In-Situ Aquaculture™

Healthy water
Healthy fish
Healthy profits

# Con TROLL® PRO System

Designed for process control and continuous monitoring, the Con TROLL PRO System is a controller, local display, and instrument interface. For remote sites, use the DC logging version. For local installations or integration into a SCADA or PLC system, choose from either logging or non-logging AC models.

Connect one or two sensors: RDO® PRO-X Oxygen Probe; Aqua TROLL® 100 for conductivity/temperature; Aqua TROLL 200 for level/pressure/conductivity/temperature; Aqua TROLL 400 for multiple parameters; or a Level TROLL 400/500/700 or Rugged TROLL 200 for level/pressure/temperature.

## Minimizes Risks

- **Reports real-time conditions**—Displays sensor readings. Measures ambient temperature and barometric pressure.
- **Triggers relays for alarm and control**—Uses low-voltage relays to trigger a bell or flashing light. Uses high-voltage relays to control aerators or pumps (AC model only).

## Maximizes Efficiency

- **Calibrates easily**—Choose either on-site calibration or factory defaults.
- **Recognizes sensors**—Simply connect, configure, and deploy.
- **Downloads data quickly**—Uses ***Bluetooth***® wireless to transfer data to a RuggedReader® Handheld PC or laptop.

## Saves Money

- **Automates control**—Runs aerators and pumps only when needed – reducing energy expenses and wear on equipment.
- **Reduces power consumption**—Controller and sensors use minimal power and feature power-saving options. The DC-L model uses external battery packs or solar panels.
- **Simplifies integration**—Connects directly into SCADA or PLC system via Modbus/RS485. Includes two isolated 4-20 mA current loops.

## Meets Compliance Standards

- Complies with UL/CSA safety standards.
- Meets CE and FCC standards for heavy-industrial environments.

## Applications

- Hatchery operations
- Inland pond production
- Open pen production
- Recirculation systems
- Seawater pond production

# Con **TROLL**® PRO System
## Controller, Display, Data Logger, and Interface

**Specifications**

## Con TROLL PRO System

| | |
|---|---|
| ***Description*** | Microprocessor-controlled, menu-driven measuring system with measured value and temperature displays |
| ***Model AC*** | Displays and transmits data. Suited for applications with access to line power that do not require logging. Can trigger low- and high-voltage relays. |
| ***Model AC-L*** | Displays, transmits, and logs data. Suited for applications with access to line power that require logging. Can trigger low- and high-voltage relays. |
| ***Model DC-L*** | Displays, transmits, and logs data. Battery- or solar-powered controller. Suited for remote applications. Can trigger low-voltage relays. |
| ***Operating temp.*** | -20° to 70° C (-4° to 158° F); 95% relative humidity, non-condensing |
| ***Storage temp.*** | -40° to 85° C (-40° to 185° F); 95% relative humidity, non-condensing |
| ***Logging memory*** | 4 MB (3 yrs. logging every 15 min. w/ 2 sensors) |
| ***Barometric Pressure*** | |
| ***Range*** | 300 to 1100 mbar |
| ***Accuracy*** | ±3 mbar max. |
| ***Resolution*** | 0.01 mbar |
| ***Ambient Temperature*** | |
| ***Range*** | -20° to 70° C (-4° to 158° F) |
| ***Accuracy*** | ±2° C max. |
| ***Resolution*** | 0.1° C |
| ***General*** | |
| ***Enclosure*** | NEMA 4X; IP-67 |
| ***Power*** | AC and AC-L models: 100-240 V~, 0.15 A, 50-60 Hz<br>DC-L model: 9-36 V ⎓, 0.2 A max. |
| ***Outputs*** | (2) 4-20 mA isolated current loop |
| ***Relays*** | (2) low voltage (< 50 V) max. at 2A and (2) high voltage (> 50 V), 264 VAC max. at 5A (AC-powered models only) |
| ***Dimensions*** | 16 x 16 x 9.04 cm (6.3 x 6.3 x 3.56 in) (WxHxD) |
| ***Weight*** | AC and AC-L models: 1.36 kg (3.0 lbs)<br>DC-L model: 1.09 kg (2.4 lbs) |
| ***Certifications*** | Listed for use in general locations to UL/CSA safety standards by ETL (w/ RDO PRO-X Probe). CE and FCC approved for heavy-industrial environments (w/ RDO PRO-X Probe) |
| ***Warranty*** | 1 year |


## RDO PRO-X Oxygen Probe

| | |
|---|---|
| ***Sensor type & cap*** | Optical dissolved oxygen sensor<br>Uses the RDO-X Sensor Cap |
| ***Range, DO*** | 0 to 50 mg/L |
| ***Accuracy, DO*** | ±0.1 mg/L, 0 to 8 mg/L; ±0.2 mg/L, 8 to 20 mg/L; ±10% of reading, 20 to 50 mg/L |
| ***Resolution, DO*** | 0.01 mg/L |
| ***Response time, cap*** | T90: <45 sec. T95: <60 sec. @ 25° C |
| ***Range, temp.*** | 0° to 50° C (32° to 122° F) |
| ***Accuracy, temp.*** | ±0.1° C typical |
| ***Resolution, temp.*** | 0.01° C |
| ***Salinity comp.*** | Fixed or real-time capable |
| ***Barometric comp.*** | Fixed or real-time capable |
| ***Methods*** | Standard Methods 4500-O<br>In-Situ® Methods 1002-8-2009, 1003-8-2009, 1004-8-2009 (EPA approved) |
| ***Environmental Ratings*** | |
| ***Pressure*** | 150 psi from 0° to 50° C; 300 psi @ 25° C |
| ***Depth*** | 210 m (689 ft) @ 25° C |
| ***Operating temp.*** | Probe: 0° to 50° C (32° to 122° F) |
| ***Storage temp.*** | Sensor cap: 1° to 60° C (33° to 140° F), in factory container<br>Probe: -5° to 60° C (23° to 140° F) |
| ***Compliance*** | Heavy industrial, IEC 61000-6-2:2005 |
| ***IP rating*** | IP-67 with cap off; IP-68 with cap installed |
| ***Chemical Ratings*** | |
| ***Interferences*** | Alcohols >5%; hydrogen peroxide > 3%; sodium hypochlorite (commercial bleach) > 3%; gaseous sulfur dioxide; gaseous chlorine |
| ***General Ratings*** | |
| ***Comm. output*** | Modbus/RS485, SDI-12, 4-20 mA |
| ***Power consumption*** | Maximum: 50 mA at 12 VDC |
| ***Cable lengths*** | Modbus and 4-20 mA: Up to 1219 m (4000 ft)<br>SDI-12: Up to 61 m (200 ft) |
| ***Int. mounting thread*** | 1-1/4 NPT |
| ***Warranty*** | Probe: 3 years from date of shipment<br>Cap: 2 years in typical applications |



In-Situ Aquaculture™

***Call to purchase—www.in-situ.com***
221 East Lincoln Avenue, Fort Collins, Colorado, U.S.A. 80524
1-800-446-7488 (toll-free in U.S.A. and Canada)
1-970-498-1500 (U.S.A. and international)