

DW-FC2 series dynamic face recognition  
instrumentuser's manual

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# preface

The purpose of this section is to ensure that users can correctly use the product through this manual to avoid operational hazards or property damage. Before using this product, please read the manual carefully and keep it properly for future reference.

## Applicable model

This manual is applicable to face recognition terminals, including the following models.

product name	product model
Facial recognition device	DW-FC2 series

## Safety precautions

In the process of installation and use, it is necessary to strictly comply with the national and regional electrical safety regulations.

Do not connect multiple devices to the same power adapter.

Please disconnect the power supply when connecting, disassembling and other operations. Do not operate with electricity.

To avoid heat accumulation, keep the equipment well ventilated.

If the equipment emits smoke, odor or noise, please turn off the power immediately and unplug the power cord, and contact the dealer or service center in time.

If the equipment does not work properly, please contact the service center and do not disassemble or modify the equipment in any way. (The company shall not be liable for any problems caused by unauthorized modification or repair.)

### remarks:

Do not let objects fall on the equipment or vigorously vibrate the equipment, and keep the equipment away from locations where magnetic interference exists. Avoid installing the equipment on surfaces that vibrate or are prone to impact. (Neglecting this may damage the equipment.)

Please do not use the equipment in high temperature, low temperature or high humidity environment. Refer to the parameter table of the equipment for specific temperature and humidity requirements.

Please do not aim the lens of the device at strong light objects, such as the sun, incandescent lamp, etc., otherwise it will cause damage to the lens.

Equipment used indoors should not be exposed to installation in places where it may get wet or very damp.

Avoid placing equipment in direct sunlight, poorly ventilated locations, or near heat sources such as heaters or radiators. (Failure to do so may result in fire hazards.)

Please use a soft dry cloth or other alternatives to wipe the surface, do not wash with alkaline detergent, avoid hard objects scratching the equipment.

The device may face network security problems when accessing the Internet. Please strengthen the protection of personal information and data security. If you find that the device may have network security risks, please contact us in time.

Please understand that you are responsible for properly configuring all passwords and other related product security Settings, and properly safeguard your user name and password.

Please keep all the original packaging materials of the equipment properly, so that when there is a problem, the packaging materials can be used to package the equipment and send it to the agent or return to the manufacturer for processing. The company does not assume any responsibility for the accidental damage caused by non-original packaging materials during transportation.

Biometric products cannot be 100% applicable to any anti-counterfeiting environment. For high security sites, please use a combination of authentication methods.

## **Qualifications for installation and maintenance personnel:**

- Basic knowledge and installation skills of access control system and its components.
- Have basic network security knowledge and skills, and be able to read the contents of this manual.
- Basic knowledge and operation skills of low-voltage wiring and low-voltage electronic circuit wiring.

# Chapter 1 Product Overview

## 1.1 Product Introduction

The DW-FC2 series facial recognition device is an access control management tool integrated with the latest AI algorithms. It can be used in various scenarios, primarily for managing pedestrian flow and regulating entry and exit. This device can effectively identify individuals; visitors can use their ID cards to pass through the visitor card system for identity verification and self-service entry. Alternatively, it can collect facial information on-site and compare it with the local pre-stored database for identity verification. Verification, so as to realize self-service passage.

## 1.2 Product functions

The 2 million dual-camera system supports wide dynamic range.

Supports white light fill lights.

The maximum facial recognition distance is up to 2 m.

Support photo and video anti-fake function.

The face comparison time is less than 0.5s/person, and the face verification accuracy is more than 99%.

The card and face data are imported into the device through TCP/IP transmission.

The machine runs in offline mode.

Upload data over the network.

The face data is downloaded through the platform or imported locally by the device.

Local login to the background management, query and set device parameters.

## 1.3 Appearance introduction

The appearance of the equipment is as follows:

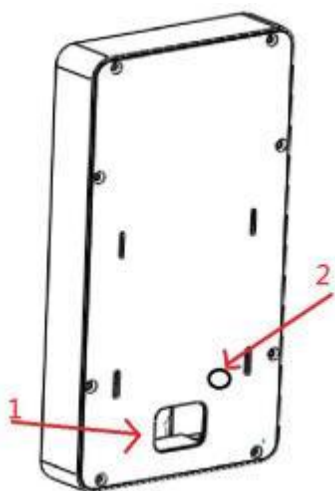


Figure 1-1: Front and back interface of the 5-inch face recognition wall panel

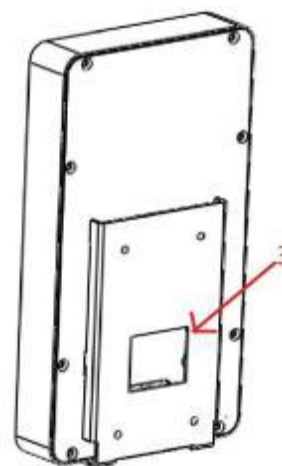


Figure 1-2: The front and back interfaces of the wall-mounted back panel of the 5-inch face recognition instrument

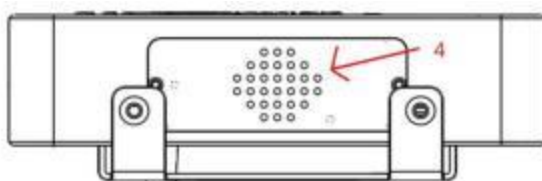


Figure 1-3: The bottom interface of the wall panel of the 5-inch face recognition instrument

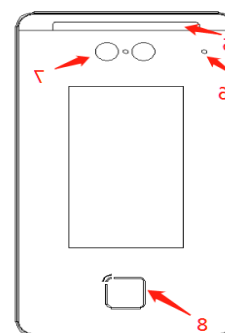


Figure 1-4: The right side interface of the 5-inch face recognition wall panel

Table 1-1 Appearance description table

component	name	explain	
1	Back cover outlet hole	There is a square hole for network cable and USB	
2	Anti-disassembly hole	Line power and Wiegand line ,There is a round hole, photoelectric anti-dismantling induction hole	
3	The panel	A piece of iron plate is hung on the wall and fixed	
4	trumpet	The sound is transmitted through a small speaker to inform the message.	
5	lamp panel	Light up the equipment.	

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6	light sensation	Through induction, it is identified whether it needs to be supplemented	
7	camera	Get the face from the camera and do the face	
8	Card reading area	Swipe the card and upload it to Vega for identification.	

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## Chapter 2 Installation instructions

### 2.1 Installation environment

Please install the equipment indoors, at least 2 meters away from the light source. At least 3 meters away from the window and door, avoid direct sunlight. Please keep the ambient light intensity greater than 100Lux.

For specific installation precautions, see Appendix B Installation Environment Precautions.

This equipment is only suitable for installation on concrete or non-flammable surfaces.

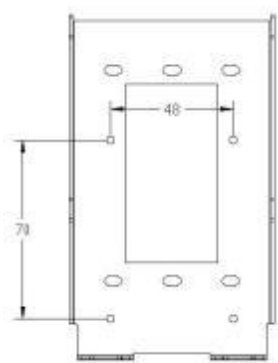
### 2.2 Installation

#### 2.2.1 Wall mounting method

If you need to install the device on the wall, you can use the wall mounting method.

Step 1:

At a distance of about 1.2-1.4 m from the ground, mark the hole with a symbol according to the size shown in Figure 2-1;

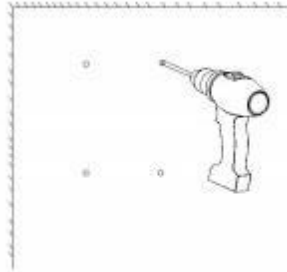


graph 2-1



Step 2:

- 1) Use an impact drill to drill four holes in the marks made in the previous step, as shown in Figure 2-2.
- 2) If the wall is used, hammer four M6 plastic plugs into the wall.
- 3) If it is a door, drill four holes and lock 4MM self-tapping screws.



graph 2-2

Step 3: Tighten the mounting plate to the wall with a screwdriver and 3MM self-tapping screws as shown in Figure 2-3 and 2-4.



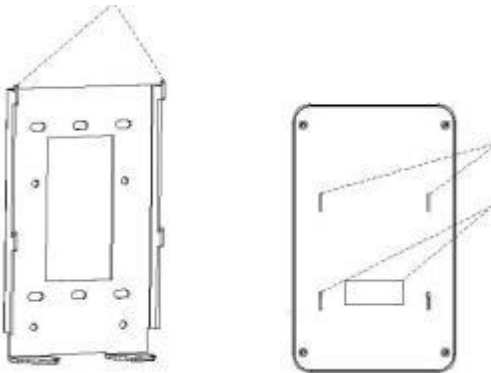
graph 2-3



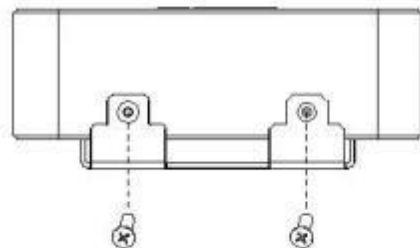
graph 2-4

Step 4:

- 1) After the network cable and power cord are connected, align the face recognition device to the metal wall panel so that the wall panel slot is fully inserted into the device slot, as shown in Figure 2-5.
- 2) Use two screws to tighten and lock the equipment and wall panel at the bottom of the equipment, as shown in Figure 2-6.

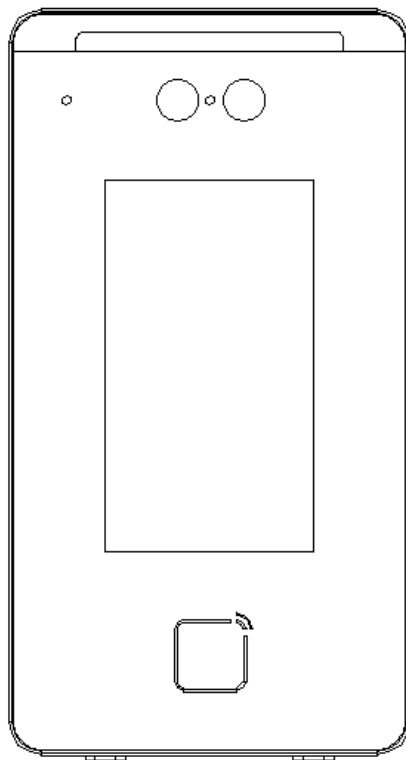


graph 2-5



graph 2-6

Step 5:  
After the installation is complete, as shown in Figure 2-7.



**pay attention to:**

The power line and signal line should be run in separate pipes, and the distance between the two pipes should be more than 30cm when they are arranged in parallel over a long distance;

The AC 220V power supply is supplied by the management center to each access point. In some cases, the AC 220V power supply can also be connected nearby, but it should comply with relevant specifications;

This product is installed and tested by professional engineering construction team to ensure your normal use;

After correct installation according to the instructions, it is necessary to ensure that the wiring of the whole system is correct before connecting the power supply;

If any abnormal phenomenon is found after power supply, you should immediately cut off the power supply to avoid unnecessary losses. Please disconnect the power supply again after troubleshooting;

In case of equipment failure, do not disassemble and repair by yourself. Please contact the after-sales service department;

If POE power supply is adopted, it is necessary to ensure that the network cable is super Category 5 or above, and the network cable should not be knotted or excessively bent, and the crystal head should not be excessively oxidized;

The actual installation height and Angle of the equipment should be determined by whether the captured image completely displays the portrait.

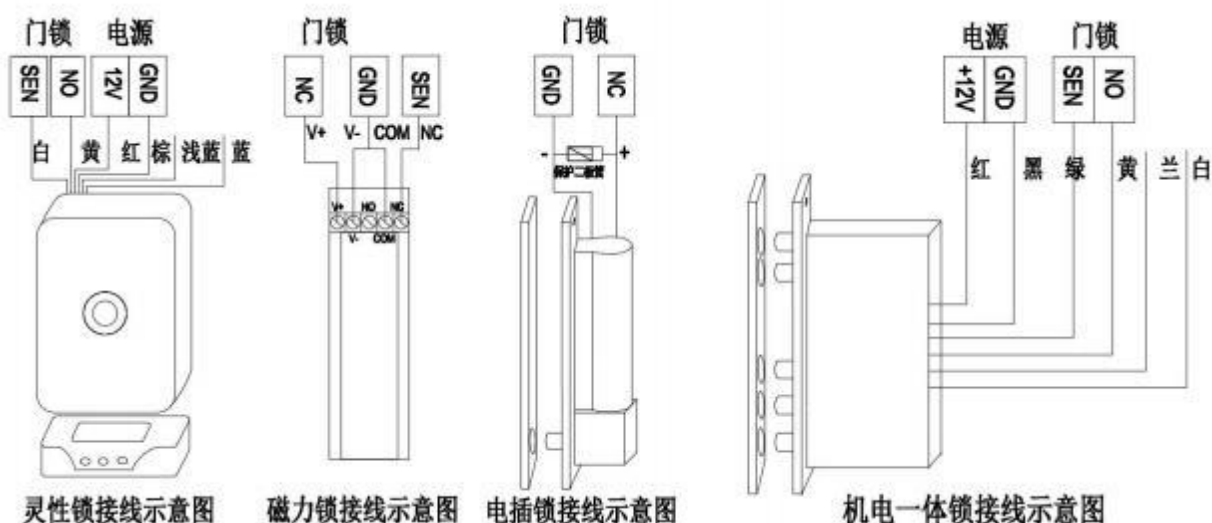
## 2.2.2 Gate installation method

If the equipment needs to be installed on the gate, it can be installed directly.

Step 1: Pass the cable through the wire outlet hole reserved in the gate cover.

Step 2: Make sure that the holes on the base are aligned with the holes reserved in advance on the top cover of the gate machine, and fix the whole equipment to the top cover of the gate machine with two screws.

## 2.3 Wiring



### 2.3.1 Power wiring

The power supply voltage requirement of the face terminal device is 12V, and the actual power supply voltage range can be between 12V and 13.5V. If the power supply voltage reaches more than 14V, it may cause abnormal operation of the face terminal device, such as the light board always on. If the power supply voltage is lower than 12V, it may cause the device to fail to carry and restart continuously.

### 2.3.2 Wagon wiring

If the face terminal device is within 20 meters of the controller, we can directly power the face terminal device through our controller. The Wiegand line corresponds to white and green,

If the direct distance between the facial terminal device and the controller is greater than 20 meters but less than 100 meters, it cannot continue to receive power from our controller; separate power supply is required. For separate power supply, we generally choose a power source closer to the facial device. The power supply connects to the controller via a Wiegand line, as the controller needs to connect to the ground wire, so an

additional ground wire must be added and connected together with the Wiegand line to the controller.

### 2.3.3, Relay wiring

If the device needs to be installed on the turnstile, the relay line and power line can be directly connected. The turnstile and face recognition equipment are usually close to each other, so users can immediately pass through the turnstile after face recognition. The relay line corresponds to yellow and pink.

If the equipment needs to be installed on the wall, relay mode is generally not used, and the relay line can be disconnected.

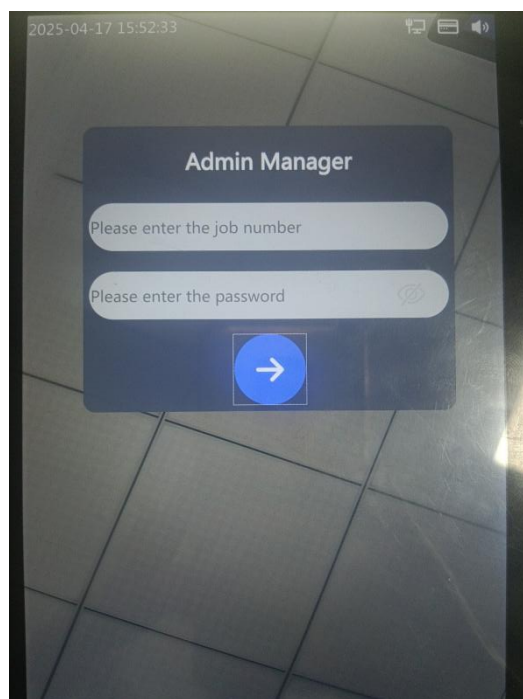
### 2.3.4 Network cable

The network cable connection mode of the face terminal device is to directly connect the network cable to the network cable interface prepared at the back of the face terminal device, and then enter the one-card software IP tool to scan and modify the static IP, so as to complete the device network connection.

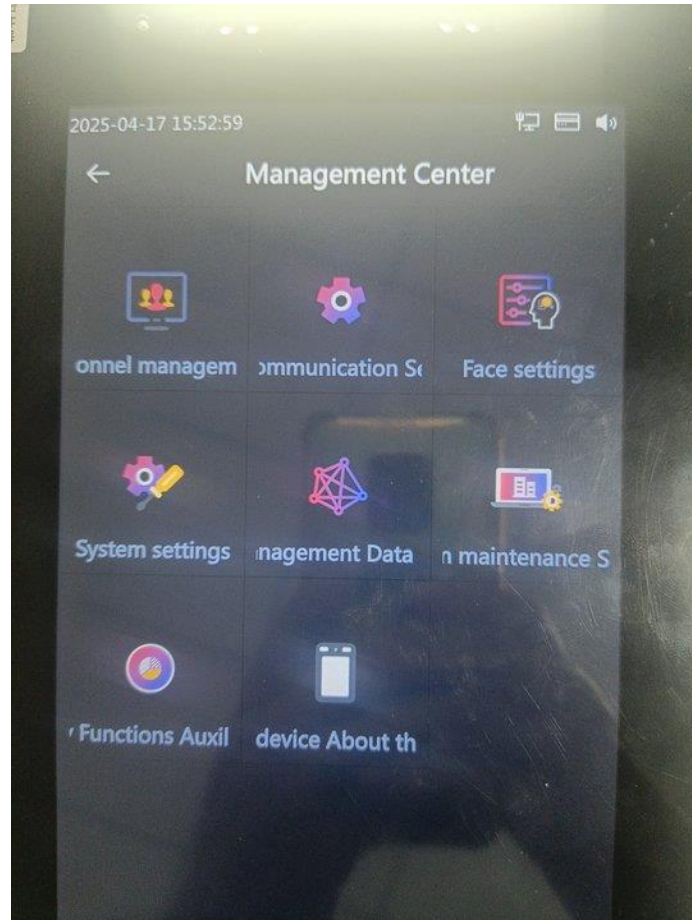
## Chapter 3 Face machine configuration

### 3.1 Touch screen operation

Long press the screen at 1/3, and a background login box will appear. Enter the administrator account and password to log in (if there is no administrator account in the initial state, enter directly).

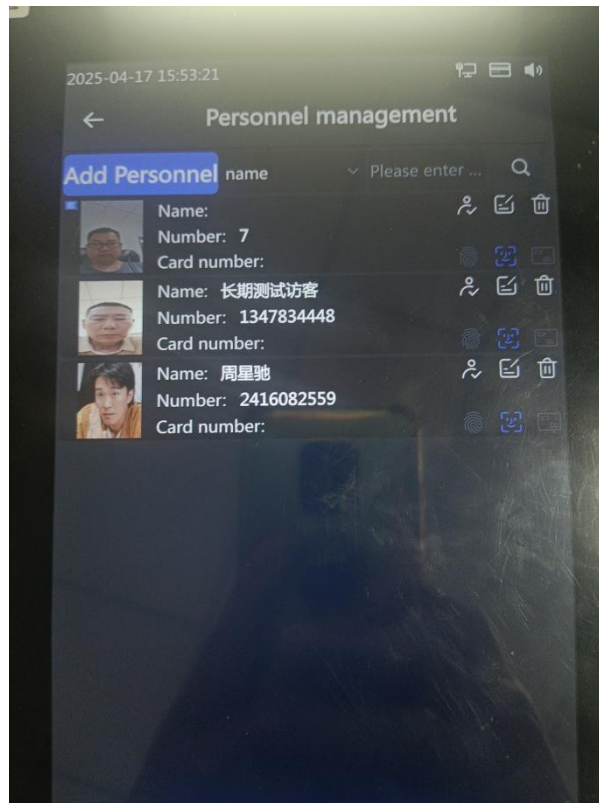


### 3.2 Function menu page



### 3.3 Personnel management

1. From left to right, the buttons are for adding blacklist, editing personnel information and deleting personnel
2. Add personnel button, enter the add personnel page to add personnel information
3. Personnel information keyword search and retrieval

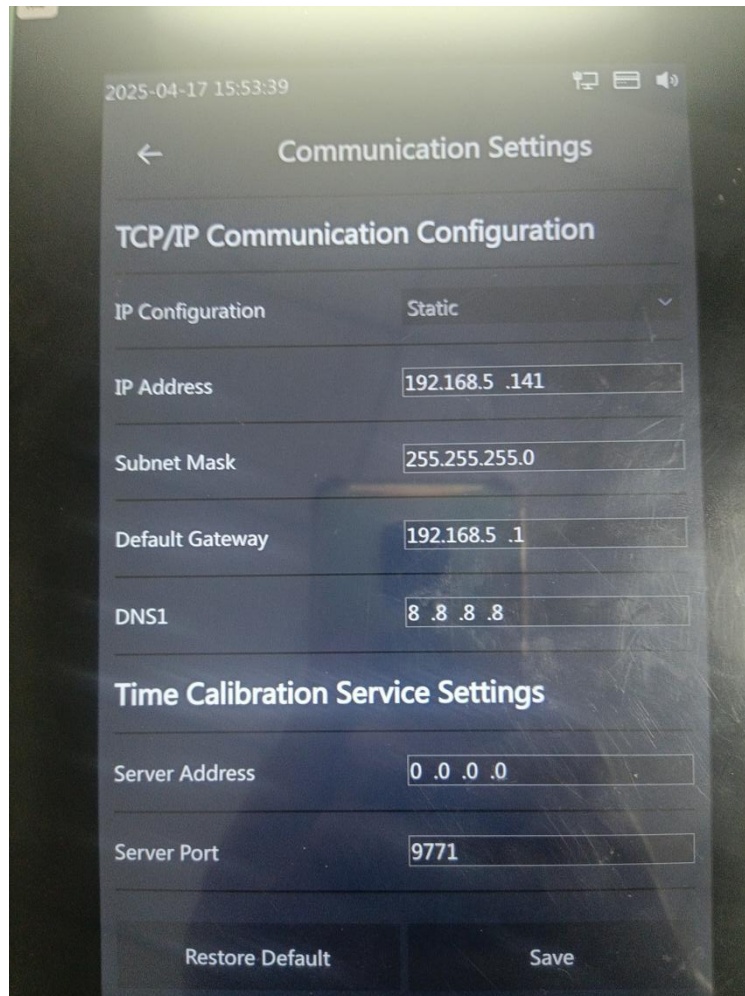


## 3.4 Network Settings

Fill in according to the actual network environment. Currently, only static network Settings are supported, and DHCP is not supported. Dynamic IP address acquisition is not supported.

### 3.4.1 Time synchronization

Support the time synchronization function between the face machine and the upper computer. The face machine will automatically synchronize the system time with the upper computer when it is restarted. The server address is the address of the computer where the upper computer is located, and the default port number is 9771.



### 3.5 Face Settings

The higher the threshold value of face comparison-the higher the score, the higher the similarity requirement of comparison, and vice versa

Recognition distance (m) -Set the face recognition distance. If the distance is too far, an orange face frame will be prompted

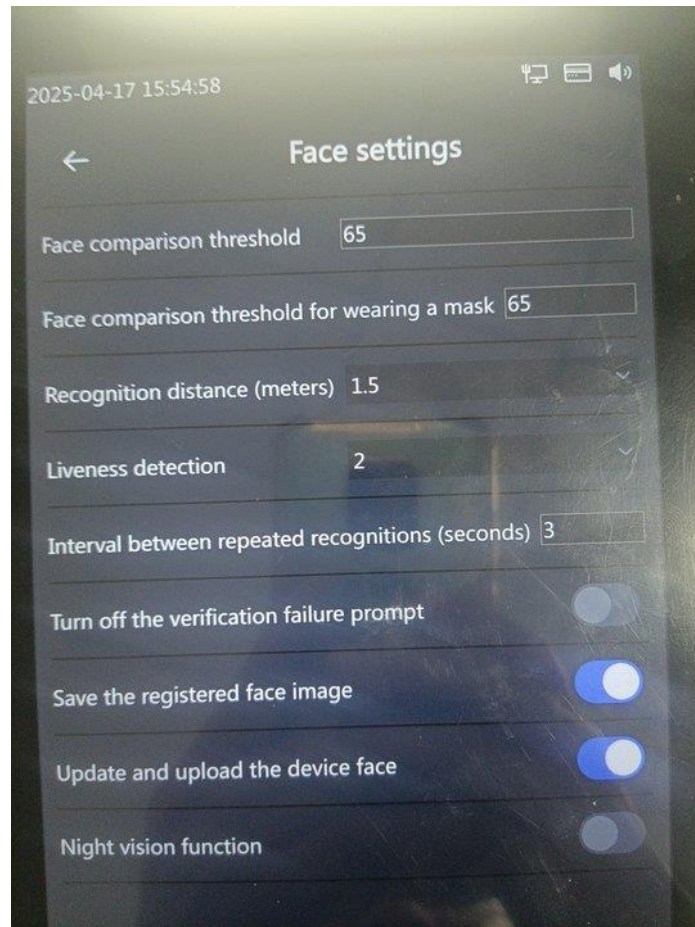
Live detection-Identify live switches and do not accept static images and videos for comparison

The algorithm strength of the live detection is determined by the level value of the live detection. The higher the level value, the higher the sub-ball detection

The repeated recognition interval-the time period during which the recognition is valid

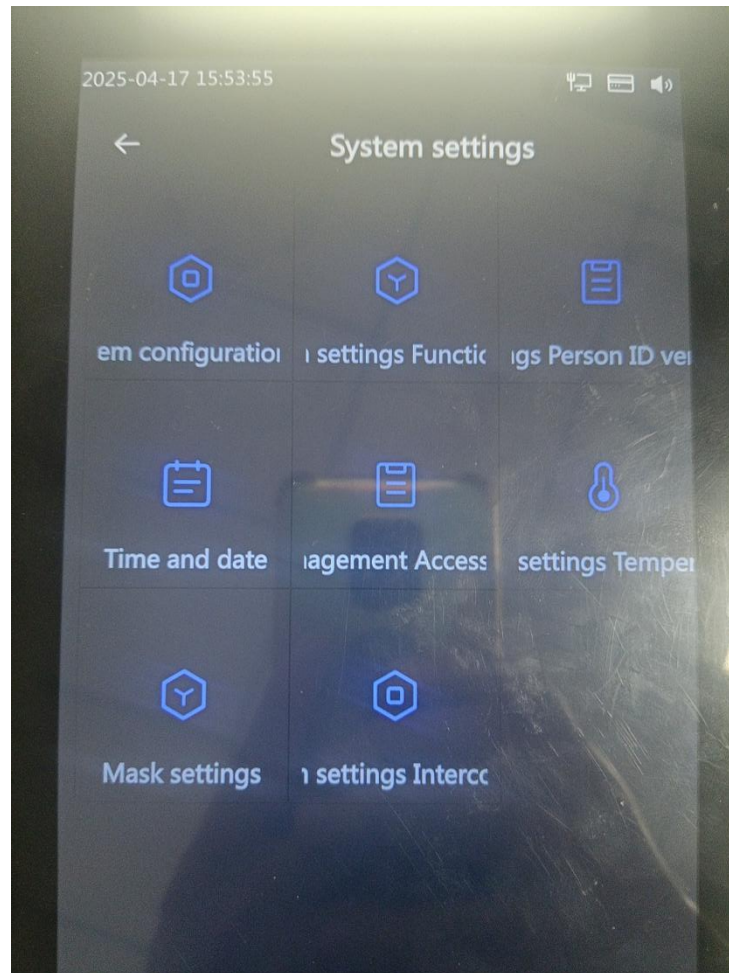
Mask recognition threshold--the face comparison threshold for the mask-wearing mode

Face saving photo-After opening, the personnel list displays the collected picture, and the picture information is displayed after successful verification



### 3.6 System Setting





### 3.6.1 System configuration

Turn off the Led light-fill light switch

Automatic restart Settings-Automatic restart of the device to the point, and the restart switch controls whether to restart

Sleep-Set the unattended screen time

The RS-485 is not set up for switching, and the program has been written

Enable logs-Log the actions of your account

The default reply is to restore the initial Settings of this page with one click

### 3.6.2 Function Settings

Face recognition mode-you can choose face (only face scanning), card swipe (only card swiping), face & card swipe (card swiping and face swiping at the same time), face | card swipe (card swiping or face swiping), face | card swipe | password (card swiping or face swiping or password), face & card swipe & fingerprint

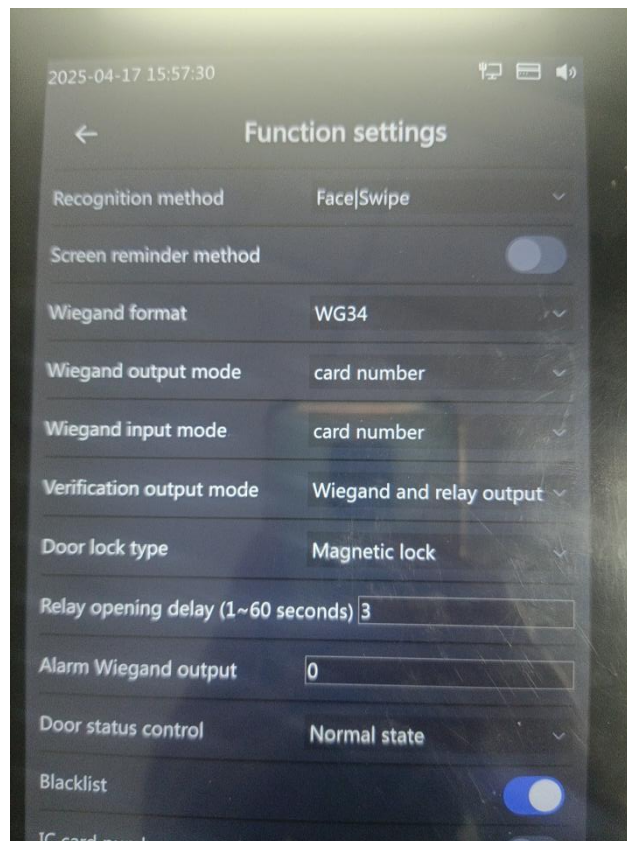
- WEGEN format-You can choose between WEGEN 26 or WEGEN 34

Wegener output mode-card number or user number (depending on specific requirements, the card number is usually selected)

Blacklist-The blacklist switch enables the blacklist personnel only when it is turned on

IC, reverse card number-by converting the card number from decimal to hexadecimal and then reversing the card number from hexadecimal to decimal

Restore default-return to factory state



### 3.6.3 Person identification Settings

The human identification comparison switch is enabled. After the human identification switch is enabled, a human identification icon appears in the upper right corner. If the reader is not connected, it will be displayed in red; if the reader is connected, the red will disappear (this switch is opened on the menu page to enable 1:1 face mode)

Compare threshold--Compare the similarity value between the ID card picture and the collected face, and the higher the threshold, the higher the comparison similarity

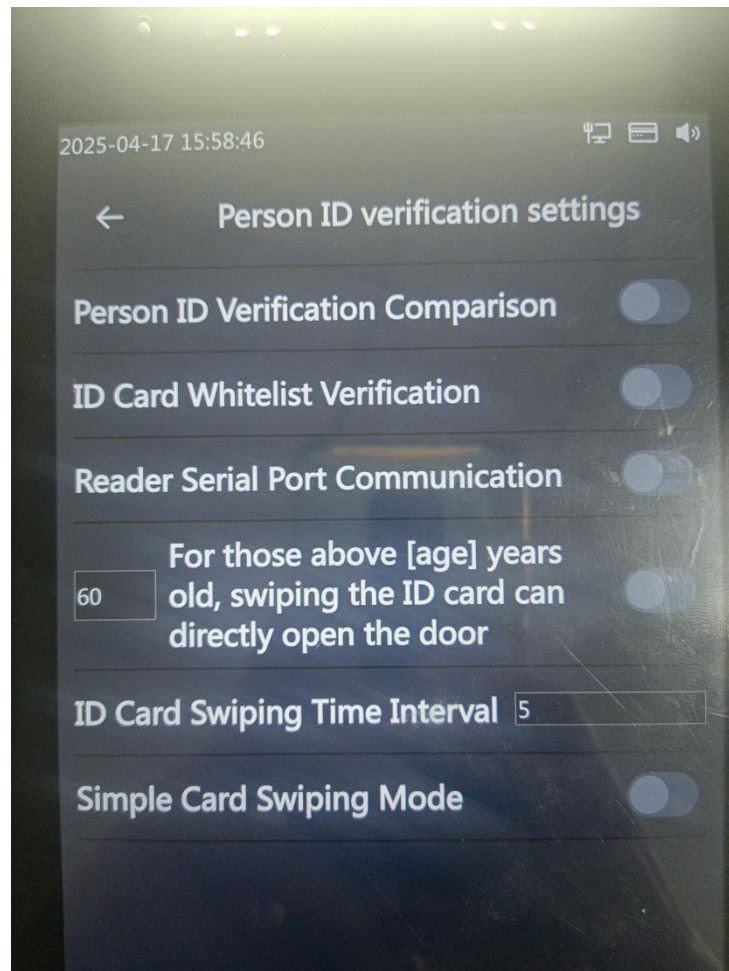
Only human identification--only 1:1 comparison of face and id pictures is performed, without distinguishing between external or internal personnel

- Human verification and whitelist verification-internal authorized personnel are required to perform the comparison (1: N)

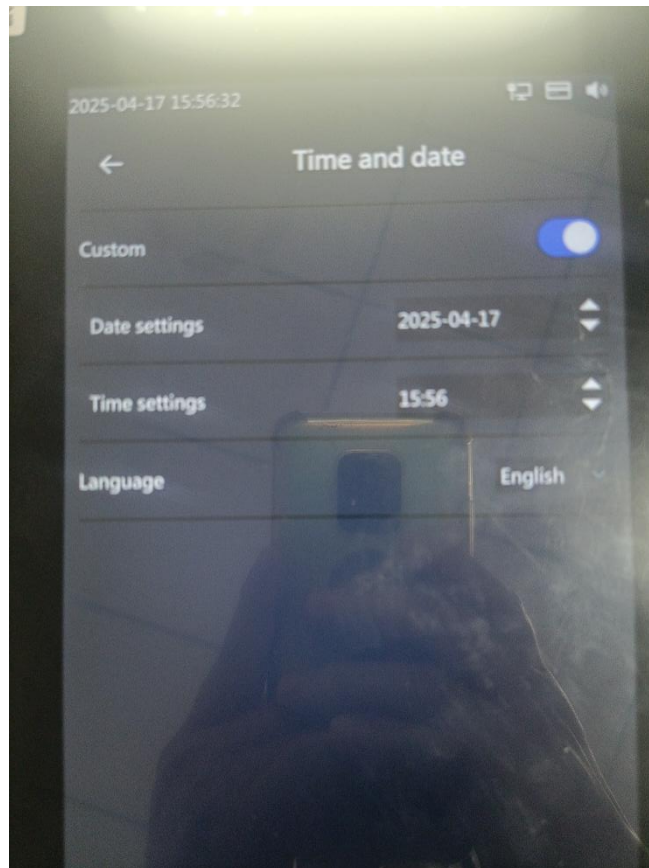
- Human authentication or whitelist verification-Both authorized and unauthorized personnel can be compared (1:1 or 1:N)

The detection timeout is the valid time for human evidence detection

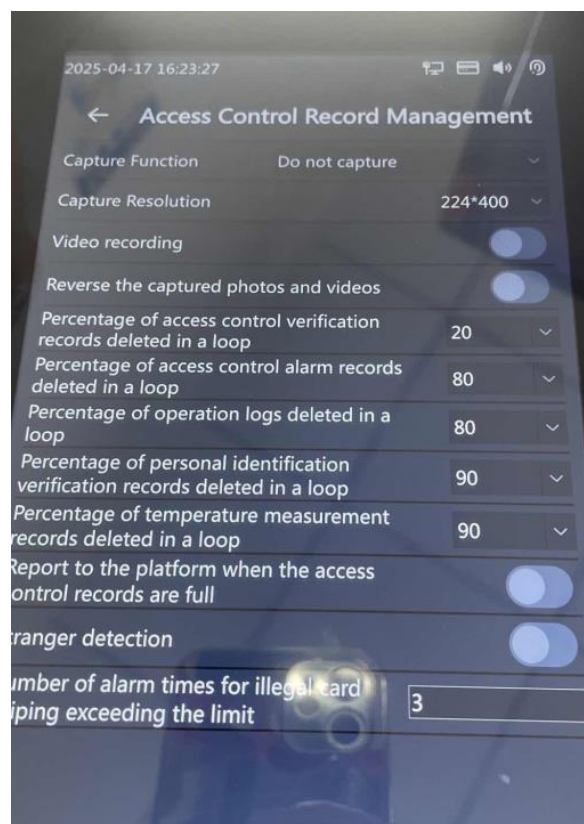
Capture function--whether to save the on-site face image information



### 3.6.4 Time and date Settings



### 3.6.5 Access control record management



### 3.6.6 Data query

#### 3.6.6.1 Equipment capacity query

User information capacity--the maximum number of user information

Face capacity-the upper limit of face images

Access control record capacity-the maximum limit of access control comparison records

Alarm record capacity--maximum upper limit of alarm information

Operation log capacity-The maximum limit of user operation records

The capacity of human witness records--the maximum limit of human witness comparison records

Fingerprint capacity--the number of fingerprints that a person can enter at one time



Device Capacity Query	
User Information Capacity	7/50000
Fingerprint Capacity	1/1000
ID Card User Capacity	0/50000
Access Control Record Capacity	127/5000000
Alarm Record Capacity	29/500000
Operation Log Capacity	32/500000
Entity Verification Record Capacity	0/10000
Temperature Measurement Record Capacity	0/10000

### 3.6.6.2 Access control record query

The information recorded after the pass-through of the access control includes the picture captured on site, the employee number, the card number information, the door opening method and the door opening time.

### 3.6.6.3 Alarm record query

Records of failed verification

### 3.6.6.4 Operation log

Record information recorded by the account operation

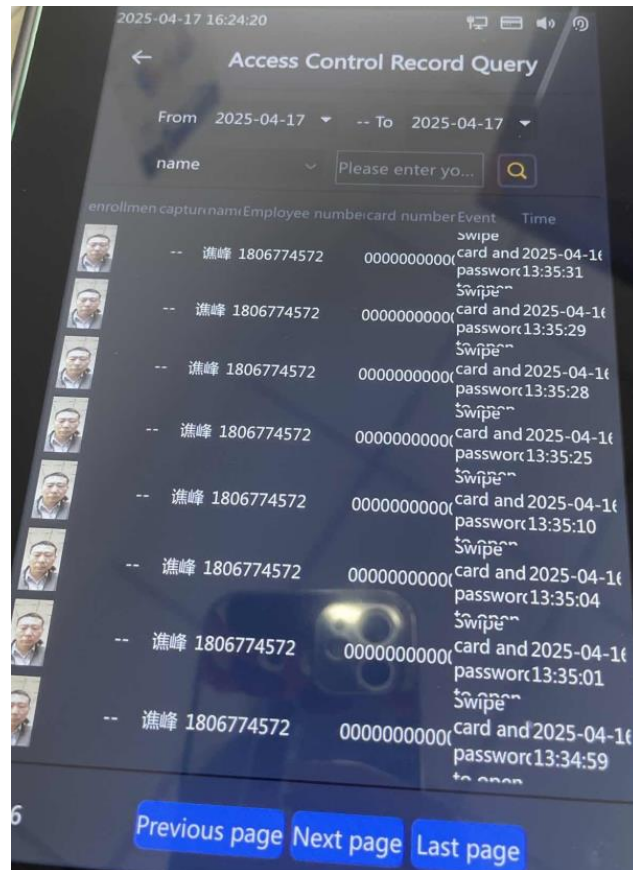
### 3.6.6.5 Blacklist query



List of blacklist personnel information

### 3.6.6.6 Record query of human witnesses

The comparison record information and the comparison result recorded after the person identification comparison



## 3.7 Data deletion

Delete information by time or delete all information

## 3.8 Import and export

1. Import and export user information backup through U disk
2. Import the backup and restore the data before the backup

## 3.9 System maintenance

Restore default Settings--All information except the network, face data, and face records will be restored to the initial data information Restore factory Settings--Directly restore the factory initialization state

## 3.10 System upgrade

System upgrade-Upgrade the system through the built-in upgrade file in the U disk.

System restart-Restart the device system

## 3.11, Auxiliary functions

Volume adjustment and screen brightness adjustment

Lighting mode: 1. Always off 2. Automatic, open with the environment 3. Always on mode

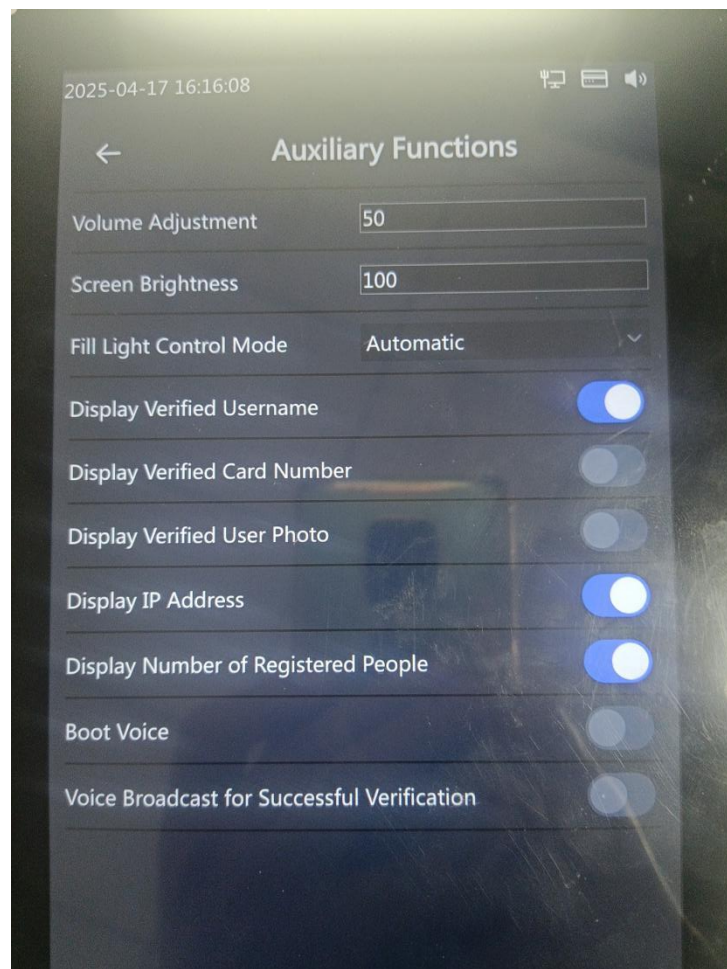
Username display: The name of the person is displayed after verification

The card number is displayed after the verification is passed

The photo of the verified user is displayed: after the verification is passed, the face photo of the person is collected

Display IP address: Display the IP address of the face machine

The number of registered people is displayed: the number of faces stored on the face machine



### 3.12, Device QR code function

This device supports QR code reservation for access, which is convenient and secure.

To obtain a QR code, you can generate it in the corresponding module of the supporting C - end or platform. Alternatively, it can be sent by the administrator through background authorization. When using it, align the QR code with the scanning area of the device. The access control will automatically open once the code is successfully recognized within 1 - 3 seconds.

