

# Connect a CTA-2045 Module to a Water Heater

For Rheem, Ruud, and Richmond Water Heaters

Follow this step-by-step guide to connect your Rheem, Ruud or Richmond water heater to WatterSaver. If you have questions or need additional support, please contact [support@watter-saver.com](mailto:support@watter-saver.com).

## How to set up the CTA-2045/EcoPort™ Universal Communication Module (UCM) for WatterSaver participation

### Step One: Gather required equipment

The UCM set up requires:

1. Compatible Rheem, Ruud or Richmond water heater
2. e-Radio UCM – provided
3. Screwdriver

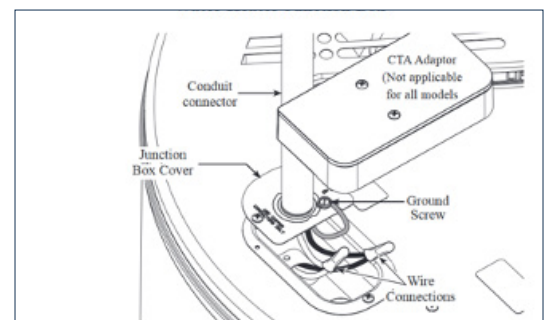
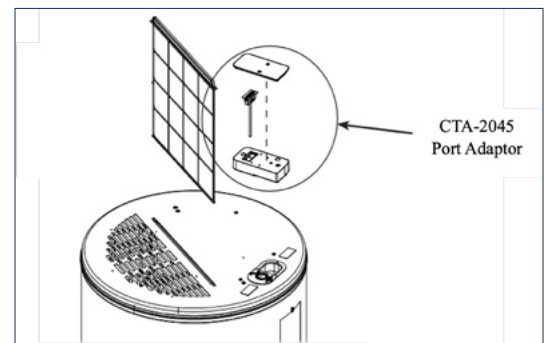
### Step Two: Turn Off Power to Your Water Heater

**WARNING:** Before continuing with UCM connection, turn off power to your water heater at the circuit breaker or fuse box by flipping the breaker supplying power to your water heater to the OFF position or by removing the fuse. Step Three (Optional): Wire the CTA-2045/EcoPort™ Adaptor.

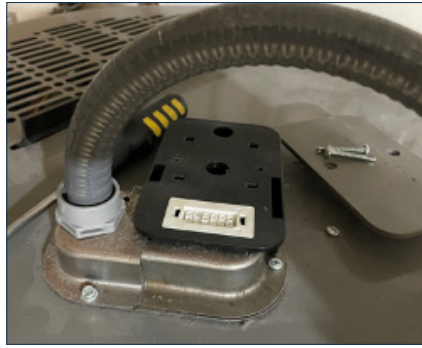
### Step Three (If Applicable): Wire the CTA-2045/EcoPort™ Port Adaptor

For water heaters manufactured before September 2023, the CTA-2045/EcoPort™ port adaptor was not factory-wired. It may have been wired at the time of installation. If it is not wired, you or a qualified electrician will have to complete this step.

1. Locate the junction box cover and CTA-2045/EcoPort™ port adaptor on the top of the water heater. Unscrew to remove.
2. Use an appropriately sized wire nut to connect the RED wire of the CTA-2045/EcoPort™ module box to the Red wire of the water heater connection.
3. Use an appropriately sized wire nut to connect the BLACK wire of the CTA-2045/EcoPort™ module box to the Black wire of the water heater connection.
4. Use the ground screw to connect the green wire of the CTA-2045/EcoPort™ module box to ground.
5. Replace the junction box cover and CTA-2045/EcoPort™ port adaptor at the top of the water heater.



## Step Four: Unscrew the CTA-2045/ EcoPort™ Port Adaptor Cover



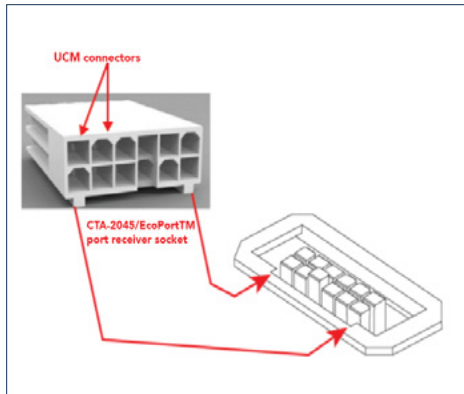
## Step Five: Install the UCM



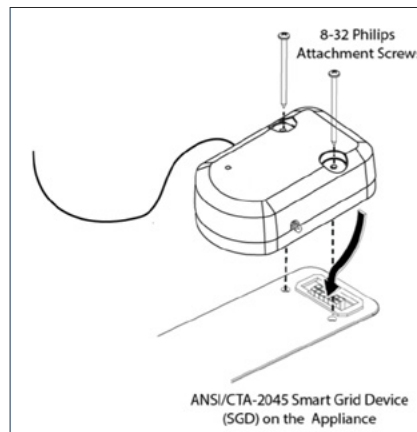
You will receive a UCM installation kit like the one shown here.



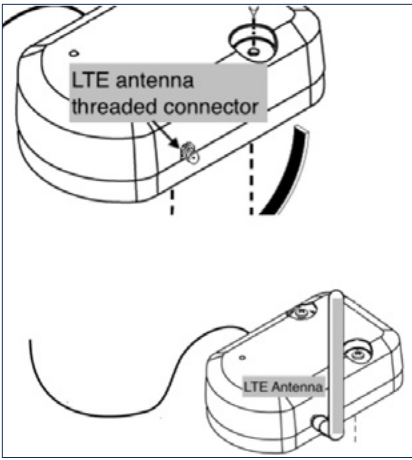
You will receive a UCM installation kit like the one shown here.



1. Plug the UCM into the CTA-2045/ EcoPort™ port receiver socket by aligning the UCM connectors with the connectors of the CTA-2045/EcoPort™ port. Gently push in the UCM until the bottom face of the UCM touches the flat face of the receiver.



2. In most cases, the screw sockets on the UCM will align with the screw sockets on the CTA-2045/EcoPort™ port. If this is the case, use the screws to secure the UCM to the receiver.



1. Attach the black LTE antenna to the small metal threaded connector on the side of the UCM by twisting it on until just finger tight. Make sure it is straight.



2. Point the LTE antenna up and away from the water heater. Based on your water heater configuration you may need to bend the antenna up or rotate it away from the water heater. Be careful when doing so.

*\*The black plastic antenna is an LTE cellular antenna and will be used for communications between WatterSaver and your water heater. The small black wire is an FM antenna. This is not necessary to participate in WatterSaver, so you can leave the black wire curled up.*

## Step Six: Turn the Power Back On

Turn on the power to your water heater at the circuit breaker or fuse box by flipping the breaker supplying power to your water heater to the ON position or by replacing the fuse.

The UCM LED indicator light should turn on and be green when the power is turned on. After about 20 seconds, it will start flashing blue while connecting to the cellular network. After about 30 seconds, the LED should stop flashing and remain blue. The UCM is now successfully connected to the cellular network and transmitting and receiving data. If the UCM LED is not solid blue, try the troubleshooting steps below.

## Troubleshooting UCM Error Codes

1. Blue flashing means there is a cellular connection issue.
  - a. Two blue flashes, then a five second delay: cellular network is congested. This should resolve automatically within 1-2 minutes.
  - b. Three blue flashes, then a five second delay: searching for cellular network. This should resolve automatically and can take up to 15 minutes.
  - c. Four blue flashes, then a five second delay: internal SIM card not detected. Contact WatterSaver to exchange the UCM.
  - d. Five blue flashes, then a five second delay: connected to cellular network but not getting responses. This should resolve automatically within 1-2 minutes.
  - e. Six blue flashes, then a five second delay: module has been rejected from cellular network. At the circuit breaker or fuse box, shut off the power to your water heater for about five minutes, then turn the power back on. This should solve the issue.
2. Red flashing means there is a communication issue with the water heater.
  - a. Less than 1 minute: temporary communication error.
  - b. More than 1 minute: Verify that the CTA-2045/EcoPort™ port adaptor is properly wired (see Step 3 of this guide), or contact an electrician to do so. Shut off power to the water heater before proceeding with Step 3.

## Step Seven: Connect Your Water Heater to WatterSaver

1. Please email [support@watter-saver.com](mailto:support@watter-saver.com) to let the support team know that your UCM is installed and that you are ready to connect to WatterSaver.
2. The WatterSaver team will send a link to your email to connect your device to the program.