



Aqua TROLL® 400 Multiparameter Instrument

Configuring your instrument can be time-consuming, frustrating, and expensive. The compact Aqua TROLL 400 Instrument simplifies decision making by offering a standard suite of six sensors. The durable probe continuously measures 12 parameters:

- Actual and specific conductivity, salinity, total dissolved solids, resistivity, and density
- Dissolved oxygen
- ORP
- pH
- Temperature
- Water level and water pressure (absolute)

Leveraging proven technologies, like the patented, EPA-approved optical RDO® Sensor, the instrument 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.

Confidence in Your Data

- Field-tested sensor technologies lower your total cost of ownership and provide stable, accurate results.
- Sensors are factory-calibrated with NIST®-traceable standards (where applicable).
- DO readings are automatically compensated for salinity. With the Con TROLL® PRO System, DO and level readings are automatically compensated for barometric pressure.

Greater Efficiency and Flexibility

- Easy installation reduces errors and training time, while increasing productivity.
- With open communication protocols, the instrument easily interfaces with your current system. Access data anytime with a radio, controller, data logger, sampler, telemetry system, or SCADA/PLC system.
- Long-lasting calibrations reduce site visits.
- The narrow-diameter instrument operates in fresh, marine, and process waters.

Outstanding Customer Service

- Free application and deployment guidance
- Free, 24/7 technical support
- Seven-day service for maintenance and calibration (U.S.A. only)

Applications

- Long-term ground- and source-water monitoring
- Coastal deployments—estuaries and wetlands
- Real-time water quality monitoring networks
- Remediation and mining
- Stormwater management

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Specifications

| | | | | | | | |
|-------------------------------------|--|--|--------------------|---|--------------------------------------|---|--|
| General | Aqua TROLL 400 Water Quality Instrument | | | | | | |
| Operating temp. | -5 to 50° C (23 to 122° F) | | | | | | |
| Storage temp. | -40 to 65° C (-40 to 140° F) | | | | | | |
| Dimensions & weight | Dimensions: 4.7 cm (1.85 in) OD x 26.9 cm (10.6 in) with restrictor installed (does not include connector). Weight: 694 g (1.53 lbs) | | | | | | |
| Wetted materials | PVC, 316 stainless steel, titanium, Acetal, Viton®, PC/PMMA | | | | | | |
| Environmental rating | IP68 with all sensors and cable attached. IP67 with sensors removed and 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 | In-Situ® Con TROLL® PRO System; In-Situ TROLL® Link Telemetry 101 or 201 System; SCADA/PLC; 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 RDO® Sensor | ±0.1 mg/L ±0.2 mg/L ±10% of reading | 0 to 8 mg/L 8 to 20 mg/L 20 to 50 mg/L Full operating range: 0 to 50 mg/L | 0.01 mg/L | Fixed with replaceable RDO Sensor Cap (1-year cap life) | T90: <45 sec. T95: <60 sec. | mg/L, % saturation, ppm, ppO ₂ | EPA-approved In-Situ Methods 1002-8-2009 1003-8-2009 1004-8-2009 |
| 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 12 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 | | | | | | |



Specifications are subject to change without notice. NIST is a registered trademark of the National Institute of Standards and Technology. Tefzel is a registered trademark of E.I. du Pont de Nemours & Co. Viton is a registered trademark of DuPont Performance Elastomers L.L.C.



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