



Aqua TROLL® 400 Multiparameter Probe

CONFIGURING YOUR INSTRUMENT CAN BE TIME CONSUMING, FRUSTRATING AND EXPENSIVE. THE COMPACT AQUA TROLL 400 MULTIPARAMETER PROCESS PROBE SIMPLIFIES DECISION MAKING BY OFFERING A STANDARD SUITE OF SIX WATER QUALITY SENSORS, HOUSED IN A SUB-2 INCH UNIT.

This all-in-one, durable probe continuously measures 12 parameters from six sensors:

1. Actual and specific conductivity, salinity, total dissolved solids, resistivity, and density
2. Dissolved oxygen (optical RDO®)
3. ORP
4. pH
5. Temperature
6. Water level and water pressure (absolute)

Leveraging proven technologies, like the patented, EPA-approved optical RDO® Sensor, the Aqua TROLL 400 decreases setup, calibration and maintenance time. Ideal for long-term groundwater and surface water monitoring projects, you can deploy the probe for months of unattended operation. Partner with In-Situ to meet the challenges of reduced manpower and 24/7 demand.

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CONFIDENCE IN YOUR DATA

- Field-tested sensor technologies lower your total cost of ownership and provide stable, accurate results.
- Receive 3D factory calibrated sensors that are validated with NIST®-traceable standards (where applicable).
- DO readings are automatically compensated for salinity, and DO and Level readings are automatically compensated for barometric pressure.
- The probe connects to VuLink, making it easy to collect, access and manage your data.

GREATER EFFICIENCY AND FLEXIBILITY

- Easy installation reduces training time, increasing productivity.
- With open communication protocols, the instrument easily interfaces with your current system. Connect to the VuSitu® Mobile App with a Wireless TROLL® Com for instant readings on your mobile device. Or access data anytime with a radio, controller, data logger, sampler, telemetry system, SCADA/ PLC system, or HydroVu® Data Services. VuSitu automatically sends data to HydroVu for secure and convenient cloud storage.
- Long-lasting calibrations reduce site visits.
- The narrow-diameter instrument operates in fresh, marine, and process waters.

TOTAL FIELD SUPPORT

- Application and deployment guidance
- Technical support is always just a phone call away
- Seven-day service for maintenance and calibration (U.S. only)

Applications:

- **LONG-TERM GROUNDWATER AND SURFACE WATER MONITORING**
- **COASTAL DEPLOYMENTS—ESTUARIES AND WETLANDS**
- **REAL-TIME WATER QUALITY MONITORING NETWORKS**
- **REMEDIATION AND MINING**
- **STORMWATER MANAGEMENT**

GENERAL	AQUA TROLL 400 MULTIPARAMETER PROBE						
OPERATING TEMP.	-5 to 50° C (23 to 122° F)						
STORAGE TEMP.	-40 to 65° C (-40 to 140° F)						
DIMENSIONS AND WEIGHT	Dimensions: 4.7 cm (1.85 in.) OD x 26.9 cm (10.6 in.) with restrictor installed (does not include cable connector). Weight: 694 g (1.53 lbs)						
WETTED MATERIALS	Acetal, PVC, Ceramic, FKM Fluoroelastomer, Titanium, Glass, Platinum, 316 Stainless Steel, Polycarbonate/Polymethylmethacrylate (PC/PMMA) blend, Acrylic						
ENVIRONMENTAL RATING	IP68 with all sensors and cable attached. IP67 with sensors removed or cable detached.						
MAX. PRESSURE RATING	112 m (368 ft); 160 psi						
OUTPUT OPTIONS	Modbus/RS485 and SDI-12						
PROBE READING RATE	1 reading every 5 seconds (no internal logging)						
POWER	Required: 8-36 VDC (no internal battery). Measurement current: 16 mA @ 24 VDC. Sleep current: 40 µA @ 24 VDC						
INTERFACE	VuSitu Mobile App with Wireless TROLL Com; Vulink Telemetry System; SCADA/PLC; HydroVu Data Services, and third-party data loggers, samplers, controllers, and telemetry systems.						
CABLE	Customizable, non-vented (absolute) RuggedCable® System is available in either Tefzel® or polyurethane.						
STANDARD SENSORS	ACCURACY	RANGE	RESOLUTION	SENSOR TYPE	RESPONSE TIME	UNITS OF MEASURE	METHODOLOGY
LEVEL, DEPTH, PRESSURE	Typical ±0.1% FS @ 15° C; ±0.3% FS max. from 0 to 50° C	76 m (250 ft); absolute (non-vented)	±0.01% FS or better	Fixed	Instantaneous in thermal equilibrium	Pressure: psi, kPa, bar, mbar, mmHg Level: mm, cm, m, in., ft	Piezoresistive; ceramic
CONDUCTIVITY	Typical ±0.5% + 1 µS/cm; ±1% max.	5 to 100,000 µS/cm	0.1 µS/cm	Fixed	Instantaneous in thermal equilibrium	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
DISSOLVED OXYGEN OPTICAL RDO-X CAP	±0.1 mg/L ±5% of reading	0 to 20 mg/L 20 to 60 mg/L Full operating range: 0 to 60 mg/L	0.01 mg/L	Fixed with replaceable RDO Sensor Cap. Supports Classic, Fast, and RDO-X caps. Ships with RDO-X cap.	T90: <45 sec. T95: <60 sec.	mg/L, % saturation, ppm, ppO2	EPA-approved In-Situ Methods 1002-8-2009 1003-8-2009 1004-8-2009
	Interferences: Alcohols >5%; hydrogen peroxide >3%; sodium hypochlorite (commercial bleach) >3%; gaseous sulfur dioxide; gaseous chlorine. Organic solvents and certain petroleum-based hydrocarbons may swell the sensing element and destroy it. Examples include, but are not limited to, acetone, chloroform, methylene chloride, and BTEX compounds.						
ORP	±5.0 mV	±1400 mV	0.1 mV	Replaceable pH/ ORP combo sensor	<15 sec.	mV	Std. Methods 2580
pH	±0.1 pH unit	0 to 14 pH units	0.01 pH unit	Replaceable pH/ ORP combo sensor	<15 sec., pH 7 to pH 4	pH units, mV	Std. Methods 4500-H+ EPA 150.2
TEMPERATURE*	±0.1° C	-5 to 50° C (23 to 122° F)	0.01° C or better	Fixed	<30 sec.	Celsius, Fahrenheit	EPA 170.1
WARRANTY	2 years						



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*Temperature response only. System response time depends on site conditions.