# Fire Sentry FS24X Flame Detectors

Honeywell





## Multi-Spectrum QuadBand Triple IR Fire and Flame Detectors

# Fire Sentry FS24X Detectors





## Features

- Patented* WideBand IR™ Technology
- Patented* Electronic Frequency Analysis™
- Visible Sensor for optimum false alarm rejection
- Selectable detection sensitivities
- Field-of-View: 110° full 100% cone-of-vision (90° full 100% cone-of-vision model also available)
- Dual microprocessors for reliable performance
- Real-time clock for accurate time dating of events
- FirePic™ — pre-fire event data storage
- Event log with date and time stamp
- RS-485 ModBus communication
- Non-Isolated 4-20 mA Analog output (sink or source)
- Alarm, Fault and Fire Verification relays
- Automatic optical path and electronic self-test
- Widest operating temperature range
- Patented* Electronics Module for components protection with easy plug-in terminations and field installation
- Two ¾" NPT OR 25mm conduit entries
- Low power consumption
- High RFI and EMI immunity
- FM, ATEX, CE mark approvals
- Meets SIL 2 requirements

## Benefits

- Detects hydrocarbon and non-hydrocarbon fuel fires in all environmental conditions
- User selectable outputs
- Optimal false alarm rejection for all environmental conditions
- Minimal maintenance for trouble-free operation
- PC software and Interface Module (FSIM) for fault diagnostics, real-time graphics (RTGs), and downloading of FirePics™ and event log
- Suitable for a wide variety of applications
- Easy electronics module replacement
- Test lamps for manual testing

# Fire Sentry FS24X is a quantum leap in flame and fire detection with its sophisticated software and detection technology.

The Fire Sentry FS24X is the latest generation high technology Multi-Spectrum Triple IR (IR/IR/IR/Visible) Fire and Flame Detector, which is part of our FSX family of advanced technology Electro-Optical fire detectors. Using our patented* WideBand IR™, WideBand 4.3 micron IR™, and Visible detection technology, the Fire Sentry FS24X is a quantum leap in flame and fire detection. Sophisticated software algorithms and dual microprocessors ensure that the Fire Sentry FS24X has the highest fire detection performance combined with optimal false alarm rejection.

## Applications

- Refineries and Oil Production Facilities
- Off-Shore Platforms
- Turbine/Compressor Enclosures
- Oil & Gas Pipelines and Pumping Stations
- LNG/LPG Loading & Unloading Facilities
- Natural Gas and CNG Plants
- Ethanol, Methanol, and IPA Production and Storage
- Crude Oil and Gasoline Storage and Tank Farms
- Aircraft Hangars
- Hydrogen Plants and Storage
- Paint & Solvent Storage
- Chemical Production, Storage, and Loading Facilities
- Power Plants



*Fire Sentry Corporation Patents

# Fire Sentry FS24X Detectors





The WideBand IR™ Infrared technology using high-speed solid-state Quantum sensors allows detection of all types of fires, hydrocarbon and non-hydrocarbon, in all weather conditions. If the detector's signal is blocked by ordinary window glass, the patented WideBand IR sensors will still alarm to the fire but at a reduced sensitivity and slower response time.

Dual microprocessors provide a high level of fail-safe operation combined with fast and reliable performance. The Master Microprocessor performs high-speed digital sampling and signal-processing calculations; while the slave microprocessor handles various sensor data, performs communications, self-diagnostics and provides interface versatility; and additional memory for storing Event Log and FirePic™ data.

The Fire Sentry FSX family of detectors feature our patented* FirePic data storage and information retrieval facility. FirePic™ records pre-fire data, which can be recovered from the Detector's non-volatile flash memory for post fire analysis and postulation of the fire cause. Additionally, unique Real-Time Graphing (RTG™) allows viewing of the data which the Detector actually sees. A combination of outputs makes the Fire Sentry FS24X a truly versatile detector for today's demanding industrial requirements.

The Fire Sentry FS24X detector has a detection range greater than 200 feet (Very High Sensitivity setting) for the detection of a one square-foot Heptane reference fire and has a cone of vision far greater in volumetric coverage than any other Multi-Spectrum IR Detector. This means fewer Detectors can be used as compared to other manufacturers' Detectors.

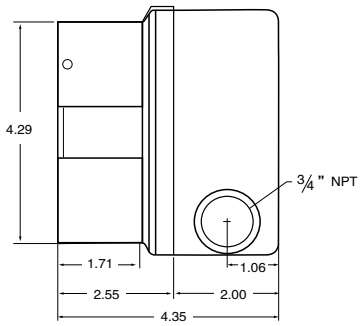


*Fire Sentry Corporation Patents

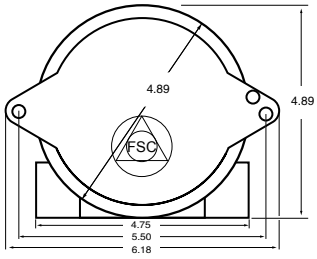


| General Specifications | |
|---|---|
| **Field of View** | 90° Full 100% Cone of vision, ± 45° from on axis OR 110° Full 100% Cone of vision, ± 55° from on axis |
| **Sensitivity** | Very High, High, Medium and Low — Switch Selectable |
| **Response Time** | 3-5 Seconds to 1 sq. ft. n-Heptane fire at 100 ft.<br>3-10 Seconds to 1 sq. ft. n-Heptane fire at 200 ft. |
| **Spectral Sensitivity** | Visible: 400 – 700 nanometers<br>Near Band IR: 0.7 – 1.1 microns<br>Wide Band IR: 1.1 – 7 microns<br>Wide Band IR: 3.0 – 5.0 microns |
| **Operating Voltage** | 24 VDC nominal (18-32 VDC) - Regulated |
| **Power Consumption** | Operating: 56 mA @ 24 VDC nominal<br>Alarm: 106 mA @ 24 VDC nominal<br>Heater: 155 mA – additional<br>Note: Heater will turn on at 0ºF (-17ºC) |
| **Output Relays** | Fire Alarm: SPDT (NO / NC) - De-Energized/Energized, Latching/Non-Latching<br>Fault: SPST (NO) - Normally Energized, Latching/Non-Latching<br>Auxiliary: SPDT (NO / NC) - De-Energized/Energized, Latching/Non-Latching<br>Contacts rating: 1 amp @ 24 VDC |
| **Analog Output** | 0 - 20 mA stepped - Source or Sink User Selectable |
| **Loop resistance** | 50 - 400 Ohms |
| **Communication** | One of the following - User Selectable:<br>• RS-485,ModBus Protocol<br>• RS-485,FireBus II<br>• RS-485 Special (optional)<br>• HART,optional plug-in module |
| **Visual Indications** | Blue LED: Power<br>Red LED: Alarm<br>Yellow LED: Fault |
| **Temperature Range** | Operating: -40 to +185ºF (-40 to +85ºC)<br>Storage: -67 to +230ºF (-55 to +110ºC) |
| **Humidity Range** | 5 to 98% relative humidity, non-condensing |
| **Vibration** | Meets or exceeds MilSpec 810C Method 514.2, Curve AW12 |
| **Wiring** | 14 AWG (2.5mm$^2$) to 22 AWG (0.326mm$^2$); Shielded Cable Recommended |
| **Conduit Entries** | Standard: Two ¾" NPT or two M25 |
| **Enclosure Materials** | Copper-Free Powder Coated Aluminum or 316 Stainless Steel |
| **Enclosure Type** | NEMA 4 & 4X, IP66 |
| **Certifications** | **FM:** Class I, Div. 1 & 2, Groups B, C, & D; Class II, Div. 1 & 2, Groups E, F, & G; Class III<br>**ATEX:** II 2 G D; Ex d IIC T4 (Ta: -40 to +110ºC), T5 (Ta: -40 to +75ºC), T6 (Ta: -60 to +60ºC)<br>**CE:**Complies with EN6000-6-4 & EN50130-4 |
| **Shipping Weight** | Aluminum: 3.6 lbs (1.6 kg)<br>Stainless Steel: 7 lbs (3.2 kg) |
| **Mounting** | Swivel Bracket Assembly - Optional |
| **Warranty** | Three years from date of shipping |






( A )




( B )

**General Dimensions**
Side and Back Views
(All Dimensions in Inches)

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