False Flame Messages
on Fireye E110 or YB110 flame monitors

Fireye flame monitors are used on CEI hot oil heaters to provide proper burner sequencing, ignition, and flame monitoring protection. Depending on the age or specified options of your heater, the flame monitor will be either a model E110 (Figure 1) or YB110 (Figure 2).

A False Flame message displayed on the flame monitor indicates that the flame scanner is detecting a source of light at an unexpected time. This can indicate that a flame is present outside of the PTFI or MTFI sequence (during burner off time).

Section 1 Possible Causes

• **Light is shining into firing chamber through sight glass** (Fig. 5 & 6). Cover sight glass and see if issue persists.

• **For oil-fired burners:** Issue could be caused by glowing embers around burner head. Clean unit as needed.

• **For gas-fired burners:** Gas solenoid valve (Figure 3) not closing completely. Replace solenoid valve.

• **Check flame scanner:** Flame scanner (Figure 4) may be emitting spark or light causing issue.

• **Amplifier Card:** Replace amplifier card after verifying items above are not the issue. Flame monitor may also register flame strength even with no flame present. If this happens, replace amplifier card and / or chassis.

**NOTE:** On YB110 Fireye unit, amplifier card is built into chassis. (When changing out YB110 unit be sure to swap YP138 programmer card into new chassis unit).

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**SHOCK HAZARD.** High voltage is present on certain terminals and wires inside the main control panel, inside the mod motor and inside the burner panel. Touching them will cause death or serious injury. Do not work on these components unless you are a qualified technician familiar with the hazards of electricity. Some circuits in the main control panel may receive power from remote sources. Thus, the breaker operator on the door may not deenergize all exposed live parts. Always use a voltage tester to make sure there is no voltage on the terminals or bare wires you may touch.

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**Figure 1.** E110/EB700 Chassis. Part # 0106126.
**Figure 2.** YB110 Chassis. Part # 0106259.
**Figure 3.** Gas Solenoid Valve. Part # 1305008-PF.
**Figure 4.** Flame Scanner. Part # 0106130.

**Service Scenario:** Customer received false flame message as soon as heater was started. Customer replaced amplifier card and scanner to resolve issue.
Section 2 **Items to Note:**

1. What time of day issue is happening?

2. Look through sight glass. Is there a glow or flame at inappropriate time?

3. Remove Scanner. Is unit emitting light?

4. Remove Fireye Chassis and clean connections on chassis and wiring base with pencil eraser. Spring “teeth” gently to ensure good connection with terminals on wiring base. Remove cards and blow out chassis to remove dust. Re-install all components and restart unit.

**Figure 5.** Sight glass on jacketed firebox heater.

**Figure 6.** Sight glass on helical coil heater.

<table>
<thead>
<tr>
<th>CEI Replacement Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fireye E110 / EB700 Chassis</td>
</tr>
<tr>
<td>Amplifier Card</td>
</tr>
<tr>
<td>Fireye YB110 Chassis</td>
</tr>
<tr>
<td>Gas Solenoid Valve</td>
</tr>
<tr>
<td>Flame Scanner</td>
</tr>
</tbody>
</table>