



# HELIO<sup>TM</sup>

## Universal Controller

**Read this guide for operation and safety precautions prior to usage.**

**Follow this guide on how to use the controller correctly.**

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The Innovative Marine HELIO Universal Controller provides aquarium hobbyists the industry’s premium cutting edge heating temperature control technology with multi-phase redundant safety. Complimented with a titanium sensor to better regulate and assure overheating does not occur while staying within consistent preset temperature parameters.

Say hello to the HELIO Universal Controller.

The HELIO Controller houses a circuit board processor which is the heart and mastermind of the controller. By continuously constructing a bevy of temperature readings from the controller and titanium sensor, there is constant communication verifying and ensuring temperature accuracy. The result is when a temperature difference is detected, there is an immediate cease of power to the jacks, plus an audible notification that your aquarium ecosystem is not at a consistent optimal operating temperature.

The HELIO smart controller bridges the gap between hobby grade and commercial controllers. Its processor goes hand in hand with the titanium sensor to keep your temperature readings stable.

The controller comes fitted with a titanium remote temperature sensor and dual heating power lines. If the heating element/s of your choosing have their own controlling systems, you can create up to four independent temperature readings... Safety in redundancy.

The two power jacks accommodate up to 1000 watts in total for the heating elements that you choose to attach to the controller. A quick disconnect junction for the controller's titanium temperature sensor make for easy maintenance and upgradeability.

After years in development, the HELIO controller helps you attain the optimal homeostatic reef aquarium temperature environment. Three main objectives met: Increased safety. Improved reliability. Providing a new reef aquarium heating technology superior to the long held standard.

HELIO Universal Controller.  
Safe. Stable. Smart.

#### NOTES:

- Controller does not come with heating elements or heater holders.
- Maximum of 1000 watts in total can be plugged into the two controller's power jacks.

## IMPORTANT SAFETY INSTRUCTIONS

**WARNING:** Follow the warnings below otherwise death or serious injuries may result.

### READ AND FOLLOW ALL SAFETY INSTRUCTIONS BEFORE OPERATION

To avoid electric shock, special care should be taken since water is employed in the use of aquarium equipment. For each of the following situations, do not attempt to repair yourself. Return the appliance to Innovative Marine for service or discard the appliance.

If the controller falls into water, DO NOT reach for it! First, unplug it and then retrieve it. If the electrical components of the appliance gets wet, unplug the appliance immediately.

Carefully examine the appliance after installation. It should not be plugged in if there is water on parts not intended to be wet.

Do not operate any appliance if it has a damaged cord or plug, or if it is malfunctioning or if it is dropped or damaged in any manner.

To avoid the possibility of the appliance plug or receptacle getting wet, position aquarium to one side of a wall mounted receptacle to prevent water from dripping onto the receptacle plug. A "Drip Loop" should be arranged by the user for EACH cord connecting an aquarium appliance to a receptacle. The "Drip Loop" is that part of the cord below the level of the receptacle or the connector if an extension cord is used. This "Drip Loop" prevents water traveling along the cord and coming in contact with the receptacle. If the plug or the receptacle do get wet, DO NOT unplug the cord. Disconnect the fuse to the circuit breaker that supplies power to the appliance. Then unplug and examine for the presence of water in the receptacle.

Close supervision is necessary when any appliance is used by or near children.

To avoid injury, do not contact hot parts of the heating element(s).

Controller does not come with heating elements nor heater holders.

You must follow the manufactures heating element manuals for use and placement.

Always unplug an appliance from the outlet when not in use, before putting on or taking off parts, and before cleaning. Never yank the cord to pull plug from the outlet. Before any type of maintenance or trouble shooting, grasp the plug and pull to disconnect.

Do not use an appliance for other than intended use. The use of attachments not recommended or sold by the appliance manufacturer may cause an unsafe condition.

Do not install or store the appliance where it will be exposed to the weather or temperatures below freezing.

Make sure an appliance mounted on a tank is securely installed before operating it.

Read and observe all the important notices on the appliance.

If an extension cord is necessary, a cord with a proper rating should be used. A cord rated for less amperes or watts than the appliance rating may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.

### ONLY FOR POLARIZED ATTACHMENT PLUG APPLIANCES

If this appliance has a polarized plug (one blade is wider than the other) as a safety feature, this plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Never use with an extension cord unless plug can be fully inserted. Do not attempt to defeat this safety feature.

### SAVE THESE INSTRUCTIONS

### SAFETY WARNINGS



Do not operate remote sensor outside of water.



Remote sensor must be cleaned every 30 days or as needed.



Remote sensor must be placed in an area with good water flow.



Remote sensor must not be placed behind any kind of ornament.



Follow all manufacturer guides on heating element(s) usage.



HELIO Universal Smart Controller must be away from water.



Unplug the HELIO Universal Smart Controller for 1 hour prior to water change.



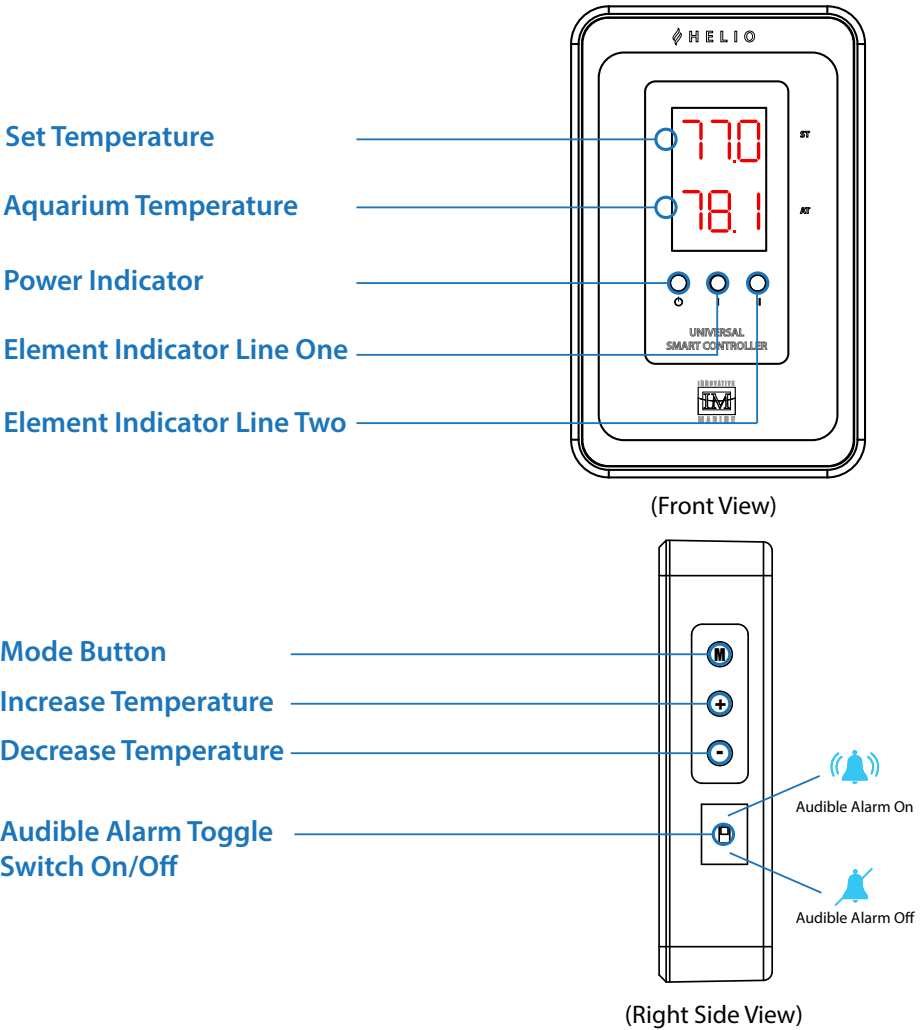
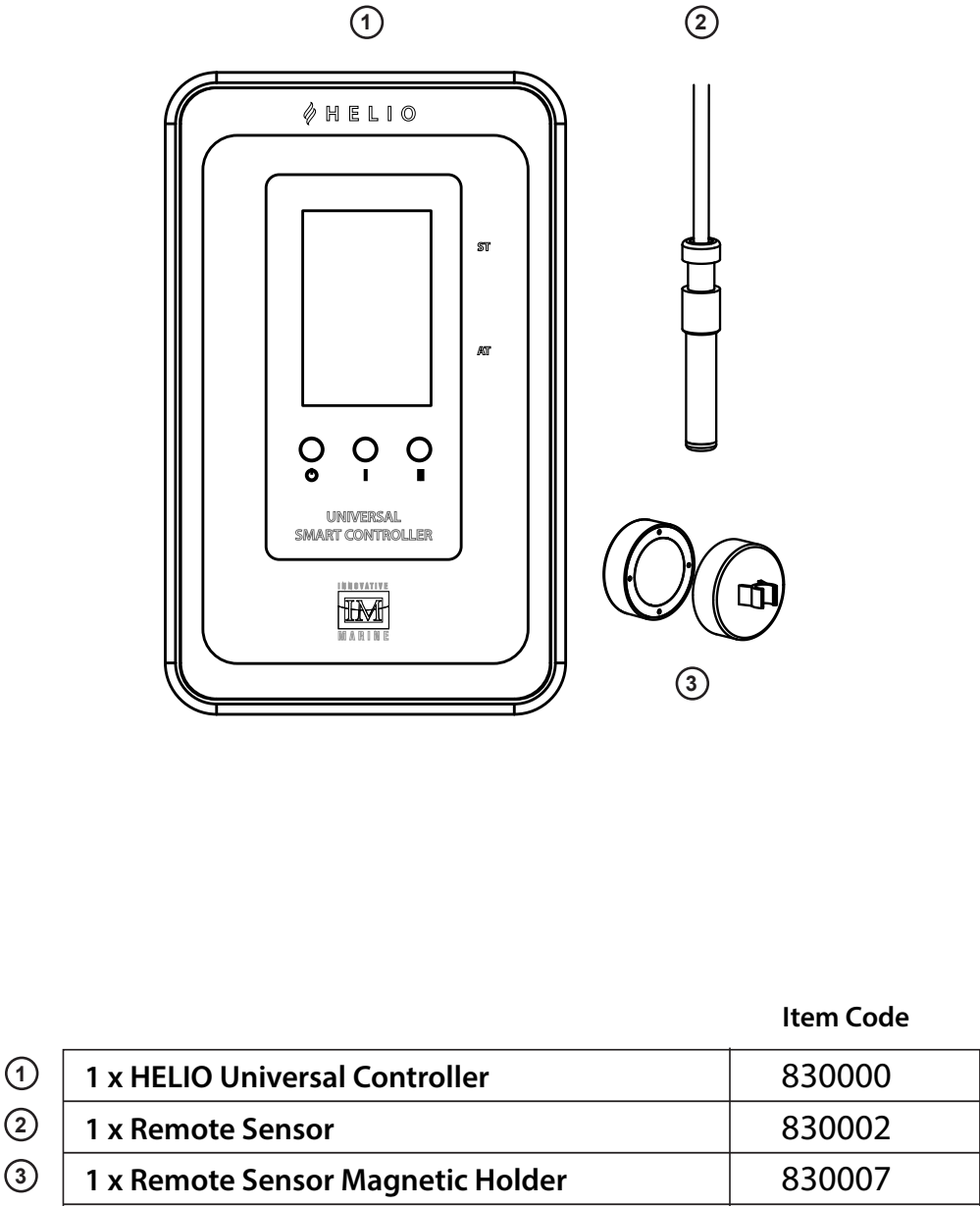
For indoor aquarium use only.



Keep out of reach of children and pets.



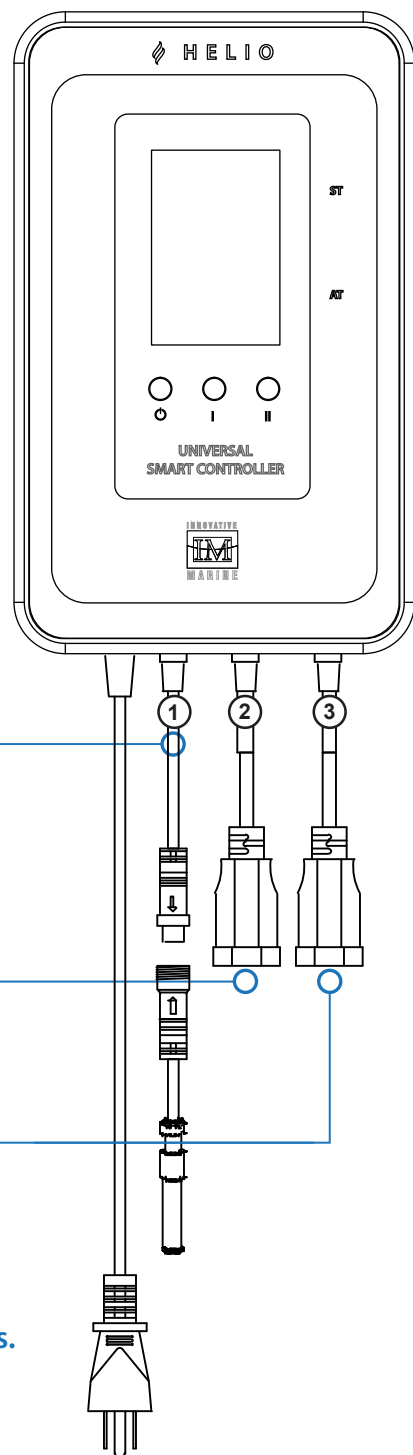
Strong magnets. Can be harmful to pacemaker wearers and others with medical implants. Keep tools and other metal objects away.



Factory Preset Temperature	77° F
Factory Preset Low Alarm	74° F
Factory Preset High Alarm	80° F
Temp Set Range	59° - 95° F
Low Alarm General Range	57° - 93° F
Low Alarm Minimum Range	-2° F from Set Temperature
High Alarm General Range	60° - 96° F
High Alarm Minimum Range	+1° F from Set Temperature
Accuracy	< ±1° F
Resolution	0.1° F
Calibration Range	± 9° F

### Attaching the Remote Sensor

Warning: Controller must be unplugged during attachment and placement of remote sensor and heating element(s).



### Attach the Remote Sensor

- ① Connect remote sensor to this plug.

### Attach heating element

- ② Connect the heating element to this plug.

### Attach second heating element

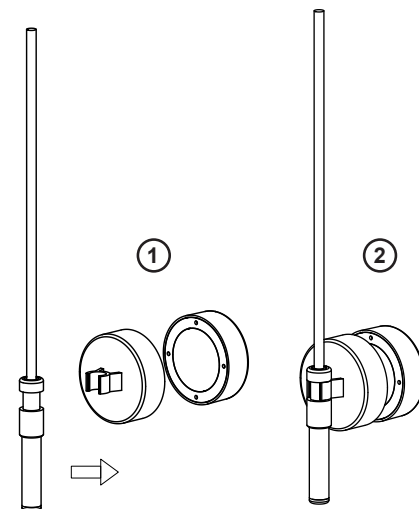
- ③ If applicable, connect the second heating element to this plug.

**\*Note: Controller does not come with heating elements or heating element magnet holders.**

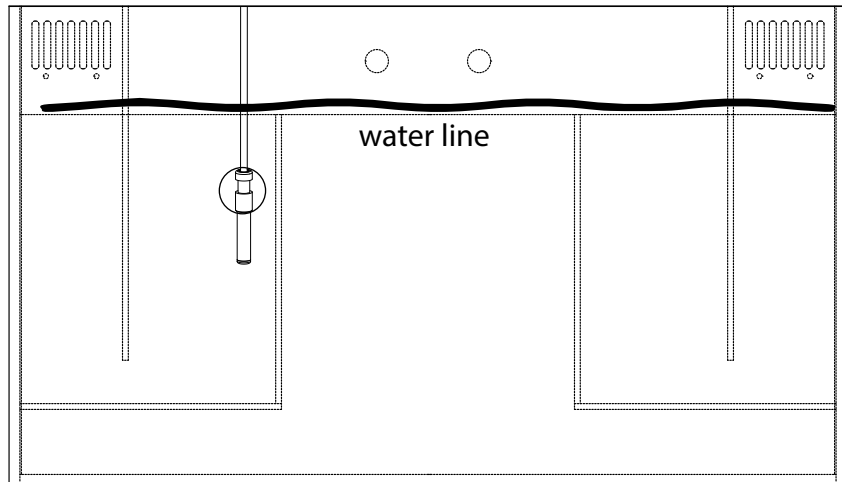
### Attach Remote Sensor to Holder

- ① Attach sensor to the magnetic holder.
- ② Attach the magnetic backing to secure the sensor in your aquarium.

Magnetic holder strength up to 1/2" thick



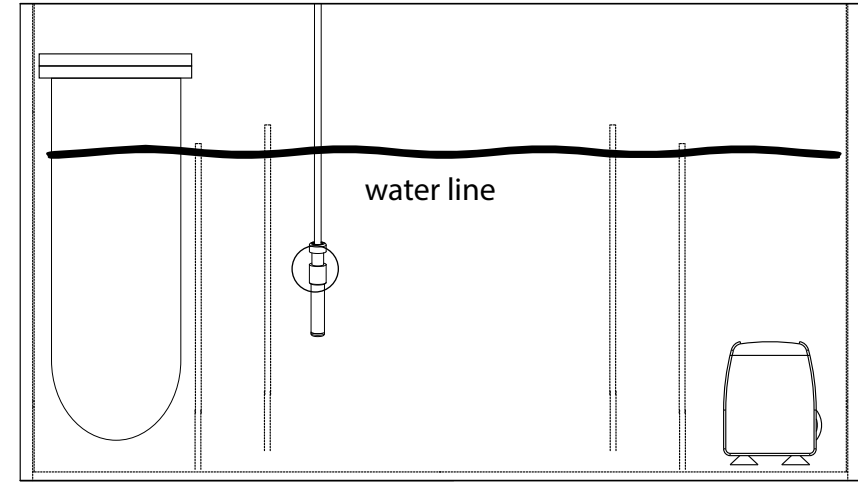
## AIO Placement



Rear view of an AIO

**\*Follow Manufacturer guidelines  
for heating element placement**

## Sump Placement



Interior view of a sump

**\*Follow Manufacturer guidelines  
for heating element placement**

## Set Desired Temperature

Plug in controller to receptacle

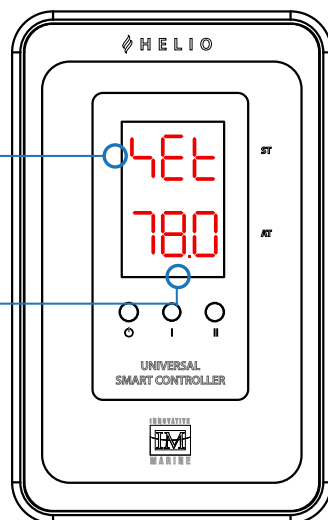
Press the Mode button 1 time then the display will read **SET**.

## Temperature

Set desired temperature by pressing the "+" or "-" button. You can increase or decrease your desired temperature by 1.0° F.

Temp Set Range: 59° F - 95° F

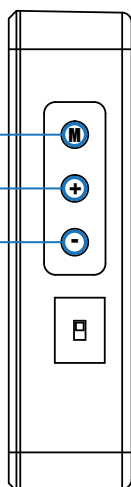
Wait 3 seconds, then your set temperature will be automatically saved.



## Mode Button

## Increase Temperature

## Decrease Temperature



## Calibrate the Sensor

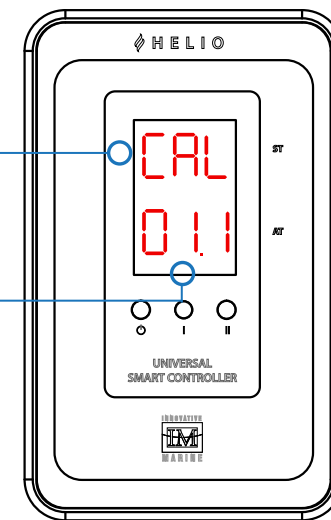
Press the Mode button 2 times then the display will read **CAL**.

## Calibrate Sensor Temperature

Set desired calibration by pressing the "+" or "-" button. You can increase or decrease your desired calibration by 0.1° F increments.

Temp Set Range: ±9° F

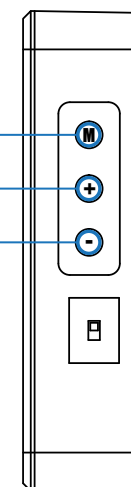
Wait 3 seconds, then your calibrated temperature will be automatically saved.



## Mode Button

## Increase Temperature

## Decrease Temperature





## Set High Alarm

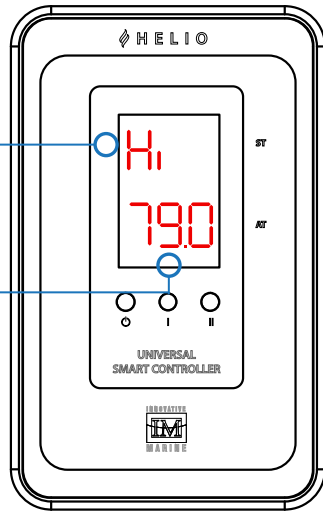
Press the Mode button 3 times then the display will read **Hi**.

## Set Temperature

Set desired high alarm by pressing the "+" or "-" button. You can increase or decrease your desired temperature by 1.0°F.

High alarm general range: 60° - 96° F  
High alarm minimum range: +1°F from set temp.

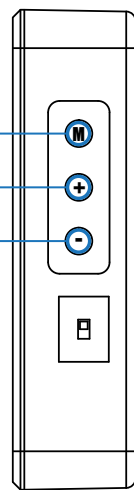
Wait 3 seconds then your set temperature will be automatically saved.



## Mode Button

## Increase Temperature

## Decrease Temperature



## Set Low Alarm

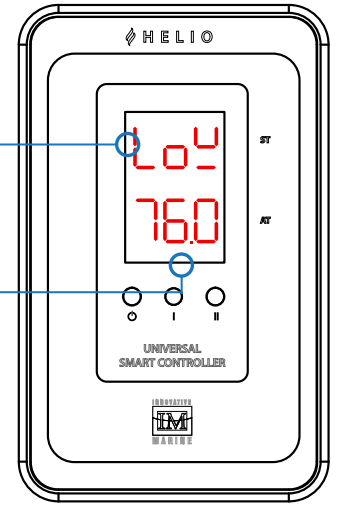
Press the Mode button 4 times then the display will read **Lo**.

## Set Temperature

Set desired low alarm by pressing the "+" or "-" button. You can increase or decrease your desired temperature by 1.0°F.

Low alarm general range: 57° - 93° F  
Low alarm minimum range: -2°F from set temp.

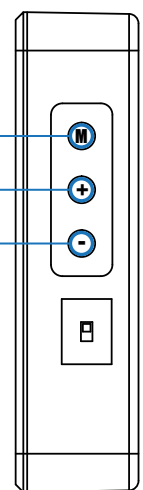
Wait 3 seconds then your set temperature will be automatically saved.



## Mode Button

## Increase Temperature

## Decrease Temperature



## Error Code Quick Guide

E1	Remote Sensor Not Communicating
E3	High Temperature Alarm
E4	Low Temperature Alarm
E7	Remote Sensor Error

**E1 : Remote Sensor Not Communicating**

The remote sensor is not connected. Check the connection between the controller and the remote sensor. ①

**E3 : High Temperature Alarm**

The aquarium's water temperature has exceeded the high temperature set point.

**E4 : Low Temperature Alarm**

The aquarium's water temperature has subceeded the low temperature set point.

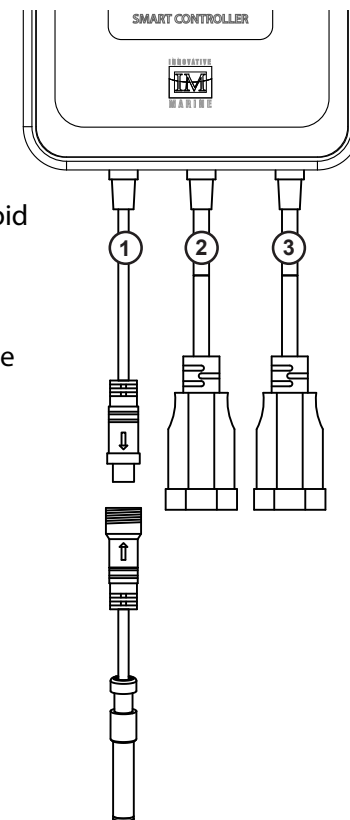
**E7 : Remote Sensor Error**

Remote sensor has been detected to be out of water or a sudden temperature swing.



**Caution:** Controller must be unplugged to avoid electrical shock or fire prior to attempting to connect sensor or element cables.

Press any button to disengage visual or audible alarm.



**WARNING:** ALWAYS FOLLOW OTHER MANUFACTURERS HEATING ELEMENT GUIDE FOR USAGE AND PLACEMENT. INNOVATIVE MARINE IS NOT RESPONSIBLE FOR MISUSE, FAILURES, OR ANY DAMAGES OR RELATED DAMAGES CAUSED BY OTHER MANUFACTURERS HEATING ELEMENTS.

In order to keep the HELIO remote sensor working optimally, it must be free of mineral deposits and needs to be cleaned every 30 days or as needed.

### To Clean the HELIO

Unplug the HELIO Universal Controller for at least 1 hour before cleaning.

Soak the and sensor in a solution of 1 part vinegar to 1 part water for an hour (or as needed). DO NOT soak the connectors in the cleaning solution.

Then gently wipe the sensor with a sponge or towel to remove any excess cleaning solution.

Let the sensor dry before placing it back into your aquarium.

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