

INTERMITTENT IGNITION OIL PRIMARY CONTROL

APPLICATION INSTRUCTIONS

APPLICATION

- The Intermittent Ignition Oil Primary Control operates the oil burner, oil valve (if required) and the ignition transformer in response to a call for heat from the thermostat.
- The uses the C554A Cadmium Sulfide (cad cell) Flame Detector to monitor the burner flame and will shut down the system on ignition failure or flame failure during the run cycle.
- A status indicator led is on the control board to indicate the function of the control and aid in testing and troubleshooting.
- A manual reset button is provided to reset the safety switch after lockout. Press the red reset button for 3 seconds, then release it.
- The button press is activated when it is released. This is a safety feature so the button can not be permanently held in.
- To manually lockout system, press and hold the **reset button** when the status LED is off.
- There is a slight delay before the heat call is implemented. This is to verify the call is valid.

INSTALLATION



WARNING



- Please read these instructions carefully.
- Failure to follow instructions can damage the product or cause a hazardous condition.
- Check ratings given in the instructions and on the product to make sure the product is suitable for your application.
- Make sure the installer is a trained, experienced service technician.
- After installing the control, thoroughly test it and verify it is operating correctly.



CAUTION



- Disconnect the power supply before beginning installation to prevent electrical shock, equipment damage or death.
- Be sure the combustion chamber is free of oil or oil vapor before starting the system.

LOCATION

1. Mount on a 4x4 junction box, directly on the main burner housing or inside the appliance cabinet.
2. Be sure that operating temperatures are between -40°F and +130°F (40°C and +54°C).

MOUNTING

1. If necessary, use the control as a template to mark and drill new mounting holes before wiring control.
2. After wiring is completed, mount the control using no. 8 screws (not supplied).

LINE VOLTAGE WIRING CONNECTIONS

Wiring must comply with all local/national codes and ordinances.

IMPORTANT

Do not exceed the load ratings listed on the control.

1. Be sure all the voltage connections are in a wiring enclosure such as a junction box or the appliance wiring compartment.
2. Make the line voltage connections as shown in Fig. 1.
3. Splice the leads with solderless connectors.
4. Feed the low voltage cad cell leads through the hole below the low voltage terminal strip.

LOW VOLTAGE WIRING CONNECTIONS

- After mounting control, make low voltage connections to screw terminals by connecting the cad cell leads to the F-F terminals and thermostat leads to the T-T terminals.

STARTING SYSTEM



CAUTION



Fire or explosion hazard can cause death or property damage

- Be sure the combustion chamber is free of oil or oil vapor before starting the system.
1. Make sure the system is powered. Check the circuit breaker or fuse and close the system switch, if provided.
 2. Open the shut off valve in the oil supply line.
 3. Set thermostat to call for heat.
 4. Push in (for 3 seconds) the red reset button and release it.
 5. Burner should light and operate until a call for heat ends.

CHECKING SAFETY FEATURES

SIMULATE FLAME FAILURE:

1. Follow the starting procedure above to turn on the burner.
2. Close the shut off valve in the oil supply line.
3. Safety switch should lock out in safety switch timing indicated on the label. Ignition and motor should stop and oil valve should close.

NOTE: To restart system, open oil shut off valve and push red reset button (for 3 seconds) and release it.

SIMULATE IGNITION FAILURE:

1. Follow the starting procedure to turn on the burner, but do not open the oil supply shut off valve.
2. Safety switch should lock out in safety switch timing indicated on the label. Ignition and motor should stop and oil valve should close.

NOTE: To reset system, open oil shut off valve and push the red reset button (for 3 seconds) and release it.

SIMULATE POWER FAILURE:

1. Follow the starting procedure to turn on the burner.
2. With the burner running, turn off the power to the system by tripping the circuit breaker or removing the fuse.
3. Burner should stop.
4. Restore power. Burner should start.

TROUBLESHOOTING AND MAINTENANCE

IMPORTANT

1. Only a trained, experienced service technician should perform the troubleshooting procedure.
2. Replace the control if operation is not as described in the safety features checking section.

STATUS LED INDICATOR CONDITIONS

Led OFF – No power to control, no call at T-T, or normal operation

Led ON solid – CAD cell indicates no flame or in Lockout condition

INITIAL CHECKS

1. Check the wiring connections and power supply. Verify power is on to the control, burner motor and ignition transformer.
2. Verify the limit control is closed.

CHECK OIL PRIMARY RELAY

NOTE: To perform the following tests, you will need an insulated jumper wire with both ends stripped.

1. Disconnect cad cell leads from F-F terminals.
2. Set the thermostat to call for heat and reset the safety switch. Burner should start.
3. Within the safety switch timing period, use insulated wire to jumper F-F terminals. Burner should continue to run.
4. After the safety switch timing period elapses, remove the jumper. Burner should shut down.
5. If the operation is not as described, replace the oil primary control.

CHECK CAD CELL

1. Disconnect the power at the system switch, circuit breaker, or fuse. Verify the power is off using a voltmeter.
2. Disconnect cad cell leads from F-F terminals.
3. Clean the cell face with a soft cloth.
4. Make sure the cell is seated securely in the socket. Do not to disturb the position of the cad cell.
5. Reconnect the cad cell leads to F-F terminals.
6. Turn on the power and set the thermostat to call for heat, then press the red safety switch (3 seconds) and release it.
7. If burner does not operate or if safety switch trips, replace the cad cell with a C554A flame sensor.

FIGURE 1

- ① For line voltage thermostats, jumper T-T terminals and install line voltage thermostat in series with Limit.
- ② Provide disconnect and overload protection in accordance with local and national codes.

