About This Manual

Akuvox
Open A Smart World

WWW.AKUVOX.COM

A05 ACCESS CONTROL TERMINAL

Administrator Guide

Thank you for choosing the Akuvox A05 series access control terminal. This manual is intended for administrators who need to properly configure the access control terminal. This manual applies to the 105.30.10.13 version, and it provides all the configurations for the functions and features of A05 series access control terminals. Please visit the Akuvox forum or consult technical support for any new information or the latest firmware.

Product Overview

Akuvox A05 series is a Linux-based access control door phone with a display screen. It incorporates access control and video surveillance. Its finely tuned SmartPlus and AI-based communication technology allow featured customization to better suit customers' operation habits. A05 series has multiple ports, such as RS485 and Wiegand ports, which can be used to easily integrate external digital systems, such as elevator controller and fire alarm detector, helping to create a holistic control of the building entrance and its surroundings and giving users a great sense of security via a variety of access such as card access, NFC, QR code and newly added door access in an accompaniment with body temperature measurement. A05 series access control terminal applies to residential buildings, office buildings, and their complex.

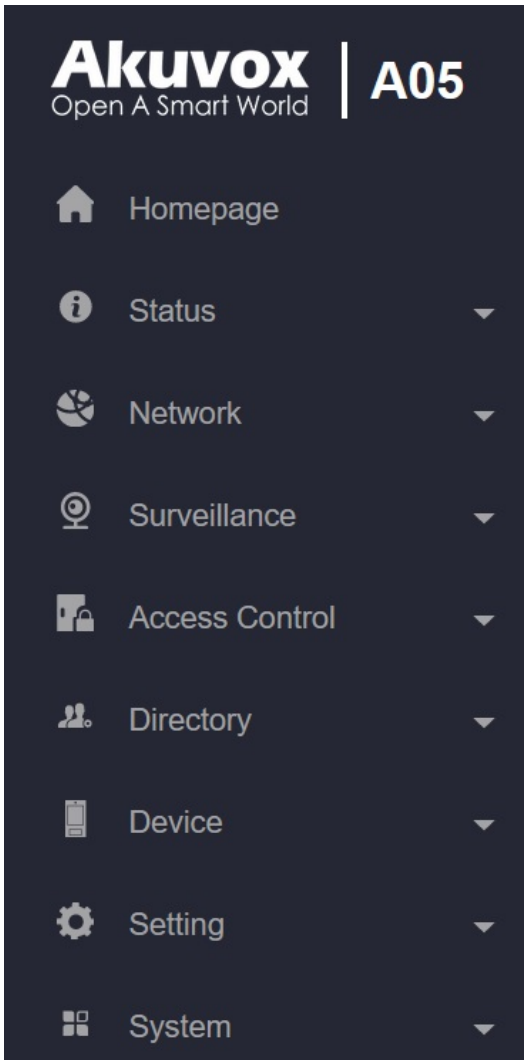
Model Specification

Model	A05
Display	5" IPS
Touch Screen	X
Button	X
Housing Material	Plastic
Relay Out	1
Alarm In	1
RS485	√
PoE	√
Resolution	1280x720
Brightness	500cd/m2
RAM	1GB
ROM	8GB
Card Reader	13.56MHz
Wi-Fi	X
Bluetooth	Optional
IP Rating	IP65
Temperature Detection	Optional
Face Recognition	√
LTE	X
USB	X
External SD Card	X

POE Stand by Power	5.5W
POE Full Load Consumption	9.8W
Power Adapter Standby Power	5.5W
Power Adapter Full Load Consumption	10W

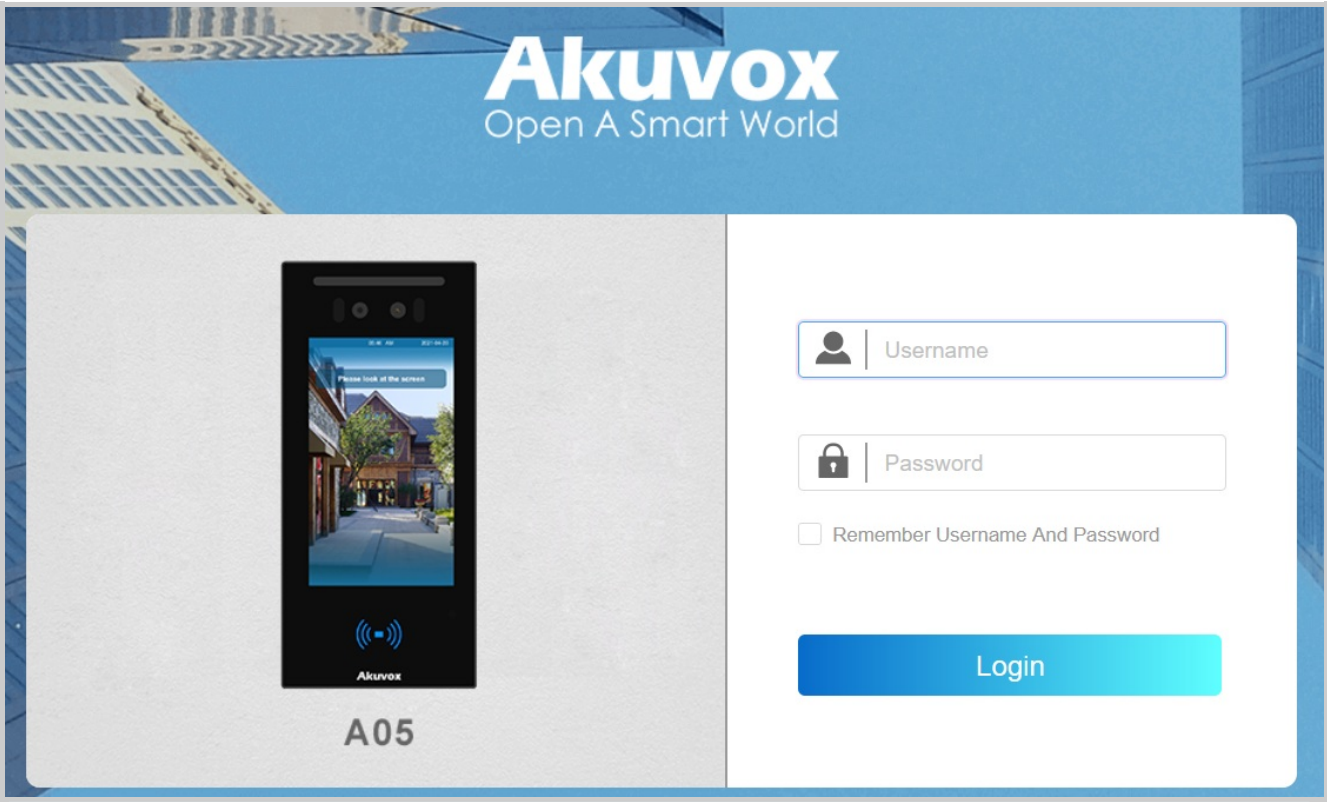
Introduction to Configuration Menu

- **Status**: This section gives you basic information such as product information, network information, and log-related configurations such as access logs.
- **Network**: This section mainly deals with DHCP and static IP settings, device network deployment, etc.
- **Surveillance**: This section includes audio and video-related settings such as Live stream, RTSP, ONVIF, and MJPEG.
- **Access Control**: This section includes input settings, relay settings, and door access control in terms of facial recognition, RF card, Bluetooth settings, and body temperature settings.
- **Directory**: This section includes access schedule management and user management.
- **Device**: This section includes light, Wiegand, lift control, LCD, audio, and so on.
- **Setting**: This section deals with relay schedule, security notification settings, web relay, time, action, and HTTP API settings.
- **System**: This section covers firmware upgrade, device reset, reboot, configuration file auto-provisioning, system log, remote debug server, PCAP, password modification as well as device backup.


Akuvox
Open A Smart World
A05
Homepage
Status
Network
Surveillance
Access Control
Directory
Device
Setting
System

Access the Device

Before configuring Akuvox A05, please make sure the device is installed correctly and connected to a normal network. Using the Akuvox IP scanner tool to search the device IP address in the same LAN. Then use the IP address to log in to the web browser by user name and password **admin** and **admin**.



Note

- Download IP scanner: https://knowledge.akuvox.com/docs/akuvox-ip-scanner?highlight=IP
- See detailed guide: https://knowledge.akuvox.com/v1/docs/en/how-to-obtain-ip-address-via-ip-scanner?highlight=IP%20Scanner
- Google Chrome browser is strongly recommended.
- Please be case-senstive to the username and password entered.

Language and Time Setting

Language

You can select the device LCD language on the **Setting> Time/Lang > LCD Language** interface.

The following languages are supported:

- English, Simplified Chinese, Korean, Spanish, Japanese, and Ukrainian.

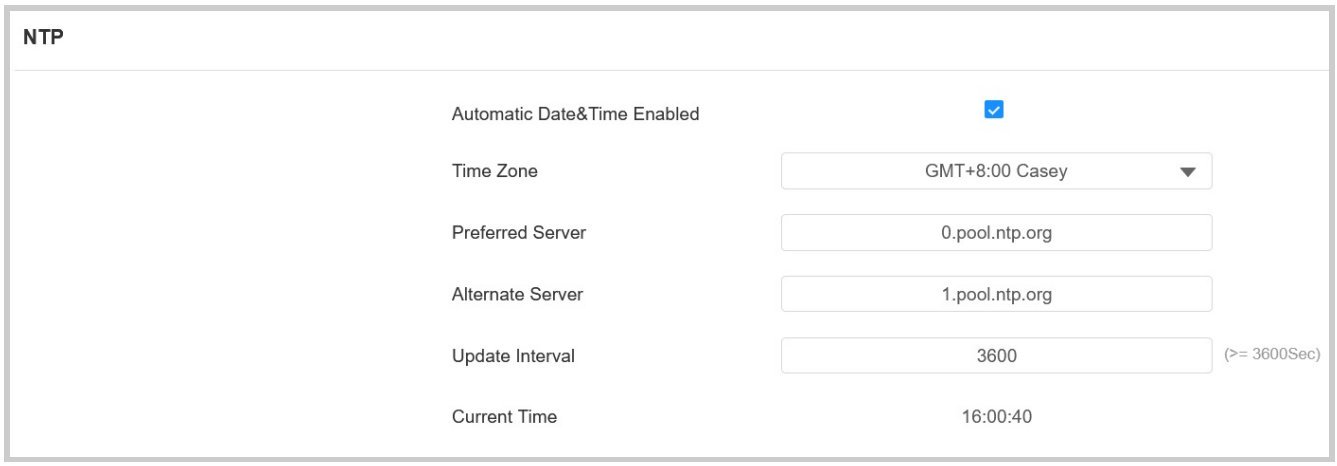
You can switch the web language in the upper right corner.

The following languages are supported: English, Simplified Chinese, Spanish, and Japanese.

Time

Time settings on the web interface allows you to set up the NTP server address that you obtained to automatically synchronize your time and date. When a time zone is selected, the device will automatically notify the NTP server of the time zone so that the NTP server can synchronize the time zone setting in your device.

To set up time, go to **Setting > Time/Lang** interface.



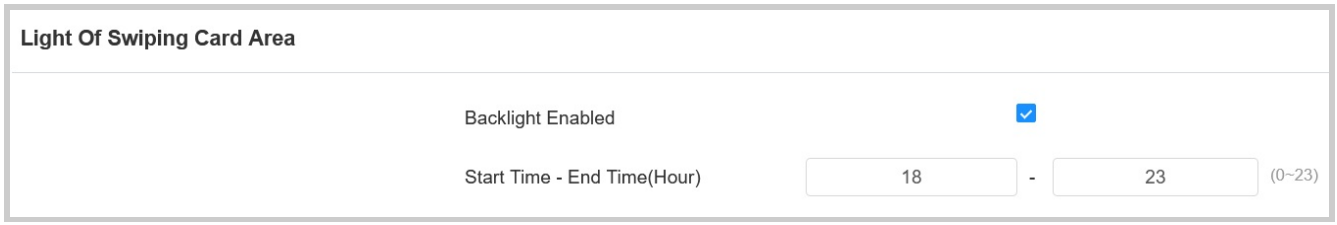
- **Automatic Date&Time Enabled**: Set whether the device updates the time automatically via the Network Time Protocol(NTP) server.
- **Date/Time**: Set the date and time for the device manually when you disable the automatic date and time service.
- **Time Zone**: Select the specific time zone based on where the device is used. The default time zone is GMT+0:00.
- **Preferred Server**: Enter the primary NTP server address for updating the time. The default NTP server address is 0.pool.ntp.org.
- **Alternate Server**: Enter the backup NPT server address when the primary one fails.
- **Update Interval**: Set the time update interval. For example, if you set it as 3600s, the device will send a request to the NPT server for the time update every 3600 seconds.
- **Current Time**: Display the current device time.

LED Setting

LED Setting on Card Reader Area

You can enable or disable the LED lighting on the card reader area as needed on the web interface. Meanwhile, if you do not want to have the LED light on the card reader area stay on, you can also set the timing for the exact time span during which the LED light can be disabled in order to reduce electrical power consumption.

To set it up, go to **Device > Light** interface.

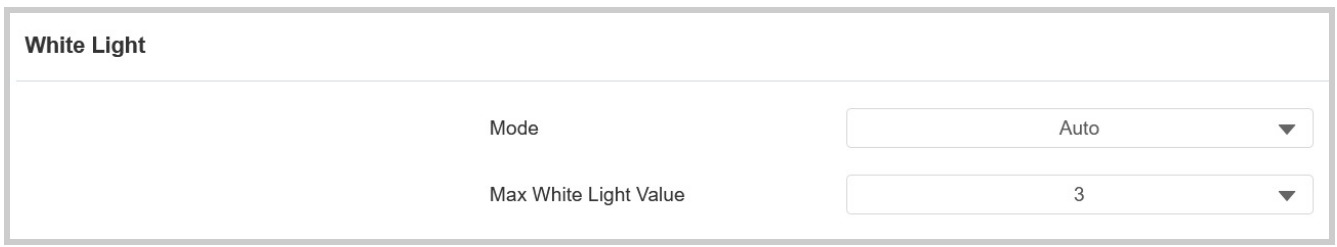


- **Backlight Enabled**: Turn on/off the LED on the card reader area.
- **Start Time - End Time(Hour)**: Enter the time span for the LED lighting to be valid, e.g. if the time span is from 18-22, it means the LED light will stay on during the time span from 6:00 pm to 10:00 pm during one day (24 hours).

LED White Light Setting

White light LED is mainly used to reinforce the lighting for the QR code access and for the greater visibility of the visitors when seeing their images from indoors in a dark environment.

To set it up, go to **Device > Light** interface.



- **Mode**:
  - **Auto**: The white light will be turned on automatically for facial recognition and QR code scanning for door opening.

- **Off**: The white light is disabled.

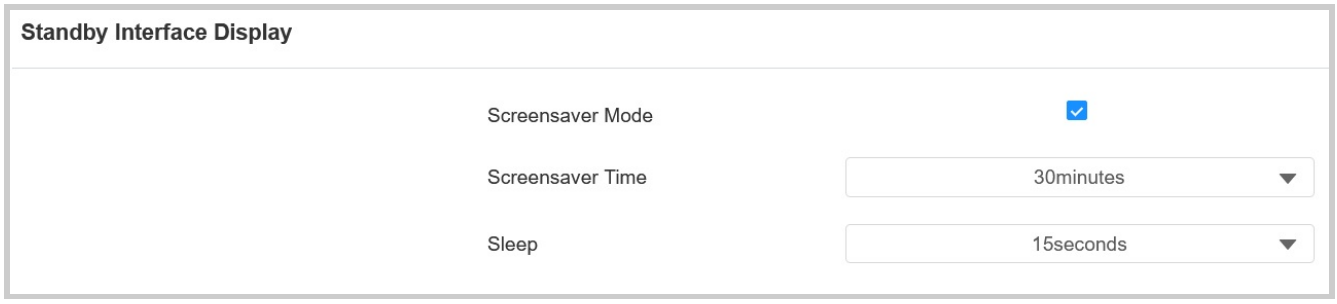
- **Max White Light Value**: Set the white light value from 1-5, and the default white light value is 3. The greater value it is, the brighter the light will be.

Screen Display Configuration

Configure Screensaver

You can conduct the await screen configuration on the web interface where you can set the screen saver duration as well as the timing for the screen to be turned off for both screen protection and power reduction.

To set it up, go to **Device > LCD > Standby Interface Display** interface.

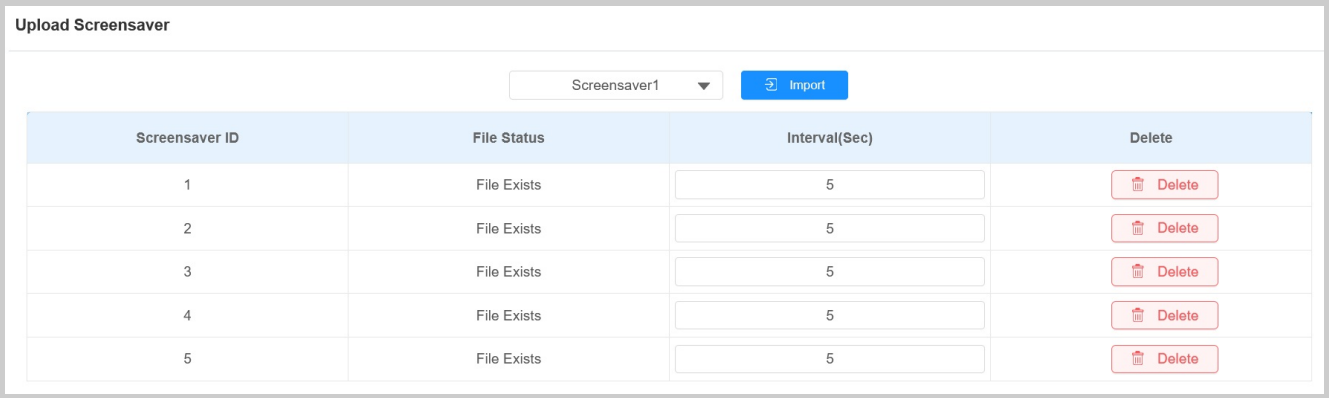


- **Screensaver Time (Sec)**: Set the screen saver start time from 5 seconds up to 2 hours. For example, if you set the start time as 5 minutes, then the screen saver will start if there is no operation on the device or no one is approaching during the five minutes interval.
- **Sleep**: Set how long the screen saver lasts before turning off the device's screen. You select the screen saver duration from 2 seconds to 30 minutes.

Upload Screensaver

You can upload screen-saver pictures separately or in batches to the device and to the device web interface for publicity purposes or for a greater visual experience.

To set it up, go to **Device > LCD > Upload Screensaver** interface. Click **Import** to upload the file and click **Delete** to remove the existing one.



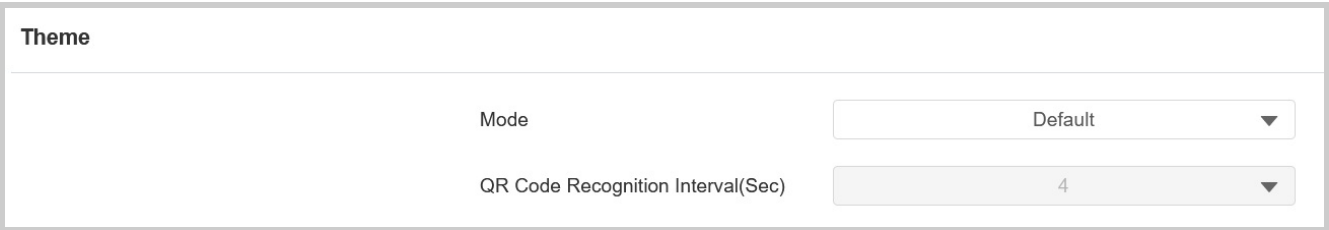
Note

- The pictures uploaded should be in **JPG** or **PNG** format with 2M pixels maximum.
- Recommended resolution: 600×1024.
- The previous pictures with a specific ID order will be overwritten when the repetitive designation of pictures to the same ID order occurred.

Screen Display Mode

You can select the Default or QR Code display mode for facial recognition and QR code scanning respectively.

To set it up, go to **Device > LCD > Theme** interface.

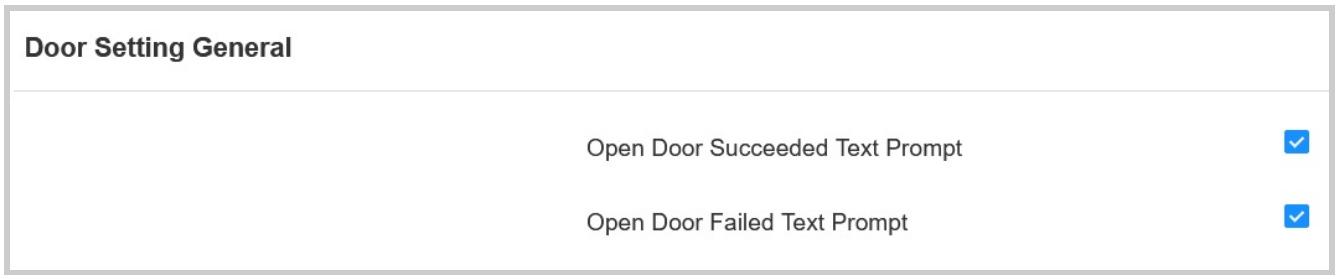


- **QR Code Recognition Interval(Sec)**: Set the recognition interval between QR code scanning when the QR Code mode is selected.

Door Access Prompt Text

You can enable the open door text prompt for both door-opening success and failure.

To set it up, go to **Access Control > Relay > Door Setting General** interface.

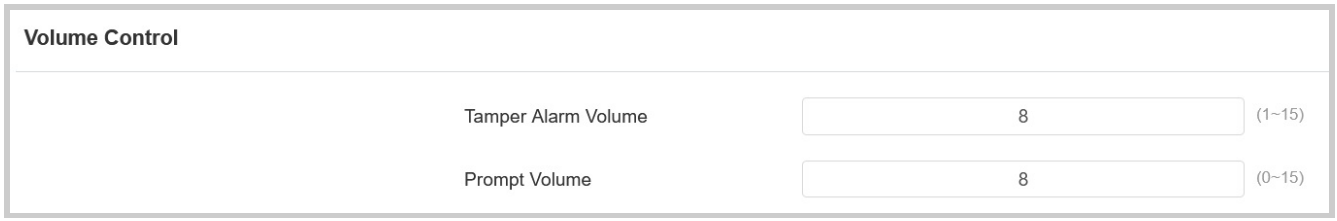

Door Setting General
Open Door Succeeded Text Prompt
Open Door Failed Text Prompt

Volume & Tone Configuration

Volume and tone configuration includes tamper alarm and prompt volume settings. Moreover, you can upload the door-opening ringtones.

Volume Configuration

To set it up, go to **Device > Audio** interface.

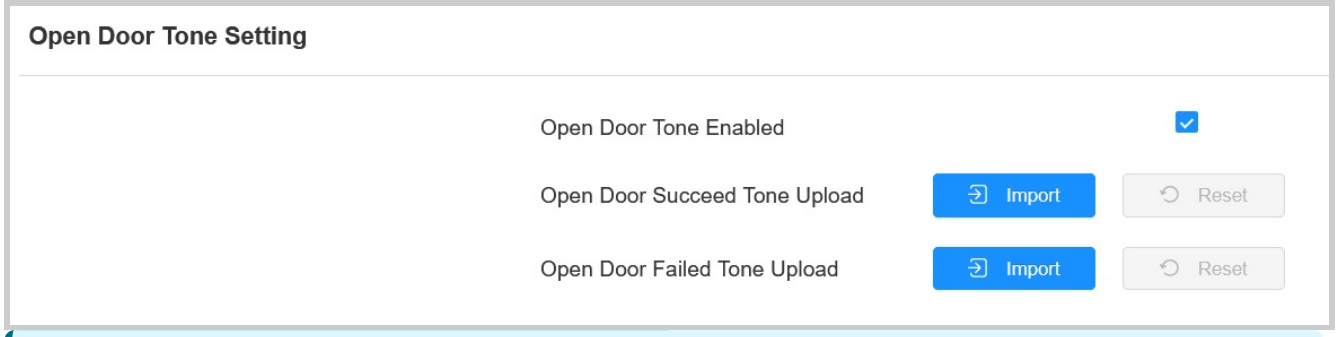


- **Tamper Alarm Volume**: Set the volume when the tamper alarm is triggered. The default volume is 8.
- **Prompt Volume**: Set the voice prompt volume. The default volume is 8.

Upload Open Door Tone

You can upload the tone for open door failure and success on the device web interface.

To set it up, go to **Device > Audio** interface. Click **Import** to upload the file and click **Reset** to remove the file.



Note

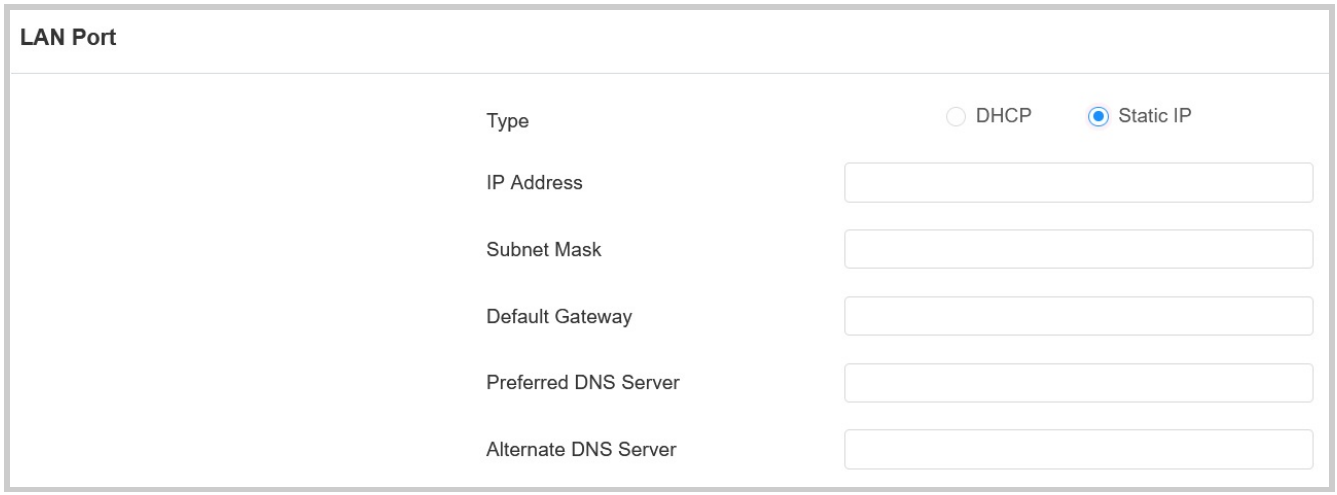
File Format: wav, size: < 200KB, sample rate: 16000, Bits: 16

Network Setting

Device Network Connection

To ensure normal functioning, make sure that the device has its IP address set correctly or obtained automatically from the DHCP server.

To set it up, go to **Network > Basic > LAN Port** interface.

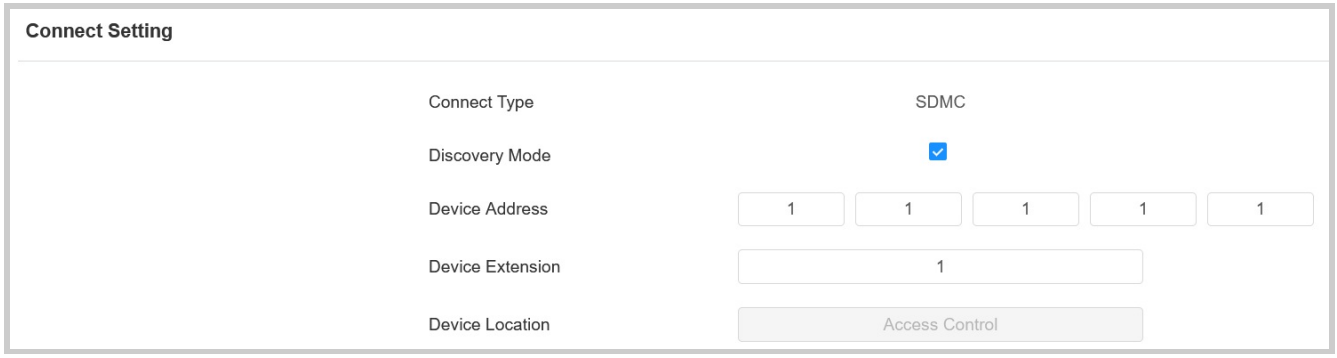


- **DHCP**: DHCP mode is the default network connection. If the DHCP mode is selected, the access control terminal will be assigned by the DHCP server with IP address, subnet mask, default gateway, and DNS server address automatically.
- **Static IP**: When static IP mode is selected, the IP address, subnet mask, default gateway, and DNS server address should be configured according to the network environment.
- **IP Address**: Set up the IP address when the static IP mode is selected.
- **Subnet Mask**: Set up the subnet mask according to the actual network environment.
- **Default Gateway**: Set up the correct gateway according to the IP address.
- **Preferred/Alternate DNS Server**: Set up the preferred or alternate Domain Name Server(DNS) server according to the actual network environment. The preferred DNS server is the primary server while the alternate DNS server is the secondary one. The secondary server is for backup.

Device Deployment in Network

To facilitate device control and management, configure Akuvox intercom devices with details such as location, operation mode, address, and extension numbers.

To set it up, go to **Network > Basic > Connect Setting** interface.



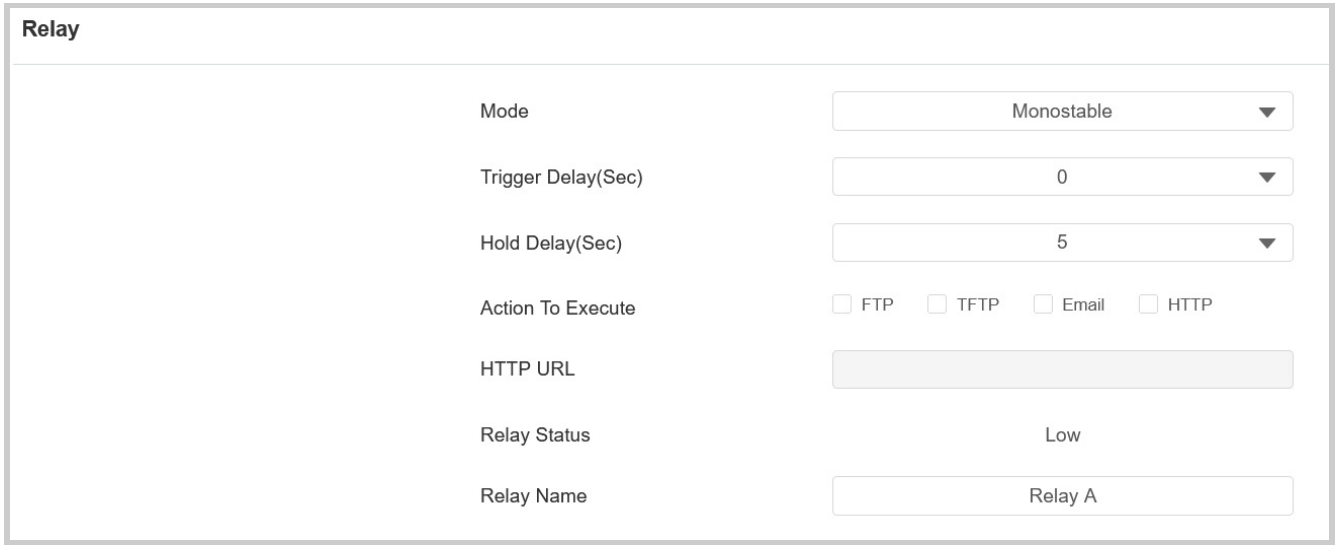
- **Connect Type**: It is automatically set up according to the actual device connection with a specific server in the network such as SDMC, Cloud, or None. None is the default factory setting indicating the device is not in any server type.
- **Discovery Mode**: When enabled, the device can be discovered by other devices in the network. When disabled, the device will be concealed and not be discovered by other devices.
- **Device Address**: Specify the device address by entering device location information from the left to the right: Community, Unit, Stair, Floor, and Room in sequence.
- **Device Extension**: The device extension number.
- **Device Location**: The location in which the device is installed and used.

Relay Setting

You can configure the relay switch(es) for door access on the web interface.

Relay Switch

To set up the relay, go to **Access Control > Relay > Relay** interface.



- **Mode**: Specify the conditions for automatically resetting the relay status.
    - **Monostable**: The relay status resets automatically within the relay delay time after activation.
    - **Bistable**: The relay status resets upon triggering the relay again.
- **Trigger Delay(Sec)**: Set the delay time before the relay triggers. For example, if set to 5 seconds, the relay activates 5 seconds after pressing the Unlock button.
- **Hold Delay(Sec)**: Determine how long the relay stays activated. For example, if set to 5 seconds, the relay remains to be opened for 5 seconds before closing.
- **Action to Execute**: Check the action to be executed when the relay is triggered.
    - **FTP**: Send a screenshot to the preconfigured FTP server.
    - **TFTP**: Send a screenshot to the preconfigured TFTP server.
    - **Email**: Send a screenshot to the preconfigured Email address.

  - **HTTP**: When triggered, the HTTP message can be captured and displayed in the corresponding packets. To utilize this feature, enable the HTTP server and enter the message content in the designated box below.

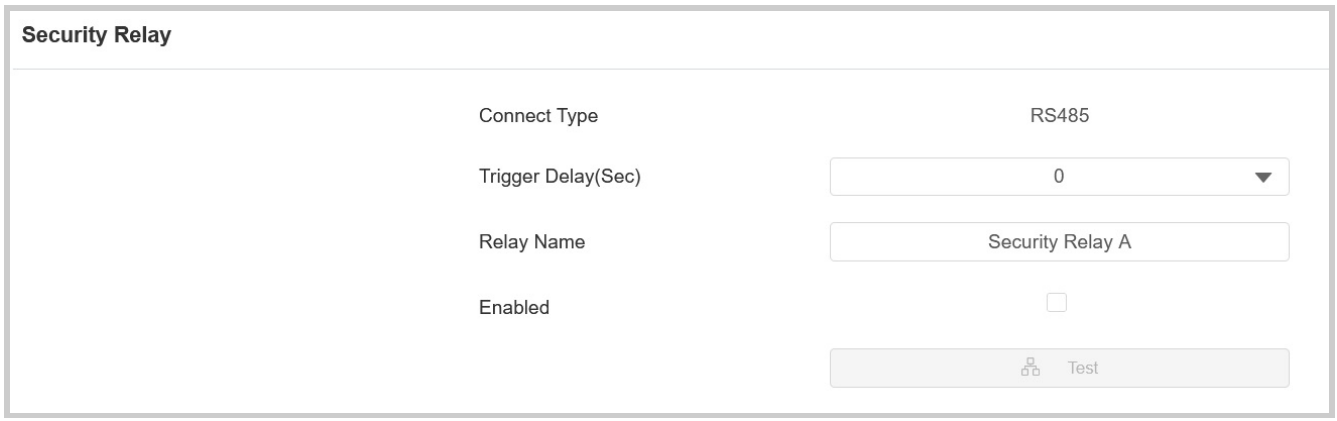
- **HTTP URL**: Enter the HTTP message if selecting HTTP as the action to execute. The format is http://HTTP server's IP/Message content.
- **Relay Status**: Indicate the states of the relay, which are normally opened and closed. By default, it shows low for normally closed(NC) and high for Normally Open(NO).
- **Relay Name**: Assign a distinct name for identification purposes.

> **Note**
>
> External devices connected to the relay require separate power adapters.

Security Relay

The Security Relay, known as Akuvox SR01, is a product designed to bolster access security by preventing unauthorized forced entry attempts. Installed inside the door, it directly governs the door opening mechanism, ensuring that the door remains secure even in the event of damage to the device.

To set it up, go to **Access Control > Relay > Security Relay** interface.

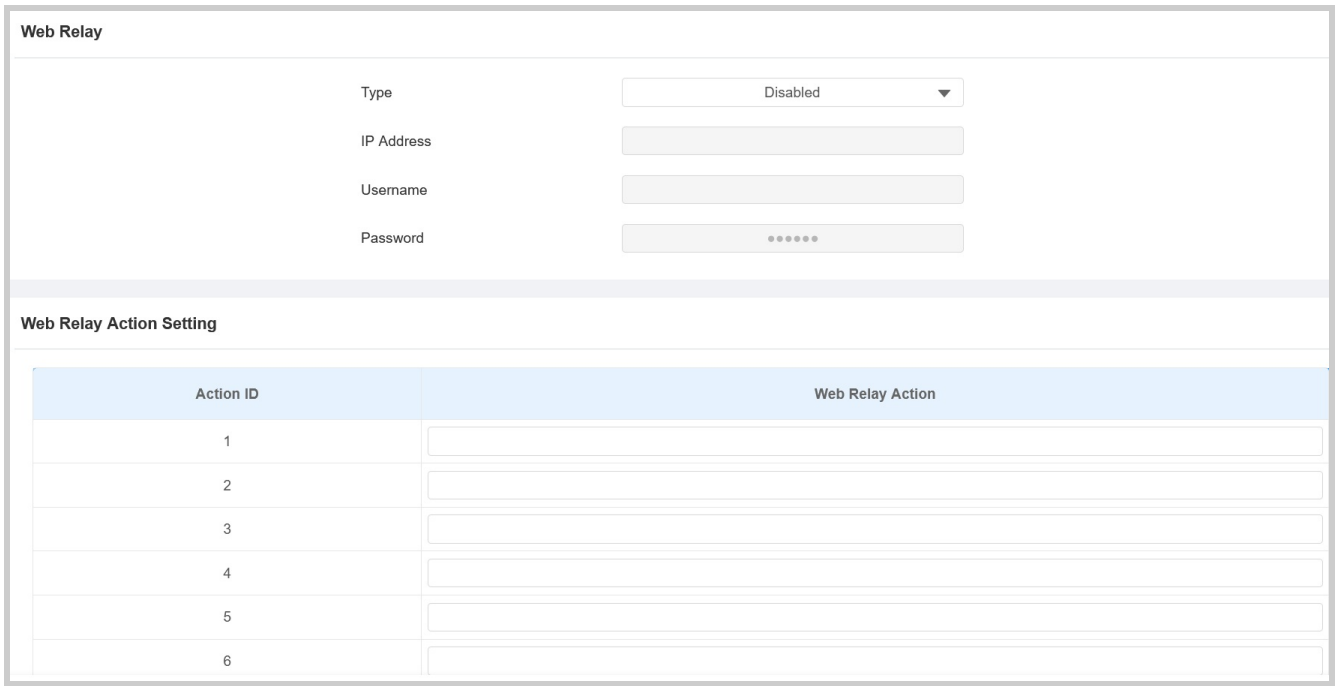


- **Connect Type**: The security relay connects to the device using RS485 by default.
- **Trigger Delay(Sec)**: Set the delay time before the relay triggers. For example, if set to 5 seconds, the relay activates 5 seconds after pressing the Unlock button.
- **Relay Name**: Name the security relay. The name can be displayed in door opening logs. When connecting to the SmartPlus Cloud, the Cloud server will automatically assign the relay name.

Web Relay

A web relay has a built-in web server and can be controlled via the Internet or a local network. The device can use a web relay to either control a local relay, or a remote relay somewhere else on the network.

To set it up, go to **Access Control > Web Relay** interface.



- **Type**: Determine the type of relay activated when employing door access methods for entry.
    - **Disabled**: Only activate the local relay.
    - **Web Relay**: Only activate the web relay.
    - **Local Relay+Web Relay**: Activate both the local relay and web relay. Typically, the local relay is triggered first, followed by the web relay to execute their pre-configured actions.
- **IP Address**: The web relay IP address provided by the web relay manufacturer.
- **Username**: The user name provided by the web relay manufacturer.
- **Password**: The manufacturer-provided authentication key for the web relay. Authentication occurs via HTTP. Leaving the Password field blank indicates non-use of HTTP authentication. You can define the password using HTTP GET in the Web Relay Action field.
- **Web Relay Action**: Configure the actions to be performed by the web relay upon triggering. Enter the manufacturer-provided URLs for various actions, with up to 50 commands.

Note

If the URL includes full HTTP content (e.g., http://admin:admin@192.168.1.2/state.xml?relayState=2), it doesn't rely on the IP address that you entered above. However, if the URL is simpler (e.g., "state.xml?relayState=2"), the relay uses the entered IP address.

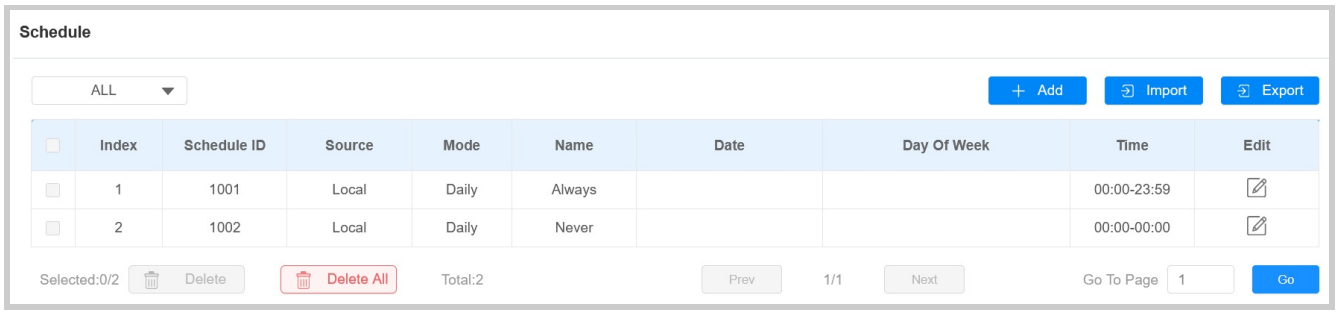
Door Access Schedule Management

Door Access Schedule

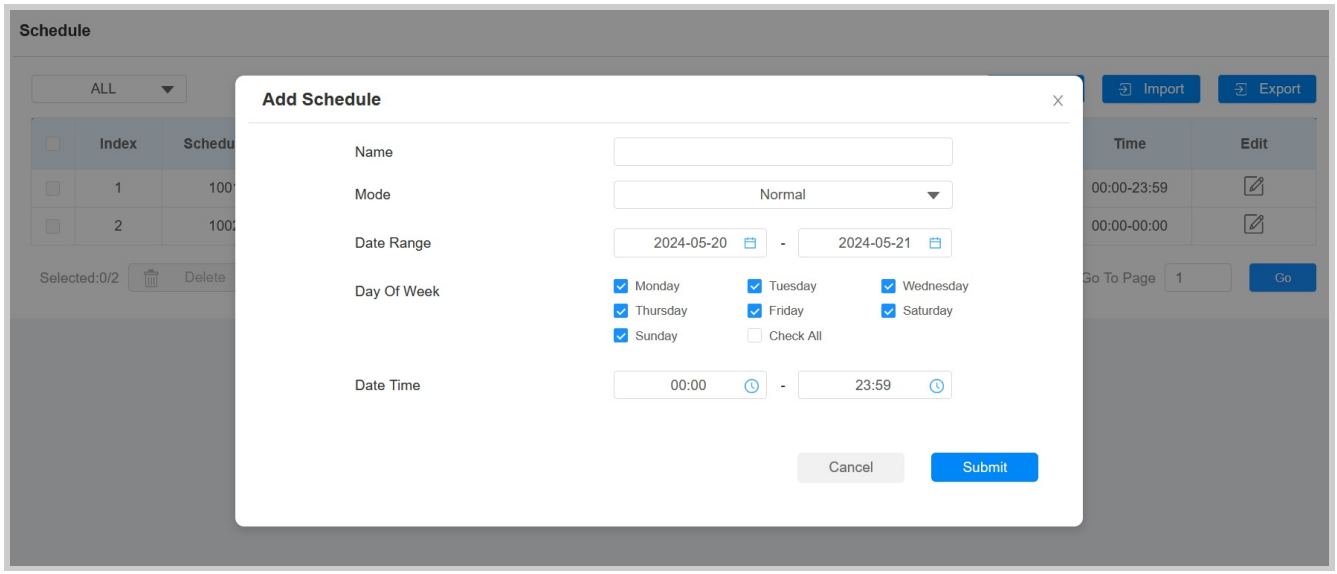
A door access schedule lets you decide who can open the door and when. It applies to both individuals and groups, ensuring that users within the schedule can only open the door using the authorized method during designated time periods.

Create Door Access Schedule

To create a door access schedule, go to the **Setting > Schedule** interface.



Click **+Add** to create a schedule.



- **Name**: Name the schedule.
- **Mode**:
    - **Normal**: Set the schedule based on the month, week, and day. It is used for a long period schedule.

- **Weekly**: Set the schedule based on the week.
- **Daily**: Set the schedule based on 24 hours a day.

Import and Export Door Access Schedule

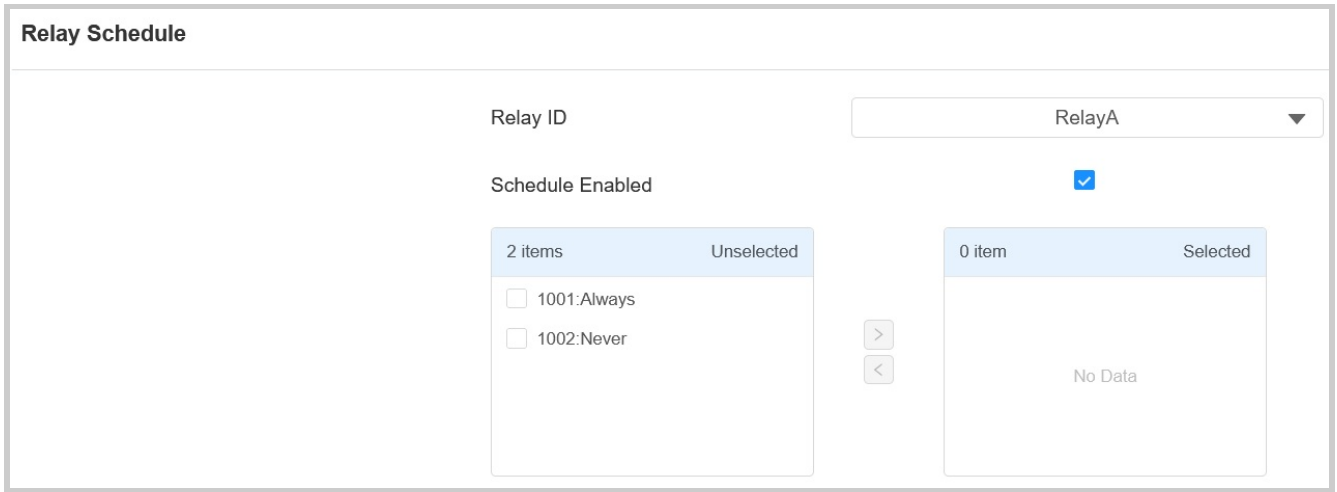
You can create door access schedules one by one or in bulk. You can export the current schedule file, edit it or add more schedules following the format, and import the new file to the desired devices. This helps you manage your door access schedules easily.

To set it up, go to the **Setting > Schedule** interface. The export file is in **TGZ** format. The import file should be in **XML** format.

Relay Schedule

The relay schedule allows you to set a specific relay to always open at a certain time. This is helpful for situations like keeping the gate open after school or keeping the door open during work hours.

To set it up, go to **Access Control > Relay > Relay Schedule** interface.



- **Relay ID**: Specify the relay you need to set up.
- **Schedule Enabled:** Assign particular door access schedules to the chosen relay. Simply move them to the Selected Schedules box.

For instructions on creating schedules, kindly consult the Create Door Access Schedule section.

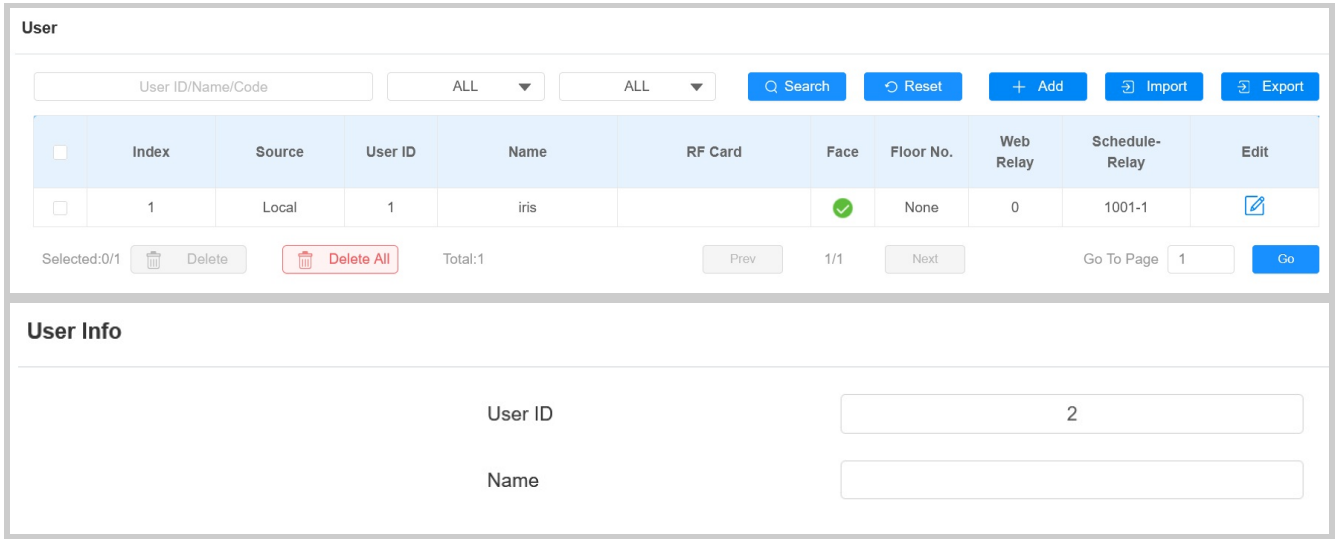
Door Unlock Configuration

User-specific Access Methods

The private RF card and face setting should be assigned to a particular user for door opening.

When adding a user, you can also customize settings such as defining the door access schedule to determine when the code is valid and specifying which relay to open.

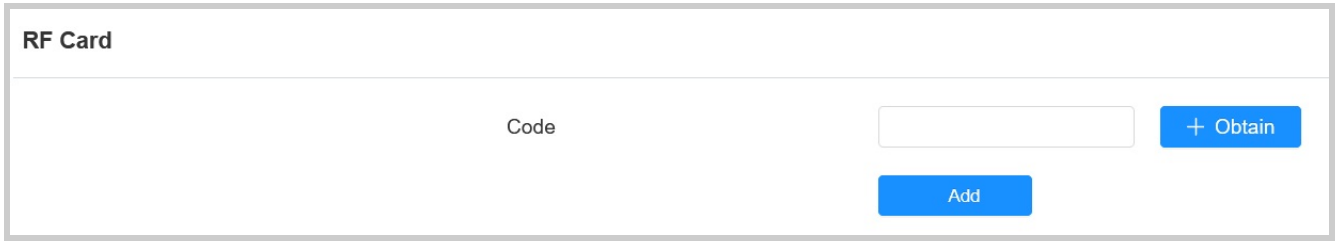
To add a user, go to **Directory > User** interface and Click **+Add**.



- **User ID**: The unique identification number assigned to the user.
- **Name**: The name of this user.

Unlock by RF Card

On the **Directory > User > +Add** interface, scroll to the **RF Card** section.



- **Code**: The card number that the card reader reads.

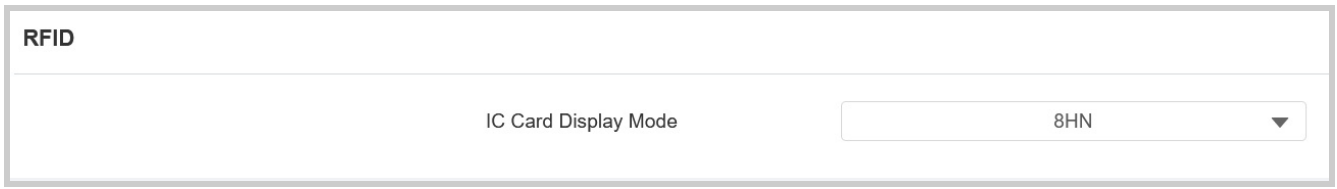
Note:

- Each user can have a maximum of 5 cards added.
- The device allows to add 20,000 users.
- RF cards operating at 13.56 MHz frequencies are compatible with the device for access.
- A05 only supports IC cards.

RF Card Code Format

To integrate the RF card door access with the third-party intercom system, you need to match the RF card code format with the one used by the third-party system.

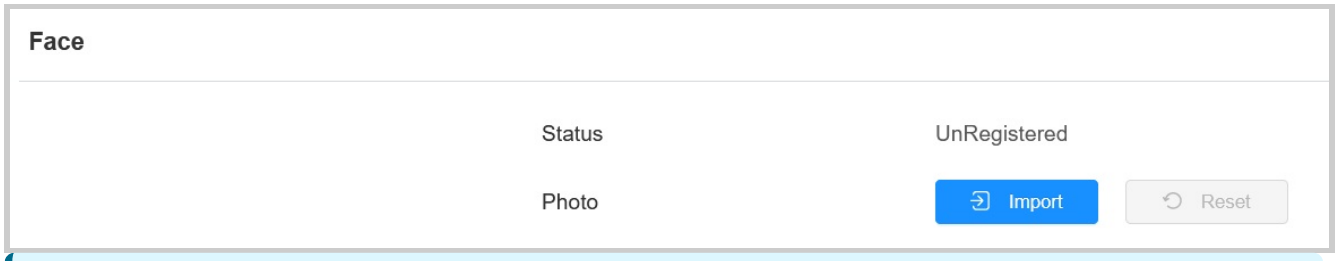
To set it up, go to **Access Control > Card Setting > RFID** interface.



- **IC Card Display Mode**: Set the card number format from the provided options. The default format in the device is 8HN.

Unlock by Facial Recognition

On the **Directory > User > +Add** interface, scroll to the **Face** section. Click **Import** to upload the file and click **Reset** to remove it.



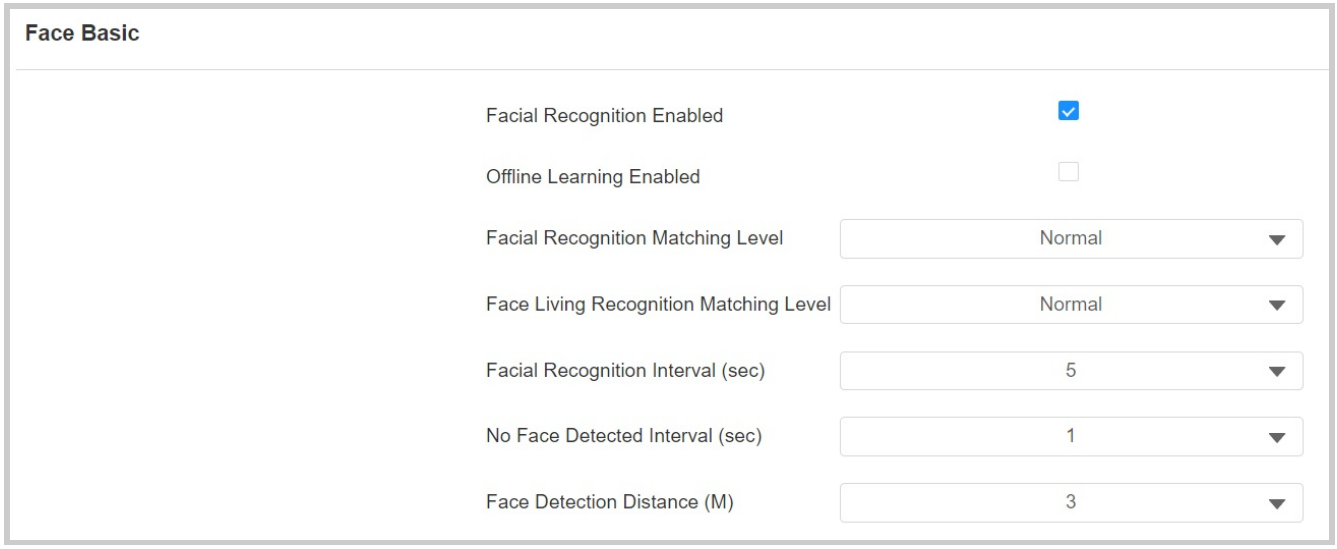
Note

Support Format: jpg, png, bmp, and jpeg.

Face Settings

You can adjust facial recognition accuracy, recognition intervals, and more to enhance user experience.

To set it up, go to **Access Control > Face Setting** interface.



- **Facial Recognition Enabled**: Enable/disable the facial recognition function.
- **Offline Learning Enabled**: Facial recognition accuracy improves as the number of facial recognition increases.
- **Facial Recognition Matching Level**: Determine how strict the facial recognition system is in comparing a person's face with uploaded face data. Each level allows a different degree of difference or face covering (**excluding the mouth area**) to pass the recognition.

- Low: Allow slight differences from the uploaded face data, with little face coverage.

- Highest: Require the face to be identical to the uploaded one, with minimal or no covering.

- The other two levels are in between.

- **Face Living Recognition Matching Level**: Set how strict the system is in preventing fake faces.

- Close: Disable the facial anti-spoofing function. Facial verification can be passed using non-living substitutes for an authorized person's face, such as a photo.

- Highest: The system cannot be fooled by any non-living substitutes for an authorized person's face.

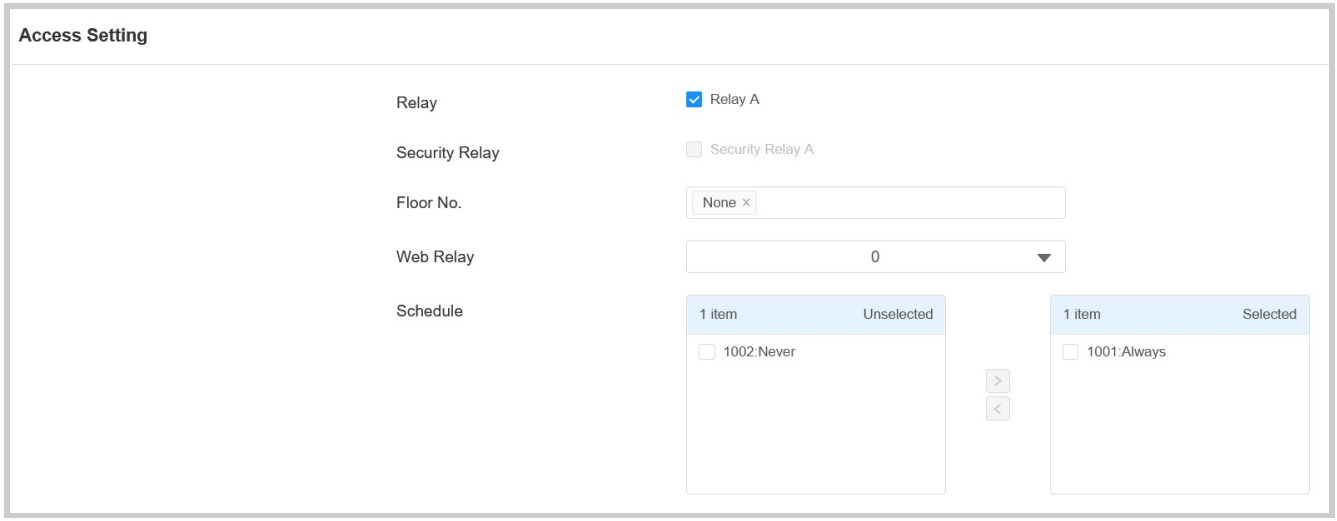
- The other three levels are in between.

- **Facial Recognition Interval(sec)**: Adjust the time interval between each facial recognition attempt, ranging from 1 to 8 seconds.
- **No Face Detected Interval(sec)**: Adjust the time interval between each facial recognition attempt after temperature measurement.
- **Face Detection Distance(M)**: Decide the effective facial recognition distance.

Access Setting

You can customize access settings such as defining the door access schedule to determine when the code is valid and specifying which relay to open.

On the **Directory > User > +Add** interface, scroll to the **Access Setting** section.



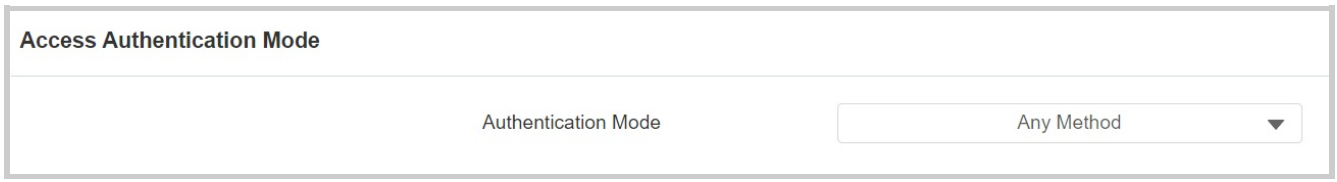
- **Relay**: Specify the relay(s) to be unlocked using the door opening methods assigned to the user.
- **Security Relay**: Check Security Relay A if you've configured it on the Security Relay interface.
- **Floor No.**: Specify the accessible floor(s) to the user via the elevator.
- **Web Relay**: Specify the ID of web relay action commands that you've configured on the Web Relay interface. A default value of 0 indicates that the web relay will not be triggered.
- **Schedule**: Grant the user access to open designated doors during preset periods by relocating the desired schedule(s) from the left box to the right one. Besides custom schedules, there are 2 default options:

- **Always**: Allows door opening without limitations on door open counts during the valid period.
- **Never**: Prohibits door opening.

Access Authentication Mode

The device allows dual authentication for door access, using a combination of facial recognition and RF card. When the mode is set up, users must unlock the door in the order of the chosen methods.

To set it up, go to **Access Control > Relay > Access Authentication Mode** interface.



- **Authentication Mode**: Determine how to unlock the door using different methods. Please note that the order of the two-factor authentication matters.
  - **Any Method**: Allow all access methods.
  - **Face + RF Card**: Go through facial recognition first, then swipe the RF card.

Unlock by NFC

NFC (Near Field Communication) is a popular way for door access. It uses radio waves for data transmission interaction. The device can be unlocked by NFC. You can keep the mobile phone closer to the device for door access.

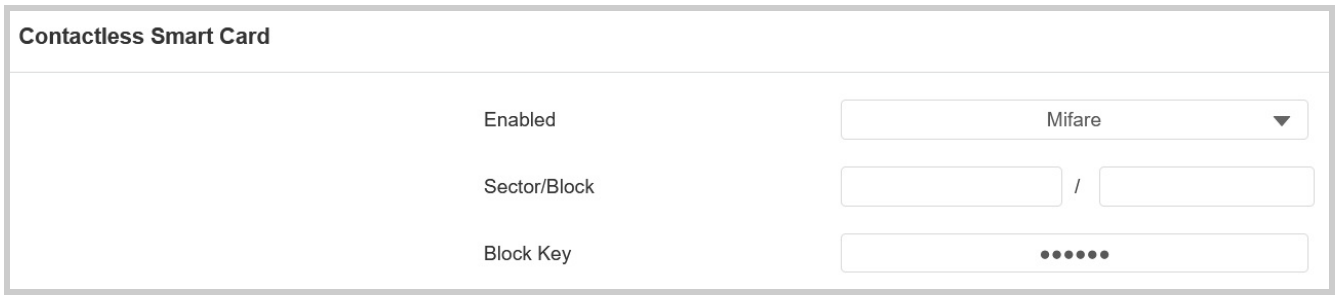
To set it up, go to **Access Control > Card Setting > Contactless Smart Card** interface.

- **Enabled**: Select NFC from the list.

Mifare Card

The door phone can encrypt Mifare cards for greater security. When this feature is enabled, it reads the data in the cards' designated sectors and blocks, not the UID.

To set it up, go to **Access Control > Card Setting > Contactless Smart Card** interface. Select **Mifare** from the list.

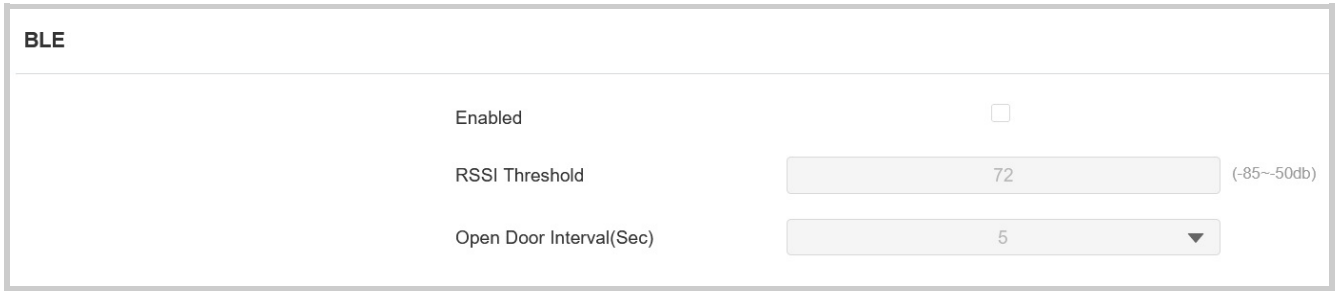


- **Sector/Block**: Specify the location where encrypted card data is stored. A Mifare card has 16 sectors (numbered 0 to 15), and each sector has 4 blocks (numbered 0 to 3).
- **Block Key**: Set a password to access the data stored in the predefined sector/block.

Unlock By Bluetooth

The Bluetooth-enabled SmartPlus app enables users to enter the door hands-free. They can either open the door with the app in their pockets or wave their phones towards the device as they get closer to the door.

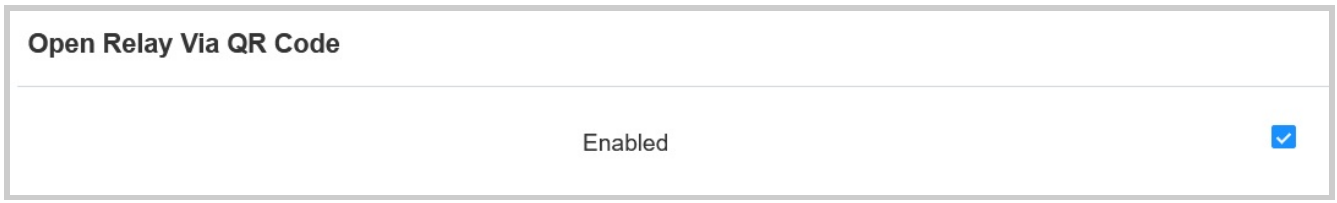
To set it up, go to **Access Control > BLE** interface.



- **RSSI Threshold**: Set the received signal strength. Higher values indicate stronger signal strength, making it easier to receive the Bluetooth signal.
- **Open Door Interval (Sec)**: Set the time interval between consecutive Bluetooth door access attempts.

Unlock by QR Code

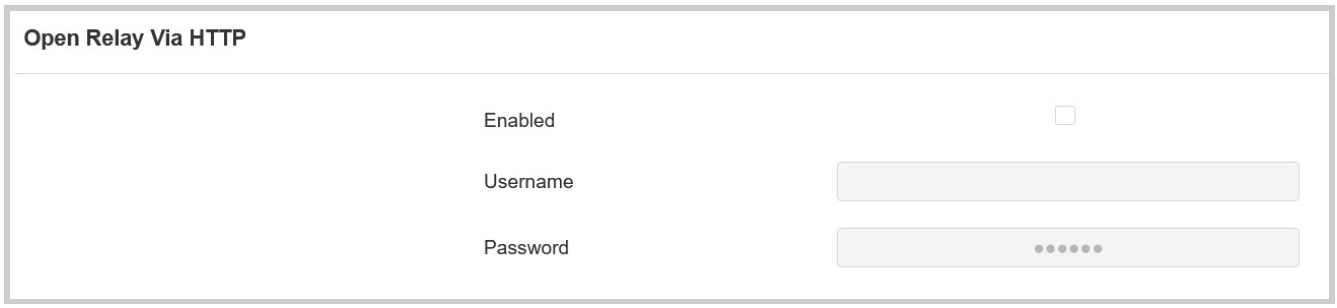
You can use a QR code to open the door. This method requires the Akuvox SmartPlus cloud service. You have to activate this feature before using it.



Unlock by HTTP Command

You can unlock the door remotely without approaching the device physically for door entry by typing in the created HTTP command (URL) on the web browser to trigger the relay when you are not available by the door for door entry.

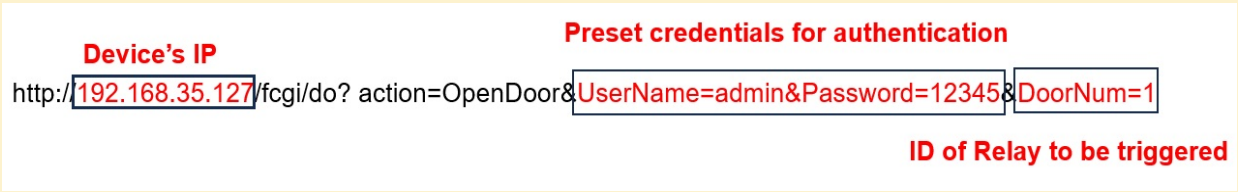
To set it up, go to **Access Control > Relay > Open Relay Via HTTP** interface.



- **Username**: Set a username for authentication in HTTP command URLs.
- **Password**: Set a password for authentication in HTTP command URLs.

Tip:

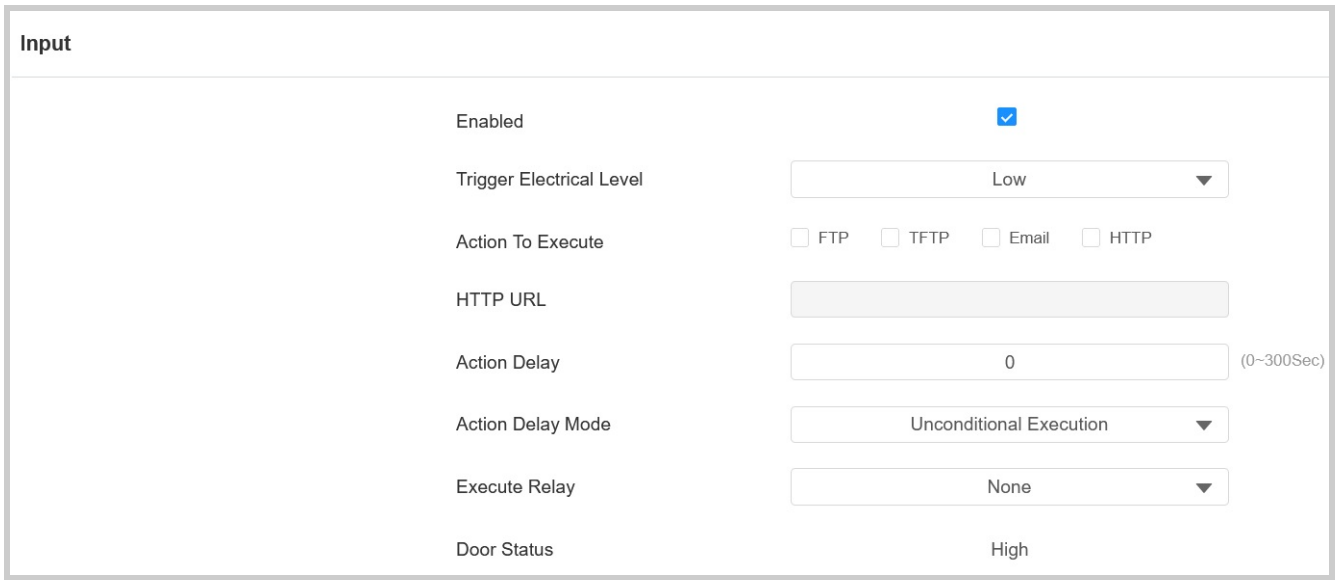
Here is an HTTP command URL example for relay triggering.



Unlock by Exit Button

When users need to open the door from inside by pressing the Exit button, you need to set up the Input terminal that matches the Exit button to activate the relay for the door access.

To set it up, go to **Access Control > Input** interface.



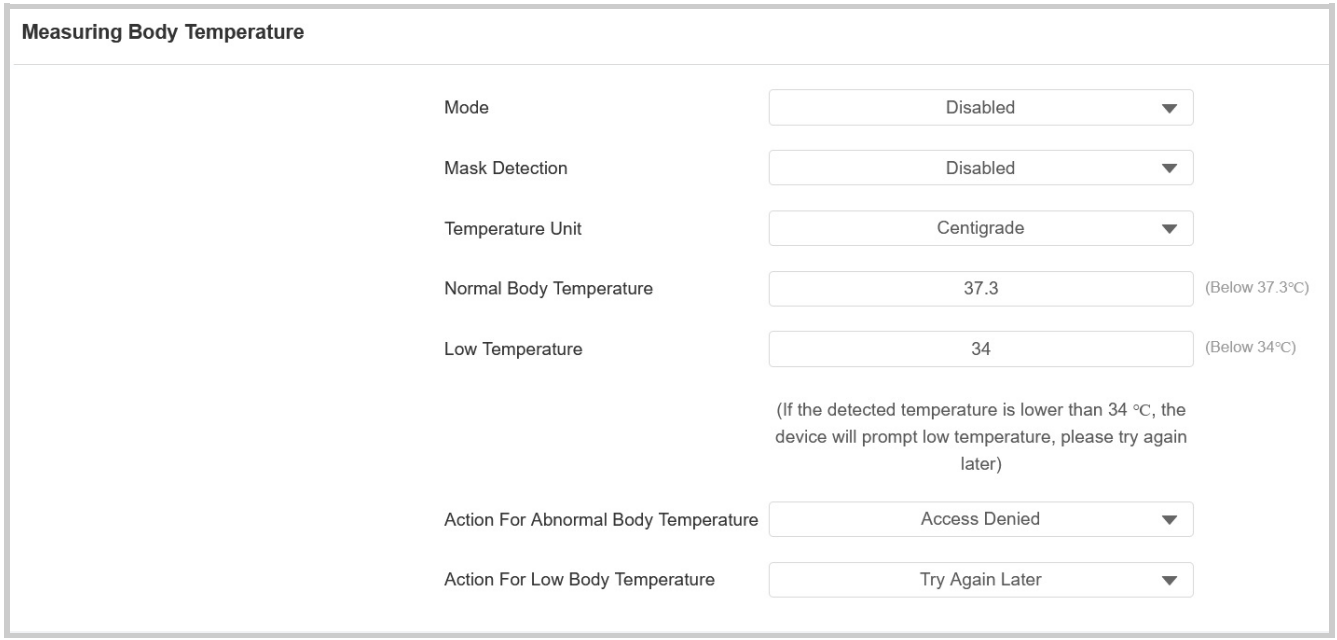
- **Trigger Electrical Level**: Set the input interface to trigger at low or high electrical level.
- **Action To Execute**: Set the desired actions that occur when the specific Input interface is triggered.
    - **FTP**: Send a screenshot to the preconfigured FTP server.
    - **TFTP**: Send a screenshot to the preconfigured TFTP server.
    - **Email**: Send a screenshot to the preconfigured Email address.
    - **HTTP**: When triggered, the HTTP message can be captured and displayed in the corresponding packets. To utilize this feature, enable the HTTP server and enter the message content in the designated box below.
- **HTTP URL**: Enter the HTTP message if selecting HTTP as the action to execute. The format is http://HTTP server's IP/Message content.
- **Action Delay**: Specify how many seconds to delay executing the preconfigured actions.
- **Action Delay Mode**:
    - **Unconditional Execution**: The action will be carried out when the input is triggered.
    - **Execute If Input Still Triggered**: The action will be carried out when the input stays triggered. For example, if the door stays open after triggering input, an action such as an email will be sent to notify the receiver.
- **Execute Relay**: Specify the relay to be triggered by the actions.

- **Door Status**: Display the status of the input signal.

Body Temperature Measurement for Door Access (Optional)

A05 series provides you with an optional body temperature measurement function designed to be applied in the situation where the measurement becomes necessary for the safety of the residents and visitors, etc. Residents and visitors are required to go through temperature measurements along with an optional mask detection check before they are allowed door access.

To set it up, go to **Access Control > Body Temperature** interface.



- **Mode**: The device can be installed with a digital forehead temperature detector.
    - **Disabled**: Turn off the function.
    - **Forehead**: Test the body temperature from the forehead.
    - **Wrist**: Test the body temperature from the wrist.
- **Mask Detection**:
    - **Disabled**: The device will not detect whether the user is wearing a mask.
    - **Set mask-wearing as mandatory**: Users are required to wear a mask for temperature measurement. The device will first detect whether the user is wearing a mask. If not, it will not proceed to the next step.

  - **Display mask-wearing prompt**: Wearing a mask is not mandatory. The device will first detect whether the user is wearing a mask. If not, the prompt "Please wear a mask" will pop up and the device will proceed to the next step.

- **Normal Body Temperature**: Set the body temperature as the measuring basis in either Fahrenheit or Celsius. For example, if you set the temperature 37.3 degrees Celsius as the normal temperature, then any body temperature measured higher than 37.3 degrees Celsius will be deemed as an abnormal temperature.
- **Low Temperature**: Set the body temperature as the measuring basis in either Fahrenheit or Celsius. For example, if you set the temperature 34 degrees Celsius as the threshold, then any body temperature measured lower than 34 degrees Celsius will be deemed as low body temperature.
- **Action for Abnormal Body Temperature**:
  - **Access Denied**: When users are detected abnormal temperatures, the door will not be opened.
  - **Just For Reminder**: A prompt reminding abnormal temperature will pop up. The door will be opened.
- **Action for Low Body Temperature**:
  - **Try Again Later**: Users will be prompted to measure their temperatures again when they detect low temperatures. The door will not be opened.
  - **Just For Reminder**: A prompt reminding low temperature will pop up. The door will be opened.

Monitor and Image

MJPEG and RTSP are the primary monitoring stream types discussed in this chapter.

MJPEG, or Motion JPEG, is a video compression format that uses JPEG images for each video frame. Akuvox devices display live streams on the web interface and capture monitoring screenshots in MJPEG format. Settings related to MJPEG determine video quality and the on/off status of the live stream function.

RTSP stands for Real Time Streaming Protocol. It can be used to stream video and audio from the third-party cameras to the device. You can add a camera's stream by adding its URL. The URL format of Akuvox devices is rtsp://Device's IP/live/ch00_0

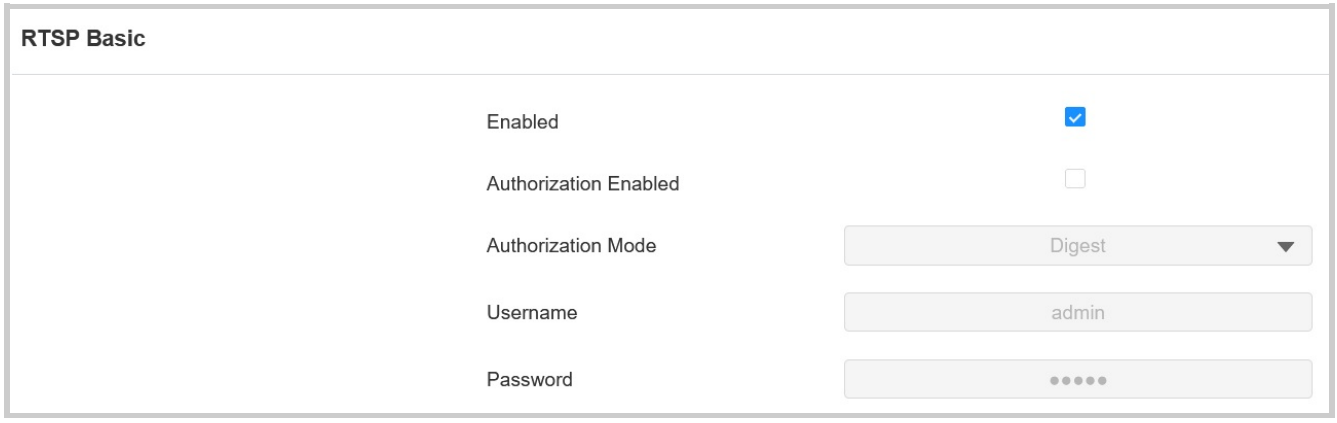
ONVIF is an Open Network Video Interface Forum. It enables the device to scan and discover cameras or intercom devices with activated ONVIF functions. Live streams obtained through ONVIF are essentially in RTSP format.

RTSP Stream Monitoring

You can use RTSP to watch a live video stream from other intercom devices on the device.

RTSP Basic Settings

To set it up, go to **Surveillance > RTSP** interface.



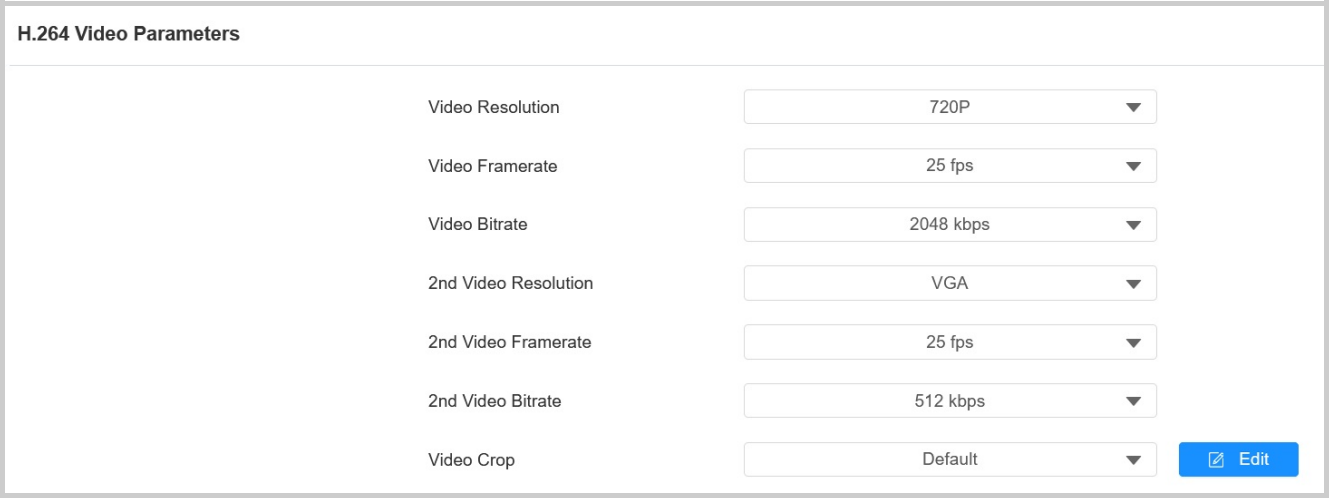
- **Authorization Enabled**: When you enable the RTSP authorization, you are required to configure RTSP Authentication Mode, RTSP Username, and Password for authorization.
- **Authentication Mode**: There are two options, Basic and Digest. **Basic** is the default authentication type.

- **Username**: Set the username for authentication.
- **Password**: Set the password for authentication.

RTSP Stream Setting

The RTSP stream can use either H.264 or Mjpeg as the video codec. If you choose H.264, you can also adjust the video resolution, bitrate, and other settings.

To configure the RTSP stream, navigate to the web **Surveillance > RTSP** interface.



- **Video Resolution**: Specify the image resolution, varying from the lowest QCIF(176x144 pixels) to the highest 1080P(1920x1080 pixels).
- **Video Framerate**: Frames per second, refers to how many frames are displayed in one second of video. The default frame rate is 25fps.
- **Video Bitrate**: The amount of video data transferred in a specific duration of time. A higher video bitrate means a higher possible quality, but also higher file sizes and more bandwidth.
- **2nd Video Resolution**: Specify the image resolution for the second video stream channel.
- **2nd Video Framerate**: Set the frame rate for the second video stream channel.
- **2nd Video Bitrate**: Set the bit rate for the second video stream channel. The default is 512 kbps.
- **Video Crop**:
    - **Original**: Display the full-screen video.

- **Default**: Select the specific area of the video to be displayed. Click Edit to crop the video.

Tip

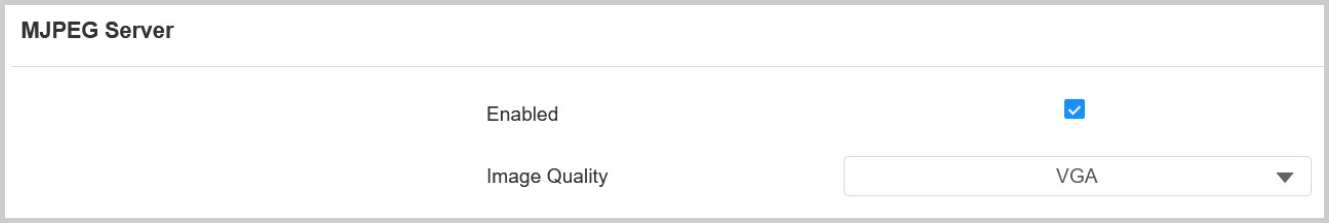
To view the audio and video stream using RTSP:

- First channel: rtsp://Device's IP/live/ch00_0
- Second channel: rtsp://Device's IP/live/ch00_1

MJPEG Image Capturing

You can take a monitoring image in Mjpeg format with the device. To do this, you need to turn on the Mjpeg function and choose the image quality.

To set it up, go to **Surveillance > MJPEG** interface.



- **Enabled**: Entering the specific URL into the browser can access either an image or a video from the camera.

Tip

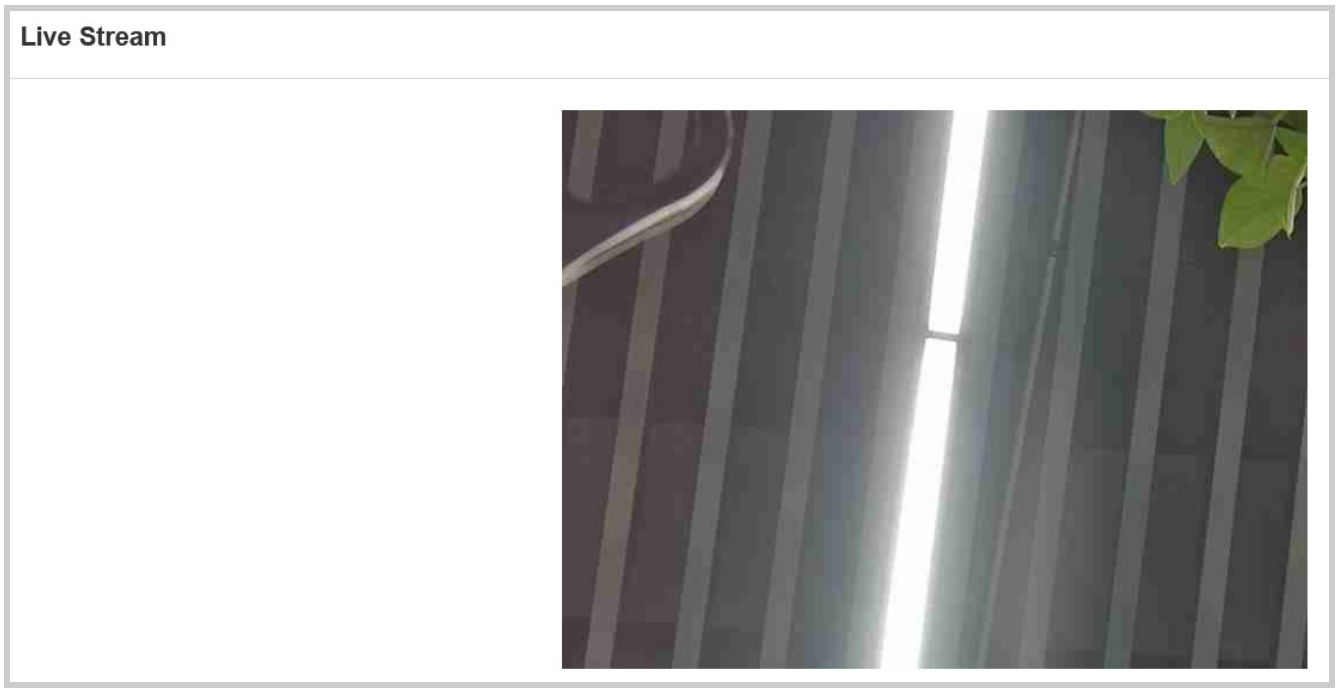
- To view a dynamic stream, use the URL http://device_IP:8080/video.cgi.
- For capturing a screenshot, use the following URLs, with the image formats varying accordingly:
  - http://device_IP:8080/picture.cgi
  - http://device_IP:8080/picture.jpg
  - http://device_IP:8080/jpeg.cgi

- **Image Quality**: Specify the image resolution, varying from the lowest QCIF(176x144 pixels) to the highest 1080P(1920x1080 pixels).

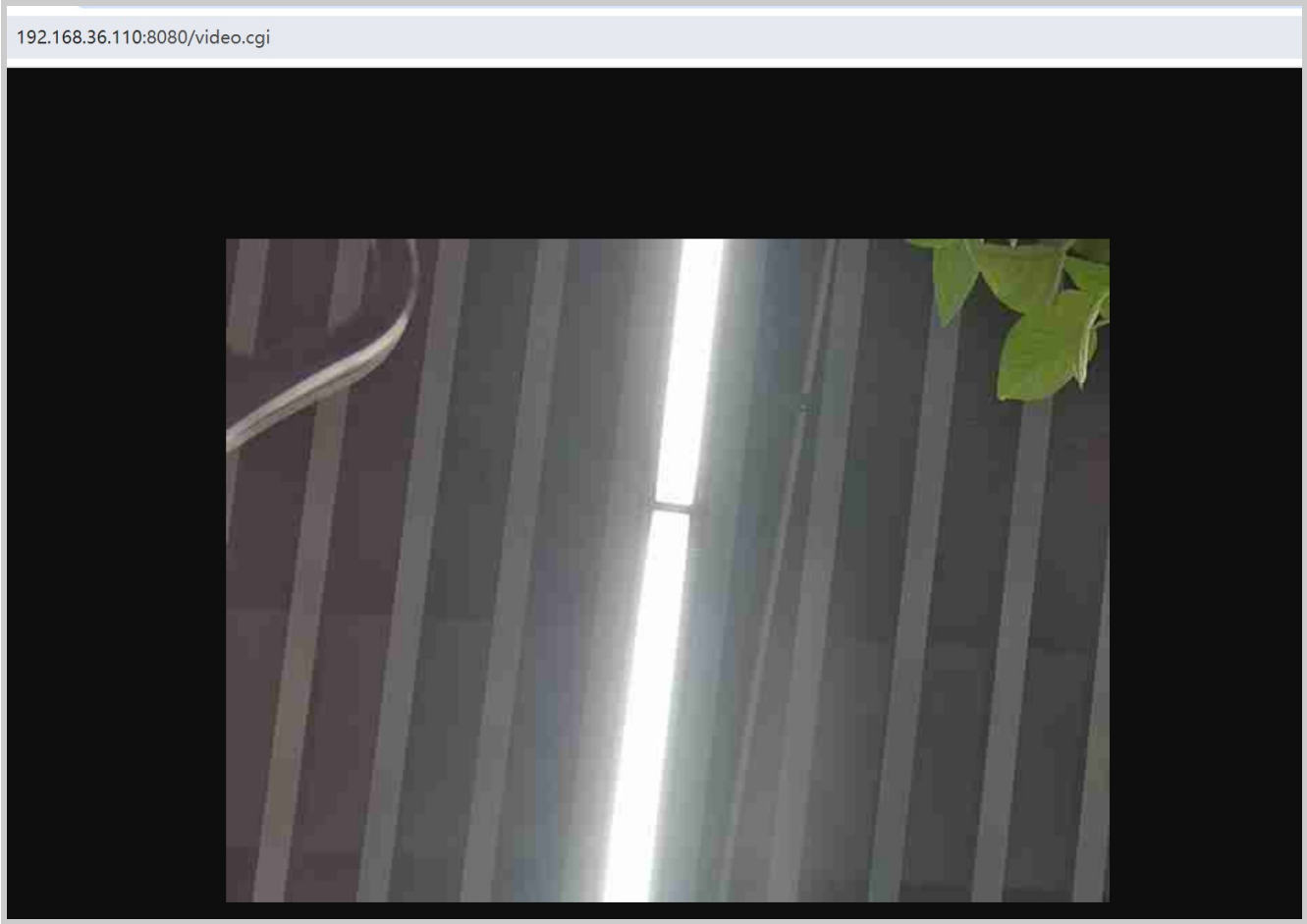
Live Stream

There are two ways to check the real-time video from the device. One is to go to the device web interface and view the video there. The other is to enter the correct URL on the web browser and access the video directly.

See the live stream on web **Surveillance > Live Stream** interface.



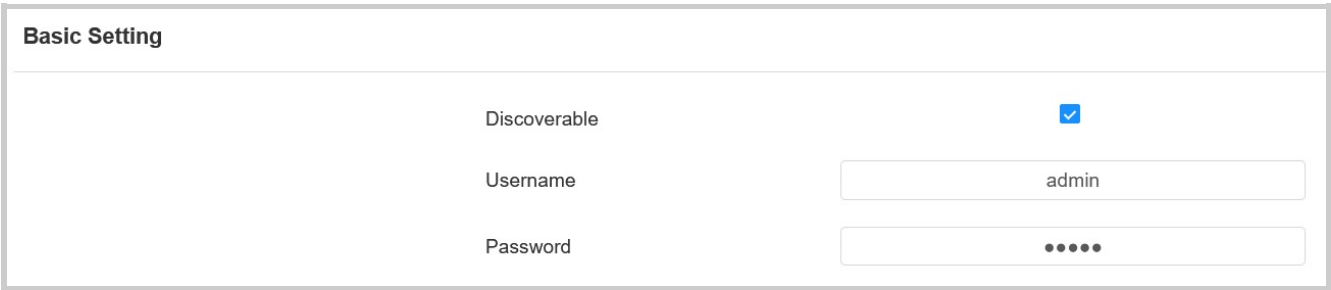
Alternatively, as described in the MJPEG Image Capturing section, enter the correct URL into a web browser.



ONVIF

You can access the real-time video from the device's camera using the Akuvox indoor monitor or other third-party devices like Network Video Recorder(**NVR**). Enabling and setting up the ONVIF function on the device will allow its video to be visible on other devices.

To set it up, go to **Surveillance > ONVIF > Basic Setting** interface.



- **Discoverable**: When enabled, the video from the device camera to be searched by other devices.
- **Username**: Set the username required for accessing the device's video stream on other devices. It is admin by default.

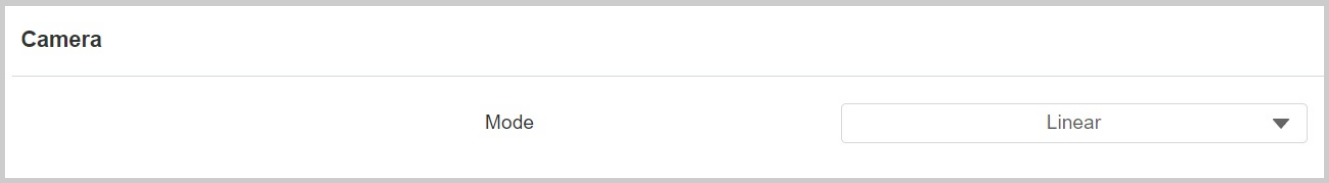
- **Password**: Set the password required for accessing the device's video stream on other devices. It is admin by default.

> **Tip**
>
> Once the settings are configured, to access the video stream on the third-party device, simply enter the ONVIF URL: http://Device's IP:80/onvif/device_service.

Camera Mode

You can select the camera mode based on where the device is installed.

To select it, go to **Surveillance > ONVIF > Camera** interface.



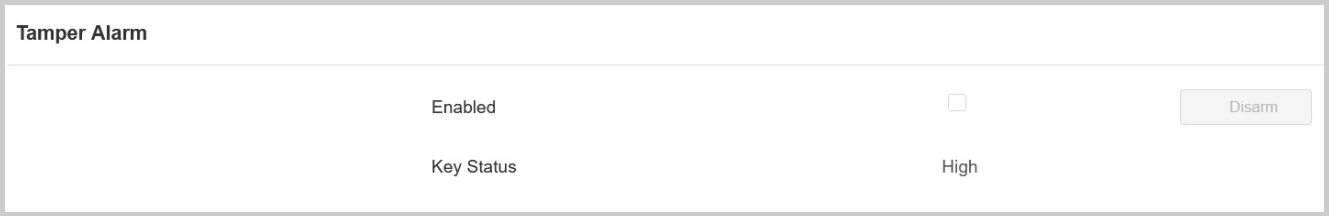
- **Linear**: Maintain a direct, linear relationship between the input light and the output pixel values. In other words, images are directly related to the actual light levels in the scene.
- **WDR**: Capture a wider range of light and dark areas within a single image.

Security

Tamper Alarm

The tamper alarm function prevents anyone from removing the devices without permission. It does this by setting off the tamper alarm and making calls to a designated location when the device detects a change in its gravity value from the original one.

To set it up, go to **System > Security > Tamper Alarm** interface.



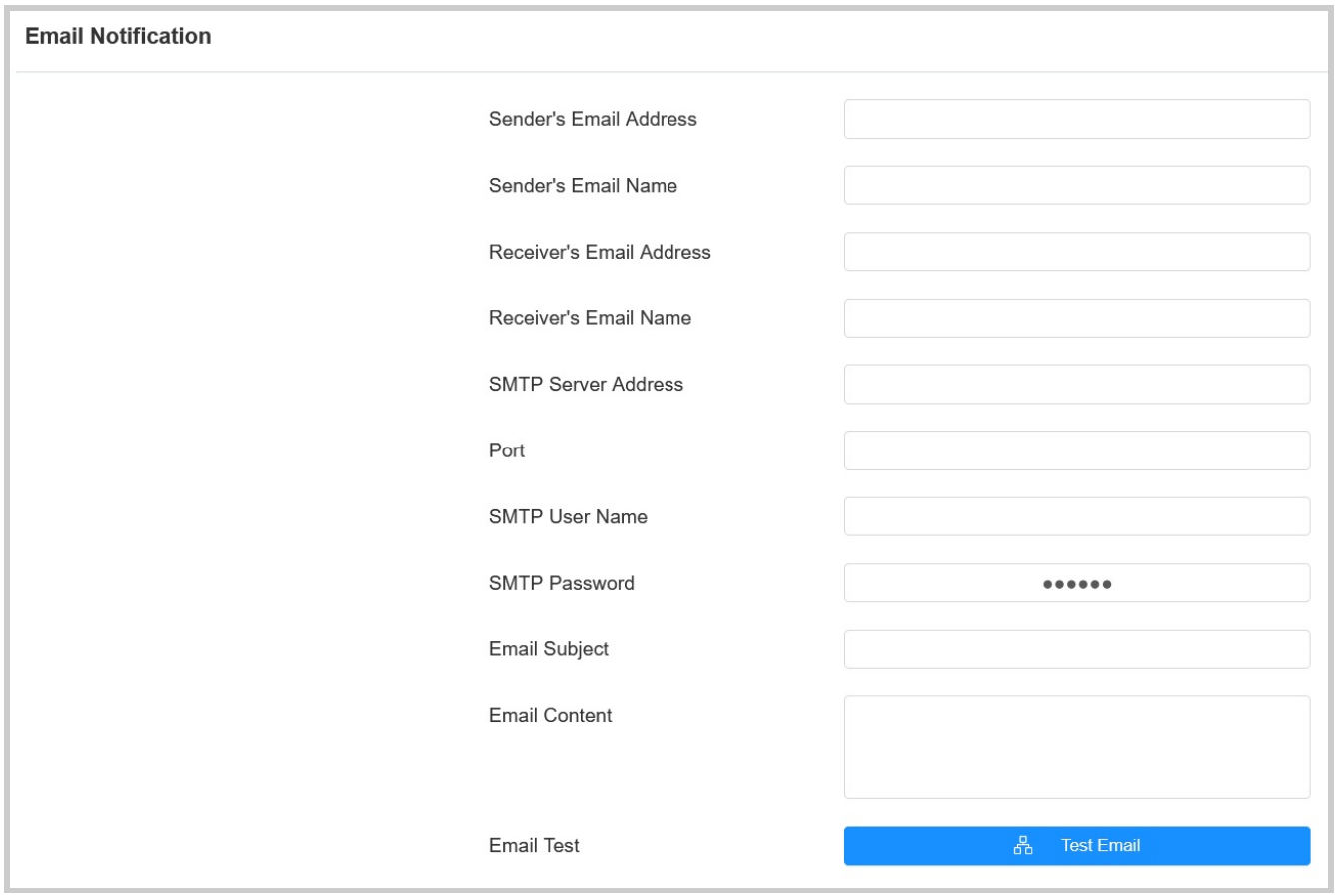
- **Enabled**: Check to enable the tamper alarm function. You can click **Disarm** to clear the alarm.
- **Key Status**: The tamper alarm will not be triggered unless the key status is shifted from **Low** to **High** status.

Security Notification

Email Notification

Set up email notifications to receive screenshots of unusual motion from the device.

Go to **Setting > Action > Email Notification** interface.

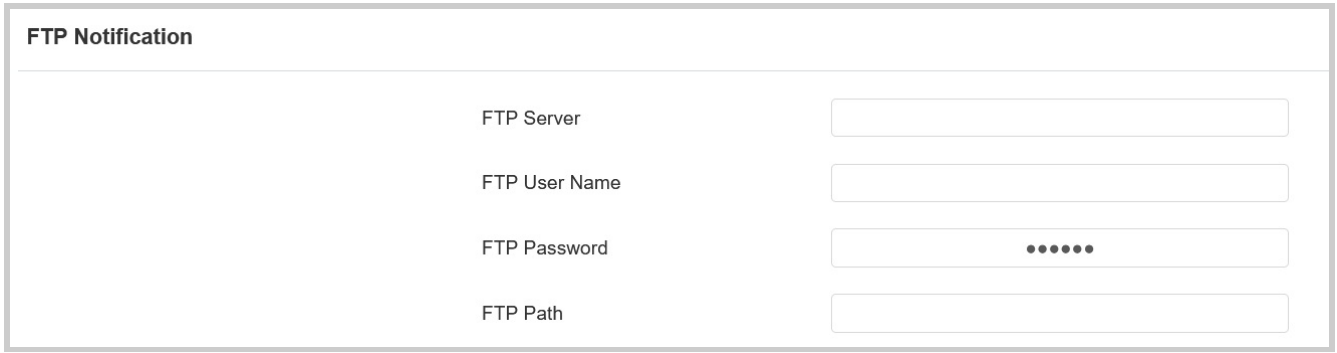


- **SMTP User Name**: The SMTP username is usually the same as the sender's email address.
- **SMTP Password**: The password of the SMTP server, which is the same as the sender's email address.

FTP Notification Setting

To get notifications through the FTP server, you need to set up the FTP settings. The device will upload a screenshot to the specified FTP folder if it senses any unusual motion.

To set it up, navigate to the web **Setting > Action > FTP Notification** interface.



- **FTP Path**: The folder name you created in the FTP server.

TFTP Notification

To receive security notifications via TFTP server, you need to enter the TFTP server address.

To set it up, go to **Setting > Action > TFTP Notification** interface.

Action URL

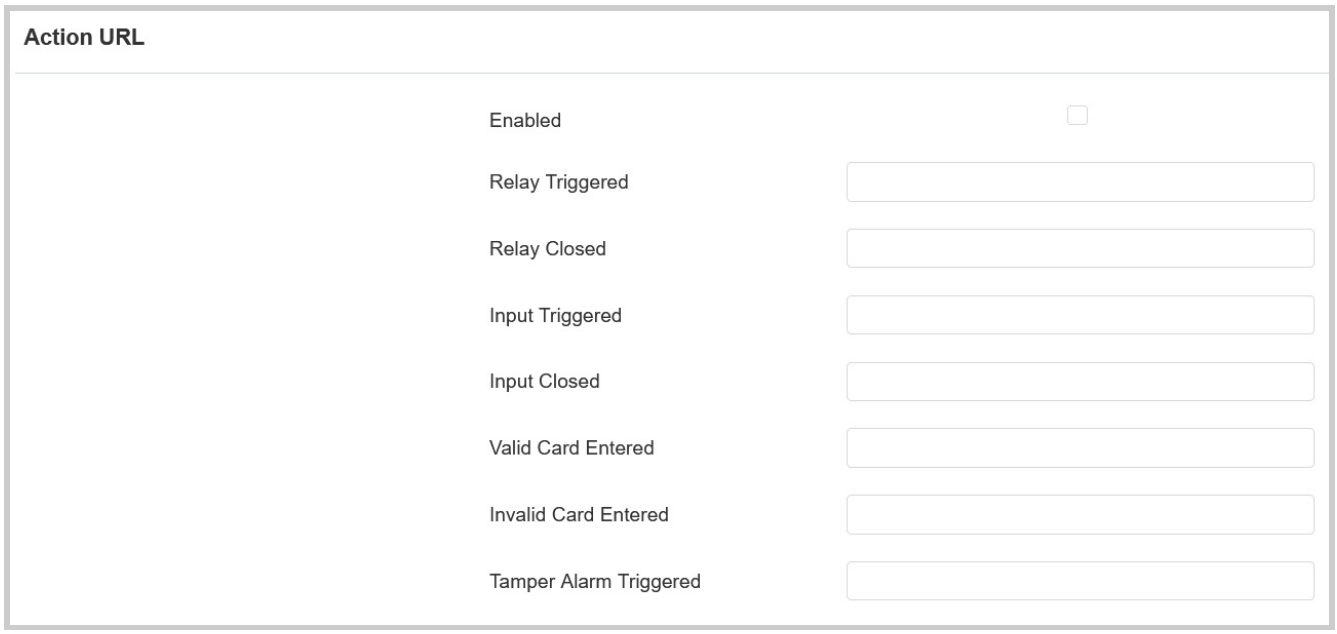
You can use the device to send specific HTTP URL commands to the HTTP server for certain actions. These actions will be triggered when the relay status, input status, PIN code, or RF card access changes.

Akuvox Action URL:

No.	Event	Parameter format	Example
1	Relay Triggered	$relay1status	Http://server ip/relaytrigger=$relay1status
2	Relay Closed	$relay1status	Http://server ip/relayclose=$relay1status
3	Input Triggered	$input1status	Http://server ip/inputtrigger=$input1status
4	Input Closed	$input1status	Http://server ip/inputclose=$input1status
5	Valid Card Entered	$card_sn	Http://server ip/validcard=$card_sn
6	Invalid Card Entered	$card_sn	Http://server ip/invalidcard=$card_sn
7	Tamper Alarm Triggered	$alarm status	Http://server ip/tampertrigger=$alarm status

For example: http://192.168.16.118/help.xml?
mac=$mac:ip=$ip:model=$model:firmware=$firmware:card_sn=$card_sn

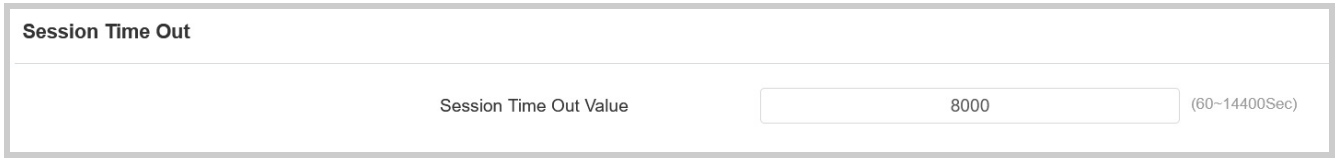
To set it up, go to **Setting > Action URL** interface.



Web Interface Automatic Log-out

You can set up the web interface's automatic log-out timing, requiring re-login by entering the user name and the passwords for security purposes or for the convenience of operation.

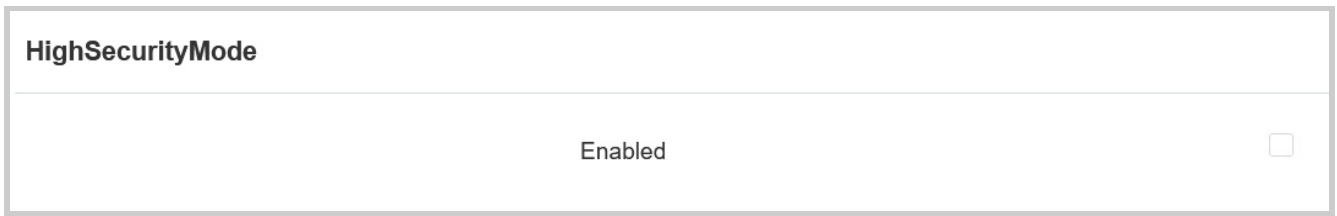
Navigate to the web **System > Security** interface.



High Security Mode

High security mode is designed to enhance the security. It employs encryption across various facets, including the communication process, door opening commands, password storage methods, and more.

To enable the mode, go to **System > Security > High Security Mode** interface.



Important Notes

1. The High Security mode is off by default when you upgrade the device from a version without the mode to one with it. But if you reset the device to its factory settings, the mode is on by default.

2. This mode makes the old version tools incompatible. You need to upgrade them to the following versions or higher to use them.

·PC Manager: 1.2.0.0

·IP Scanner: 2.2.0.0

·Upgrade Tool: 4.1.0.0

·SDMC: 6.0.0.34

3. The supported HTTP format for relay triggering varies depending on whether high secure mode is enabled or disabled.

If the mode is on, the device only accepts the new HTTP formats below for door opening.

- l http://username:password@deviceIP/fcgi/OpenDoor?action=OpenDoor&DoorNum=1
- l http://deviceIP/fcgi/OpenDoor?action=OpenDoor&DoorNum=1

If the mode is off, the device can use both the new formats above and the old format below:

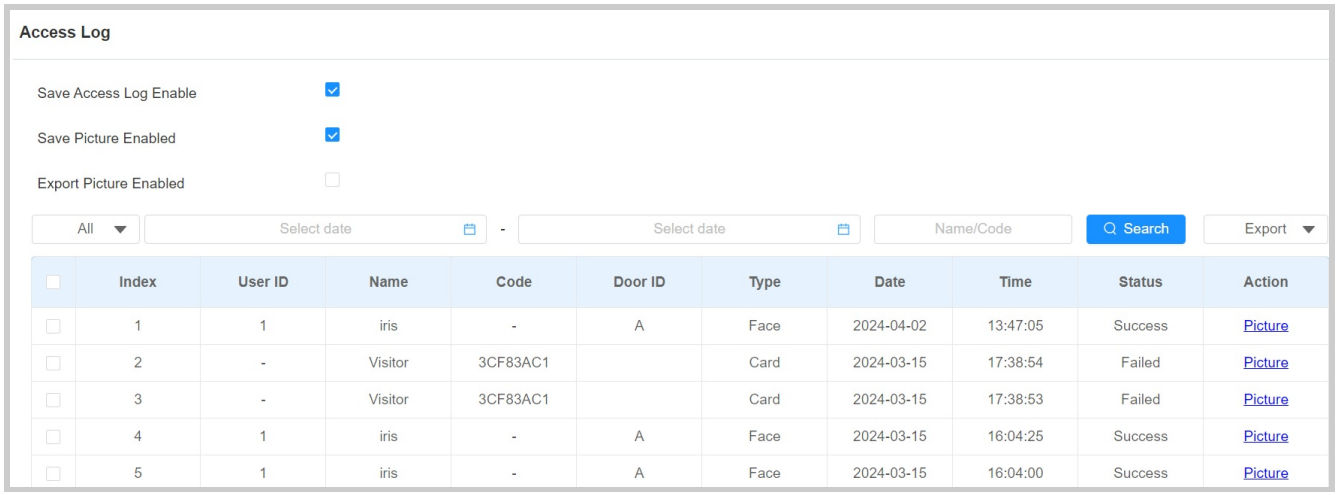
- l http://deviceIP/fcgi/do?
  action=OpenDoor&UserName=username&Password=password&DoorNum=1

4. It is not allowed to import/export configuration files in tgz. format between a device with the high security mode and another one without it. For assistance with file transfer, please contact Akuvox technical support.

Logs

Access Log

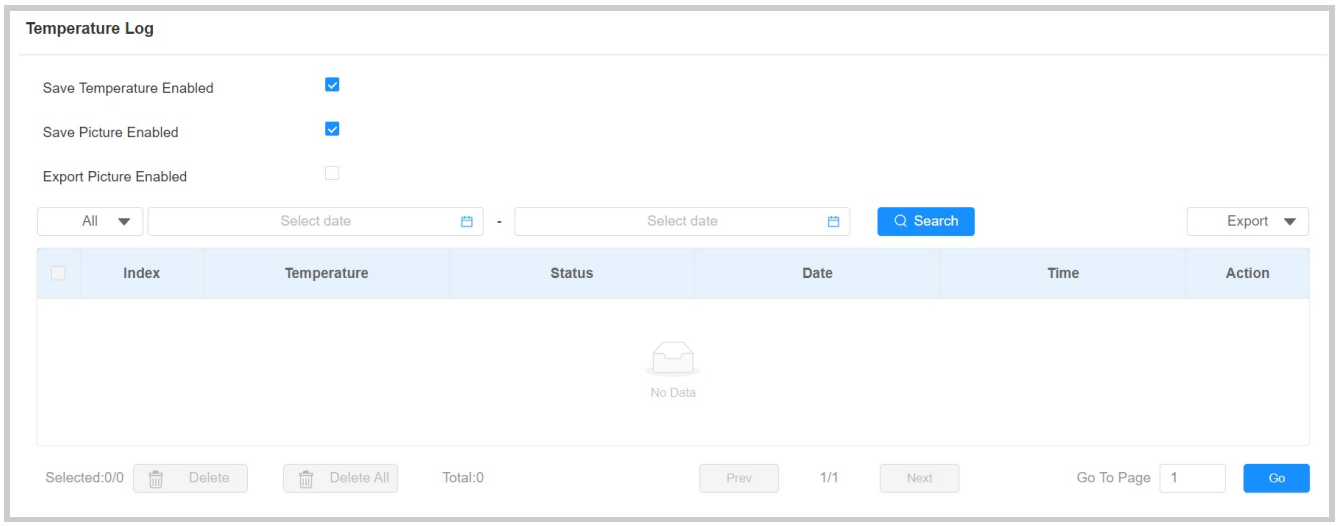
You can search and check door logs on the device web **Status > Access Log** interface. You can also export door logs in CSV or XML files.



- **Status**: **Success** and **Failed** options represent successful door accesses and failed door accesses respectively.
- **Time**: Select the specific period of the door logs you want to search, check, or export.
- **Name/Code**: Search the log by the username or the PIN code.
- **Door ID**: Display the door name.
- **Type**: Display the access type such as Card.
- **Action**: Click Picture to display the screenshot.

Temperature Log

You can search the check temperature logs on the **Status > Temperature Log** interface. You can also export temperature logs in CSV or XML files.



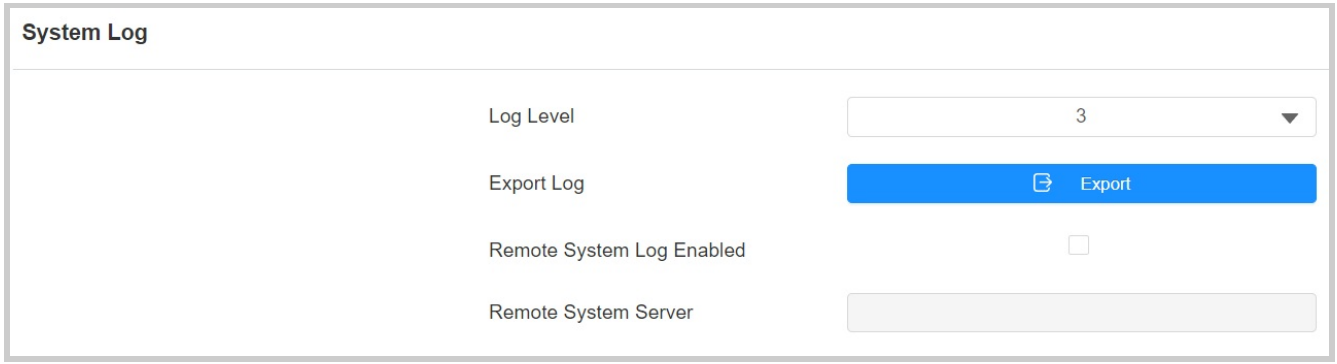
- **Status**: Display the normal, abnormal, or low-temperature status.
- **Temperature**: Display the temperature data.
- **Action**: Click Picture to display the screenshot.

Debug

System Log for Debugging

System logs can be used for debugging purposes.

To set it up, go to **System > Maintenance > System Log** interface.

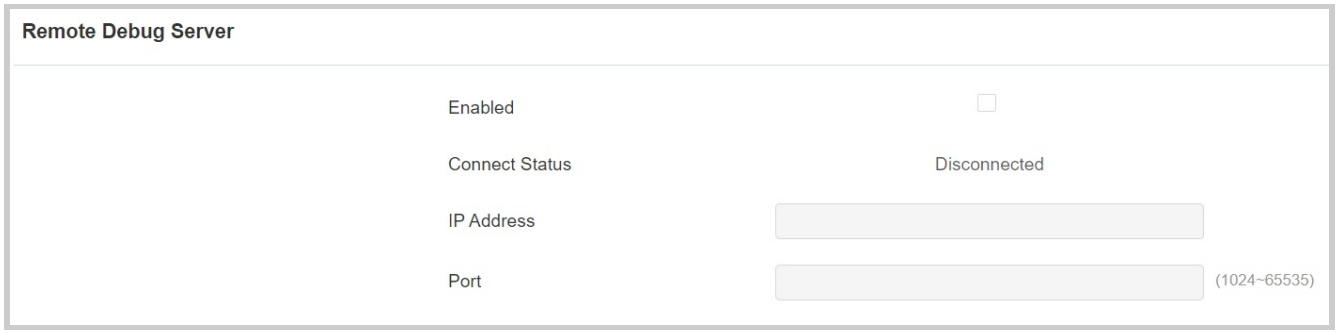


- **Log Level**: Log levels range from 1 to 7. You will be instructed by Akuvox technical staff about the specific log level to be entered for debugging purposes. The default log level is 3. The higher the level is, the more complete the log is.
- **Export Log**: Click the **Export** tab to export the temporary debug log file to a local PC.
- **Remote System Server**: Set the remote server address to receive the device log. The remote server address will be provided by Akuvox technical support.

Remote Debug Server

When the device is having a problem, you can use the remote debug server to access the device log remotely for debugging purposes.

To set it up, go to **System > Maintenance> Remote Debug Server** interface.



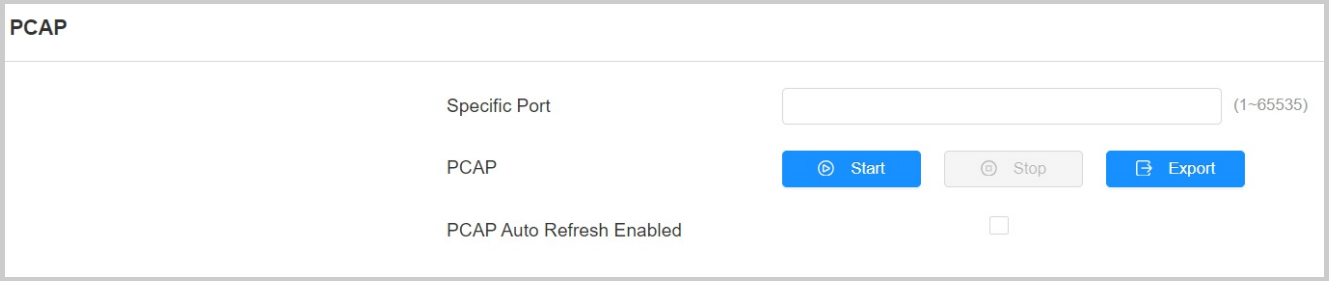
- **Connect Status**: Display the remote debug server connection status.

- **IP Address**: Set the remote debug server IP address. Please ask the Akuvox technical team for the server IP address.
- **Port**: Set the remote debug server port.

PCAP for Debugging

PCAP is used to capture the data package going in and out of the devices for debugging and troubleshooting purposes.

To set it up, go to **System > Maintenance > PCAP** interface.

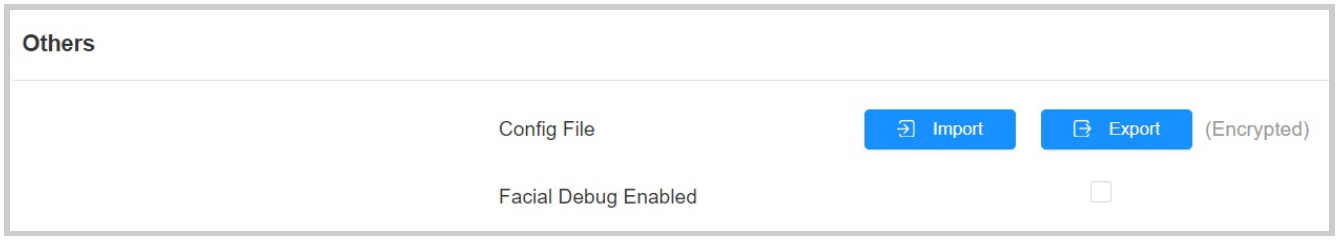


- **Specific Port**: Select the specific ports from 1-65535 so that only the data packet from the specific port can be captured. You can leave the field blank by default.
- **PCAP**: Click the **Start** tab and **Stop** tab to capture a certain range of data packets before clicking the **Export** tab to export the data packets to your Local PC.
- **PCAP Auto Refresh Enabled**: When enabled, the PCAP will continue to capture data packets even after the data packets reach their 50M maximum in capacity. When disabled, the PCAP will stop data packet capturing when the data packets captured reach the maximum capturing capacity of 1MB.

Backup

You can import or export encrypted configuration files to your Local PC.

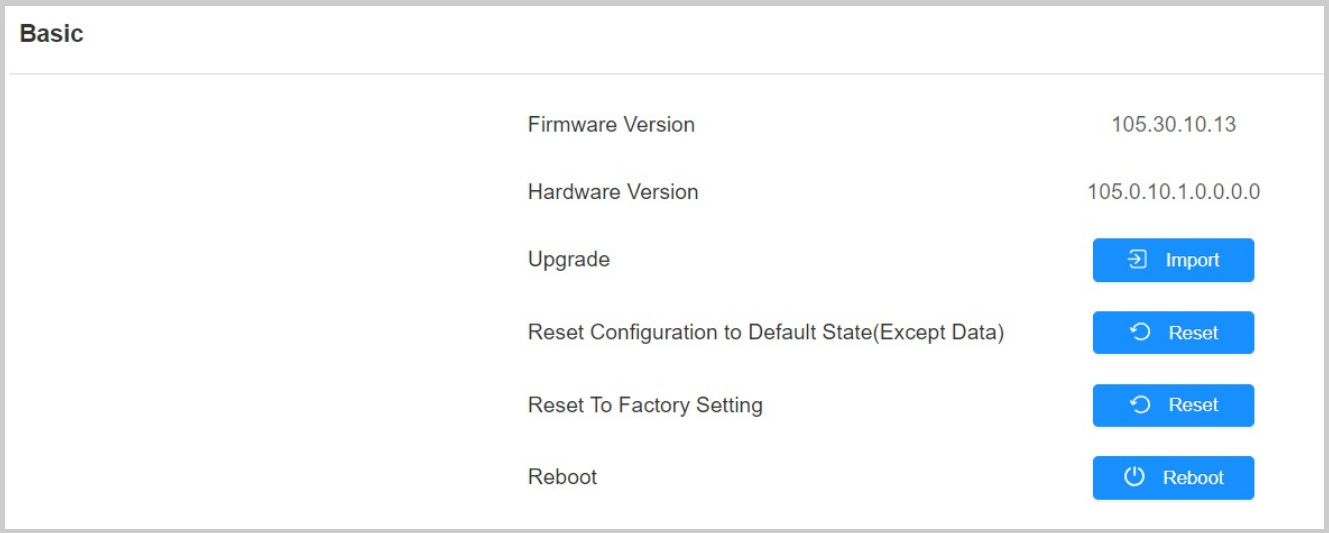
To set it up, go to **System > Maintenance > Others** interface.



Firmware Upgrade

Akuvox devices can be upgraded on the device web interface.

To upgrade the device, go to **System > Upgrade** interface.



Note

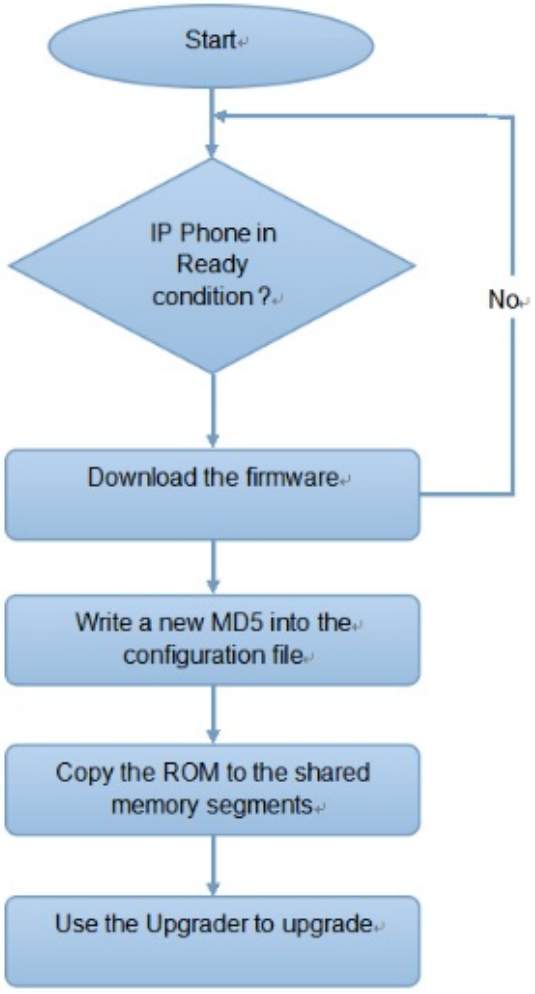
Firmware files should be in **.rom** format for upgrade.

Auto-provisioning via Configuration File

Provisioning Principle

Auto-provisioning is a feature used to configure or upgrade devices in batch via third-party servers. **DHCP, PNP, TFTP, FTP, and HTTPS** are the protocols used by the Akuvox devices to access the URL of the address of the third-party server which stores configuration files and firmware, which will then be used to update the firmware and the corresponding parameters on the device.

Please see the flow chart below:



Introduction to the Configuration Files for Auto-Provisioning

Configuration files have two formats for auto-provisioning. One is the general configuration files used for the general provisioning and another one is the MAC-based configuration provisioning.

The difference between the two types of configuration files:

- **General configuration provisioning**: a general file is stored in a server from which all the related devices will be able to download the same configuration file to update parameters on the devices. For example, cfg.
- **MAC-based configuration provisioning**: MAC-based configuration files are used for auto-provisioning on a specific device as distinguished by its unique MAC number. The configuration files named with the device MAC number will be matched automatically with the device MAC number before being downloaded for provisioning on the specific device.

Note

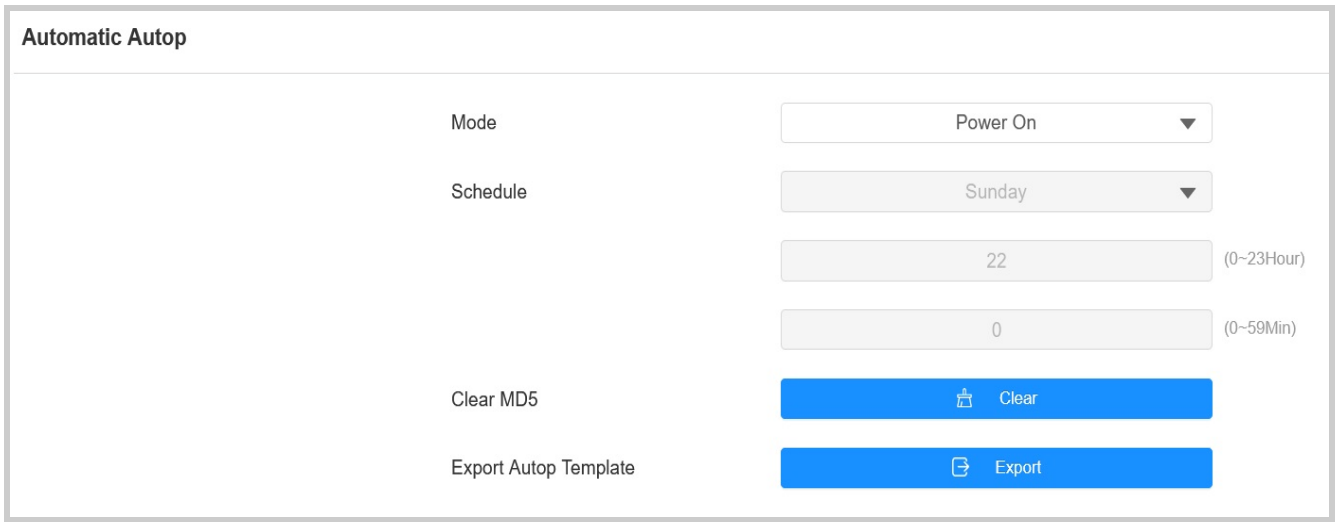
- The configuration file should be in CFG format.
- The general configuration file for the in-batch provisioning varies by model.
- The MAC-based configuration file for the specific device provisioning is named by its MAC address.
- If a server has these two types of configuration files, devices will first access the general configuration files before accessing the MAC-based configuration files.

You may click here to see the detailed format and steps.

Autop Schedule

Akuvox provides you with different Autop methods that enable the device to perform provisioning for itself according to the schedule.

To set it up, go to **System > Auto Provisioning > Automatic Autop** interface.

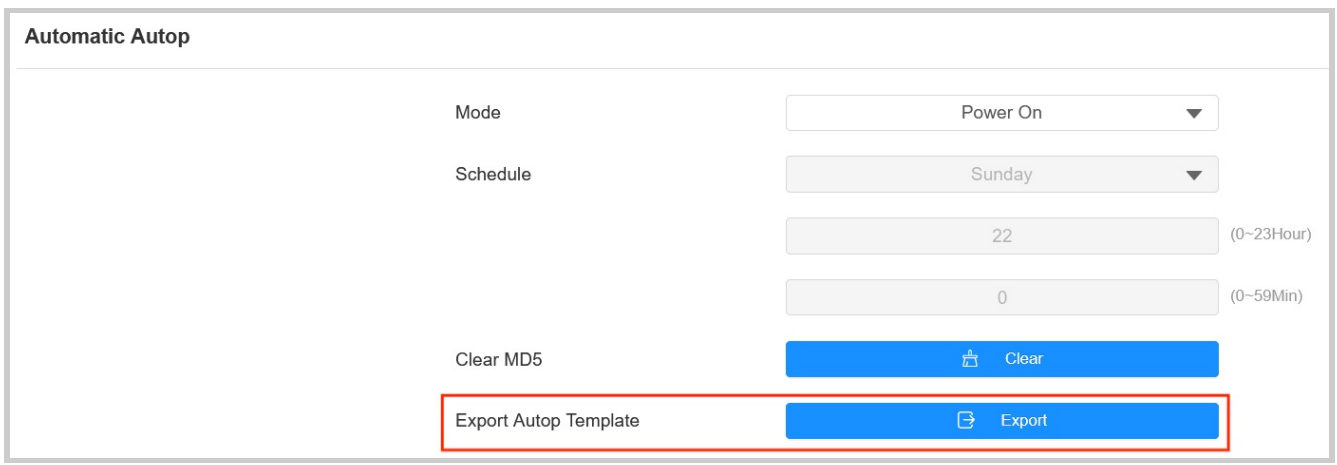


- **Mode**:
  - **Power On**: The device will perform Autop every time it boots up.
  - **Repeatedly**: The device will perform Autop according to the schedule you set up.
  - **Power On + Repeatedly**: Combine **Power On** mode and **Repeatedly** mode that will enable the device to perform Autop every time it boots up or according to the schedule you set up.
  - **Hourly Repeat**: The device will perform Autop every hour.

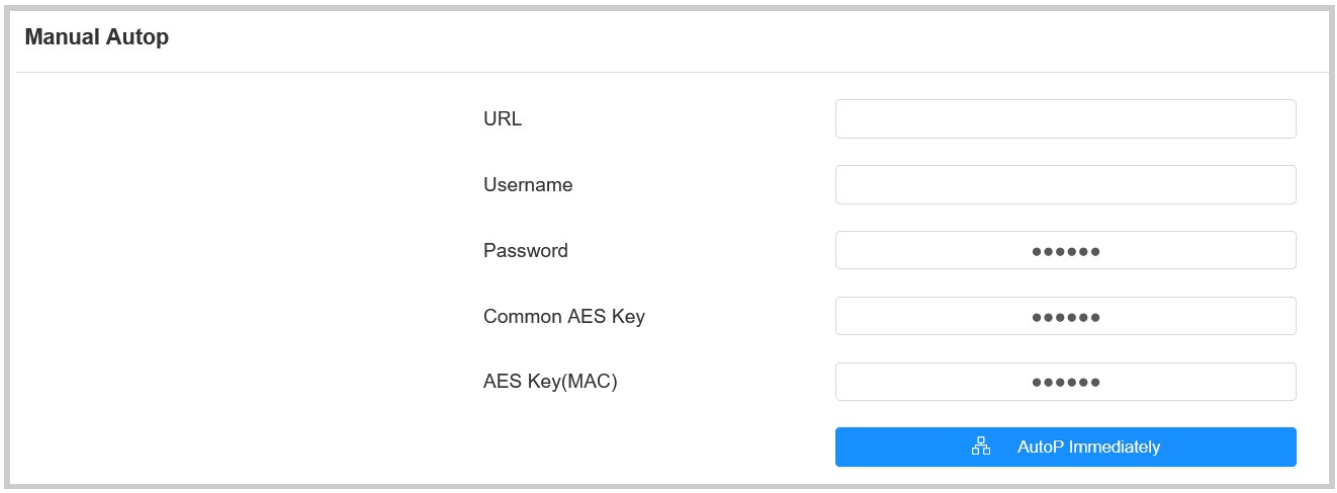
Static Provisioning

You can manually set up a specific server URL for downloading the firmware or configuration file. If an auto-provision schedule is set up, the device will perform the auto-provisioning at a specific time according to the auto provision schedule you set up. In addition, TFTP, FTP, HTTP, and HTTPS are the protocols that can be used for upgrading the device firmware and configuration.

To set it up, download the template on **System > Auto Provisioning > Automatic Autop** first.



Set up the Autop server on **System > Auto Provisioning > Manual Autop** interface.



- **URL**: Specify the TFTP, HTTP, HTTPS, or FTP server address for the provisioning.
- **Username**: Enter the username if the server needs a username to be accessed.
- **Password**: Enter the password if the server needs a password to be accessed.
- **Common AES Key**: It is used for the device to decipher general Autop configuration files.
- **AES Key (MAC)**: It is used for the device to decipher the MAC-based Autop configuration file.

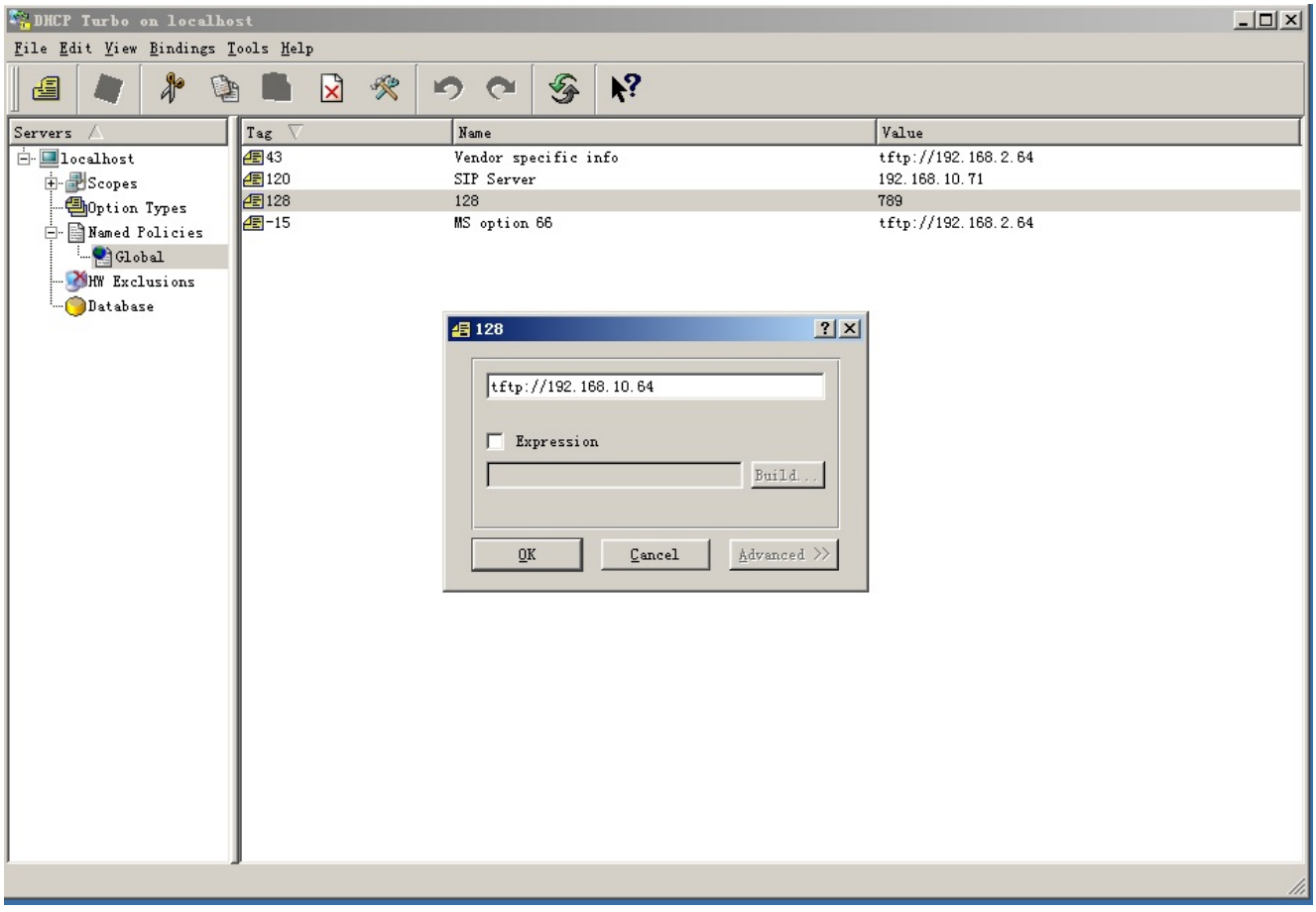
Note

- AES as one type of encryption should be configured only when the config file is encrypted with AES.
- Server Address Format:
  - TFTP: tftp://192.168.0.19/
  - FTP: ftp://192.168.0.19/(allows anonymous login) ftp://username:password@192.168.0.19/(requires a user name and password)
  - HTTP: http://192.168.0.19/(use the default port 80) http://192.168.0.19:8080/(use other ports, such as 8080)
  - HTTPS: https://192.168.0.19/(use the default port 443)

> **Tip**
>
> Akuvox does not provide user specified server. Please prepare TFTP/FTP/HTTP/HTTPS server by yourself.

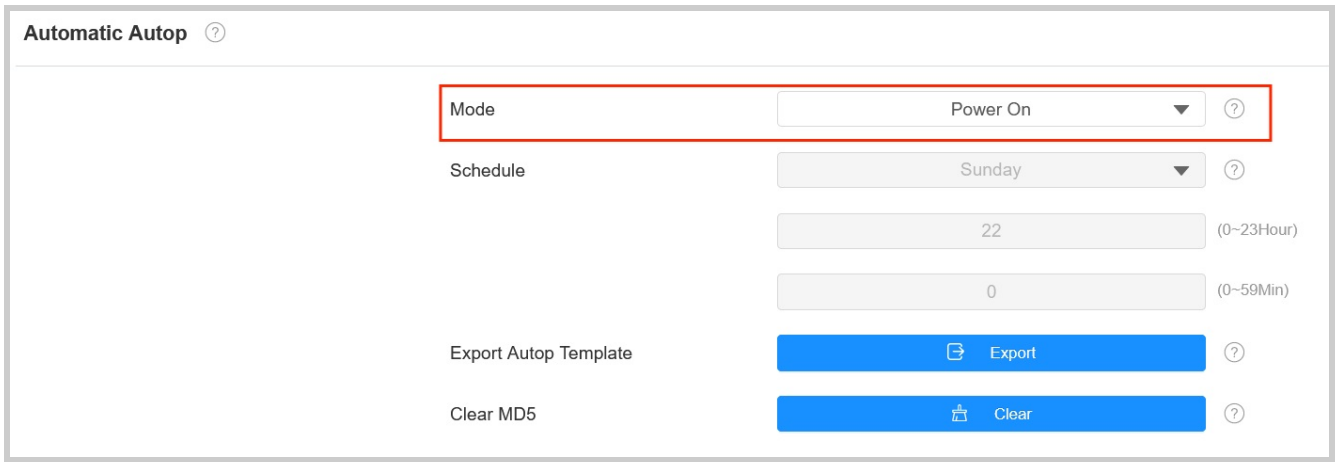
DHCP Provisioning

Auto-provisioning URL can also be obtained using the DHCP option which allows the device to send a request to a DHCP server for a specific DHCP option code. If you want to use **Custom Option** as defined by users with option codes ranging from 128-255), you are required to configure DHCP Custom Option on the web interface.

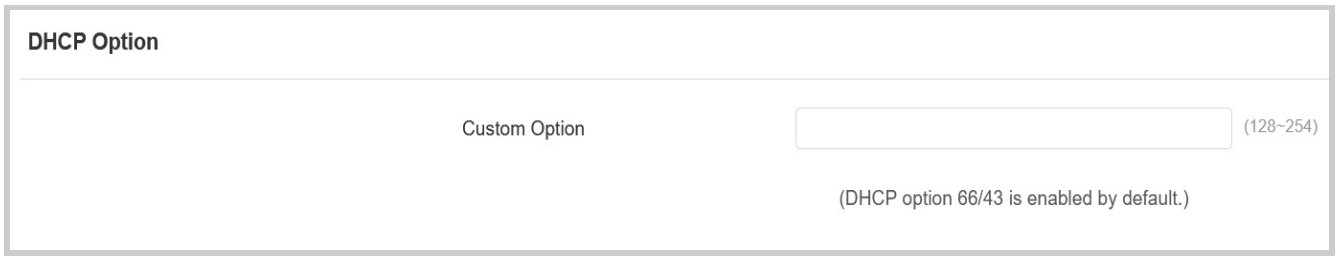


> **Note**
>
> - The Custom Option type must be a string. The value is the URL of TFTP server.

To set up DHCP Autop with **Power On** mode, go to the web **System > Auto Provisioning > Automatic Autop** interface.



To set up the DHCP Option, scroll to the **DHCP Option** section.



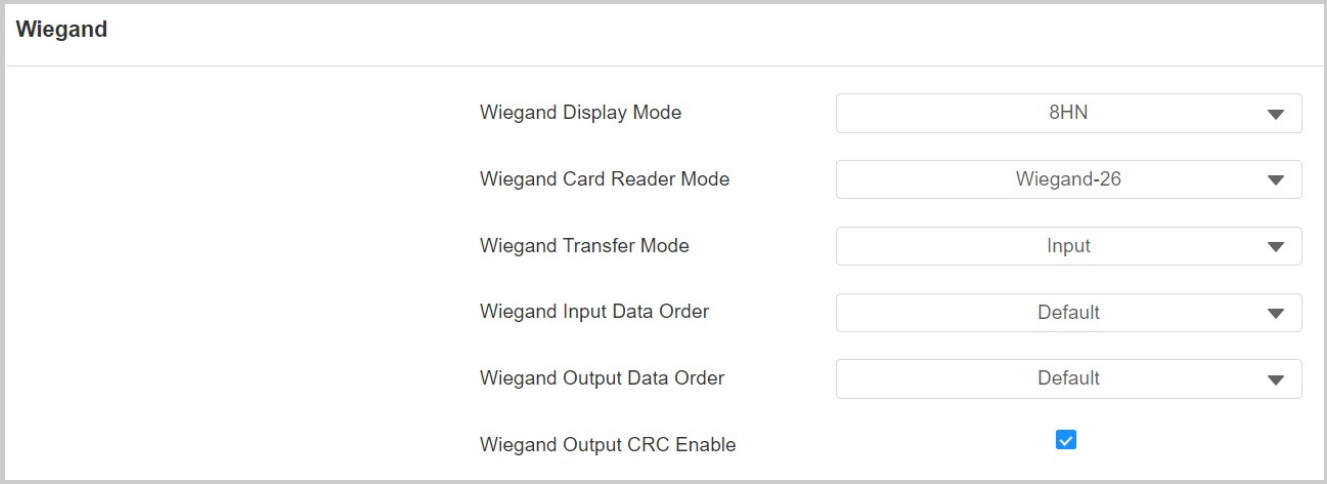
- **Custom Option**: Enter the DHCP code that matches the corresponding URL so that the device will find the configuration file server for the configuration or upgrading.
- **DHCP Option 43**: If the device does not get a URL from DHCP Option 66, it will automatically use DHCP Option 43. This is done within the software and the user does not need to specify this. To make it work, you need to configure the DHCP server for option 43 with the upgrade server URL in it.
- **DHCP Option 66**: If none of the above is set, the device will automatically use DHCP Option 66 to get the upgrade server URL. This is done within the software and the user does not need to specify this. To make it work, you need to configure the DHCP server for option 66 with the upgrade server URL in it.

Integration with Third Party Device

Integration via Wiegand

A05 access control terminal can be integrated with the third-party devices via Wiegand.

To set it up, go to **Device > Wiegand** interface.



- **Wiegand Display Mode**: Select the Wiegand card code format from the provided options.
- **Wiegand Card Reader Mode**: The transmission format should be identical between the access control terminal and the third-party device. It is automatically configured.
- **Wiegand Transfer Mode**:
    - **Input**: The device serves as a receiver.
    - **Output**: The device serves as a sender and users can only open the door by entering a PIN code or swiping an RF card.
    - **Convert To Card No. Output**: The device serves as a sender and users are assigned by multiple door-opening methods such as facial recognition and Bluetooth.
- **Wiegand Input Data Order**: Set the Wiegand input data sequence between Normal and Reversed. If you select Reversed, then the input card number will be reversed.
- **Wiegand Output Data Order:** Determine the sequence of the card number.

- **Normal**: The card number is displayed as received.
- **Reversed**: The order of the card number is reversed.

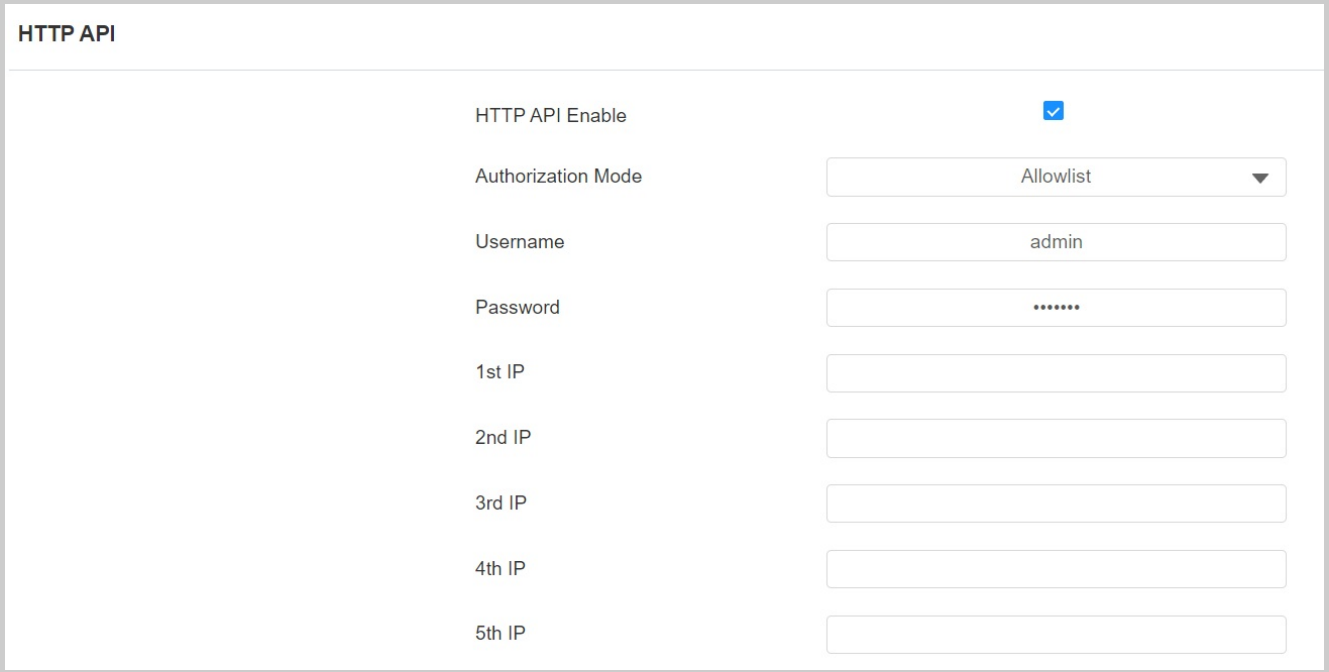
- **Wiegand Output CRC Enable**: It is enabled by default for Wiegand data inspection. Disabling it may lead to integration failure with third-party devices.

> **Note**
>
> Click here to see detailed configuration steps.

Integration via HTTP API

HTTP API is designed to achieve a network-based integration between the third-party device and the Akuvox device.

To set it up, go to **Setting > HTTP API** interface.



- **HTTP API Enable**: Enable or disable the HTTP API function for third-party integration. If the function is disabled, any request to initiate the integration will be denied and return HTTP 403 forbidden status.
- **Authorization Mode**: Select among the following options: None, Allowlist, Basic, Digest, and Token for authorization type, which will be explained in detail in the following chart.
- **Username**: Enter the user name when **Basic** or **Digest** authorization mode is selected. The default username is admin.

- **Password**: Enter the password when **Basic** or **Digest** authorization mode is selected. The default password is admin.
- **1st IP-5th IP**: Enter the IP address of the third-party devices when the **Allowlist** authorization is selected for the integration.

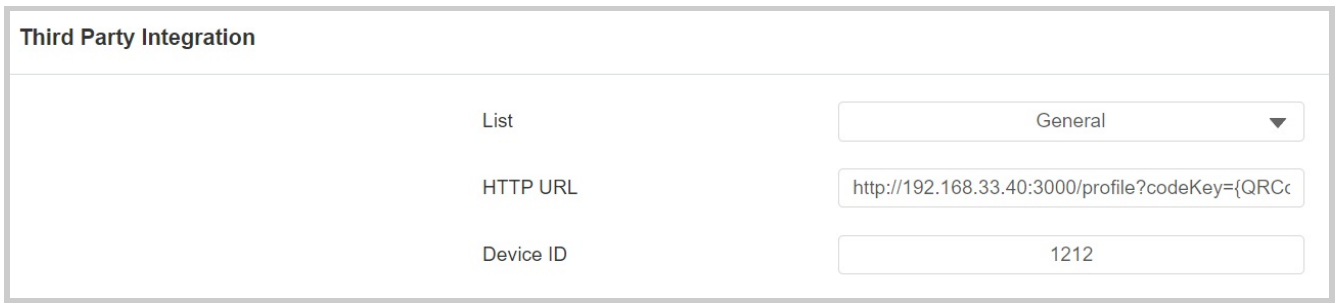
Please refer to the following description for the Authentication mode:

NO.	Authorization Mode	Description
1	None	No authentication is required for HTTP API as it is only used for demo testing.
2	Allowlist	If this mode is selected, you are only required to fill in the IP address of the third-party device for the authentication. The allowlist is suitable for operation in the LAN.
3	Basic	If this mode is selected, you are required to fill in the username and password for the authentication. In the Authorization field of the HTTP request header, use the Base64 encode method to encode of the username and password.
4	Digest	The password encryption method only supports MD5. MD5(Message-Digest Algorithm) In the Authorization field of HTTP request header: WWW-Authenticate: Digest realm="HTTPAPI",qop="auth,auth-int",nonce="xx", opaque="xx".
5	Token	This mode is used by Akuvox developers only.

Third-Party Integration

The device supports reading QR codes and transmitting them to a third-party server. The generation and validation of the QR codes are handled on the third-party server.

To set it up, go to **Access Control > Relay > Third Party Integration** interface.



- **List**:

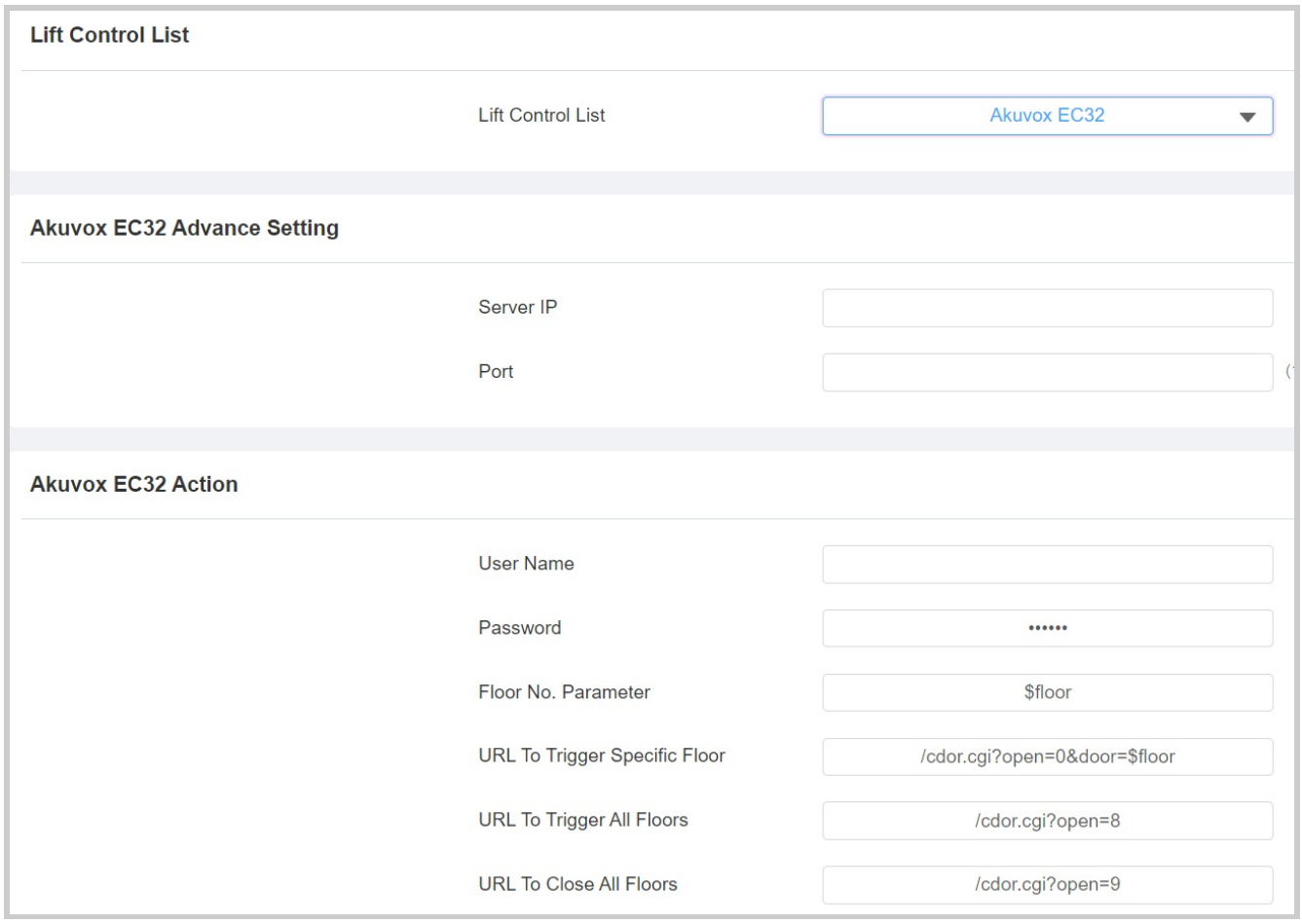
  - **None**: Disable the function.
  - **General**: Support scanning third-party QR codes. When enabled, the request URL and device ID are required to be filled in.

- **HTTP URL**: The URL sent to the third-party server. The URL formats are as follows:
  - http://server address/api/vistor/scan?codeKey={QRCode}&deviceId={DeviceID}
  - https://server address/api/vistor/scan?codeKey={QRCode}&deviceId={DeviceID}
- **Device ID**: As part of the HTTP URL, it is provided by the service provider of the third-party server.

Lift Control

The device can be connected to the Akuvox or third-party lift controller for the lift control. Users can summon the lift to go down to the ground floor when they are granted access through access methods.

To set up the lift control, go to **Device > Lift Control** interface.

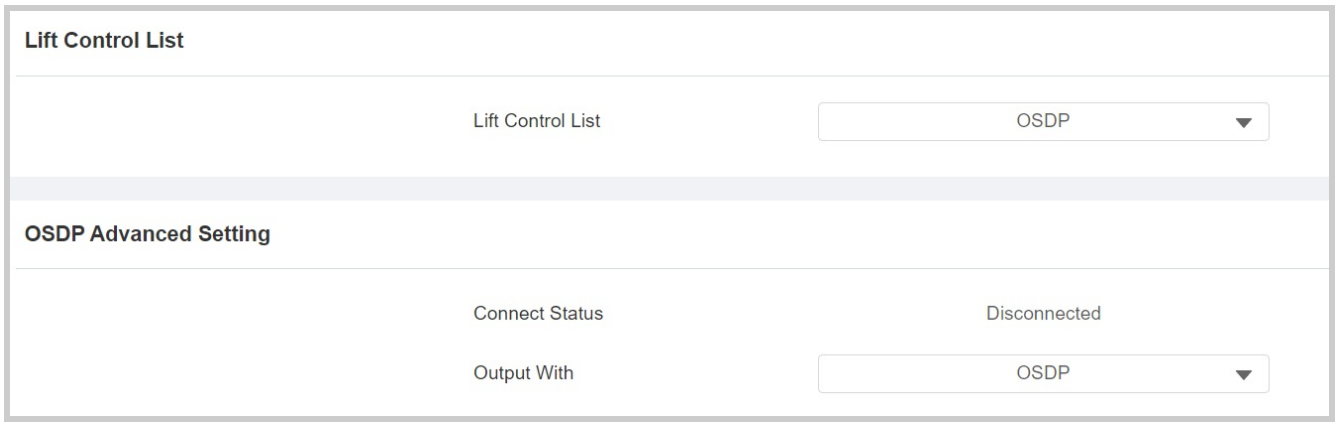


- **Lift Control List**: Select Akuvox EC32 for integration with the Akuvox lift controller.
- **Server IP**: Enter the IP address of the Akuvox lift controller server.
- **Port**: Enter the port of the Akuvox lift controller server.
- **User Name**: Enter the user name of the lift controller for authentication.
- **Password**: Enter the password of the lift controller for authentication.
- **Floor NO. Parameter**: Enter the Floor number parameter provided by Akuvox.
- **URL To Trigger Specific Floor**: Enter the URL for triggering a specific floor.
- **URL To Trigger All Floors**: Enter the URL for triggering all floors.
- **URL To Close All Floors**: Enter the URL used for closing all floors.

OSDP Settings

The device can be integrated with the third-party lift controller via OSDP protocol. You are required to check for the device integration protocol and make sure that they are the same.

To set it up, go to **Device > Lift Control** interface.



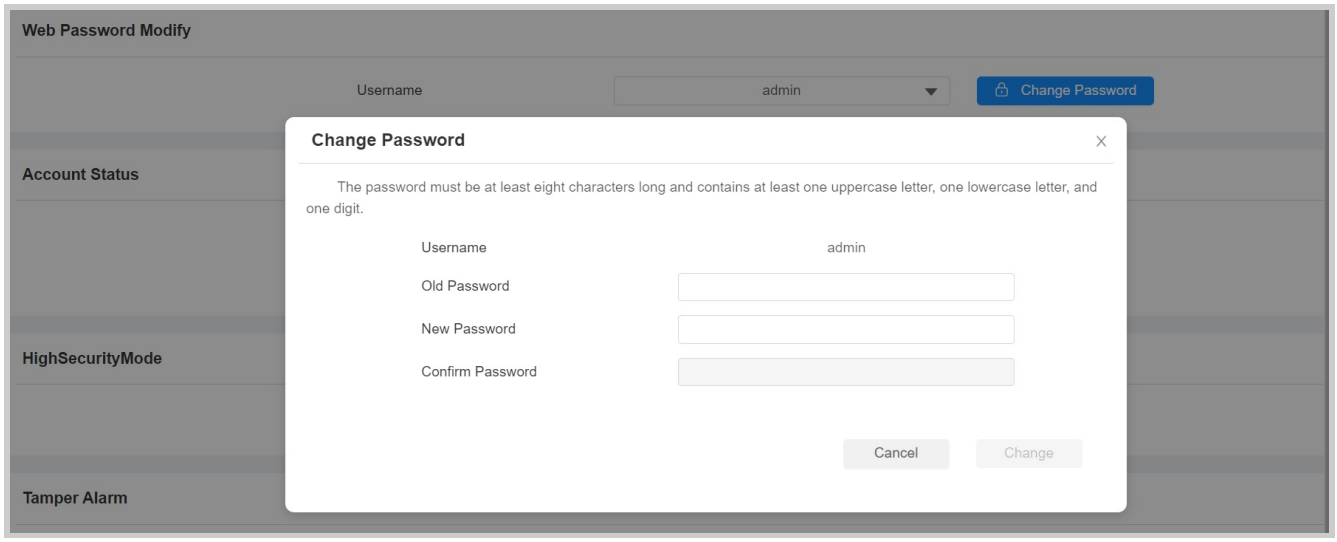
- **Lift Control List**: Select OSDP from the list.
- **Connect Status**: Indicate the connection status.
- **Output With**: Select in what way to send out the card number.
    - **OSDP**: The card number will be sent out to the third-party device via RS485.
    - **None**: The card number will not be sent out but retained in the system.

Password Modification

You can modify the device web password for both the administrator account and the user account.

To set it up, go to **System > Security > Web Password Modify** interface.

Click **Change Password** to modify the password.

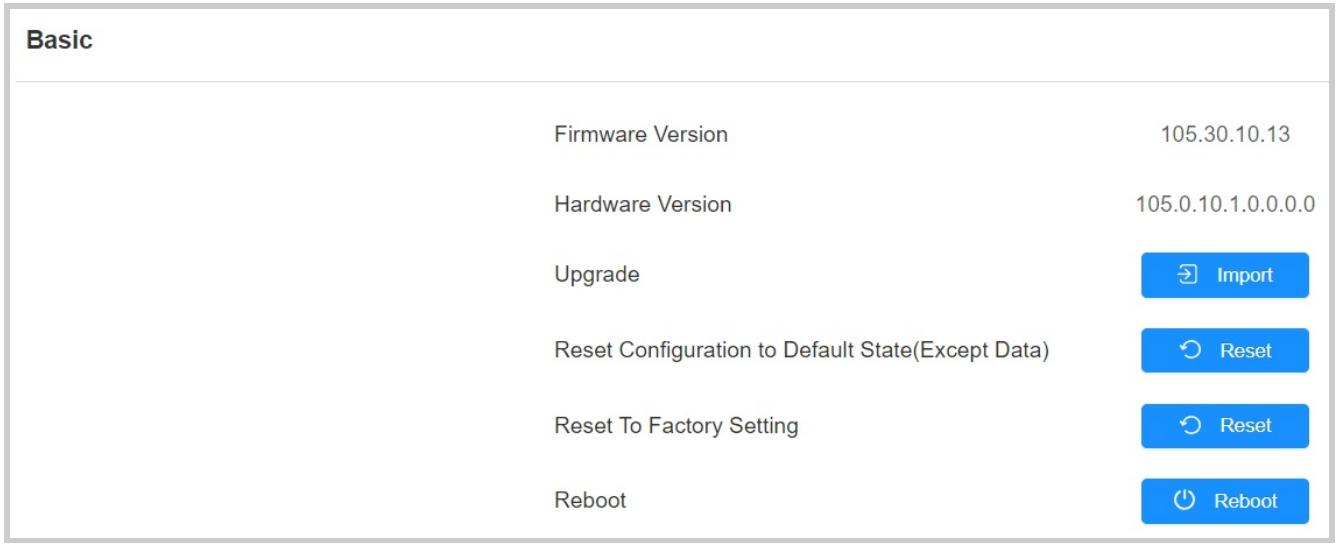


To enable or disable the user account, scroll to the **Account Status** section.

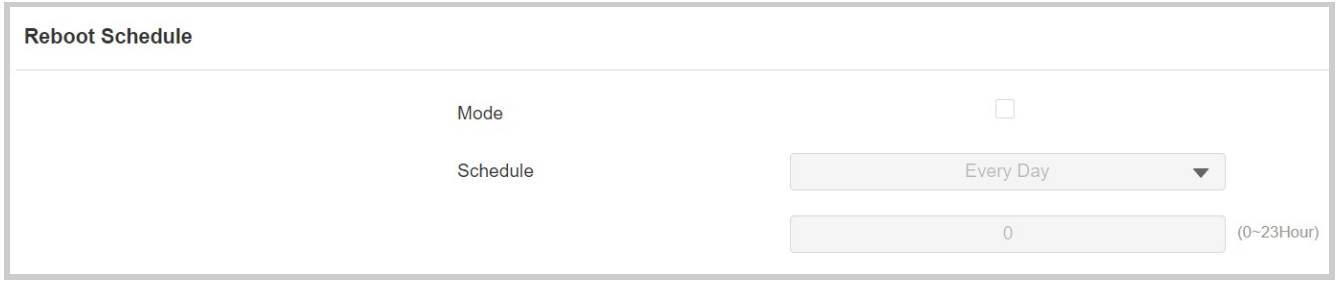
System Reboot and Reset

Reboot

Reboot the device on the web **System > Upgrade** interface.



To set up the device restart schedule, go to **System > Auto Provisioning > Reboot Schedule** interface.



Reset

You can select **Reset To Factory Setting** if you want to reset the device (deleting both configuration data and user data such as RF cards, face data, and so on). Or, select **Reset Configuration to Default State (Except Data) Reset**, if you want to reset the device (retaining the user data).

Reset the device on **System > Upgrade** interface.