



DETECTORS INCORPORATED

safety • security • peace of mind

D390 3IR
Multi-Spectrum
Flame Detector

INDUSTRIAL AND COMMERCIAL FLAME DETECTORS

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 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, and RS485 ModBus outputs. 0-20 mA output is optional. 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.



APPLICATIONS

- ❖ Semiconductor clean rooms
- ❖ Wet Bench working area
- ❖ Wet Bench plenum Semiconductor
- ❖ Processing Facilities
- ❖ Equipment behind wet bench area
- ❖ Under Floor in Clean Rooms

FEATURES AND BENEFITS

- ❖ Multi-Spectrum 3IR design
- ❖ Compact Size for ease of installation
- ❖ Detects Hydrocarbon and Non-Hydrocarbon fires with the highest false alarm immunity.
- ❖ Standard outputs: Warning / Alarm / Fault / Auxiliary relays, and RS485
- ❖ 0-20 mA Output is optional.
- ❖ 200 event history log & 6 FireGraphs®
- ❖ Adjustable response time - Aux relay setting .3, 3, 10, 20 seconds.
- ❖ Leak-Proof Polypropylene enclosure
- ❖ Automatic Self-Test checking electronic circuitry.
- ❖ Test Mode for manual testing
- ❖ Built-in Mounting Plate
- ❖ Integral cable harness for easy field wiring
- ❖ Solar Blind
- ❖ High False Alarm immunity to external non-fire sources
- ❖ Test Light Available (DA-004)
- ❖ Suitable for use in corrosive environments.
- ❖ Resistant to build-up of contamination on the front lens.
- ❖ Manufactured in the USA with a 5-year warranty.
- ❖ RFI & EMC compliant
- ❖ FM/CFM/CSFM Approved



MODEL D390 FLAME DETECTOR TECHNICAL DATA

GENERAL

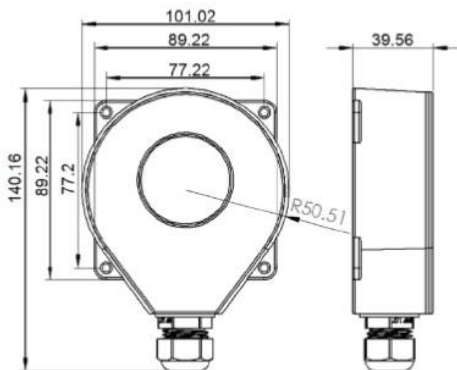
Field-of-View: 90° Horizontal and Vertical
Spectral Sensitivity IR: 2-5 microns (3 discrete bands)
Detection Range: 2" Dia. n-Heptane fire, distance 4.5 ft.
12 x 12" IPA fire, distance 30 ft.
Std Response time Alarm 3-5 seconds

ELECTRICAL

Operating Voltage: 24VDC nominal (18-31), Regulated
Power Consumption: Standby: 60 mA @ 24 VDC
Alarm: 90 mA @ 24 VDC
Output Relays: Alarm / Auxiliary / Fault
SPDT—contacts rated 2A @ 24VDC
Alarm & Auxiliary relays: De-Energized
Fault relay: Energized.
Adjustable Time/ Verification Delay: Aux relay setting .3, 3, 10, 20 seconds
Analog Output: 0-20 mA Stepped – Source - Optional.
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 (default), other lengths available.

MECHANICAL

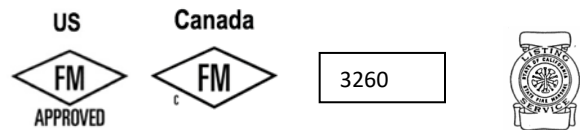
Enclosure Material: Molded Polypropylene
Weight: 2.5 lbs. (1.1 kg) Including cable



ENVIRONMENTAL

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

APPROVALS & CLASSIFICATIONS



ORDERING INFORMATION

D390 3-IR Multi -Spectrum Flame Detector in a sealed Polypropylene enclosure. Kal-Rez O-Ring and 10-ft cable. See Price List for option/ordering guide.
DA-004 Handheld Test Light for D390 Detectors.
DA-008 Remote Test Switch
DA-010 Plug in 0-20 mA Output Card.
Cable Option – Different Cabling Lengths in 5-foot increments

Mounting Note: The detectors should be installed so objects do not block the field of view. This includes glass, plexiglass, and other transparent materials.

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.

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