



R8184M Protectorelay Oil Burner Control

INSTALLATION INSTRUCTIONS

APPLICATION

The R8184M Protectorelay control provides automatic, nonrecycling control of combination oil burner heating and cooling systems when used with a C554A Cadmium Sulfide (cad cell) Flame Detector and low voltage thermostat. It includes a 40 VA transformer to power a cooling contactor and fan relay during the cooling operation.

Electrical Ratings:

Load Relay Contact Ratings:

Full Load: 7.4A

Locked Rotor: 44.4A

Transformer:

Primary Voltage: 120V, 60 Hz.

Secondary Voltage: 26.5V, 60 Hz.

Ignition Rating: 360 VA in addition to the load relay contact rating.

Power Consumption:

Start: 9.0A

Running: 5.5A

INSTALLATION

When Installing This Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in these instructions and on the product to ensure the product is suitable for your application.
3. Ensure the installer is a trained, experienced service technician.
4. After completing installation, use these instructions to check product operation.

Choose Location

- Mount the R8184M on a 4 x 4 inch junction box, directly on the burner housing, or inside the appliance cabinet.
- In replacement applications, mount the R8184M in the same location as the old control.
- Make all line voltage connections in a wiring enclosure such as a junction box or the appliance wiring compartment.
- Ensure operating temperatures at the selected location are between -40° F and 130° F [-40° C and 54° C].

Make Wiring Connections and Mount R8184M

1. Ensure all wiring complies with local codes and ordinances.
2. Make line voltage connections as shown in Fig. 1.
 - Splice leads with solderless connectors.
 - Do not exceed load ratings shown on device label.
 - Leave enough slack in the wires to permit easy access into the junction box.
3. Mount the R8184M to the junction box. Refer to Fig. 2.
4. Connect the C554A Cadmium Sulfide Cell (ordered separately) leadwires to the F-F terminals on the terminal strip.
5. Connect all remaining low voltage wiring connections as shown in Fig. 1.

NOTE: Y and G terminals are provided to simplify connections of cooling equipment; they are not connected to the internal circuitry of the R8184M.



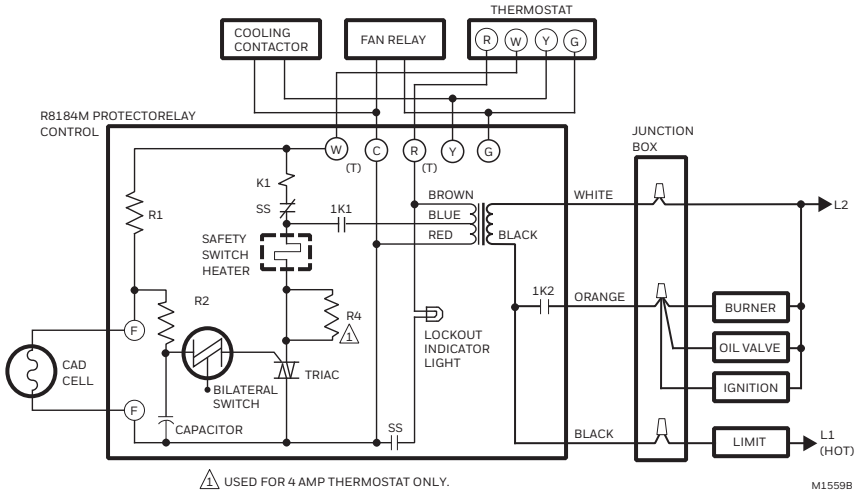


Fig. 1. Wiring diagram of R8184M.

CHECKOUT

Start System

⚠ WARNING

Fire or Explosion Hazard
Can cause property damage, severe injury, or death.

Ensure the combustion chamber is free of oil or oil vapor before starting the system.

1. Open the hand valve in the oil supply line.
2. Ensure the system is powered. Check the circuit breaker or fuse and close the system switch, if provided.
3. Push in and release the red reset button.

NOTE: If the safety switch has just locked out, the safety switch may need a minute to cool down before it can be reset.

4. Set thermostat to call for heat.
5. Oil burner should light and operate until the call for heat ends.

Check Safety Features

Simulate flame failure:

1. Follow the starting procedure to turn on the main burner.
2. Close the hand valve in the oil supply line.
3. Safety switch should lock out in approximately 45 seconds. The indicator light should light. Ignition and motor should stop and oil valve should close.
4. Restart system.

Simulate ignition failure:

1. Follow the starting procedure to turn on the burner, but do not open the oil supply hand valve.
2. The safety switch should lock out in approximately 45 seconds. Indicator light should light. Ignition and motor should stop and oil valve should close.
3. Restart system.

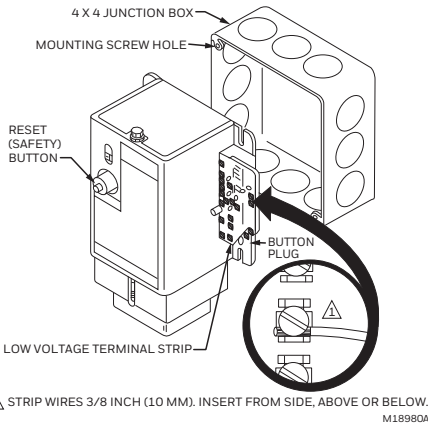


Fig. 2. Mount the R8184M after making line voltage connections.

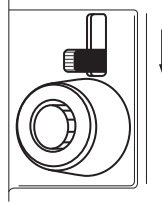
Simulate power failure:

1. Turn on the main burner.
2. Disconnect the power supply. Main burner will shut off.
3. Reconnect the power supply. Main burner will turn on.

Using the safety switch manual trip lever:

To trip the safety switch, move the trip lever down until the red reset button pops out and the indicator light comes on. The main burner will not operate until the safety switch is reset by pushing in the red reset button. Refer to Fig. 3.

PUSH LEVER DOWN TO TRIP SAFETY SWITCH



WHEN SAFETY SWITCH TRIPS
- RESET BUTTON POPS OUT
- INDICATOR LIGHT COMES ON

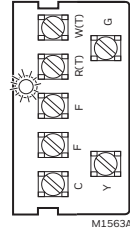
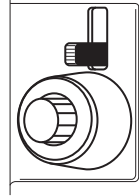


Fig. 3. Tripping the safety switch.

SERVICE

The R8184M is set at the factory and requires no adjustment or periodic maintenance. The R8184M contains no field-serviceable parts. Do not disassemble the R8184M. Replace the entire control if operation is not as described.



Resideo Technologies, Inc.
1985 Douglas Drive North, Golden Valley, MN 55422
1-800-468-1502

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