DETECTORS INCORPORATED
safety · security · peace of mind

D383 3IR +UV (0.3 Sec)
D381 3IR +UV
Flame Detector

FLAME DETECTOR FOR COMMERCIAL & INDUSTRIAL APPLICATIONS

PRODUCT DESCRIPTION

The Detectors Inc. Models **D381** and **D383** (D38X Series) Multi-Spectrum 3IR+UV are a new generation of optical flame detectors designed for detecting both Hydrocarbon and Non-Hydrocarbon fires. The D38X detectors sense Ultraviolet radiation in the UV spectrum and Infrared radiation in 3 discrete bands of IR spectrum for detecting fires. The Models D38X series detect flames and reject false alarm sources by utilizing the Convolution Method and Advanced DSP (Digital Signal Processing).

The Model D381 is a detector designed for a multitude of general-purpose applications. The detector will respond to a 1 ft. x 1 ft. n-Heptane or IPA fires from 80 feet within 3-5 seconds.

The Model D383 is a high-speed flame detector designed specifically for liquid spray paint and powder coating applications. The Model D383 offers a fast and reliable fire detection and monitoring for detecting flash fires within 0.3 in compliance with NFPA 33 Standard.

The Models **D38X** series are stand-alone fire & flame detectors in watertight NEMA 4 (IP66/67) and explosion-proof Aluminum enclosures designed for Class I, Division 2 (Zone 2) installations. The detectors feature automatic self-test for continuously checking the optical path integrity while monitoring the electronics to ensure utmost reliable operation and fault reporting.

APPLICATIONS

- Power Plants
- Airports & Aircraft Hangers
- Powder and Liquid Painting Operations
- Warehouses and Storage Facilities
- Diesel Generator & Engine Enclosures
- Battery Rooms & Charging Facilities
- Refineries & Cogen Plants

FEATURES AND BENEFITS

- Multi-Spectrum 3IR + UV design
- Standard outputs: Warning/Alarm/Fault/Auxiliary relays, 4-20 ma, & RS485 Modbus
- 200 event logs & 6 FireGraphs
- Automatic Self-Test checking electronic circuitry and Optical Path Integrity test with OptiRadar®
- Copper free Aluminum enclosure, powder coated finish
- Test Mode for manual testing
- Integral cable harness for easy field wiring
- High False Alarm immunity to external non-fire sources
- Manufactured in the USA with a 5 year warranty
- RFI & EMC compliant
- Meets SIL 2 requirements

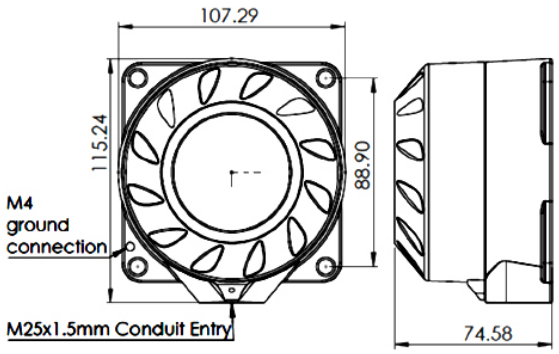
MODELS D38X FLAME DETECTORS TECHNICAL DATA

GENERAL

Field-of-View:	90° Field-of-View
Spectral Sensitivity:	UV: 180-260 nanometers IR: 2 - 5 microns (3 discrete bands)
Detection Range: D381	12" x 12" n-Heptane fire: 80 ft. (24.4 m) 12" x 12" IPA fire: 80 ft. (24.4 m) 36" Plume Hydrogen fire: 60 ft. (18m)
Detection Range: D383	12" x 12" n-Heptane fire: 40 ft. (12m) Flash fires: 0.3 sec @ 30 ft
Standards Response Time D381: Hi-Speed Response Time D383:	3-5 seconds 0.3 seconds

ELECTRICAL

Operating Voltage:	24 VDC nominal (18-31), Regulated
Power Consumption:	Standby: 60 mA @ 24 VDC Alarm: 90 mA @ 24 VDC
Relays Outputs:	Warning/Alarm / Fault: SPDT—contacts rated 2A @ 24 VDC Warning & Alarm relays: De-Energized with power applied Fault relay: Energized with power applied
Analog Output:	0-20 mA Stepped - Source
Communication:	RS485 ModBus
Visual Indications:	Green LED - Normal Blinking Red LED - Warning (D383 ONLY) Red LED - Alarm Amber LED - Fault
Wiring:	Pre-Installed harness 10 ft. long 20 AWG 15 conductor cable
Conduit Entry:	(1) M25 M25 X 3/4" Adapter upon request



MECHANICAL

Enclosure Material:	360 Copper-free Aluminum Powder-coated
Weight:	2.5 lbs. (1.1 kg)

ENVIRONMENTAL

Humidity Range:	5 to 95% relative humidity, non-Condensing
Temperature Range:	-40 to +185°F (-40 to +85 °C)
Enclosure Type:	NEMA 4 (IP66/IP67)

APPROVALS & CLASSIFICATIONS

Factory Mutual (FM)

US FM APPROVED C FM APPROVED — 3260

CE Mark — Meets or exceeds MIL-STD 810C. In compliance with FM 3260-2003

ORDERING INFORMATION AND ACCESSORIES:

D381-111A-3111	Fire Alarm/Auxiliary/Fault relays, 4-20mA & ModBus outputs. Alarm & Aux. Relays Normally De-Energized, Non-Latching. Fault Relay Normally Energized, Latching. Aluminum enclosure, M25 conduit entry, no Gland, Class 1, Div. 2. 10 ft. cable
D383-111A-311	Same as Detector above, except with 0.3 second Response to flash fires for finishing Applications
DA-002	316 Stainless Steel Mounting Assembly
DA-003	Air Shield

SAFETY SECURITY PEACE OF MIND

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