

User Manual

Thank you for selecting our products. Please read this manual before use.



NF1000 Nex FaceRecognition

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Chapter 1 System introduction

1.1 overview

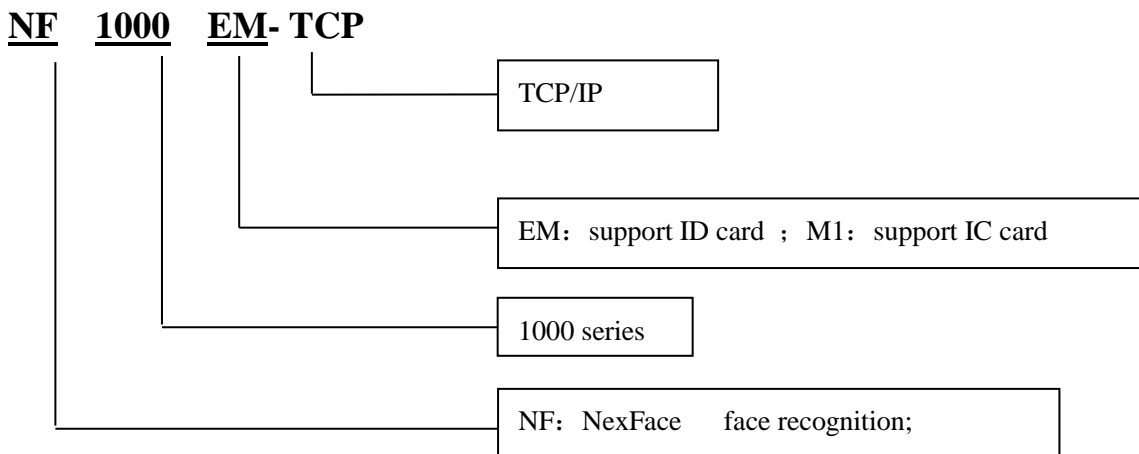
The NF1000 face recognition instrument uses a 2.8-inch TFT capacitive touch screen, dual infrared light HD camera, embedded 4-core CPU. Using the new real-time face recognition algorithm, the capture of facial features is more accurate and faster, and the light balance processing can be automatically made in the recognition process, which greatly improves the recognition speed and recognition efficiency.

After years of upgrading and improvement, the product becomes mature and stable, which is easy to install and cost-effective for the market. It has been widely used in: government agencies, intelligent building buildings, office buildings, high-end residential communities, colleges and universities, enterprises and institutions, industrial and mining enterprises and other places.



1.2 Model

Model definition:



NF1000-E-----support ID card

NF1000-M-----support Mifare series card;

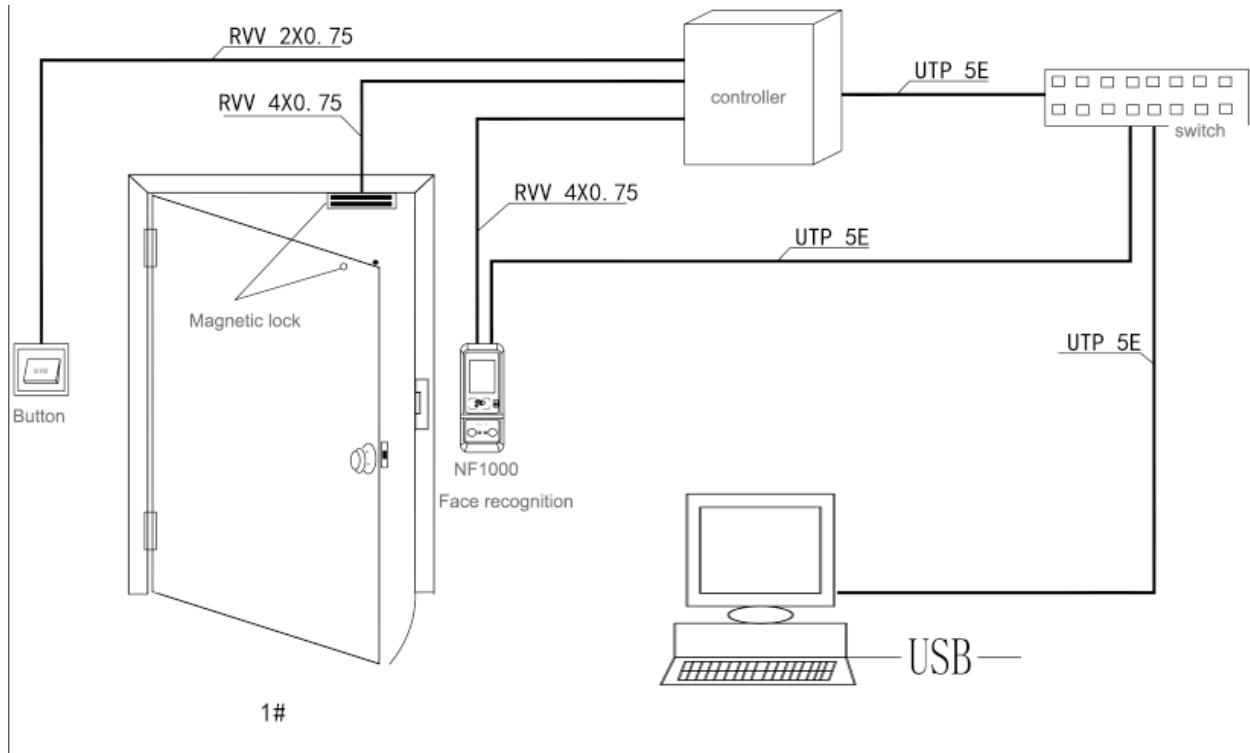
1.3 Specification

Features	Description
screen size	2.8 inch TFT capacitive touch screen
camera	Dual infrared light HD camera
Identification method	Face, ID card (customizable IC card), password, and various combinations thereof
communication method	TCP/IP, RS485, WIFI (optional)
U disk management	U disk upload, download, upgrade
Recognition speed	≤ 1 second
Record query function	stand by
Face recognition mode	1:N, 1:1
Face capacity	1000 sheets
Card capacity	1000 sheets
Password capacity	1000 pieces
Photo storage capacity	5000 (sum of registered photos and real-time photos)
Verification record/management record	100000/10000
Ring function	Built-in timed bell
Voice prompts	Chinese and English pronunciation
Language display	Chinese Simplified, Chinese Traditional, English (supports machine switching, other foreign languages can be customized)
Self-test function	support
Power management function	Sleep
Alarm function	Record exceeded alarm, duress alarm
Alarm output	Group 1
Network time synchronization	support
Take a photo in real time	support
Infrared human body induction	support
Door lock signal output	1 set of relay signal output
Access time period	50 groups
Wiegand signal	Wiegand input and output group
Doorbell button	support
Tamper function	support
Door magnet	support
T9 input method	support
Working temperature	0 ℃~+45 ℃
Working humidity	20%~80%
Working voltage / current	DC 12V/1000mA

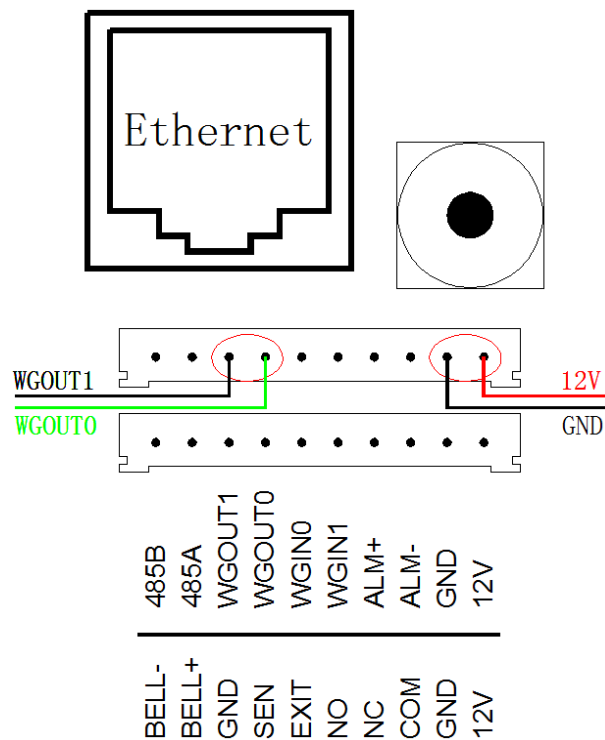
Chapter 2 Installation

2.1 NF1000 wiring diagram

wiring as wiegand reader:

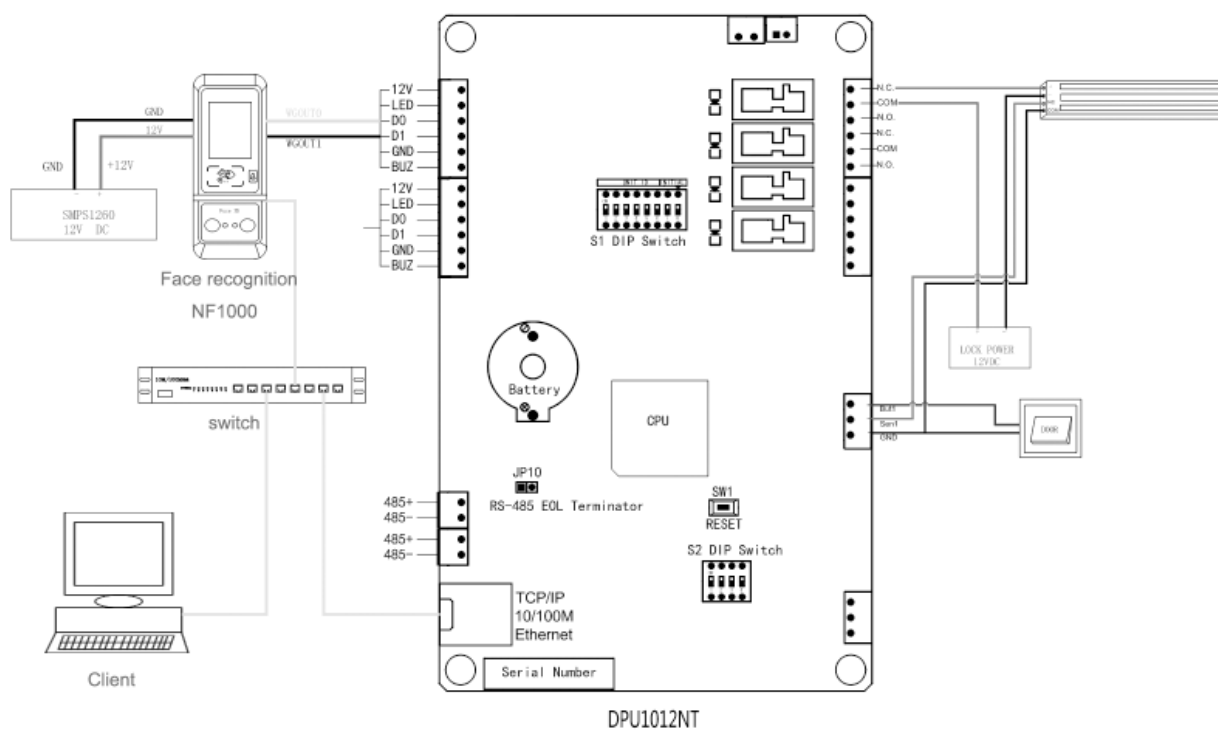


NF1000 Terminal blocks connector:

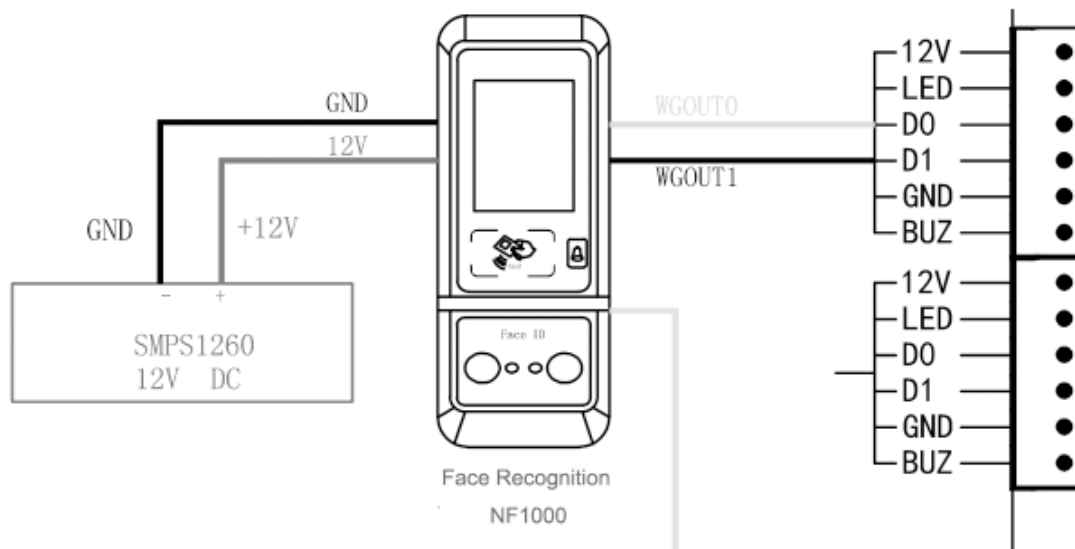


Pin	Description	Pin	Description
12V	Power supply	12V	Power supply
GND	Ground	GND	Ground
ALM-	Alarm output negative	COM	Control lock signal common
ALM+	Alarm output negative	NC	Control lock signal normally closed
WG IN 1	Wiegand input 0	NO	Control lock signal normally open
WG IN 0	Wiegand input 1	EXIT	exit button
WG OUT 0	Wiegand output 0	SEN	Magnetic input
WG OUT 1	Wiegand output 1	GND	Ground
485A	485 positive	BELL+	Doorbell interface
485B	485 negative	BELL-	Doorbell interface negative

Wiring:



Partial enlargement:



2.2 Electric lock wiring

The wiring of the electric lock should meet actual needs.

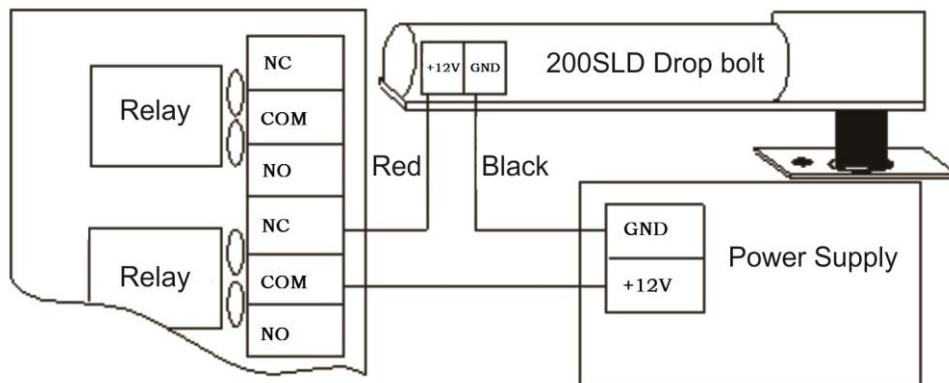


Figure Drop bolt (Fail Safe)

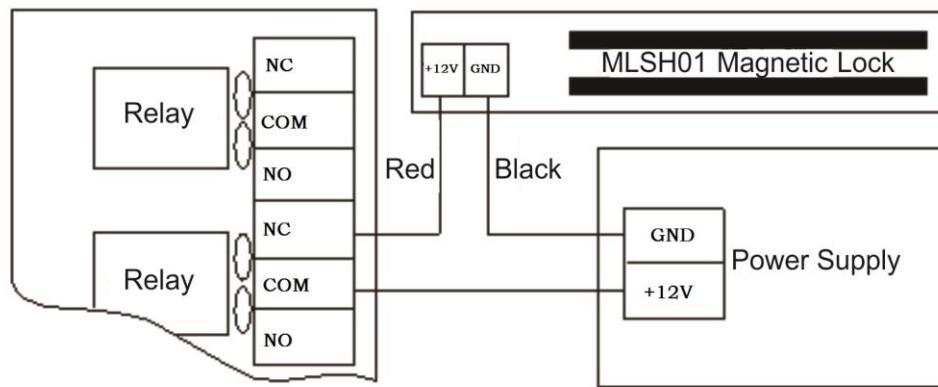


Figure Magnetic Lock (Fail Safe)

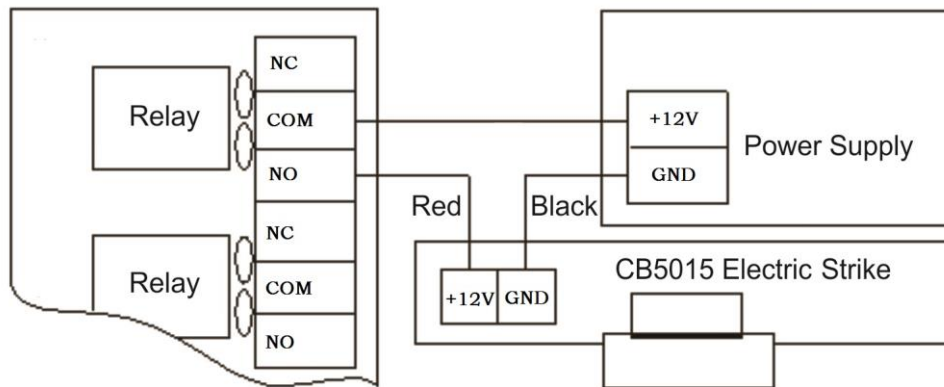
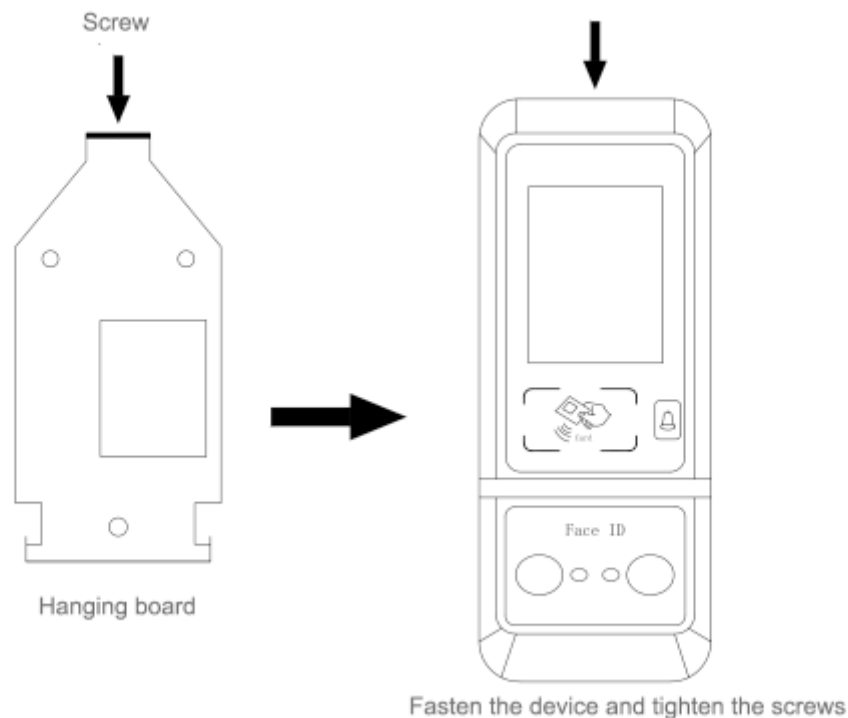


Figure Strike (Fail Secure)

2.3 Installation and fixing



1. Avoid installing the device in a place where strong light is shining. Strong light has an effect on face recognition and fingerprint recognition, which may cause failing.
2. The working temperature is 0 ℃–60 ℃. Avoid long-term outdoor using. If it must be used in outdoors, it is recommended to use parasols and cooling equipment in the summer and warming equipment to protect the equipment in winter.
3. Make sure the power is off during installation. Live installation and wiring operations can cause damage to the machine.
4. Due to the serious static electricity brought by the human body during the autumn and winter seasons, please install the equipment before grounding the cable and install other wiring to prevent the instantaneous electrostatic voltage from damaging the machine.
5. Please do not expose the terminal blocks that are not used, or it may cause short circuit damage to the device; at the same time, please use different color wire connection terminals for easy identification.
6. Please connect the other lines before connecting the power. If the machine is malfunction after power-on, turned off the power immediately
7. If the distance is far away between the power supply and the machine, it is strictly forbidden to use other special lines such as network cables instead of the power line. When selecting a power cord, consider the voltage attenuation caused by excessive transmission distance.
8. The equipment line, main board and fingerprint head are burnt out due to abnormal wiring, which may cause the equipment to be used abnormally. it is not covered by the warranty.
9. The installation height of the equipment is 110CM (based on the bottom of the machine)

Chapter 3 Recommend steps

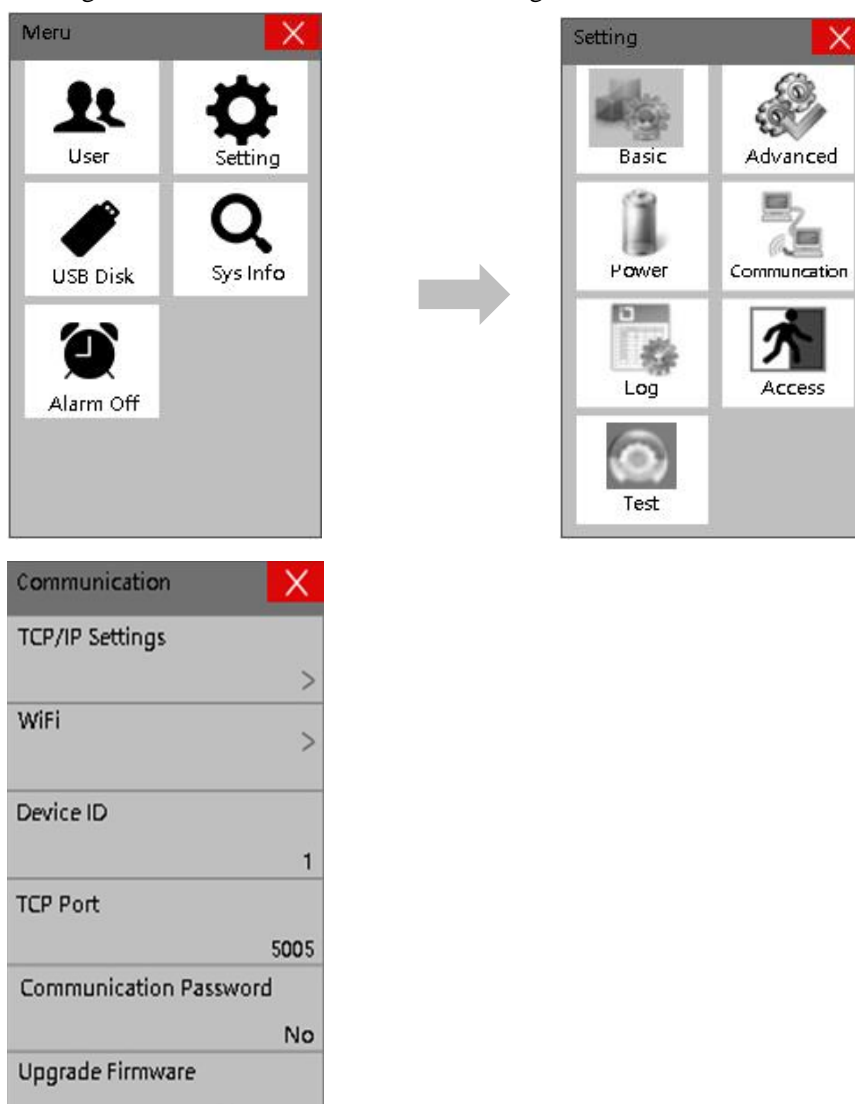
- Step 1: power on the equipment. Look for any abnormalities, set the date and time of the machine, and install the device.
- Step 2: Set the network parameters of the face recognition device and add a face recognition device on Sphinx 4.4.
- Step 3: Add personnel information on Sphinx 4.4 and download to face recognition
- Step 4: Register the user face on the face recognition device
- Step 5: Collect face data on Sphinx 4.4 software.

Chapter 4 System setting

4.1 Face Recognition Settings

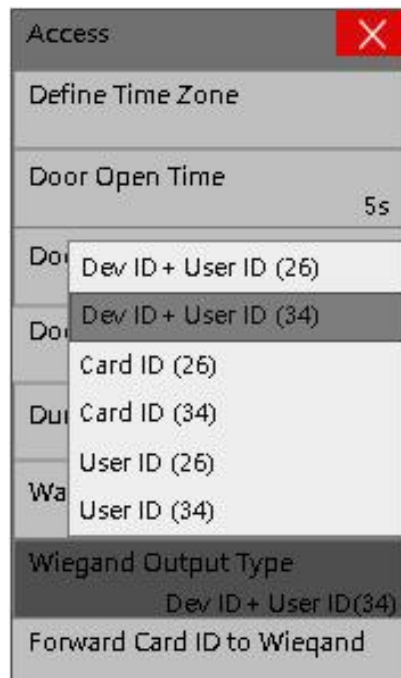
4.1.1 Network setting

🏠 icon → Setting → Communication → TCP/IP Settings



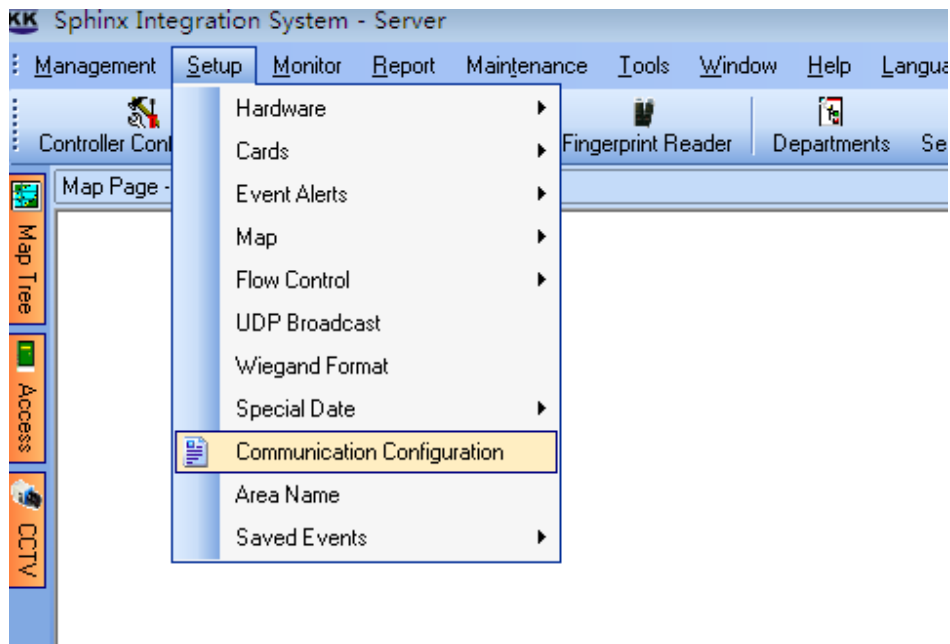
4.1.2 Wiegand output format settings

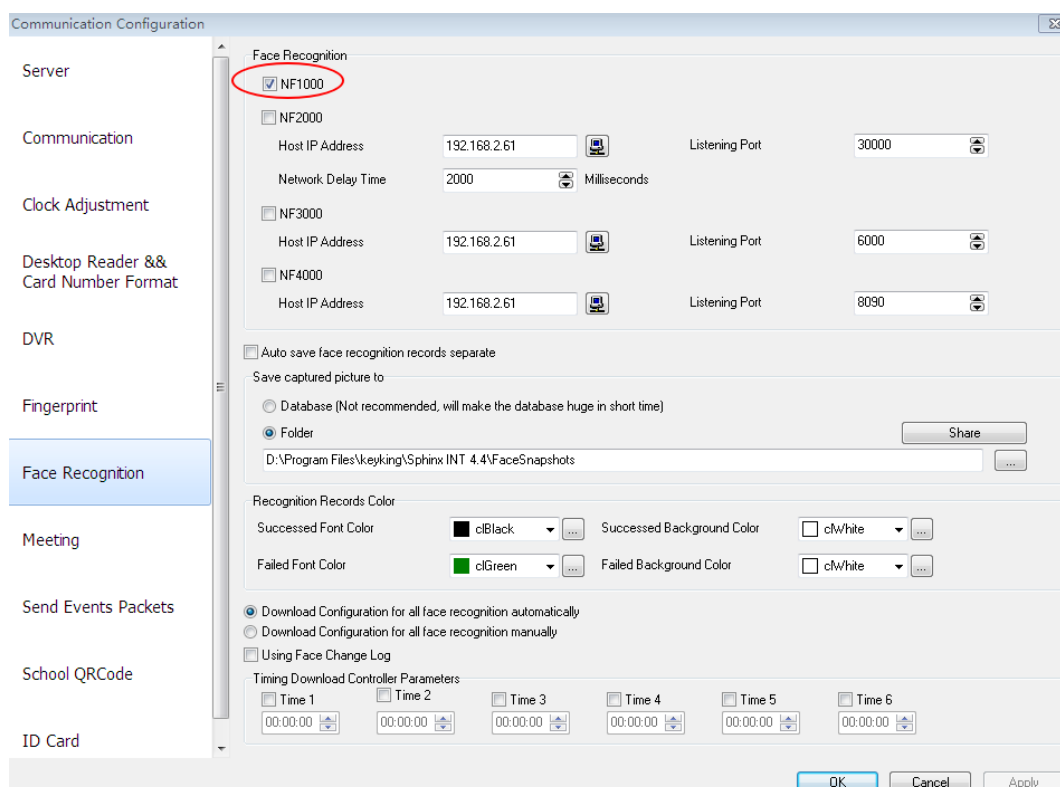
🏠 icon → Setting → Access → Wiegand Output Type → Choose your preferred Wiegand Output Type



4.2 Sphinx4.4 setting

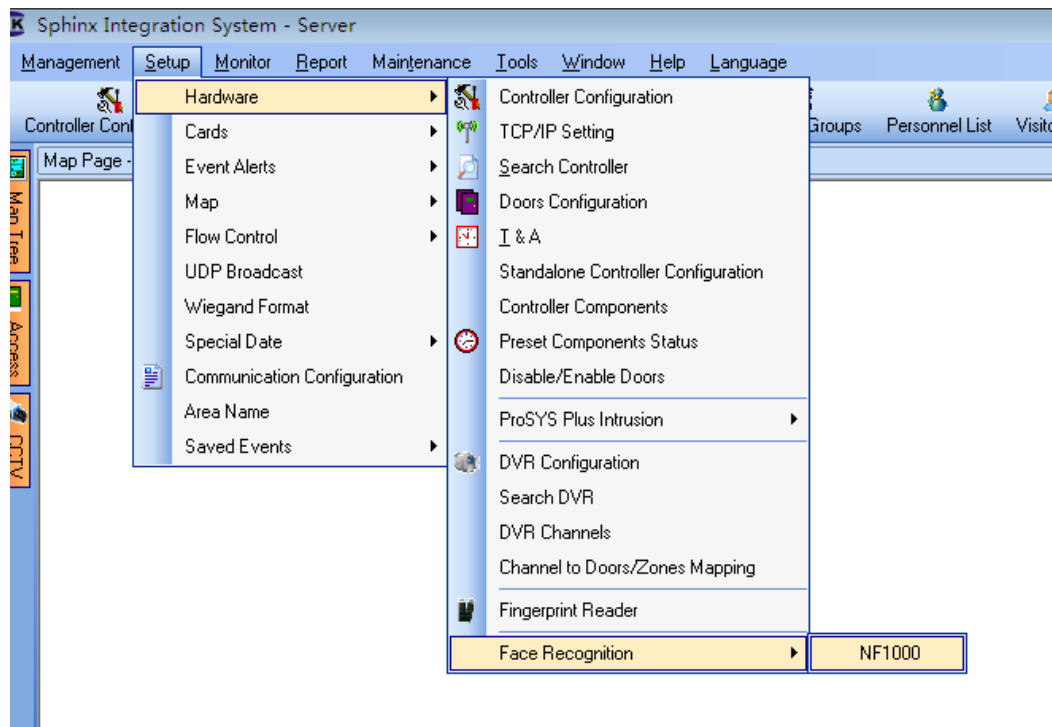
4.2.1 Communication configuration



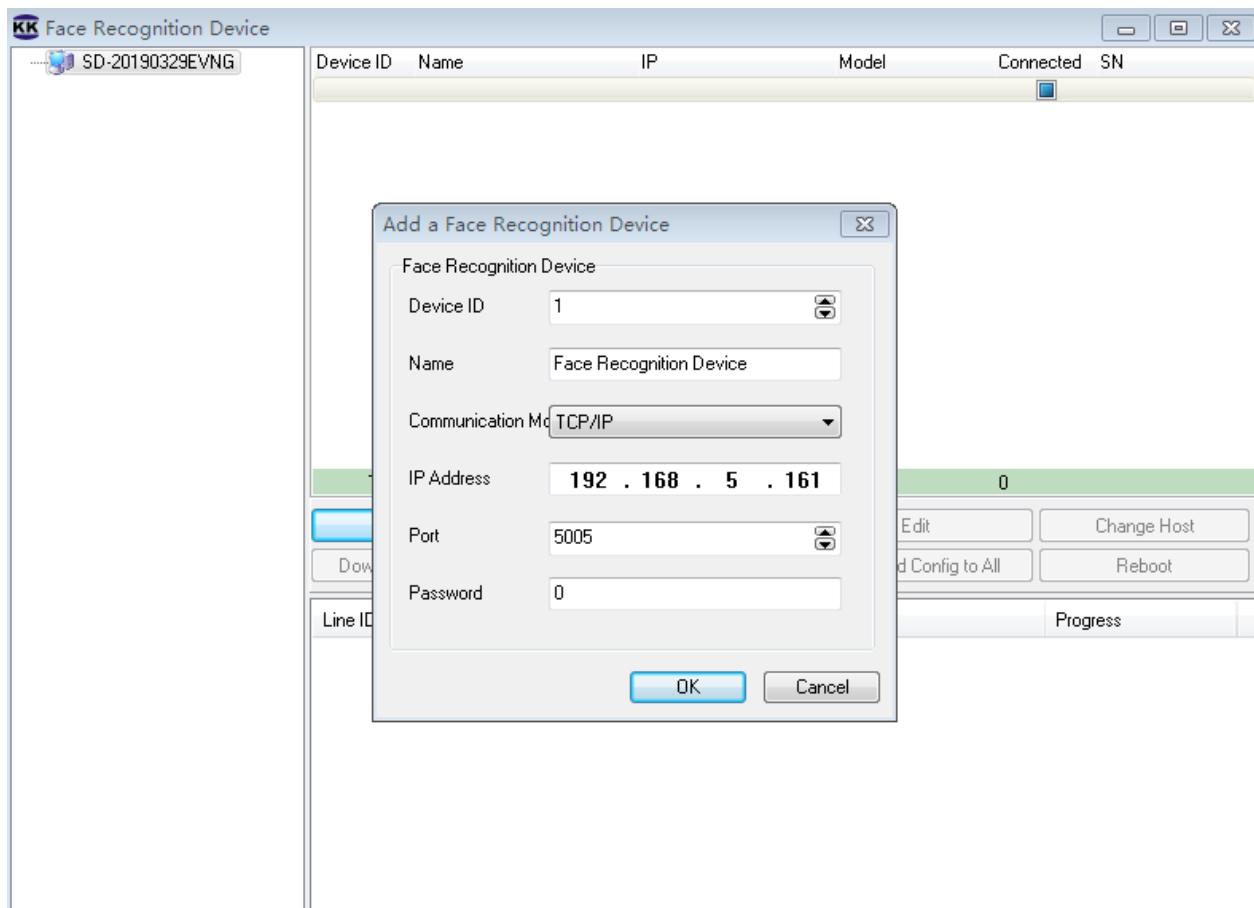


4.2.2 Add face recognition device

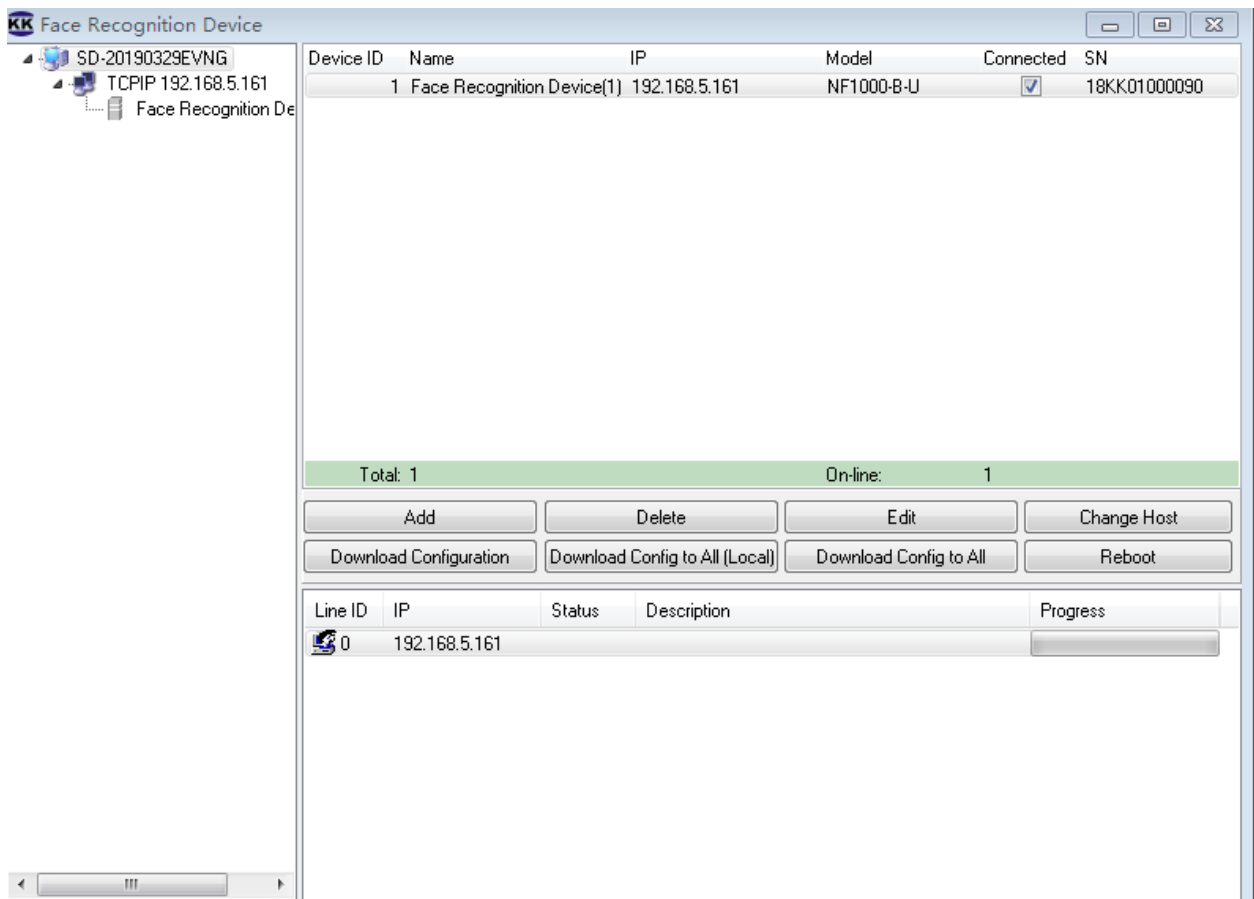
setup—hardware—face recognition



As shown in the figure below, click Add Face Recognition, fill in the network parameters of the face recognition device in the pop-up window, click OK.



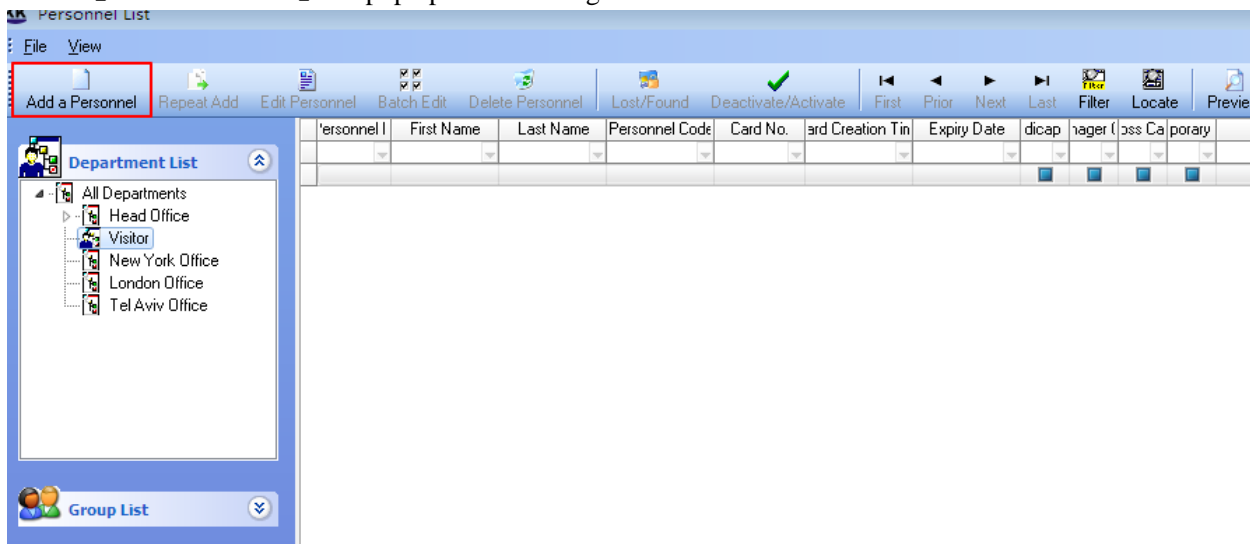
After the device goes online:



Chapter 5 Personnel information

5.1 Add person in Sphinx software

Click **【Add a Personnel】** to pop up the following window and click to add new one.



In **【Basic Information】**, fill in the ID, name, department information

In **【Card】**, tick the **【Use Access Card】**, obtain the card number through the card issuer or card reader, or

manually enter the card number (card number = face recognition terminal card)

Personal Information

Basic Information

Card

Access Level

Fingerprint

Face Info

☒ Use Access Card

Card Info

Card No.: Issue Code 0

ID Card Custom ID: 0 From Reader BioUSB10

☐ Expiry Date 2019/5/16 ☒ Retrieve Card Number From Desktop Reader ☐ Retrieve Card Number From System Reader

☐ Deactivate 30 Days not used ☒ Parking available (ParkWatch)

☐ Card Event Link to

Access Properties

☐ Handicap Card Opens the Door for a longer time

☐ Manager Card No Anti-Passback Limitation; Open/Sc

☐ Boss Card Can open any Door anytime

☐ Temp Card

Temp Card Valid Time

From: / / : :

Expiration: / / : :

Valid for TC3XY Series Only

PIN ID 0000 PIN 0000

Valid for DPU1000NT/DPU3000NT Only

Card Group None

☐ Twin card matched

☐ Private PIN * 0 # 4-8 digits

Current Area

Current Area: Inside

in **【Access Level】**, tick the security groups

Personal Information

Basic Information

Card

Access Level

Fingerprint

Face Info

Security Groups

Access Doors

ID	Access Security Group
<input checked="" type="checkbox"/> 0	24 Hours

Door Name	Access Time Ta...
-----------	-------------------

In **【Face Info】** , check Use face recognition under NF1000, and check the face recognition device in the **【Device Name】** box.

Personal Information

Basic Information

Card

Access Level

Fingerprint

Face Info

NF1000 NF4000

☒ Use Face

Face Info

User Type: Normal

Time Zone: 0

PIN:

☐ Use Access Card PIN

Face

Face Photo

NF1000 Scanner

Enroll

Delete

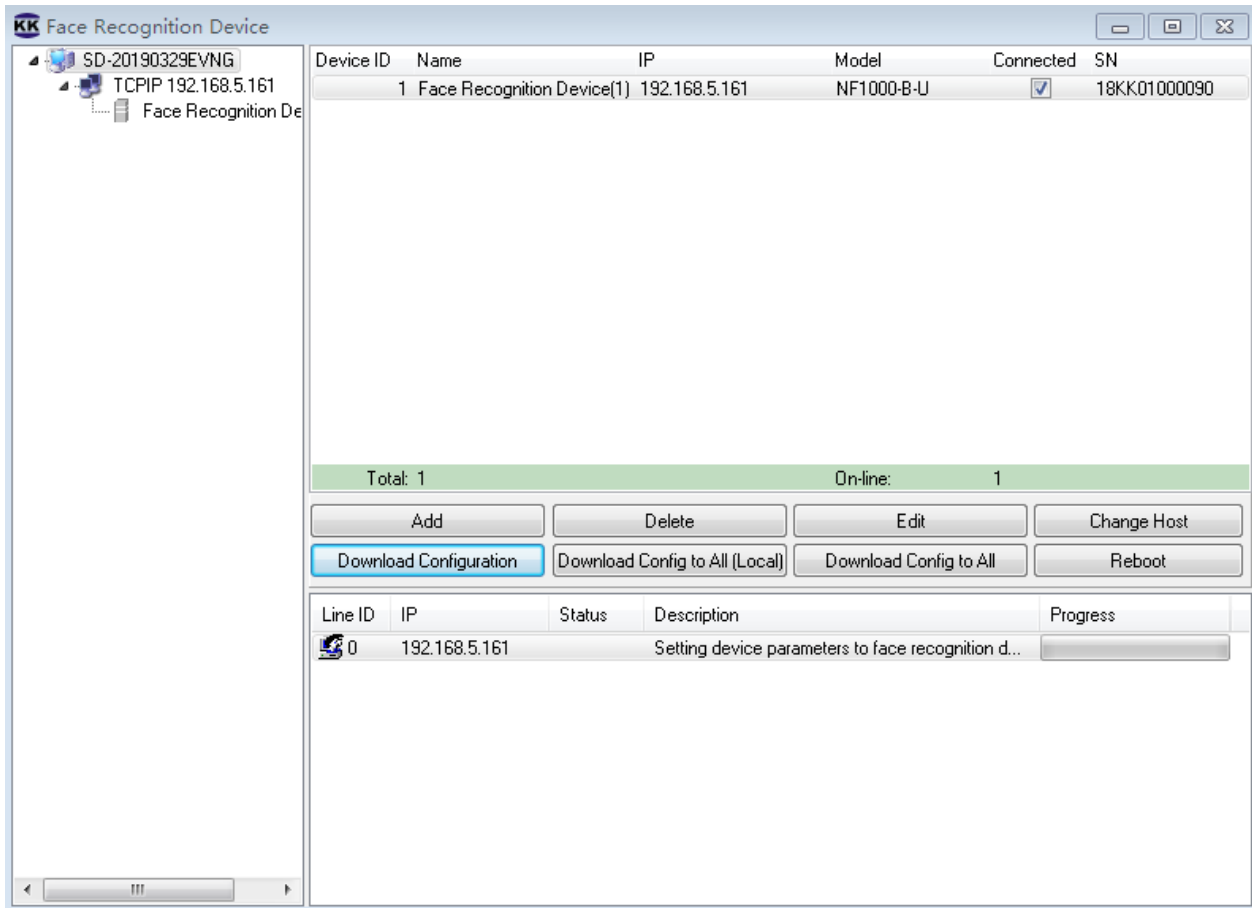
Refresh

Device Name	IP	Device ID
<input checked="" type="checkbox"/> Face Recognition Device(1)	192.168.5.161	1


Card Events QR Code Card Print OK Cancel Apply

5.2 Download personal information

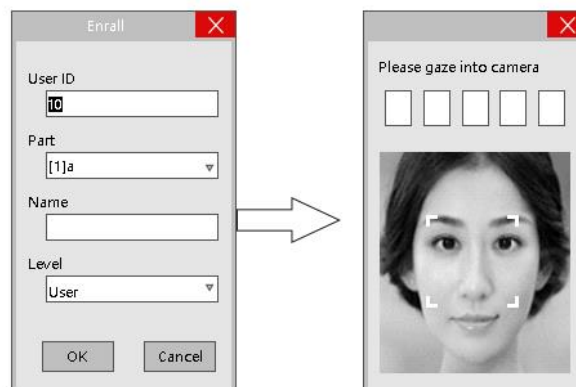
Manually download face recognition parameters after entering personnel information on Sphinx 4.4 software



5.3 Face registration

“” icon → User → Enroll → Enter Your info → Choose “Face” → Follow the onscreen instructions to complete Facial template acquisition. → Press “OK”

Looking at the display, align your face with the center of the camera’s field of view. The camera automatically captures the facial template, progress box shows progress. “Face Registration Success!” message will be displayed upon completion.



The device has built in duplicate enrollment protection, registration will fail if the user is already registered

5.4 Collecting face information

After the face recognition device registers the face information, you need to double-click the person to open **【Personnel information】** in Sphinx 4.4. In **【Face Info】**, select the face feature data.

The screenshot shows the 'Personal Information' window for the NF1000 device. The 'Face Info' tab is selected in the left sidebar. The main area contains the following fields and controls:

- ☒ Use Face
- Face Info section:
 - User Type: Normal (dropdown)
 - Time Zone: 0 (dropdown)
 - PIN: (text field)
 - ☐ Use Access Card PIN
- Face section:
 - Image of a person's face.
 - Device: NF1000 Scanner (dropdown)
 - Enroll** (button, highlighted with a red circle)
 - Delete (button)
 - Refresh (button)
- Table at the bottom:

Device Name	IP	Device ID
<input checked="" type="checkbox"/> Face Recognition Device(1)	192.168.5.161	1


At the bottom of the window, there are buttons for 'Card Events', 'QR Code', 'Card Print', 'OK', 'Cancel', and 'Apply'.

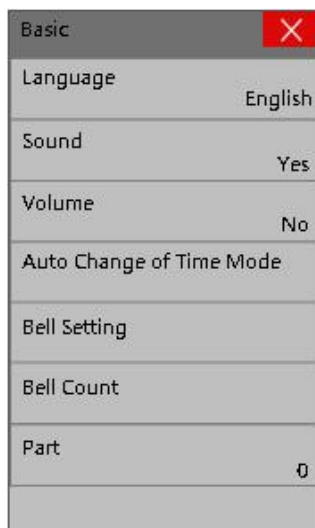
Chapter 6 User manual

6.1 Device Settings



Basic setting

- “” icon → Setting → Basic



- A 【Language】 Set the interface language
- B 【Sound】 Turn on/off the vocal notifications
- C 【Volume】 Change the volume of the device, choose a value between 0-10
- D 【Auto Change of Time Mode】 Edit the shifts
- E 【Bell Setting】 Set the times of bell, toggle on/off, and bell sounds

F 【Bell Count】 Set the number of chimes for the bell

G 【Part】 Edit the indexing and names of departments

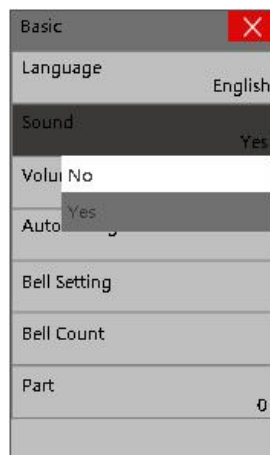
A. Language setting:

- Choose “Language” → Choose your language



B. Sound Setting:

- “🏠” icon → Setting → Basic → Sound → Select “Yes” or “No”





C. Volume control:

- “🏠” icon → Setting → Basic → Volume → Enter the volume value between 0-10 → Press “OK.”



D. Auto Change of Time Mode:


- “” icon → Setting → Basic → Auto Change of Time Mode → Click on a row to edit its contents → Press “OK”


Auto Change of Time Mode 			
NO	Start Time	End Time	Status Att Count
1	00 : 00	12 : 00	DutyON Unlimited
2	12 : 00	23 : 59	DutyON Unlimited
3	00 : 00	00 : 00	DutyON Unlimited
4	00 : 00	00 : 00	DutyON Unlimited
5	00 : 00	00 : 00	DutyON Unlimited
6	00 : 00	00 : 00	DutyON Unlimited
7	00 : 00	00 : 00	DutyON Unlimited
8	00 : 00	00 : 00	DutyON Unlimited
9	00 : 00	00 : 00	DutyON Unlimited
10	00 : 00	00 : 00	DutyON Unlimited

Status: You may classify the times for Duty On or off, Overtime On or off, Return and Go Out.


AttCount: Set the amount of records the device will accept during this time slot, the default value is 9999 which stands for infinity.(To prevent records from exceeding the capacity)

E. Bell setting:

- “” icon → Setting → Basic → Bell setting → Click on a row to edit its contents → Press “OK”
- You can change the time of the bell, the bell sounds, toggle them on/off


Auto Change of Time Mode 			
NO	Time	Use/ No Use	Bell
1	00 : 00	No Use	Bell - 1
2	00 : 00	No Use	Bell - 1
3	00 : 00	No Use	Bell - 1
4	00 : 00	No Use	Bell - 1
5	00 : 00	No Use	Bell - 1
6	00 : 00	No Use	Bell - 1
7	00 : 00	No Use	Bell - 1
8	00 : 00	No Use	Bell - 1
9	00 : 00	No Use	Bell - 1
10	00 : 00	No Use	Bell - 1

F. Bell Count:

- “” icon → Setting → Basic → Bell Count → Choose a value between 0-255 → press “OK”

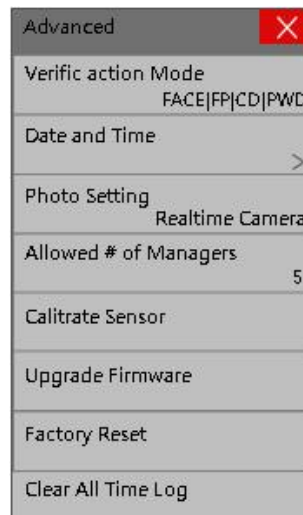


G. Part (Departments):

- “” icon → Setting → Basic → Part → Click on a row to edit its contents → input department name → Press “OK”

Part	
NO	Part
1	accounting
2	sales
3	
4	
5	
6	
7	
8	
9	
10	

6.2 Advanced Settings.



- A **【Verification Mode】** Set the preferred combination of verification methods
- B **【Date and Time】** Settings regarding the date and Time, time zones, etc
- C **【Photo Setting】** Select the image to be included in time logs (None/Enrolled Photo/Realtime Camera)
- D **【Allowed # of Managers】** Set the amount of managers
- E **【Calibrate Sensor】** Recalibrates the sensor
- F **【Upgrade Firmware】** Connect a USB flash drive with firmware file to upgrade
- G **【Factory Reset】** Resets device to original state
- H **【Clear All Time Log】** Clear all time logs on the device
- I **【Clear All Management Log】** Clear all data regarding changes to system settings
- J **【Clear All User Database】** Delete all users
- K **【Clear Photo】** Delete registered faces and/or log-in photo logs

A. Verification Mode:

Face

Step 1: Stand toward the machine, and start verification when the face lock box appears.

Step 2: When the device prompts "thank you", the verification is completed. When the device has no face lock box and no prompt, you should return to step one to operate again.

Fingerprint

Step 1: press the fingerprint on the fingerprint collector

Step 2: When the device prompts "thank you", the verification is completed. When the device prompts "Please press the finger again", you should return to step one to operate again.

Swipe card

Step 1: Swipe directly in the card swipe area on the initial interface

Step 2: When the device prompts "thank you", the verification is completed. When the device has a beeping tone, the card is not recognized. Please confirm whether the card has been registered and return to step one.

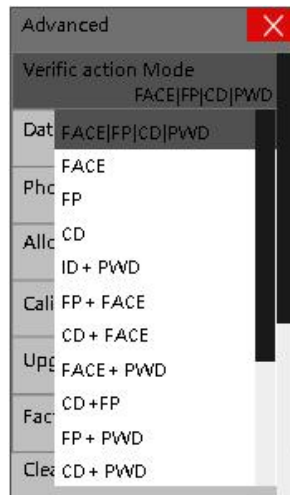
Password

Step 1: Press the lock pattern in the upper right corner of the screen directly on the initial interface, then enter the employee number of the person to be verified and press the enter key.

Step 2: Enter the password and press the enter key

Step 3: When the device prompts "thank you", the verification is completed. When the device has a drop tone, the password is incorrect. Please return to step one to operate again.


- “” icon → Setting → Advanced → Verification Mode → Choose your preferred verification method



The default FACE/FP/CD/PWD settings requires any one of face, fingerprint, card OR password to pass verification. The verification modes with “+” means users have to pass all listed verification method in the presented order consecutively. For example “Face + FP”requires the user to first verify by face and then fingerprint.

Face FP CD PWD	Users only need to register a face or fingerprint or RF card or a password
Fingerprint+Card+Code	Users must register RF card, fingerprint, password, and users need to pass these authentications consecutively
card+password	Users must register RF card, password, and users need to pass these authentications consecutively
fingerprint+password	Users must register fingerprint and password, and users need to pass these authentications consecutively
Card+Fingerprint	Users must register RF card and fingerprint, and users need to pass these authentications consecutively
Card+face	Users must register RF card and face, and users need to pass these authentications consecutively
password+face	User must register at least password and face, and users need to pass these authentications consecutively
Fingerprint+face	User must register at least Fingerprint and face, and users need to pass these authentications consecutively
face+card+password	User must register Fingerprint and face, and users need to pass these authentications consecutively
Factory Default	Face/fingerprint /card/password

B. Time setting:

- “” icon → Setting → Advanced → Date and Time

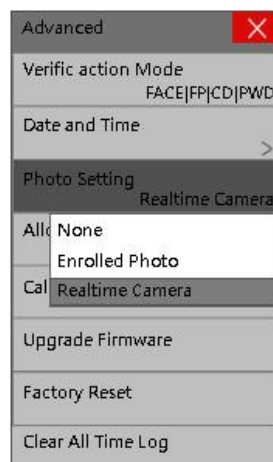


You may set your time, date, date format and time zone within this menu. The “NTP Server” settings allow you to choose the Network Time Protocol server address. The device’s time will synchronize to the specified server at the “Auto Sync Interval.”


The “Time Synchronization” function will synchronize the clock to the server upon activation.

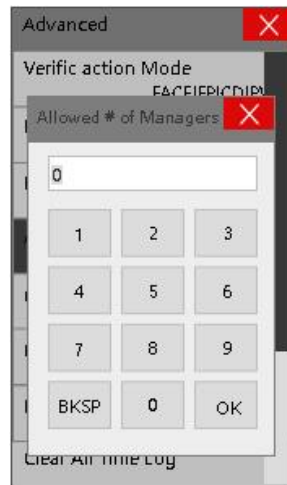
C. Photo Setting:

- “” icon → Setting → Advanced → Restore → pressing “OK”



D. Allowed # of Managers:

- “” icon → Setting → Advanced → Allowed # of Managers → Choose the maximum allowed # of managers → Press “OK”



E. Calibrate Sensor:

- “🏠” icon → Setting → Advanced → Calibrate Sensor

F. Upgrade Firmware:

Insert USB flash drive with the firmware loaded into it before using this function

- “🏠” icon → Setting → Advanced → Upgrade Firmware

G. Factory Reset

It is highly recommended that you backup all data (Chapter 11 USB Disk) before you perform the factory reset

- “🏠” icon → Setting → Advanced → Factory Reset

H. Clear All Time Log:

- “🏠” icon → Setting → Advanced → Clear All Time Log

I. Clear All Management Log:

- “🏠” icon → Setting → Advanced → Calibrate Sensor

J. Clear All User Database:

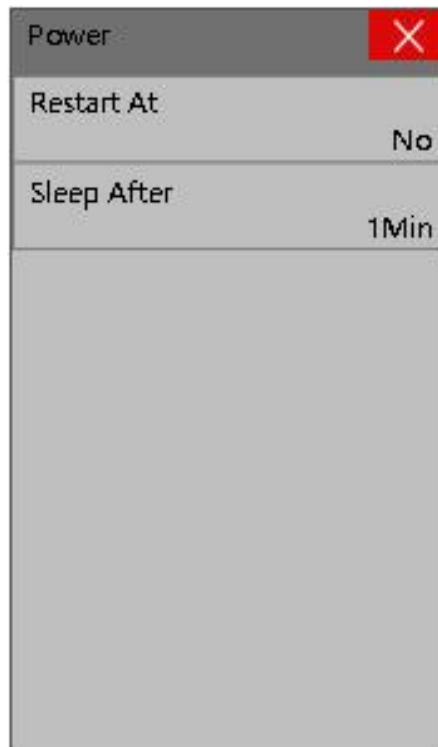
Delete all users

- “🏠” icon → Setting → Advanced → Clear All User Database

K. Clear Photo:

- “🏠” icon → Setting → Advanced → Clear Photo


6.3 Power




A **【Restart At】** Set the time when device restarts

B **【Sleep After】** Set the time when device turns off display to only display time

A. Restart At:

- “” icon → Setting → Power → Restart At → Enter the time you wish for restart → Press “OK”

B. Sleep After

- “” icon → Setting → Power → Sleep After → Enter the duration (in minutes) after inactivity when the device enters standby → Press “OK”

6.4 Communication



A **【TCP/IP Settings】** For technically advanced users to change settings regarding IPv4 and IPv6

B **【WiFi】** Our device can connect to WiFi, these settings let you connect to a wifi access point and change the connection settings

C **【Device ID】** If you use multiple devices, you could set the Device ID to help keep track of the devices

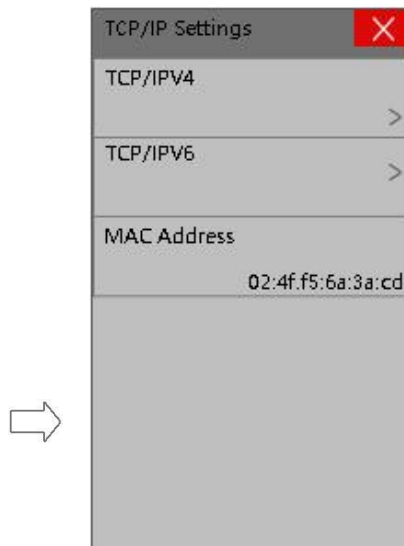
D **【TCP Port】** Set the port for communication

E **【Communication Password】** Extra protection to ensure connection is with a trusted source


F **【WebSocket Server URL】** Configures the WebSocket Server URL

A. TCP/IP Settings

- “” icon → Setting → Communication → TCP/IP Settings



B. WiFi:

- “” icon → Setting → Communication → WiFi



Select Wi-fi hub: Select the Wi-Fi you want to connect to

TCP/IPv4 and TCP/IPv6: For technically advanced users

Link Information: Shows status of the Wi-Fi connection

Auto Select: Allows auto selection of Wi-Fi hotspot, press "Auto Select Setting" to add an access point to the auto-connect list



C. Device ID:

Menu → Setting → Communications → TCP Port, The default is 5005



D. TCP Port:

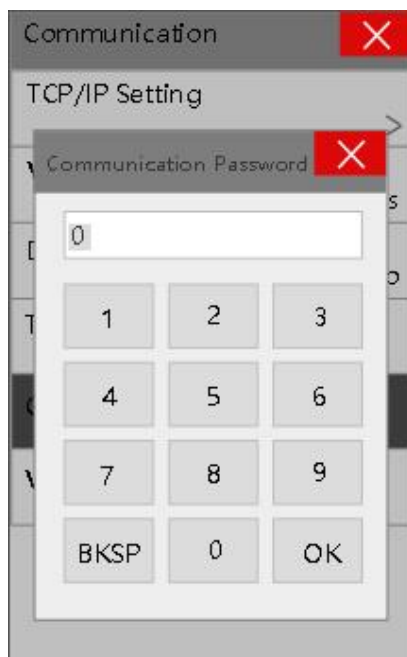
- “🏠” icon → Setting → Communication → TCP Port (The default is 5005)



E. Communication Password:

*Password: to improve the security of your data, you can set the communication password authentication. You can only download the records if this authentication is successful.

- “🏠” icon → Setting → Communication → Communication Password




6.5 Log




- A **【Management Log Warning】** Set a reminder for when management logs exceed a certain number
- B **【Time Log Warning】** Set a reminder for when time logs exceed a certain number
- C **【Reverification Time】** Change the time after first log in that counts as a duplicate verification


A. Management Log Warning:

- “” icon → Setting → Log → Management Log Warning

B. Time Log Warning:

- “” icon → Setting → Log → Time Log Warning

C. Re-verification Time:

- “” icon → Setting → Log → Re-Verification Time

6.6 Access

Access	
Define Time Zone	
Door Open Time	5s
Door Open Timeout	20s
Door Sensor Type	Open
Duress Settings	>
Watch Tamper	No
Wiegand Output Type	Dev ID + User ID (34)
Forward Card ID to Wiegand	No

A **【Define Time Zone】** Define the times during which the device allows access (e.g. Business Hours)

B **【Door Open Time】** Set a reminder for when time logs exceed a certain number

C **【Door Open Timeout】** The duration after which alarm will sound if the door stays open

D **【Door Sensor Type】** Set the door sensors to always “open” or “close”


E **【Duress Setting】** The option to activate alarm with a preset duress password, and to set the delay before alarm

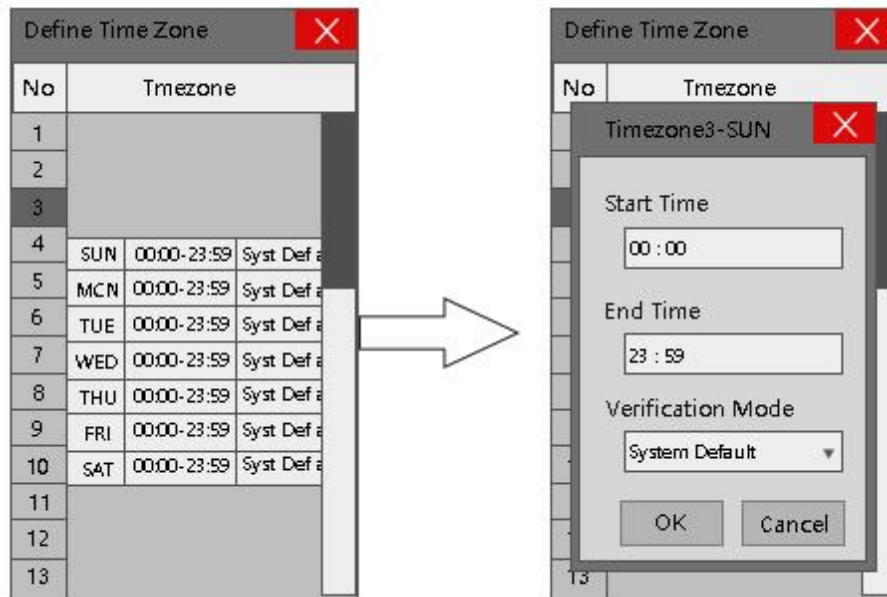
F **【Watch Tamper】** Toggle tamper prevention alarm on/off

G **【Wiegand Output Type】** Choose the Wiegand output to be 26/34 bits format (Device ID+User ID / Card ID / UserID)

H **【Forward Card ID to Wiegand】** Set this to yes if you would like to use a third-party external card reader that supports Wiegand wiring protocol

A. Define Time Zone:

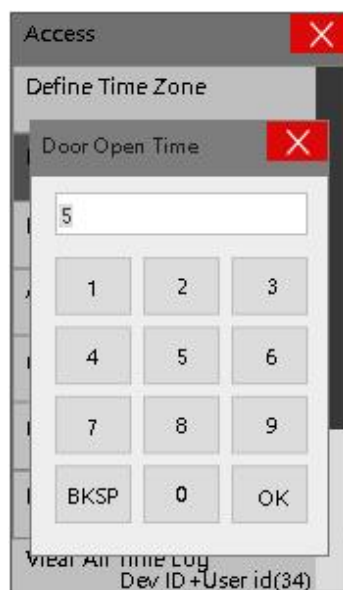
- “” icon → Setting → Access → Select a number on the leftmost column to begin editing Timezone Group* and ensure the selected is highlighted in blue → Click on a row to edit → Select the Start Time, End Time and Verification Mode → Press “OK”



*You may have up to 50 Timezone groups. Each timezone group consists of one week's schedule.

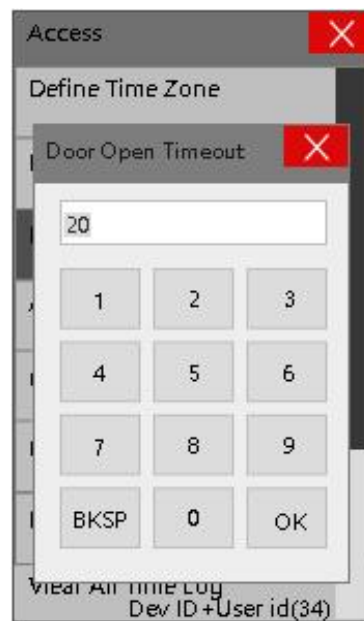
B. Door Open Time:

- “🏠” icon → Setting → Access → Door Open Time




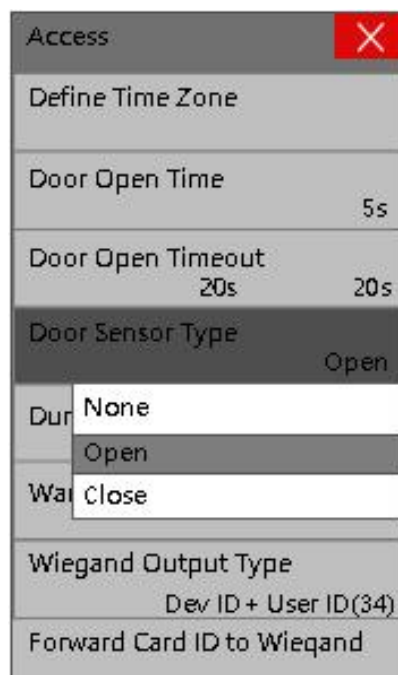
C. Door Open Timeout:

- “🏠” icon → Setting → Access → Door Open Timeout




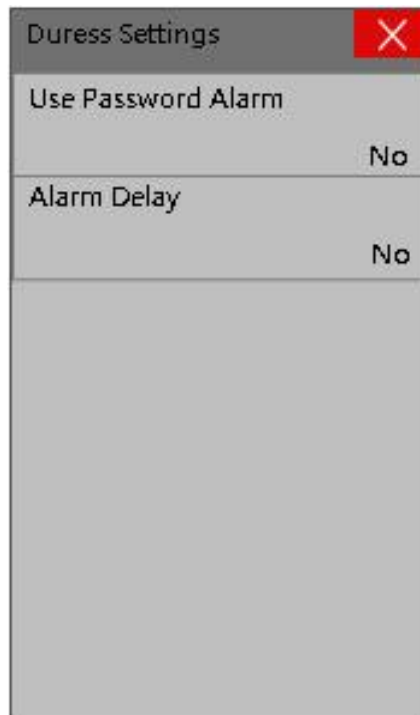
D. Door Sensor Type:

- “” icon → Setting → Access → Door Sensor Type




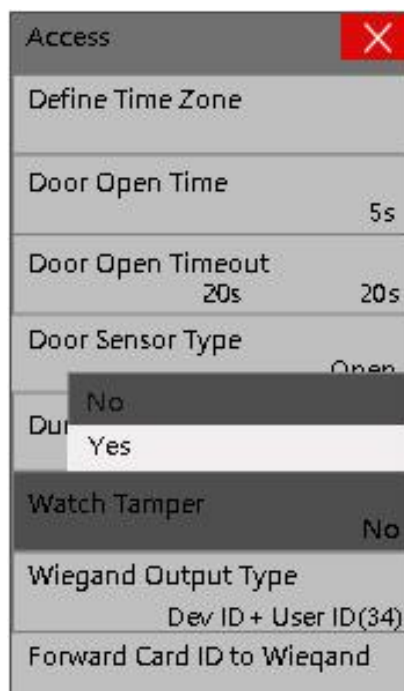
E. Duress Settings:

- “” icon → Setting → Access → Duress Settings




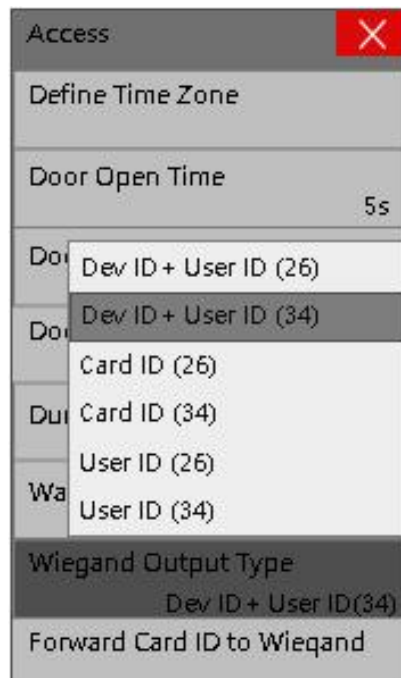
F. Watch Tamper:

- “” icon → Setting → Access → Watch Tamper




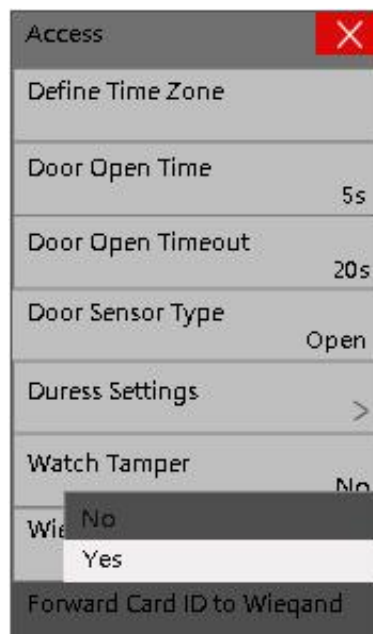
G. Wiegand Output Type:

- “” icon → Setting → Access → Wiegand Output Type → Choose your preferred Wiegand Output Type




H. Forward Card ID to Wiegand:

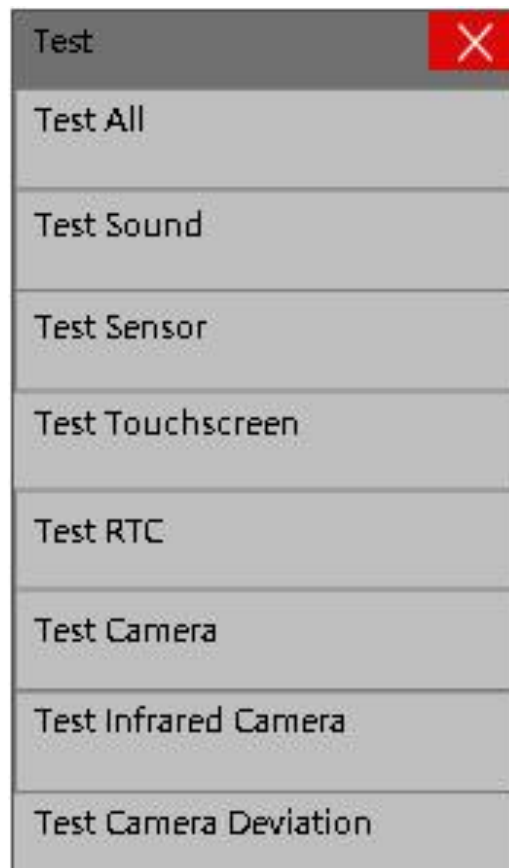
- “” icon → Setting → Access → Forward Card ID to Wiegand



6.7 Test

You may test the functions of Sound, Sensor (fingerprint), Touchscreen, RTC (real-time clock), Camera, IR (Infrared) Camera, and Camera Deviation. All test results except Sound, Touchscreen and RTC can be saved to a USB flash drive.

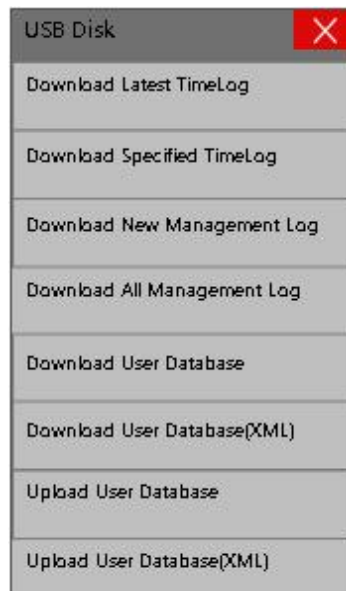
- “” icon → Setting → Test




6.8 USB Disk

*These functions usable only after you insert a USB flash drive

After downloading the logs, they can be inputted by our time attendance software
Follow these steps to access the menu



- “” icon → Setting → USB Disk

- A **【Download Latest TimeLog】** Download logs that weren't downloaded before
- B **【Download Specified TimeLog】** Specify the dates of time logs you wish to download
- C **【Download New Management Log】**
- D **【Download All Management Log】**
- E **【Download User Database】**
- F **【Download User Database (XML)】**

Upload functions are used for backing up the user database, for quick registration on a second device (for applications where you use more than one device), or for quick setup after factory reset.

- G **【Upload User Database】**
- H **【Upload User Database (XML)】**