Access Main Controller

Quick Start Guide

V1.0.1

Foreword

General

This document mainly introduces the structure, installation, wiring and web operation of the access main controller (hereinafter referred to as "the Main Controller").

Safety Instructions

The following categorized signal words with defined meaning might appear in the Manual.

Signal Words	Meaning
DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, reductions in performance, or unpredictable results.
TIPS	Provides methods to help you solve a problem or save time.
NOTE	Provides additional information as a supplement to the text.

Revision History

Version	Revision Content	Release Time
V1.0.1	Updated wiring section.	January 2022
V1.0.0	First release.	March 2020

Privacy Protection Notice

As the device user or data controller, you might collect the personal data of others such as their face, fingerprints, and license plate number. You need to be in compliance with your local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures which include but are not limited: Providing clear and visible identification to inform people of the existence of the surveillance area and provide required contact information.

About the Manual

- The manual is for reference only. Slight differences might be found between the manual and the product.

- We are not liable for losses incurred due to operating the product in ways that are not in compliance with the manual.
- The manual will be updated according to the latest laws and regulations of related jurisdictions. For detailed information, see the paper user's manual, use our CD-ROM, scan the QR code or visit our official website. The manual is for reference only. Slight differences might be found between the electronic version and the paper version.
- All designs and software are subject to change without prior written notice. Product updates might result in some differences appearing between the actual product and the manual. Please contact customer service for the latest program and supplementary documentation.
- There might be errors in the print or deviations in the description of the functions, operations and technical data. If there is any doubt or dispute, we reserve the right of final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
- All trademarks, registered trademarks and company names in the manual are properties of their respective owners.
- Please visit our website, contact the supplier or customer service if any problems occur while using the device.
- If there is any uncertainty or controversy, we reserve the right of final explanation.

Important Safeguards and Warnings

This section introduces content covering the proper handling of the Main Controller, hazard prevention, and prevention of property damage. Read carefully before using the device, comply with the guidelines when using it, and keep the manual safe for future reference.

Transportation Requirement

⚠

Transport the Main Controller under allowed humidity and temperature conditions.

Storage Requirement

⚠

Store the under allowed humidity and temperature conditions.

Installation Requirements

⚠ WARNING

- Do not connect the power adapter to the Main Controller while the adapter is powered on.
- Strictly comply with the local electric safety code and standards. Make sure the ambient voltage is stable and meets the power supply requirements of the Main Controller.
- Do not connect the Main Controller to two or more kinds of power supplies, to avoid damage to the Device.
- Improper use of the battery might result in a fire or explosion.

⚠

- Personnel working at heights must take all necessary measures to ensure personal safety including wearing a helmet and safety belts.
- Do not place the Main Controller in a place exposed to sunlight or near heat sources.
- Keep the Main Controller away from dampness, dust, and soot.
- Install the Main Controller on a stable surface to prevent it from falling.
- Install the Main Controller in a well-ventilated place, and do not block its ventilation.
- Use an adapter or cabinet power supply provided by the manufacturer.
- Use the power cords that are recommended for the region and conform to the rated power specifications.
- The power supply must conform to the requirements of ES1 in IEC 62368-1 standard and be no higher than PS2. Please note that the power supply requirements are subject to the Main Controller label.
- The device is a class I electrical appliance. Make sure that the power supply of the Main Controller is connected to a power socket with protective earthing.

Operation Requirements

⚠

- Check whether the power supply is correct before use.
- Do not unplug the power cord on the side of the Main Controller while the adapter is powered on.
- Operate the Main Controller within the rated range of power input and output.
- Use the Main Controller under allowed humidity and temperature conditions.
- Do not drop or splash liquid onto the Main Controller, and make sure that there is no object filled with liquid on the Main Controller to prevent liquid from flowing into it.
- Do not disassemble the Main Controller without professional instruction.

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1 Overview

The Main Controller is a controlling device which compensates video monitoring and visual intercom. It has a neat and modern design with strong functionality, suitable for commercial buildings, residential area, communities, and more.

1.1 Main Features

- Supports cascade design of CAN bus.
- Overall planning and design of entire route.
- Overall multi-door interlocking.
- Supports to connect card readers in the form of fingerprint, IC and password.

1.2 Ports

- Locally supports 4 groups of lock control output.
- Locally supports 8 groups of alarm input and 8 groups of alarm output.
- Locally supports 4 groups of exit buttons, 4 groups of door sensor feedback and 4 groups of locking tongue feedback.
- Locally supports 4 groups of card readers (four-door one-way 4 groups of RS-485 readers or 4 groups of Wiegand readers).

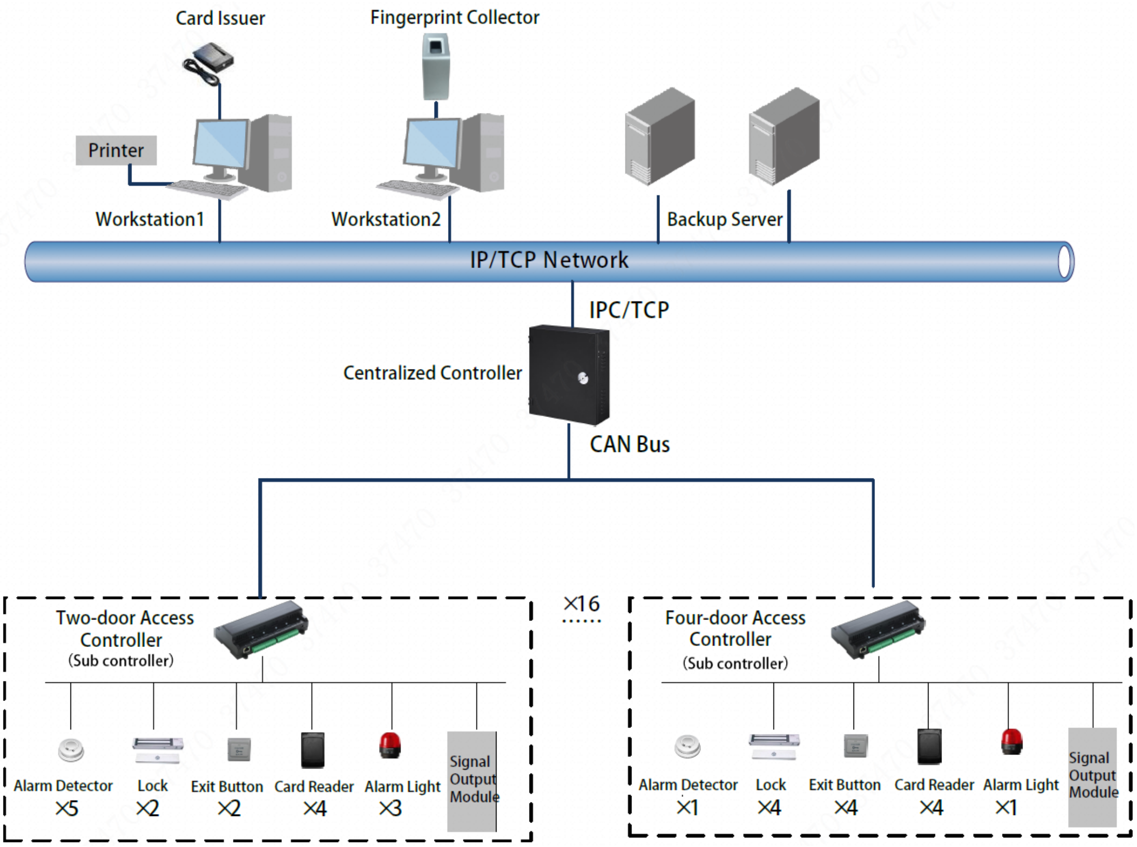
1.3 Parameters

- Supports three-level network mode of CAN bus, support max. 16 sub controllers and centralized management of 64+4 doors.
- Supports max. 200,000 card holders, 150,000 records and 3,000 fingerprints.
- Supports illegal intrusion alarm, unlock overtime alarm, tamper alarm, duress alarm and local unlocked alarm.
- Supports regional anti-passback and regional AB door.
- Supports unlock with multi-card and remote authentication.
- Support VIP card, guest card, patrol card and ordinary card.
- Local web can add, configure and upgrade the sub controllers.
- Supports Onvif Profile C/CGI/SDK and third-party platform connection.
- All ports have overcurrent and over-voltage protection.
- Supports 128 groups of schedules, 128 groups of periods and 128 groups of holiday schedules.
- Supports valid time period setting, password setting and expiration date setting of cards. Regarding guest card, its time of use can be set.
- Permanent data storage during outage, built-in RTC (support DST), online upgdating, NTP (network time protocol) and active registration.
- Working temperature: –30 °C to +60 °C and working humidity: ≤95%.

2 Installation

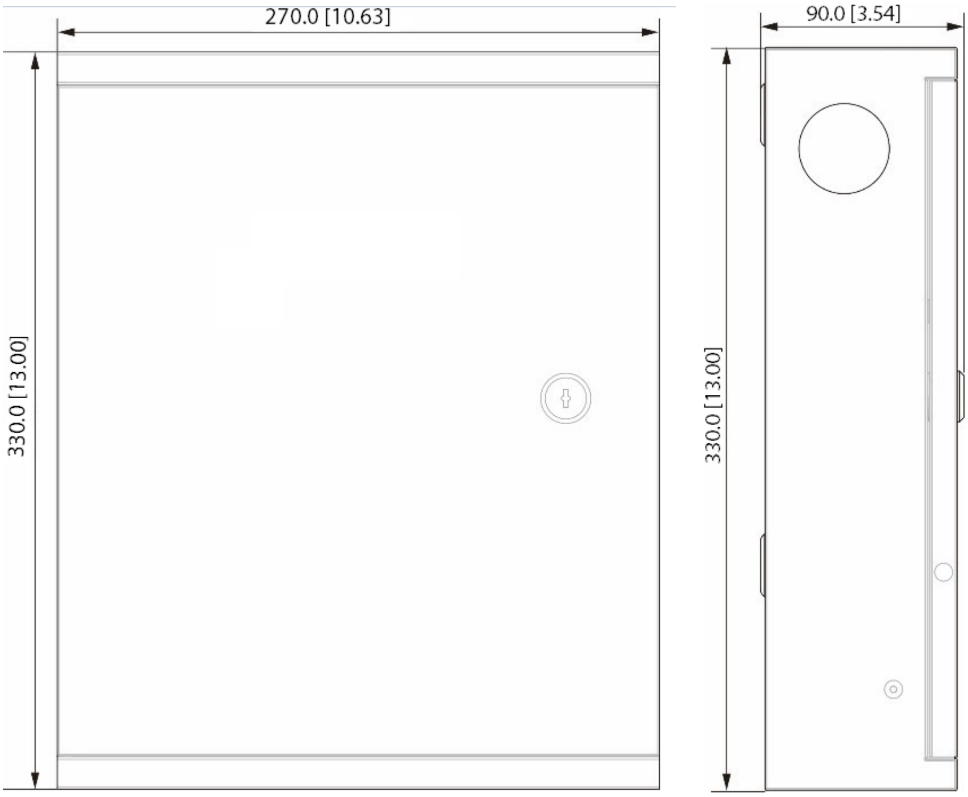
2.1 System Structure

Figure 2-1 System structure



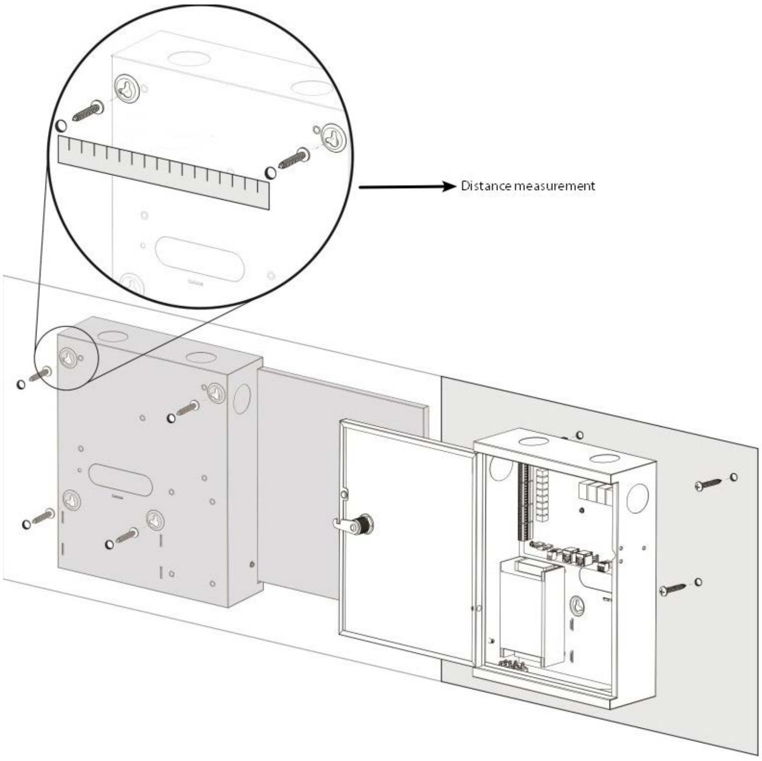
2.2 External Dimension

Figure 2-2 Dimensions (mm)



2.3 Device Installation

Figure 2-3 Installation



Please ensure that device mounting surface is able to bear 3 times as many as the total weight of the device, bracket and accessories.

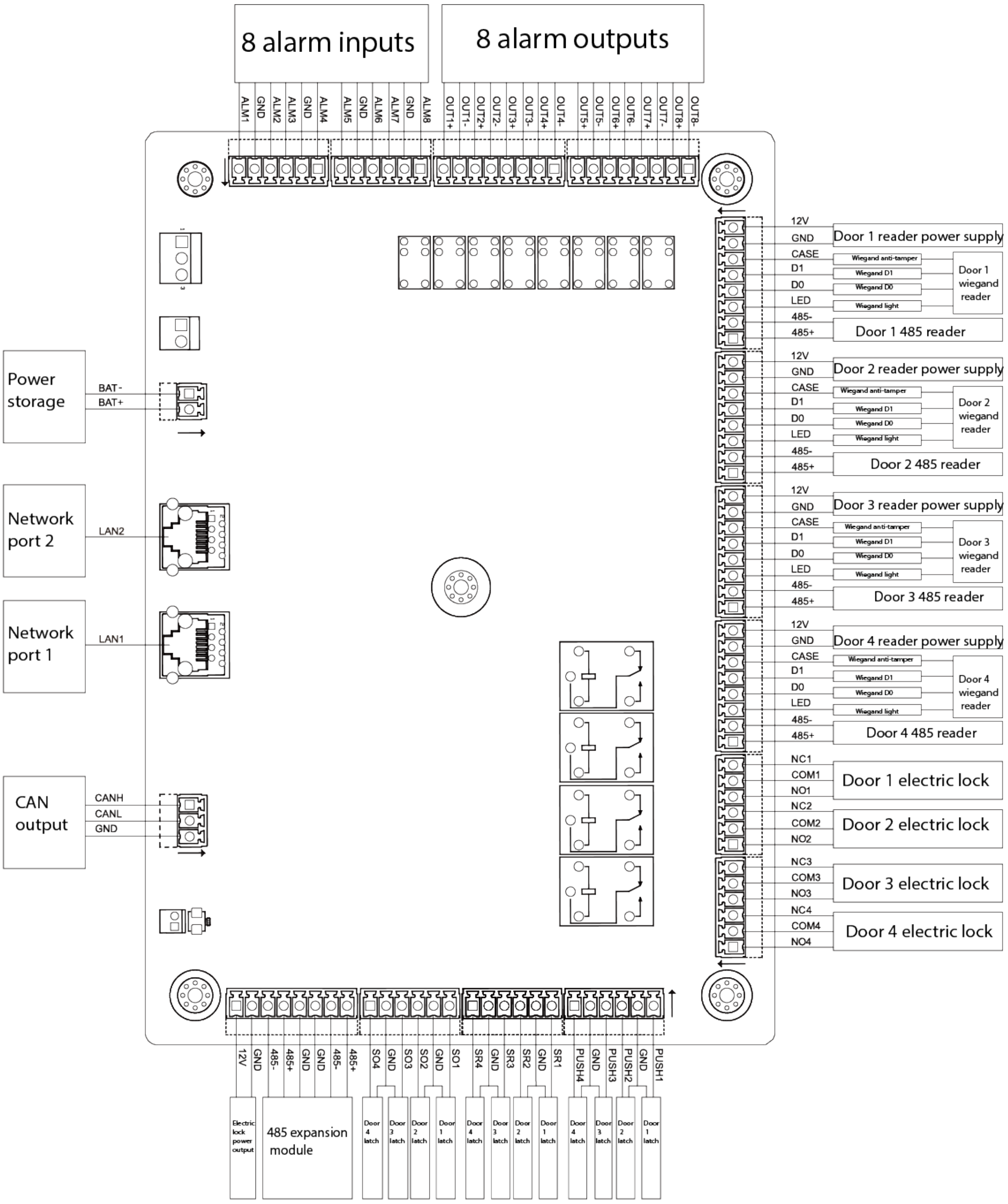
Step 1 Measure every hole distance and position according to holes at rear shell of the Main Controller; drill holes in the wall according to the measured positions.

Step 2 Embed expansion nuts and fix screws into the wall.

Step 3 Attach the whole Main Controller onto the screws.

2.4 Wiring

Figure 2-4 Wiring diagram



2.4.1 Wiring of CAN Bus

Cable Requirement

- Shielded twisted pair cables (AWG20 or AWG18) are recommended.
- If network cable is used, oxygen-free copper cable whose resistance is less than 10 Ω is required.

Table 2-1 Cable requirement

Cable length	Resistance	Cable cross section area	Cable type
300 m–600 m	<40 mΩ/m	0.5 mm^2–0.6 mm^2	AWG20

Cable length	Resistance	Cable cross section area	Cable type
600 m–1000 m	<20 mΩ/m	0.75 mm^2–0.8 mm^2	AWG18

The Main Controller and sub controllers are connected by CAN bus. Data transfer rate can be set through DIP switch, for details, see "2.5 DIP Switch."

Figure 2-5 Use CAN bus to connect main and sub controllers

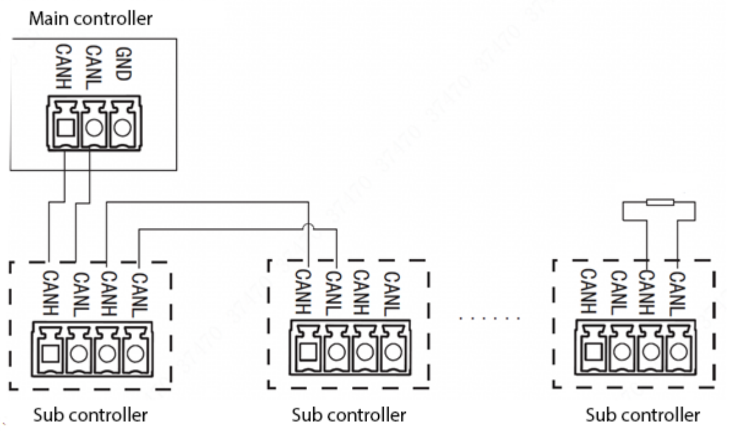


Table 2-2 Communication distance

Interface	Wiring Terminal	Description
CAN Bus	CANH	CAN bus communication
	CANL	

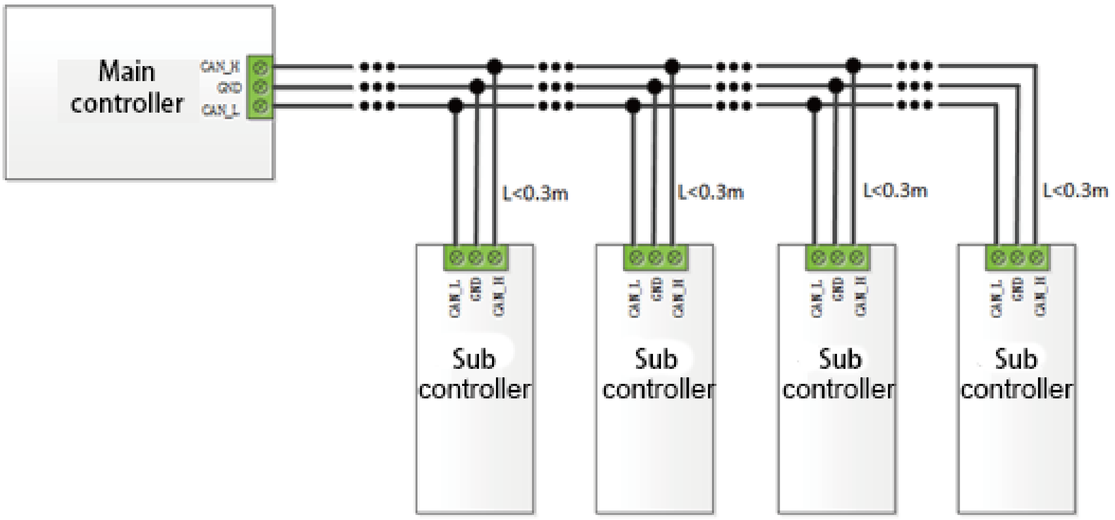
Table 2-3 Data transfer rate

Speed	Distance
50 kb/s	600 m
80 kb/s	400 m
100 kb/s	400 m
125 kb/s	200 m

CAN Connection Mode

"Hand-in-Hand" Connection

Figure 2-6 Hand-in-hand connection



- Connect the Main Controller and sub controllers by terminal resistance, and 200 Ω or 220 Ω resistances are recommended. Do not connect peripheral terminal resistances to the main controller because there are already resistances integrated in the Main Controller. In certain cases, peripheral terminal resistances are needed to do minor adjustment.
- When connecting cables, if T-shaped branch cable layout appears, the T-shaped cable length is not allowed to exceed 0.3 m.
- If network cables are used to transmit data, the cables not used in the network must be all connected to ground cables (no less than two cores). When using one-layer network cable, the shielded layer can be connected to the GND.

📖

- When the distance between the Main Controller and sub controllers is too short, and if there is great common-mode voltage difference and common-mode interference, you can only use CANL and CANH to transfer data without connecting GND.
- When the distance between the Main Controller and sub controllers is far and power supply mode is complex, GND cable must be connected and the GND cable resistance should be as low as possible.

Power Cable Connection

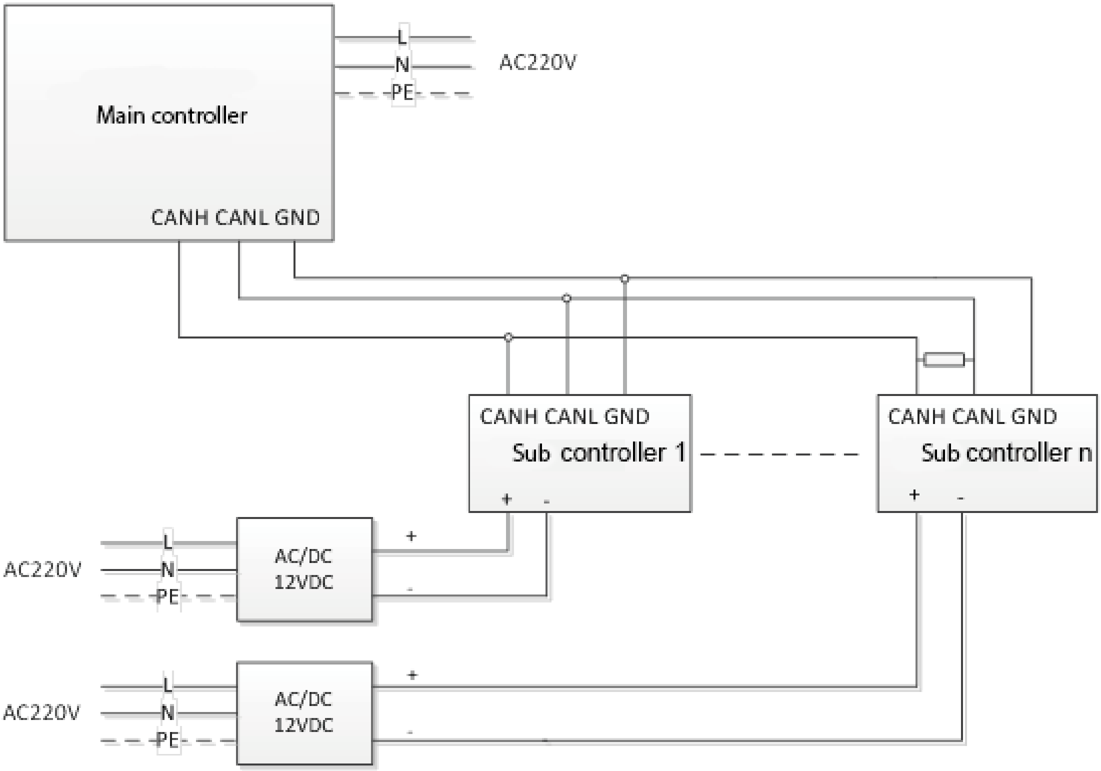
There is a power adapter within the Main Controller. To provide power for the Main Controller, connect the it to 220 VAC power source. Sub controllers are without power adapters. You need to connect them to 12 VDC power source.

- In the CAN bus, there must be only one power negative GND connected to PE; otherwise electrical ground loop might occur.
- Currently, PE and GND of the Main Controller are connected, but PE and GND of sub controllers cannot be connected. When earth leakage protection occurs, you must disconnect the main controller from the PE cable.

🔑

- Use a multimeter to test whether there is electric current between negative electrode of the Main Controller and power adapter cover. If there is no electric current between them, power negative GND was not connected to PE.
- Generally, earth leakage will not occur to the Main Controller because the current of the Main Controller is low. You need to pay attention to earth leakage when the Main Controller and peripheral devices share the GND.

Figure 2-7 Power cable connection



After connecting the CAN bus, stability test must be done for each device. The stability test period must not be less than three days.

2.4.2 Wiring of External Alarm Input

Support 8-channel external alarm input ports.

Figure 2-8 External alarm input

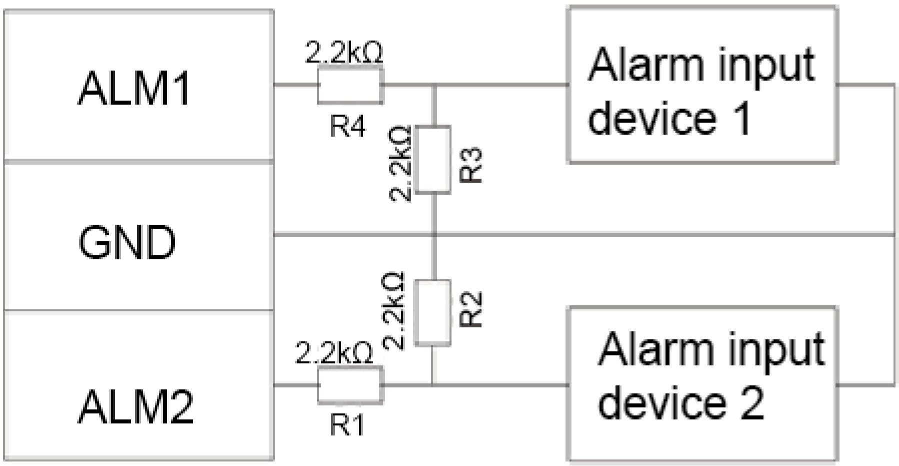


Table 2-4 Terminal description

Interface	Wiring Terminal		Description
External Alarm Input	ALM1	Alarm input port 1	
	GND	Alarm input port 1 and 2	

Interface	Wiring Terminal		Description
	ALM2	Alarm input port 2	External alarm input ports connect smoke detectors, and IR detectors, and more.
	ALM3	Alarm input port 3	
	GND	Alarm input port 3 and 4	
	ALM4	Alarm input port 4	
	ALM5	Alarm input port 5	
	GND	Alarm input port 5 and 6	
	ALM6	Alarm input port 6	
	ALM7	Alarm input port 7	
	GND	Alarm input port 7 and 8	
	ALM8	Alarm input port 8	

Table 2-5 Connection troubleshooting

Status	ALMIN Value	Description
Open Circuit	ALMIN=3.0 V	The cable connected to peripheral alarm input devices is not connected.
	ALMIN=0 V	The cable connected to peripheral alarm input devices is in short circuit.
Normal	ALMIN=1.5 V	Peripheral alarm input devices are correctly connected, and there are no alarm events.
Alarm	ALMIN=1.0 V	Peripheral alarm input devices are correctly connected, and there are alarm events.

2.4.3 Wiring of External Alarm Output

There are two connection modes of external alarm output, depending on alarm device. For example, IPC can use Mode 1, whereas audible and visual siren can use Mode 2.

Figure 2-9 External alarm output (1)

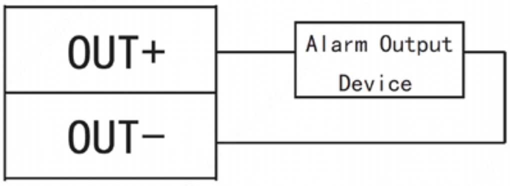


Figure 2-10 External alarm output (2)

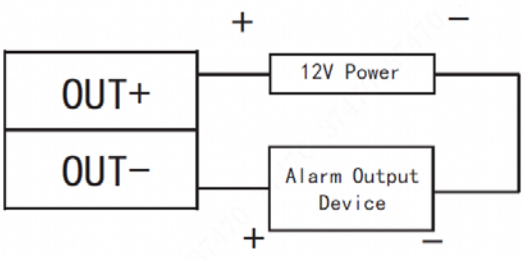


Table 2-6 Terminal description

Interface	Wiring Terminal	Description
External Alarm Output	OUT1+	External alarm output ports connect audible and visual siren etc..
	OUT1-	

2.4.4 Wiring of Reader

One door must connect only one type of reader: RS-485 or Wiegand.

Door 1 is used as an example.

Table 2-7 Terminal description

Interface	Wiring Terminal	Cable Color	Description
Entry Reader of Door 1	12 V	Red	Reader power supply
	GND	Black	
	CASE	Blue	Wiegand reader
	D1	White	
	D0	Green	
	LED	Brown	
	RS-485-	Yellow	RS-485 reader
	RS-485+	Purple	

Table 2-8 Cable specification and length

Reader Type	Connection Mode	Length
RS-485 Reader	CAT5e network cable, RS-485 connection	100 m
Wiegand Reader	CAT5e network cable, Wiegand connection	30 m

2.4.5 Wiring of Lock

Support 4 groups of lock control outputs; serial numbers after the terminals represent corresponding doors. Please choose a proper connection mode according to lock type.

Figure 2-11 Connection mode (1)

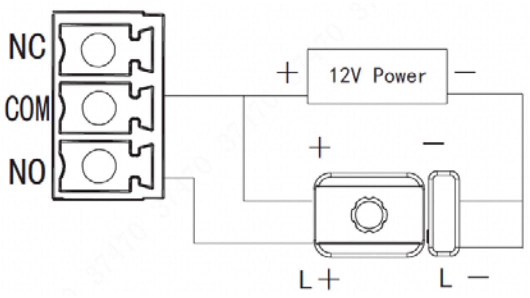


Figure 2-12 Connection mode (2)

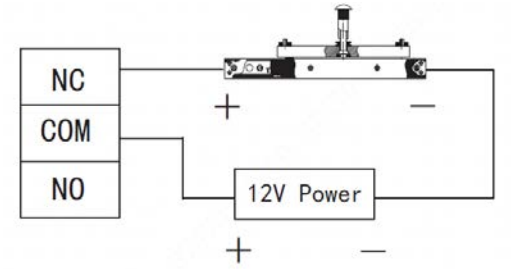


Figure 2-13 Connection mode (3)

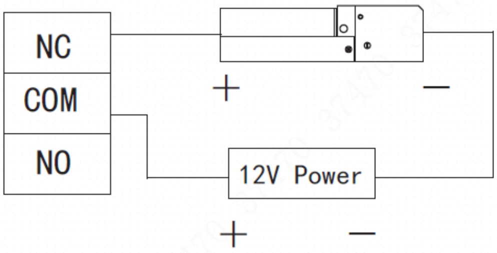


Table 2-9 Terminal description

Interface	Wiring Terminal	Description
Lock Control Output Interface	NC1	Lock control of door 1
	COM1	
	NO1	
	NC2	Lock control of door 2
	COM2	
	NO2	
	NC3	Lock control of door 3
	COM3	
	NO3	
	NC4	Lock control of door 4
	COM4	
	NO4	

2.4.6 Wiring of Exit Button

Figure 2-14 Wiring exit button terminals

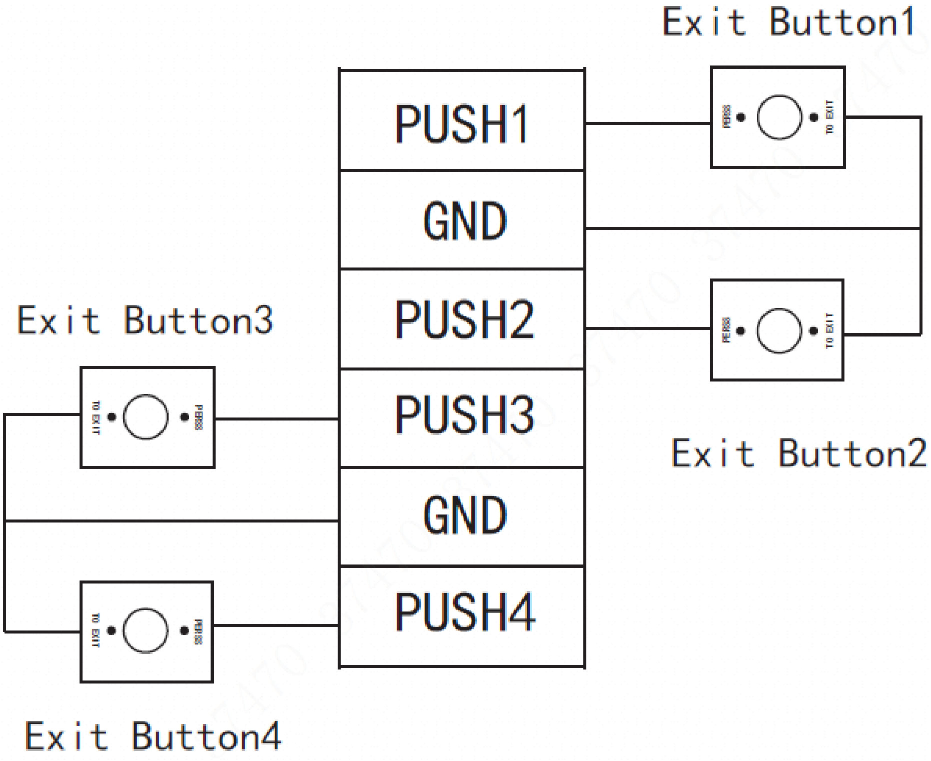


Table 2-10 Terminal description

Interface	Wiring Terminal	Description
Exit Button Control Interface	PUSH1	Exit button of door 1
	GND	Shared by door 1 and 2
	PUSH2	Exit button of door 2
	PUSH3	Exit button of door 3
	GND	Shared by door 3 and 4
	PUSH4	Exit button of door 4

2.4.7 Wiring of Door Sensor

Table 2-11 Wiring door sensor terminals

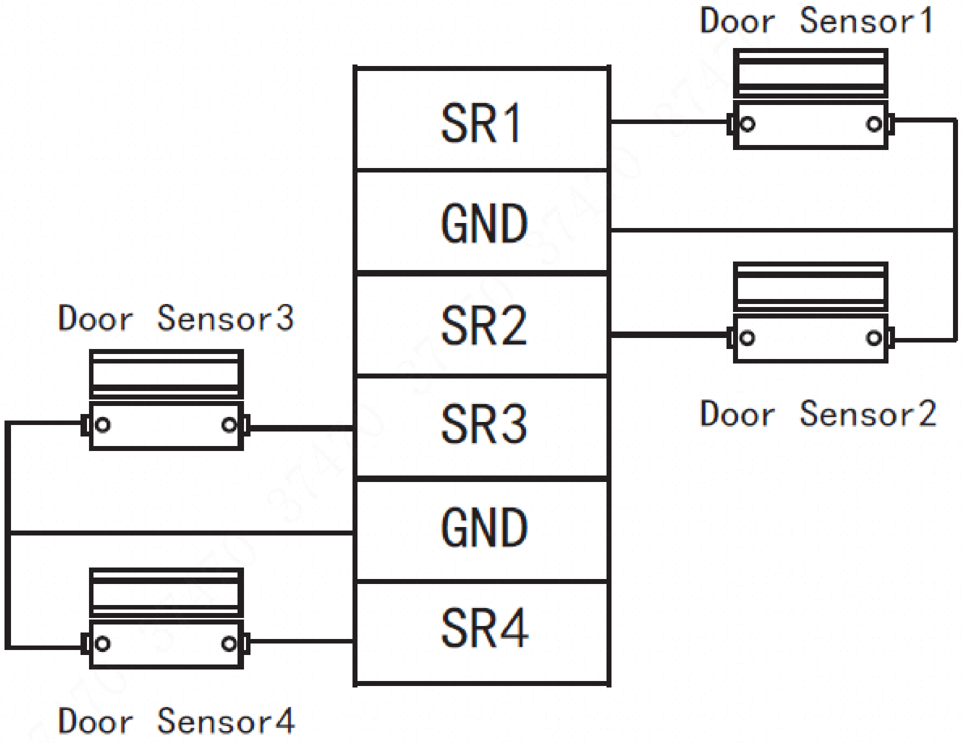


Table 2-12 Terminal description

Interface	Wiring Terminal	Description
Door Sensor Feedback Interface	SR1	No. 1 door sensor feedback
	GND	Shared by door 1 and 2
	SR2	No. 2 door sensor feedback
	SR3	No. 3 door sensor feedback
	GND	Shared by door 3 and 4
	SR4	No. 4 door sensor feedback

2.5 DIP Switch

Set device number and speed with DIP switch. Speed of the Main Controller must be consistent with access sub controller.

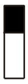
-  the switch is at ON position, meaning 1.
- the switch is at the bottom, meaning 0.

Figure 2-15 DIP switch

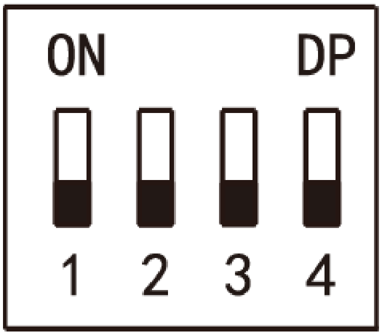
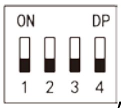
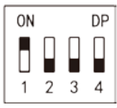
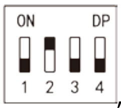
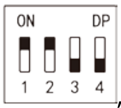


Table 2-13 Function description

Function	No.	Description
Speed	1–4	Set the speed. ● All of them are at the bottom , transmission speed is 50 kb/s. ● Only digit 6 is at ON position , transmission speed is 80 kb/s. ● Only digit 7 is at ON position , transmission speed is 100 kb/s. ● Digits 6 and 7 are at ON position , transmission speed is 125 kb/s.

2.6 Reset

Insert a needle into RESET hole, and press and hold for a few seconds to restart the controller.

3 Web Configuration

Default IP address of the Main Controller is 192.168.1.109. For the first time use, connect the computer with the Main Controller, modify and ensure that IP address of the computer and the IP address of the Main Controller are on the same network segment.

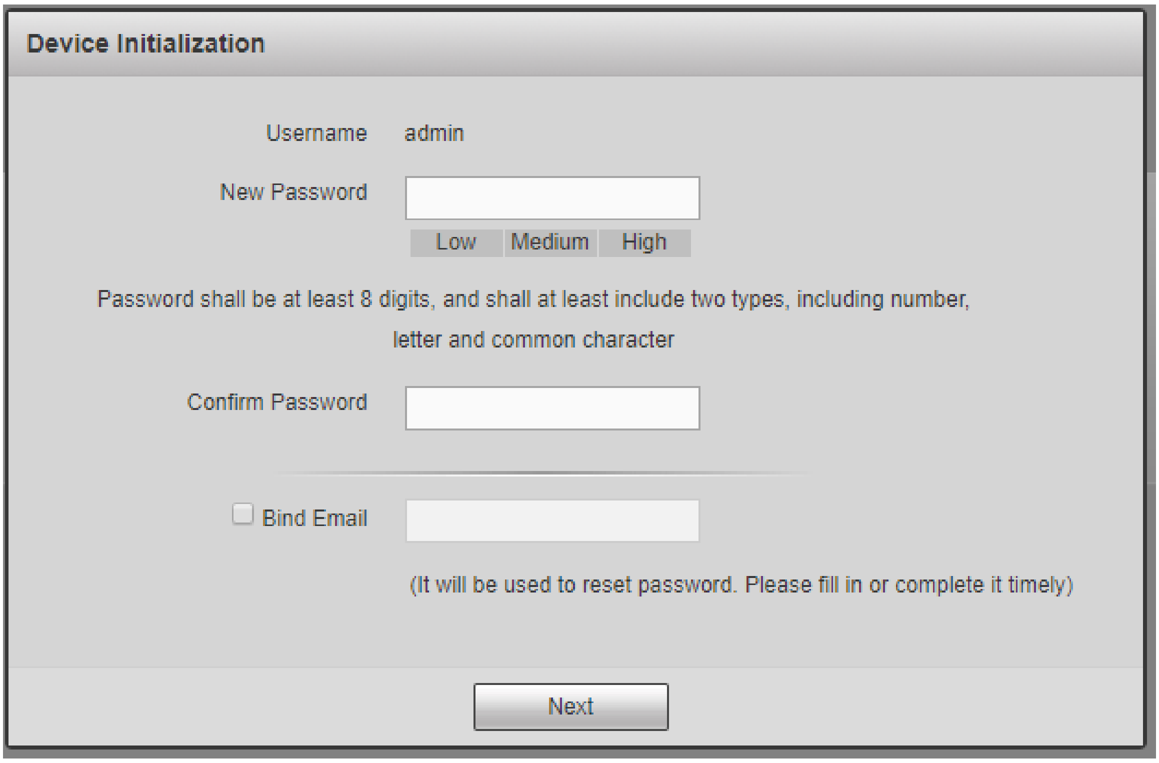
3.1 Initialization

For the first-time use, please set admin username and password (default administrator username is admin).

Keep admin password properly after initialization, and change it regularly to improve account security.

Step 1 Open IE explorer, enter the IP address of the Main Controller in the address bar, and press the Enter key.

Figure 3-1 Device initialization



Device Initialization

Username admin

New Password

Password shall be at least 8 digits, and shall at least include two types, including number, letter and common character

Confirm Password

□ Bind Email

(It will be used to reset password. Please fill in or complete it timely)

Step 2 Set the admin password and associate your Email address.

- The password can be set with 8–32 digits of characters, and must include at least two types of number, letter and ordinary character (expect “'”, “"”, “;”, “:” and “&”).
- Scan QR code, enter the associated Email address to receive a security code, and then you can reset the admin password.

- You can set or change email address on **System > User Management** page. Please refer to the user's manual for details.

Step 3 Click **Next**.

Step 4 Click **OK**.

3.2 Login

Step 1 Open IE explorer, enter the IP address of the Main Controller in the address bar, and press Enter key.

Step 2 Enter the username and password.

- Default administrator username is admin and the password you have set during initialization
- If you forget the login password, click **Forget Password** to reset it. Please refer to the user's manual for details.

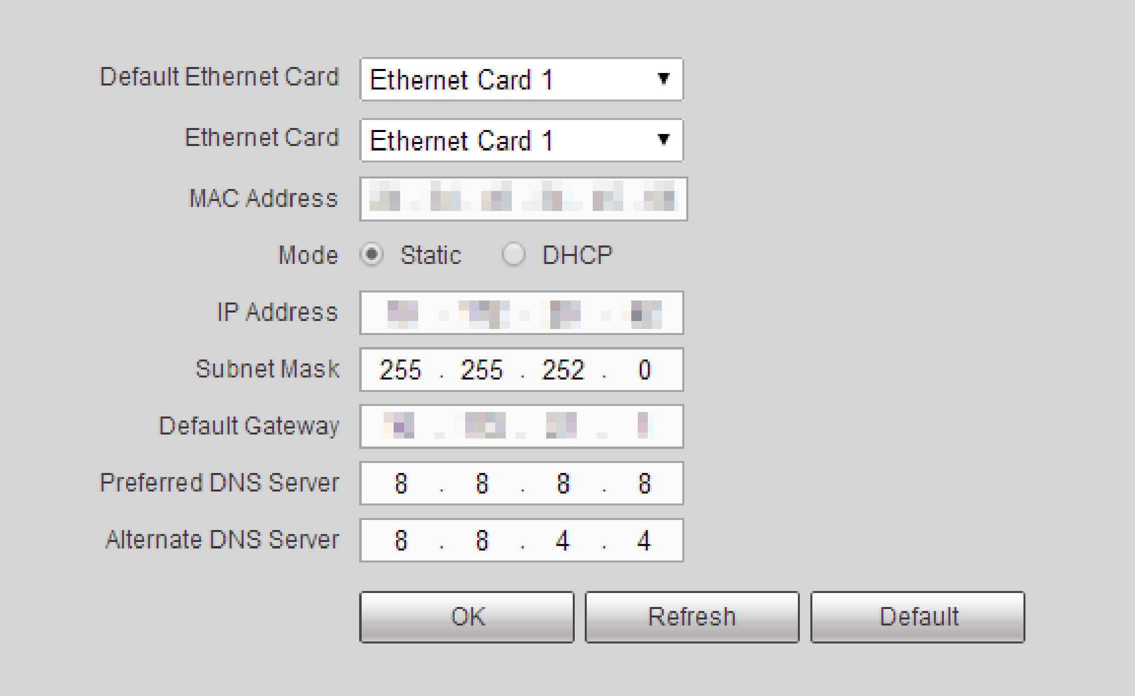
Step 3 Click **Login**.

3.3 Set Network

Set IP address and DNS server of the Main Controller to make sure it can communicate with other devices.

Step 1 Select **System > Network > TCP/IP**.

Figure 3-2 TCP/IP



Default Ethernet Card	Ethernet Card 1 ▼
Ethernet Card	Ethernet Card 1 ▼
MAC Address	[redacted]
Mode	● Static ○ DHCP
IP Address	[redacted]
Subnet Mask	255 . 255 . 252 . 0
Default Gateway	[redacted]
Preferred DNS Server	8 . 8 . 8 . 8
Alternate DNS Server	8 . 8 . 4 . 4

Step 2 Set TCP/IP parameters.

Table 3-1 Parameter description

Parameter	Description
Default Ethernet Card and Ethernet Card	They cannot be modified. Default one is Ethernet Card 1.
MAC Address	Display MAC address of the device.
Mode	● Static Set IP address, subnet mask and gateway manually. ● DHCP Obtain IP function automatically. When DHCP is enabled, IP address, subnet mask and gateway cannot be set. ◇ If present DHCP takes effect, IP/subnet mask/gateway displays the value obtained by DHCP. Otherwise, they display 0. ◇ To view the manual set IP, if DHCP is not effective, please disable DHCP; display IP info that is not obtained by DHCP. If DHCP takes effect, previous IP info cannot be displayed by disabling DHCP, but IP parameters must be set again. ◇ When PPPoE is enabled, IP address, subnet mask, default gateway and DHCP cannot be modified.
IP Address	Input numbers to modify IP address; set subnet mask and default gateway corresponding to IP address. 📖 IP address and default gateway must be in the same network segment.
Subnet Mask	
Default Gateway	
Preferred DNS Server	IP address of DNS server.
Alternate DNS Server	IP address of alternate DNS server.

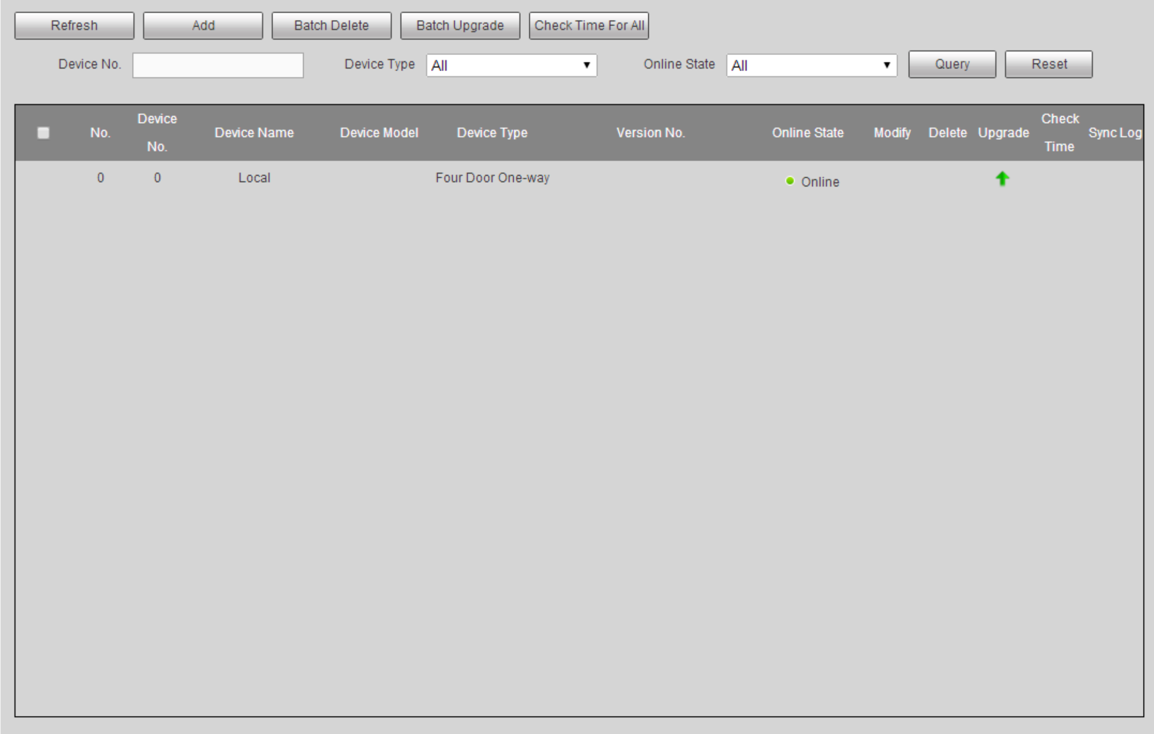
Step 3 Click **OK**.

3.4 Add Access Controller

After connecting sub controller with the Main Controller, add the sub controller to management platform to realize centralized management. A maximum of 16 controllers can be added.

Step 1 Select **Access** > **Device Management**.

Figure 3-3 Device management

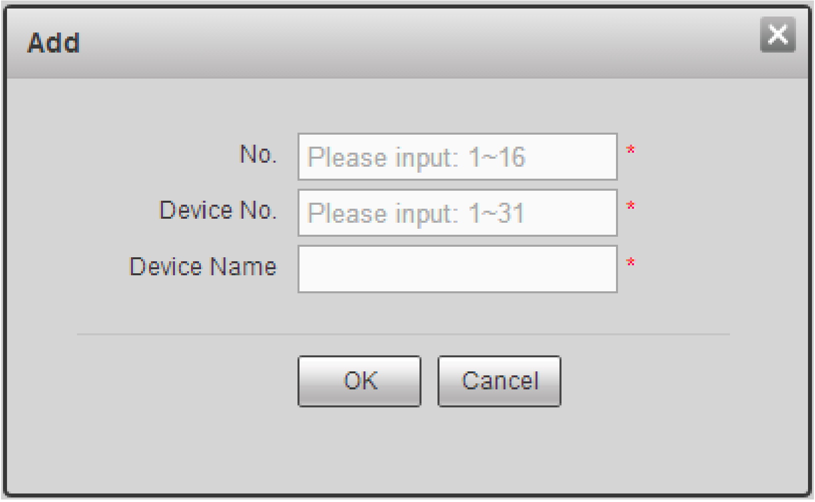


Device No.:
Device Type: All
Online State: All

■	No.	Device No.	Device Name	Device Model	Device Type	Version No.	Online State	Modify	Delete	Upgrade	Check Time	Sync Log
	0	0	Local		Four Door One-way		● Online			↑		

Step 2 Click **Add**.

Figure 3-4 Add a device



No.: Please input: 1~16 *
Device No.: Please input: 1~31 *
Device Name: *

Step 3 Input No., device No., and device name.

Table 3-2 Parameter description

Parameter	Description
No.	A customized number ranging from 1 to 16. The number cannot be repeated.
Device No.	It is the same as the added sub controller number. Sub controller number is set in DIP switch and can be used after transforming binary encoding to decimal system.
Device Name	Customized sub controller name to facilitate management. The name consists of 16 digits at most, including English letter, number and special character. The name cannot be repeated.

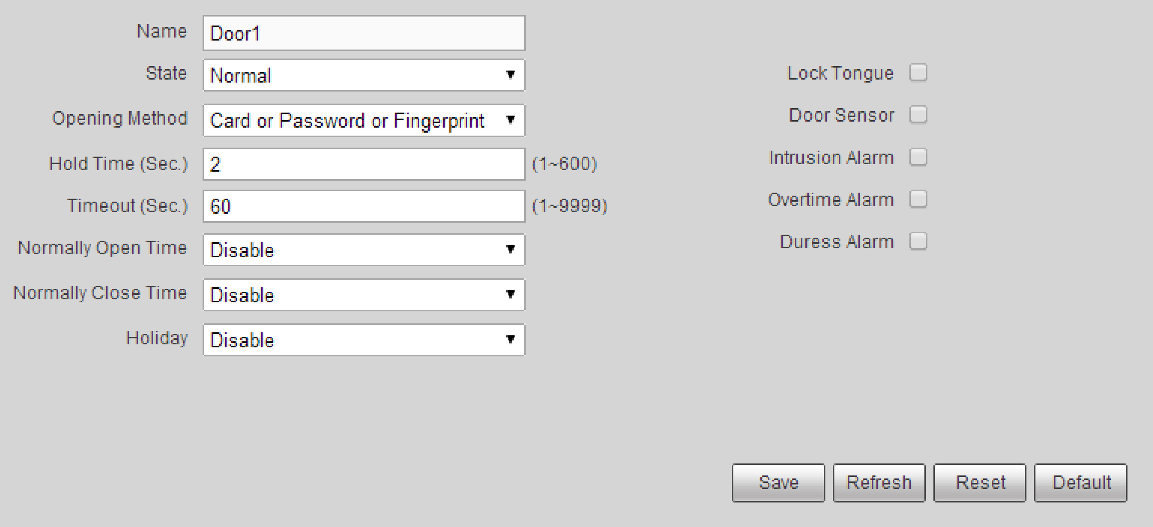
Step 4 Click **OK**.

3.5 Set Door Parameters

Configure parameters of doors.

Step 1 Select **Access > Door Parameters**.

Figure 3-5 Door parameter



Name	Door1	Lock Tongue	□
State	Normal ▼	Door Sensor	□
Opening Method	Card or Password or Fingerprint ▼	Intrusion Alarm	□
Hold Time (Sec.)	2 (1~600)	Overtime Alarm	□
Timeout (Sec.)	60 (1~9999)	Duress Alarm	□
Normally Open Time	Disable ▼		
Normally Close Time	Disable ▼		
Holiday	Disable ▼		

Step 2 Select a door in the device tree in the left, and configure the door parameters.

Table 3-3 Parameter description

Parameter	**Description**	
Name	Enter a door name.	
Status	● NC: The door is normally closed. ● NO: The door is normally open. ● Normal: The door access is controlled according to schedules.	
Opening Method	Select an opening method. Only the selected method works, while other methods are invalid. ● Password: Open the door with password only. ● Card: Open the door with card. ● Card and password: open the door with card plus password. ● Period: Open the door with corresponding methods within the preset period. ● Fingerprint: Open the door with fingerprint only. ● Card or password or fingerprint: Open the door with one of the three methods. ● Card and fingerprint: Open the door with card plus fingerprint.	
Hold Time (Sec.)	The door remains open for a defined period, allowing people to access after valid identity verification. The door will be locked again after the duration.	
Timeout (Sec.)	A timeout alarm is triggered when the door remains unlocked for longer time than this value.	
Normally Open Time	The door remains open during the defined period.	In the drop-down list, select a synchronously set period in Smart PSS client.
Normally Close Time	The door remains closed during the defined period.	

Parameter	Description	
Holiday	It is effective within the selected holiday period, and becomes ineffective after the period.	• Disabled: period control is not enabled. • All day: this setting is executed 24 hours a day.
Lock Tongue	Tick the checkbox to enable lock tongue function. Judge and alarm according to lock tongue status.	
Door Sensor	Alarms can be triggered based on the door sensor status.	
Intrusion Alarm	When Door Sensor is enabled, an intrusion alarm is triggered when the door is opened abnormally.	Alarms can be triggered only after Door Sensor is turned on
Overtime Alarm	A timeout alarm is triggered when the door remains unlocked for longer time than the Timeout(Sec).	
Duress Alarm	An alarm is triggered when a duress card or duress password/fingerprint is used to verify identity.	

Step 3 Click **Save**.

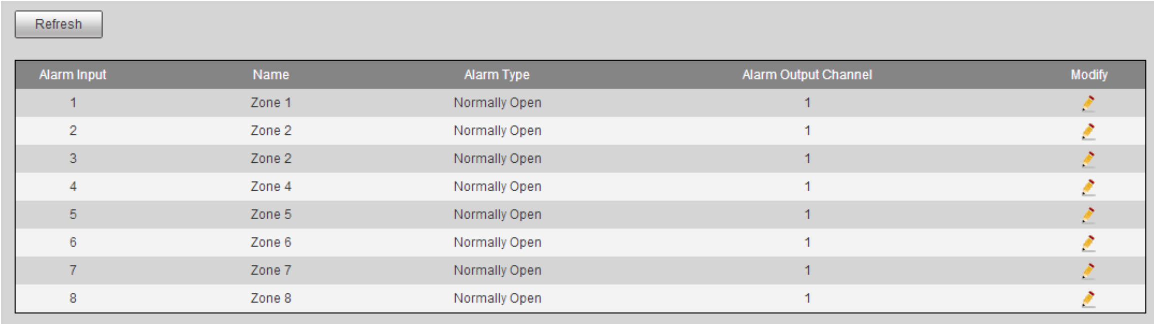
If the Main Controller connects Smart PSS client, relevant parameters and alarms will be synchronized with the client. Parameters modified in the client will also be synchronized with the Main Controller.

3.6 Set Alarm Linkage

The Main Controller supports 8-channel alarm input and output.

Step 1 Select **Access** > **Alarm Linkage**.

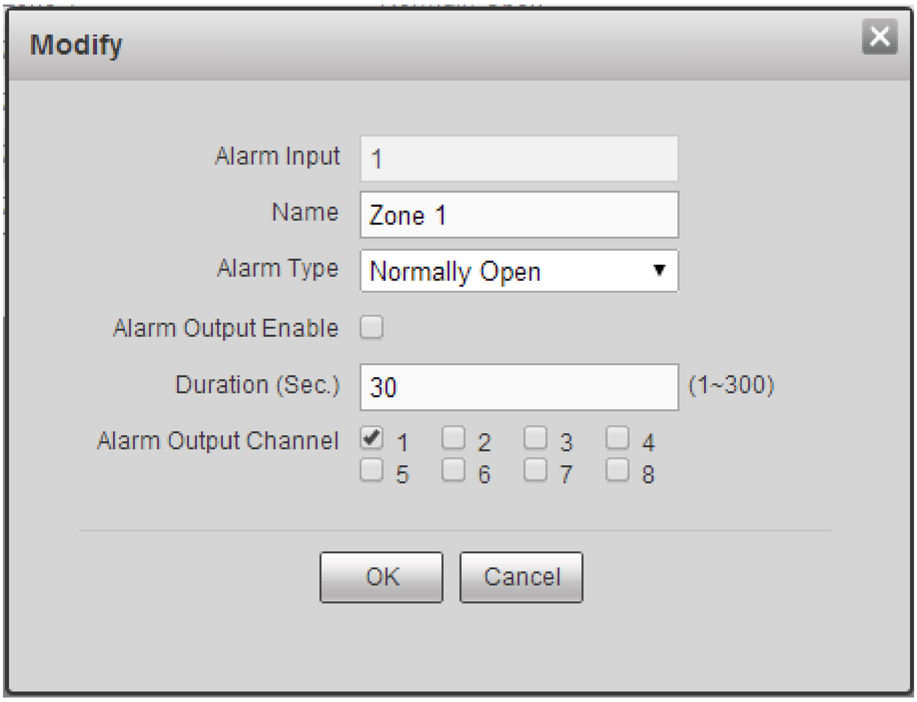
Figure 3-6 Alarm linkage



Alarm Input	Name	Alarm Type	Alarm Output Channel	Modify
1	Zone 1	Normally Open	1	✎
2	Zone 2	Normally Open	1	✎
3	Zone 2	Normally Open	1	✎
4	Zone 4	Normally Open	1	✎
5	Zone 5	Normally Open	1	✎
6	Zone 6	Normally Open	1	✎
7	Zone 7	Normally Open	1	✎
8	Zone 8	Normally Open	1	✎

Step 2 Click ✎.

Figure 3-7 Modify alarm information



Modify

Alarm Input: 1

Name: Zone 1

Alarm Type: Normally Open ▼

Alarm Output Enable: □

Duration (Sec.): 30 (1~300)

Alarm Output Channel: ☑ 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ 8

Step 3 Configure parameters.

Table 3-4 Parameter description

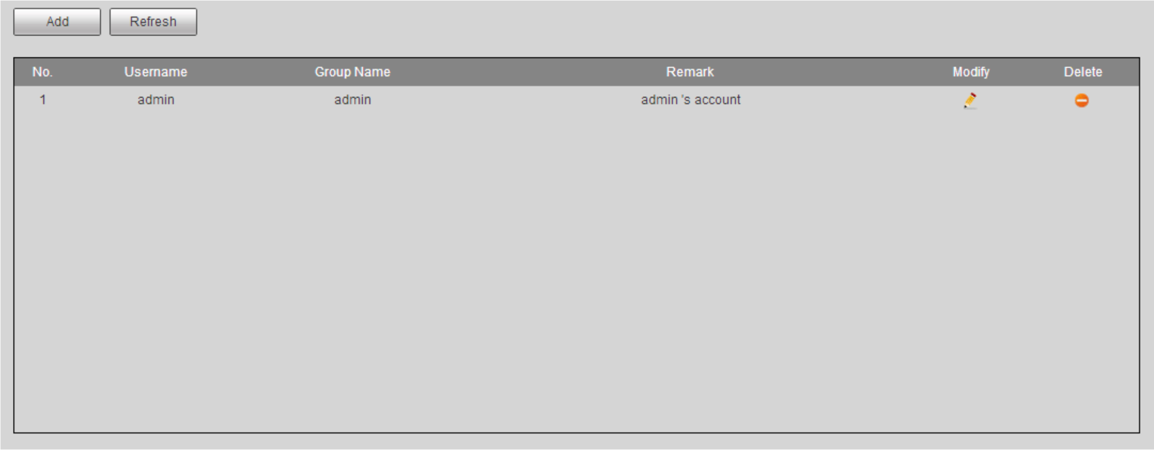
Parameter	Description
Alarm Input	Display the present alarm input.
Name	Customize alarm input name.
Alarm Type	Select the type according to the alarm device.
Alarm Output Enable	If alarm output is enabled, the relay can generate alarm messages.
Duration (Sec.)	Alarm duration. The alarm stops after this duration.
Alarm Output Channel	Select alarm output channel.

Step 4 Click **OK**.

3.7 Add User

Step 1 Select **System** > **User Management**.

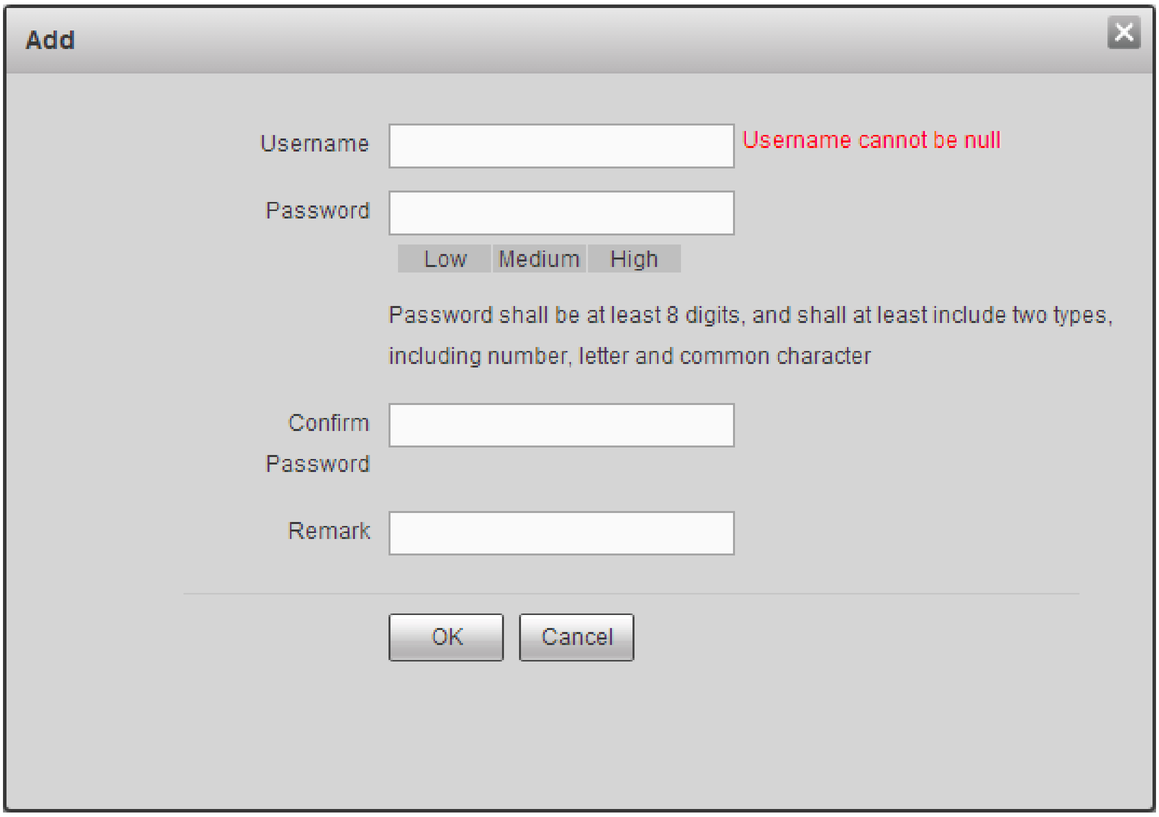
Figure 3-8 User management



No.	Username	Group Name	Remark	Modify	Delete
1	admin	admin	admin 's account	✎	⊖

Step 2 Click **Add**.

Figure 3-9 Add a user



Add

Username: Username cannot be null

Password:

Password shall be at least 8 digits, and shall at least include two types, including number, letter and common character

Confirm Password:

Remark:

Step 3 Enter the username, password, confirm password, and remark.

Step 4 Click **OK**.

4 Smart PSS Configuration

This section introduces how to manage and configure the Device through SmartPSS. For details, see the user's manual of Smart PSS.

Smart PSS is used as an example for configurations. The pictures in the user manual are only for reference, and might differ from the actual product.

4.1 Login Client

Install the matching Smart PSS client, and double click to run. Initialize it and log in to it.

4.2 Adding Device

Add the Main Controller in Smart PSS; select **Auto Search** and **Add**.

4.2.1 Adding in Batches

The devices you add must be on the same network.

Step 1 On **Devices** page, click **Auto Search**.

Figure 4-1 Auto search

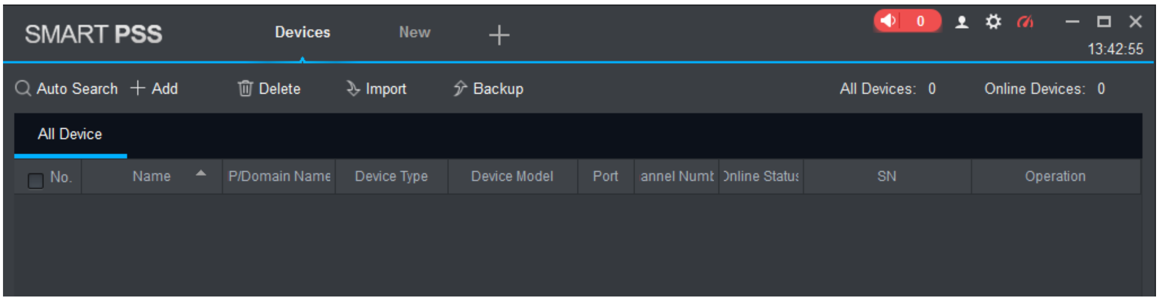
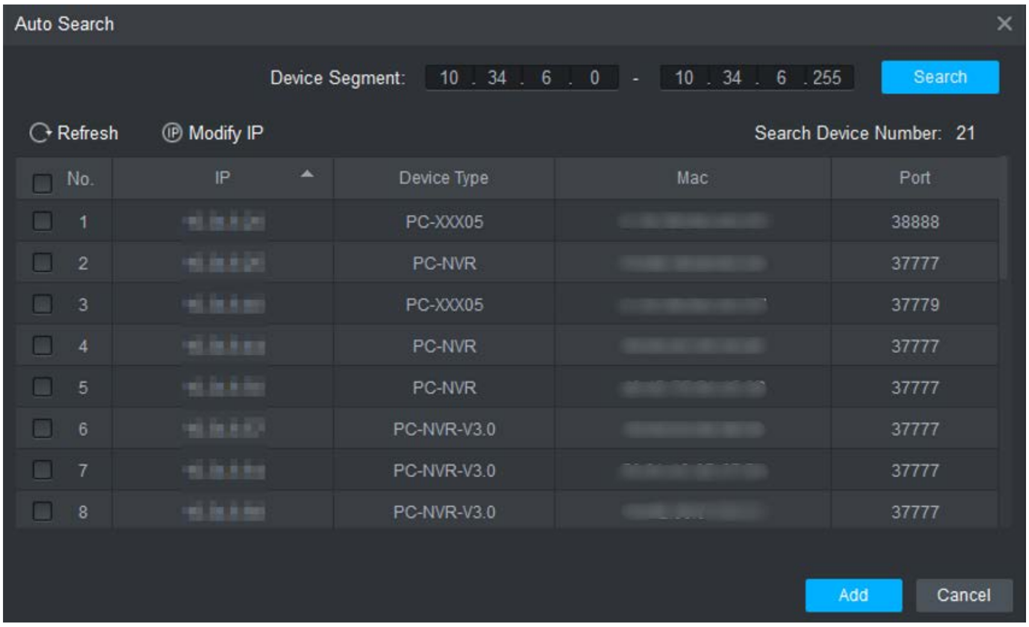


Figure 4-2 Search results



Device Segment: 10 . 34 . 6 . 0 - 10 . 34 . 6 . 255

Search Device Number: 21

☐ No.	IP	Device Type	Mac	Port
☐ 1	[redacted]	PC-XXX05	[redacted]	38888
☐ 2	[redacted]	PC-NVR	[redacted]	37777
☐ 3	[redacted]	PC-XXX05	[redacted]	37779
☐ 4	[redacted]	PC-NVR	[redacted]	37777
☐ 5	[redacted]	PC-NVR	[redacted]	37777
☐ 6	[redacted]	PC-NVR-V3.0	[redacted]	37777
☐ 7	[redacted]	PC-NVR-V3.0	[redacted]	37777
☐ 8	[redacted]	PC-NVR-V3.0	[redacted]	37777

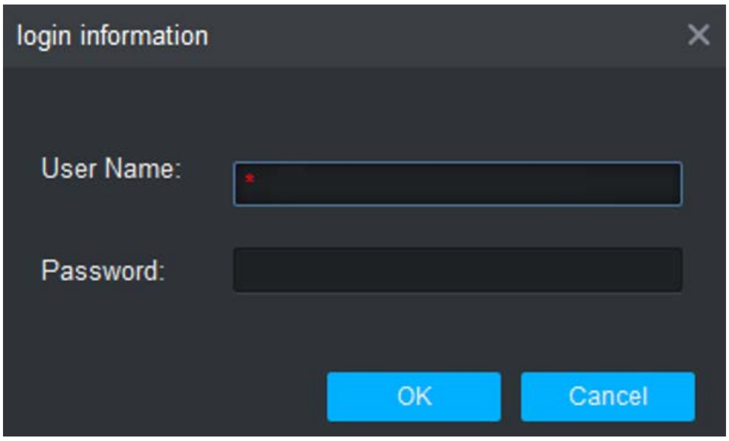
Step 2 Enter the device segment and click **Search**.

- Click **Refresh** to update device information.
- Select a device, click **Modify IP** to modify IP address of the device. For details, refer to User's Manual of Smart PSS Client.

Step 3 Select the device that needs to be added, and click **Add**.

Step 4 Click **OK**.

Figure 4-3 Login information



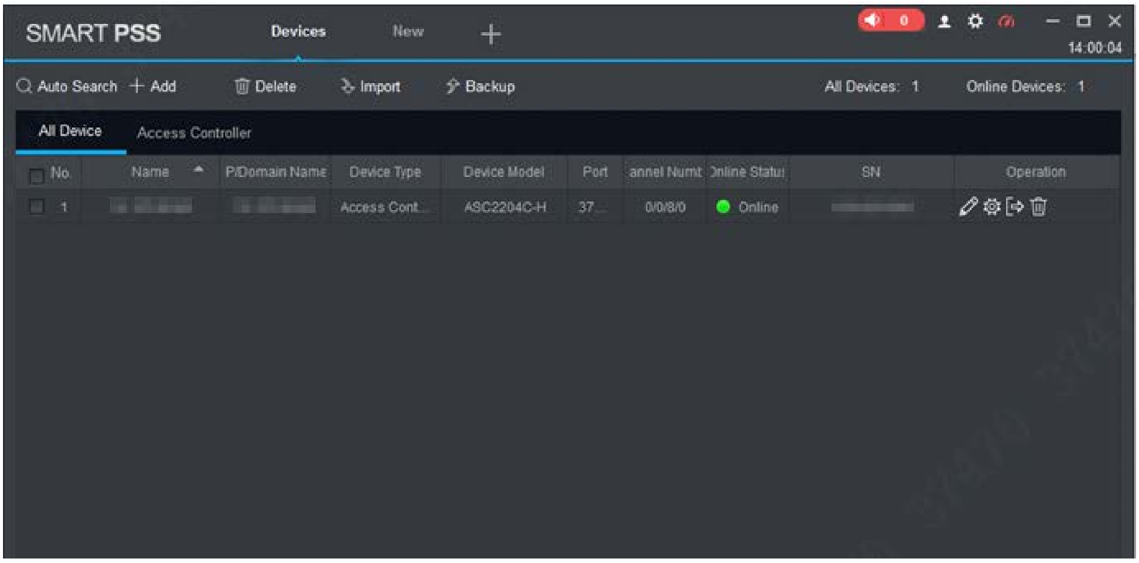
User Name: *

Password:

Step 5 Enter the username and password to log in the device, and click **OK**.

- You can continue to add more devices, or click **Cancel** to exit.
- After completing adding, Smart PSS logs in the device automatically. After successful login, online status is **Online**. Otherwise, **Offline** will be displayed.

Figure 4-4 Login



No.	Name	P/Domain Name	Device Type	Device Model	Port	annel Numb	Online Status	SN	Operation
1	[redacted]	[redacted]	Access Cont...	ASC2204C-H	37...	0/0/8/0	● Online	[redacted]	✎ ⚙ ⇨ 🗑

Table 4-1 Icon description

Icon	Description
✎	Click this icon to enter **Modify Device** page. Device info can be modified, including device name, IP/domain name, port, user name and password. Alternatively, double click the device to enter **Modify Device** page.
⚙	Click this icon to enter "Device Config" page. Configure device camera, network, event, storage and system info etc.
⇨ and ⇦	● When the device is logged in, the icon displays ⇨. Click the icon to exit, and the icon changes to ⇦. ● When the device is offline, the icon displays ⇦. Click the icon to login the device (device info must be correct), and the icon changes to ⇨.
🗑	Click this icon to delete a device.

4.2.2 Add Individually

You can add users individually by entering the exact IP address.

Step 1 On the **Devices** page, click **Add**.

Figure 4-5 Manually add a device

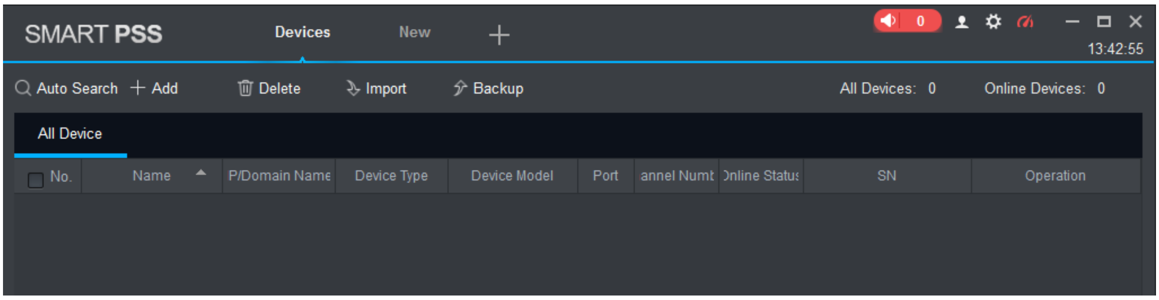
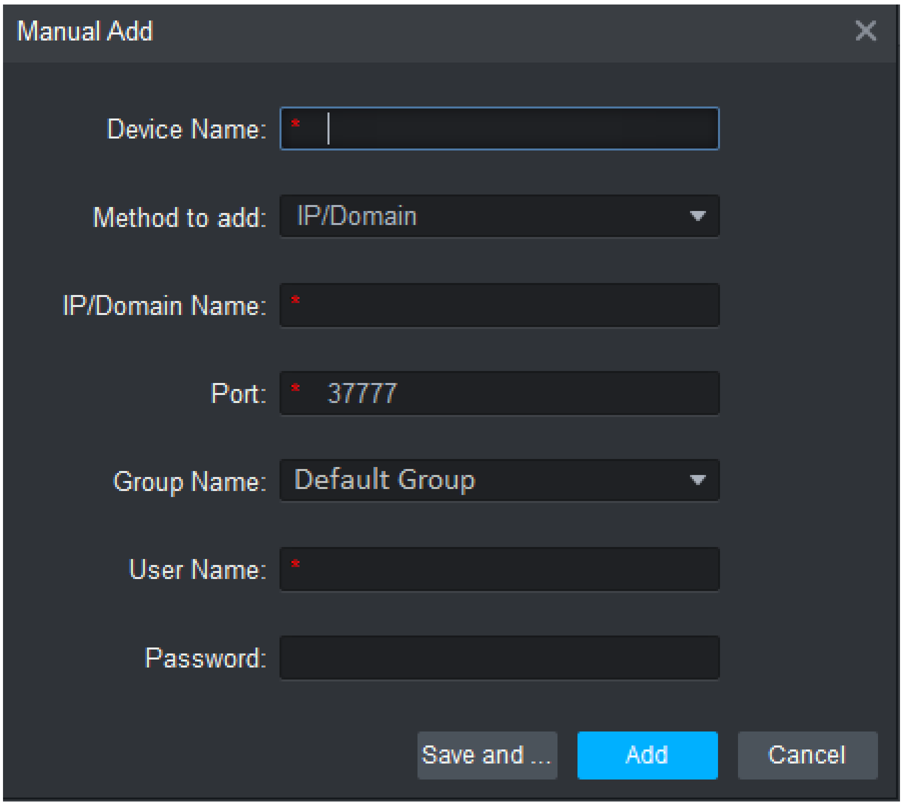


Figure 4-1 Enter information



Method to add: IP/Domain

Port: 37777

Group Name: Default Group

Step 2 Set device parameters.

Table 4-2 Parameter description

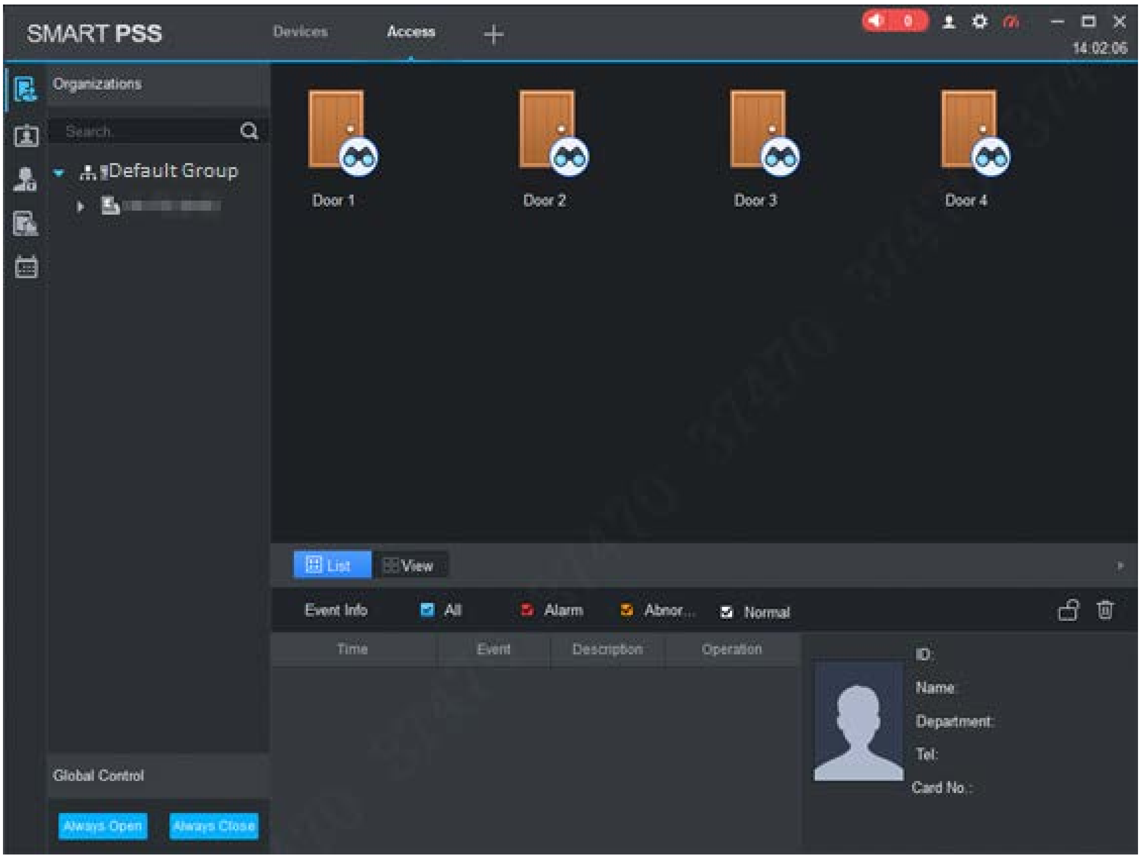
Parameter	Description
Device Name	It is suggested that device name should be named by the monitoring zone, so as to facilitate maintenance.
Method to add	Select **IP/Domain Name**. Add devices according to device IP address or domain name.
IP/Domain Name	IP address or domain name of the device.
Port	Port number of the device. Default port number is 37777. Please fill in according to actual conditions.
Group Name	Select the group of the device.
User Name and Password	User name and password of the device.

Step 3 Click **Add** to add a device.

- To add more devices, click **Save and Continue** to add devices.

- To cancel the adding, click **Cancel** to exit **Manual Add** page.
- After completing adding, Smart PSS logs in to the device automatically. After successful login, online status is **Online**. Otherwise, **Offline** will be displayed.

Figure 4-6 Automatically log in to the device



Appendix 1 Packing List

Appendix Table 1-1 Packing list

No.	Name	Quantity
1	Main Controller	1
2	Power Supply Cable	1
3	Storage Battery Cable	1
4	Key	1
5	Accessory Kit (Screw, Expansion Pipe and Wiring Terminal)	1
6	Quick Start Guide	1
7	Certificate of Qualification	1

Appendix 2 Cybersecurity Recommendations

Mandatory actions to be taken for basic device network security:

1. **Use Strong Passwords**

   Please refer to the following suggestions to set passwords:

   - The length should not be less than 8 characters.
   - Include at least two types of characters; character types include upper and lower case letters, numbers and symbols.
   - Do not contain the account name or the account name in reverse order.
   - Do not use continuous characters, such as 123, abc, etc.
   - Do not use overlapped characters, such as 111, aaa, etc.

2. **Update Firmware and Client Software in Time**

   - According to the standard procedure in Tech-industry, we recommend to keep your device (such as NVR, DVR, IP camera, etc.) firmware up-to-date to ensure the system is equipped with the latest security patches and fixes. When the device is connected to the public network, it is recommended to enable the "auto-check for updates" function to obtain timely information of firmware updates released by the manufacturer.
   - We suggest that you download and use the latest version of client software.

"Nice to have" recommendations to improve your device network security:

1. **Physical Protection**

   We suggest that you perform physical protection to device, especially storage devices. For example, place the device in a special computer room and cabinet, and implement well-done access control permission and key management to prevent unauthorized personnel from carrying out physical contacts such as damaging hardware, unauthorized connection of removable device (such as USB flash disk, serial port), etc.

2. **Change Passwords Regularly**

   We suggest that you change passwords regularly to reduce the risk of being guessed or cracked.

3. **Set and Update Passwords Reset Information Timely**

   The device supports password reset function. Please set up related information for password reset in time, including the end user's mailbox and password protection questions. If the information changes, please modify it in time. When setting password protection questions, it is suggested not to use those that can be easily guessed.

4. **Enable Account Lock**

   The account lock feature is enabled by default, and we recommend you to keep it on to guarantee the account security. If an attacker attempts to log in with the wrong password several times, the corresponding account and the source IP address will be locked.

5. **Change Default HTTP and Other Service Ports**

   We suggest you to change default HTTP and other service ports into any set of numbers between 1024–65535, reducing the risk of outsiders being able to guess which ports you are using.

6. **Enable HTTPS**

   We suggest you to enable HTTPS, so that you visit Web service through a secure communication channel.

7. **MAC Address Binding**

   We recommend you to bind the IP and MAC address of the gateway to the device, thus reducing the risk of ARP spoofing.

8. **Assign Accounts and Privileges Reasonably**

   According to business and management requirements, reasonably add users and assign a minimum set of permissions to them.

9. **Disable Unnecessary Services and Choose Secure Modes**

   If not needed, it is recommended to turn off some services such as SNMP, SMTP, UPnP, etc., to reduce risks.

   If necessary, it is highly recommended that you use safe modes, including but not limited to the following services:

   - SNMP: Choose SNMP v3, and set up strong encryption passwords and authentication passwords.
   - SMTP: Choose TLS to access mailbox server.
   - FTP: Choose SFTP, and set up strong passwords.
   - AP hotspot: Choose WPA2-PSK encryption mode, and set up strong passwords.

10. **Audio and Video Encrypted Transmission**

    If your audio and video data contents are very important or sensitive, we recommend that you use encrypted transmission function, to reduce the risk of audio and video data being stolen during transmission.

    Reminder: encrypted transmission will cause some loss in transmission efficiency.

11. **Secure Auditing**

    - Check online users: we suggest that you check online users regularly to see if the device is logged in without authorization.
    - Check device log: By viewing the logs, you can know the IP addresses that were used to log in to your devices and their key operations.

12. **Network Log**

    Due to the limited storage capacity of the device, the stored log is limited. If you need to save the log for a long time, it is recommended that you enable the network log function to ensure that the critical logs are synchronized to the network log server for tracing.

13. **Construct a Safe Network Environment**

    In order to better ensure the safety of device and reduce potential cyber risks, we recommend:

    - Disable the port mapping function of the router to avoid direct access to the intranet devices from external network.
    - The network should be partitioned and isolated according to the actual network needs. If there are no communication requirements between two sub networks, it is suggested to use VLAN, network GAP and other technologies to partition the network, so as to achieve the network isolation effect.
    - Establish the 802.1x access authentication system to reduce the risk of unauthorized access to private networks.
    - Enable IP/MAC address filtering function to limit the range of hosts allowed to access the device.