

## About the ShockAlarm Device

### Are the ShockAlarm batteries replaceable?

The batteries in the ShockAlarm device are not replaceable as they are sealed into the unit to ensure water does not enter the circuitry. The continuous-life (monitoring time without turning the device off) for the ShockAlarm device is approximately 12-18 months depending on how many times it alerts as it detects electricity. By placing the ShockAlarm in the off position when not in use can extend the battery life by several months.

### Are the ShockAlarm Batteries Rechargeable?

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### What is the detection range of ShockAlarm?

#### REMINDER

**THE SHOCKALARM DEVICE IS DESIGNED TO DETECT AN ELECTRICAL AC VOLTAGE IN WATER THAT IS APPROXIMATELY 20 VOLTS OR HIGHER. THE SHOCKALARM DEVICE IS ONLY MEASURING THE ELECTRICAL VOLTAGE AT THE LOCATION WHERE IT IS MAKING CONTACT WITH THE WATER. PROPER USE REQUIRES THE SHOCKALARM DEVICE TO BE IN THE WATER, FLOATING FREELY WITHOUT DIRECT CONTACT WITH OTHER MATERIALS OR SURFACES, IN THE AREA WHERE PEOPLE ARE SWIMMING.**

Many factors can limit the range that allows the ShockAlarm to detect unhealthy levels of voltage. The range is the distance from the ShockAlarm to a given point in the water.

This partial list of factors include:

- Type of body of water (Pools, Lakes, Rivers, etc.)
- Objects in the water (Docks, Boats, Ladders, etc.)
- Type of pool (Fiberglass, Concrete, Liner, etc.)
- Depth of water



The common link among all these factors is their ability to conduct, or insulate, electricity from source to earth ground. Electricity will always follow the route of least resistance. This inherent nature of electricity can limit how far from the source in the water it travels.

In other words, if a dangerous voltage source enters the water and reaches ground earth close to the source, the ShockAlarm would need to be close to the source to activate the alarm.



Below are our suggested recommendations:

- Always have a certified electrician check all electrical systems where swimming is enjoyed.
- It is never a good practice to enter the water around dock areas.
- Place the ShockAlarm in areas that pose high risk to electric shock such as underwater lights, metal ladders or other electrical devices.
- Always place the ShockAlarm in the area where people enter, and exit, the water.

#### **Can I use ShockAlarm in fiberglass pools?**

Yes. ShockAlarm is suitable for fiberglass pools.

#### **Can I Use ShockAlarm in a Salt Water Pool?**

Yes, ShockAlarm can be used in a salt water pool.

#### **Can I Use ShockAlarm in Brackish Water?**

Yes, you can use ShockAlarm in brackish water.

#### **How do I shut off ShockAlarm?**

When you are not using your ShockAlarm, simply place the red disk with the magnet back on to the Velcro™ dot. This will turn your ShockAlarm off and conserve battery power.

#### **How do I tie off my ShockAlarm?**

You will want to tie off your ShockAlarm unit to the location where you enter and leave the water. Simply secure a nylon rope between the floats and tie the other end to a ladder or something similar. Leave enough line so that the ShockAlarm floats about 12-14 inches from the tie off.

## Electric Shock Drowning (ESD)

### What Is ESD – Electric Shock Drowning?

Electric Shock Drowning, or ESD, is a drowning event where the person is paralyzed as a result of electric current in water (for example: pools, lakes, marinas, hot tubs). If you are paralyzed while swimming, the result is usually a drowning.

If the electrical current through the body is high enough, it can directly affect the heart resulting in cardiac arrest. There is seldom any physical evidence of electrical shock unless a person actually comes in contact with something that could cause a mark on the skin.



We are able to classify this type of drowning as ESD because it is typically witnessed by friends and/or family members.

### What Causes ESD?

Many pools, hot tubs, and spas have underground lights and some have assistive devices for lowering people into the water. Docks (both public and private marinas) have electrical service for powering boats, lighting, and other conveniences. Any time that there is an electrical connection near water, it should be properly inspected and grounded.

Even your pump can be a source of danger. You may think that you're safe because you have PVC piping, but electricity can travel through the water inside that PVC pipe. The incident in Hialeah, Florida was due to a malfunctioning pool pump.

Normal wear and tear, misuse, or simple lack of maintenance can render these safeguards ineffective. These types of electrical faults can result in electricity entering the water. As a result, people (and animals) that enter the water can be paralyzed or electrocuted by the electricity in the water without touching anything.

### Does ESD Happen Often?

According to the World Health Organization, drowning is the 3rd leading cause of unintentional injury death worldwide. In 2012, an estimated 372,000 people died from drowning. What we don't know is how many of these drowning deaths could have been caused by electric shock. It is only by witness reports and on scene investigations can an event be attributed to ESD.

## Safety Tips

### **How Can I Make Sure My Marina Is Safe?**

First, make sure your docks (both marina and private) and boats are up to current applicable standards. Following codes and standards is the best way to ensure safety for anyone who might accidentally enter the water around docks using electricity. We encourage you to have your electrical connections inspected annually by a licensed marine electrician.

Making sure that all of your electrical connections meet the applicable standards is the first step. Routine inspections should be conducted to inspect for accidental damage, rodent damage, etc. Finally, use a passive continuous detecting device that will alert you to the presence of electricity in the water.

### **How Can I Make Sure My Pool Is Safe?**

Make sure all of your electrical connections meet your local building codes. Have a licensed electrician inspect your system each year.

Use only low-voltage lighting in and around your pool. Make sure all electrical connections are on a GFCI – Ground Fault Circuit Interrupter. Replace your GFCIs on a regular basis – they do wear out over time.

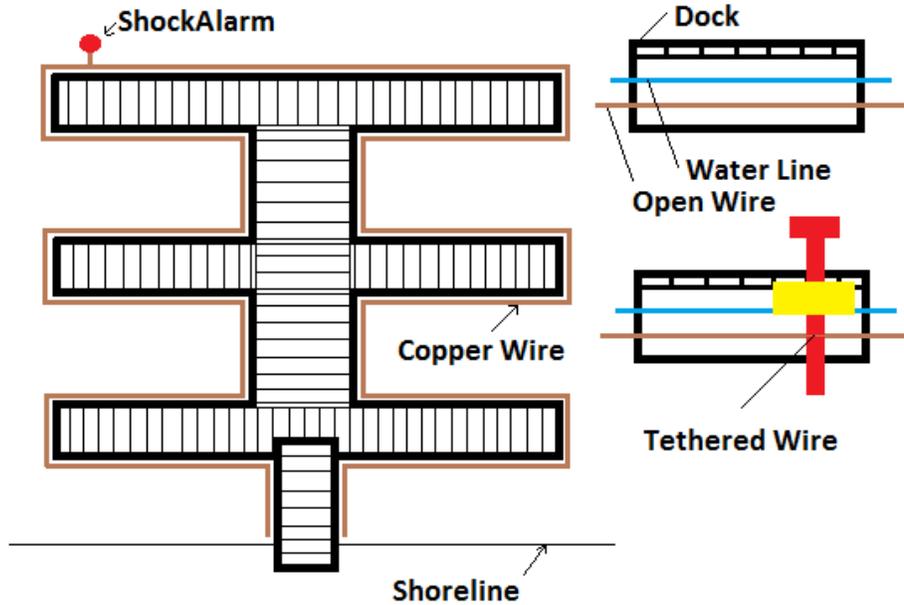
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### **Improve Detection Range**

Detection range of the ShockAlarm around a dock may be improved using the following method. Running a non-insulated wire along the parameter and below the water level of a dock allows the ShockAlarm to operate at a greater range. This simple but effective technique increases the likelihood that the water adjacent to the dock is free of harmful electricity. If a harmful voltage is introduced into the water at any point from the dock, the static voltage pressure will be reflected along the open wire. This will activate the ShockAlarm, which is tethered to the open wire, and alert people of the impending danger. Note: The open wire is not connected to ground and should not be connected to any conductive materials on the dock. Use insulated fasteners if the dock is constructed from conductive materials.

### **WARNING!**

Use a licensed electrician to install the wiring method outlined in the diagram below. Due to the inherent nature of electricity, these conditions alone may not activate the ShockAlarm.



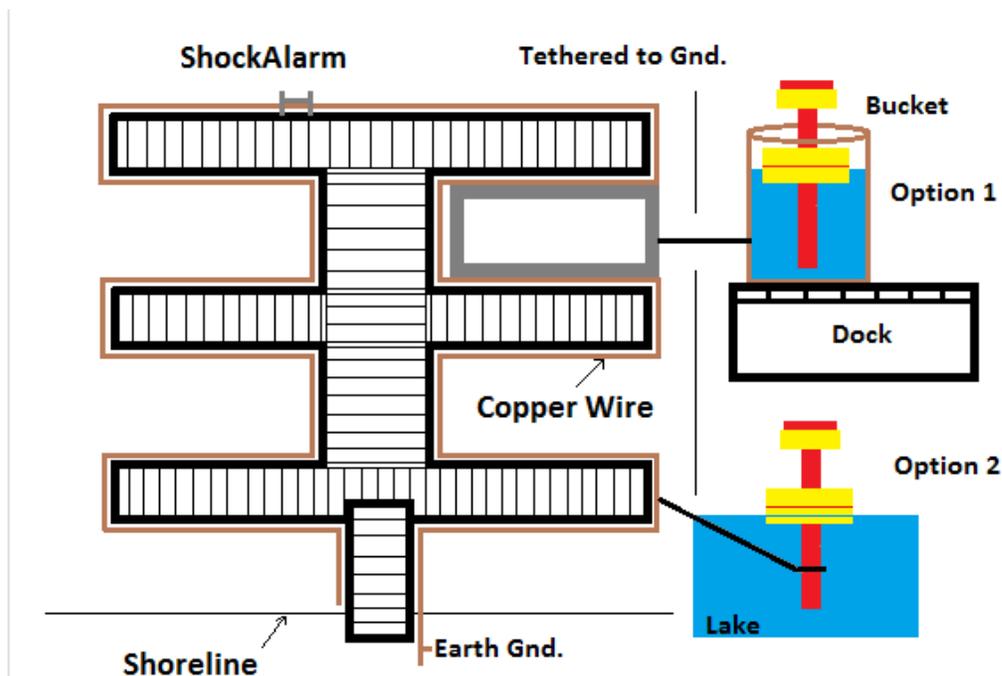
### Improper Electrical Ground Detection

This wiring technique illustrated below is designed to activate the ShockAlarm if the following two conditions are met:

1. The ground wire is not properly connected to earth ground.
2. The ground wire is carrying current due to improper wiring.

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## Purchasing ShockAlarm

### **How Can I Order ShockAlarm?**

You can [order ShockAlarm](#) from us directly online. ShockAlarm is also available through select Distributors.

### **Why Does It Take So Long To Get My ShockAlarm?**

The reason for the delivery delay is due to the enormous response to our product. We are working to fulfill the demand as quickly as possible. Thank you for your patience!