



Aquarium Guardian

2.4GHz, 802.11 b/g/n



USER MANUAL



www.AquariumGuardian.com



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1.0 About Aquarium Guardian

Aquarium Guardian is a Wi-Fi based aquarium monitor and controller. Aquarium Guardian monitors five critical elements of the aquarium as alarm inputs:

- Sustained Power Loss
- Aquarium Water Level
- Aquarium Water Temperature
- Water Leak(s)
- Ambient Temperature & Humidity

Each of the five alarm inputs can be configured individually as alarm triggers based on their state or level. There are four outputs of the Aquarium Guardian:

- E-Mail
- SMS (Text Message)
- Audible Siren
- Alarm Relay Contacts

The relay can also be used to control an Automatic Top Off (ATO) pump, the aquarium heater, or lighting, but not more than what is listed above. Additional detail of the alarm outputs can be found in the alarm outputs section of the manual.

Please read the User Manual carefully before using the Aquarium Guardian device.

1.1 Head Unit Specifications

Operating Temperature: 32-110°F (0-45 °C)

Ambient Temperature Sensor Accuracy: ± 0.1 °F (0.5 °C)

Operating Humidity: 0-95% RH, non-condensing

Humidity Sensor Accuracy: ± 3%

Water Temperature Accuracy: ± 0.8°F (± 0.5°C)

Wi-Fi Network: 2.4Ghz Only, 802.11b/g/n (We recommend against using mixed networks)

Input Power: 12VDC 700mA

Battery: 3.7V Lithium Ion Polymer 1200mAH *Read Battery Warning

Duty: Indoor Only

Siren: 90db

Wi-Fi Antenna: Internally integrated

Relay Contact: 1Amp Max

Dimensions: 5"x 7.875"x1.25" (12.7cm x 20cm x 3.175cm)

Weight: 7 oz (199g)

Contains FCC ID: 2AC7Z-ESP8266EX

1.2 Requirements

120/240 VAC (50 or 60 Hz) Power Outlet

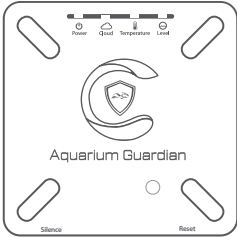
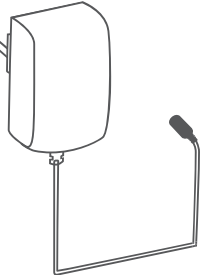
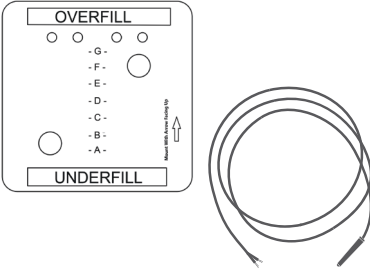
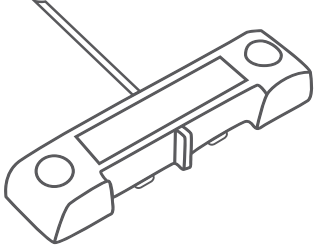
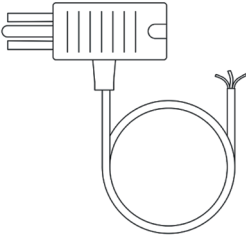

2.4 Ghz Wi-Fi internet within range of Aquarium Guardian

Wi-Fi device with web browsing

Screwdriver, flat head #3 or #4 Sensor

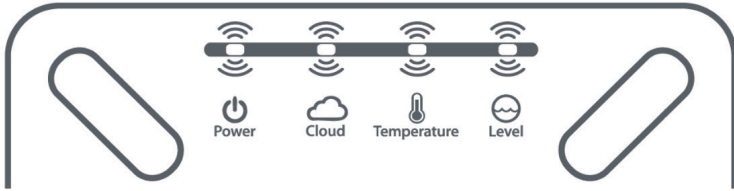


1.3 In the Box

<h3>1. Aquarium Guardian</h3>  <p>The main unit is a square device with a central shield-shaped logo. Above the logo are four indicator lights labeled Power, Quiet, Temperature, and Leak. Below the logo are two buttons labeled Silence and Reset.</p>	<h3>2. Power Supply</h3>  <p>A rectangular power supply unit with a power cord and a connector cable.</p>
<h3>3. Water Level & Temperature Sensor</h3>  <p>The sensor is a rectangular unit with a display showing 'OVERFILL' and 'UNDERFILL' levels. It has several indicator lights and buttons labeled -G-, -F-, -E-, -D-, -C-, -B-, and -A-. A cable is attached to the bottom.</p>	<h3>4. Leak Sensor</h3>  <p>A rectangular leak sensor with a long cable and a small probe at the end.</p>
<h3>5. Piggyback Plug</h3>  <p>A piggyback plug with a power cord and a connector cable.</p>	<h3>6. Accessories</h3>  <p>The accessories include a user manual, two screws, and two screws with washers.</p>

1.4 Status LEDs

The status LEDs on the Aquarium Guardian provide a visual indication of the control state. The below table is a system status guide. If the four lights have a pattern not shown it is a claim code, and you should reference section 5.2.



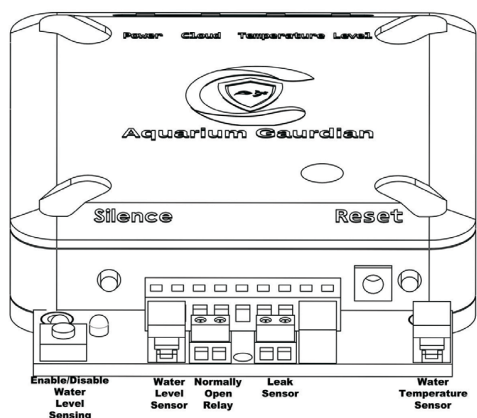
Device State	Power	Cloud	Temp	Level
No Alarms	Green	Green	Green	Green
Relay Active (Water Level or Temp) *			Blinking	Blinking Green
Water Level Too Low/High				Red
Water Temperature Above Setpoint			Red	
Water Temperature Under Setpoint			Blue	
Fault	Red (No Power)	Red (No Local Internet)	—	Red
Firmware Upgrade/ Server Maintenance		Purple		
AP Active (Network Broadcasts)		White		
Wi-Fi Connection in Progress		Yellow		

*If the relay has been enabled to control an ATO pump, then the user will select at what water level they would like the pump to turn on and off at. When the water level reaches pump on point, the relay will be activated. The Level LED will blink when the relay is active and will continue to do so until the water level reaches the pump off point. At this time, the relay will disengage, and the ATO pump will be turned off, and the Level led will not blink.

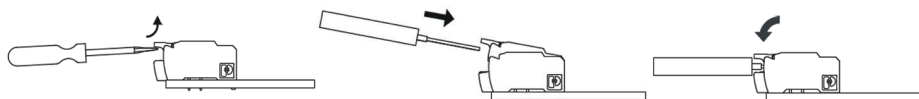
**As the water temperature goes towards the upper setpoint, the temperature LED will transition to true red. When the water temperature moves towards the midpoint between the upper setpoint and lower setpoint, then the Temp LED will become true green. If the water temperature drops towards the lower setpoint, then the Temp LED will move towards true blue. It is important to note that if the relay is enabled for controlling the aquarium heater, and the relay is active, then the temperature LED will blink (regardless of the color). The relay will turn on as the water temperature goes below the midpoint and will turn off at the midpoint between the upper setpoint and lower setpoint.



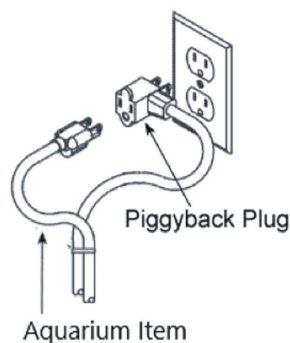
1.5 Wiring Panel



Please note that the connection board needs to be firmly seated into the head unit. Wiring of sensors (leak, water temperature, relay, and water level) have no polarity. The water temperature, and water level sensor both use a hinge-type connector. Insert the stripped conductors into the openings at the top of the connection. Once the wire can no longer be inserted into the connection any further, firmly press down on the top of the connector until the jaw of the connection is shut.



For the leak, and relay connection the stripped conductors will be inserted into a terminal block. First use a small flat-head screwdriver to open the jaws by turning the screwdriver counterclockwise (turn to the left). Once fully open insert the conductors into the terminal block and tighten by turning the screwdriver clockwise (to the right) until the wire is firmly secured. Refer to the piggyback image found below to insert the aquarium light, heater, or automatic top off pump plug into the piggyback plug.



2.0 Installation

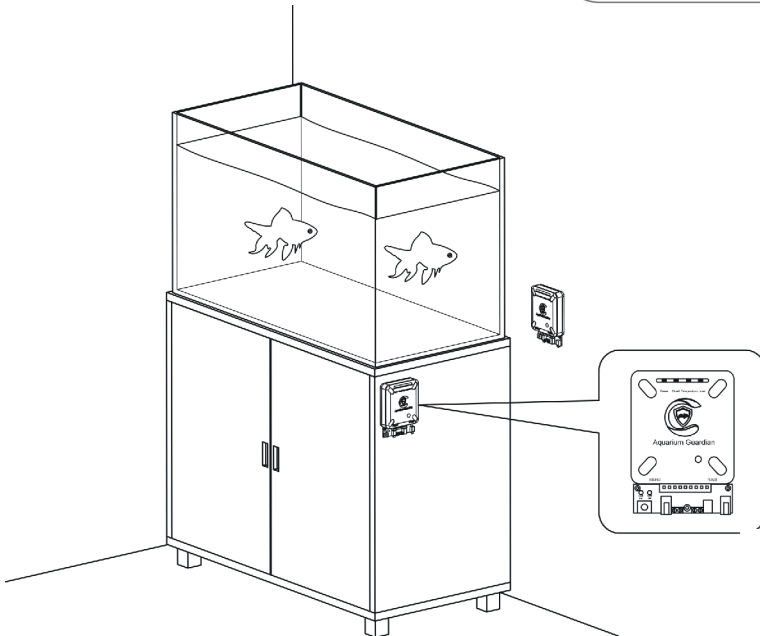
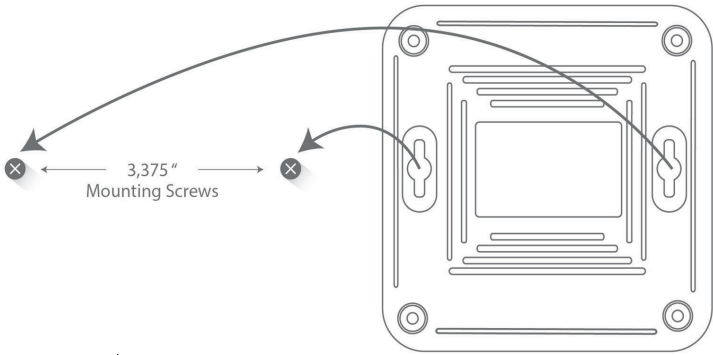
Aquarium Guardian is designed for indoor installation only. Consideration should be taken to keep within range of the home's Wi-Fi router. Wi-Fi range varies based on the router and environmental conditions. We recommend range testing before installation. If the device is out of range, contact us, and we can troubleshoot possible causes and solutions. The Aquarium Guardian can be mounted by following the steps in step 2.2.

2.1 Installation Warning

Working around water and electricity is inherently dangerous. Disconnect all electrical circuit breakers near the aquarium area before beginning work. If you are unfamiliar or uncomfortable, please contact a licensed electrician to perform the installation.

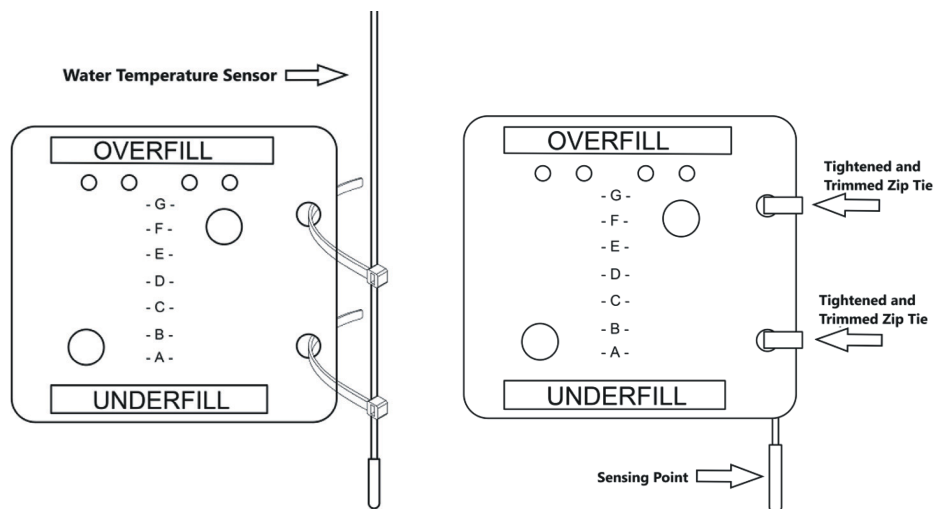
2.2 Mounting to Aquarium Stand/ Wall

The back of the Aquarium Guardian accepts two #6 screws, which are included. The screws are placed 3.375" apart and are mounted horizontally. The head unit can be mounted on a wall near the aquarium, or on or inside of the aquarium stand.



2.3 Installing the Water Temperature Sensor

The temperature sensor is designed to be mounted directly to the side of the water sensor. There are two slots in the board. Feed the provided zip ties through each of the holes in the sensor. Next tighten the zip ties onto the temperature sensor and trim the excess tie material.



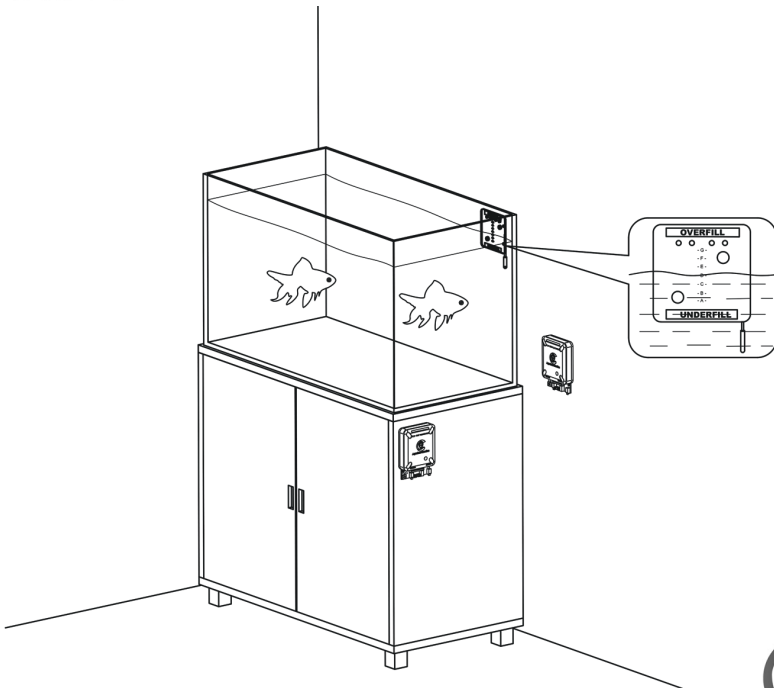
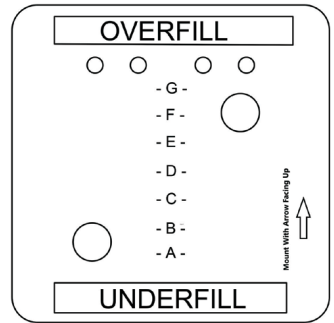
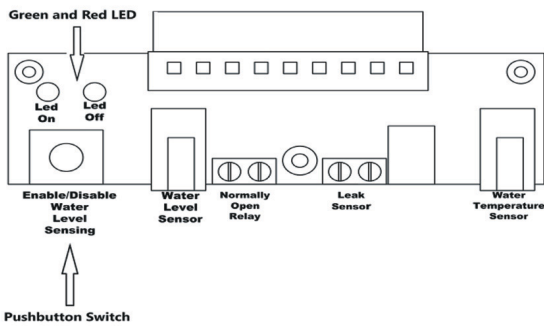
2.4 Installing the Water Level Sensor

The water level sensor is used to monitor and has the ability to control the water level of an aquarium. This sensor gives an approximation of water level after the user has entered information regarding their aquarium through the “Device Detail” page on the website. The water level in the aquarium can be monitored real-time through the Aquarium Guardian website, which allows the user to monitor their water level while away from home. The approximate water level reading can be valuable to keep an eye on water loss through evaporation, or even a leak. Maintaining the water level is especially important for saltwater aquariums which need a stable salinity.

The level sensor must be installed vertically. Follow the “This Side Up” label on the sensor correctly mount the sensor. The suction cups will provide the means to adhere the sensor to the aquarium wall. It is important for sensor wires to be kept away from power cables of aquarium components if possible. Do not modify the length of the wires for the water level or temperature sensor.

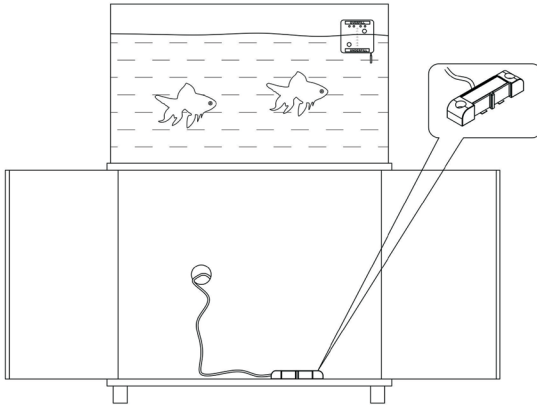
Water Change:

There is a level-control enable switch on the connection board as a convenience for use with water changes. When the green LED is lit, then water level sensing and ATO are enabled. When conducting water changes, push the button. Once pressed the red LED will illuminate demonstrating that water level sensing and ATO are disabled. While disabled, the relay will not activate for ATO. If the relay is being used to control lights or temperature, it will continue to function. When the water change is complete, push the button once more. The green LED will be displayed and the level sensing and ATO are now re-enabled.



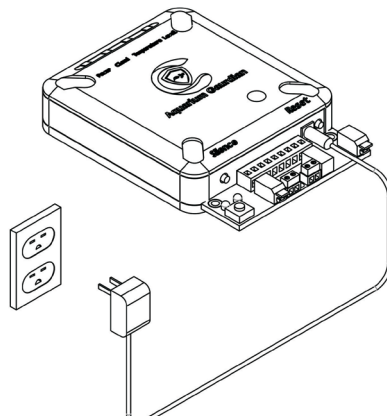
2.5 Installing the Leak Sensor

The leak sensor monitors for pooling water on a flat surface. The leak sensor can be mounted near the aquarium or other area where water would pool in the event of a leak. The sensor needs to be placed flat on the floor with the metal sensing elements down. The sensor must be submerged in a minimum pool of water 1/8" in depth before activating. The wires do not have polarity, and cannot be wired backwards. Do not increase wire length of the leak sensor beyond the length provided.



3.0 Powering On

After mounting the Aquarium Guardian head unit and successful installation of sensors, power up the head unit. First, connect the DC jack of the power supply to the Aquarium Guardian control. Second, connect the AC wall adapter to a standard 110-220VAC power outlet. Use only the supplied power adapter. Upon power up, the cloud LED indicator will begin to display as white.



4.0 Product Registration–Portal

The Aquarium Guardian is set up and managed via a cloud service called Portal. To access the Aquarium Guardian Portal, you first need to create an account. With an account, you can claim your device, setup alarm contacts and set alarms.

4.1 Create Portal Account

Using an internet browser, preferably on a laptop or desktop, navigate to the Aquarium Guardian Portal:

<https://aquariumguardian.com/account/login>

Within Portal, click “Register” to create an account. You will need to provide a valid email address. Within 5 minutes of registration, you will receive a confirmation email. If you have not received an email please check your spam folder for an email from alarm@aquariumguardian.com

***Password Requirements for Aquarium Guardian Portal:
You Must Have a Password
Any Length above 8 Characters
Special Characters Allowed***

5.0 Connect to Wi-Fi

The Aquarium Guardian is immediately ready to join your 2.4 Ghz Wi-Fi network after power up. When the Aquarium Guardian has not been configured to a Wi-Fi network, the cloud LED will display as white and AP is active (Refer to Status LEDs chart in Section 1.4 for a guide on LED configuration). There are two methods of connecting to a home network depending on your Wi-Fi router. The first method turns the Aquarium Guardian into a hotspot which you temporarily join with a smart device to configure Wi-Fi credentials. The Second method is called WPS.

There are a series of articles on more advanced troubleshooting for Wi-Fi Connections on the Aquarium Guardian website at

<https://aquariumguardian.com/blogs/news>

***Password Requirements for Your Local 2.4Ghz Wi-Fi Network:
SSID (Local Network Name) and Password are Case Sensitive
You must have a password 8 – 48 Characters in Length
The following Characters are not supported in Wi-Fi Passwords or
network names at the moment: <> \ ^ ' { } | “ %
THIS APPLIES TO CONNECTING WITH WPS OR CONNECTING WITH HOTSPOT!***

5.1 Connect with Hotspot

To connect to Wi-Fi with hotspot mode you will need a Wi-Fi enabled device like a smart phone or laptop. The cloud LED of the Aquarium Guardian should be white, which indicates the device is broadcasting a Wi-Fi hotspot. If you are using a smart phone or tablet with a cellular connection, it is good practice to turn cellular data off for this process. Use your Wi-Fi device to search for and join the network called "AquariumGuardianXXXX" (The last 4 of the SSID are the last 4 digits of the device's MAC address). Your device may indicate that this network has no internet. This is normal.

Once connected to the network "Aquarium GuardianXXXX", a Wi-Fi configuration page will appear as shown below. If this page does not appear automatically, then open a web browser and enter the Devices IP address into the address bar: **192.168.4.1**

On the webpage at 192.168.4.1 you will select the bubble next to your home 2.4ghz Wi-Fi network. Next you will enter the password for your home network into the password field. Note that the password field is case sensitive.

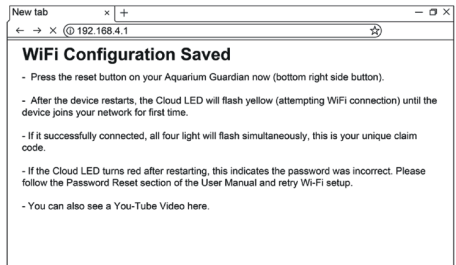
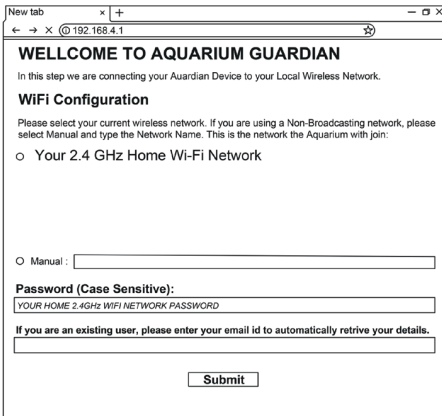
Once complete,press the submit button. The next webpage instructs you to reset the device by pressing the RESET button on the Aquarium Guardian.

After restarting, the Cloud LED will pulse yellow until it connects to your Wi-Fi. Upon successful connection, the device will either:

1. blink with random colors on all four positions (present a claim code) OR
2. change the cloud LED to green (device has been auto claimed via email) OR
3. change the cloud LED to RED (no local internet connection). This can be caused by incorrect password or the network is out of range. If this happens, press RESET to try again. If it does not connect on subsequent attempts, reference section 10 to reset the unit to AP mode and enter new credentials.

Once you've successfully connected to your home Wi-Fi, please move on to Product Registration.

NOTE: If all four LEDs do not illuminate, and the Cloud LED turns red, press the reset button on the device. If the cloud appears as red again, then the password was entered incorrectly. Refer to Password Reset, Section 10.0, of the manual.



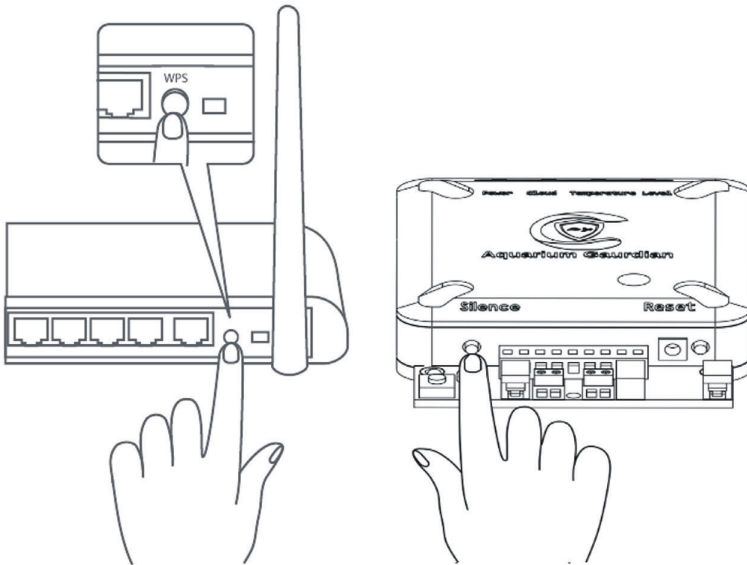
5.2 Connect with WPS

To connect to Wi-Fi with WPS, first check to see if your Wi-Fi router has a button labeled “WPS.” Generally denoted with the graphic at right. If your router does not, proceed to connecting with hotspot mode. Some routers require WPS to be enabled or direct it to a channel (i.e. 2.4 GHz or 5 GHz). We recommend using a dedicated 2.4 GHz network, and WPS must be enabled.

Temporarily move the Aquarium Guardian unit into proximity of the Wi-Fi router. The Aquarium Guardian will operate on battery backup to complete this step if allowed to charge for 30 minutes prior. Once the two devices are near each other, press the WPS button on your router. Within 15 seconds, double click the SILENCE button on the Aquarium Guardian. The Cloud LED will turn from white to solid yellow. The WPS process can take up to five minutes. Upon successful connection, all four LEDs will illuminate and pulse.

Please note the colors from left to right as they are used later in the claim process, Section 6.1. You have successfully connected to your home Wi-Fi, please move on to Account Registration.

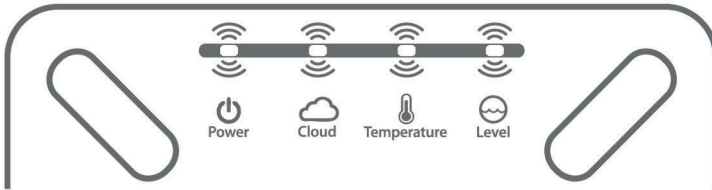
If the Cloud LED turns red following a WPS attempt, press the RESET button to restart the device. If the Cloud LED returns to red after restarting, refer to section 10.0 for password reset instructions and check the router settings to see if WPS is enabled on the 2.4G network. Alternatively, try connecting with hotspot mode.



6.0 Account Registration

6.1 Claim Device

If you typed in your E-Mail address on the Wi-Fi configuration page, then your device will be claimed automatically, and it will be in your account upon login in the portal. If you did not enter your email address on the Wi-Fi configuration page, or the WPS method was used to connect, it will be necessary to “claim” the device. Once connected to Wi-Fi, the Aquarium Guardian flashes a claim code which is used to link the device to your account. The claim code is a sequence of four unique colors, which pulse in unison. After logging into Portal with your account, click “Claim.” Follow the on-screen instructions to enter your unique claim code. This step can be skipped by entering the email of an existing aquarium guardian account on the Wi-Fi configuration page listed in step 4.2.



6.2 Contacts

Once you are logged into your account on the Aquarium Guardian website, click on the “CONTACTS” tab. A pop-up window will appear. Click on the plus button next to your default contact. Update the information for this contact. Select the service provider which you use for your cell phone. If your service provider is not listed, please email us at customerservice@aquariumguardian.com. Next click enable for E-Mail and text and click the submit button. You can also click the test button to verify that you are able to receive the notifications.

6.3 Personal Information

Next click on the “PERSONAL INFORMATION” box on the website. Enter your information into the text boxes. Verify that the correct time zone, and unit of preference is selected. When you are done, click the submit button.

7.0 Device Detail

The information gathered from the Device Detail page is needed to appropriately monitor and control aquarium components. Aquarium Maintenance alerts however are optional.

7.1A: Device Name

By default, the Aquarium Guardian is named "My Aquarium Guardian" in the Portal. The device name can be modified and is useful if you have multiple devices in your Portal.

7.1B Update Frequency

Set the update frequency between two minutes (default) and five minutes. Configuring for less frequent updates consumes less Wi-Fi data.

7.1C Offline Threshold

The offline threshold is how long our system will wait after it loses connection with your device to send out an alert. The lower the number of minutes is, the more notifications you will receive. We recommend a minimum of 10 minutes (or 5 times the Update Frequency).

7.1D Aquarium Water Volume Units

Select the water volume units that you prefer, either Gallons or Liters.

7.1E Aquarium Size

Select the aquarium size that best fits your aquarium.

7.1F Water type

Select in the drop-down menu if your aquarium has fresh or salt water.

7.1 G Aquarium Maintenance Alerts (Optional)

This is an optional alert to notify and send reminders when aquarium maintenance is due. In the drop-down list select the number of days that you would like to have between each maintenance alert. The alerts can be used for aquarium-related tasks such as water changes, feedings, etc. The notifications will be sent at 12pm.

Device Detail

Device Name

Have my device send a status update every:

Contact me if my device doesn't report for:

Aquarium Water Volume Units:

Aquarium Size:

Water Type:

Aquarium Maintenance Alerts:

Alert 1 Name: Number of days between aquarium maintenance alerts:

7.2 Notification Settings

Enable and Disable sensor inputs to suit your application. Sensors can be re-enabled at a later point. Configure a safe temperature and humidity range by setting minimum and maximum safe levels.

7.2A Power Loss Alarms

Aquarium Guardian provides two types of power loss notifications.

- Tripped Breaker Notifications
- Power Outage Notifications

An alarm will occur after 60 seconds of incoming power loss from the wall mounted power supply. The device's internal battery will kick in and it will continue to operate. If the device still has a Wi-Fi connection, it will alert the server that its incoming power has been lost. Because the Wi-Fi is still enabled, the system assumes the power outage is isolated to your aquarium's circuit, and sends out the notification that incoming power has been lost, with a recommendation to check the breaker. If Wi-Fi connection is lost due to widespread power failure or lost Wi-Fi, an alarm message cannot be sent. However, the Portal will send a device offline message after the device misses multiple consecutive check-ins. These notifications are sent based on the offline threshold set in Section 7.1C. Device offline reminders are sent after 24 hours, 3 days, and 7 days of continued failed check-ins. You will not only receive notifications when power is lost to the device. You will also be notified if the device does not report in due to a loss of internet connection.

7.2B Water Temperature Alarms

An alarm for water temperature will be activated if the water level goes below the lower setpoint or above the upper setpoint. As the water temperature goes towards the upper setpoint, the temperature LED will transition to true red. When the water temperature moves towards the midpoint between the upper setpoint and lower setpoint, then it will become true green. If the water temperature drops towards the lower setpoint it will move towards true blue. Note that if you would like to change your unit of preference (°F to °C) for your either your water temperature sensor or ambient temperature sensor, this can be done under "Personal Information". This information is held in the user record, and thus the scale selected will be used for all aquariums in your account.

7.2C Water Level Alarms

The water level sensor can be used to notify when the water level reaches the underfill and overflow section on the water level sensor. User configurable automatic top off states can be selected. The letters on the sensor represent options for pump on and off states.

7.2D Leak Alarms

The leak sensor will alarm when the sensor is in a minimum water pool of 1/8" for more than 5 seconds.

Alarm Configuration

Function of the Relay:

Aquarium Underfill and Overflow: SIREN EMAIL TEXT

Ambient Temperature: 26.25 °C

°C °C

SIREN EMAIL TEXT

Relative Humidity: 42.4 %

SIREN EMAIL TEXT

Aquarium Water Temperature: 22.82 °C

°C °C

SIREN EMAIL TEXT

7.2E Audible Alarm (Siren)

Enable the 90 dB audible alarm in the Portal for the conditions desired. The audible alarm can be temporarily silenced by pressing the Silence button on the device. The silence button is intended to silence the horn, while the change is made in the Portal. The device periodically cycles its own power for health and connection sustenance, which can disable the silence.

7.2F E-Mail and Text

Enable E-Mail and or text notifications for each alarm type. If you are not receiving E-Mail alerts, check your spam folder.

You may need to configure spam settings to allow emails from: alarm@aquariumguardian.com

7.2G Relay Output

Enabling the relay to change states when an event is active is the first step in controlling an external aquarium feature. If the Aquarium Guardian device will be used to control an aquarium component, select the item which will be controlled from the dropdown list labeled "Function of the Relay". If the relay will not be used, then select "Not in Use". The relay is a latching type and will not remain active if the battery voltage drops to 3.4V. The relay can be used to control ONE of the following items in an aquarium:

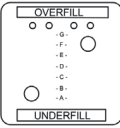
1. ATO pump: There are letters listed on the water level sensor represent options for states for the pump to turn on and off. If you find that your ATO pump is not turning on and off at the states that you have selected this is correctable. Contact us at customerservice@aquariumguardian.com

Aquarium Water Level:

Pump on State:

Pump off State:

EMAIL
 TEXT



Water Level: 52.5%

2. Aquarium Lighting: Select in the dropdown box a light on and off time.

Aquarium Lighting Control:

Lights On:

Lights Off:

EMAIL
 TEXT

3. Aquarium Heater: Enter values for the upper and lower temperature setpoints in the appropriate fields in the water temperature section. From the upper and lower setpoints, system will calculate the "midpoint or mean" and begin to activate the heater based on the following conditions.

$$\text{Midpoint} = \text{Lower Setpoint} + \left(\frac{\text{Upper Setpoint} - \text{Lower Setpoint}}{2} \right)$$

Heater ON Point = 98% of Midpoint
Heater OFF Point = 102% of Midpoint

Presently these conditions are universal and not device specific or user configurable.

Example: A user has a lower setpoint of: 76F, and an upper setpoint of 80F, then the heater will turn on at 76.5F and turn off at 78.5F.

Aquarium Water Temperature: 72.97 °F

°F

°F

SIREN
 EMAIL
 TEXT

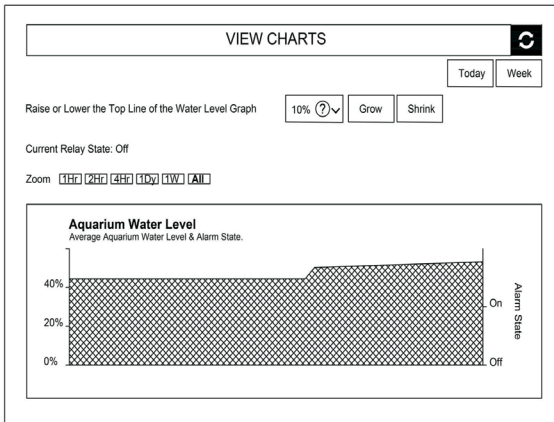


7.2H Silencing an Alarm on the Device

Alarms can be temporarily disabled by pressing the SILENCE button on the Aquarium Guardian. This is particularly useful to silence the audible alarm once you are aware of the alarm. This will disable the audible alarm temporarily. If the alarm cannot be quickly resolved it will be necessary to disable the SIREN checkbox for that condition in the Portal.

7.3 Viewing Aquarium Data (Graphs)

Once logged into your account, select the View Charts button. When the pop-up window appears, you can view one weeks' worth of data from your device. Use the "grow" or "shrink" button to correct the water level reading. There are charts for the following items: Aquarium Water Level, Aquarium Water Temperature, Ambient Temperature & Humidity, Wi-Fi Signal Strength, and Battery Voltage.



7.4 Viewing Aquarium Logs(Notification History)

The chronology of device events and logs can be found by clicking on the Logs icon internal to the portal. Any condition that sent a notification will show in this "alarm history". If you believe you may not have received a notification, you can troubleshoot by first seeing if the condition was flagged as an alert in this section.

Alarm Log

Previous Next

Time	2020-08-28 21:44:02
To	Update phone number to 555-555-0100
Notification Type:	SMS
Message	Device "Home Unit" All alarms have been resolved [USER]: [USER] XXXX (DEVICE) XXXX

Time	2020-08-28 21:44:02
To	youremail@example.com
Notification Type:	EMAIL
Message	Device "Home Unit" All alarms have been resolved [USER]: [USER] XXXX (DEVICE) XXXX

8.0 Device and Alarm Testing

The Aquarium Guardian and sensors should be tested monthly to ensure proper operation.

8.1 Humidity and Air Temperature Testing

Testing for temperature and humidity sensors is done by comparing current levels in Portal with a calibrated reference. Readings of +/-3% are expected.

8.2 Water Temperature Testing

Testing for water temperature can be done by comparing the readings in the Portal to a thermometer. The accuracy of the sensor can be found under Section 1.1.

8.3 Water Level Sensor Testing

Examine the sensor for sediment build up, if present, wipe down with a soft sponge. Examine the water level with relation to the water level sensor and compare the reading to what the Aquarium Water Level reading is displaying on the portal. If the water level looks off, adjust with the grow, and shrink button to fine tune the water level reading.

8.4 Water Level Sensor Testing

Test the leak sensor by dipping both metal tabs of the sensor into a cup of water and waiting 60 seconds for an alarm. For testing purposes, use fresh water as it is not corrosive to the protective coating on the leak sensors feet. The plastic housing of the sensor can be submerged. However, it will take a lengthy time to dry and therefore it's generally not recommended. Lastly, dry the metal tabs after testing.

8.5 Power Loss Detection Testing

Test power loss detection by removing the power adapter from the wall and wait 60 seconds for alarm. Reconnect the power adapter after testing.

8.6 Battery Condition Testing

Remove the power adapter from the wall and allow the device to run for three hours on the internal battery pack. If the device turns off before three hours replace the battery. Dispose battery according to local rules and regulations. The battery voltage can be found in the "View Charts" section in the portal. If power is lost due to a tripped breaker, the device will continue to operate until the battery voltage reaches 3.2-3.3V. Note that the relay will be switched off once the battery reaches a voltage of 3.4V.

9.0 Maintenance

Aquarium Guardian and sensors require the following monthly maintenance steps. Wipe the head unit down with a damp cloth. Inspect the leak sensor contacts for corrosion and clean or replace if necessary. Gently wipe down the water level sensor with a sponge. Check for fraying wire, loose connections or other general wear and replace if necessary.

10.0 Wi-Fi Password Reset

To clear the Wi-Fi credentials from the Aquarium Guardian, complete the following password reset steps:

- Press and hold the SILENCE button until all four LEDs turn solid red. (If after 10 seconds they have not turned red, release the button for a few seconds and try again. It may take several attempts to get into password reset mode.)
- Once all four LEDs turn red, click the SILENCE button until two LEDs have turned off and two remain lit, usually this requires two button clicks.
- WAIT until the two red lights go out and press the RESET button. The password reset is complete.

A red cloud LED following hotspot mode setup typically means an incorrect SSID or password. Remember, these fields are case sensitive. Use password reset to return the device to hotspot mode and repeat the hotspot setup steps.

11.0 Battery Warning

Aquarium Guardian contains a Lithium Ion Polymer battery which can be volatile. Damaged or misused batteries can result in fire, personal injury and damage to property. Please handle the device carefully, never drop or subject the device to harsh movements or environments. If the product is damaged in shipping, please quarantine the device and contact us immediately.

If you suspect you have a damaged battery, place it in a safe open space and observe the battery for approximately 15 minutes. A battery may swell or even possibly catch fire after a short time. By using the Aquarium Guardian, the buyer assumes all risks associated Lithium Ion Polymer batteries. If you do not agree with these conditions return the device immediately before use. Replace the battery after 300-500 full or partial discharges or five years, whichever occurs sooner. Only use batteries from Aquarium Guardian. It is important to stay within the temperature limits defined in 1.1

12.0 Service Disclaimer

Aquarium Guardian includes a minimum cloud monitoring service ("Portal") period of one year from the date of manufacture. Continued service may be offered monthly or annually for a fee or gratis Aquarium Guardian reserves the right to alter, amend or change information, services and pricing at any time. Aquarium Guardian also reserves the right to modify or discontinue services at any time after the first year. Presently service is free, and it is our intention for it to remain that way, though there may be additional features launched that could be part of a paid service.

13.0 Warranty

2 YEAR LIMITED WARRANTY

PLEASE READ THIS WARRANTY CAREFULLY BEFORE USING THE PRODUCT. THIS LIMITED WARRANTY CONTAINS THE STANDARD TERMS AND CONDITIONS ("TOC") OF AQUARIUM GUARDIAN. WHERE PERMITTED BY THE APPLICABLE LAW, BY KEEPING YOUR AQUARIUM GUARDIAN BEYOND THIRTY (30) DAYS AFTER THE DATE OF DELIVERY, YOU FULLY ACCEPT THE TERMS AND CONDITIONS SET FORTH IN THIS LIMITED WARRANTY. IN ADDITION, WHERE PERMITTED BY THE APPLICABLE LAW, YOUR INSTALLATION AND/OR USE OF THE PRODUCT CONSTITUTES FULL ACCEPTANCE OF THE TERMS AND CONDITIONS OF THIS LIMITED WARRANTY (HEREINAFTER REFERRED TO AS "LIMITED WARRANTY OR WARRANTY"). IF YOU DO NOT AGREE TO THE TERMS AND CONDITIONS OF THIS WARRANTY, INCLUDING ANY LIMITATIONS OF WARRANTY, INDEMNIFICATION TERMS OR LIMITATION OF LIABILITY, THEN YOU SHOULD NOT USE THE PRODUCT AND SHOULD RETURN IT TO THE SELLER FOR A REFUND OF THE PURCHASE PRICE. THE LAW MAY VARY BY JURISDICTION AS TO THE APPLICABILITY OF YOUR INSTALLATION OR USE ACTUALLY CONSTITUTING ACCEPTANCE OF THE TERMS AND CONDITIONS HEREIN AND AS TO THE APPLICABILITY OF ANY LIMITATION OF WARRANTY, INDEMNIFICATION TERMS OR LIMITATIONS OF LIABILITY.

1. WARRANTOR: IN THIS WARRANTY, WARRANTOR SHALL MEAN "DEALER, DISTRIBUTOR, AND/OR MANUFACTURER."

2. ELEMENTS OF WARRANTY: THIS PRODUCT IS WARRANTED TO BE FREE FROM DEFECTS IN MATERIALS AND CRAFTSMANSHIP WITH ONLY THE LIMITATIONS AND EXCLUSIONS SET OUT BELOW.

3. WARRANTY AND REMEDY: Three-Year WARRANTY — IN THE EVENT THAT THE PRODUCT DOES NOT CONFORM TO THIS WARRANTY AT ANY TIME DURING THE TIME OF TWO YEARS FROM ORIGINAL PURCHASE, WARRANTOR WILL REPAIR THE DEFECT AND RETURN IT TO YOU AT NO CHARGE. THIS WARRANTY SHALL TERMINATE AND BE OF NO FURTHER EFFECT AT THE TIME THE PRODUCT IS: (1) DAMAGED BY EXTERNAL CAUSES SUCH AS FIRE, WATER, LIGHTNING, ETC. OR NOT MAINTAINED AS REASONABLE AND NECESSARY; OR (2) MODIFIED; OR (3) IMPROPERLY INSTALLED; OR (4) MISUSED; OR (5) REPAIRED OR SERVICED BY SOMEONE OTHER THAN WARRANTORS' AUTHORIZED PERSONNEL OR SOMEONE EXPRESSLY AUTHORIZED BY WARRANTOR'S TO MAKE SUCH SERVICE OR REPAIRS; (6) USED IN A MANNER OR PURPOSE FOR WHICH THE PRODUCT WAS NOT INTENDED; OR (7) SOLD BY ORIGINAL PURCHASER. LIMITED WARRANTY, LIMITATION OF DAMAGES AND DISCLAIMER OF LIABILITY FOR DAMAGES: THE WARRANTOR'S OBLIGATION UNDER THIS WARRANTY IS LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, AT THE WARRANTOR'S OPTION AS TO REPAIR OR REPLACEMENT. IN NO EVENT SHALL WARRANTORS BE LIABLE OR RESPONSIBLE FOR PAYMENT OF ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL AND/OR PUNITIVE DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO ANY LABOR COSTS, PRODUCT COSTS, LOST REVENUE, BUSINESS INTERRUPTION LOSSES, LOST PROFITS, LOSS OF BUSINESS, LOSS OF DATA OR INFORMATION, OR FINANCIAL LOSS, FOR CLAIMS OF ANY NATURE, INCLUDING BUT NOT LIMITED TO CLAIMS IN CONTRACT, BREACH OF WARRANTY OR TORT, AND WHETHER OR NOT CAUSED BY WARRANTORS' NEGLIGENCE. IN THE EVENT THAT IT IS DETERMINED IN ANY ADJUDICATION THAT THE LIMITED WARRANTIES OF REPAIR OR REPLACEMENT ARE INAPPLICABLE, THEN THE PURCHASER'S SOLE REMEDY SHALL BE PAYMENT TO THE PURCHASER OF THE ORIGINAL COST OF THE PRODUCT, AND IN NO EVENT SHALL WARRANTORS BE LIABLE OR RESPONSIBLE FOR PAYMENT OF ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL AND/OR PUNITIVE DAMAGES OF ANY KIND, INCLUDING BUT NOT LIMITED TO ANY LOST REVENUE, BUSINESS INTERRUPTION LOSSES, LOST PROFITS, LOSS OF BUSINESS, LOSS OF DATA OR INFORMATION, OR FINANCIAL LOSS, FOR CLAIMS OF ANY NATURE, INCLUDING BUT NOT LIMITED TO CLAIMS IN CONTRACT, BREACH OF WARRANTY OR TORT, AND WHETHER OR NOT CAUSED BY WARRANTORS' NEGLIGENCE.

WITHOUT WAIVING ANY PROVISION IN THIS LIMITED WARRANTY, IF A CIRCUMSTANCE ARISES WHERE WARRANTORS ARE FOUND TO BE LIABLE FOR ANY LOSS OR DAMAGE ARISING OUT OF MISTAKES, NEGLIGENCE, OMISSIONS, INTERRUPTIONS, DELAYS, ERRORS OR DEFECTS IN WARRANTORS' PRODUCTS OR SERVICES, SUCH LIABILITY SHALL NOT EXCEED THE TOTAL AMOUNT PAID BY THE CUSTOMER FOR WARRANTORS' PRODUCT AND SERVICES. YOU HEREBY RELEASE WARRANTORS FROM ANY AND ALL OBLIGATIONS, LIABILITIES AND CLAIMS IN EXCESS OF THIS LIMITATION.

INDEMNIFICATION AND COVENANT NOT TO SUE: YOU WILL INDEMNIFY, DEFEND AND HOLD HARMLESS WARRANTORS, THEIR OWNERS, DIRECTORS, OFFICERS, EMPLOYEES, AGENTS, SUPPLIERS OR AFFILIATED COMPANIES, AGAINST ANY AND ALL CLAIMS, DEMANDS OR ACTIONS BASED UPON ANY LOSSES, LIABILITIES, DAMAGES OR COSTS, INCLUDING BUT NOT LIMITED TO DAMAGES THAT ARE DIRECT OR INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL, AND INCLUDING ATTORNEYS FEES AND LEGAL COSTS, THAT MAY RESULT FROM THE INSTALLATION, OPERATION, USE OF, OR INABILITY TO USE WARRANTORS' PRODUCTS AND SERVICES, OR FROM THE FAILURE OF THE WARRANTORS' SYSTEM TO REPORT A GIVEN EVENT OR CONDITION, WHETHER OR NOT CAUSED BY WARRANTORS' NEGLIGENCE.

YOU AGREE TO RELEASE, WAIVE, DISCHARGE AND COVENANT NOT TO SUE WARRANTORS, THEIR OWNERS, DIRECTORS, OFFICERS, EMPLOYEES, AGENTS, SUPPLIERS OR AFFILIATED COMPANIES, FOR ANY AND ALL LIABILITIES POTENTIALLY ARISING FROM ANY CLAIM, DEMAND OR ACTION BASED UPON ANY LOSSES, LIABILITIES, DAMAGES OR COSTS, INCLUDING BUT NOT LIMITED TO DAMAGES THAT ARE DIRECT OR INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL, AND INCLUDING ATTORNEYS FEES AND LEGAL COSTS, THAT MAY RESULT FROM THE INSTALLATION, OPERATION, USE OF, OR INABILITY TO USE WARRANTORS' PRODUCTS AND SERVICES, OR FROM THE FAILURE OF THE WARRANTORS' SYSTEM TO REPORT A GIVEN EVENT OR CONDITION, WHETHER OR NOT CAUSED BY WARRANTORS' NEGLIGENCE, EXCEPT AS NECESSARY TO ENFORCE THE EXPRESS TERMS OF THIS LIMITED WARRANTY.

EXCLUSIVE WARRANTY: THE LIMITED WARRANTY OR WARRANTIES DESCRIBED HEREIN CONSTITUTE THE SOLE WARRANTY OR WARRANTIES TO THE PURCHASER. ALL IMPLIED WARRANTIES ARE EXPRESSLY DISCLAIMED, INCLUDING: THE WARRANTY OF MERCHANTABILITY AND THE WARRANTY OF FITNESS FOR A PARTICULAR USE AND THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND THE WARRANTY OF NON-INFRINGEMENT AND/OR ANY WARRANTY ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE. IT MUST BE CLEAR THAT THE WARRANTORS ARE NOT INSURING YOUR PREMISES OR BUSINESS OR GUARANTEEING THAT THERE WILL NOT BE DAMAGE TO YOUR PERSON OR PROPERTY OR BUSINESS IF YOU USE THIS PRODUCT. YOU SHOULD MAINTAIN INSURANCE COVERAGE SUFFICIENT TO PROVIDE COMPENSATION FOR ANY LOSS, DAMAGE, OR EXPENSE THAT MAY ARISE IN CONNECTION WITH THE USE OF PRODUCTS OR SERVICES, EVEN IF CAUSED BY WARRANTORS' NEGLIGENCE. THE WARRANTORS ASSUME NO LIABILITY FOR INSTALLATION OF THE PRODUCT AND/OR INTERRUPTIONS OF THE SERVICE DUE TO STRIKES, RIOTS, FLOODS, FIRE, AND/OR ANY CAUSE BEYOND SELLER'S CONTROL, FURTHER SUBJECT TO THE LIMITATIONS EXPRESSED IN ANY LICENSE AGREEMENT OR OTHER AGREEMENT PROVIDED BY WARRANTORS TO PURCHASER.

THE AGREEMENT BETWEEN THE WARRANTORS AND THE PURCHASER, INCLUDING BUT NOT LIMITED TO THE TERMS AND CONDITIONS HEREIN SHALL NOT BE GOVERNED BY THE CONVENTION FOR THE INTERNATIONAL SALE OF GOODS. WHERE APPLICABLE, THE UNIFORM COMMERCIAL CODE AS ADOPTED BY THE STATE OF DELAWARE SHALL APPLY.

Test Log

Please maintain a monthly test log. This page can be replicated for additional recordings.

Date of Test	Water Temp Reading	Leak Switch	Water Level	Battery	Ambient Temp Reading	Humidity Reading	Tested By
EXAMPLE: 1/1/2020	Pass	Pass	55%	3 hours	78°F	25%	Joe Smith

15.0 Troubleshooting

There are a series of articles on more advanced troubleshooting on the Aquarium Guardian Website at <https://aquariumguardian.com> then click "Troubleshoot". Here you can find information for more advanced issues on Wi-Fi connectivity.

Wi-Fi Will Not Stay Connected: Device out of range. Check router antennas are not blocked, and router is optimally placed within house.

Wi-Fi Will Not Connect: Assuming the device is within range of the router, check network SSID and password. Refer to Password Reset, section 10.0, of the manual. Lastly, confirm that the network is 2.4GHz.

Email Messages and Test Email not Received: Check the spam message folder for message from alarm@aquariumguardian.com. Verify that contact information was entered correctly into the portal. Check that email and text notifications are enabled.

False leak alarm: Check sensor wires are not in proximity to high voltage pump wires. This can cause the sensor to have false readings. Clean the location where the leak sensor is mounted. Salt from saltwater aquariums can be found on surfaces and this can cause false leak alarms.

Water Level Graphs Not Rendering Properly: Check that the water level sensor is not located too closely to pumps, which can lead to false high readings. Lastly, check that the sensor is mounted to the aquarium, and that the sensor is level. You can use the grow/shrink function under the "View Graphs" section to fine tune the water level reading.

Water Temperature is Not Correct: Verify that the temperature sensor connection is closed all the way. If the jaws of the connector are not completely closed, then the correct sensor values will not be displayed.

Water Level Sensor Will Not Stay on Aquarium Glass: Clean the surface of the aquarium with a sponge.

16.0 Revision Log

Version R1.0

Initial Release



17.0 Support

HAVE A QUESTION?

Send an email to customerservice@aquariumguardian.com or submit a request through our webpage:

<https://aquariumguardian.com/pages/aquarium-guardian-tech-support-form>



Contact support

CustomerService@AquariumGuardian.com
or Phone: 314-787-8059





Aquarium Guardian

www.AquariumGuardian.com