Fire Sentry FS24X Flame Detectors

Honeywell

Multi-Spectrum QuadBand Triple IR Fire and Flame Detectors

Fire Sentry FS24X Detector



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
- Wide operating temperature range
- Patented* Electronics Module for components protection with easy plug-in terminations and field installation
- Two 25 mm or ¾" NPT 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 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

Applications

- Refineries and oil production facilities
- Off-shore platforms
- Turbine/Compressor enclosures
- Oil and gas pipelines and pumping stations
- LNG/LPG loading and unloading facilities
- Natural gas and CNG plants
- Ethanol, Methanol, and IPA production and storage
- Crude oil and gasoline storage and tank farms
- Aircraft hangars
- Paint and solvent storage
- Chemical production, storage, and loading facilities
- Power plants

*Fire Sentry Corporation Patents

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.

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 albeit 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.

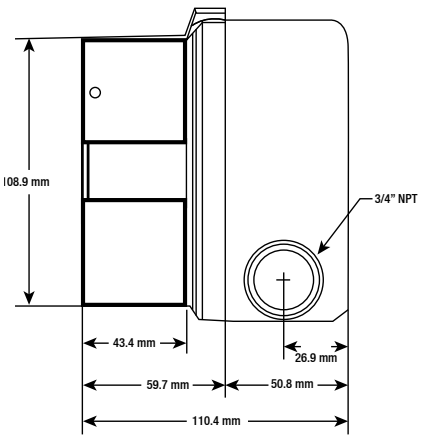
The Fire Sentry FS24X detector has a detection range greater than 60 m (200 feet) (Very High Sensitivity setting) for the detection of a 0.1 m^2 (one square-foot) Heptane reference fire and has a cone of vision far greater in volumetric coverage than any other Multi-Spectrum IR Detector. This means fewer Detectors can be used as compared to other manufacturers' Detectors.

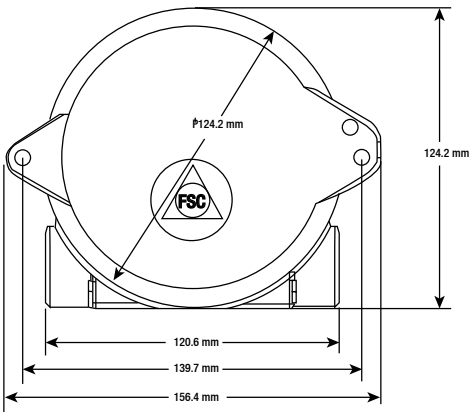
*Fire Sentry Corporation Patents

General Specification

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 0.1 m^2 (1 sq. ft.) n-Heptane fire at 30 m (100 ft.) 3-10 seconds to 0.1 m^2 (1 sq. ft.) n-Heptane fire at 60 m (200 ft.)
Spectral sensitivity	Visible: 400 – 700 nanometres Near Band IR: 0.7 – 1.1 microns Wide Band IR: 1.1 – 3.0 microns 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 Alarm: 106 mA @ 24 Vdc nominal Heater: 155 mA – additional Note: Heater will turn on at -17ºC (0ºF)
Output relays	Fire Alarm: SPDT (NO / NC) – De-energised/energized, latching/non-latching Fault: SPST (NO) – Normally energised, latching/non-latching Auxiliary: SPDT (NO / NC) – De-energised/energised, latching/non-latching 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: • RS-485, ModBus Protocol • RS-485, FireBus II • HART, Optional plug-in module
Visual indications	Blue LED: Power Red LED: Alarm Yellow LED: Fault
Temperature range	Operating: -40 to +85ºC (-40 to +185ºF) Storage: -55 to +110ºC (-67 to +230ºF)
Humidity range	5 to 98% relative humidity, non-condensing
Vibration	Meets or exceeds MilSpec 810C Method 514.2, Curve AW12
Wiring	2.5 mm^2 (14 AWG) to 0.326 mm^2 (22 AWG); shielded cable recommended
Conduit entries	Standard: Two M25 or two ¾" NPT
Enclosure materials	Copper-free powder coated aluminum or 316 stainless steel
Enclosure type	4X, IP66 & NEMA 4
Certifications	**FM:** Class I, Div. 1 & 2, Groups B, C, & D Class II, Div. 1 & 2, Groups E, F, & G Class III ATEX, IECEx Ex II 2 GD Gas: Ex d IIC T4(Ta: -40°C to + 110°C), T5 (Ta: -40°C to + 75°C), T6 (Ta: -40°C to +60°C) Gb Dust: Ex tb IIIC IP66 T 135°C Db CE complies with EN61000-6-4 and EN50130-4 **SIL Rating:** FMEDA meets IEC 61508 safety requirements
Shipping weight	Aluminum: 1.6 kg (3.6 lbs) Stainless steel: 3.2 kg (7 lbs)
Mounting	Swivel bracket assembly - optional
Warranty	Three years from date of shipping

General Dimensions
Side and Back Views
(All Dimensions in mm)





Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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