

# e-Radio UCM Manual

Follow these instructions to install and troubleshoot the e-Radio universal communication module (UCM) for WatterSaver participation. This guide is standalone and applicable to any water heater using the e-Radio UCM.

## Items Needed:

- e-Radio Universal Communication Module (UCM)
- Screwdriver (Phillips head)
- Provided mounting screws (x2)

## Step One: Turn off Power to Your Water Heater

- 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.
- Confirm that the water heater is fully shut off before proceeding.

## Step Two: Attach the Antenna

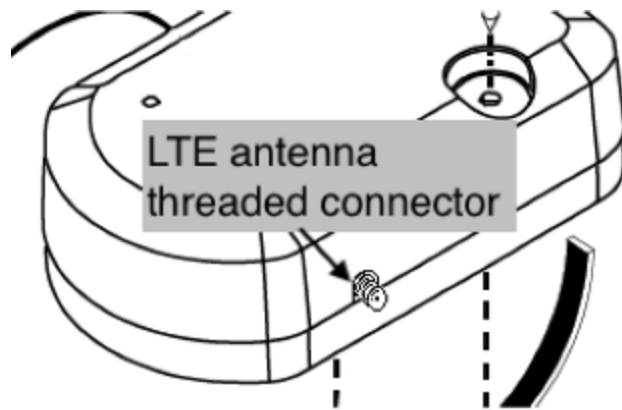
### LTE Antenna (Cellular Connection):

- Attach the antenna to the threaded connector on the module and gently tighten (finger-tight only)

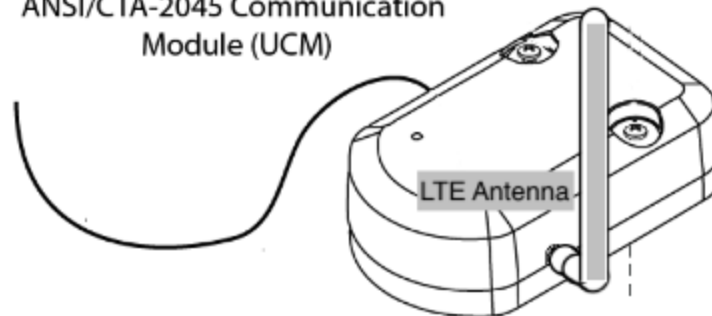
### FM Antenna Wire (Backup / Broadcast Signal):

- Fully extend the wire
- Route upward and away from the ground
- Secure to a wall or surface using tape or clips



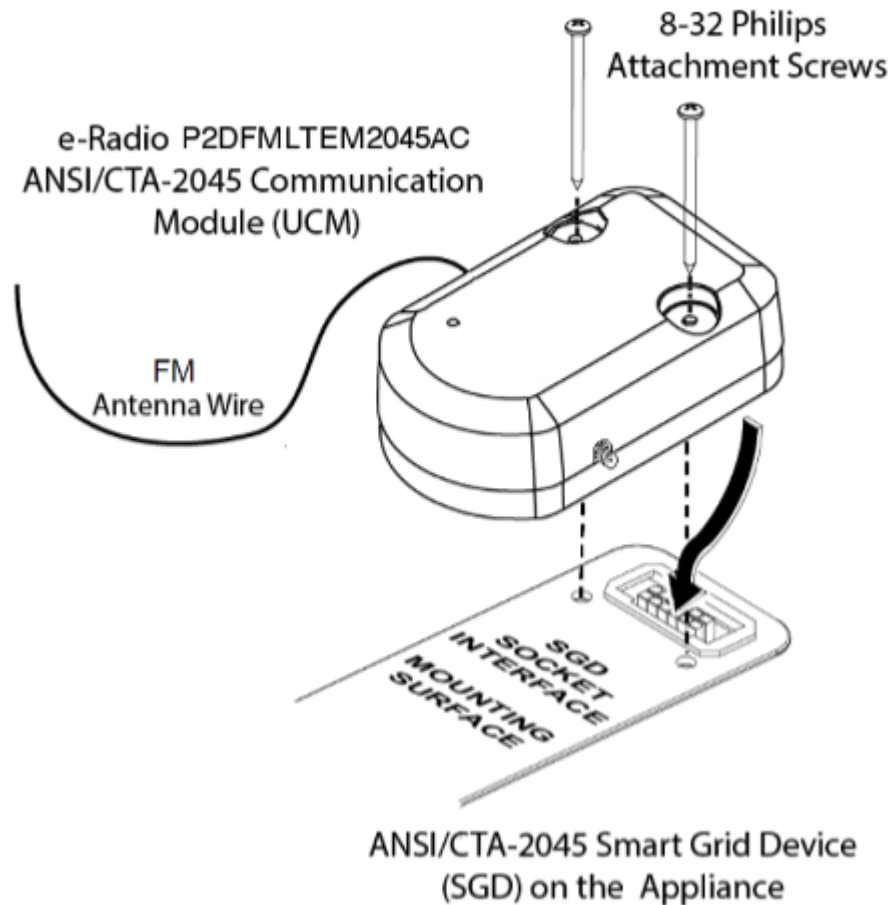


e-Radio P2DFMLTEM2045AC  
ANSI/CTA-2045 Communication  
Module (UCM)



### Step Three: Install and Activate the e-Radio UCM

- Locate your water heater's UCM Port (also known as CTA-2045 Port/EcoPort) and remove the cover (if applicable) – refer to the Communication Module Installation Instructions for your water heater for more information
- Align the UCM correctly (it will only fit in one orientation)
- Firmly plug the UCM into the port until fully seated. You should feel minimal resistance
- Secure using provided screws. Tighten until flush, then add a half-turn to ensure stability
- Proper installation ensures reliable communication between the water heater and the UCM.



#### Step Four: Position the Antenna

Antenna positioning is critical – poor placement can delay or prevent connectivity

##### Placement guidance:

- Point the antenna away from the water heater
- Avoid enclosing the antenna behind metal panels
- Keep it as unobstructed as possible for best signal strength

##### Important handling instructions:

- Hold the antenna at its base when adjusting
- Do not twist or push using the antenna
- Do not use the antenna to insert the module

#### Step Five: Restore Power to Your Water Heater

- 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 module will begin its startup sequence, which takes about 20 seconds

## Step Six: Check LED Light Status

The e-Radio UCM uses LED light indicators to show power, connectivity, and communication status.

### General Behavior

- The LED light will blink during startup and connection
- A steady light indicates successful operation:

#### INSTALLATION IS COMPLETE WHEN

- Module is securely mounted and flush
- Antennas are properly installed and positioned
- LED light is solid blue for at least 30 seconds

Connection time may vary (typically 1–5 minutes, up to 15 minutes in low-signal areas)

## Cellular Connectivity (Blue or Yellow LED depending on model)

### Normal Operation

- Blinking: Attempting to connect
- Solid: Successfully connected

## Troubleshooting Error Codes

**Blue flashing light** means that there is a cellular connection issue.

- a. More than 1 minute flashing: Verify that the UCM is firmly pushed into the port. Try uninstalling and re-installing it to confirm this but make sure to shut off power to the water heater before proceeding.
- b. Two blue flashes, then a five second delay: cellular network is congested. This should be resolved automatically within 1-2 minutes.
- c. Three blue flashes, then a five second delay: searching for cellular network. This should be resolved automatically and can take up to 15 minutes.
- d. Four blue flashes, then a five second delay: internal SIM card not detected. Contact WatterSaver to exchange the UCM.
- e. Five blue flashes, then a five second delay: connected to cellular network but not getting responses. This should be resolved automatically within 1-2 minutes.
- f. 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.

**Red flashing light** means that there is a communication issue with the water heater.

- a. Less than 1 minute: temporary communication error.
- b. Steady red light: If your UCM immediately shows a steady red light and stays this way for a few minutes, please request a new UCM from the program.

## Troubleshooting Steps

If the module does not connect:

### 1. Check Installation

- Ensure the UCM is fully inserted
- Remove and reinsert if needed
- Always turn power OFF before reinstalling

### 2. Check Antenna

- Confirm antenna is securely attached
- Reposition for better signal (away from metal surfaces)

### 3. Turn the Water Heater Off and On Again

- Turn off power to the water heater at the breaker
- Wait 5 minutes
- Turn on power and allow UCM to try to connect again

### 4. Allow Additional Time

- In low-signal areas, connection may take up to **15 minutes**