Access Controller

User's Manual

ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD. V1.0.1

Foreword

General

This manual introduces the functions and operations of the Access Controller. Read carefully before using the device, and keep the manual safe for future reference.

Safety Instructions

The following signal words 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 the wiring.	September 2022
V1.0.0	First release.	September 2022

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 Access Controller, hazard prevention, and prevention of property damage. Read carefully before using the Access Controller, and comply with the guidelines when using it.

Transportation Requirement

Transport, use and store the Access Controller under allowed humidity and temperature conditions.

Storage Requirement

Store the Access Controller under allowed humidity and temperature conditions.

Installation Requirements

WARNING

- Do not connect the power adapter to the Access 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 Access Controller.
- Do not connect the Access Controller to two or more kinds of power supplies, to avoid damage to the Access Controller.
- 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 Access Controller in a place exposed to sunlight or near heat sources.
- Keep the Access Controller away from dampness, dust, and soot.
- Install the Access Controller on a stable surface to prevent it from falling.
- Install the Access 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 Access Controller label.
- The Access Controller is a class I electrical appliance. Make sure that the power supply of the Access 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 Access Controller while the adapter is powered on.
- Operate the Access Controller within the rated range of power input and output.
- Use the Access Controller under allowed humidity and temperature conditions.
- Do not drop or splash liquid onto the Access Controller, and make sure that there is no object filled with liquid on the Access Controller to prevent liquid from flowing into it.
- Do not disassemble the Access Controller without professional instruction.

Table of Contents

1 Product Overview

1.1 Product Introduction

Flexible and convenient, the Access Controller has a user friendly system that allows you to access controllers on the webpage through IP address. It comes with a professional access management system, and makes the networking of main and sub control modes quick and easy, meeting the needs of small and advanced systems.

1.2 Main Features

- Built of flame-retardant PC and ABS material, it is both sturdy and elegant with an IK06 rating.
- Supports TCP and IP connection, and standard PoE.
- Accesses card readers through Wiegand and RS-485 protocols.
- Supplies power to the lock through its 12 VDC output power supply, which has a maximum output current of 1000 mA.
- Supports 1000 users, 5000 cards, 3000 fingerprints, and 300,000 records.
- Multiple unlock methods including card, password, fingerprint and more. You can also combine these methods to create your own personal unlock methods.
- Multiple types of alarms events are supported, such as duress, tampering, intrusion, unlock timeout, and illegal card.
- Supports a wide range of users including general, patrol, VIP, guest, blocklisted, and more users.
- Manual and automatic time synchronization.
- Retains stored data even while powered off.
- Offers a variety of functions and the system can be configured. Devices can also be updated through the webpage.
- Features main and sub control modes. The main control mode offers user management, access control device management and configuration, and more options. Devices under sub-control modes can be added to multiple platforms.
- A main controller can connect with and manage up to 19 sub controllers.
- Watchdog protects the system to allow the device to be stable and perform efficiently.
- Sub controllers can be added to SmartPSS Lite and DSS Pro.

1.3 Application Scenarios

It is widely used in parks, communities, business centers and factories, and ideal for places such as office buildings, government buildings, schools and stadiums.

The Access Controller can be set to the main access controller (herein referred to as main controller) or the Sub Access Controller (herein referred to as sub-controller). 2 different networking methods are available for the Access Controller. You can select a networking method based on your needs.

Table 1-1 Networking methods of access controller

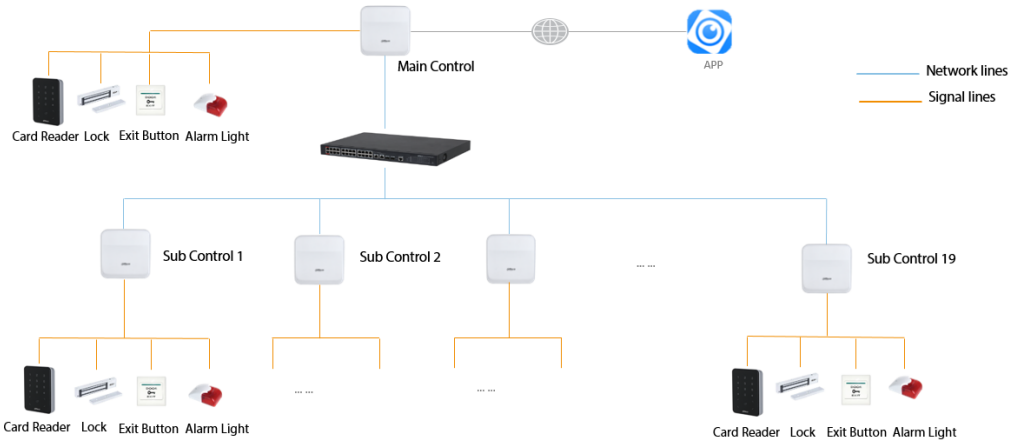
Networking methods	Description
Main Controller—Sub Controller	The main controller comes with a management platform (herein referred to as the Platform). Sub-controllers must be added to the Platform of the main controller. The main controller can manage up to 19 sub controllers. For details, see "2 Main Controller-Sub Controller".
SmartPSS Lite—Sub Controller	Sub controllers needs to be added to a standalone management platform, such as SmartPSS Lite. The platform can manage up to 32 sub controllers. For details, see "3 Smart PSS Lite-Sub Controllers".

2 Main Controller-Sub Controller

2.1 Networking Diagram

The main controller comes with a management platform (herein referred as the platform). Sub controller needs to be added to the management platform of the main controller. The main controller can manage up to 19 sub controllers.

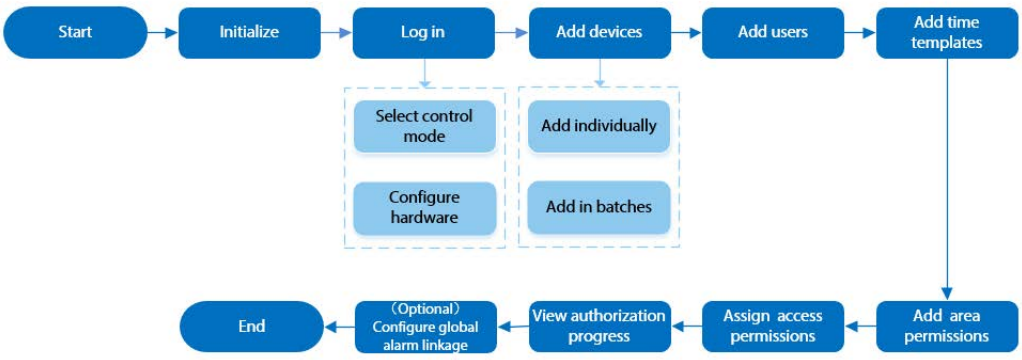
Figure 2-1 Networking diagram



2.2 Configurations of Main Controller

2.2.1 Configuration Flowchart

Figure 2-2 Configuration flowchart



2.2.2 Initialization

Initialize the main controller when you log in to the webpage for the first time or after it is restored

to its factory defaults.

Prerequisites

Make sure that the computer used to log in to the webpage is on the same LAN as the main controller.

Procedure

Step 1 Open a browser, go to the IP address (the IP address is 192.168.1.108 by default) of the main controller.

We recommend you use the latest version of Chrome or Firefox.

Step 2 Select a language, and then click **Next**.

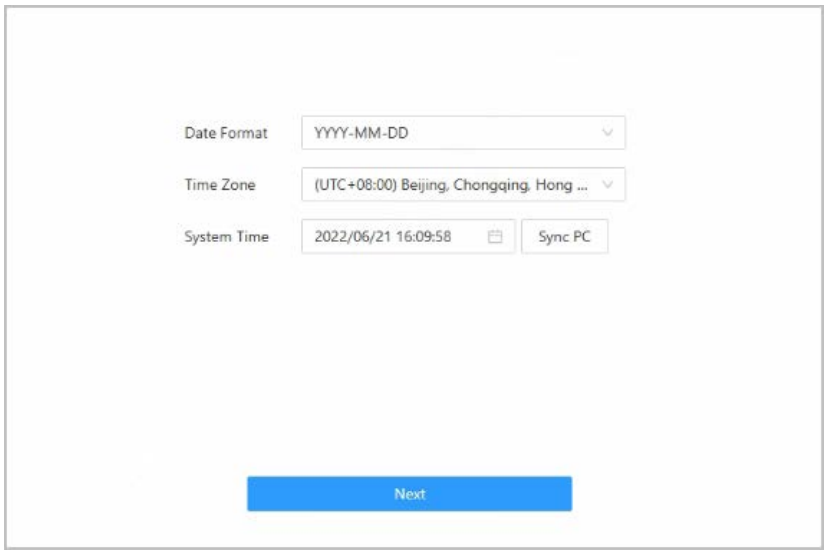
Step 3 Read the software license agreement and privacy policy carefully, select **I have read and agree to the terms of the Software License Agreement and Privacy Policy.**, and then click **Next**.

Step 4 Set the password and email address.

- The password must consist of 8 to 32 non-blank characters and contain at least two types of the following characters: upper case and lower case letters, numbers, and special characters (excluding ' " ; : &). Set a high-security password by following the password strength prompt.
- Keep the password safe after initialization and change the password regularly to improve security.

Step 5 Configure the system time, and then click **Next**.

Figure 2-3 Configure the time



Step 6 (Optional) Select **Auto Check for Updates**, and then click **Completed**.

The system automatically check is there any higher version available, and inform the user to update the system. The system automatically checks for new updates, and informs you when a new update is available.

Step 7 Click **Completed**.

The system automatically goes to the login page after initialization is successful.

2.2.3 Logging In

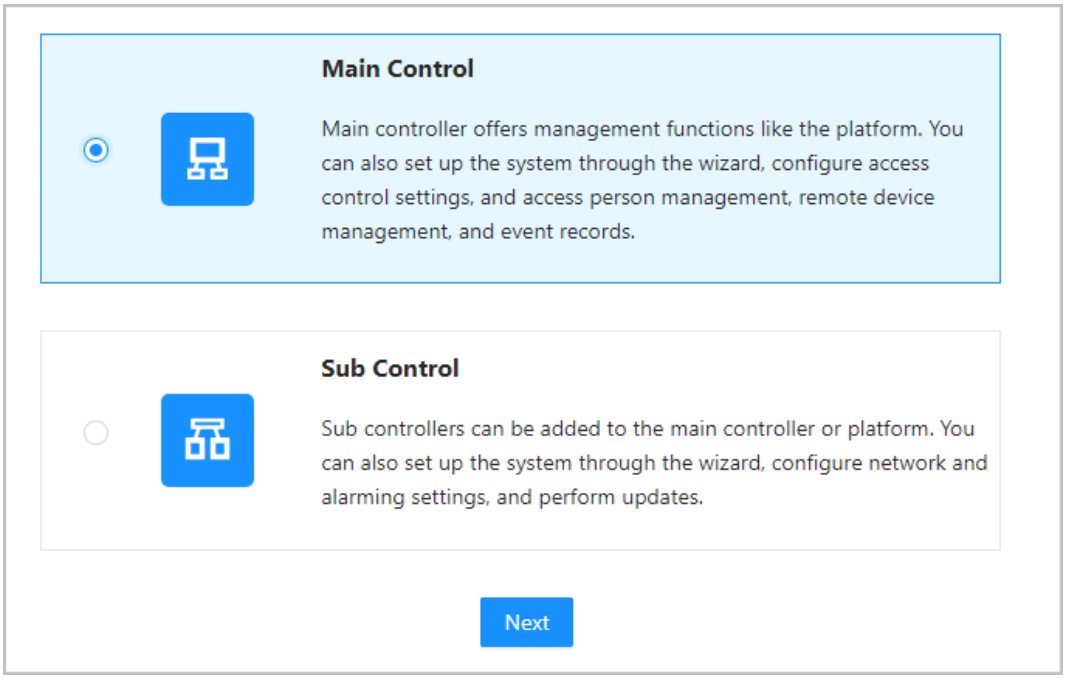
For first-time login initialization, you need to follow the login wizard to configure the type of the main controller and its hardware.

Step 1 On the login page, enter the username and password.

- The default administrator name is admin, and the password is the one you set during initialization. We recommend you change the administrator password regularly to increase security of the platform.
- If you forget the administrator login password, you can click **Forget password?**.

Step 2 Select **Main Control**, and then click **Next**.

Figure 2-4 Type of access controller



- Main Control: The main controller comes with a management platform. You can manage all sub-controllers, configure access control, access personal management on the platform, and more.
- Sub Control: Sub controllers needs to be added to the management platform of the main controller or other management platforms such as DSS Pro or SmartPSS Lite. You can only perform the local configurations on the webpage of the sub-controller. For details, see "2.3 Configurations of Sub Controller".

Step 3 Select the number of doors, and then enter the name of the door.

Step 4 Configure the parameters of the doors.

Figure 2-5 Configure door parameters

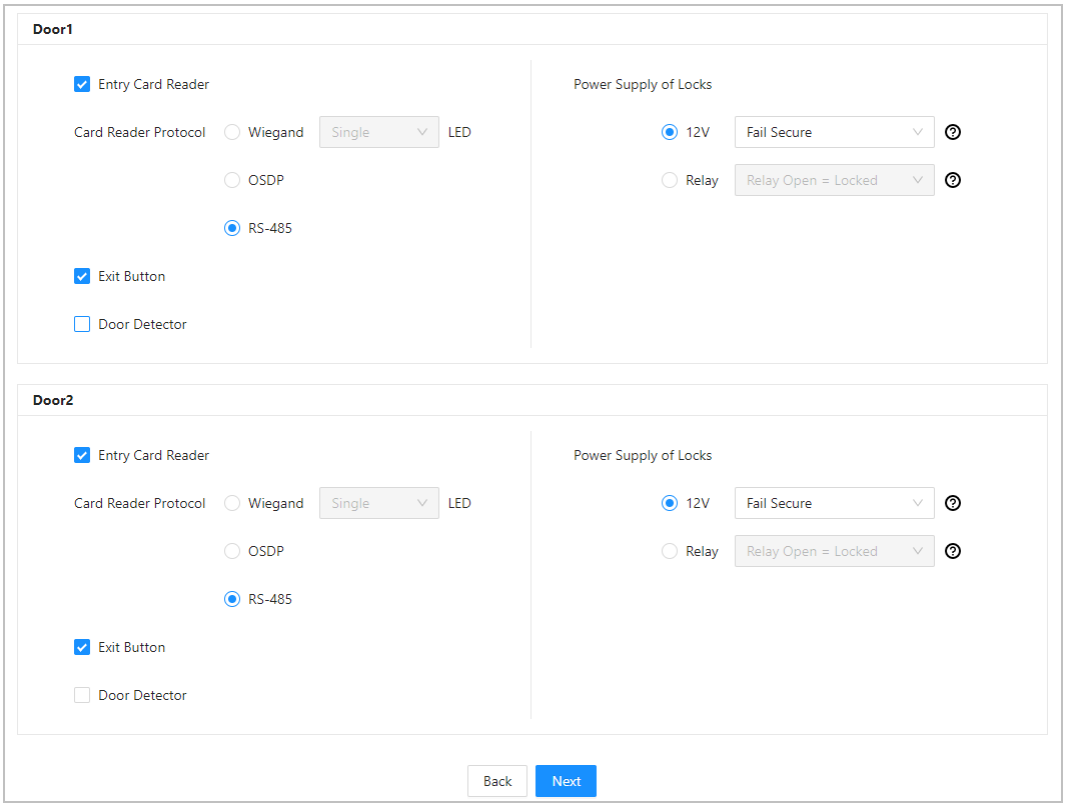


Table 2-1 Parameter description

Parameter	Description
Entry Card Reader	Select the card reader protocol. ● Wiegand: Connects to a wiegand reader. You can connect the LED wire to the LED port of the controller, and the reader will beep and flash when the door unlocks. ● OSDP: Connects to an OSDP reader. ● RS-485: Connects to an OSDP reader.
Exit Button	Connects to a exit button.
Door Detector	Connects to a door detector.
Power Supply of Locks	● 12 V: The controller provides power for the lock. ◇ Fail secure: When the power is interrupted or fails, the door stays locked. ◇ Fail safe: When the power be interrupted or fails, the door automatically unlocks to let people leave. ● Relay: The relay supplies power for the lock. ◇ Relay open = locked: Sets the lock to remain locked when the relay is open. ◇ Relay open = unlocked: Sets the lock to unlock when the relay is open.

Step 5 Configure access control parameters.

Step 6 In **Unlock Settings**, select **Or** or **And** from **Combination Method**.

- Or: Use one of the selected unlock methods to authorize opening the door.

- And: Use all of the selected unlock methods to authorize opening the door. The Controller supports unlock through card, fingerprint, and password.

Step 7 Select the unlock methods, and configure the other parameters.

Figure 2-6 Element (multiple choice)

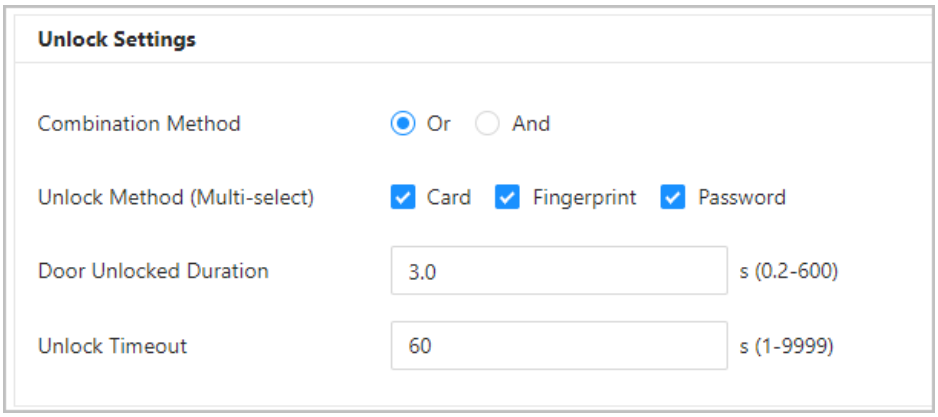


Table 2-2 Unlock settings description

Parameter	Description
Door Unlock Duration	After a person is granted access, the door will remain unlocked for a defined time for them to pass through. It ranges from 0.2 s to 600 seconds.
Unlock Timeout	A timeout alarm is triggered when the door remains unlocked for longer than the defined value.

Step 8 In **Alarm Settings**, configure the alarm parameters.

Figure 2-7 Alarm

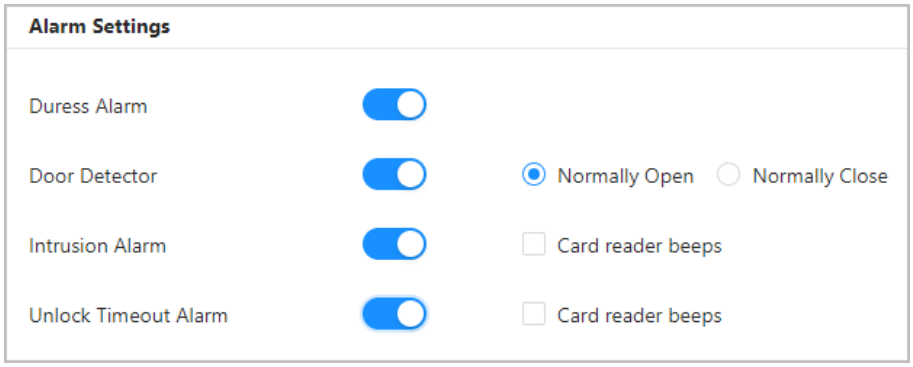


Table 2-3 Description of alarm parameters

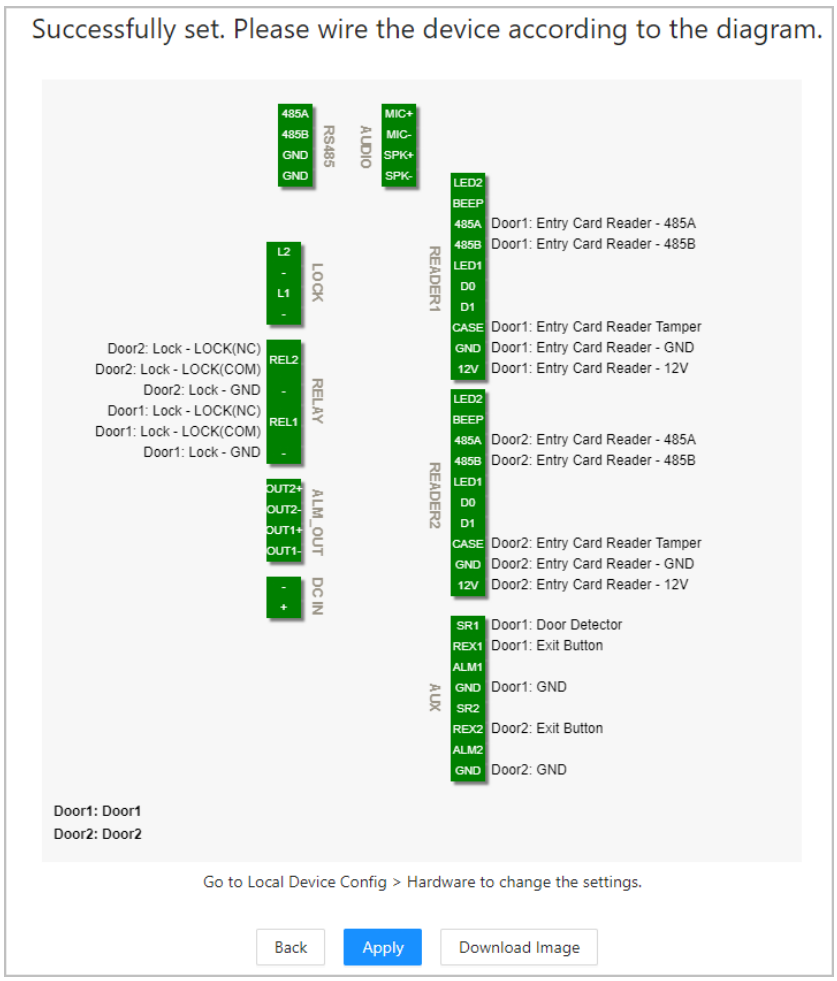
Parameter	Description
Duress Alarm	An alarm will be triggered when a duress card, duress password or duress fingerprint is used to unlock the door.
Door Detector	Select the type of door detector.
Intrusion Alarm	• When door detector is enabled, an intrusion alarm will be triggered if the door is opened abnormally. • A timeout alarm is triggered when the door remains unlocked for longer than the defined unlock time. • When **Card reader beeps** is enabled, the card reader beeps when the intrusion alarm or timeout alarm is triggered.
Unlock Timeout Alarm	

Step 9 Click **Next**.

A wiring diagram is generated based on your configurations. You can wire the device according to the diagram.

The image below is for reference only.

Figure 2-8 Wiring diagram



Step 10 Click **Apply**.

- You can go to **Local Device Config** > **Hardware** to change the settings after you successfully log in to the platform.
- Click **Download Image** to download the diagram to your computer.

2.2.4 Dashboard

After you successfully log in, the dashboard page of the platform is displayed. The dashboard is

displayed showing visualized data.

Figure 2-9 Dashboard

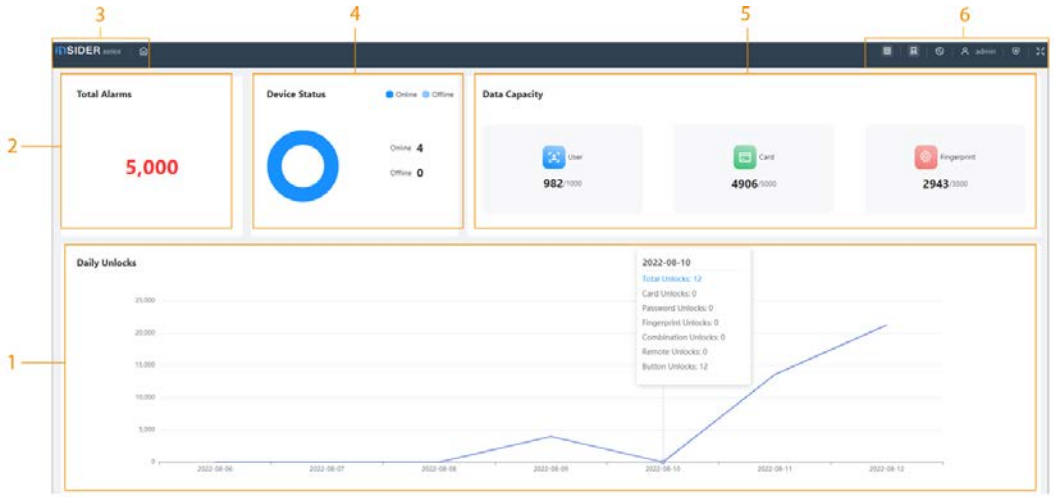


Table 2-4 Home page description

No.	Description
1	Displays the unlock methods used for the day. Hover over a day to see the type of unlocks used for that day.
2	Displays the total number of alarms.
3	• Click SIDER series to go to the dashboard page. • Click to go to the home page of the platform.
4	Displays the status of devices, including offline devices and online devices.
5	Displays the data capacity of cards, fingerprints and users.
6	• The number of doors of the controller. ◇ : Double door ◇ : Single door • The type of the controller. ◇ : Main controller. ◇ : Sub controller. • : Select the language of the platform. • : Goes to the **Security** page directly. • : Restart or log out of the platform. • : Display the webpage in full screen.

2.2.5 Home Page

After you successfully log in, the home page of the main controller is displayed.

Figure 2-10 Home page

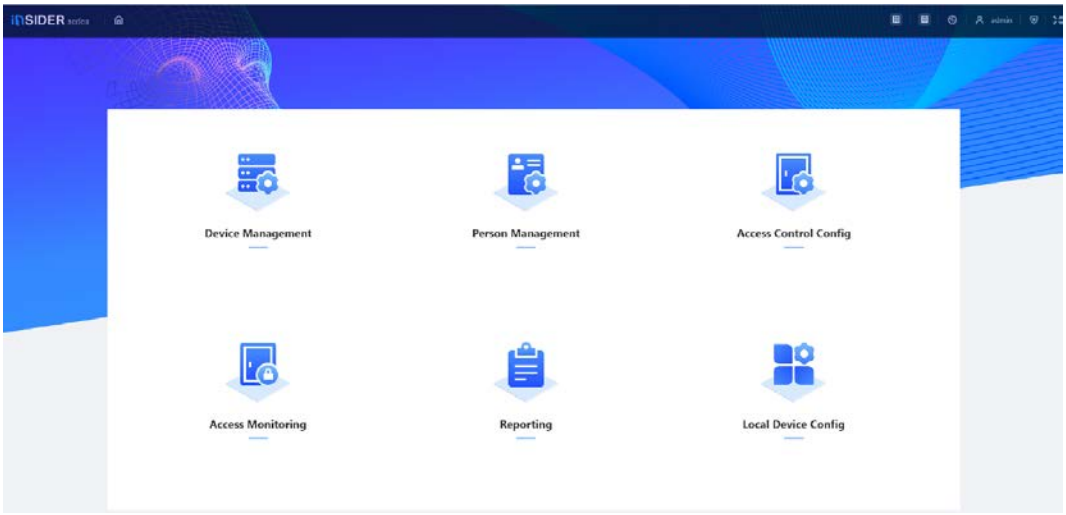


Table 2-5 Home page description

Menu	Description
Device Management	Add devices to the platform of the main controller.
Person Management	Add personnel and assign area permissions to them.
Access Control Config	Add time templates, create and assign area permissions, configure door parameters and global alarm linkages, and view the permission authorization progress.
Access Monitoring	Remotely control the doors and view event logs.
Reporting	View and export alarm records and unlock records.
Local Device Config	Configure parameters for the local device, such as network and local alarm linkage.

2.2.6 Adding Devices

You can add devices to the management platform of the main controller in batches or one by one. If the controller was set to the main controller while you were going through the login wizard, you can add and manage sub controllers through the Platform.

Only the main controller comes with a management platform.

2.2.6.1 Adding Device Individually

You can add sub controllers one by one by entering their IP addresses or domain names.

Procedure

Step 1 On the home page, Click **Device Management**, and then click **Add**.

Step 2 Enter the device information.

Figure 2-11 Device information

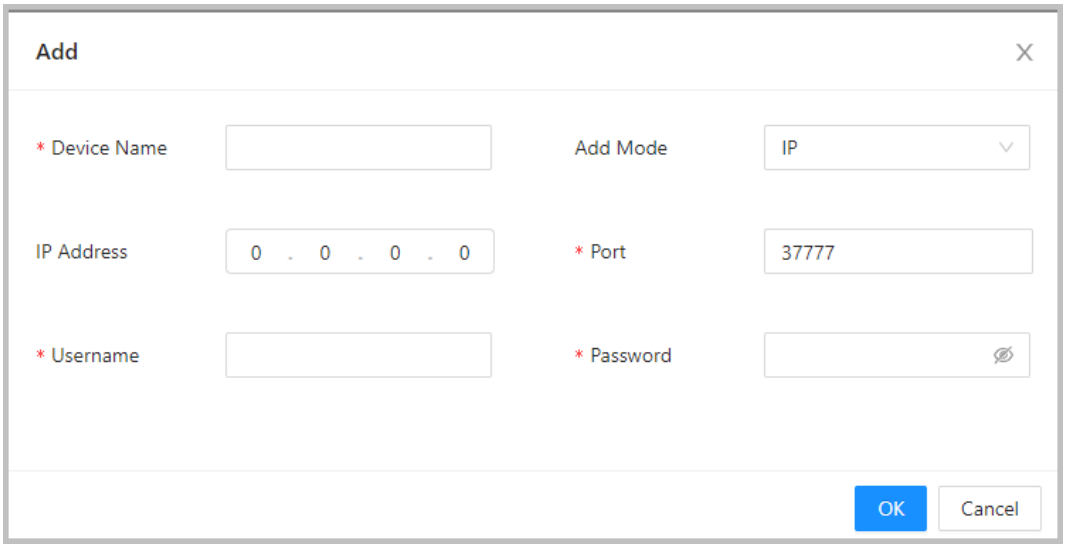


Table 2-6 Device parameters Description

Parameter	Description
Device Name	Enter the name of the Controller. We recommend you name it after its installation area.
Add Mode	Select **IP** to add the Access Controller by entering its IP address.
IP Address	Enter the IP address of the controller.
Port	The port number is 37777 by default.
Username/Password	Enter the username and password of the Controller.

Step 3 Click **OK**.

The added controllers are displayed on the **Device Management** page.

Figure 2-12 Successfully add devices

If the controller was set as the main controller while you were going through the login wizard, the controller will be added to the management platform automatically and function as both the main controller and sub controller.

Related Operations

- : Edit the information on the device.

  Only sub controllers support the below operations.

- : Go to the webpage of the sub controller.
- : Log out of the device.
- : Delete the device.

2.2.6.2 Adding Devices in Batches

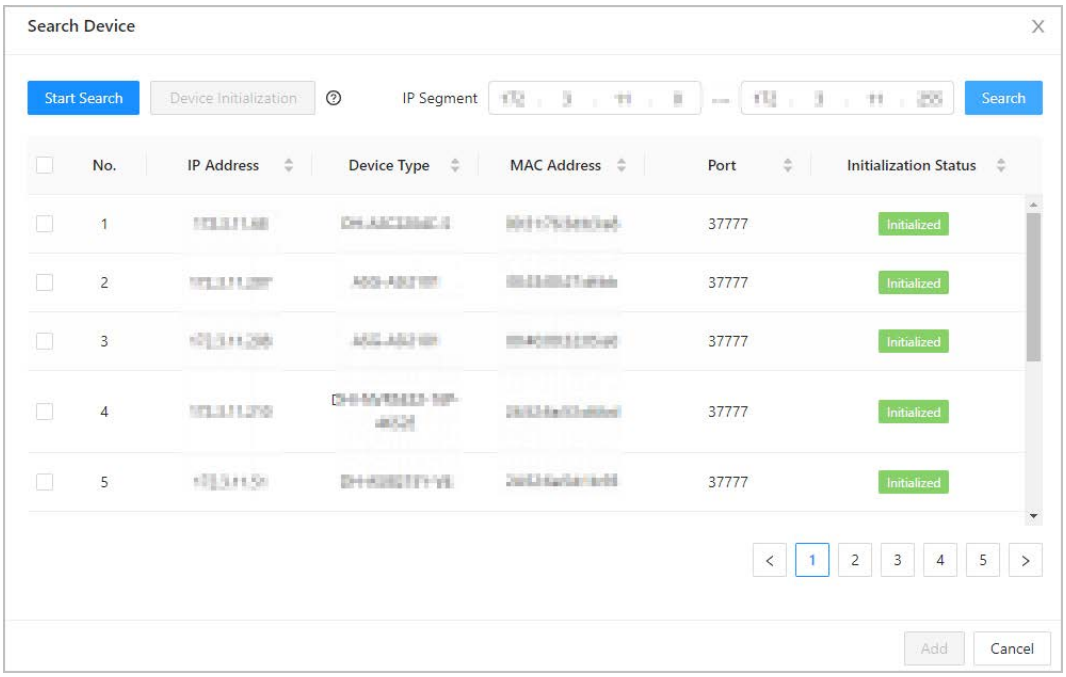
We recommend you use the auto-search function when you add sub controllers in batches. Make sure the sub controllers you want to add are on the same network segment.

Procedure

Step 1 On the home page, Click **Device Management**, and then click **Search Device**.

- Click **Start Search** to search for devices on the same LAN.
- Enter a range for the network segment, and then click **Search**.

Figure 2-13 Auto search



All devices that were searched for will be displayed.

You can select devices from the list, and click **Device Initialization** to initialize them in batches.

To ensure the security of devices, initialization is not supported for devices on different segments.

Step 2 Select the Controllers that you want to add to the Platform, and then click **Add**.

Step 3 Enter the username and password of the sub controller, and then click **OK**.

The added sub controllers are displayed on the **Device Management** page.

Related Operations

- Modify IP: Select added devices, and then click **Modify IP** to change their IP addresses.
- Sync Time: Select added devices, and then click **Sync Time** to sync the time of the devices with the NTP server.
- Delete: Select the devices, and then click **Delete** to delete them.

2.2.7 Adding Users

Add users to departments. Enter basic information for users and set verification methods to verify their identities.

Procedure

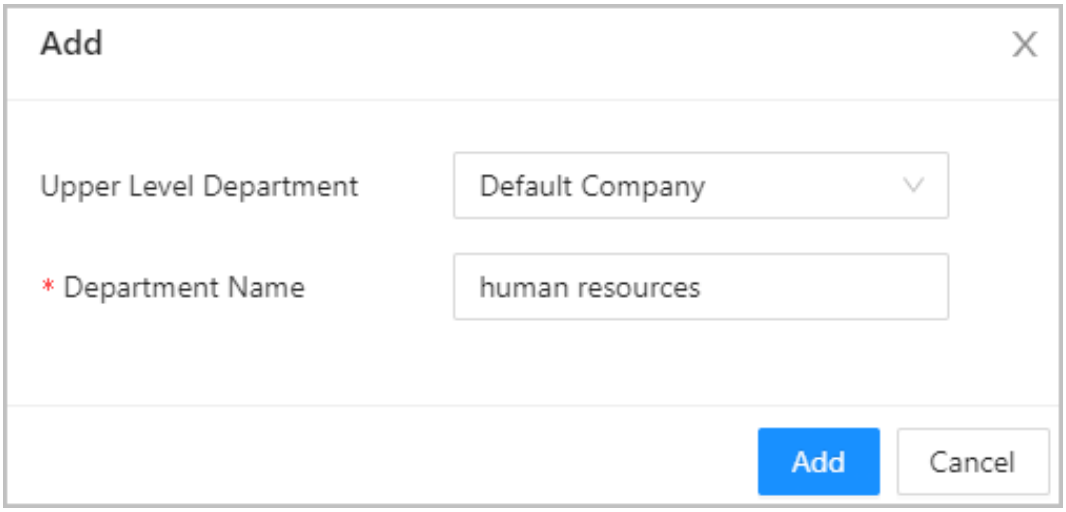
Step 1 On the home page, select **Person Management**.

Step 2 Create a department.

1. Click ＋.
2. Enter the name of the department, and then click **Add**.

The default company cannot be deleted.

Figure 2-14 Add department



Step 3 (Optional) Before you assign cards to users, set the card type and the type of the card number.

1. On the **Person Management** page, select **More** > **Card Type**.
2. Select ID or IC Card, and then click **OK**.

Make sure that the card type is same as the card type that will be assigned; otherwise, the card number cannot be read. For example, if the assigned card is an ID card, set card type to ID card.

3. Select **More** > **Card No. System**.
4. Select decimal format or hexadecimal format for the card number.

Step 4 Add users.

- Add users one by one.

When you want to assign access permissions to one person, you can add users individually. For details on how to assign access permissions, see "2.2.9 Adding Area Permissions".

1. Click **Add**, and then enter the basic information for the user.

Figure 2-15 Basic information on the user

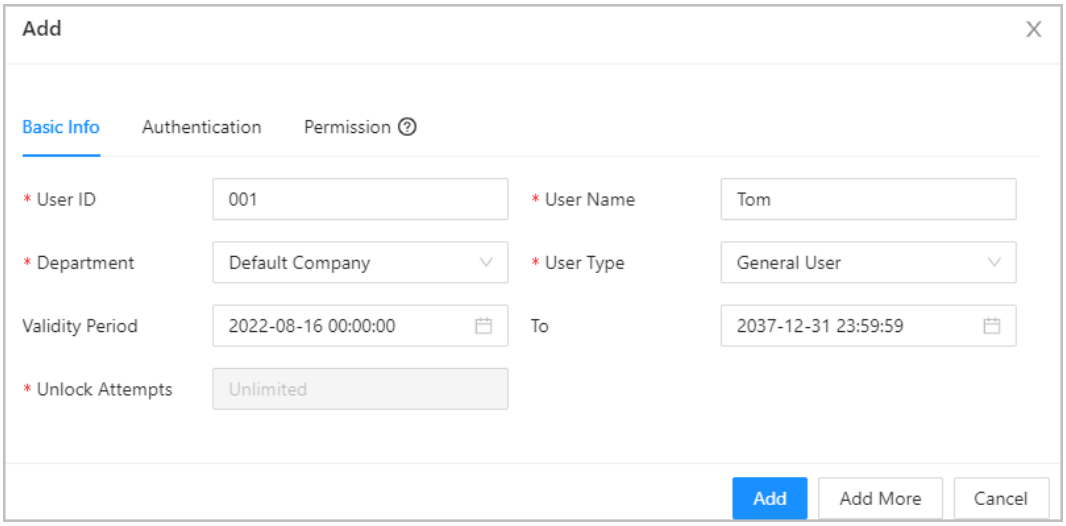


Table 2-7 parameters description

Parameter	Description
User ID	The ID of the user.
Department	The department that the user belongs to.
Validity Period	Set a date on which the access permissions of the person will become effective.
To	Set a date on which the access permissions of the person will expire.
User Name	The name of the user.
User Type	The type of the user. • **General User**: General users can unlock the door. • **VIP User**: When VIP unlocks the door, service personnel will receive a notice. • **Guest User**: Guests can unlock the door within a defined period or for set number of times. After the defined period expires or the unlocking times runs out, they cannot unlock the door. • **Patrol User**: Patrol users will have their attendance tracked, but they have no unlocking permissions. • **Blocklist User**: When users in the blocklist unlock the door, service personnel will receive a notification. • **Other User**: When they unlock the door, the door will stay unlocked for 5 more seconds.
Unlock Attempts	The times of unlock attempts for guest users.

2. Click **Add**.
   You can click **Add More** to add more users.

- Add users in batches.
  1. Click **Import** > **Download Template** to download the user template.
  2. Enter user information in the template, and then save it.
  3. Click **Import**, and upload the template to the Platform.
     The users are added to the Platform automatically.

Step 5 Click the **Authentication** tab, set the authentication method to verify the identity of

people.

Each user can have 1 password, 5 cards, and 3 fingerprints.

Table 2-8 Set authentication methods

Authentication Methods	Description
Password	Enter and confirm the password.
Card	• Enter the card number manually. 1. Click **Add**. 2. Enter the card number, and then click **Add**. • Read the number automatically through a card enrollment reader. 1. Click ⚙. 2. Select **Enrollment Reader**, and click **OK**. Make sure that the card enrollment reader is connected to your computer. 3. Click **Add**, and follow the on-screen instructions to download and install the plug-in. 4. Swipe the card on the enrollment reader. A 20-second countdown is displayed to remind you to swipe the card, and the system will read the card number automatically. If the 20-second countdown expires, click **Read Card** to start a new countdown. 5. Click **Add**. • Read the number automatically through a card reader. 1. Click ⚙. 2. Select **Device**, select the card reader, and click **OK**. Make sure the card reader is connected to the access controller. 3. Swipe the card on the card reader. A 20-second countdown is displayed to remind you to swipe the card, and the system will read the card number automatically. .If the 20-second countdown expires, click **Read Card** to start a new countdown. 4. Click **Add**.
Fingerprint	Connect a fingerprint scanner to the computer, and follow the on-screen instructions to register the fingerprint.

Figure 2-16 Authentication method

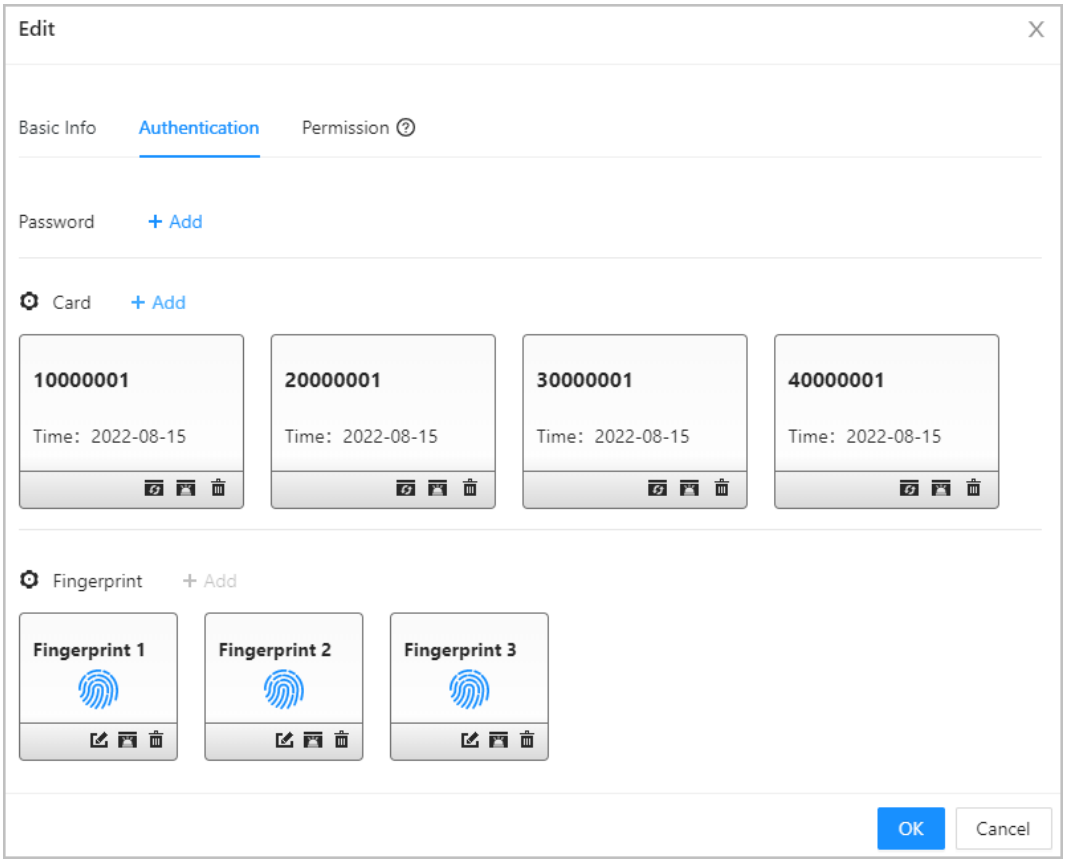


Table 2-9 Authentication method

Parameter	Description
Password	Users can gain access by entering the password.
Card	Users can gain access by swiping the card. • : Change the number of the card. • : Set the card to duress card. An alarm is triggered when people use duress card to unlock the door. • : Deletes the card.
Fingerprint	User can gain access through verifying the fingerprint.

Step 6 Click **OK**.

Related Operations

- On the **Person Management** page, click **Export** to export all users in the Excel format.
- On the **Person Management** page, click **More** > **Extract**, and select a device to extract all users from the sub controller to the Platform of the main controller.
- On the **Person Management** page, click **More** > **Card Type**, set the card type before you assign cards to users. For example, if the assigned card is an ID card, set the card type to ID card.
- On the **Person Management** page, click **More** > **Card No. System**, set the card system to the decimal or hexadecimal format.

2.2.8 Adding Time Templates

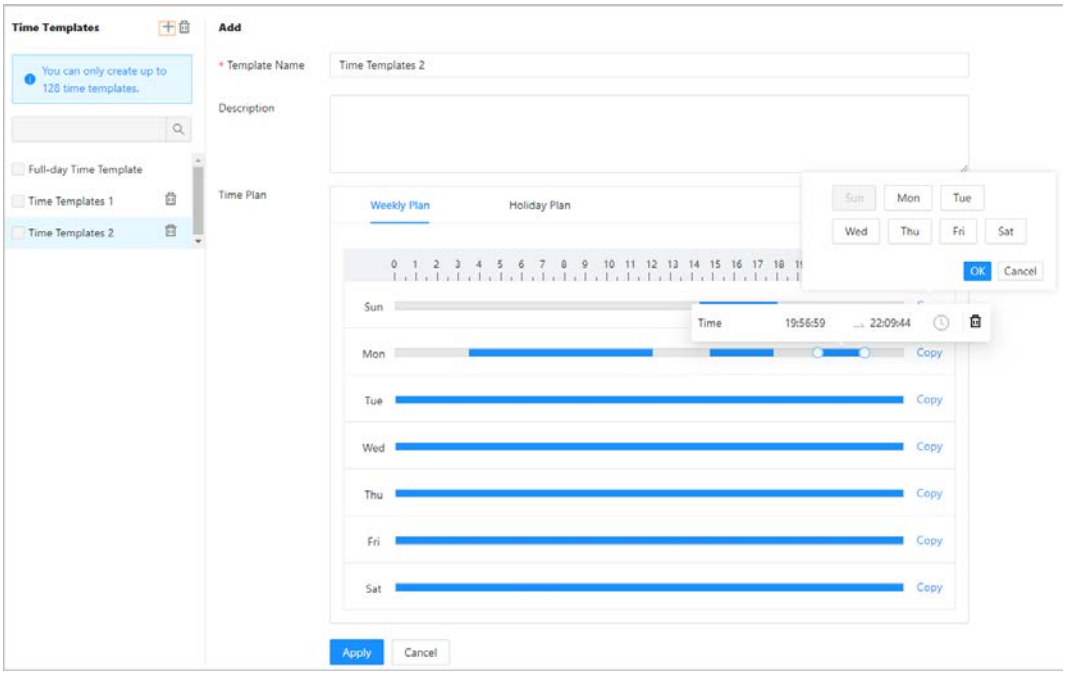
Time template defines the unlock schedules of the Controller. The platform offers 4 time templates by default. The template is also customizable.

The default templates cannot be changed.

Step 1 On the home page, select **Access Control Config** > **Time Template**, and then click +.

Step 2 Enter the name of the time template.

Figure 2-17 Create time templates



- The default full-day time template can be not modified.
- You can only create up to 128 time templates.

Step 3 Drag the slider to adjust the time period for each day.

You can also click **Copy** to apply the configured time period to other days.

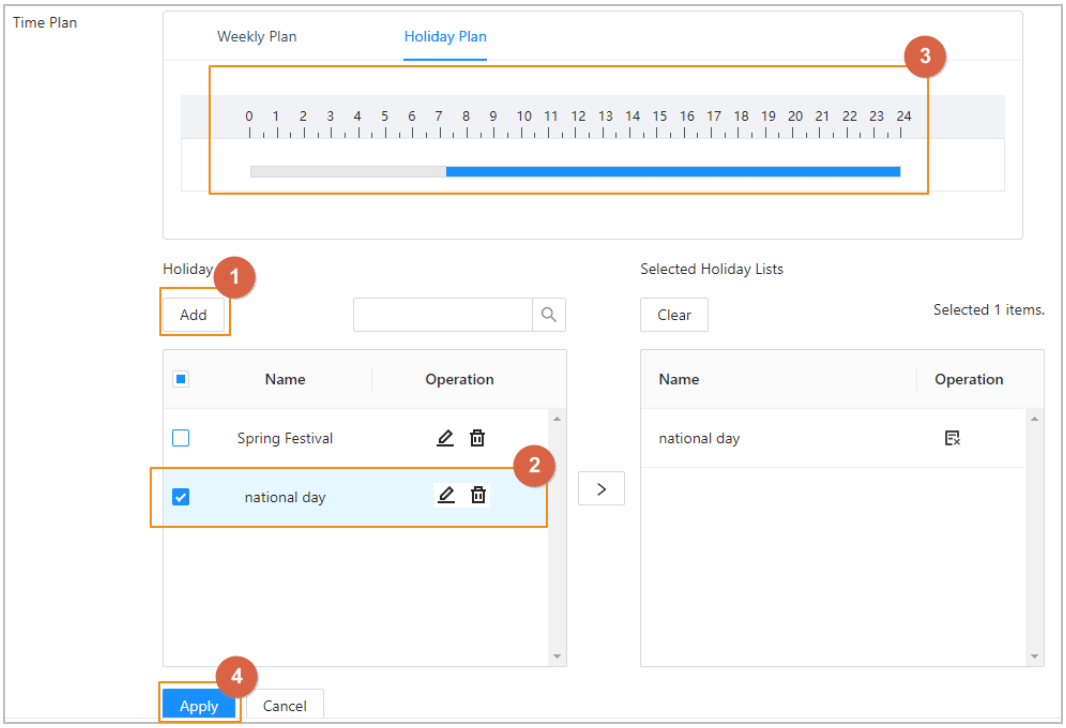
You can only configure up to 4 time sections for each day.

Step 4 Click **Apply**.

Step 5 Configure holiday plans.

1. Click the **Holiday Plan** tab, and then click **Add** to add holidays.
   You can add up to 64 holidays.
2. Select a holiday.
3. Drag the slider to adjust the time period for the holiday.
4. Click **Apply**.

Figure 2-18 Create holiday plan



2.2.9 Adding Area Permissions

An area permission group is a collection of door access permissions in a defined time. Create a permission group, and then associate users with the group so that users will be assigned with access permissions defined for the group.

Step 1 Click **Access Control Config** > **Permission Settings**.

Step 2 Click + .

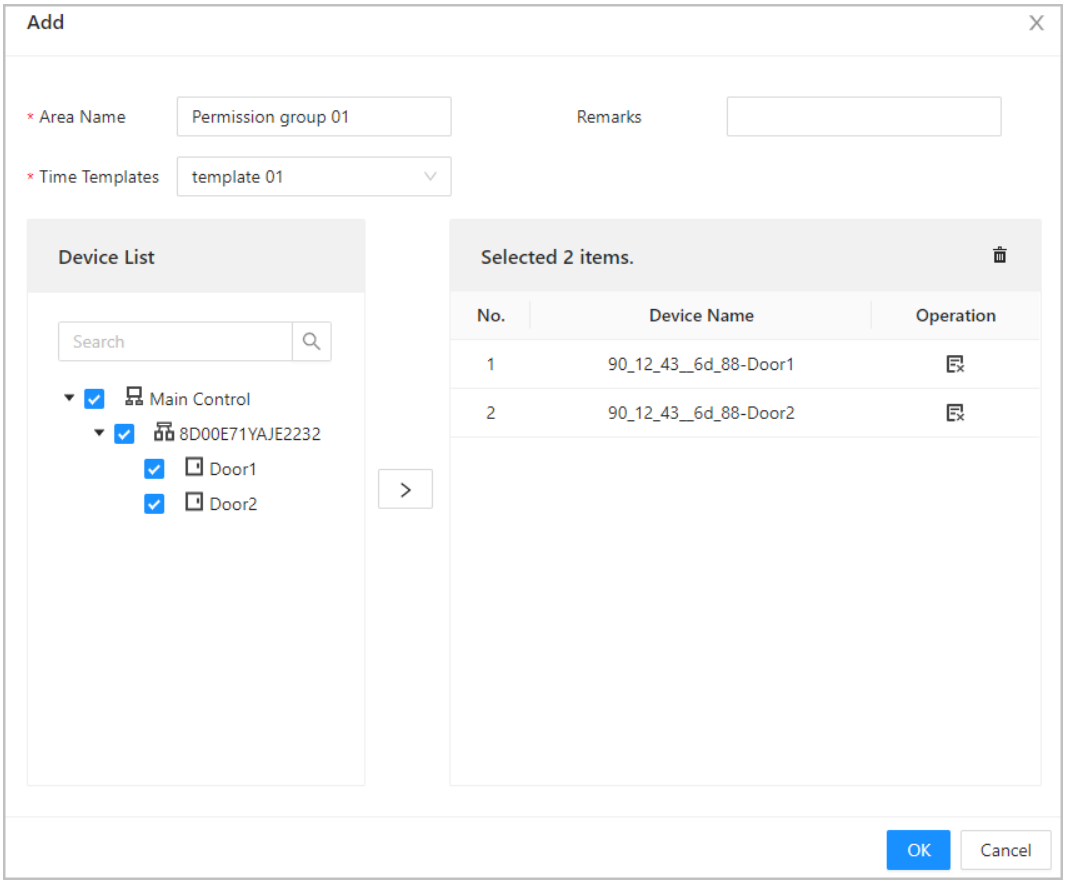
You can add up to 128 area permissions.

Step 3 Enter the name of the area permission group, remarks (optional), and select a time template.

Step 4 Select doors.

Step 5 Click **OK**.

Figure 2-19 Create area permission groups



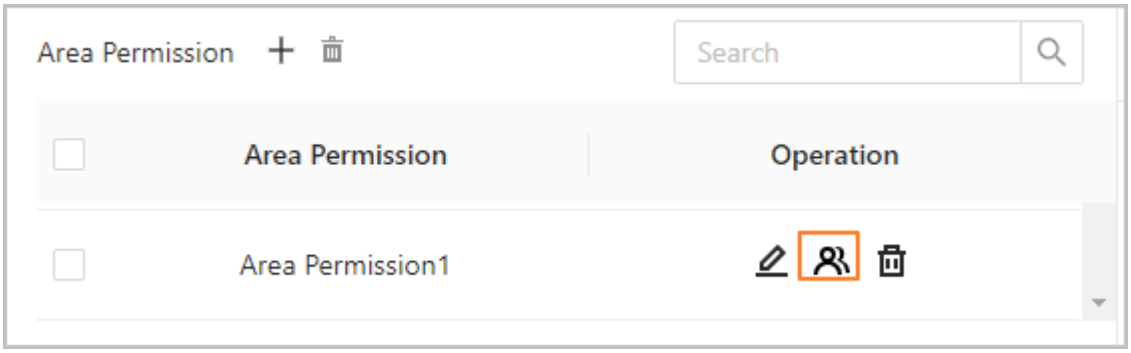
2.2.10 Assigning Access Permissions

Assign access permissions to users by linking them to the area permission group. This will allow the users to gain access to secure areas.

Step 1 On the home page, select **Access Control Config** > **Permission Settings**.

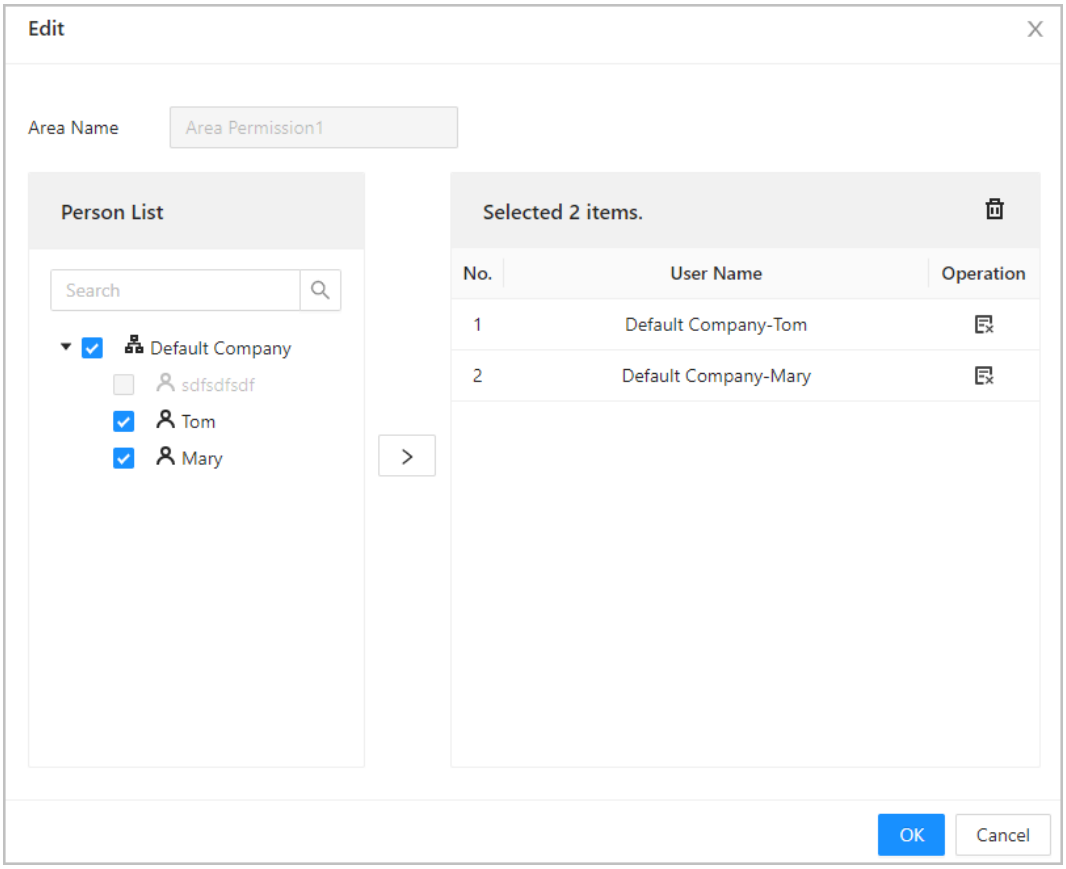
Step 2 Click for an existing permission group, and then select users from the department. You can select a whole department.

Figure 2-20 Select users



You can click + to create new permission groups. For details on creating permission groups, see "2.2.9 Adding Area Permissions".

Figure 2-21 Assign permissions in batches



Step 3 Click **OK**.

Related Operations

When you want to assign permission to a new person or change access permissions for an existing person, you can assign access permission to them one by one.

1. On the home page, select **Person Management**.
2. Select the department, and then select an existing user.

   If the user was not added before, click **Add** to add the user. For details on creating users, see "2.2.7 Adding Users".
3. Click corresponding to the user.
4. On the **Permission** tab, select existing permission groups.

   - You can click **Add** to create new area permissions. For details on creating area permissions, see "2.2.9 Adding Area Permissions".
   - You can link multiple area permissions to a user.
5. Click **OK**.

2.2.11 Viewing Authorization Progress

After you assign access permissions to users, you can view the authorization process.

Step 1 On the home page, select **Access Control Config** > **Authorization Progress**.

Step 2 View the authorization progress.

- Sync SubControl Person: Sync personnel on the main controller to the sub-controller.
- Sync Local Person: Sync personnel on the management platform of the main controller to its server.
- Sync Local Time: Sync the time templates in the area permissions to the sub-controller.

Figure 2-22 Authorization progress

Step 3 (Optional) If authorization failed, click ↻ to try again.

You can click 🕮 to view details on the failed authorization task.

2.2.12 Configuring Access Control (Optional)

2.2.12.1 Configuring Basic Parameters

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

Step 2 In **Basic Settings**, configure basic parameters for the access control.

Figure 2-23 Basic parameters

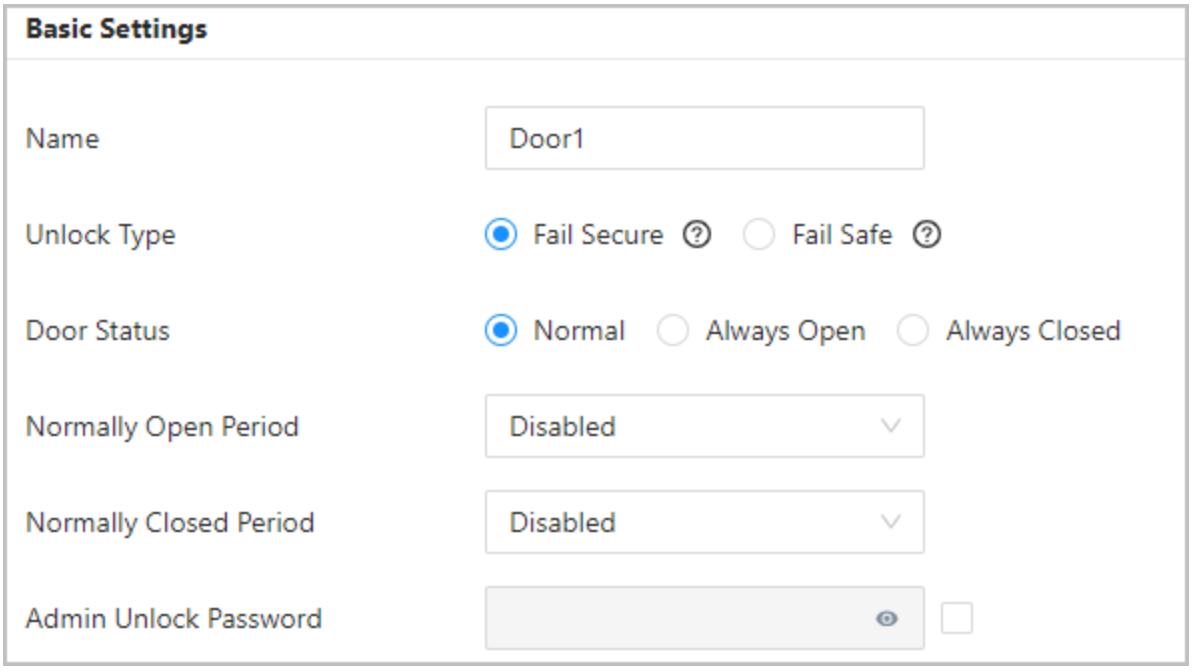


Table 2-10 Basic parameters description

Parameter	Description
Name	The name of the door.

Parameter	Description
Unlock Type	• If you selected **12 V** to supply power for the lock through the controller during the log-in wizard, you can set fail secure or fail safe. ◇ Fail secure: When the power is interrupted or fails, the door stays locked. ◇ Fail safe: When the power is interrupted or fails, the door automatically unlocks to allow people to leave. • If you selected **Relay** to supply power for the lock through the relay during the login wizard, you can set relay open or relay close. ◇ Relay open=locked: Set the lock to remain locked when the relay is open. ◇ Relay open=unlocked: Set the lock to unlock when the relay is open.
Door Status	Set the door status. • **Normal**: The door will be unlocked and locked according to your settings. • **Always Open**: The door remains unlocked all the time. • **Always Closed**: The door remains locked all the time.
Normally Open Period	When you select **Normal**, you can select a time template from the drop-down list. The door remains open or closed during the defined time.
Normally Closed Period	
Admin Unlock Password	Turn on the admin unlock function, and then enter the password of the administrator. Administrator can unlock the door by only entering the admin password.

2.2.12.2 Configuring Unlock Methods

You can use multiple unlock methods to unlock the door, such as face, fingerprint, card, and password unlock. You can also combine them to create your own personal unlock method.

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

Step 2 In **Unlock Settings**, select an unlock mode.

- Combination unlock
  1. Select **Combination Unlock** from the **Unlock Mode** list.
  2. Select **Or** or **And**
     - ◇ Or: Use one of the selected unlocking methods to open the door.
     - ◇ And: Use all the selected unlocking methods to open the door.
       The Controller supports unlock through card, fingerprint or password.
  3. Select unlock methods, and then configure other parameters.

Figure 2-24 Unlock Settings

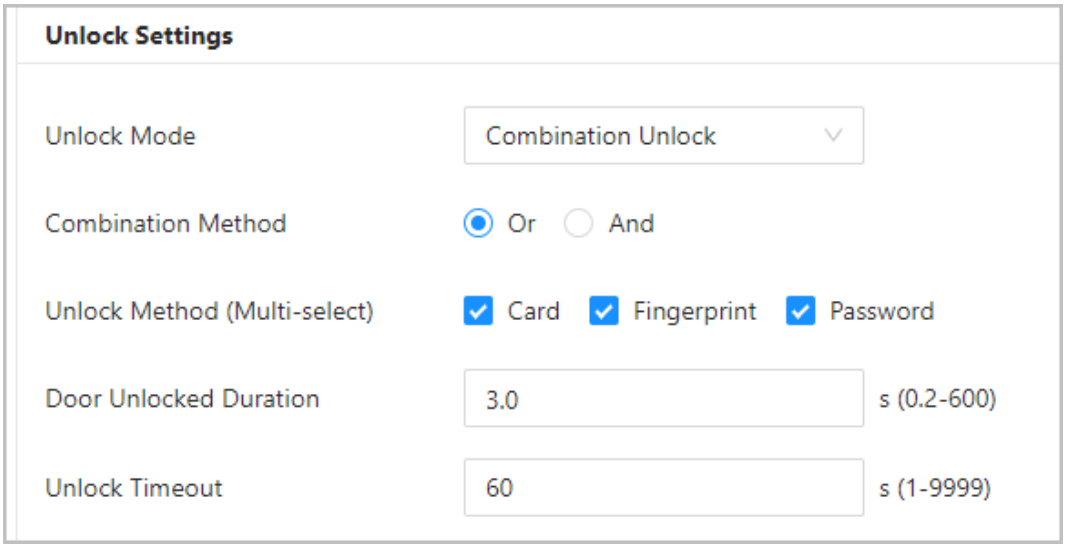


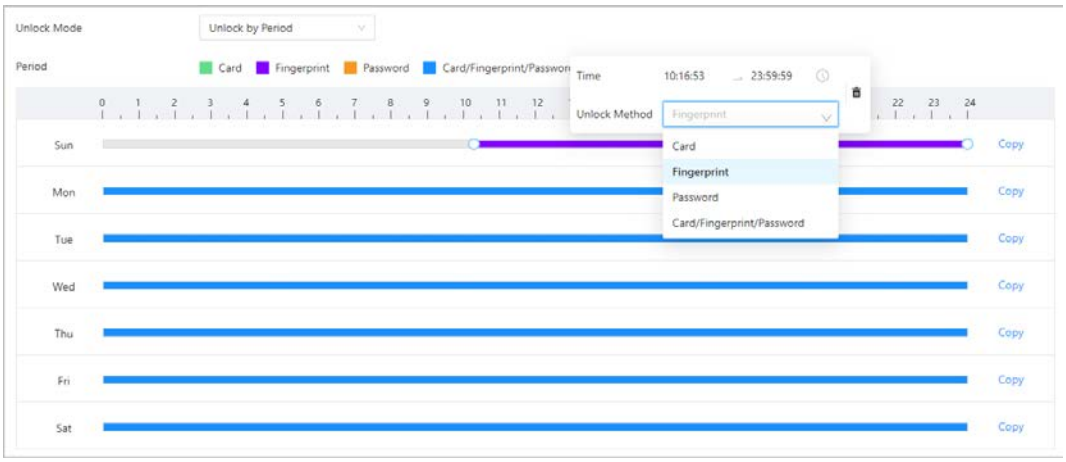
Table 2-11 Unlock settings description

Parameter	Description
Door Unlock Duration	After a person is granted access, the door will remain unlocked for a defined time for them to pass through. It ranges from 0.2 to 600 seconds.
Unlock Timeout	A timeout alarm can be triggered if the door remains unlocked for longer than this value.

- Unlock by period
  1. In the **Unlock Mode** list, select **Unlock by Period**.
  2. Drag the slider to the adjust time period for each day.

     You can also click **Copy** to apply the configured time period to other days.
  3. Select an unlock method for the time period, and then configure other parameters.

Figure 2-25 Unlock by period



Step 3 Click **Apply**.

2.2.12.3 Configuring Alarms

An alarm will be triggered when an abnormal access event occurs.

Step 1 Select **Access Control Config** > **Door Parameters** > **Alarm Settings**.

Step 2 Configure alarm parameters.

Figure 2-26 Alarm

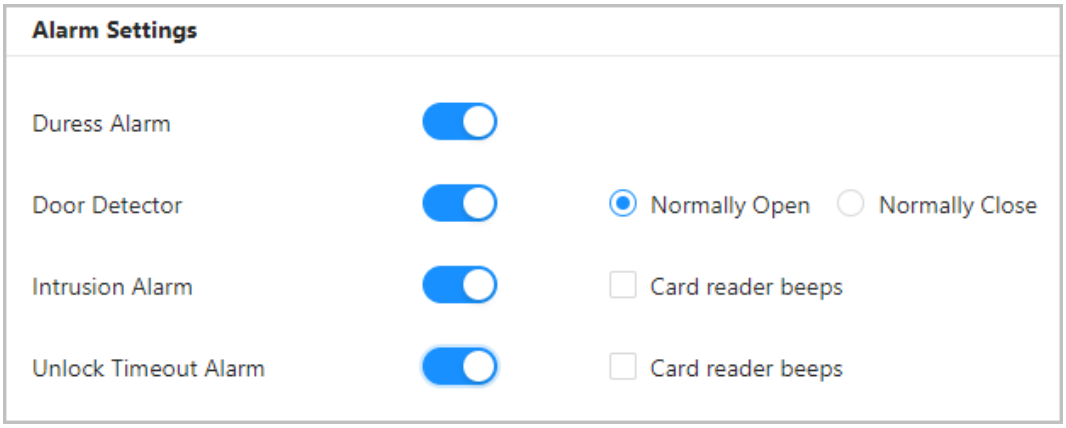


Table 2-12 Description of alarm parameters

Parameter	Description
Duress Alarm	An alarm will be triggered when a duress card, duress password or duress fingerprint is used to unlock the door.
Door Detector	Select the type of door detector.
Intrusion Alarm	• When door detector is enabled, an intrusion alarm will be triggered if the door is opened abnormally. • A timeout alarm will be triggered if the door remains unlocked longer than the defined unlock time. • When **Card reader beeps** is enabled, the card reader beeps when the intrusion alarm or timeout alarm is triggered.
Unlock Timeout Alarm	

Step 3 Click **Apply**.

2.2.13 Configuring Global Alarm linkages (Optional)

You can configure global alarm linkages across different Access Controllers.

Background Information

When you have configured both global alarm linkages and local alarm linkages, and if the global alarm linkages conflict with the local alarm linkages, the last alarm linkages you have configured will take effective.

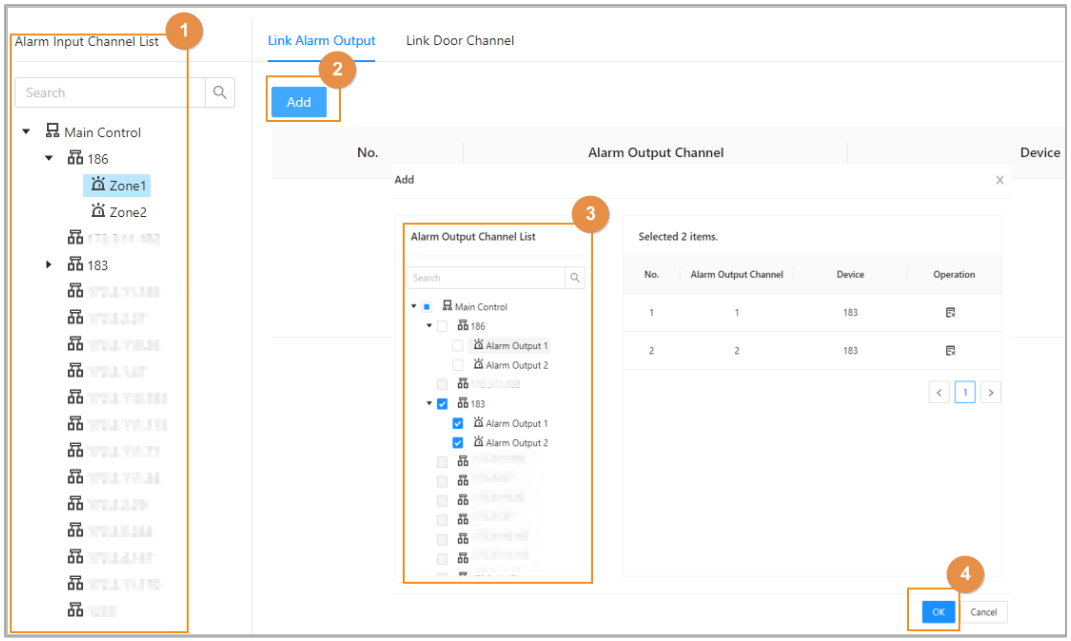
Procedure

Step 1 Select **Access Control Config** > **Global Alarm Linkage**.

Step 2 Configure the alarm output.

1. Select an alarm input from the alarm input channel list, and then click **Link Alarm Output**.
2. Click **Add**, select an alarm output channel, and then click **OK**.

Figure 2-27 Alarm output

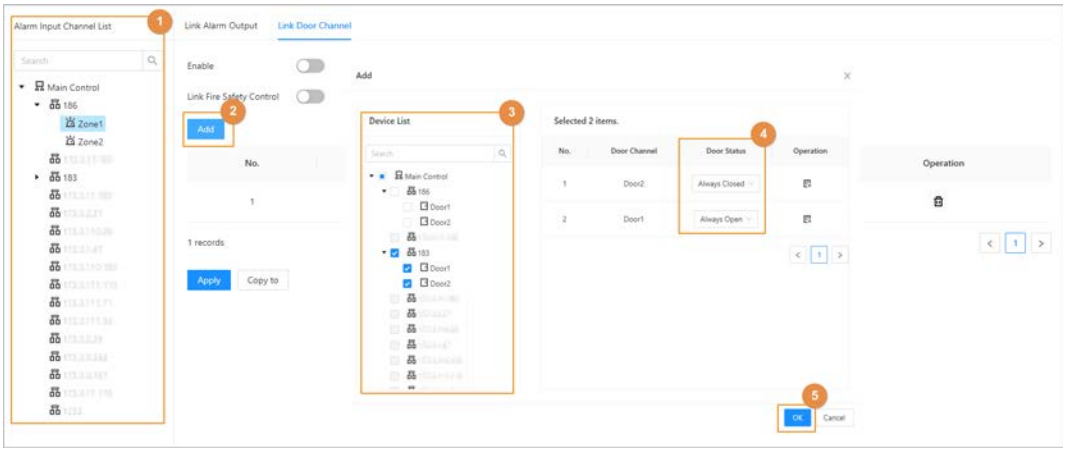


3. Turn on the alarm output function and then enter the alarm duration.
4. Click **Apply**.

Step 3 Configure the door linkage.

1. Select an alarm input from the channel list, and then click **Add**.
2. Select the linkage door, select the door status, and then click **OK**.
   - Always Closed: The door automatically locks when an alarm is triggered.
   - Always Open: The door automatically unlocks when an alarm is triggered.

Figure 2-28 Door linkage



3. Click **Enable** to turn on the door linkage function.

   If you turn on link fire safety control, all door linkages automatically change to **Always Open** status, and all doors will open when the fire alarm is triggered.

4. Click **Apply**.

   You can click **Copy to** to apply the pre-configured alarm linkages to other alarm input channels.

2.2.14 Access Monitoring (Optional)

2.2.14.1 Remotely Opening and Closing Doors

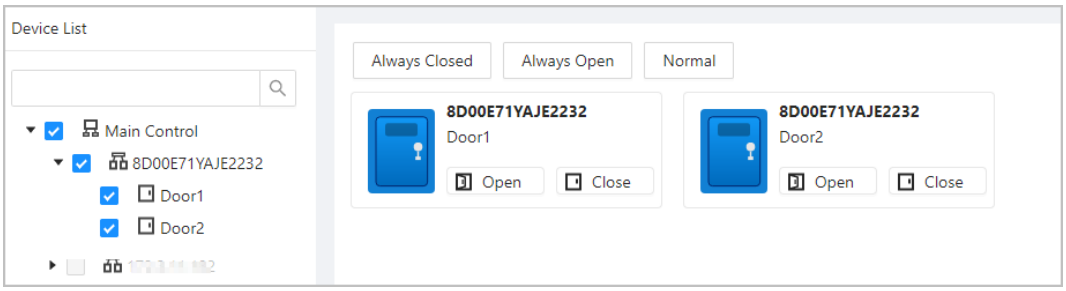
You can remotely monitor and control the door through Smart PSS Lite. For example, you can remotely open or close the door.

Procedure

Step 1 Click **Access Monitoring** on the home page.

Step 2 Select the door, and then click **Open** or **Close** to remotely control the door.

Figure 2-29 Remotely control the door



Related Operations

- Event filtering: Select the event type in **Event Info**, and the event list displays the selected event types, such as alarm events and abnormal events.
- Event deleting: Click to clear all events from the event list.

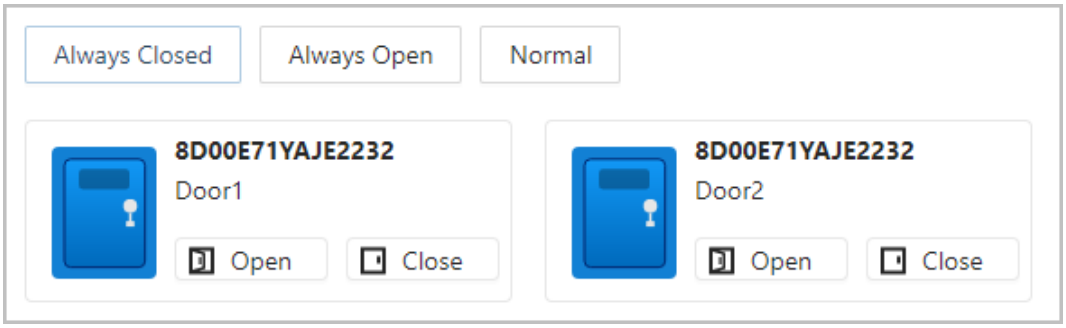
2.2.14.2 Setting Always Open and Always Closed

After setting always open or always close, the door remains open or closed all the time.

Step 1 Click **Access Monitoring** on the home page.

Step 2 Click **Always Open** or **Always Closed** to open or close the door.

Figure 2-30 Always open or close



The door will remain open or closed all the time. You can click **Normal** to restore access control to its normal status, and the door will be open or closed based on the configured verification methods.

2.2.15 Local Device Configurations (Optional)

Local device configurations can only be applied to the local Access Controllers.

2.2.15.1 Configure Local Alarm Linkages

You can only configure local alarm linkages on the same access controller. Each controller has 2 alarm inputs and 2 alarm outputs.

Step 1 On the home page, select **Local Device Config** > **Local Alarm Linkage**.

Step 2 Click to configure local alarm linkage.

Figure 2-31 Local alarm linkage

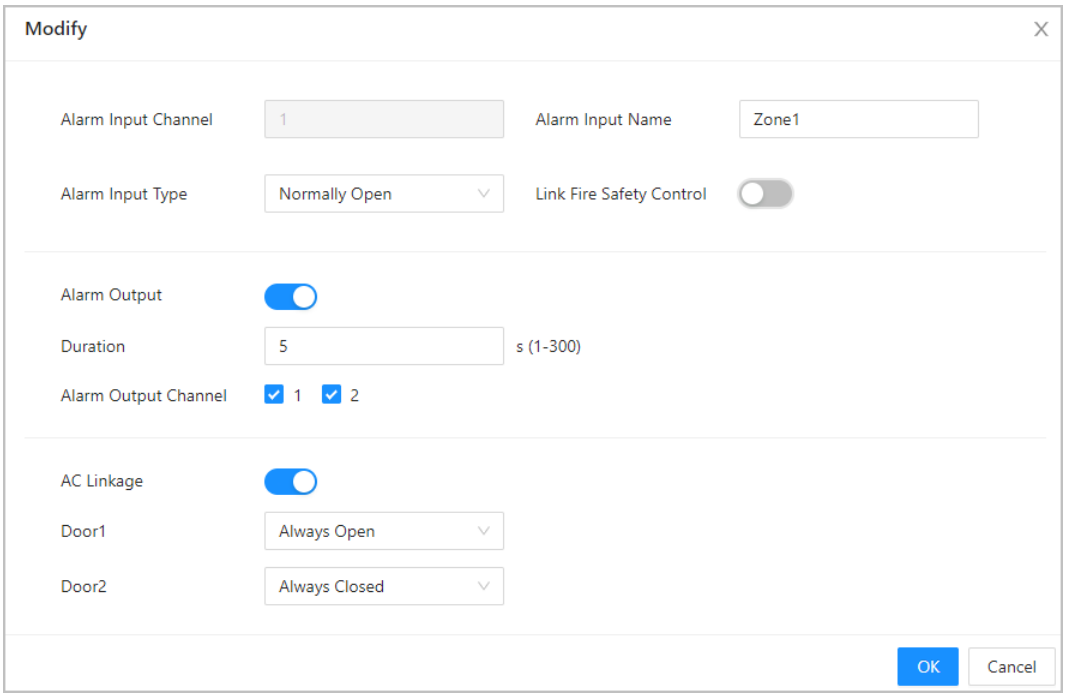


Table 2-13 Local alarm linkage

Parameter	Description
Alarm input channel	The number of the alarm input channel. Each controller has 2 alarm inputs and 2 alarm outputs.
Alarm Input Name	The name of the alarm input.
Alarm Input Type	The type of the alarm input. • Normally Open • Normally Closed
Link Fire Safety Control	If you turn on the link fire safety control, all the doors will open when the fire alarm is triggered.
Alarm Output	You can turn on the alarm output function.
Duration	When an alarm is triggered, the alarm remains on for a defined time.

Parameter	Description
Alarm Output Channel	Select the alarm output channel. Each controller has 2 alarm inputs and 2 alarm outputs.
AC Linkage	Turn on **AC Linkage** to configure the door linkage. Set the door to always open or always closed status. When an alarm is triggered, the door will automatically open or close.
Door1/Door2	

Step 3 Click **OK**.

2.2.15.2 Configuring Card Rules

The platform supports 5 types of Wiegand formats by default. You can also add custom Wiegand formats.

Step 1 On the home page, select **Local Device Config** > **Access Card Rule Config**.

Step 2 Click **Add**, and then configure new Wiegand formats.

Figure 2-32 Add new Wiegand formats

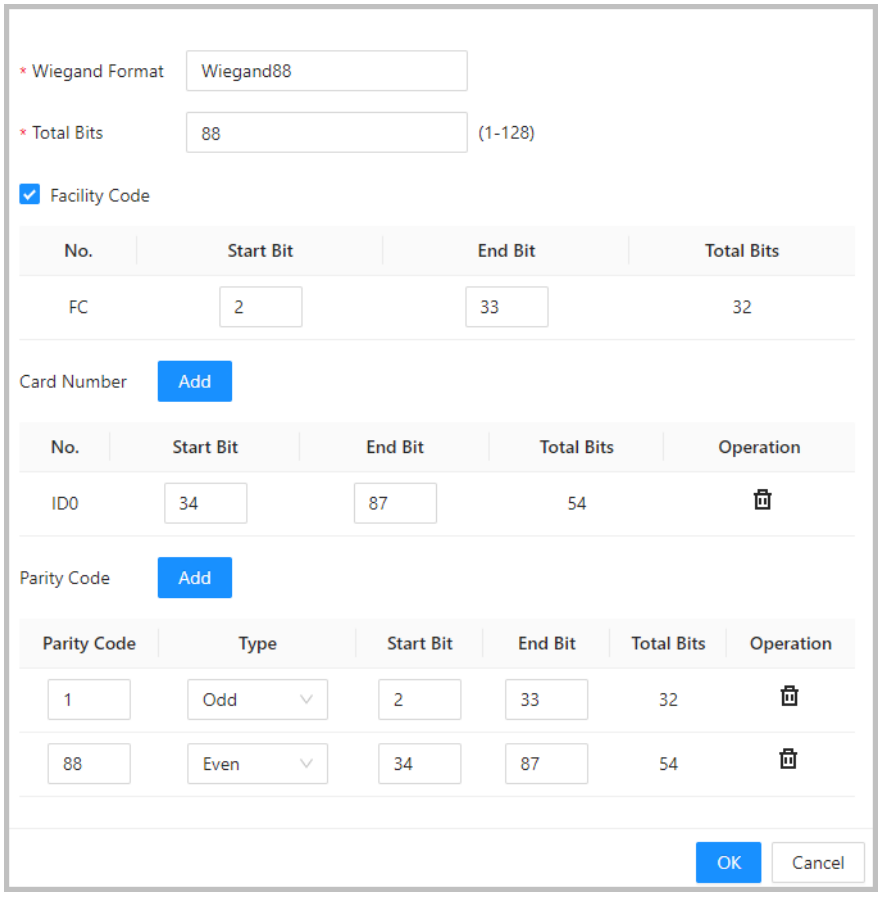


Table 2-14 Configure the Wiegand format

Parameter	Description
Wiegand format	The name of the Wiegand format.
Total bits	Enter the total number of bits.
Facility Code	Enter the start bit and the end bit for the facility code.

Parameter	Description
Card number	Enter the start bit and the end bit for the card number.
Parity Code	1. Enter the even parity start bit and even parity end bit. 2. Enter the odd parity start bit and odd parity end bit.

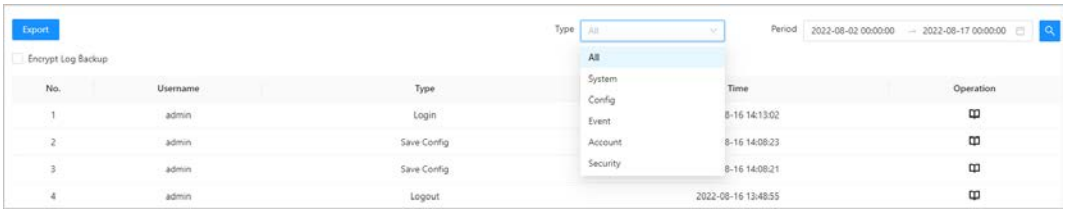
Step 3 Click **OK**.

2.2.15.3 Backing up System Logs

Step 1 On the home page, select **Local Device Config** > **System Logs**.

Step 2 Select the type of log, and then select the time range.

Figure 2-33 Back up logs



Step 3 Click **Encrypt Log Backup** to back up encrypted logs.

Step 4 (Optional) You can also click **Export** to export logs.

2.2.15.4 Configuring Network

2.2.15.4.1 Configuring TCP/IP

You need to configure the IP address of the Access Controller to make sure that it can communicate with other devices.

Step 1 Select **Local Device Config** > **Network Setting** > **TCP/IP**.

Step 2 Configure the parameters.

Figure 2-34 TCP/IP

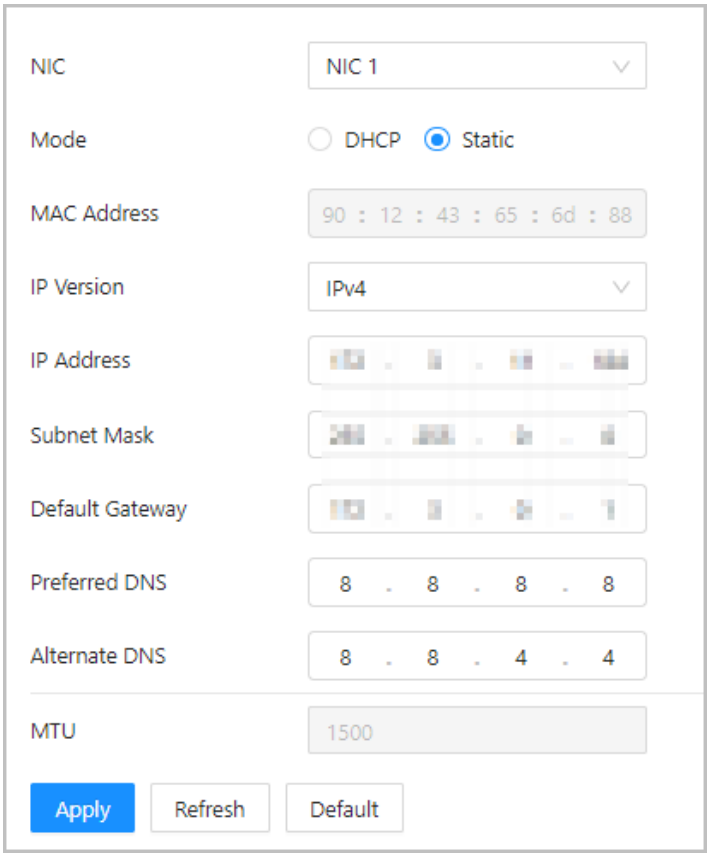


Table 2-15 Description of TCP/IP

Parameter	Description
IP Version	IPv4.
MAC Address	MAC address of the Access Controller.
Mode	• **Static**: Manually enter IP address, subnet mask, and gateway. • **DHCP**: Dynamic Host Configuration Protocol. When DHCP is turned on, the Access Controller will automatically be assigned IP address, subnet mask, and gateway.
IP Address	If you select static mode, configure the IP address, subnet mask and gateway. IP address and gateway must be on the same network segment.
Subnet Mask	
Default Gateway	
Preferred DNS	Set the IP address of the preferred DNS server.
Alternate DNS	Set the IP address of the alternate DNS server.

Step 3 Click **OK**.

2.2.15.4.2 Configuring Ports

You can limit access to the Access Controller at the same time through web, desktop client and phone.

Step 1 Select **Local Device Config** > **Network Setting** > **Port**.

Step 2 Configure port numbers.

You need to restart the controller to make the configurations effective for all the parameters except **Max Connection** and **RTSP Port**.

Figure 2-35 Configure ports

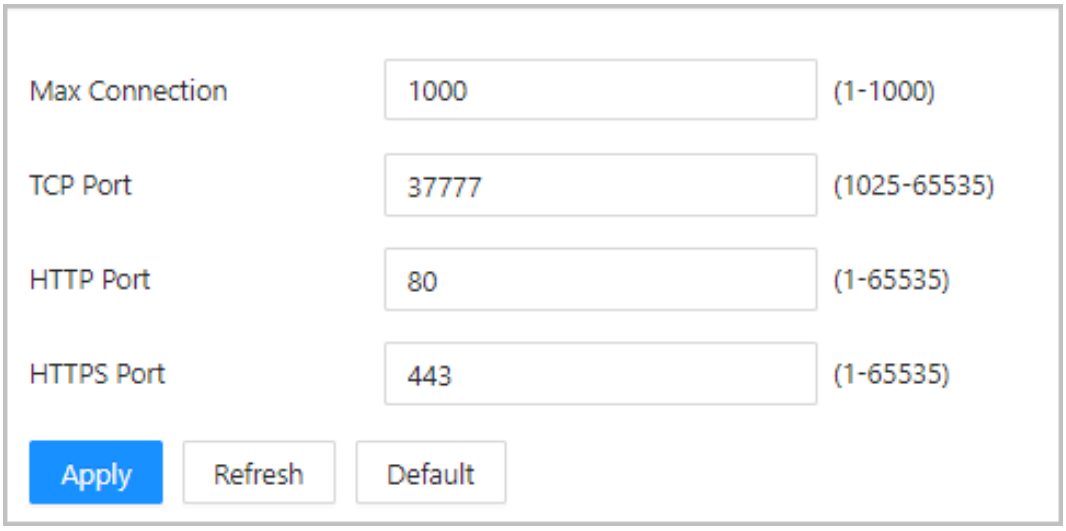


Table 2-16 Description of ports

Parameter	Description
Max Connection	You can set the maximum number of clients that can access the Access Controller at the same time, such as the web client, desktop client and phone.
TCP Port	It is 37777 by default.
HTTP Port	It is 80 by default. If you want to change the port number, add the new port number after the IP address when you log in to the webpage.
HTTPS Port	It is 443 by default.

Step 3 Click **OK**.

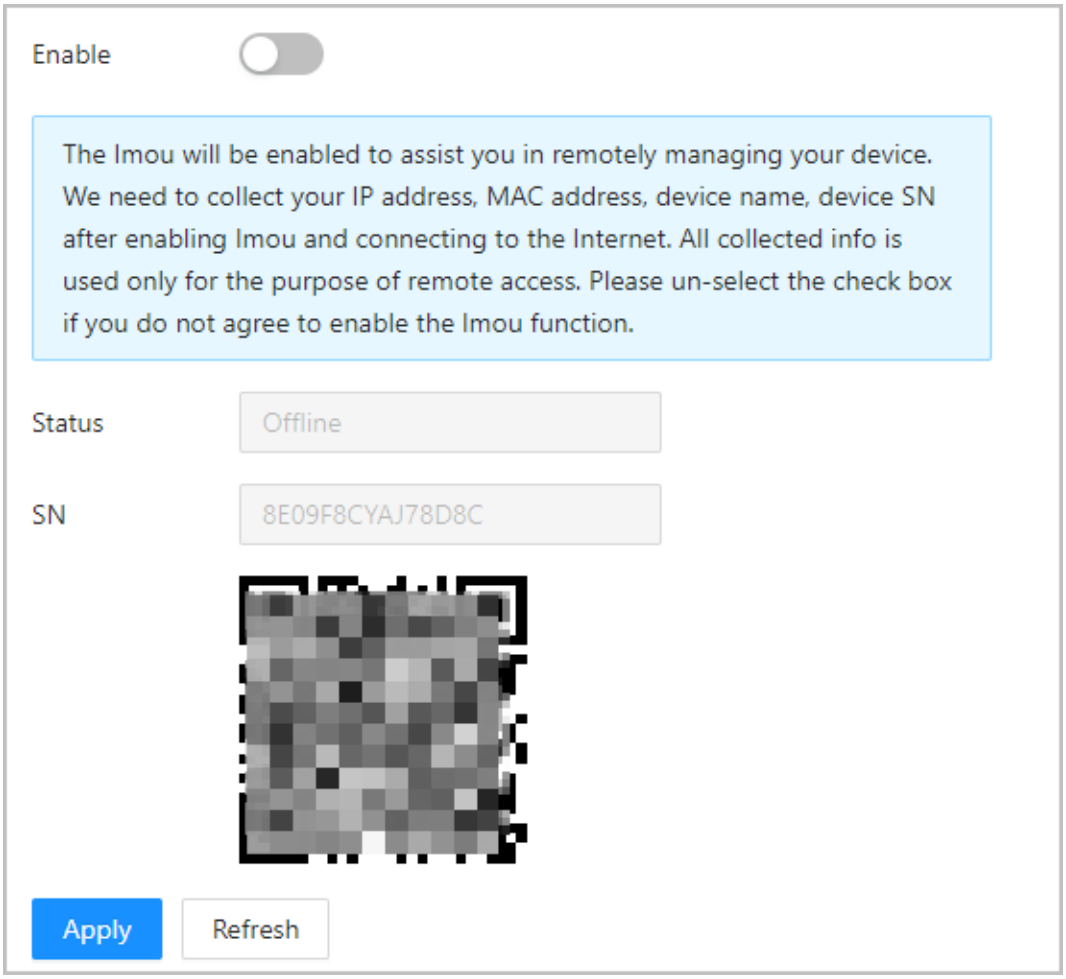
2.2.15.4.3 Configuring Cloud Service

The cloud service provides a NAT penetration service. Users can manage multiple devices through DMSS (For details, see the user's manual of DMSS). You do not have to apply for dynamic domain name, configure port mapping or deploy a server.

Step 1 On the home page, select **Local Device Config** > **Network Setting** > **Cloud Service**.

Step 2 Turn on the cloud service function.

Figure 2-36 Cloud service



Step 3 Click **Apply**.

Step 4 Download DMSS and sign up, you can scan the QR code through DMSS to add the Access Controller to it.

For details, see the user's manual of DMSS.

2.2.15.4.4 Configuring Automatic Registration

The Access Controller reports its address to the designated server so that you can get access to the Access Controller through the management platform.

Step 1 On the home page, select **Network Setting** > **Register**.

Step 2 Enable the automatic registration function, and then configure the parameters.

Figure 2-37 Register

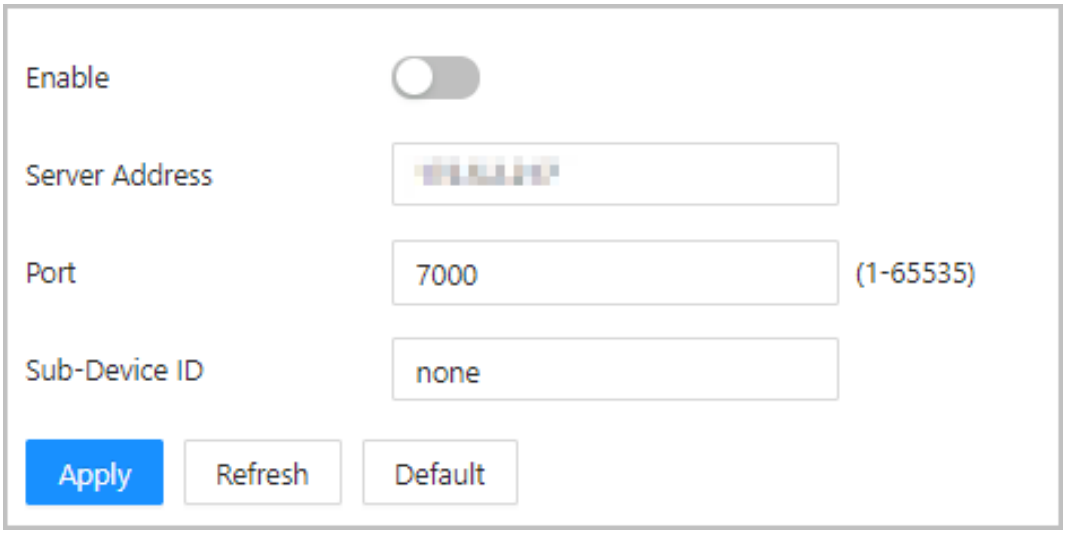


Table 2-17 Automatic registration description

Parameter	Description
Server Address	The IP address of the server.
Port	The port of the server used for automatic registration.
Sub-Device ID	Enter the sub-device ID (user defined). When you add the Access Controller to the management platform, the sub-device ID on the management platform must conform to the defined sub-device ID on the Access Controller.

Step 3 Click **Apply**.

2.2.15.4.5 Configuring Basic Service

When you want to connect the Access Controller to a third-party platform, turn on the CGI and ONVIF functions.

Step 1 Select **Network Settings** > **Basic Service**.

Step 2 Configure the basic service.

Figure 2-38 Basic service

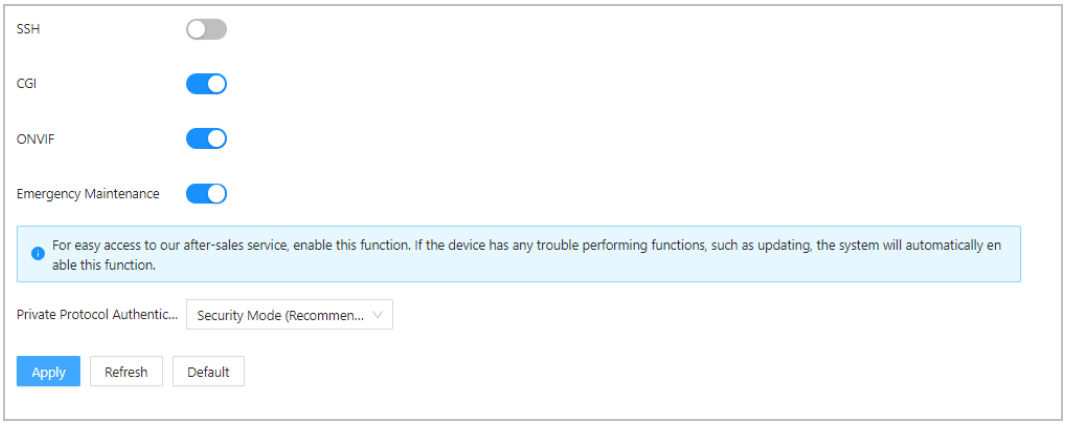


Table 2-18 Basic service parameter description

Parameter	Description
SSH	SSH, or Secure Shell Protocol, is a remote administration protocol that allows users to access, control, and modify their remote servers over the internet.
CGI	In computing, Common Gateway Interface (CGI) is an interface specification for web servers to execute programs like console applications (also called command-line interface programs) running on a server that generates web pages dynamically. Such programs are known as CGI scripts or simply as CGIs. The specifics of how the script is executed by the server are determined by the server. In the common case, a CGI script executes at the time a request is made and generates HTML. When CGI is enabled, CGI commands can be used. The CGI is enabled by default.
ONVIF	Enable other devices to acquire video stream of the VTO through the ONVIF protocol.
Emergency Maintenance	It is turned on by default.
Private Protocol Authentication Mode	• Security Mode (recommended) • Compatible Mode

Step 3 Click **Apply**.

2.2.15.5 Configuring Time

Step 1 On the home page, select **Local Device Config** > **Time**.

Step 2 Configure the time of the Platform.

Figure 2-39 Date settings

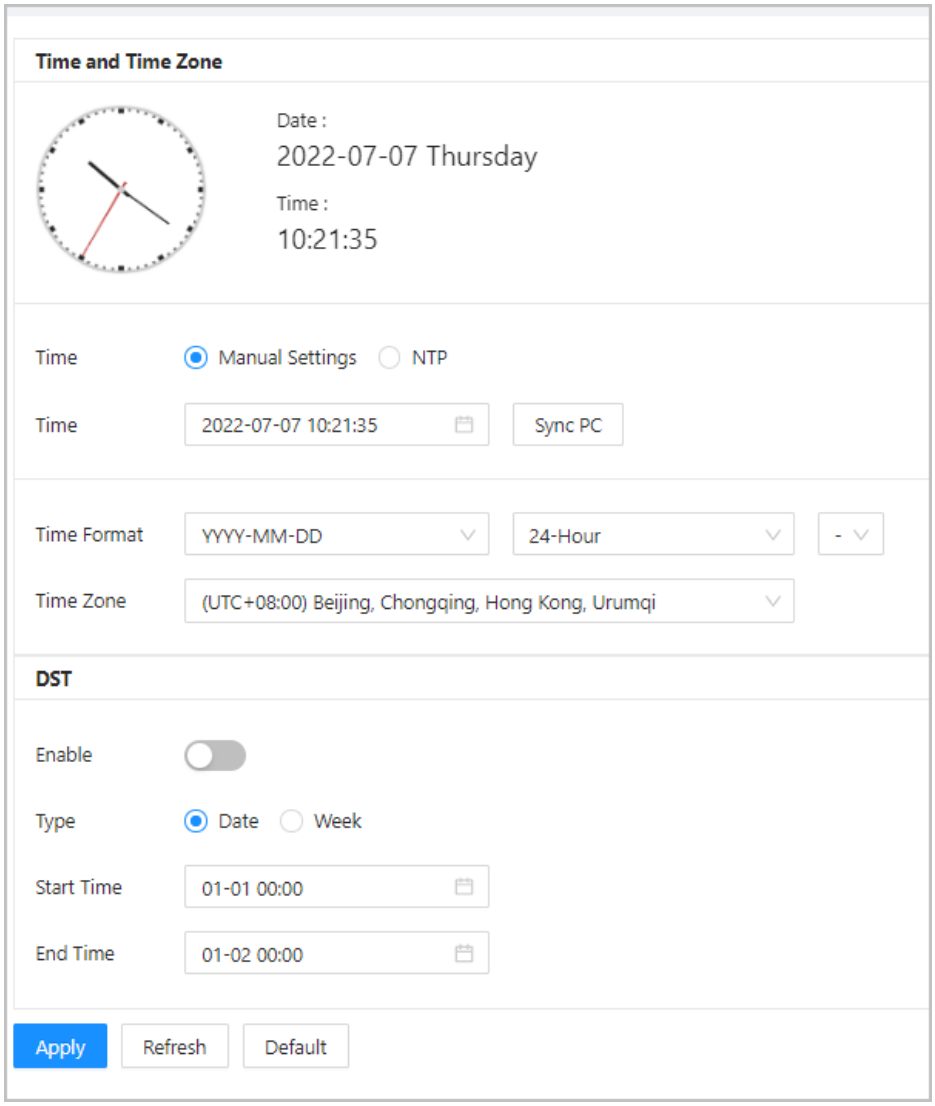


Table 2-19 Time settings description

Parameter	Description
Time	• Manual Settings: Manually enter the time or you can click **Sync PC** to sync time with computer. • NTP: The Access Controller will automatically sync the time with the NTP server. ◇ **Server**: Enter the domain of the NTP server. ◇ **Port**: Enter the port of the NTP server. ◇ **Interval**: Enter its time with the synchronization interval.
Time format	Select the time format for the Platform.
Time Zone	Enter the time zone of the Access Controller.
DST	1. (Optional) Enable DST. 2. Select **Date** or **Week** from the **Type**. 3. Configure start time and end time.

Step 3 Click **Apply**.

2.2.15.6 Account Management

You can add or delete users, change user password, and enter an email address for resetting your password if you forget it.

2.2.15.6.1 Adding Users

You can add new users and then they can log in to the webpage of the Access Controller.

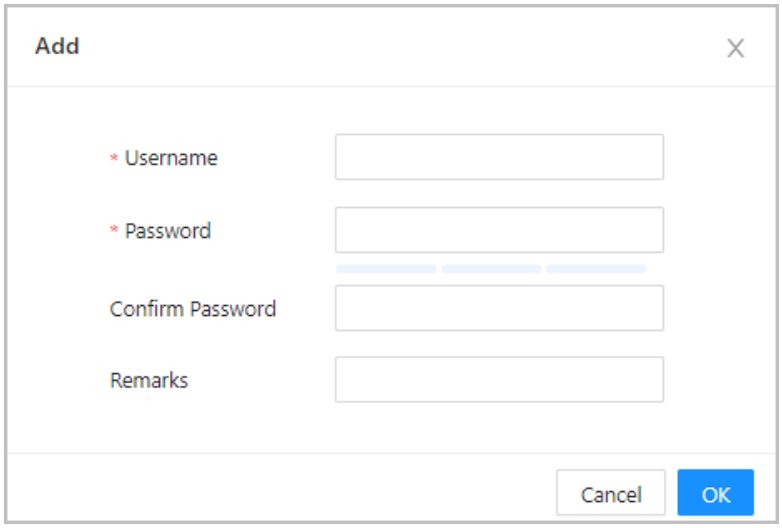
Procedure

Step 1 On the home page, select **Local Device Config** > **Account Management** > **Account**.

Step 2 Click **Add**, and then enter the user information.

- The username cannot be the same as the existing account. The username can contain up to 31 characters, and supports numbers, letters, underlines, dots, and @.
- The password must contain 8 to 32 non-blank characters and contain at least 2 types of the following characters: upper case and lower case letters, numbers, and special characters (excluding ' " ; : &).
  Set a high-security password by following the password strength prompt.

Figure 2-40 Add user



Step 3 Click **OK**.

Only admin account can change password and the admin account cannot be deleted.

2.2.15.6.2 Resetting the Password

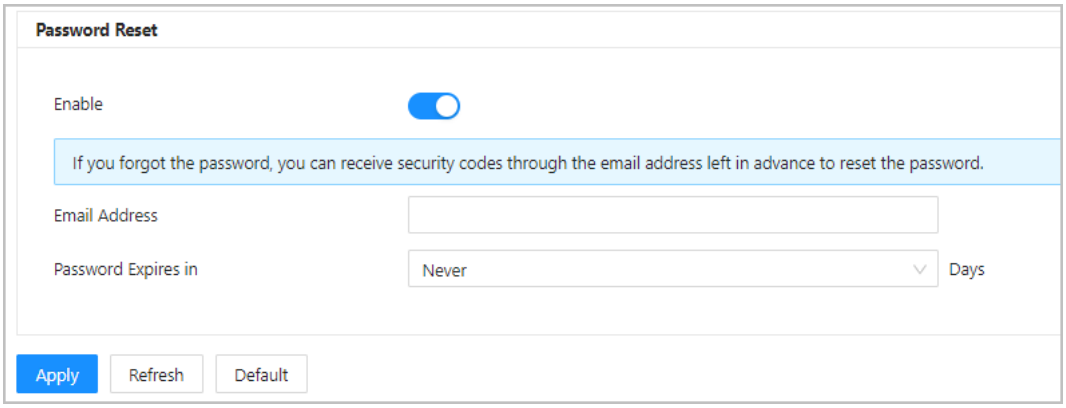
Reset the password through the linked e-mail when you forget your password.

Step 1 Select **Local Device Config** > **Account Management** > **Account**.

Step 2 Enter the email address, and set the password expiration time.

Step 3 Turn on the password reset function.

Figure 2-41 Reset Password



If you forgot the password, you can receive security codes through the linked email address to reset the password.

Step 4 Click **Apply**.

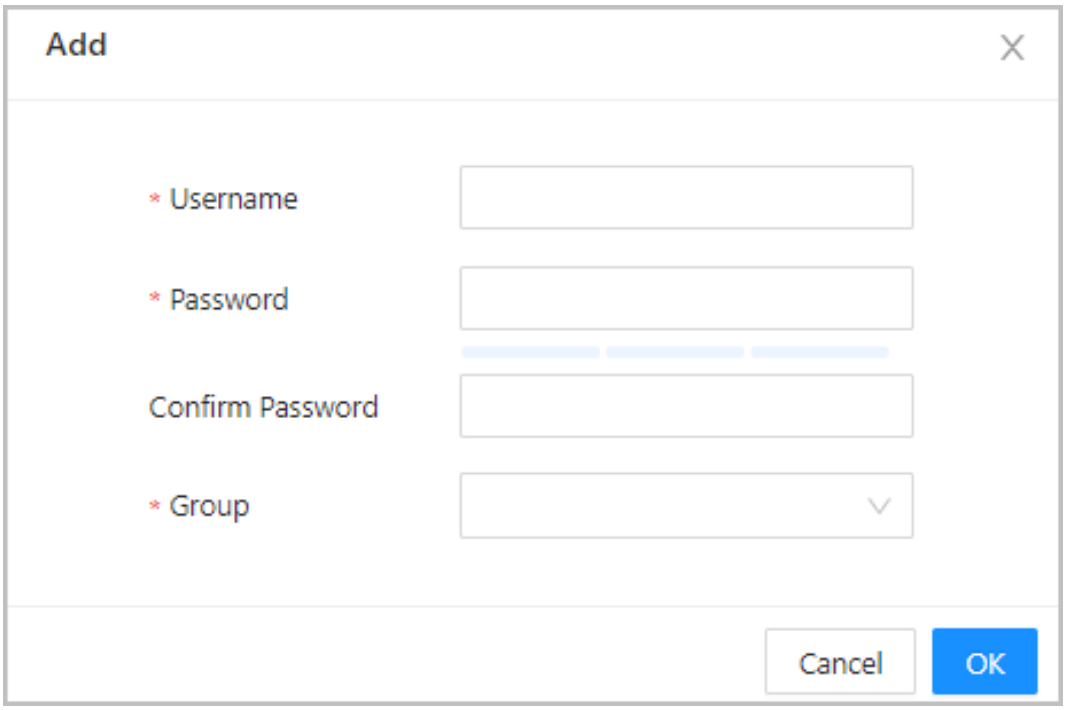
2.2.15.6.3 Adding ONVIF Users

Open Network Video Interface Forum (ONVIF), a global and open industry forum that was established for the development of a global open standard for the interface of physical IP-based security products, which allows the compatibility from different manufactures. ONVIF users have their identities verified through ONVIF protocol. The default ONVIF user is admin.

Step 1 On the home page, select **Local Device Config** > **Account Management** > **ONVIF Account**.

Step 2 Click **Add** and then configure parameters.

Figure 2-42 Add the ONVIF user



Step 3 Click **OK**.

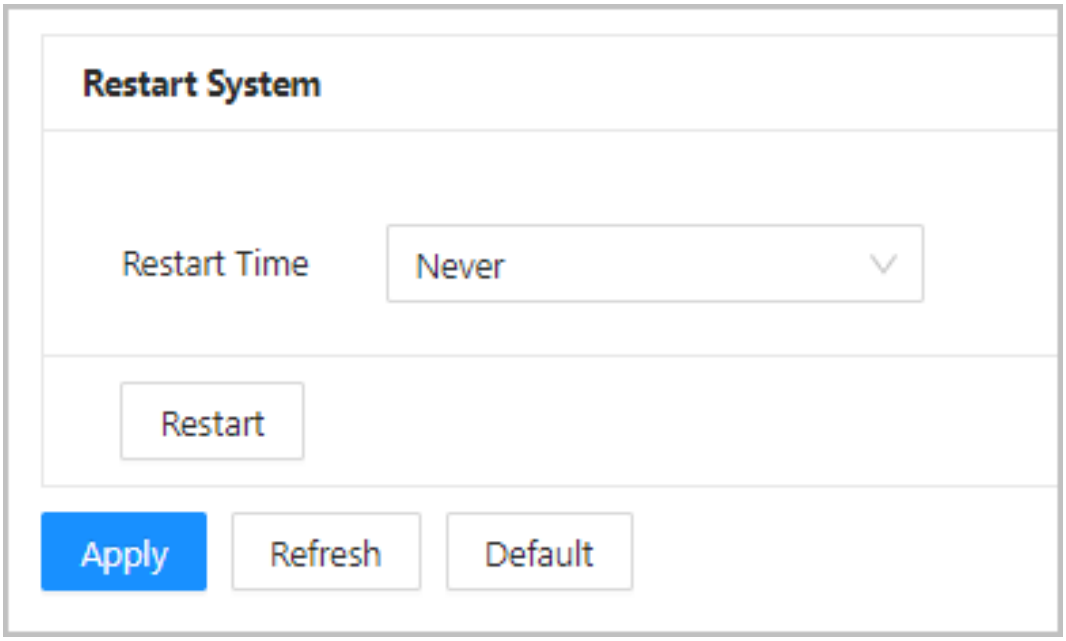
2.2.15.7 Maintenance

You can regularly restart the Access Controller during its idle time to improve its performance.

Step 1 Log in to the webpage.

Step 2 Select **Local Device Config** > **Maintenance**.

Figure 2-43 Maintenance



Step 3 Set the restart time, and then click **OK**.

Step 4 (Optional) Click **Restart**, and the Access Controller will restart immediately.

2.2.15.8 Advanced Management

When more than one Access Controller requires the same configurations, you can configure them quickly by importing or exporting configuration files.

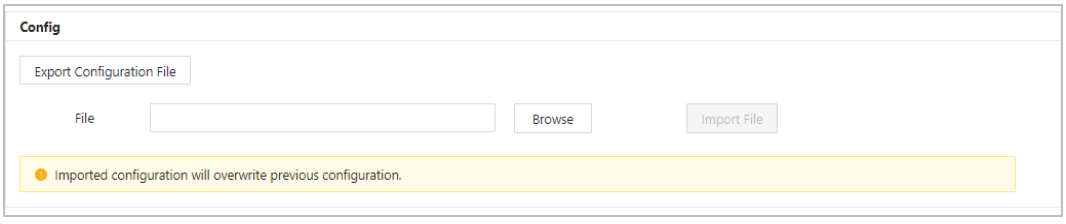
2.2.15.8.1 Exporting and Importing Configuration Files

You can import and export the configuration file for the Access Controller. When you want to apply the same configurations to multiple devices, you can import the configuration file to them.

Step 1 Log in to the webpage.

Step 2 Select **Local Device Config** > **Advanced Settings**.

Figure 2-44 Configuration management



Step 3 Export or import configuration files.

- Export the configuration file.

  Click **Export Configuration File** to download the file to the local computer.

The IP will not be exported.

- Import the configuration file.
  1. Click **Browse** to select the configuration file.
  2. Click **Import configuration**.

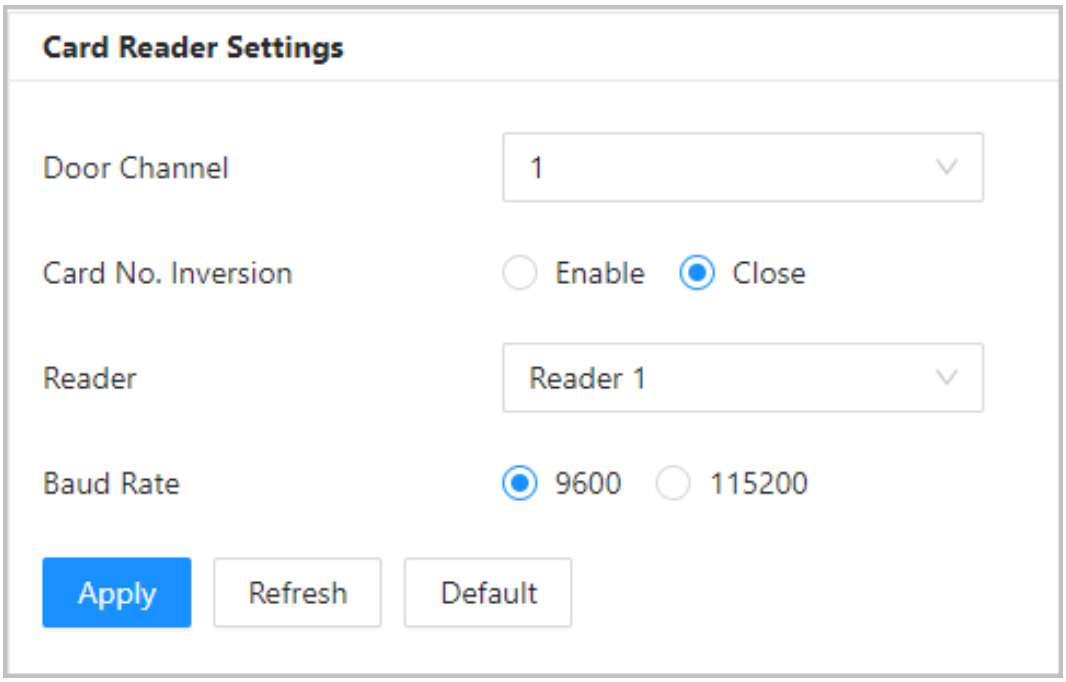
     Configuration files can only be imported to devices that have the same model.

2.2.15.8.2 Configuring the Card reader

Step 1 On the home page, select **Local Device Config** > **Advanced Settings**.

Step 2 Configure the card reader.

Figure 2-45 Configure the card reader



2.2.15.8.3 Configuring the Fingerprint Level

On the home page, select **Local Device Config** > **Advanced Settings**, and then enter the fingerprint threshold. The value ranges from 1 to 10, and higher value means higher recognition accuracy.

Figure 2-46 Fingerprint Level

2.2.15.8.4 Restoring the Factory Default Settings

Restoring the **Access Controller** to its default configurations will result in data loss. Please be advised.

Step 1 Select **Local Device Config** > **Advanced Settings**

Step 2 Restore to the factory default settings if necessary.

- **Factory Defaults**: Resets all the configurations of the Controller and delete all the data.
- **Restore to Default (Except for User Info and Logs)**: Resets the configurations of the Access Controller and deletes all the data except for user information, logs, and information that was configured during the login wizard).

  Only the main controller supports **Restore to Default (Except for User Info and Logs)**.

2.2.15.9 Updating the System

- Use the correct update file. Make sure that you get the correct update file from technical support.
- Do not disconnect the power supply or network, and do not restart or shutdown the Access Controller during the update.

2.2.15.9.1 File Update

Step 1 On the home page, select **Local Device Config** > **System Update**.

Step 2 In **File Update**, click **Browse**, and then upload the update file.

The update file should be a .bin file.

Step 3 Click **Update**.

The Access Controller will restart after the update finishes.

2.2.15.9.2 Online Update

Step 1 On the home page, select **Local Device Config** > **System Update**.

Step 2 In the **Online Update** area, select an update method.

- Select **Auto Check for Updates**, and the Access Controller will automatically check for the latest version update.
- Select **Manual Check**, and you can immediately check whether the latest version is available.

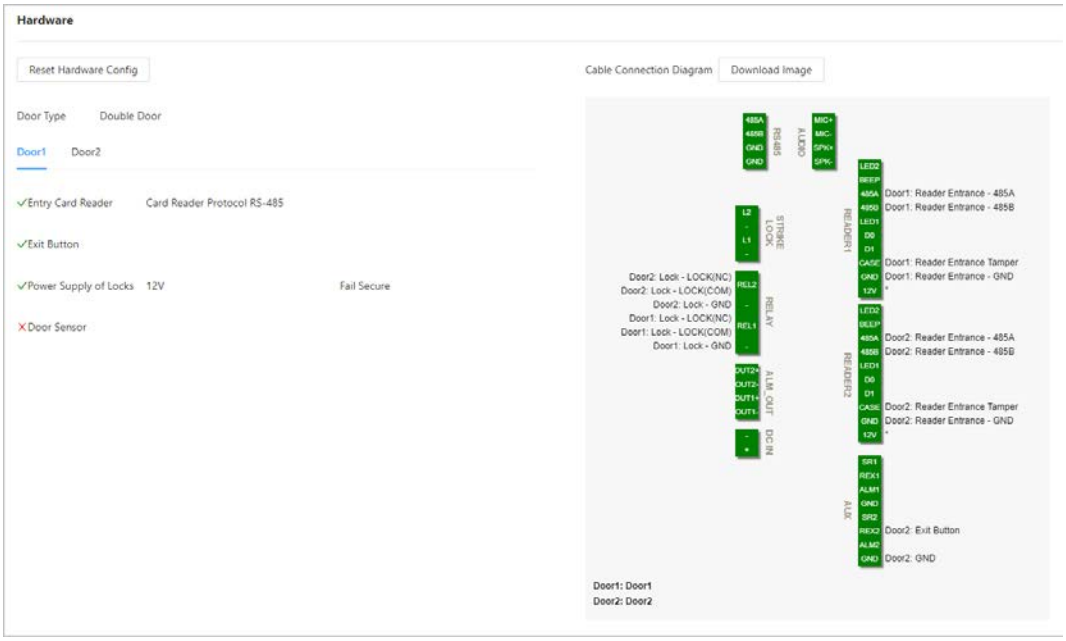
Step 3 Click **Manual Check** to update the Access Controller when the latest version update is available.

2.2.15.10 Configuring Hardware

On the home page, select **Local Device Config** > **Hardware**. You can view the hardware you have configured when you log in to the platform for the first time. You can also re-configure the hardware. For details, see Table 2-1 "Parameter description".

When you switch between single door and double door, the Access Controller will restart.
The wring diagram is generated for your reference. You can download it to your computer.

Figure 2-47 Hardware



2.2.15.11 Viewing Version Information

On the home page, select **Local Device Config** > **Version Info**, and you can view information on the version, such as device model, serial number, hardware version, legal information and more.

2.2.15.12 Viewing Legal Information

On the home page, select **Local Device Config** > **Legal Info**, and you can view the software license

agreement, privacy policy and open source software notice.

2.2.16 Viewing Records

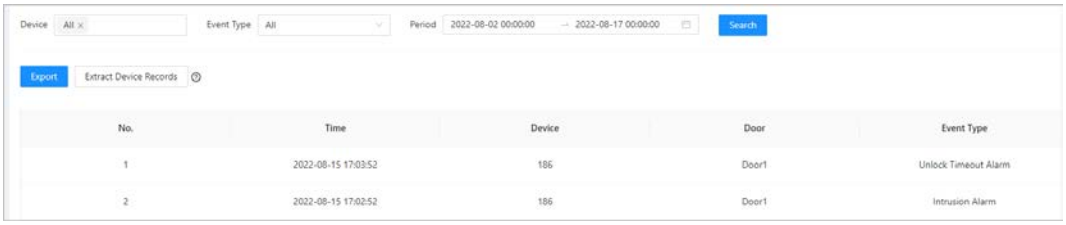
You can view alarm logs and unlock logs.

2.2.16.1 Viewing Alarm Records

Step 1 On the home page, select **Reporting** > **Alarm Records**.

Step 2 Select the device, department and the time range, and then click **Search**.

Figure 2-48 Alarm records



- **Export**: Exports unlock logs on the main controller to a local computer.
- **Extract Device Records**: When logs for sub controller are generated when they go online, you can extract logs from the sub controller to the main controller.

2.2.16.2 Viewing Unlock Records

Step 1 On the home page, select **Reporting** > **Unlock Records**

Step 2 Select the device, department and the time range, and then click **Search**.

Figure 2-49 Unlock logs

- Export: Exports unlock logs.
- Extract Device Records: When logs on sub controller are generated when they go online, you extract logs on the sub controller to the main controller.

2.2.17 Security Settings(Optional)

2.2.17.1 Security Status

Background Information

Scan the users, service, and security modules to check the security status of the Access Controller.

- User and service detection: Check whether the current configuration conforms to recommendation.
- Security modules scanning: Scan the running status of security modules, such as audio and video

transmission, trusted protection, securing warning and attack defense, not detect whether they are enabled.

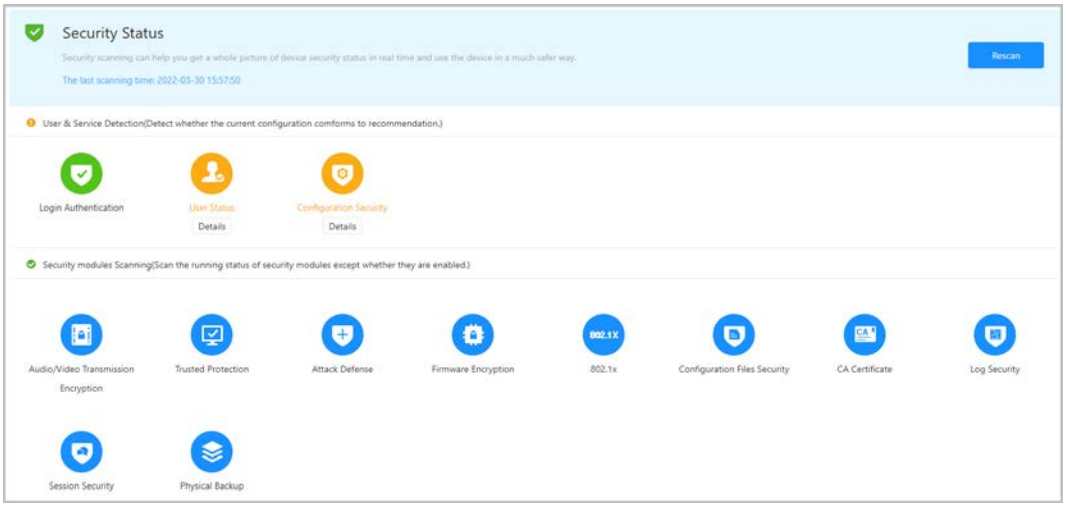
Procedure

Step 1 Select **Security** > **Security Status**.

Step 2 Click **Rescan** to perform a security scan of the Access Controller.

Hover over the icons of the security modules to see their running status.

Figure 2-50 Security Status



Related Operations

After you perform the scan, the results will be displayed in different colors. Yellow indicates that the security modules are abnormal, and green indicates that the security modules are normal.

- Click **Details** to view the details on the results of the scan.
- Click **Ignore** to ignore the abnormality, and it will not be scanned. The abnormality that was ignored will be highlighted in grey.
  Click **Rejoin Detection**, and the abnormality that was ignored will be scanned again.
- Click **Optimize** to troubleshoot the abnormality.

2.2.17.2 Configuring HTTPS

Create a certificate or upload an authenticated certificate, and then you can log in to the webpage through HTTPS on your computer. HTTPS secures communication over a computer network.

Procedure

Step 1 Select **Security** > **System Service** > **HTTPS**.

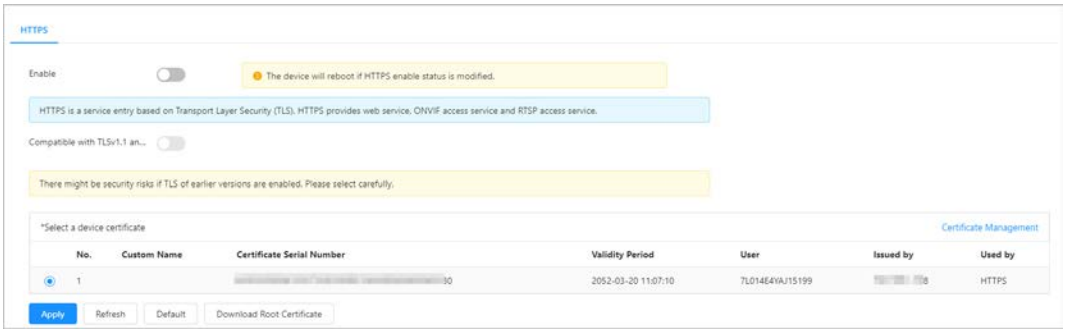
Step 2 Turn on the HTTPS service.

If you turn on the compatible with TLS v1.1 and earlier versions, security risks might occur. Please be advised.

Step 3 Select the certificate.

If there are no certificates in the list, click **Certificate Management** to upload a certificate. For details, see "2.2.17.4 Installing Device Certificate".

Figure 2-51 HTTPS



Step 4 Click **Apply**.

Enter"https://*IP address*:*httpsport*" in a web browser. If the certificate is installed, you can log in to the webpage successfully. If not, the webpage will display the certificate as wrong or untrusted.

2.2.17.3 Attack Defense

2.2.17.3.1 Configuring Firewall

Configure firewall to limit access to the Access Controller.

Procedure

Step 1 Select **Security** > **Attack Defense** > **Firewall**.

Step 2 Click to enable the firewall function.

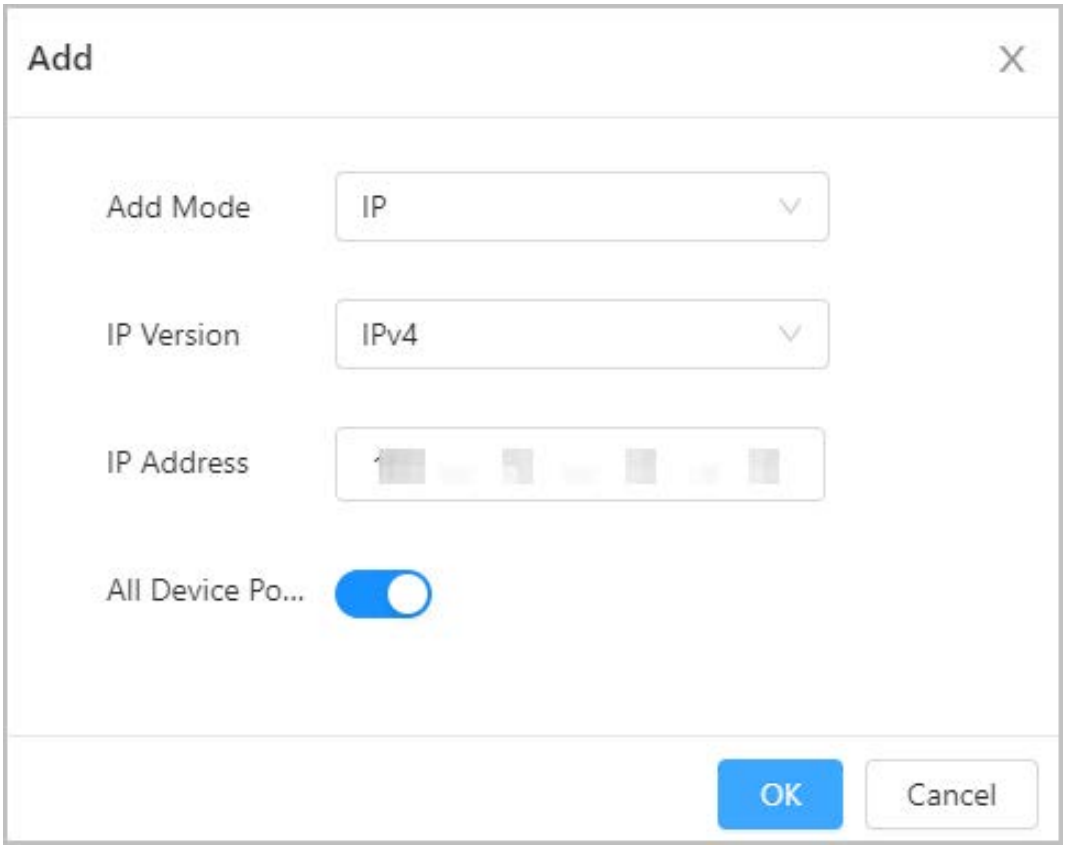
Figure 2-52 Firewall

Step 3 Select the mode: **Allowlist** and **Blocklist**.

- **Allowlist**: Only IP/MAC addresses on the allowlist can access the Access Controller.
- **Blocklist**: The IP/MAC addresses on the blocklist cannot access the Access Controller.

Step 4 Click **Add** to enter the IP information.

Figure 2-53 Add IP information



Step 5 Click **OK**.

Related Operations

- Click to edit the IP information.
- Click to delete the IP address.

2.2.17.3.2 Configuring Account Lockout

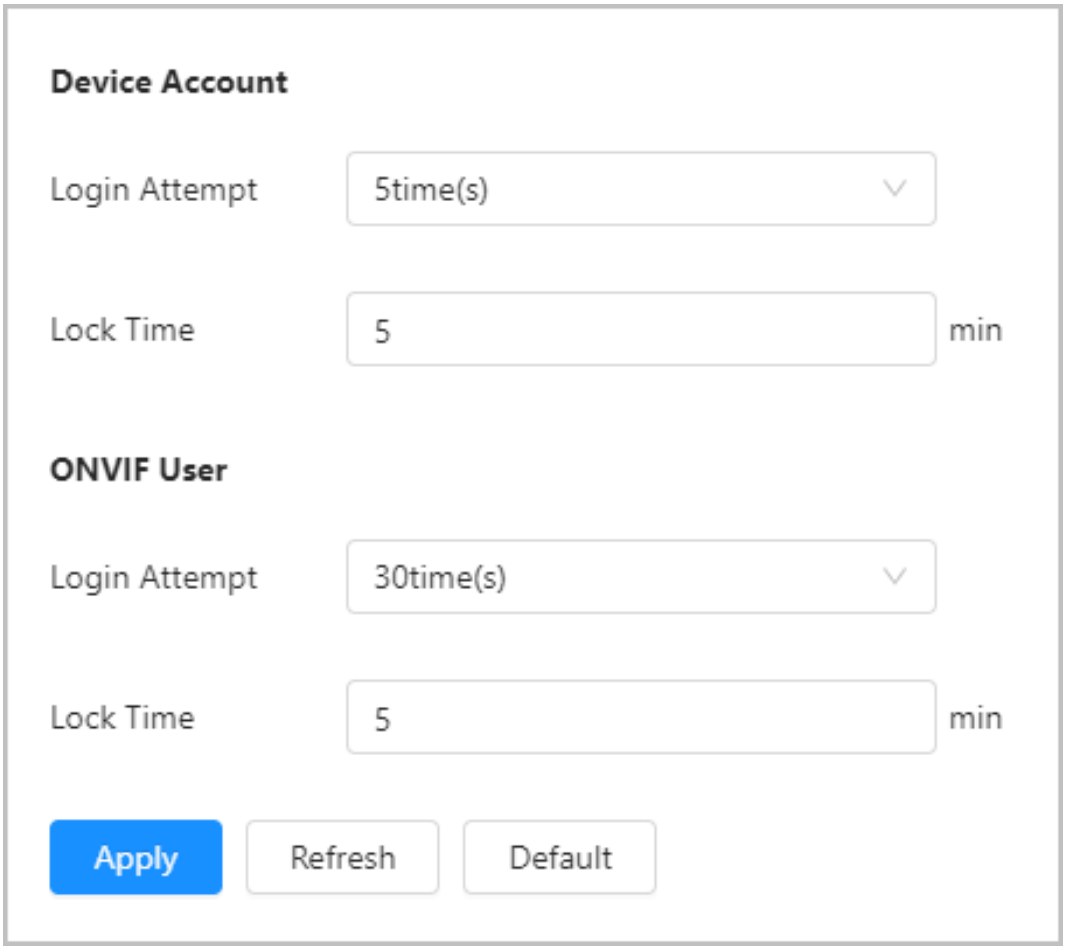
If the incorrect password is entered for a defined number of times, the account will be locked.

Step 1 Select **Security** > **Attack Defense** > **Account Lockout**.

Step 2 Enter the number of login attempts and the time the administrator account and ONVIF user will be locked for.

- Login attempt: The limit of login attempts. If the incorrect password is entered for a defined number of times, the account will be locked.
- Lock time: The duration during which you cannot log in after the account is locked.

Figure 2-54 Account lockout



Step 3 Click **Apply**.

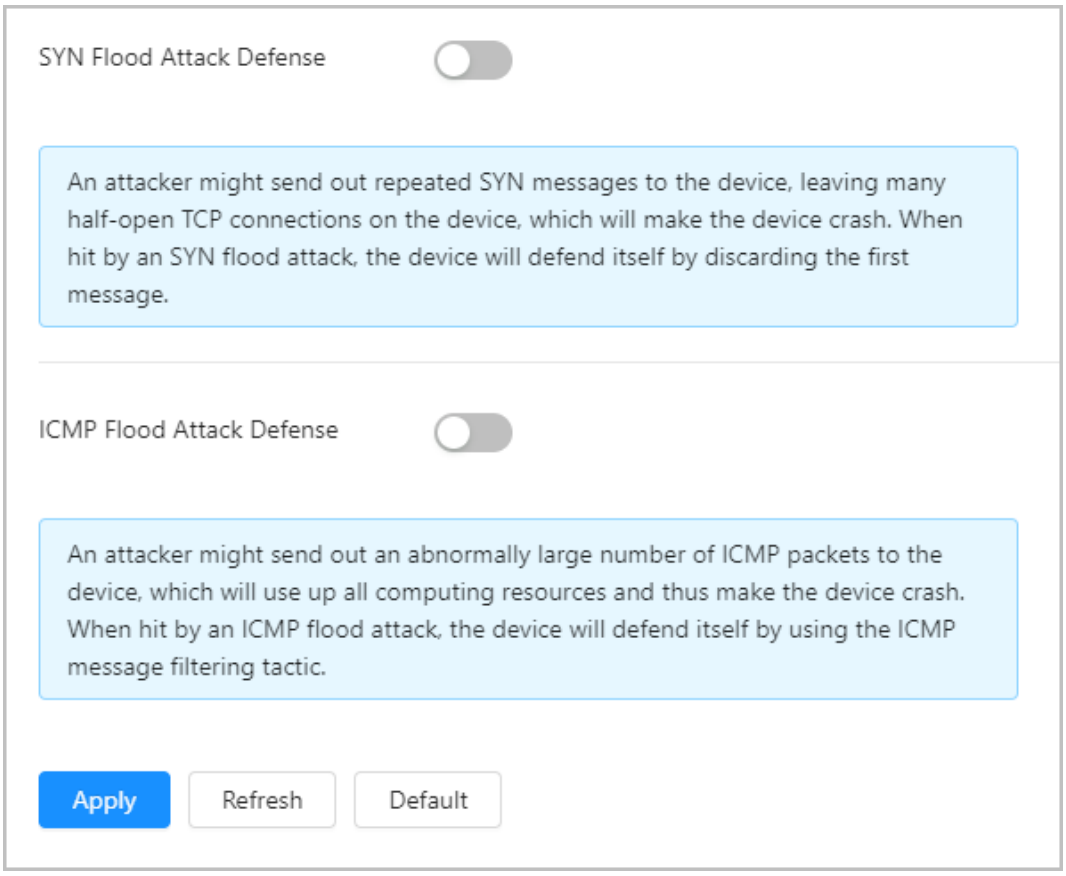
2.2.17.3.3 Configuring Anti-DoS Attack

You can enable **SYN Flood Attack Defense** and **ICMP Flood Attack Defense** to defend the Access Controller against Dos attacks.

Step 1 Select **Security** > **Attack Defense** > **Anti-DoS Attack**.

Step 2 Turn on **SYN Flood Attack Defense** or **ICMP Flood Attack Defense** to protect the Access Controller against Dos attack.

Figure 2-55 Anti-DoS attack



Step 3 Click **Apply**.

2.2.17.4 Installing Device Certificate

Create a certificate or upload an authenticated certificate, and then you can log in through HTTPS on your computer.

2.2.17.4.1 Creating Certificate

Create a certificate for the Access Controller.

Procedure

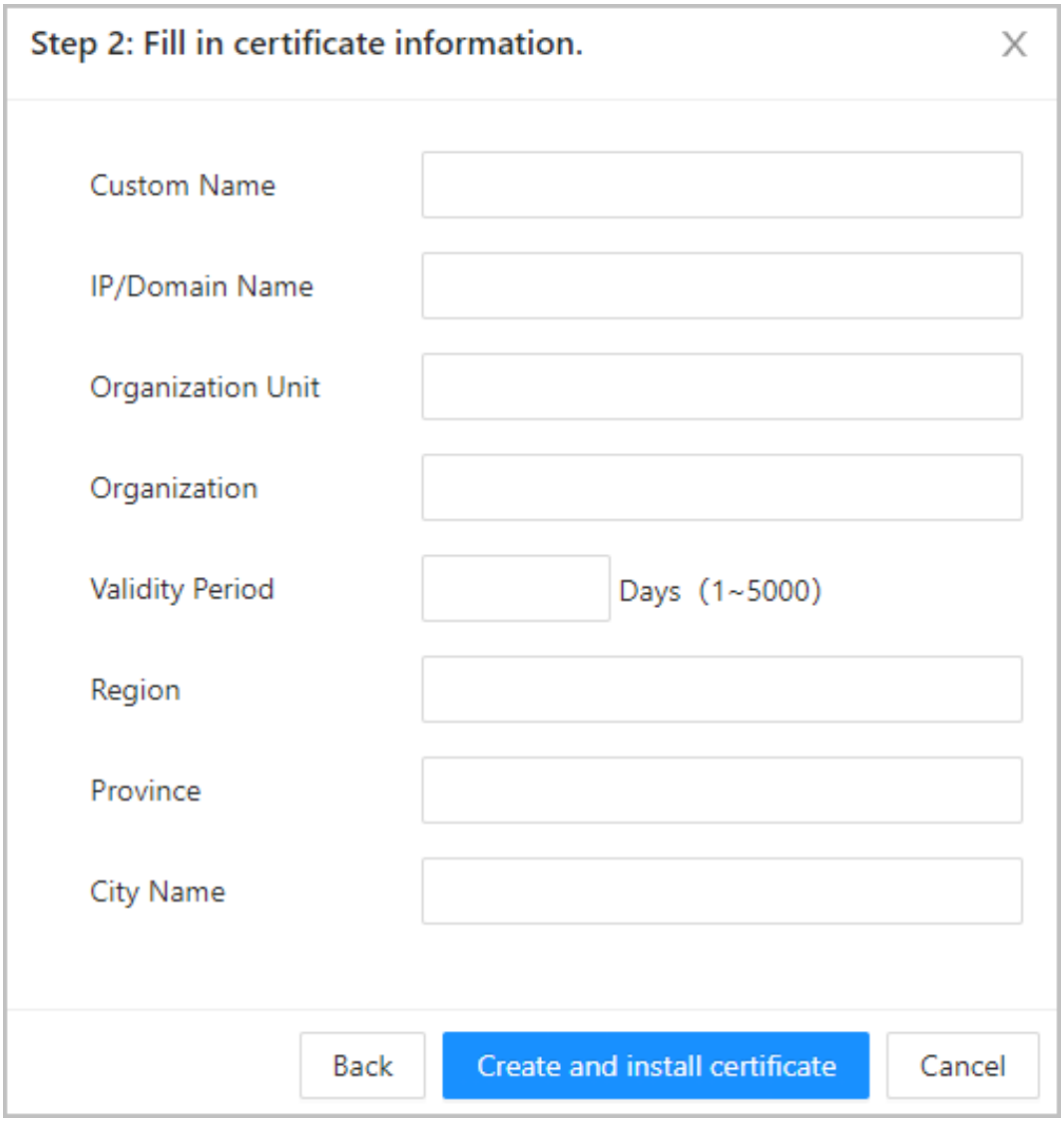
Step 1 Select **Security** > **CA Certificate** > **Device Certificate**.

Step 2 Select **Install Device Certificate**.

Step 3 Select **Create Certificate**, and click **Next**.

Step 4 Enter the certificate information.

Figure 2-56 Certificate information



The name of region cannot exceed 2 characters. We recommend entering the abbreviation of the name of the region.

Step 5 Click **Create and install certificate**.

The newly installed certificate is displayed on the **Device Certificate** page after the certificate is successfully installed.

Related Operations

- Click **Enter Edit Mode** on the **Device Certificate** page to edit the name of the certificate.
- Click to download the certificate.
- Click to delete the certificate.

2.2.17.4.2 Applying for and Importing CA Certificate

Import the third-party CA certificate to the Access Controller.

Procedure

Step 1 Select **Security** > **CA Certificate** > **Device Certificate**.

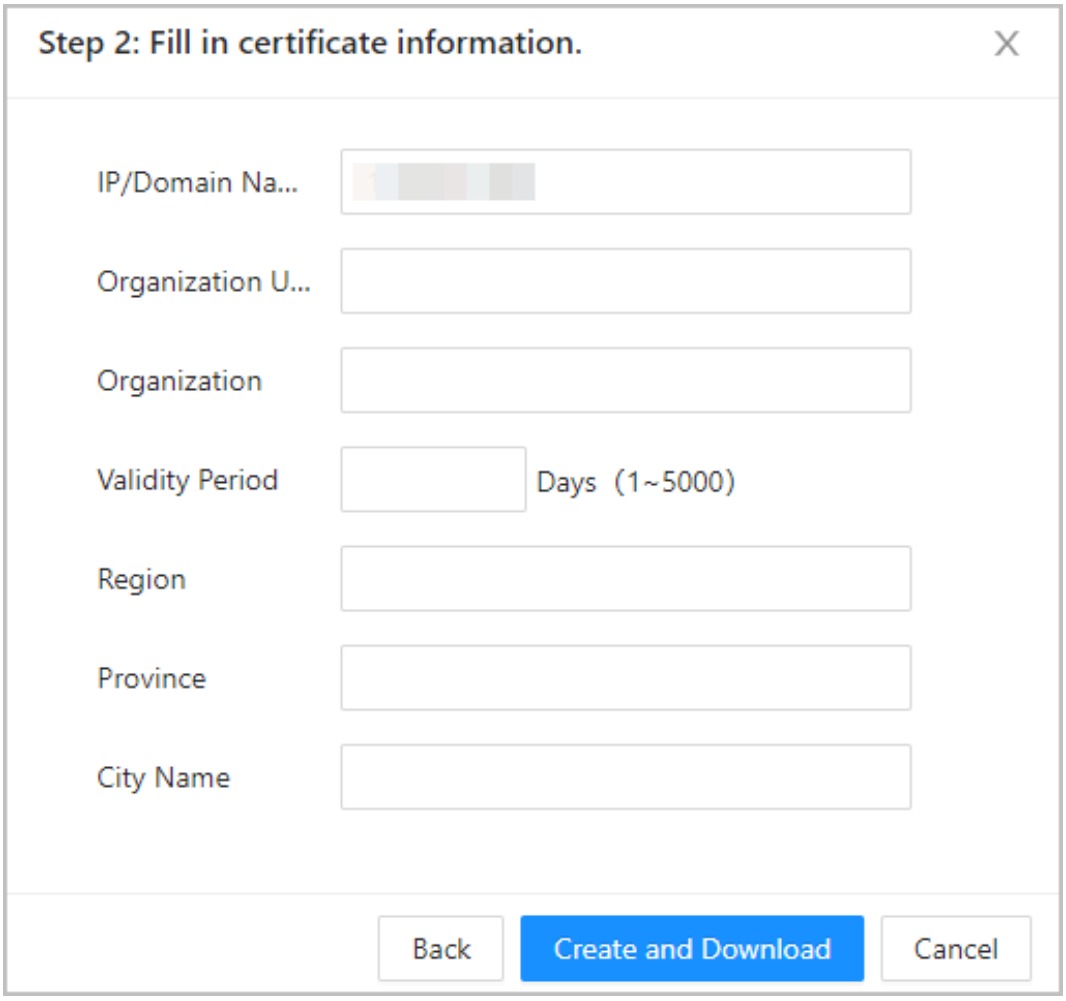
Step 2 Click **Install Device Certificate**.

Step 3 Select **Apply for CA Certificate and Import (Recommended)**, and click **Next**.

Step 4 Enter the certificate information.

- IP/Domain name: the IP address or domain name of the Access Controller.
- Region: The name of region must not exceed 3 characters. We recommend you enter the abbreviation of region name.

Figure 2-57 Certificate information (2)



Step 5 Click **Create and Download**.

Save the request file to your computer.

Step 6 Apply to a third-party CA authority for the certificate by using the request file.

Step 7 Import the signed CA certificate.

1) Save the CA certificate to your computer.
2) Click **Installing Device Certificate**.
3) Click **Browse** to select the CA certificate.
4) Click **Import and Install**.

   The newly installed certificate is displayed on the **Device Certificate** page after the certificate is successfully installed.

   - Click **Recreate** to create the request file again.
   - Click **Import Later** to import the certificate at another time.

Related Operations

- Click **Enter Edit Mode** on the **Device Certificate** page to edit the name of the certificate.
- Click to download the certificate.
- Click to delete the certificate.

2.2.17.4.3 Installing Existing Certificate

If you already have a certificate and private key file, import the certificate and private key file.

Procedure

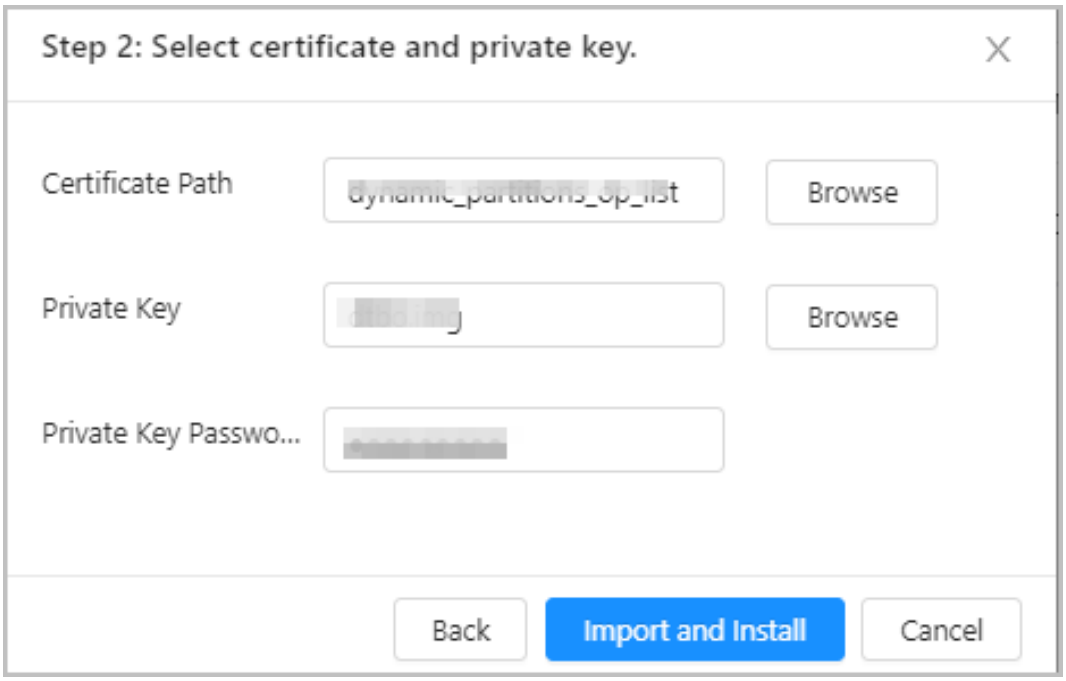
Step 1 Select **Security** > **CA Certificate** > **Device Certificate**.

Step 2 Click **Install Device Certificate**.

Step 3 Select **Install Existing Certificate**, and click **Next**.

Step 4 Click **Browse** to select the certificate and private key file, and enter the private key password.

Figure 2-58 Certificate and private key



Step 5 Click **Import and Install**.

The newly installed certificate is displayed on the **Device Certificate** page after the certificate is successfully installed.

Related Operations

- Click **Enter Edit Mode** on the **Device Certificate** page to edit the name of the certificate.
- Click to download the certificate.
- Click to delete the certificate.

2.2.17.5 Installing the Trusted CA Certificate

A trusted CA certificate is a digital certificate that is used for validating the identities of websites and servers. For example, when 802.1x protocol is used, the CA certificate for switches is required to

authenticate its identity.

802.1X is a network authentication protocol that opens ports for network access when an organization authenticates a user's identity and authorizes them access to the network.

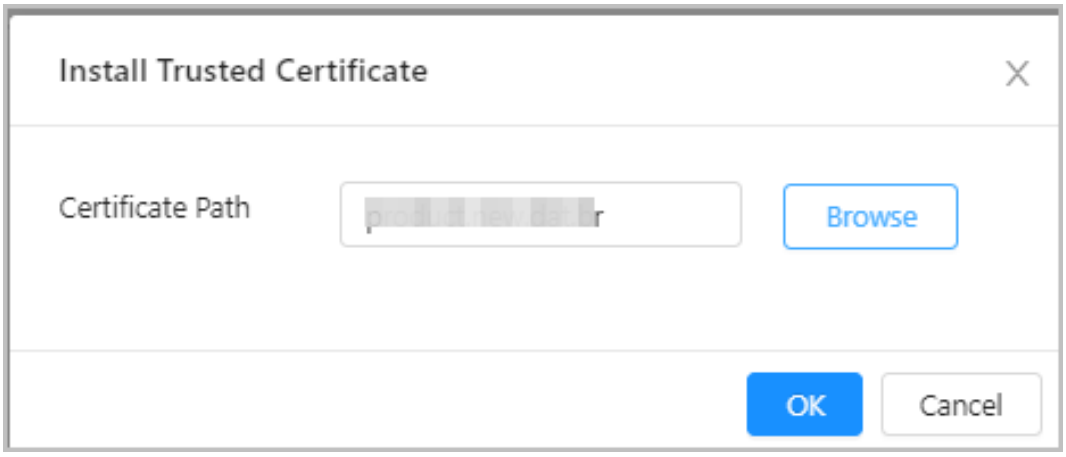
Procedure

Step 1 Select **Security** > **CA Certificate** > **Trusted CA Certificates**.

Step 2 Select **Install Trusted Certificate**.

Step 3 Click **Browse** to select the trusted certificate.

Figure 2-59 Install the trusted certificate



Step 4 Click **OK**.

The newly installed certificate is displayed on the **Trusted CA Certificates** page after the certificate is successfully installed.

Related Operations

- Click **Enter Edit Mode** on the **Device Certificate** page to edit the name of the certificate.
- Click to download the certificate.
- Click to delete the certificate.

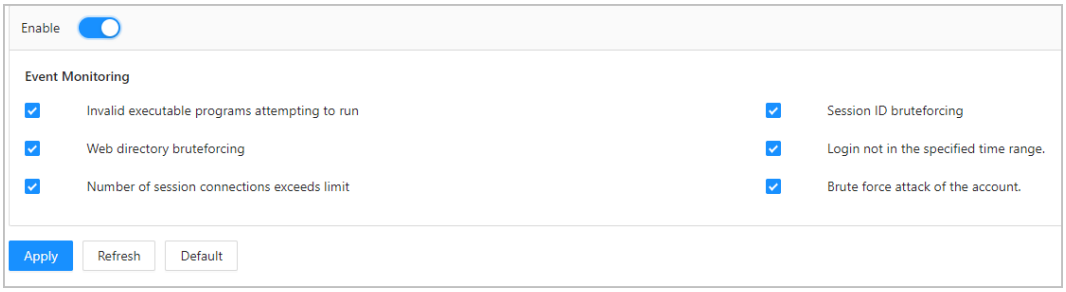
2.2.17.6 Security Warning

Step 1 Select **Security** > **CA Certificate** > **Security Warning**.

Step 2 Enable the security warning function.

Step 3 Select the monitoring items.

Figure 2-60 Security warning



Step 4 Click **Apply**.

2.3 Configurations of Sub Controller

You can log in to the webpage of the sub controller to configure it locally.

2.3.1 Initialization

Initialize the sub controller when you log in to the webpage for the first time or after the sub controller is restored to its factory default settings. For details on how to initialize the sub controller, see "2.2.2 Initialization".

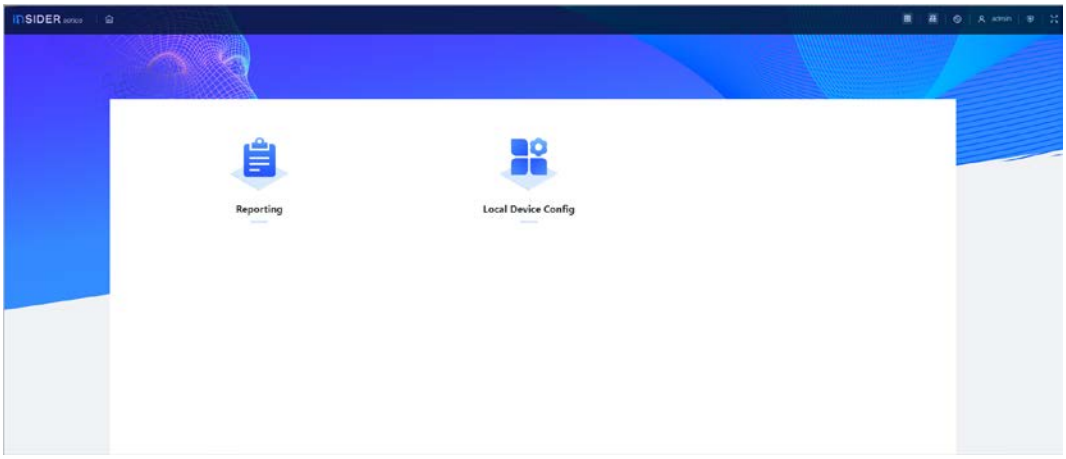
2.3.2 Logging In

Set the Access Control to sub controller while going through the login wizard. For details, see "2.2.3 Logging In".

2.3.3 Home Page

The webpage of the sub controller only includes **Local Device Config** and **Reporting** menu. For details, see "2.2.15 Local Device Configurations (Optional)" and "2.2.16 Viewing Records".

Figure 2-61 Home page

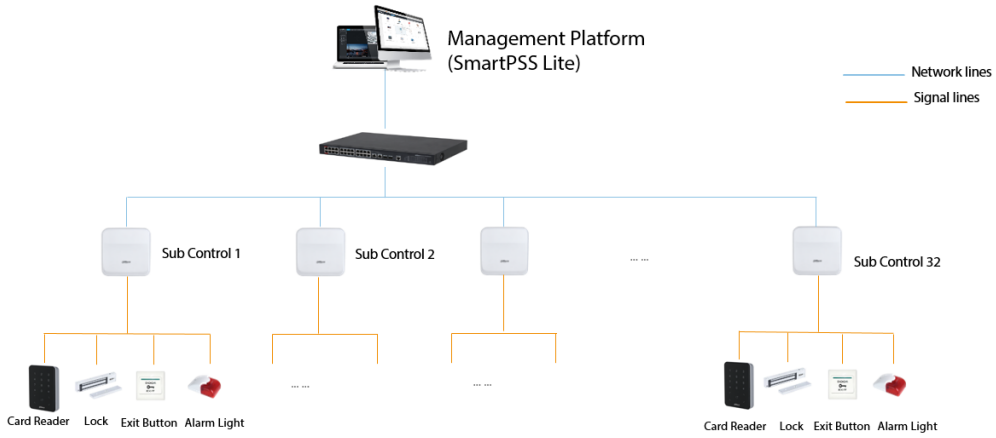


3 Smart PSS Lite-Sub Controllers

3.1 Networking Diagram

The sub controllers are added to a standalone management platform, such as SmartPSS Lite. You can manage all sub controllers through SmartPSS Lite.

Figure 3-1 Networking Diagram



3.2 Configurations on SmartPSS Lite

Add sub controllers to SmartPSS Lite and configure them on the platform. For details, see the user's manual of SmartPSS Lite.

3.3 Configurations on Sub Controller

For details, see "2.3 Configurations of Sub Controller".

Appendix 1 Cybersecurity Recommendations

Cybersecurity is more than just a buzzword: it's something that pertains to every device that is connected to the internet. IP video surveillance is not immune to cyber risks, but taking basic steps toward protecting and strengthening networks and networked appliances will make them less susceptible to attacks. Below are some tips and recommendations from Dahua on how to create a more secured security system.

Mandatory actions to be taken for basic equipment 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 equipment (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 equipment 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 equipment network security:

1. **Physical Protection**

   We suggest that you perform physical protection to equipment, especially storage devices. For example, place the equipment 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 equipment (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 equipment 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 equipment, 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 equipment 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 equipment, 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 equipment 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.

More information

Please visit Dahua official website security emergency response center for security announcements and the latest security recommendations.

ENABLING A SAFER SOCIETY AND SMARTER LIVING

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