

Create a Vape-Free Campus with FlySense™

The Ultimate Vape Detector



FlySense™

THE VAPE-FREE SOLUTION

Detect. Educate. Deter.

With no cameras and no microphones, FlySense™ can be installed in private places like bathrooms and locker rooms.

Detection Performance: Our multi sensor device is capable of detecting vaping, smoke, and noise disturbances that may suggest violence such as bullying or fighting.

Alert Notifications: A zero delay, location specific alert notification is sent by SMS or email to designated school officials when our sensor detects vaping signatures or decibel level anomalies caused by bullying or fighting.

Mobile Access: FlySense™ has a responsive web portal and mobile app that allows for device set up, device adjustments/monitoring, scheduling subscribers, and customizing alert notifications.

Features



Incident Detection

Smart sensor array detects vaping signatures and decibel level anomalies associated with bullying or fighting in real time, 24/7.



Alert Notifications

Zero-delay, location-specific alert notifications on vape and sound incidents sent by SMS or email to designated school officials.



Solution Management

Easy to use administrator web portal for schools teams to manage devices, customize subscriber schedules and view alerts.



Performance Optimization

30-day, categorized alert history allows devices to learn environments, reduce false positives, and optimize performance.



Insights & Analytics

Real-time sensor data and analytical reports help to determine which locations and time of day experience the most activity.



Power Options

Options to power devices via Power-over-Ethernet Plus (PoE+) or external input power with Wi-Fi capability.

Request a quote today: [bytespeed.com/soterflysense](https://www.bytespeed.com/soterflysense)

SOTER FLYSENSE™ - FREQUENTLY ASKED QUESTIONS

VAPING

How does vaping detection work?

The FS286 has internal sensor technology to detect if vaping is occurring in a specific location. When detection occurs, a real-time silent message (email and/or text) is sent to one or more subscribers – i.e., a superintendent, principal, security or designated on-duty official.

What is the typical coverage area for vaping?

In general, each FS286 will cover a 12' x 12' area.

What about ceiling height?

Our qualification testing has focused on 8' ceilings. Generally, as the ceiling height increases, the effectiveness of the detector will decrease.

What are the factors that will impact vaping detection?

Bathroom layout, room ventilation, airflow, and location of the device are key factors. Detection is going to be degraded when vaping is done close to open windows or active ventilation such as exhaust fans. An HVAC system could impact the ability to detect vape properly. Also, if they are aware of the detector, some individuals may use counter-measures to avoid system detection – such as exhaling vape inside a jacket or coat.

What percentage of vaping incidents can I expect to detect?

This is difficult to quantify. If vaping occurs within the coverage area prescribed, the majority of incidents should be detected with the following qualifiers: active ventilation that redirects the air can degrade vaping detection; intentional counter-measures such as exhaling vape into a coat to prevent vape from reaching the sensor will likely compromise vaping detection performance.

ELEVATED SOUND

How can you detect incidents such as bullying without cameras or microphones?

Each FS286 continuously measures current sound levels and detects elevated sound, or noise anomalies, that suggest that something is amiss – such as bullying, fighting, or screaming – that should be investigated. When a decibel-level threshold (set by the system administrator) is crossed, a real-time alert is sent to designated school officials. Providing real-time situational awareness allows school officials to address potential harmful or dangerous behavior. Prevention starts with detection. The FS286 can detect and deter bullying when coupled with elevated sound.

What is the typical coverage area for bullying?

Provided there are no walls or barriers in between the sound source and the sensor, sound waves generally propagate well. We recommend an area of 20' x 20' per FS286. However, the coverage area for vaping detection is smaller, and the number of FS286 units will generally be driven by the coverage requirement for vaping detection.

What about ceiling height?

The overall acoustics of the location is important. Generally, ceiling height is more of a limiting factor for effective vaping detection rather than elevated sound that suggests bullying or fighting.

What percentage of incidents such as bullying can I expect to detect?

It is extremely difficult to quantify this. It is possible that some elevated sound incidents may not be due to bullying or fighting. Conversely, it is possible that a bullying incident goes undetected because students are trying to avoid detection by not making much noise. What we can say is that the FS286 will consistently and accurately detect elevated sound incidents that suggest something is amiss that requires attention.

How do you handle locker rooms, for example, at the end of gym class or after a football game?

Yes, school sporting events are played at various times on different days, so there is no way to predict typical noise levels. One approach is to raise the decibel-level threshold for FS286 detectors located in locker rooms – for time periods when higher noise levels are anticipated. Another option is to disable the sound sensor during such periods temporarily. It is up to the school staff to investigate and determine if the alert was caused by an incident of harmful or dangerous behavior.

INSTALLATION

Do I need a professional/licensed installer to install it?

The installer does not need to be licensed. However, it should be done by a professional who is familiar with installing and configuring IT equipment or data-enabled security equipment.

How is the FS286 powered if the school does not have a network switch that supports PoE+ (Power-over-Ethernet Plus)?

If input power is not injected into the cable by the on-premise network switch, you need to use a PoE+ injector. Alternatively, you may power the device with external power via an AC-DC transformer.

Beside the FS286 itself, what parts/equipment are needed to install the FS286?

In addition to the FS286 itself, common parts and tools – not provided with the unit – are required for mounting. The FS286 has two mounting holes for a bolt/screw to hold the device onto the ceiling. For sheetrock ceilings where there are no studs, a hollow wall anchor and screw can be used. For ceiling tiles, a toggle bolt with anchor can be used. The installer must ensure that the device is held strongly in place to avoid the device falling off. In addition, a hole must also be made on the ceiling for the Ethernet cable and/or barrel jack to plug directly into the device. The PoE+ cable – not provided with the unit – is inserted into the port on the face of the device that is mounted onto the ceiling. If AC power is used, the power transformer – also not provided with the unit – output is inserted into the barrel jack on the face of the device that is mounted into the ceiling. Please refer to the Device Installation Guide for further details.

How many units are required per typical bathroom?

Our starter recommendation is two (2) FS286 devices per bathroom for vape detection. Our engineering team is available to perform an assessment to determine if more devices are required. This feedback will be based on the structure of the space, airflow, and room ventilation, as well as the results of live testing.

SOTER FLYSENSE™ - FREQUENTLY ASKED QUESTIONS (CONTINUED...)

COMMUNICATIONS

Can I use Wi-Fi for data connectivity?

Yes, the FS286 device is Wi-Fi enabled. For instructions of using Wi-Fi, please refer to the Device Installation Guide.

What interfaces are supported on the FS286?

The FS286 supports Ethernet data connectivity via a built-in, 8-pin RJ-45 connector. It also supports the IEEE 802.3af standard for Power-over-Ethernet Plus (PoE+) and external power via AC-DC transformer.

What type of data cables should be used?

The same data cables typically used for network hub or switch connectivity. That is standard CAT5 (Category 5) or CAT6 unshielded twisted pair (UTP) cable.

What communication ports or resources need to be available for the units to operate?

Network administrators should be aware that the units securely send data via the following ports:

- For Device Communications (alert notifications): Port 11086 (outbound) to IP address 54.196.17.213
- For Device Over-the-Air (OTA) Updates: Port 22 (outbound) to IP address 52.91.225.2

How do I add or remove subscribers for alert notifications?

At any time, you can log into the cloud-based FlySense™ dashboard to monitor active deployed sensors and manage the list of authorized subscribers for alert notifications. Contact your integration partner or Soter Technologies if you need assistance with this.

Can the FS286 be integrated with 3rd party security or management platforms?

Yes. There is a published API that allows for such 3rd party integration.

BASIC OPERATION / GENERAL

What exactly happens when a vaping or elevated sound alert is triggered?

When a sensor detects sound decibel level anomalies or chemicals from vaping, it sends an immediate, location-specific notification to the devices of designated school officials.

Does the FS286 incorporate a camera or microphone?

No, it does not. This allows the FS286 to be effectively deployed in problematic areas such as bathrooms and locker rooms, where privacy precludes the use of cameras and microphones.

Can you configure the software to disable alerts for specific times of day – for example, if someone does not want to receive any alerts between 9:00 pm and 7:00 am?

Yes. With the custom scheduling feature, administrators can select specific days and time blocks for subscribers to receive alerts. The system default for subscribers is currently Monday-Friday from 7:00am-4:00pm for all registered devices. You may add, update, and/or edit subscriber schedules within the subscribers' tab.

Can you improve the FS286 detection performance if you think you are getting too many false positives?

Yes, by classifying each alert- via the portal or mobile app- as a confirmed detection, unconfirmed detection, or false positive, you can help your devices better learn their environment and improve overall detection performance. You can view both vape and sound detection performance over time with real-time success metrics via the portal.

What if the school is only interested in vaping detection?

The sound sensor for each detector can easily be disabled via the portal.

What about tampering or attempts by students to disable the unit?

The RJ45 connector for data and power is recessed; therefore, there is no cable or connector exposed. The housing is tamper resistance. The unit would have to be literally ripped down from the ceiling. If a unit does become disabled or goes offline, it will be reported via the cloud-based portal.

What are the total costs associated with a FS286 solution?

The total costs are: FS286 acquisition which includes a one-year warranty; Setup fee; Installation; Annual recurring software subscription fee after year one; Extended warranty/service, which is optional but recommended.

Why is there an annual software subscription fee after year one?

There is real and ongoing operational cost associated with providing and maintaining the cloud-based infrastructure that enables real-time alert notifications as well as 24/7 access to the FlySense™ portal. The robust, cloud-based portal provides a modern, easy-to-read dashboard and the ability to: configure and manage devices; confirm and classify incidents; view Alert History; run reports; customize subscriber scheduling for alert notifications; and contact Soter Support.

Specifications

Physical Characteristics	
Dimensions	4.75" W x 6.56" L x 2.20" H
Weight	9.0 oz.
Housing Material	ABS Plastic

Connectivity	
Ethernet data connectivity via built-in RJ-45 connector and 802.3at interface	
802.11b/g/n Wi-Fi supporting 2.4 GHz frequency band	

Warranty	
1-year limited hardware warranty covers defects in workmanship and materials	
3-year and 5-year extended service options available at time of purchase	

Environment	
Operating Temp	55° to 95°F (12.8° to 35°C)
Sealing	IP50
Coverage Area	12' x 12' x 10' -12' x 12' x 9'

Sensors		
Vape	Temp.	Motion
Sound	Humidity	

Event Indicators	
RGB LED Alert Indicator	

Input Power	
Built-in 802.3at compliant PoE+ (over Cat 5e or 6 cable)	
External power via 5V 2A AC-DC transformer with 5.5mm x 2.1mm DC connector	