



DETECTORS INCORPORATED

safety • security • peace of mind

D371 3IR+UV
Multi-Spectrum
Flame Detector

INDUSTRIAL AND COMMERCIAL FLAME DETECTORS

PRODUCT DESCRIPTION

The Detectors Incorporated Model D371 Multi-Spectrum Flame Detector is the most advanced optical flame detector designed to respond to Hydrocarbon, Non-Hydrocarbon, and Hydrogen fires while rejecting false alarm sources. The D371 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 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 detector responds to Hydrocarbon and Non-Hydrocarbon fires at a distance of 200+ ft (61m), Hydrogen at 100 ft (30.5m) All this while rejecting false sources.

The D371 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 detectors are supplied with Alarm / Auxiliary / Fault relays, 0-20 mA analog and RS485 outputs. They store 200 events and 6 FireGraphs in their FRMA 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 AND BENEFITS

- ❖ Multi-Spectrum 3IR + UV design
- ❖ Detects Hydrocarbon, Non-Hydrocarbon, and Hydrogen 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 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

MODEL D371 FLAME DETECTOR TECHNICAL DATA

GENERAL

Field-of-View: 90° Horizontal and Vertical
 Spectral Sensitivity UV: 180-260 nanometers
 IR: 2-5 microns (3 discrete bands)

Detection Range: 12"x12" n-Heptane fire – 200 ft (61m)
 36" Hydrogen Plume - 100 ft (30.5m)

Std Response time Typically 3-5 seconds

ELECTRICAL

Operating Voltage: 24VDC nominal (18-31), Regulated

Power Consumption: Standby: 60 mA @ 24 VDC
 Alarm: 90 mA @ 24 VDC

Heater Option: 120 mA additional

Output Relays: Alarm / Auxiliary / Fault
 SPDT—contacts rated 2A @ 24VDC
 Alarm & Auxiliary relays: Programmable
 Fault relay: Energized

Adjustable Time/ Verification Delay Aux relay setting .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
 1 M25 x 3/4" NPT adaptor Included

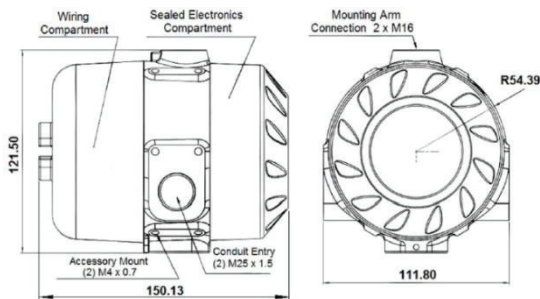
Wiring: 12 AWG (3.3mm²) – 22 AWG (.33mm²)

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)



Dimensions in mm

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: **FM17US0336X**
 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



ORDERING INFORMATION

D371 3IR + UV Multi Spectrum Flame Detector in a stainless-steel Enclosure.

D371 Basic 3 IR + UV Multi Spectrum Flame Detector in a stainless-steel Enclosure. Standard outputs: Alarm / Fault / Auxiliary relays only.

DA-001 316 SS 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

Installation Recommendations: Please refer to our User Manual for mounting and wiring instructions.

The installation of Detectors Incorporated® flame detectors should be executed in accordance with the recognized national or international standards and codes of practice.

Specifications and wiring information are provided for information only and are believed to be accurate. Detectors Incorporated assumes no responsibility for their use. Data and design are subject to change without notice. Installation and wiring instructions are shipped with the products and should always be used for actual installation. For more information, contact your Sales Representative.

Document No:DS371 Mar 2022