

FS20X Multi-Spectrum IR / IR / UV Fire and Flame Detector

FS20X

FSC



The new Model **FS20X** is the latest generation high technology Multi-Spectrum (IR/IR/UV/Visible) Fire and Flame Detector, which is part of Fire Sentry's new **FSX** family of advanced technology Electro-Optical Fire Detectors. Based on the foundation of highly successful and reliable SS4 detector, the new **FS20X** Detector represents a quantum leap in integrating Infrared and Ultraviolet sensing technologies. The **FS20X** is a Multi-Spectrum IR/IR/VIS fire and flame Detector with the addition of a proven UV solar-blind sensor. The **FS20X** exhibits faster, false-alarm free response to fires over a wider temperature range and with a much longer detection range compare 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 new **FS20X** Detector using advanced patented algorithms for signal processing and fire and flame analysis is designed to alarm to all types of fires, hydrocarbon and non-hydrocarbon, in all industrial environmental conditions. If the Detector's UV signal is degraded due to heavy smoke, contaminated lens or blocked by ordinary window glass, the **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 **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.

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 RTGs, and downloading of FirePics™ and Event Log
- Three Year Warranty – Optional Extended Warranty available
- Suitable for a wide variety of applications

Applications include:

- 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



Specifications

FS20X

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 1 sq. ft. n-Heptane fire at 100 ft.
3-10 Seconds to 1 sq. ft. n-Heptane fire at 200 ft.

Spectral Sensitivity: Ultraviolet: 185 - 260 nanometers
Visible: 400 - 700 nanometers
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 0°F (-17°C)

Output Relays: *Fire Alarm:* SPDT (NO / NC) - De-Energized/
Energized, Latching/Non-Latching
Fault: SPST (NO) - Normally 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
• 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 +185°F (-40 to +85°C)
Storage: -67 to +230°F (-55 to +110°C)
Optional extended temperature version available
-58 to 257°F (-50 to +125°C)

Humidity Range: 5 to 95% relative humidity, non-condensing

Vibration Meets or exceeds MilSpec 810C Method 514.2, Curve AW12

Wiring: 12 AWG (3.31mm²) to 22 AWG (0.326mm²)
Shielded Cable Recommended

Conduit Entries: Standard: Two ¾" NPT
Optional: Two 25mm

Enclosure Materials: Copper-free Aluminum -- Powder Coated
316 Stainless Steel -- Optional

Enclosure Type: NEMA 4 & 4X, IP66

Certifications: **FM**
Class I, Div. 1 & 2, Groups B, C, & D
Class II, Div. 1 & 2, Groups E, F, & G
Class III

CE
Complies with EN6000-6-4 & EN50130-4

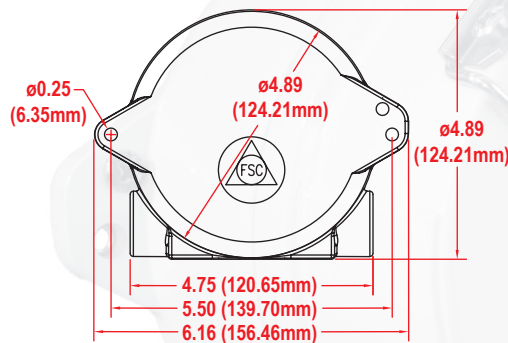
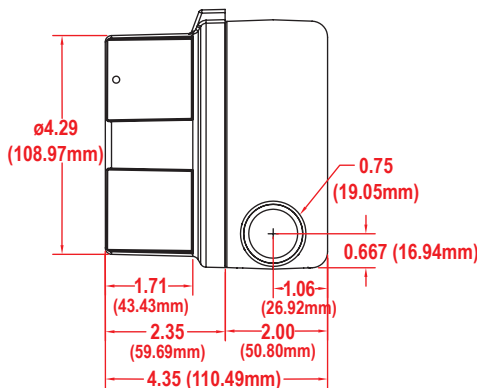
Shipping Weight: Aluminum: 3.6 lbs (1.6 kg)
Stainless Steel: 7 lbs (3.2 kg)

Mounting: Swivel Bracket Assembly - Optional

Warranty: Three years from date of shipping
Extended Warranty available

Ordering Information:

FS20X-211-21 Standard IR/IR/UV Det. - Aluminum Enclosure
FS20X-211-22 Standard IR/IR/UV Det. - 316 S.S. Enclosure
SM4 316 S.S. Swivel Mount
TL2055X Explosion-Proof Test Lamp
TL1055X NEMA 1 Test Lamp



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

Specifications subject to change without notice



FIRE SENTRY
CORPORATION

INNOVATIVE
SOLUTIONS IN
FIRE DETECTION

23311 La Palma Avenue
Yorba Linda, California 92887, U.S.A
Tel: +714-694-2700
Fax: +714-694-2701
E-Mail: sales@firesentry.com
Web Site: www.firesentry.com

