

APPLICATION

The C9506M responds to ultraviolet (UV) radiation wavelengths between 1850 and 2650 angstroms, which is emitted by gaseous and liquid fuel flames. It is designed for use with the R9006 Flame Controller in industrial and utility boilers and furnaces. Together, they monitor a flame and provide relay switching within four seconds of flame loss.

DESCRIPTION

The C9506M Flame Scanner consists of a UV detector encased in a stainless steel housing that is designed to mount directly onto a 1.0 inch NPT sight pipe. Eight foot non-shielded electrical conductors exit from the rear of the housing. Using a 1.25 inch to 0.5 inch reducer, the C9506M can be connected to electrical conduit.

SPECIFICATIONS

ELECTRICAL—

8 foot (2.5 meter) non-shielded conductors, insulation rated 600 volts ac at 257°F (125°C) dry. Maximum distance from detector to controller is 500 feet (150 meters).

MECHANICAL—

Mounting connector diameter is 1.0 inch (for mounting on 1.0 inch NPT sight pipe).

Wiring connector is 1.25 inches (for connection to reducer and then conduit).

TEMPERATURE—

Operating: -4°F to +257°F (-20°C to +125°C).
Storage: -50°F to +140°F (-46°C to +60°C).

HUMIDITY—

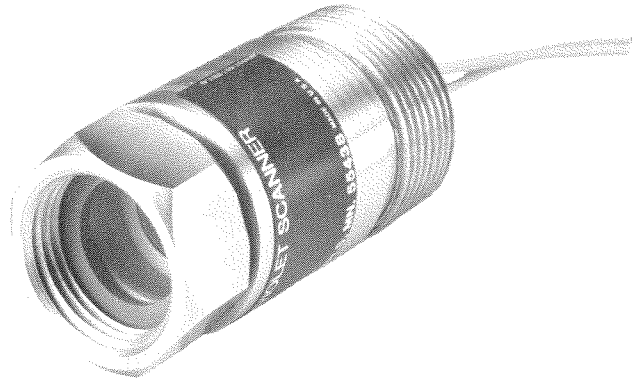
5 to 95% relative (non-condensing).

DIMENSIONS—

See Figure 1.

SHIPPING WEIGHT—

7 ounces (0.2 kilogram).



INSTALLATION

FLAME SCANNER MOUNTING

1. Choose a sighting location where the scanner will have an unobstructed view of the flame under all firing conditions. Greatest ultraviolet radiation is produced near the base of the flame in the area immediately ahead of the burner. A scanner monitoring a pilot flame must sight at a point where pilot and main flames intersect to ensure that a detectable pilot flame will reliably ignite the main flame.

In multiple burner furnaces, choose a sighting angle with the best possible view of the flame to be monitored and the poorest possible view of other flames in the furnace. The sight pipe should be inclined slightly downward toward the bottom of the furnace so that unburned particles or condensed moisture will not fall or drain into the sensor assembly.

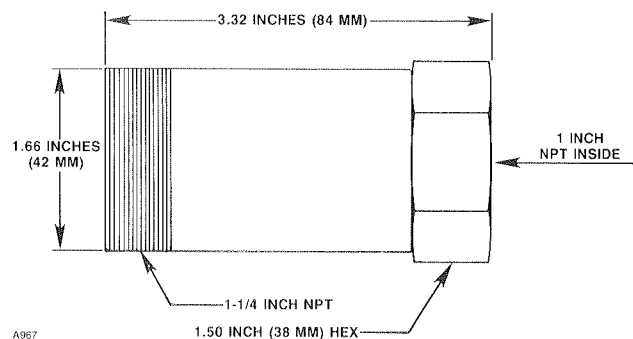


Figure 1—C9506 Dimensions in Inches (Millimeters)

2. Prepare holes in the burner front and windbox to clear the sight pipe at the angle of approach selected. Select a length of 1-inch standard pipe (with NPT thread on one end) no longer than is necessary to place the scanner in an unobstructed and accessible area.
3. Place a reducer tee fitting and close nipple at the end of the sight pipe (refer to Figure 2). Attach the purge air source to the tee. The purge air supply must be oil-free and dry. The air pressure should be slightly greater than furnace pressure to keep debris out of the sight pipe and away from the sensor tube surface. Special precautions should be taken in pressurized furnace applications. Consult the factory for further assistance.
4. Verify the proper location by viewing through the sight pipe.
5. Thread the sensor assembly onto the close nipple until tight.
6. Tack weld the sight pipe to the burner front at the selected location and angle. Due to head expansion, it is recommended that the sight pipe is not fixed at the burner wall.
7. In many instances, it is convenient to attach the sight pipe to a swivel mount (part number Q2625) that, in turn, is attached to the sight pipe mounting surface. This mount allows angular adjustment within a cone of approximately 40 degrees.

8. Electrical connections are made on the threaded end of the scanner housing. This threaded end is 1.25 inches NPT. The use of a 1.25 inch to 0.5 inch reducer is recommended so that 0.5 inch flexible metal conduit can be used. Terminate the electrical connections at a junction box and splice the leadwires to conductors extending to the controller. For a water-tight connection, use an appropriate fitting and a liquid-tight conduit arranged to angle downward from the scanner. For any wiring runs on or near hot surfaces, use wire rated for the higher temperatures.

ORDERING INFORMATION

When ordering, specify: C9506M Ultraviolet Flame Scanner.

For assistance in ordering a system to fit your application, please contact:

Detector Electronics Corporation
 6901 West 110th Street
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 Telephone: (612) 941-5665
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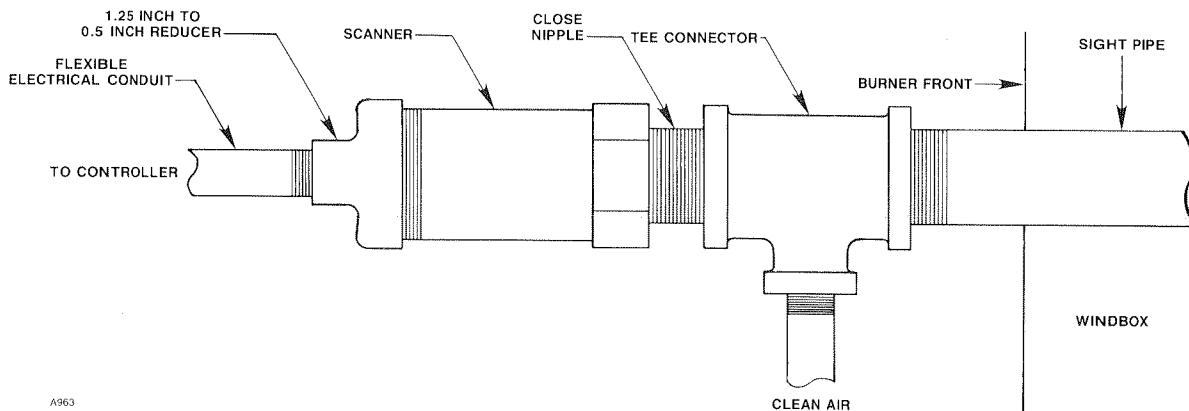


Figure 2—Scanner Mounting

Detector Electronics Corporation

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