



**UV and UV/IR Electro-Optical
Digital Fire and Flame Detectors**

Fire Sentry SS4 Detectors



Fire Sentry SS4-A and SS4-AS Features:

- Multi-Spectrum™: senses ultraviolet, visible and Wide Band Infrared™
- Built-in test for optical “through the lens” testing
- False alarm immunity
- Detects hydrocarbon and non-hydrocarbon based fires
- Wide field-of-view and solar-blind
- Adjustable detector sensitivity
- Microprocessor based algorithms: FirePic™, Snapshot™ and Tri-Mode Plot™
- Wide temperature range of operation
- Compatible with standard approved fire alarm panels
- Explosion-proof housing
- Time programmable alarm verification

Fire Sentry SS4-AUV Features:

- Senses solar-blink ultraviolet band
- Built-in test for optical “through the lens” testing
- Utilizes long-life, ruggedized UV sensors
- Detects hydrocarbon and non-hydrocarbon based fires
- Wide field-of-view and solar-blind
- Adjustable detector sensitivity
- Microcomputer based algorithms: FirePic™, Snapshot™ and UV Plot
- Wide temperature range of operation
- Compatible with standard approved fire alarm panels
- Explosion-proof housing
- Time programmable alarm verification

Applications include:

- Petrochemical Facilities and Refineries
- Co-Generation Plants
- Aircraft Hangars
- Silane and Hydrogen Gas Storage
- Gas Turbines & Power Plants
- Gas Compressor Stations
- Warehouses

The Fire Sentry SS4 Electro-Optical Digital Fire and Flame Detectors represent leading edge UV and UV/IR technology.

FireSentry SS4-A

The Fire Sentry SS4-A represents the world’s pre-eminent UV/IR technology for Electro-Optical Flame Detectors with tens of thousands successfully operating in a multitude of installations worldwide. This multi-spectrum detector senses radiant energy in the ultraviolet (UV), visible and Wide Band Infrared™ (IR) spectrum. The radiant energy from all types of flaming fires will alert the detector to their presence.

To eliminate common nuisance false alarms that occasionally occur with UV-only, IR-only, Dual IR or Dual Mode UV/IR detectors, the Fire Sentry SS4 detectors’ FireLogic signal processing requires that UV, visible and Wide Band IR radiant energy all be evaluated before declaring a fire. The smart detector utilizes real-time signal processing algorithms that are optimized to alarm on all types of fires, while virtually eliminating the possibility of false alarms.

Fire Sentry SS4-AS

The Fire Sentry SS4-AS processes UV, IR and Visible (VIS) spectral ranges from ruggedized solar-blind UV, “Quantum-Effect” IR and VIS sensors correspondingly. It is optimized for detection of hydrogen, ethanol, methanol and methane (natural gas) fires and like the other detectors in its family, it responds to Type A, B and C flaming fires.

Fire Sentry SS4-AUV

The Fire Sentry SS4-AUV represents the leading edge technology UV optical flame detectors. This flame detector senses radiant energy in the ultraviolet (UV) spectrum. The radiant emissions of flaming fires will alert the detector to their presence.



Fire Sentry SS4 Detectors



The field of view for the Fire Sentry SS4 detectors is the widest in the industry with a 120° cone of vision. This means more hazard area can be covered by each detector. Greater sensitivity also increases the volume covered by each detector, up to four times more than some other detectors.

Using sophisticated microprocessor signal processing algorithms, false alarm rejection is maximized – with virtual immunity to false alarms from arc welding, corona discharge and other common non-fire sources.

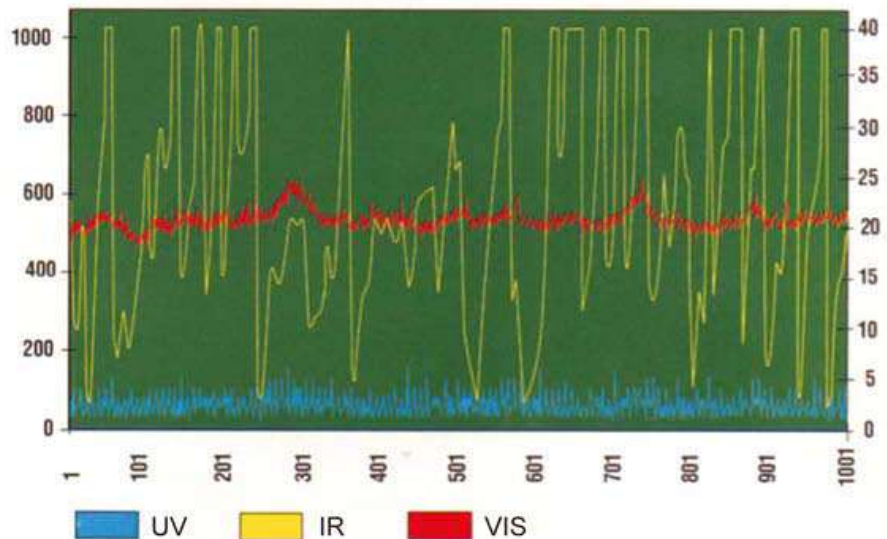
Operation

The Fire Sentry SS4 detectors operate from standard 24 Volt DC power and interfaces to approved fire alarm panels or standard PLC's. When power is applied, a self-test is performed and the fault relay resets to show no faults. The front LED lights flash every ten seconds to indicate power is on.

The continuous spectral data stream of information from the sensor array is analyzed by the microprocessor. Upon alarm, the detector activates the alarm relay and stores all the pre-fire spectral data in non-volatile memory for retrieval and evaluation. This Fire Pic™ data can be used to postulate the cause of the fire.

As part of the FS2000™ System, the SS4 family of detectors communicate with CM1-A Controller via a four wire bi-directional RS-485 FireBus™.

Tri-Mode Plot Shown on Computer Display



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

Find out more

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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

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Honeywell

Fire Sentry FS20X Fire and Flame Detector **Honeywell**



**Multi-Spectrum UV/Dual IR/VIS
Fire and Flame Detector**

Fire Sentry FS20X Detector



Features

- Patented* WideBand IR™ Infrared combined with Ultraviolet
- Detection range greater than 200 feet to 1 sq. ft. heptane fire
- Patented* Electronic Frequency Analysis
- Visible Sensor for optimum false alarm rejection
- Selectable detection sensitivities
- Solar blind 90° full 100% cone-of-vision
- Dual Microprocessors for reliable performance
- Real-time clock for accurate time dating of events
- FirePic™ — Up to 6 pre-fire event data storage
- Event log — Up to 200 events with date and time stamp
- Built-in RS-485 ModBus Communication
- Built-in 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 plug-in terminations for easy field installation
- Two ¾" NPT OR 25mm conduit entries
- Low power consumption
- High RFI and EMI immunity
- FM approved

Benefits

- Detects hydrocarbon and non-hydrocarbon fuel fires in all environmental conditions
- Arc welding immunity
- False alarm rejection for all environmental conditions
- Minimal maintenance for trouble-free operation
- PC software and Interface Module (FSIM) for fault diagnostics real-time graphs (RTGs), and downloading of FirePics™ and event log
- Suitable for a wide variety of applications

The Fire Sentry FS20X is the latest generation high technology Multi-Spectrum (UV/Dual IR/VIS) Fire and Flame Detector, which is part of the FSX family of advanced technology Electro-Optical Flame detectors.

Based on the foundation of the highly successful and reliable Fire Sentry SS4 detector, the Fire Sentry FS20X detector represents a quantum leap in integrating Infrared and Ultraviolet sensing technologies. The Fire Sentry FS20X is a Multi-Spectrum and UV/Dual IR/VIS fire and flame detector with a proven UV solar-blind sensor. The Fire Sentry FS20X exhibits faster false-alarm free response to fires over a wider temperature range and with a much longer detection range compared to conventional UV/IR detectors.

Applications

- Refineries and Oil Production Facilities
- Off-Shore Platforms
- Turbine/Compressor Enclosures
- Acetylene Processing and Storage
- 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
- Silane Gas Storage



*Fire Sentry Corporation Patents

Fire Sentry FS20X Detector



Conventional and older technology UV/IR detectors, using narrow band 4.3 micron IR sensors, will not respond to smoky fires or if the detector lens is contaminated with oil and other substances since both UV and 4.3 micron signals are attenuated, obscured or absorbed by thick smoke or detector lens contaminations. Also, these old technology UV/IR detectors will not alarm to any fire if they are installed behind ordinary window glass.

The Fire Sentry FS20X detector uses advanced patented algorithms for signal processing and fire and flame analysis is designed to alarm to all types of fires in all industrial environmental conditions. If the detector's UV signal is degraded due to heavy smoke or a contaminated lens, the Fire Sentry FS20X's patented* WideBand IR™, Near Band IR and Visible sensors will still alarm to 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 FS20X detector has a detection range in excess of 200 feet (very high sensitivity setting) for the detection of a one square-foot Heptane reference fire and has a cone of vision greater in volumetric coverage than most UV/IR detectors. This means fewer detectors can be used as compared to other manufacturers' detectors.

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

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- » Complete range of spares, consumables and accessories

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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
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- 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 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.



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