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Water Level DrawDown Meter

Model 101D

The 101D Water Level DrawDown Meter has all of the same qualities as our well-known 101 P7 Water Level Meter, with the added feature of a drawdown mode. One simple toggle switches between static water level and drawdown measurements.

Water level mode allows accurate depth to water measurements in wells, boreholes, standpipes and tanks. The drawdown function is used to monitor falling hydraulic head during low flow sampling, pumping and other aquifer/well tests. It also ensures a pump's intake remains submerged during purging or well development.

A DrawDown Link Cable Assembly is available for connecting to a **Model 410 Mk5 Peristaltic Pump**, enabling automatic control of the pump based on water level (see the Model 410 Peristaltic Pump Data Sheet).

Operating Principles

The 101D Water Level DrawDown Meter uses a corrosion resistant stainless steel probe connected to clearly marked flat tape, fitted on a well-designed reel. It is powered by a standard 9 volt battery.

In water level mode, when the zero point on the probe enters water, an electronic circuit is completed, activating the buzzer and light. The depth to water is then read off the tape. In drawdown mode, the circuit is reversed—the buzzer and light are triggered when the probe is in air.

The battery test button can check the circuit in both water level and drawdown modes. The on/off sensitivity control allows the buzzer to be turned down in cascading water and ensures a clear signal in high and low conductivity conditions.

Water Level DrawDown Meter Features

- Both static water level and drawdown modes in one Meter
- One convenient toggle makes it easy to switch between two functions
- Uses very durable, accurately laser marked flat tape
- Tape lengths up to 1500 m (5000 ft)
- Replacement tapes are interchangeable with other Meters
- Has the same robust, submersible probe as the 101 P7 Water Level Meter
- Option to connect to a 410 Mk5 Peristaltic Pump for automated pumping

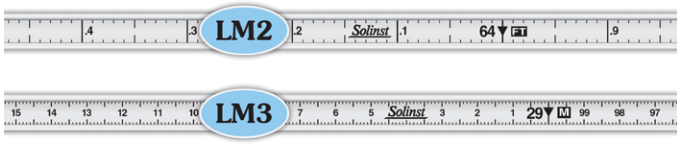
Water Level DrawDown Meter Applications

- Measuring depth to water in wells, boreholes, standpipes and tanks
- Monitoring drawdown during:
  - Low flow groundwater sampling
  - Well development and purging
  - Dewatering applications
  - Pumping, slug, hydraulic conductivity, step and other aquifer/well tests

Water Level DrawDown Meter

Model 101D Data Sheet

Water Level DrawDown Meter Specifications	
Operating temperature of reel:	-20°C to +50°C
Submerged operating temperature (tape/probe):	-20°C to +80°C
Wetted materials (tape/probe):	PVDF, Santoprene, Delrin®, Viton®, 316 stainless steel
Probe pressure rating:	Fully submersible to depth of all tape lengths
Probe weight:	~ 128 g (4.5 ounces)
Probe size:	16 mm dia., 137 mm long (5/8" x 5.38")
Reel IP rating:	IP64 (dust and splash proof)



Tape accuracy meets NIST and EU measurement standards.



P7 Probe Zero Measurement Point

Laser Marked Flat Tape

The 101D Water Level DrawDown Meter uses corrosion and chemical-resistant flat tape. The tape is non-stretch and high in tensile strength. The thick dog bone design prevents adherence to wet surfaces and allows the tape to hang straight. It is also easy to repair and splice. The 10 mm (3/8") tape comes with permanent laser markings each millimeter or every 1/100 ft, in lengths up to 1500 m (5000 ft).

LM2: Feet and tenths: with markings every 1/100 ft
LM3: Meters and centimeters: with markings every mm

Water Level DrawDown Probe

The 101D Water Level DrawDown Meter uses the same probe as the **101 P7 Water Level Meter**, which is submersible the full length of the tape. The sensor at the tip of the probe provides consistent measurements with almost zero displacement. A protective shroud is included on the probe. The tape seal plug design allows the probe to be quickly and easily replaced if required.

Reels

With a well-balanced frame, comfortable carrying handle, and handy probe holder, the standard reels are ergonomic and easy to use. They are sturdy and smooth running. The battery is housed in an easy-access drawer in the front of the reel for quick replacement. The reels are equipped with an on/off sensitivity switch, Water Level/Draw Down switch, light, buzzer, battery test button, brake and a tape guide stored on the frame.

Standard Length Options

The Solinst 101D Water Level DrawDown Meter is available in the following standard lengths:

Small Reel	30 m	100 ft	**Medium Reel**	150 m	500 ft
	60 m	200 ft		250 m	750 ft
	100 m	300 ft		300 m	1000 ft

Lengths available to 1500 m (5000 ft).

Power Winder and Lateral Winder

The Solinst Model 101 Power Winder allows ease of use when deploying longer lengths of tape. It is lightweight and simple to attach to the frame of your Water Level DrawDown Meter (see Model 101 Power Winder Data Sheet). A standard drill provides power, which turns the rollers that are in contact with the reel. The drill is used at various speeds, in forward and reverse, to turn the reel and unwind and rewind the tape. Combine with a **101 Lateral Winder** and wind your tape evenly back onto the reel every time (see Model 101 Lateral Winder Data Sheet).



Power Winder

Tape Guide/Datum

A tape guide is provided with each Meter to prevent damage to the tape from rough edges. It also ensures easy, consistent measurements regardless of who takes readings. It can also provide support for hanging small reels on the casing.



Other Options

Carrying Case: To help maximize the life of the Meter, optional small and medium padded nylon carrying cases are available. Their design has a convenient shoulder strap, zippered top and front pocket, and a grommet in the base to prevent moisture build-up.

Replacement Parts: Replacement probes, tapes, faceplates and other spare parts are available.



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