



ADMINISTRATOR MANUAL

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## About this Document

This manual is intended for administrators and users of IPVideo HALO Smart Sensor, and is applicable to hardware version 2, firmware base 2.2 and HALO version 1.30 and later. It includes instructions for using and managing the product on your network. Previous experience of networking will be of use when using this product. Some knowledge electrical circuitry and alarm panel connection may be useful in certain types of installations. Later versions of this document will be posted at [www.ipvideocorp.com](http://www.ipvideocorp.com). See also the product's online help, available through the web-based interface.

## Legal Considerations

### **WARNING**

**HALO Smart Sensor is NOT a LIFE SAFETY Device. It does NOT replace such LIFE SAFETY Devices as CO monitors or Smoke Detectors.**

Environmental and behavioral monitoring can be regulated by laws that vary from country to country. HALO has been designed to prohibit any direct monitoring or recording of video or audio, but you should check the laws in your local region before using this product.

## Liability

Every care has been taken in the preparation of this document. Please inform your local IPVideo Corporation office of any inaccuracies or omissions. IPVideo Corporation cannot be held responsible for any technical or typographical errors and reserves the right to make changes to products and manuals without prior notice. IPVideo Corporation makes no warranty of any kind with regard to the material contained within this document including, but not limited to, warranties of merchantability and fitness for a particular purpose. IPVideo Corporation shall not be liable nor responsible for incidental or consequential damages in connection with the furnishing, performance, or use of this material. This product is only to be used for its intended purpose.

## Intellectual Property Rights

IPVideo Corporation has intellectual property rights relating to technology embodied in the product described in this document. In particular, and without limitation, these intellectual property rights may include on one or more patents or pending patent applications in the US and other countries.

This product contains open source and licensed 3<sup>rd</sup> party software components:

- **Python**
- **NodeJS**
- **seed**
- **Rasbian Oracle**
- **Rasbian Wolfram**

The complete list of open source and licensed 3<sup>rd</sup> party software components can be found through the **License** link on the Device page of the HALO web pages.

## Equipment Modification

This equipment must be installed and used in strict accordance with the instructions given in the user documentation. This equipment contains no user-serviceable components. Unauthorized equipment changes will invalidate all applicable regulatory certifications and approvals.

## Trademark Acknowledgements

IPVIDEO CORPORATION and HALO SMART SENSOR are registered trademarks or trademark applications of IPVideo Corporation in various jurisdictions. All other company names and products are trademarks or registered trademarks of their respective companies.

Vista and WWW are registered trademarks of the respective holders. Java and all Java-based trademarks and logos are trademarks or registered trademarks of Oracle and/or its affiliates. SD, SDHC and SDXC are trademarks or registered trademarks of SD-3C, LLC in the United States, other countries or both. Also, miniSD, microSD, miniSDHC, microSDHC, microSDXC are all trademarks or registered trademarks of SD-3C, LLC in the United States, other countries or both.

## Regulatory Information

### Electromagnetic Compatibility

This equipment has been designed and tested to fulfill applicable standards for:

- Radio frequency emission when installed according to the instructions and used in its intended environment.
- Immunity to electrical and electromagnetic phenomena when installed according to the instructions and used in its intended environment.

### USA

This equipment has been tested using a shielded network cable (STP) and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate the radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The product shall be properly connected using a shielded network cable (STP) and found to comply with the limits for a Class B device.

## Safety

This product complies with IEC/EN/UL 60950-1 and IEC/EN/UL 60950-22, Safety of Information Technology Equipment. The product shall be grounded either through a shielded network cable (STP) or other appropriate method. The power supply used with this product shall fulfill the requirements for Safety Extra Low Voltage (SELV) and Limited Power Source (LPS) according to IEC/EN/UL 62368-1 or IEC/EN/UL 60950-1.

## Battery

The product uses a lithium battery as the power supply for its internal real-time clock (RTC). Under normal conditions this battery will last for a minimum of five years. Low battery power affects the operation of the RTC, causing it to reset at every power-up. The battery should not be replaced unless required, but if the battery does need replacing, contact IPVideo Corporation support for assistance.

Lithium coin cell 3.0 V batteries contain 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME), CAS no. 110-71-4.

### WARNING

- Risk of explosion if the battery is incorrectly replaced.
- Replace only with an identical battery or a battery which is recommended by Axis.
- Dispose of used batteries according to local regulations or the battery manufacturer's instructions.

## Disposal and Recycling

When this product has reached the end of its useful life, dispose of it according to local laws and regulations. For information about your nearest designated collection point, contact your local authority responsible for waste disposal. In accordance with local legislation, penalties may be applicable for incorrect disposal of this waste.

## Support

Should you require any technical assistance, please contact your IPVideo Corporation reseller. If your questions cannot be answered immediately, your reseller will forward your queries through the appropriate channels to ensure a rapid response. If you are connected to the Internet, you can download user documentation and software updates.

**Technical Support via Telephone: (631) 647-9970**

**Live technical support is available Monday through Friday (excluding holidays) between the hours of 8 AM and 5 PM Eastern.**

**Technical Support via Email: [techsupport@ipvideocorp.com](mailto:techsupport@ipvideocorp.com)**

## Safety Information

The following convention is used within this manual.

### Hazard Levels

**DANGER**

Indicates a hazardous situation which, if not avoided, will result in death or serious injury

**WARNING**

Indicates a hazardous situation which, if not avoided, could result in death or serious injury

**CAUTION**

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury

**NOTICE**

Indicates a situation which, if not avoided, could result in damage to property

### Other Message Levels

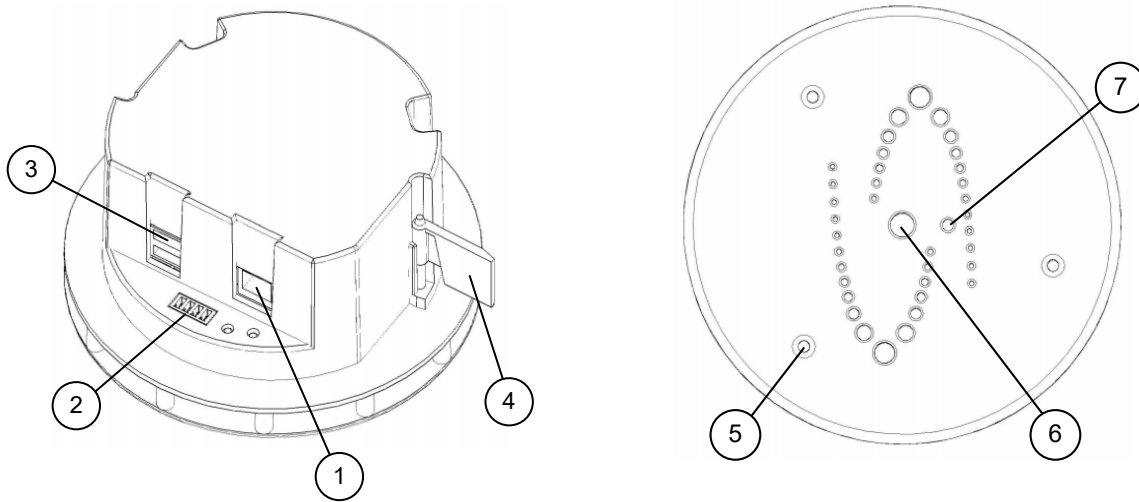
**IMPORTANT**

Indicates significant information which is essential for the product to function correctly

**NOTE**

Indicates useful information which helps in getting the most out of the product

## Hardware Overview



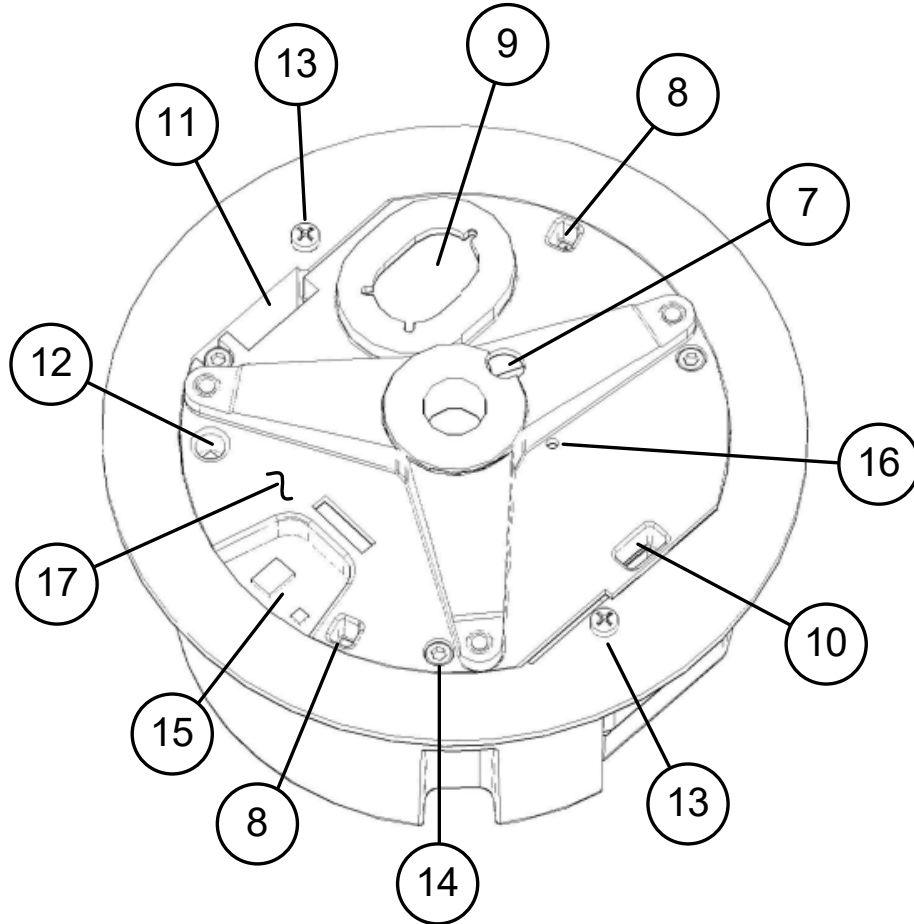
1. Network Connection (RJ-45) – requires 802.3af Power over Ethernet
2. Relay Connection (Plug supplied)
3. USB Ports – currently unused
4. Locking Wing – see installation guide
5. Cover Securing Screws (3) – T10 Torx driver required
6. Multi-color LED Indicator
7. Light Sensor

### NOTICE

The product shall be connected using a shielded network cable (STP). All cables connecting the product to the network shall be intended for their specific use. Make sure that the network devices are installed in accordance with the manufacturer's instructions. For information about regulatory requirements, see Electromagnetic Compatibility (EMC) on page 2.

## Outer Cover Removed

The outer cover must be removed (by removing the three T10 TORX screws [5] with the provided wrench) during installation and to perform a manual reset. The figure below shows details exposed when the Outer Cover is removed.



- |                               |                                     |
|-------------------------------|-------------------------------------|
| 7. Light Sensor on PC board   | 12. Temperature and Humidity sensor |
| 8. Microphones                | 13. Clamping screws                 |
| 9. Loudspeaker                | 14. Inner cover mounting screws (3) |
| 10. Particle air intake port  | 15. Gas Sensors                     |
| 11. Particle air exhaust port | 16. Reset button on PC board        |
|                               | 17. Inner Cover                     |



## Introduction

HALO Smart Sensor is an IoT device that detects environmental changes that occur in privacy concern areas where surveillance cameras can't be installed. HALO Smart Sensor is capable of detecting vape, smoke, THC and shouting in areas a camera cannot be placed. Additional sensors give HALO the ability to monitor air quality for temperature, humidity, hazardous chemicals and more. When the sensor values exceed normal levels, HALO Smart Sensor can send alerts to security personnel.

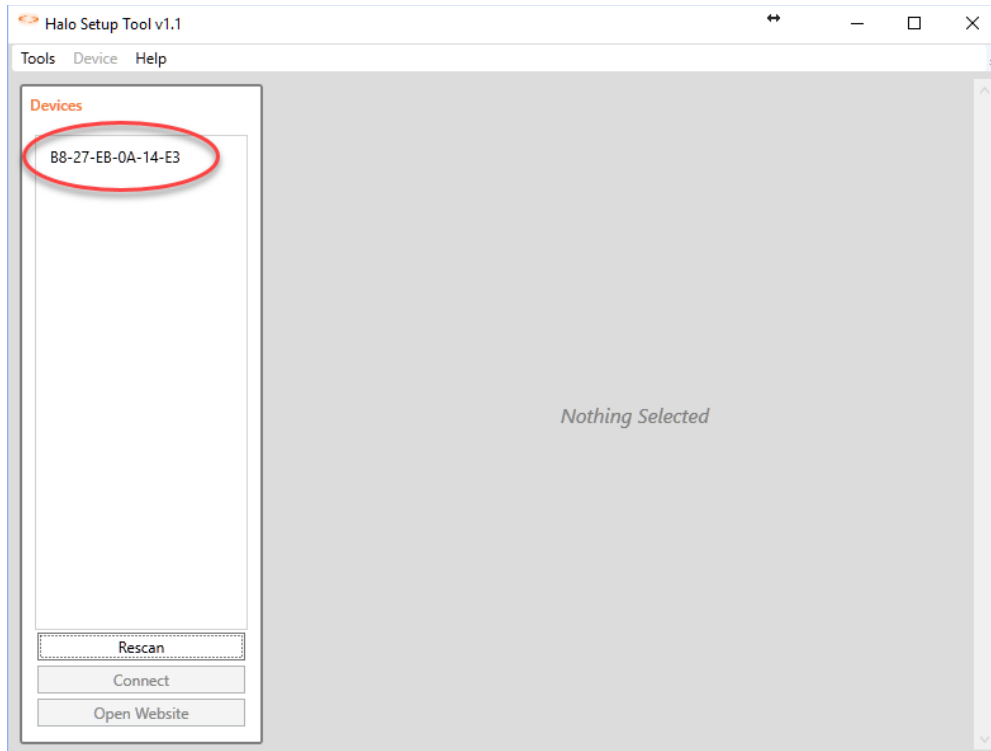
## Device Setup

### Setup Prerequisites.

1. One or more **HALO Smart Sensor** devices connected to a standard office network where the steps in the HALO Installation Procedure have been followed resulting in confirmation that the device is operating and physically connected to the network.
2. The network must be (at least temporarily) be provided with a DHCP Server to provide initial IP Addresses.
3. If static addressing is planned, then then correct subnet mask, gateway address, and DNS address must be known.
4. An accessible Windows 10 PC (temporarily) connected to the same network must be available. This PC must have the [Chrome browser](#) installed and must have the HALO Setup Tool.exe copied to its desktop. HALO Setup Tool does **not** require any installation.

### Finding the HALO Smart Sensor Devices on the Network

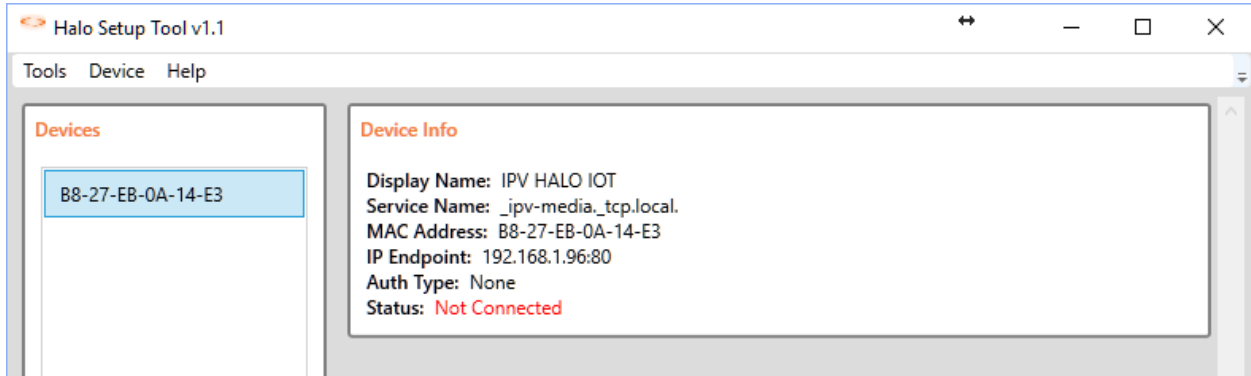
Start the HALO Setup Tool on the PC by double clicking the program Icon. The program scans the network looking for HALO Devices. After a few seconds, the MAC address of each HALO device should be displayed in the list at the left.



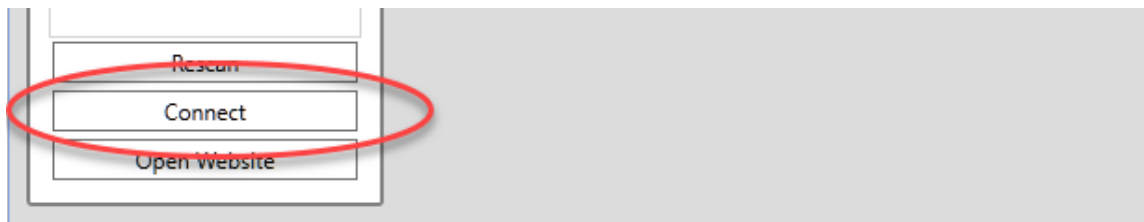
There should be a list member for each HALO device on the network. The HALO Setup Tool does not scan beyond the local network subnet (such as 192.168.1.X for example). Devices on other subnets, even though physically connected, will not be seen.

## Connection to a HALO Smart Sensor

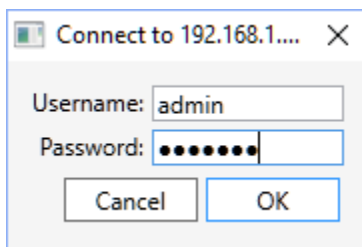
Select the MAC address for the desired HALO device. A window showing the current device information will be displayed as shown below:



This selection also enables the Connect button shown below;



Click the Connect button, this will display the login dialog shown below:



The default Username is “admin” and the default password is the displayed MAC address entered with all upper case and no dashes, for example, **B827EB0A14E3**. Note that 0 is always numeric zero. Click OK to connect to the HALO device. Make note of this password as it is needed again later.

## Network Mode

When the connection is complete, the Network Info form will be displayed as below:

**Network Info**

Mode:  Automatic  Static

IP Address:

Netmask:

Name Servers:

Routers:

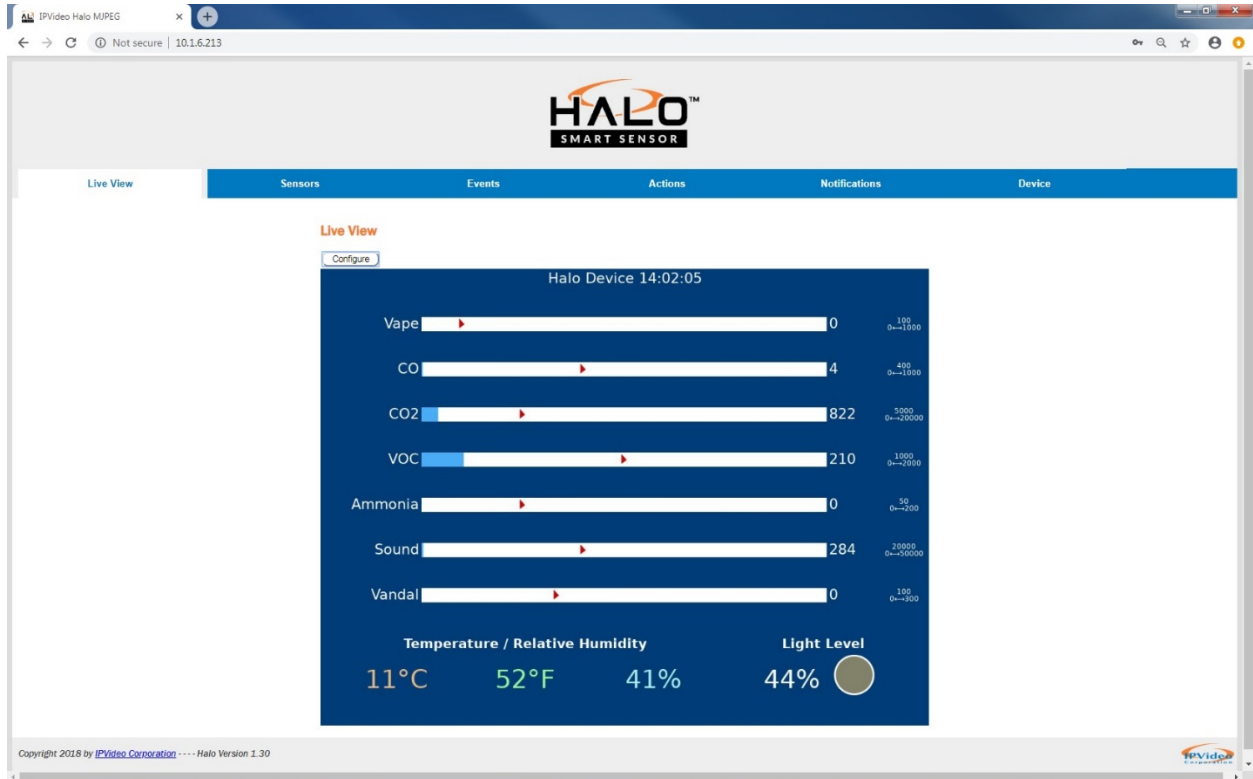
If the Mode is Automatic, this is likely a new Device. The Device may be left in DHCP (Automatic) Mode if the system administrator allows this type of operation. If the Mode is Static, this Device has likely been previously setup for with a Static IP address which will be displayed here.

## Live View

The Live View page is the first page users see when connecting to the HALO Smart Sensor. Live View displays a real-time, graphical display of the state of each of the individual on board sensors.

### NOTE

*Google Chrome is the recommended and preferred browser for use with HALO Smart Sensor.*



## Configure

Click the **Configure** button to edit the display settings for the Live View tab.

### MJPEG Configuration

The screenshot shows a web browser window titled 'IPVideo Halo MJPEG - Google Chrome' with the URL '10.1.6.213/forms/mjpeg-cfg.html'. The page content is as follows:

- Path:** http://10.1.6.213:80/api/gfx/stream.jpg
- Refresh Rate:** 1 sec
- Max Clients:** 8
- Canvas:**
  - Size:** Width: 1024, Height: 768
  - Main Colors:** Background: [blue], Text: [white]
  - Label Colors:** °C: [orange], °F: [green], RH: [light blue]
  - Title:** Show Date: , Show Time: , Use UTC time:
- Graphs:**

	Show	Min	Max	Color	Order
Vape	<input checked="" type="checkbox"/>	0	1000	[blue]	↓
CO	<input checked="" type="checkbox"/>	0	1000	[blue]	↑ ↓
CO2	<input checked="" type="checkbox"/>	0	20000	[blue]	↑ ↓
VOC	<input checked="" type="checkbox"/>	0	2000	[blue]	↑ ↓
Ammonia	<input checked="" type="checkbox"/>	0	200	[blue]	↑ ↓
Sound	<input checked="" type="checkbox"/>	0	50000	[blue]	↑ ↓
Vandal	<input checked="" type="checkbox"/>	0	300	[blue]	↑

<b>Path</b>	This is the URL to the Motion-JPEG video stream that HALO Smart Sensor can output to third party Video Management platforms
<b>Refresh Rate</b>	The rate at which the Motion-JPEG stream updates it's display
<b>Max Clients</b>	The maximum number of connections that can be made to the Motion-JPEG stream, 8 is the max

Canvas	
<b>Size</b>	The output resolution of the Motion-JPEG stream in Width and Height
<b>Main Colors</b>	Defines the color of the Background and the Text in the Motion-JPEG stream
<b>Label Colors</b>	Defines the text color for the Temperature/Humidity display
<b>Title</b>	Determines if the Date/Time are displayed as an overlay in the MJPEG stream

### Graphs

Graphs are the method of displaying the sensor activity visually that appear on the Live View Tab. The graphs can display each of the configured Events that have been configured on the Events Tab.

Check the **Show** check box next to each entry in the list to enable the display of the selected Event. Unchecking the **Show** checkbox will disable the display of the selected Event.

The **Min** and **Max** values allow the administrator to define the thresholds for the selected Event. The threshold will determine the sensitivity of the selected sensor Event.

Click on the Color button to define the color of the selected Event Gauge.

Use the **Up** and **Down arrow buttons** to define the order of the Event Gauges as they will be displayed in the Live View tab.

Click the **Save** button to save defined settings and click the **Defaults** buttons to set default settings.

# Sensors

The Sensors tab displays the real-time activity of the Sensor Array on-board HALO Smart Sensor.

Operators who prefer to monitor the status of the HALO Smart Sensor via plain text-based data can choose this view instead of the Live View that provides a graphical display of values.

Each of the individual sensors, including Air Particulates, Environment, Air Quality, Gasses, Noise and movement are displayed separately.

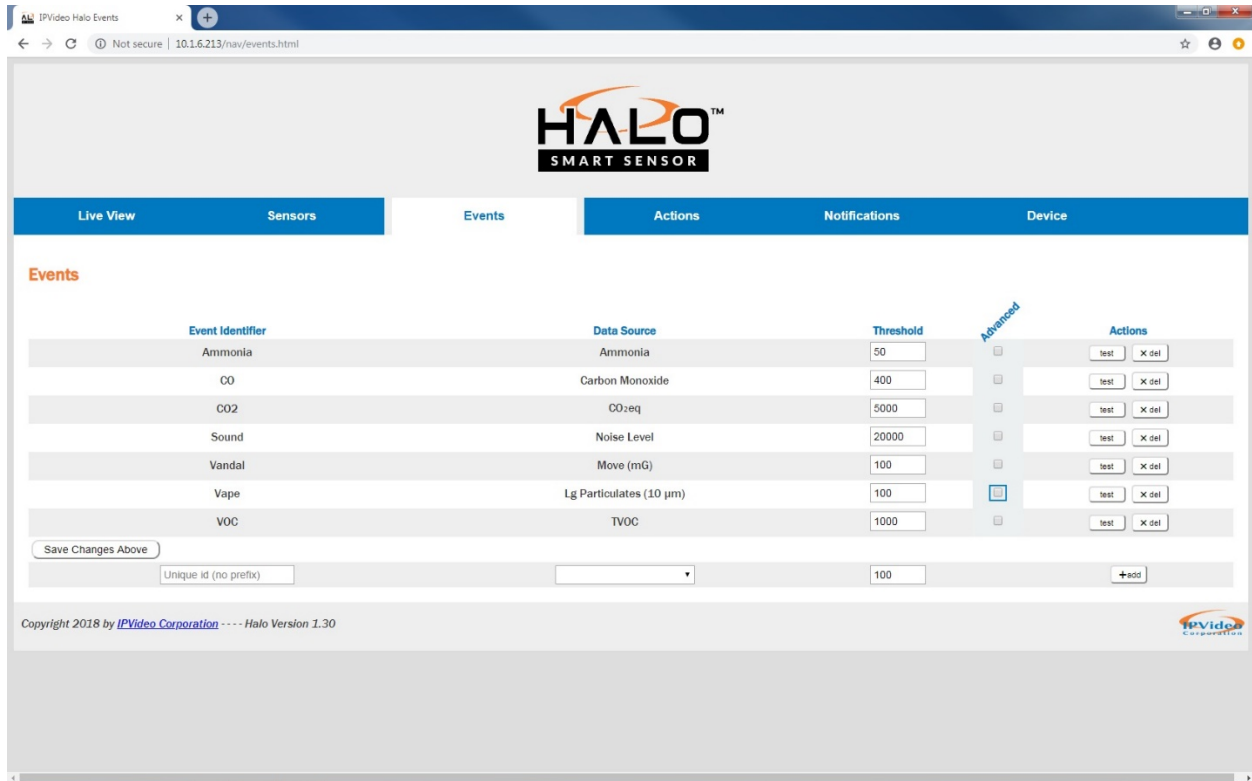
The screenshot shows a web browser window with the URL `10.1.6.225/nav/sensors.html`. The page features the HALO SMART SENSOR logo at the top center. Below the logo is a navigation bar with tabs for Live View, Sensors, Events, Actions, Notifications, and Device. The Sensors tab is active, displaying six data panels in a 2x3 grid:

- Air Particulates:** Last Update: 1:20:45 PM. Small: 0 (Δ+0). Medium: 0 (Δ+0). Large: 0 (Δ+0).
- Environment:** Last Update: 1:20:45 PM. Temp: 26°C (78°F). Humidity: 34%. Light Level: 50%.
- Air Quality:** Last Update: 1:20:45 PM. CO<sub>2</sub>eq: 994 ppm. TVOC: 301 ppb.
- Gases:** Last Update: 1:20:44 PM. CO: 6.0 ppm. NH<sub>3</sub>: 0.7 ppm. NO<sub>2</sub>: 0.2 ppm.
- Noise:** Last Update: 1:20:46 PM. Peak Level: 2107. Left: 117. Right: 122.
- Movement:** Last Update: 1:20:45 PM. Move (mG): 4. X, Y, Z (mG): -24, 21, -909.

At the bottom left, it says "Copyright 2018 by IPVideo Corporation -- Halo Version 1.32". At the bottom right, there is a "Logout (video)" button and the IPVideo Corporation logo.

# Events

Events are unique identifiers (Friendly Name) for a Data Source (Sensor). As the thresholds of these Data Sources are surpassed, the corresponding Event is triggered.



The available Data Sources are:

<ul style="list-style-type: none"> <li>• Temperature (C)</li> <li>• Temperature (F)</li> <li>• Relative Humidity</li> <li>• Visible Light</li> <li>• TVOC</li> <li>• CO2eq</li> <li>• TVOC (Filtered)</li> <li>• CO2eq (Filtered)</li> </ul>	<ul style="list-style-type: none"> <li>• SM. Particulates</li> <li>• MD Particulates</li> <li>• LG Particulates</li> <li>• SM. Particulates (ROC)</li> <li>• MD Particulates (ROC)</li> <li>• LG Particulates (ROC)</li> <li>• Ammonia</li> <li>• NO2</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon Monoxide</li> <li>• Noise Level</li> <li>• Noise Level Left</li> <li>• Noise Level Right</li> <li>• X orientation</li> <li>• Y orientation</li> <li>• Z orientation</li> <li>• Move</li> </ul>
--	--	--

A default set of Events are pre-programmed in HALO Smart Sensor.

The Events are listed in order and each has a unique Threshold field that can be edited based on the local environment.

Additional Events can be manually programmed. Enter a Name into the Event Identifier field and select a Data Source from the dropdown menu. Define a Threshold for the Event and click the +Add button.



## Advanced Conditions

Advanced Conditions allow for filtering and combining values numerically and logically.

Any filtering and numeric combining must be specified first and can then be followed by logical combining with other events.

All functions are performed left-to-right unless parenthesis group items to do first on the right.

Order does not matter for some sets of functions (+ and -, smooth and zero and rate, etc).

To enable the Advanced Conditions, check Advanced checkbox.



Click on the Question Mark icon for more details and examples.

## Actions

The Actions tab allows administrators to define what Actions occur when the threshold of an Event is triggered. Administrators can define Actions that will generate notifications via email, text or VMS, and bring attention to the surrounding environment of the HALO Smart Sensor. Each defined Event can have multiple Actions.

The Available Actions are:

Trigger Relay 1 On/Off	On, 5 sec, 10 sec, 20 sec, 1 min
Trigger Relay 2 On/Off	On, 5 sec, 10 sec, 20 sec, 1 min
Change LED Color	Red, Green, Blue, Yellow, Violet. Cyan. White
Change LED Pattern	Steady, 1 Sec Blink, 2 Sec Blink, 5 Sec Blink
Change LED Priority	High, 2, 3, 4, 5, 6, 7, 8, Low
Play Audible Notification	Select Sound File from Drop Down Menu

### Actions

Event Identifier	Email Set	Email Reset	VMS Set	VMS Reset	Relay 1	Relay 2	LED Color	LED Pattern	LED Priority	Sound
Ammonia	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---	---	---	Steady	High	---
CO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---	---	---	Steady	High	---
CO2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---	---	Green	1 Sec Blink	High	---
Sound	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---	---	---	Steady	High	---
Vandal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---	---	Red	1 Sec Blink	High	Siren-Euro.wav
Vape	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---	---	---	Steady	High	---
VOC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---	---	---	Steady	High	---

Save

Check the checkbox for Email Set, Email Reset, VMS Set, or VMS Reset to enable or disable notifications for the selected Event Identifier. **Email Set / VMS Set** will send an email notification or TCP/IP Data String when the sensor has surpassed the defined threshold. The **Email Reset/VMS Reset** notification or TCP/IP Data String will be sent when the sensor returns to its expected or normal state.

Use the dropdown menus to specify the conditions of the Relays, LED and Sound for each Event Identifier.

Click on the **Save** button to save any changes made.

## Audio Settings

HALO Smart Sensor features an on-board speaker, so that audible notifications can be broadcast on Events.

The **Speaker Volume** is controlled on the Actions tab. Enter a value of 0 (off) to 127 (Max Vol) in the Speaker Volume field to edit the volume settings.

Speaker Volume:  0 (off) to 127 (max)

No file chosen

### Adding a Sound File

Click on the **Choose File** button to select a Sound File to be added to the HALO Smart Sensor. Once the file selection has been made, the file name will appear in the Grey area. Click the **Upload Wavefile** button to upload and save the file.

### Deleting a Sound File

Click on the **File to Delete** dropdown menu to select a sound file for deletion. Once the file has been selected, click the **Delete Wavefile** button to remove the sound file permanently from the HALO Smart Sensor.

## Notifications

HALO Smart Sensor can send Email/Text Notifications and ASCII Test Strings to supported Video Management Software platforms when Event Thresholds have been exceeded. Unique messages can be configured and sent for Set and Reset sensor states.

Administrators can choose to enter their own specific text in the **Subject and Body** fields or use the built-in shortcuts to generate messages using Auto generated messages.

The Auto Strings that can be used are:

<b>%NAME%</b>	Device name as specified in Device settings
<b>%IP%</b>	IP Address assigned to HALO Smart Sensor unit
<b>%EID%</b>	The Event ID as specified on the Event Tab
<b>%THR%</b>	The Threshold of the Event that was surpassed (Numerical Value)
<b>%VAL%</b>	The Sensor Value
<b>%DATE%</b>	Current Date of the Event
<b>%TIME%</b>	Local Time of the Event

Click the **On/Off** radio buttons to enable or disable the message.

The **Set/Reset Delay** is the amount of time that HALO Smart Sensor will wait until an additional message is transmitted, even if the sensor reset has occurred. This will reduce the flow of messages be transmitted to the recipient.

### Email Contents

**Subject & Body (Set)**

On  Off Reset Delay:

**Subject & Body (Reset)**

On  Off Set Delay:

Save

Above, you can use:  
%NAME% - device name  
%IP% - ip address  
%EID% - event id  
%THR% - event threshold  
%VAL% - sensor value  
%DATE% - local time of event  
%TIME% - local time of event

Click the **Save** button to retain any settings changes.

## SMTP Settings

In order to send email/text notifications, you must fill out the SMTP Settings with a valid email server.

The **Host** is an IP Address or Server Name of the Email Server

The **Port** is set to 25 by default, but can be edited to match the port of the selected email server

Enter the **Username** and **Password** to authenticate with the Email Server

**Security:** High is selected by default which forces the use of port 465.

**Sender** is the email address that will appear in the Sender field of the transmitted email.

In the **Recipients** field, enter the email address or multiple addresses separated by a comma, that will receive the email notification.

Click the **Save & Test** button to save the setting changes. Check the **Send Test Email** check box and click the **Save & Test** button to save settings and send a test email notification to the specified destination addresses.

### SMTP Settings

Host	<input type="text"/>
Port	<input type="text" value="25"/>
Username	<input type="text"/>
Password	<input type="password"/>
Security	<input type="radio"/> Normal <input checked="" type="radio"/> High (port 465 only)
Sender	<input type="text" value="email@email.com"/>
Recipients	<input type="text" value="email@email.com,email2@"/>
<input type="button" value="Save &amp; Test"/> <input type="checkbox"/> Send Test Email	

If the test passed you should get email/text. If test failed look at options below:

- HALO Smart Sensor might not have internet access (external SMTP)
- IMAP is disabled on your Gmail account (external SMTP)
- Gmail is suspicious of login. Simply login in to Gmail and confirm that it was you that signed in.
- SMTP setting parameters are wrong.
- Firewall is blocking the communication between HALO Smart Sensor and SMTP server.
- HALO Smart Sensor has incorrect DNS, Router, Gateway, IP Address

## VMS Settings

HALO Smart Sensor can send ASCII Messages via TCP/IP Socket to supported Video Management Software platforms, as a method of triggering VMS defined events, and associating HALO Smart Sensor with Video Surveillance cameras.

Enter a **Set String** and click the **On** or **Off** radio button to enable or disable this notification. The **Set String** should identically match one that is defined in the VMS. This will send a notification to the VMS that an event has been triggered.

Enter a **Reset String** and click the **On** or **Off** radio button to enable or disable this notification. The **Reset String** should identically match one that is defined in the VMS. This will send a notification to the VMS that a sensor(s) defined in an Event have been reset.

Enter the IP Address of the VMS Server in the **Address** field.

Enter the **Port** that is set to listen to events on the VMS Server.

Specify the **Protocol** used to transmit the event notification by clicking the TCP or UDP radio buttons.

### VMS Settings

Set string   On  Off

Reset String   On  Off

Address

Port

Protocol  TCP  UDP

Above, you can use:  
%NAME% - device name  
%IP% - ip address  
%MAC% - mac address  
%EID% - event id  
%SOURCE% - data source  
%THR% - event threshold  
%VAL% - sensor value  
%DATE% - local time of event  
%TIME% - local time of event

Administrators can use the built-in text shortcuts to auto generate messages. The Auto Strings that can be used are:

%NAME%	Device name as specified in Device settings
%IP%	IP Address assigned to HALO Smart Sensor unit
%MAC%	MAC Address of the HALO Smart Sensor
%EID%	The Event ID as specified on the Event Tab
%THR%	The Threshold of the Event that was surpassed (Numerical Value)
%VAL%	The Sensor Value
%DATE%	Date of the Event
%TIME%	Local Time of the Event

## Heartbeat

HALO Smart Sensor can send Heartbeat ASCII Messages via TCP/IP Socket to Third Party Applications, as a method of updating the status of a HALO Smart Sensor.

### Heart Beat

**Message**

**Interval Seconds**

**Address**

**Port**

**Protocol**  TCP  UDP

Above, you can use:  
%NAME% - device name  
%IP% - ip address  
%MAC% - mac address  
%EVENTS% - list of event states  
%DATE% - local date  
%TIME% - local time

Enter a **Message** to be sent, using the Auto String Wildcards as listed below:

<b>%NAME%</b>	Device name as specified in Device settings
<b>%IP%</b>	IP Address assigned to HALO Smart Sensor unit
<b>%MAC%</b>	MAC Address of the HALO Smart Sensor
<b>%EVENTS%</b>	List of current event states
<b>%DATE%</b>	Date of the Event
<b>%TIME%</b>	Local Time of the Event

Enter the **Interval Seconds**. This setting determines the frequency at which the Heartbeat message is sent.

Enter the IP Address of the Destination (listening) Server in the **Address** field.

Enter the **Port** that is set to listen to events on the Destination (listening) Server.

Specify the **Protocol** used to transmit the event notification by clicking the TCP or UDP radio buttons.

## Device

The Device Tab enables administrators to define Network Settings, User Management and Device Maintenance settings.

### Network Configuration

#### Device Name

Device name	<input type="text" value="Halo Device"/>
-------------	--

Save

#### Internet Protocol

Automatic (DHCP)  On  Off

IP Address	<input type="text" value="0.0.0.0"/>
------------	--------------------------------------

Netmask

Routers

DNS

Save

The **Device Name** is a Unique Name that is applied to each HALO Smart Sensor. This name is used to identify the unit in event notifications and logs. Enter a unique name in this field and click the **Save** button.

**Automatic (DHCP)** is enabled by default, which will allow the HALO Smart Sensor to obtain an IP Address on the Local Area Network automatically. If it is preferred to have a Static IP Address assigned to the HALO Smart Sensor device, click the **Off** radio box selection to disable Automatic (DHCP), and enter the specific **IP Address**, **Subnet Mask**, Default **Router** and **DNS** entries in the appropriate fields. Click the **Save** button to retain the applied settings.



## HTTP / API

Port	<input type="text" value="80"/>
Authentication	<input type="text" value="Digest Only"/>
<input type="button" value="Save"/>	

**HTTP/API** settings specify the communication port for the devices webpages and the Authentication protocol used to secure the connection. All browser connections and API calls will have to adhere to these definitions.

**Port** 80 is defined by default; however, this setting can be edited to define the preferred Port.

The options for **Authentication** are:

- None (Unsecure)
- Basic
- Digest
- Basic and Digest

Digest Authentication communicates credentials in an encrypted form by applying a hash function to the Username, the Password, a server supplied nonce value, the HTTP method, and the requested URI. Basic Authentication should generally only be used where transport layer security is provided such as HTTPS.

Click the **Save** button to retain any settings changes.

### NOTE

*If the HALO Smart Sensor is to be integrated with Milestone VMS, you **MUST** set the device Authentication to Basic, otherwise Milestone will not be able to connect to the MJPEG output.*

## Date & Time

<b>Timezone</b>	New York (Eastern) ▼
<b>Use NTP</b>	Yes ▼ In sync: yes
<b>Custom NTP Server</b>	<input type="text"/>
<input type="button" value="Save Options"/>	
<b>Local Date (yyyy/mm/dd)</b>	2019 - 03 - 28
<b>Local Time (hh:mm:ss)</b>	14 : 08 : 41
<input type="button" value="Set Time"/>	

The Date & Time settings allow the Administrator to specify the Timezone and use of an NTP server to synchronize the HALO Smart Sensor to a specific clock.

Click the **Timezone** dropdown menu to specify the Time Zone

If NTP Synchronization is preferred, click the **Use NTP** dropdown menu and select Yes. Select No to disable NTP.

**NOTE**


*This method should be considered best practice, and it is highly recommended to enabled NTP.*

Enter the Name or IP Address of the NTP Server in the **Customer NTP Server** field.

Click the Save Options button to retain the current settings.

To manually specify the device Date and Time settings, enter the Local Date and Local Time in the appropriate fields and click the **Set Time** button.

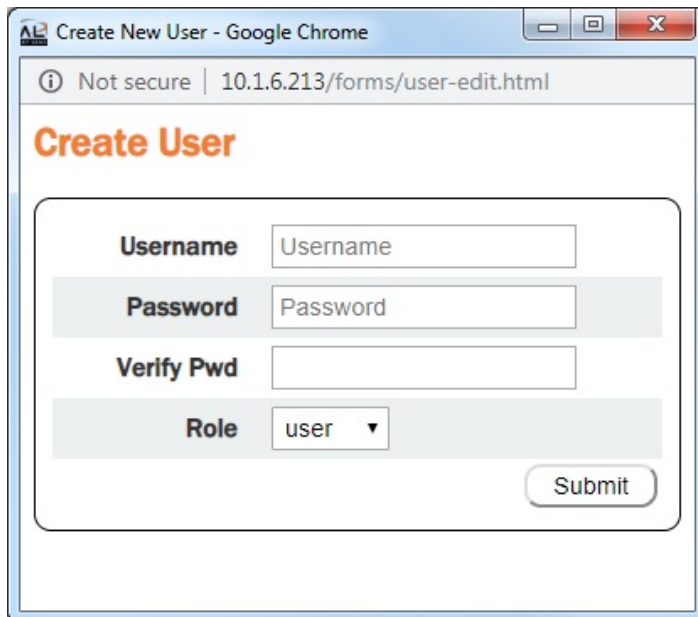
## User Management



A screenshot of a web interface titled "User Management". It features a list box containing the text "admin". Below the list box are three circular buttons: a plus sign (+) which is highlighted with a red square, a pencil icon, and an 'x' icon.

User Accounts can be easily managed in the **User Management** section of the Device Tab.

To Add a new User Account, click on the + button. This will open the Create User window.



A screenshot of a browser window titled "Create New User - Google Chrome". The address bar shows "10.1.6.213/forms/user-edit.html". The page content includes the heading "Create User" and a form with the following fields: "Username" (text input), "Password" (text input), "Verify Pwd" (text input), and "Role" (dropdown menu currently set to "user"). A "Submit" button is located at the bottom right of the form.

Enter a **Username**, a **Password**, then verify the **Password** in the labeled fields.

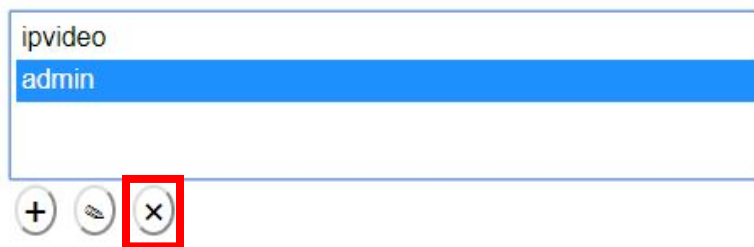
Click the **Role** dropdown menu to select a Role for the user account.

The Role options are **User** or **Admin**. **User** accounts will be shielded from making setting changes to the device. **Admin** accounts will enable the user to edit device settings.

To **Edit** an existing User Account, click on the User Name in the list, and click the Pencil icon to edit the user settings.



To **Delete** an existing User Account, select the name in the list and click the **X** button.



## Device Management ↑

The screenshot shows a web interface for Device Management. At the top, there is a dropdown menu with three dashes (---) and a downward arrow. To its right is a button labeled "Select Preset". Below the dropdown menu are two buttons: "Reset Config" and "Reboot Device". At the bottom, there is a file upload area with a button labeled "Choose File", the text "No file chosen", and a button labeled "Upload Firmware".

The Device Management section of the Device Tab allows administrators Select a Preset Device Configuration from a dropdown menu. Click the drop-down menu, select the preset configuration you would like to apply to the HALO Smart Sensor and click the **Select Preset** button.

Click the **Reset Config** button to set the configuration back to factory default.

### NOTE

*Either of these actions requires a full reboot of the HALO Smart Sensor.*

Click the **Reboot Device** button to perform a device reboot. This will restart all elements of the HALO Smart Sensor.

To upload new firmware to the HALO Smart Sensor, click on the Choose File button to select the file provided by IPVideo Corporation Technical Support. Click the Upload Firmware button to push the update to the device. This process will take several minutes.

## Device Logs ↑

- [drv20190417.log](#)
- [drv20190416.log](#)
- [drv20190415.log](#)
- [drv20190414.log](#)
- [drv20190413.log](#)
- [drv20190412.log](#)
- [drv20190411.log](#)
- [drv20190410.log](#)
- [drv20190409.log](#)
- [drv20190408.log](#)
- [20190417.log](#)

Keep Days:

The **Device Logs** report the overall daily status of the device. The number of days that will be retained is defined in the **Keep Days** field. Enter the number of days desired and click the **Save** button.

## Data Logs ↑

- [evt20190417.csv](#)
- [evt20190416.csv](#)
- [evt20190415.csv](#)
- [evt20190414.csv](#)
- [evt20190413.csv](#)
- [evt20190412.csv](#)
- [evt20190411.csv](#)
- [evt20190410.csv](#)
- [evt20190409.csv](#)
- [evt20190408.csv](#)
- [20190417.csv](#)

Keep Days:  Log Rate (secs):

The **Data Logs** report the overall daily status of the activated sensors. The number of days that will be retained is defined in the **Keep Days** field. Enter the number of days desired and click the **Save** button.

The **Log Rate** is defined in seconds. Enter the log frequency in seconds desired and click the **Save** button.

## Advanced ↑

### Server Config

[Download](#)

No file chosen  ▾

### Network Config

[Get Ifconfig](#)

[Download](#)

No file chosen [Upload](#)

The **Server Config** contains all data on the HALO Smart Sensors configuration. This is helpful when you want to set up a Device using another devices preferences and upload those same settings to other HALO Smart Sensors. The drop-down list lets you pick and choose which portions of the config to upload.

Click on the **Download** link to save the Server Configuration file from the HALO Smart Sensor.

Click on the **Choose Files** button to select a configuration file. Click the dropdown menu to select which settings should be applied and click the **Upload Config** button to upload the configuration data to the HALO Smart Sensor.

The **Network Config** contains the HALO interface configuration data. It is used to view the configuration of the network interfaces on your HALO. Contains info like IP Address, MAC Address, Subnet Mask, Gateway, etc.

Click on the [Get Ifconfig](#) link to download a .txt file that contains the current Network Settings for the HALO Smart Sensor.