

# Battery Watering Monitor

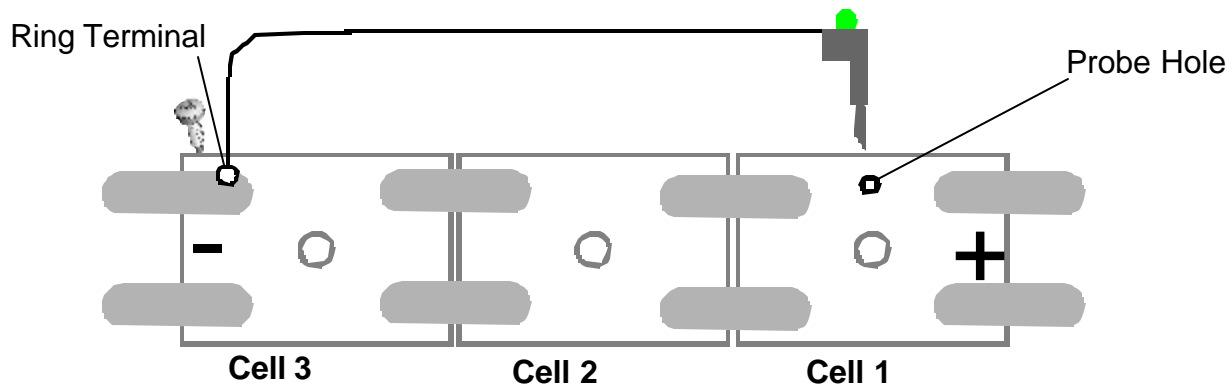
## Installation and Operating Instructions

### Parts included:

- 1 Battery Watering Monitor
- 1 #10 Phillips head S.S. Self-tapping Screw
- 2 Polypropylene Wire Ties
- 1 Grommet
- 1 Operation Label

### You will also need:

- Portable drill (we recommend a step drill)
- 12mm or 1/2" drill bit (or our kit ACC-041)
- Phillips head screwdriver
- Utility knife
- Hacksaw, shears or grinder (to shorten probe)
- Electrolyte Monitor Installation Epoxy (our part number ACC-044)



### SAFETY PRECAUTIONS

Make sure the battery is not on charge. Make sure the cells are not gassing. Wear safety glasses and protective clothing.

### Installation Instructions

- Select any three cells connected in series. Identify cells as:
  - Cell 1 is the positive most cell (toward positive end of the battery).
  - Cell 3 is the negative most cell (toward the negative end of the battery). See above figure.
- Drill hole in Cell 1 cover using 1/2" (12 mm) drill bit with collar provided in the Philadelphia Scientific installation kit, ACC-041. The Hole should be drilled between the side of the vent opening and the edge of the jar, see above figure. Use caution when drilling hole so that you do not drill into plates. Use a collar on the drill bit to prevent from drilling too deeply.
- Install grommet into the hole.
- Install Battery Watering Monitor into the grommet, and push it all the way down. If the probe touches the splash-guard (moss shield) it is too long and must be trimmed. Remove the probe and shorten it by making incremental angled cuts with a hacksaw or grinder. Ensure that the probe is cut at 45° angle. The probe tip should come no closer than 1/8" (3 mm) above the splashguard. The probe should be no shorter than the end of a Water Injector when installed into the cell.
- Install the ring terminal onto the negative intercell connector of Cell 3. Make sure that the intercell connector on the **NEGATIVE SIDE OF THE CELL IS SELECTED**. Remove intercell connector cover, if present. Use the self-tapping screw to secure the ring terminal to



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- the inter-cell connector or cable type inter-cell connector, see above figure.
- Cover the screw and ring terminal with our Electrolyte Monitor Installation Epoxy (ACC-044) to prevent corrosion. After epoxy dries, install inter-cell connector cover over wire and inter-cell connector. Installation epoxy is not included.
  - Thread the lead wire under any cables and Injector tubing on top of the battery. Use wire ties to secure lead wire to intercell connectors to prevent it from being snagged or pulled.
  - Affix Operation Label to the side of the battery.

## Cautions:

- Do not connect Battery Watering Monitor in reverse polarity. Reversing the polarity of the installation will damage the unit.
- Do not connect the Battery Watering Monitor to more cells than specified in these instructions. This will result in higher voltages to the unit and will cause the internal safety fuse to blow. If the fuse blows the unit must be replaced.

## Operating Instructions

- When the Battery Watering Monitor is blinking, the battery has enough electrolyte.  
**DO NOT ADD WATER TO THE BATTERY.**
- When the Battery Watering Monitor is not blinking, add water to the battery. The Monitor should resume blinking after the electrolyte and water have mixed together.

## Troubleshooting

If the Battery Watering Monitor does not start blinking after watering,

- Check the Monitor connection.
- Check that the probe tip has a 45° angle. If not file the tip of the probe to a 45° angle.
- Make sure that the battery is properly charged.
- Wait 15 minutes if you have just added large amounts of water to a dry battery. This will allow the electrolyte and water to mix.

### **SAFETY WARNING**

**Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.**

If Battery Watering Monitor still does not blink, call Customer Service at 215-616-0390.