

The IR3 Optical Detector is microcontroller based enabling adjustment of sensitivity and other features to a specific application. A serial communication port provides outputs for maintenance and diagnostics.

This detector is mainly designated for use in engine compartments of military vehicles and for fire detection outside the vehicle.



## Main Features

- 3 IR wavelengths
- Response time - less than 3 sec
- Sensitivity to slow growth fires
- High reliability
- Immunity to false alarm
- Automatic and manual Built-In Test (BIT)
- RS-485 Modbus compatible
- MTBF minimum 150,000 hours

## Detection Specifications

<b>Spectral Response</b>	3 IR wavelengths
<b>Response Time</b>	Max. 3 sec
<b>Detection Threshold</b>	At least one detection signal every 3 seconds when detector is aimed at the base of 5" (12.5 cm) gasoline pan fire at a distance of 31.5" (80 cm) from the center of the flame
<b>Field of View</b>	90° horizontal, 90° vertical
<b>Built-in-Test (BIT)</b>	Automatic and manual check of window cleanness, sensor and electrical circuitry
<b>Discrimination (Option)</b>	Disables detection signal when no fuel ignition/ explosion/fire occurs following penetration
<b>Temperature Range</b>	-40°F to 194°F (-40°C to 90°C)
<b>Humidity</b>	Up to 95%

## Electrical Specifications

<b>Power Supply</b>	Operating Voltage: 16-33 VDC		
<b>Power consumption</b>	Max. 15mA		
<b>Electrical Connection / Pinout</b>	Model No.	760102	
	Connector	MS3112E-10-6P	
	Power	A	Spare D
	Return	B	RS-485- E
	BIT *	C	RS-485+ F

\* **Output:** 2V (Normal Operation), 5V (Fire Signal), 0V (Fault)

**Electromagnetic Compatibility** EMI/RFI per MIL-STD-461E

## Mechanical Specifications

<b>Dimensions</b>	4.1" x 2.69" x 1.65" (104 x 68 x 42 mm)
<b>Weight</b>	0.55 lb (0.25 kg)
<b>Enclosure</b>	Aluminum, white epoxy enamel finish.
<b>Environmental Standards</b>	Meets MIL-STD-810F for High Temp, Low Temp, Humidity, Vibration, Shock, Waterproof, Dust, Salt & Fog

## Accessories

<b>Fire Simulator</b>	P/N 340200
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## False Alarm Susceptibility

The detector shall not provide a detection signal under any of the following conditions:

<b>Radiation Description</b>	<b>Immunity Distance (in.)</b>
Direct or reflected sunlight	IAD*
Incandescent frosted glass light, 100 W	IAD*
Incandescent clear glass light, rough service, 100 W	IAD*
Fluorescent light with white enamel reflector, 40W	IAD*
Ambient light extremes (darkness to bright light with snow, water, rain, desert glare and fog)	IAD*
Bright color clothing, including red and safety orange	IAD*
Electronic flash (180 watt-seconds minimum output)	IAD*
Movie light, 625W quartz DWY lamp (Sylvania S.G-55)	IAD*
Red vehicular dome light	IAD*
Blue-green vehicular dome light 24V of direct current (dc)	IAD*
Flashlight	IAD*
Electric Arc 15/32 in. Gap at 4000 VAC	1
Arc Welding 5/32 in. rod 100A	12
Radiation heater, 1500W	IAD*
Radiation heater, 1000W with fan	IAD*
Muzzle flash from M16 rifle, 3 round burst	2
Lit cigar	1
Lit cigarette	1

\*IAD – Immune Any Distance