

FS24X Multi-Spectrum QuadBand™ Triple IR Fire and Flame Detector

FSC

FS24X



The new Model **FS24X** is the latest generation high technology Multi-Spectrum Triple IR (IR/IR/IR/Visible) Fire and Flame Detector, which is part of Fire Sentry's new **FSX** family of advanced technology Electro-Optical Fire Detectors. Using Fire Sentry's patented* WideBand IR™ Infrared, WideBand 4.3 micron IR™, and Visible detection technology, the **FS24X** is a quantum leap in flame and fire detection. Sophisticated software algorithms and dual microprocessors ensure that the **FS24X** has the highest fire detection performance combined with optimal false alarm rejection.

The WideBand IR™ Infrared technology using high-speed solid-state Quantum sensors allows detection of all types of fires, hydrocarbon and non-hydrocarbon, in all weather conditions and in all altitudes.

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 **FSX** family of Detectors features Fire Sentry's patented* FirePic data storage and information retrieval facility. FirePic™ records pre-fire data, which can be recovered from the Detector's non-volatile flash memory for post fire analysis and postulation of the fire cause. Additionally, unique Real-Time Graphing (RTG™) allows viewing of the data which the Detector actually sees. A combination of outputs makes the **FS24X** a truly versatile Detector for today's demanding industrial requirements.

The **FS24X** Detector has a detection range greater than 200 feet (Very High Sensitivity setting) for the detection of a one square-foot Heptane reference fire and has a cone of vision far greater in volumetric coverage than any other Multi-Spectrum IR Detector. This means fewer Detectors can be used as compared to other manufacturers' Detectors.

Features

- Patented* WideBand IR™ Infrared Technology
- Patented* Electronic Frequency Analysis™
- Visible Sensor for optimum false alarm rejection
- Selectable Detection Sensitivities
- Field-of-View: 100° full 100% cone-of-vision
- Dual Microprocessors for reliable performance
- Real-Time Clock for accurate time dating of events
- FirePic™ - Pre-Fire Event Data Storage
- Event Log with Date and Time Stamp
- RS-485 ModBus Communication
- 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 easy plug-in terminations and field installation
- Two ¾" NPT OR 25mm Conduit Connections
- Low Power consumption
- High RFI and EMI immunity
- FM, ATEX, CE mark approvals
- Meets SIL 2 requirements

Benefits

- Detects Hydrocarbon and Non-Hydrocarbon fuel fires in all environmental conditions
- User selectable outputs
- Optimal 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
- Easy Electronics module replacement
- Test Lamps for manual testing

Applications include:

- Refineries and Oil Production Facilities
- Off-Shore Platforms
- Turbine/Compressor Enclosures
- 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

*Fire Sentry Corporation Patents



Specifications

FS24X

Field of View: 110° Full 100% Cone of vision, ± 55° 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: Visible: 400 - 700 nanometers
Near Band IR: 0.7 - 1.1 microns
Wide Band IR: 1.1 - 7 microns
Wide Band IR: 3.0 - 5.0 microns

Operating Voltage: 24 VDC nominal (18-32 VDC) - Regulated

Power Consumption: *Operating:* 56 mA @ 24 VDC nominal
Alarm: 106 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 230°F (-50 to +110°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

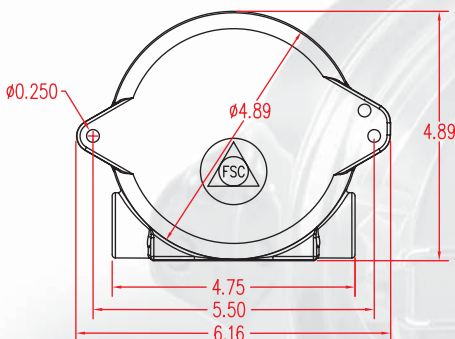
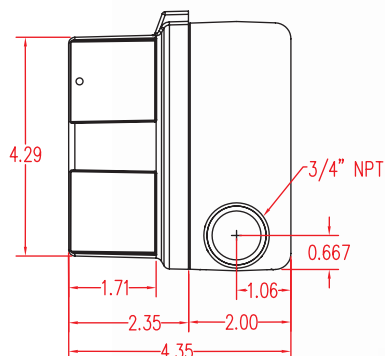
Certifications: **FM**
Class I, Div. 1 & 2, Groups B, C, & D
Class II, Div. 1 & 2, Groups E, F, & G
Class III
ATEX
II 2 G D
Ex d IIC T4 (Ta: -60 to + 110 °C)
T5 (Ta: -60 to + 90 °C)
T6 (Ta: -60 to + 75 °C)
CE
Complies with EN6000-6-4 & EN50130-4
SIL Rating
FMEDA meets IEC 61508 Safety requirements

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:
FS24X-211-21 Standard IR3 Detector - Aluminum enclosure
FS24X-211-22 Standard IR3 Detector - 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



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