DETECTORS INCORPORATED

safety · security · peace of mind

D371 3IR+UV Multi-Spectrum Flame Detector

INDUSTRIAL AND COMMERCIAL FLAME DETECTORS

PRODUCT DESCRIPTION

The **Detectors Inc. Model D371** 3IR+UV Multi -Spectrum Flame Detectors are the most advanced optical flame detectors designed and optimized to respond to both Hydrocarbon and Non-Hydrocarbon based fires while rejecting False Alarm sources. The **D371** model senses 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 **D371** model 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 is able to respond to Hydrocarbon fires at distances of 200+ feet and low energy Non-Hydrocarbon fires at distances of 80+ feet, All this while rejecting False sources.

The **D371** is a stand-alone fire & flame detector in a watertight NEMA 4X (IP66, 67) and explosion-proof Stainless Steel enclosure designed for indoor/outdoor Class I, Div. 1 (Zone 1) Installations. The Detector is supplied with Alarm / Auxiliary / Fault relays, 4-20 mA analog and RS485 outputs. The detectors can store 200 events and 6 FireGraphs in its FRAM 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 & Unloading
- Airports & Aircraft Hangars
- Silane Storage Facilities
- Industrial Warehouses
- Battery Rooms & Charging Facilities
- Paint & Solvent Storage Facilities
- Incinerators & Waste Disposal
- Power Plants

FEATURES AND BENEFITS

- Multi-Spectrum design for detecting both Hydrocarbon and Non-Hydrocarbon fires with highest false alarm immunity
- Standard outputs: Alarm/Fault/Auxiliary relays, 4-20 mA, and RS485 ModBus
- 200 Event Logs and 6 FireGraphs each 6 seconds long
- Multiple selectable sensitivity levels
- Automatic Self-Test for checking electronic circuitry, and Optical Path Integrity test with OptiRadar®
- Standard 316 Stainless Steel enclosure
- Test Mode for manual testing
- Encased electronics module for easy field installation and removal
- Pluggable connectors for ease of wiring and installation
- Separate (isolated) field wiring compartment
- Manufactured in USA with a 5 - Year Warranty RFI & EMC compliant
- Meets SIL 2 requirements

MODEL D371 FLAME DETECTOR TECHNICAL DATA

GENERAL

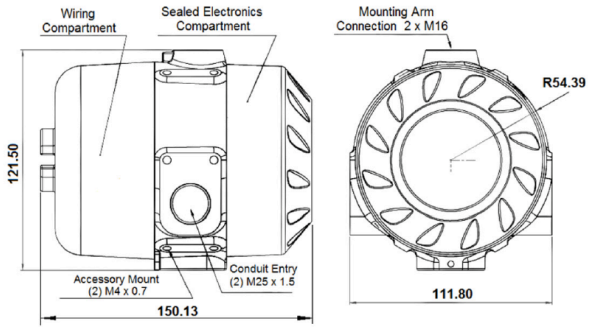
Field-of-View:	90° Field-of-View
Spectral Sensitivity:	UV: 180-260 nanometers IR: 2-5 microns (3 discrete bands)
Sensitivity Range:	Low, Medium, High
Response Time:	Alarm: 3-5 Seconds
Detection Range:	1' x 1' n-Heptane fire: Model D371: 200 ft. (61 m)

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. relay settings: .3, 3, 10, 20 seconds
Analog Output:	0-20 mA Stepped - Source
Communication:	RS485 ModBus
Visual Indications:	Green LED - Normal Red LED - Alarm Amber LED - Fault
Conduit Entries:	Standard: (2) M25 Optional M25 x 3/4" NPT adapter
Wiring:	12 AWG (3.3 mm^2) - 22 AWG (.33mm^2)

MECHANICAL

Enclosure Material:	316 Stainless Steel, Standard
Weight:	10 lbs. (4.5 kg)
Mounting:	Stainless Steel Swivel Arm—Optional 6.6 lbs. (3 kg)



Dimensions in mm

ENVIRONMENTAL

Humidity Range:	5 to 95% Relative humidity, Non-Cond.
Temperature Range:	-40 to +185°F (-40 to +85°C)
Vibration:	In compliance with FM 3260-2003, Meets or Exceeds MIL-STD 810C
Enclosure Type:	NEMA 4 & 4X, IP66/IP67

APPROVALS & CLASSIFICATIONS

US FM APPROVED

Certification No: FM17US0336X
Class I, Div. 1, Groups A, B, C and D; Ta = -40°C to +110°C
Class II/ III, Groups E, F and G; T4, -40°C to +85°C
T4 = -40°C to +85°C, T5 = -40°C to +75°C, T6 = -40°C to +60°C
Class I, Zone 1 AEx db eb IIC T4 Gb, Ta = -40°C to +110°C
AEx tb IIIC 135°C Db T4, Ta = Ta = -40°C to +110°C
T4 = -40°C to +85°C, T5 = -40°C to +75°C, T6 = -40°C to +60°C Type 4X and IP66/IP67

Canada FM

Certification No: FM17CA0120X
Class I, Div. 1, Groups A, B, C and D; T4, Ta = -40°C to +110°C
Class II/ III, Groups E, F and G; T4, Ta = -40°C to +110°C T4 = -40°C to +85°C, T5 = -40°C to+75°C, T6 = -40°C to +60°C
Class I, Zone 1 Ex db eb IIC T4 Gb, Ta = -40°C to +110°C
Ex tb IIIC 135°C Db T4, Ta = Ta = -40°C to +110°C
T4 = -40°C to +85°C, T5 = -40°C to +75°C, T6 = -40°C to +60°C
Type 4X and IP66.IP67

Ex

Certificate No: FM17ATEX0101X
(II 2 G) Ex db eb IIC T4 Gb, Ta = -40°C to +110°C
(II 2 D) Ex tb IIIC T135°C Db, Ta = -40°C to +110°C
T4 = -40°C to +85°C, T5 = -40°C to +75°C, T6 = -40°C to +60°C IP66/ IP67

IEC IECEx

Certificate Number: IECEx FMG 17.0034X
(II 2 G) Ex db eb IIC T4 Gb, Ta = -40°C to +110°C
(II 2 D) Ex tb IIIC T135°C Db, Ta = -40°C to +110°C
T4 = -40°C to +85°C, T5 = -40°C to +75°C, T6 = -40°C to +60°C IP66/ IP67

CE Mark

Meets or Exceeds MIL-STD 810C. In Compliance with FM3260-2003

ORDERING INFORMATION AND ACCESSORIES:

D371SS-111B-MU21	3IR+UV Detector with Relays Relays, 4-20mA, Modbus, No Heater, Normally De-Energized Non-Latching, Normally Energized, Non-Latching, Redundent Alarm, (2) x M25, FM (US) - ATEX - IECEx - FM Canada Divisions and Zones, 110 Feet, FOV 90 Degrees, Hydrocarbon
D371SS-211B-MU21	Detector Above with heater
DA-001	316 S.S. Swivel Mounting Arm Assembly

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