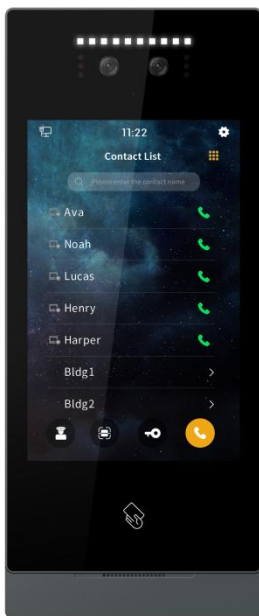# User Manual

## Outdoor Station



**S Series 8'' Facial Recognition Outdoor Station**

**User Manual_V1.0**

**Model Number:SO801**

# Attentions

1、 Please keep devices away from strong magnetic field , high temperature , wet environment ;



2、 Please do not fall the devices to the ground or make them get hard impact ;



3、 Please do not use wet cloth or volatile reagent to wipe the devices ;



4、 Please do not disassemble the devices.

# Contents

# Unit 1   Overview

This outdoor station is the main component of the S series digital video intercom system. It is connected with indoor stations or guard units for communication and unlocking by standard CAT5 cables.

## 1.1 Features

- **Support SIP protocol**
- **8-inch IPS display**
- **auto fill light with high luminance LED**
- **Using binocular wide dynamic range + near-infrared camera, Questyle face recognition algorithm, supports multiple face detection, face tracking, liveness detection, mask recognition and other functions. In the standard environment, when there are 10,000 people in the database, the face recognition rate is less than 0.5s, and the false recognition rate is 0.1%;**
- **Support 9 unlock modes. password unlock, IC card unlock, button unlock, surveillance/call unlock, face recognition unlock, QR code unlock, APP unlock, face recognition+ public password combination unlock, face recognition + IC card combination unlock..**
- **Compatible with cloud server management, LAN server management, serverless management and multiple server management modes**
- **Support alarm input, alarm output and support 12V output 250mA MAX**
- **Support human proximity detection**
- **Support elevator linkage**
- **Support Wiegand settings**
- **Support door status detection and timeout alarm, disconnection alarm and tamper alarm**
- **Support 2 locks management**
- **Support OTA online upgrade**

# 1.2 Specification

Opetation System：Linux  CPU：2 x Cortex-A7 1.2GHz 32K

RAM：512MB  Storage：4GB

Local face library：20,000

**Working Parameter**

Working Voltage: DC 18~30V  Static current: < 150mA（DC24V）

Working Current: < 400mA（DC24V）  Working temperature: -20°C - +70°C

Storage temperature：-30°C - +70°C  Humidity：≤95%, no condensation

**Camera**

Type：CMOS  Pixel：2MP

FOV：H: 61degree、V:35 degree  focal distance：4.3mm

Light filling mode: infrared 850nm + white light  minimal illumination：≤0.15Lux/F2.0
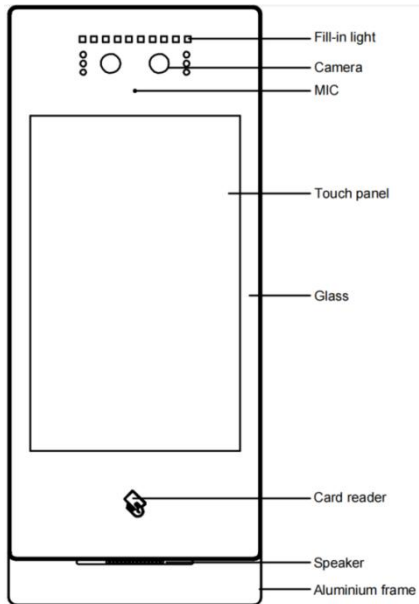
**Display**

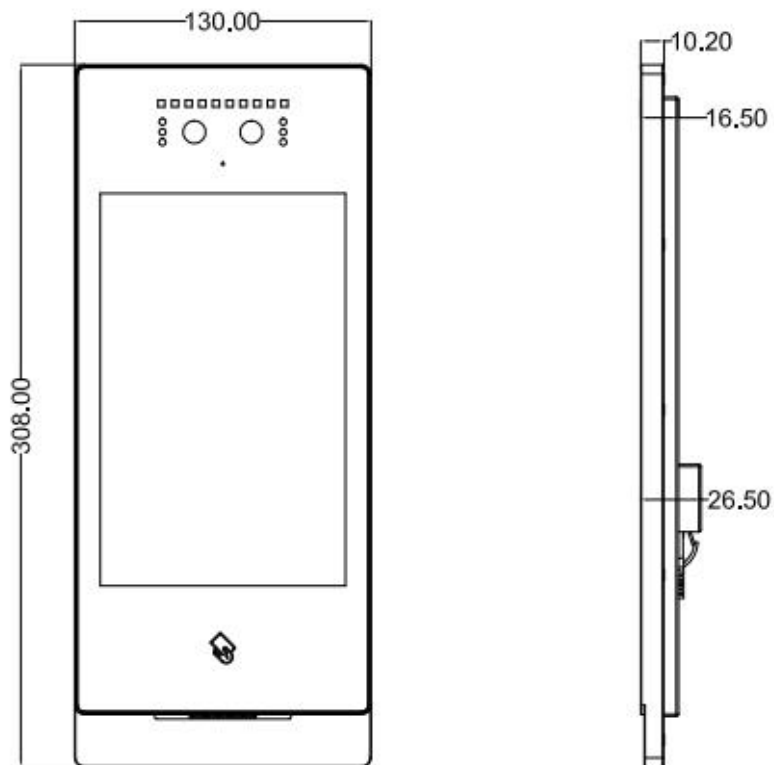Type：LCD  Size：8”

Resolution：800*1280

**Product Dimension**

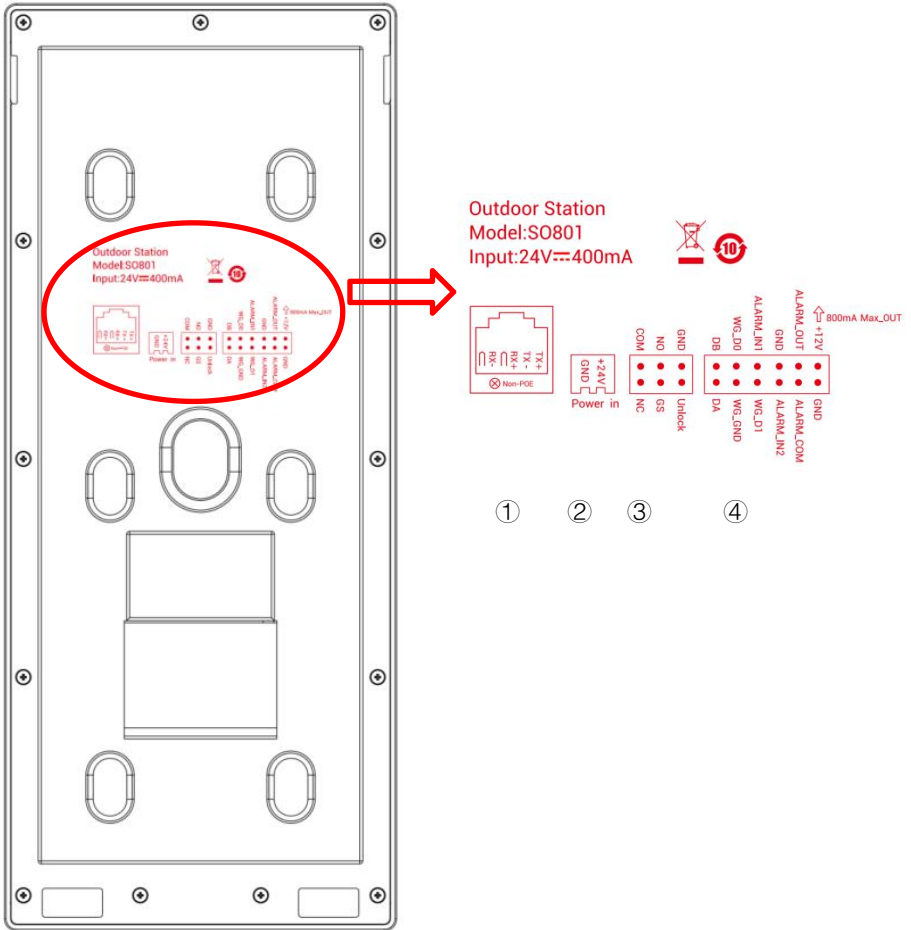( W/H/D )：130×308×26.50 mm

# Unit 2   Appearance and Interface

## 2.1 Front View

## 2.2 Product Dimension

## 2.3 Rear View



| | |
|---|---|
| ① | RJ45 network interface |
| ② | Power input interface DC 24V (independent power supply interface, voltage range DC 18-30 V). |
| ③ | COM、NO、NC：Common terminal, normally open terminal and normally closed terminal of the unlocking relay. |

| | |
|---|---|
| | GS： Door state detection input terminal.<br><br>UNLOCK、GND： Door unlock switch input |
| ④ | WG-GND、WG-D0、WG-D1： Weigen interface<br><br>DA、DB： 485 communication interface<br><br>ALARM_IN1： Alarm input 1<br><br>ALARM_IN2： Alarm input 2<br><br>GND： GND<br><br>ALARM_OUT： Lock2 Interface normally open<br><br>ALARM_COM： Lock2 interface common port<br><br>GND： GND<br><br>+12V_OUT： +12V power output |

# Unit 3    Installation

## 3.1 Installation Steps

(1) Method 1: Embedded in Wall

Step 1: Put embedded box into preformed groove and get cable out through the opening (as shown in Picture 1). Embedded box dimension(W/H/D) is 114 x 292.5 x 38 (mm).

Step 2: After connecting cable to outdoor station, match slot on rear cover of the outdoor station to align with snap on embedded box and snap on the outdoor station (as shown in Picture 2).

Step 3: Fix screws at the bottom of aluminium panel (as is shown in Picture 3).
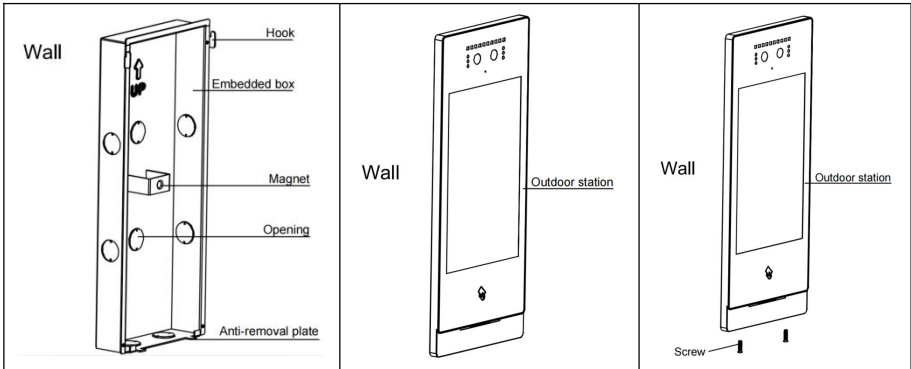


(2) Method 2: Wall-mounted

Step 1: Locate wall bracket according to the opening for cable, match 6 mounting holes on wall bracket, drill corresponding holes in the wall, insert expansion plugs and finally tighten the bracket with screws(as shown in Picture 1).

Step 2: After connecting cable to outdoor station, match slot on rear cover of the outdoor station to align with snap on embedded box and snap on the outdoor station (as shown in Picture 2).

Step 3: Fix screws at the bottom of aluminium panel (as is shown in Picture 3).
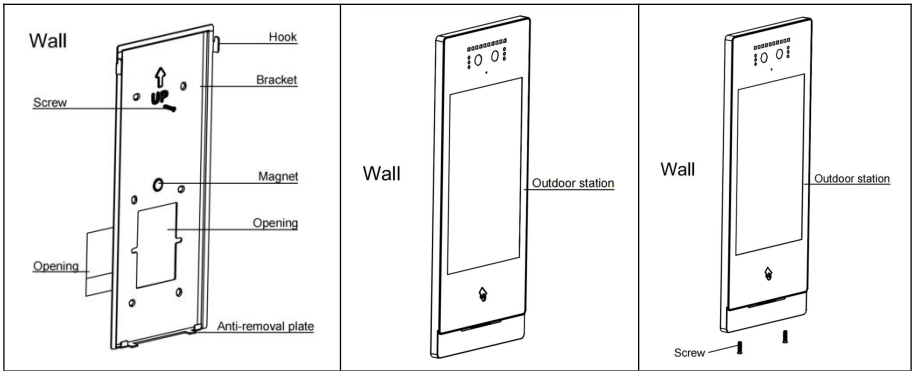
(3) Mode 3: Column

It's required to open a Φ33mm hole in the device that customer provided, get the cable between customer-supplied device and the host out through opening, and then get cable out through the column. Assemble the column and gum a waterproof sticker to the fixed part of the column and column bracket (as shown in Picture 1).

Step 2: Fix column bracket to the column with screws and attach waterproof foam to the end of column bracket (as shown in Picture 2).

Step 3: The wall bracket shall be screwed to column bracket (as shown in Picture 3).
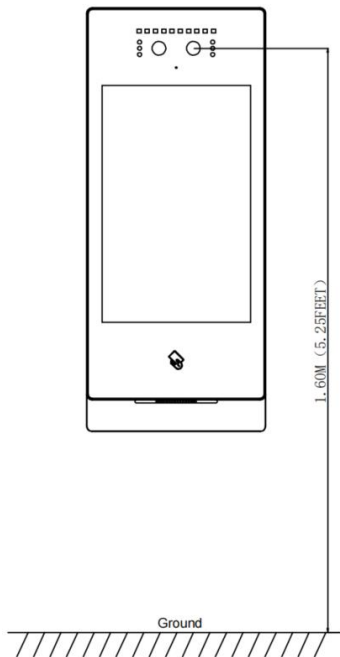
Step 4: Fix screws at the bottom of aluminium panel (as is shown in Picture 4).

Step 5: Pass the column through the hole opened in customer-supplied device and fix the column to it with column fixing nut.
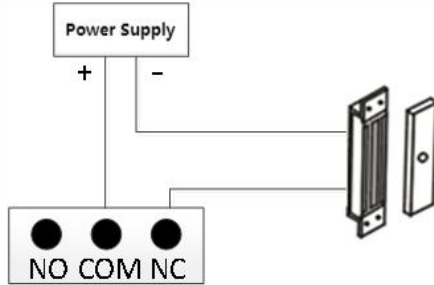
Outdoor station

Outdoor station
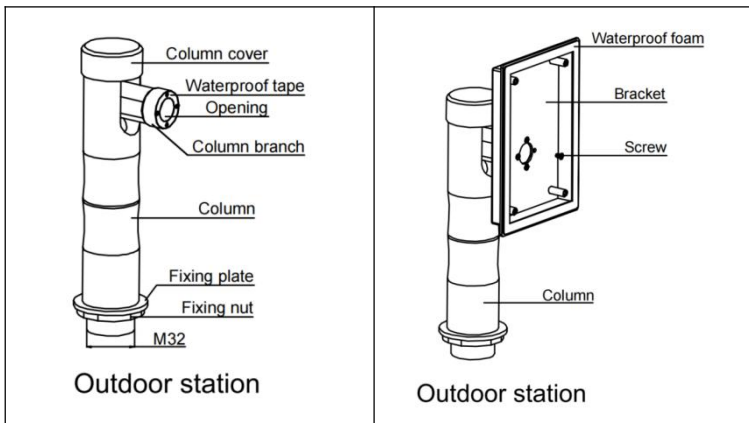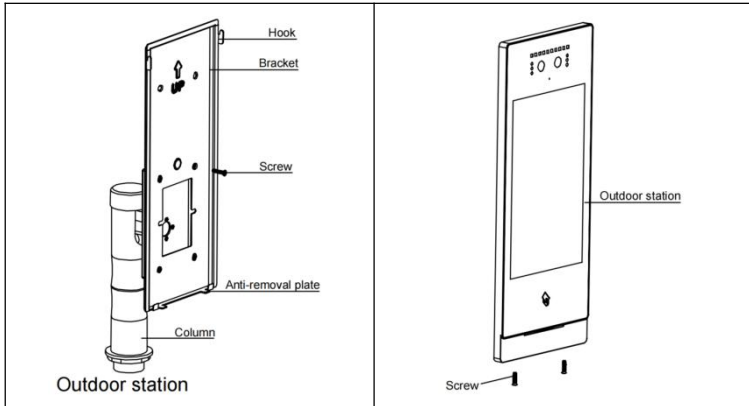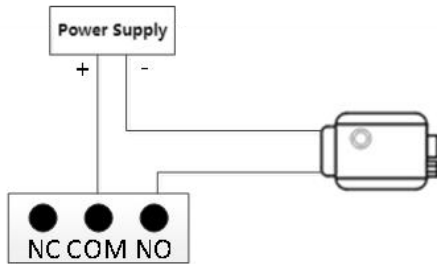
## 3.2 Installation Height



1.60M (5.25FEET)

Ground

Recommended Installation Height: 1.6 meters

# 3.3 Wiring Diagrams

**(1) Wiring for Signal Unlock Mode**

Wiring for normally closed type lock(Magnetic Lock)

Wiring for normally open type lock(Electronic lock)

**Note:** If device is used for power supply under signal unlock mode, the device can only be powered by extra power supply. At the mean time, lock input current shall be less than 800mA, otherwise the equipment may be damaged.

**(2) Wiring for Exit Button Unlock Mode**

Pushbutton(NO)
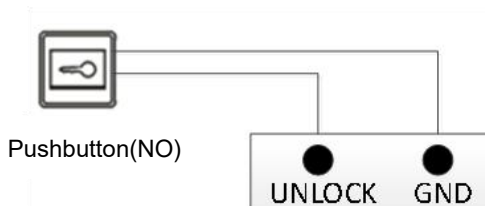
**Note:** This wiring is not polarised.


**(3) Wiring for Door Status Alarm**
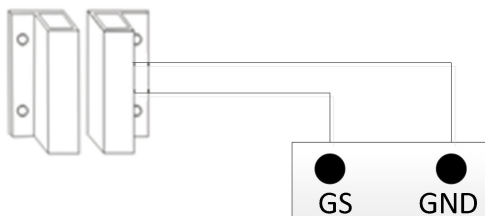


Normally closed type

**Note:** The door status alarm function can be switched off in two ways.

① Grounding GS port of the host.

② Enter "Door Status Alarm" and turn off the door status alarm switch.

# Unit 4   Basic Functions

(1) When the device is powered on for the first time, the user needs to select the language and set up the network.

(2) The functions below the main interface can be turned on or off in the system settings.
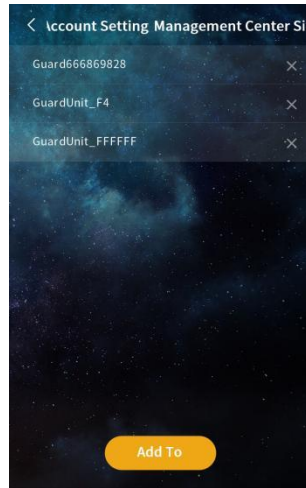
## 4.1 Call Management Center

Tap icon ![icon] to call the SIP account of the management center, and the outdoor station has ring back tones. If there is no answer from the management center within 30s, the call will be ended automatically.

Note: Support calling multiple management center SIP accounts at the same time, set in "Call Settings-Management Center SIP Account".
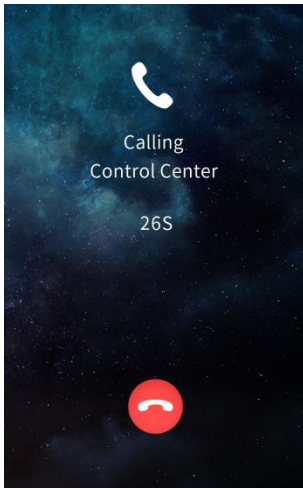


Call Management Center SIP account          Management center SIP account list

# 4.2 Face recognition & QR code Unlocking

Tap icon [icon] to scan the face or the QR code for unlocking. Once the face and QR code is recognized as correct, the door will be unlocked.

Note:

① When the user whose face has been registered approaches and faces the camera of the outdoor station, the device automatically enters face recognition unlock mode.

② The QR code for unlocking is generated by the mobile APP. In the mode of not using the server, there is no QR code unlock function.

# 4.3 Public password / unlock code unlocking

Tap icon [icon] to enter the public password/ unlock code to unlock. Once the password/code is recognized as correct, the door will be unlocked.

Note:

①The default public password is 666666, which can be modified in "Access Control Settings-Unlock Settings".

②The unlock code is generated by the mobile APP. In the mode of not using the server, there is no unlock code function.

③ Both public password unlocking and unlock code unlocking can be turned on or off in the system settings.
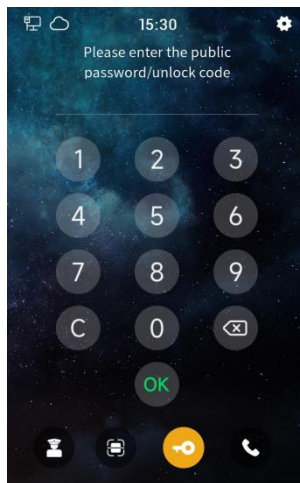
Public password / lock code unlocking

# 4.4 Name List Call & Dial Call

Tap icon [icon] to call the corresponding resident through the name list. Click the icon [icon] in the upper right corner to switch from the name list call interface to the dial call interface. You can call the corresponding resident by entering the SIP account user name corresponding to the device, for example, the SIP account "sip: 000100011@192.168.150.100:8060", enter "000100011" to call.

Note:

① The management center or the indoor station can control the unlocking of the outdoor station when they are in communication.

② Both name list calling and dial calling can be turned on or off in the system settings.
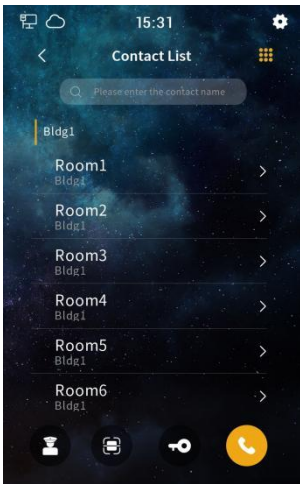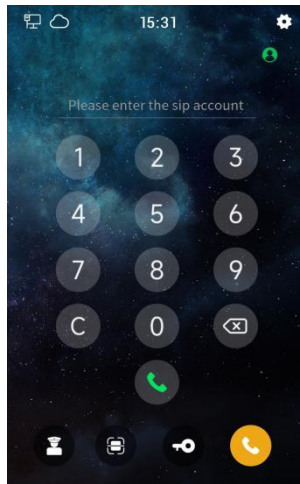


Name list call          Dail Call

# Unit 5    System Setting

Tap icon **⚙** in the upper right corner to enter the system setting interface by inputing the correct engineering password (the default is 801801, which can be modified).

## 5.1 Sound Setting

(1) Unlock prompt sound: After it's enabled, the device will have sound feedback when the door is unlocked.

(2) Card swiping prompt sound: After it's enabled, the device will have sound feedback when the user swipes the card.

(3) Touch-Tone: After it's enabled, the device will have sound feedback when user clicks the screen.

(4) Ringtone volume: The volume of the ringtone can be adjusted.

(5) Call volume: The volume of the call can be adjusted.

(6) Advertisement volume: The volume of the advertisement can be adjusted.
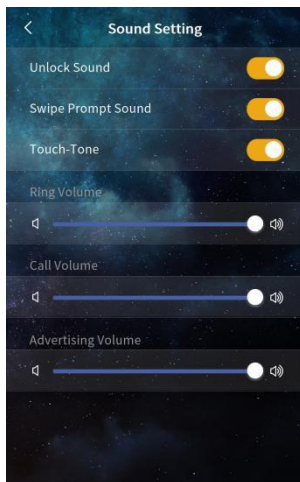


Sound setting

# 5.2 Time setting

(1) Automatic synchronization and manual setting: If automatic synchronization is enabled, the device will automatically synchronize the network date and time. If automatic synchronization is disabled, you can manually set the year, month, day, hour and minutes.

(2) Time zone: Select the corresponding time zone according to the country you are in. After the automatic time synchronization is enabled, the device will convert the local time according to the set NTP server and time zone.

(3) Time format: 24-hour or 12-hour format can be selected.

(4) NTP server: Enable the device to obtain accurate clock time from the set NTP server address.
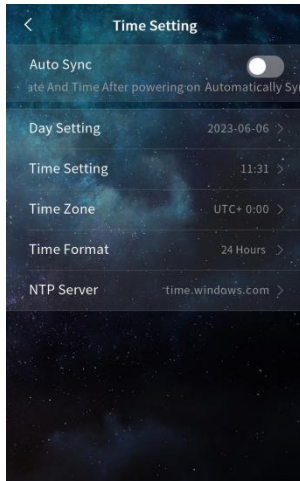


Time setting

# 5.3 Language setting
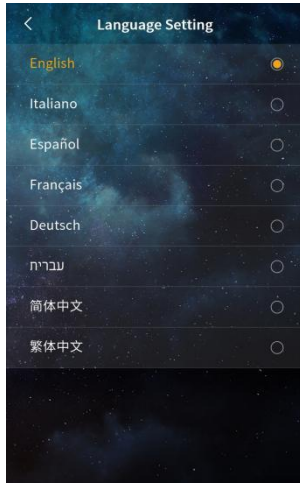
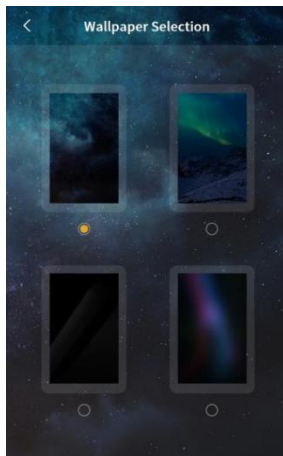Options: English, Italiano, Español, Français, Deutsch, עברית, 简体中文, 繁體中文.


Language setting
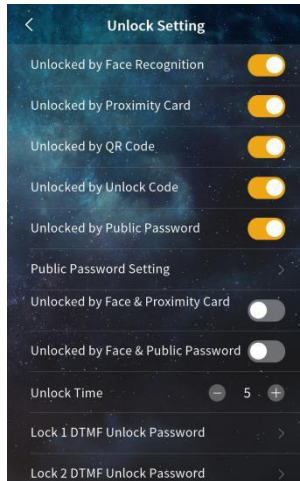
# 5.4 Display settings

## 5.4.1. Wallpaper selection

Changeable wallpaper. Custom wallpaper configuration can be done through the PC upgrade tool.


Wallpaper selection

# 5.5 Access control setting

## 5.5.1. Unlock Setting



Unock setting

(1) Face recognition unlocking: After this option is selected, users with registered faces can unlock the door through the device's camera.

(2) IC card unlocking: After this option is selected, users can unlock the door by putting the registered IC card close to the card swiping area of the outdoor station.

(3) QR code unlocking: After this option is selected, users can unlock the door by scanning the QR code generated by the mobile APP through the device at the "main page - face recognition & QR code unlocking".

Note: When the server mode is not used, there is no QR code unlock function.

(4) Unlock code unlocking: After this option is selected,users can unlock the door by entering the unlock code at the "Main Page-Public Password/Unlock Code".

Note: When the server mode is not used, there is no unlock code function.

(5) Public password unlock: After this option is selected, users can unlock the door by entering the public password at the "main page - public password/unlock code".

(6) Public password setting: The public password can be modified.

(7) Face recognition + IC card combination unlock: After this option is selected, the device will simultaneously enable face recognition and IC card unlock function. Door will

18

be unlocked only with correct face recognition and IC card.

(8) Face recognition+ public password combination unlock: After this option is selected, the device will simultaneously enable face recognition and public password unlock function. Door will be unlocked only with correct face recognition and public password.

(9) Unlocking time: The duration of door unlocking can be modified, and the door will be automatically closed after timeout. The optional range is 1-60s.

(10) Lock 1/Lock 2 DTMF unlock password: Set the DTMF unlock password for Lock 1/Lock 2, the default for Lock 1 is 666666, and the default for Lock 2 is 888888. Only when the DTMF password of the outdoor station and the indoor unit are set consistently, the outdoor station can unlock lock 1/lock 2.
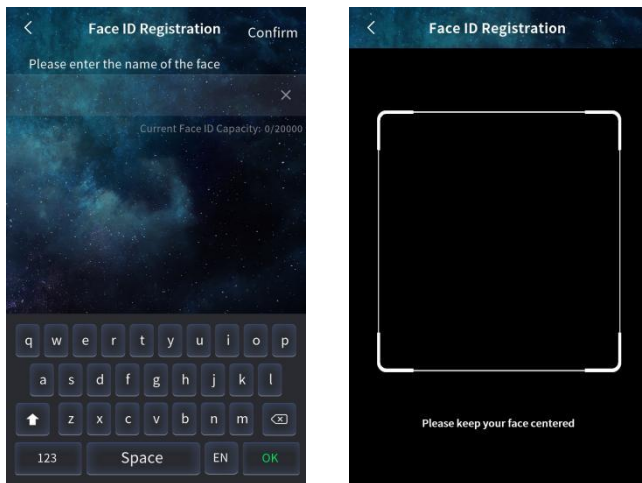
## 5.5.2. Face management

You can register, check, delete and clear face information on the outdoor station. In the default server or custom server mode, the face data of the outdoor station is automatically synchronized with the platform. The maximum face storage capacity is 20,000.
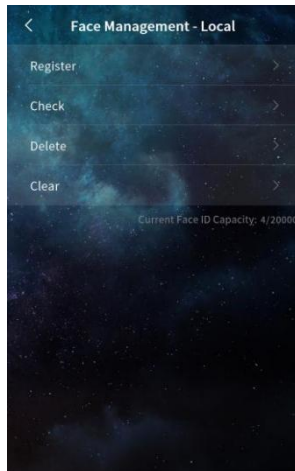


Face management

(1) Register: In the face registration interface, first enter the name of the face, and then click Confirm to register your face by putting your face in front of the camera. When the outdoor station prompts "registered successfully" means face is registered successfully.
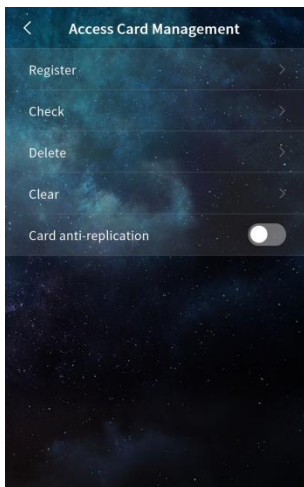
Face registration

(2) Check: Enter the face name in the search box to check the corresponding face information.

(3) Delete: Enter the face name in the search box to delete the corresponding face information.

(4) Clear: The face data of this device can be cleared.

(5) Face photo saving: When this option is turned off, the outdoor station will not save face photos and delete existing face photos. When this option is turned on, you can view face photos saved on the device.

## 5.5.3. Access card management

You can register, check, delete and clear access card information on the outdoor station. In the default server or custom server mode, the card data of the outdoor station is automatically synchronized with the platform. The maximum card storage capacity is 20,000.

Access card management

(1) Register: In the card registration interface, first swipe the card or enter the card number, select the card type (resident card/administrator card), click OK. When the outdoor station prompts "registered successfully" means card is registered successfully.
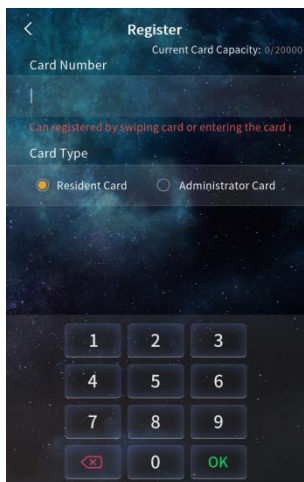


Access card registration

(2) Check: By swiping the card or entering the card number in the search box, you can check the corresponding access card information.
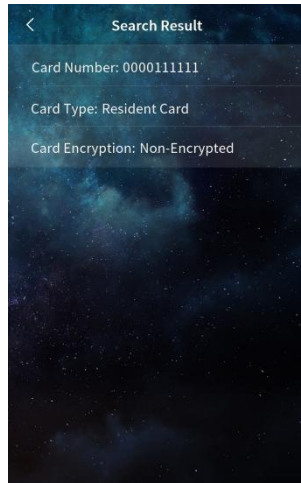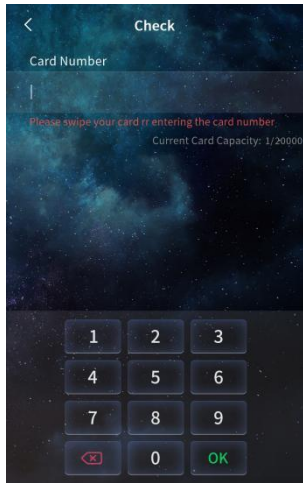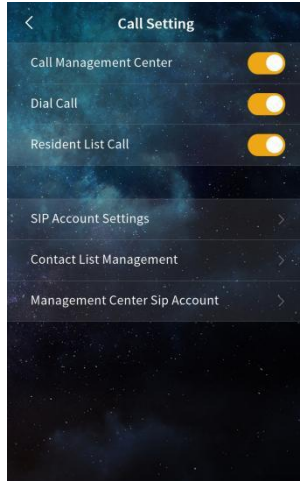
Check access card

(3) Delete: Swipe the card or enter the card number in the search box then can delete the corresponding access card information.

(4) Clear: It can erase the user card/ Admin card data of the device

(5) Card replication prevention: After this option is enabled, the registered card is encrypted and cannot be copied.

# 5.6 Call Setting



call setting

(1) Call Management Center: After this function is enabled, the function is enabled on the Mainly Interface , and you can tap to call the management center.

(2) Dial call: After this item is enabled, the function is enabled on the main screen, and the SIP account can be entered to call the corresponding household.

(3) Contact list call: After this is enabled, this function is enabled in the main interface, click the contact list to call the corresponding household.

(4) SIP Account Settings

● User name: Enter the user name to configure the local SIP account for dial-up calls. Note: It is not allowed to be the same account as another user in the same network.

● Local SIP account: Displays the local SIP account generated by the local user name and IP address for calling accounts on the same network.

● SIP Account 1 and 2: Manually configure SIP account information and select whether to enable it. Need to enter the user name, server password, server address and server port, select the transmission mode (UDP, TLS); You can also use the account information of the address book by setting the device name.

● Cloud intercom SIP account: Displays the cloud intercom SIP account assigned by the server to the device when the device is connected to the cloud server.
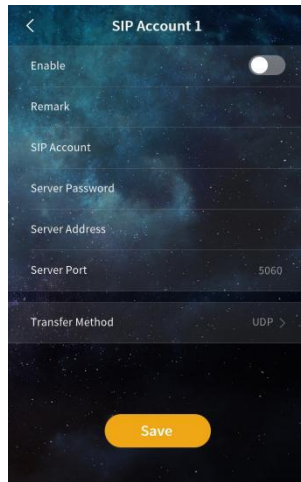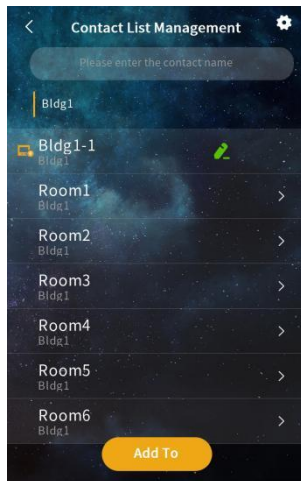
SIP Account Settings        SIP Account 1& 2

(5) Contact list management



Contact List Management

Displays information about the current contact. Contacts include devices discovered after automatic configuration is enabled, devices imported from the address book, and devices manually added.

- Search: You can fuzzy search for contacts in the list.

- Setting: Select whether to display contact profile pictures. Select whether to set the

24

display range of the communication list. After this item is disabled, all contacts are displayed. After this item is enabled, you can select the same group of contacts to be displayed, or select the contacts to be displayed.

● Add: You can add contacts on the local device by entering remarks, SIP account, and owning group. You can add a group on the local device by setting remarks, group call, and owning group.

● Edit: You can modify the information about the contact.

● Delete: Delete the contact data. Note: Devices discovered by enabling automatic configuration cannot be deleted when they are online. Devices imported through the address book cannot be deleted either.

(6)  Account Setting Management Center SIP
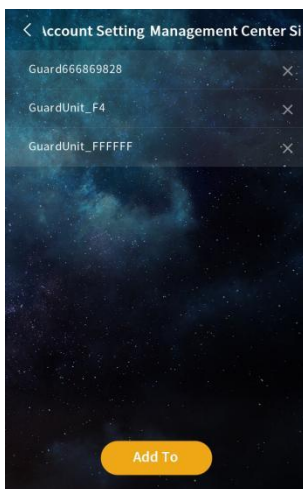


Account Setting Management Center SIP

The SIP account of the selected manager is displayed. When a user clicks the call Manager, the manager SIP account in the list is called simultaneously.

● Add: Click "Add To", select devices, and add a maximum 10 SIP accounts can be the listed of SIP accounts in the manager.

# 5.7 Network Setting.

(1)  Automatic configuration mode: After this parameter is enabled, other S-series devices on the same network segment can be discovered.

(2)  DHCP： After disabling the network, it needs manually configuring the network and entering the IP address, sub-netting mask, gateway, and DNS.
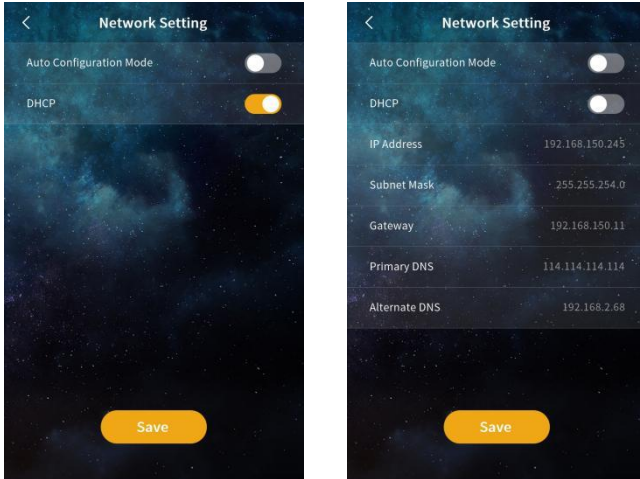
Network setting

# 5.8 Alarm Setting.

(1) Tamper alarm: After this item is turned on, if the device is dismantled by external force, the device will sound an alarm tone.

(2) Disconnection alarm: After this item is enabled, if the device disconnects, the device will sound an alarm tone and the status bar displays the disconnection icon.

(3) Door status alarm and door status alarm tone: After opening the door status alarm and door status alarm tone, if the device detects that the door is open for more than 120 seconds, the device will sound the alarm tone.
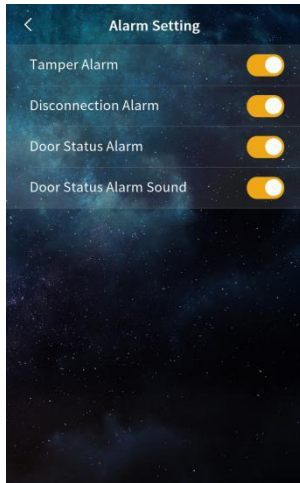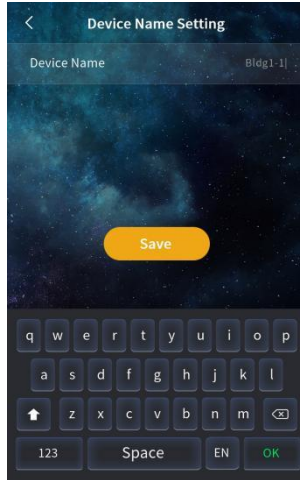
Alarm setting

# 5.9 Engineering Setting


Engineering Setting

## 5.9.1. Device Name Setting

The device name can be modified. If the SIP account information in the address book is required, set the device name to the device name corresponding to the account information in the address book. The device prompts you whether to use the account information of the address book.



Device Name Setting

## 5.9.2. Cloud Server Settings

(1) Default server/Custom server

● Upload the registered face and access control card data of the local computer to the server, and synchronize the data from the server.

● When switching to no server mode, you can choose whether to retain the server data or not. If you select Retain, the device will not clear the data sent by the server. If you select not to retain, the device clears the data.

● Without server

● That is, in the single-machine mode, the face and access card data registered on the machine are saved locally.

● When switching to the default server or a custom server, you can select whether to upload local data. If you select Upload, the local data is uploaded to the server and the server data is synchronized. If you do not select Upload, data on the local
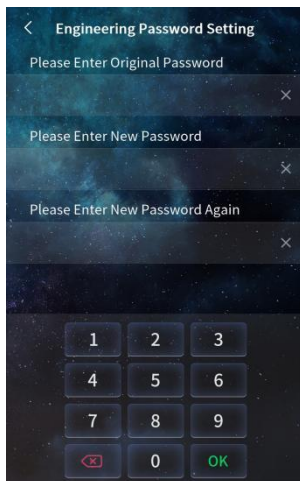
server is cleared and data on the server is synchronized.
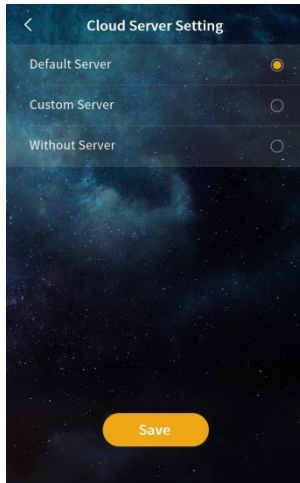
Cloud server Settings

## 5.9.3. Engineering Password Setting

The project password can be changed. The password contains 6 digits.

Engineering Password Setting

## 5.9.4. Face recognition Setting

(1)  Live detection switch: After this is turned on, the device conducts live detection, and the non-living registered face cannot be unlocked successfully.

(2)  Threshold: face recognition threshold (high, medium, low), different levels correspond to different face recognition matching degrees. The threshold is high, and the requirements for face similarity are relatively high, requiring the user to be closer to the face recorded during registration.

(3)  Camera wake up distance adjustment: The user can adjust the maximum distance to wake up the camera. The wake-up distance ranges from 0.3 to 2m. If the wake up distance of the camera is set to the maximum, in the screensaver state, the face is within 2m of the device, and the device will enter the face recognition interface.
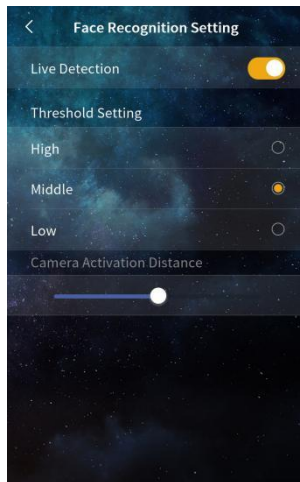


Face recognition Setting

## 5.9.5. Motion detection Setting

(1)  Switch: When this option is enabled, the device will perform motion detection. If the moving object is near the door machine, the door machine will light up and enter the main screen.

(2)  Sensitivity test: It is for adjusting the sensitivity of the motion, when the sensitivity is low, the visitor shall be more close to the device.

(3)  Sensitivity test: Within the detection range, whether the device detects an object
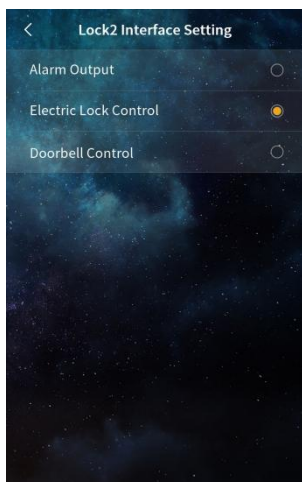
moving. If an object moves, Yes is displayed. If no object moves, None is displayed. Used to view the detection result of the device when adjusting the sensitivity.
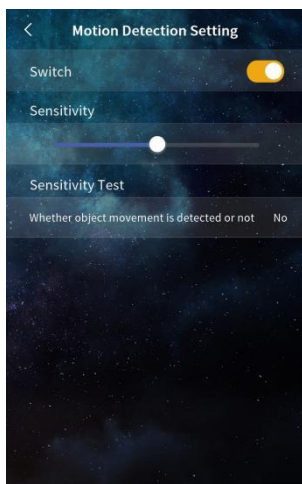


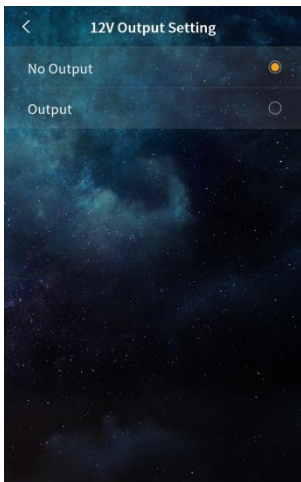Motion detection Setting

## 5.9.6. Lock 2 Interface Setting

Lock2 interface functions can be selected, including: alarm output, electronic lock control, doorbell control.



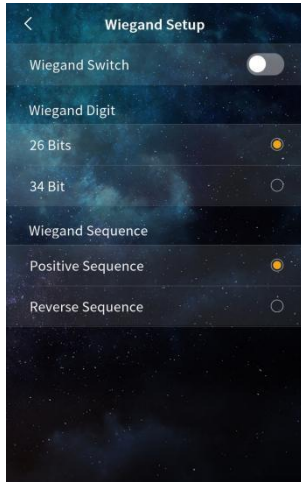Lock 2 Interface Setting

## 5.9.7. 12V Output Setting

You can choose whether to output 12V voltage. The Lock2 interface function takes effect only when 12V output voltage is selected.



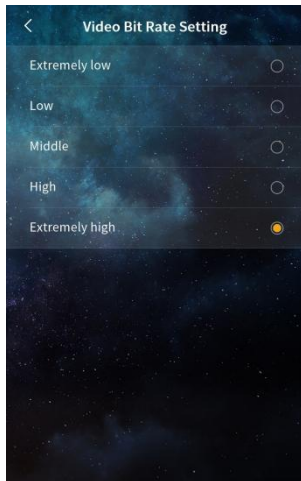12V Output Setting

## 5.9.8. Wiegand setup

Weigen Settings can be performed, including: switch, bit selection (26 bits, 34 bits), and sequence selection (positive order, reverse order).



Wiegand Setup

## 5.9.9. Video Bit Rate Setting

You can set the video bit rate during the call and monitoring.



Video Bit Rate Setup

## 5.9.10. Community ID Setting

In default server or custom server mode, you can manually enter the cell identification code or click the "Configure" button to scan the QR code of the cell and bind the device to the corresponding cell. After the device is bound to the community, the face management and access card management can be performed on the platform.
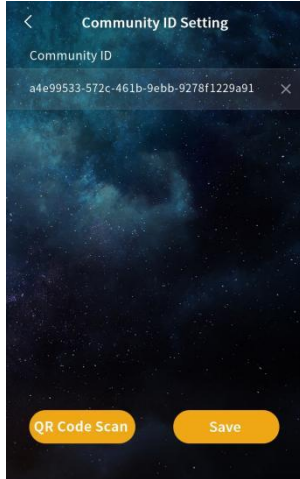


Community ID Setting

## 5.9.11. RTSP Setting

(1) Multicast: Enabled by default. After this option is enabled, only one indoor unit can monitor the local unit at a time. Note: After this option is disabled, factors such as bandwidth may affect the monitoring of multiple indoor units at the same time.

(2) Port: The default value is 8554. The value ranges from 1 to 65535. If the port of the door unit is inconsistent with that of the indoor unit, the indoor unit cannot monitor the door unit.
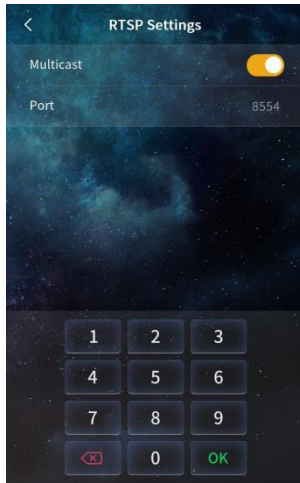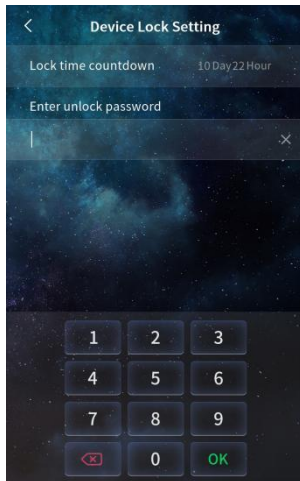
RTSP Setting

## 5.9.12. Device Lock Setting

Lock time and unlock password can be setting.

Note: If you forget the unlock password, the device cannot be unlocked and needs to be returned to the factory.
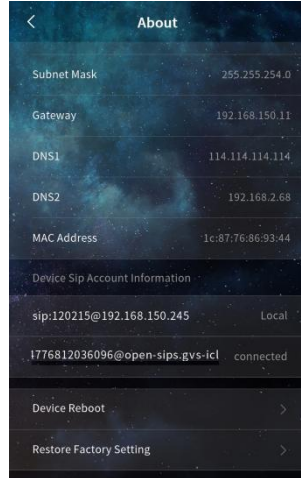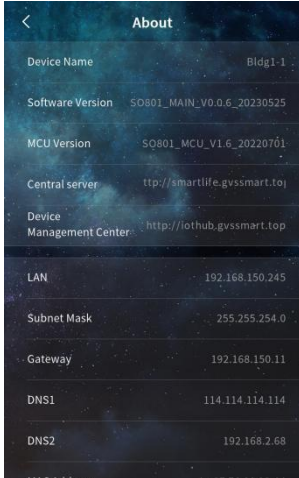


Device Lock Setting

# 5.10 About

## 5.10.1. Device Information

Displays device information, including device name, software version, MCU version, central server, device manager, LAN, subnet mask, gateway, DNS, MAC address, and SIP account information.



About

## 5.10.2. Restart

After clicking this item, the device will restart.

## 5.10.3. Restoring factory Setting

After you click this button, the device will be restored to factory Settings. You need to configure the device again.

Note：

① Factory Settings are restored within 60 seconds of power-on. Device Settings are restored to default values, and face and access card data are cleared.

② Factory Settings are restored after 60 seconds of power-on. The device Settings are restored to default values, but the face and access card data will not be cleared.