



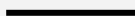
FlySense® Installation & User Guide



Soter Technologies | FlySense® 286



DO NOT INSTALL
devices before reading



FlySense® 286 | Onboarding Instructions



STOP! DO NOT INSTALL devices before reading.



WELCOME TO FLYSENSE® AND THE SOTER FAMILY!

Before you install our devices, there are a few steps that need to be completed to ensure a smooth installation process:

1. Record the MAC address AND serial number of each device prior to mounting.
2. Record which MAC is going into which location.
3. Register your organization into the portal at sense.sotertechnologies.com. Please use the serial number you recorded.
4. After registering, you have to schedule an onboarding at sotertechnologies.com/onboarding.



The screenshot shows the FLYsense web portal. At the top is the FLYsense logo. Below it is a 'Login' section with fields for 'Email address' (with a placeholder 'Enter email') and 'Password', followed by a blue 'Login' button. Below the login section is a blue 'Register Organization' button. At the bottom, there is a link for 'Forgot Password?'.



Step 1 | Register your Organization

The first step of the installation process is to register your school or organization through the FlySense® Web Portal.

Visit sense.sotertechnologies.com/registerschool.php to create your organization's FlySense® account.

Provide the information requested, including organization name, address, time zone, device serial number (only one required), and administrator name and email.

Once the account registration is complete, you will be taken to a new window that will allow you to schedule your training session in the system.

Web browser compatibility

The FlySense® user web portal is most compatible with Google Chrome. We recommend accessing the portal using Chrome at all times.

Other browsers options will not allow for full web portal capabilities.



Organization Name	
Address	
City	
Country	Select Country
State/Province	
Time Zone	(GMT-12:00) International Date Line '
Postal Code ZIP Code	
Device Serial (only one required)	
First Name	
Last Name	
Email address	
Register	



Step 2 | Login

Access to the portal will be blocked until a representative has verified and enabled the account.

Visit the login page, sense.sotertechnologies.com, to login and access the web portal.

Forgot password? Select the option to reset your password from the login page.

Need support? Access FlySense® comprehensive 24/7 customer support center within the web portal to:

- Contact our support team;
- Submit new feature requests or issue tickets;
- View and search FAQs, updated user guides, and release notes at any time.

FLYsense®

Login

Email address

user@example.com

Password

.....

Login

Register Organization

[Forgot Password?](#)

Login page view



Introduction to FlySense®

Soter Technologies | FlySense® 286



Welcome to FlySense®

Soter Technologies' FlySense® is an innovative real-time vaping and elevated sound incident detection solution and smart alert system that provides visibility to areas where cameras are not permitted.

The latest generation FlySense® solution, FS286, is comprised of a cloud-based communications engine, incident management web portal, and multi-sensor device network capable of detecting vaping, smoke, device tampering and noise disturbances that may suggest violence such as bullying or fighting.





Take control

The key to improving safety and security in schools is through automated situational awareness. FlySense® is a cutting-edge, turnkey solution for detecting vaping and bullying - particularly in school bathrooms and locker rooms.



Detect

Vape, Smoke, Elevated Sound Incidents, and Device Tampering.



Instant Alert Notifications

Alert the designated school official when vaping, elevated sound or device tampering is detected via email or text.



FlySense® Dashboard

Control your sensors through a computer or on a smartphone with our mobile version.

How it works

The FlySense® platform is comprised of an array of multi-sensor devices connected to a cloud-based platform. When a sensor detects chemicals from vaping or sound anomalies that suggest bullying / violence, it sends an immediate, location-specific notification to the computers or mobile devices of one or more designated school officials.

Device Tampering

An audible alarm will sound when something is within the proximity sensor range. Both the proximity range and buzzer volume can be adjusted in the FlySense® Portal.



Detect. Educate. Deter.

FlySense® provides environmental intelligence that allows a possible dangerous or harmful situation to be addressed in a timely and effective manner - thus averting potential disaster.

Through the FlySense® Dashboard it is possible to obtain analytical reports to determine which locations and time of day experience the most activity to help schools align operations and react accordingly.





FlySense® Specifications

Physical Characteristics

- Dimensions 4.26" W x 6.03" L x 2.20" H
- Weight 9.0 oz.
- Housing Material ABS plastic (common thermoplastic polymer; ideal material for structural applications when impact resistance, strength, and stiffness are required)

Environment

- Operating Temperature 55° to 95°F (12.8° to 35.0°C)

Sensors

- Vaping Sensor
- Sound Sensor (can be disabled via software)
- Proximity Sensor (can be disabled via software)

Physical Indicators

- RGB LED Boot up Sequence

Connectivity

- Ethernet data connectivity via built-in RJ-45 connector and 802.3af interface
- 802.11b/g/n/ac Wi-Fi supporting 2.4/5 GHz frequency band –
NOTE: For real-time alerts and optimal performance overall, Wi-Fi should only be used in areas where coverage is extremely reliable

Input Power and Electrical

- Built-in 802.3af compliant PoE (Power over Ethernet) module eases installation by providing power and data networking connectivity with a single cable (minimally Cat 5e or Cat 6) – typically via on-premise PoE network switch or separate PoE injector – reducing the need to drill holes or lay additional cabling
- External power via integrated DC barrel jack; requires separately sold 24V 0.5A power supply adapter (AC-DC transformer) with 5.5mmx2.1mm DC connector (positive center)

Installation

- Coverage – typically 10' x 10' x 9' area or 5' radius (Note: active ventilation can adversely impact vaping detection)
- FlySense® is easy to install yourself using our step-by-step guides
- Requires two (2) threaded bolts and two (2) wingnuts – not included – for typical ceiling mounting

Requirements

- Mobile device for designated officials to receive mobile alert notifications including SMS text messages
- FlySense® account required for configuration, room names, cloud-based portal access, mobile notifications, and software updates

Languages

- English only



Preface



Soter Technologies | FlySense® 286



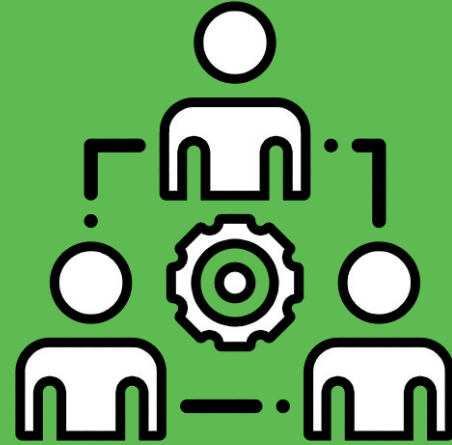
For Technical Teams

It is recommended that the FlySense® device installation and set-up be performed by a designated IT team member or authorized installer.

The installation procedure includes power source configuration, physical device mounting, network configuration, initial organization registration, and device registration.

Customers must go through an onboarding session with a Soter Technologies' representative prior to using the portal. Portal access will be granted once this is completed.

After the installation procedure is complete, both IT and administrative teams can proceed to manage the solution from the FlySense® Web Portal (refer to the **Web Portal User Guide** - Slide 32).



For Technical Teams



Before you begin

Communications – open outbound ports

The FlySense® device requires multiple outbound connections to properly communicate with the platform. It is required for the network administrator to place explicit rules and policies to whitelist traffic from the device on network firewalls, intrusion prevention/detection systems, and web gateways if applicable.

It is also suggested to turn off deep packet inspection on network security appliances for the FlySense® device as this may interfere with the connection to the platform. The required rules can be seen below.

- Device Communications (alert notifications): Port 11086 (outbound) to IP addresses associated with:
 - alerts.sotertechnologies.com
 - emq.sotertechnologies.com
- Device Over-The-Air (OTA) Updates: Port 22 (outbound) to IP address associated with:
 - ota.sotertechnologies.com
- General Internet Access: Ports 80 and 443 (outbound)

DHCP reservations

On initial boot of a FlySense® device, it will look for a DHCP server to request an IP address.

It is recommended to make a DHCP reservation prior to adding the device to your network. This will make certain that device addresses are uniform and known throughout the installation process. This ensures that you know the IP address of your device.

Another recommended practice is to put all devices on a separate VLAN.

If your network does not have a DHCP server, the device will use an alias IP address of 10.10.10.4 (Please see page 31).

DNS Lookup

If your school has a private DNS server, please ensure that the domain names (alerts.sotertechnologies.com, emq.sotertechnologies.com, ota.sotertechnologies.com) can be resolved.



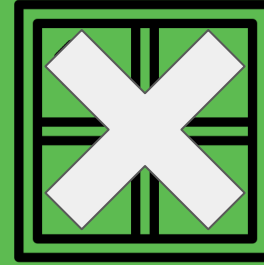
Survey the area

Recommended FlySense® Device Installation Placement

Air flow and obstructions can affect the performance of the FlySense® device. We recommend that a device be placed in a location where vaping is a recurring issue. The device has an average 5ft radius for vape detection – i.e., the typical coverage area is approximately 10ft x 10ft x 9ft.

We recommend that you watch how vape flows in the location to determine if there is any dissipation as it reaches the ceiling. Dissipation can cause a delay in the vape reaching the sensor and therefore a delay in receiving an alert. The device should be placed in a location where the vape touches the ceiling.

It is important to note that locations with unusual geometries will likely require multiple FlySense® devices. Most vaping incidents will occur in corners or behind stalls.



DO NOT INSTALL NEAR ACTIVE VENTS / WINDOWS

1 device per 10' / x 10' w x 9' h area



Devices

Prior to physically mounting or powering devices each device's MAC address AND serial number should be noted and recorded with the location where it will be installed.

Please refer to the product manufacturing label on the back of each device to locate the proper MAC address necessary for portal registration.

- Record the ETH MAC for wired connections
- Record the WLAN MAC for wireless connections

Within the portal, select the Devices tab followed by the Add New Device button.

Enter a user-friendly device name, typically one that associates the device to its specific location, and the proper MAC address.

Note: Registering devices using the proper MAC address is crucial to receiving over-the-air device updates.



Sample device manufacturing label



Device Installation



Soter Technologies | FlySense® 286



Gather Materials

FlySense® 286 Device: The device is intended to be mounted onto the ceiling where vaping and sound disturbances are recurring issues.

Ethernet Cable: Cat5E or higher Ethernet cabling is recommended for this application.

Mounting Hardware: Screws with hollow wall anchors can be used on sheetrock ceilings. For ceiling tiles, it is recommended to use toggle bolts with anchors.



FlySense® 286 device



Gather Materials

Recommended Power Options:

Please use the following power supply options for your FlySense® device

- **POE (802.3af) Switch:** A POE switch can be used to connect the device.

If the device is greater than 100 meters from the POE switch, you can use the following options:

- **POE (802.3af) Power Injector and Network Switch:** A POE Injector can be used with a network switch.
- **AC/DC Transformer with Network Switch:** A power injector can be plugged into the device and the ethernet data line can connect to a network switch.

For devices using a WIFI connection :

- **AC/DC Transformer:** External input power can be applied to the device using a 24V 0.5 Amp AC/DC transformer. This can be plugged into the barrel jack on the back of the device.



Sample POE switch



Sample POE injector



Sample AC/DC transformer



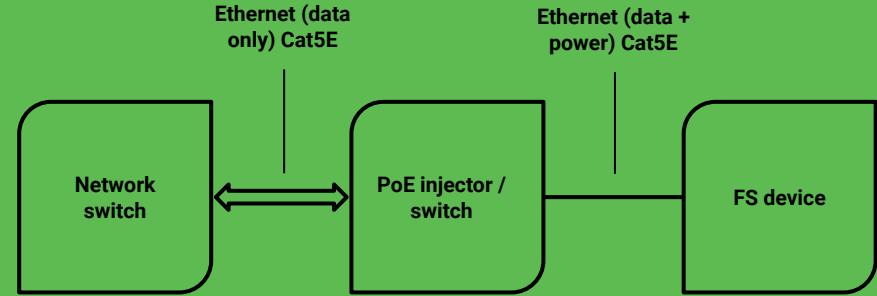
Installation with PoE

The FS286 device can run on Power over Ethernet (PoE) – similar to security cameras. We recommend using Cat5E or higher rated ethernet cables.

Option 1: If a PoE switch is available, it can be used to directly connect to the device. Please ensure that the PoE switch has an input line that can connect to the Internet. If your PoE switch is too far (>100 meters) away from the device, it is recommended to use Option 2.

Option 2: Use a PoE injector on an outlet close to the device (<100 meters away). The PoE injector will send the output line to the device and the input line will run back to the network switch.

Please ensure that each switch port connected to a FS286 device, is configured for 100 Mbps or greater full duplex communications.



Working with a PoE injector / switch

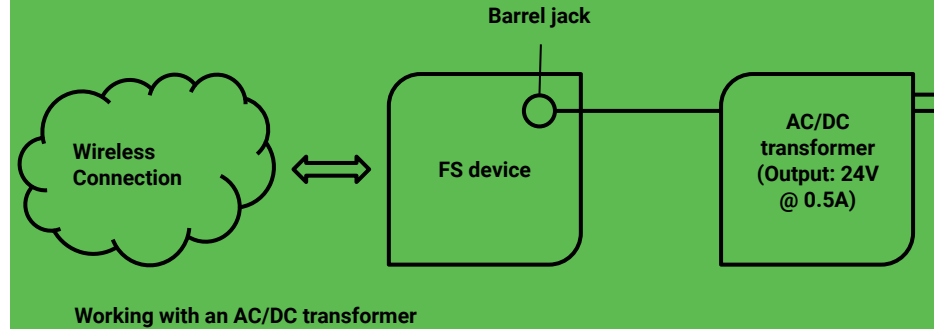


Installation with external power for Wireless Connection

The FlySense® device can be powered from a 24V, 0.5 Amp AC/DC transformer.*

Connect the 24V 0.5 Amp AC/DC transformer* to the back of the device.

* 24V 0.5 Amp AC/DC transformer sold separately.





Power

Apply power to the device

Use **one** of the following methods to apply power to the device:

- Connect an Ethernet cable from the device to a POE network switch (**Recommended**) **OR**
- Connect a 24V 0.5A power transformer to the barrel jack input of the device

Wait for the device to complete the boot sequence (A green light will blink for 5 seconds).





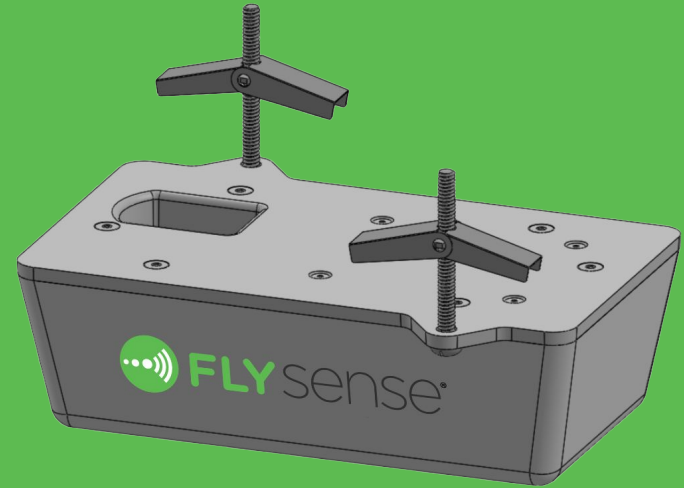
Mount devices

As depicted in the provided cut out, the device 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 or being exposed.

A hole must also be made on the ceiling for the Ethernet cable and/or barrel jack to plug directly into the device. The Cat5e or Cat6 cable is (with or without PoE) inserted into the female RJ-45 connector on the backplate of the device that is mounted onto the ceiling.

If AC power is used, the power transformer output plug (male barrel jack) is inserted into the female barrel jack on the face of the device that is mounted into the ceiling.

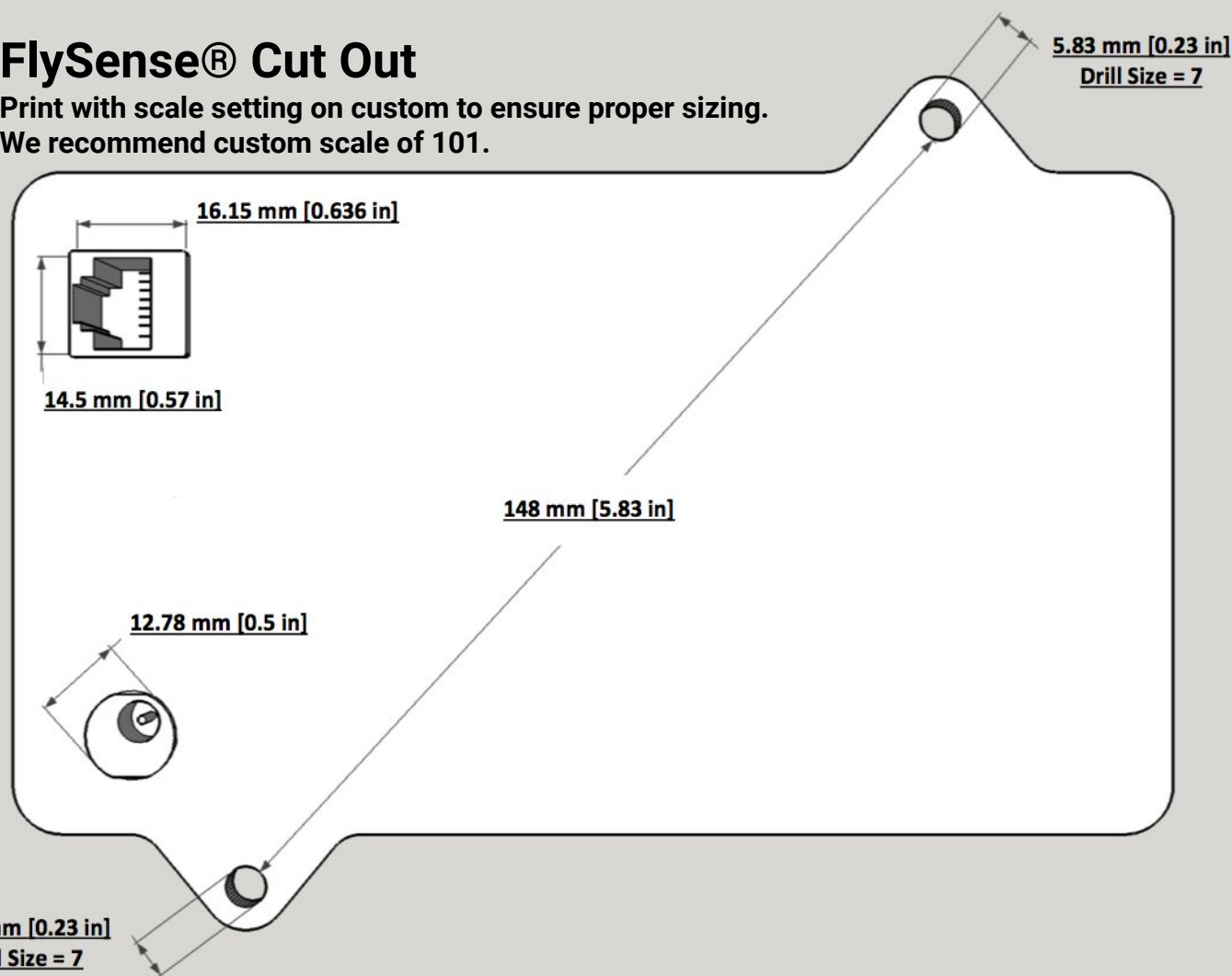
Please ensure that the cable is not exposed when mounting or it can lead to tampering of the connection.



Device mounting view

FlySense® Cut Out

Print with scale setting on custom to ensure proper sizing.
We recommend custom scale of 101.





Power devices

Once powered on, a device will run through a boot sequence shown by the LED event indicator located on the front of the device.

The device's LED will turn white for up to 10 minutes, then turn off.

When the device is ready for detection, the LED will turn green for 5 seconds.

During normal, powered operation, the device's LED will be off. If port and/or networking issues are encountered, the device's LED will remain on until resolved. Please see the **Troubleshooting** section (Slide 57) for more information.





Device Network Configuration

Soter Technologies | FlySense® 286



Device configuration support

FS286 devices currently support the following functions for MAC, Linux, and Windows:

- Assign Static IP Wired Connection
- Assign Static IP Wireless Connection

Our easy-to-use web configuration tool also supports port scanning for additional troubleshooting support.

Default configuration support

When powered, FS286 devices will be assigned a DHCP address. We recommend making DHCP reservations pre-installation to ensure these addresses remain uniform throughout the installation process.

Reserved DHCP addresses allow for further device setup including assigning static IP addresses, enabling WiFi communications, and scanning for open ports.

Note: Refer to **Preface** (Slide 11)

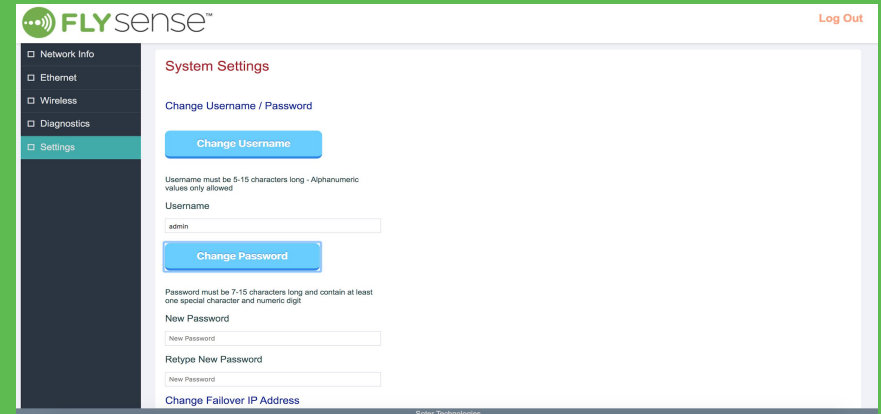
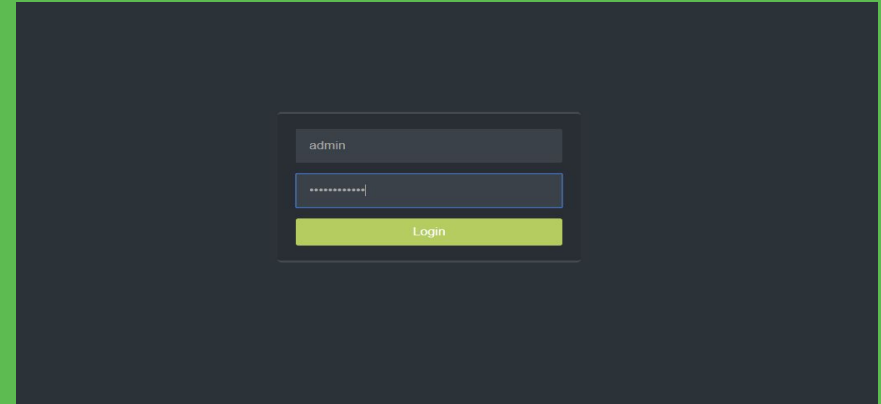


Configure your device

Enter the device's IP address into your web browser/URL field (Chrome recommended)

Using our easy-to-use web configuration tool, enter the device's IP address into your web browser/URL field (Chrome recommended). You will be presented with a login page - the default username is **admin** and the password is **Flysense2019**. Once logged in, you will see current networking information.

It is recommended to set the username and password of the device once you have logged in by going to the Settings tab (located on the left) and clicking the "Change Password" button. Enter the new password and save your changes.



Sample browser view of device networking information



Configure your device

Check the devices port scan results

Prior to further device configuration, ensure that all required ports are open for outbound communications.

You can do this by going to the “Network Info” tab and clicking the “Scan Ports” button. In order to proceed, each port scan should be successful.

If any tests fail, ensure that all required ports are open on all network devices. Please check the Preface for more information.

FLYsense™ Log Out

Network Info

- Interface name : eth0
 - IP Address : 192.168.1.200
 - Netmask : 255.255.255.0
 - Mac : b8:27:eb:c1:58:fb
- Interface name : eth0.0
 - IP Address : 10.10.10.4
 - Netmask : 255.255.255.0
 - Mac : b8:27:eb:c1:58:fb
- Interface name : lo
 - IP Address : 127.0.0.1
 - Netmask : 255.0.0.0
- Interface name : wlan0
 - Mac : b8:27:eb:94:9d:a8

Telnet Results

Note : Please Ensure that the following ports are open for outbound communication to ensure proper device functionality

Scan Ports

Telnet Results

Note : Please Ensure that the following ports are open for outbound communication to ensure proper device functionality

Scan Ports

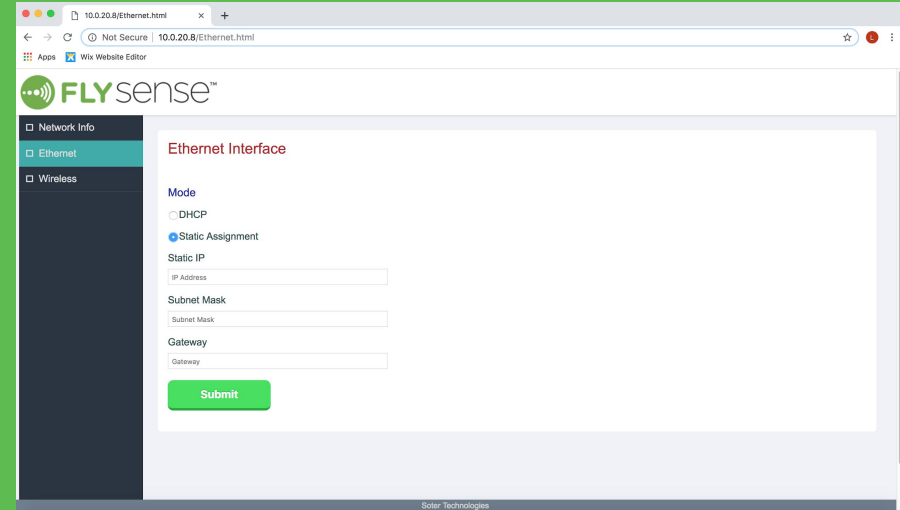
- Port 22 :
 - Success
- Port 11086 :
 - Success
- Port 80 :
 - Success
- Port 443 :
 - Success



Configure your device

For Ethernet Connections

To assign static IP for ethernet connections, navigate to the Ethernet tab and select the Static IP mode option. Enter the assigned IP address as well as the subnet mask and gateway details, then submit.



Sample browser view of static IP assignment for ethernet connections

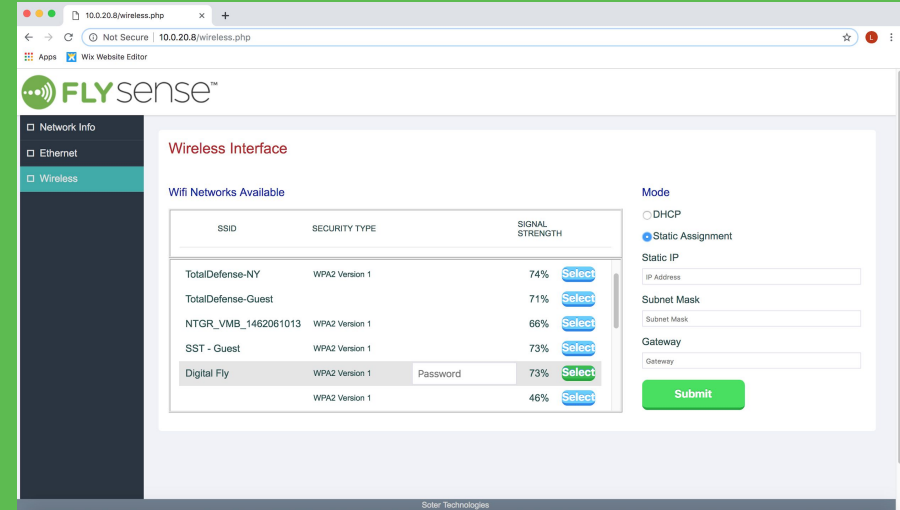


Configure your device

For Wireless Connections

For wireless connections, options to enable WiFi communications and assign static IP wirelessly are available.

To enable WiFi communications, navigate to the Wireless tab, select your school's network and enter the network password. Select the mode of your choice, either DHCP or Static IP mode – if Static IP, additionally enter the subnet mask and gateway details – then submit.



Sample browser view of enabling WiFi communications in Static IP or DHCP mode



Configure your device

Failover IP address

Devices come preprogrammed with a **failover IP address of 10.10.10.4**. This IP address is used to gain access to the devices in the event that communication/control to the device is lost. We strongly recommend keeping this IP address the same. In the event that you have a collision with the secondary IP address on your network, you can change the value.

To change the failover IP address of a device, please go to the Settings tab and click "Failover IP". You will be able to change the failover IP address and subnet mask. Please take note of the new failover IP address. Enter your password and click save.

The new failover settings will take effect once the device is rebooted. You can force a reboot by clicking the reboot button at the bottom of the settings page.

The screenshot displays the FLYsense web interface. On the left is a dark sidebar with a menu containing 'Network Info', 'Ethernet', 'Wireless', 'Diagnostics', and 'Settings' (which is highlighted). The main content area has a header with the 'FLYsense' logo and a 'Log Out' link. Below the header, there are two blue buttons: 'Change Username' and 'Change Password'. The 'Change Failover IP Address' section is active, featuring a blue button with the same text. Below this are input fields for 'IP Address' (containing '10.10.10.230') and 'Subnet Mask' (containing '255.255.255.0'). A password field with the placeholder 'Enter your current password to apply changes' and masked characters is also present. A green 'Submit' button is at the bottom of the form. The footer of the interface reads 'Soter Technologies'.

Failover IP address



Web Portal User Guide



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For Organizations

The FlySense® user-friendly web portal is designed to assist organizations in managing the solution across locations.

Teams can manage their organizations' settings, add and schedule subscribers to receive alert notifications, track incidents, and manage alert analytics.



For Organizations



Before you begin

You should have already completed:

- Onboarding Training
- Device Installation

At the time of device installation, your organization will set up an Admin account to your FlySense® device. This account will be able to add team members' emails to the device.

If you are requesting email access and have yet to be added, contact your IT team/Device administrator.

If the installation procedure has not yet been completed, refer to the **Device Installation** (Slide 16) and **Device Network Configuration** (Slide 25) for step-by-step instructions .

Web Browser Compatibility

The FlySense® user-friendly web portal is best compatible with Google Chrome. We recommend accessing the portal using Chrome at all times.

Other browsers options will not allow for full web portal capabilities.



Activating your account

***Before ending the onboarding session, our representative will ensure you can login.**

After completing the onboarding training, you will have access to the FlySense® Web Portal.

Upon registering your organization, you will have received an email to schedule an onboarding session. This session is required in order to access the portal. The email also contains a password that will allow you to log in to the secure link below.



You're Ready For The Next Step.

Upon registering your organization, you will have received an email to schedule an onboarding session. This session is required in order to access the portal. The email also contains a password that will allow you to log in to the secure link below. *PLEASE NOTE: The email containing the password from Soter Support may be in your spam folder.*

Please use that password on the following link:

[CLICK ME](#)



Login

Visit sense.sotertechnologies.com to access the FlySense® Web Portal. Enter your email and password and select Login. From there you will be directed to the Dashboard page.

If at anytime a user forgets their password, use the Forgot Password link to send a password reset email.



Login

Email address

Enter email

Password

Password

Login

Register Organization

[Forgot Password?](#)

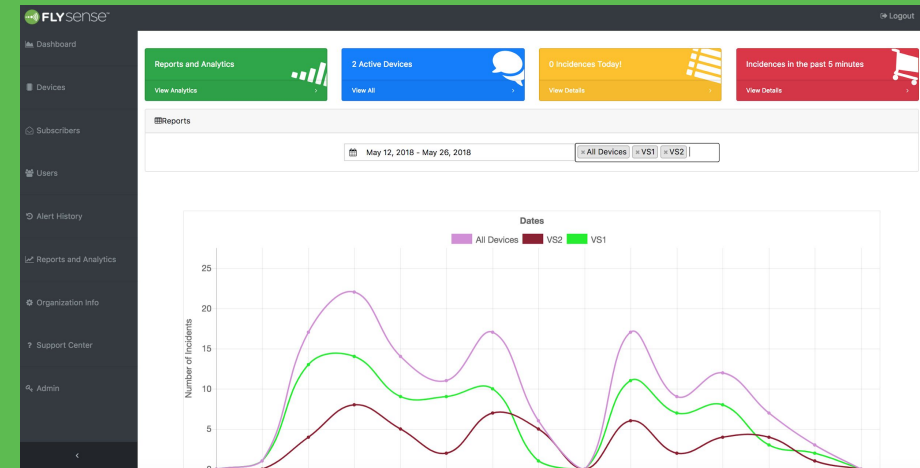
Login view



Dashboard

The Dashboard page provides users with a quick overview of incidents that have recently occurred as well as an analytics snapshot of total alerts over time. This includes both vape and sound alerts as well as the ability to customize the date range.

Users will also see the main navigation bar on the left side of the page which is used to navigate to the different sections of the portal system.



Dashboard view



Device Information

The Devices page is used to manage your organization's registered devices.

From the Devices page, users can obtain the following information about each device:

- Device name (also known as location)
- Total number of alert notifications
- Last alert notification date and time
- Sound Alert Threshold
- Vape Sensitivity
- Current software version
- MAC Address
- IP Address
- Device Reboot Button
- Device status

Device Name/Location	Notifications	Last Notification	Sound Alert Threshold	Version	Mac Address	IP Address	Device Status
Bathroom 2		No Incidents Yet	90 dB	3.3.0	18:27:46:70:37:4c	10.0.0.85	Reboot Online Edit Device Remove Device
Book Vistor	21	10/04/2019 03:03:10 PM	90 dB	2.7.3	18:27:46:96:06:13	10.0.0.81	Reboot Online Edit Device Remove Device
Device 1	44	10/01/2019 08:42:09 PM	90 dB	2.7.3	18:27:46:8c:40:78	10.0.0.83	Reboot Online Edit Device Remove Device
Device 2	56	10/03/2019 09:21:44 PM	OFF	2.7.3	18:27:46:0f:09:6c	10.0.0.75	Reboot Online Edit Device Remove Device
Device 3	89	10/04/2019 11:02:30 AM	OFF	2.7.3	18:27:46:94:a3:08	10.0.0.20	Reboot Online Edit Device Remove Device
Device 4	17	09/20/2019 10:21:04 PM	80 dB	2.7.3	18:27:46:4a:07:a5	10.0.0.71	Reboot Online Edit Device Remove Device
EC Girls Front Office V16	24	10/03/2019 03:38:17 PM	80 dB	2.7.3	18:27:46:3d:70:a6	10.0.0.76	Reboot Online Edit Device Remove Device
EC Girls Home V36	31	10/01/2019 08:21:10 PM	80 dB	2.7.3	18:27:46:9d:ca:19	10.0.0.38	Reboot Online Edit Device Remove Device
EC Girls JV Locker Rm V30 New		No Incidents Yet	OFF	3.3.0	18:27:46:07:28:24	10.0.0.86	Reboot Online Edit Device Remove Device
EC Girls Off Season Locker Rm V32	63	10/01/2019 06:00:44 PM	OFF	2.7.3	18:27:46:06:a7:09	10.0.0.30	Reboot Online Edit Device Remove Device
EC Girls V Bath V24 New		No Incidents Yet	OFF	3.3.0	18:27:46:7b:01:a9	10.0.0.06	Reboot Online Edit Device Remove Device
EC Girls V Locker Rm V20 New		No Incidents Yet	80 dB	3.3.0	18:27:46:82:0f:a6	10.0.0.84	Reboot Online Edit Device Remove Device
EC Girls V Locker Rm V22 New		No Incidents Yet	80 dB	3.3.0	18:27:46:94:18:da	10.0.0.83	Reboot Online Edit Device Remove Device
EC Girls Visitor V34	29	10/01/2019 08:22:46 PM	OFF	2.7.3	18:27:46:f6:da:f1	10.0.0.24	Reboot Online Edit Device Remove Device
EC JV Locker Room	94	10/04/2019 11:08:13 AM	OFF	2.7.3	18:27:46:ca:ca:0d	10.0.0.27	Reboot Online Edit Device Remove Device
Girls JV Locker Rm		No Incidents Yet	OFF	3.3.0	18:27:46:82:a6:15	10.0.0.46	Reboot Online Edit Device Remove Device

Device information view on the Devices page



Adding devices

Users can add new devices. To add new devices, select the Add New Device button and enter a user-friendly device name, typically one that associates the device to its specific location, and the device MAC address.

The system default settings are 10 minutes for the alert time out and 90 for the sound threshold.

- Set the alert timeout (the allowable time interval between alerts, in minutes.) The minimum default value is 10.
- Set the desired sound threshold (the level at which audio alerts will be triggered.) The default value is 90 which is normal conversation level. The threshold can be increased depending on the noise level of each individual location.

After saving, devices will be listed as: Version: Update (currently updating)

Once powered on and device configuration is complete, Version will update to the latest software version, i.e. 4.6.0.

After adding the devices, these settings can be changed at any time.

Add new device view on the Devices page



Configuring your device via the Web Portal

Newly added devices will be listed in the Devices tab as:

- **Version:** Update (currently updating)
- **Device Status:** Offline

Devices that are powered on and properly connected will be listed as:

- **Version:** Latest software version (i.e. 4.6.0)
- **Device Status:** Online

The Version column will be updated as new software versions are released. Check periodically to ensure your devices are running the latest possible software version.

The device IP address is also displayed in the “IP Address” column. Use this button to view the networking page of a device (given that you are on the same network as the device).

Device Name/Location	Notifications	Last Notification	Sound Alert Threshold	Version	Mac Address	IP Address	Device Status
Bathroom 2		No Incidents Yet	90 dB	3.3.0	18-27-4b-70-37-4c	10.0.0.85	Offline
Box Visitor	21	10/04/2019 03:03:10 PM	90 dB	2.7.3	18-27-4b-96-06-13	10.0.0.81	Offline
Device 1	44	10/01/2019 09:42:09 PM	90 dB	2.7.3	18-27-4b-8c-40-78	10.0.0.76	Offline
Device 2	56	10/03/2019 00:21:44 PM	OFF	2.7.3	18-27-4b-0f-05-8c	10.0.0.75	Offline
Device 3	89	10/04/2019 11:12:30 AM	OFF	2.7.3	18-27-4b-94-a3-08	10.0.0.20	Offline
Device 4	17	09/20/2019 10:21:04 PM	80 dB	2.7.3	18-27-4b-4a-07-a5	10.0.0.71	Offline
EC Girls Front Office V16	24	10/03/2019 03:38:17 PM	80 dB	2.7.3	18-27-4b-33-70-a6	10.0.0.78	Offline
EC Girls Home V36	31	10/01/2019 08:21:10 PM	80 dB	2.7.3	18-27-4b-a9-c9-19	10.0.0.38	Offline
EC Girls JV Locker Rm V30 New		No Incidents Yet	OFF	3.3.0	18-27-4b-07-28-24	10.0.0.86	Offline
EC Girls Off Season Locker Rm V32	63	10/01/2019 06:00:44 PM	OFF	2.7.3	18-27-4b-06-a7-09	10.0.0.30	Offline
EC Girls V Bath V24 New		No Incidents Yet	OFF	3.3.0	18-27-4b-76-01-a9	10.0.0.88	Offline
EC Girls V Locker Rm V20 New		No Incidents Yet	80 dB	3.3.0	18-27-4b-82-8f-a6	10.0.0.84	Offline
EC Girls V Locker Rm V22 New		No Incidents Yet	80 dB	3.3.0	18-27-4b-94-18-da	10.0.0.83	Offline
EC Girls Visitor V34	29	10/01/2019 08:22:46 PM	OFF	2.7.3	18-27-4b-fd-a5-f1	10.0.0.34	Offline
EC JV Locker Room	94	10/04/2019 11:18:13 AM	OFF	2.7.3	18-27-4b-cac6-7d61	10.0.0.27	Offline
Girls JV Locker Rm		No Incidents Yet	OFF	3.3.0	18-27-4b-82-a6-15	10.0.0.89	Offline

Device information view on the Devices page



Managing devices

Users can customize existing devices.

Set, and/or adjust for existing devices, the alert time out (the minimum allowable time interval between alerts, in minutes) and the desired sound threshold, sound off Vape Sensitivity, Tampering then save to complete.

Vape Sensitivity:

This setting will adjust the vape sensor sensitivity to help offset high ceilings.

Disabling Sound:

This setting will disable sound notifications for the device; subscribers will not receive alerts and sound incidents will not appear in Alert History.

Proximity Sensitivity & Buzzer Volume:

This setting will adjust the proximity sensor sensitivity and buzzer volume.

MAC Address

b8:27:eb:87:54:27

Vape Detection

Vape Sensitivity Medium ▼

Alert Timeout (In Minutes)

10

Use Ruckus IOT Controller ☐

☒ Sound Alerts

Sound Threshold

90

Proximity Sensitivity: Off ▼

Buzzer Volume: Off ▼

*NOTE - Device changes can take up to 2 hours to update



Setting device vape sensitivity

There is a vape sensitivity setting to help our vape detector offset high ceilings.

- **Low setting:** intended for low 8 ft ceilings where vape smoke can be highly concentrated together.
- **Medium setting:** intended for 9ft ceilings with normal disbursement of vape smoke.
- **High setting:** intended for tall ceilings above 10 ft where vape smoke can be very diffused.

The proper vape sensitivity setting will help lower the possibility of false positives.

MAC Address

b8:27:eb:87:54:27

Vape Detection

Vape Sensitivity **Medium** ▼

ⓘ Alert Timeout (In Minutes)

10

Use Ruckus IOT Controller ☐

On Sound Alerts

ⓘ Sound Threshold

90

Proximity Sensitivity: **Off** ▼

Buzzer Volume: **Off** ▼

ⓘ **Reset device credentials**

***NOTE - Device changes can take up to 2 hours to update**

Save



Setting device proximity threshold

There is a proximity setting that sets the sensitivity level of tampering alerts. When a person or an object gets too close to the sensor, it sets off an audible alarm and sends an alert to designated subscribers.

- **Low setting:** triggers at 3 inches from the ceiling, intended for low ceiling (8ft).
- **Medium setting:** trigger at 6 inches from the ceiling, intended for 9ft ceiling.
- **High setting:** triggers at 8 inches from the ceiling, for tall ceiling above 10 ft.

In addition, the volume of the alarm is programmable via the portal. Valid settings are off, low, medium, and high.

MAC Address

b8:27:eb:87:54:27

Vape Detection

Vape Sensitivity Medium ▼

Alert Timeout (In Minutes)

10

Use Ruckus IOT Controller ☐

On Sound Alerts

Sound Threshold

90

Proximity Sensitivity: Off ▼

Buzzer Volume: Off ▼

Reset device credentials

***NOTE - Device changes can take up to 2 hours to update**

Save



Setting device sound threshold

Set the desired sound threshold (the level at which audio alerts will be triggered.) The default value is 90 which is normal conversation level. The threshold can be increased depending on the noise level of each individual location.

If too many sound alerts are getting triggered at the default value, we recommend adjusting the threshold by increments of 50.

We suggest testing the environment during installation to find the sound threshold that works best for your organization.

MAC Address

b8:27:eb:87:54:27

Vape Detection

Vape Sensitivity Medium ▼

Alert Timeout (In Minutes)

10

Use Ruckus IOT Controller ☐

☒ On Sound Alerts

Sound Threshold

90

Proximity Sensitivity: Off ▼

Buzzer Volume: Off ▼

*NOTE - Device changes can take up to 2 hours to update



Adding subscribers

Subscribers are defined as recipients of alert notifications and have no web portal access.

The Subscribers page is used to manage personnel who will receive text and email alert notifications from devices. Users can both add new subscribers and customize subscriber schedules.

To add new subscribers, select the Add New Subscriber button and enter the information provided. You may include either a mobile phone number, email, or both for which the subscriber will receive alerts.

Add a New Subscriber

First Name
Enter First Name

Last Name
Enter Last Name

Email Address
Email Address

Phone Number
Enter Phone Number

Select Devices

☒ ash1	☒ ash2
☒ ash3	☒ demo
☒ demo34	☒ Dev4
☒ Device 1	☒ fsdfs
☒ joe1	☒ joe2
☒ Show 2	☒ test2
☒ testing	☒ testing mqtt alert
☒ TT - 039f	☒ TT - 04
☒ TT - 190f	☒ TT - 4130
☒ TT - 4189	☒ TT - b714

Show More **Show Less**

When to receive alerts?

☐ Sun ☒ Mon ☒ Tues ☒ Wed ☒ Thur ☒ Fri ☐ Sat

Start: 7 AM End: 4 PM

Remove

+

Add a new subscriber and custom schedule on the Subscribers page



Scheduling subscribers

Either set a custom schedule for new subscribers or edit existing subscriber schedules using the device and schedule options provided.

Users can individually schedule subscribers to receive alert notifications:

- On specific days of the week
- During select time blocks
- On multiple periods for a given day
- For assigned devices

The system default for subscribers is currently Monday-Friday from 7:00am-4:00pm for all devices.

We recommend staggering times for alert notifications to reduce the staffing burden for designated coverage areas.

One device and one schedule must be selected at minimum for each subscriber.

Edit Subscription

First Name
derek

Last Name
peterson

Email Address
derek.peterson@sotertechnologies.com

Phone Number
631-220-3100

Select Devices

When to receive alerts?

Sun Mon Tues Wed **Thur** Fri Sat
Start: 7 AM End: 12 PM
Remove

Sun Mon Tues Wed **Thur** Fri Sat
Start: 12 PM End: 4 PM
Remove

+

Save

Edit subscriber info and update custom schedules on the Subscribers page



User Page

The User page is used to manage the users of the FlySense® Web Portal. Users are defined as administrators of the web portal system. Users have access to all aspects of the portal and full editing capabilities.

Users can add new users, edit user information, and change user passwords for those requesting a password update.

FLYsense

Dashboard / Users

Active web user account

Add New User

Show 50 entries

Search:

First Name	Last Name	Email	Date Added	Date Activated		
Asheik	Hussain	asheik.hussain@sotertechnologies.com	03/14/2018 08:39 PM	08/09/2018 11:26 PM	Admin	Admin
Billy	Schweigert	billy.schweigert@sotertechnologies.com	02/13/2018 05:16 PM	04/12/2018 09:01 AM	Admin	Admin
Christopher	Wong	Chris.wong@sotertechnologies.com	06/05/2018 07:41 PM	07/19/2018 07:56 PM	Admin	Admin
Deji	Abraham	deji.abraham@sotertechnologies.com	02/19/2018 03:21 AM	04/12/2018 09:01 AM	Admin	Admin
Derek	Peterson	derek.peterson@sotertechnologies.com	02/13/2018 05:16 PM	04/12/2018 09:01 AM	Admin	Admin
LeeAnn	Iassogna	leann.iassogna@sotertechnologies.com	03/14/2018 04:10 PM	06/14/2018 06:21 PM	Admin	Admin
Manpreet	Singh	manpreet.singh@sotertechnologies.com	05/23/2018 09:47 AM	08/07/2018 07:01 PM	Admin	Admin
Michel	Richez	demo@sotertechnologies.com	03/06/2018 03:27 PM	08/13/2018 06:28 PM	Edit Account	Delete Account
Mohammed	Elbadry	mohammed.elbadry@sotertechnologies.com	02/18/2018 05:16 PM	07/19/2018 06:54 PM	Admin	Admin
Steven	Schmid	steven.schmid@sotertechnologies.com	02/27/2018 06:07 PM	07/24/2018 02:03 PM	Admin	Admin
Travis	Tomengo	travis.tomengo@sotertechnologies.com	03/08/2018 10:55 PM	08/07/2018 07:18 PM	Admin	Admin

Users view on the Users page



User Management

Users are defined as administrators of the web portal system. Users have access to all aspects of the portal and full editing capabilities.

To grant web portal access to additional school team members, select the Add New User button and enter the new user's name and email address and select Send.

The system will send an invitation email to the email provided with instructions on how to activate their account.

Select the Edit User option to edit user information and reset user passwords. Additionally remove users by selection the Remove User option.

The screenshot shows a modal window titled "Invite a New User" with a close button (X) in the top right corner. The form contains three input fields: "First Name" with the value "Jane", "Last Name" with the value "Doe", and "Email Address" with the value "jdoe@example.com". Below these fields is a green button labeled "Add".

Add new user view on the Users page



View Alert History

The Alert History page provides users a chronological view of alert notifications sent out by registered devices.

The All Alerts table will show the date and time, location (device name), alert type (either vape, sound, or connection status), alert classification, and alert description with options to sort each column.

- **Vape:** Vaping activity detected
- **Sound:** Elevated sound activity (above the designated threshold) detected
- **Tampering:** Tampering activity detected

All Alerts

Show: 30 entries

Search:

#	Date/Time	Location	Alert Type	Classification	Description	
228	08/13/2021 12:02:23 PM	QA - 286 7m	vape	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive ☐ Was this a bullying incident?		Save
227	08/13/2021 11:59:48 AM	QA-286	connection	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
226	08/13/2021 11:59:38 AM	QA-285	vape	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
225	08/13/2021 11:59:38 AM	QA-286	vape	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
224	08/13/2021 11:59:36 AM	QA - 286 7m	vape	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
223	08/13/2021 10:45:02 AM	QA - 286 7m	vape	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
222	08/13/2021 10:45:02 AM	QA-285	vape	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
221	08/13/2021 10:45:01 AM	QA-286	vape	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save

[View all alerts on the Alert History page](#)



Classify alerts

Users are strongly recommended to classify alert notifications as:

- **Confirmed Detection** (received alert and directly or indirectly confirmed verifiable activity)
- **Unconfirmed Detection** (received alert but unable to confirm verifiable activity)
- **False Positive** (received alert but no activity discovered)
- **For Sound Alerts:** Identify a bullying incident

Users should add a description to each event for record keeping. Users may update classifications and descriptions at any time. Saving is required to store new or updated data.

The default classification is Unconfirmed Detection and will remain as so until updated and saved by a user.

All Alerts

Show: 30 entries

Search:

#	Date/Time	Location	Alert Type	Classification	Description	
228	08/13/2021 12:02:23 PM	QA - 286 7m	Sound	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive ☐ Was this a bullying incident?		Save
227	08/13/2021 11:59:48 AM	QA-286	Sound	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
226	08/13/2021 11:59:38 AM	QA-285	Sound	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
225	08/13/2021 11:59:38 AM	QA-286	Sound	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
224	08/13/2021 11:59:36 AM	QA - 286 7m	Sound	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
223	08/13/2021 10:45:02 AM	QA - 286 7m	Sound	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
222	08/13/2021 10:45:02 AM	QA-285	Sound	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save
221	08/13/2021 10:45:01 AM	QA-286	Sound	☐ Confirmed Detection ☒ Unconfirmed Detection ☐ False Positive		Save

Classify and annotate alerts on the Alert History page



View vape and sound performance metrics

Users can view both vape and sound performance over time with real-time success metrics by selecting the adjacent Vape or Sound tabs on the Alert History page.

The performance tables include the total number of alerts, confirmed detections, unconfirmed detections, and false positives respectively, as well as the total success percentage – defined as the number confirmed and unconfirmed detections over the total number of notifications.

The screenshot shows the FLYsense web interface. The left sidebar contains navigation links: Dashboard, Devices, Subscribers, Users, Alert History (selected), Reports and Analytics, Organization Info, Support Center, and Admin. The main content area is titled 'Dashboard / Alert History' and has tabs for 'All', 'Vape', and 'Sound'. Below the tabs is a section titled 'History of All Alerts' which contains a table titled 'Vape Performance'.

Total Alerts	Confirmed Detection	Unconfirmed Detection	False Positive	Success Percentage
7	1	5	1	85.71

Below the table, it says 'Total Alerts : 13'.

Sample vape performance view within the Alert History page



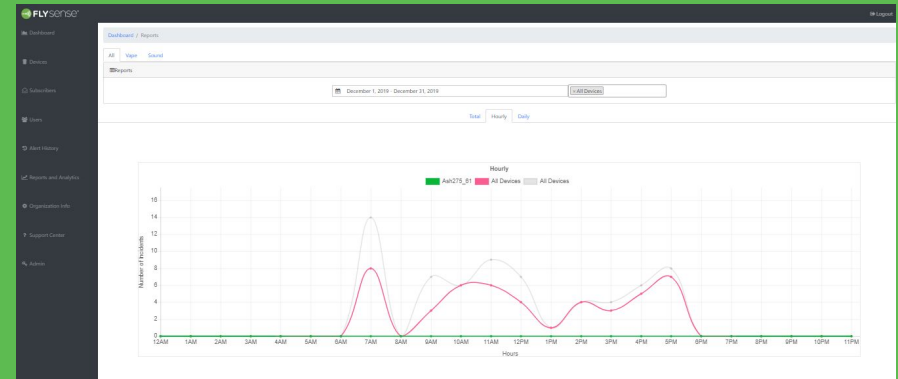
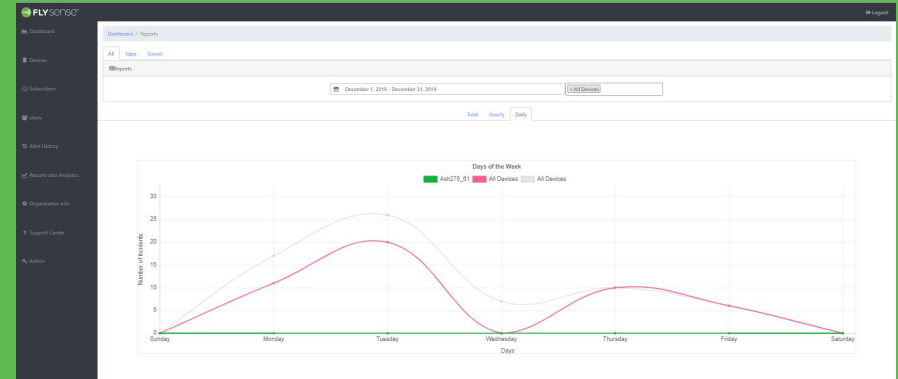
Manage alert analytics

The Reports and Analytics pages provides users with 3 real-time incident graphs (Total, Hourly, Daily) that depict alert notification data in total, across days of week, and hourly, as well as by device location.

Users can specify a custom date range and select one, all, or multiple devices to visualize incidents and gain valuable insights on vaping and sound activity over time.

Select the All, Vape, or Sound tabs to isolate sound and vape alert notification data or view in total (vape and sound alerts combined).

Use a combination of device selection, and daily and hourly views to identify hotspots campus-wide.



Sample alert analytics view on the Reports and Analytics page



Manage your organization

The Organization Info page is used to manage your organization's information including name, address, and time zone.

This information is populated during Organization Registration (part of the **Device Installation** - Slide 16) and can be updated at any time.

The time zone selection will be reflected in all alert notifications and other time-dependent instances for your organization.

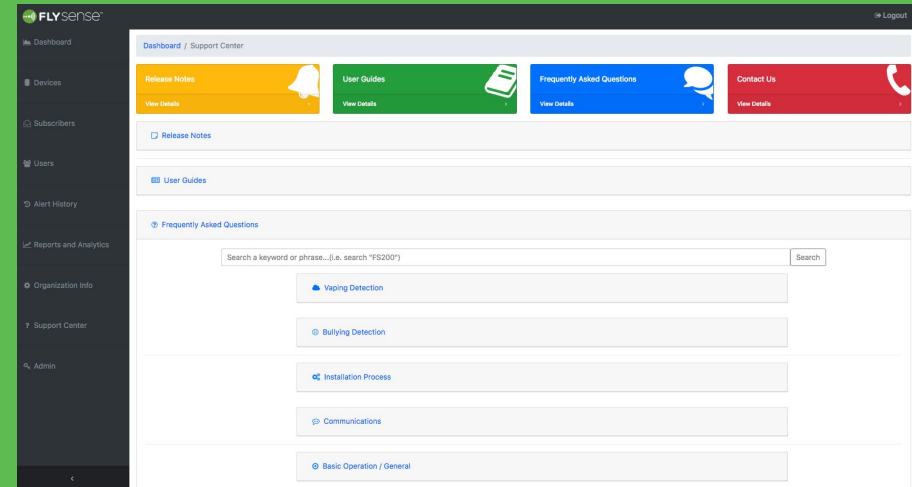
Manage organizational settings on the Organization Info page



Access the Support Center

Access FlySense® comprehensive 24/7 customer support center on the the Support Center page to:

- Contact our support team;
- Submit new feature requests or issue tickets;
- View and search FAQs, updated user guides, and release notes at any time.



FlySense® Support Center page



Forgot Password?

Users can always access the Forgot Password link on the FlySense® portal landing page to reset forgotten or lost passwords at any time.

Enter your email address and the system will send an email from sense@sotertechnologies.com with instructions on how to reset your password.

Reset Password

Forgot your password?

Enter your email address and we will send you instructions on how to reset your password.

Reset Password

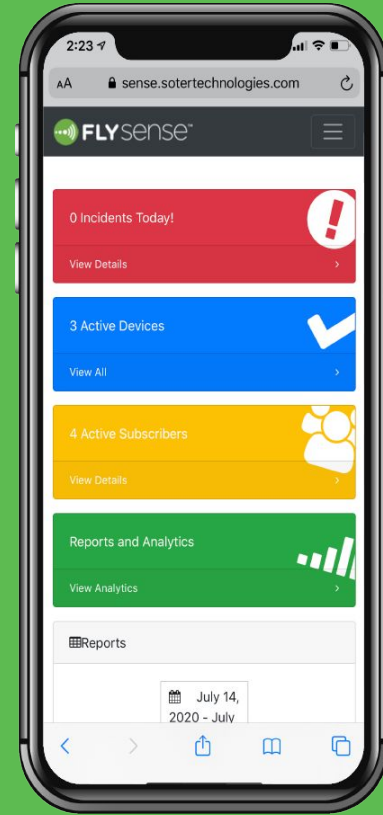
[Login Page](#)

Reset password view on the web portal landing page.



Web Portal access through Mobile Phone

Access the web portal on your mobile device by visiting sense.sotertechnologies.com and logging in with your credentials.



Mobile access



Device Troubleshooting



Soter Technologies | FlySense® 286



Troubleshooting devices

Confirm device MAC address and boot sequence

- Device MAC address is entered correctly in Devices tab on portal (either ETH or WLAN depending on set-up)
- Device boot sequence (green light lit for 5 seconds)

Confirm switches and cabling

- Network switch supports POE and is less than <100 meters away from the device (if over 100 meters, utilize a PoE injector); provide switch model number for our team to verify
 - Each port switch connected to a device is configured for 100 Mbps or greater full duplex communications
 - Ethernet cable is Cat5E or higher, preferably Cat6



Troubleshooting devices

Confirm open outbound ports

- Ports 22, 80, 443, & 11086 are opened for outbound communication; associated IP addresses are additionally whitelisted
 - To confirm this, access our web configuration tool with the device's IP address to confirm that all Telnet results are successful

Confirm DHCP availability and assignments

- If a DHCP server is not available on your network, or if a DHCP record is not assigned to a device, segment the device from your network using an alternate vlan, switch, or PoE injector with a laptop (this is required to avoid address conflict)
 - FS286 devices default to the IP address 10.10.10.4 on the ethernet interface
- Once segmented, access our web configuration tool using the default IP address, 10.10.10.4, and update the device as well as assign static IP (**recommended**)



FlySense® Liability and Performance Disclaimer

FlySense® 286 is a multi-sensor device that detects:

- Elevated sound or noise that suggests an anomaly such as bullying, fighting, or screaming.
- Vaping signatures.
- Device tampering

All digital information that is on the FlySense® device is proprietary information that belongs to Soter Technologies. It is a breach of the terms of use to open the device without the consent of Soter Technologies and will lead to a void in warranty.

FlySense® is a quality engineered solution that has been extensively tested. However, there are detection limitations driven by physical world characteristics as well as actions/intervention taken by individuals. More specifically:

1. Soter Technologies is not responsible for any personal or property damage that results from:

- Tampering with the sensor device before or after installation by a qualified professional.
- Improperly installing the device – that is, installing it in a manner that is not consistent with the product installation guide.
- Removing or repurposing components of the device
- Using the device in any fashion that is not recommended by Soter or is not consistent with its intended use.

2. Vaping detection is likely to be impaired in the following circumstances:

- Vaping is done near an open windows or active ventilation.
- Individuals are taking counter-measures to avoid system detection – such measures include, but are not limited to:
 - exhaling vape inside a jacket or coat;
 - exhaling vape close to a toilet or urinal, and then flushing.
- There is a wall or high door located between the vaping source and the sensor device.

3. Vaping detection will be degraded in the following circumstances:

- If the sensor is mounted to a ceiling or ceiling tiles higher than 9 feet above the floor. As the ceiling height increases, the effectiveness of the detector will decrease.
- If the vape is being emitted from a horizontal radius distance of more than 5 feet from the sensor. As the distance from the sensor increases, the effectiveness of the detector will decrease.

FlySense® is a registered trademark of Soter Technologies, LLC. Patent Pending (US and foreign patent applications). FlySense® vape detector is protected by US Patent No. 10,699,549 and foreign design registrations.