

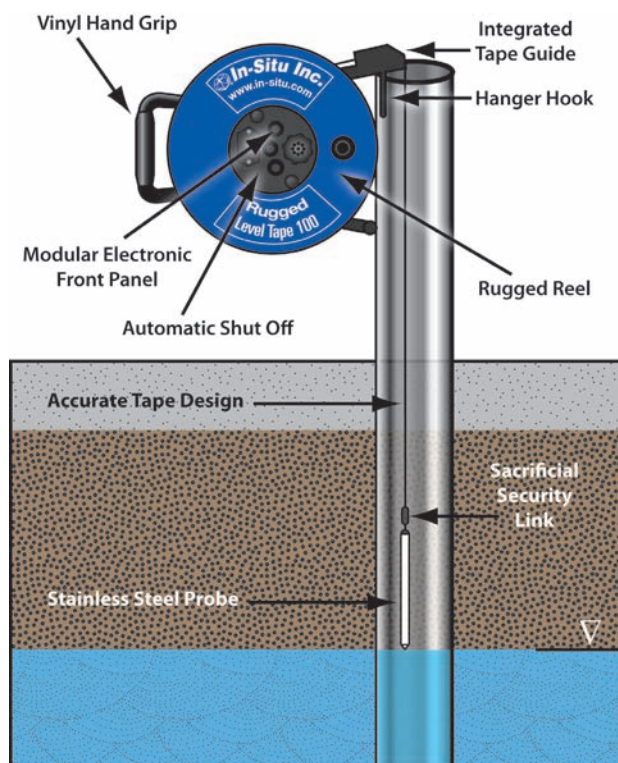
Rugged Water Level Tapes & Meters

Field-Ready Design

- Superior tape construction improves accuracy and durability. Choose from high-tensile steel tape with polyethylene jacket, or high-tensile steel tape with hydrocarbon-resistant Kynar® coating, or Kevlar®-reinforced polyethylene tape.
- Reels stand up to field use. Durable flanges are constructed of impact- and UV-resistant nylon. Polyurethane-coated steel frame and stainless steel axle increase longevity.
- Easy-to-clean, submersible stainless steel and Teflon®-coated probe resists buildup of contaminants and dirt.
- Sacrificial security link prevents tape damage and preserves tape integrity. The security link releases the probe if it becomes trapped in the well.

Accurate Measurements

- For reproducible measurements, high-tensile steel tapes are ASME compliant (EU Class II). Both high-tensile tapes and Kevlar®-reinforced polyethylene tapes resist stretching under heavy loads.
- Tape scales are designed to ensure long life and readability. Tapes are marked in meters by mm or in feet by 0.01 foot.



Easy to Use and Maintain

- Replaceable probe minimizes repair time.
- User-removable electronics module is easy to clean, repair, or replace—saving time and money. The module houses a 9 V battery, audible and light signals, sensitivity control, and circuit test button.
- Integrated tape guide protects tape from damage on rough edges of well casing.
- Vinyl-coated carrying handle is ergonomically designed for easy tape rewinding.
- Hanger hook, tape guide, and reel lock hold tape in place for hands-free use.

Applications

Use In-Situ Rugged Water Level Tapes and Meters everywhere you use a Level TROLL®, Aqua TROLL® or Rugged TROLL® Instrument:

- Depth-to-water measurements
- Pump and slug tests
- Low-flow sampling events
- Dewatering applications

Rugged Features—All Tapes & Meters

Impact-Resistant Reels



1. Battery box
2. Signal LED
3. Signal buzzer
4. Sensitivity knob for cascading water (not an on/off switch)
5. Test button
- 6/7. Panel attachment knobs



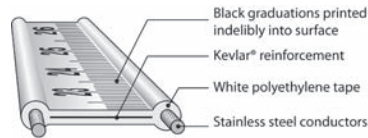
Field-removable, sealed electronic module



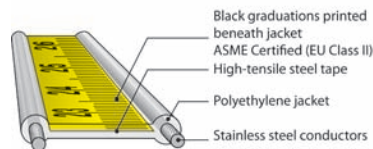
Unique probe circuit tester

Accurate Tapes

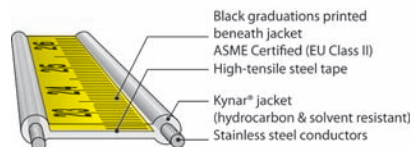
A: Tape 100 (PE reinforced with Kevlar)



B: Tape 200 (Steel with PE jacket)



C: Interface Tape (Steel with Kynar)



Submersible Probes

The stainless steel probe is pressure rated to the full length of the tape. A security link prevents tape damage by releasing the probe if it becomes stuck in a well (not available on Conductivity Meter).



Photos from left to right: standard probe; interface probe; conductivity/temperature probe

Rugged Water Level Tapes

In-Situ® Rugged Water Level Tape 200, Rugged Mini Water Level Tape 200, and Rugged Water Level Tape 100 include the following standard features:

- **Probe:** Submersible stainless steel and Teflon®-coated probe
- **Reel:** Tough nylon or aluminum reel (for tapes longer than 150 m or 400 ft) is mounted on a sturdy polyurethane-coated steel frame. Reel flanges and hub are molded from high-strength nylon on a stainless steel axle for smooth running of tape.
- **Signal:** Tapes signal water with a bright LED and loud buzzer, allowing accurate water level measurements to each millimeter or 0.01 foot. Water acts as the on/off switch.
- **Electronics:** User-removable electronics module is easy to clean and protects circuitry from dirt and moisture. The electronic circuit converts the DC battery current to AC current, preventing corrosion and mineral buildup on the probe.
- **Sensitivity dial:** Filters out false signals from cascading water.

Rugged Water Level Tape 200

Premium Rugged Water Level Tape 200 and Rugged Mini Water Level Tape 200 provide long and reliable service life. These engineer-grade tapes comply with ASME standards.



Use these tapes to measure depth-to-water in wells, boreholes, direct-push equipment, and standpipes.

- High-tensile steel tape with stainless steel conductors resists stretching and has a breaking load of over 150 kg (330 lbs).
- Easy-to-read yellow tape jacketed in clear polyethylene is marked to engineering scale.
- Flexible tape winds smoothly onto reel and does not stick to wet surfaces and well casings.

Rugged Water Level Tape 100 & Rugged Slim Tape

Economical Rugged Water Level Tape 100 and Rugged Slim Water Level Tape offer durability and accuracy for well drillers, pump installers, and other service users.

- Kevlar®-reinforced polyethylene tape with stainless steel conductors has a breaking load of over 45 kg (100 lbs).
- White tape is graduated in meters by mm or in feet by 0.01 foot.
- Rugged Slim Tape with non-submersible probe can be used in piezometers with an internal diameter of 9.5 mm (0.375 in).



Rugged Interface and Conductivity Meters

Rugged Oil/Water Interface Meters

When working in hazardous or explosive environments, use the certified intrinsically safe Rugged Interface Meter or Rugged Mini Interface Meter. Ideal for remediation sites, oil refineries, and landfills, these meters accurately measure the thickness of hydrocarbon product layers (LNAPL) as thin as 1 mm (1/200 ft) floating on the water table and sinking layers (DNAPL).

- **Meters:** Both full-size and backpack-size meters are available. The economical Rugged Mini Interface Meter is ideal for shallow wells or high water tables.
- **Probe:** The field-replaceable probe includes a lens and infrared light emitter. A stainless steel shield protects the lens. The infrared light

emitter sends a beam of light through the lens to a

detector, which identifies conductive liquid (water) and non-conductive liquid (product). A solid tone and solid light indicate oil. An intermittent tone and a flashing light indicate water.

- **Tape:** ASME-certified tape is constructed of high-tensile steel with yellow tape jacketed in clear Kynar[®] coating. Kynar protects tape from hydrocarbons, solvents, and other harsh contaminants. Graduated in meters by mm or in feet by 0.01 foot.
- **Intrinsically safe:** Grounding cable ensures safety at hazardous sites. Certified to CSA and ANSI/UL standards. Class 9098-01 for hazardous locations. Class 9098-81 (U.S.A.) for hazardous sites. Class I groups A, B, C, and D.
- **Electronics:** To conserve battery life, the meter shuts off after 5 minutes of inactivity.



Rugged Conductivity/Level/Temperature Meter

Accurately measure conductivity, water level, and temperature in wells, boreholes, and open bodies of water. Use this meter to profile conductivity and temperature.

- **Probe:** To measure conductivity, the probe uses a four-electrode system that includes two arrays of a single electrode within a concentric electrode. Each array reverses its polarity 1,000 times/second. This system reduces corrosion of the electrode to ensure reproducible readings. Water level is detected when the probe passes from a non-conductive medium (air) to a conductive medium (water with conductivity levels greater than 10 $\mu\text{S}/\text{cm}$).



- **Tape:** ASME-certified tape is constructed of high-tensile steel with easy-to-read yellow tape jacketed in medium-density polyethylene to ensure longevity. Graduated in meters by mm or in feet by 0.01 foot. The tape is potted directly into the probe (sacrificial security link is not available on this meter).

- **Electronics:** Electronics module houses an LCD screen that displays conductivity values up to 80,000 $\mu\text{S}/\text{cm}$, and temperature from -20 to 85° C (-4 to 185° F). Module includes a bright red LED and a buzzer. To conserve battery life, the meter shuts off after 5 minutes of inactivity.



In-Situ® Rugged Water Level Tapes & Meters

Selection Guide

Product	Tape				Stainless Steel Probe				Reel & User-Removable Electronic Module							Free Carrying Bag		Warranty
	Type (see page 2)	Width	Stock Lengths	Stock Lengths	Diameter	Length	Weight	Pressure Rating (m)	Battery Test	Probe Test	Light and Buzzer	Battery Access Drawer	Sensitivity Dial	Hanger and Tape Guide	Weight	Canvas	Padded Nylon	
Rugged Level Tape 200	B	1 cm 0.4 in	30 m 50 m 60 m 100 m 150 m 200 m 300 m 450 m 600 m	100 ft 150 ft 200 ft 300 ft 500 ft 750 ft 1000 ft 1500 ft 2000 ft	16 mm 0.625 in	17.5 cm 6.875 in	130 g 0.3 lb	1200	•	•	•	•	•	•	2 kg 4.4 lbs		•	5
Rugged Mini Tape 200	B	1 cm 0.4 in	22 m	75 ft	16 mm 0.625 in	9.5 cm 3.75 in	80 g 0.18 lb	450	•	•	•	•	•		1.3 kg 2.9 lbs		•	3
Rugged Level Tape 100*	A	1 cm 0.4 in	30 m 50 m 60 m 100 m 150 m 200 m 300 m 450 m 600 m	100 ft 150 ft 200 ft 300 ft 500 ft 750 ft 1000 ft 1500 ft 2000 ft	16 mm 0.625 in	17.5 cm 6.875 in	130 g 0.3 lb	450	•	•	•	•	•	•	2 kg 4.4 lbs	•		3
Rugged Slim Tape*	A	6.35 mm 0.25 in	30 m 60 m 100 m	100 ft 200 ft 300 ft	6.35 mm 0.25 in	18.8 cm** 7.4 in**	3.5 g 0.008 lb	300	•	•	•	•	•	•	2 kg 4.4 lbs	•		3
Rugged Interface Meter	C	1 cm 0.4 in	15 m 30 m 60 m 90 m 100 m 150 m	50 ft 100 ft 200 ft 300 ft 500 ft	19 mm 0.75 in	18.5 cm 7.3 in	110 g 0.24 lb	300	•		•	•		•	2 kg 4.4 lbs		•	5 (probe 1)
Rugged Mini Interface Meter	C	1 cm 0.4 in	20 m	60 ft	19 mm 0.75 in	15 cm 6 in	110 g 0.24 lb	300	•		•	•			1.9 kg 4.2 lbs		•	3 (probe 1)
Rugged EC/Level/Temp Meter	B	1 cm 0.4 in	30 m 100 m	100 ft 300 ft	22 mm 0.875 in	22 cm 8.625 in	150 g 0.33 lb	300	***		•	•		•	2 kg 4.4 lbs		•	3

* Rugged Level Tape 100 and Rugged Slim Tape are not ASME certified.

** Length of probe with weights

*** Low battery indicator

Specifications are subject to change without notice.

Kynar is a registered trademark of Arkema Inc.

Kevlar and Teflon are registered trademarks of E.I. Du Pont de Nemours and Company.



Call to purchase or rent—www.in-situ.com

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