

Solinst®

Coaxial Cable Water Level Meter

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Model 102 Data Sheet



**Laser Marked Water Level Meter**  
Model 102

The Solinst Model 102 Water Level Meter is designed to measure groundwater levels, especially in small diameter tubes and piezometers, or where a flexible assembly is needed to get past down hole instrumentation.

Also available from Solinst, are the Model 101 and 101B Water Level Meters, which feature easy-to-read, easily repaired flat tape. (See Model 101 Water Level Meter Data Sheets).

**Operating Principles**

The Model 102 Water Level Meter uses a choice of two small diameter probe designs, attached to a narrow coaxial cable, fitted on a sturdy ergonomically designed reel. A standard 9 volt battery, housed in an easy-access battery drawer, powers the Water Level Meter.

When the probe enters water the electrical circuit is completed, sending a signal back to the reel where a light and clearly audible buzzer are activated. The water level is then determined by taking a reading directly from the cable at the top of the well casing or borehole.

A sensitivity control allows the buzzer to be scaled back or turned off while in cascading water, and ensures a clear signal in both high and low conductivity conditions.

**Water Level Meter Features**

- Low Cost**
  - Solinst quality at a low price
- Narrow**
  - 4 mm (0.157") diameter probe
- Long Life**
  - Rugged, corrosion resistant components
  - Strong, flexible cable is easily spliced
  - Replacement probes, cables and parts
- Accurate**
  - Precise markings every mm or 1/100 ft
  - Traceable to national standards

| 102 Water Level Meter Specifications  |                                                                       |
|---------------------------------------|-----------------------------------------------------------------------|
| Operating temperature of reel:        | -20°C to +50°C                                                        |
| Operating temperature of cable/probe: | -20°C to +80°C                                                        |
| Wetted materials (cable/probe):       | Polyurethane, stainless steel, Delrin®, Viton®, Polyolefin (P10 only) |
| Reel IP rating:                       | IP64 (dust and splash proof)                                          |
| Conductivity detection threshold:     | P10: 40 µS/cm P4: 100 µS/cm                                           |

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## 102M Mini Laser Marked Water Level Meter



The laser marked coaxial cable is mounted on a convenient small reel that is light-weight and fits easily into a mini carrying case or backpack. The accurate cable is marked each millimeter or every 1/100 ft.

The 102M Mini Water Level Meter is available in 25 m and 80 ft lengths. There is the choice of the P4 or P10 Probe.



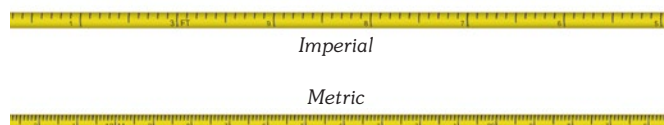
*Measure water levels within the narrow channels of a Solinst CMT® System.*

### Laser Marked Cable

The coaxial cable has a durable polyurethane jacket with permanent markings precisely laser etched on the cable every millimeter or every 1/100 ft.

The cable reels smoothly, remains flexible, and comes in lengths from 30 m – 300 m (100 ft – 1000 ft).

A braided copper outer conductor gives flexibility and a stranded stainless steel central conductor gives strength. It is easy to repair and splice.



**Laser Markings Each Millimeter or Each 1/100 ft**

### Cable Length Options

Solinst Model 102 Water Level Meters are available on reels in the following standard lengths:

|                   |        |         |
|-------------------|--------|---------|
| <b>Mini Reel</b>  | 25 m*  | 80 ft*  |
| <b>Small Reel</b> | 30 m*  | 100 ft* |
|                   | 60 m*  | 200 ft* |
|                   | 100 m* | 300 ft* |
|                   | 150 m  | 500 ft  |
|                   | 250 m  | 750 ft  |
|                   | 300 m  | 1000 ft |

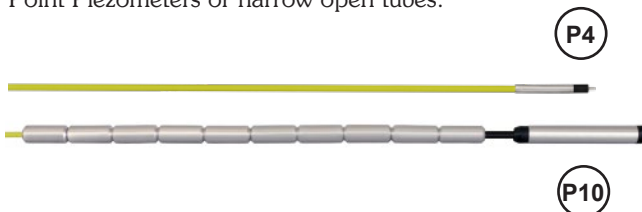
\* Cables with P4 Probes are only available in these lengths

### Narrow Diameter Probes

Model 102 Probes are designed for flexibility. The probe tips use a recessed design to minimize false signals in cascading water.

**P10:** 10 mm dia. x 70 mm long (3/8" x 2.75") stainless steel with 10 stainless steel weights, weighing 174 g (6.14 oz). This probe is ideal for the majority of water level measurement applications. The flexible weight assembly allows easy well access and keeps the cable hanging straight in monitoring wells.

**P4:** 4 mm dia. x 38 mm long (0.157" x 1.5") stainless steel weighing 10 g (0.35 oz), with no weights. It is ideal for shallow applications and for accessing very narrow diameters, especially the channels of the Solinst CMT System, Drive-Point Piezometers or narrow open tubes.



### Water Level Meter Reels

The standard reel has an easy access battery drawer, a well designed brake assembly, and convenient carrying handle. It has been ergonomically designed to be comfortable in use and stable when placed on the ground. It has an on/off sensitivity switch, light, buzzer, battery test button, and comes with a tape guide.

The mini reel is sturdy, yet very compact and easy to carry. It also has an on/off sensitivity switch, light, buzzer, and battery test button.

**Solinst®**

## Coaxial Cable Water Level Meter

### Tape Guide/Datum

The tape guide can be used to protect the cable from damage on rough edges, help the probe hang straight in the well, and ensures consistent measurements. It can also provide reel support on the casing. A tape guide is provided with each standard reel.



### Other Options

**Power Winder:** Lightweight and easy to attach to small reel frames of Model 102 Water Level Meters, the Power Winder is designed to allow effortless winding of longer lengths of cable. Simply uses a standard power drill to operate (see 101 Power Winder Data Sheet).



**Carrying Bag:** Small and mini padded nylon carrying bags are available, as optional extras. The bag design has a convenient shoulder strap, zippered front pocket, zippered top, and a grommet in the base to prevent moisture build-up. A mini bag has no pocket.



**Replacement Parts:** Replacement cables with probes, weights, and other spare parts are available.

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