Fire Sentry SS4 Fire and Flame Detectors

Honeywell





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.

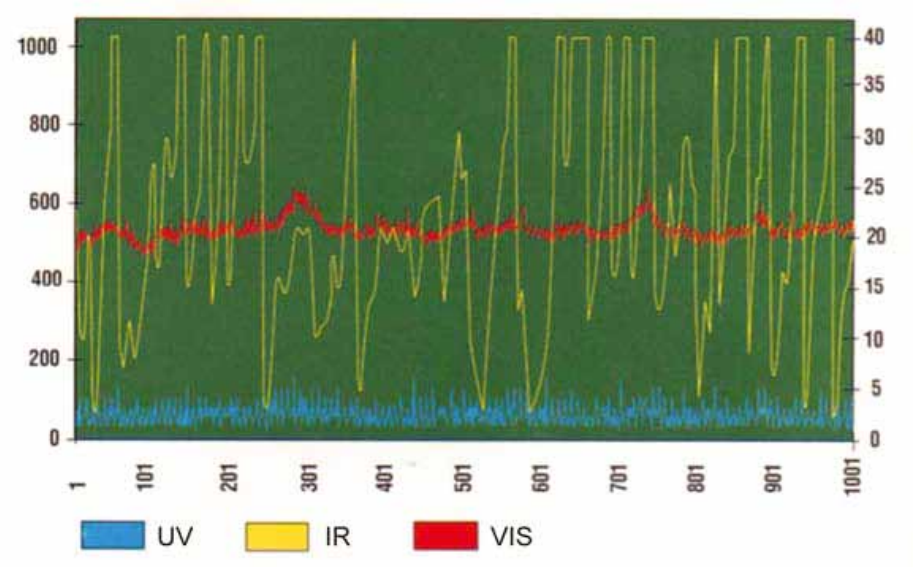
Operation

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

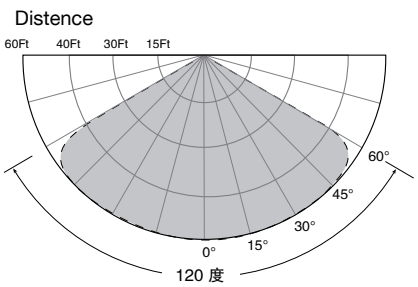




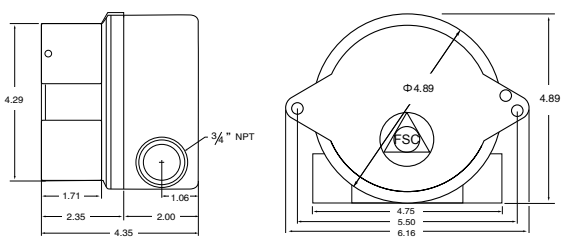
General Specifications	
Sensitivity	Adjustable between 60 ft., 45 ft., 30 ft, and 15 ft. to a 1 sq. ft. gasoline fire
Response Time	2-5 seconds to 1 sq. ft. of gasoline fire at 60 ft.
Field-of-View	120 degrees cone of vision (60 degrees from on axis).
Spectral Sensitivity	Ultraviolet: 185 to 260 nanometers Wide Band Infrared: 0.7 to 3.5 micrometers (SS4-A and SS4-AS only) Visible: 400 to 700 nanometers (SS4-A and SS4-AS only)
Input Power	24 VDC nominal (20.5 to 34 VDC)
Power Consumption	68 mA normal operation (relay version) 75 mA alarm condition (relay version) 95 mA alarm condition (analog version)
Output Relays	Fire Alarm Relay: NO & NC contacts Latching/Non-Latching, switch selectable Fire Verify Relay: NO & NC contacts Adjustable time from 0 to 30 seconds Fault Relay NO & NC contacts Relay contact ratings: 0.5A at 120 VAC, 1.0A at 24VDC Fault relay is energized during normal operation All other relays are de-energized
Operating Temperature	-40 to 185°F (-40 to 85°C)
Humidity Range	5 to 98% RH, non-condensing
Weight	4 pounds - Aluminum 7.5 pounds - Stainless Steel
Housing	Copper-free aluminum (less than 0.4%) powder coated NEMA4 (IP66), tamper resistant with integral dual ¾" NPT conduit openings or optional M25. Stainless steel housing available
Electrical Classification	Explosion-proof Class I, Div. 1 & 2, Groups B, C and D Class II, Div. 1 & 2, Groups E, F and G Class III
Vibration	Meets or exceeds MIL Spec 810 C Method 514.2, Curve AW
Mounting	Swivel bracket assembly
Warranty	Two years from factory shipping date



Maximum Sensitivity
Field of View, Horizontal and Vertical
Sensitivity to 1 sq. ft. Gasoline Pan Fire



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



Customer business centre

Korea: +82-2-69090300
Singapore: +65-65803776
Australia: +61-3-94642770
Taiwan: +886-3-5169284
China: +86-21-28943293

Technical Services

AP: ha.ap.service@honeywell.com
EMEA: ha.emea.service@honeywell.com
US: ha.us.service@honeywell.com

www.honeywell.com

Honeywell

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