

## Applications Include

- ✓ Refineries & Oil Production Facilities
- ✓ Off-Shore Platforms
- ✓ Turbine/Compressor Enclosures
- ✓ Acetylene Processing and Storage
- ✓ Oil & Gas Pipelines/Pumping Stations
- ✓ LNG/LPG Loading/Unloading Facilities
- ✓ Natural Gas and CNG Plants
- ✓ Ethanol, Methanol, & IPA Production/Storage
- ✓ Crude Oil & Gasoline Storage/Tank Farms
- ✓ Aircraft Hangars
- ✓ Hydrogen Plants & Storage
- ✓ Paint & Solvent Storage
- ✓ Chemical Production, Storage, & Loading Facilities
- ✓ Silane Gas Storage

## 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 & Fire Verification relays ✓ Widest Operating Temp Range
- ✓ Automatic Optical Path and Electronic Self-Test
- ✓ Patented\* Electronics Module for components protection with plug-in terminations for easy field installation
- ✓ Two "3/4" NPT OR 25mm Conduit Entries ✓ FM approved
- ✓ Low Power consumption ✓ High RFI and EMI immunity



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 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 and 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.

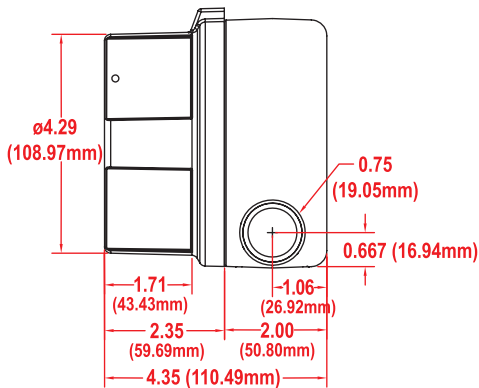
## Operation

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.

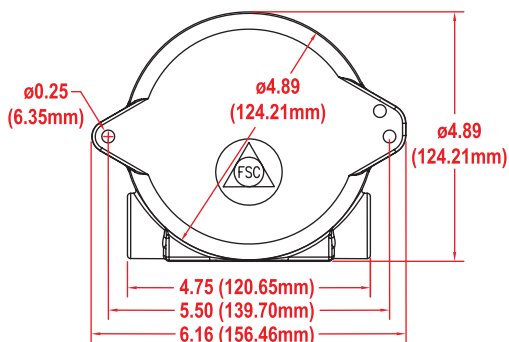
Dual microprocessors provide a high level of fail-safe operation combined with fast and reliable performance. The Master Microprocessor performs high-speed digital sampling and signal processing calculations; while the slave microprocessor handles various sensor data, performs communications, self-diagnostics 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 are needed.

## Specification

Field of View:	90° Full 100% Cone of vision, ± 45° from on axis
Sensitivity:	Very High, High, Medium / 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



Model FS20-X - Side View



Model FS20-X - Back View

All dimensions in inches. This specification subject to change without prior notice

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 (3.31mm <sup>2</sup> ) to 22 AWG (0.326mm <sup>2</sup> ) 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