

### Operating Principle

The Solinst Model 122M Mini Interface Meter has a narrow 5/8" (16 mm) diameter probe, and uses laser-marked PVDF jacketed cable. It is certified to CSA Standards, for use in hazardous locations Class 1, Div. 1, Groups C & D T3C, and is ATEX certified under directive 94/9/EC, as II 3 G Ex ic IIB T4 Gc. An infra-red circuit detects the presence of a liquid and a conductivity circuit differentiates between conductive liquid (water) and non-conductive liquid (LNAPL or DNAPL product).

### Equipment Check

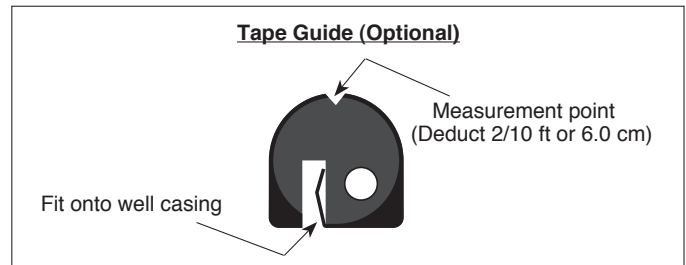
Check the electronics and battery condition by pushing the 'On/OFF' button. A brief tone and light indicate that the meter is functional. It will automatically turn off after 10 minutes to preserve battery life.

#### IMPORTANT

For safety, always ground the meter by attaching the ground cable to the metal well casing or to a suitable grounding rod. Failure to properly ground this instrument could cause damage to probe/electronics or result in an explosion from any flammable gases trapped in well.

### Field Measurements

1. Push the 'On/OFF' button. A brief tone and light indicate that the meter is functional. The meter automatically turns off after 10 minutes. Press the 'On/OFF' button as necessary during operation to turn the meter back on.
2. Lower probe into well. If a tape guide is used, lay the laser-marked PVDF cable onto the groove on the top. Measurements will be read at the point of the V-notch on the tape guide. Remember to deduct 2/10 ft or 6.0 cm.



3. A steady tone and light indicate a non-conductive liquid (e.g. product). An intermittent tone and light indicate a conductive liquid (e.g. water).
4. For floating product (LNAPL), take the air/product interface measurement on the way into the liquid.
5. The interface between the LNAPL and water should be measured as the probe is raised very slowly back up. Once the interface is detected, the probe can be raised and lowered in small increments to precisely determine the interface.
6. Repeat measurements to confirm, reading the levels directly from the cable and subtract one from the other to determine thickness.
7. To determine if there is any sinking product (DNAPL) in the well, continue lowering the probe slowly. If steady signals activate, determine the top of the sinking layer by reading directly from the cable.
8. Continue lowering the probe slowly until the cable slackens when the well bottom is reached. Read the level directly from the laser-marked PVDF cable and subtract one from the other to determine thickness.
9. Upon completion of readings, clean the cable and probe as described overleaf.

## Cleaning and Maintenance

After each use, the laser-marked PVDF cable should be wiped clean and carefully rewound onto the reel. An alternative is to steam clean the cable only. The probe should be cleaned as follows:

1. Wash the probe thoroughly with a non-abrasive mild detergent. **DO NOT USE ANY SOLVENTS.** Use a soft cloth around the pins and on the prism on the end of the probe to remove all product. Use lukewarm water, not hot water or you may damage the probe.
2. Rinse probe thoroughly with distilled water, wipe dry.
3. Return the probe to the holder.

## Battery Replacement

If the tones get weak, battery power is getting low and you should replace the battery before you go into the field. Push battery drawer in and up and then pull out. The battery drawer should eject slightly to make pulling out easier. Replace the battery with an alkaline 9 volt battery.

### IMPORTANT

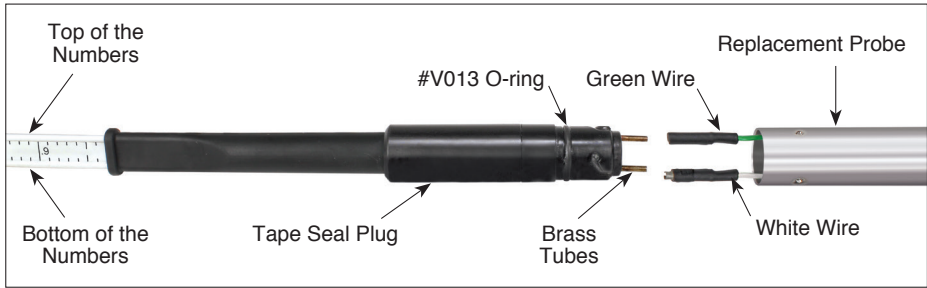
Reverse polarity can cause probe damage. Ensure correct battery placement.

## General Tips

1. The probe should be cleaned after each use.
2. Always use the grounding cable.
3. Do not drop probe.
4. If the tones are weak, replace battery.
5. Before storage, make sure that the meter is turned 'OFF'. If the Mini Interface Meter is going to be stored for longer than two months, the 9V alkaline battery should be removed to avoid potential leakage.
6. The meter can be checked by placing the probe in distilled (non-conductive) water or pure phase product, for example lamp oil (**avoid bright sunlight during testing and resting the probe on the bottom of the container**). A steady tone and light should be observed.

Where possible, use the Solinst tape guide to protect the cable from scraping on well casing.

**Note:** In rare circumstances it is possible that the 122 might sound when directed toward sunlight, and not in a liquid. This is normal and does not affect proper operation in a monitoring well.



### Tools and Materials Needed

1. 122/122M Replacement P8 Probe Assembly (#111260)
  - Includes replacement #V013 O-Ring
2. Silicone-based grease
3. Tweezers

### Instructions

**Note:** Before attempting probe replacement, please make sure the Interface Meter is properly grounded. Attach the grounding cable clip to a metal well casing or other suitable grounding rod.

1. Make sure the Interface Meter is turned off.
2. To remove the old probe, twist the probe counter-clockwise and pull out. This may take some force.
3. Remove the two connectors from the brass tubes.
4. Remove the old V013 O-ring from the tape seal plug, if damaged. Lubricate (e.g. silicon grease) the new V013 O-ring and the slotted area where the O-ring will be installed on the tape seal plug. Install the O-ring.
5. Lay the tape and tape seal plug so the numbers on the tape are facing up.
6. Use tweezers to carefully pull the green and white wire connectors from the replacement probe body.
7. To attach the new probe, connect the green wire to the brass connector on the top of the tape seal plug and the white wire to the bottom brass tube. Ensure the connectors are pushed all the way onto the brass tubes.
8. Line up the indents in the probe with the grooves in the tape seal plug. Push the probe past the O-ring, then twist the probe clockwise until the probe seats on the tape seal plug.

**Note:** Make sure the wires are tucked back into the probe body when pushing the probe onto the tape seal plug.

9. With Probe in a glass of tap water and product (i.e. lamp oil), turn the Interface Meter On. A steady tone and light indicates a product, while an intermittent tone indicates water. If the buzzer or light do not activate, check the Probe connections.

®Solinst is a registered trademark of Solinst Canada Ltd.

# Solinst® Connecting Polyethylene Replacement Tape to Reel

Model 122M

## Tools and Materials Needed

1. Model 122M Replacement Tape Assembly
  - Tape Seal Plug included on Tape
  - Grommet
  - 3 Pin Tape Molex Connector
2. Phillips or Robertson Screwdriver
3. Wire Cutters

**Note:** See separate instructions for Probe attachment.

## Instructions

1. Place Reel on a flat workbench with Faceplate up. Undo the three screws from the Faceplate, and slowly remove it from the Reel.
2. Disconnect old Tape Molex Connector from the Faceplate Molex Connector.
3. Use the wire cutters to cut the old Tape Molex Connector from the old Tape.

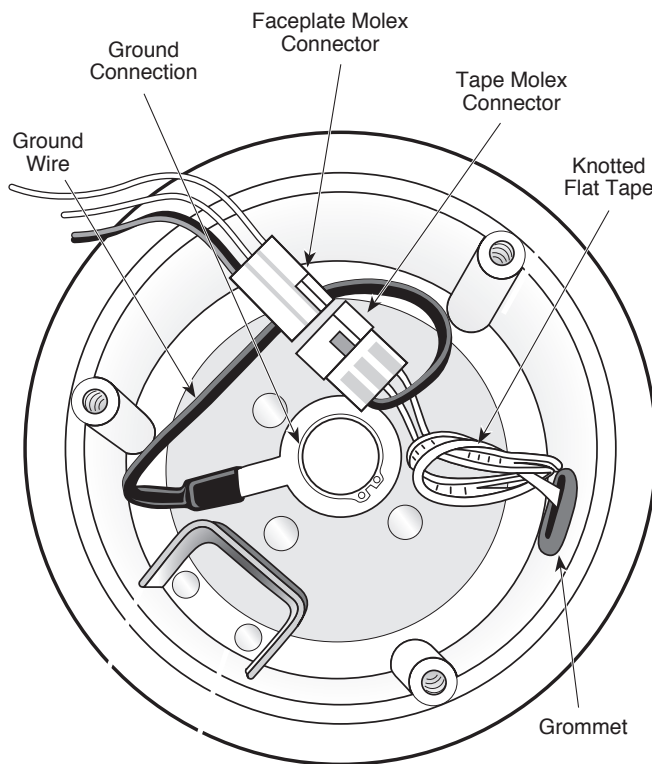
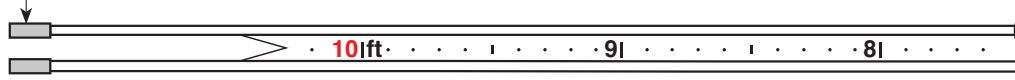
**Note:** The ground wire will be connected to the 3 Pin Tape Molex Connector in the Reel. The Replacement Tape comes with a new Tape Molex Connector, which may be used if old Tape Connector is damaged. Ensure proper wire attachment.

4. Pull the old Tape through the Grommet and remove from the Reel.

**Note:** The Replacement Tape comes with a new Grommet. The old Grommet may be replaced with the new one, or left in if not damaged.

5. Feed the new Tape with Connector Pins through the Grommet into the Reel Hub.
6. Tie a knot in the Tape about 5" (125 mm) from the end to secure the Tape from sliding back through the Grommet.
7. By hand, insert the Connector Pins into the new Tape Molex Connector. The negative Connector Pin is inserted into the terminal on the pointed side of the Tape Connector, and the positive Pin into the middle terminal. (The ground wire is attached to third terminal). The negative Pin is above the numbers on the Tape (see diagram below).

Negative  
Connector Pin



*Inside View of 122M Reel Hub  
Showing Tape Connection Detail*

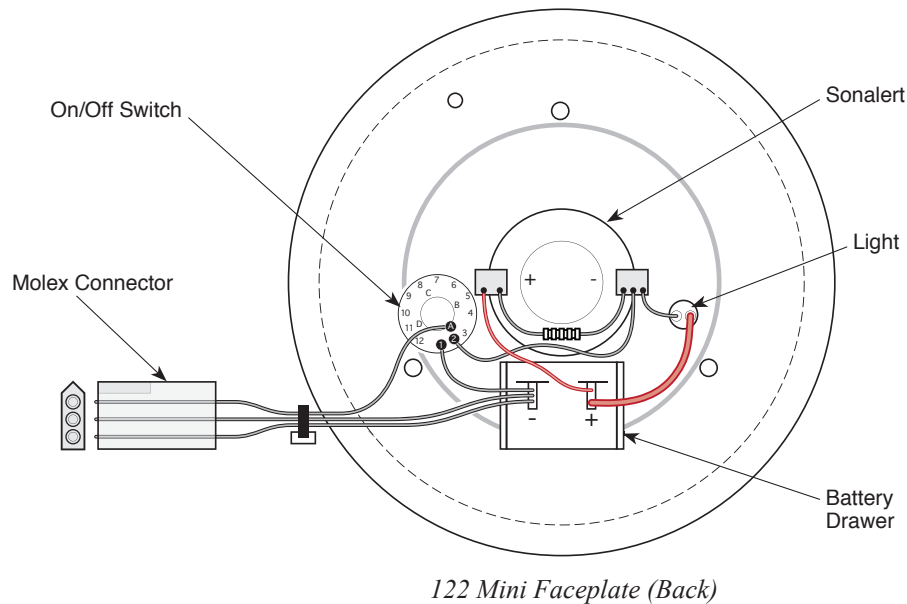
8. Connect the Tape Molex Connector to the Faceplate Molex Connector.
9. Attach the old Probe to the new Tape, or attach a new Probe if the old one is being replaced. Please see separate Probe attachment instructions.
10. With the Probe in a glass of tap water and product, turn the Interface Meter to the 'ON' position. A steady tone and light indicates a product, while an intermittent tone indicates water. If the buzzer or light do not activate, check the Probe and Tape connections.
11. Replace the Faceplate on the Reel and re-secure the three screws.
12. Slowly wind the Tape onto the Reel, holding to ensure no slack.

®Solinst is a registered trademark of Solinst Canada Ltd.

Printed in Canada  
January 23, 2014  
(#109063)

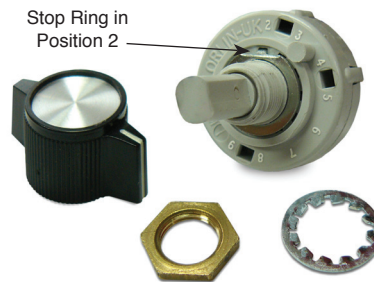
**For further information contact: Solinst Canada Ltd.**  
Fax: +1 (905) 873-1992; (800) 516-9081 Tel: +1 (905) 873-2255; (800) 661-2023  
35 Todd Road, Georgetown, Ontario Canada L7G 4R8  
Web Site: [www.solinst.com](http://www.solinst.com) E-mail: [instruments@solinst.com](mailto:instruments@solinst.com)

**Solinst®**



### Tools and Materials Needed

1. 122 On/Off Switch c/w Knob (#108948) (shown at right)
2. Robertson (or Flat Head) Screwdriver
3. 0.050" Hex Key
4. Wrench or Pliers
5. Wire Strippers
6. Soldering Iron and Solder Wire



### Instructions

1. Turn the Interface Meter off and remove the battery.
2. Use the hex key to undo the two screws from the On/Off Switch and remove the Knob.
3. Unscrew the three screws from the Faceplate and remove it from the Reel.
4. Unplug the Molex connector from the back of the Faceplate connected to the Tape.
5. Unsolder the three black wires connected to the On/Off Switch.
6. Unscrew the holding nut from the On/Off Switch on the front of the Faceplate, remove the washer and remove the Switch from the Faceplate.
7. Strip the three black wires approximately 0.1" (2.5 mm).
8. Ensure the stop ring on the new switch is in position 2 (see above).
9. Place the new Switch through the back of the Faceplate, ensure the silver washer is over the shaft of the new switch and tighten in place with the holding nut.
10. Solder the wire from the back of the battery drawer to switch position 1, the wire from the Sonalert to switch position 2, and the wire from the Molex connector to switch position A.
11. Place the new Knob over the On/Off Switch and attach it using the two screws.
12. With the Probe in a glass of tap water and product, turn the Interface Meter to the 'ON' position. A steady tone and light indicates a product, while an intermittent tone indicates water. If the buzzer or light do not activate, check the soldered connections.
13. Replace the Faceplate on the Reel and refasten the three screws.

®Solinst is a registered trademark of Solinst Canada Ltd.

#### Tools and Materials Needed

1. Model 122M Replacement Tape Assembly
  - Tape Seal Plug included on Tape
  - Grommet
  - 3 Pin Tape Molex Connector
2. Phillips or Robertson Screwdriver
3. Wire Cutters

**Note:** See separate instructions for Probe attachment.

#### Instructions

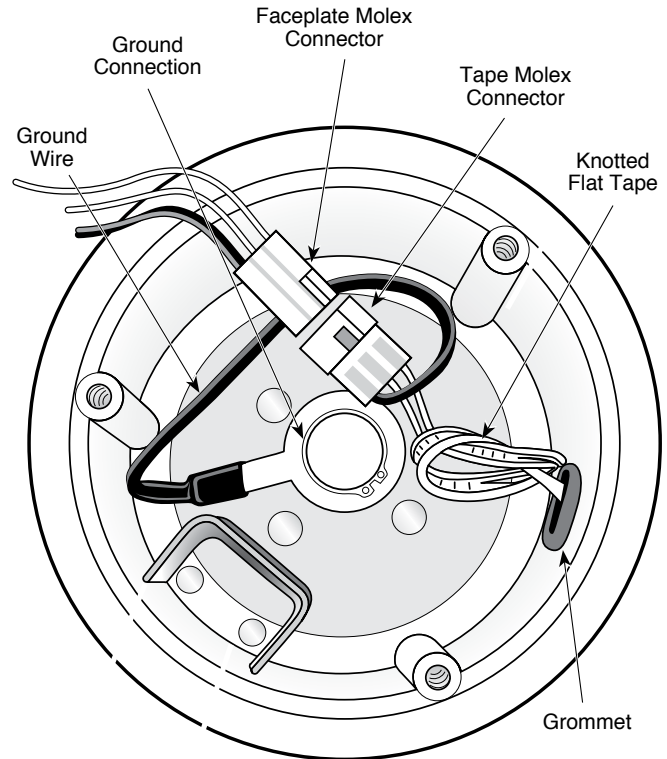
1. Place Reel on a flat workbench with Faceplate up. Undo the three screws from the Faceplate, and slowly remove it from the Reel.
2. Disconnect old Tape Molex Connector from the Faceplate Molex Connector.
3. Use the wire cutters to cut the old Tape Molex Connector from the old Tape.

**Note:** The ground wire will be connected to the 3 Pin Tape Molex Connector in the Reel. The Replacement Tape comes with a new Tape Molex Connector, which may be used if old Tape Connector is damaged. Ensure proper wire attachment.

4. Pull the old Tape through the Grommet and remove from the Reel.

**Note:** The Replacement Tape comes with a new Grommet. The old Grommet may be replaced with the new one, or left in if not damaged.

5. Feed the new Tape with Connector Pins through the Grommet into the Reel Hub.
6. Tie a knot in the Tape about 5" (125 mm) from the end to secure the Tape from sliding back through the Grommet.
7. By hand, insert the Connector Pins into the new Tape Molex Connector. The negative Connector Pin is inserted into the terminal on the pointed side of the Tape Connector, and the positive Pin into the middle terminal. (The ground wire is attached to third terminal). The negative Pin is above the numbers on the Tape (see diagram below).



*Inside View of 122M Reel Hub  
Showing Tape Connection Detail*

8. Connect the Tape Molex Connector to the Faceplate Molex Connector.
9. Attach the old Probe to the new Tape, or attach a new Probe if the old one is being replaced. Please see separate Probe attachment instructions.
10. With the Probe in a glass of tap water and product, turn the Interface Meter to the 'ON' position. A steady tone and light indicates a product, while an intermittent tone indicates water. If the buzzer or light do not activate, check the Probe and Tape connections.
11. Replace the Faceplate on the Reel and re-secure the three screws.
12. Slowly wind the Tape onto the Reel, holding to ensure no slack.

