The 48PT1 lead sulfide infrared scanner contains a high impedance detector and is designed to be used only on P-Series controls.

48PT2
The 48PT2 lead sulfide infrared scanner contains a low impedance detector and is designed to detect low flicker frequency IR signals from gas and oil flames. It is designed for use on DSeries, Flame-Monitor, FlameWorx and MicroM controls.

69ND1
The 69ND1 flame rod is made of high temperature resistant metal and can be used only to detect gas flames. The rods come in 12, 18 and 24 inch lengths.

CAUTION: Fireye scanners are for use only with Fireye controls. Do not connect Fireye scanners with controls not manufactured by FIREYE.

CAUTION: If component checking is required during burner operation for constantly fired burners, utilize the infrared flame scanner (48PT2) with associated AutoCheck amplifier. For Flame-Monitor systems use the E1R1, E1R3 or E1R2 and for MicroM systems use the MEIR1 or MEIR4.
For information on the 45 UV scanners, see Bulletin SC-101.
For information on the 55 UV scanners, see Bulletin SC-106.
For information on the UV1A, UV2, and UV8A scanners, see Bulletin SC-102.
SCANNER MAINTENANCE

48PT1 and 48PT2 Infrared Scanners and 69ND1 Flame Rods

The viewing area of the scanner must be kept clean. Even a small amount of contamination will reduce the flame signal reaching the detector by a measurable amount. Wipe the viewing area routinely using a soft cloth dampened with concentrated detergent.

Type 48PT1 scanner includes a replaceable #4-128-1 cell
Type 48PT2 scanner includes a replaceable #4-263-1 Firetron cell.
Type 69ND1 Flame Rod. Rods should be routinely replaced as they oxidize.

Flame Signal Strength. Routine observation of the flame signal strength or as read on the display of the FLAME-MONITOR will forewarn of any deterioration in the capability of the flame detector or its application.

Periodic Safety Check. It is recommended that a procedure be established to test, at least once a month, the complete flame safeguard system. This test should verify the proper operation of all limit switches and safety interlocks as well as flame failure protection and fuel safety shutoff valve tightness.

Rotation. It is recommended that control and scanner units purchased as spares be installed periodically.

Contacts. There are no accessible contacts in the Fireye burner programming controls. Where contacts are used, their design assures long trouble-free life when the load circuits are maintained within the published load ratings.

Humidity. In areas of high humidity, the control chassis should be removed and placed in a dry atmosphere when the system is expected to be out of service for an extended period.

For scanner installation and wiring instructions, see the appropriate FIREYE technical bulletin for each control.

<table>
<thead>
<tr>
<th>CONTROL</th>
<th>BULLETIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLAME-MONITOR</td>
<td>E-1101</td>
</tr>
<tr>
<td>D-Series</td>
<td>D-1020, D-30, D-4041</td>
</tr>
<tr>
<td>M-Series</td>
<td>C-4000</td>
</tr>
<tr>
<td>MB-Systems</td>
<td>CC-82</td>
</tr>
<tr>
<td>MicroM</td>
<td>MC-5000</td>
</tr>
</tbody>
</table>

WARNING: FIREYE SCANNERS CAN BE USED ONLY WITH THE APPROPRIATE FIREYE CONTROL. DO NOT CONNECT FIREYE SCANNERS TO CONTROLS NOT MANUFACTURED BY FIREYE.
Minimum Pilot Test

This test assures that the flame detector will not detect a pilot flame too small to reliably light off the main flame. The test should be made on every new installation, and following any repositioning of the flame detector. **THE MINIMUM PILOT TEST MUST BE ACCOMPLISHED BY A TRAINED AND QUALIFIED BURNER TECHNICIAN.**

![Diagram of pilot flame test]

**SPARK REJECTION TEST. CAUTION:** The scanner must not sight the ignition spark directly or any part of the burner that can reflect the spark back to the scanner. The scanner must not see a pilot flame that is too small to reliably ignite the main flame. Test procedures vary according to the control used. See procedures as described in the technical bulletin for the control being installed.

**NOTICE**

When Fireye products are combined with equipment manufactured by others and/or integrated into systems designed or manufactured by others, the Fireye warranty, as stated in its General Terms and Conditions of Sale, pertains only to the Fireye products and not to any other equipment or to the combined system or its overall performance.

**WARRANTIES**

FIREYE guarantees for one year from the date of installation or 18 months from date of manufacture of its products to replace, or, at its option, to repair any product or part thereof (except lamps, electronic tubes and photocells) which is found defective in material or workmanship or which otherwise fails to conform to the description of the product on the face of its sales order. **THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES AND FIREYE MAKES NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.** Except as specifically stated in these general terms and conditions of sale, remedies with respect to any product or part number manufactured or sold by Fireye shall be limited exclusively to the right to replacement or repair as above provided. In no event shall Fireye be liable for consequential or special damages of any nature that may arise in connection with such product or part.