



Figure 1

Item
LD2 Electronic Panel
Thumb Screws (Set of 2)



Figure 3

Hanger to support the meter at the well head.
Tape Guide to protect the tape from sharp edges.



Figure 2

To Test the Entire System: **Make sure sensitivity dial is turned fully clockwise.** Touch one end of a conductive wire to the probe body and the other end to the probe tip. This will create a short in the probe, the buzzer will sound if the system is okay.

HERON ALSO MANUFACTURES:

- Water Level Meters
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HERON
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little dipper2 Static & drawDown Levels

Operating and Maintenance Instructions



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little dipper2 Water Level Meter Instructions

General Care of the little dipper2

The **little dipper2** is a high quality, robust, compact water level meter capable of **2 functions** – **static** and **drawDown** levels. The **little dipper2** will provide many years of reliable service when these recommendations are followed:

- Avoid sharp edged casing to prevent damage to the tape.
 - Take care to avoid the tape becoming entangled with other equipment in boreholes or wells, use stilling pipes when possible.
 - Neatly rewind and clean the tape after each use.
- Refer to: Cleaning the **little dipper2**

DO NOT use the **little dipper2** as a guide to backfilling, bentonite sealing or sand packing in wells. This type of material falls through the water column at a much slower rate than the **little dipper2** probe and can result in a trapped tape and probe.

DO NOT allow the tape to “freefall” down the well, it may become caught in other equipment in the well.

Warranty is conditional upon adherence to these guidelines.

Equipment Check

Before taking the unit into the field, carry out these simple tests with the sensitivity knob turned fully clockwise (see Figure 1).

- Insert battery drawer (battery included) into the battery compartment on the electronic panel. Note polarity.
- Check the condition of battery and circuit, press the **Change Mode** button to change from **static** to **drawDown**. The unit will sound and the indicator light will come on when the probe is in air. If the unit does not respond, replace the battery and try again.
- Test the entire unit by placing the probe in tap water or touching one end of a conductive wire to the probe body and the other end to the probe tip (see Figure 2). These procedures will create a short in the probe, the buzzer will sound if the system is working properly.

DO NOT test in distilled water.

Use in the Field

The **little dipper2** operates in two modes, **static** and **drawDown**. In **static** mode, the unit is silent until the probe touches the water. In **drawDown** mode, the unit sounds and the light remains on when the probe is **not** in water.

NOTE: There is no on/off switch on the instrument. If using in **drawDown** mode, return the unit to **static** mode to turn indicators off. The **little dipper2** consumes no power in **static** mode when probe is not in water.

- Hang the **little dipper2** on the casing (see Figure 3) or hold the **little dipper2** away from the side of the casing and guide the tape down the center of the well to avoid damaging the tape.
- Swivel the **probe holder** on the frame to allow the tape free movement down the well (see Figure 3).
- Note the inverted triangle on the probe holder serves as a datum point indicating “top of casing” (see Figure 3).
- The **sensitivity knob** (see Figure 1) is used to maintain a sharp distinctive signal by adjusting the unit’s response to varying conductivities. Turn the knob clockwise for low conductivity (pure) water and counter-clockwise for high conductivity (dissolved minerals) water. In wells that have cascading water that may give false readings, reduce the sensitivity by turning the sensitivity knob counter-clockwise.
- Reel the tape down the well carefully, avoiding the edge of the casing.

FOR STATIC MODE

- When the unit sounds (in **static** mode) carefully measure the depth to water indicated on the tape from your datum point (inverted triangle).
- Raise and lower the probe in and out of the water to ensure a consistent result.

FOR DRAWDOWN MODE

- When the probe is in water at the desired **drawDown** level, push the **Change Mode** button to **drawDown** mode (see Figure 1), the unit will now be silent in water and start pumping the water out. Once the water goes past the tip of the probe, the unit will sound in air.
- Turn off pump and put the **little dipper2** back in **static** mode.

When rewinding the tape, remove as much water and debris as possible from the tape and the probe.

WATCH THE VIDEO ON “HOW THE DRAWDOWN FEATURE WORKS” FOUND ON HERON INSTRUMENTS’ YOUTUBE CHANNEL.

Cleaning the little dipper2

Always clean the **little dipper2** after use in the field to maintain optimal performance and extend the life of the unit.

The **little dipper2** may be cleaned with any **mild** household dishwashing detergent and rinsed with water.

DO NOT use abrasives, partially halogenated hydrocarbons or ketones to clean the reel.

Troubleshooting the little dipper2

- Q. What if there is no sound or indicator light when the unit is tested?**
A. Refer to **Equipment Check** and follow procedures. Change the battery if necessary.
- Q. Why doesn’t the unit sound when testing the probe?**
A. Carry out full continuity test shown in Figure 2.
- Q. What should I do if the unit does not sound in static mode (probe in air)?**
A. Adjust the sensitivity setting. If the unit still does not work check all the connections inside the hub (inside the hub polarity is not an issue as the current is AC).
- Q. Why would the instrument continue to sound when not in water?**
A. The unit may be in **drawDown** mode. Press the **Change Mode** button (see Figure 1), putting the unit into **static** mode (silent in air). Dry the probe with a clean cloth.

Contact Heron Instruments or your Heron Distributor if you cannot isolate the problem.

Warranty (5 years, probe 1 year)

Heron Instruments Inc. warrants to repair or replace any defective equipment or part upon inspection by a **Heron** service technician. Warranty will be determined to our satisfaction to have a defect in workmanship or original material. The customer is responsible for all shipping fees to return the item to **Heron**.

This warranty shall not apply to damage of equipment caused by improper installation, usage, storage, alteration or inadequate care.

In no event shall **Heron** be held liable for any direct, indirect or consequential damages, abuse, acts of third parties (rental equipment), environmental conditions or expenses which may arise in connection with such defective equipment.

Heron Instruments Warranty coverage does not extend to the following:

- Tape, bag or batteries used with the product.
- Products used as rental equipment.
- Products contaminated by materials which are known to be hazardous and have rendered the unit unserviceable.
- Parts failure due to neglect in cleaning or servicing.
- Failure of parts caused by misuse.

For service information:

- visit www.heroninstruments.com under the **CONTACT** heading
- email service@heroninstruments.com
- call 1-800-331-2032 or 905-628-4999

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