.A. and international)

- **Streamline data management:** Set up logs and manage data from the field using the VuSitu™ Mobile App. Consolidate all site information on your mobile device and tag sites with photos and GPS coordinates. Log data to your smartphone and download results in a Universal Data File for profiling, low-flow sampling, and more.

BE SMART

- **Status in an instant:** LCD display gives you an instant visual indication of sensor status, data log, battery life, and overall functionality to give confidence during deployment. The onboard SD card allows for quick and easy data backup and transfer.
- **No fuss antifouling:** Antifouling to protect all sensors. The only multiparameter sonde to have a sub-2 inch active antifouling system with cleanable conductivity.
- **Get accurate results:** Self-compensating turbidity/RDO/level, smart diagnostics, and stable sensor technology provide minimal drift and increased accuracy with NIST-traceable factory calibration report. Smart sensors store information internally, maintaining data and calibration within the sensor for traceable results.

TOTAL FIELD SUPPORT

- **Receive 24/7 technical support and online resources.**
- **Order products and accessories from the In-Situ website.**
- **Get guaranteed 7-day service for maintenance (U.S.A. only).**

Applications:

- LAKE, STREAM AND WETLAND MONITORING
- STORMWATER MANAGEMENT
- COASTAL DEPLOYMENTS
- DAM MONITORING
- LOW-FLOW GROUNDWATER SAMPLING
- REMEDIATION AND MINE WATER MONITORING

| GENERAL | | AQUA TROLL 600 MULTIPARAMETER SONDE | | | | |
|---|---|---|---|---------------------------|---|---|
| OPERATING TEMPERATURE (NON-FREEZING) | -5 to 50° C (23 to 122° F) ISE: Ammonium & Nitrate 0 to 40° C; Chloride 0 to 50° C | ENVIRONMENTAL RATING | IP68 with all sensors and cable attached IP67 without the sensors, battery cover or cable attached | | | |
| STORAGE TEMPERATURE | Components w/o fluid: -40° C to 65° C (non-freezing water); pH/ORP: -5° C to 65° C; Ammonium/Nitrate: 0 to 40° C; Chloride: 0 to 50° C | INTERNAL MEMORY ¹ MICRO SD CARD ² | 16 MB; 8+ GB micro SD card included, user replaceable | | | |
| DIMENSIONS | 4.7 cm (1.85 in.) OD x 60.2 cm (23.7 in.) (includes connector) With bail: 72.9 cm (28.7 in.) | INTERNAL POWER BATTERY LIFE ³ | 2 internal user-replaceable Alkaline D batteries >6 months typical with wiping; >9 months typical with no wiping | | | |
| WETTED MATERIALS | PC, PC alloy, Delrin™, Santoprene™, Inconel™, Viton™, Titanium, Platinum, Ceramic, Nylon | EXTERNAL POWER VOLTAGE EXTERNAL POWER CURRENT ⁴ | 8-36 VDC (not required for normal operation); Sleep: 0.10 mA typical Measurement: 16 mA typical, 45 mA max | | | |
| WEIGHT | 1.45 kg / 3.2 lbs (includes all sensors, batteries, and bail) | HEX SCREW DRIVER | 0.050, 1.3 mm | | | |
| MAX PRESSURE RATING | Up to 350 PSI | COMMUNICATION DEVICE | TROLL Com or Wireless TROLL Com | | | |
| OUTPUT OPTIONS | RS-485/MODBUS, SDI-12, Bluetooth® | CABLE OPTIONS | Vented or non-vented polyurethane or vented Tefzel® | | | |
| READING RATES | 1 reading every 2 seconds | LCD DISPLAY | Integrated display shows status of sonde, sensor ports, data log, battery and connectivity. | | | |
| DATA LOGGING | 50 logs (defined, scheduled to run, or stored) | SOFTWARE | Android™: VuSitu through Google Play™, Windows®: Win-Situ 5, Data Services: HydroVu | | | |
| LOGGING MODES | Linear, Linear Average, Event | INTERFACE | Android 4.4, requires Bluetooth 2.0; Win-Situ 5 Software | | | |
| LOGGING RATE | 1 minute to 99 hours | CERTIFICATIONS | CE, FCC, WEEE, RoHS Compliant | | | |
| STANDARD SENSORS | ACCURACY | RANGE | RESOLUTION/PRECISION | RESPONSE TIME | UNITS OF MEASURE | METHODOLOGY |
| TEMPERATURE ⁵ | ± 0.1° C | -5 to 50° C (23 to 122° F) | 0.01° C | T63<2s, T90<15s, 95<30s | Celsius or Fahrenheit | EPA 170.1 |
| BAROMETRIC PRESSURE | ± 1.0 mbars | 300 to 1,100 mbar | 0.1 mbar | T63<1s, T90<1s, T95<1s | Pressure: psi, kPa, bar, mbar, inHg, mmHg | Silicon strain gauge |
| pH ⁶ | ±0.1 pH unit or better | 0 to 14 pH units | 0.01 pH | T63<3s, T90<15s, 95<30s | pH, mV | Std. Methods 4500-H+/EPA 150.2 |
| ORP ⁷ | ±5 mV | ±1,400 mV | 0.1 mV | T63<3s, T90<15s, 95<30s | mV | Std. Methods 2580 |
| CONDUCTIVITY ⁸ | ±0.5% of reading plus 1 µS/cm from 0 to 100,000 µS/cm; ±1.0% of reading from 100,000 to 200,000 µS/cm; ±2.0% of reading from 200,000 to 350,000 µS/cm | 0 to 350,000 µS/cm | 0.1 µS/cm | T63<1s, T90<3s, T95<5s | Actual conductivity (µS/cm, mS/cm); Specific conductivity (µS/cm, mS/cm); Salinity (PSU); Total dissolved solids (ppt, ppm); Resistivity (Ohms-cm); Density (g/cm3) | Std. Methods 2510/EPA 120.1 |
| TDS (DERIVED FROM CONDUCTIVITY AND TEMP) | - | 0 to 350 ppt | 0.1 ppt | - | ppt, ppm | - |
| SALINITY (DERIVED FROM CONDUCTIVITY AND TEMP) | - | 0 to 350 PSU | 0.1 PSU | - | PSU, ppt | Std. Methods 2520A |
| RUGGED DISSOLVED OXYGEN (RDO) WITH RDO-X ⁹ | ±0.1 mg/L ±2% of reading | 0 to 20 mg/L 20 to 50 mg/L | 0.01 mg/L | T63<15s, T90<45s, T95<60s | mg/L, % saturation, ppm | EPA-approved In-Situ Methods: 1002-8-2009, 1003-8-2009, 1004-8-2009 |
| TURBIDITY | ±2% of reading or ±2 NTU, FNU, whichever is greater | 0 to 4,000 NTU | 0.01 NTU (0 to 1,000); 0.1 NTU (1,000 to 4,000) | T63<1s, T90<1s, T95<1s | NTU, FNU | ISO 7027 |
| TSS (DERIVED FROM TURBIDITY) ¹⁰ | - | 0 to 1,500 mg/L | 0.1 mg/L | - | ppt, mg/L | - |
| AMMONIUM (NH ₄ ⁺ -N) ^{11,12} RATED TO 25 m DEPTH -Unionized Ammonia, Total Ammonia (derived from Ammonium & pH sensor) | ±10% of reading or ±2 mg/L w.i.g. ¹² | 0 to 10,000 mg/L as N | 0.01 mg/L | T63<1s, T90<10s, T95<30s | mg/L, ppm, mV | - |
| NITRATE (NO ₃ ⁻ -N) ¹¹ RATED TO 25 m DEPTH | ±10% of reading or ±2 mg/L w.i.g. ¹² | 0 to 40,000 mg/L as N | 0.01 mg/L | T63<1s, T90<1s, T95<1s | mg/L, ppm, mV | Std. Methods 4500 NO ₃ -D |
| CHLORIDE (CL) ¹¹ | ±10% of reading or ±2 mg/L w.i.g. ¹² | 0 to 150,000 mg/L as Cl | 0.01 mg/L | T63<1s, T90<10s, T95<30s | mg/L, ppm, mV | Std. Methods 4500 Cl-D |
| PRESSURE ¹³ (OPTIONAL) | ±0.1% FS from -5 to 50°C | Non-Vented or Vented 9.0 m (30ft) (Burst: 27 m; 90 ft) 30 m (100 ft) (Burst: 40 m; 130 ft) 76 m (250 ft) (Burst: 107 m; 350 ft) 200 m (650 ft) (Burst: 229 m; 750 ft) | 0.01% full scale | T63<1s, T90<1s, T95<1s | Pressure: psi, kPa, bar, mbar, inHg, mmHg Level: in, ft, mm, cm, m, cmH2O, inH2O | Piezoresistive; Ceramic |
| WARRANTY ¹⁴ | 2 year - Sonde, RDO and sensor cap, temperature/conductivity, temperature only, turbidity (excluding pH/ORP); 1 year - pH/ORP, accessories; 90 days - ISE Sensors; Other: see warranty policy (www.in-situ.com/warranty) | | | | | |

NOTES: ¹For 30 parameters >100,000 data records, > 3 years at 15 min. interval. A single data record includes timestamp, temperature, RDO, pH, ORP, turbidity and conductivity logged in Linear or Linear Average mode. ²Log data recorded to SD card in comma delimited variable (CSV) file format. Greater than 32 GB not supported. ³Logging all sensors at 15 min interval on 2 D Alkaline batteries. Battery life dependent on site conditions and wiping. ⁴Dependent on display and wiping. ⁵Sensor only, when transferring from air to ambient water temperature. Typical system response time with all sensors and restrictor: T63<30s, T90<3.5m, T95<7.5m. ⁶Response time at thermal equilibrium. ⁷Accuracy from calibration standard @ 25C, response at thermal equilibrium immediately following calibration measuring from air to +400 mV. ⁸Accuracy at calibration points. ⁹RDO sensor full range 0-50mg/L, 0-500% sat. EPA-approved under the Alternate Test Procedure process. ¹⁰User-defined reference. ¹¹Between 2 calibration points immediately following proper conditioning and calibration. Varies on site conditions and environmental interferences. See sensor summary sheet for potential interferences. ¹²Average response; can be longer with increasing concentrations of ammonium. ¹³Typical performance across full temperature and pressure calibrated range. ¹⁴Extended warranty option for sonde only (1 to 3 year extension for up to 5 years total). *Specifications are subject to change without notice.*

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