

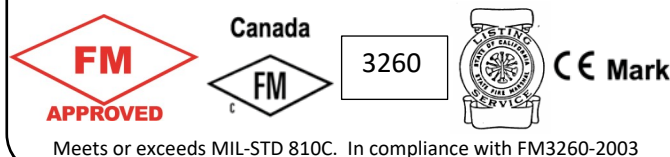
D381/383 3IR+UV – MULTI-SPECTRUM FLAME



STANDARD FEATURES

- Multi-Spectrum 3IR + UV design
- Detects Hydrocarbon and Non-Hydrocarbon fires with the highest false alarm immunity
- Standard outputs: Warning / Alarm / Fault / Auxiliary relays, 0-20mA and RS485
- 200 event history log & 6 FireGraphs®
- Adjustable Time/Verification Delay up to 20 seconds
- 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
- Solar Blind
- Heater Option to avoid condensation and icing
- 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
- FM/CFM/CSFM Approved
- NEMA 4 (IP66/67) Enclosure

PRODUCT LISTINGS



The detectors are supplied with Alarm / Auxiliary / Fault relays, 0-20 mA analog and RS485 outputs. They can store 200 events and 6 FireGraphs in their FRMA memory

APPLICATIONS

- Onshore & offshore Oil and Gas facilities
- Refineries and Cogeneration plants
- Compressor Stations
- Chemical and Hydrogen Plants
- Crude Oil and Products Tank Farms
- LPG / LNG Facilities
- Fuel Terminals
- Marine Fuel Loading and Unloading
- Airports & Aircraft Hangars
- Silane Storage Facilities
- Industrial Warehouses
- Battery Rooms & Charging Facilities
- Paint & Solvent Storage Facilities
- Incinerators & Waste Disposal
- Power Plants

PRODUCT DESCRIPTION

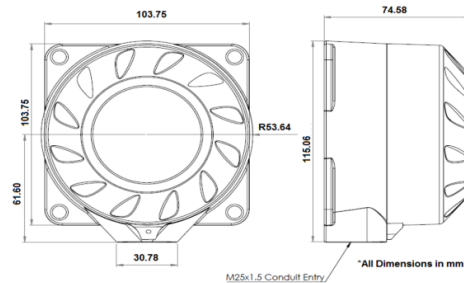
The Detectors Incorporated Model D381 and D383 Multi-Spectrum Flame Detectors are the most advanced optical flame detectors designed to respond to both Hydrocarbon and Non-Hydrocarbon fires while rejecting False Alarm sources. The D38X detectors sense UV radiation in the Ultraviolet spectrum and Infrared radiation in 3 discrete bands of IR spectrum for detecting fires. Flame response and false source rejection for the D38X models is accomplished by utilizing the Convolution Method and Advanced DSP (Digital Signal Processing) in conjunction with hard coded algorithms identifying specific wavelengths of energy. The detectors are able to respond to Hydrocarbon and Non-Hydrocarbon fires at a distance of 80+ feet. All this while rejecting False sources.

The D381 detector is designed for a multitude of applications. The detector will respond to a 1 ft. x 1 ft. n-Heptane or IPA fires from 100 feet within approximately 3-5 seconds. The Model D383 is a high-speed flame detector designed specifically for liquid spray paint and powder coating applications or anywhere a fast detection time is required. 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) Aluminum enclosure. 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.

Specifications subject to change without notice.

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D381/383 3IR+UV – MULTI-SPECTRUM FLAME



GENERAL

Field-of-View	90° Horizontal and Vertical
Spectral Sensitivity	UV: 180-260 nanometers IR: 2-5 microns (3 discrete bands)
Detection Range D381	FM 12"x12" n-Heptane fire – 80 ft (24.4m) 12"x12" IPA fire – 80 ft (24.4 m) (FM) 36" plume Hydrogen fire – 60 ft (18 m) (FM) 12"x12" n-Heptane fire – 200 ft (61 m) (DI)
Detection Range D383	12"x12" n-Heptane fire – 40 ft (24.4 m) (FM) Flash fires – 0.3 seconds @ 30 ft (9.1 m) (FM) 12"x12" n-Heptane fire – 200 ft (61 m) (DI)
Response Time D381	Typically 3-5 seconds
Response Time D383	Typically 0.3 seconds

ELECTRICAL

Operating Voltage	24 VDC nominal (18-31), Regulated
Power Consumption	Standby: 60 mA @ 24 VDC Alarm: 90 mA @ 24 VDC Heater: Optional, 120 mA additional
Output Relays:	Alarm / Auxiliary / Fault SPDT-contacts rated 2A @ 24 VDC Alarm & Auxiliary relays: De-Energized Fault relay: Energized Aux. relays settings: .3, 3, 10, 20 seconds
Analog Output	0-20 mA Stepped - Source
Communication	RS485 ModBus
Visual Indications	Green LED - Normal Red LED - Alarm
Conduit Entries	Standard: (2) M25 Optional M25 x 3/4" NPT adapter
Wiring	12 AWG (3.3 mm ²) - 22 AWG (33 mm ²)

MECHANICAL

Enclosure Material	360 Copper-Free Aluminum, Powder Coated
Weight	2.5 lbs. (1.1 kg)
Mounting	Stainless steel swivel arm – order separately DA-002 6.6 lbs. (3 kg)

ENVIRONMENTAL

Humidity Range	5 to 95% relative humidity, non-Condensing
Temperature Range	-40° to +185° F (-40° to +85°C) FM. -55° to +185° F (-48.3° to + 85°C) with Heater Option
Vibration	In compliance with FM 3260-2003, Meets or Exceeds MIL-STD 810C
Enclosure Type	NEMA 4 & 4X, IP66/IP67

ORDERING INFORMATION AND ACCESSORIES

D381	UV/3-IR Multi -Spectrum Flame Detector in an aluminum enclosure. See Price List for option/ordering guide
D383	UV/3-IR Multi -Spectrum Ultra-Fast Flame Detector in an aluminum enclosure. See Price List for option/ordering guide
DA-002	316 S.S. Mounting Arm
DA-003	Air Purge Kit for D381/383
DA-007	Weather Shield
DA-008	Detector Key Test Station
HW-AM25-0002	M25 x 3/4" Brass Adaptor