Aspirating
Smoke Detection
P R O D U C T S

SYSTEM SENSOR®

FAAST
FIRE ALARM ASPIRATION SENSING TECHNOLOGY®

Accessories

Piping

Conventional and

Intelligent Detectors

AV   BEAM   CO   HVAC   SPOT   MODULES   RELAYS

FAAST

FIRE ALARM ASPIRATION SENSING TECHNOLOGY®

High Sensitivity.
Simple Communications.
Nuisance Immunity.

FAAST Fire Alarm Aspiration Sensing Technology® from System Sensor – the world leader in smoke detection technology – is an ultra sensitive, highly effective, aspirating smoke detector which provides Very Early Warning type smoke detection in diverse applications ranging from mission critical to harsh environments.

FAAST aspirating smoke detectors use a pipe network and a fan to draw air from a protected space in to the detection chamber. This pipe network allows for smoke detection in hard-to-reach or difficult-to-access areas, including areas with temperature extremes, and allows for ease of testing and maintenance.

All FAAST detectors provide simple access to communications. Each FAAST model is equipped with an on board Ethernet port which enables access for remote configuration and monitoring, as well as the option to send email notifications to up to 6 recipients. All models also come with ready-to-use Modbus, eliminating the need for additional hardware. FAAST is available in conventional models and intelligent models for a variety of major fire alarm control panels.

FAAST XT
4-Port Aspirating Smoke Detector

FAAST Networking and Connectivity

The FAAST series of aspirating smoke detectors are equipped with an onboard Ethernet port for network connectivity. This interface permits a number of remote monitoring possibilities, including the ability to receive alarm and fault notifications via email. The detector has been designed to operate with common network technologies, including Modbus.

For more information on how FAAST can connect to your network, visit systemsensor.com/faast.

FAAST Technology

High Sensitivity

FAAST's highly specialized chamber uses Dual Vision technology to detect extremely low concentrations of smoke while maintaining a high level of immunity to non-smoke particulate – enabling Very Early Warning type smoke detection in harsh and difficult environments.

The chamber, which utilizes a blue LED and an infrared laser to analyze the air sample, has a configurable range of 0.00029% - 6.25%/ft (0.00095% - 20.5%/m) obscuration and has been specifically designed to provide high sensitivity and stability. This sensitivity range can meet and exceed the requirements of Very Early Warning smoke detection, making FAAST highly customizable to meet site-specific requirements.

FAAST provides multiple levels of alarm, allowing for the implementation of strategic response plans and ample time to address a smoke event before it escalates into an actual fire and causes damage and downtime.

Easy Communications

FAAST provides easy access to its wealth of data in several ways, many of them standard on all models:

Ethernet – All FAAST models come equipped with an onboard Ethernet connection. This connection allows the FAAST device to be added to an existing LAN or WAN, and allows the device to be viewed remotely via a Web Browser or viewed and configured remotely via PipeIQ – FAAST's design, configuration, and monitoring software. Once connected to a LAN, FAAST's integrated e-mail client can send event-triggered messages to as many as 6 different e-mail addresses.

USB - For a quick plug-and-play connectivity (uploading or downloading configurations, monitoring, etc) FAAST XS and XT have been equipped with a USB interface. This provides an easy in-situ connection whenever required.
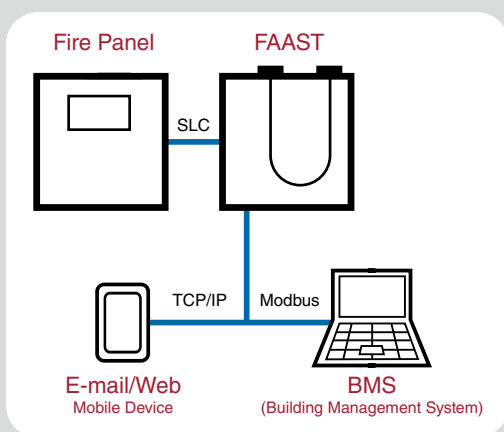
Modbus – All FAAST conventional and intelligent models come equipped with a Modbus interface which can be used to connect FAAST to building management systems. This Modbus interface does not require any additional hardware or software to connect. FAAST XM detectors utilize TCP Modbus via the Ethernet port. FAAST XT detectors offer Modbus via the Ethernet connection as well as a serial interface. The FAAST Modbus User Guide, which includes all of the information a user needs to connect FAAST to a Modbus system, is available at systemsensor.com/faast.

Conventional FACP Connectivity – Conventional FAAST can be connected to a Fire Alarm Control Panel (FACP) using the onboard relays and monitor modules, and can also be monitored using the Ethernet and Modbus options.

Direct connection to the SLC

FAAST can connect directly to the signaling line circuit (SLC) of many major Fire Alarm Control Panels, using the same two wires as other detection devices. Contact your panel manufacturer for more information.

Fire Panel   FAAST

SLC

TCP/IP   Modbus

E-mail/Web
Mobile Device

BMS
(Building Management System)

Intelligent FACP Connectivity – FAAST is also available in intelligent models for many major fire alarm control panels (FACP). Intelligent FAAST communicates directly with the FACP using the communication protocol native to the panel, just like any other detection device on the loop. Using the protocol native to the FACP, FAAST can directly communicate with the FACP without the need for any additional hardware or software. This intelligent communication can also be combined with the Ethernet and Modbus communication options, making FAAST's information easily accessible. Contact your panel manufacturer for Intelligent FAAST information and availability.

Nuisance Immunity

FAAST employs three stages of filtration to ensure high sensitivity to smoke while effectively eliminating nuisance alarms. These filtration methods allow FAAST to be deployed in harsh, particulate-heavy environments while maintaining its high sensitivity. FAAST's filtration includes:

Particle Separator – FAAST's particle separator forces a change in direction of the air flow coming through the device. This change in direction is impossible for heavier particulate, which would not be associated with products of combustion, and those heavy particles are immediately eliminated from the device by bypassing the chamber and being exhausted via the fan. This particle separator not only ensures nuisance particles do not enter the chamber, but it also prolongs the life of the replaceable filter and extends the life of the FAAST unit.

Filter – FAAST also utilizes a 30-micron field-replaceable filter, which is easily accessible from the front of the device for service and maintenance. This harsh filter protects the chamber from other non-fire particulate which may have passed through the particle separator. The filter is highly monitored and will only issue a service warning when it needs to be changed – not before – and lasts several years in clean environments.

Dual Vision Smoke Chamber – FAAST uses a unique dual wavelength / dual angle sensing technology. Infrared laser as well as blue LED detect extremely low concentrations of smoke from a wide variety of fires. Combining information from both of the light sources, advanced algorithms interpret the signals and react to smoke while ignoring nuisance particles. Also, the shape of FAAST's unique chamber is specifically designed to resist nuisance particulate build-up.

PipeIQ®
Design. Configure. Monitor.

PipeIQ is FAAST's design, configuration, and monitoring software. PipeIQ uses an intuitive drawing interface to build and customize a pipe network to meet site-specific requirements. It also offers a pipe wizard to build a pipe network for standard square and rectangular rooms in just a few easy steps.

Once installed, PipeIQ enables ongoing configuration and system monitoring from anywhere in the world via the internet using FAAST's onboard Ethernet connection.

PipeIQ is available to download free for Windows 7 and 8 at **systemsensor.com/pipeiq**

FAAST Applications

Mission Critical

Mission critical applications are defined as those where even a single minute of downtime in productivity or being operational, would mean a substantial loss of revenue. Traditionally, these are spaces like server rooms and data centers, telecommunication facilities, and hi-tech manufacturing. Mission critical spaces generally create high airflow environments, which cause smoke to disperse and dilute. While the earliest possible smoke detection is key to mission critical sites, they may equally suffer when a false alarm occurs. FAAST nuisance immunity is thus as valuable to such sites as being able to detect smoke in the incipient stages of a fire.

Why FAAST?

- High sensitivity – up to 0.00029%/ft – provides Very Early Warning Smoke Detection, allowing time to deal with the issue and preserve uptime.
- Active detection – FAAST's pipe network actively transports air through its pipe network, ensuring it enters the chamber in high air flow environments.
- Nuisance immunity – FAAST's technology provides greater nuisance immunity, meaning no time lost due to false alarms.
- Connectivity – FAAST connects directly to many major fire alarm control panels, and can connect to Modbus BMS systems and IP networks without any additional hardware or software.
- Filter life notification – FAAST's filter is intelligently monitored and will give notification when it must be changed. In clean areas, such as hi-tech manufacturing, FAAST's filter will last several years.

Extreme Environments

Dusty or polluted environments, areas with temperature extremes, condensation prone spaces, and areas that could give rise to an explosive environment, all pose challenges to traditional smoke detection devices. Often, these environments cannot use smoke detection and rely on conventional or linear heat detectors instead. FAAST's technology enables effective smoke detection in a variety of challenging environments.

Why FAAST?

- Nuisance immunity – FAAST's patented particle separator, 30-micron filter, and Dual Vision technology enable high sensitivity smoke detection in areas with high amounts of airborne non-fire particulate. Examples: livestock protection, food manufacturing, recycling plants, elevator shafts, pharmaceutical manufacturing.
- Class I, Division 2 Listing – FAAST is UL listed for Class I, Division 2 hazardous environments – or areas that could possibly give rise to an explosive environment. FAAST can safely be deployed in these environments which require special certification. Examples: distilleries, oil & gas production, aircraft hangers.

- Wide temperature range – FAAST can be mounted in temperatures of 32˚ to 100˚F (0˚C to 38˚), and sample air of -4˚ to 140˚F (-20˚C to 60˚C). If the air is outside of the sampling range, the pipe network can be used to condition the air and remove any condensation, providing protection for the most extreme temperature areas. Examples: cold stores and blast chillers, industrial dryers.

Large Open Spaces

From airports and subways to warehouses and atriums, large open spaces present many challenges to traditional smoke detection, such as stratification and high air flows.

Why FAAST?
- Pipe network – FAAST's pipe network is extremely flexible, allowing deployment to cover wide open spaces while enabling sampling points at different levels and stratification barriers.
- Ease of Maintenance – For remote testing, FAAST can be mounted at an accessible location with a pipe network running to the ceiling. With a remote test port at an accessible location, all of the testing and maintenance can be completed without a lift and at a single point for up to 28,800 sq. ft. (2,676 sq. m.) with FAAST XT.
- Nuisance immunity – Large open spaces often have higher amounts of airborne non-fire particulate. FAAST's particle separation and dual vision technology allow for smoke detection in dirty environments.

Aesthetic

Museums, galleries, churches, and historical buildings, as well as high value homes, often contain valuable content that requires sophisticated smoke detection systems as well as a system that's visually un-intrusive to the space.

Why FAAST?
- Discreet sampling – FAAST's pipe network can be placed above the ceiling with discreet sampling points dropped into the space. These sampling points provide nearly invisible smoke detection.
- High sensitivity – Providing Very Early Warning smoke detection, FAAST is ideal for areas with valuable contents such as museums and art galleries.

Access Restricted

Restricted-access areas such as prisons or MRI rooms are ideal applications for FAAST. These areas require easily accessible smoke detection that provides a high level of information so technicians know exactly how to address any problem that may arise.

Why FAAST?
- Easy to access – FAAST pipe network allows the device itself to be mounted outside of the restricted space for ease of test and maintenance.
- Easy troubleshooting – FAAST devices are easy to troubleshoot because of the detailed fault information they provide, all available on the device's user interface.
- Connectivity - All device information is also available through FAAST's many connectivity options:
  - Over the internet when TCP/IP enabled
  - Through a Modbus BMS
  - At the fire alarm panel for intelligent models..

![FAAST - Fire Alarm Aspiration Sensing Technology]

FAAST XT

Aspirating Smoke Detectors

The FAAST XT aspirating smoke detector combines dual source optical smoke detection with advanced particle separation to provide highly sensitive smoke detection, even in areas with high levels of non fire particulate. FAAST XT can cover up to 28,800 sq. ft. (2,676 sq. m.) through four pipe inlets which are each monitored by ultrasonics for air flow. The device is fully configurable, with 5 programmable sensitivity levels, 3 selectable fan speeds, and offers an LCD and USB for ease of programming and device interaction. FAAST XT is approved for use in Class I, Division 2, Groups A, B, C, and D Hazardous Locations.

FAAST Fire Alarm Aspiration Sensing Technology

9400X	Conventional FAAST XT 4-Pipe Inlet with Modbus/TCP protocol with a coverage area up to 28,800 sq. ft. (2,676 sq. m.)

*All models ship standard with Modbus connectivity.

FAAST XT Pro

Aspirating Smoke Detectors

The FAAST XT Pro provides all of the features, benefits, and performance specifications of the FAAST XT but adds the capability to annunciate which pipe inlet has detected smoke. Using metal oxide (MOS) sensors equipped in each pipe inlet, the FAAST XT Pro allows a responder to narrow down the response area when smoke has been detected for quicker reaction times.

FAAST Fire Alarm Aspiration Sensing Technology

9440X	Conventional FAAST XT Pro 4-inlet with smoke identification per inlet, with Modbus/TCP protocal and coverage area up to 28,800 sq.ft (2,676sq.m).

*All models ship standard with Modbus connectivity.

FAAST XM

Aspirating Smoke Detectors

FAAST XM can provide protection to the mid-sized applications of up to 8,000 sq. ft (743 sq. m). It uses the same, state-of-the-art detection and nuisance alarm rejection technologies. FAAST XM also offers a TCP/IP and Modbus connectivity as well as 8 programmable form-C relays. With its 5 configurable sensitivity levels and the Acclimate™ mode, programmable delays, FAAST XM can be tailored to the most demanding fire-risk management scenarios. It is also approved for use in Class I, Division 2, Groups A, B, C, and D Hazardous Locations.

FAAST Fire Alarm Aspiration Sensing Technology

8100	Conventional FAAST Single Inlet with Modbus/TCP protocol with a coverage area up to 8.000 sq. ft. (743 sq. m.)
8251F	Intelligent FAAST Single Inlet with CLIP protocol* with a coverage area up to 8,000 sq. ft. (743 sq. m.)

*All models ship standard with Modbus connectivity.

FAAST XS

Aspirating Smoke Detectors

An installed FAAST XS device can protect up to 5,000 sq. ft. (464 sq. m) in standard coverage type applications and can be monitored in several different ways, including: Serial or TCP/Modbus, Ethernet over a LAN or a direct connection, and USB. When connected to a LAN, FAAST XS's email client can provide email event notification to appropriate personnel. FAAST XS also communicates alarm and notifications via form C relays. FAAST XS also communicates alarm and notifications via form C relays.

FAAST Fire Alarm Aspiration Sensing Technology

7100X	Conventional FAAST Single Inlet with Modbus/TCP protocol with a coverage area up to 5.000 sq. ft. (464 sq. m.)

*All models ship standard with Modbus connectivity.

Aspiration Accessories

Complete aspiration pipe networks with CPVC pipe, fittings, and related accessories.

Accessories

P-PIPE-210	15 ft. lengths, ¾" Orange CPVC pipe, 14 pieces, 210 ft. Total Length
P-ELB-90	90 degree CPVC Elbow, ¾", Socket to Socket, qty. 20
P-ELB-45	45 degree CPVC Elbow, ¾", Socket to Socket, qty. 10
P-TEE	90 degree CPVC Tee, ¾", Socket to Socket, qty. 15
P-COUPLING	CPVC Socket Union, ¾", qty. 10
P-ENDCAP	CPVC End Cap, ¾", qty. 25
P-LABEL-P	Sampling Point Labels, roll of 100
P-LABEL-T	Pipe Labels, roll of 100
P-SAMP-KTC	Sampling kit with conical sampling points
P-SAMP-KTF	Sampling kit with flush sampling points
F-A3384-000	Replacement 8000 Series Air Filter
F-LCARD-SP	FAAST Spanish User Interface Card (5 pack)

FAAST XT LCD Display

FAAST XT's easy to use LCD interface allows easy reading of information such as faults, air flow, and device information. It also allows a user to easily access device functions such as test, reset, isolate, and reset airflow baselines.

PipeIQ® Design, Configuration, and Monitoring Software

PipeIQ is FAAST's intuitive and easy to use all-in-one design, configure, and monitoring software, available free of charge at systemsensor.com/pipeiq.

Design – PipeIQ offers two modes for designing a pipe network: manual and a Pipe Wizard.

- Manually designing the pipe network utilizes an intuitive drawing interface, allowing the designer to visualize the pipe network and tailor-fit it to the application.
- Pipe Wizard is an automatic tool for building pipe networks for standard square or rectangular rooms. Simply tell the wizard the room dimensions and the category of detection required, along with a few other details, and it will automatically lay out a pipe network.

Configure – PipeIQ assists designers with FAAST configuration by allowing them to:

- Complete the pipe network layout.
- Verify sampling hole sizes, detection sensitivity, response time, and pressures
- Obtain a Bill of Material and Layout report.

Monitor – PipeIQ helps users monitor FAAST anytime, from anywhere.

- Enables ongoing system monitoring from anywhere in the world using FAAST's onboard Ethernet connection.
- Separate TCP ports allow simultaneous Modbus, email, PipeIQ, and web communications.

Specifications and Ratings

	FAAST XS	FAAST XM	FAAST XT	FAAST XT Pro
Model Number	7100X	8100 8251F*	9400X	9440X
Agency Listings (device model numbers and specifications differ between agency, contact your regional representative for more information)	UL, ULC, FM	UL, ULC, FM, CSIRO, ACTIVFIRE, CNTC, VdS, CE, KFI, CSFM *Additional listings pending	UL, ULC, FM *Additional listings pending	UL, ULC, FM *Additional listings pending
Coverage Area	5,000 sq.ft. (464 sq.m.)	8,000 sq.ft. (743 sq.m.)	28,800 sq.ft. (2,676 sq.m.)	28,800 sq.ft. (2,676sq.m.)
Max Single Pipe Run	180 ft	262 ft	400 ft	400 ft
Fan Speed	User configurable 3 speed fan	Automatic	User configurable 3 speed fan	User configurable 3 speed fan
Configuration Interface	Ethernet and USB	Ethernet	Ethernet and USB	Ethernet and USB
Display	Intuitive user interface with alarm level, airflow readout, general fault indication, and LCD for detailed information.	Intuitive user interface with alarm level, airflow and fault readout	Intuitive user interface with alarm level, airflow readout, general fault indication, and LCD for detailed information.	Intuitive user interface with alarm level and alarm by inlet, airflow readout, general fault indication, and LCD for detailed information
Power Requirements (Standby)	**Fan High** 200mA, 4.8W **Fan Med** 151mA, 3.7W **Fan Low** 120mA, 2.1W	415mA	**Fan High** 465mA, 11.2W **Fan Med** 340mA, 8.2W **Fan Low** 220mA, 5.3W	**Fan High** 564mA, 11.2W **Fan Med** 440mA 8.2W **Fan Low** 320mA, 5.3W
Communications	Ethernet, TCP and Serial Modbus, Conventional and Intelligent models	Ethernet, TCP Modbus, Conventional and Intelligent Models	Ethernet, TCP and Serial Modbus, Conventional and Intelligent models	Ethernet, TCP, and Serial Modbus, Conventional and Intelligent models
Design Software	PipeIQ	PipeIQ	PipeIQ	PipeIQ

*Contact your panel manufacturer for intelligent model availability

Full data sheets are available at systemsensor.com/faast

Additional Resources

Document Center
To access the full document library for FAAST and other products, visit the Document Center on systemsensor.com.

You will find brochures, data sheets, product manuals, engineering specs, FAQs, CAD drawings, application guides, case studies, and more.

Training Center
To access training, seminars, and webinars for FAAST and other products visit:

systemsensor.com/training

systemsensor.com/seminars

systemsensor.com/webinars

Video Library
To access product, training, and other videos, visit systemsensor.com/videos

Design Services
Want to have System Sensor's FAAST experts design your FAAST system? Go to **systemsensor.com/faastdesign** to submit your project information and receive a FAAST system layout and bill of materials for your project.

Need help? For technical notes on concerns and considerations for several different applications, download our application guide at systemsensor.com/faast.
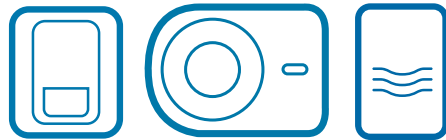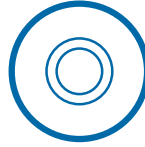
AV   BEAM   CO

HVAC   SPOT

MODULES   RELAYS

Founded in 1984, System Sensor is a global manufacturer of fire and life safety devices, specializing in smoke detection, carbon monoxide detection, and notification technology. System Sensor develops products for real-world applications worldwide. With sales, service, and manufacturing facilities throughout the Americas, Europe, and Asia, System Sensor places a premium on research and development to provide the most reliable, innovative, and comprehensive line of products in the industry.

SYSTEM SENSOR®

www.systemsensor.com/**faast**