

FSA-20000(A)

Intelligent FFAST Fire Alarm Aspiration Sensing Technology®



Intelligent/Addressable Devices

General

An installed FSA-20000(A) FFAST XT can protect up to 28,800 sq. ft. (2,676 sq. m) in standard coverage type applications. The FSA-20000(A) connects to the SLC loop of compatible intelligent panels using FlashScan® protocol to communicate five levels of events for display and use in control-by-event system programming. Using the SLC connection, the system operator can also review real-time information on percent of alarm, drift compensation percent, and temperature. The system operator can also put an Intelligent FFAST detector into service mode, or reset airflow baselines from the main fire alarm control panel.

Alternate or additional monitoring is supported in several different ways, including: Serial or TCP Modbus, Ethernet over a LAN or a direct connection, or via FFAST XT's onboard USB. When connected to a LAN, FFAST XT's email server can provide email event notification to appropriate personnel.

The FSA-20000(A) also communicates alarm and notifications via form C relays. PipeIQ® is intuitive design, configuration, and monitoring software used for all FFAST series devices. The all-in-one program can be used to create a pipe network tailored to meet site specific requirements, configure a FFAST device, and monitor an installed device -- including live trending and reading of historic reports.

The FSA-20000(A) combines dual-source optical smoke detection (blue LED and infrared laser) with advanced algorithms to detect a wide range of fires while maintaining enhanced immunity to nuisance particulates. This enables the FSA-20000(A) to accurately detect incipient fire conditions as early as 30 to 60 minutes before a fire actually starts for Early Warning Fire Detection and Very Early Warning Fire Detection.

Features

- A single device protects up to 28,800 square feet.
- Detection as precise as 0.00046%/ft obscuration.
- Five alarm levels and two sensitivity modes provide application flexibility.
- The FSA-20000(A) supports two sensitivity modes. In Acclimate™ mode, the detector automatically adjusts itself to current environmental conditions to reduce nuisance alarms. Day/Night/Weekend mode enables technicians to preset alarm thresholds based on routine changes in the environment.
- Dual flow detection including both ultrasonic and electronic sensing for pipe and chamber air flow measurement.
- User configurable 3-speed fan, allowing for maximum coverage area or minimizing current consumption.
- Advanced detection algorithms reject common nuisance conditions.
- Patented particle separator and field-replaceable filter remove contaminants from the system.
- PipeIQ software provides intuitive system layout, configuration, and monitoring all in one package.
- Easy configuration via USB interface. No external power needed.



- Using the onboard Ethernet interface, you can monitor the detector from any Internet browser, smart phone or mobile device with VPN capability. You can also configure the detector to e-mail status updates to appropriate personnel.
- TCP and serial Modbus for easy integration with Building Management Systems.
- Fault indicators exhibit a broad spectrum of events.
- Unique air flow pendulum graph verifies pipe network functionality.
- Particulate graph displays subtle environmental changes for early problem indications.
- At startup FSA-20000(A) self-adapts to its environment in just 24 hours, not weeks. The exclusive Acclimate mode automatically adjusts within your specified parameters to reduce nuisance alarms and adjust to current conditions.
- Comprehensive, simple and intuitive display has real-time, quick-read information at the device including five alarm levels, ten particulate levels, air flow, power and a wide range of faults to quickly identify the problem for prompt correction.

FlashScan Capabilities

- The FSA-20000(A) connects to the Signaling Line Circuit (SLC) loop of NFS-320, NFS2-640, and NFS2-3030 panels operating with firmware version 20.0 or higher.
- Uses 5 detector SLC addresses, which support up to 5 event thresholds individually programmed for descriptive labels, and control by event logic. (Sensitivity for all event thresholds are programmed via the PipeIQ utility.)
- Detector trouble reporting at panel.
- Individual CBE activation of the 5 event relays on the Intelligent FFAST (relays also turn on based on the associated event level threshold).

- Supports setting one device as an Aspiration Reference for other Intelligent FFAST sensors on the same SLC loop (NFS2-3030 only).
- Panel Alter/Status level can be used to:
 - Display the real-time read status of percent of alarm, drift compensation percentage, and temperature by point.
 - Put Intelligent FFAST detectors into Service Mode, shutting the device down for maintenance.
 - Reset airflow baselines for an Intelligent FFAST detector.
- Ten bi-color flow.
- Fault graph.

Specifications

ELECTRICAL SPECIFICATIONS

External Supply Voltage: 18-30 VDC; provided by a UL 864 or UL 1481 listed power supply.

Remote Reset Time: External monitor must be pulled low for a minimum of 100 ms.

Power Reset: 1 sec.

Avg. Operating Current: Fan High - 465mA, 11.2W; Fan Med - 340mA, 8.2W; Fan Low - 220mA, 5.3W.

Alarm: Fan High - 493mA, 11.85W; Fan Med - 368mA, 8.85W; Fan Low - 248mA, 6W.

Relay Contact Ratings: 3.0 A @ 30 VDC, 0.5 A @ 125 VAC.

ENVIRONMENTAL RATINGS

Operating Temperature: 32°F (0°C) to 100°F (38°C).

Sampled Air Temperature: -4°F (-20°C) to 140°F (60°C).

Humidity Range: 10 to 95% (non-condensing).

IP Rating: IP30.

Coverage Area: 28,000 sq. ft. (2,676 sq. m).

Air Movement: 0-4,000 ft./min (0-1,219 m/min).

PHYSICAL SPECIFICATIONS

Height: 13.3 inches (33.8 cm).

Width: 13.1 inches (33.3 cm).

Depth: 7.5 inches (19.1 cm).

SLC Connection: Standard SLC connections. Class B (formerly Style 4) or Class A (formerly Style 6/7).

Relays: 8 Form C, 3 AMP, programmable latching or non-latching.

Communication Network: Ethernet monitoring, 6 E-mail address alerts, Modbus/TCP.

Cable Access: 4 1-inch (2.54 cm) cable entry holes on top and bottom of unit.

Wire Gauge: 12 AWG (2.05 mm) max. to 24 AWG (0.5 mm) min.

Maximum Single Pipe Length: 400 ft. (123 m) *Other three pipes disabled.

Total Pipe Length: 1050 ft. (320 m) *All designs must be verified within PipeIQ software.

Network Outside Pipe Diameter: 1.050 inches, IPS (25 mm).

Internal Pipe Diameter: 0.591 to 0.827 inches (15-21 mm).

Sensitivity Range: 0.00046%/ft. obs – 4.0%/ft. obs.

Event Log: 18,000 events stored.

Shipping Weight: 11.8 lbs. (5.4 kg), includes packing material.

User Interface Display:

- Five alarm levels (Alert, Action 1, Action 2, Fire 1, & Fire 2).
- Ten particulate levels.



User Interface Display

Agency Listings and Approvals

The listings and approvals below apply to Intelligent FFAST Series components. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S1115.
- **ULC Listed:** S1115.
- **FM approved.**
- Approved for use in Class I, Division 2, Groups A,B,C, and D Hazardous Locations.

Product Line Information

FSA-20000 Intelligent FFAST: Intelligent aspirating smoke detector. For Canadian applications, order FSA-20000A.

F-A3384-000: Replacement Air Filter.

P-PIPE-210: CPVC Pipe (210 feet total).

P-COUPLING: Coupling (15 each).

P-ELB-45: 45° Elbow (10 each).

P-ELB-90: 90° Elbow (20 each).

P-ENDCAP: End Cap (25 each).

P-TEE: Tee (15 each).

P-UNION: Union (10 each).

P-LABEL-P: Pipe Label (100 each).

P-LABEL-T: Sampling Point Labels (100 each).

P-SAMP-KT: Sampling Point Kit (10 sets).

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