



**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
- mA output option
- Meets SIL 2 requirements

## Fire Sentry SS4-AUV Features:

- Senses solar-blind ultraviolet band
- Built-in test for optical “through the lens” testing
- Utilises long-life, ruggedised 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
- mA output option

## Applications include:

- Petrochemical facilities and Refineries
- Co-Generation plants
- Aircraft hangars
- Silane and Hydrogen gas storage
- Gas Turbines and power plants
- Gas compressor stations
- Warehouses
- Semiconductor

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



### Fire Sentry 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 utilises real-time signal processing algorithms that are optimised 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 ruggedised solar-blind UV, “Quantum-Effect” IR and VIS sensors correspondingly. It is optimised 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. The SS4-AUV is for indoor applications where UV sources such as welding are not present.

# Operation and General Specification



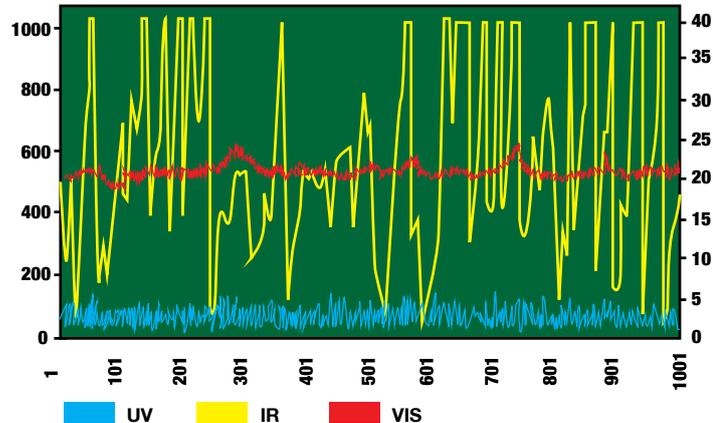
## Operation

The Fire Sentry SS4 detectors operate from standard 24 Volt DC power and interface to approved fire alarm panels or standard PLC's. On power up, 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 analysed 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

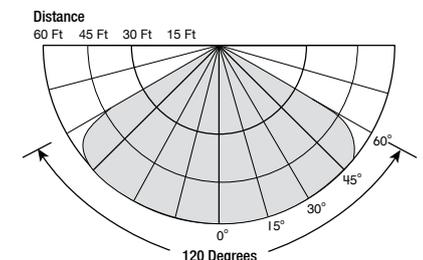


The field of view for the Fire Sentry SS4 detectors is the widest in the industry with a 120° cone of vision. This means more hazard area can be covered by each detector. Greater sensitivity also increases the volume covered by each detector; up to four times more than some other detectors.

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

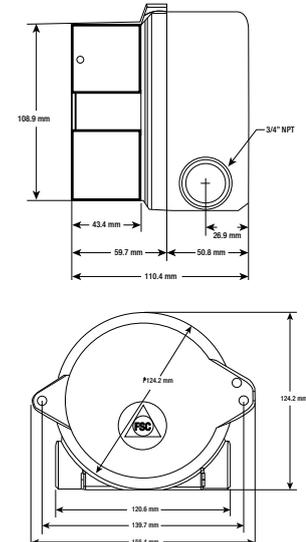
## Maximum Sensitivity

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



## General Dimensions

Side and Back Views  
(All Dimensions in mm)



General Specification	
<b>Sensitivity</b>	Adjustable between 18 m (60 ft.), 14 m (45 ft.), 9 m (30 ft.) and 4.5 m (15 ft.) to a 0.1 m <sup>2</sup> (1 sq. ft.) gasoline fire
<b>Response time</b>	2-5 seconds to 0.1 m <sup>2</sup> (1 sq. ft.) of gasoline fire at 18 m (60 ft.)
<b>Field-of-view</b>	120 degrees cone of vision (60 degrees from on axis).
<b>Spectral sensitivity</b>	Ultraviolet: 185 to 260 nanometres Wide Band Infrared: 0.7 to 3.5 micrometres (SS4-A and SS4-AS only) Visible: 400 to 700 nanometres (SS4-A and SS4-AS only)
<b>Input power</b>	24 Vdc nominal (20.5 to 34 Vdc)
<b>Power consumption</b>	68 mA normal operation (relay version) 75 mA alarm condition (relay version) 95 mA alarm condition (analog version)
<b>Output relays</b>	
<b>Fire alarm relay</b>	NO & NC contacts Latching / Non-Latching, switch selectable
<b>Fire verify relay</b>	NO & NC contacts Adjustable time from 0 to 30 seconds
<b>Fault relay</b>	NO & NC contacts Relay contact ratings: 0.5 A at 120 Vac, 1.0 A at 24 Vdc, non-inductive Fault relay is energised during normal operation All other relays are de-energised
<b>Operating temperature</b>	-40°C to 85°C (-40°F to +185°F)
<b>Humidity range</b>	10 to 98% RH, non-condensing
<b>Weight</b>	1.8 kg (4 pounds) - Aluminum 3.4 kg (7.5 pounds) - Stainless Steel
<b>Housing</b>	Copper-free aluminum (less than 0.4%) powder coated NEMA4 (IP66), tamper resistant with integral dual 3/4" NPT conduit openings or optional M25. Stainless steel housing available
<b>Certification</b>	FM Class I, Div. 1 & 2, Groups B, C and D Class II, Div. 1 & 2, Groups E, F and G Class III ATEX, IECEx 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 FMEDA meets IEC 61508 safety requirements
<b>Vibration</b>	Meets or exceeds MIL Spec 810 C Method 514.2, Curve AW
<b>Mounting</b>	Swivel bracket assembly
<b>Warranty</b>	Two years from factory shipping date.
<b>Output Option</b>	mA 0-20 mA 'source'

# Our Product Range



## Fixed Gas Monitoring

Honeywell Analytics offers a wide range of fixed gas detection solutions for a diverse array of industries and applications including: Commercial properties, industrial applications, semiconductor manufacturers, energy plants and petrochemical sites.

- » Detection of flammable, Oxygen and toxic gases (including exotics)
- » Innovative use of four core sensing technologies – paper tape, electrochemical cell, catalytic bead and infrared
- » Capability to detect down to Parts Per Billion (ppb) or Percent by Volume (%v/v)
- » Cost effective regulatory compliance solutions

## Portable Gas Monitoring

When it comes to personal protection from gas hazards, Honeywell Analytics has a wide range of reliable solutions ideally suited for use in confined or enclosed spaces.

These include:

- » Detection of flammable, Oxygen and toxic gases
- » Single gas personal monitors – worn by the individual
- » Multi-gas portable gas monitors – used for confined space entry and regulatory compliance
- » Multi-gas transportable monitors – used for temporary protection of area during site construction and maintenance activities

## Technical Services

At Honeywell Analytics, we believe in the value of great service and customer care. Our key commitment is providing complete and total customer satisfaction. Here are just a few of the services we can offer:

- » Full technical support
- » Expert team on hand to answer questions and queries
- » Fully equipped workshops to ensure quick turnaround on repairs
- » Comprehensive service engineer network
- » Training on product use and maintenance
- » Mobile calibration service
- » Customised programmes of preventative/corrective maintenance
- » Extended warranties on products

### Find out more

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We Save Lives

