Model 3300 Series
UV/IR Flame Detectors

The Model 3300 UV/IR Flame Detector is designed for use in indoor applications that do not have a hazardous area classification such as commercial applications like warehouse, exhibition hall or office spaces. It is ideal for use in areas where short line of sight is a factor. Because of its compact size, it is also used for installation in certain production equipment.

The Model 3300 easily adapts to most standard fire extinguishing systems. It utilizes relay output for alarm and trouble and does not require special controllers or wiring / junction boxes. This Flame Detector meets or exceeds FM Specification Class Number 3260 (2002).

The Model 3300 Flame Detector uses proven, stable UV/IR technology to continuously monitor for flame in commercial applications. Using state-of-the-art microprocessor controlled fire algorithms, the Model 3300 can recognize different types of flame signatures while rejecting common false alarms. Continuous self-diagnostics perform tests of the detector operation. Each flame detector is tested to respond to a 1-square foot gasoline (heptane) pan fire at 40 feet within 5 seconds with a 120° field of view.

The standard Model 3300 has a sealed polypropylene housing designed to an IEC 529 IP67 rating for protection from a wide variety of acids and solvents.   The Flame Detector is rated over a wide operating temperature range for those applications that may experience elevated temperatures.
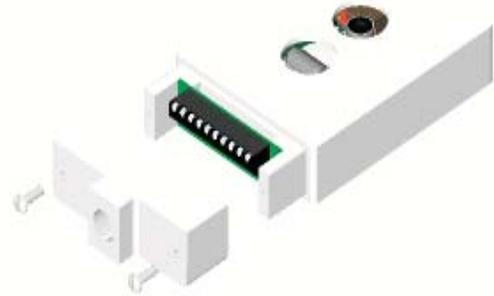
The unique sensors used in the Model 3300 provide a 120° field of vision. Due to the quartz lens used in this flame detector, its field of vision is not impaired. Each detector has both a fire relay and fault relay.

The surfaces are smooth, non-shedding and accessible for wipe-down. All surfaces are resistant to acids and solvents.
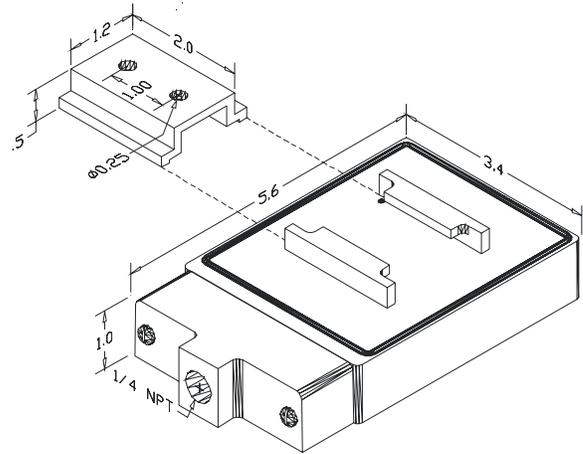
Model 3300 Dimensions

Field Of View
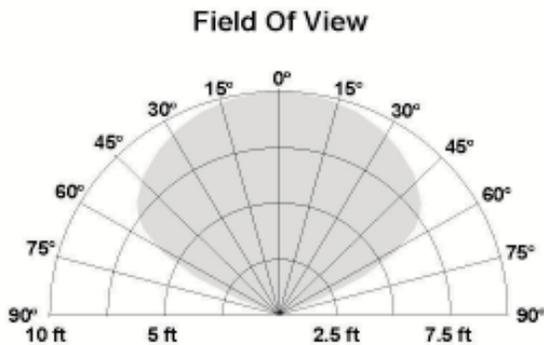
Detector Response to Various Fuels			
Fuels	**Distance**	**Fire Size**	**Response Time**
Polypropylene	8 ft.	4 in. dia.	Less than 3 sec.
Isopropyl Alcohol	10 ft.	4 in. dia.	Less than 3 sec.
Heptane	40 ft.	1 sq. ft.	Less than 3 sec.
MEK	15 ft.	4 in. dia.	Less than 3 sec.
Silane	30 ft.	18 in. jet	Less than 3 sec.
Hydrogen	15 ft.	18 in. jet	Less than 3 sec.

FM APPROVED

ISO 9001 REGISTERED QUALITY SYSTEM

Specifications

Sensitivity:	Typically responds within 5 seconds to a 1 square foot heptane pan fire (on-axis) at a distance of 45 feet
Field of View:	120° full cone (NFPA 72-1993, 5-4.2.1)
False Alarm Immunity:	Does not alarm to sunlight, fluorescent lights, incandescent lights, flashlights, or infrared heaters.
Input Voltage:	12 to 32 volts DC typically 24 VDC
Current Draw:	@24 VDC; 28 mA normal mode; 54 mA alarm mode
Operating Range Temperature:	Operating: 32° to 167°F (0° to 75° C) Storage: -40° to 185° F (-40° to 85° C)
Humidity:	10 to 90% RH
Red LEDs:	Two, indicating Normal Operation and Trouble or Alarm
Alarm Relay:	1.0 amp @ 30 VDC resistive
Trouble Relay:	1.0 amp @ 30 VDC resistive
UV Sensor:	Solar-blind Ultraviolet sensor - radiant energy in the 185 to 260 nm band
IR Sensor:	Solid state infrared sensor detecting IR energy in the .715 to 3.5 microns
Tested Fuels:	Gasoline (Heptane), Polypropylene, Isopropyl Alcohol, MEK, Hydrogen, and Silane

Acid/Solvent Resistant Surfaces:	Resistant to sulfuric acid, phosphoric acid, hydrofluoric acid, hydrochloric acid, ammonium hydroxide, nitric acid, isopropyl alcohol, deionized water, chromium phosphate, n-methyl-pyrrolidane, organic solvent base photoresist strips, ozone, etc.
Housing:	FR Polypropylene (IP67). Detector housing meets UL94 flamability rating V0. A mounting bracket makes it easy to mount the housing. A 45° adapter is also available.
Dimensions:	3.4 x 5.4 x 1.0 inches (7.9 x 10.2 x 2.5 cm)
Weight:	1 lb (0.5 Kg)
Approval:	All models are FM Approved

Additional Features

3300-02:	Incorporate internal self-test for UV and IR sensors and associated circuitry
3300-03:	Incorporate internal self-test and a RS-485 computer interface for downloading real time spectral data and pre-fire spectral data

Ordering Information

3300-01   Model 3300 UV/IR Flame Detector, Standard
3300-02   Model 3300 UV/IR Flame Detector, Self-test
3300-03   Model 3300 UV/IR Flame Detector, Enhanced

Options:
3240-01   Flame Detector Tester (for Model 3300 Flame Detector)

False Alarm and Fire Response				
"This table shows the detectors ability to tolerate both modulated and unmodulated false alarm stimuli and still to detect a fire in the presence of the false alarm source (all fire tests used a 1.75" diameter alcohol pan fire at 6 feet)				
False Alarms Source	Distance	Unmodulated	Modulated	Response Time to Fire
Resistive Electric Heater 1320 Watt	6 Feet	No Response	No Response	Less than 3 sec.
Fluorescent Lights (2) 40 Watt Bulbs	6 Feet	No Response	No Response	Less than 3 sec.
Halogen Light 500 Watt	10 Feet	No Response	No Response	Less than 3 sec.
Incandescent Light 100 Watt	6 Feet	No Response	No Response	Less than 3 sec.