

12. Electrical Wiring

Consult a qualified electrician for the electrical work.



Do not connect electrical power to the unit until all electrical wiring has been completed.

This appliance must be electrically grounded in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70. In Canada, the latest CSA C22.1 Electrical Code.

Caution: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

Verify proper operation after servicing.

Field wiring to be performed at time of appliance installation.



Caution

Do not turn on the power until the electrical wiring is finished. This may cause electrical shock or damage to the equipment to occur.

- The electrical supply required by the water heater is 120V AC at 60 Hz. The power consumption may be up to 125W or higher if using optional accessories. Use an appropriate circuit.
- Do not disconnect the power supply when not in use. When the power is off, the freeze prevention in the water heater will not activate, resulting in possible freezing damage.

- Do not let the power cord contact the gas piping.

Tie the redundant power cord outside the water heater. Putting the redundant length of cord inside the water heater may cause electrical interference and faulty operation.

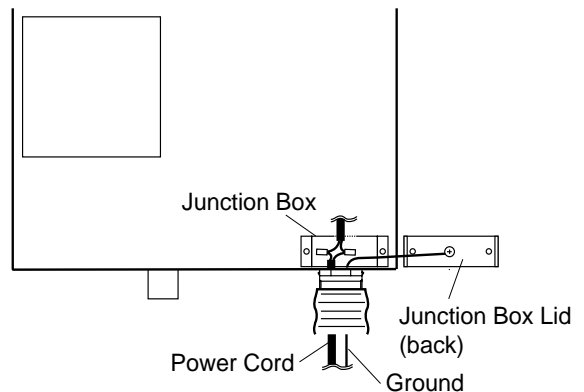
Ground

- To prevent electrical shock, provide a ground with resistance less than 100Ω . An electrician should do this work.
- A grounding screw is provided on the back of the junction box lid.

Do not connect the ground to the city water or gas piping. Do not tie the ground to a telephone line.

Breaker Installation

- Mount a device which shuts off the electrical path automatically (leakage breaker) when electrical leakage is detected.



1. Unscrew the junction box lid and open.
2. Push the power cord through the bottom of the unit.
3. Connect the live and neutral wires to the black and white wire in the junction box.
4. Screw the ground wire to the ground screw on the back of the junction box lid and close junction box.

Remote Controller

- Applicable Model

N-069M, N-063S (option)	
Remote controller	RC-7646M-2

Install the remote controller according to the instructions in the Installation Guide (p. 61).

- The N-069M can be programmed so that it will default to one of four temperatures if the remote controller is removed (176, 140, 130, 120°F). To change the default temperature, the remote controller must be initially installed, and removed after programming.

* Changing the default temperature setting:

1. Within the first ten minutes of connecting electrical power to the unit, but before pressing the Power On/Off button, hit the up [▲] or down [▼] button on the remote controller. This will put the unit into maintenance writer mode. If pressing either of these buttons does not put the unit into maintenance writer mode, unplug the unit for sixty seconds and try again.
2. The maintenance monitor item number will flash on the display. (the initial item number will be "99").
3. The up [▲] and down [▼] buttons can be used to change the maintenance writer item number.
4. Choose a temperature from the chart below and set the 14 and 15 maintenance writers according to the chart. Pressing the Flow Meter Alarm Set button for 0.5 seconds will switch the indicated item number from "OFF" to "ON" or "ON" to "OFF". If the Priority lamp is flashing when an item number is displayed, this indicates an "ON" setting for that item number, and if the Priority lamp is off, the item number is off.

*Do not change the other item numbers. This may cause a fault in the water heater.

5. After setting the 14 and 15 item numbers for the desired temperature, press and hold the up [▲] and down [▼] buttons together for five seconds to confirm the new settings. The remote controller will emit a tone when the settings are confirmed. If this is not done, the unit will not put the setting changes into effect. After confirming the setting, remove the remote controller to initiate the default temperature setting.

Note: The setting changes can be cancelled by pressing the Power On/Off button before confirming the settings, or if the unit is left alone for ten minutes without confirming the settings. If the default setting needs to be changed again, disconnect the electrical power to the unit, reconnect it and follow this procedure again.

Temp. \ Item No.	14	15
176°F	ON	ON
140°F	OFF	ON
130°F	ON	OFF
120°F*	OFF	OFF

* Factory Default Setting

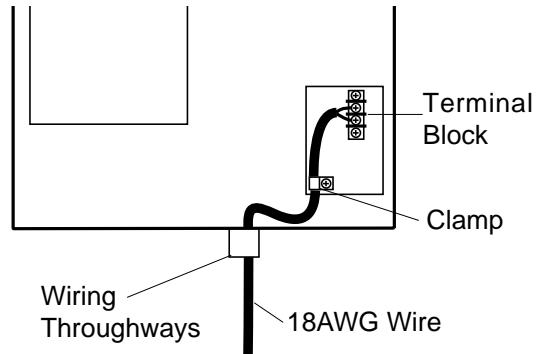
Connecting Remote Controller Cord to Unit

- Keep the remote controller cord away from the freeze prevention heaters in the unit.
- Tie the redundant cord outside the water heater. Do not put the extra length inside the equipment.
- The remote controller cord can be extended up to 300' with 18AWG wire.
- Use a Y type terminal with a resin sleeve. (Without the sleeve, the copper wire may corrode and cause problems).
- Be sure to hand tighten when screwing to the terminal block. Power tools may cause damage to the terminal block.

Remote controller cord

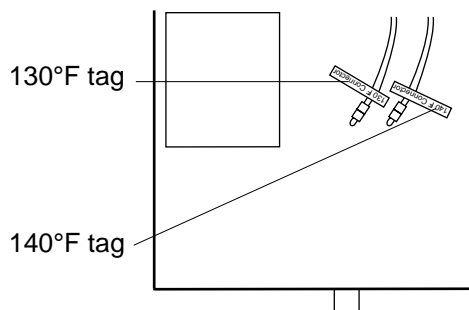
- For extensions, a 26' cord can be purchased (Part # RC-CORD26) or use 18AWG wire.
- Install according to the National Electrical Code and all applicable local codes.

1. Leave enough slack so that the remote controller cord will not be damaged if the unit is removed from the wall.
2. Remove the front cover of the heater (4 screws).
3. Pass the remote controller cord through the wiring throughway and into the unit.
4. Connect the Y terminals at the end of the remote controller cord to the terminal block.
5. Secure the remote controller cord with a clamp.
6. Replace the front cover.



Changing Set Temperature (Not using the remote controller for N-063S).

1. Disconnect power to the heater.
2. Remove the front cover of the heater (4 screws).
 - To set the temperature to 130°F Remove the connector with 130°F tag.
 - To set the temperature to 140°F Remove the connector with 140°F tag.
3. Replace the front cover of the heater (4 screws).
4. Reconnect power to the heater.

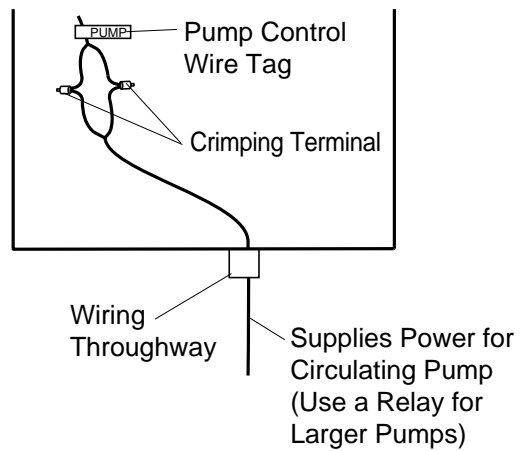


Pump Wiring

* For model N-069M only. This feature is not available when using the Quick Connect Multi System feature.

Connecting the pump control wire

1. Leave enough slack so that the pump control wires will stay connected if the unit is removed from the wall.
2. Remove the front cover of the heater (4 screws).
3. Cut off the connector at the end of the pump control wires.
4. Wire the pump control wires through the wiring throughway and connect them to the wiring inside the pump (this will be the power supply for the pump, do not also connect 120 V to the pump).
If a large pump is being used (greater than 85W) use the voltage from these wires as the signal to close a normally open relay through which 120 V will be supplied directly from a wall circuit to the pump.
5. Replace the front cover.



Relay connection with larger pumps (>85 W)

1. Locate and prepare the pump control wires as described above.
2. Choose a suitable installation location for the relay where it will be protected from moisture.
3. Connect the pump control wires from the heater to the signal input on the relay.
4. Cut one of the electrical supply leads and wire it across the open terminals of the relay.
5. Secure all connections and replace the front cover of the heater.

