



dipper-T & little dipper Water Level Meters

Operating/Maintenance Instructions & Warranty

Warranty

Heron Instruments Inc warrants all parts to be free from defects in material and workmanship affecting serviceability of the product for a period of 60 months following invoice date.

For Returns and Repairs go to www.heroninstruments.com/products_services/index.htm complete repair form and return with unit to the appropriate address.

Note:

Customer shall notify **Heron Instruments Inc** prior to returning product under above warranty.

Heron Instruments Inc shall in its sole discretion decide if parts are defective and are covered by the limited warranty herein.

Heron Instruments Inc reserves the right to substitute such parts as it considers appropriate from current models.

Heron Instruments Inc will not be responsible or liable for consequential damages caused by instrument failure for any reason whatsoever.

The warranty herein will not apply to products used as rental equipment or to products contaminated by materials which are hazardous to such products as outlined in the product information supplied.

The warranty herein will not extend to tape, bag or batteries used with the product.

The warranty will not extend to parts failure due to neglect in cleaning or servicing the product; nor will it extend to failure of parts caused by misuse or inappropriate use of the product.

General

Avoid sharp edged casing

Avoid entanglement with other equipment in boreholes and wells.

Do not use to plumb borehole depths

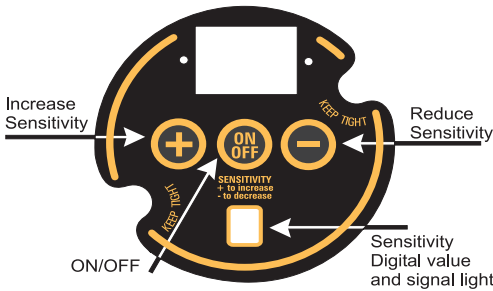
Do not use as guide to backfilling with sand etc. Instrument may get locked in sand.

Rewind tape onto reel after each use

Warranty is conditional upon adherence to these guide lines.

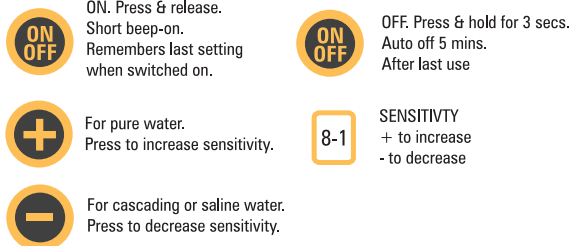
Maintenance continued on next page.

Water Level Meter Instructions



Reel Lock

To unlock the reel turn the plastic lock handle in the direction shown until it touches the frame.



To Test Entire System

Hold the centre pin on the probe against the stud on the back of the axle at the same time touch the probe body against the screw on the frame. The buzzer will sound if the system is ok. Sensitivity knob should be turned fully clockwise.

Equipment Check

- 1 Test circuit and battery by pressing the **ON** button. Make sure the panel securing knobs are tight (see diagram). If the unit does not sound, replace the battery (one 9 volt) in the drawer on the faceplate and repeat.
- 2 Test tape and probe by shorting out the centre conductor and probe body on the stud on the back axle of the unit as shown. The buzzer and light should activate; if not, adjust the sensitivity and repeat. **Make sure unit is on.**
- 3 Test the unit in tap water before going out to the field. **DO NOT** use distilled or deionized water.

Use in the Field - Important*

- 1 Reel the tape down the well carefully, avoiding the edge of the casing. Hang the unit on the casing where possible and run the tape over the frame leg to avoid cuts and nicks.
- 2 When the unit sounds, carefully measure the depth to water from your reference point by slowly lowering and raising the probe to the air/water interface. Raise the probe, shake off the water and repeat the measurement. In wells with cascading water, reduce the sensitivity by pressing the (-) button to avoid false signals.
- 3 The probe is rated to full depth and can be used to measure depth to bottom of well. Reel the tape until the probe touches bottom and the tape becomes slack. **DO NOT** let the probe fall under gravity or it will be damaged when it hits the bottom of the well. **DO NOT** use the unit to measure sand backfill as the tape and probe may get "locked" in the backfill.
- 4 Wind the tape back onto the reel, removing any excess moisture and dirt.

Cleaning the Meters

- 1 Always clean the meters after use in the field to maintain optimal performance and extend the life of the unit.
- 2 Unwind the tape and probe and wash with a mild detergent. Rinse well, wipe and rewind onto the reel. The tape and probe can be cleaned and degreased with the following: soap solution, naphtha alcanox 10%, Joy detergent 10%,

Lestoil; methyl, isopropyl and isobutyl alcohols; hexane, heptane and fully halogenated freon. Rinse thoroughly with water afterwards.

- 3 Wash reel if necessary. The central electronic panel can be removed and the reel washed down. Unthread the panel securing knobs and carefully pull out the central panel. Disconnect the panel from the tape. The reel may be cleaned with the following: soap solution, naphtha alcanox 10%, Fantastic, Windex, Joy, Top Job, Mr. Clean, Formula 409; hexane, heptane, white kerosene, mineral spirits; methyl, isopropyl, isobutyl and 1 + 3 denatured alcohols; freons TF + TE. Rinse well with water and let dry before putting the panel back in. **DO NOT** use abrasives, partially halogenated hydrocarbons or ketones to clean the reel.

Trouble Shooting

No Sound when the unit is tested

- 1 Check battery by pressing **ON** button. Replace battery if low and make sure panel securing knobs are tight. If unit still does not sound, remove central panel and check all connections.
- 2 Check probe conductor to make sure it is clean and not crusted with mineral deposits. Check tape/probe connection for any breaks.

Continuous Sound when the unit is turned on or probe removed from water.

- 1 Make sure probe conductor tip is clean.
- 2 Check for excess moisture on the back of the electronic panel.
- 3 Check probe/tape connection and tape for any breaks or leaks where water might get in.

General

- Avoid sharp edged casing
- Avoid entanglement with other equipment in boreholes and wells.
- Do not use as guide to backfilling with sand etc., Instrument may get locked in sand.
- Rewind tape onto reel after each use

Warranty is conditional upon adherence to these guide lines.

***Important: Ensure that the Panel Securing Nuts are tight before use.**

Note: Intermittent beep indicates unit ON. Beeping shuts off automatically 5 minutes after last use.