

Detectors Inc. Flame Detectors

D171 1IR +UV Multi-Spectrum Fire & Flame Detection *2-3 weeks lead time!*



Representing a new generation of optical fire and flame detection.

The Detectors Inc. Model D171 1IR+UV Multi -Spectrum Flame Detector is the most advanced optical flame detectors designed and optimized to respond to both Hydrocarbon based fires and non-Hydrocarbon based fires while rejecting False Alarm sources. The D171 model senses UV radiation in the Ultraviolet spectrum and infrared radiation in one discrete band of the IR spectrum for detecting fires. Flame response and false source rejection for the D171 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 Detector is able to respond to Hydrocarbon fires and non-Hydrocarbon fires at distances of 100+ feet, all this while rejecting false sources.

The D171 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, 0-20 mA analog and RS485 outputs. The detectors can store 200 events and 6 FireGraphs® in its FRAM memory.

APPLICATIONS

- Airports & Aircraft Hangars
- Warehouse & Storage Facilities
- Manufacturing & Food Processing
- Diesel Generators & Fuel Storage
- Battery Rooms & Charging Facilities
- Oil & Gas Facilities
- Refineries & Cogeneration Plants
- Chemical & Hydrogen Plants
- Tank Farms
- Compressor Stations
- Paint Booths
- Paint & Solvent Storage Facilities
- Recycling Centers
- LPG / LNG Facilities
- Power Plants
- Marine Fuel Loading & Unloading

FEATURES & BENEFITS

- Multi-Spectrum IR + UV design
- Detects Hydrocarbon and Non-Hydrocarbon fires with the highest false alarm immunity.
- Standard outputs: 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®
- 316 Stainless Steel explosion proof housing.
- Test Mode for manual testing
- 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 & 4x (IP66/67) Enclosure



Detectors Inc. Flame Detectors – D171 Technical Specifications

GENERAL

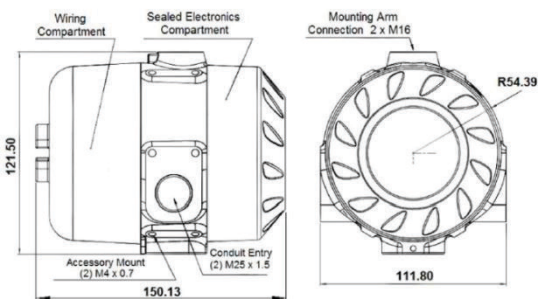
Field-of-View:	100° Horizontal and Vertical
Spectral Sensitivity:	UV: 180-260 nanometers IR: 4.3 - 4.6 microns (1 discrete band)
Sensitivity Range:	Low, High
Response Time:	Alarm: 3-5 Seconds
Detection Range:	1' x 1' n-Heptane fire: 100 ft. (30.5 m)

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 @ 24VDC 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
Wiring:	12 AWG (3.3 mm ²) - 22 AWG (.33mm ²)

MECHANICAL

Enclosure Material:	316 Stainless Steel
Weight:	10 lbs. (4.5 kg)
Mounting:	Stainless Steel Swivel Arm— Order Separately DA-001 6.6 lbs. (3 kg)



ENVIRONMENTAL

Humidity Range:	5 to 95% Relative humidity, Non-Cond.
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

APPROVALS & CLASSIFICATIONS

Certification No: **FM17U50336X**

Class I, Div. 1, Groups A, B, C and D; Ta = -40°C to +110°C Class II/
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

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, 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

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



CE Mark

