

Amerex Defense

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Optical UV/IR Detector

for Crew Compartment Automatic Fire/Explosion Protection Systems

The Amerex Military Optical UV/IR Detector is the latest model being installed in military tactical and combat vehicles.

The Detector is microcontroller based enabling adjustment of sensitivity and other features to a specific application. The Detector includes continuous self-calibration to background radiation. A serial communication port provides outputs for maintenance and diagnostics.

Only simultaneous detection of radiation in the UV and IR ranges of the electro-magnetic spectrum (which are characteristic of fire) and above pre-set threshold will result in a detector output signal.

Other types of radiation sources, not identified as fires, will not be detected.



Main Features

- UV/IR Dual-Sensor
- · High Speed Response Less than 3 Milliseconds
- Sensitive to Slow Growth Fires
- · Immunity to False Alarm
- Discrimination (optional)

- Automatic and Manual Built-In Test (BIT)
- RS-485 Modbus Compatible
- High Reliability
- MTBF Minimum 100,000 Hours
- Tested for Demanding Military Use

Specifications

Mechanical Specifications		
HEIGHT (IN.)	3.35 (enclosure only)	
WIDTH (IN.)	4.25 (outside mounting tabs)	
DEPTH (IN.)	2.34	
WEIGHT (LB.)	1.2	
ENCLOSURE	ALUMINUM	
COATING	WHITE ENAMEL	
OPERATING TEMPERATURE	-60°F(-51°C) TO 160°F(71°C)	
ENVIRONMENTAL	TESTED TO MIL-STD-810G	

ACCESSORIES		
FIRE SIMULATOR	19444	

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TOP TOP TO THE CT US OPTICAL UV/IR Detector for Crew Compartment Automatic Fire/Explosion Protection Systems

Detection Specifications		
SPECTRAL RESPONSE	UV/IR	
RESPONSE TIME	MAX. 3 ms (when exposed to explosion)	
FIELD OF VIEW	90° CONICAL VIEW	
BUILT-IN-TEST	Automatically Checks Optical Cleanliness and Electrical Circuitry	
DISCRIMINATION (OPTIONAL)	Disables Detection Signal When No Fuel Ignition/Explosion/Fire Occurs Following Penetration	
DETECTION THRESHOLD	MIN one Detection Signal per 5 seconds when aimed at the base of a 5 inch gasoline pan fire placed 35 inches from the	
	center of flame.	
OUTPUT	Provides Detection Signal to Detector/Controller	
	Provides Fault Condition Signal to Detector/Controller	

Electrical Specifications		
POWER SUPPLY	Operating Voltage: 16-32 VDC	
POWER CONSUMPTION	MAX: 20mA	
CONNECTOR	Varies by Program Requirements	
ELECTRICAL INPUT PROTECTION	Tested Per MIL-STD-1275B	
ELECTROMAGNETIC COMPATIBILITY	Tested Per MIL-STD-461E	

Susceptibility

	False Alarm	
The Detector Shall Not Provide a Detec		
RADIATION DESCRIPTION	IMMUNITY DISTANCE (IN.)	
DIRECT OR REFLECTED SUNLIGHT	IAD*	
Incandescent Frosted Glass Light, 100W	1	
Incandescent Clear/Rough glass, 100W	2	
Fluorescent Light with White Enamel Reflector, 40W	IAD*	
Amient Light Extremes (darkness to bright light with snow/water/ rain/desert glare and fog)	IAD*	
Bright Colored Clothing (Red/Orange)	IAD*	
Electronic Flash (180 watt-seconds min)	IAD*	
Movie Light, 625W Quartz DWY Lamp (Sylvania S.G-55 or Equivalent)	24	

n Signal Under Any of the Following Conditions:		
RADIATION DESCRIPTION	IMMUNITY DISTANCE (IN.)	
Blue/Green Vehicle Dome Light	IAD*	
Flashlight	IAD*	
Electric Arc 15/32 in. Gap @ 4000 VAC	1	
Acetylene Welding 00 Tip 5/8 x 6 in. Flame	8	
Arc Welding 5/32 in. Rod, 100A	24	
Radiation Heater, 1500W	IAD*	
Radiation Heater, 1000W w/Fan	IAD*	
Muzzle Flash M16 3-Round Burst	2	
Lit Cigar	IAD*	
Lit Cigarette	IAD*	

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