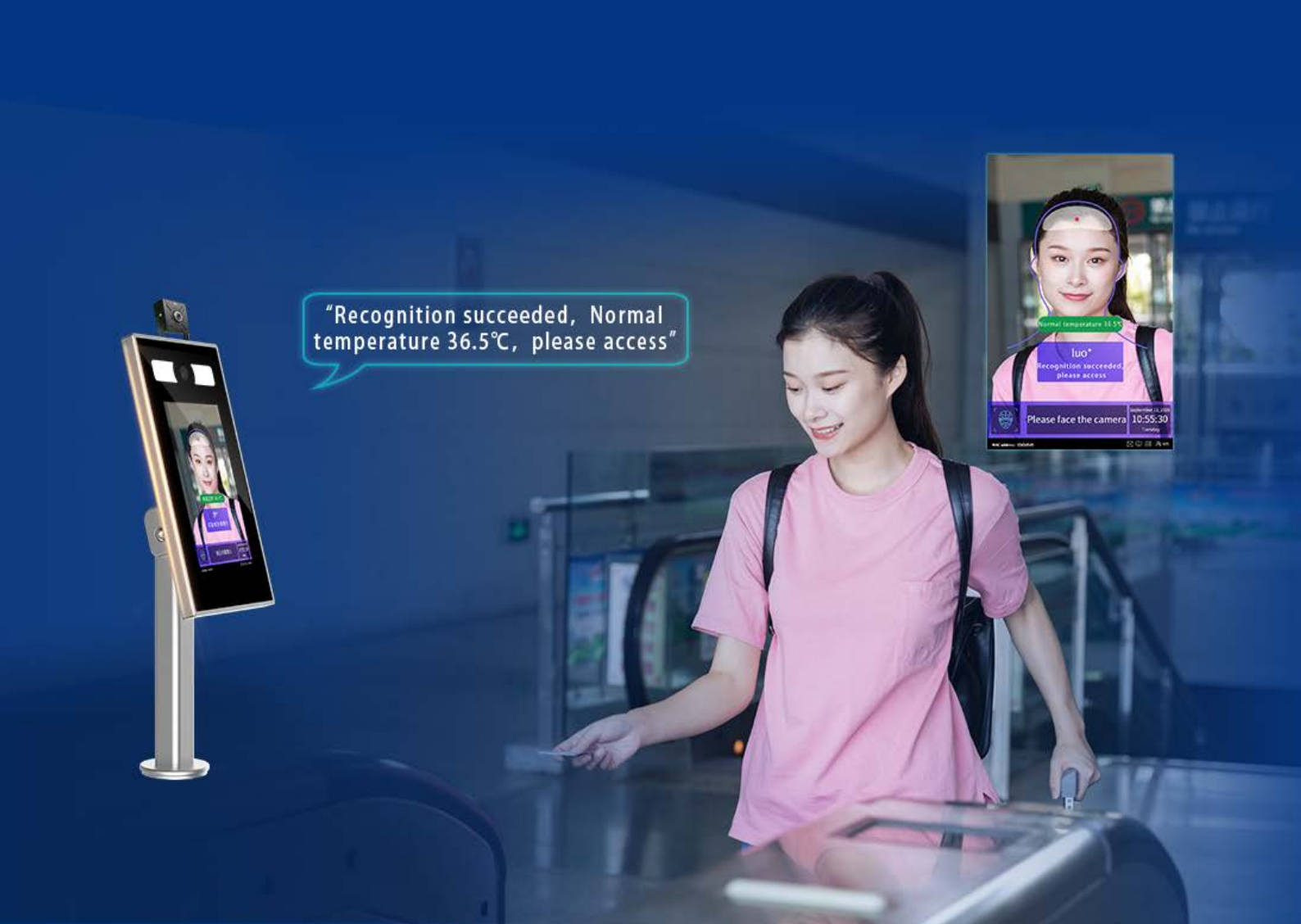




# Linux version of face recognition terminal — Operation Manual

## Introduction

Thank you for choosing our products. If you have any questions, please contact us anytime.

## Disclaimer

- We will try our best to ensure the completeness and accuracy of the manual, but there may be some deviations in the technical expression, as well as errors in the function and operation of the product. In case of any doubt or dispute, please refer to our final explanation.
- The contents in the manual are for reference only, please refer to the actual product.



## Precautions for Safe Use

- All national and regional electrical safety regulations must be strictly followed in the process of product installation.
- Please use the power adapter provided by the regular manufacturer. Refer to the product parameter table for the specific requirements of the power adapter.
- Please ensure the product is secured when installing on a gate.
- If the product does not work properly, please contact after-sales service personnel. Do not disassemble or modify the product in any way, otherwise it will affect the device warranty. (The company is not responsible for any problems caused by unauthorized modifications or repairs).
- Do not install the product in an environment where it may be exposed to water or other liquids. For outdoor installation, canopy must be used to cover the product.
- Please understand that you are responsible for properly configuring all passwords and security settings for other related products, and keeping your username and password properly.
- Avoid extreme high temperature (or low temperature), high humidity, vibration, radiation, chemical corrosion and other harsh or extreme environment in the process of installation and use.

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# Chapter I About the product

## 1.1 Product overview

The temperature-measuring face recognition terminal is a multi-functional product that collects and verifies facial information. It realizes the recognition of whitelist and early-warning of blacklist by collecting face information on the spot and verifying the identity with locally stored face information library; the face recognition technology can verify the consistency of the identities of the citizens holding ID and the holders. It also supports the recognition of mask wearers and temperature detection. Linux operating system and high-performance hardware processing platform are adopted for their high stability and reliability, which can meet the diverse business requirements.

You can directly modify the parameters such as device basic parameter setting, comparison parameter setting, fill-in light control parameters and network parameter settings in the system setting of the product or through the client software.

## 1.2 Functional characteristics

The chapter describes the face recognition terminal from the perspective of product functions, allowing you to understand the face recognition terminal more quickly.

- **Information collection**

The face recognition terminal supports automatic collection of face information and ID information.

- **Face - ID comparison**

The face recognition terminal supports face - ID comparison to verify the consistency of the face and the identity.

- **Whitelist comparison**

The face recognition terminal supports the whitelist comparison, enables the whitelist personnel of the pre-input system to verify their faces by swiping, and supports the recognition of mask wearers.

- **Early-warning of blacklist comparison**

The face recognition terminal supports the blacklist comparison, which allows front end swiping and back end early-warning of the blacklist personnel of pre-input system.

- **Stranger voice prompt**

The face recognition terminal supports stranger voice prompt, which will generate voice prompt when strangers are recognized.

- **Visitor comparison**

The face recognition terminal supports the visitor face swiping comparison, which enables the visitor verification of pre-input system by face swiping.

- **List synchronization**

The face recognition terminal supports and manages the real-time synchronization of the client list.

- **Access control**

The face recognition terminal supports real-time access control, which enable the face swiping access and ID swiping access.

- **Wiegand input / output**

The face recognition terminal supports Wiegand input / output, which connects with access control system.

- **Fill-in light control**

The face recognition terminal supports different fill-in light control settings, so that the fill-in light can be turned on according to time and controlled intelligently.

- **Early-warning of expired ID**

The face recognition terminal supports real-time early-warning of expired ID.

- **Advertisement management**

The face recognition terminal supports local advertisement display, and the displayed advertisement needs to be input into the system through local machine.

- **Temperature detection**

The face recognition terminal supports the recognition of mask wearers and temperature detection, which enables early-warning and no access for temperatures outside the normal range.

### **1.3 Technical parameters**

- Display screen: HD LED LCD
- Operating system: Embedded Linux system
- Processor: Dual-core ARM chip
- Camera: 2 million HD camera with WDR
- Working voltage: DC12V $\pm$ 10%
- Communication mode: TCP/IP

## Chapter II Product list

Upon receipt of the face recognition terminal product, please open the box and check the accessories for completeness. Each set of the product includes:

- (1) Face recognition terminal product X1
- (2) DC12V power adapter X1
- (3) Mounting bracket X1 (there are different forms of bracket, the details are subject to order)
- (4) ID reader X1 (Optional, subject to order)
- (5) Terminal wire X2

## Chapter III Use of product

### 3.1 Basic use

The face recognition terminal can be used normally after connecting to power supply and network. The specific method is as follows:

- **Face - ID comparison**

After accessing the ID reader, the ID icon will be displayed at the right bottom of the main face recognition interface. The ID can be directly placed in the card reading area, and the face - ID comparison threshold can be modified in use.

- **Whitelist comparison**

To use whitelist comparison operating mode, personnel information of whitelist shall be input into the face recognition terminal in advance.

The specific operations are as follows:

Method 1: Import the collected whitelist information into the face recognition terminal by USB;

Method 2: Input the whitelist through the client software. Please refer to the operation manual of the face recognition management system (client) for details.

### 3.2 System parameter setting

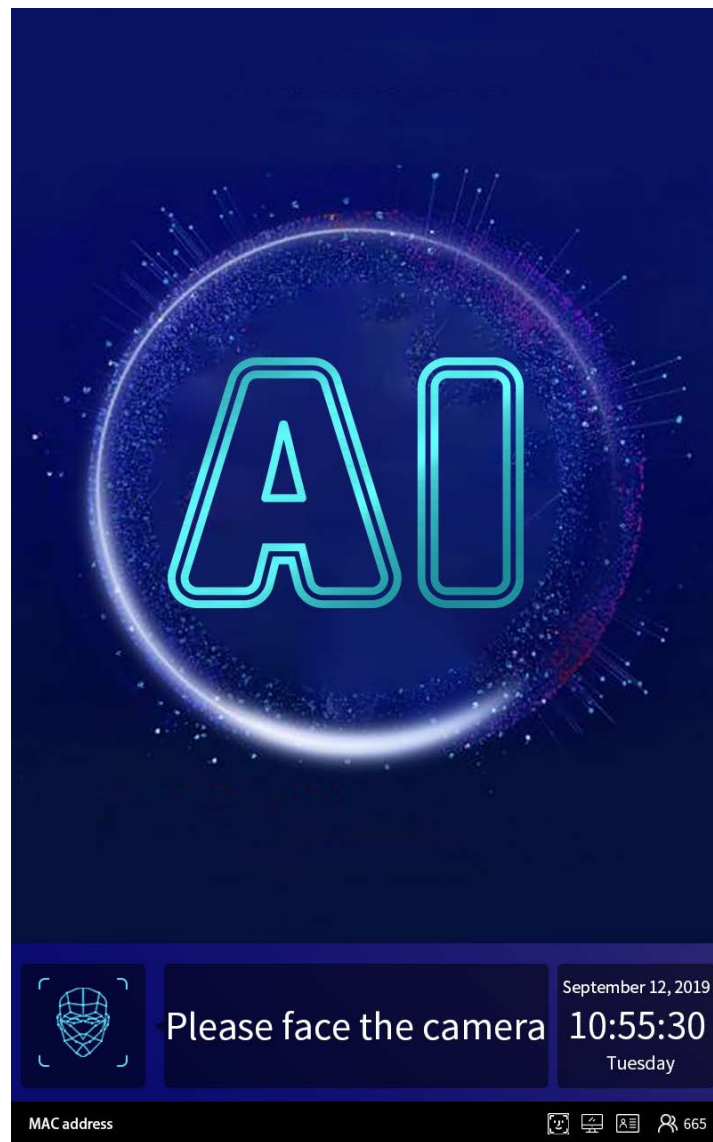
The product can modify the system parameter configuration in two ways.

Method 1: Connect the mouse and click on the face dynamic icon at the left bottom of the main interface of the system, then the password input box pops up, and enter the system parameter setting page after typing in the password ([System default password: 888888](#))

Method 2: Connect the product to the client and modify the product configuration parameters on the client. Please refer to the operation manual of the face recognition management system (client) for details.

## Chapter IV Main interface description

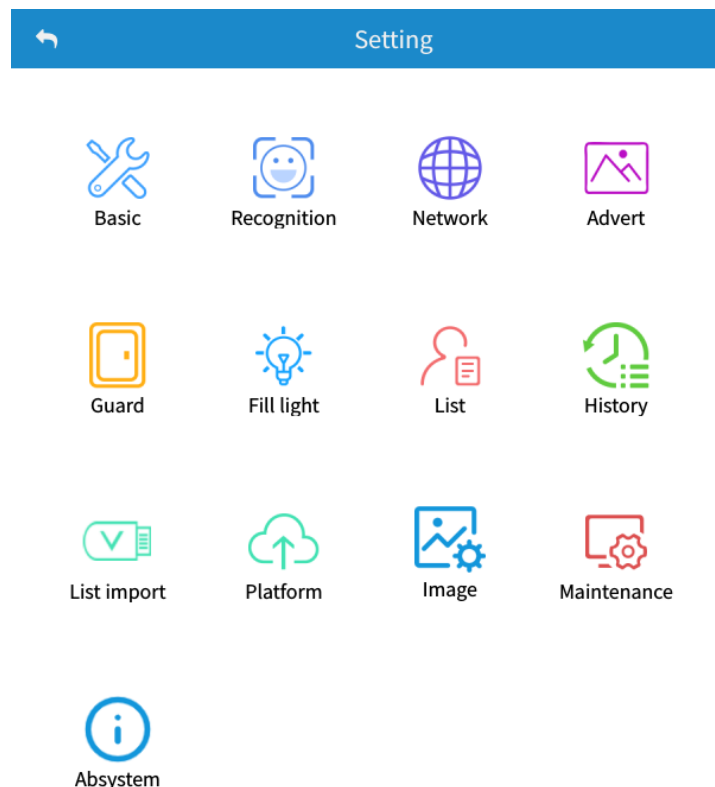
On the user's main interface of the face recognition terminal, you can view the real-time video, the connection status of ID reader, the connection status of the client, the synchronization status of the list library, the enabled status of the active object, and the dynamic face icons, etc. As shown below:



- **Real-time video:** Display the real-time video captured by the camera
- **Status display:** When the ID reader is connected, the client is connected, the data is synchronized and the active objects are enabled, status icons will be displayed at the right bottom of the main page
- **Dynamic face icon:** Click the mouse to enter the setting page to set all functions.

## Chapter V Parameter setting

All parameter configurations can be set on the setting interface of face recognition terminal:



**[Basic setting]:** Parameters such as device name, installation location, entry / exit type, blacklist record, panoramic photo upload, display IR camera, access control password, system volume and language can be configured.

**[Recognition setting]:** Parameters such as face recognition, ID recognition, list threshold, face - ID comparison threshold, enable active object, active object threshold, individual recognition interval, recognition distance, stranger recognition, safety helmet inspection and enabling recognition access can be configured.

**[Advertisement setting]:** Parameters such as [Advertisement slogan], [Enable advertisement], [Advertisement switching time], [Select picture], [Cancel default] and [Save] can be configured on the interface.

**[Access control setting]:** Parameters such as access delay, door sensor delay, door sensor type, relay output status, tamper alarm and Wiegand type can be configured.

**[Fill-in light setting]:** Parameters such as infrared lamp brightness, white lamp brightness and control mode can be configured.

**[Name list]:** Operations such as query, addition and deletion can be carried out.

**[History record]:** Operations such as query and deletion can be carried out.

**[Network setting]:** Network mode (dynamic address, static address) can be set

**[Image setting]:** Parameters such as brightness, contrast, tone and saturation can be set

**[System maintenance]:** Configure settings such as system time, data backup and recovery, log backup, device restart, restore default parameters and software update

**[About the system]:** The interface provides the current configuration information of the system.

## 5.1 Basic setting

Click [Basic setting] to enter the interface.

Basic setting

Device Name  Within 14

Installation location  Within 14

---

In-out-type ☐ Out ☒ In

Blacklist Record ☒ Upload ☐ Not upload

Panoramic photo upload ☒ Upload ☐ Not upload

---

Password

---

Ststem volume

---

Language  ☒ English

**[Device name]:** Refer to the name of the device, within 14 characters in length.

Comment: The device name shall not be modified frequently. All historical data saved in the subsequent use of the device is identified with the device name. The device name must be modified before use because it cannot be modified during use.

**[Installation location]:** Description of the corresponding device installation location, within in 14 characters in length.

Comment: The installation location shall not be modified frequently. All historical data saved in the subsequent use of the device is identified with the installation location. The installation location must be modified before use because it cannot be modified during use.

**[Entry / exit type]:** Configure the entry / exit type of the product, all historical data saved after the modification will be identified with entry / exit type for the convenience of query and management of the record.

- Exit: Indicate that the device is installed inside the door for exit control.
- Entry: Indicate that the device is installed outside the door for entry control.

**[Blacklist record]:** Configure data upload or non-upload for blacklist record of the product

- Upload: Enabled by default. The face recognition terminal will upload the record data of the blacklist comparison to the client in real-time.
- No upload: The record data of the blacklist comparison will not be uploaded.

**[Panoramic photo upload]:** The face recognition terminal will upload panoramic photos of all comparison record data to the client in real-time.

- Upload: Enabled by default. The face recognition terminal will upload panoramic photos of all comparison record data to the client in real-time.
- No upload: The panoramic photos of all comparison record data will not be uploaded.

**[Display IR camera]:** Check the "Choose to display infrared camera" option to turn on the function; otherwise uncheck the option to turn off the function.

**[Access control password]:** Password that login [Setting] interface from the user's main interface. Type in new password in the dialog box and enable the new password after saving. Password characters can be viewed in plain text.

**[System volume]:** Drag the slider to adjust the voice volume.

**[Language]:** The device supports "Chinese" and "English", check the corresponding language and the device will restart after saving.

## 5.2 Recognition setting

Click [Recognition setting] to enter the interface.

**Contrastive setting**

Face recognition ☐ Disable ☒ Enable

ID card recognition ☐ Disable ☒ ID card recognition  
☐ ID card library recognition

IC card recognition ☒ Disable ☐ Access after swiping IC card  
☐ IC card recognition

---

List threshold  Suggest 80

ID card comparison threshold  Suggest 60

Enable liveness ☒

Liveness threshold  Default threshold 5

Single recognition interval  Second

Recognition distance

---

Stranger recognition ☐ Close ☒ Voice prompt  
☐ Voice prompt +Face snapshot

Hard hat ☒ Enable Threshold

Enable opening the door with recognition ☒ [More settings](#)

After closing, the system will not open the door after the recognition succeeded with any one of the recognition methods.

**[Face recognition]:** "Disable" and "Enable" can be selected. Face recognition is enabled by default.

**[ID recognition]:** "Disabled", "Face - ID recognition" and "Face - ID library recognition" can be selected. ID recognition is disabled by default.

**[List threshold]:** The default threshold is 80 and the setting range is 70-99.

**[Face - ID comparison threshold]:** The default threshold is 60 and the setting range is 30-100.

**[Enable active object]:** Checked by default to enable the active object function.

**[Active object threshold]:** The default threshold is 5 and the setting range is 0-10.

**[Individual recognition interval]:** 1 second by default and the setting range is 0-255.

**[Recognition distance]:** Unlimited by default, support "0.5 m", "1 m" and "2 m" recognition distance selection.

**[Stranger recognition]:** Disabled by default, support "Turn off", "Voice prompt" and "Voice prompt and face capturing" section.

**[Safety helmet inspection]:** Safety helmet inspection is turned off by default. The default threshold is 45 and the setting range is 0-99.

**[Enable access recognition]:** Enabled is checked by default.

Comment: After turning off the option, the system will not open the door after any recognition method is successfully recognized.

### 5.3 Temperature measurement setting

On [Recognition setting] interface, click the [More settings] at the right bottom to enter the [Recognition of advanced setting] interface, that is the temperature measurement setting interface.

Identify advanced settings

Temperature detection settings

Enable temperature detection

Temperature range:

32.00°C

--

42.00°C

Normal TEMP upper limit:

37.30°C

Temperature calibration:

0.0°C

(Range: ±3.0°C)

Temperature warning no passage

Voice broadcast temperature

Stranger's temperature test

Display thermogram

Real time display to obtain temperature

Thermometry mode (Only check the temperature)

Mask detection settings

Enable mask detection

No mask warning

No access without mask

**[Enable temperature detection]:** After turning on the switch, the temperature is detected during the face recognition. Temperature measurement distance is 0.4 m.

**[Temperature detection range]:** The system provides default values that can be changed. The system will return to temperature measurement results normally if it is within the temperature measurement range; the system may not carry out temperature detection if it is outside the temperature measurement range.

**[Normal temperature upper limit]:** The system provides default values that can be changed. In the normal range, successful face recognition can access normally; when the temperature exceeds the upper limit, please contact the staff for confirmation.

**[Early-warning of temperature upper limit]:** After turning on the switch, there will be a beep alert when the temperature exceeds the upper limit.

**[No access for temperature early-warning]:** After turning on the switch, access is prohibited when the temperature exceeds the upper limit.

**[Voice broadcast of temperature]:** Voice broadcast of temperature is supported after turning on the switch; temperature measurement results are only displayed on the screen after turning off the switch.

**[Stranger temperature detection]:** After turning on the switch, non-whitelisted people not can detect the temperature but the gate will not be opened; the stranger temperature detection is not supported after turning off the switch.

**[Temperature measurement mode]:** Enter the operating mode of temperature measurement only after turning on the switch, and the faces on the whitelist will not be compared. As long as the user's temperature is within the normal range, the gate will be opened.

**[Enable mask detection]:** The users will be detected for mask wearing after turning on the switch.

**[No mask early-warning]:** After turning on the switch, there will be a beep alert if users are not wearing masks.

**[No access for non-mask wearers]:** After turning on the switch, even if the face recognition is successful and the body temperature is within the normal range, users without masks are still not allowed to access.

## 5.4 Advertisement setting

Click [Advertisement setting] to enter the interface.

Advert setting

Slogan  Within 14

Ad enablement

Ad interval  Second

Tips: 15 ad images can be uploaded. Default image scale: 16:9

**[Advertisement slogan]:** Type in texts within 14 characters in length. Display on the user's main interface after saving.

**[Enable advertisement]:** Turned off by default. Click to turn on or turn off. The system will display advertisement picture after turning on.

**[Advertisement switching time]:** 5 seconds by default. The time setting range is 5 - 255 seconds; The advertisement switching time switches according to the setting time when the advertisement picture is multi-picture.

**[Select picture]:** Support USB import.

Step 1: Create a new folder named "advert" on the USB and copy the advertisement pictures to this folder;

Step 2: After connecting the device, click [Select picture] button to enter the picture selection interface and select the pictures to be uploaded on the interface.

Comment: The maximum number of uploads is 15; the photo ratio is 16:9, and the resolution is 800X1280.

**[Cancel default]:** Click the button to delete the imported advertisement pictures and return the advertisement style to factory default status.

**[Save]:** Click the button to complete the picture setting.

Comment: Click the save button on the upper right corner to save the modifications.

## 5.5 Access control setting

Click [Access control setting] to enter the interface.

**[Access delay]:** Access delay is 1 second by default. The access control time is determined by this time and the access control electric lock time, and the door is in open status in setting time.

Note: The default opening time of the access control electric lock is usually 3 seconds.

**[Door sensor delay]:** The default is 5 seconds, custom setting is allowed.

**[Door sensor type]:** Turned off by default, support normally open and

normally closed types.

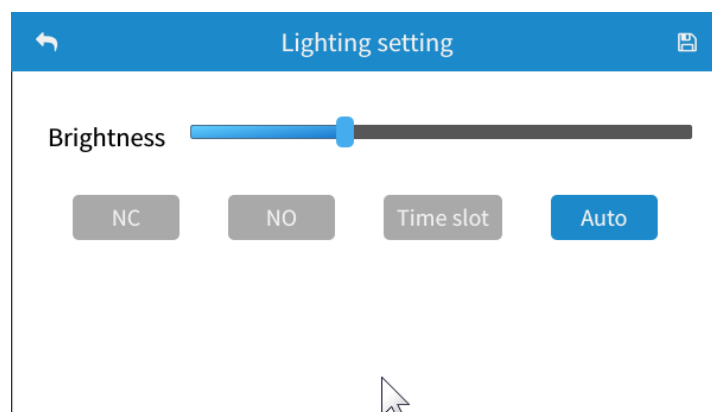
**[Relay output status]:** Normally open by default, normally closed mode can be selected.

**[Tamper alarm]:** Turned off by default, you can check to turn on.

**[Wiegand type]:** Support Wiegand 26, Wiegand 34, Wiegand 66 formats.

## 5.6 Fill-in light setting

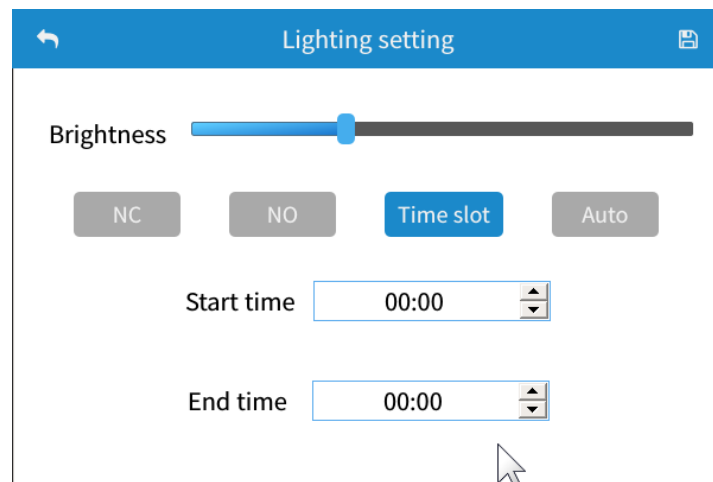
Click [Fill-in light setting] to enter the interface.



**[Infrared lamp brightness]:** Drag the progress bar to configure the brightness value.

**[White lamp brightness]:** The control mode supports four modes: Normally closed, normally open, designated time period, intelligent fill-in light.

- Normally closed: The fill-in light is in normally closed status after clicking the button.
- Normally open: The fill-in light is in normally open status after clicking the button.
- Designated time period: After clicking the button, set the time period for which the fill-in light is automatically enabled. The fill-in light is enabled during designated time period and the fill-in light is disabled outside the designated time period.

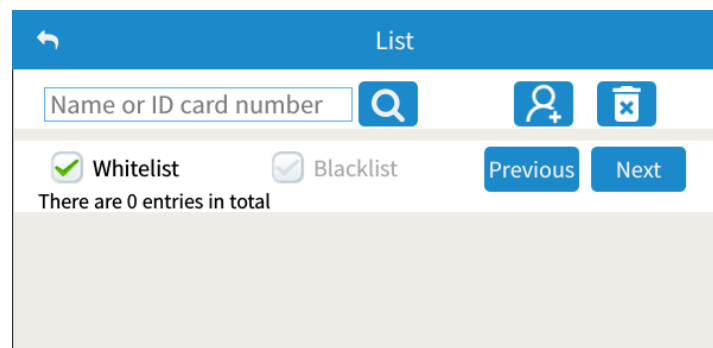


- **Intelligent fill-in light:** After clicking the button, the fill-in light will be turned on and off intelligently according to the environment.

Setting can be carried out according to the actual environment. After setting, click [Save] on the upper right corner to save the modified contents.

## 5.6 Name list

Click [Name list] to enter the interface.



**[Query]:** Support the list query by entering ID number or name.

**[Add]:** Click the button to enter the [Add whitelist] dialogue interface, as shown in the following figure:

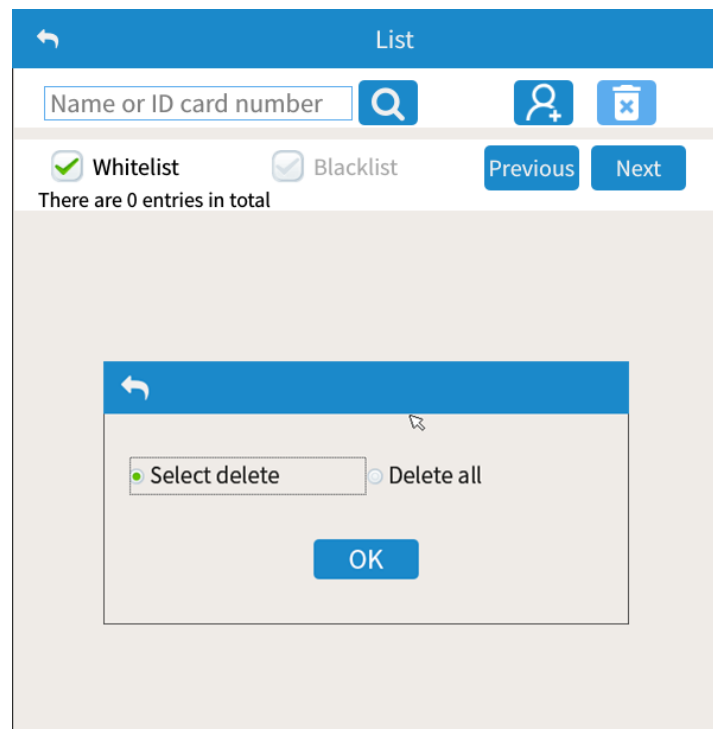
Click the [Avatar] interface and complete the face photo input according to the prompts.

**[Whitelist]:** Check the option and click the [Query] button to query all whitelist information.

**[Blacklist]:** Check the option and click the [Query] button to query all blacklist information.

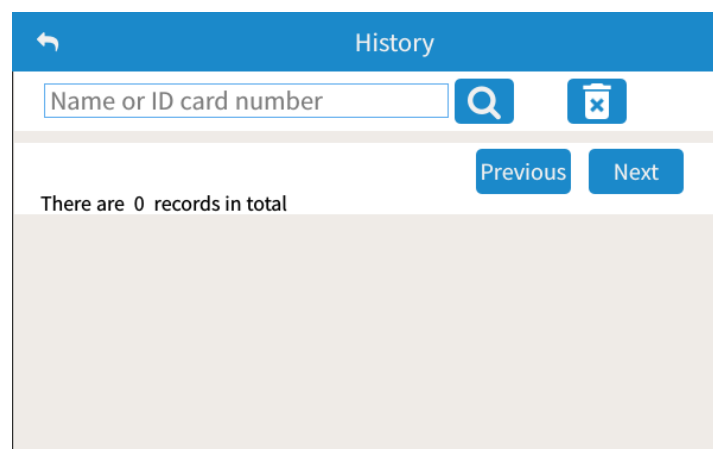
Click [Previous page] and [Next page] buttons to query the list data by turning the page.

**[Recycle bin]:** Click the icon to delete the selected data or all data according to the prompts.



## 5.8 Historical record

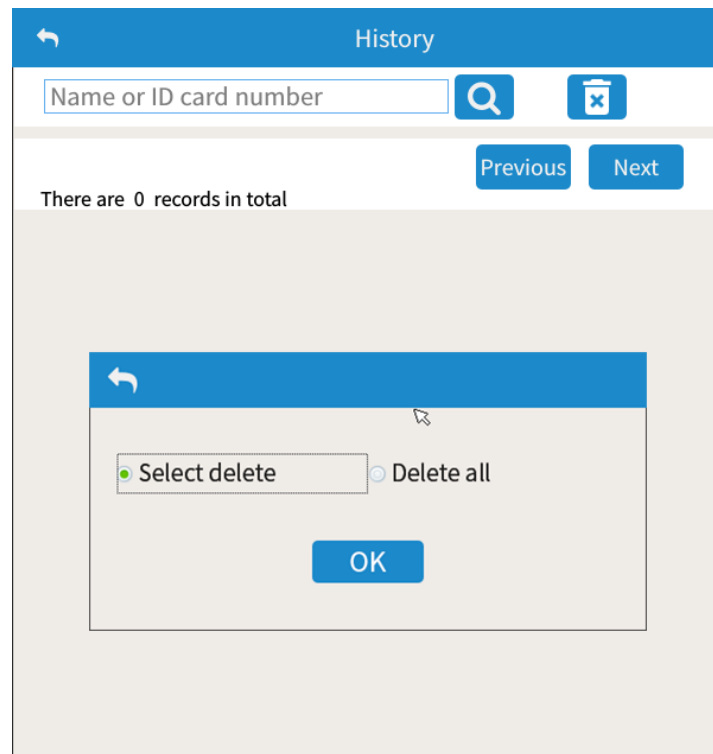
Click [Historical record] to enter the interface.



**[Query]:** Support the list query by entering ID number or name.

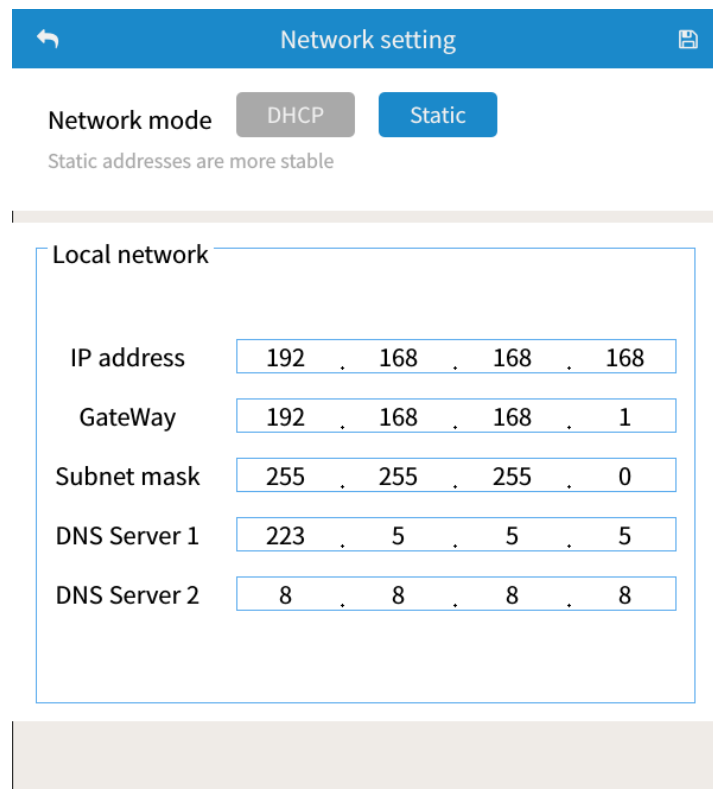
Click [Previous page] and [Next page] buttons to query the historical record by turning the page.

**[Recycle bin]:** Click the icon to delete the selected data or all data according to the prompts.



## 5.9 Network setting

Click [Network setting] to enter the interface.



**[Static address]:** Enabled by default, and IP address, gateway, subnet mask, DNS server 1 and 2 parameters can be set.

Network setting

Network mode

DHCP

Static

Static addresses are more stable

Local network

IP address

192 . 168 . 168 . 168

GateWay

192 . 168 . 168 . 1

Subnet mask

255 . 255 . 255 . 0

DNS Server 1

223 . 5 . 5 . 5

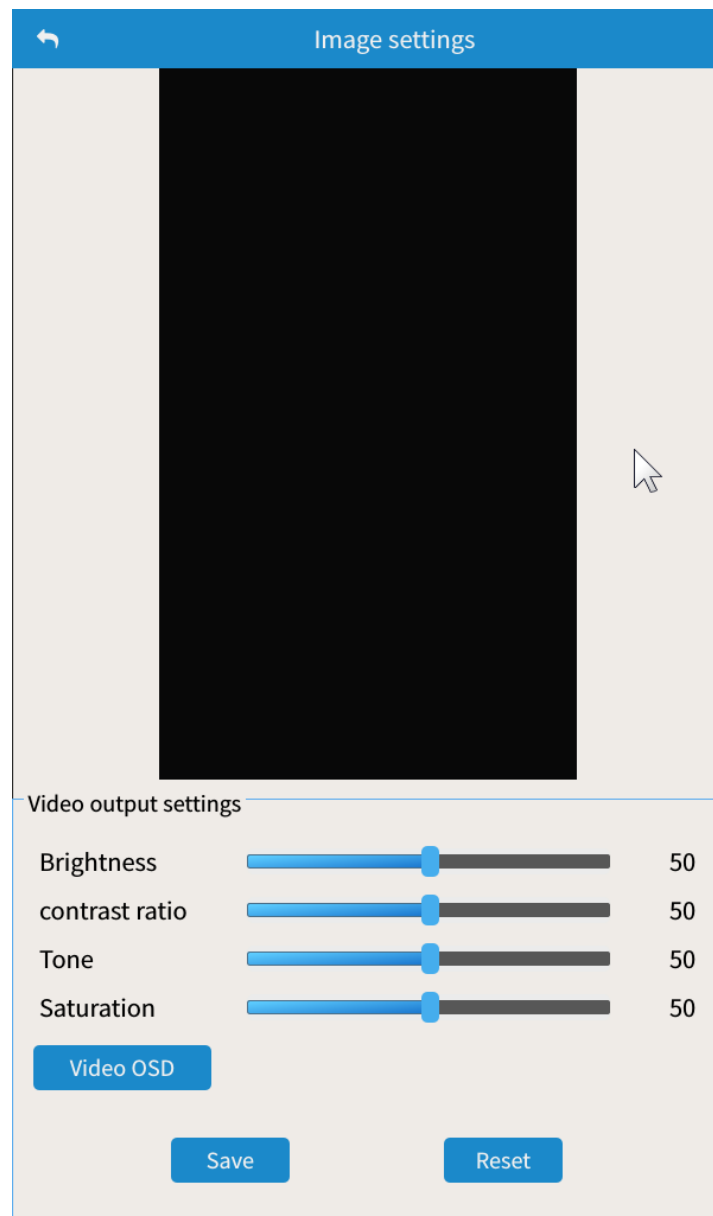
DNS Server 2

8 . 8 . 8 . 8

**[Dynamic address]:** Support DNS server to automatically assign addresses.

## 5.10 Image setting

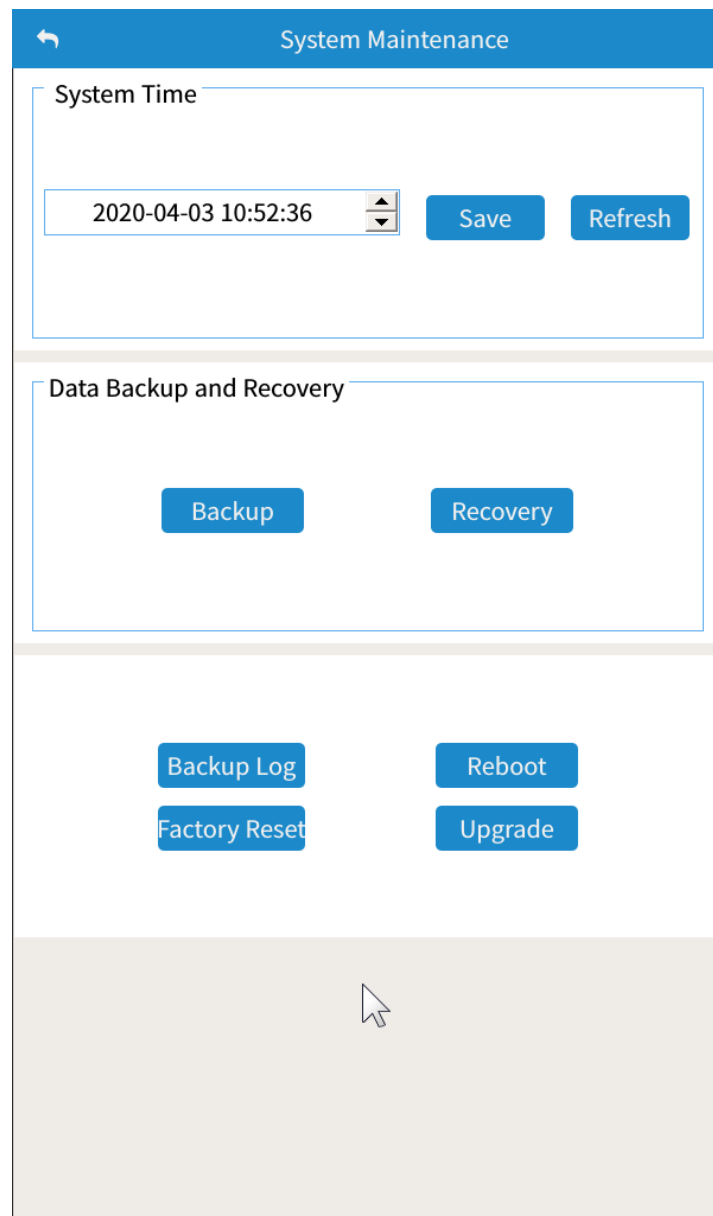
Click [Image setting] to enter the interface.



**[Video output setting]:** Support manual settings of brightness, contrast, tone and saturation.

## 5.11 System maintenance

Click [System maintenance] to enter the interface.



**[System time]:** The device time can be set. click [Setting] button to confirm after adjusting the time, and click [Refresh] button to update the time.

**[Data backup and recovery]:** Click [Data backup] and [Data recovery] buttons to carry out data backup and data recovery.

**[Log copy]:** Support to copy log information by USB.

**[Device restart]:** Click the button to restart the device manually.

**[Restore default parameters]:** Click the button to restore all parameter configurations to default according to the prompts.

**[Software upgrade]:** Click the button and upgrade the system software according to the prompts.

Comment: Options such as data operations require inserting a USB.

## 5.12 About the system

Click [About the system] to enter the interface.

| Absystem         |                                      |
|------------------|--------------------------------------|
| Device name      | modify                               |
| Number of lists  | 0                                    |
| In-out type      | In                                   |
| Ip address       | 192.168.168.168                      |
| Mac address      | 00:1E:A3:F3:37:40                    |
| Available space  | 6.24 GB                              |
| Software type    | F307203M12S2802-TR307L0510           |
| Software version | 2.0.2.200324002R-30.2000.32.1        |
| Image version    | C42_IMX327_YC_monocular_WDR_12161518 |
| Device ID        | 2003191212164                        |
| TEMP version     | 20031204                             |
| Run information  | TIME:0-0:20:30,CPU:48                |

The interface provides the current system status information.

## FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm distance between the radiator your body: Use only the supplied antenna.