Smart Water Heater Controller
Installation Instructions

For Electric Water Heaters
Model: WiFi (AQ-CA-E300-1)
Version 3.1

Aquanta Inc.

Introduction

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

Aquanta works with your electric water heater to bring it out of the basement and put it into the palm of your hand. It heats water only when you need it, offering cost savings and intelligent controls.

This manual describes the installation of Aquanta and sensors. It can easily be installed by most homeowners or a certified electrician.

First, install Aquanta on the top of the water heater, connect the sensors, and power up Aquanta. Next, download and open the Aquanta App, follow the prompts to create a user account, and you have a smart water heater!

The Aquanta E300 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.

This device complies with Part 15 of the FCC Rules and Industry Canada license-exempt RSS standards. Operation is subject to the following two conditions: (1) this device may not cause harmful interferences, and (2) this device must accept interference received, including interference that may cause undesired operation.

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 and Flathead screwdrivers (do not use power tools for installing Aquanta)
- Needle nose pliers
- Voltage tester (optional)

Parts Included:

1. Aquanta Controller	
2. Temperature Sensors (2 each)	
3. Cable Management Clips (4 each)	
4. Cable Ties for retaining the Temperature Sensors (4 each)	
5. Leak Sensor (Optional)	

Aquanta Installation

Aquanta contains the electronics and sensor connections.

CAUTION: Turn the electricity to the water heater off by switching the circuit breaker to the "**OFF**" position. This is typically a double breaker for electric water heaters. Aquanta is intended for use on electrical branch-circuits of 30 amps or less. Do not connect Aquanta to a branch circuit that has a circuit breaker larger than 30 amps. The proper amperage of the circuit should be determined by the labeled wattage of the water heater in accordance with the applicable National and/or Local electrical codes. For installations requiring protective conduit covering over the AC power conductors, use only flexible conduit covering. Do not attach rigid conduit to Aquanta.

TIP: Test that the electricity is off at the water heater using a voltage tester.

1. Using a screwdriver, remove the electrical cover plate from the top of the water heater. Remove the wire nuts from the wires and separate the wires. Remove the ground wire from the ground screw. Loosen and remove the cable clamp from the electrical cover plate by loosening the nut on the underside of the cover plate. Remove the cover plate from the cable clamp and the AC Mains supply wires.

2. Open Aquanta by removing the 4 Philips-head screws to remove the front cover.

3. Mount the electrical cover plate from the water heater onto the conduit fitting on the bottom of Aquanta. Orient Aquanta to face the desired direction and then tighten the nut on the conduit fitting. Lower Aquanta, with cover plate, over the two wires coming from the water heater and then secure the cover plate onto the water heater using the original screws. Aquanta is now mounted on the water heater and the ground contact is established.


Alternative mounting: For some water heaters it may be necessary to mount the electrical cover plate to the water heater prior to fastening it to Aquanta. In this case, remove the supplied conduit fittings from the bottom of Aquanta. Place a washer onto the conduit nipple and then slide the conduit nipple up through the hole in the cover plate. Secure the conduit nipple to the cover plate using one of the conduit nuts. Slide the wires from the water heater through the conduit nipple and attach the cover plate to the water heater using the original screws. Slide Aquanta over the conduit nipple, place the grounding bracket (supplied with Aquanta) over the conduit nipple and secure everything in place using a conduit nut.

4. Connect the wires from the water heater to the lower terminal block (marked HTR) inside Aquanta. Bend and trim the wires to length as shown with ¼" (6mm) of bare wire exposed on the ends. There is no strict polarity, but we recommend following the wire colors as shown.

   Before inserting a wire into a terminal block, **ensure that the terminal block screw is fully open** by turning it counterclockwise 8 full turns. Insert the wire into the opening on the side of the terminal block and tighten the screw by turning it clockwise until the screw is just snug against the wire. Then hold the terminal block with your fingers while you turn the screw an additional quarter (¼) turn. **Do not overtighten the terminal block screws. Do not use a power tool to tighten the screws.**
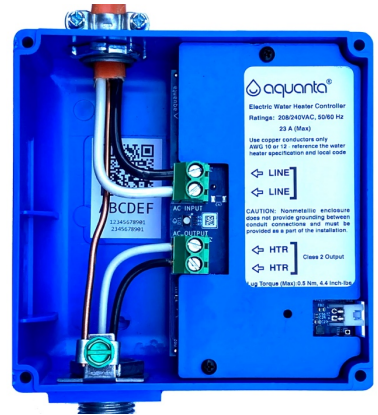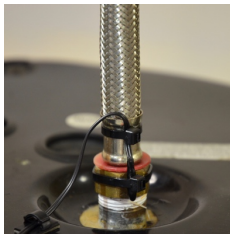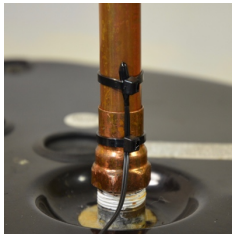
5. Install the original cable clamp for the AC Mains supply wire in the hole at the top of Aquanta.

6. Straighten the AC Mains supply wires and pull them down through the cable clamp. Ensure that there is sufficient ground wire to reach the ground screw at the bottom of the Aquanta unit and sufficient black and white wire to reach the upper terminal block (marked Line). Then, secure the wire in the cable clamp. Bend and trim the wires to length as shown with ¼" (6mm) of bare wire exposed on the ends.

7. Connect the two AC Mains supply wires to the top terminal block (there is no polarity). Then, attach the ground wire to the green grounding screw. Ensure that the bare ground wire does not contact the terminal block or the printed circuit board by keeping it straight and trimmed to length as shown.

8. Attach the cover to Aquanta using the four Phillips-head screws.

Sensor Installation

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 the Temperature Sensor as close to the water heater as possible and pull the Cable Tie as tight as possible over the bead of the Temperature Sensor. Ensure that the Temperature Sensor is in flush contact with the metal body of the T&P Valve, such that it does not interfere with the operation of the T&P Valve. Clip off the excess length of the Cable Tie. If there is another metal plumbing fitting between the T&P Valve and the water heater, fasten the Temperature Sensor to that fitting as close to the water heater as possible. Plug this sensor into the "T&P" connector (the top 2-pin port) on the side of Aquanta (see Step 4 on page 8).

2. Attach the second Temperature Sensor to the cold water inlet pipe using two of the supplied Cable Ties. Attachment to four types of water inlet pipes are shown below. 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 and water pipe as a strain relief. Clip off the excess length of the Cable Ties. Plug this Temperature Sensor into the "Cold" connector (the middle 2-pin port) on the side of Aquanta (see Step 4 below).

3. OPTIONAL: If you purchased the 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 bottom, preferably directly below the T&P valve, such that the gold-plated contacts extend into the drip pan beneath the water heater. Plug the Leak Sensor into the "Leak" connector on the side of Aquanta (see Step 4 below).

4. Connect the sensors to Aquanta as marked. **The "AUX" port is not used.** The T&P sensor goes on the Temperature & Pressure relief valve.
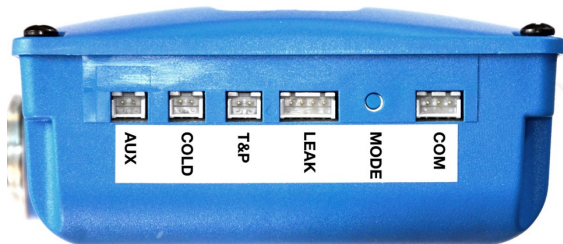
5. Four Cable Management Clips are included with Aquanta. Use these clips to organize the routing of the wires on the water heater. Place two of the clips on the back of Aquanta is a convenient way of retaining excess sensor wire.


6. Turn the electricity "**ON**" at the circuit breaker. The LED should illuminate on Aquanta. It will blink initially indicating that a connection to the Aquanta server still needs to be established.

Aquanta App Installation

The Aquanta App facilitates the process of being able to use your Aquanta.

1. Visit Google Play or the Apple App Store to download the free Aquanta mobile app and search for "Aquanta".

2. Install and open the Aquanta App. The app will guide you through the procedure for setting up your Aquanta account and pairing your Aquanta with your account. During this process you will be asked to scan the QR code or manually enter the pairing code from the label on your Aquanta. This label is located on the top of **your** Aquanta as shown.
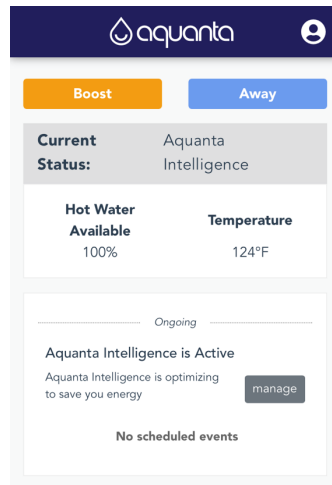
Congratulations! You have now completed the Aquanta installation!

For a tutorial on how to use Aquanta to manage your water heater, visit www.aquanta.io and click on "Preview the Dashboard."

LED and Audible Indications

LED Color	Indication
Green	Normal operation with AC power applied to the hot water cylinder.
Red	Aquanta is preventing the water heater from heating which means you have to put Aquanta in Away Mode, or you have to set a Schedule.
Aqua, Blue, Purple	Aquanta Intelligent Mode Operation
LED Blinking	Wireless connection to the server is not available.
Beeping	Leak Sensor has detected a water leak. Check you water heater to determine the source of the leak. To stop the beeping, unplug the Leak Sensor from Aquanta, remove the sensor from the water and dry it with a soft cloth. Allow at least 24 hours for the Leak Sensor to thoroughly dry before plugging it back into Aquanta.

Aquanta Override and (Wifi) Reset

You can force Aquanta to activate your hot water heater permanently by pressing and holding the Mode button on the right side of the Aquanta unit for 10 seconds, then release the button and cycle the water heater circuit breaker OFF and back ON. This also allows it to reset Wifi Access Point credentials.
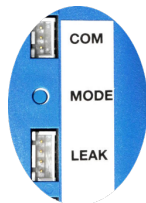
FAQs

To view our Frequently Asked Questions on our website at https://aquanta.io/faqs/.

Support

If you have any issues with your Aquanta, email support at support@aquanta.io

Thank you and enjoy your Aquanta!

aquanta
Cool Technology for Hot Water

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