



Aqua TROLL® 500 Multiparameter Sonde

REDUCE MONITORING COSTS AND GET BETTER DATA FASTER WITH THE AQUA TROLL 500, A COST-EFFECTIVE MULTIPARAMETER SONDE IDEAL FOR BOTH SPOT CHECKS AND LONG-TERM MONITORING. THIS WIRELESS-ENABLED INSTRUMENT STREAMLINES DATA COLLECTION, SAVING HOURS IN THE FIELD WHILE DELIVERING MORE RELIABLE DATA.

The customizable sonde comes with sensors that include:

- RDO® Optical Dissolved Oxygen
- Actual and specific conductivity
- pH/ORP
- Salinity
- Total dissolved solids (TDS)
- Resistivity
- Density
- Turbidity
- Temperature and pressure
- Ion Selective Electrodes
- Fluorometers

Connect the Aqua TROLL 500 to a Wireless TROLL Com and use it as a handheld, or connect the sonde to control systems or telemetry for remote monitoring.

BE SMART

- **Lower cost of ownership:** Rugged multiparameter sonde with wet-mateable sensors replaces single parameter instruments and requires minimal maintenance and calibration.
- **Data you can count on:** The corrosion-resistant multiparameter sonde withstands harsh environments. Highly stable sensors with simple calibration. LCD readout of sensor health and connectivity gives you confidence in your deployment.

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)

- **Simple setup:** Connect easily with telemetry, PLC/SCADA or dataloggers, or download real-time data wirelessly via mobile app for spot checks and profiling. The app walks you through instrument setup, just click to download and share data—no training or post-processing required.

BE MOBILE

- **Save time in the field:** Auto-configuration and fast sensor response speed up sampling, while automated data collection eliminates the need to record data in field logs.
- **Use the Aqua TROLL 500 anywhere:** Flexible multiparameter sonde works for spot checks and low-flow sampling as well as long-term deployments. Anti-fouling wiper and titanium construction provide reliability even in challenging conditions.
- **Take your data with you:** VuSitu Mobile App records data directly from the probe. Log Setup Assistant simplifies instrument setup and reduces errors. Optimize your data with Panoramic Live Data.

TOTAL FIELD SUPPORT

- **Get free 24/7 tech support and application guidance in the field**
- **Guaranteed 7-day maintenance turnaround**
- **Top rated for customer service for over 40 years**

Applications:

- SURFACE WATER SPOT SAMPLING AND PROFILING
- REMOTE MONITORING VIA TELEMTRY
- LONG-TERM DRINKING WATER, WASTEWATER OR STORMWATER MONITORING
- AQUACULTURE
- WIRED OR WIRELESS WATER QUALITY NETWORKS

GENERAL		AQUA TROLL 500 MULTIPARAMETER SONDE				
OPERATING TEMP. (NON-FREEZING)	-5 to 50°C (23 to 122°F) ISE: Ammonium and Nitrate 0 - 40°C, Chloride 0 - 50°C	EXTERNAL POWER VOLTAGE	8-36 VDC; Required for normal operation			
STORAGE TEMP.	Components Without Fluid -40°C to + 65°C (Non Freezing Water) pH/ORP Sensors -5°C to +65°C Ammonium/Nitrate: 0 - 40°C Chloride: 0 - 50°C	EXTERNAL POWER CURRENT ¹	Sleep: < 0.2 mA typical; Measurement: 40 mA typical, 75 mA Max			
DIMENSIONS	Length: 46 cm (18.145") (includes connector). With bail: 59 cm (23.25") Diameter: 4.7 cm (1.860")	INTERNAL MEMORY AND DATA LOGGING	Use external datalogger or telemetry			
WEIGHT	0.978 kg / 2.15 lbs. (includes instrument, sensors, restrictor and bumpers)	READING RATES	1 reading every 2 seconds			
WETTED MATERIALS (SONDE AND SENSORS)	PC, PC alloy, Delrin, Santoprene, Inconel, Viton, Titanium, Platinum, Ceramic, Nylon, PVC, Graphite	COMMUNICATION DEVICE	Wireless TROLL Com			
SENSOR HEX SCREW DRIVER	0.050, 1.3 mm	CABLE OPTIONS	Vented or non-vented polyurethane or vented Tefzel®			
ENVIRONMENTAL RATING	IP68 with all sensors and cable attached IP67 without the sensors or cable attached	LCD DISPLAY	Integrated display shows status of sonde, sensor ports, power voltage and connectivity, enable/disable BT.			
MAX PRESSURE RATING	Up to 150 PSI Ammonium/Nitrate up to 30PSI	SOFTWARE	Android™: VuSitu through Google Play and Amazon® App Store iOS: VuSitu through Apple® App Store, Windows: Win-Situ 5 Data Services: HydroVu			
OUTPUT OPTIONS	RS-485/MODBUS, SDI-12, Bluetooth	INTERFACE	Android, and iOS through VuSitu. PC through Win-Situ 5. Requires Bluetooth 2.0.			
		CERTIFICATIONS	CE, FCC, WEEE, RoHS Compliant			
STANDARD SENSORS	ACCURACY	RANGE	RESOLUTION/PRECISION	RESPONSE TIME	UNITS OF MEASURE	METHODOLOGY
TEMPERATURE ²	± 0.1°C	-5 to 50°C (23 to 122°F)	0.01°C	T63<2s, T90<15s, T95<30s	Celsius or Fahrenheit	EPA 170.1
BAROMETRIC PRESSURE (VENTED MODELS ONLY)	± 1.0 mBars	300 - 1100 mBars	0.1 mBar	T63<1s, T90<1s, T95<1s	Pressure: psi, kPa, bar, mbar, inHg, mmHg;	Silicon strain gauge
pH ³	±0.1 pH unit or better	0-14 pH	0.01 pH	T63<3s, T90<15s, T95<30s	pH, mV	Std. Methods 4500-H+, EPA 150.2
ORP ⁴	+/- 5 mV	±1400 mV	0.1 mV	T63<3s, T90<15s, T95<30s	mV	Std. Methods 2580
CONDUCTIVITY ⁵	±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, ppt); 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 OR FAST CAP ⁶	±0.1 mg/L ±2% of reading	0 to 20 mg/L 20 to 60 mg/L	0.01 mg/L	RDO-X: T63<15s, T90<45s, T95<60s Fast Cap: T63<3s, T90<30s, T95<45s	mg/L, %saturation, ppm	EPA-approved In-Situ Methods: 1002-8-2009, 1003-8-2009, 1004-8-2009
TURBIDITY	±2% of reading or ±0.5 NTU, FNU, w.i.g. ¹²	0 - 4,000 NTU 0-1,500 mg/L	0.01 NTU (0-1,000); 0.1 NTU (1,000-4,000) 0.1 mg/L	T63<1s, T90<1s, T95<1s	NTU, FNU ppt, mg/L	ISO 7027
TSS (TOTAL SUSPENDED SOLIDS) ⁷	-	0 to 1,500 mg/L	0.1 mg/L	-	ppt, mg/L	-
AMMONIUM (NH4+ - N) ^{8,9} RATED TO 25 M DEPTH -Unionized Ammonia, Total Ammonia (requires salinity, temperature and pH)	±10% or ± 2 mg/L, w.i.g. ¹²	0-10,000 mg/L as N	0.01 mg/L	T63<1s, T90<10s, T95<30s	mg/L, ppm, mV	-
	-	0-10,000 mg/L as N	0.01 mg/L	-	mg/L, ppm	-
NITRATE (NO3 - - N) ⁸ RATED TO 25 m DEPTH	±10% or ± 2 mg/L, w.i.g. ¹²	0-40,000 mg/L as N	0.01 mg/L	T63<1s, T90<1s, T95<1s	mg/L, ppm, mV	Std. Methods 4500-NO3 D
CHLORIDE (CL-) ⁸	±10% or ± 2 mg/L, w.i.g. ¹²	0-150,000 mg/L	0.01 mg/L	T63<1s, T90<10s, T95<30s	mg/L, ppm, mV	Std. Methods 4500-CL-D
PRESSURE (OPTIONAL) ¹⁰	±0.1% FS from -5 to 50°C	Non-Vented or Vented 9.0 m (30 ft.) - Burst: 27 m (90 ft.) 30 m (100 ft.) - Burst: 40 m (130 ft.) 76 m (250 ft.) - Burst: 107 m (350 ft.) 100 m (325 ft.) - Burst: 200 m (650 ft.)	0.01% full scale	T63<1s, T90<1s, T95<1s	Pressure: psi, kPa, bar, mbar, inHg, mmHg; Level: in, ft., mm, cm, m; Level: in, ft., mm, cm, m	Piezoresistive; Ceramic
WARRANTY ¹¹	2 year - Sonde, RDO and Sensor Cap, Temperature/Conductivity, Temperature only, Turbidity (excluding pH/ORP), Wiper; 1 year - pH/ORP, Chloride ISE, Accessories; 90 Days - Nitrate and Ammonium ISE sensors; See warranty policy (www.in-situ.com/warranty)					
NOTES	¹ External power current dependent on display and wiping. ² Typical system response with instrument, sensors and restrictor when changing approximately 15°C in moderate flow. ³ pH sensor Response time at thermal equilibrium. ⁴ ORP sensor Accuracy from calibration standard @ 25C, response-at thermal equilibrium immediately following calibration in ZoBell's measuring from air to +400 mV. ⁵ Conductivity Accuracy at calibration points. ⁶ RDO sensor full range 0-60mg/L, 0-600% sat. EPA-approved under the Alternate Test Procedure process. ⁷ TSS User defined reference. ⁸ ISE Between 2 calibration points immediately following proper conditioning and calibration. Varies on site conditions and environmental interferences. See sensor summary sheet for potential interferences. ⁹ Ammonia Average response, can be longer with increasing concentrations of ammonium. ¹⁰ Pressure Typical performance across full temperature and pressure calibrated range. ¹¹ Warranty Extended warranty option for sonde only (1-3 year extension for up to 5 years total). ¹² Whichever is greater.					

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