

User Manual

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



NF4027P NexFace Facial Recognition

KEYKING **KEYKING GROUP**

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Chapter 1 introduction

1.1 Apparatus shape



1.2 Model

Black/Silver: NF4027P, NF4027P-U

1.3 Application

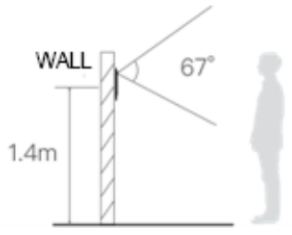
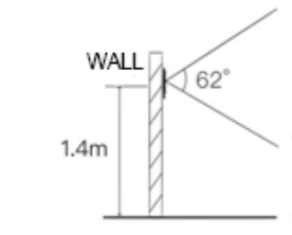
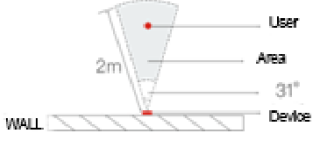
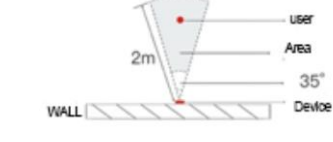
It is suitable for office areas, hotels, access gates, office buildings, schools, shopping malls, shops, communities, public services and management projects, etc.

1.4 Feature

- Support for external HDMI large screen (only supports vertical screen);
- Dynamic dual-camera anti-counterfeiting, completely solve the deception of various photos on various carriers;
- Night infrared, RGB double fill light;

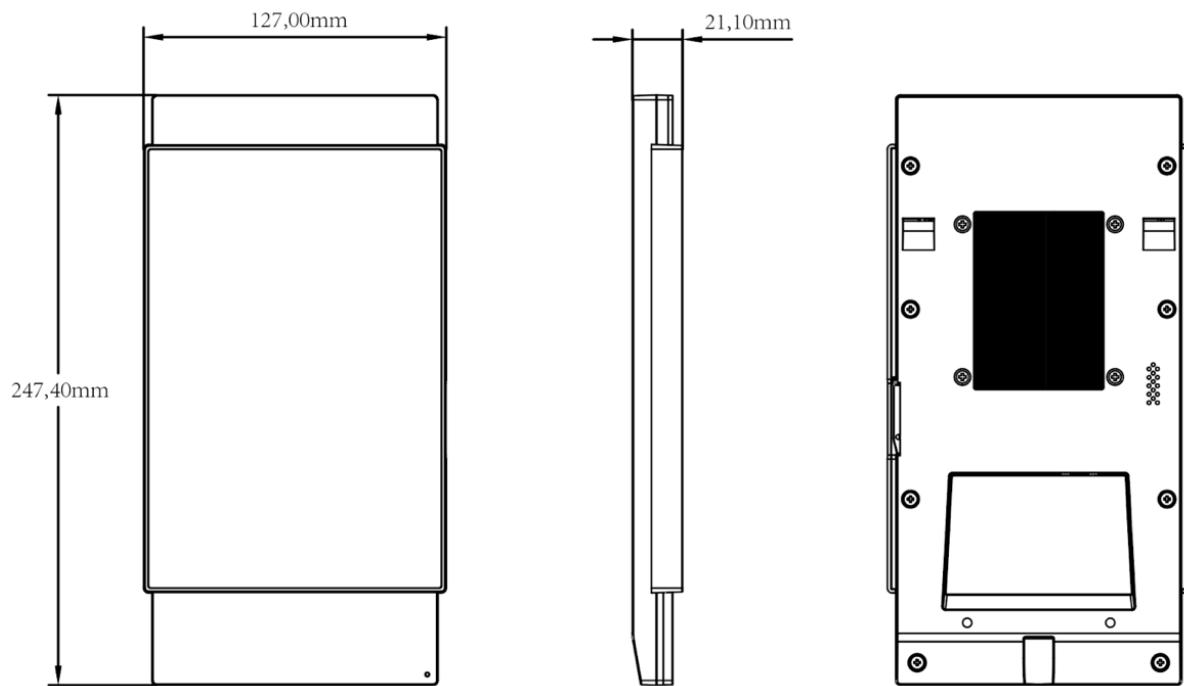
- Support external 4G network;
- Support external QR code scanner and ID card reader (currently only supports new Chinese and new ID card reader DKQ-A16D);
- Support serial port, Wiegand 26, 34 output;
- dynamic face detection and tracking recognition algorithm based on video stream;
- Supports local storage of mega-warehouses for devices, (a) Cloud platform devices support simultaneous storage of 50,000 face photos (less than 400KB), 1 million identification records (0.45KB), 20,000 live snapshots (b) LAN device Supports simultaneous storage of 20,000 face photos (photos calculated by 100KB) and 1 million identification records (including the latest 10,000 live capture photos);
- When the face database is 3000, and the misrecognition rate is 3/10000, the 1:N recognition accuracy rate is 99.7%;
- Fast recognition speed, (a) face tracking and detection takes about 20ms (b) face feature extraction takes about 200ms (c) living body detection face time takes 0.2ms (1000 people library, multiple recognition Average), 0.5ms (10,000 people, multiple times to average);
- Support for stranger detection, stranger level configurable;
- Support for live photo preservation when face recognition or stranger detection;
- Support public network and LAN deployment methods;
- Support HTTP interface interfacing;
- Support screen display content configuration;
- Support for recognition distance configurations.

1.5 Specification

Model		NF4027P、NF4027P-U NF4027P-P、NF4027P-U	
Screen	size	7", full viewing angle, 170 °IPS LCD screen	
	resolution	1024×600	
Camera	type	RGB and infrared	RGB and infrared
	serial number	02F8、02FA (discontinued)	01F8、01FA
	resolution	200WPixel	200WPixel
	aperture	F2.4	F2.1
	focal length	5.75mm	4.43mm
	White balance	auto	auto
	Wide dynamic	support	support
	Vertical wide angle		
	Horizontal wide angle		
Core parameter	CPU	4 cores, 1.8 GHz	
	storage	Memory 2G, storage 8G	
Accessories	Fill light	Infrared, LED fill light	
	Card reader module	U card reader (only supported by NF4027P-U)	
	Network module	Support wired, wireless (2.4GWi-Fi), wireless (4G network card, USB external)	
interface	Audio	1 channel audio output (line out)	
	video	HDMI2.0 Type-A interface 1	
	USB interface	USB2.0 Type-A interface 1	
	Serial communication interface	RS232 serial port, 2.5mm terminal block 4P	
	Relay output	2.5mm terminal block 3P	
	Wiegand	2.5mm terminal block 2P, support Wiegand 26, 34	

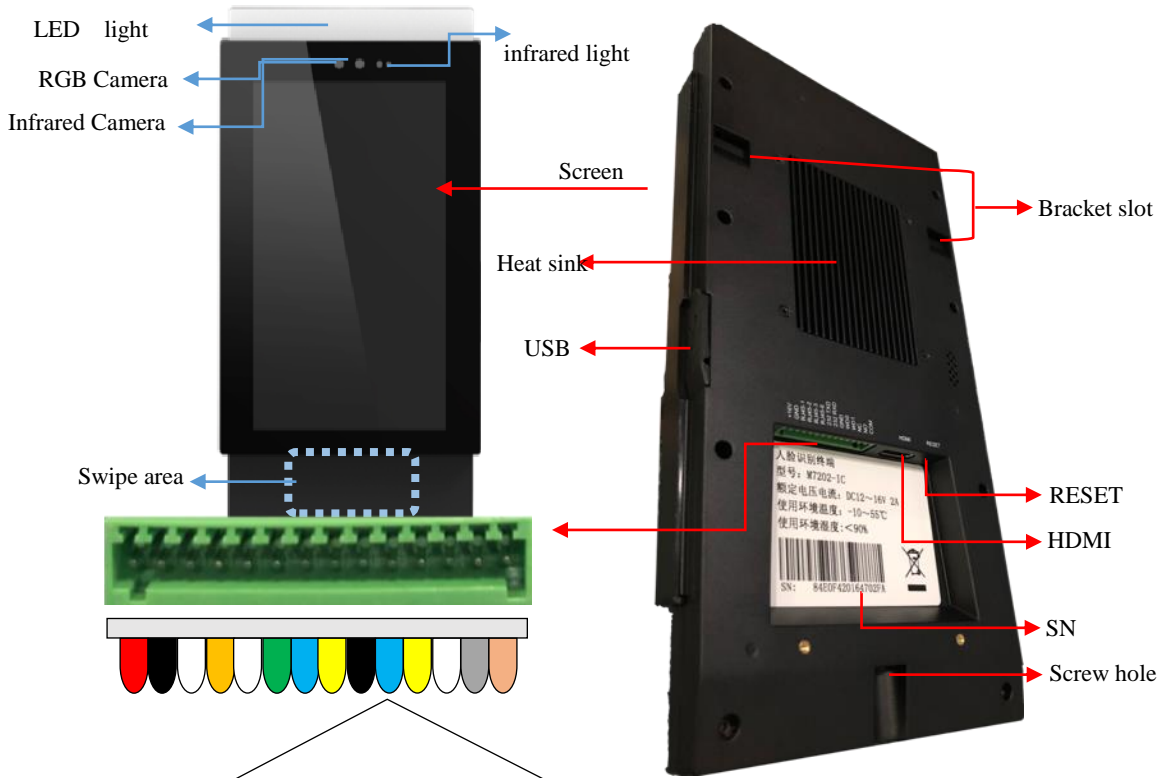
	interface	
	Reset interface	RESET hole on the back of the device
	Wired network interface	2.5mm terminal block 4P
function	Face Detection	Supporting detection and tracking of 5 people at the same time
	1:N face recognition	Under the condition of 3% misidentification rate, the recognition accuracy rate is 99.7%.
	Stranger detection	support
	Recognition distance configuration	support
	UI interface configuration	support
	Remote upgrade of equipment	support
	Deployment method	Support public network, LAN use
Function parameter	Protection level	IP42
	power supply	DC12V (±10%)
	Operating temperature	-10°C ~ 60°C
	Working humidity	10% ~ 90 %
	Power consumption	10W MAX
	Installation method	Wall bracket installation, gate bracket installation
	Equipment size	23cm*11.6cm*2cm
	weight	≈500g

1.6 Dimensions



Chapter 2 Installation

2.1 interface description



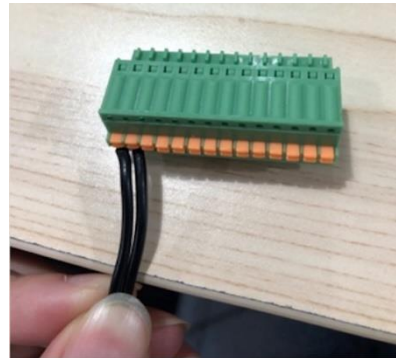
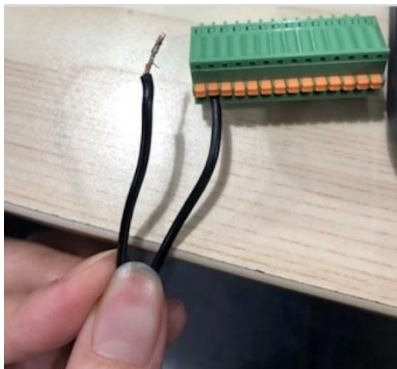
+12V	GND	RJ45-1	RJ45-2	RJ45-3	RJ45-6	232 TXD	232 RXD	GND	WD0	WD1	NC	NO	COM
POWER		NETWORK				COM PORT		WG_OUT		Lock			
Positive and negative power supply. If they are reversed, the device will not start. Power adapter requires 12-16V, 2A		cable. From left to right are: TX+, orange white line TX-, orange line RX+, green white wire RX-, green line				Serial signal output. serial communication TXD, RXD		Wiegand 26 signal output. Wiegand signal 0 output, 1 output		Relay switch signal output. From left to right: NC, NO, COM.			

2.2 Installation steps

1. wiring instructions (take the power line as an example, other wiring and analogizing later)
 - a) Strip the wire (using tools such as scissors) to expose the wire as shown.



- b) Press the orange button at each connector on the green bar to insert the wire end into the hole, then loosen the orange button to secure the wire as shown.

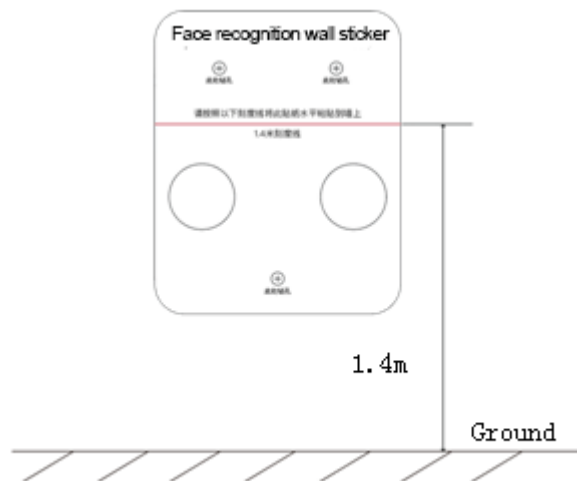


i Caution:

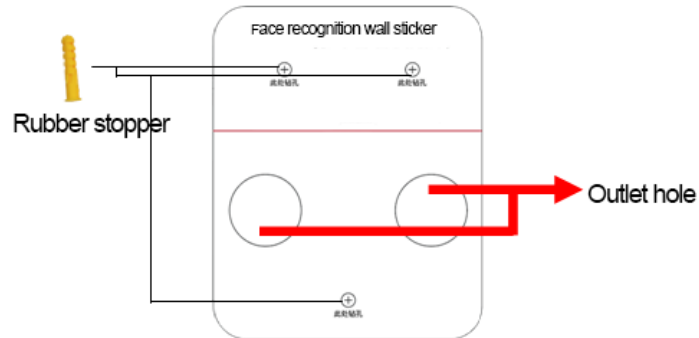
- If the positive and negative poles of the power cord are reversed, the device will not start; if the positive and negative poles are connected correctly,

the device will start normally; the device power adapter requires 12–16V, 2A.

- Be careful not to short the positive and negative wiring, otherwise the device will not start.
 - If you do not need to install the device on the wall, you can directly refer to step 6. After the device is powered on, start using the device.
2. Place the hole paper on the wall, keep the horizontal line parallel to the ground when pasting, and the red line is 1.4m away from the ground.



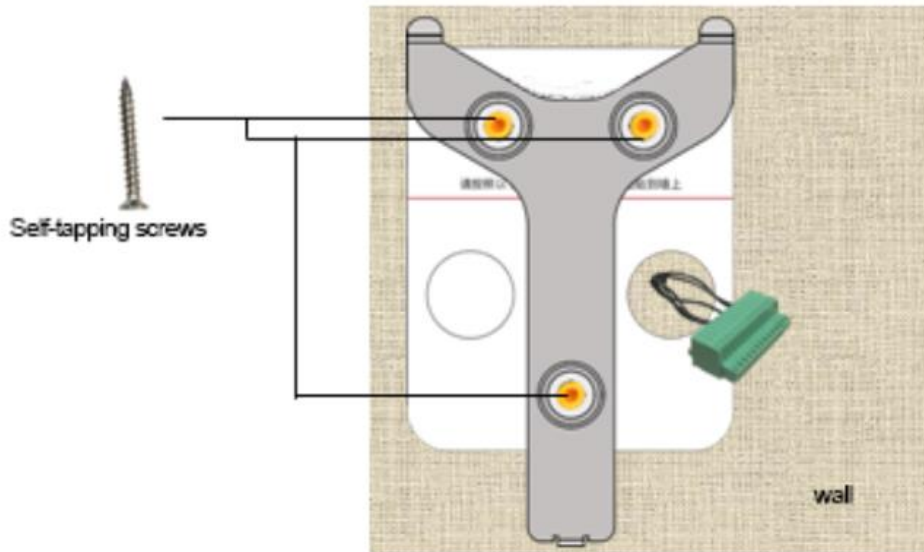
3. Drill 3 screw holes in the wall according to the instructions of the hole paper, and open 1-2 threading holes according to the wiring requirements, and insert the rubber plugs in the accessories into the holes.



4. According to the mounting position of the bracket, insert the green plug of the connected cable out of the outlet hole. If you need to reset the cable and HDMI cable, please pass it out from the outlet hole at this step.



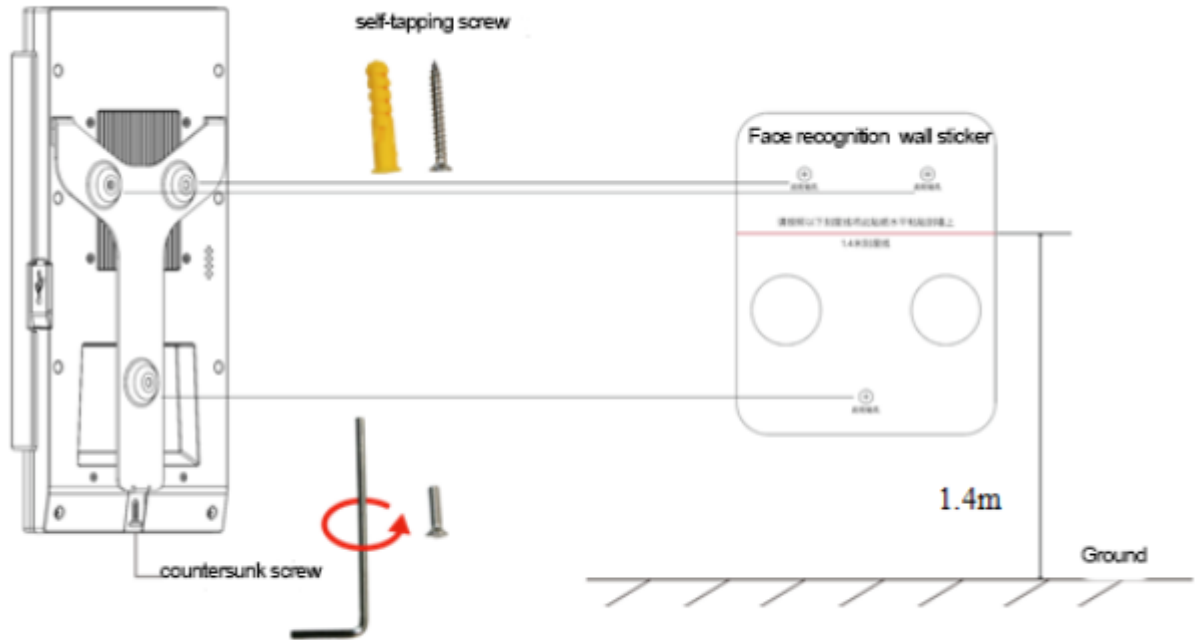
5. Move the bracket so that the three holes on the bracket align with the holes on the wall, and then secure the bracket to the wall with the self-tapping screws in the accessory.



6. Insert the green interface into the connector on the back of the device.



7. Screw the countersunk screw into the bracket for two turns, then align the slot under the device with the hook under the bracket. Use a hexagon socket tool or a hex driver to tighten the countersunk screw in the direction of the arrow. The installation is complete.

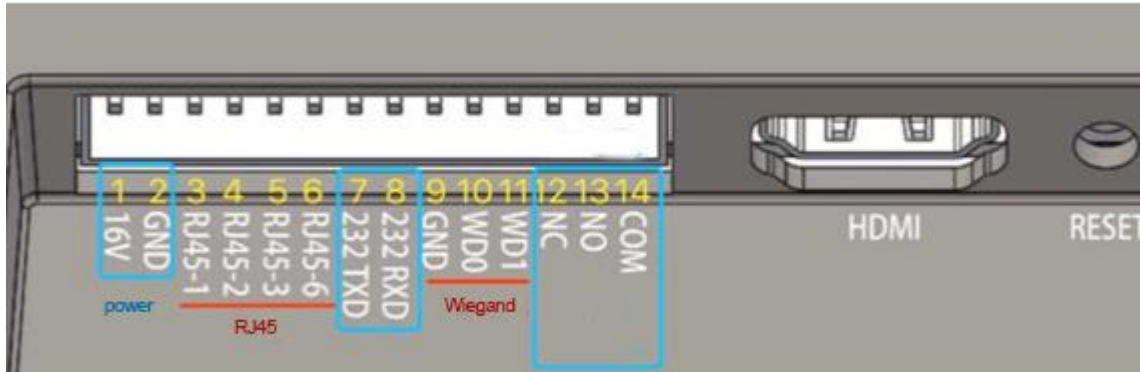


Chapter 3 wiring

3.1 Material / Tool List

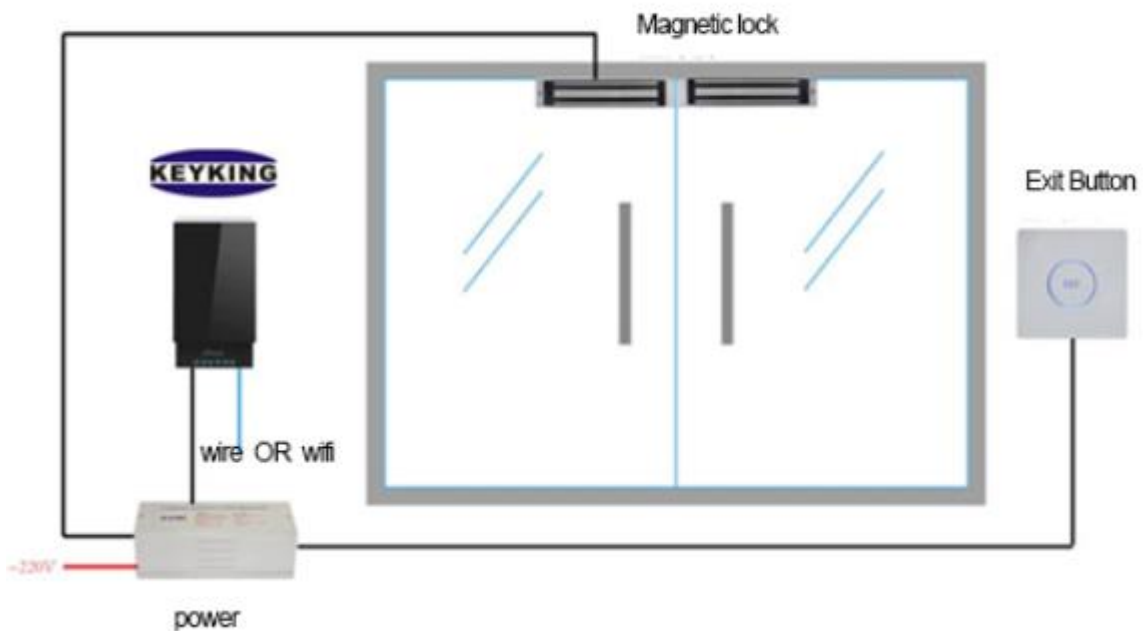
NO.	Material/Tool	Quantity	Note
1	NF4000 Facial recognition instrument + accessories	1	Self-contained accessories include: 12V adapter, wall mount bracket, expansion tube, self-tapping screws, hex wrench, hexagon socket screws, etc.
2	Exit button (optional)	1	Use to exit
3	Electromagnetic lock (optional)	1	When the power is off, the door is opened, and when the power is turned on, the door is locked
4	Access control power supply (optional)	1	Power supply to the electromagnetic lock, can be powered to the Keyking host at the same time
5	Network cable (optional, device supports Wi-Fi)	Several	Used to lay out Ethernet and other remaining traces
6	Cable clamp, network tester, diagonal pliers, electrical tape, wire buckle	Several	Used to lay out Ethernet and other remaining traces
7	Drilling tool	Several	Used to install equipment, wiring

3.2 Interface description

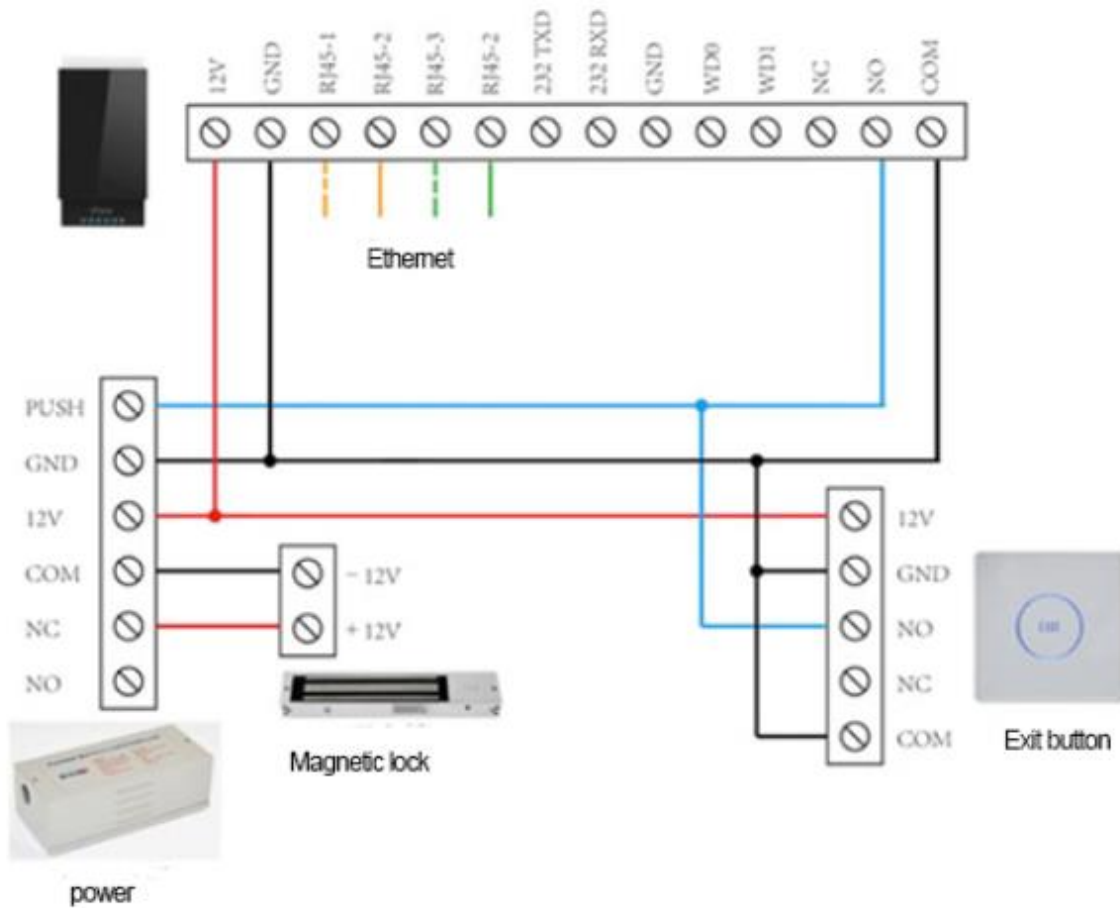


3.3 Magnetic lock wiring

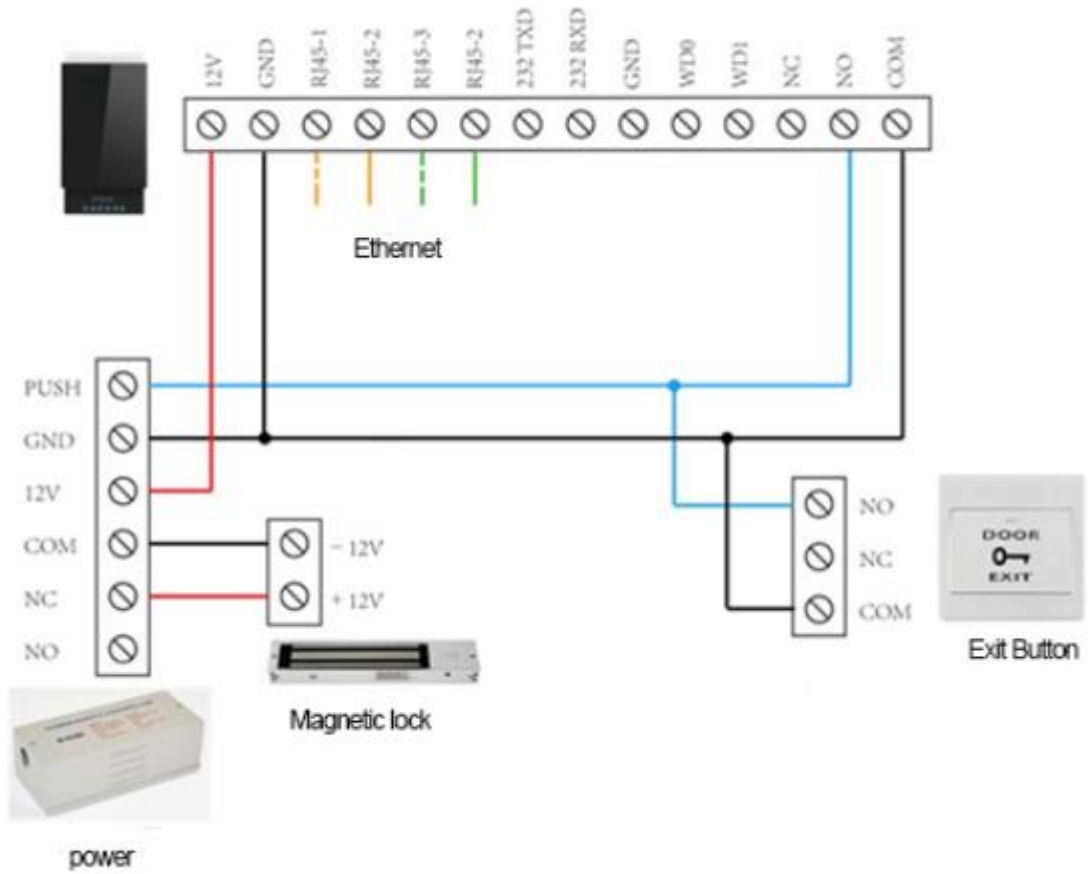
3.3.1 system installation diagram



3.3.2 Magnetic lock and exit button wiring diagram

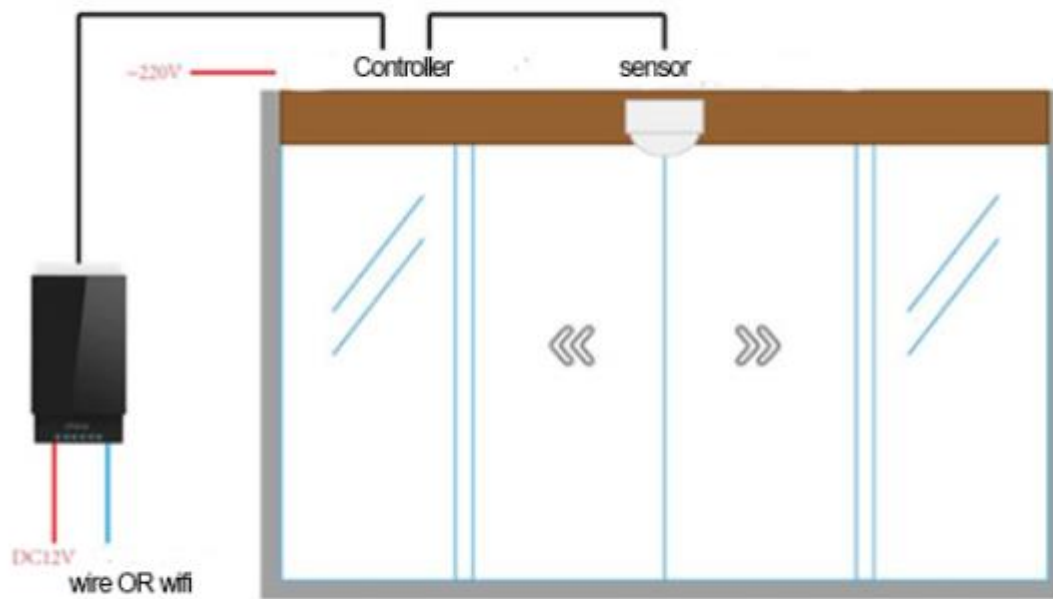


3.3.3 Magnetic Lock mechanical switch wiring diagram

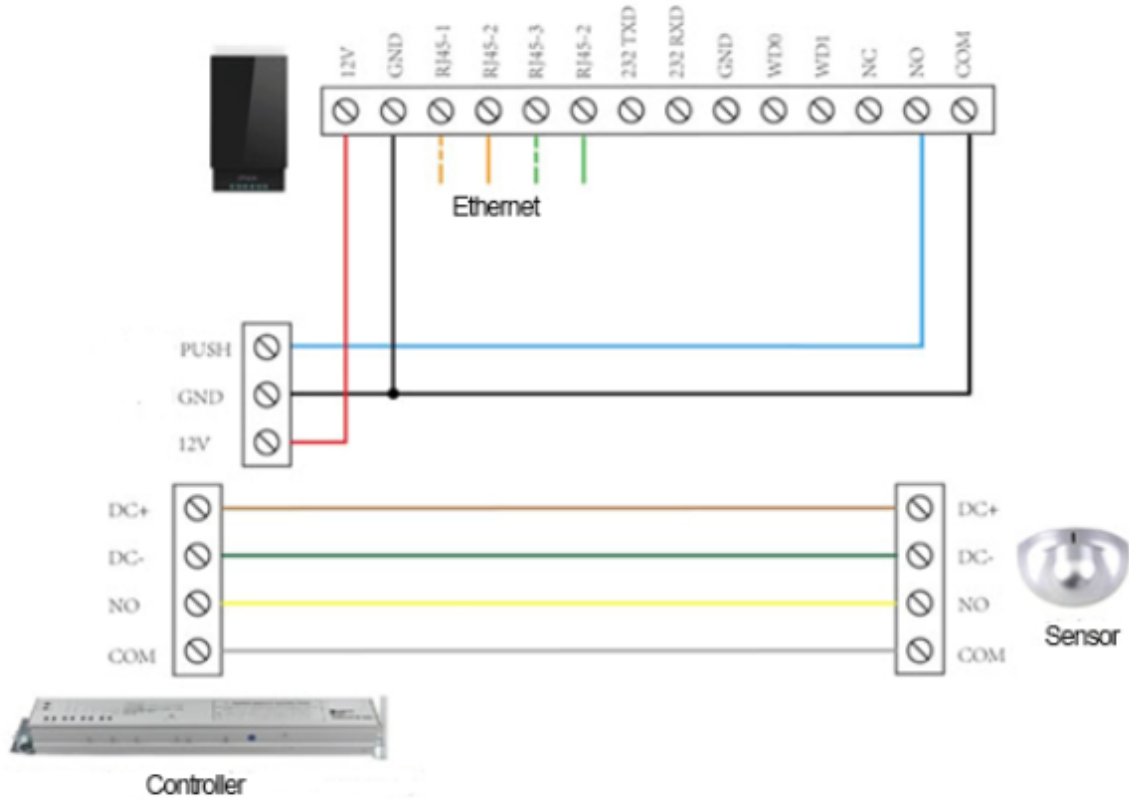


3.4 Automatic induction door wiring

3.4.1 Automatic induction door system installation diagram

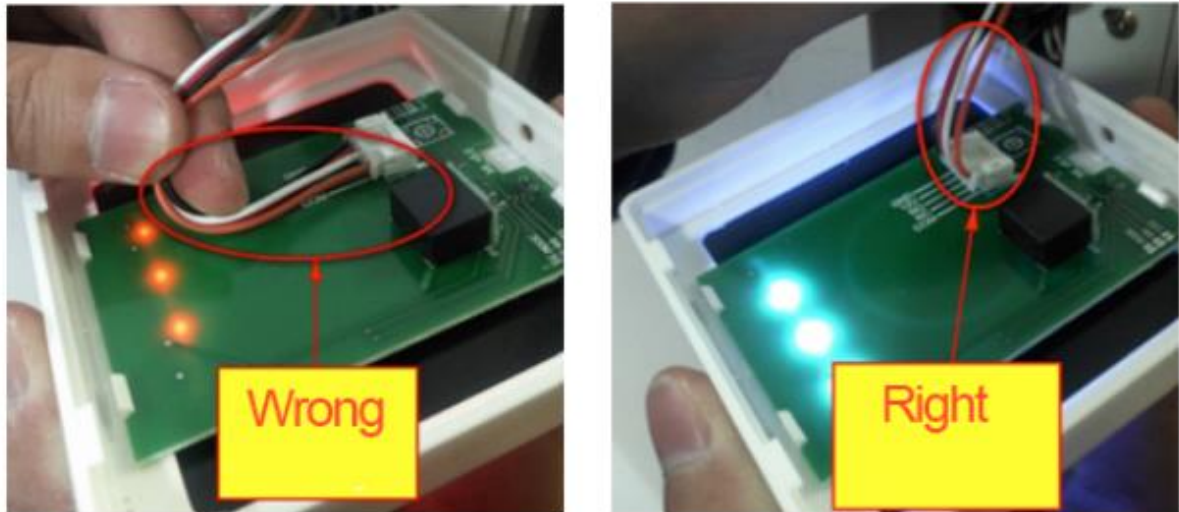


3.4.2 Automatic door sensor head switch wiring diagram

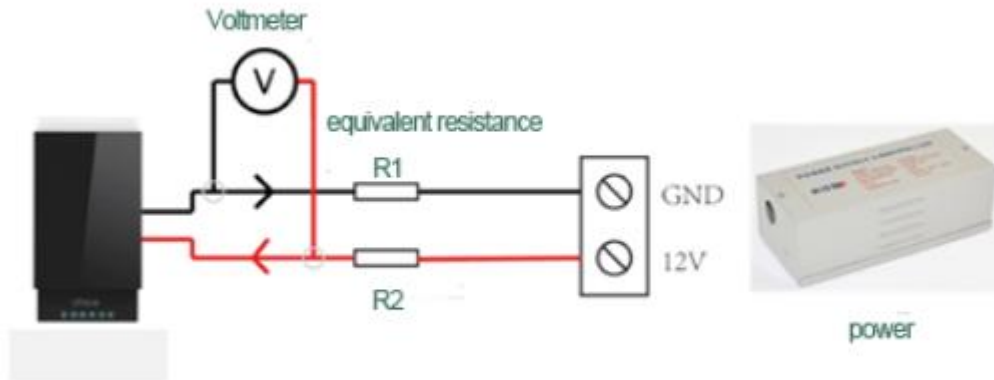


3.5 Precautions

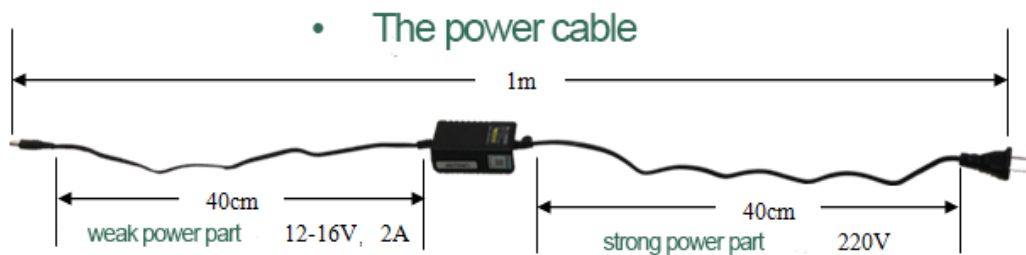
- 1、 Touch the cable inside the Exit button panel as far as possible from the center of the back of the panel.



2、 In actual wiring, if the 12V power supply line of Keyking host does not use “dedicated power extension cable” and the distance is long, it will result in excessive cable equivalent resistance, which will be prone to abnormal phenomena such as insufficient terminal voltage ($\leq 11V$) and host. Repeated restarts, crashes, etc. The voltage measurement wiring is shown in the figure.




- 3、 The device with a power adapter as shown in the figure, the total length is 1 meter, of which the power cable (weak power part) 40cm, the power line (strong power part)



- The power cable (weak power part) must not be extended by more than 2 meters. Otherwise, the voltage at the host terminal of the device will be insufficient, and repeated restarts and crashes will occur. If the power supply is far away from the device, extend the power cord (strong power part).

- If other adapters are used, such as 9V, 1A, the voltage is too low and the current is too small, which will cause the device to restart repeatedly.
- The cable used should not be too thin (such as a thin wire). It is recommended to connect multiple strands of the same cable or use a thick copper core cable to ensure a voltage $>11V$.

 **note:** If the network cable is used, the extension cable uses 4 strands of wire to make the positive electrode and 4 strands to make the negative electrode.

- If you are not sure how to extend it, please contact the supplier to replace the “Dedicated Power Extension Cable”.

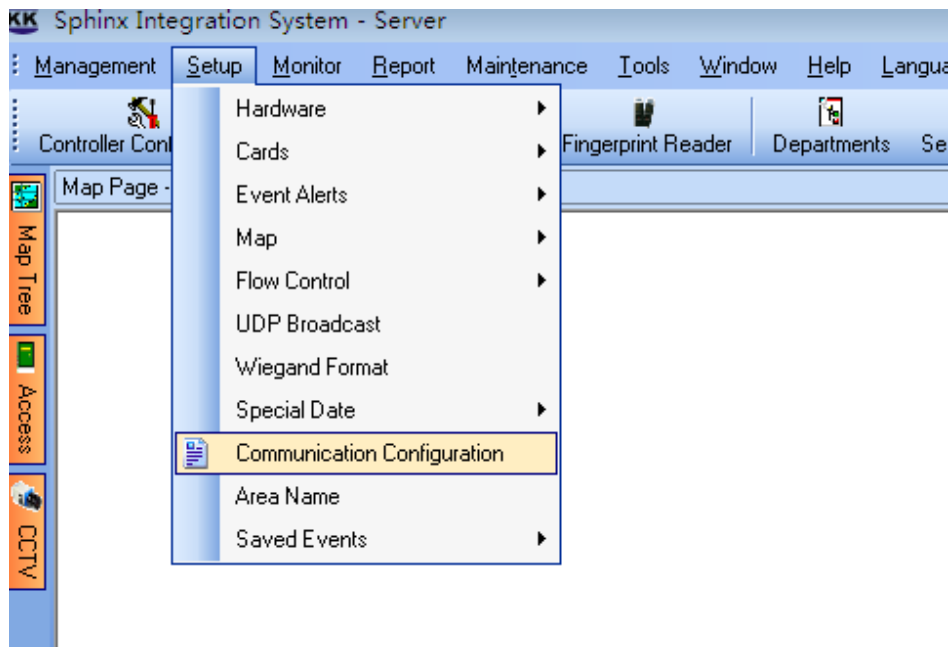
Chapter 4 System setting

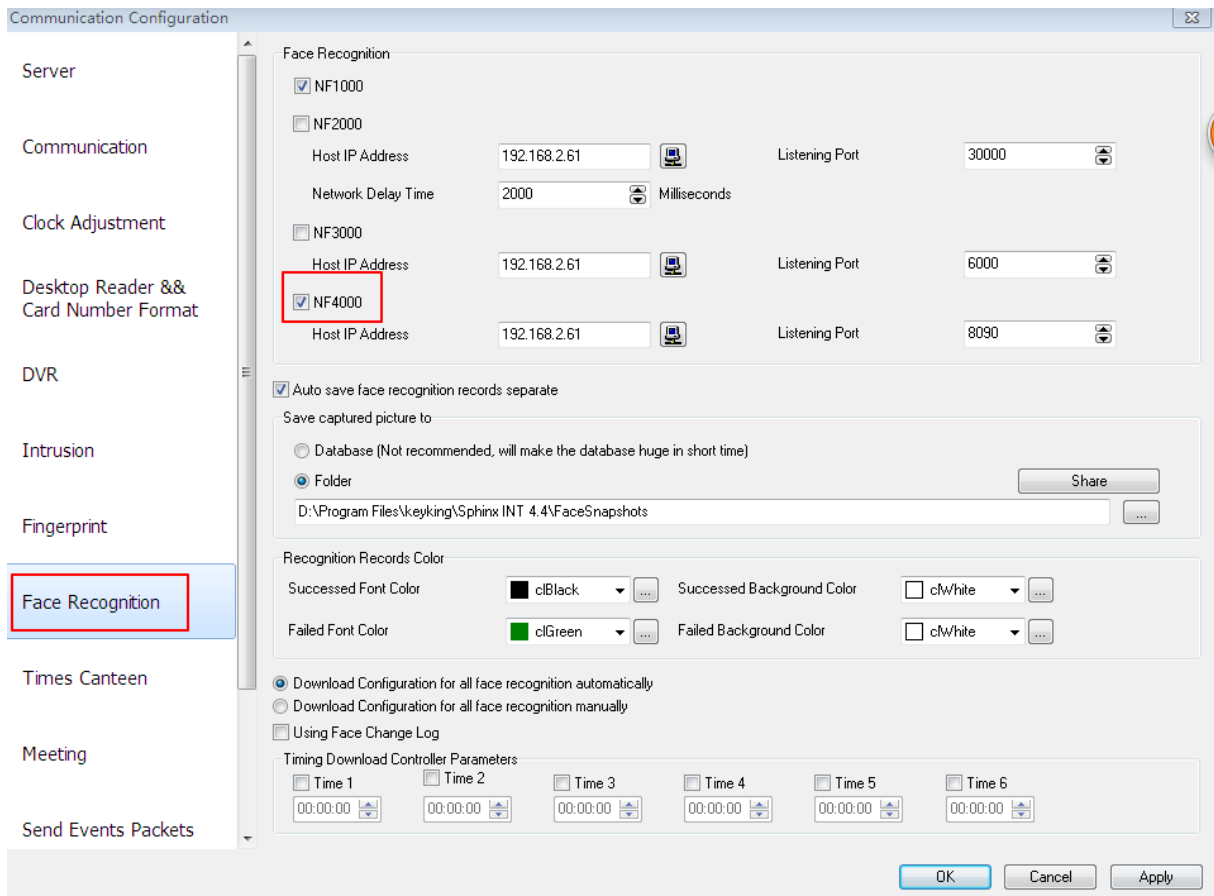
4.1 NF4027P setting

Set ip in NF4027p, make sure it is in the same IP segment with sphinx

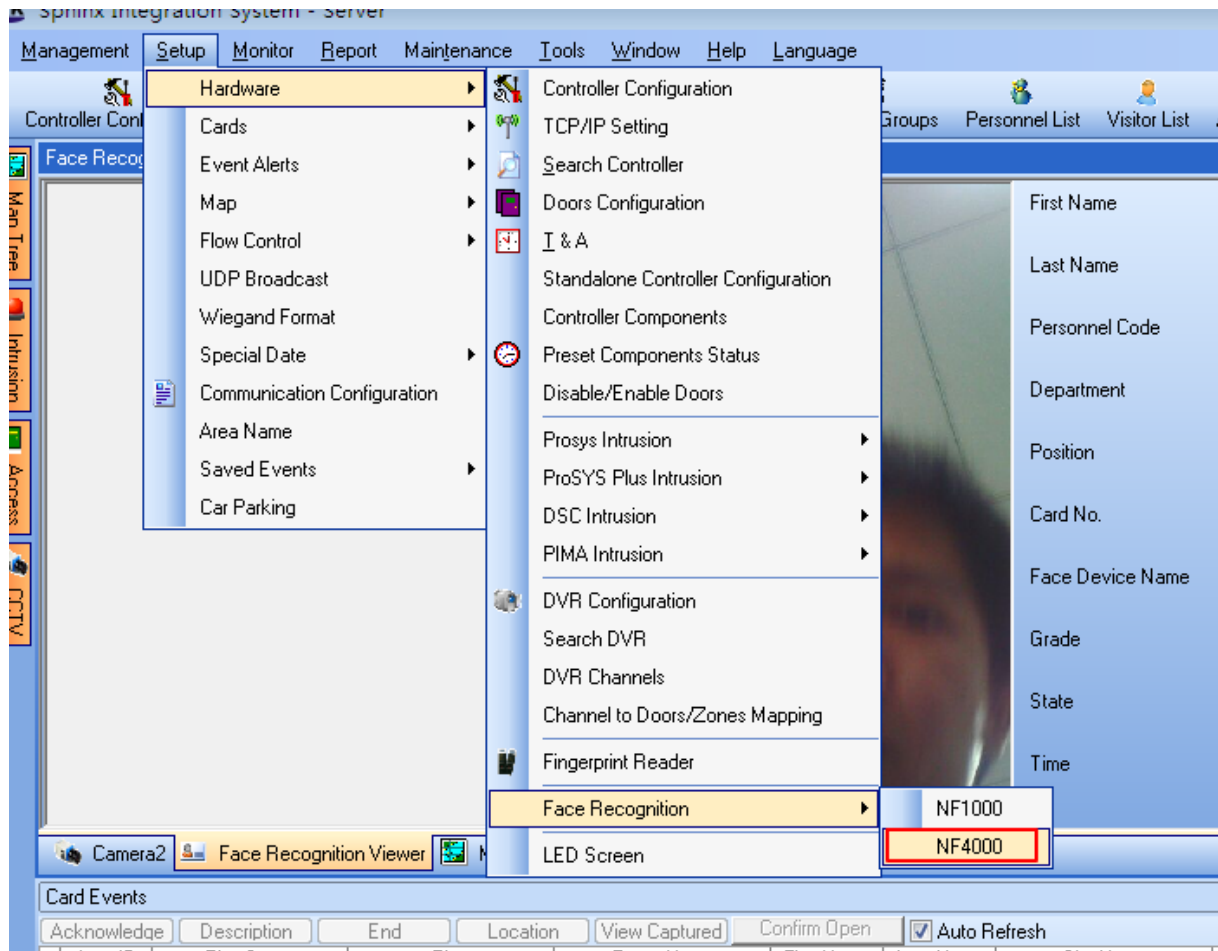
4.2 Sphinx4.4 setting

- Communication configuration

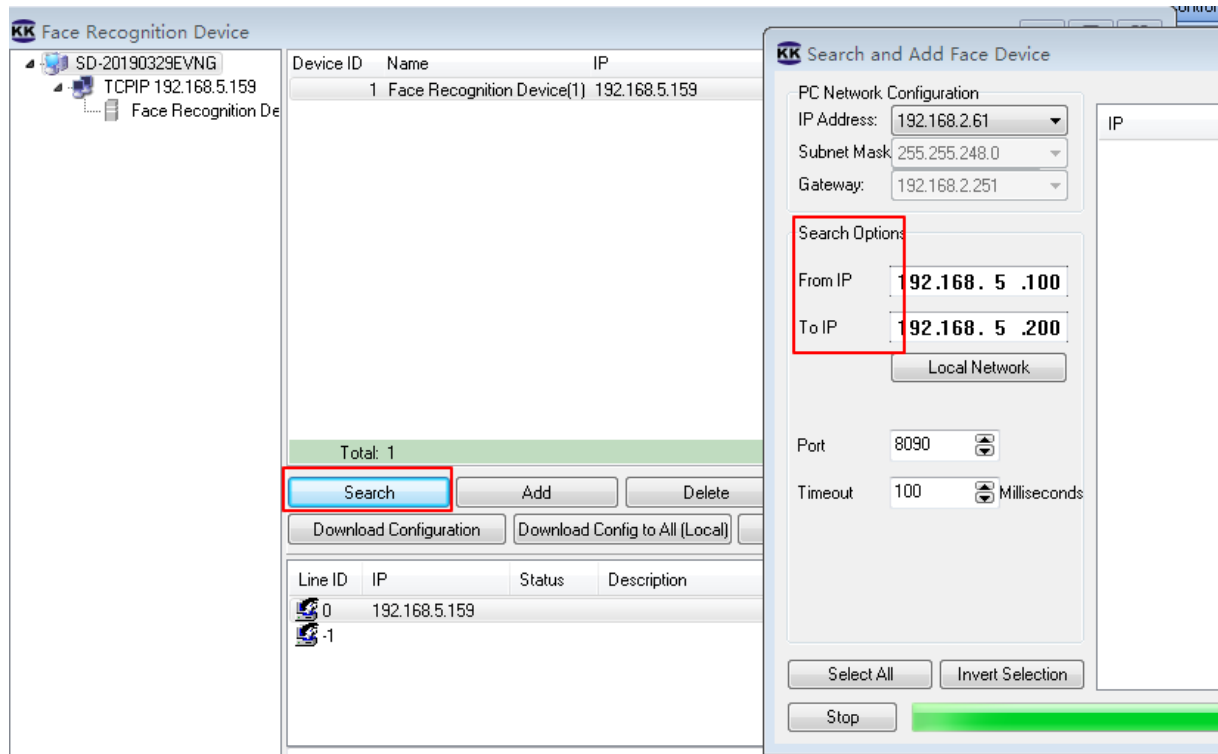




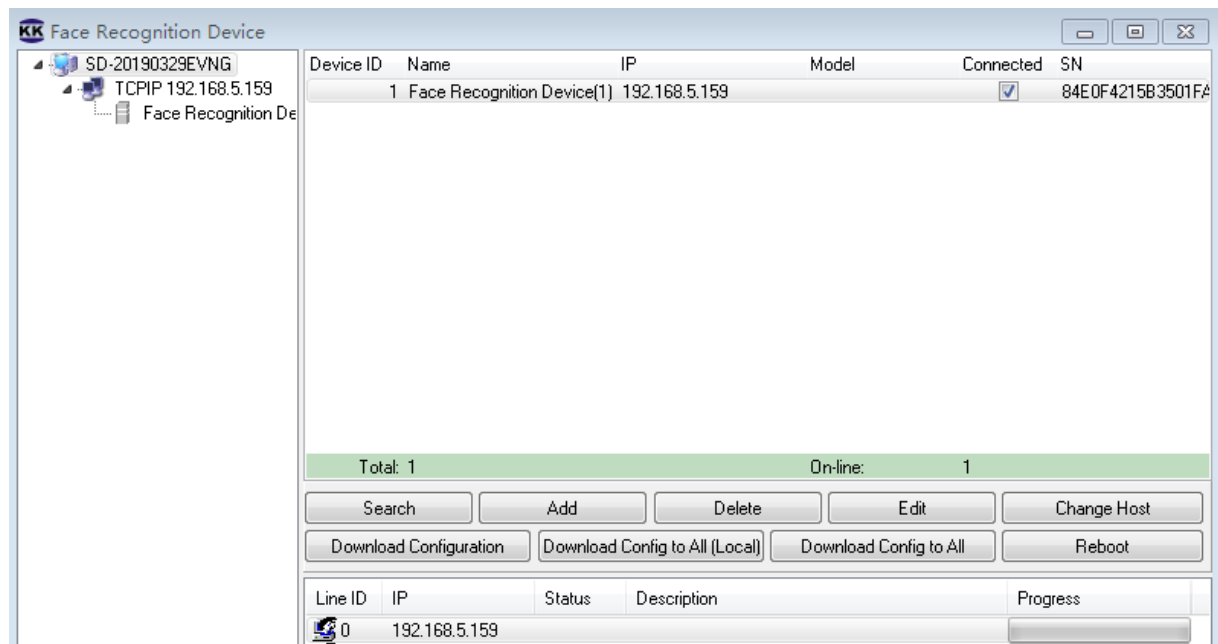
- Add face recognition device setup—hardware—face recognition



As shown in the figure below, click search, fill the IP segment that covers the NF4027P.

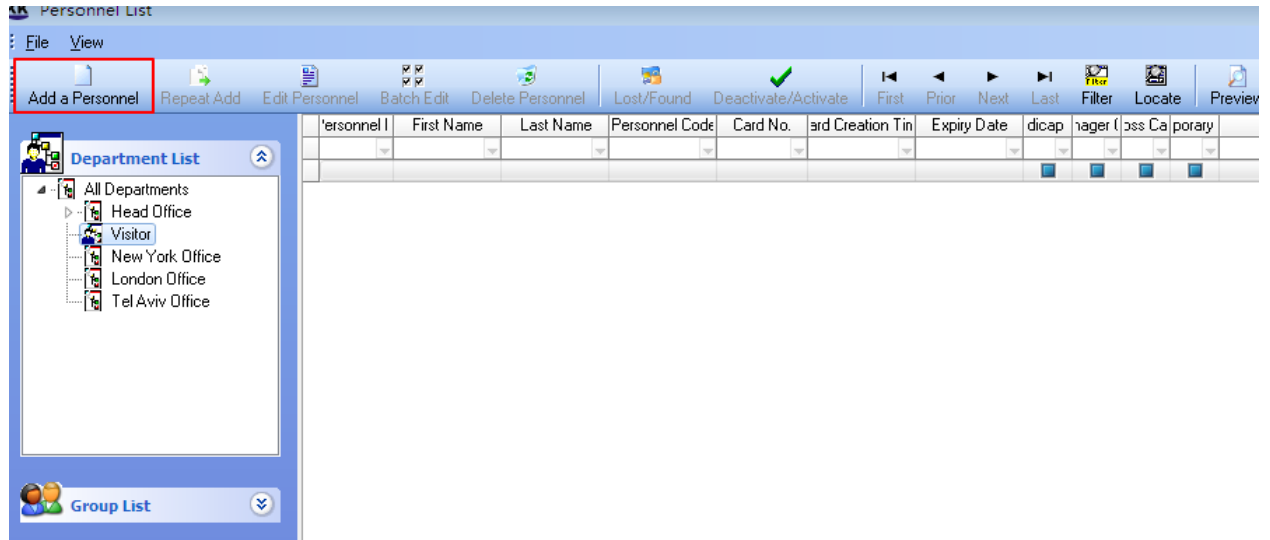


After the device goes online:



Chapter 5 Registered

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

Personal Information

Basic Information

Card

Access Level

Fingerprint

Face Info

Personal Information Get ID information from 2# ID Card Reader

ID Code

First Name* Last Name

ID Number Gender

Department

Group Position

Joining Date

Last Day

Address Floor No.

TEL E-Mail

Birthday Marital Status

Birth Place Nationality

Diploma Major

College Remark

3×4

Card Events QR Code

OK Cancel Apply

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

ID Card Custom ID: From Reader

Expiry Date Retrieve Card Number From Desktop Reader Retrieve Card Number From System Reader

Deactivate 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:

Current Area

Current Area:

Valid for TC3XY Series Only

PIN ID PIN

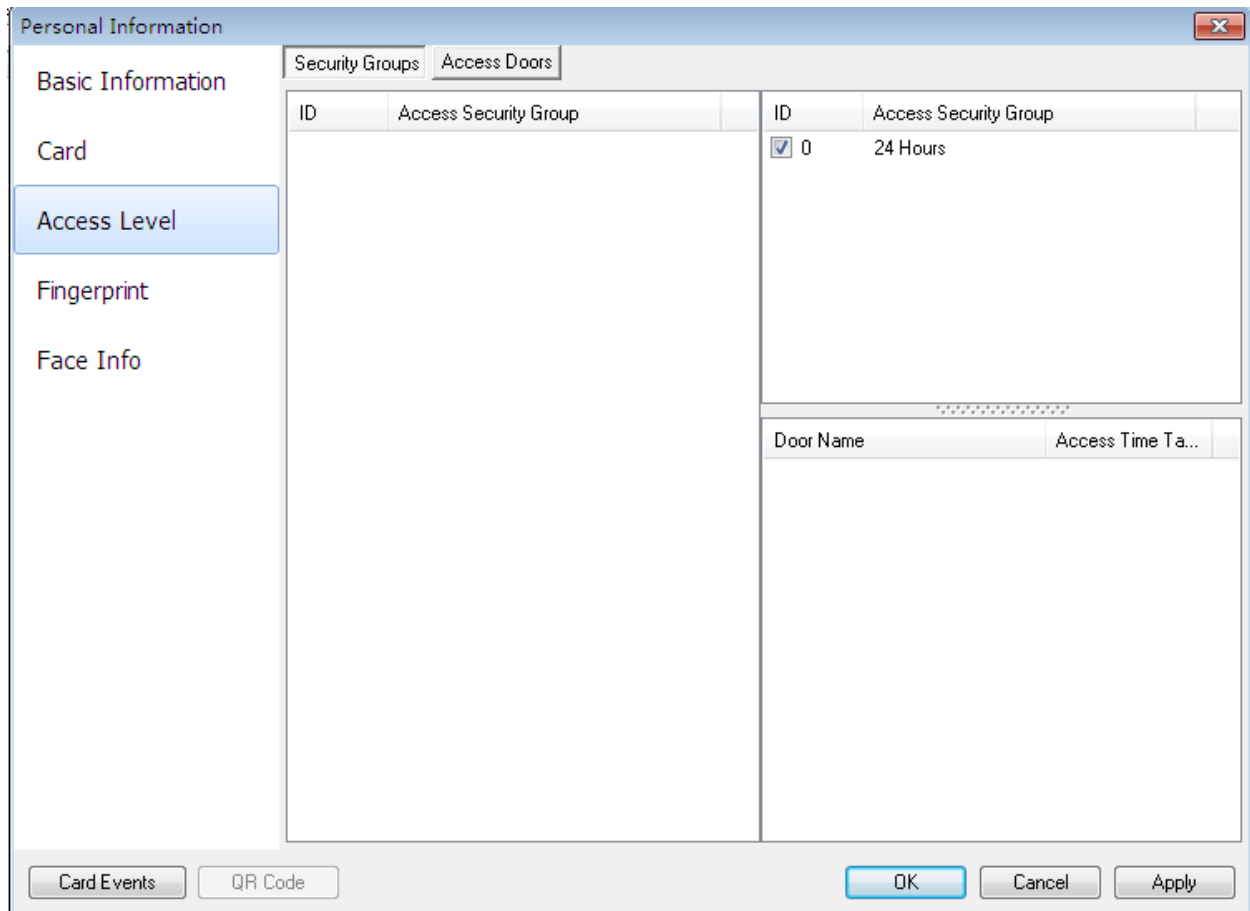
Valid for DPU1000NT/DPU3000NT Only

Card Group

Twin card matched

Private PIN * # 4-8 digits

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



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

Personal Information ✕

NF1000 NF4000

Use Face

Face Info

User Type: Normal


Time Zone: 24 Hours Time Zone...

Face

Face Recognition Device(1) Refresh

Enroll

Delete

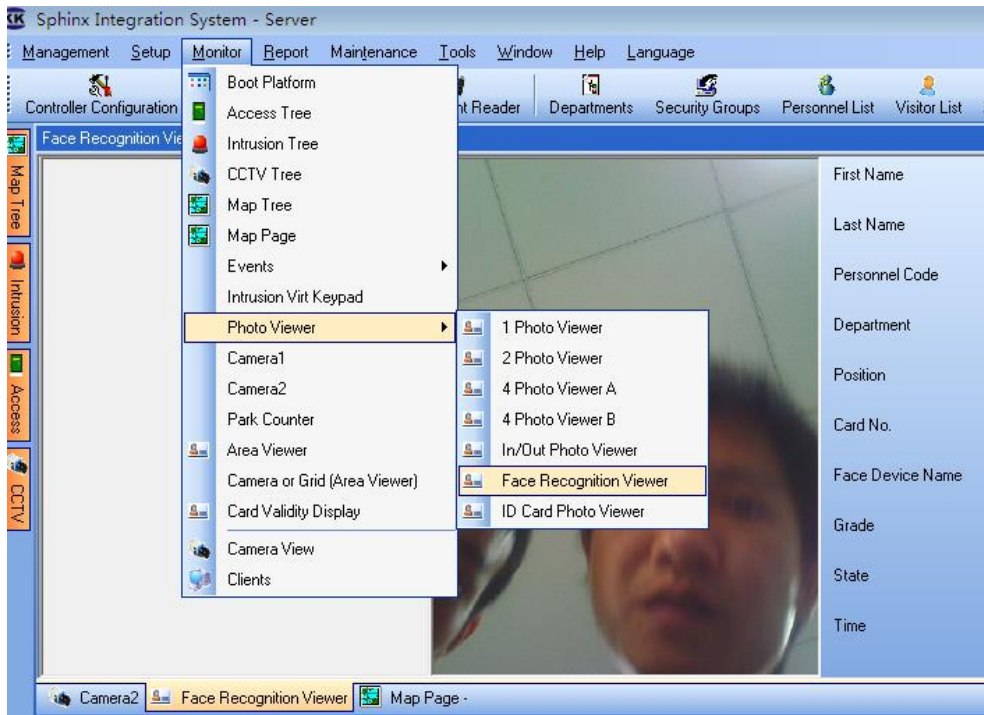


Device Name	IP	Device ID
<input checked="" type="checkbox"/> Face Recognition Device(1)	192.168.5.159	1

Card Events QR Code Card Print OK Cancel Apply

Chapter 6 Test

In **【Monitor】**, choose **【Photo Viewer】**, then **【Face Recognition Viewer】**, we can see the registered face and the new coming face.



If the recognition is Successful, the state is true.

Last Name	
Personnel Code	
Department	Head Office
Position	
Card No.	
Face Device Name	Face Recognition Device(1)
Grade	0
State	<input type="text" value="True"/>
Time	2019/4/17 16:20:01