



## Level TROLL® Instruments

Water Level Instruments for  
Every Application & Budget



### Level TROLL® 700 Instrument

- Optimized for aquifer characterization
- Gauged (vented) and absolute (non-vented) instruments
- Linear, fast linear, linear average, event, step linear, and true logarithmic logging modes
- Rugged titanium probe and sensor (OD: 1.83 cm; 0.72 in)

### Level TROLL® 500 Instrument

- Ideal for groundwater and surface-water monitoring
- Gauged and absolute instruments
- Linear, fast linear, and event logging modes
- Durable titanium probe and sensor (OD: 1.83 cm; 0.72 in)

### Level TROLL® 300 Instrument

- Suitable for fresh water and industrial monitoring
- Absolute instrument
- Linear, fast linear, and event logging modes
- Stainless steel probe and sensor (OD: 2.08 cm; 0.82 in)

### Powerful, Accurate, Reliable Performance

- **Superior accuracy**—For guaranteed accuracy under all operating conditions, instruments undergo extensive calibration procedures for pressure and temperature. Each instrument includes a serialized calibration report.
- **Telemetry and SCADA integration**—Access data when you need it. No adapters or confusing proprietary protocols are required. Outputs include standard Modbus/RS485, SDI-12, and 4-20 mA.
- **Low power consumption**—Batteries have a typical life of 10 years or 2 million readings. 8-36 VDC input is compatible with external batteries and solar power.
- **Intuitive interface**—Win-Situ® 5 and Win-Situ® Mobile Software simplify data collection and management. Software features setup wizards, fast data download rates, multiple water level reference options, and more.

## Applications

- Aquifer characterization
- Coastal deployments—tide/harbor levels, storm surge systems, and wetlands research
- Construction and mine dewatering
- River, lake, and reservoir monitoring
- Stormwater management

# Level TROLL® 300, 500 & 700 Instruments

General	Level TROLL 300	Level TROLL 500	Level TROLL 700	BaroTROLL
<b>Temperature ranges<sup>1</sup></b>	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Calibrated: -5-50° C (23-122° F)	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Calibrated: -5-50° C (23-122° F)	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Calibrated: -5-50° C (23-122° F)	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Calibrated: -5-50° C (23-122° F)
<b>Diameter</b>	2.08 cm (0.82 in)	1.83 cm (0.72 in)	1.83 cm (0.72 in)	1.83 cm (0.72 in)
<b>Length</b>	22.9 cm (9.0 in)	21.6 cm (8.5 in)	21.6 cm (8.5 in)	21.6 cm (8.5 in)
<b>Weight</b>	245 g (0.54 lb)	197 g (0.43 lb)	197 g (0.43 lb)	197 g (0.43 lb)
<b>Materials</b>	Stainless steel body; Delrin® nose cone	Titanium body; Delrin nose cone	Titanium body; Delrin nose cone	Titanium body; Delrin nose cone
<b>Output options</b>	Modbus/RS485, SDI-12, 4-20 mA	Modbus/RS485, SDI-12, 4-20 mA	Modbus/RS485, SDI-12, 4-20 mA	Modbus/RS485, SDI-12, 4-20 mA
<b>Battery type &amp; life<sup>2</sup></b>	3.6V lithium; 10 years or 2M readings	3.6V lithium; 10 years or 2M readings	3.6V lithium; 10 years or 2M readings	3.6V lithium; 10 years or 2M readings
<b>External power</b>	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC
<b>Memory</b>	1.0 MB	2.0 MB	4.0 MB	1.0 MB
<b>Data records<sup>3</sup></b>	65,000	130,000	260,000	65,000
<b>Data logs</b>	2	50	50	2
<b>Log types</b>	Linear, Fast Linear, and Event	Linear, Fast Linear, and Event	Linear, Fast Linear, Linear Average, Event, Step Linear, True Logarithmic	Linear
<b>Fastest logging rate &amp; Modbus rate</b>	2 per second	2 per second	4 per second	1 per minute
<b>Fastest SDI-12 &amp; 4-20 mA output rate</b>	1 per second	1 per second	1 per second	1 per second
<b>Real-time clock</b>	Accurate to 1 second/24-hr period	Accurate to 1 second/24-hr period	Accurate to 1 second/24-hr period	Accurate to 1 second/24-hr period
<b>Sensor Type/Material</b>	Piezoresistive; stainless steel	Piezoresistive; titanium	Piezoresistive; titanium	Piezoresistive; titanium
<b>Range</b>	<i>Absolute (non-vented)</i> 30 psia: 10.9 m (35.8 ft) 100 psia: 60.1 m (197.3 ft) 300 psia: 200.7 m (658.7 ft)	<i>Absolute (non-vented)</i> 30 psia: 10.9 m (35.8 ft) 100 psia: 60.1 m (197.3 ft) 300 psia: 200.7 m (658.7 ft) 500 psia: 341.3 m (1120 ft)  <i>Gauged (vented)</i> 5 psig: 3.5 m (11.5 ft) 15 psig: 11 m (35 ft) 30 psig: 21 m (69 ft) 100 psig: 70 m (231 ft) 300 psig: 210 m (692 ft) 500 psig: 351 m (1153 ft)	<i>Absolute (non-vented)</i> 30 psia: 10.9 m (35.8 ft) 100 psia: 60.1 m (197.3 ft) 300 psia: 200.7 m (658.7 ft) 500 psia: 341.3 m (1120 ft) 1000 psia: 703 m (2306.4 ft) <i>Gauged (vented)</i> 5 psig: 3.5 m (11.5 ft) 15 psig: 11 m (35 ft) 30 psig: 21 m (69 ft) 100 psig: 70 m (231 ft) 300 psig: 210 m (692 ft) 500 psig: 351 m (1153 ft)	0 to 16.5 psi; 0 to 1.14 bar
<b>Burst pressure</b>	Maximum 2x range; burst 3x range	Maximum 2x range; burst 3x range	Maximum 2x range; burst 3x range	Vacuum/over-pressure above 16.5 psi damages sensor
<b>Accuracy @ 15° C<sup>4</sup></b>	±0.1% full scale (FS)	±0.05% FS	±0.05% FS	±0.1% FS
<b>Accuracy (FS)<sup>5</sup></b>	±0.2% FS	±0.1% FS	±0.1% FS	±0.2% FS
<b>Resolution</b>	±0.01% FS or better	±0.005% FS or better	±0.005% FS or better	±0.005% FS or better
<b>Units of measure</b>	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH <sub>2</sub> O, inH <sub>2</sub> O Level: in, ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH <sub>2</sub> O, inH <sub>2</sub> O Level: in, ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH <sub>2</sub> O, inH <sub>2</sub> O Level: in, ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH <sub>2</sub> O, inH <sub>2</sub> O
<b>Temperature Sensor</b>				
<b>Accuracy &amp; resolution</b>	±0.1° C; 0.01° C or better	±0.1° C; 0.01° C or better	±0.1° C; 0.01° C or better	±0.1° C; 0.01° C or better
<b>Units of measure</b>	Celsius or Fahrenheit	Celsius or Fahrenheit	Celsius or Fahrenheit	Celsius or Fahrenheit
<b>Warranty</b>	1 year	2 years	2 years	2 years
	Up to 5-year extended warranties are available for all instruments—call for details			

## BaroTROLL® Instrument

The titanium BaroTROLL measures and logs barometric pressure and temperature. Use the BaroTROLL in conjunction with Level TROLL Instruments.

### Win-Situ® Baro Merge™

Software simplifies post-correction of water level data. Barometric readings are automatically subtracted from data collected by an absolute Level TROLL to compensate for changes in pressure due to barometric fluctuations.

## 24/7 Support

In-Situ technical support specialists assist with instrument setup, application support, and troubleshooting. Call for free technical support.

<sup>1</sup> Temperature range for non-freezing liquids

<sup>2</sup> Typical battery life when used within the factory-calibrated temperature range.

<sup>3</sup> 1 data record = date/time plus 2 parameters logged (no wrapping) from device within the factory-calibrated temperature range

<sup>4</sup> Across factory-calibrated pressure range

<sup>5</sup> Across factory-calibrated pressure and temperature ranges

Specifications are subject to change without notice.

Delrin is a registered trademark of E.I. du Pont de Nemours and Company.



**Call to purchase or rent—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)

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