Fire Sentry FS24X Flame Detectors

Honeywell





Multi-Spectrum QuadBand Triple IR 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° cone-of-vision (90° 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
- Patented* Electronics Module for components protection with easy plug-in terminations and field installation
- Two ¾" NPT conduit entries
- Low power consumption
- High RFI and EMI immunity
- FM, ATEX, CE mark approvals
- CU-TR approved
- INMETRO approved
- Meets SIL 2 requirements
- Certified to EN54-10:2002 (FS24X-9) option
- FM 3260 Performance

Benefits

- Detects hydrocarbon and non-hydrocarbon fuel fires in all environmental conditions
- User selectable outputs
- Wide operating temperature range
- Optimal false alarm rejection
- 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 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) 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 detection. Sophisticated software algorithms and dual microprocessors ensure that the Fire Sentry FS24X has the highest flame 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 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.

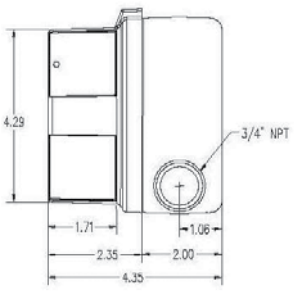
Specifications

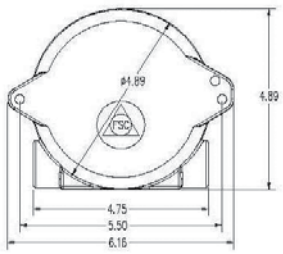




General Specifications	
Field of view	FS24X-9: 90° cone of vision, ± 45° from on axis FS24X-2: 110° cone of vision, ± 55° from on axis
Sensitivity	Very high (200 ft.), high (150 ft.), medium (100 ft.) and low (50 ft.) - switch selectable
Response time	3-5 seconds to 1 sq. ft. n-Heptane fire at 30 m (100 ft.) 3-10 seconds to (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 0ºF (-17ºC)
Output relays	Fire Alarm: SPDT (NO / NC) – De-energized/energized, latching/non-latching Fault: SPST (NO) – De-energized, latching/non-latching Auxiliary: SPDT (NO / NC) – De-energized/energized, 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 (not available on EN54-10 units)
Visual indications	Green LED: Power Red LED: Alarm Yellow LED: Fault
Temperature range	Operating: 110° Field of View FS24X: -40ºF to +185ºF (-40ºC to +85ºC); 90° Field of View FS24X: -60°C to +85°C (-76°F to +185°F) Storage: -67ºF to +230ºF (-55ºC 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 to 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	IP66 and NEMA 4 & 4X
Certifications	**FM:** Class I, Div. 1 & 2, Groups B, C, & D; Class II, Div. 1 & 2, Groups E, F, & G; Class III **ATEX/IECEx:** Ⓔx II 2 G Ex db IIC T4 (Ta: -60 to +110°C), T5 (Ta: -60 to +75°C), T6 (Ta: -60 to +60°C), II 2 D Ex tb IIIC T135°C (FS24X-9, 90° Field of View) Ⓔx II 2 G Ex db IIC T4 (Ta: -40 to +110°C), T5 (Ta: -40 to +75°C), T6 (Ta: -40 to +60°C), II 2 D Ex tb IIIC T135°C (FS24X-2, 110° Field of View) **CE:** Complies with EN6100-6-4 & EN50130-4 **INMETRO** **CU-TR** **SIL Rating:** FMEDA available on request **EN54-10:** FS24X-9 certified 1175a/02 (LPCB); CPR 0832-CPR-F0516
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 Inches)





Honeywell Analytics Lines of Business







Commercial

Gas detection from standalone units to fully engineered, multi-point systems, all offering cost-effective regulatory compliance

» Applications: parking structures, chillers, mechanical rooms, office towers, commercial buildings, shopping centers, swimming pools, golf courses, schools and universities, laboratories

Industrial

Renowned Sieger and Manning gas detection systems with advanced electrochemical, infrared and open path sensing technologies

» Applications: oil and gas, cold storage, water/wastewater treatment, chemicals, engine rooms, plastics and fibers, agriculture, printing and light industrial

Portables

Single or multi-gas Lumidor and other premium detectors with compact, lightweight designs ranging from simple alarm only units to advanced, fully configurable and serviceable instruments

» Applications: underground utility and electricity ducts, boiler rooms, post-fire sites, sewers, industrial plants, industrial hygiene, first responder teams, remote fleets





High Tech/Government

A complete portfolio of gas and chemical detection instrumentation including infrared spectroscopy (MST) with no cross interference, to Chemcassette paper-based solutions (MDA Scientific) offering detection down to parts per billion

» Applications: semiconductor manufacturing and nanotechnology, aerospace propulsion and safety, specialty chemicals industry, research laboratories, emergency response

Technical Services

24/7 global network includes post-sales service and Systems Integration teams

» Emergency call out, service contracts, on/off-site repair, training and commissioning

» Complete range of spares, consumables and accessories

Find out more
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Fire Sentry Corporation is now part of Honeywell Analytics. As we begin to fully integrate our companies, you might notice some small changes. This integration is about bringing together two of the best in life safety. We are focused on putting our customers first and making the right decisions to guarantee Honeywell Analytics continues to remain the experts in fire and gas safety.

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