



**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 60 m (200 feet) to 0.1 m² (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
- Wide operating temperature range
- Patented* Electronics Module for component protection with plug-in terminations for easy field installation
- Two 25 mm conduit entries or two 3/4" NPT
- Low power consumption
- High RFI and EMI immunity
- FM approved
- Ex d ATEX approved
- Meets SIL 2 requirements

Benefits

- Detects hydrocarbon and non-hydrocarbon fuel fires in all environmental conditions
- Arc welding immunity
- False alarm rejection for 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

Applications

- Refineries and oil production facilities
- Off-Shore platforms
- Turbine/Compressor enclosures
- Acetylene processing and storage
- 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
- Hydrogen plants and storage
- Paint and solvent storage
- Chemical production, storage, and loading facilities
- Power plants
- Silane gas storage

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.

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 using 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, 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 whilst 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.

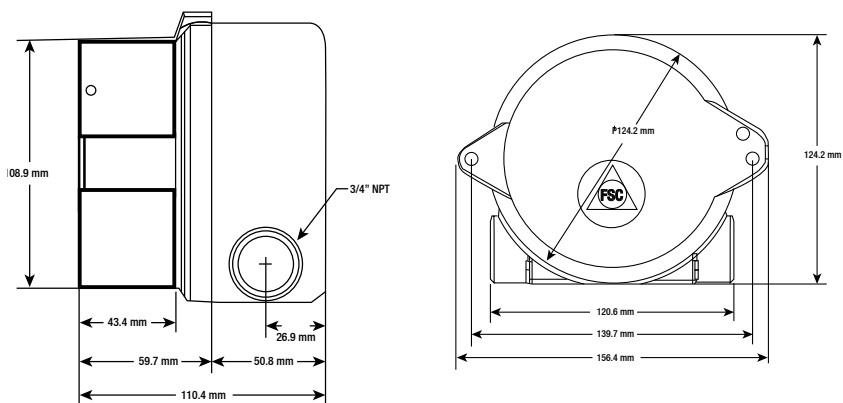
The Fire Sentry FS20X detector has a detection range in excess of 60 m (200 feet) (very high sensitivity setting) for the detection of a 0.1m² (one square-foot) Heptane reference fire and has a cone of vision greater in volumetric coverage than most UV/IR detectors. This means fewer detectors can be used as compared to other manufacturers' detectors.

General Specification



General Specifications	
Field of view	90° Full 100% Cone of vision, ± 45° 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	Ultraviolet: 185 - 260 nanometres Visible: 400 – 700 nanometres Near Band IR: 0.7 – 1.1 microns Wide Band IR: 1.1 – 3.5 microns
Operating voltage	24 Vdc nominal (18-32 Vdc) - regulated
Power consumption	Operating: 83 mA @ 24 Vdc nominal
Alarm	133 mA @ 24 Vdc nominal
Heater	155 mA – additional Note: Heater will turn on at -17°C (0°F)
Output relays	Fire Alarm: SPDT (NO / NC) – De-energised/energised, 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: <ul style="list-style-type: none"> • RS-485, ModBus Protocol • RS-485, FireBus II • RS-485 Special (optional) • HART, Optional plug-in module
Visual indications	Blue LED: Power Red LED: Alarm Yellow LED: Fault
Temperature range	Operating: -40 to +85°C (-40 to +185°F) Storage: -55 to +110°C (-67 to +230°F)
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 and 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 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 complies with EN61000-6-4 and EN50130-4 TUV 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)



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

www.honeywellanalytics.com

Contact Honeywell Analytics:

Europe, Middle East, Africa, India

Life Safety Distribution AG
Javastrasse 2
8604 Hegnau
Switzerland
Tel: +41 (0)44 943 4300
Fax: +41 (0)44 943 4398
India Tel: +91 124 4752700
gasdetection@honeywell.com

Americas

Honeywell Analytics Inc.
405 Barclay Blvd.
Lincolnshire, IL 60069
USA
Tel: +1 847 955 8200
Toll free: +1 800 538 0363
Fax: +1 847 955 8210
detectgas@honeywell.com

Asia Pacific

Honeywell Analytics Asia Pacific
#701 Kolon Science Valley (1)
43 Digital-Ro 34-Gil, Guro-Gu
Seoul 152-729
Korea
Tel: +82 (0)2 6909 0300
Fax: +82 (0)2 2025 0329
analytics.ap@honeywell.com

Technical Services

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

www.honeywell.com

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We Save Lives

