aquanta®

Smart Water Heater Controller
Installation Instructions

For Natural Gas Water Heaters
Model: AQ-CA-G100-ESL
Version 2.2g

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Introduction

Congratulations on the purchase of your Aquanta Smart Water Heater Controller!

The Aquanta water heater controller works with your new or existing natural gas water heater to bring it out of the basement and into the palm of your hand. It heats water only when you need it, offering cost savings and intelligent controls.

This manual describes the physical installation of the Aquanta Controller and associated sensors. It can easily be installed by most homeowners.

First, install the Aquanta Controller on the top of the water heater and connect the sensors. Then, apply power to the Aquanta Controller, connect it to your home Wi-Fi network, register with the Aquanta Portal and you have a smart water heater!

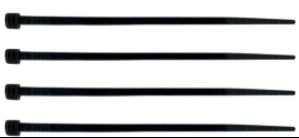
The Aquanta Controller contains a Wi-Fi transmitter module FCC ID: VPYLBYD. This device complies with Part 15 of FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device.

FCC CAUTION
Changes or modifications not expressly approved by Aquanta Inc. could void the user's authority to operate the equipment. This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

Tools Needed:

- Phillips screw driver
- Electric drill with 1/8th inch drill bit
- Smart phone, tablet or laptop with Wi-Fi

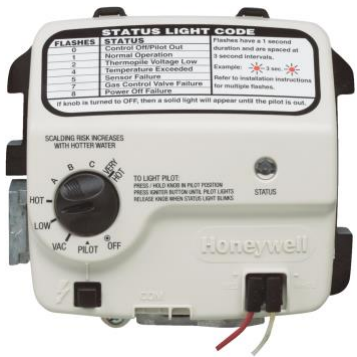
Parts Included:

1. Aquanta Controller	
2. Temperature Sensors (2)	
3. Leak Sensor (Optional)	
4. Cable Ties for Temperature Sensors (4)	
5. Cable Management Clips (4)	
6. Mounting Bracket	

Aquanta Controller Installation

The Aquanta Controller is the brain of the system, containing the electronics, sensor connections and Wi-Fi communications module.

1. If your water heater is atmospheric-vented natural gas, verify that your gas valve is an electronic style, as shown in the picture on the right. Aquanta cannot interface with the older mechanical style valves.



2. If your atmospheric-vented water heater has the correct gas valve, note the current setting of the gas valve knob, then turn it to PILOT.

3. If your water heater is power-vented natural gas, unplug it from the electrical power outlet before proceeding with the installation.

4. Find a spot for the Aquanta Controller on top of your tank that is within 3 feet of the temperature and pressure relief valve (T&P Valve).

5. Holding the supplied mounting bracket in place, mark the location of the screw holes and drill two 1/8th inch pilot holes. Use the two supplied ½ inch long silver sheet metal screws to secure the mounting bracket in place.

7. Place the Aquanta Controller on the bracket by sliding the two plastic tabs on the controller through the two slotted holes on the mounting bracket and pressing down. Then secure the Aquanta Controller to the mounting bracket using one black Phillips head screw (supplied).

8. For atmospheric-vented water heaters, connect the supplied communications cable to the top connector port on the right side of the Aquanta Controller. Then connect the other end of the communications cable to the "COM" port on the water heater gas valve. Then turn the gas control knob from PILOT to the original setting that you previously noted.

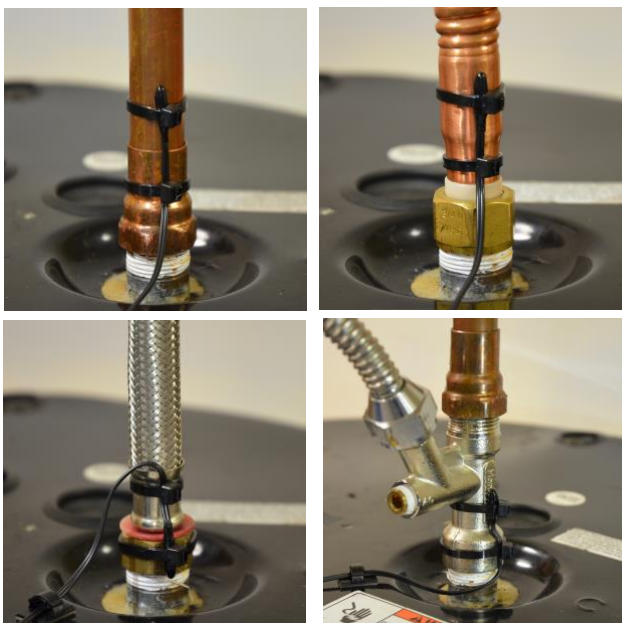
9. For power-vented water heaters, plug the power cord for the water heater into the AC power receptacle on the left side of the Aquanta Controller.

Attaching the Sensors

1. Attach one of the supplied Temperature Sensors to the Temperature & Pressure Relief Valve (T&P Valve) on the water heater using one of the supplied Cable Ties. Wrap the Cable Tie around the T&P Valve and then slide the narrow end of the tie through the slot. Position the tip of Temperature Sensor **as close as possible to the water heater** and under the Cable Tie, then pull the Cable Tie as tight as possible over the bead of the Temperature Sensor.

Ensure that the Temperature Sensor is in contact with the metal body of the T&P Valve and not interfering with the operation of the T&P Valve. Clip off the excess length of the Cable Tie. If there is another plumbing fitting between the T&P Valve and the water heater, fasten the Temperature Sensor to that fitting. Plug this sensor into the “Hot Water Sensor” connector on the side of the Aquanta Controller (see Item 4 on page 8).

2. Attach the second Temperature Sensor to the cold-water inlet pipe using two of the supplied Cable Ties. Wrap one of the Cable Ties around the cold-water pipe and slide the narrow end through the slot. Position the Temperature Sensor on the cold-water pipe **as close as possible to the water heater** and under the Cable Tie, then pull the Cable Tie as tight as possible. Place a second Cable Tie around the Temperature Sensor wire to act as a strain relief. Clip off the excess length of Cable Ties. Attachment to four different types of water inlet pipes are illustrated below. Plug this Temperature Sensor into the “Cold Water Sensor” connector on the side of the Aquanta Controller (see Item 4 on page 8).



3. If you purchased the Optional Leak Sensor, peel the paper-backing off of the double-sided tape on the Leak Sensor. Place the leak sensor on the side of the water heater near the bottom, preferably directly below the T&P Valve, such that the contacts extend into the drip pan beneath the water heater. Plug this into the “Leak Sensor” connector on the side of the Aquanta Controller (see Item 4 below).

4. Connect the sensors to the Aquanta Controller as shown below.

CAUTION: For proper operation it is essential that the Hot and Cold Water Sensors are connected to the correct ports on the Aquanta Controller. Please ensure proper installation.

5. Four Cable Management Clips are included with the Aquanta unit. Use these clips to organize the routing of the wires on the water heater. Placing two of the clips on the back of the Aquanta Controller is a convenient way of retaining the excess sensor wire.

6. Plug the Aquanta power cord into a nearby electrical power outlet. The LED should illuminate on the Aquanta Controller; it will blink indicating that a network connection still needs to be established.

Wi-Fi Setup

The Aquanta Controller has built-in Wi-Fi capability for communications with you home Wi-Fi network. Follow the steps below to establish a connection between the Aquanta Controller and your home network:

1. Verify that the Aquanta Controller is powered ON and ready to connect, as shown by a blinking green light.

2. On a smart phone or other connected device, find your Wi-Fi networks icon (as if you were at a coffee shop logging onto a new network), and select the network called “Aquanta xxxxxxxx”.

3. On many devices (including iOS devices), a web page automatically appears with the available Wi-Fi networks. If the web page to the right does NOT appear, open an internet browser, type **192.168.0.1** in the web address bar, and you will see this web page. Click “Connect” by selecting **<u>your</u> home** Wi-Fi network.

4. When prompted, enter the password for **your home Wi-Fi** network. Aquanta will save this password and use it to connect your Wi-Fi network. Once connected, the LED on the front of the Aquanta Controller should turn solid green, indicating that it is connected and in monitoring mode. The Green LED means that the water heater is activated/powered.

   Note: your phone or laptop should return to your home Wi-Fi network once the Aquanta Controller reboots. If for some reason it does not, disconnect from the Aquanta Wi-Fi network or reboot your computer.

5. You have now completed the Aquanta installation!

6. Next go to the Aquanta portal to register a user account and connect to the Aquanta unit at: https://portal.aquanta.io/signUp

7. To login to your account, go to: https://portal.aquanta.io/login

LED and Audible Indications

LED Color	Indication
Green	Normal operation with AC power applied to the hot water cylinder.
Red	AC power is not being applied to the hot water cylinder.
Aqua, Blue, Purple	Intelligent Mode Operation: Aqua – AC Power OFF Blue or Purple - AC Power ON
LED Blinking	Wi-Fi or Internet connection to the server is not available.
Beeping	Leak Sensor has detected a water leak.

Tips

1. If your home Wi-Fi network has changed, such as a new router, SSID or Password, the Wi-Fi Setup procedure for the Aquanta Controller must be redone. First, the Aquanta Controller must be put into the Wi-Fi reconfiguration mode (aka AP-mode) by pressing and holding the button on the right side of the controller for 10 seconds until the LED begins to blink.

2. You can force the Aquanta Controller to activate your hot water cylinder permanently by first putting it in Wi-Fi reconfiguration mode, as described above, and then cycling power to the Aquanta Controller OFF and back ON.

Thank you and enjoy your Aquanta unit!

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Cool Technology for Hot Water

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