



MC-601 Controller

Installation and Operation Instructions

Controller Part Numbers:

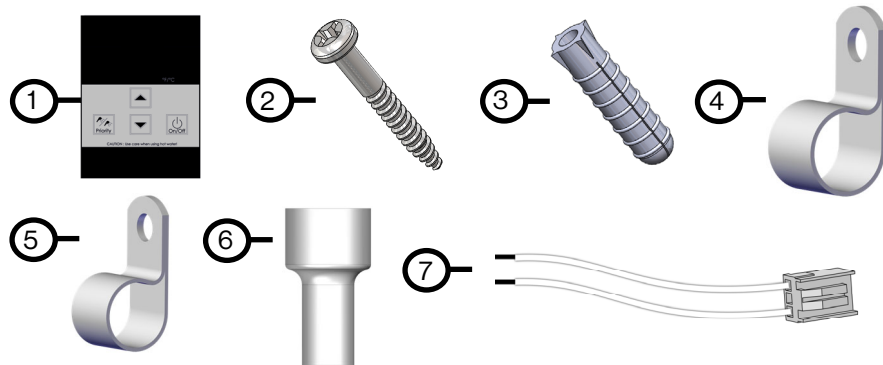
Residential Applications: MC-601-US-BK, MC-601-US-W
Commercial Applications: MCC-601-US-W
For use in United States and Canada



ITEMS INSIDE PRODUCT BOX

Before installation, please make sure that all parts are located inside the product box. If any items are missing or damaged, contact your local dealer/distributor or call Rinnai Customer Care at 1-800-621-9419.

Item #	Item	Qty
①	Controller	1
②	Screw	2
③	Wall Anchor	2
④	Clamp (Large)	1
⑤	Clamp (Small)	1
⑥	Wire Nut	2
⑦	Connector	1



TOOLS/MATERIALS REQUIRED

☐ Phillips head screwdriver ☐ Drill ☐ Wire Stripper/Crimper ☐ Additional Wire (22 AWG Minimum)

CONTROLLER LOCATIONS

- The temperature controller should be out of reach of small children.
- Avoid locations where the temperature controller may become hot (near an oven or radiant heater).
- Avoid locations in direct sunlight. The digital display may be difficult to read in direct sunlight.
- **DO NOT** install controller against any metal material unless properly grounded per local electrical codes.
- Avoid locations where the temperature controller could be splashed with liquids and/or chemicals.
- **DO NOT** install in locations where the temperature controller can be adjusted by the public.

CABLE LENGTHS AND SIZES

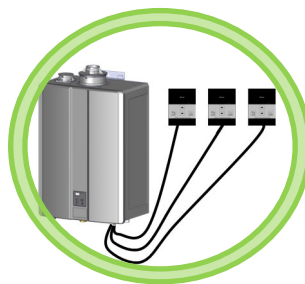
The cable for the temperature controller should be a non-polarized two-core cable with a minimum gauge of 22 AWG. The maximum cable length from each temperature controller to the water heater depends on the total number of wired controllers connected to the water heater. (Refer to the installation and operation manual of the water heater for more detailed information regarding additional controllers.)

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Number of Controllers	Maximum Cable Length for Each Controller to Water Heater
1	328 ft. (100 m)
2	164 ft. (50 m)
3 or 4	65 ft. (20 m)

Controllers can only be wired in parallel; they cannot be wired in series.

Controllers wired in parallel



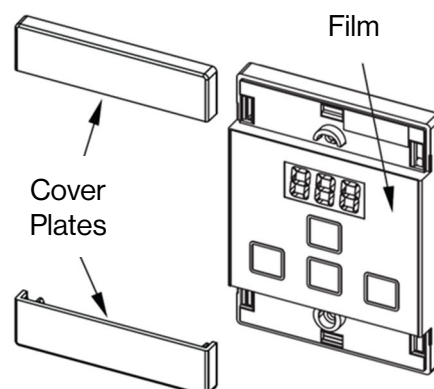
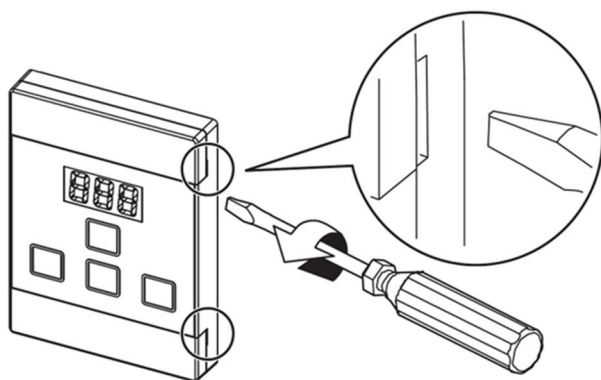
Controllers wired in series



Mounting The Controller

IMPORTANT: When performing the steps in this section, you must follow the wiring guidelines established by the National Electrical Code (NEC).

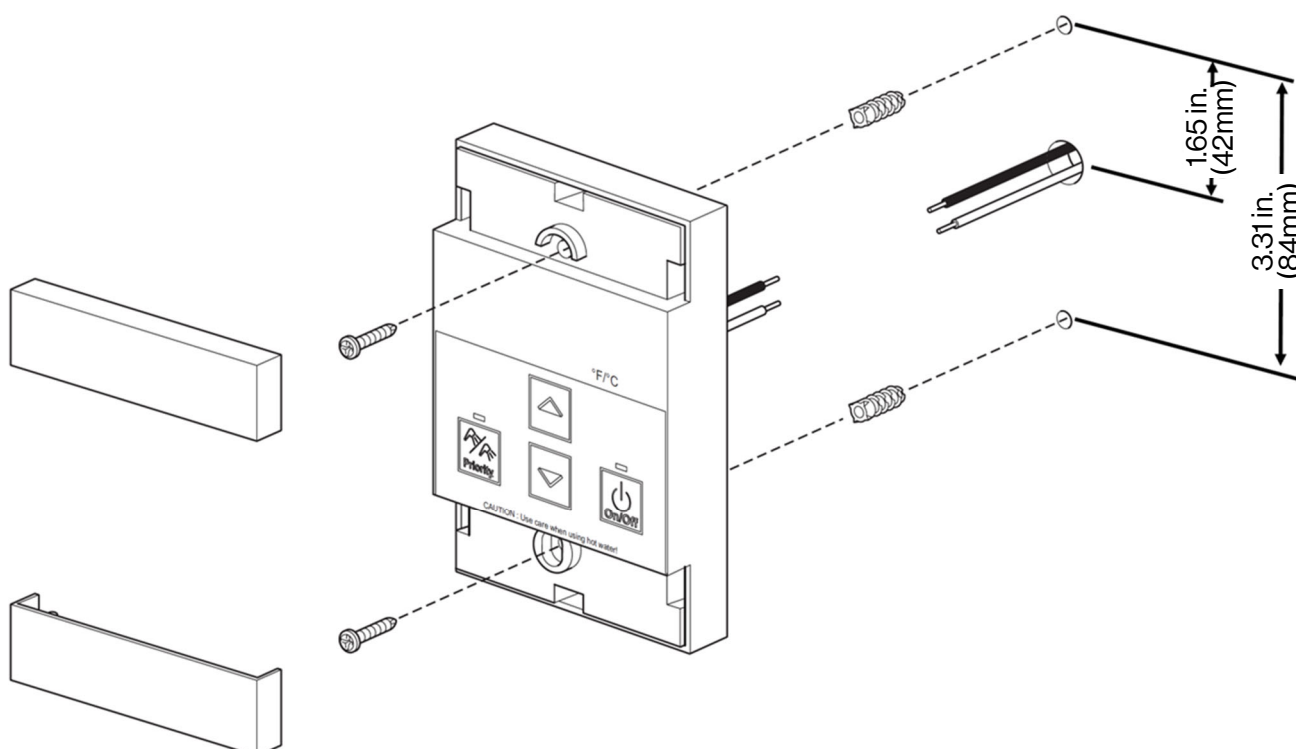
1. Make 3 holes in the wall as shown below. (Reference template on last page.)
2. Remove the face plate from the temperature controller using a screwdriver.



WARNING

Disconnect power to the water heater. Do not attempt to connect the temperature controller(s) with the power on.

3. After disconnecting power to the water heater, connect the field-supplied wire to the stripped wire ends of the controller. Follow the wiring guidelines established by the National Electrical Code (NEC).
4. Using the provided screws and wall anchors, mount the controller to the wall.
5. Remove the protective film from the controller.



Routing Wire to PC Board

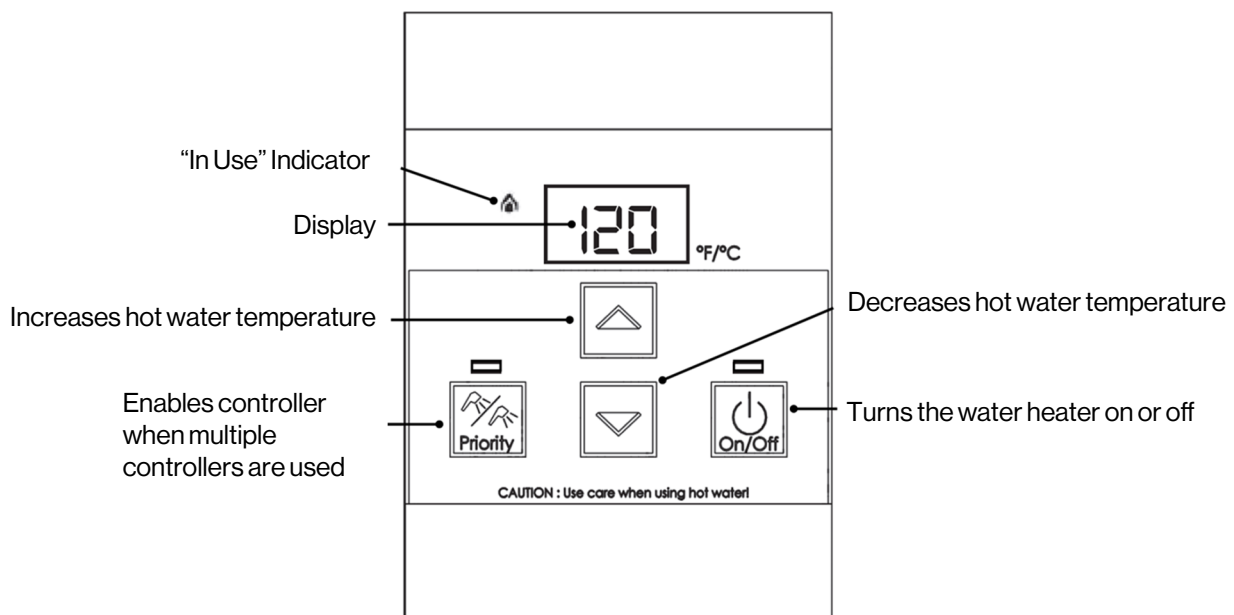
1. Remove the front panel of the water heater.
2. Locate the terminals for control in the water heater.
3. Thread the cable through the base of the water heater
4. Connect controller wires to the terminals for control.

For additional information regarding installation and/or operation of the temperature controller, please refer to the Installation and Operation Manual of the water heater.

Controller Operation

1. If the water heater is off, press the "On/Off" button to turn on.
2. The "Priority" button enables a controller if multiple controllers are being used. If the "Priority" light is off, then press the "Priority" button on the temperature controller. The green "Priority" light will glow indicating that this controller is controlling the temperature and that the water heater is ready to supply hot water. The priority can only be changed while no hot water is running.
3. Press the ▲ (Up) or ▼ (Down) buttons to obtain the desired temperature setting. All hot water sources are able to provide water at this temperature setting until it is changed again at this or another temperature controller.
4. To operate the water heater, open any hot water fixture. The water heater will then activate and the water heater "In Use" indicator will illuminate on the controller show that the water heater is providing hot water.

For further information on controller operation, refer to the installation and operation manual of the water heater.



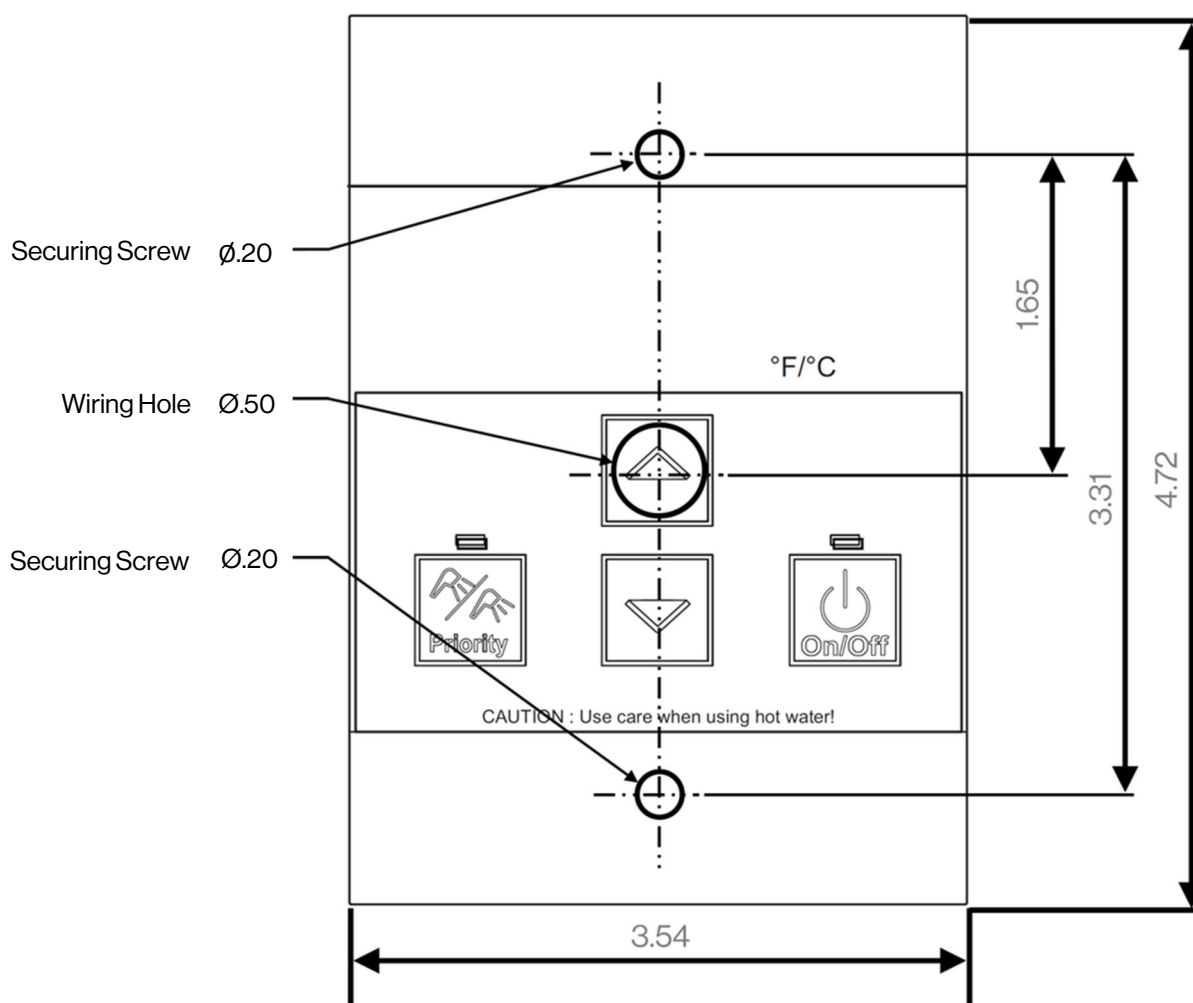
Installing Four Controllers

1. If 4 MC-601's are installed, press the "**Priority**" and "**On/Off**" buttons on the fourth controller at the same time until a beep sounds. (See above)
2. Check that the displays on all four controllers are lit and displaying the temperature setting when switched on. If any of the controllers displays two dashes then repeat step 1.

Note: If a controller is replaced, repeat these steps for the replacement controller.

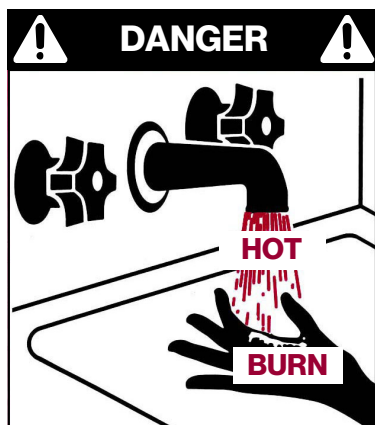
In applications where a Rinnai Control-R™ module is installed in place of a 4th controller and there is:

- Option 1 in Rinnai Control-R™ mobile app - "No Recirculation" - Perform Step 1 above.
- Option 2 in Rinnai Control-R™ mobile app - "Recirculation" - Step 1 above is not necessary.



Overall Controller Dimension:

- W: 3.54 in.
- H: 4.72 in.
- D: 0.70 in.



Hot water can be dangerous, especially for infants or children, the elderly, or infirm. There is hot water scald potential if the thermostat is set too high. Always test the hot water for comfort prior to entering a shower or bath. Water temperatures over 125° F (52° C) can cause severe burns or scalding resulting in death.

Hot water can cause first degree burns with exposure for as little as:

- 3 seconds at 140° F (60° C)
- 20 seconds at 130° F (54° C)
- 8 minutes at 120° F (49° C)

Test the temperature of the water before placing a child in the bath or shower.

Do not leave a child or an infirm person in the bath unsupervised.