REMOTE CONTROL RETROFIT INSTRUCTIONS
For Infrared Radiant Pull Tube Heaters
Models: SPH40-125 - (N7/L7)

GENERAL INFORMATION

This kit includes all components required to retrofit existing 2-stage model SPH40 – 125 tube heaters for use with a remote control. A thermostat will no longer be used to control the heater after the conversion is made.

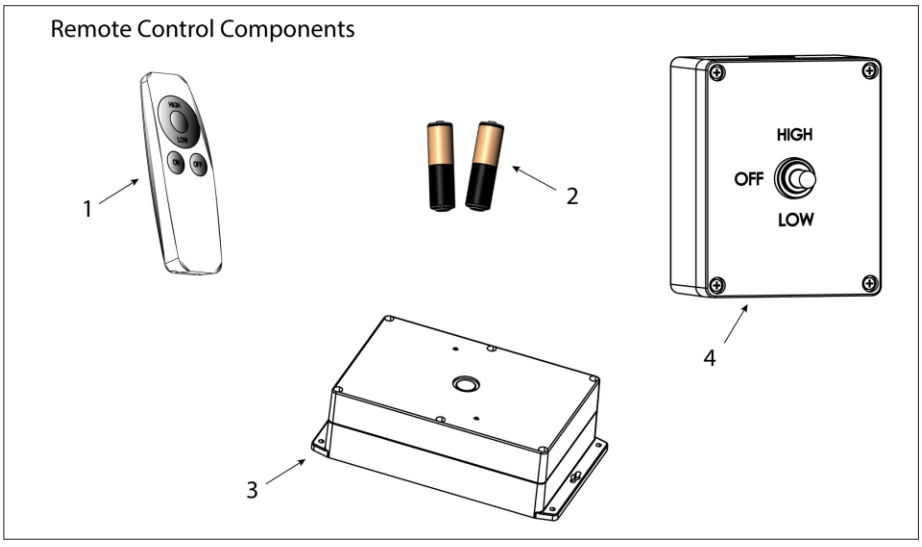
⚠ WARNING

This retrofit kit is to be installed by an authorized distributor or other qualified agency in accordance with the manufacturer's instructions and all codes and requirements of the authority having jurisdiction. **Failure to follow instructions could result in serious injury, property damage or death. The qualified agency performing this work assumes responsibility for this retrofit.**

KIT COMPONENTS

Kit Part Number 44640080

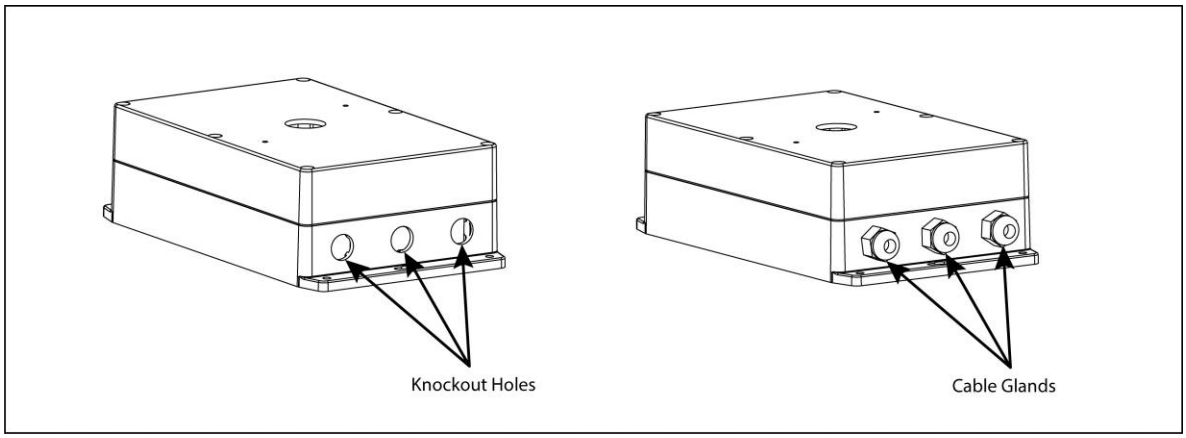
Item No.	Part No.	Description	Qty Per
1	30809980	Remote 2-Stage SUNSTAR	1
2	30809950	AAA Battery 2-Pack	1
3	44639050	Remote Control Assembly (w/Circuit Board)	1
4	40147010	3 Position Switch (high/low/off)	1
5	42706030	Wiring Connections Diagram (not shown)	1
6	44201690	Form, Retrofit Instructions (not shown)	1



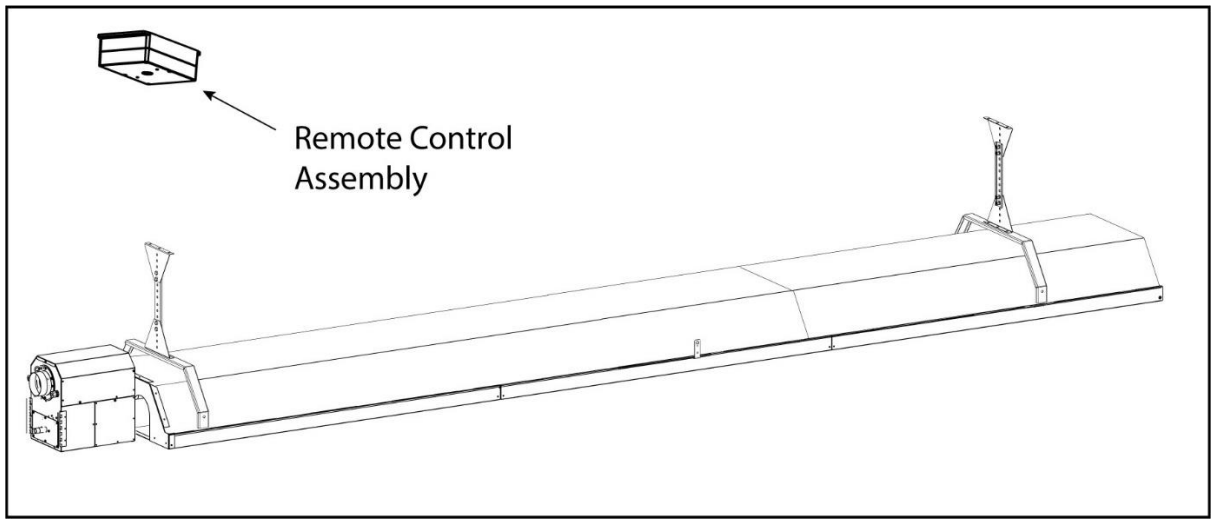
REMOTE CONTROL ASSEMBLY MOUNTING

1. Place the remote control assembly to the wall or ceiling near the control end of the heater.

2. Drill (3) electrical knockout holes in the base of the remote enclosure to route electrical connections to/from the remote control board. Secure ingoing/outgoing wires using cable glands (field supplied).



3. Secure using #12 screws (field supplied).



ELECTRICAL CONNECTIONS

⚠ WARNING

ELECTRIC SHOCK HAZARD

Disconnect electrical power and gas supply before servicing.

This appliance must be connected to a properly grounded electrical source.

Failure to do so may result in death or serious injury.

1. All electric wiring shall conform to the latest edition of the National Electrical Code (ANSI/NFPA No. 70), or the code legally authorized in the locality where the installation is made.

2. The unit must be electrically grounded in accordance with the National Electrical Code (ANSI/NFPA No. 70-latest edition). In Canada, refer to current standard C22.1 Canadian Electrical Code Part 1.

3. The wiring providing power to the heater shall be connected to a permanently live electrical circuit, one that is not controlled by a light switch.

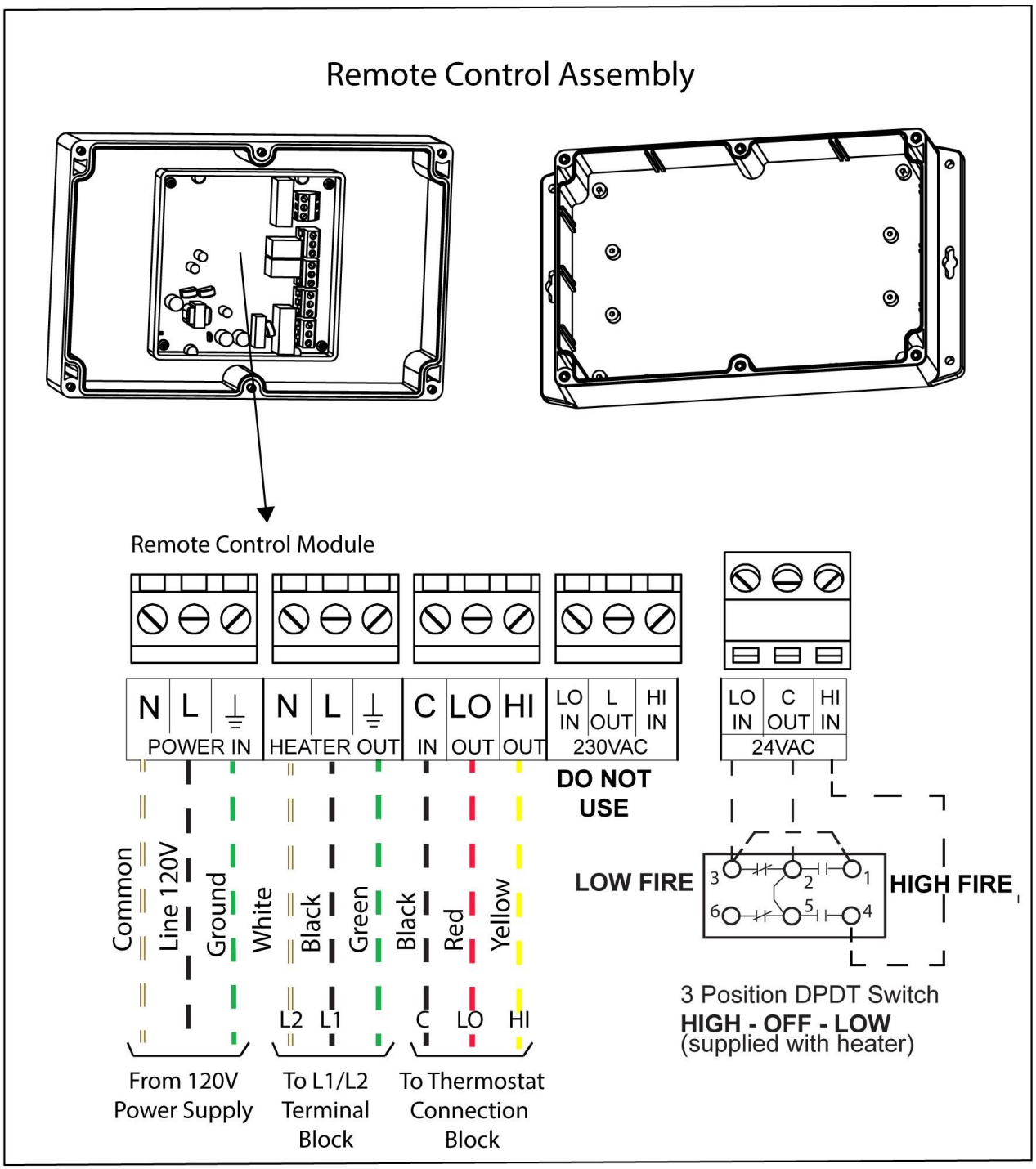
4. The power supply to the unit should be protected with a fused disconnect switch or circuit breaker. A service switch, as required by local codes, shall be located in the vicinity of the heater (check local codes for allowable distances) and should be identified as Heater Service Switch. All electrical wiring must be located in accordance with the required Clearances to Combustibles below the heater (See section 4 of the installation and operation manual supplied with the heater).

5. When connecting the supply circuit to the heater, wiring material having a minimum size of 14 AWG and a temperature rating of at least 90°C shall be used.

FIELD CONNECTION AND WIRING DIAGRAM – 2 STAGE 24V

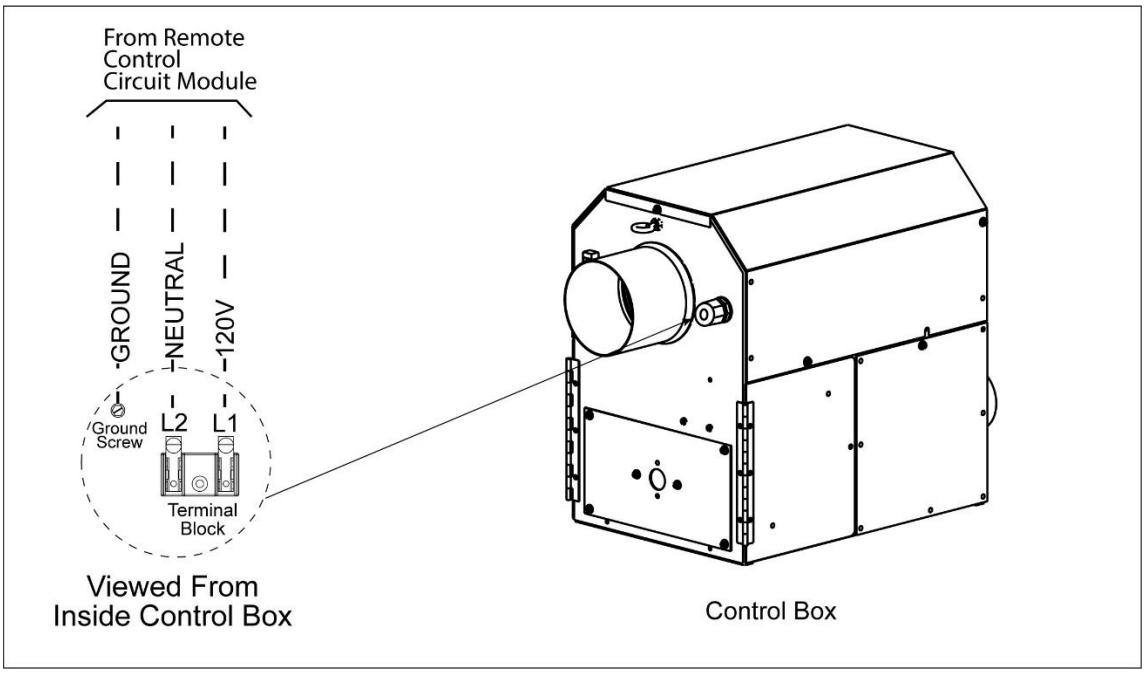
The Figure below shows the field wiring connections from the remote control module to the heater.

The 3-postion switch can be located in a separate area from the heater. Maximum control wire length for the 3-position switch is 200 ft (61m). Minimum wire gauge is 18 gauge (1.0 mm²)



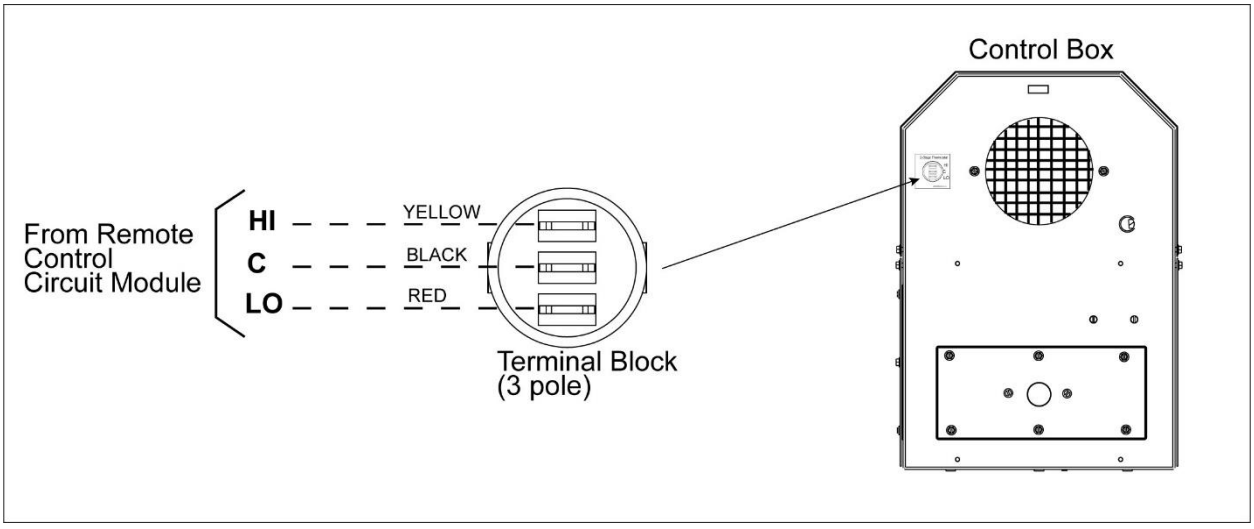
FIELD CONNECTIONS – INCOMING POWER SUPPLY

1. Remove the existing 120V power supply to the control box. Connect the incoming 120V power supply from the remote control circuit module to the terminal block located inside the control box as shown below.



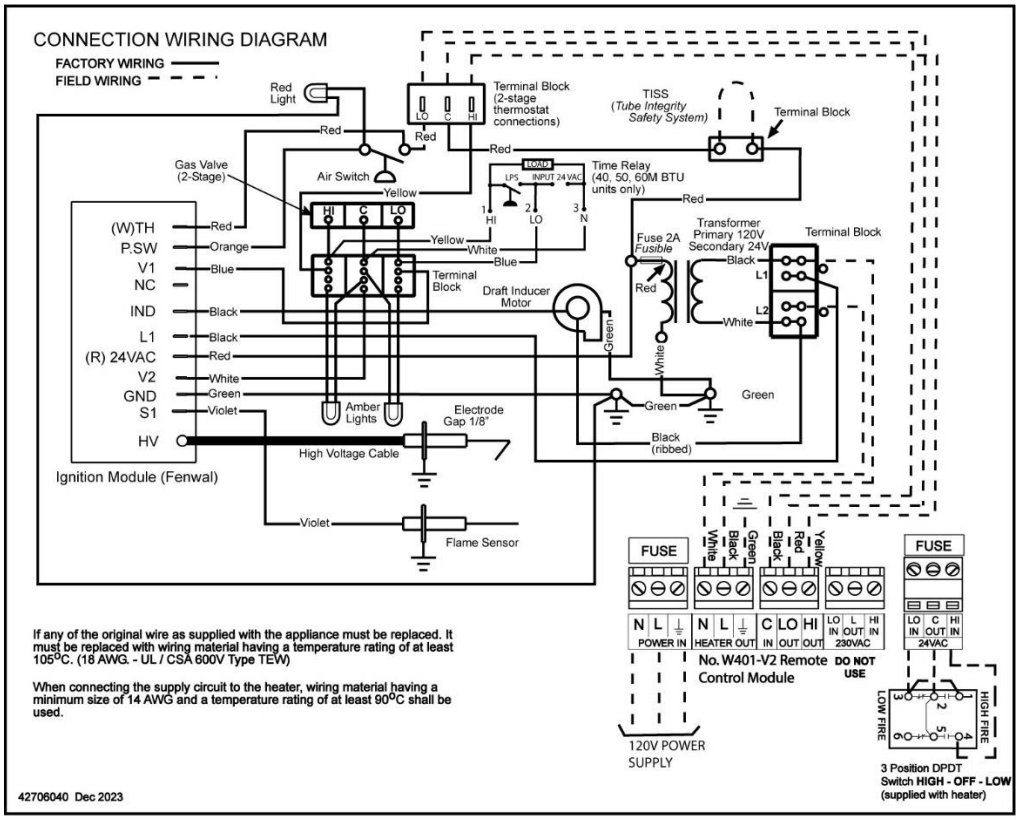
FIELD CONNECTIONS – HI/C/LO CONTROL CIRCUIT

1. Connect the incoming HI/C/LO from the remote control circuit module to the 3 pole terminal block located on the front of the control box as shown.



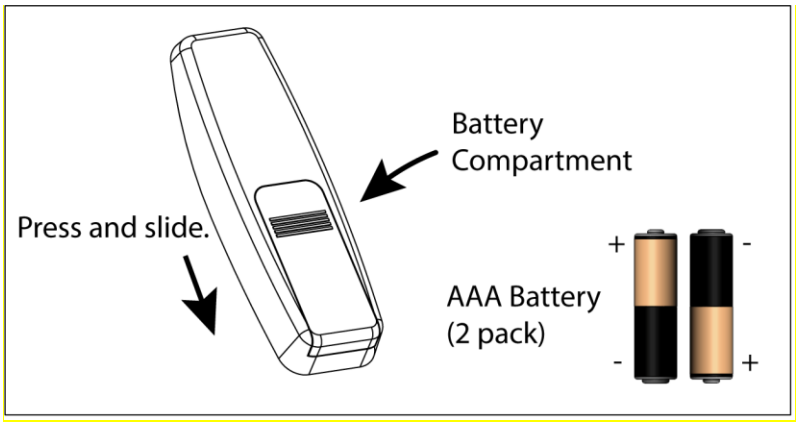
INTERNAL CONNECTION WIRING DIAGRAM

1. Refer to the internal connection diagram below for all wiring connections.



LOADING THE BATTERIES TO THE REMOTE

1. Remove the battery compartment cover by pressing down and sliding away from the remote.
2. Load both batteries (supplied) with the positive (+) and negative (-) side of the batteries matching the inside of the remote compartment.
3. Replace the cover.



HEATER OPERATION

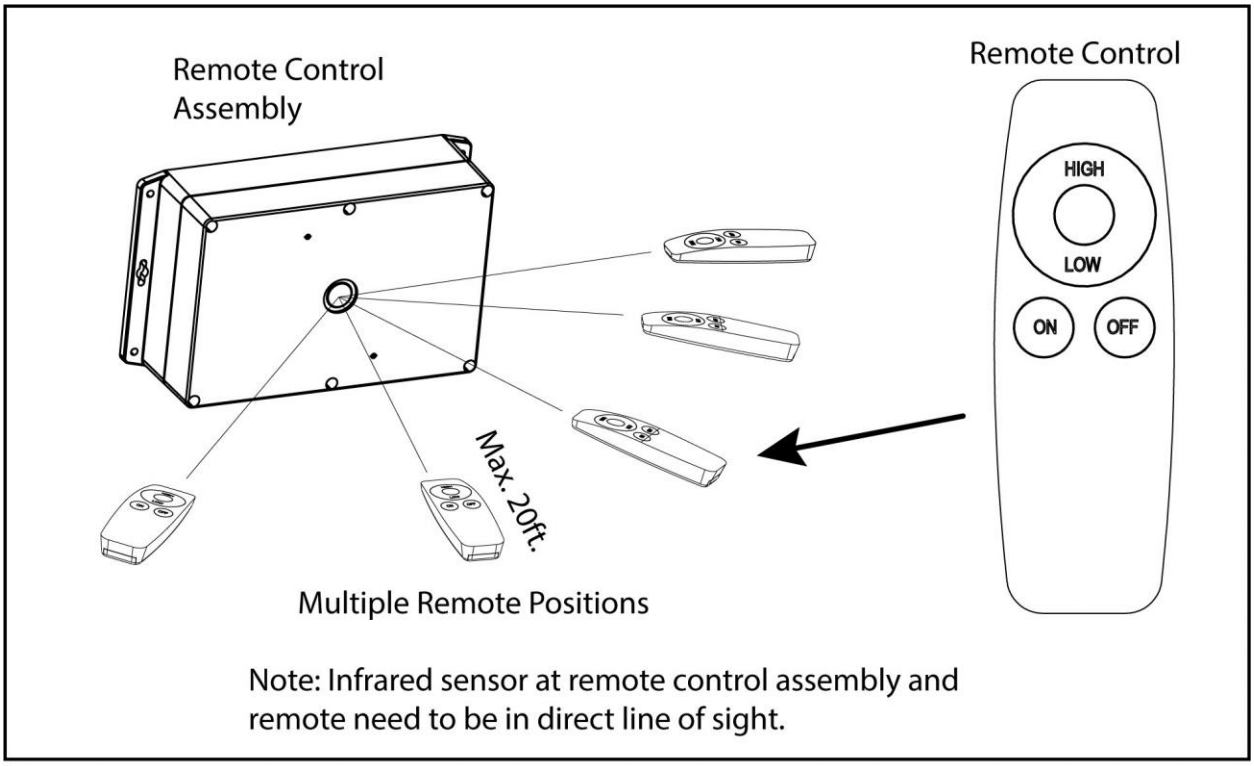
The 3-position switch is intended as a back up to the remote control. The operation of the switch is dominant over the remote control. The remote will only operate the heater when the 3-position switch is in the OFF (center) position.

Multiple heaters can be controlled individually with the same remote.

An LED with various blinking sequences can be seen on the bottom lid of the remote control assembly. The blinking sequence as indicated below shows if the heater is in standby, operated via remote or operated via the 3-position switch.

<u>To operate the heater with the remote control.</u>

1. Make sure the 3-position switch is in the OFF (center) position.
2. Aim the remote toward the remote control assembly lid as shown and press **ON**. Note: The maximum distance to operate the remote away from the heater should be approximately 20 ft. Longer distances might not give a good signal to operate the heater.
3. Pressing **LOW** will enable the heater to run on the lowest heat output (Low Fire).
4. Pressing **HIGH** will enable the heater to run on the highest heat output (High Fire).
5. Pressing **OFF** will turn the heater off.



Using the 3-position switch:

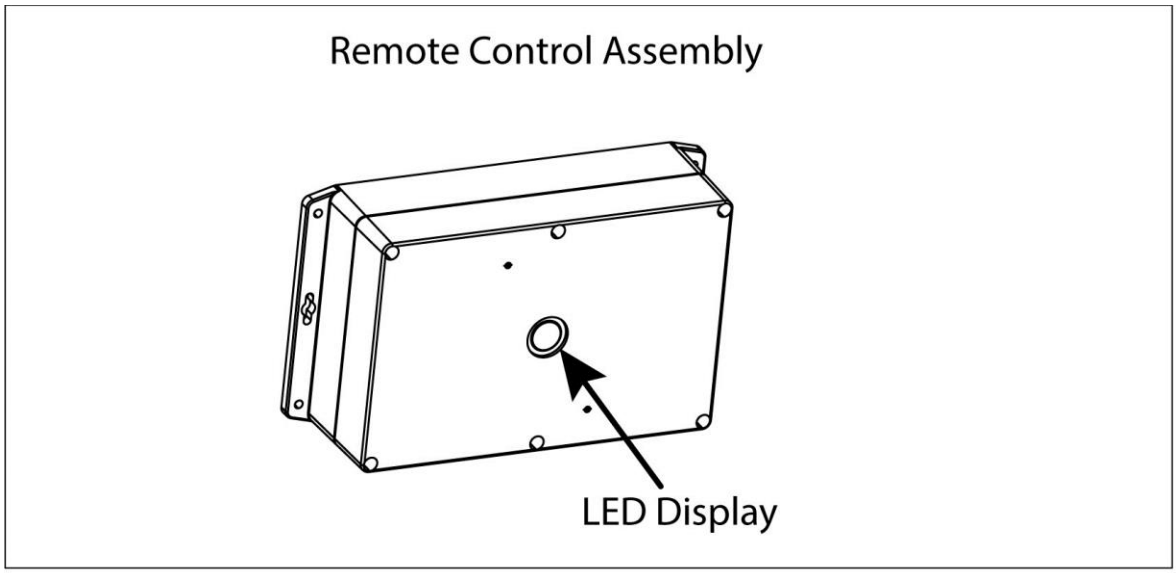
Note: the remote will not operate the heater when the switch is in the high or low fire position.

1. Pushing the switch into the **LOW** will start the heater in Low fire.
2. Pushing the switch into the **HIGH** position will start the heater in High fire.
3. Pushing the switch into the OFF position will turn the heater **OFF**.

LED blinking sequence:

The LED is clearly visible on the bottom lid of the remote control assembly. The blinking sequence below identifies the operating mode of the heater.

		LED blinking sequence		
Functions	Operation	On time (secs)	Off time (secs)	Repetition
Stand By mode	Heater OFF	0.1	60	Continuous
Using Remote	Heater low Fire	5	5	Continuous
Using remote	Heater High Fire	1	5	Continuous
Using Switch	Heater low Fire	1	1	Continuous
Using Switch	Heater High Fire	5	1	Continuous
Internal board fault	Heater OFF	constant	N/A	N/A

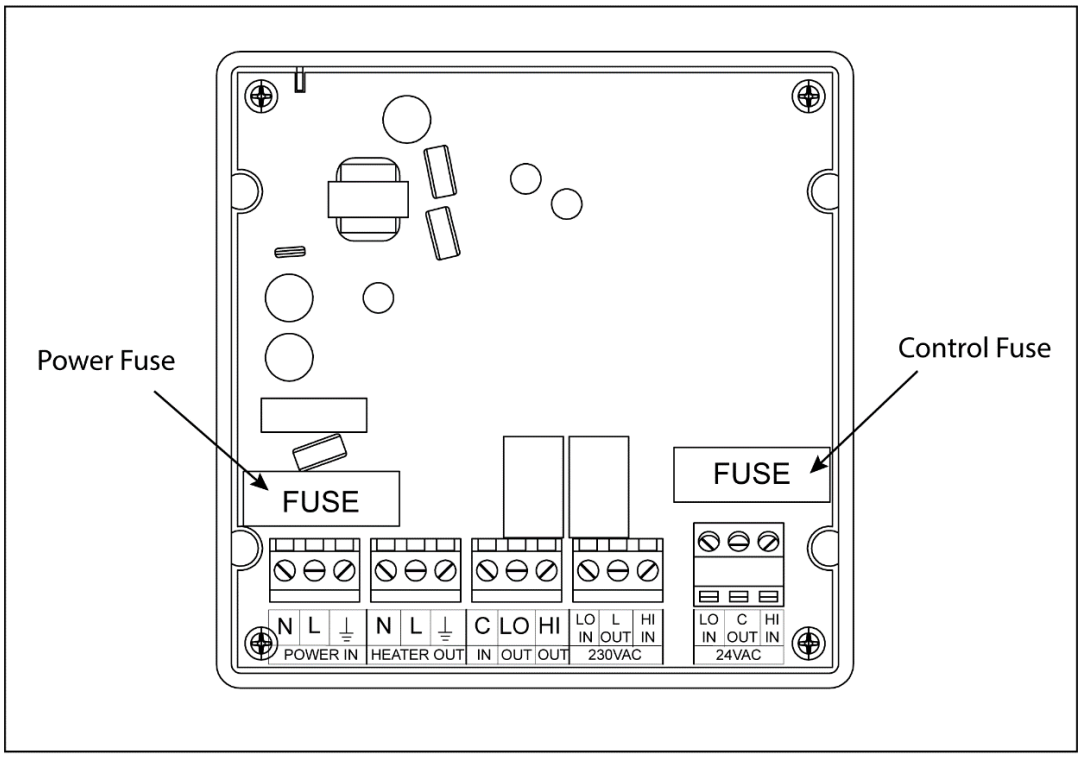


REPLACING PARTS

The remote control is not serviceable. If the remote does not operate the heater the batteries may be empty and need to be replaced with P/N 30809950 AAA BATTERY 2-PACK.

The 3-position is not serviceable. Review wire connections for proper continuity if needed.

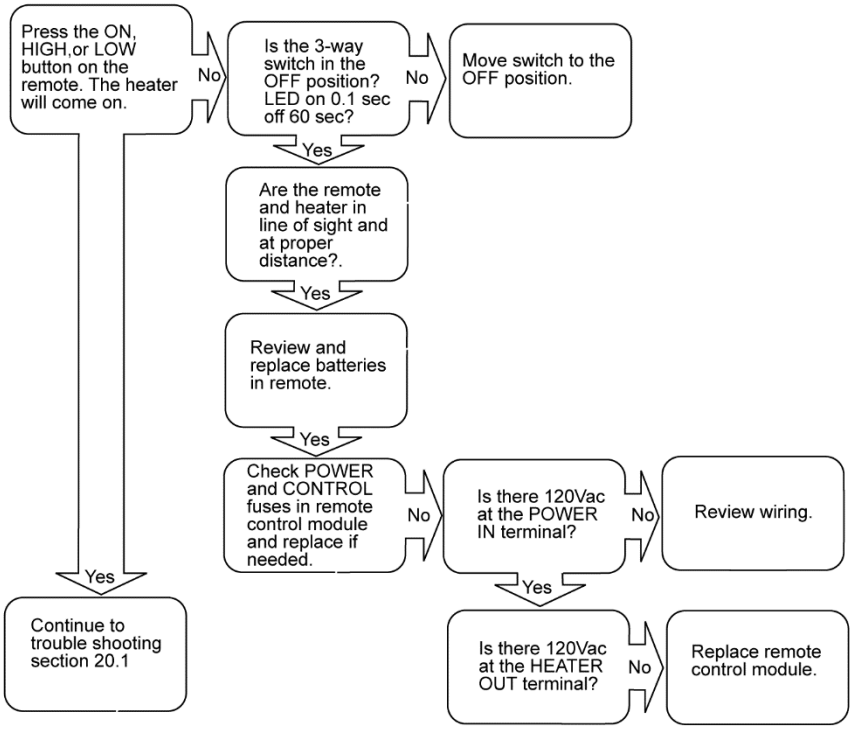
The remote control module is not serviceable. If the heater does not operate the fuse may have blown. Remove fuses, check for continuity and replace with P/N 30202060 FUSE,1 AMP 250V, 125V if open circuit.



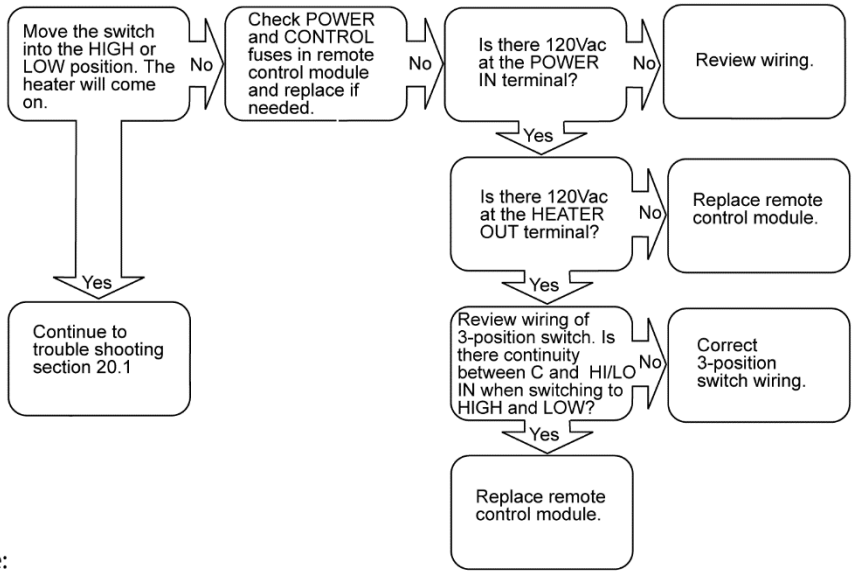
TROUBLE SHOOT

Turn on line voltage to heater.

Using remote:



Using 3-way position switch:



Note:

a) When the heater is switched on in the LOW fire mode the heater is forced into high fire for 2 minutes to allow the heater to warm up.

b) Heater turns off after 2 minute operation, heater LOW fire LED blinking sequence can be seen (activated via remote or 3-position switch). Reverse center terminal LO OUT and HI OUT wires.