

### Operation of the Controller

1. Set the speed dial on zero.
2. Connect to a 12V DC power supply using the clips provided.
3. Slowly turn the speed dial clockwise or counterclockwise until the motor just starts to turn.

**Caution:** Motor must be grounded in accordance with the national electrical code and local codes by trained personnel to prevent serious electrical shocks.

Ensure the air in-take fan at the end of the motor is clear.

If down-hole component gets stuck, do not use power motor. To avoid injury, turn motor off immediately, and attempt retrieval manually.



**Note:** The Power Reel can use heat embossed polyethylene flat tape or Solinst laser-marked PVDF flat tape

### Lowering the Tape

When lowering the tape, the speed will be about 2 ft/s, increasing by 2 ft/s for each additional 1000 ft of tape down-hole. To reduce the speed increase during lowering, turn the speed dial down gradually. If the speed dial is at its lowest setting (1) and the speed is still too fast, decrease the speed by reversing the reel direction (i.e. rewind). This serves as a dynamic brake, and enables you to stop at the desired depth.

### Retrieving the Tape

When rewinding the tape, the speed also depends on the length of tape down-hole. At maximum depth (for longer tapes with 5000 ft down-hole), the speed will be less than 0.2 ft/s, even at the maximum speed setting (8). The speed will gradually increase to 2 ft/s as the tape winds closer to the top of the well.

### Controller

#### Input Ratings

10 - 16V DC @ 25A

#### Front Panel Controls

Speed dial: starts and stops motor, adjusts motor speed and direction of rotation

Reset: 25A rating

#### Ambient Temperature Conditions

Temperature: 0 - 40°C

Humidity: 90% RH or less, non-condensing

### Motor

#### Lubrication

The shaft bearings contain grease fittings. After one year, insert multipurpose chassis grease, and re-apply once per year. The gear box is lubricated for life, and should never need to be lubed.

### Servicing

Disconnect power source from motor and any accessory devices and allow motor to come to a complete stand still

### Water Level Meter Operation

#### Equipment Check

1. The level of sensitivity can be adjusted higher or lower by turning the switch clockwise or counter clockwise.
2. Depress the Battery Test button to test the battery and circuitry.
3. Submerge the probe in tap water. This completes the circuit and activates the buzzer and light.

#### Water Level Measurement

The zero measurement point is at the tip of the sensor pin, located at the centre of the P2 Probes, and where the black Delrin tip meets the stainless steel body of the P7 Probes.

The light and buzzer activate when the zero point enters water. To ensure accuracy, lower and raise the probe a few times and then record the depth measurement from the tape at the top of the well.

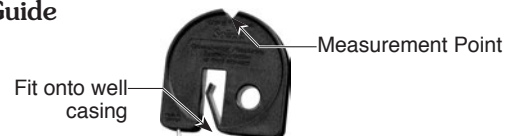
#### Using the Tape Guide

Feed the tape into and out of the well using the groove in the top of the Tape Guide.

The tape guide has been designed to:

- improve accuracy when reading water levels,
- easily obtain repeatable measurements,
- prevent tape being cut by well casing,
- allow the tape and probe to hang straight from the side of the well.

#### Tape Guide



When using the tape guide, the measuring point is offset from the top of casing. To adjust your measurements to the top of the casing, simply subtract the amount indicated on the front of the tape guide (i.e. 6 cm or 2/10 ft.).

**Routine Care**

1. After the depth to water has been recorded, the tape should be carefully rewound onto the reel, the probe wiped dry and placed into the probe holder.
2. The probe, tape and reel can be cleaned with phosphate free (non-abrasive) detergent and warm water.
3. Remove any dirt or water from around the central sensor pin. If the central sensor pin is corroded or coated, use emery cloth to polish it.
4. Check the P2 probe seal/strain relief and replace the black heat shrink if there is any cracking or other damage.
5. Use of the Tape Guide adds to the life of the tape.

**Battery Replacement** (battery type - alkaline, 9 volt.)

1. The battery is housed conveniently on the front of the grey box with the sensitivity switch.
2. To replace the battery, open the compartment with a screw driver.
3. Note the polarity and place a new battery in the compartment. Snap the compartment cover back into place.



**Replacement Parts**

The following parts can be provided should they become lost or damaged:

Probes and seal kits, splice kits, lights, switches, etc., reels, and replacement tape with probes (complete) or probe seals.

SYMPTOM	CAUSE	REMEDY
<b>No sound when probe immersed in water</b>	Dead battery.	Replace with 9V Alkaline.
	Water conductivity is very low.	Increase sensitivity switch setting (turn clockwise) or call Solinst for assistance.
	Disconnected wires on circuit board.	Check all connections inside hub of reel for loose/disconnected wires - solder or reconnect.
	Broken wire in tape.	Locate break in tape - splice and seal (contact Solinst).
	Disconnected wire inside probe.	Contact Solinst to obtain parts/repair instructions.

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