



# DETECTORS INCORPORATED

*safety • security • peace of mind*

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## PRODUCT DESCRIPTION

Designed for chemical-laden harsh environments, the Model D390 is the most suitable flame detectors for semiconductor clean rooms and wet benches. The Model D390 is a stand-alone 3IR fire & flame detectors in a totally sealed polypropylene enclosure specifically designed for semiconductor clean rooms and wet benches. The **D390** is a stand-alone 3IR fire & flame detector in a totally sealed polypropylene enclosure specifically designed for semiconductor manufacturing facilities. The **D390** detectors is optimized to respond to fire sources from hydrocarbon and non-hydrocarbon fuels while rejecting non-fire false alarm sources. The detector's flame response and false source rejection 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 D390 detectors requires an external 24 VDC power source and is supplied with Alarm / Auxiliary / Fault relays, 4-20 mA Analog and RS485 ModBus outputs. The detector is supplied with an integral 10-foot Teflon Coated multi-conductor cable for wiring to external devices. The detector can store 200 events and 6 FireGraphs in its FRAM memory.



## FEATURES AND BENEFITS

- Multi-Spectrum 3IR design
- Standard outputs: Alarm/Fault/Auxiliary relays, 4-20 mA, and RS485 ModBus 200
- Event Logs and 6 FireGraphs
- Automatic Self-Test checking electronic circuitry and Optical Path Integrity test with OptiRadar® Leak-Proof Polypropylene enclosure
- Test Mode for manual testing
- Integral cable harness for easy field wiring
- Manufactured in the USA with a 5 year warranty
- RFI & EMC compliant
- Meets SIL 2 requirements

## APPLICATIONS

- Semiconductor clean rooms
- Wet Bench working area
- Wet Bench plenum Semiconductor
- processing facilities Equipment
- behind wet bench area
- under floor area of clean rooms



# MODEL D390 FLAME DETECTOR TECHNICAL DATA

## GENERAL

Field-of-View:	90° Field-of-View
Spectral Sensitivity:	IR: 2-5 microns (3 discrete bands)
Response Time:	Alarm: 3-5 Seconds
Detection Range:	2" Dia. n-Heptane fire, distance 4.5 ft. 12 x 12" IPA fire, distance 30 ft.

## ELECTRICAL

Operating Voltage:	24 VDC nominal (18-31), Regulated
Power Consumption:	Standby: 60 mA @ 24 VDC Alarm: 90 mA @ 24 VDC
Relays Outputs:	Alarm, Auxiliary & Fault SPDT—contacts rated 2A @ 24 VDC Alarm/ Aux. relays: De-Energized Fault relay: Energized when powered
Analog Output:	0-20 mA Stepped - Source
Communication:	RS485 ModBus
Visual Indications:	Green LED - Normal Red LED - Alarm Amber LED - Fault
Wiring:	Integral cable harness 10 ft. long 20AWG 15 conductor shielded cable

## MECHANICAL

Enclosure Material:	Molded Polypropylene
Weight:	2.5 lbs. (1.1 kg) including cable

## ENVIRONMENTAL

Humidity Range:	5 to 95% relative humidity, non-Cond.
Temperature Range:	-40 to +158°F (-40 to +70C)
Enclosure Type:	NEMA 4 & 4X, IP67 watertight, dust-tight

## APPROVALS & CLASSIFICATIONS

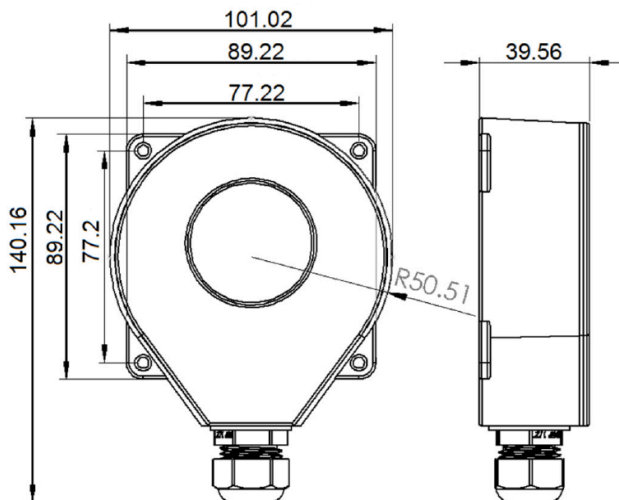
Factory Mutual (FM 3260)

Class I, Div. 2, Groups B, C, D (Zone 2)

Class II/III, Div. 2, Groups E, F, G

## ORDERING INFORMATION AND ACCESSORIES:

D390-111-K11	Detector with sealed Polypropylene enclosure, Kal-Rez O-Ring, Relays & 4-20 mA outputs, and 10-ft. cable.
DA-004	Polypropylene bracket mounting assembly



**SAFETY SECURITY PEACE OF MIND**

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