Change Log

ZKBio CVSecurity

Version: 6.0

Date: October 2026

Software Version: ZKBio CVSecurity_6.9.0_R

English

Thank you for choosing our product. Please read the instructions carefully before operation. Follow these instructions to ensure that the product is functioning properly. The images shown in this manual are for illustrative purposes only.



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About the Company

ZKTeco is one of the world's largest manufacturer of RFID and Biometric (Fingerprint, Facial, Finger-vein) readers. Product offerings include Access Control readers and panels, Near & Far-range Facial Recognition Cameras, Elevator/floor access controllers, Turnstiles, License Plate Recognition (LPR) gate controllers and Consumer products including battery-operated fingerprint and face template-reader Door Locks. Our security solutions are multi-lingual and localized in over 18 different languages. At the ZKTeco state-of-the-art 700,000 square foot ISO9001-certified manufacturing facility, we control manufacturing, product design, component assembly, and logistics/shipping, all under one roof.

The founders of ZKTeco have been determined for independent research and development of biometric verification procedures and the productization of biometric verification SDK, which was initially widely applied in PC security and identity authentication fields. With the continuous enhancement of the development and plenty of market applications, the team has gradually constructed an identity authentication ecosystem and smart security ecosystem, which are based on biometric verification techniques. With years of experience in the industrialization of biometric verifications, ZKTeco was officially established in 2007 and now has been one of the globally leading enterprises in the biometric verification industry owning various patents and being selected as the National High-tech Enterprise for 6 consecutive years. Its products are protected by intellectual property rights.

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Document Conventions

Conventions used in this manual are listed below:

GUI Conventions

For Software	
Convention	**Description**
Bold font	Used to identify software interface template names e.g. **OK**, **Confirm**, **Cancel**.
>	Multi-level menus are separated by these brackets. For example, File > Create > Folder.
For Device	
Convention	**Description**
< >	Button or key names for devices. For example, press <OK>.
[ ]	Window names, menu items, data table, and field names are inside square brackets. For example, pop up the [New User] window.
/	Multi-level menus are separated by forwarding slashes. For example, File/Create/Folder.

Symbols

Convention	Description
	This represents a note that needs to pay more attention to.
	The general information which helps in performing the operations faster.
	The information which is significant.
	Care taken to avoid danger or mistakes.
	The statement or event that warns of something or that serves as a cautionary example.

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1. Access Control

CVEdge160 Integration

- **Supports connecting of CVEdge160 to the access control module via the Tiny protocol, with functions including personnel management, access control rule configuration, video linkage and advanced access control features.**

CVEdge160 has three available working modes: Main Controller Mode, Secondary Controller Mode, and Server Connection Mode.

It is recommended to select either **"Main Controller Mode"** or **"Secondary Controller Mode"**. In these two modes, you can directly access the device web interface for management via its IP address.

If "Server Connection Mode" is selected to connect the CVEdge160 to ZKBio CVSecurity, please note the following two points:

A. Once the CVEdge160 is connected to ZKBio CVSecurity, **adding or managing CVEdge160 secondary devices will no longer be supported**. Only DE10 can be used for door control expansion.
B. For the WebServer service of CVEdge160, create/edit/delete permissions are unavailable for all functions except video intercom, algorithm tasks and system management. Specifically: after the CVEdge160 is connected to ZKBio CVSecurity via server connection mode, its WebServer will no longer support adding, editing or deleting personnel and devices. **All business data processing is performed on the ZKBio CVSecurity.**

Adding Devices

- **Preparations:**

Prerequisite 1: Ensure CVEdge160 and the ZKBio CVSecurity server are on the same network segment.

Prerequisite 2: The server mode and address have been configured in the CVEdge160 backend.

Follow the steps below to configure the ZKBio CVSecurity server address on the CVEdge160 backend:

(1) Enter the IP address of CVEdge160 directly in the browser to access WebServer, then log in with the username and password.

Default credentials: admin / Zk@123

Default IP address: 192.168.1.201

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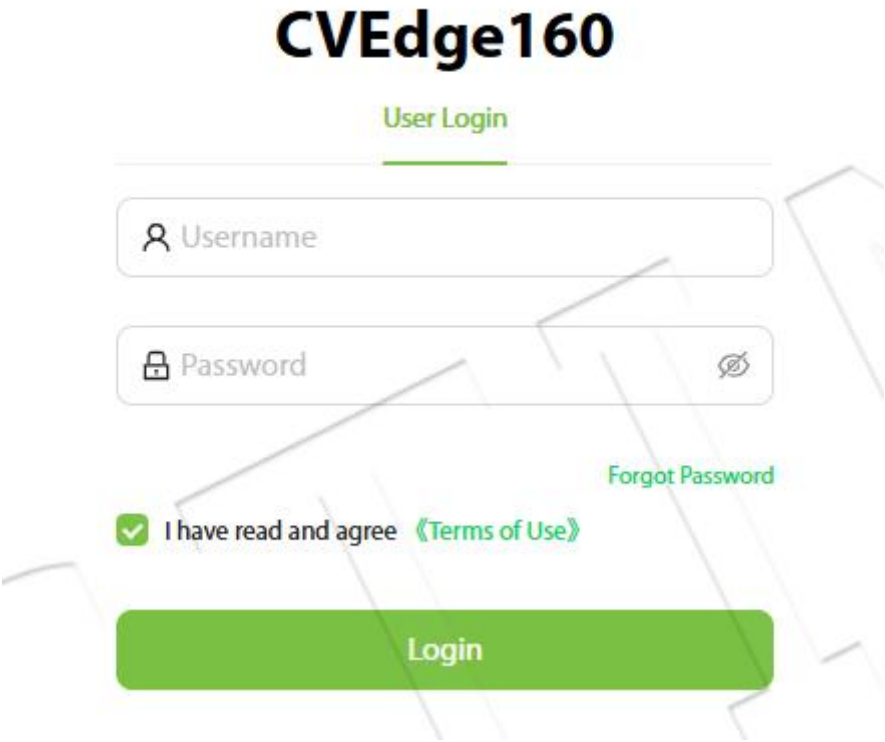
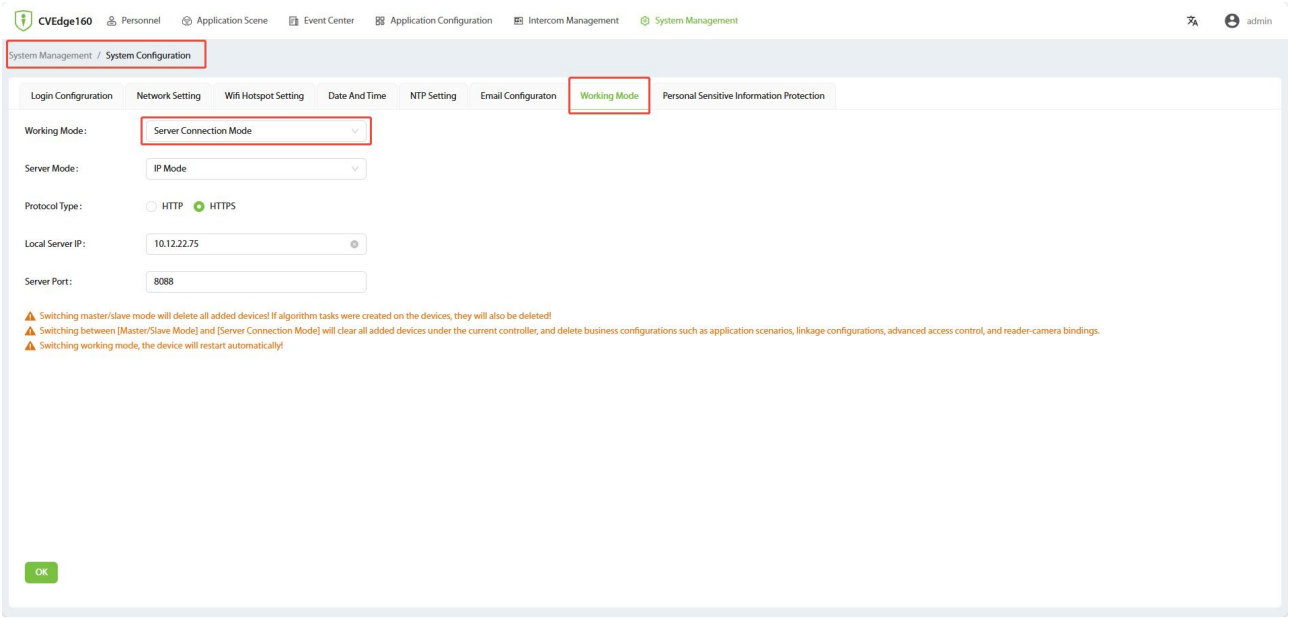


(2) Navigate to the menu “System Management / System Configuration”, select “Working Mode”, set the working mode to “Server Connection Mode”. Fill in other fields as required. The server port is 8088.



- **Adding CVEdge160 to the Access Control Module**

Device addition method: Search. Navigate to the menu “Access Control / Device Management / Device”, select the Search function to discover CVEdge160 devices on the same network segment.

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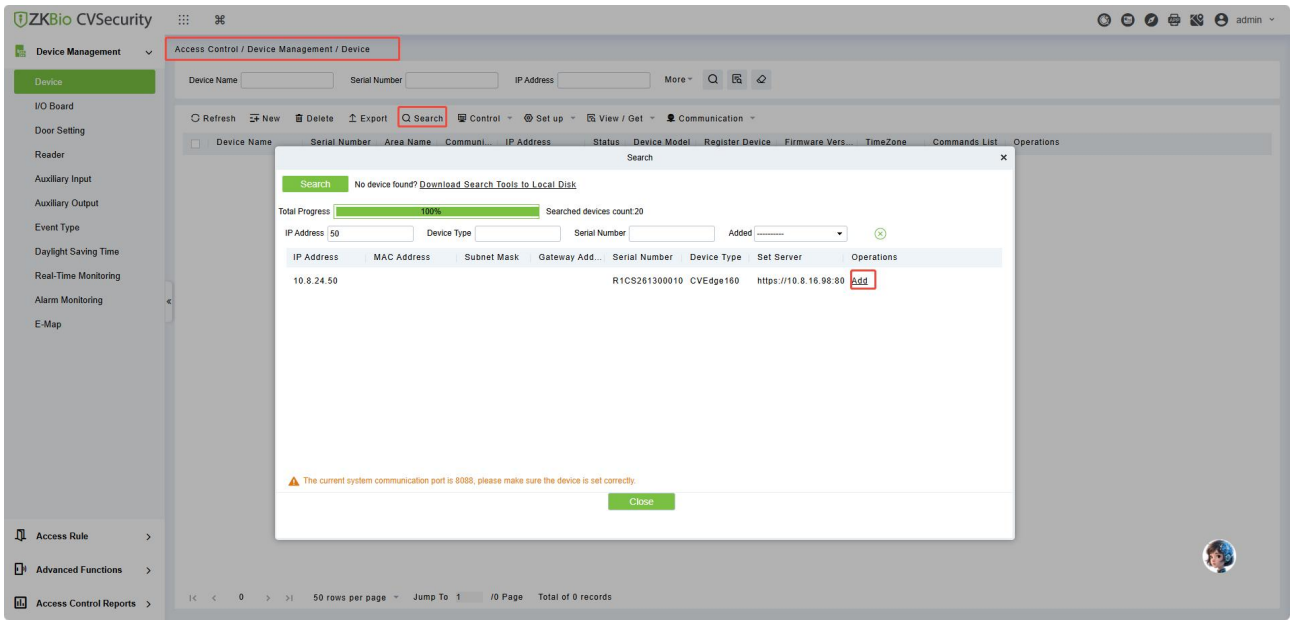
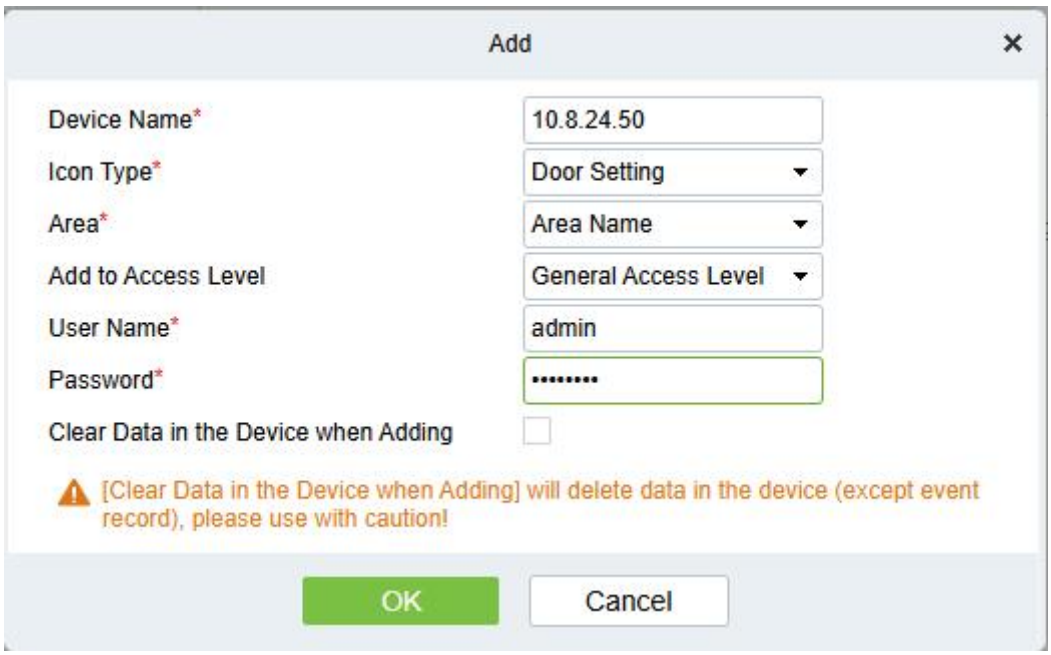


Click Add, fill in the parameters, and then click OK to complete the addition.



Parameter	Description
Device Name	User-defined
Icon Type	Select Door Setting, Parking Barrier, or Gate Barrier according to actual requirements.
Area	Select the area as applicable.
Add to Access Level	Select the access level as applicable.
User Name	Must match the WebServer username of CVEdge160.
Password	Must match the WebServer password of CVEdge160.

After successful addition, the device can be viewed in the device list.

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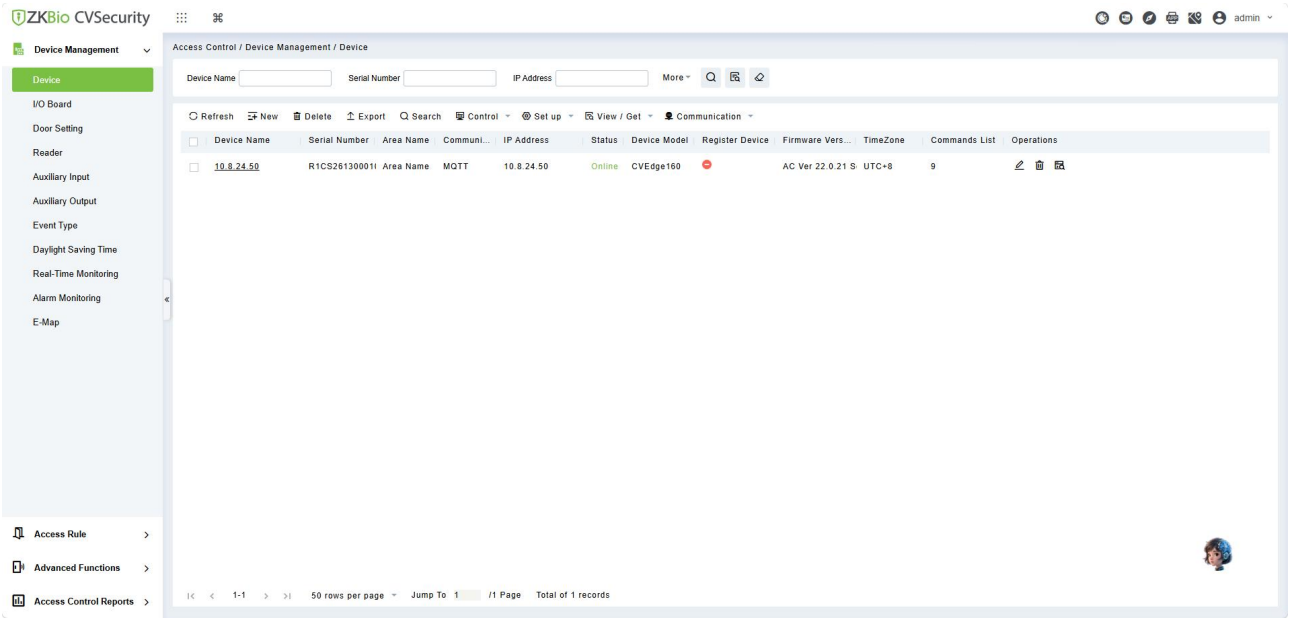

Personnel Management

Personnel information is synchronized between the ZKBio CVSecurity personnel module and CVEdge160.

Scope of synchronization restriction: Only personnel who belong to the same access control permission group as CVEdge160 will have their information synchronized to CVEdge160.

When personnel information is added, modified or deleted on ZKBio CVSecurity, data including personnel ID, full name, surname, card number, verification methods (face, fingerprint, password, card number, etc.), and personnel validity period will be synchronously delivered to the CVEdge160 device in real time.

- **Specific steps are as follows:**

Step 1: Create an Access Control Permission Group

Create an access control permission group and add devices to this group.

Navigate to the menu “Access Control / Access Rule / Access Levels”, select Add New, customize the group name, select access control time schedules and areas, then click OK to finish creating the access control permission group.

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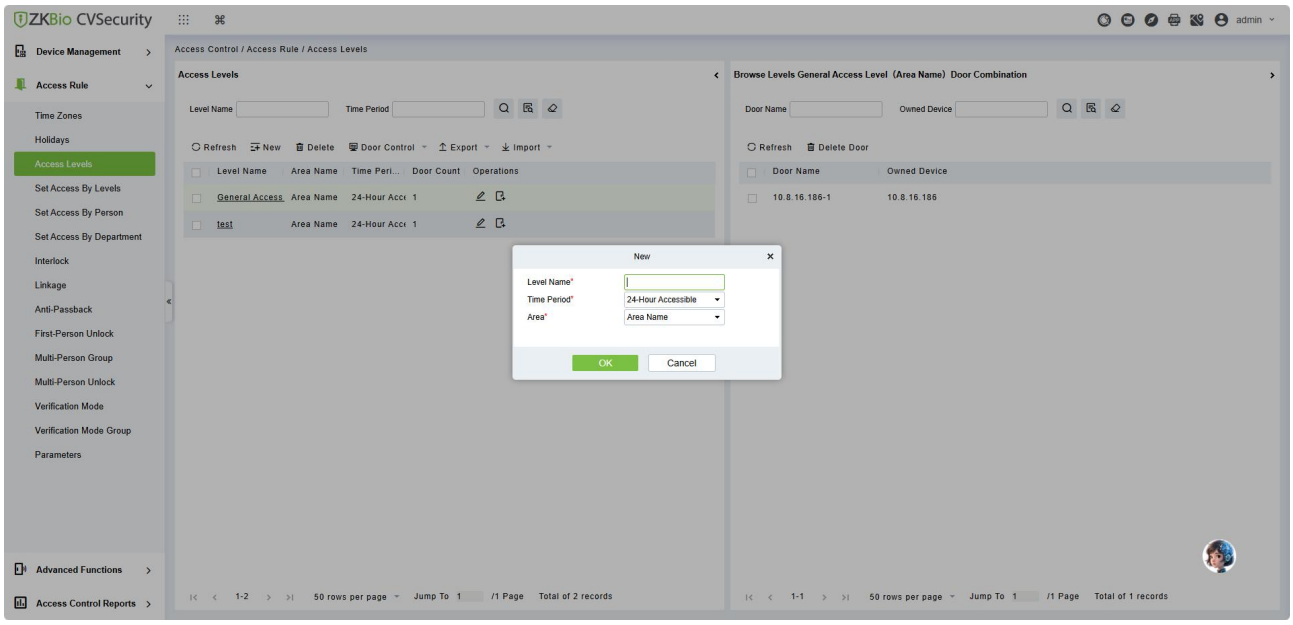
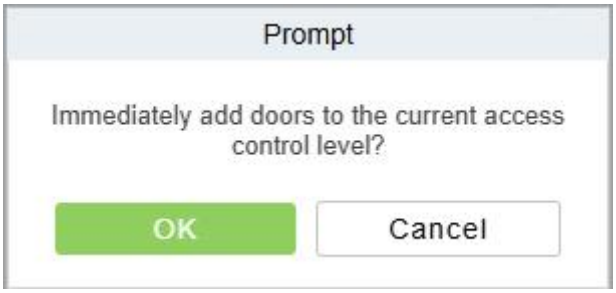
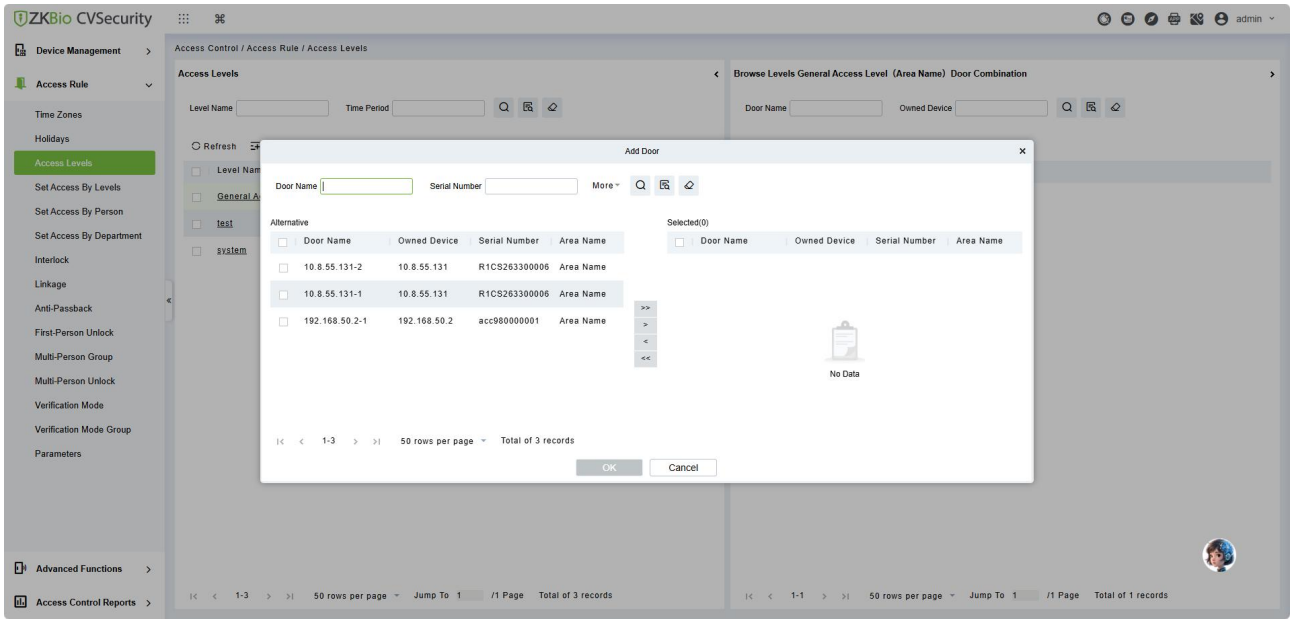


You may click OK as prompted to add the device to the permission group.





Alternatively, use the functions  available on the permission group page to add the CVEdge160 device, then click OK once the addition is complete.

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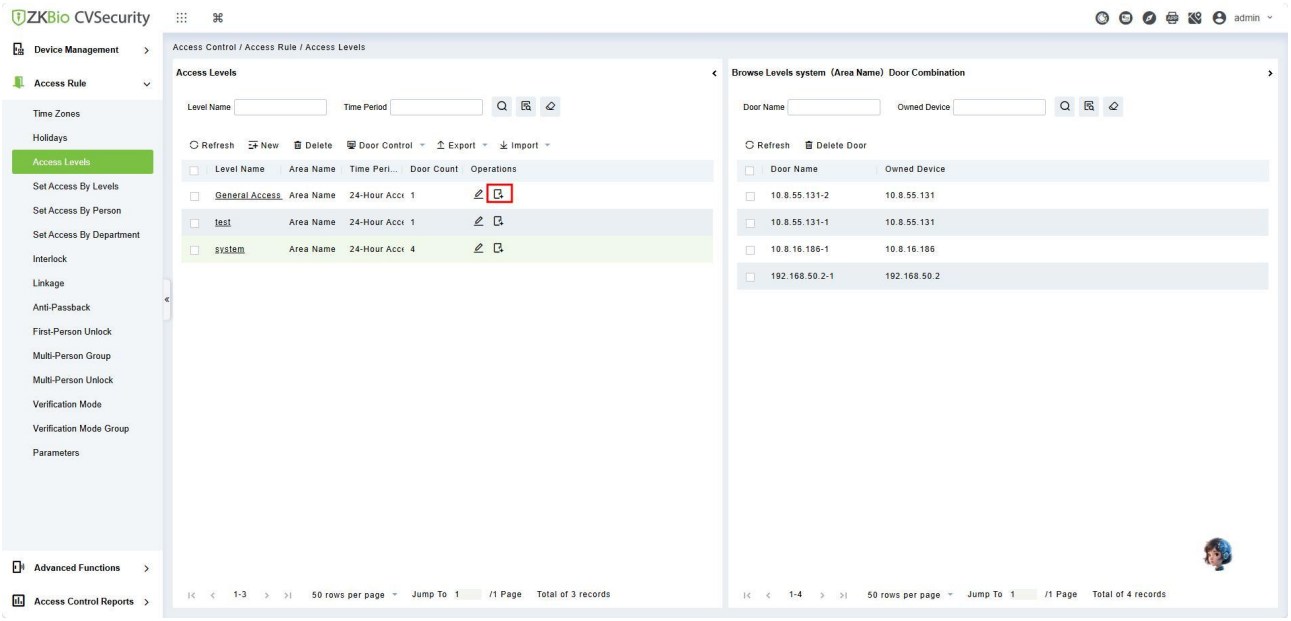
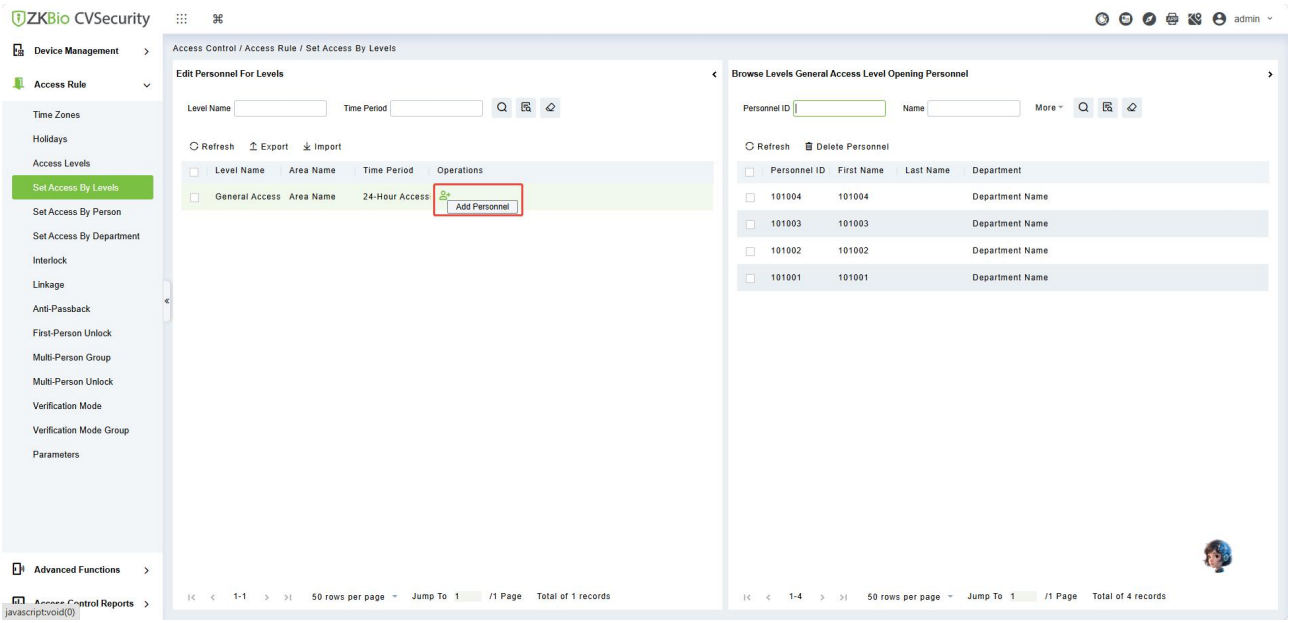


Step 2: Add Personnel to the Permission Group

Navigate to the menu “Access Control / Access Rule / Set Access By Levels”. All permission groups will be displayed automatically.



Click  to add personnel to the corresponding permission group.

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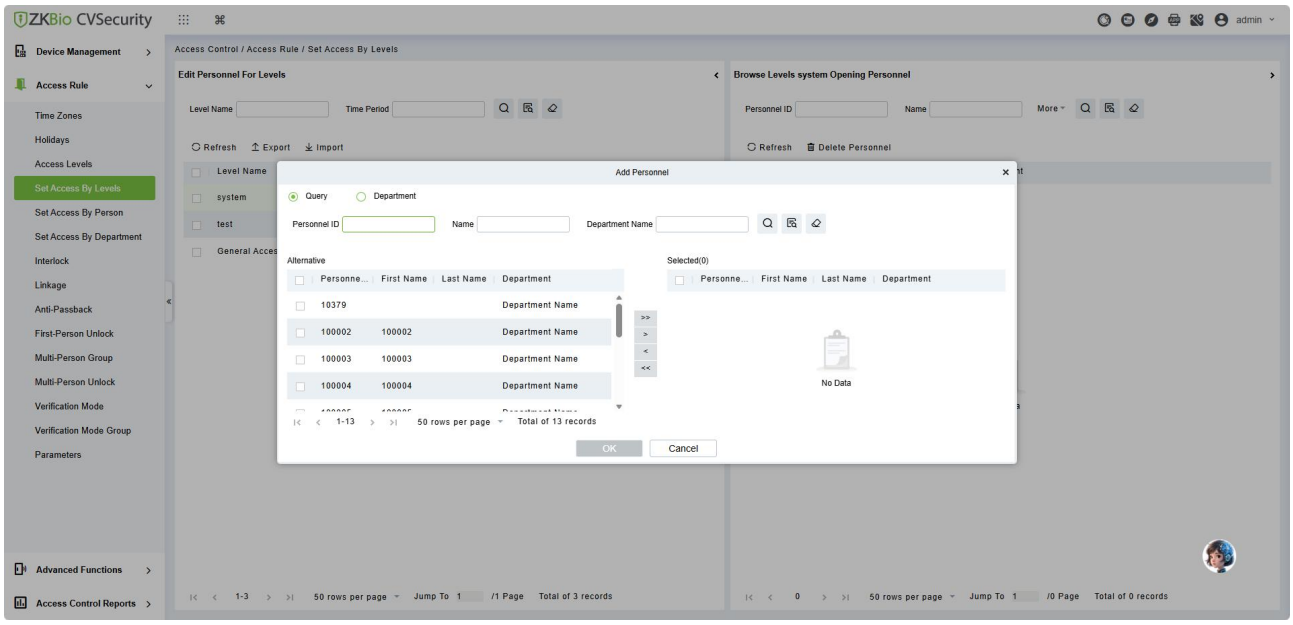
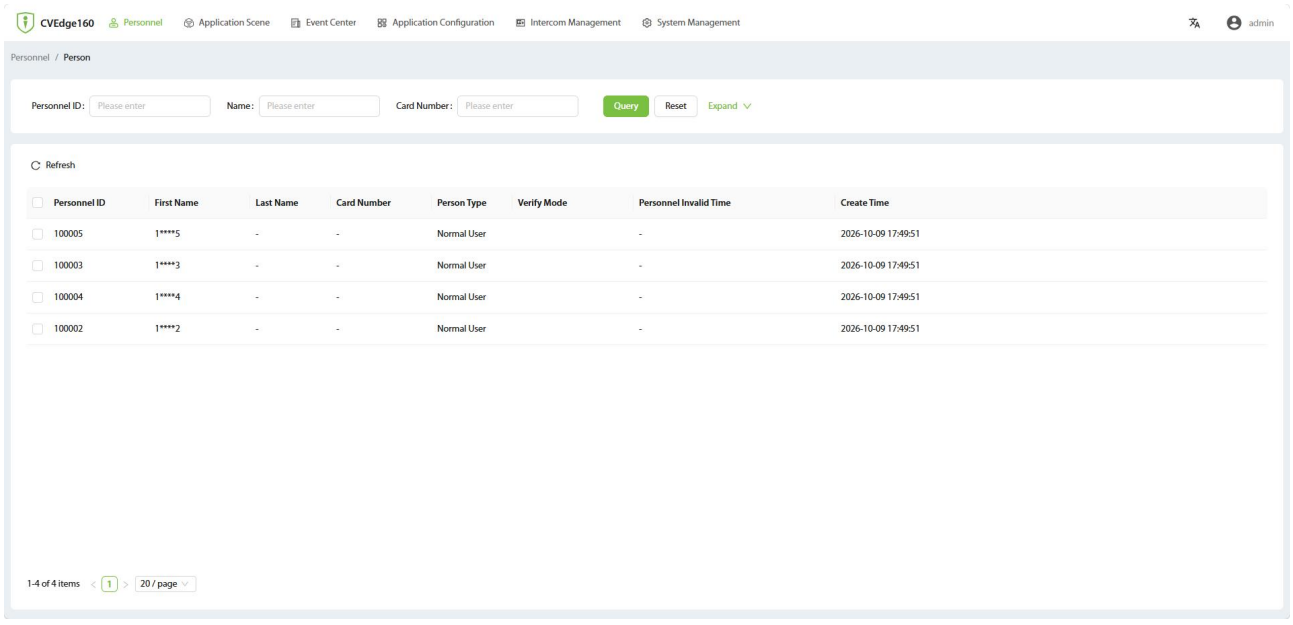


- **Result Verification:**

(1) The system automatically distributes personnel data of this permission group to the CVEdge160 device.

Navigate to the menu “Personnel / Person” in the WebServer of CVEdge160 to view the personnel list delivered to the device.



If the permission group that CVEdge160 belongs to or the personnel information is modified, the personnel information on the device side will be updated synchronously.

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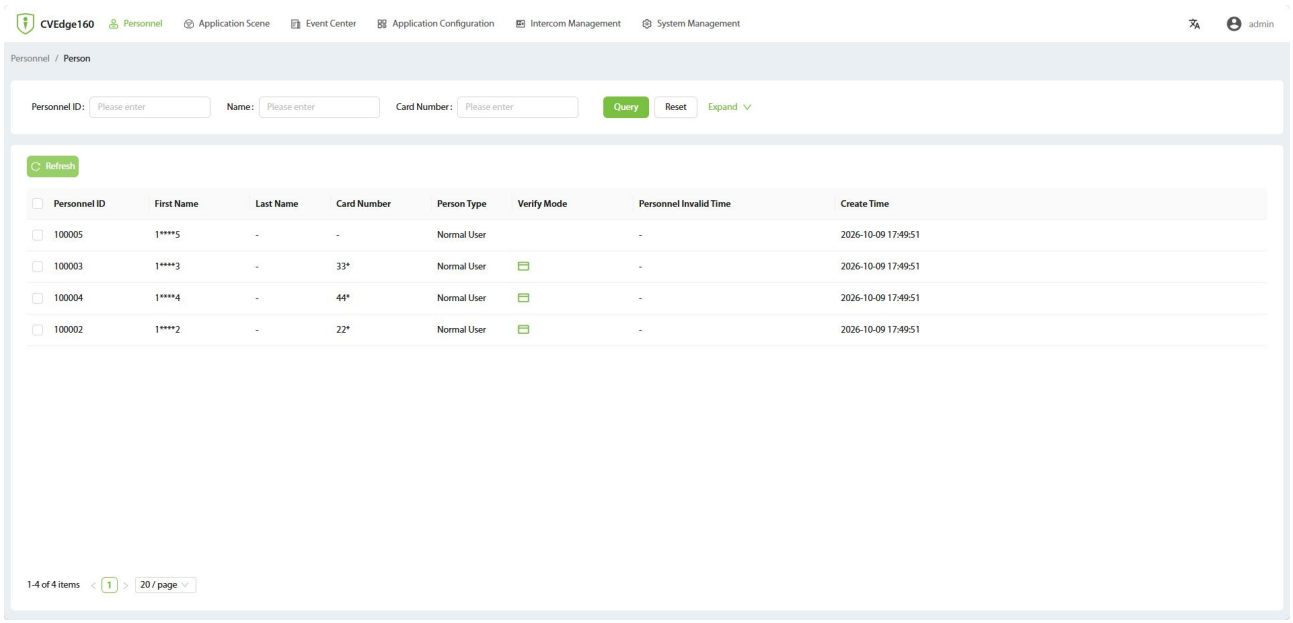
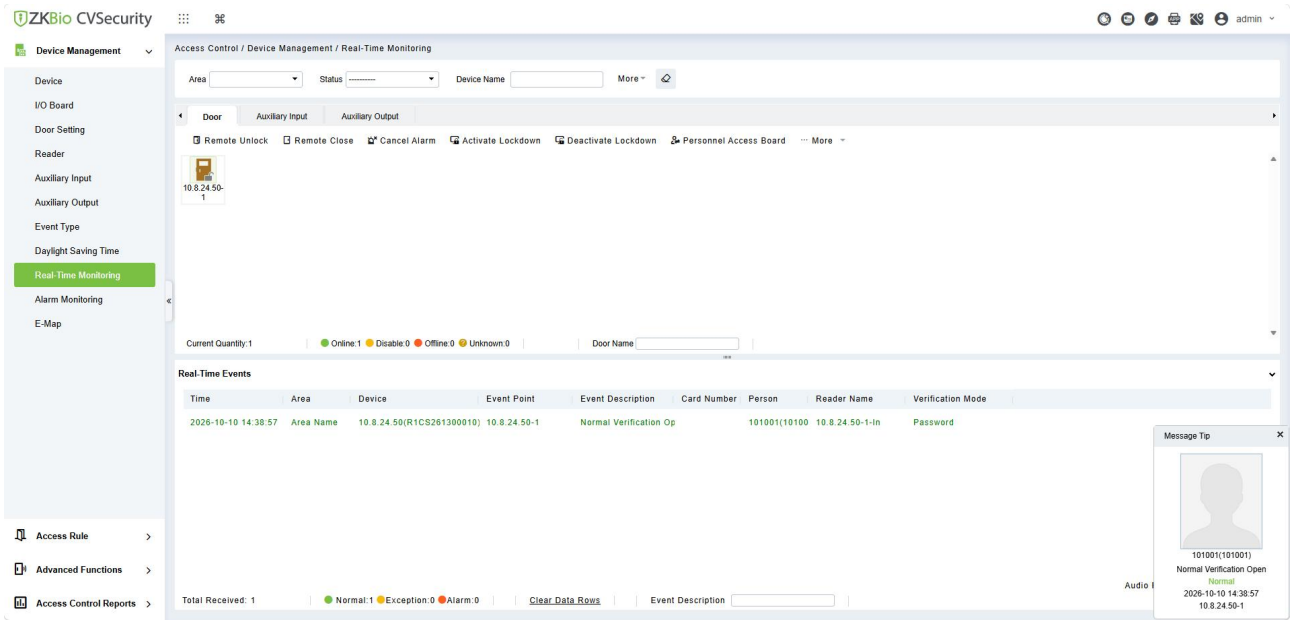


(2) Personnel Verification Prompt



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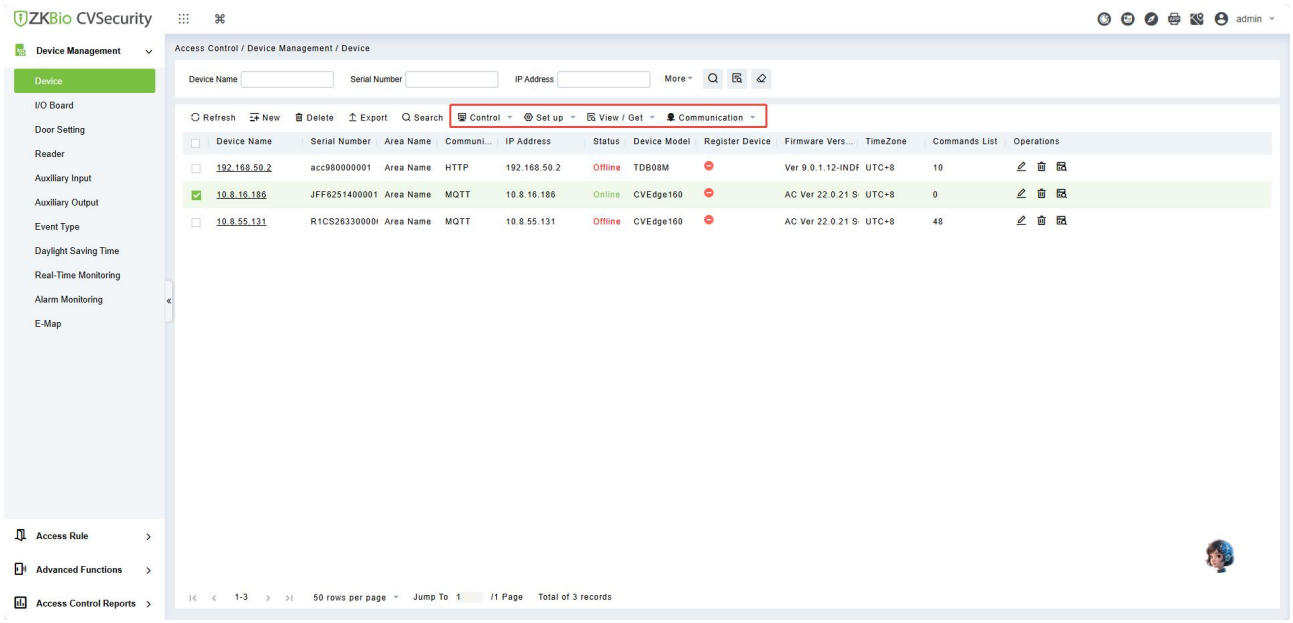
Device Management

(1) Devices can be managed under the menu “Access Control / Device Management / Device”.



The specific functions supported by CVEdge160 are as follows:

No.	Item	Function	Supported by CVEdge160
1	Control	Clear Administrator Permission	×
2		Clear Command	√
3		Upgrade Firmware	√
4		Reboot device	√
5		Synchronize Time	√
6		Enable	√
7		Disable	√
8		Synchronize All Data to Devices	√
9	Set up	Set Background Verification Options	√
10		Configure Device Time Zone	√
11		Set as Registration Device	×
12		Modify Biometric Identification Threshold	√
13		Configure extended parameters	√
14		NTP server settings	√
15		Replace Device	√
16		Set Facial Backend Comparison Parameters	×

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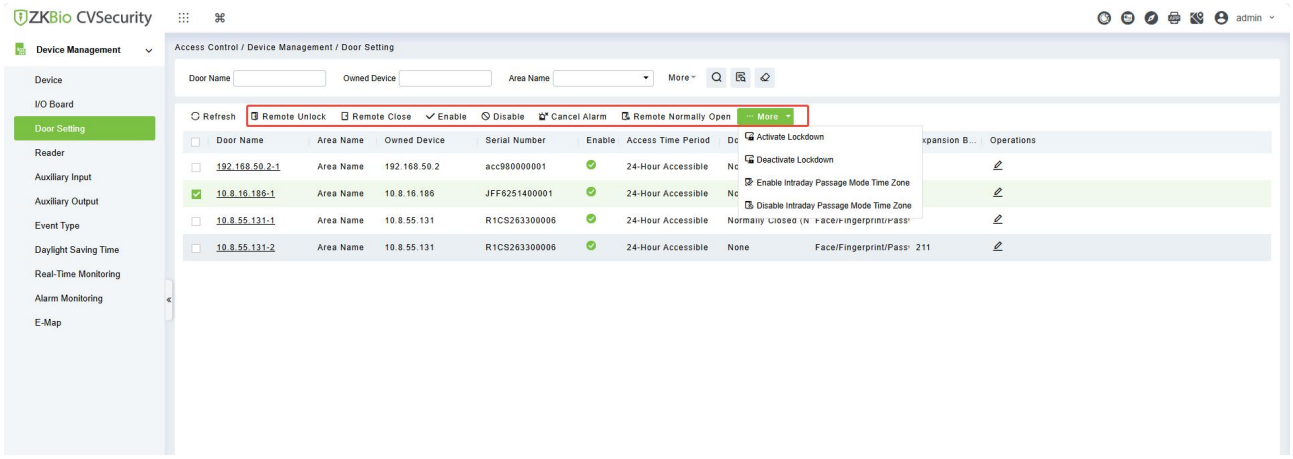
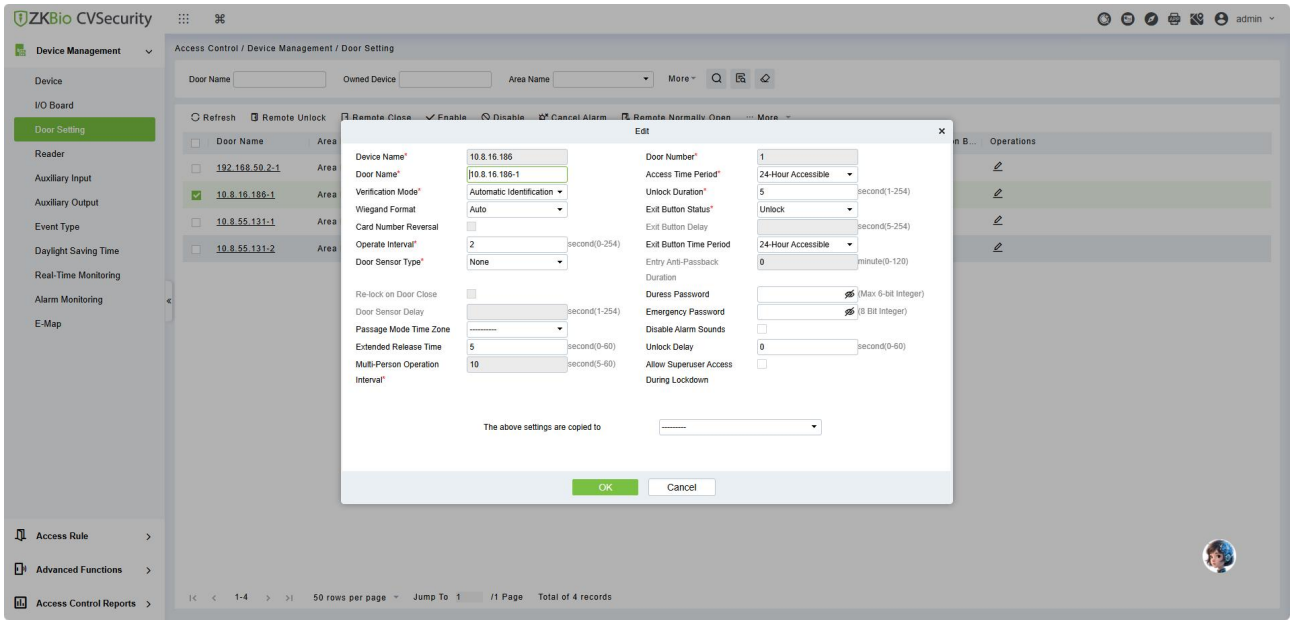
17		Modify Biometric Identification Version	√
18	View / Get	Get Device Option	√
19		Get Personnel information	√
20		Get Transactions	√
21		View Device Rules	√
22		View Device Capacity	√
23	Communication	Modify IP Address	√

(2) Remote operations for doors are available under the menu “Access Control / Device Management / Door Setting”. Remote Unlock, Remote Close, Cancel Alarm, Remote Normally Open, Activate Lockdown, Deactivate Lockdown, Enable Intraday Passage Mode Time Zone, Disable Intraday Passage Mode Time Zone.



You may also configure detailed door parameters by accessing the door settings details page.



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Access Control Rules

Navigate to the menu "Access Control / Access Rule" in ZKBio CVSecurity. You can assign the access control permission group to CVEdge160, configure time schedules and holiday rules, and set up functions including linkage, anti-passback, and first-person unlock.

The operation procedure is identical to that of standard access control controllers.

The access control rules supported by CVEdge160 are listed below:

No.	Item	Function	Supported by CVEdge160
1	Access Rule	Time Zones	√
2		Holidays	√
3		Access Levels	√
4		Set Access By Levels	√
5		Set Access By Person	√
6		Set Access By Department	√
7		Interlock	× (Not supported due to device limitations)
8		Linkage	√
9		Anti-Passback	√
10		First-Person Unlock	√
11		Multi-Person Group	√
12		Multi-Person Unlock	× (Not supported due to device limitations)
13		Verification Mode	× (Not supported due to device limitations)
14		Verification Mode Group	× (Not supported due to device limitations)

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Access Control Advanced Functions

Navigate to the menu "Access Control / Advanced Functions" in ZKBio CVSecurity. You can configure advanced access control functions for CVEdge160, including global anti-passback, global linkage, global interlock, authorization limits and crowd control.

No.	Item	Function	Supported by CVEdge160
1	Advanced Functions	Area Definition	√
2		Reader Definition	√
3		Area Headcount	√
4		Global Anti-Passback	√
5		Global Linkage	√
6		Global Interlock	√
7		Authorization Limits	√
8		Crowd Control	√

DE10 Door Control Expansion

CVEdge160 supports multi-door management by adding DE10 door control expansion units (up to 15 units), enabling management of a maximum of 16 doors. This section mainly describes how to add DE10 to CVEdge160 on ZKBio CVSecurity.

Step 1: Network the DE10

Ensure that the DE10 is connected to an Ethernet cable (PoE) and has network connectivity with CVEdge160. The DE10 is shown in the figure below. (DE10 communicates with CVEdge160 via TCP/IP protocol; no additional wiring is required.)



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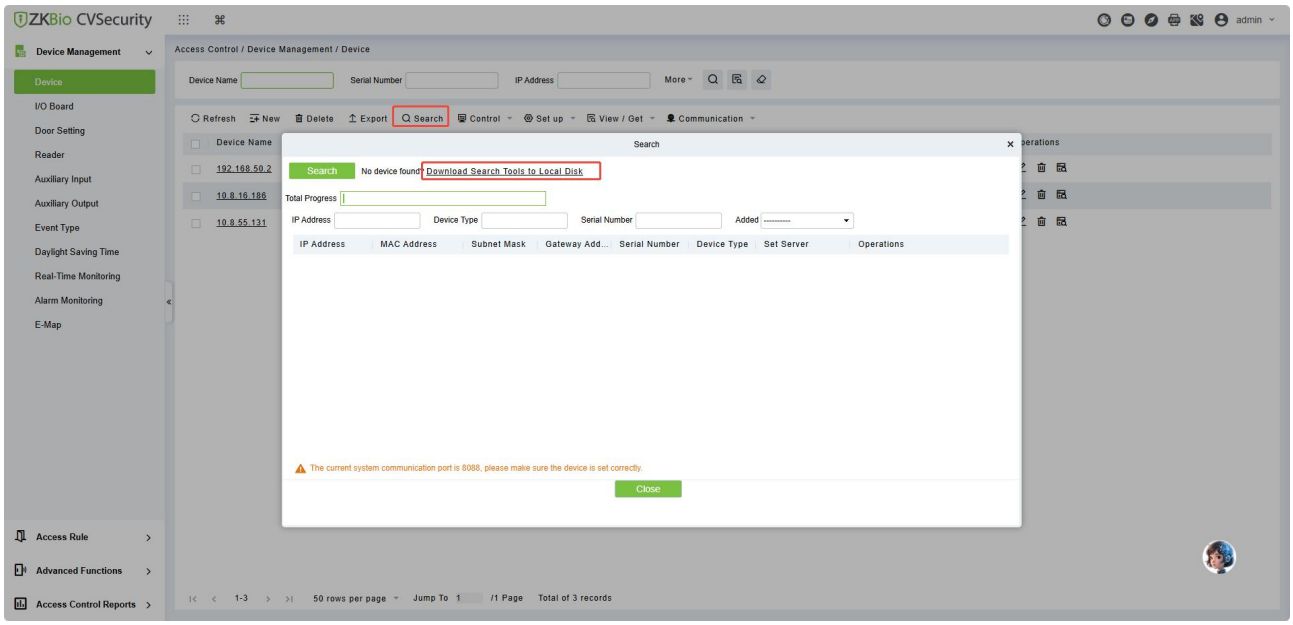
Step 2: Download the Search Tool and Modify the IP Address of DE10

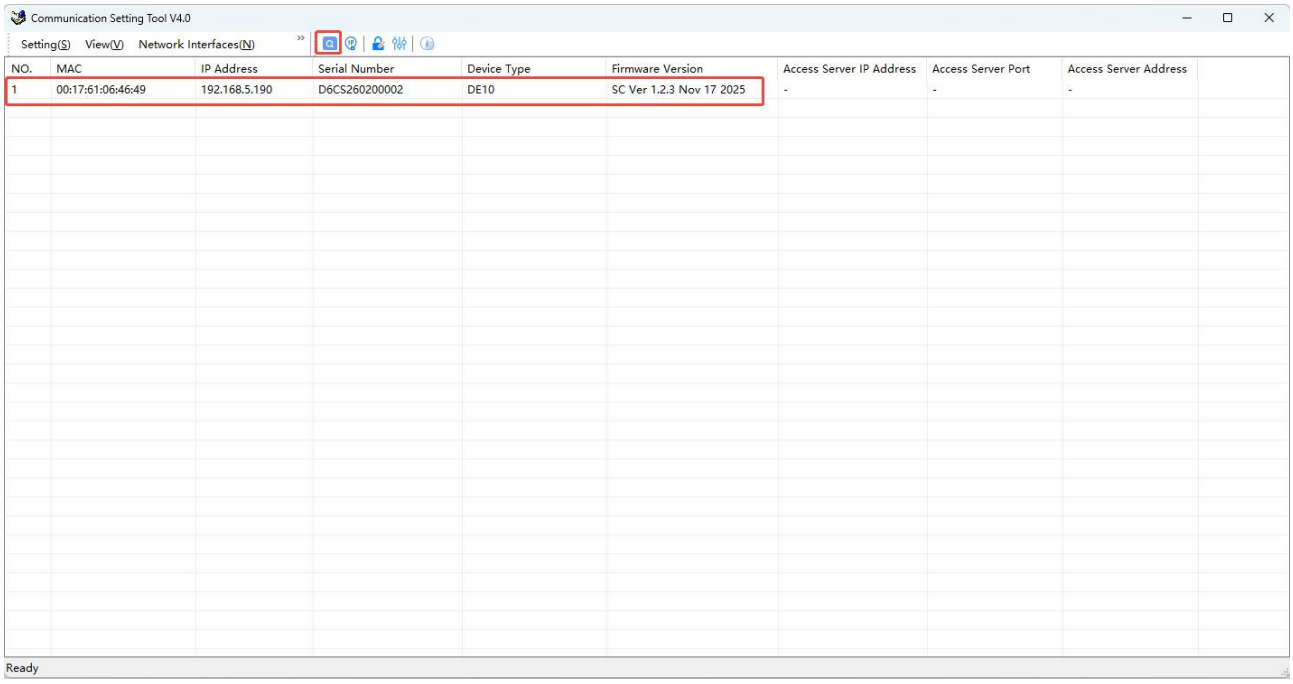
(1) Download the Search Tool

Navigate to the menu "Access Control / Device Management / Device" in the access control module. Click Search > Download Search Tools to Local Disk to obtain the device search tool.



(2) Search for Devices

After downloading, launch the tool and click the icon  to search for devices. The DE10 will be detected with its default IP address. The IP address needs to be modified for connection to the ZKBio CVSecurity server.



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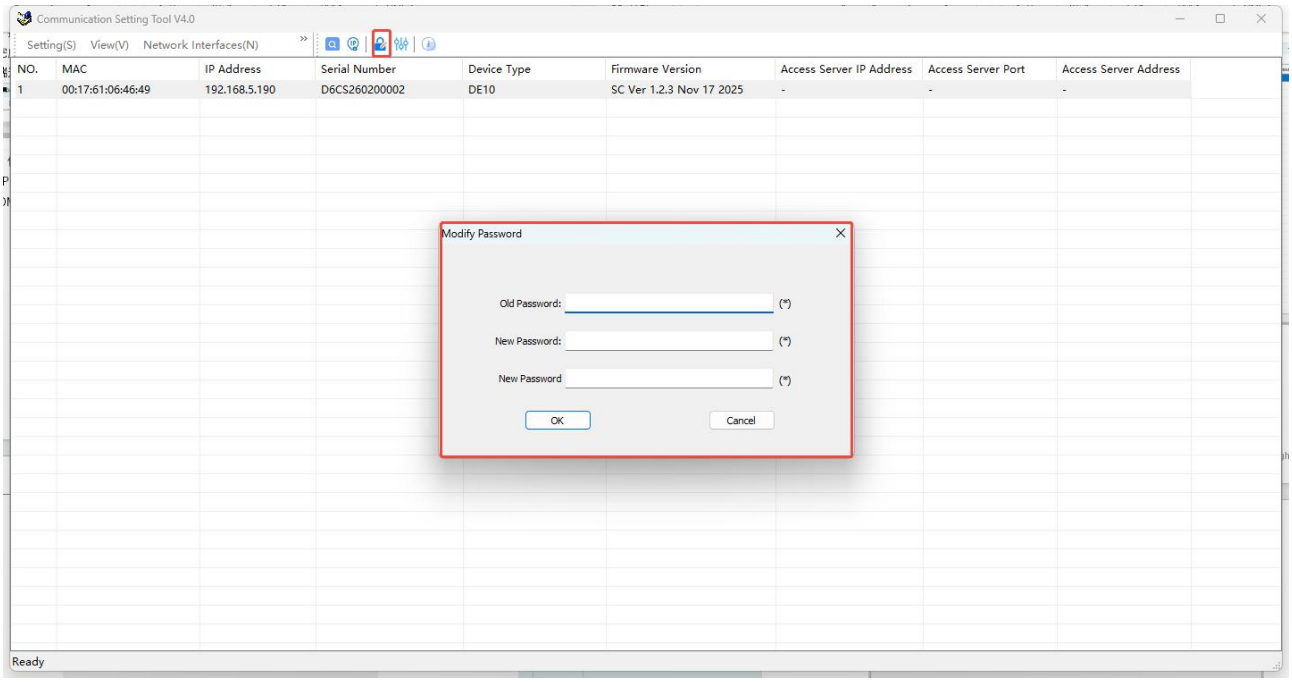
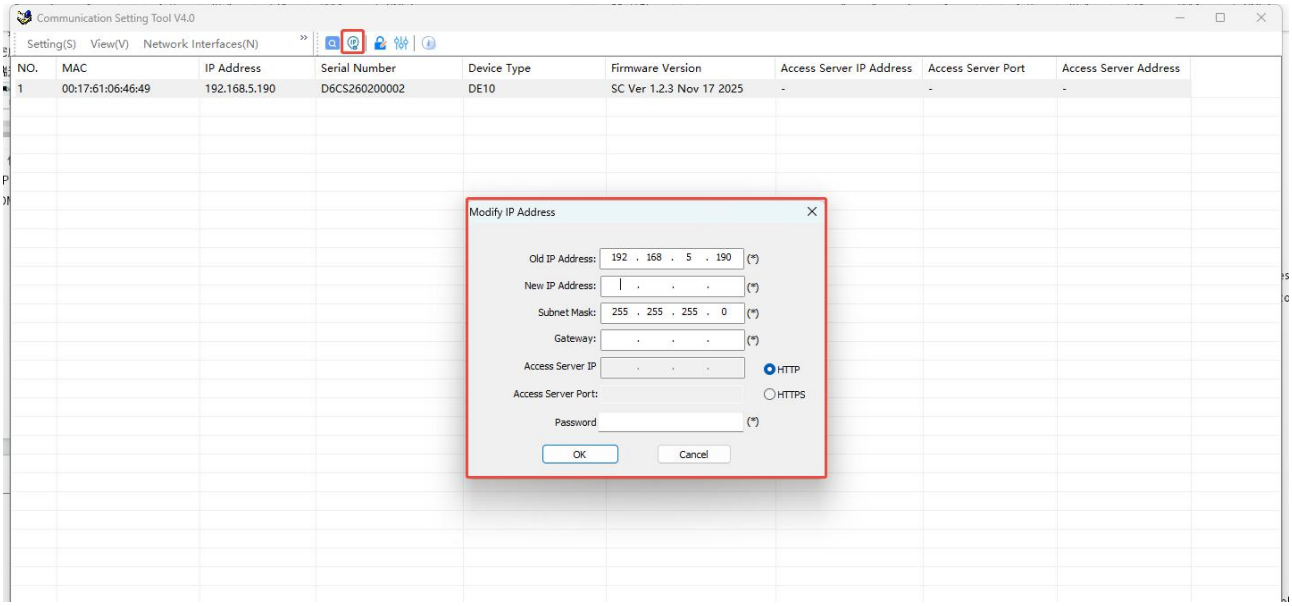
(3) Change the Default Password

The default password must be updated before modifying the IP address. Select the DE10 device and click the icon  . Enter the initial password Zk@123 as the old password and set a custom new password.



(4) Modify the IP Address

Select the DE10 device and click the icon  to edit the device IP address: Fill in the IP address, subnet mask, gateway and password according to the actual environment. Click OK after completion to save the IP settings.



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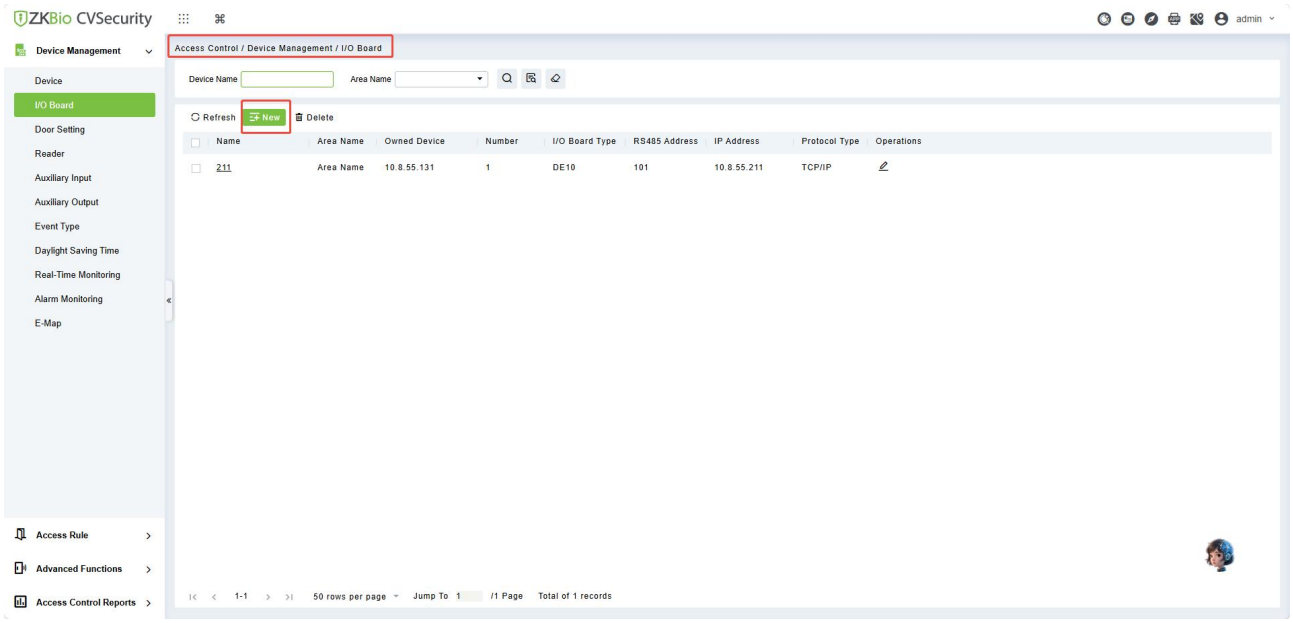
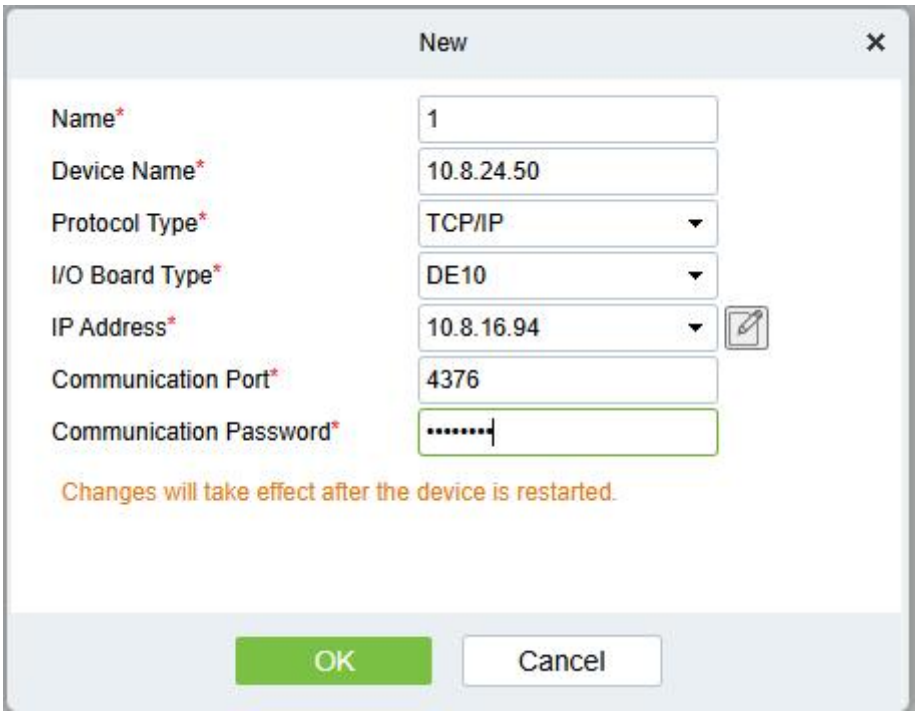
Step 3: Add DE10 on ZKBio CVSecurity

Navigate to the menu "Access Control / Device Management / I/O Board" in the access control module, select Add New, fill in the parameters to add DE10 to ZKBio CVSecurity V6600.





Parameter	Description
Name	User-defined
Device Name	Select the CVEdge160 device
Protocol Type	Select TCP/IP
Expansion Board Type	Select DE10
IP Address	Add via device search or direct IP input. ● Add via Search:

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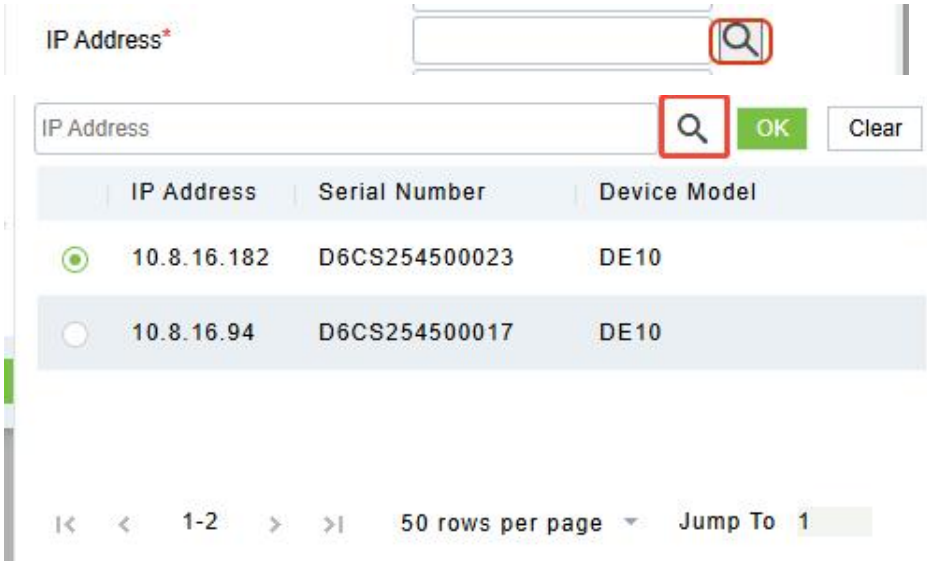
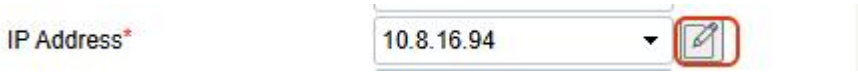
Parameter	Description
	Click into the field and trigger search to discover all DE10 devices **on the same network segment**.  ● Add by Entering IP Address: Click the icon, then directly input the DE10 IP address as shown in the figure.  Note: Device search only discovers devices on the same network segment. Devices that are reachable but reside on different network segments must be added by manually entering their IP addresses.
Communication Port	4376
Communication Password	The custom password set in Step 2

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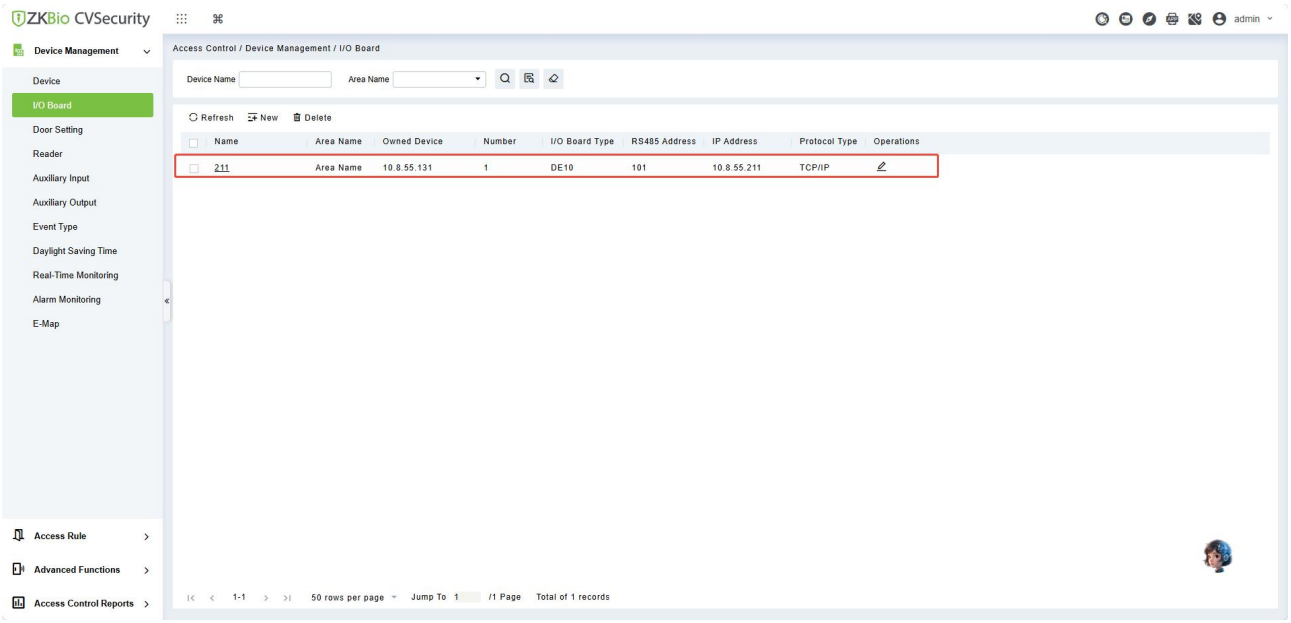
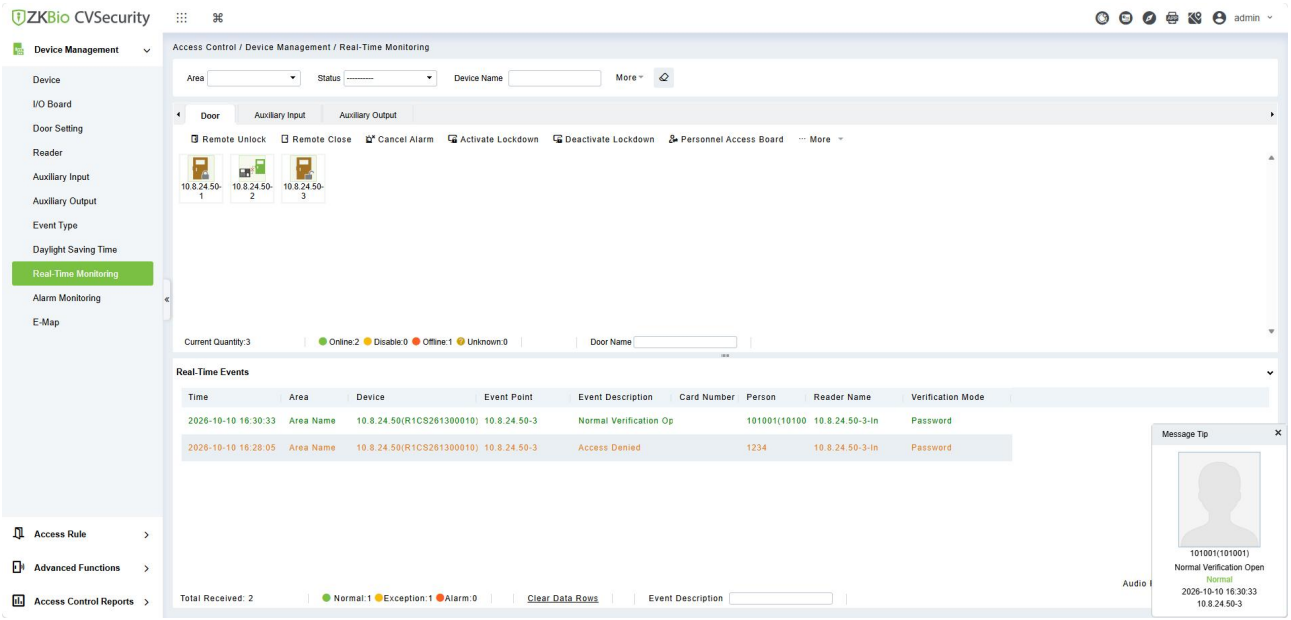
- **Result Verification:**

(1) After successful addition, the newly added DE10 device will appear in the I/O Expansion Board list, as shown in the figure below.



(2) Perform verification on the DE10 reader. The display on the Device Management / Real-Time Monitoring page of the software is shown in the figure.



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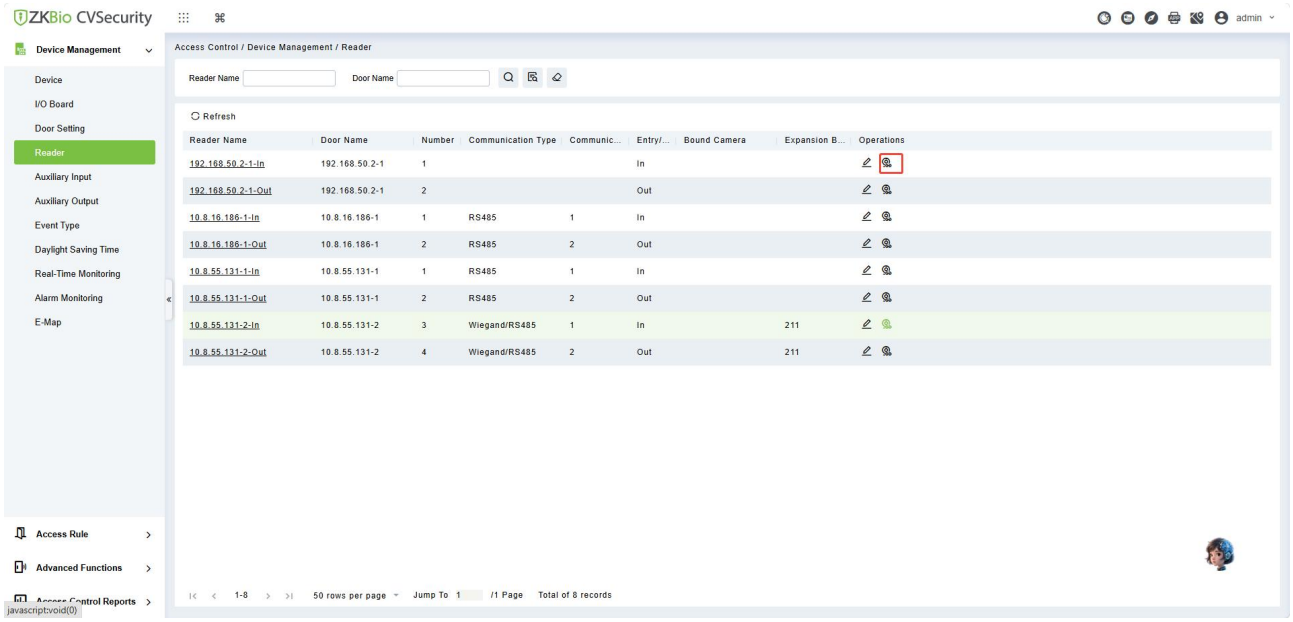
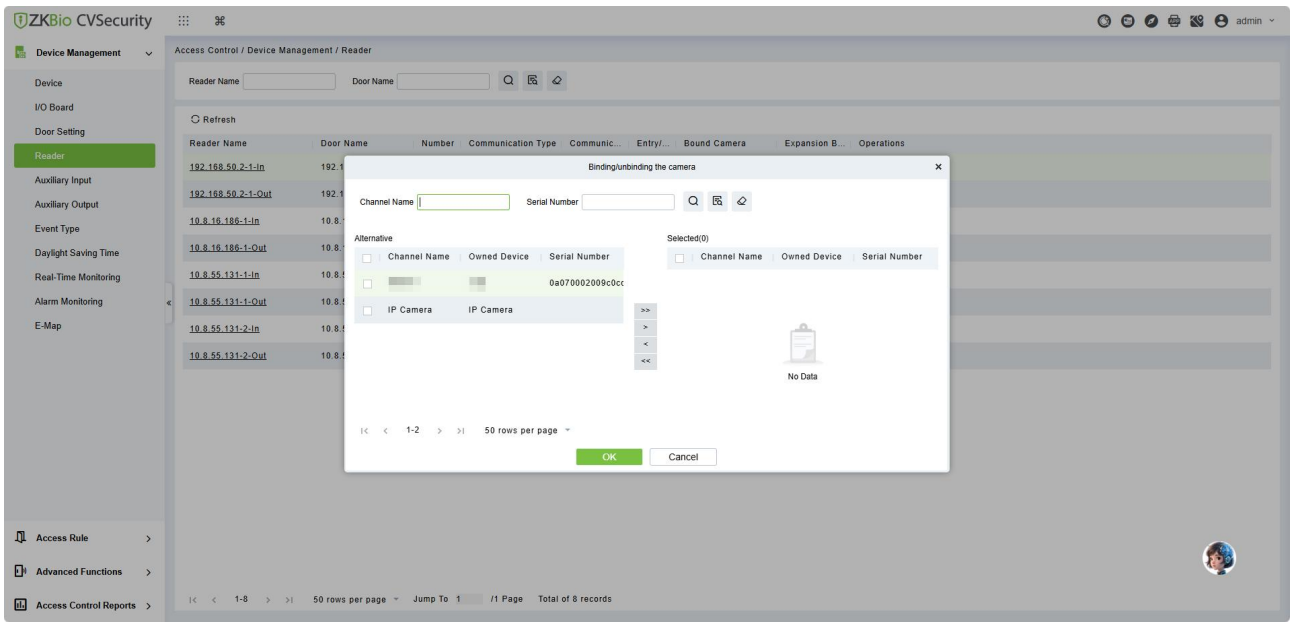
Access Control Video Linkage

Step 1: Add IPC / Add NVR and channels in the Smart Video module (prerequisite for access control linked video)

Step 2: Bind video devices to access control readers

Navigate to the menu “Access Control / Device Management / Reader”. Locate the reader for which you want to configure video linkage, and click the corresponding button  to bind or unbind the associated camera. After selection, click OK to complete binding.





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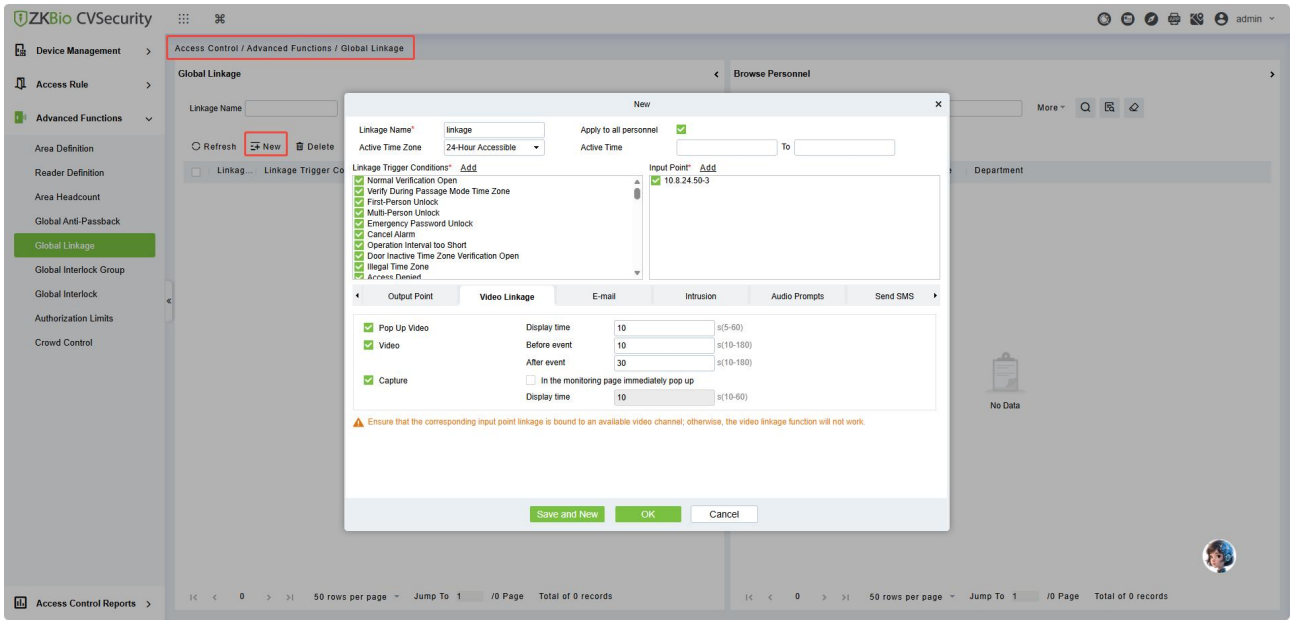
Step 3: Configure linkage / global linkage

There are two linkage configuration methods, available under the menus “Access Control / Access Rule / Linkage” and “Access Control / Advanced Functions / Global Linkage” respectively. The former applies to linkage for individual devices, while the latter is for global linkage.

Use Access Rule / Linkage if you configure linkage for a single device or linkage for device events (such as device offline).

Use Advanced Functions / Global Linkage if you need to configure linkage for multiple devices and readers at the same time, together with valid time periods and applicable personnel. This section uses Advanced Functions / Global Linkage as an example; the configuration procedure for Access Rule / Linkage is identical.

Navigate to the menu “Access Control / Advanced Functions / Global Linkage”, select Add New, fill in the linkage parameters, and click OK to finish linkage configuration. Multiple linkage actions can be configured simultaneously.



Parameter	Description
Device Name	User-defined
Icon Type	Select Door Setting, Parking Barrier, or Gate Barrier according to actual requirements.
Area	Select the area as applicable.
Add to Access Level	Select the access level as applicable.
User Name	Must match the WebServer username of CVEdge160.
Password	Must match the WebServer password of CVEdge160.

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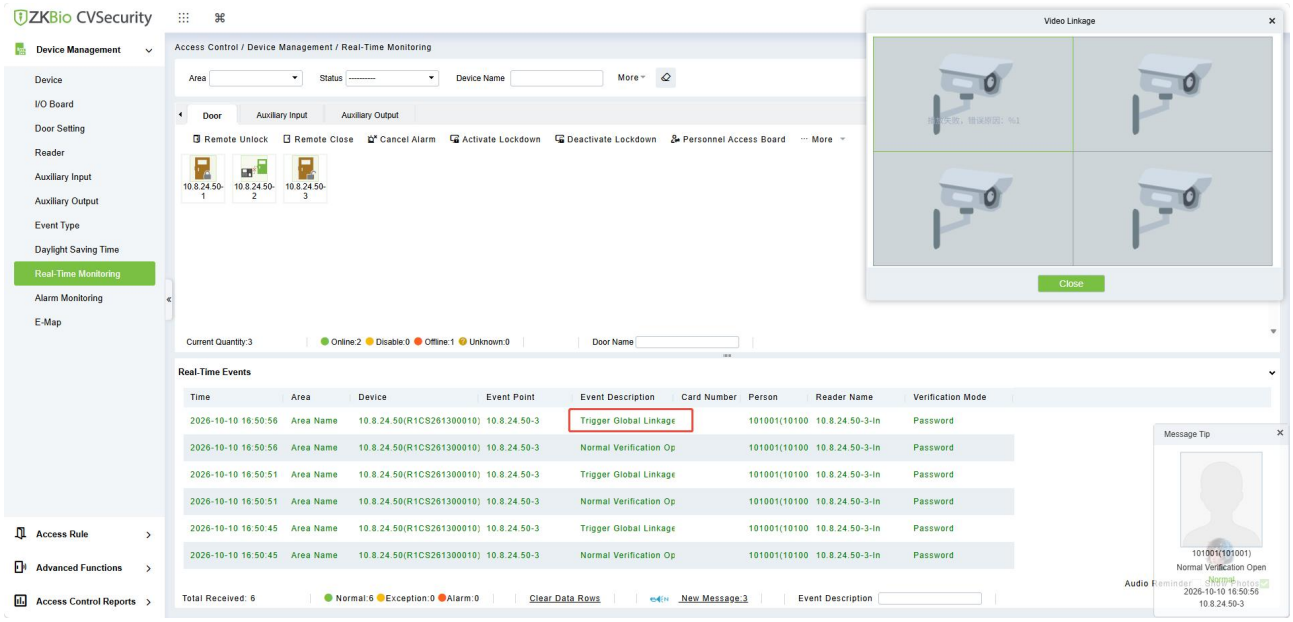
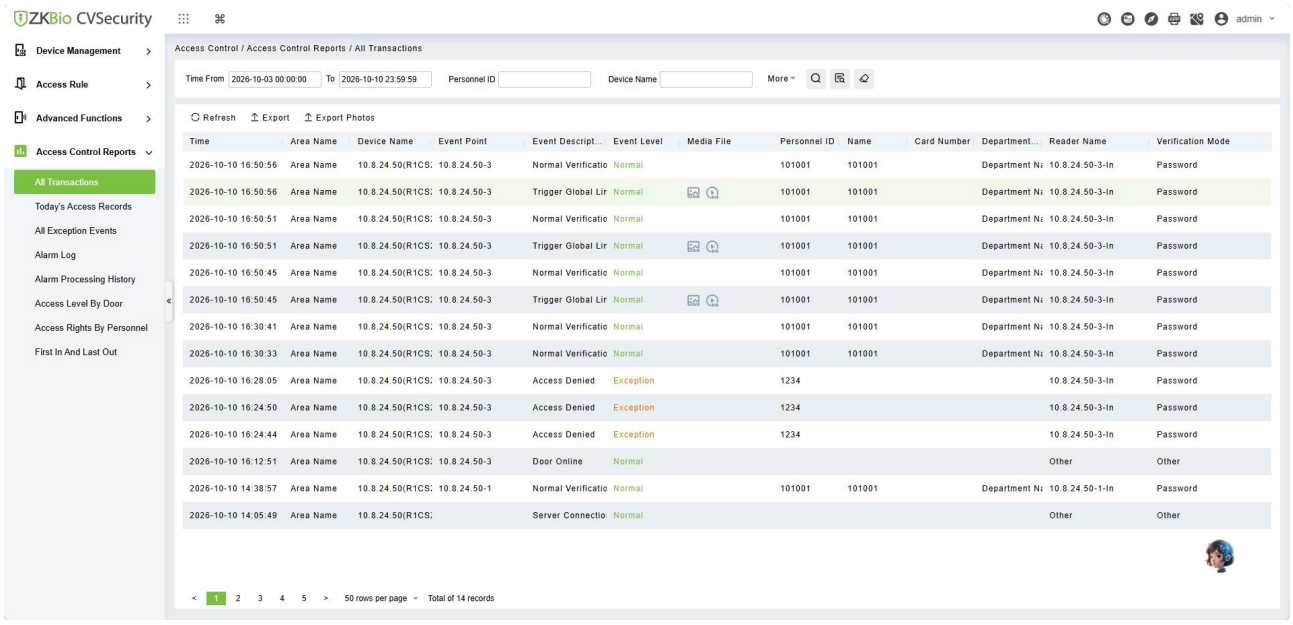
- **Result Verification**

(1) When a normal verification record is generated on the corresponding reader, the “Access Control / Device Management / Real-Time Monitoring” page will pop up the verification record and live video stream synchronously.



(2) Navigate to the menu “Access Control / Access Control Reports / All Transactions” to view snapshots and recording data generated by linkage or global linkage.



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2. Smart Video Surveillance

CVEdge160 Integration

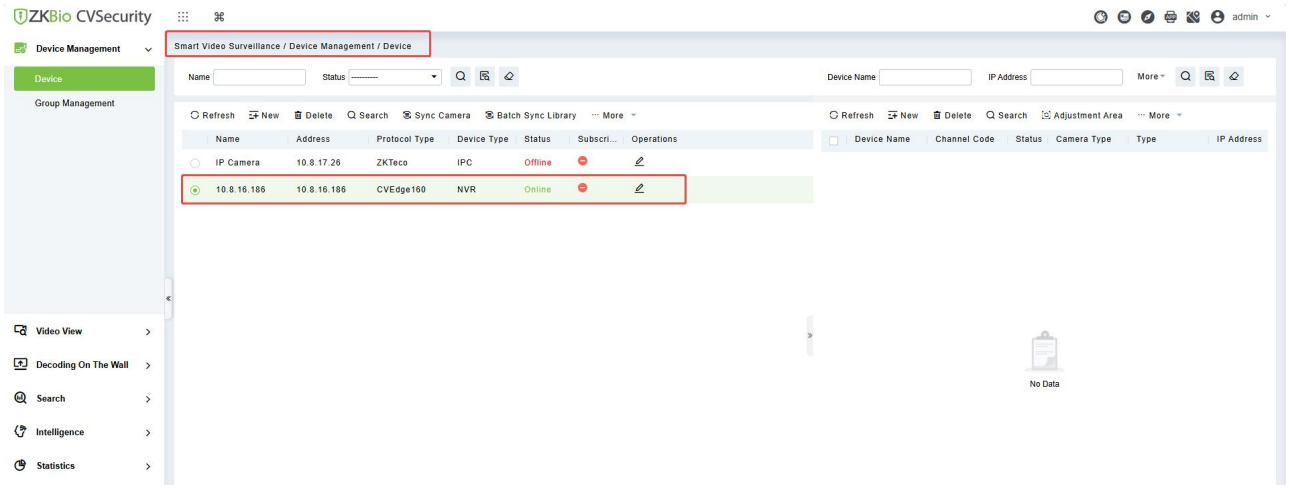
- **Supports CVEdge160 device functions such as live video preview, playback, event alarm upload and event linkage with the linkage center.**

Adding Devices

- **Adding CVEdge160 to the Smart Video Module**

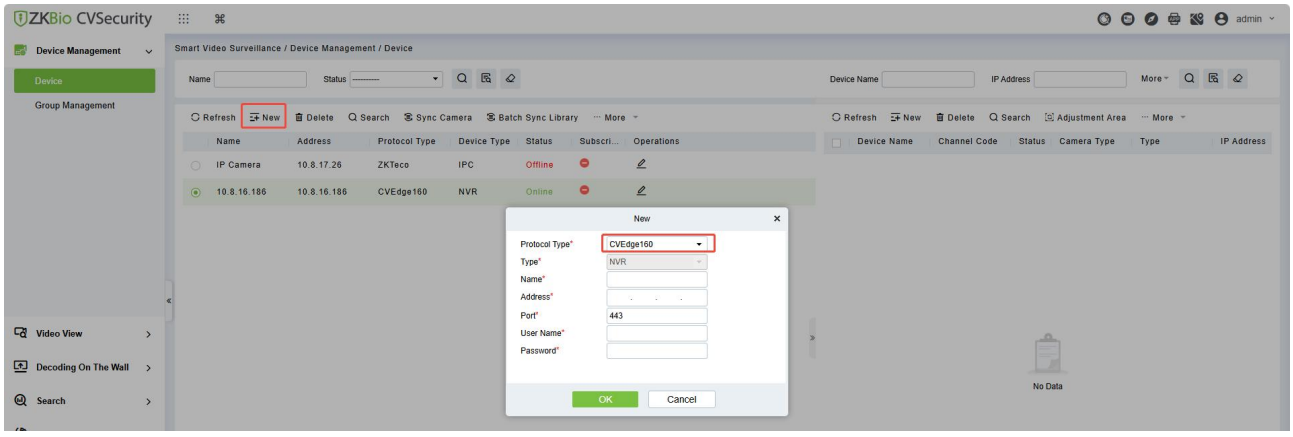
Method 1: Auto-sync from the Access Control Module

Once CVEdge160 is successfully added to the access control module, it will be automatically synchronized to the smart video module with the device type as NVR.



Method 2: Manual Addition

Navigate to the menu “Smart Video Surveillance / Device Management / Device” in the smart video module, select Add New, fill in relevant parameters to complete the addition, as shown in the figure below.



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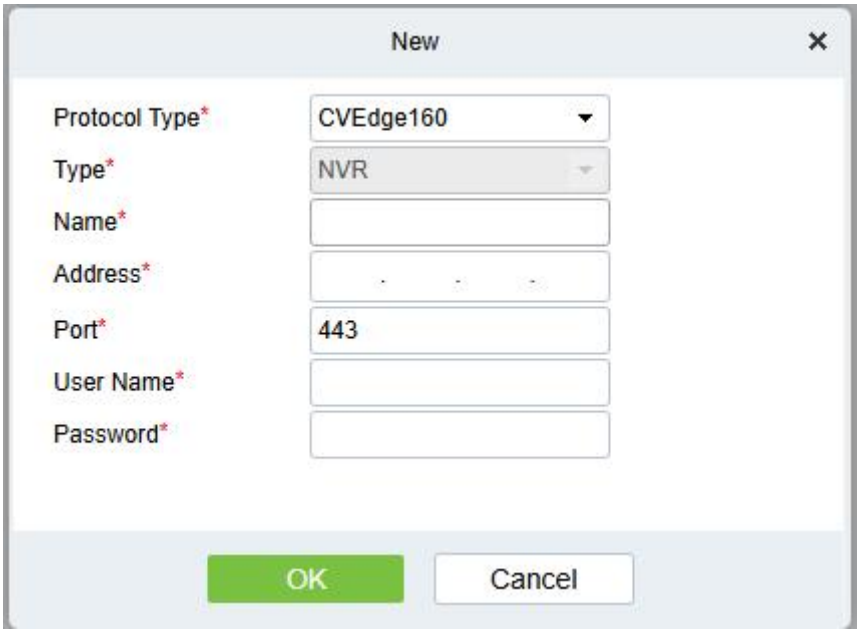
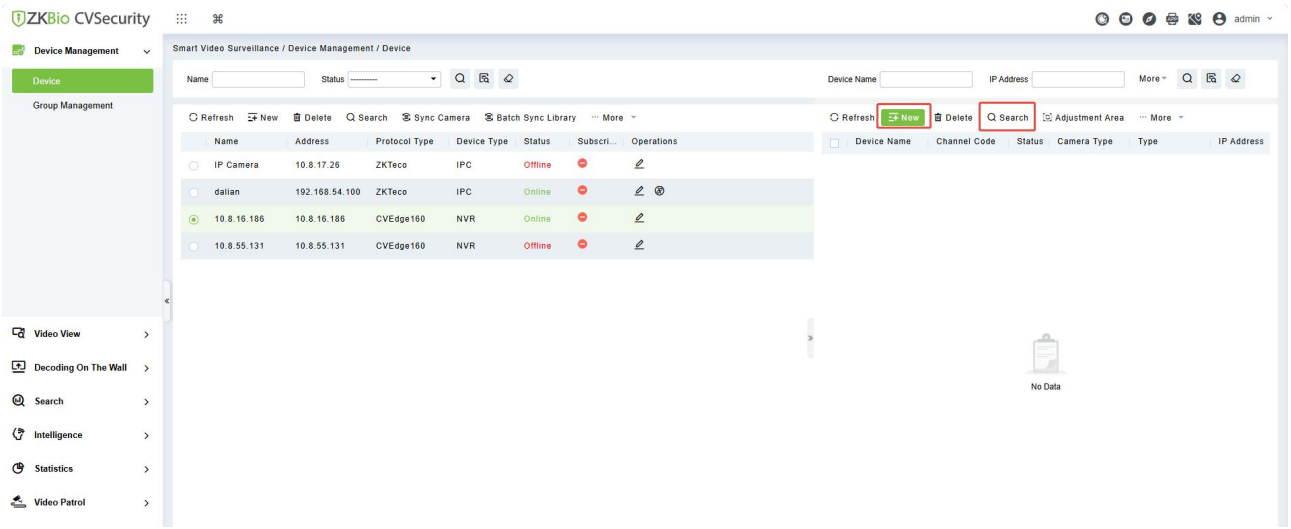


Parameter	Description
Protocol Type	Select CVEdge160
Type	Defaults to NVR after the protocol type is selected.
Name	User-defined
Address	Enter the IP address of CVEdge160.
Port	443
User Name	Must match the WebServer username of CVEdge160.
Password	Must match the WebServer password of CVEdge160.

- **Add IPC toCVEdge160**

Navigate to the menu “Smart Video Surveillance / Device Management / Device”, click the corresponding NVR device. You can add IPCs via Add New or Search on the right panel. The operation is the same as adding IPCs to a conventional NVR.



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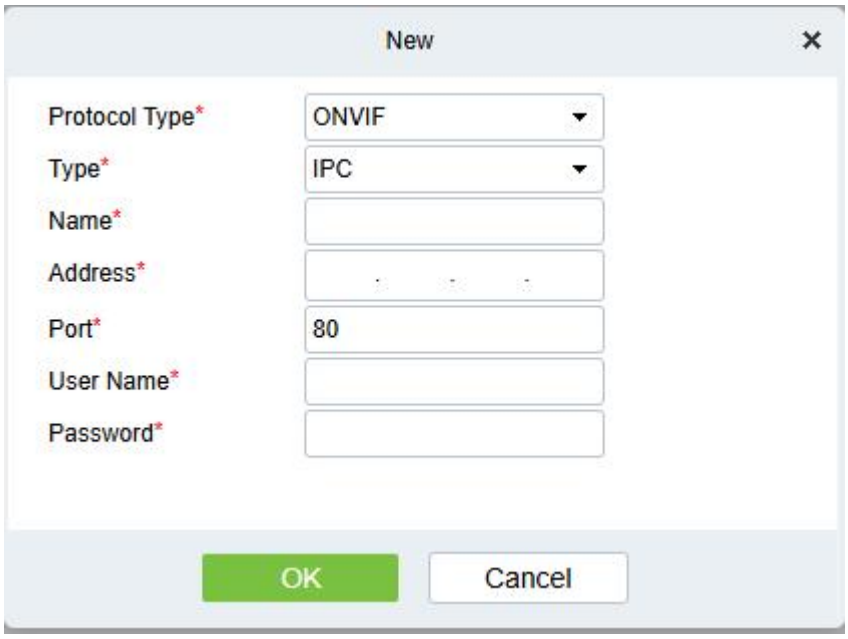
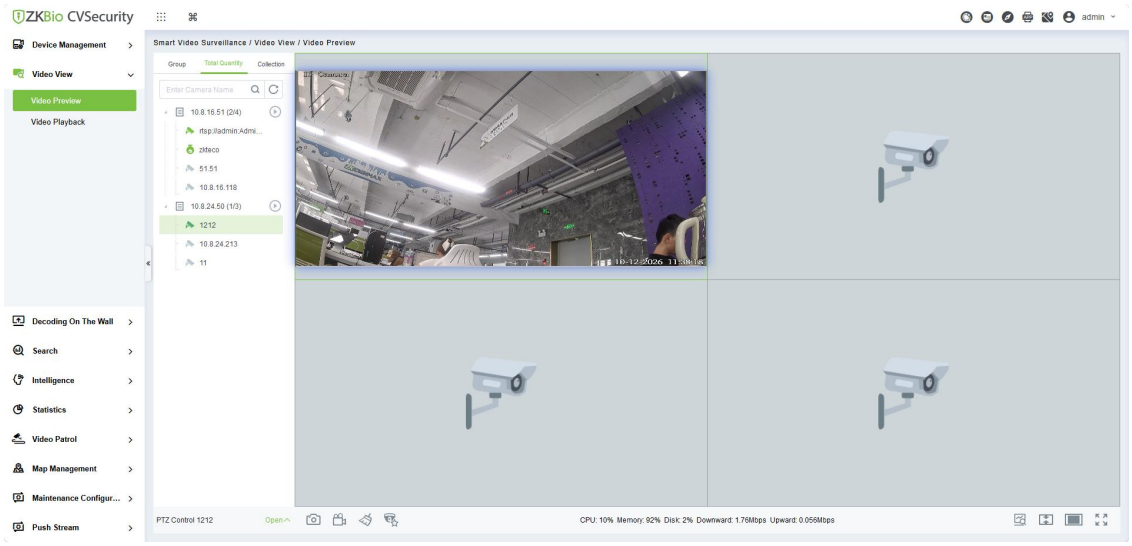
For addition via Add New, fill in the parameters below and click OK to complete IPC addition.



Parameter	Description
Protocol Type	Select according to actual conditions.
Type	Select IPC
Name	User-defined
Address	Enter the IP address of IPC.
Port	80
User Name	Must match the WebServer username of IPC.
Password	Must match the WebServer password of IPC.

After successful addition, the device will be displayed in the device list. Go to the menu Video View - Live Preview to view live streams, and go to Video View - Playback to review recorded videos.



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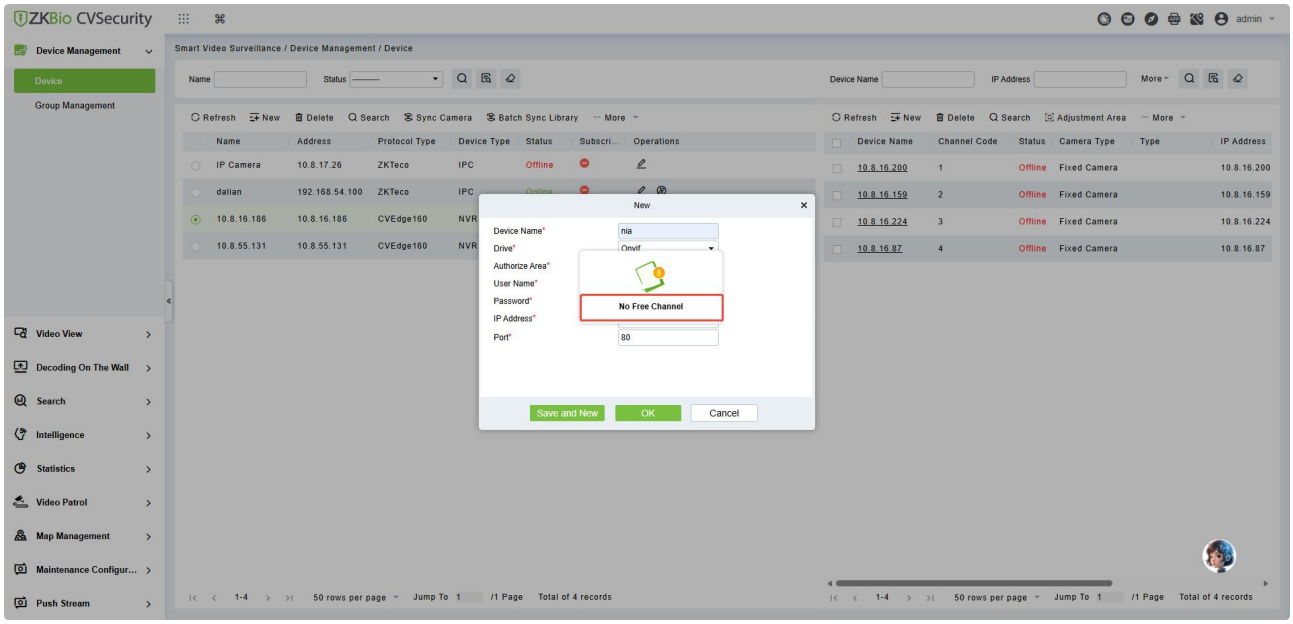
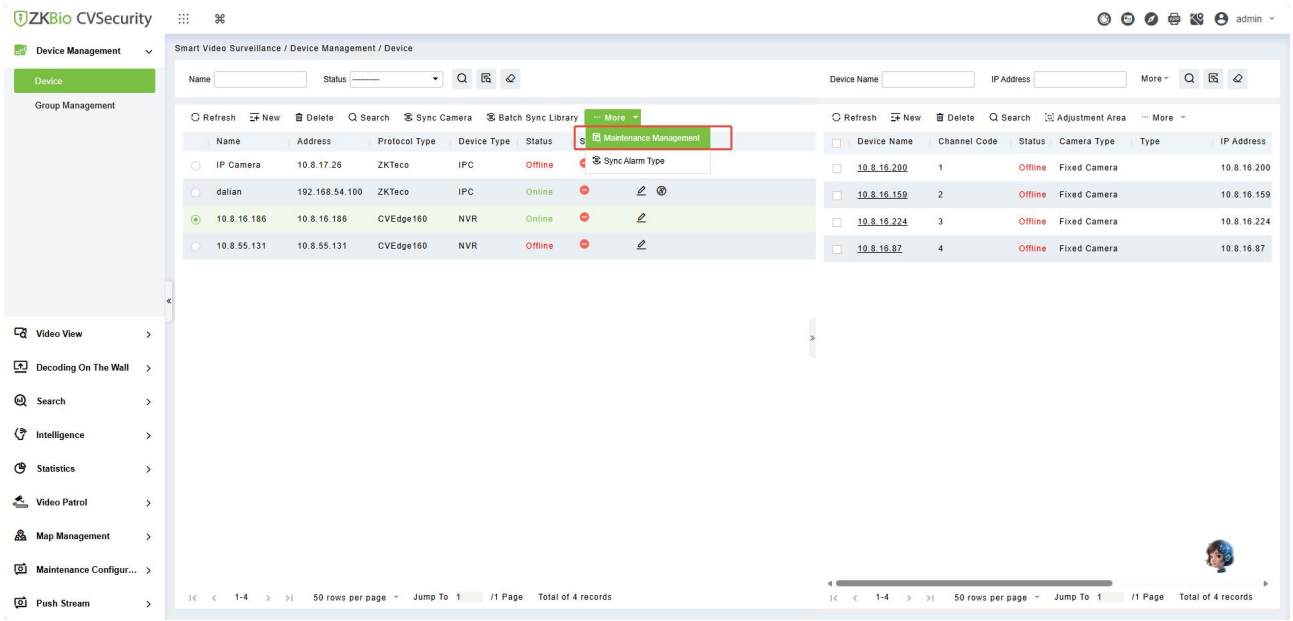
[Note]: A maximum of 4 channels can be added to CVEdge160. Exceeding this limit will trigger the prompt "No free channels", as shown in the figure below.



After selecting the CVEdge160 device, click More - Maintenance Management to jump to WebServer.



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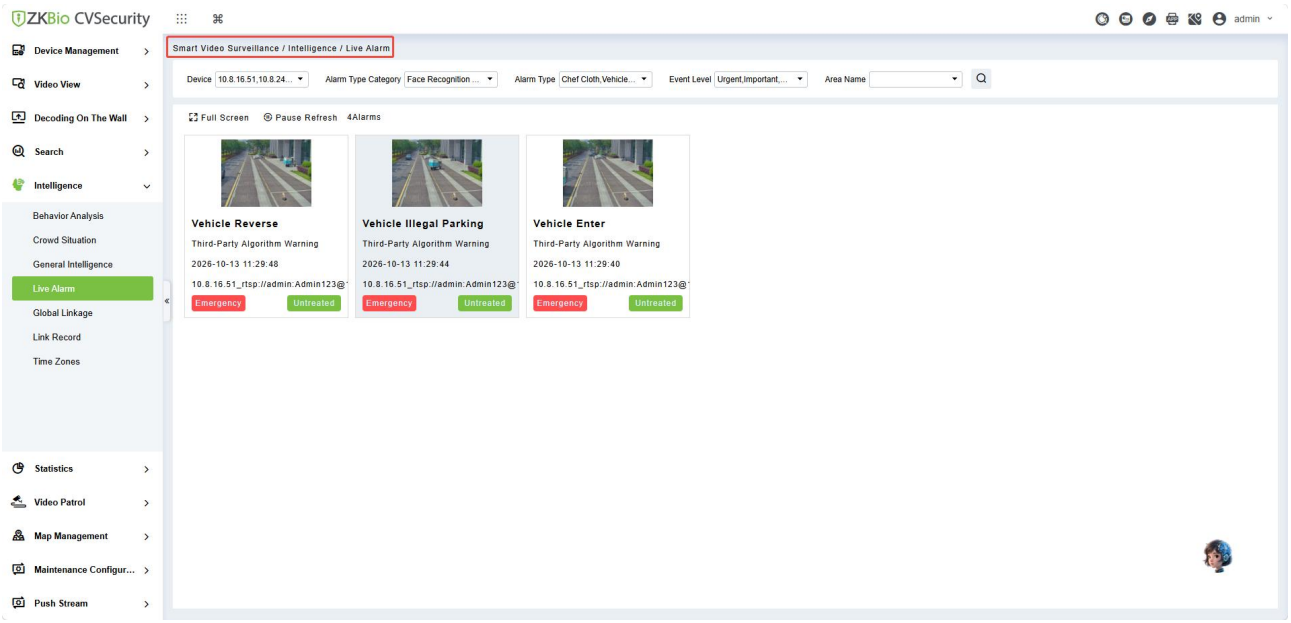
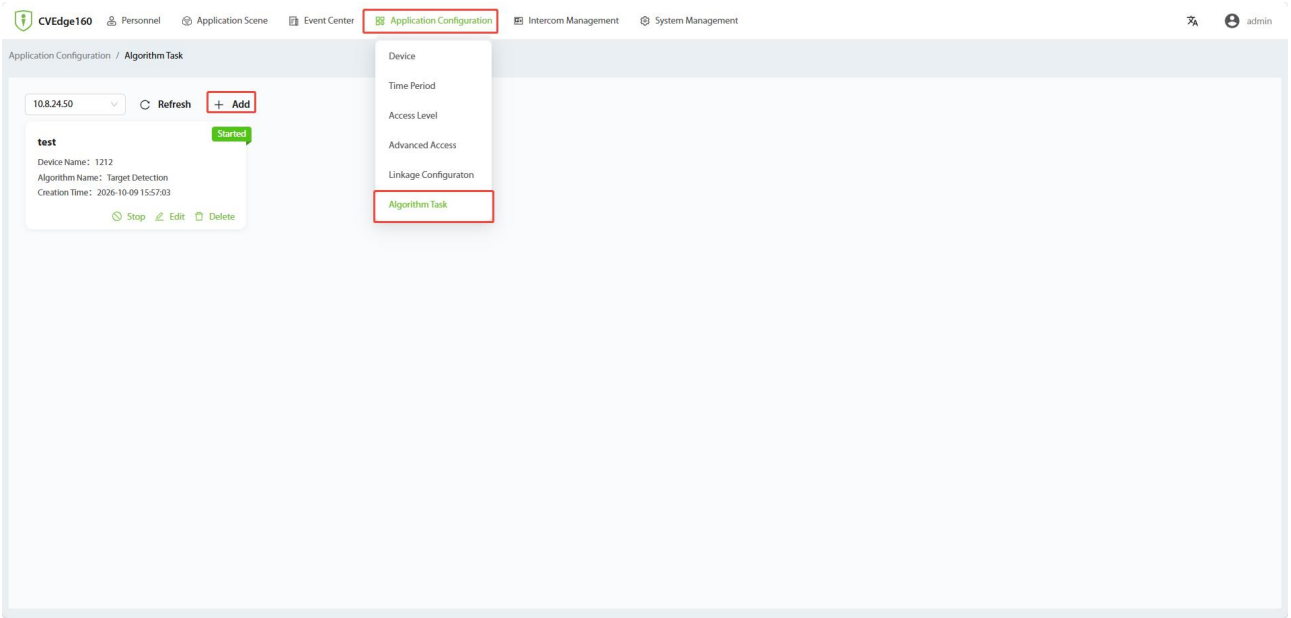
Live Alarm

The Live Alarm menu is located under “Smart Video Surveillance / Intelligence / Live Alarm”, as shown in the figure below. Alerts generated by algorithm tasks configured on CVEdge160 will be displayed synchronously in this menu.



- **Operation Steps:**

(1) Enter the backend by inputting the IP address of CVEdge160, navigate to the menu “Application Configuration / Algorithm Task”, and select Add New.



(2) Fill in Task Name, Channel, Time Period and Algorithm Task. After selection, click Next Step to configure specific algorithm parameters.

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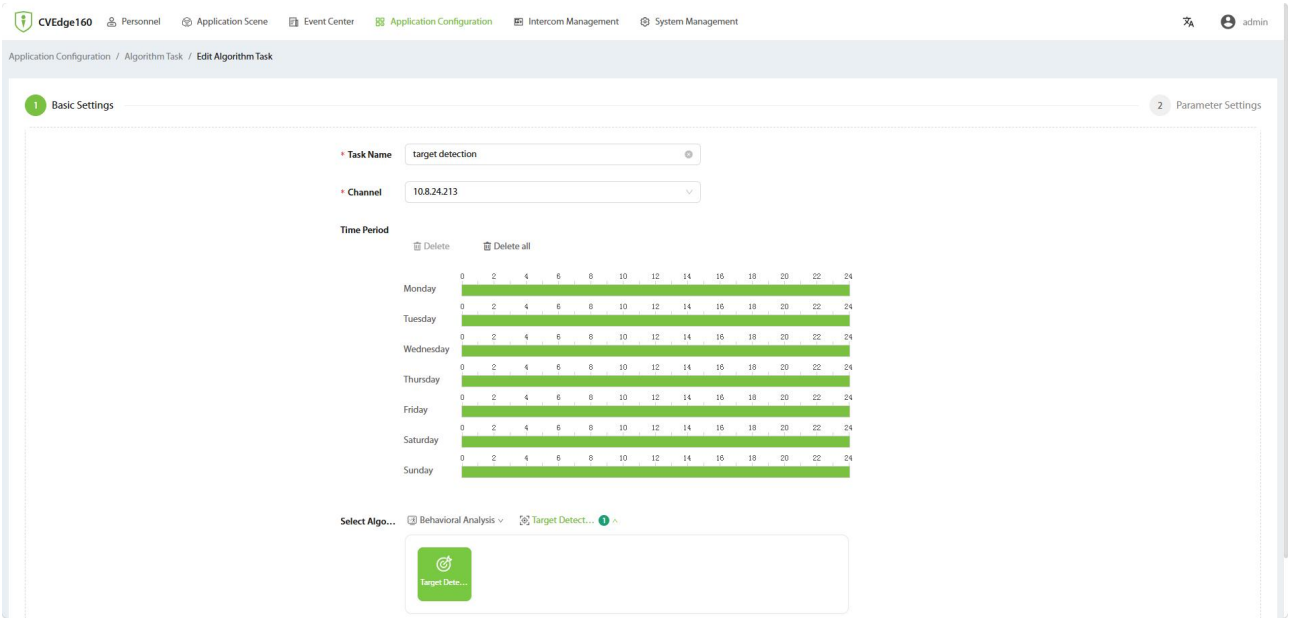
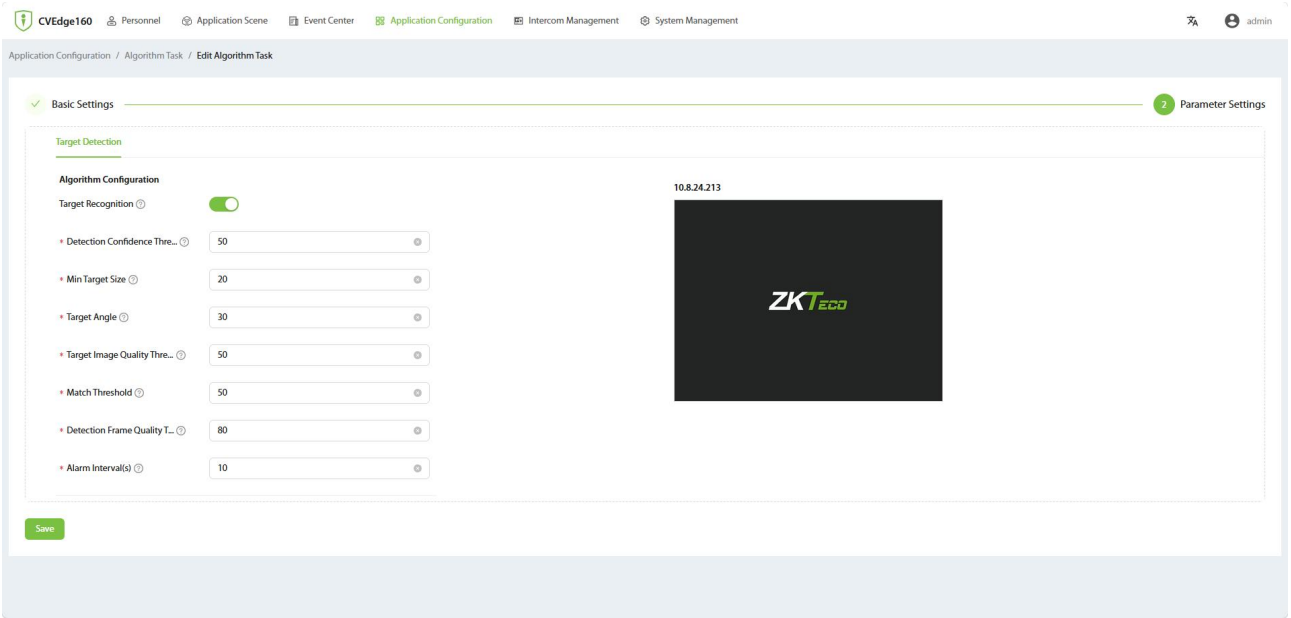
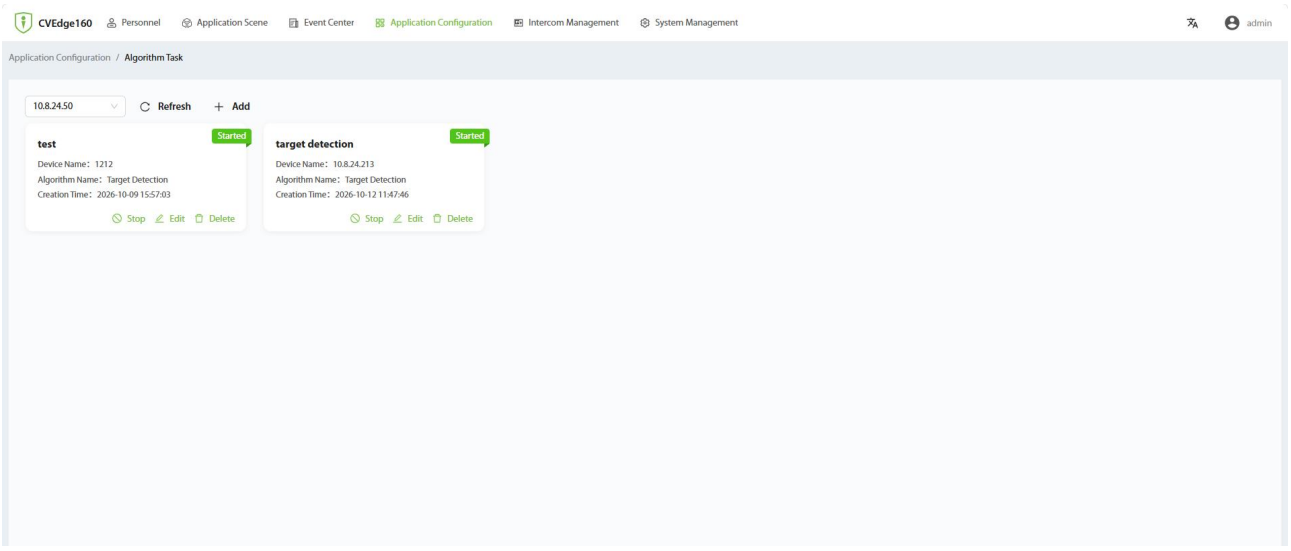


(3) Click Save after completing the entries to finish the configuration of the algorithm task.





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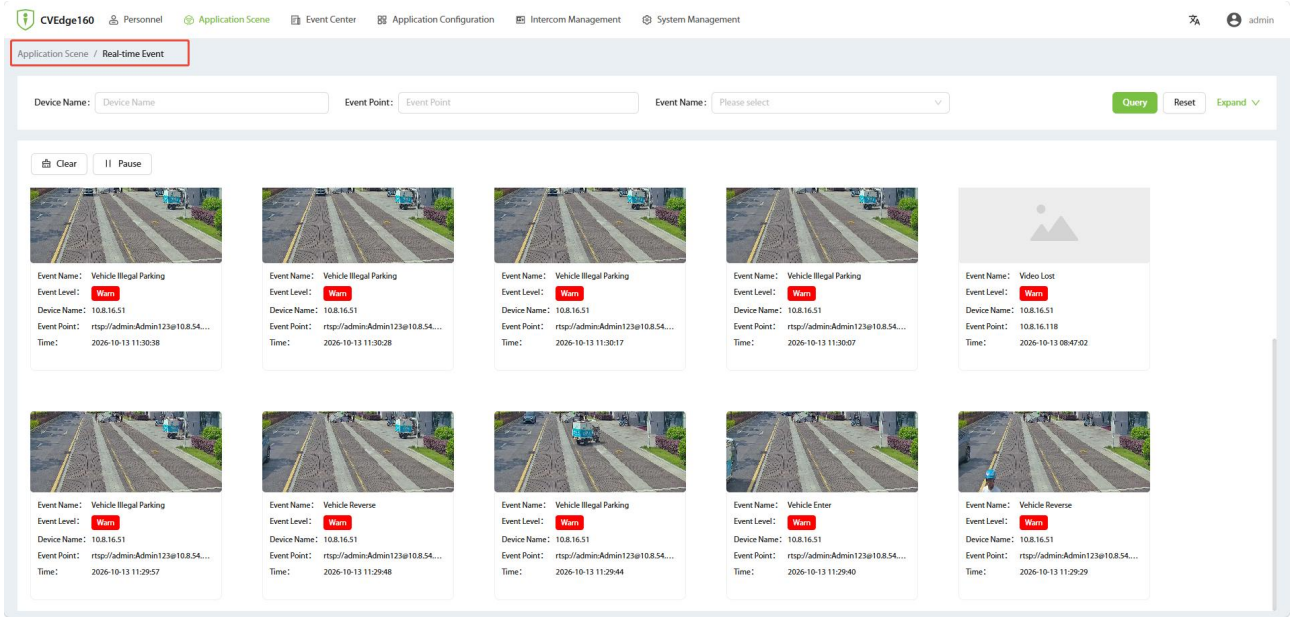
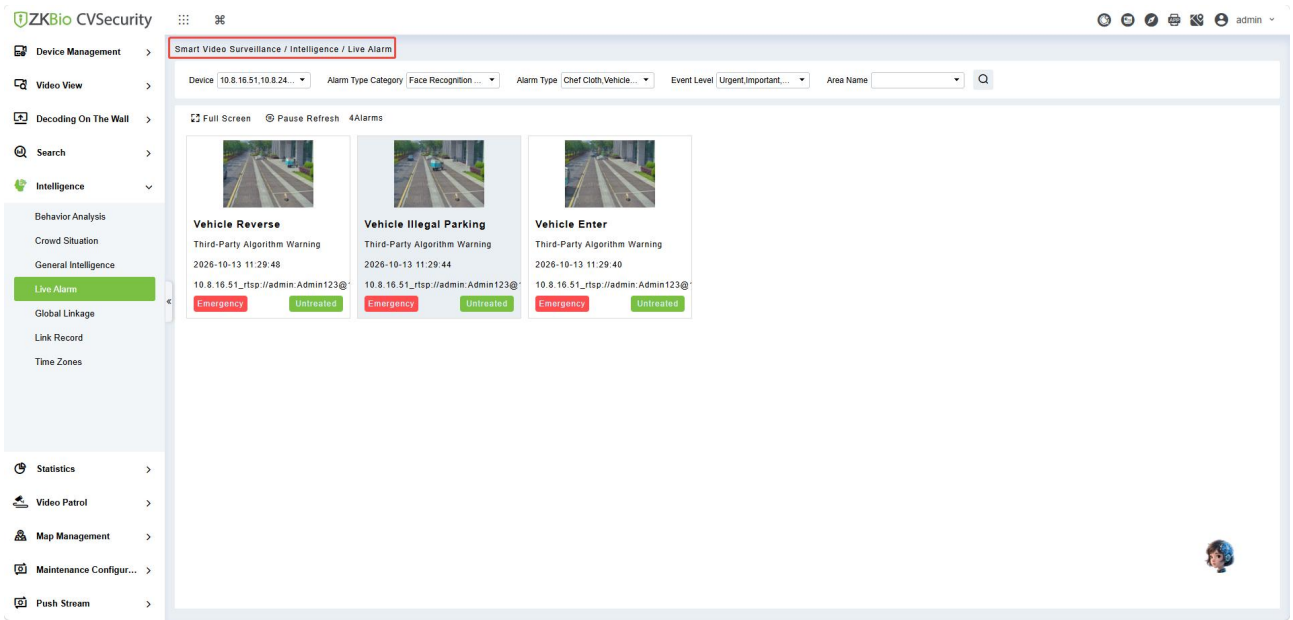
(4) Trigger an algorithm alert in the camera view. Real-time alert events can be viewed under the menu "Application Scene / Real-time Event" on the WebServer.



Real-time events can also be viewed in the menu "Smart Video Surveillance / Intelligence / Live Alarm" within the Smart Video Module of ZKBio CVSecurity.



Click the alert card to view alert details. You can view linked snapshots, play back recordings, download alert images, search for personnel movement traces, and acknowledge the alert.

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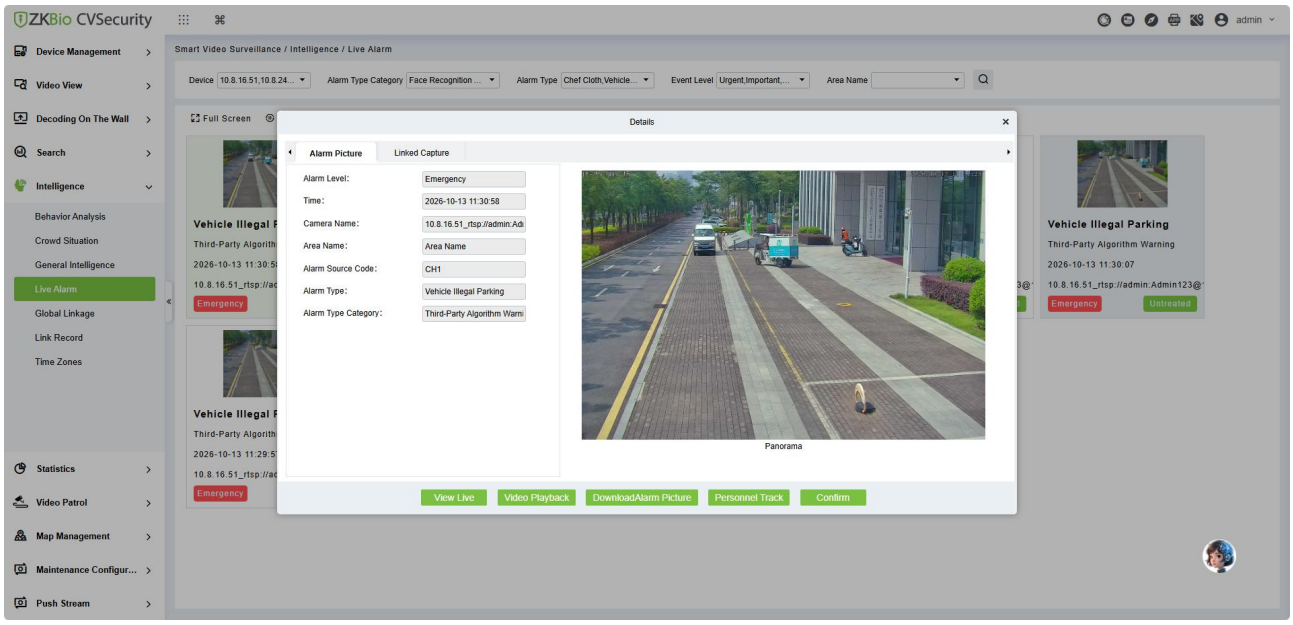
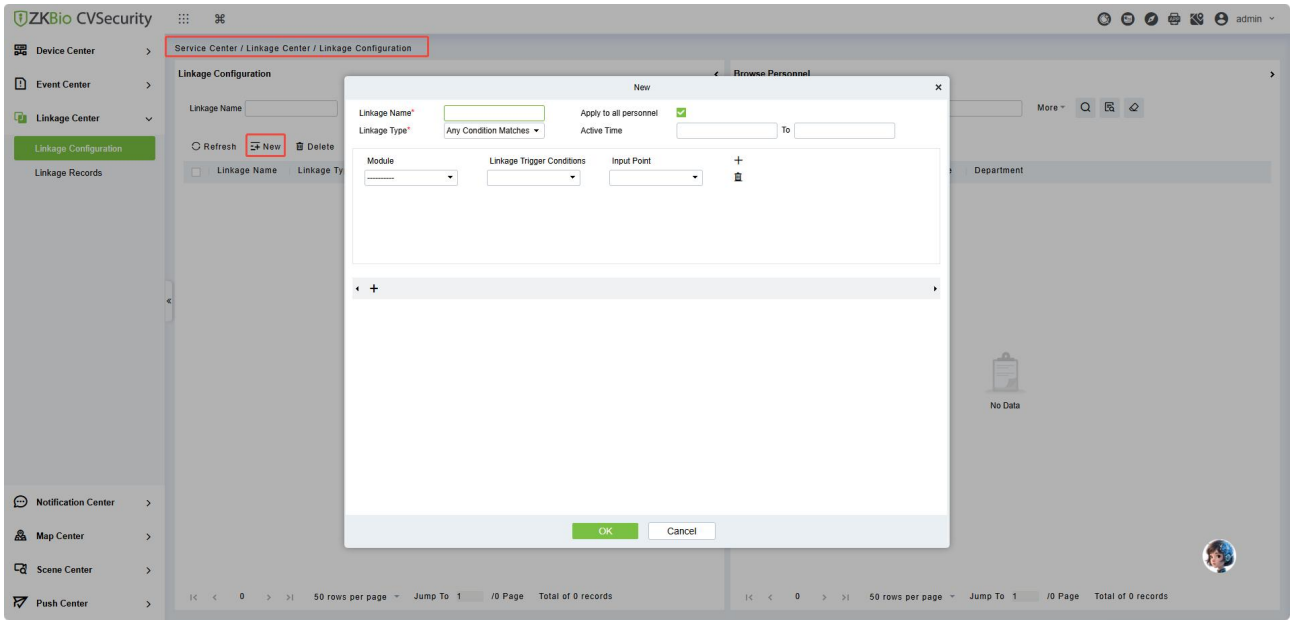


Linkage Center

Note: The global linkage function of the Smart Video Module (menu "Smart Video Surveillance / Intelligence / Global Linkage") does not support separate alert events for CVEdge160. Configure all alert linkage functions related to CVEdge160 in the Linkage Center.

- **Operation Steps:**

Navigate to the menu "Service Center / Linkage Center / Linkage Configuration", select Add New. Fill in the linkage configuration parameters and click OK to complete the linkage setup, as shown in the figure.



Click the "+" sign to set multiple linkage output conditions, see figure below. After selecting and highlighting the output condition in green, click OK to configure the output condition in detail.

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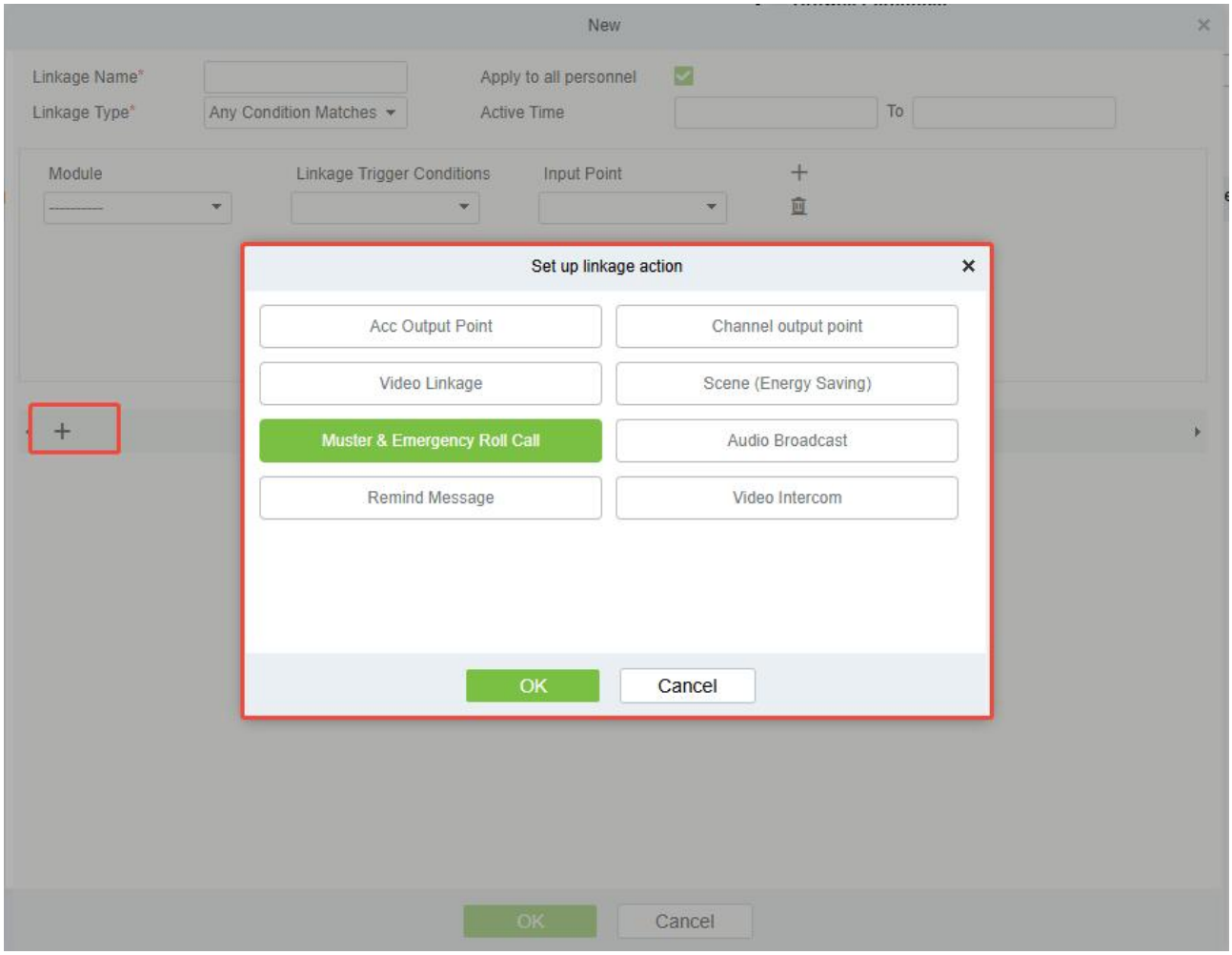
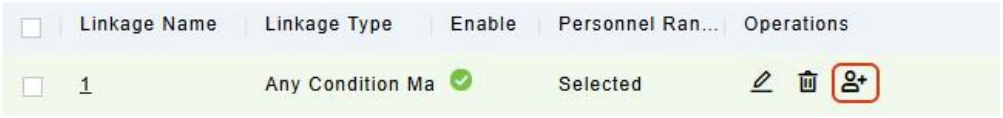
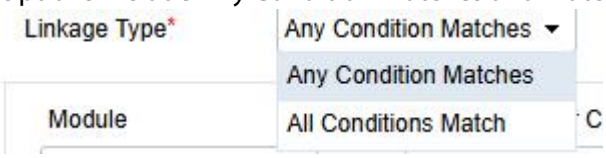


Parameter	Description
Linkage Name	User-defined
Applicable to All Personnel	Check or uncheck as needed. If the linkage shall apply only to selected personnel, uncheck this option. After finishing linkage configuration, click to select the authorized personnel. 
Linkage Type	Options include Any Condition Matches and Match Conditions Matches.  - Match Any Condition: When multiple trigger conditions are configured, the linkage output will be executed if at least one trigger condition is satisfied. - Match All Conditions: When multiple trigger conditions are configured, the linkage output will be executed only if all trigger conditions are met simultaneously.
Active Time	User-defined. After selection, the linkage takes effect only within the chosen time period.
Module	Select the module where events originate.

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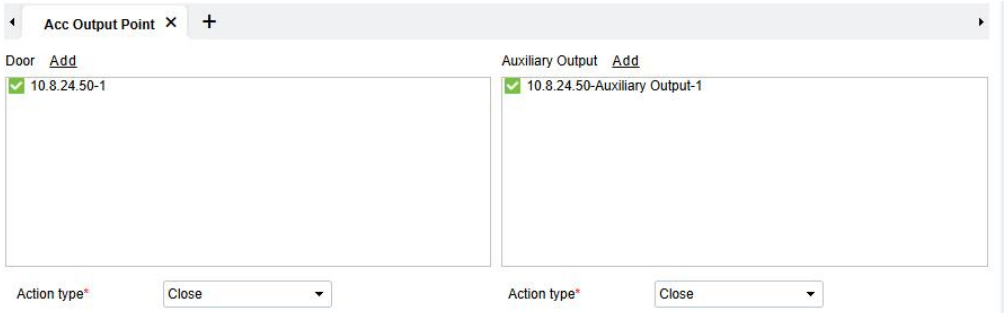
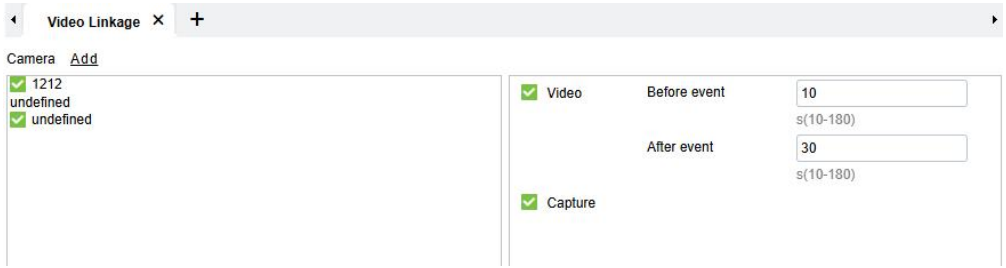
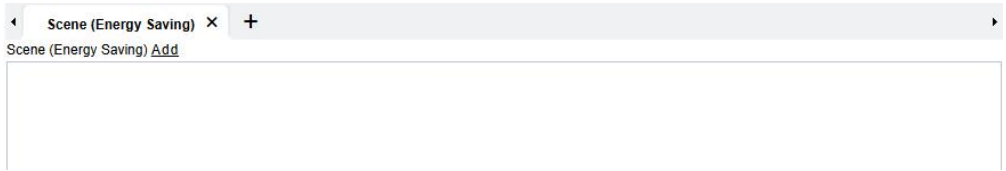
Parameter	Description
Linkage Trigger Conditions	Select one or more specific events as trigger conditions. The linkage will be triggered when any or all selected events occur. Click the "+" sign on the right side of the input field  to add multiple trigger conditions.
Input Point	Select different devices from the corresponding module as input points. The linkage will be triggered when an event matching the trigger condition occurs on the selected device (input point).
Access Control Output Point	Linkage action.  Select access control or auxiliary output devices as output points. When the linkage is triggered, the selected access control / auxiliary outputs will execute corresponding actions. Actions are configured under Action Type: Close, Open, Normally Open, Lock, Unlock.
Video Linkage	Linkage action.  Select camera devices as linkage output points. When the linkage is triggered, the selected cameras will execute corresponding actions. Actions are set in the right menu; you may configure the camera to record videos or capture snapshots.
Scene (Energy Saving)	Linkage action.  Select scenes from the Energy Management Module as linkage output points. When the linkage is triggered, the selected scene will run preset actions, such as turning on/off air conditioners and opening/closing curtains, which belong to functions of the Energy Management Module. [Prerequisite for Linkage] Scene properties must be pre-configured in the menu “Energy Saving / Scene Management / Scene Settings”.
Muster &	Linkage action.

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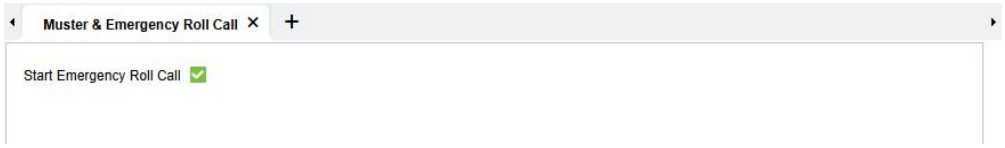
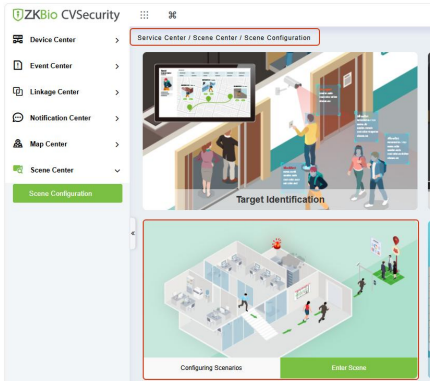
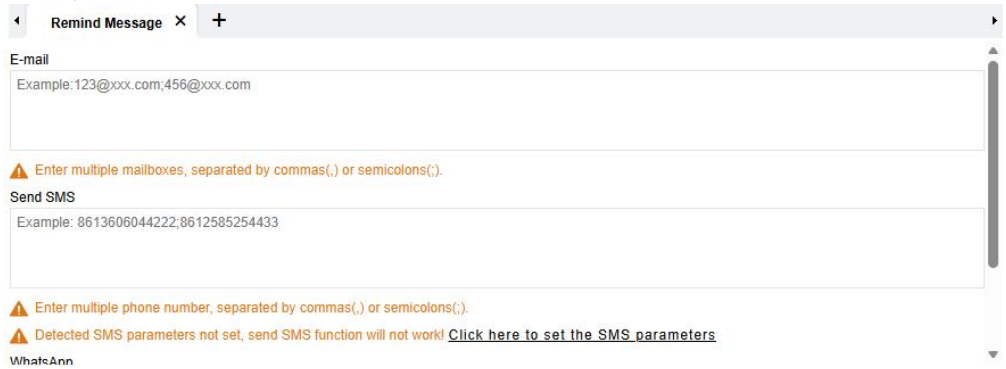
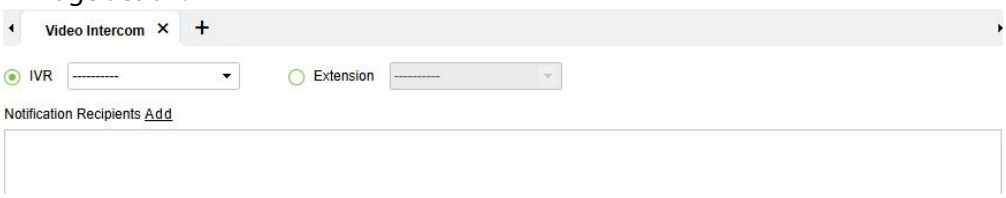
Parameter	Description
Emergency Roll call	 Check or uncheck to enable linkage for emergency evacuation points. [Prerequisite for Linkage] Emergency evacuation points must be pre-configured in the menu “Service Center / Scene Center / Scene Configuration”. 
Audio Broadcast	Linkage action.  Select broadcast tasks from the Public Address Module as linkage output points. When the linkage is triggered, the selected broadcast task will be executed. [Prerequisite for Linkage] Broadcast tasks, broadcast types and broadcast content must be pre-configured in the menu “Audio Broadcast / Linkage Task / Linkage Task”.
Remind Message	Linkage action.  Link with email for message alerts. When the linkage is triggered, email notifications will be sent.
Video Intercom	Linkage action.  Select IVR / extensions from the Video Intercom Module as linkage output points. When the linkage is triggered, the selected IVR or extension will be dialed for call alerts.

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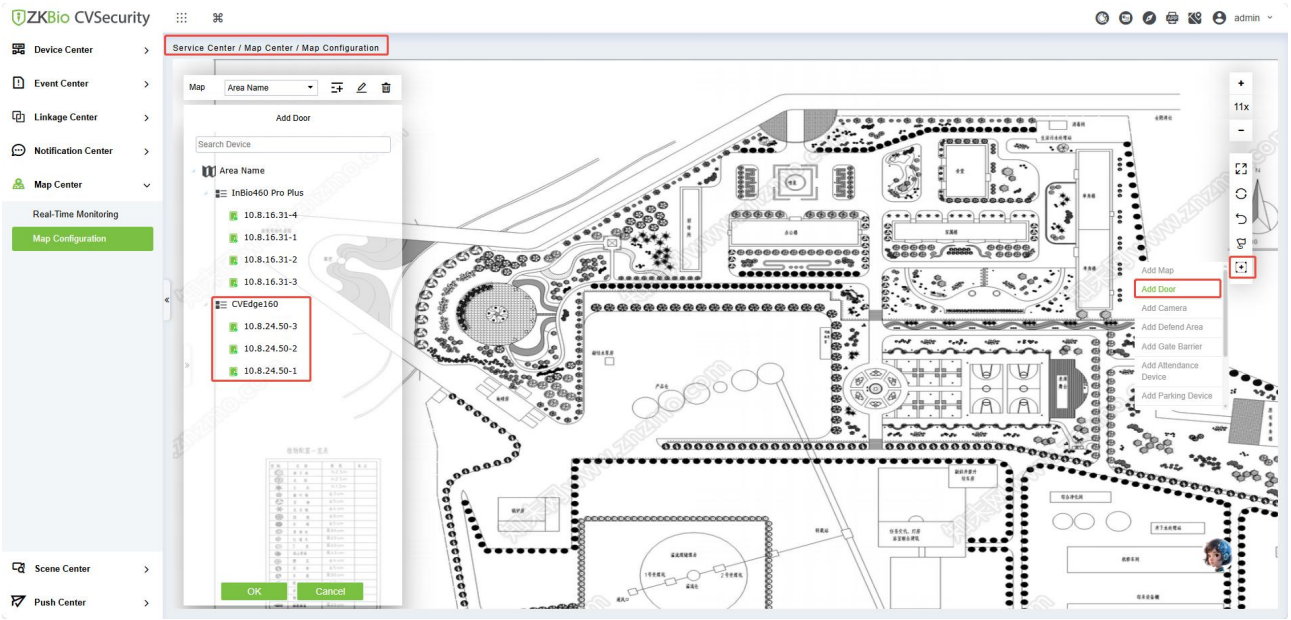
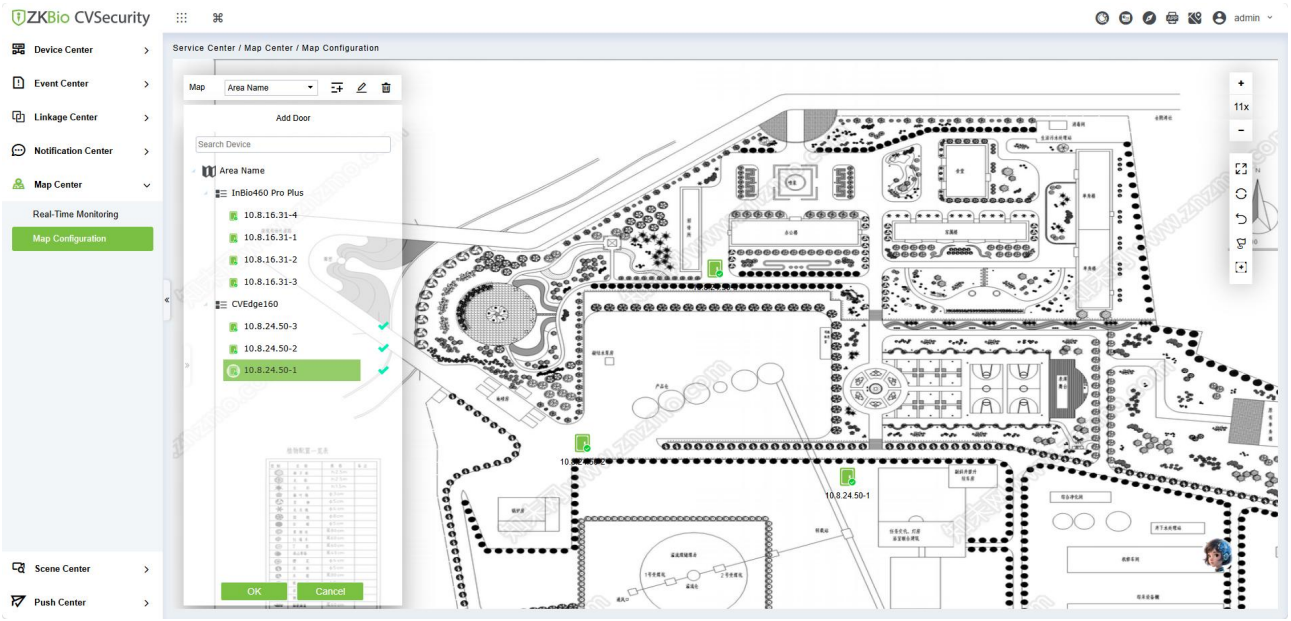
Map Center

CVEdge160 can be configured in the Map Center and managed together with other devices in one-stop mode. The specific steps are as follows:

Step 1: Configure CVEdge160 on the map Navigate to the menu “Service Center / Map Center / Map Configuration”. Click the icon on the right and select Add Door. Choose the CVEdge160 device and drag it to the corresponding position on the map. Adjust the device position using the icons on the right, then click OK to finish configuration.





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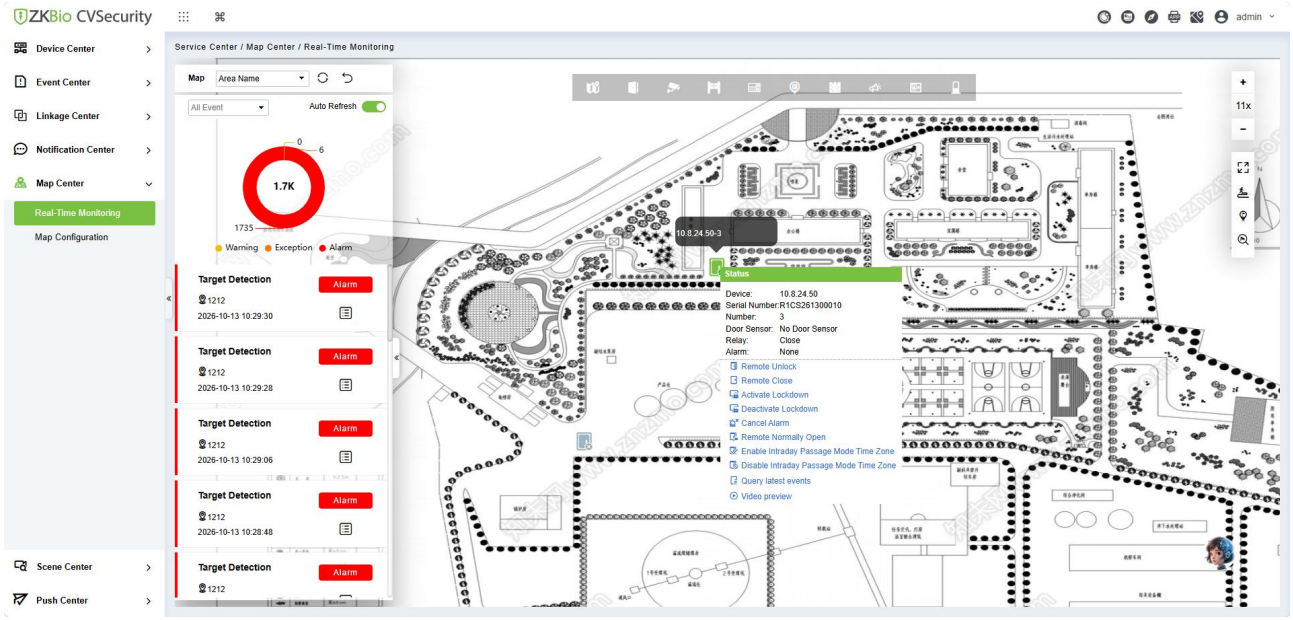
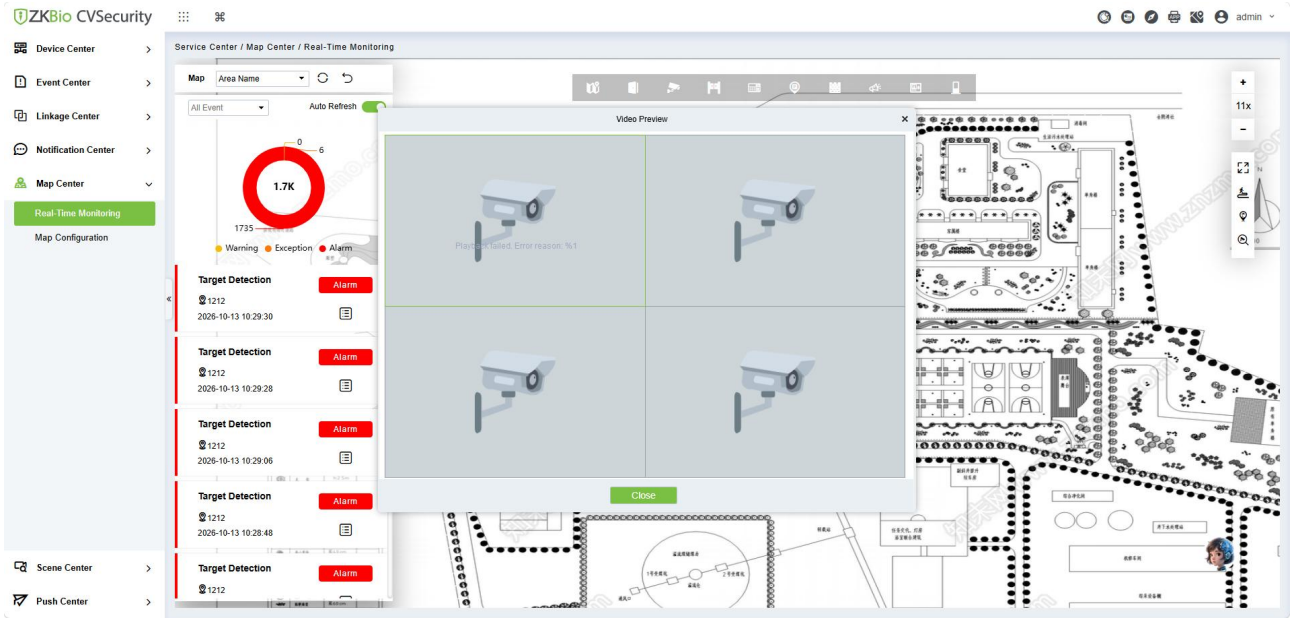
Step 2: Convenient management on the real-time monitoring page Navigate to the menu “Service Center / Map Center / Real-Time Monitoring”. Hover the mouse over the CVEdge160 device icon for quick operations as shown in the figure. Use the Video Preview function to preview the 4 video channels bound to CVEdge160.





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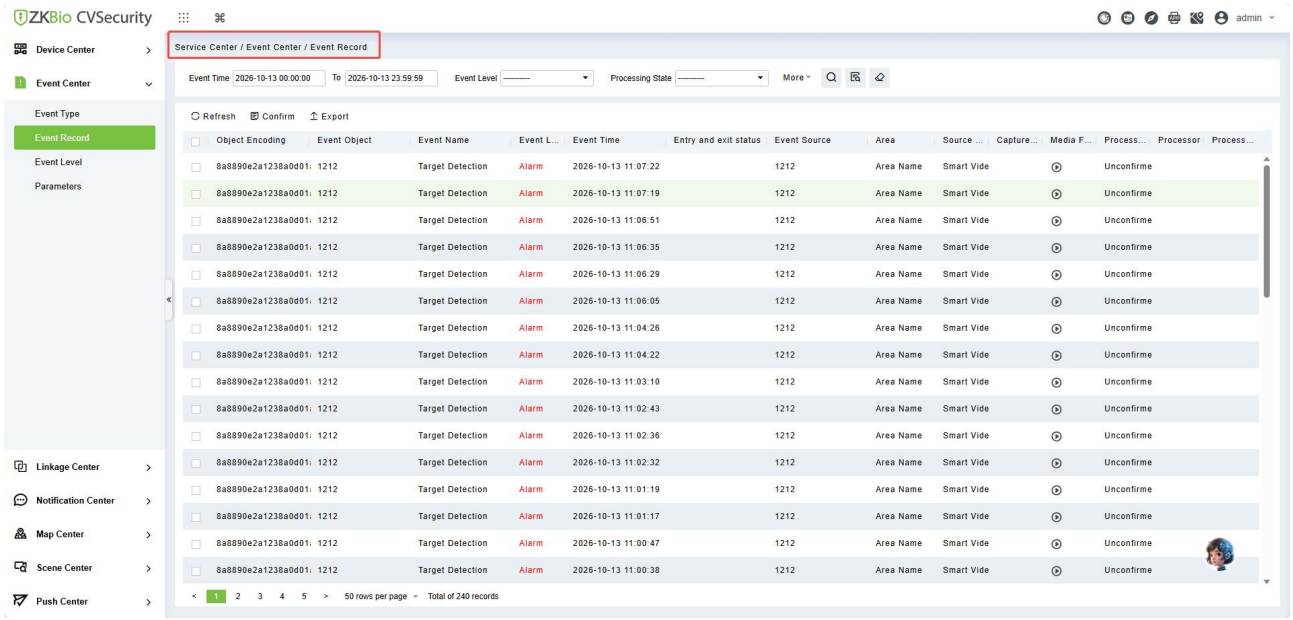
Event Center

View all smart video alert records along with associated snapshots and playback data under the menu "Service Center / Event Center / Event Record" of ZKBio CVSecurity.



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