



Level TROLL® Instruments

Water Level Instruments for
Every Application & Budget



Level TROLL® 700 Instrument

- Designed for aquifer characterization
- Vented (gauged) and non-vented (absolute) instruments
- Linear, fast linear, linear average, event, step linear, and true logarithmic logging modes
- Titanium construction for all applications (0.72" OD)

Level TROLL® 500 Instrument

- Designed for groundwater and surface-water monitoring
- Vented or non-vented instrument
- Linear, fast linear, and event logging modes
- Titanium body ideal for harsh environments (0.72" OD)

Level TROLL® 300 Instrument

- Designed for fresh water and industrial monitoring
- Non-vented instrument
- Linear, fast linear, and event logging modes
- Stainless steel construction (0.82" OD)

Powerful, Accurate, Reliable Performance

- **Low-power consumption** – Extend deployments and get the only industry guarantee for battery life – minimum of 5 years or 2 million readings. External power or battery packs can be used.
- **Telemetry and SCADA integration** – Access data when you need it. No adapters or confusing proprietary protocols required – fully compliant Modbus/RS485, SDI-12, and 4-20 mA.
- **Superior accuracy** – Get guaranteed accuracy under all operating conditions – instruments undergo extensive calibration procedures for pressure and temperature. Each instrument includes a serialized calibration report.
- **Intuitive interface** – Simplify data collection and management with Win-Situ® 5 and Win-Situ® Mobile software. 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
Temperature ranges	Operational: -4-176° F (-20-80° C) Storage: -40-176° F (-40-80° C) Calibrated: 23-122° F (-5-50° C)	Operational: -4-176° F (-20-80° C) Storage: -40-176° F (-40-80° C) Calibrated: 23-122° F (-5-50° C)	Operational: -4-176° F (-20-80° C) Storage: -40-176° F (-40-80° C) Calibrated: 23-122° F (-5-50° C)	Operational: -4-176° F (-20-80° C) Storage: -40-176° F (-40-80° C) Calibrated: 23-122° F (-5-50° C)
Diameter	0.82 in (2.08 cm)	0.72 in (1.83 cm)	0.72 in (1.83 cm)	0.72 in (1.83 cm)
Length	9.0 in (22.9 cm)	8.5 in (21.6 cm)	8.5 in (21.6 cm)	8.5 in (21.6 cm)
Weight	0.54 lb (245 g)	0.43 lb (197 g)	0.43 lb (197 g)	0.43 lb (197 g)
Materials	Stainless steel body; Delrin® nose cone	Titanium body; Delrin nose cone	Titanium body; Delrin nose cone	Titanium body; Delrin nose cone
Output options	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
Battery type & life	3.6V lithium; 5 years or 2M readings ¹	3.6V lithium; 5 years or 2M readings ¹	3.6V lithium; 5 years or 2M readings ¹	3.6V lithium; 5 years or 2M readings ¹
External power	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC
Measurement current	4 mA	4 mA	4 mA	4 mA
Sleep current	180 µA	180 µA	180 µA	180 µA
Memory	1.0 MB	2.0 MB	4.0 MB	1.0 MB
Data records²	65,000	130,000	260,000	65,000
Data logs	2	50	50	2
Fastest logging rate & Modbus rate	2 per second	2 per second	4 per second	1 per minute
Fastest SDI-12 & 4-20 mA output rate	1 per second	1 per second	1 per second	1 per second
Log types	Linear, Fast Linear, and Event	Linear, Fast Linear, and Event	Linear, Fast Linear, Linear Average, Event, Step Linear, True Logarithmic	Linear
Real-time clock	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
Sensor Type/Material	Piezoresistive; stainless steel	Piezoresistive; titanium	Piezoresistive; titanium	Piezoresistive; titanium
Range	<i>Non-vented</i> 30 psia: 35.8 ft (10.9 m) 100 psia: 197.3 ft (60.1 m) 300 psia: 658.7 ft (200.7 m)	<i>Non-vented</i> 30 psia: 35.8 ft (10.9 m) 100 psia: 197.3 ft (60.1 m) 300 psia: 658.7 ft (200.7 m) 500 psia: 1120 ft (341.3 m) <i>Vented</i> 5 psig: 11.5 ft (3.5 m) 15 psig: 35 ft (11 m) 30 psig: 69 ft (21 m) 100 psig: 231 ft (70 m) 300 psig: 692 ft (211 m) 500 psig: 1153 ft (351 m)	<i>Non-vented</i> 30 psia: 35.8 ft (10.9 m) 100 psia: 197.3 ft (60.1 m) 300 psia: 658.7 ft (200.7 m) 500 psia: 1120 ft (341.3 m) 1000 psia: 2306.4 ft (703 m) <i>Vented</i> 5 psig: 11.5 ft (3.5 m) 15 psig: 35 ft (11 m) 30 psig: 69 ft (21 m) 100 psig: 231 ft (70 m) 300 psig: 692 ft (211 m) 500 psig: 1153 ft (351 m)	0 to 16.5 psi; 0 to 1.14 bar
Burst pressure	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
Accuracy @ 15° C	±0.1% full scale (FS)	±0.05% FS	±0.05% FS	±0.1% FS
Accuracy (FS)	±0.2% FS ³	±0.1% FS ³	±0.1% FS ³	±0.2% FS ³
Resolution	±0.01% FS or better	±0.005% FS or better	±0.005% FS or better	±0.005% FS or better
Units of measure	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH ₂ O, inH ₂ O Level: in, ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH ₂ O, inH ₂ O Level: in, ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH ₂ O, inH ₂ O Level: in, ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH ₂ O, inH ₂ O
Temperature Sensor	Silicon	Silicon	Silicon	Silicon
Range	Calibrated: 23-122° F (-5-50° C)	Calibrated: 23-122° F (-5-50° C)	Calibrated: 23-122° F (-5-50° C)	Calibrated: 23-122° F (-5-50° C)
Accuracy & resolution	±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
Units of measure	Fahrenheit, Celsius	Fahrenheit, Celsius	Fahrenheit, Celsius	Fahrenheit, Celsius
Warranty	Level TROLL and BaroTROLL instruments come with a 1-year warranty. Up to 5-year extended warranties are available.			

BaroTROLL® Instrument

The titanium BaroTROLL instrument 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 a Level TROLL to compensate for changes in water level due to barometric fluctuations.

24/7 Support

In-Situ technical experts assist with instrument setup, application support, and troubleshooting. Fast, friendly, and always free, technical answers are a phone call away.

¹ Battery life guaranteed when used within the factory-calibrated temperature range.

² 1 record = date/time plus 2 parameters logged (no wrapping) from device within the factory-calibrated temperature range.

³ Across factory-calibrated temperature range.

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