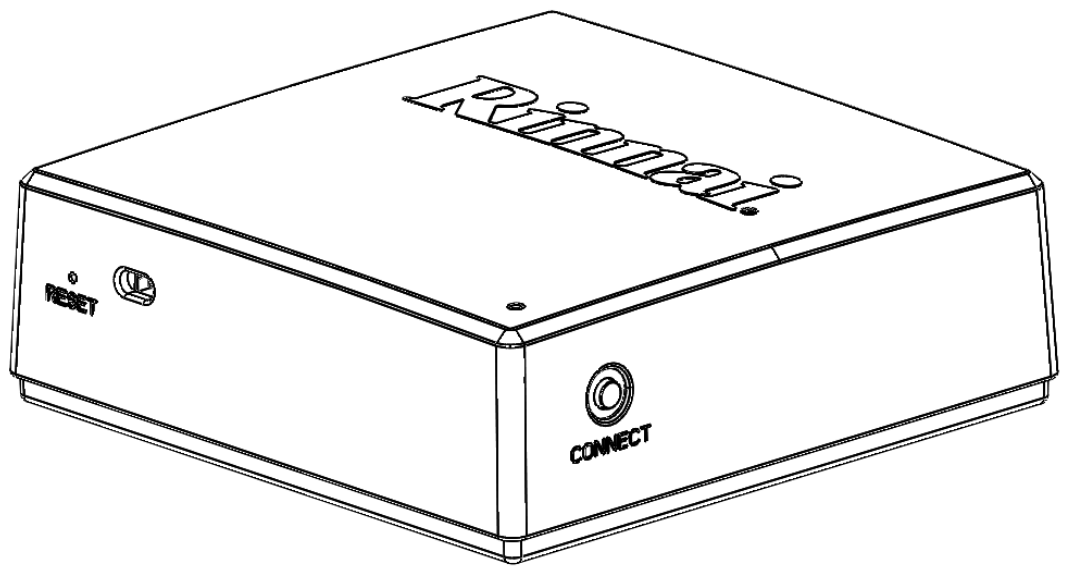# Rinnai®

Control-R™
Connect for smarter hot water.

Control-R™ Wi-Fi Module
Installation Manual

To get the most from your new module, check out more tips and videos by scanning the QR code, or visit:

www.rinnai.us/wifi

Contents

1 Getting Started

Welcome

Thank you for purchasing Rinnai's Control-R™ Wi-Fi Module.

Before installing and operating the module, be sure to read these instructions to familiarize yourself with the module's features and functionality.

For Your Records

If you contact Rinnai, please have your module's AYLA ID (located on back of module) and water heater serial number (located on side of water heater) available. Write the numbers here for your convenience:
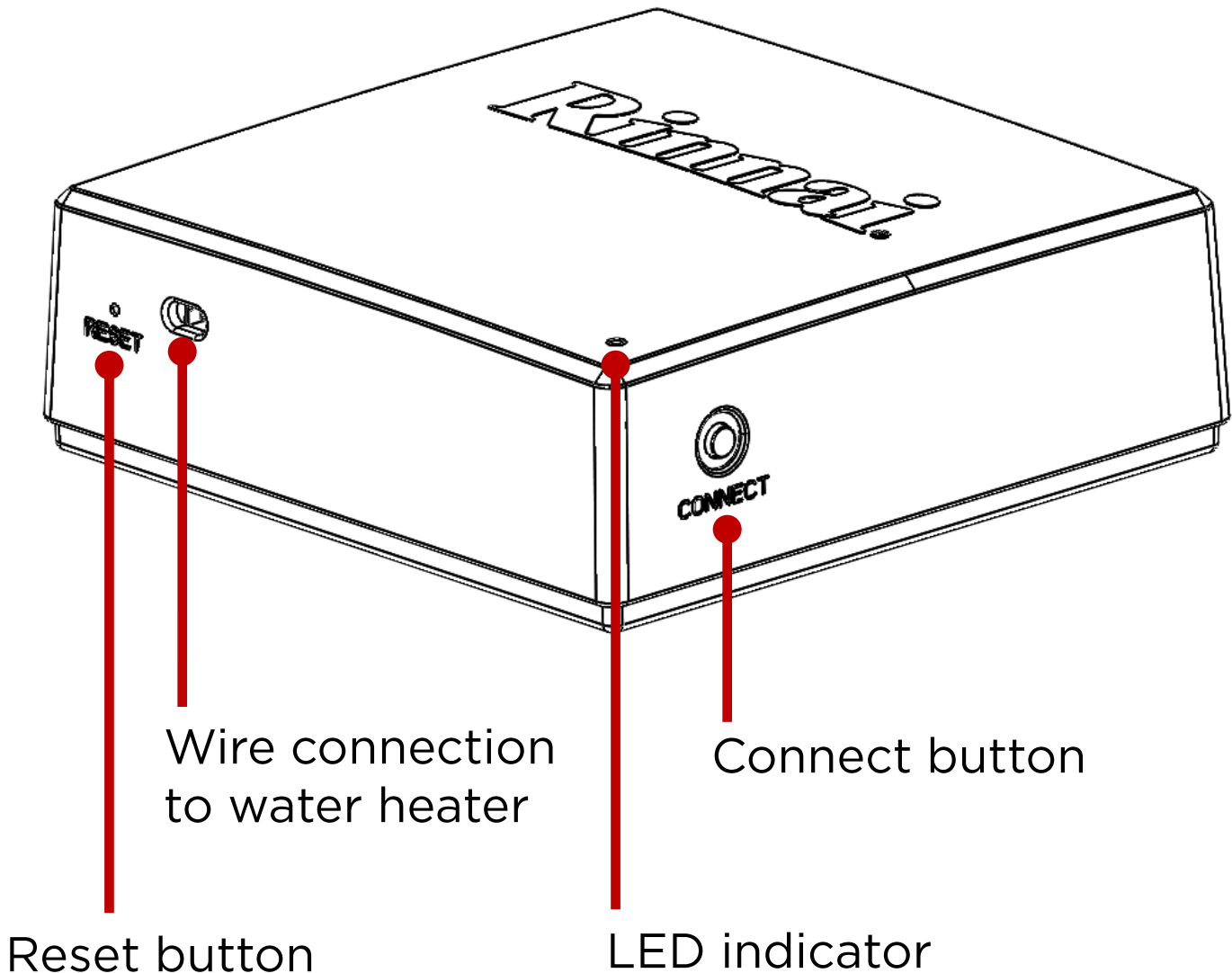
AYLA ID: _____

Water Heater Serial Number: _____

Items Inside Box

- Module (with 5 ft./1.5 m of wire for water heater connection)

- Wall mounting hardware (2 screws and 2 anchors)

- Rinnai Control-R™ Wi-Fi Module Installation Manual (this manual)

Features at a Glance

Wire connection
to water heater

Connect button

Reset button

LED indicator

Module back side contains:

- **Magnetic backing** (for mounting to indoor tankless water heaters)

- **Keyhole slots** (for mounting to wall)

- **Sticker** containing module information including AYLA ID number (required for technical support)

LED Color Indicators

The table below describes possible states for each of the LED color indicators.

Color	State	Condition
Yellow	Solid	Wi-Fi module booting up or updating firmware
Red	Blinking	Searching for IP address
Red	Solid	Ready to pair and register
Green	Solid	In accessory pairing mode – searching for wireless on-demand recirculation accessory (push button, motion sensor, etc.)
Green	Blinking	Pairing successful to wireless on-demand recirculation accessory (push button, motion sensor, etc.)
Blue	Blinking	Ready for/attempting cloud registration
Blue	Solid	Cloud registration successful
Purple	Solid	Module connected to local Wi-Fi, but cannot access Internet
Purple	Blinking	Module is not able to connect to local Wi-Fi
White	Solid/ Blinking	Initiating factory reset

2 Install Module

Select Location

- Choose a central location where the Wi-Fi signal is strong.

  Basements and mechanical rooms may have poor wireless signals.

- Additional wiring can run up to 300 feet (91 meters) away from the water heater to ensure a strong wireless signal (18-22 gauge wire is required).

- Mount module to a wall or side of water heater.

- For outdoor water heaters, the module must be installed indoors.

Mount to Water Heater

- Place the magnetic back side of the module to the side of the water heater.
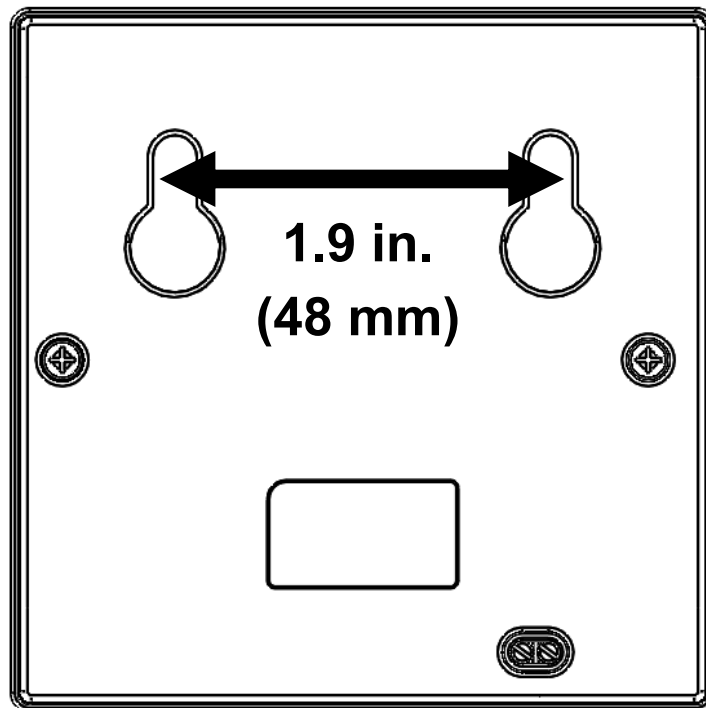
- For indoor water heaters only.

Mount to Wall

You Will Need

- Module (supplied)

- 2 wall anchors and 2 screws (supplied)

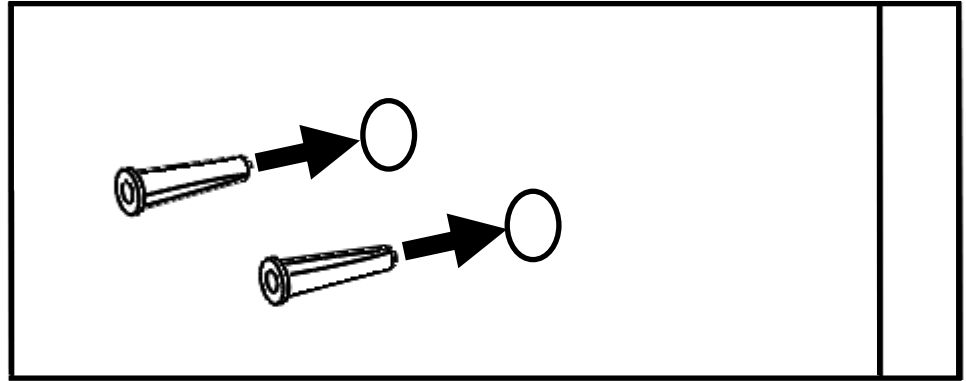- Tools (field-supplied): Phillips head screwdriver, drill with bit set, level and pencil

1 The module's back panel contains two keyhole slots that support the module. Mark the location of each slot on the wall with a pencil. The distance between the two slots is 1.9 in. (48 mm).

1.9 in. (48 mm)

2 Use a level to ensure the slots are even.

Use a power drill to drill pilot holes for the module screws and anchors.
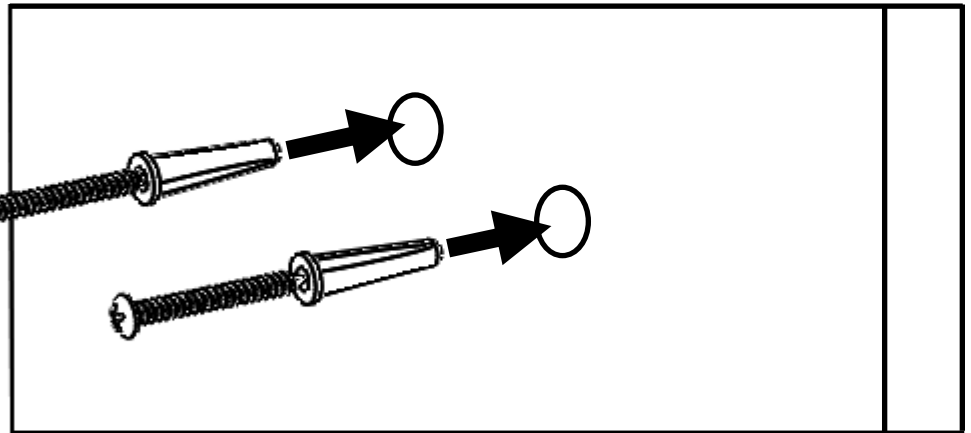
3 Insert the 2 wall anchors (supplied) into each hole until they sit flush against the wall.
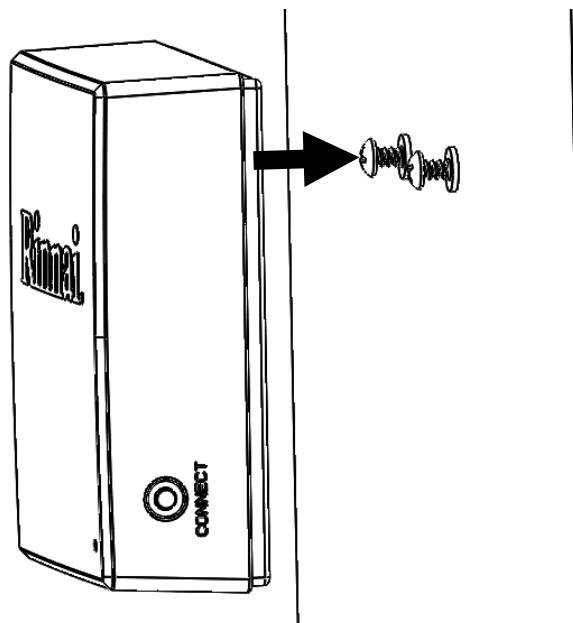
4 Insert the screws (supplied) into the anchors and fasten to the wall leaving 1/4 in. exposed.

5 Mount the module by placing the keyhole slots (on back of module) onto the screws.

3 Connect Module to Water Heater

> ⚠️ **WARNING**
>
> To protect yourself from harm, follow the steps below before wiring the module:
>
> - Turn off the electrical power supply by unplugging the power cord or by turning off the electricity at the circuit breaker. The temperature controller does not control the electrical power.
>
> - The steps in this section must conform with local codes and the guidelines established by the National Electrical Code (NEC).

1 Unplug the water heater power cord.

Note: Pressing the **ON/OFF** button on the controller does not power off the water heater.

2 Remove the water heater front panel by removing the 4 screws that secure the panel.

3 Connect the module wires to the PC Board located inside the water heater:
- For SENSEI™ Tankless Water Heaters, follow steps in section 3(A) (next page).
- For all other Rinnai Tankless Water Heaters, see section 3(B).

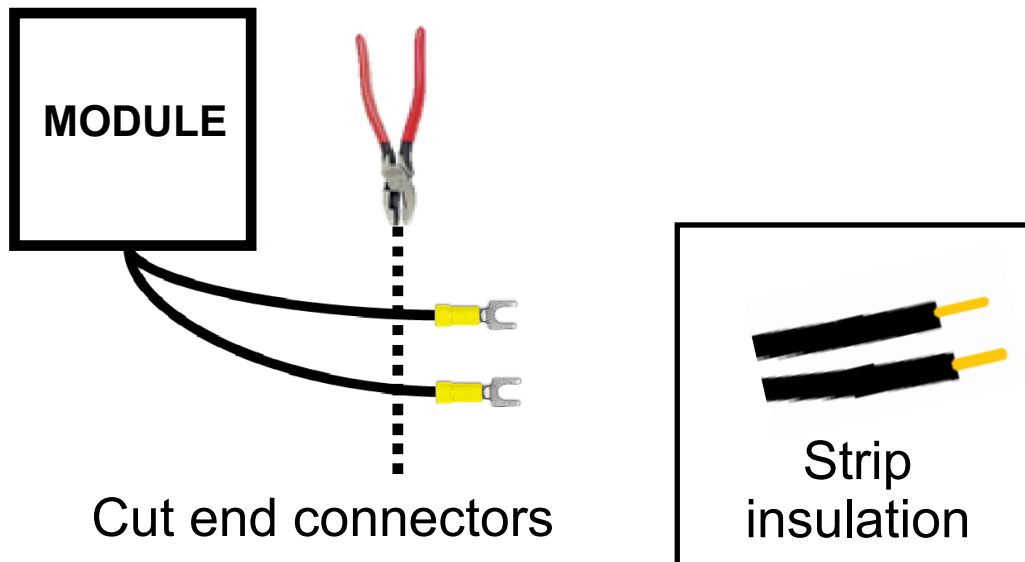**4** Replace and tighten the four (4) screws on the water heater cover.

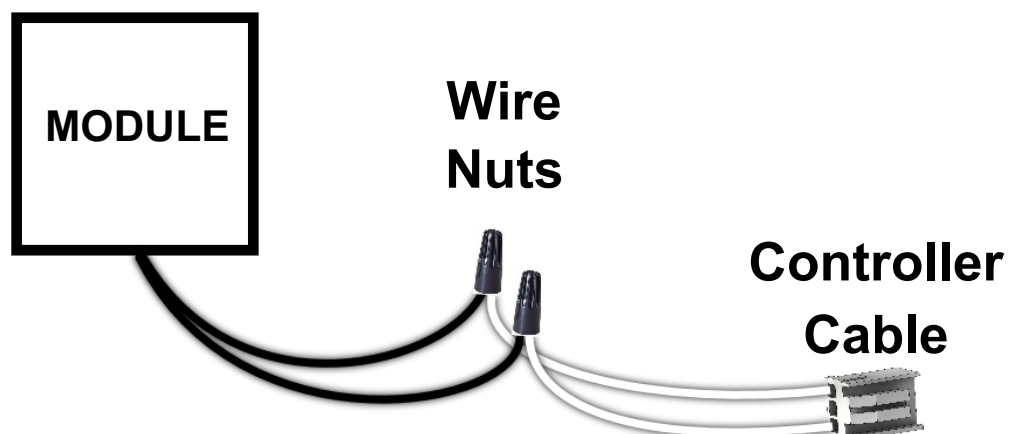**5** Plug in the water heater power cord.

6 Turn on the water heater by pressing the **On/Off** button on the water heater controller.
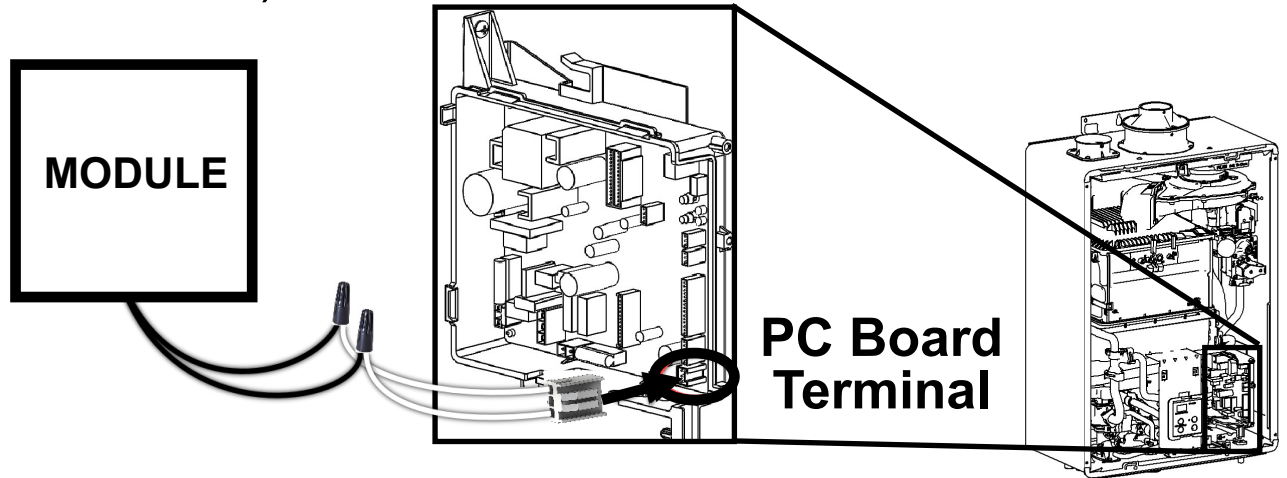
3(A) SENSEI™ Models

1 Cut the spade end connectors off the 2 module wires. Then, strip the insulation off both ends.

MODULE

Cut end connectors

Strip insulation

2 Connect the module cable to the SENSEI™ controller cable (included in water heater packaging or sold separately) using wire nuts or other approved wire connectors.

MODULE

Wire Nuts

Controller Cable

3 Connect the controller cable to the mating terminal at the bottom right side of the water heater PC Board (through the grommet portal on the bottom right side of the unit).
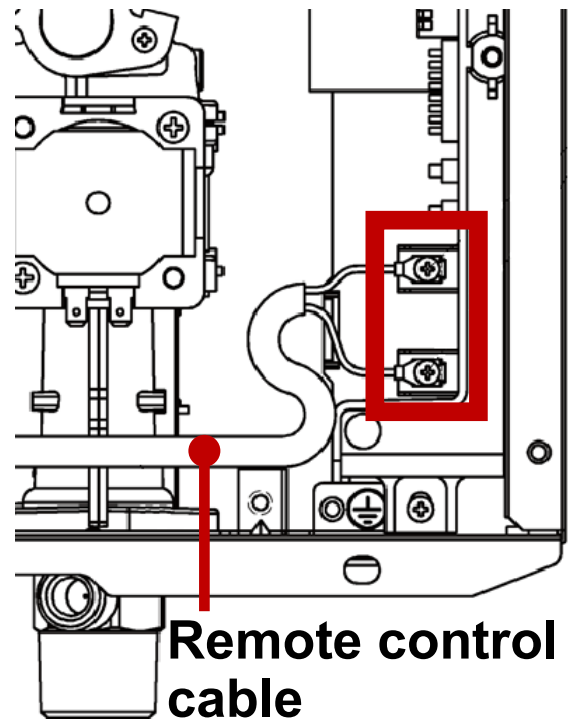
MODULE

PC Board Terminal

3(B) Non-SENSEI™ Models

1 Place the 2 module wires through the bottom opening of the water heater.

2 Attach each module wire to the 2 screws labeled **Terminal for Controls**.

- Partially unscrew each of the two screws.
- Insert the spade terminal (connected to the end of each wire) between the screw and the contact.
- Tighten the screws.

Remote control cable

4 Install On-Demand Accessories

Skip this step if you are not installing the Push Button or Motion Sensor

If using the Push Button or Motion Sensor for on-demand recirculation, install and pair them at this time.

Push Button	**Motion Sensor**
Mounts in a convenient location, such as a kitchen faucet or bathroom sink and operates the recirculation system by pushing the button.	Mounts flush to the wall or in the corner and operates the recirculation system with the detection of motion. Designed to detect full-body movement up to 30 feet.

For detailed steps, refer to the instructions supplied in the Push Button or Motion Sensor package.

❶ Install Batteries

- **Push Button** - Requires two (2) CR2450 watch batteries
- **Motion Sensor** - Requires one (1) 2600mAh AA size Lithium-Thionyl Chloride battery (3.6V or 3.7V)
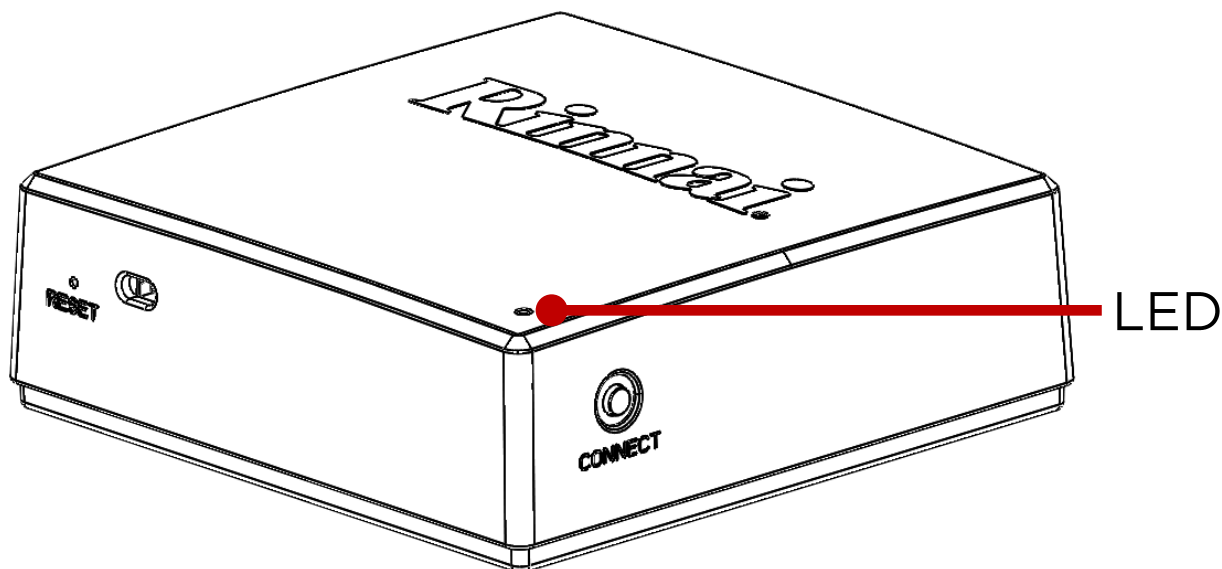
❷ Pair to Module

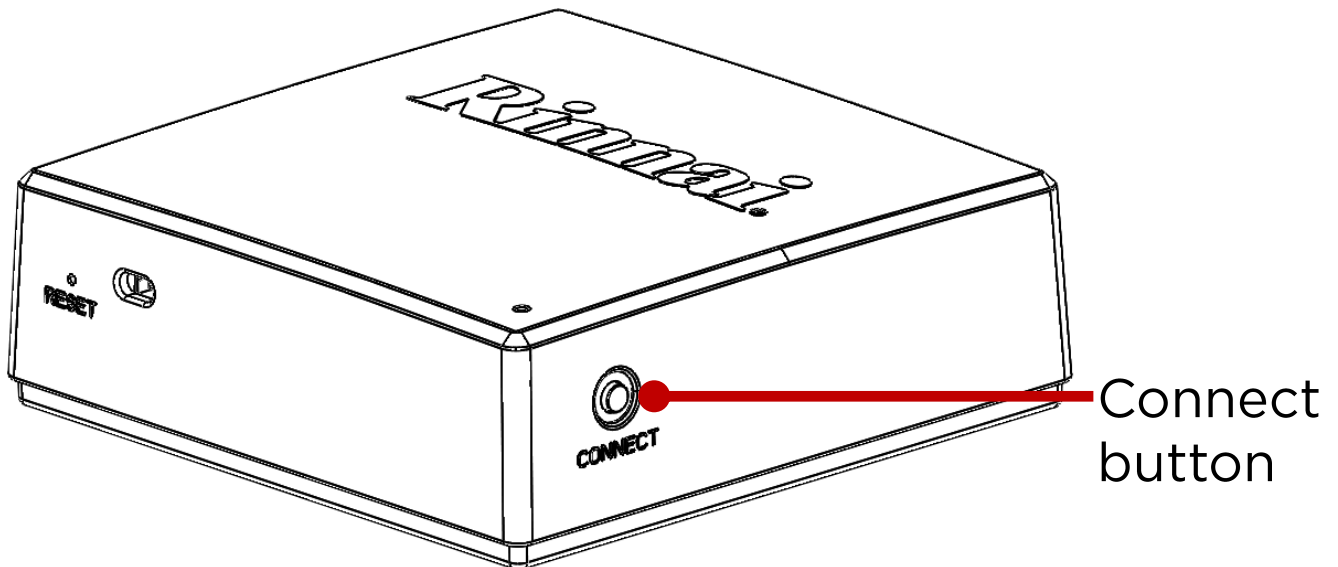Pair the Push Button or Motion Sensor to the module.

> **You Will Need:**
>
> - Control-R™ Module
>
> - Push Button and/or Motion Sensor
>
> - Phillips Head Screwdriver (Motion Sensor only)

A. Ensure the module LED has been red for at least **1 minute** prior to beginning the pairing process.

LED

B. Press and hold down the **Connect** button on the module until the LED turns GREEN.

Then, release the button (you will need to repeat this process to pair each accessory).

You have 5 minutes to pair the Push Button or Motion Sensor with the module before pairing mode times out.
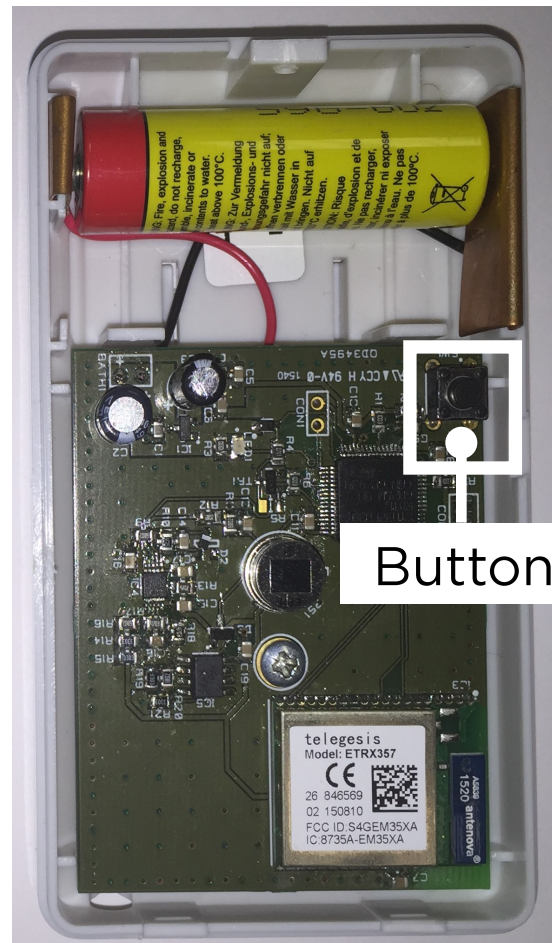

Connect button

C. Push Button

- Press and hold down the button until it flashes 3 times.

- Release the button.

- If paired successfully, the module LED will return to the previous color.

Button

Motion Sensor

- Use a Phillips Head screwdriver to remove the front cover.

- Press and hold down the **Connect** button on the PCB until the LED double flashes every second.

- Release the button.

- If paired successfully, the module LED will return to the previous color.

Button

IMPORTANT:

When a Push Button or Motion Sensor is activated, the pump turns on and runs for 5 minutes or until the selected water temperature is reached (whichever occurs first). The pump turns off and enters into a dormant (inactive) state.

During this time, the pump will not turn on for any reason, even if the push button or motion sensor is activated.

③ Install Push Button or Motion Sensor

Install the Push Button or Motion Sensor near the water fixture that will be used frequently, such as a kitchen faucet or bathroom sink.

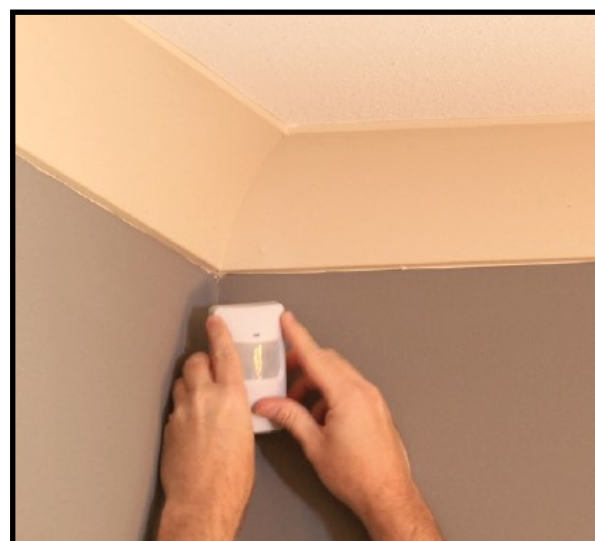Refer to the instructions in the Push Button or Motion Sensor package for detailed installation steps.

Push Button

Adhere to any wall or counter service using the adhesive backing.

Motion Sensor

Mount flush to the wall or in the corner between 6 to 9 feet above floor level.
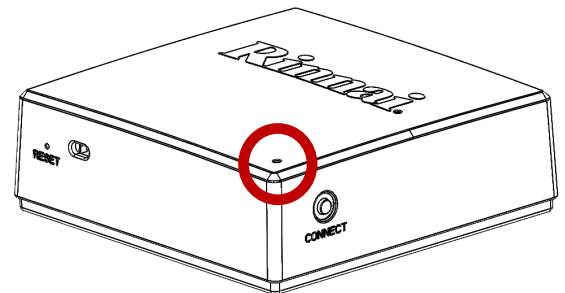

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5 Connect Module to Network

This Section Must be Performed by the Water Heater Owner (Homeowner/Business Owner)

You Will Need:

- Mobile device connected to home/business network
- Router with Wi-Fi
- 2.4 GHZ Wi-Fi network
- Water heater serial number or QR Code (located on water heater left side panel on cardboard packaging)

❶ Power on the water heater

The module LED will blink yellow until boot-up is complete and will then turn solid RED.
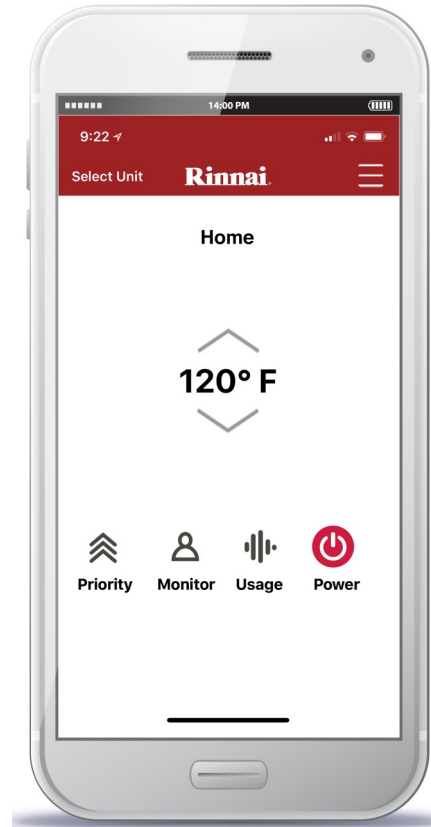

❷ Download the Rinnai App

Download the Rinnai app to your smartphone or tablet from the Apple® Store or Google® Play Store.

Rinnai Heater
Rinnai America Corporation

❸ Open the Rinnai App and follow the on-screen instructions

To get the most from your new module, check out more tips and videos by scanning the QR code below, or visit:

www.rinnai.us/wifi

6 Troubleshooting

Symptom	Solution
LED on module does not turn on	• Ensure the module is properly connected to the **Terminals for Control** on the PC Board. • Ensure power is supplied to the water heater.
Rinnai App cannot detect Local Area Network Wi-Fi signal	• Ensure the LAN is using 2.4GHZ. • Ensure the Wi-Fi router is powered and properly functioning. • Ensure the module is installed in a location with strong signal strength.
Local Area Network Wi-Fi signal is detected but the Rinnai App cannot connect	• Ensure the correct Local Area Network Wi-Fi password is entered. • Press **Cancel** in the Rinnai App and repeat the setup process starting from pairing the module with the Rinnai App.

- For questions about your Wi-Fi router, contact the router manufacturer.

- For questions about your Internet service, contact your Internet Service Provider (ISP).

- For all other questions, contact Rinnai Customer Care at 1-800-621-9419 and have your module's AYLA ID (located on back of module) and water heater serial number (located on side of water heater) available.

Having trouble?
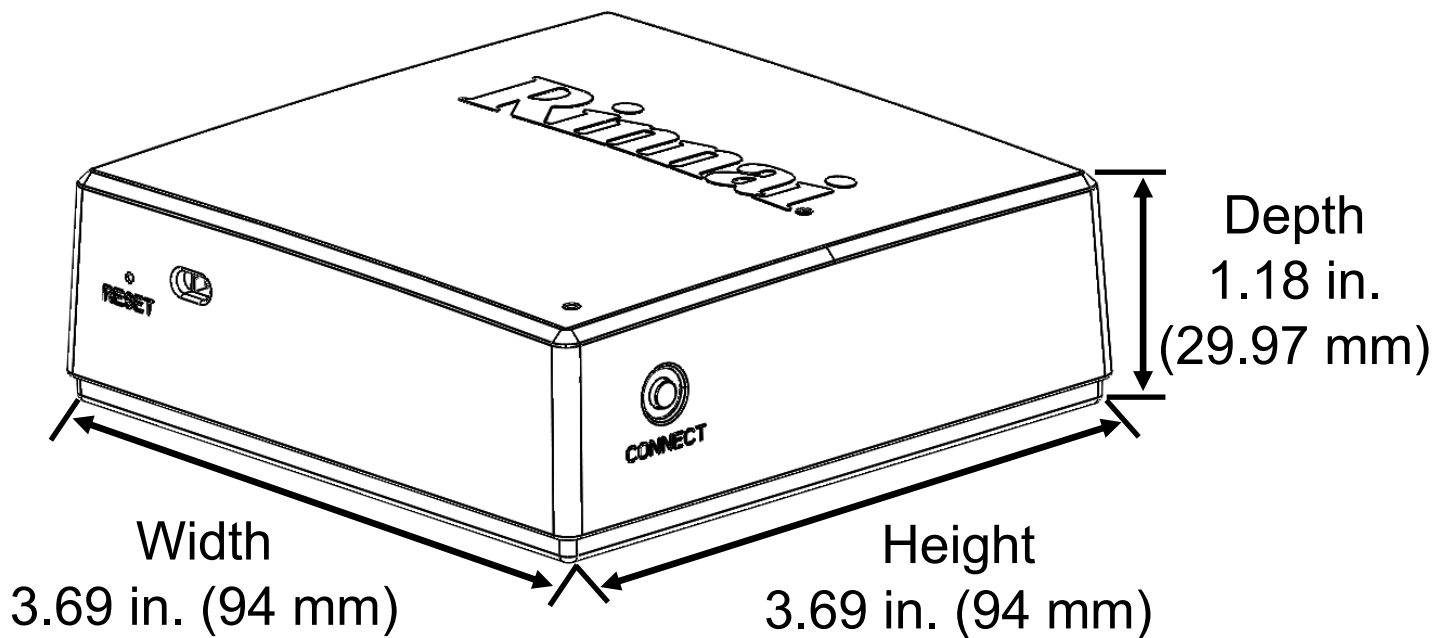
For more help, visit

www.rinnai.us/wifi

Or scan the QR code to find more troubleshooting information and tutorials.

7 Specifications

Product	Rinnai Control-R™ Wi-Fi Module	
Part Number	RWM101	
Weight	Module	4.8 oz (0.14 kg)
	Shipping Carton	6 oz (0.17 kg)
Dimensions (w, h, d):	Module	3.69 in. x 3.69 in. x 1.18 in. (94 mm x 94 mm x 29.97 mm)
	Shipping Carton	6.125 in. x 2.88 in. x 6 in. (155.6 mm x 73 mm x 152.4 mm)

Depth
1.18 in.
(29.97 mm)

Width
3.69 in. (94 mm)

Height
3.69 in. (94 mm)

Installation

- Must be mounted indoors
- Attaches to the side of the water heater via the magnetic enclosure (indoor models only) or mounts to an indoor wall with supplied mounting hardware

Compatibility

- Compatible with all Rinnai Tankless Water Heater models manufactured 2006 and later (except the RH180 Hybrid Tank-Tankless Water Heater)
  Note: The Lime Condition (LC) notification will not appear in the Rinnai App when the module is paired with the following series of Rinnai tankless water heaters manufactured prior to 2009: VA, VB, KA and V53e
- Compatible with the following Wireless On-Demand Recirculation Accessories: Push Button, Motion Sensor and Temperature Sensor
- 802.11N Wi-Fi Network up to 2.4 GHz (not compatible with 5 GHz networks)
- NOT COMPATIBLE with the MC-195T-US or MC-100V controllers

Supported Devices

- Apple® devices (iPhone, iPad, etc.) running operating system 10.0 or higher
- Android® devices (phones, tablets, etc.) running operating system 5.0 or higher
- BlackBerry® devices are NOT supported

Pairing

Module pairs to only one Rinnai Tankless Water Heater.

FCC Part 15

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: This device may not cause harmful interference. This device must accept any interference received, including interference that may cause undesired operation.

Learn more about Rinnai high-performance Tankless Water Heaters, Hybrid Water Heating Systems, Boilers, Vent-Free Fan Convectors and EnergySaver® Direct Vent Wall Furnaces at:

rinnai.us | rinnai.ca

Rinnai.®

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