

## D171 1IR+UV – MULTI-SPECTRUM FLAME DETECTOR



### STANDARD FEATURES

- Multi-Spectrum 1IR + 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®
- Standard 316 Stainless Steel enclosure
- 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
- NEMA 4 & 4X (IP66,67) and explosion-proof Stainless-Steel enclosure
- FM/CFM/CSFM Approved

### APPLICATIONS

- Airports & Aircraft Hangars
- Warehouse & Storage Facilities
- Manufacturing & Food Processing
- Diesel Generators & Fuel Storage
- Battery Rooms & Charging Facilities
- Oil & Gas Facilities
- Chemical & Hydrogen Plants (does not detect Hydrogen fires)
- Tank Farms
- Compressor Stations
- Paint Booths
- Paint & Solvent Storage Facilities
- Recycling Centers
- LPG / LNG Facilities
- Power Plants
- Marine Fuel Loading & Unloading

### PRODUCT DESCRIPTION

The Detectors Incorporated Model D171 Multi-Spectrum Flame Detector is the most advanced optical flame detector designed to respond to both Hydrocarbon and Non-Hydrocarbon fires while rejecting false alarm sources. The D171 detectors sense UV radiation in the Ultraviolet spectrum and Infrared radiation in a single discrete bands of 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 and Non-Hydrocarbon fires at a distance of 100+ feet. All this while rejecting false sources.

The D171 is a stand-alone fire & flame detector in a watertight NEMA 4 & 4X (IP66,67) and explosion-proof Stainless-Steel enclosure designed for indoor/outdoor Class 1, Div. 1 (Zone 1) installations.

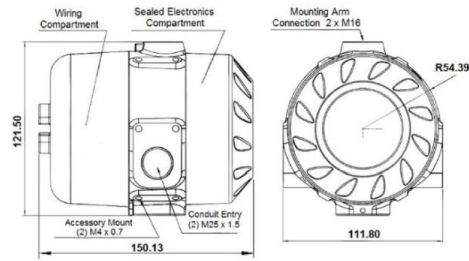
The detector is supplied with Alarm / Auxiliary / Fault relays, 0-20 mA analog and RS485 outputs. They can store 200 events and 6 FireGraphs in their FRMA memory.



Specifications subject to change without notice.

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Dimensions in mm

### 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	Typically 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 @ 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 <sup>2</sup> ) - 22 AWG (33mm <sup>2</sup> )

### MECHANICAL

Enclosure Material	316 Stainless Steel, Standard
Weight	10 lbs. (4.5 kg)
Mounting	Stainless Steel Swivel Arm - Optional 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

### APPROVALS & CLASSIFICATIONS

US FM APPROVED	Certification No: <b>FM17US0336X</b> 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 = -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 APPROVED	Certification No: <b>FM17CA0120X</b> Class I, Div. 1, Groups A, B, C and D; T4, Ta = -40°C to +110°C Class II/ II I, 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 = -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.

### ORDERING INFORMATION AND ACCESSORIES

D171	UV/1 IR Multi Spectrum Flame Detector in a stainless-steel Enclosure. See price list for options/ordering guide
DA-001	316 S.S. Mounting Arm
DA-003	Air Purge Kit
DA-005	Weather Shield
DA-006	Field of View Restrictor
DA-008	Detector Key Test Station
HW-AM25-0001	M25 Male to 3/4" Female Adaptor SS