Network Camera User Manual

Manual Version: V3.00

Thank you for your purchase. If you have any questions, please do not hesitate to contact your dealer.

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Safety Instructions

CAUTION!
The default password is intended only for your first login. For security, we strongly recommend you set a strong password of at least 9 characters comprising digits, letters, and special characters.

Be sure to read this manual carefully before use and strictly comply with this manual during operation.

The illustrations in this manual are for reference only and may vary depending on the version or model. The screenshots in this manual may have been customized to meet specific requirements and user preferences. As a result, some of the examples and functions featured may differ from those displayed on your monitor.

- This manual is intended for multiple product models, and the photos, illustrations, descriptions, etc, in this manual may be different from the actual appearances, functions, features, etc, of the product.
- Uniview reserves the right to change any information in this manual without any prior notice or indication.
- Due to uncertainties such as physical environment, discrepancy may exist between the actual values and reference values provided in this manual. The ultimate right to interpretation resides in our company.
- Users are fully responsible for the damages and losses that arise due to improper operations.

Environmental Protection

This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

Safety Symbols

The symbols in the following table may be found in this manual. Carefully follow the instructions indicated by the symbols to avoid hazardous situations and use the product properly.

Symbol	Description
WARNING!	Indicates a hazardous situation which, if not avoided, could result in bodily injury or death.
CAUTION!	Indicates a situation which, if not avoided, could result in damage, data loss or malfunction to product.
NOTE!	Indicates useful or supplemental information about the use of product.

Contents

Disclaimer i

Safety Instructions i

Environmental Protection i

Safety Symbols i

1 Login 1

1.1 Preparation 1

1.2 Login 2

2 Live View 4

2.1 Live View 4

2.1.1 Digital Zoom 7

2.1.2 Capture 7

2.1.3 5ePTZ 8

2.2 PTZ Control 8

2.2.1 3D Positioning 10

2.2.2 Area Focus 10

2.2.3 Preset 11

2.2.4 Patrol 11

3 Playback 18

3.1 Playback Toolbar 18

3.2 Search and Play Recordings 19

3.3 Download Recordings 19

4 Photo 21

5 Setup 22

5.1 Local Parameters 22

5.2 Network 23

5.2.1 Ethernet 23

5.2.2 Port 25

5.2.3 E-mail 27

5.2.4 EZCloud 29

5.2.5 DNS 30

5.2.6 DDNS 30

5.2.7 SNMP 31

5.2.8 802.1x 33

5.2.9 QoS 33

5.2.10 WebSocket 34

5.3 Video & Audio 34
5.3.1 Video 35
5.3.2 Snapshot 36
5.3.3 Audio 38
5.3.4 ROI 39
5.3.5 View Cropping 40
5.3.6 Media Stream 41
5.4 PTZ 43
5.4.1 Basic PTZ Settings 43
5.4.2 Home Position 44
5.4.3 Pan/Tilt Limit 44
5.4.4 Remote PTZ Control 45
5.4.5 Preset Snapshot and Patrol Resumption 46
5.4.6 Orientation Calibration 46
5.5 Image 47
5.5.1 Image 47
5.5.2 OSD 59
5.5.3 Privacy Mask 63
5.5.4 Quick Focus 64
5.6 Smart 65
5.6.1 Alarm-triggered Actions 66
5.6.2 Arming Schedule 67
5.6.3 Cross Line Detection 68
5.6.4 Enter Area Detection 70
5.6.5 Leave Area Detection 71
5.6.6 Intrusion Detection 73
5.6.7 Object Removed Detection 75
5.6.8 Object Left Behind Detection 76
5.6.9 Defocus Detection 77
5.6.10 Scene Change Detection 77
5.6.11 Face Detection 78
5.6.12 Face Recognition 81
5.6.13 Human Body Detection 83
5.6.14 Mixed-Traffic Detection 84
5.6.15 People Flow Counting 86
5.6.16 Crowd Density Monitoring 88
5.6.17 Auto Tracking 90

5.6.18 Smoke and Fire Detection 91
5.6.19 Fire Detection 94
5.6.20 Attribute Collection 95
5.6.21 Advanced Settings 96
5.7 Alarm 97
5.7.1 Common Alarm 98
5.7.2 One-key Disarming 106
5.8 Storage 106
5.8.1 Memory Card 107
5.8.2 Network Disk 108
5.8.3 FTP 109
5.9 Security 111
5.9.1 User 111
5.9.2 HTTPS 114
5.9.3 Authentication 116
5.9.4 Registration Information 116
5.9.5 ARP Protection 116
5.9.6 IP Address Filtering 117
5.9.7 Access Policy 117
5.9.8 Watermark 119
5.9.9 WebSockets 119
5.10 System 119
5.10.1 Time 119
5.10.2 DST 120
5.10.3 Server 121
5.10.4 Device Information 123
5.10.5 Ports & External Devices 123
5.10.6 Maintenance 127
5.10.7 Logs 130

1 Login

1.1 Preparation

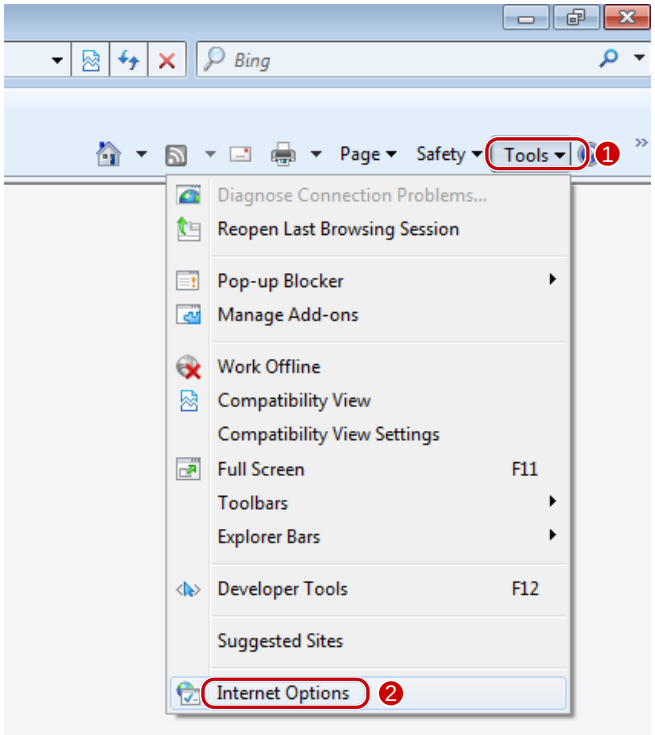
Refer to the camera's quick guide to install it properly, and then connect power to start up it. You can log in to the camera's web interface to perform management or maintenance operations.

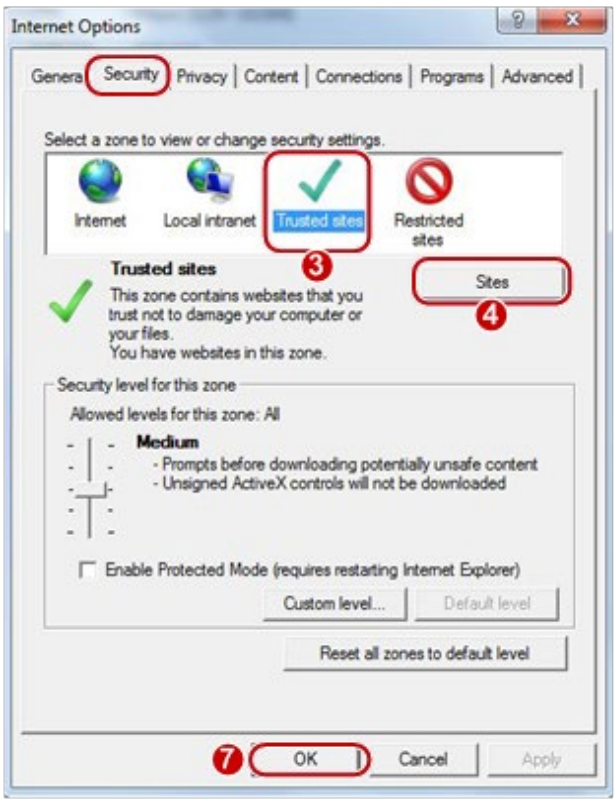
The following takes IE on a Windows 7.0 operating system as an example.

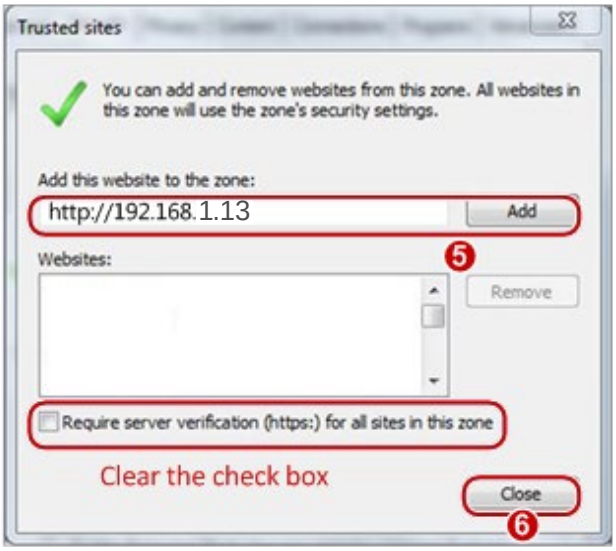
1. Check before l ogin

- The camera runs normally.
- The PC has a network connection to the camera.
- A web browser has been installed on the PC. Microsoft Internet Explorer 10.0 or later is recommended.
- For optimal display, it is recommended to choose a monitor with the highest resolution of the camera.

NOTE!
Recommended PC specifications for 32MP live view: CPU: Intel® Core™ i7 8700; Graphics card: GTX 1080; RAM: DDR4 8GB or higher.

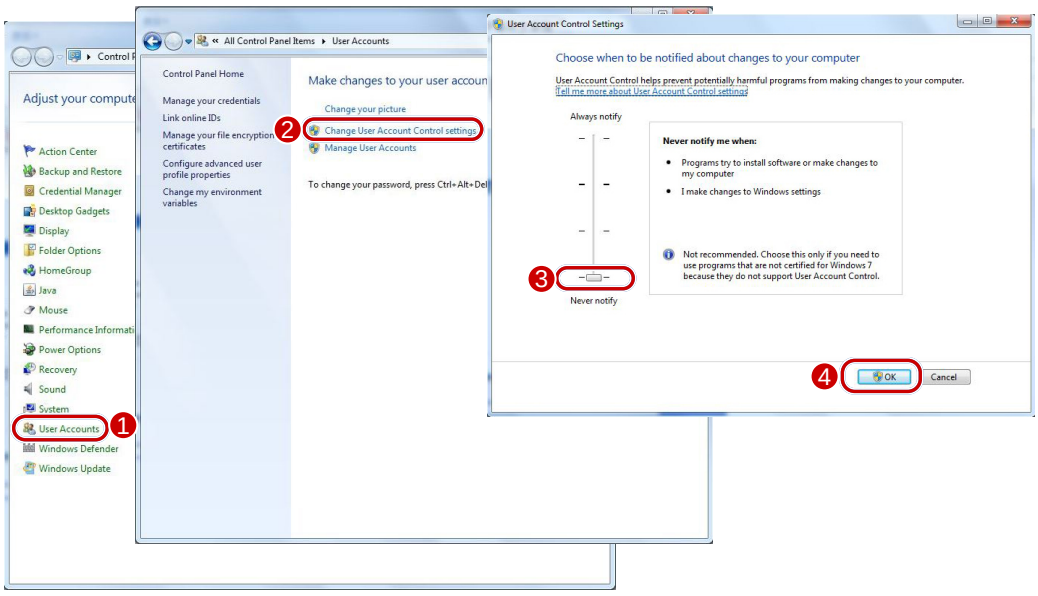






3. (Optional) Change user account control settings

Before you access the camera, it's recommended to set User Account Control to Never notify as shown below.



1.2 Login

The default static IP address of the camera is 192.168.1.13, and the default subnet mask is 255.255.255.0.

DHCP is enabled by default on the camera. If a DHCP server is deployed in the network, the camera may be assigned an IP address, and you need to use the assigned IP address to log in.

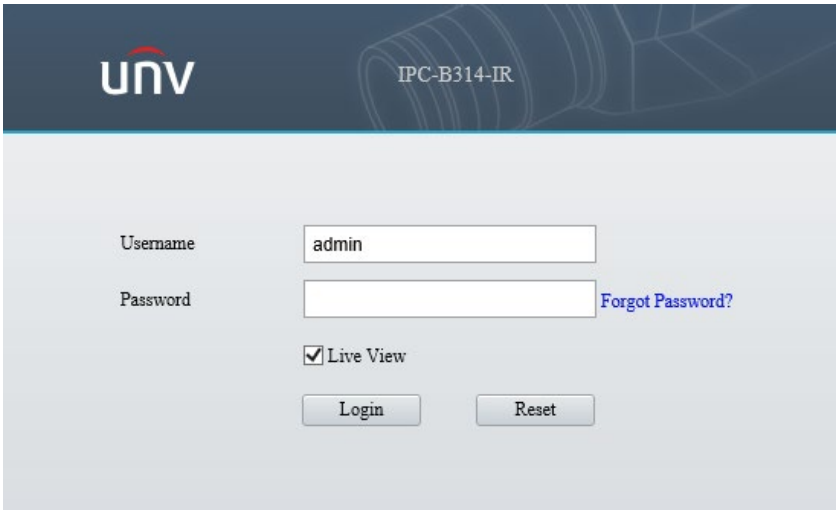
Follow the steps below to log in to the camera's web interface (take IE10 as an example):

Open IE, enter the IP address of your camera in the address bar and press Enter .

At your first login, you need to follow the on-screen instructions to install a plug-in (close all browsers before installation), and then open the browser again to log in. To manually load the plug-in, type http://IP address/ActiveX/Setup.exe in the address bar and press Enter .

Set whether to start live view automatically after login.

- With Live View selected, live view will start automatically after login.
- With Live View not selected, you need to start live view manually.



After first login, the Change Password dialog box appears, in which you must set a strong password and enter your email address in case of password retrieval.

(1) Set a strong password of 9 to 32 characters including all three elements: digits, letters, and special characters.

(2) Enter your email address in case of password retrieval.

See User for more information.

If you forgot your password, click Forgot Password in the login page, then follow the on-screen instructions to reset your password.

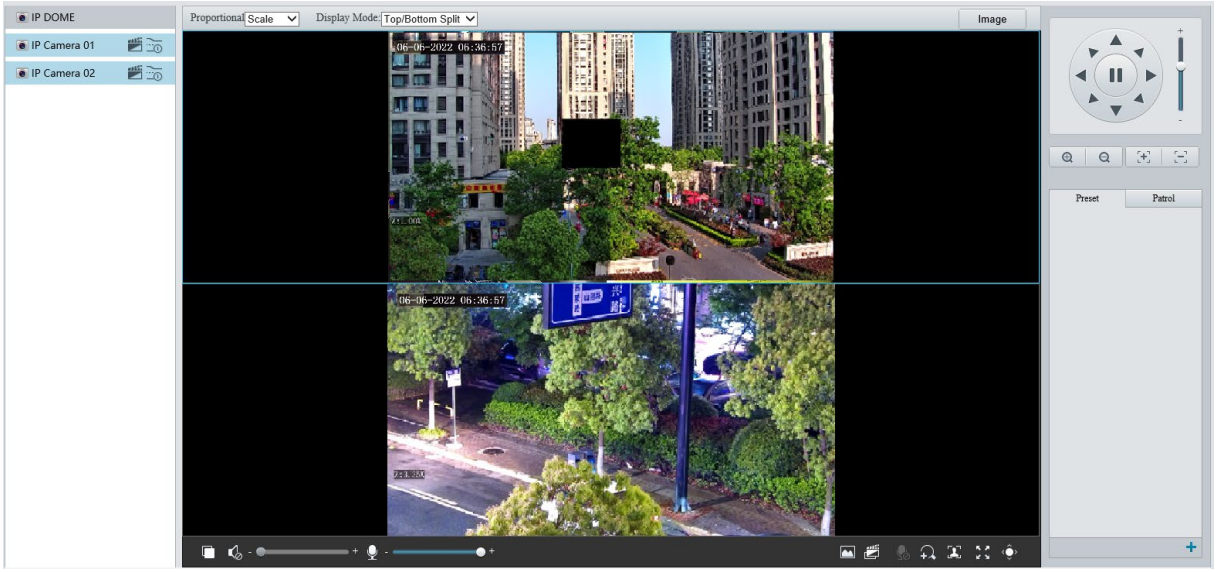
2 Live View

2.1 Live View

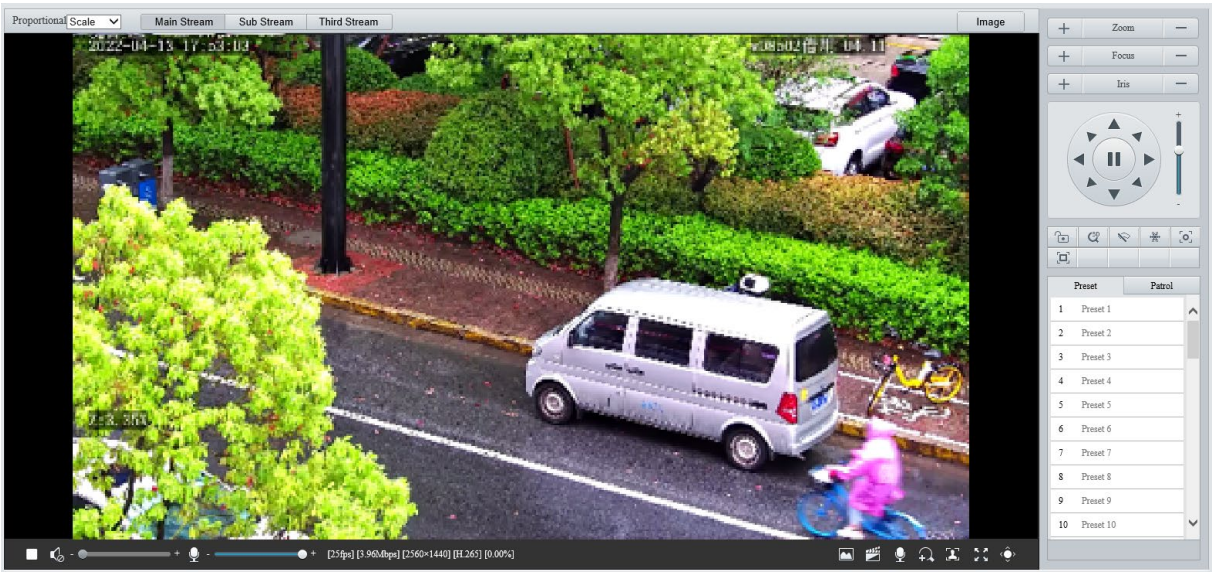
The page shows the live video from the camera.

You may double-click the window to enter or exit full screen mode.

Live view page of dual-channel camera

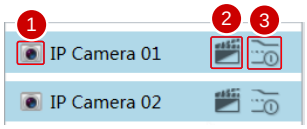


Live view page of single-channel camera



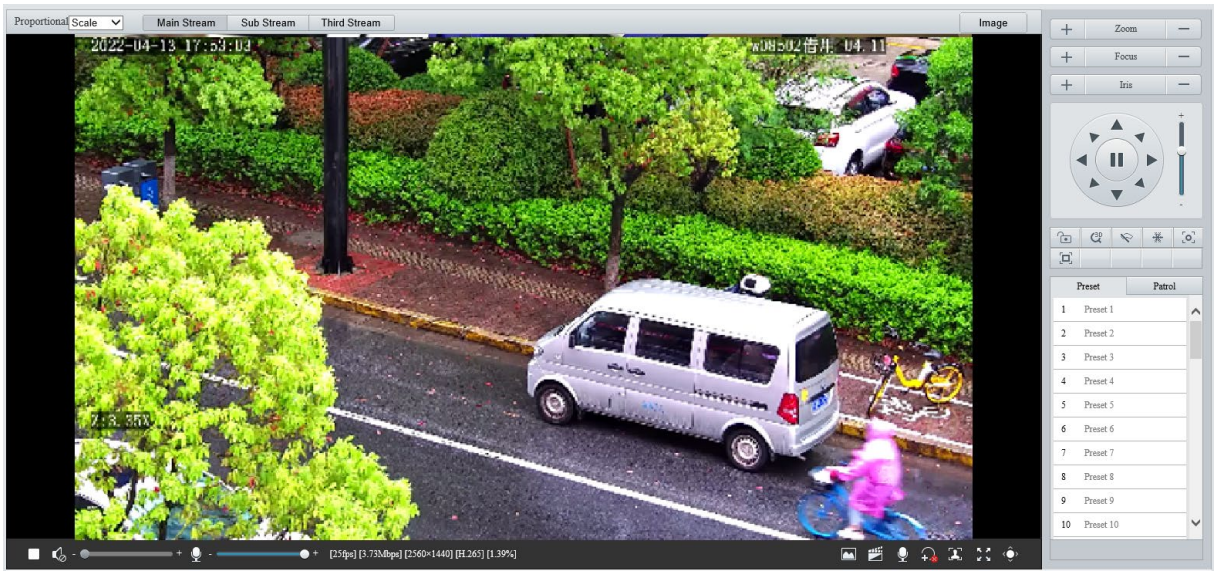
NOTE!
Live view operations supported may vary with device model.

Live View Toolbar

Item	Description
	Set the image display ratio in the window. z Scale: Displays 16:9 images. z Stretch: Displays images according to the window size (stretch images to fit the window). z Original: Displays images with original size.
	Set the image display mode in the window. z Single Channel: Displays live video of a single channel. z Left/Right Split: Displays live video in left/right split mode. z Top/Bottom Split: Displays live video in top/bottom split mode. z Picture in Picture: Opens a floating live view window on top of the current window. NOTE! This function is only available on dual-channel cameras.
	1: Stop/start live view of the selected channel. 2: Start local recording. 3: Switch streams.
	Select a live video stream according to your camera.
	Set image parameters.
/	Start/stop live view.
/	Turn off/on sound.
	Adjust the output volume for the media player on the PC. Range: 1 to 100.
	Adjust the microphone volume on the PC during audio communication between the PC and the camera. Range: 1 to 100.
	Frame rate/bit rate/resolution/packet loss rate.
	Take a snapshot from the displayed live video. NOTE! See Local Parameters for the path of the saved snapshots.
/	Start/stop local recording. NOTE! z See Local Parameters for the path of the saved local recordings. z VLC media player is recommended for playing local recordings of 4K cameras.
/	Start/stop two-way audio.
/	Start/stop digital zoom. See Digital Zoom for details.
/	Start/stop capturing. See Snapshot for details.
	Full screen.
	Show/hide PTZ control panel.

2.1.1 Digital Zoom

Click in the live view toolbar to enable digital zoom.



View the magnified area.

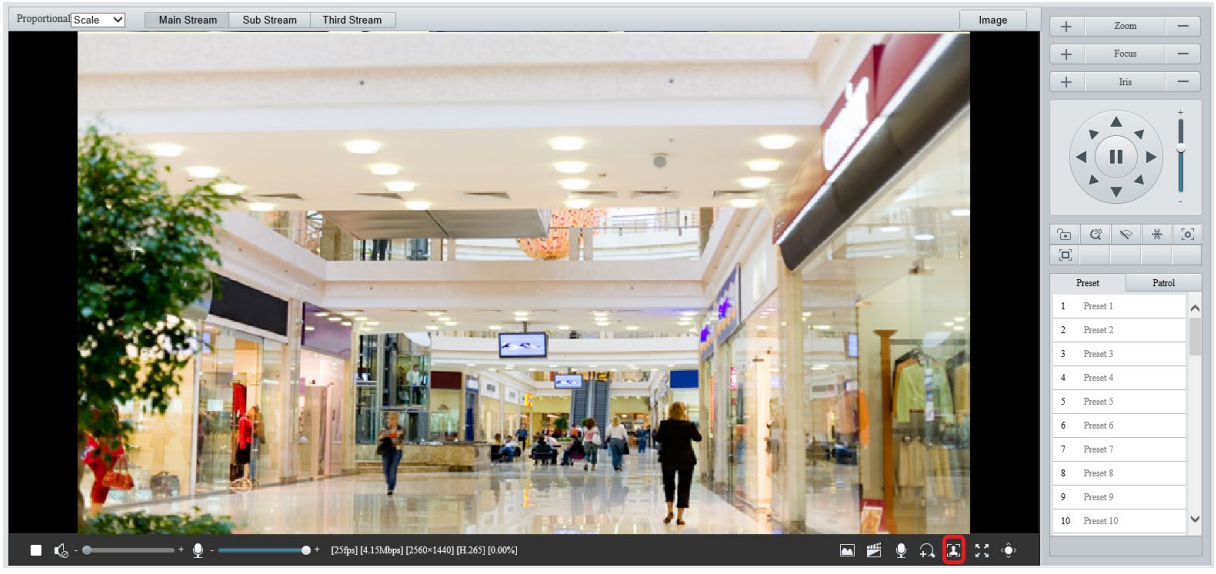
- Click in the live view window and roll the wheel to zoom in or out on the image. Drag your mouse to view all the magnified area. To restore, right-click in the window.
- Click in the live view window and drag your mouse to specify the area (rectangular area) to be magnified. Drag your mouse to view all the magnified area. To restore, right-click in the window.

To exit, click .

2.1.2 Capture

NOTE!
This function is only available on certain models.

Click in the live view toolbar to start capture.



View captured images.

- Click Open Image Folder to view the images captured from the live video on your PC. The images are saved in JPEG format.

  You can change the storage location in Setup > Common > Local Parameters. If the disk has less than 100MB free space, you will be prompted to clear up the auto snapshot folder, and new snapshots will not be displayed in the live view page until the disk space is freed.
- To delete all captured images, click Clear All Records.

To exit, click .

2.1.3 5ePTZ

Click in the live view toolbar to enable 5ePTZ tracking.

Set the tracking area. In 5ePTZ tracking mode, the live view window is divided into 1 panoramic window and 5 tracking windows. You may rest the cursor on the tracking boxes in the panoramic window or tracking windows and use the scroll wheel to zoom in or out, and drag the tracking windows to rearrange them.

Enable perimeter protection (see Smart), then the camera can automatically detect moving objects in the detection area, and simultaneously track and enlarge 5 objects that trigger the alarm rules until the objects disappear.

To exit, click .

2.2 PTZ Control

NOTE!

- This function is only available on PTZ cameras or cameras installed on PT mounts.
- Some lens control functions are available on cameras equipped with motorized lenses.
- The PTZ control buttons may vary with camera model.

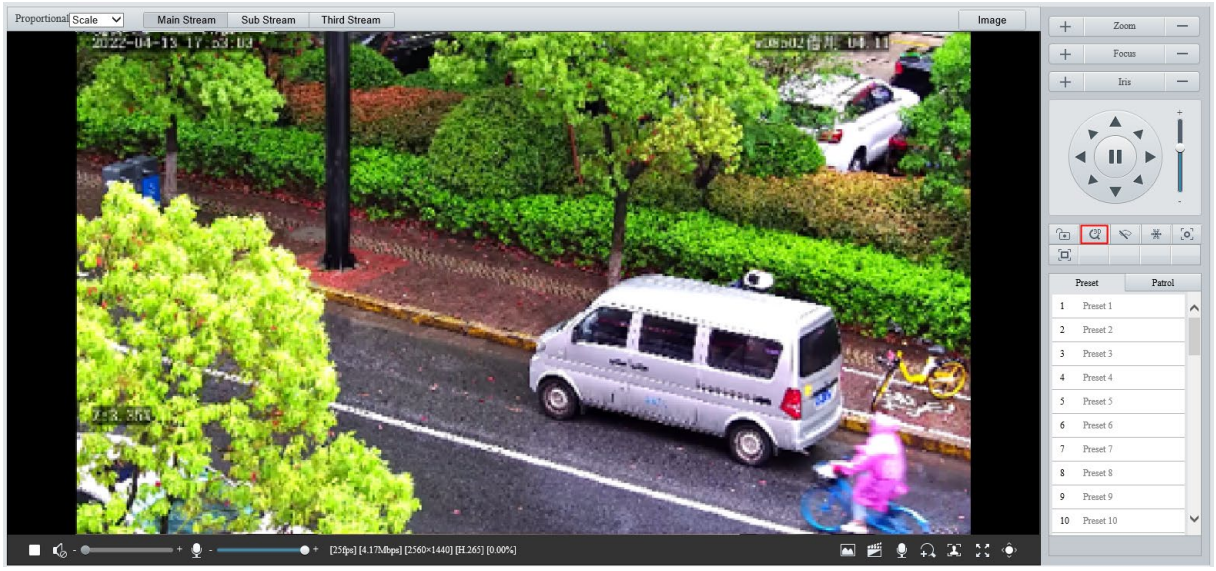
PTZ Control Panel

Item	Description
	Zoom in/out on images.
	Focus far/near for sharp images at a distance/at close range.
	Increase/reduce the amount of light that enters the camera for brighter/darker images.
	Scene lock, used for locking PTZ and lens. NOTE! After you lock the scene, the camera does not move, zoom and focus.
	3D positioning.
	One-click focus.
	Area focus.
/	Enable/disable wiper.
	Adjust the rotation speed of the camera.
	Adjust the rotation direction of the camera or stop rotation.
/	Enable/disable IR.
/	Enable/disable heater.
/	Enable/disable light.
/	Enable/disable snow removal.
	Adjust camera zoom.
	Auto back focus adjustment.
	Shortcut keys for PTZ control. After the mouse cursor changes to one of these shapes in live view, click and hold the left mouse button to operate the PTZ camera. NOTE! These buttons are unavailable when 3D positioning or digital zoom is enabled.
	Shortcut keys for zooming in or out in live view. Scroll the wheel forward to zoom in or backward to zoom out. NOTE! This function is only available on cameras with motorized lenses.

2.2.1 3D Positioning

NOTE!
This function is only available on dome cameras and box cameras with motorized lens and PTZ.

Click in the PTZ control panel to enable 3D positioning.

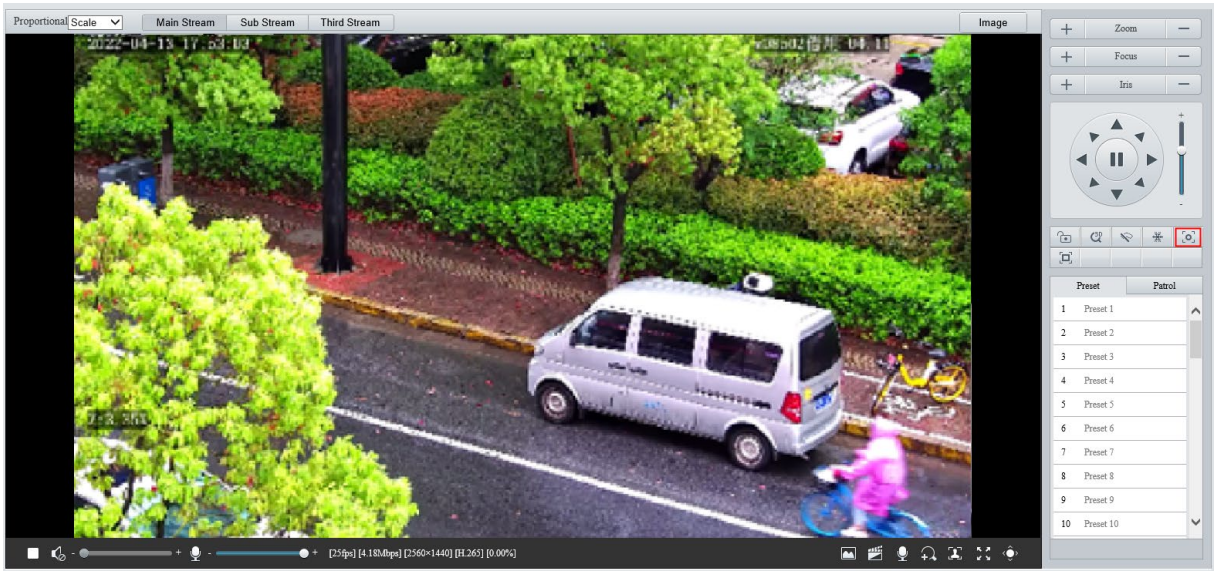


Click on the image and drag down/up to delineate a rectangular area to zoom in/out.

To exit, click 3D.

2.2.2 Area Focus

Click in the PTZ control panel to enable area focus.



Click on the image and drag to delineate a rectangular area to start auto focus in this area.

To exit, click .

2.2.3 Preset

A preset position (preset for short) is a saved view used to quickly steer the PTZ camera to a specific position.

On the PTZ control panel, click Preset.

- Add a preset

  Use the PTZ directional buttons to steer the camera to the desired position.

  Select a preset not in use and click to edit the preset name.

  Click to save.

- Call a preset

In the preset list, select the preset to call, and then click .

- Delete a preset

In the preset list, select the preset to delete, and then click .

2.2.4 Patrol

You can define a patrol route comprising several actions or presets or record a patrol route to allow the PTZ camera to automatically move along the route.

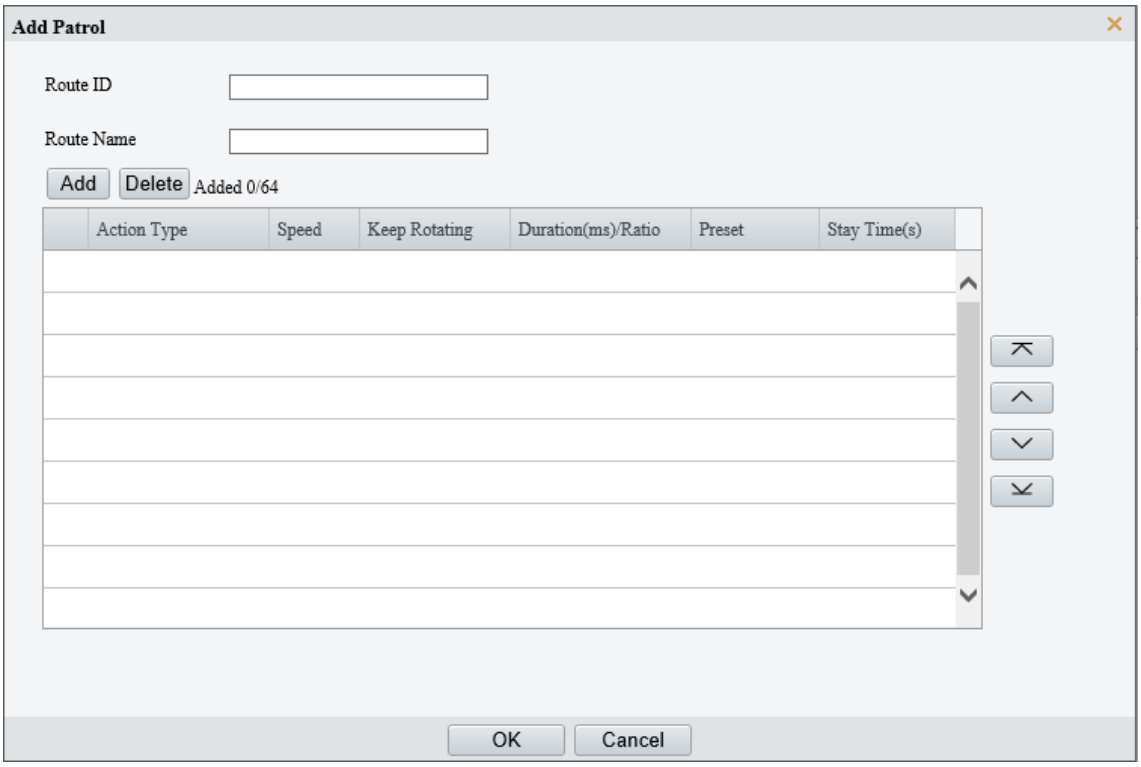
1. Add a patrol route

- Add a common patrol route

In a common patrol route, the PTZ camera performs linear motion between presets.

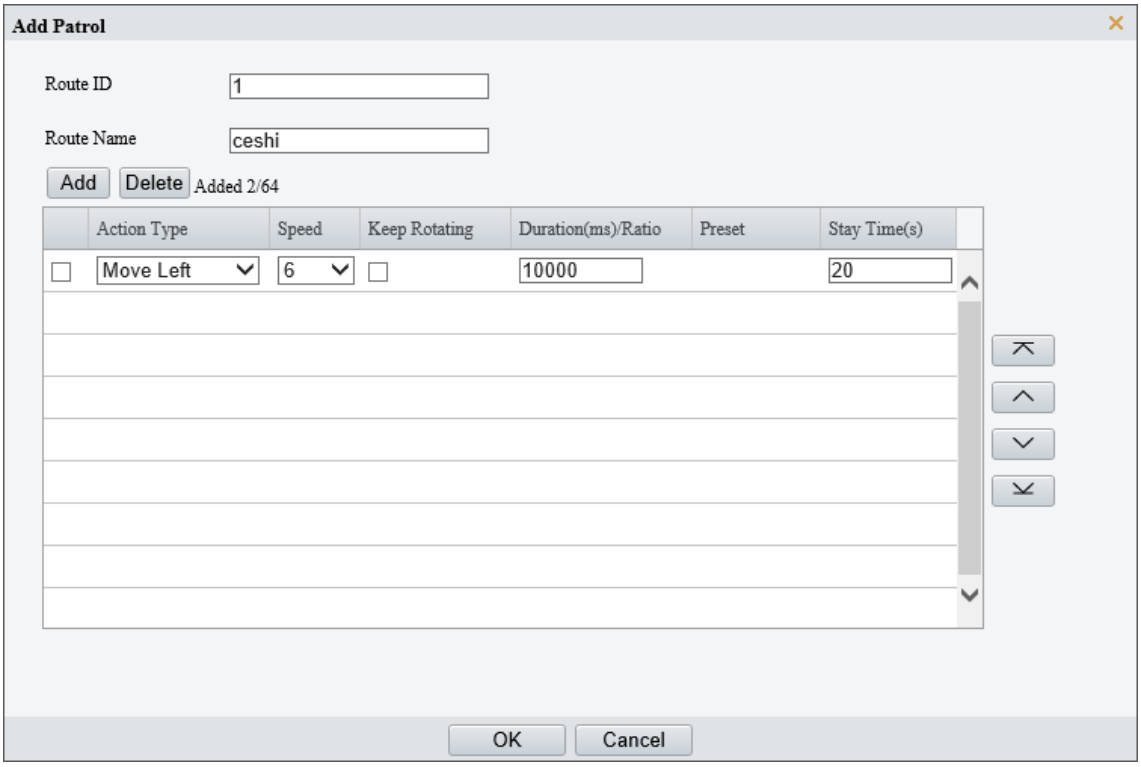
On the PTZ control panel, click Patrol .

Click .



Set the route ID and name. On certain models, you may need to set the Patrol Type to Commo n Patrol .

Click Add to add patrol actions.



Complete the action settings.

Item	Description
Action Type	10 options: Move Left , Move Right , Move Up , Move Down , Move Up Left , Move Up Right , Move Down Left , Move Down Right , Zoom , Goto Preset . Up to 64 actions are allowed. All action types except Goto Preset are recorded as 2 actions.You may use the up and down arrows to rearrange the patrol actions. NOTE! It is recommended to set the first action to Goto Preset .
Speed	Set how fast the camera performs the action. 1 means the slowest, 9 means the fastest.
Keep Rotating	When enabled, the camera repeats this action for patrol.
Duration(ms)/Ratio	Set the duration/zoom ratio for the action.
Preset	Select the preset you want the camera to go to.
Stay Time	Set the dwell time after the camera has performed the action. Range: 15s to 1800s.

Click OK.

Item	Description
	Start patrol.
	Edit patrol route.
	Delete patrol route.

- Add a scan patrol route

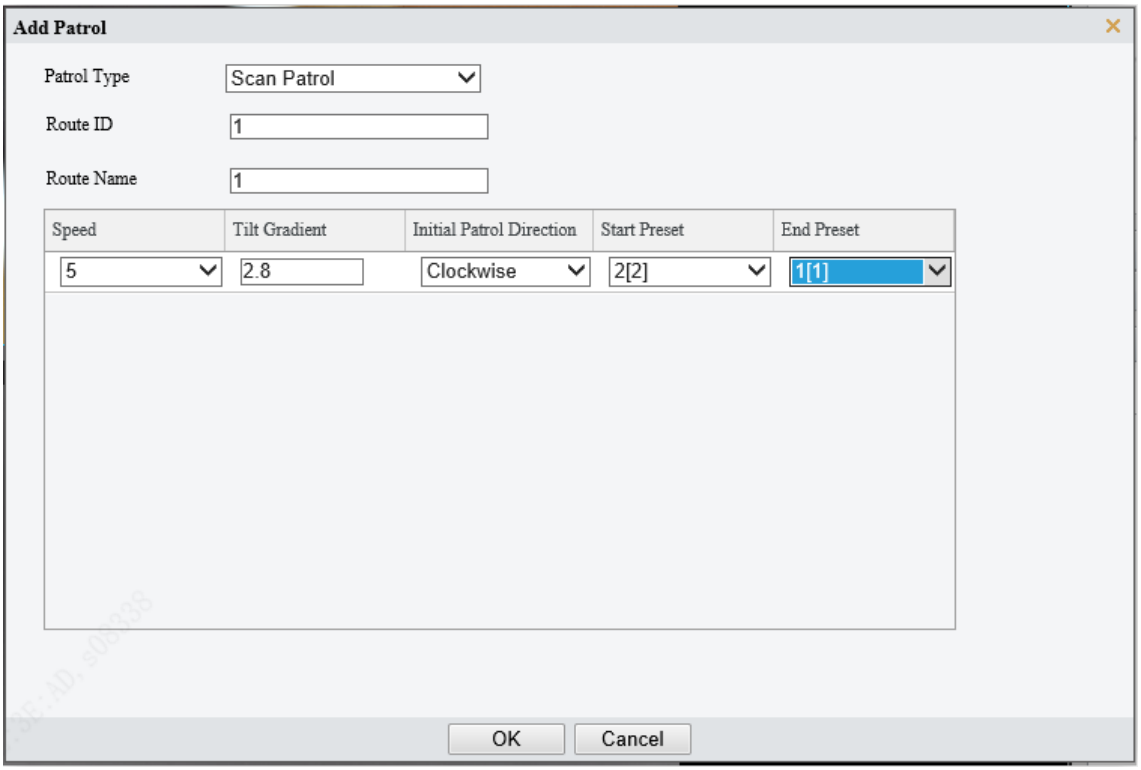
In a scan patrol route, the camera rotates from the start preset to the end preset in a specified gradient and direction.

NOTE!
This function is only available on certain models.

Before adding a scan patrol route, set presets first. See Preset for details.

On the PTZ control panel, click Patrol .

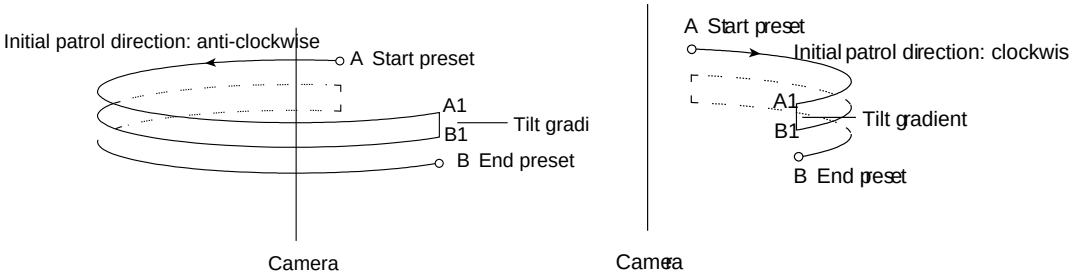
Click .



Set the patrol type to Scan Patrol .

Set the route ID and name.

Set the patrol parameters.



Item	Description
Speed	Set how fast the camera rotate. 1 means the slowest, 9 means the fastest.
Tilt Gradient	The average division value of the vertical distance between the start and end presets. The greater the value, the shorter the patrol route.
Initial Patrol Direction	The direction of the first rotation from the start preset to the end preset.
Start/End Preset	Select a preset from the drop-down list as the start/end preset. The start and end presets must be different.

z Record a patrol route

On the PTZ control panel, click Patrol .

Click to start recording. You can adjust the direction, rotation speed and zoom of the camera during recording. All movement data of the camera will be recorded.

Click to finish recording and the recording is saved as a patrol route automatically.

2. Call a patrol route

Manual calls take precedence over scheduled calls.

Auto tracking and trigger tracking is executed only within the duration that the camera stays at a position during common patrol.

- Call manually

1. On the PTZ control panel, click Patrol .

Select the patrol route to call and click to start patrol.

- Call by schedule

On the PTZ control panel, click Patrol .

Click .

Select the Enable Patrol Plan check box.

Select the patrol route to call and set a start time and an end time for it.

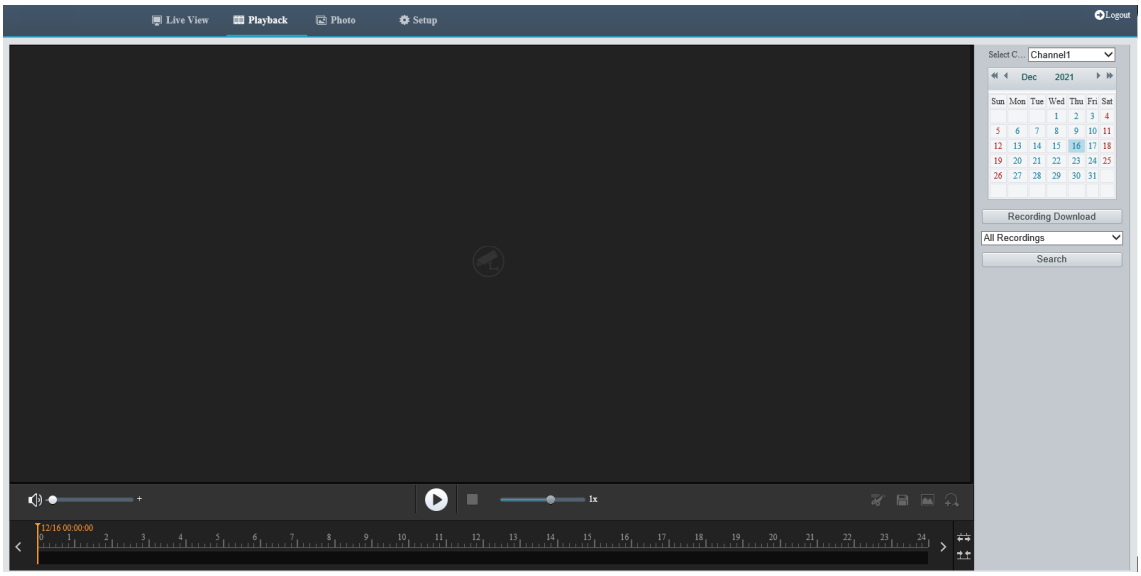
Click OK.

3 Playback

NOTE!

- Edge recordings refer to video recorded on storage media of cameras; local recordings refer to video recorded on a local PC.
- Before you search for edge recordings, make sure that the camera has storage resources such as memory card, and the storage parameters in Storage are properly configured.
- Recording playback and download functions are only available on certain models.
- For dual-channel devices, you can set playback parameters for the channels separately.

On the home page, click Playback .



3.1 Playback Toolbar

Button	Description
	Adjust sound volume. Range: 1 to 100.
	Start playback.
	Pause playback.
	Stop playback.
	Clip video.
	Save.
	Adjust playback speed. The default playback speed is 1x. Both rewind and forward are supported.
	Take a snapshot. The snapshots are saved locally by default. You can change the storage location in Local Parameters.
	Digital zoom. See Digital Zoom for details.
/	Zoom in/out on the time scale. You can also use the scroll wheel to zoom.
/	When the time scale is zoomed in, you can click or to view the previous or next section of the video.

	Playhead. Drag the playhead to skip to any point in the video.
	Playback bar. Blue: Normal recording. Red: Alarm recording. To view alarm recordings, you need to configure alarm-triggered recording. See Alarm-triggered Actions for details.

3.2 Search and Play Recordings

In case of a multi-channel camera, select the channel to search for recordings.

Select the date and recording type.

Click Search .

The search results are displayed. Double-click a result to play it back.

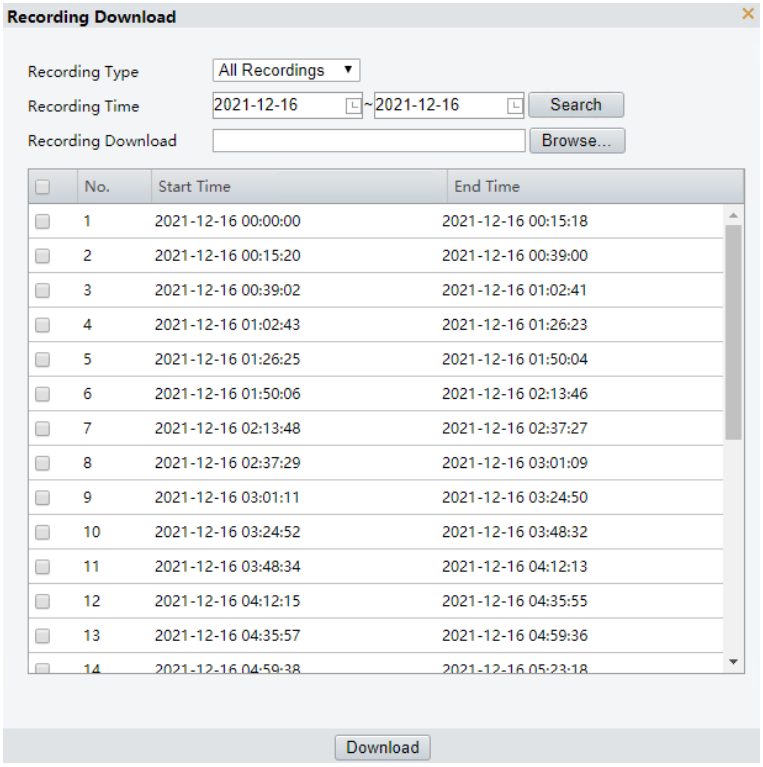
3.3 Download Recordings

You can download videos in batches or clip videos to download.

- Download in batches

  Click Recording Download .

  Select the recording type, set the start time and end time, and then click Search .



Click Browse … to set the path to the recordings.

Select the recordings to download and click Download .

z Download video clips

Search for the video to clip.

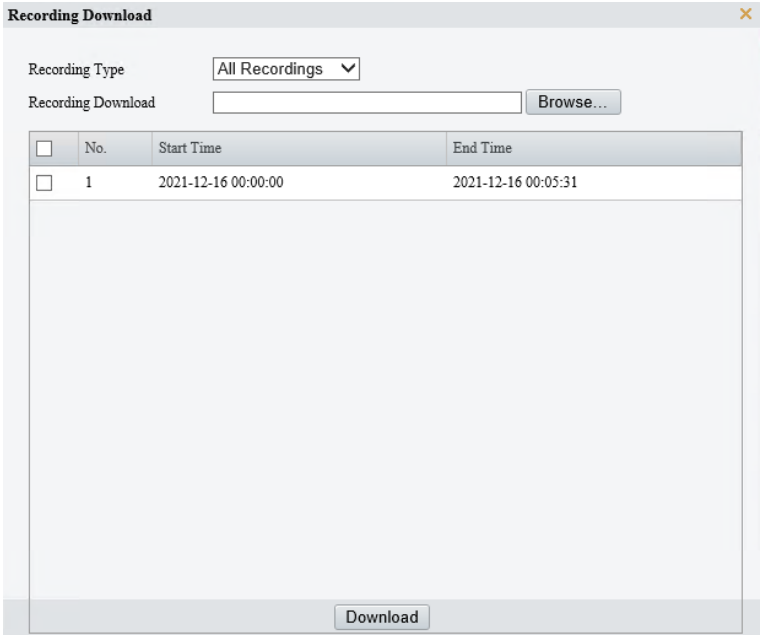
In the playback toolbar, click .

Click in the time bar to determine the start time and end time.

Click to finish. The time bar of the clip turns blue and green.

Click .

Click Recording Download , select the video clip, and click Download.

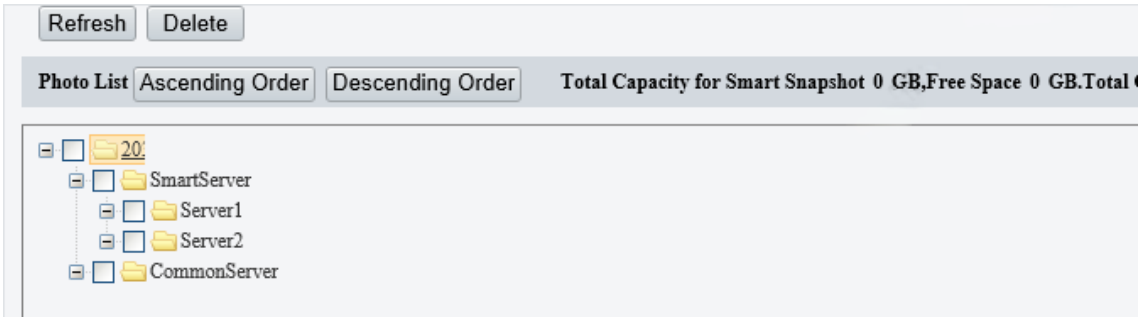


4 Photo

View the photo storage status. See Storage for photo storage policy.

NOTE!
This function is only available on cameras with storage capabilities.

On the home page, click Photo .



Item	Description
Refresh	Refresh the displayed content.
Export	Export the selected photos.
Delete	Delete the selected photos.
Export & Delete	Export the selected photos and delete them on the server.
Ascending Order	Arrange the items in chronological order.
Descending Order	Arrange the items in reverse chronological order.
SmartServer	Used to store smart snapshots.
CommonServer	Used to store common snapshots.

NOTE!
To allocate photo capacity, go to Setup > Storage > Storage .

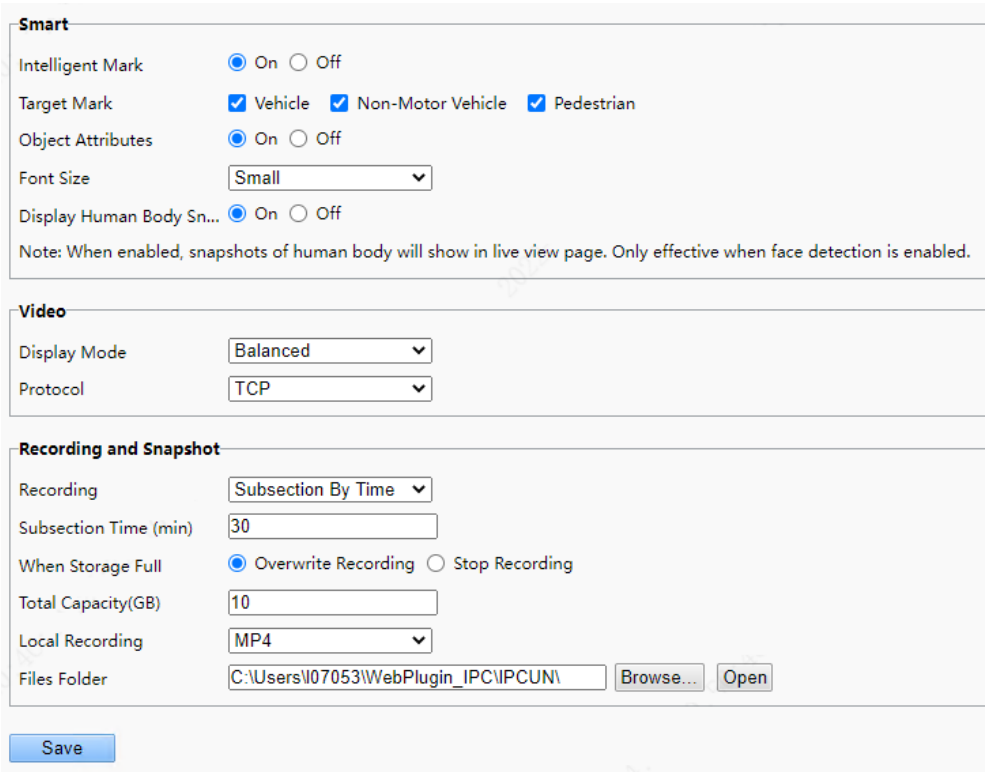
5 Setup

5.1 Local Parameters

Set local parameters for your PC, including smart, video, recording and snapshot.

NOTE!
The local parameters displayed may vary with camera model.

Go to Setup > Common > Local Parameters.



Set local parameters as needed.

Item		Description
Smart	Intelligent Mark	This function shall be used with Cross Line Detection, Intrusion Detection, Enter Area, Leave Area, Mixed-Traffic Detection, and Face Detection.
	Object Attributes	When enabled, the attributes of detected objects appear on the live view page.
	Font Size	Set the font size of object attributes, including Large , Medium , and Small .
	Display Human Body Snapshot	When enabled, human body snapshots appear on the live view page. NOTE! Only effective when face detection is enabled.
Video	Display Mode	Set the display mode according to the network status, including Min. Delay , Balanced , and Fluent (from low delay to high delay). You may also customize the display mode as needed.
	Protocol	Set the protocol used to transmit media streams to be decoded by the PC, including TCP and UDP.
Recording and Snapshot	Recording	z Subsection By Time: Length of each local recording file. For example, 2 minutes. z Subsection By Size: Size of each local recording file. For example, 10MB.

	Subsection Time (min)/Subsection Size (MB)	z Subsection Time (min): Available when Subsection By Time is selected. 1 to 60 minutes allowed. z Subsection Size (MB): Available when Subsection By Size is selected. 10 to 1024MB allowed.
	When Storage Full	z Overwrite Recording: When the local recording capacity is full, older recordings are overwritten automatically. z Stop Recording: When the local recording capacity is full, recording stops automatically.
	Total Capacity (GB)	Allocate storage capacity for local recording. Range: 1 to 1024GB.
	Local Recording	Set the file format for saving local recordings, including TS and MP4.
	Files Folder	Set the location where snapshots and recordings are saved. z Click Browse... to select the storage location. z Click Open to quickly open the folder. NOTE! The maximum length of the directory is 260 bytes. If the limit is exceeded, recording or snapshot during live view will fail.

Click Save.

5.2 Network

5.2.1 Ethernet

Connect the camera to the network so that it can communicate with other devices.

NOTE!
After you change the IP address, you need to log in again with the new IP address.

Go to Setup > Network > Network.

Configure Ethernet parameters.

z IPv4

¾ Static Address (obtain IP manually)

(1) Select Static from the Obtain IP Address drop-down list.

(2) Enter the IP address, subnet mask, and default gateway address. Make sure that the IP address of the camera is unique in the network.

(3) Click Save.

¾ PPPoE

Configure PPPoE to assign the camera a dynamic IP address to establish network connection.

(1) Select PPPoE from the Obtain IP Address drop-down list.

(2) Enter the username and password provided by your ISP (Internet Service Provider).

(3) Click Save.

¾ DHCP

DHCP (Dynamic Host Configuration Protocol) is enabled by default. If a DHCP server is deployed in the network, the camera can automatically obtain an IP address from the DHCP server.

(1) Select DHCP from the Obtain IP Address drop-down list.

(2) Click Save.

- IPv6
  - DHCP

By default, the IPv6 mode is set to DHCP. The IP address is automatically obtained from the DHCP server.

  - Manual

(1) Set the IPv6 mode to Manual.

(2) Enter the IPv6 address, prefix length and default gateway. Make sure that the IPv6 address is unique in the network.

Set the MTU value, port type and operating mode.

- MTU: Set the maximum packet size supported by the network in bytes. The greater the value, the higher the communication efficiency, the higher the transmission delay.
- Port Type: FE Port by default.
- Operating Mode: Auto-negotiation by default.

Click Save.

5.2.2 Port

1. Port

Go to Setup > Network > Port.

You can use the defaults or customize them in case of port conflicts.

CAUTION!

- If the HTTP port number you entered has been used, a message “Port conflicts. Please try again.” will appear. 23, 81, 82, 85, 3260, and 49152 have been assigned for other purposes and cannot be used.
- In addition to the above port numbers, the system can also dynamically detect other port numbers that are already in use.

- HTTP/HTTPS Port: If you change the HTTP/HTTPS port number, then you need to add the new port number after the IP address when logging in. For example, if the HTTP port number is set to 88, you need to use http://192.168.1.13:88 to log in to the camera.
- RTSP Port: Real-Time Streaming Protocol port, enter an available port number.

Click Save.

2. Port Mapping

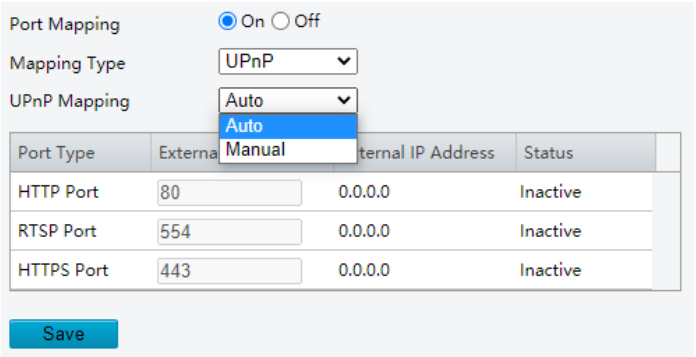
Configure port mapping so computers on the WAN can access your camera on the LAN.

Go to Setup > Network > Port > Port Mapping .

Enable Port Mapping .

Select the mapping type.

- UPnP



  - Auto: Enable UPnP on the router, then the external port numbers are assigned automatically.
  - Manual: The external port numbers need to be set manually.
- Manual

  - If your router does not support UPnP, you need to set the external port numbers manually.

¾ “Inactive” displayed in the Status column indicates that the port number you entered is already in use.

Click Save.

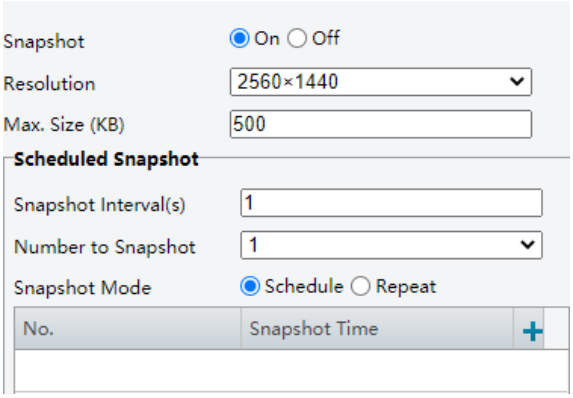
5.2.3 E-mail

Configure E-mail so that the camera can e-mail an alarm message to the specified email addresses when an alarm occurs.

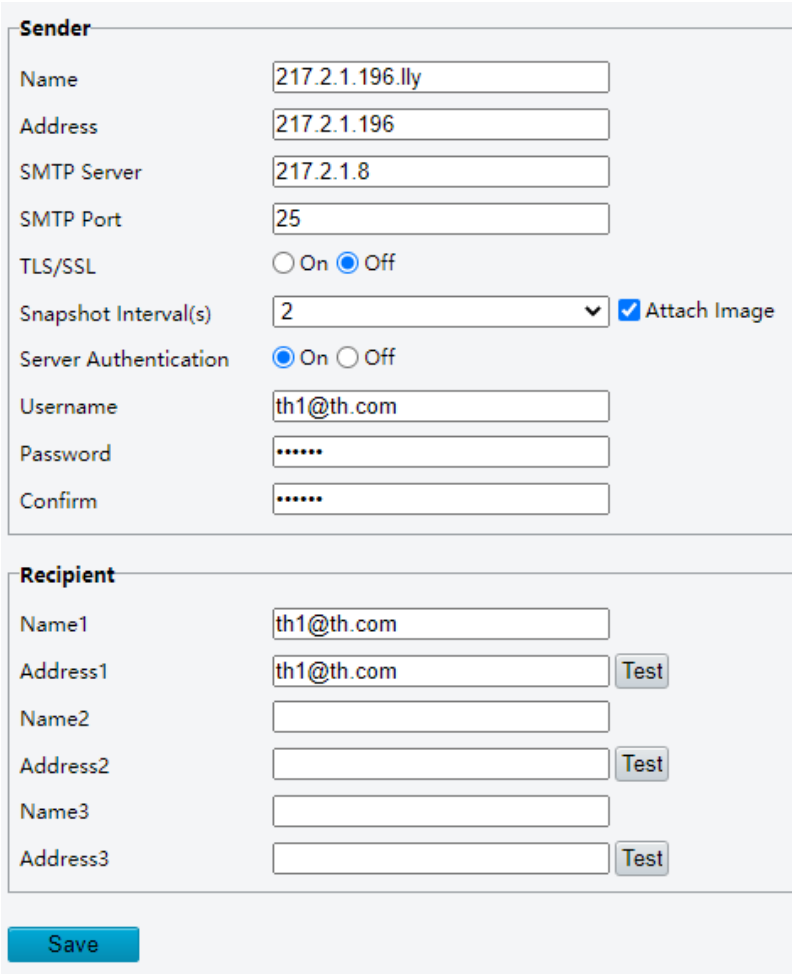
Go to Setup > Network > E-mail.

Set the sender and recipient information.

Item	Description
Sender Name	Enter the device name.
Sender Address	Enter the device IP.
SMTP Server/SMTP Port	Enter the IP address and port number of SMTP server of the sender’s e-mail. The default SMTP port number is 25.
TLS/SSL	Enable TLS/SSL to secure e-mail communication.
Snapshot Interval	Set the interval for taking snapshots to be attached to alarm e-mails. NOTE! x The interval for taking snapshots attached to alarm e-mails is subject to the settings on the E-mail page. x Deep-learning exception detection functions captures 1 snapshot by default, and you do not need to set the snapshot interval for them.

Attach Image	When enabled, the camera will automatically send an alarm e-mail with 3 attached snapshots taken at se intervals in the event of an alarm. 1. Select the Attach Image check box. 2. Enable Snapshot and set the snapshot resolution as needed. 
Server Authentication	Enable SMTP server authentication to secure e-mail transmission.
Username/Password	Enter the username and password of the SMTP server. NOTE! x The email only shows the sender name not the username. x The password allows special characters.
Recipient Name/Address	1. Enter the e-mail name and address to receive e-mails. 2. After recipient configuration, you can click Test to test the email sending function.

Click Save.



5.2.4 EZCloud

You can add the camera to EZCloud via EZView app (without registering an EZCloud account) or EZCloud website to remotely access the camera.

Go to Setup > Network > EZCloud . EZCloud is enabled by default.

1. Add camera s on EZView app without signup

After you add the camera to EZCloud on EZView, you can view live or recorded video and receive alarm notifications from the camera on EZView. Certain functions are not available to cameras added without signup in the app.

Enable Add Without Signup .

Search and download EZView in the app store of your phone.

Open EZView and tap Try Now .

NOTE!

If your have EZView on your phone already, open it, and then select > Devices > Add > Add Without Signup .

A message pops up to inform you that no devices have been added. Tap Add .

Tap Add Without Signup .

Scan the OR code on the EZCloud page using EZView.

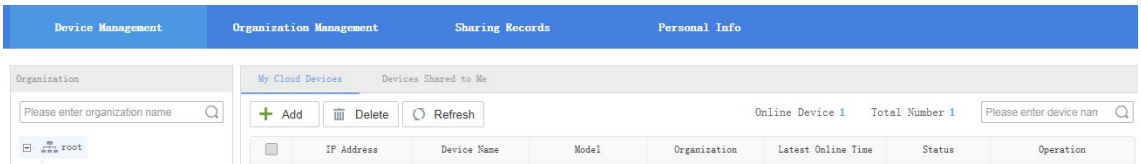
Enter the password and tap Login to add the camera to EZCloud.

2. Add camera s on EZCloud website

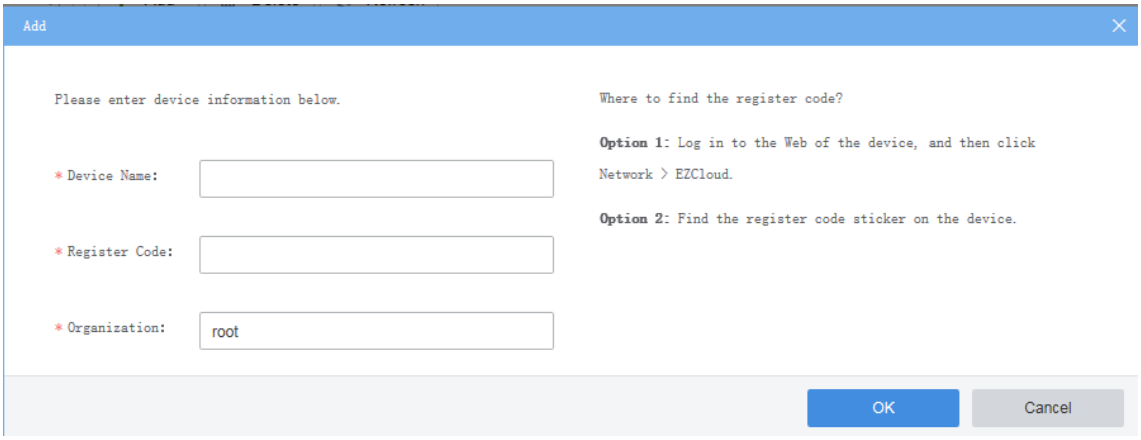
Enter en.ezcloud.uniview.com in the address bar of a web browser.

Click Sign Up and follow the on-screen instructions to create an account.

Log in to the EZCloud.



Go to Device Management > My Cloud Devices and click Add .



Item	Description
Device Name	Enter the device name.
Register Code	Enter the register code.
Organization	Select an organization for your camera. By default, the root organization is selected. You may add or delete organizations under Organization Management > My Cloud Organizations .

Click OK.

Click Save.

Check device status.

- EZCloud website: Go to Device Management > My Cloud Devices to check whether the camera is online.
- Camera's web interface: Go to Setup > Network > EZCloud to check whether the camera is online.

5.2.5 DNS

DNS (Domain Name System) is a distributed database system for translating human readable domain names to machine readable IP addresses, facilitating devices to access external servers or hosts through domain names.

Go to Setup > Network > DNS.

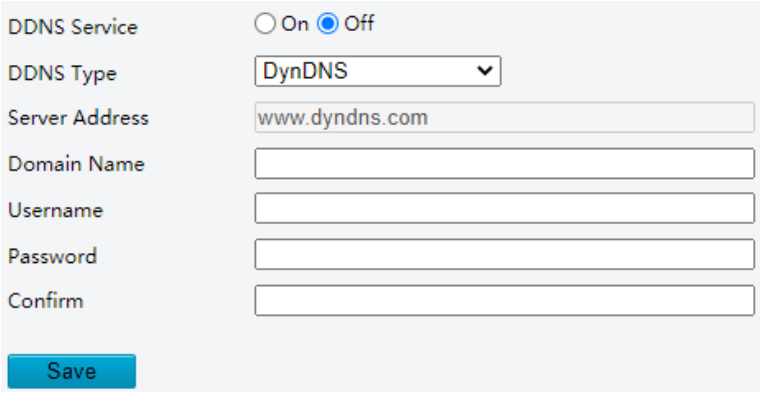
The default DNS server addresses are as follows.

5.2.6 DDNS

DDNS (Dynamic Domain Name System) automatically updates the DNS server with the dynamic IP address of the device to enable remote Internet access to the device on the network.

Go to Setup > Network > DDNS.

Enable DDNS Service.



Select the DDNS type.

- DynDNS/NO-IP: Third-party DDNS service provider, enter the domain name registered with the DDNS provider.
- EZDDNS: Uniview's DDNS service, enter a domain name for your camera and click Test to check if the domain name is available.

Click Save.

5.2.7 SNMP

SNMP is required for the camera to share configuration information to servers.

Go to Setup > Network > SNMP.

Enable SNMP.

NOTE!
This function is enabled by default on certain models.

Set SNMP parameters.

- SNMPv3

NOTE!
Before you enable SNMPv3, make sure that it is supported both on your camera and the server.

Item	Description
SNMP Type	The default SNMP type is SNMPv3.
Password	Set a password for authentication.
Confirm	Confirm the password you entered by entering it again.
Password	Set a password for data
Confirm	Confirm the password you entered by entering it again.
Trap Server Address	Set the trap server address in Management Server.
SNMP Port	The default SNMP port number is 161. You may change it as needed.

z SNMPv2

Item	Description
SNMP Type	Select SNMPv2. After you select SNMPv2, a message pops up to remind you of potential risks and ask if you want to continue. Click OK.
Read Community	The default read community name is public, and you may change it as needed. Make sure the read community names of the server and camera are the same, otherwise the two-way authentication will fail.
Trap Server Address	Set the trap server address in Management Server.
SNMP Port	The default SNMP port number is 161. You may change it as needed.

Click Save.

5.2.8 802.1x

802.1x provides authentication to devices for access to the network and enhances network security by allowing only authenticated devices to access.

Go to Setup > Network > 802.1x.

Enable 802.1x.

By default, the protocol is set to EAP-MD5. Select the same EAPOL version as that of the router or the switch.

Enter the username and password for authentication.

Click Save.

5.2.9 QoS

QoS (Quality of Service) has the ability to guarantee the performance of high-priority services under limited network capacity.

Go to Setup > Network > QoS.

Set a priority level (0 to 63) for each service.

At present, QoS allows you to assign different priority to audio and video, alarm report, configuration management and FTP transmission. The greater the value, the higher the priority.

As shown in the figure above, the audio & video service takes priority over all other services in case of network congestion.

NOTE!
To use QoS, make sure that the router or switch is also configured with QoS.

Click Save.

5.2.10 WebSocket

WebSocket allows you to manage your camera on a third-party platform, such as device version and capability information acquisition, PTZ control, alarm reporting, etc.

Go to Setup > Network > WebSocket .

Set the parameters.

Item	Description
WebSocket	Select to enable or disable WebSocket.
Destination IP	Enter the IP address of the third-party platform.
Destination Port	Enter the listener port of the third-party platform.
Device ID	The default device ID is the device's serial number. You can set a device ID as needed.
Authentication Key	Enter the authentication key used to connect the camera to a third-party platform. Make sure the authentication key configured on the camera and the third-party platform is the same.
Confirm Authentication Key	Confirm the authentication key you entered by entering it again.
Online Status	Check whether the device is successfully connected to the third-party platform.

Click Save.

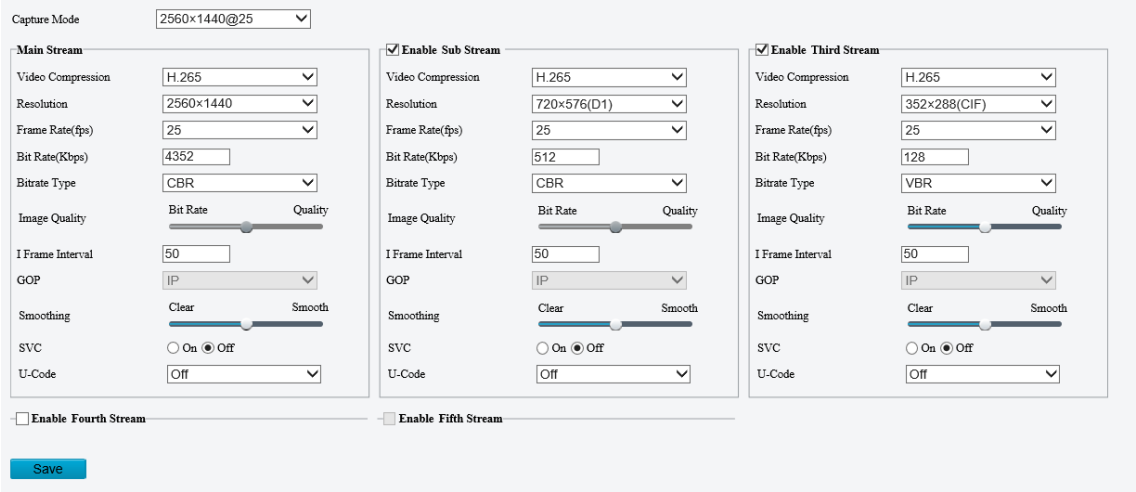
5.3 Video & Audio

For dual-channel devices, you can set video and audio parameters for the channels separately.

5.3.1 Video

1. Video

Go to Setup > Video & Audio > Video.



Select a capture mode for your camera.

The Extended Encoding function is available only when the capture mode is greater than 8MP.

After you change the capture mode, the encoding settings will be reset to defaults and some models of cameras will restart.

Set stream parameters.

The streams are independent of each other and can be set with different resolutions, frame rates, video compression formats, etc. Only the main stream supports full resolution.

NOTE!

- The fourth and fifth streams are only available on certain models.
- Before configuring the fifth stream, you need to enable the fourth stream first.

Item	Description
Video Compression	Select a video compression standard for your camera: H.265, H.264 or MJPEG. NOTE! - When H.265 or H.264 is selected, Image Quality is not available; When MJPEG is selected, Bit Rate, I Frame Interval, Smoothing, SVC and U-Code are not available. - The bit rate restores to the default when you switch between H.264 and H.265.
Resolution	Select a video resolution for your camera. The higher the resolution, the clearer the image.
Frame Rate(fps)	Select the frame rate. NOTE! To ensure image quality, the frame rate shall not be greater than the reciprocal of the shutter speed.
Bit Rate(Kbps)	Set the bit rate. Range: 128 to 16384. NOTE! The bit rate range may vary with device model.

Bitrate Type	Select the bitrate type. z CBR: The camera keeps a specific bit rate by varying the quality of video streams. z VBR: The camera keeps the quality of video streams as constant as possible by varying the bit rate.
Image Quality	Configurable when Bitrate Type is set to VBR. The closer the slider is to Quality , the higher the bit rate, and the higher the image quality. The closer the slider is to Bit Rate , the lower the bit rate, and the image quality will be affected.
I Frame Interval	Set the number of frames between I-frames. A shorter interval presents better image quality but consumes more bandwidth and storage.
GOP	Group of Pictures, defines the basic pattern of the video stream encoded with I and P frames.
Smoothing	Set the smoothness of the video stream. Drag the slider to choose whether smoothness or clarity takes precedence. NOTE! Smoothing is recommended for fluent video in a poor network environment.
SVC	SVC (Scalable Video Coding) enables a video stream to be broken into multiple layers of resolution, quality and frame rate, reducing bandwidth consumption without compromising the image quality.
U-Code	Select the U-code mode. z Basic Mode: The bit rate is reduced by about 25%. z Advanced Mode: The bit rate is reduced by about 50%.

Set the BNC output format, PAL or NTSC.

Click Save.

2. Adaptive Streams

The bit rate of the media stream is automatically adjusted according to the network conditions.

NOTE!

- This function is only available on certain models.
- This function is enabled by default on certain models.
- It's recommended to enable Adaptive Streams in a poor network environment.

Go to Setup > Video & Audio > Video > Adaptive Streams.

Enable Adaptive Streams.

Click Save.

5.3.2 Snapshot

Configure basic snapshot parameters and scheduled snapshot.

Go to Setup > Video & Audio > Snapshot .

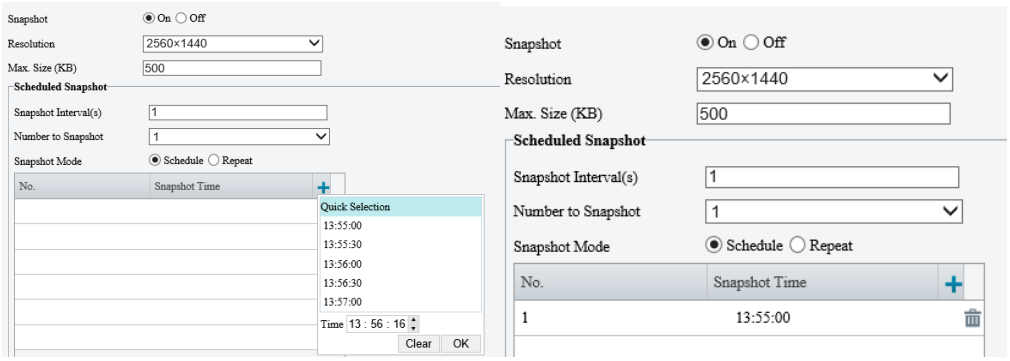
NOTE!

- For dual-channel devices, you can set snapshot parameters for the channels separately.
- When you configure e-mail and FTP, you only need to enable Snapshot and set the resolution and maximum size, and do not need to configure the scheduled snapshot.

Enable Snapshot and set the resolution and maximum size of snapshots to be saved.

Set the snapshot mode.

- Schedule: Set a time for snapshot. For example, with snapshot interval set to 20s, number to snapshot set to 3, and snapshot time set to 16:00:00, the camera will take a snapshot at 16:00:00, 16:00:20 and 16:00:40.



To delete a snapshot time, click .

- Repeat: Set an interval for snapshot. For example, with snapshot plan set to 16:00:00 to 20:00:00 on Monday, repeat interval set to 120s, snapshot interval set to 20s, and number to snapshot set to 2, the camera will take a snapshot at 16:00:00, 16:00:20, 16:02:00 and 16:02:20.

a Select Repeat and set the repeat interval. A valid repeat interval ranges from 1 to 86400.

b Select the Enable Snapsh ot Plan check box and set the snapshot plan. See Arming Schedule for details. A 24/7 snapshot plan is enabled by default.

NOTE!

- The time periods cannot overlap.
- Up to 4 time periods are allowed.

Set the snapshot interval and number to snapshot. For example, if the interval is set to 1s and the number to snapshot is set to 2, the camera will take 2 snapshots (take one first and then take another after 1 second).

Click Save.

5.3.3 Audio

1. Audio

Go to Setup > Video & Audio > Audio .

Set audio input parameters.

Item	Description
Audio Input	Enable/disable audio input. NOTE! If audio data is not required, select Off to improve camera performance.
Access Mode	Select the audio input mode, including Line/Mic and RS485. NOTE! This function is not available on dual-channel cameras.
Input Volume	Set the input volume using the slider.
Audio Compression	Select the audio compression format, including G.711U and G.711A.
Sampling Rate(KHz)	Set the sampling rate according to your required audio compression. In G.711A or G.711U format, only 8KHz is available.
Noise Suppression	Reduce noise in audio to improve audio output quality. NOTE! This function is enabled by default.
Channel 1/Channel 2	Select the Enable check box to enable audio input for the channel. Channel 1 and Channel 2 (if available) cannot be enabled simultaneously. The default audio input mode of Channel 1 is Mic. You can change it to Line.

Set audio output parameters.

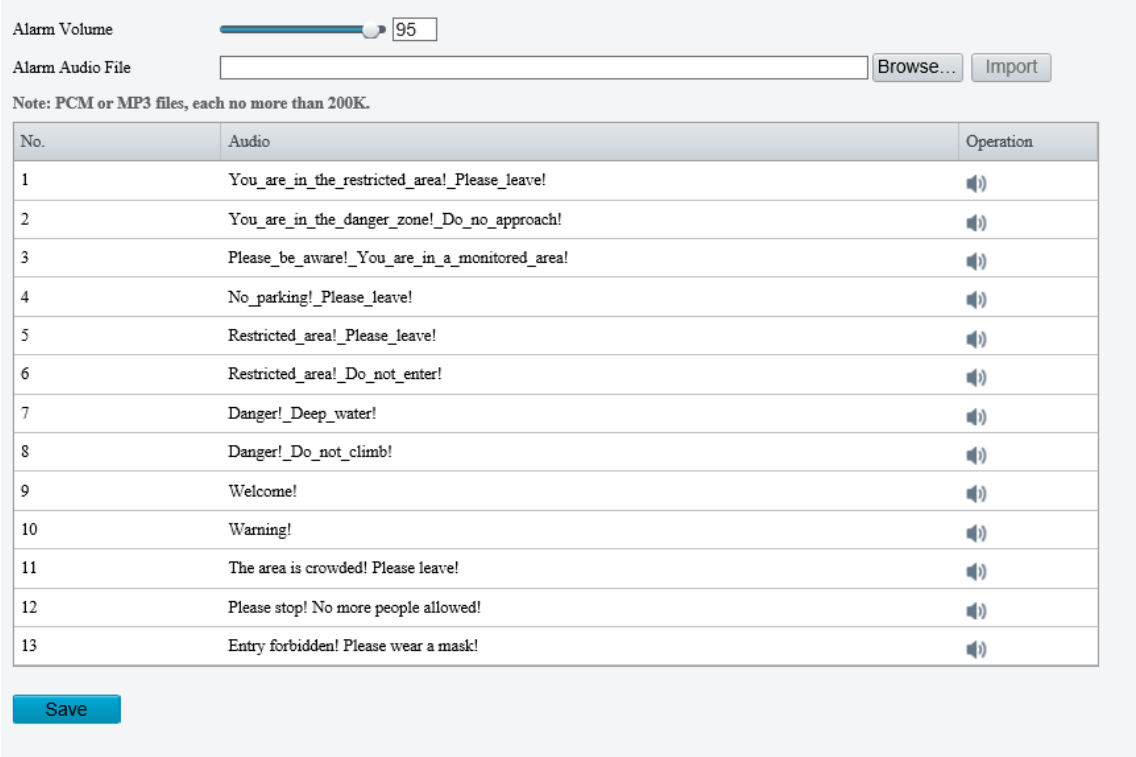
Item	Description
Audio Output	Select the audio output mode, including Line and Speaker .

Output Volume	Set the output volume using the slider.

Click Save.

2. Audio File

Go to Setup > Video & Audio > Audio .



Set audio file parameters.

Item	Description
Alarm Volume	Set the alarm volume using the slider.
Alarm Audio File	Click Browse… to import audio files. To play an audio file, click . NOTE! x This function is available only on certain models. Up to 5 audio files are allowed. x Built-in audio files may vary depending on the smart functions supported by the device.

Click Save.

5.3.4 ROI

ROI helps ensure image quality for the specified areas on the image first at low bit rate.

Go to Setup > Video & Audio > ROI.

Set ROI areas.

(1) Click to add a ROI area. The area is a rectangle by default. Up to 8 areas are allowed.

(2) Adjust the position and size of the area or draw an area as needed.

¾ Adjust the position and size of the area.

d Point to a border of the area and drag it to the desired position.

d Point to a handle of the area and drag to resize it.

¾ Draw an area.

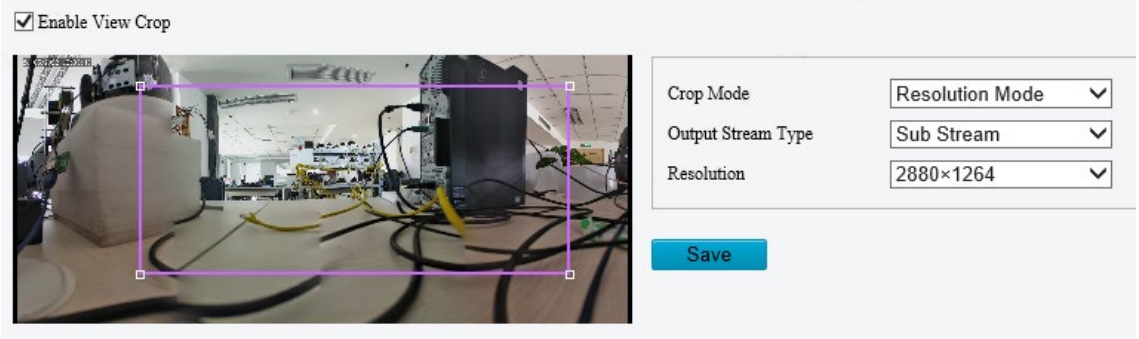
Click on the image and drag to draw an area.

5.3.5 View Crop ping

You can crop the live video to view and save only the video of the region of interest in the form of sub or third stream to save transmission bandwidth and storage.

Go to Setup > Video & Audio > View Crop .

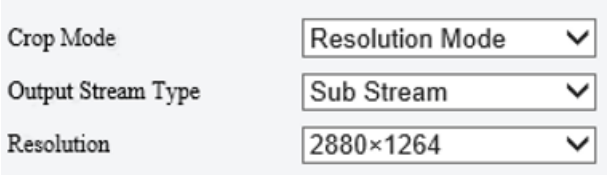
Select the Enable View Crop check box.



Select the cropping mode.

- Field of View Mode: Size priority. Set the output stream type, crop size and resolution.

- Resolution Mode: Resolution priority. Set the output stream type and resolution.



Click Save.

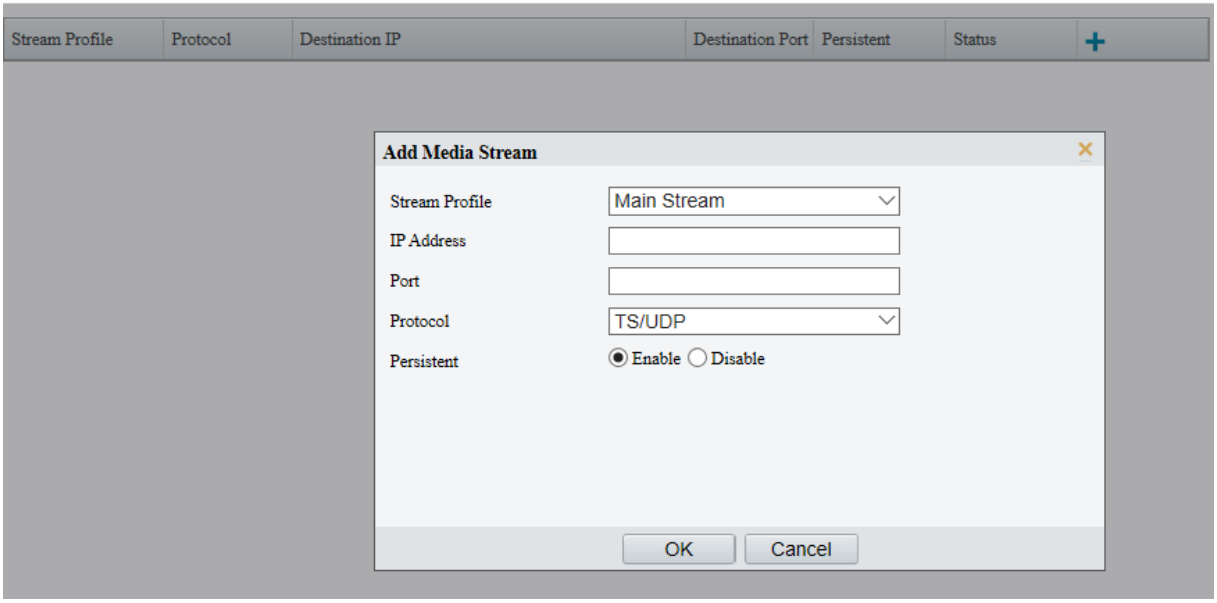
5.3.6 Media Stream

1. Media Stream

You can configure a media stream for your camera so that media contents from the camera such as audio and video can be transmitted over the network and played immediately on a third-party client rather than being downloaded first.

Go to Setup > Video & Audio > Media Stream .

Click to add a media stream.



Complete the media stream settings.

Item	Description
Stream Profile	Select a stream type for the camera to transmit media contents to a third-party client.
Destination IP	Enter the IP address of the device receiving media streams.
Destination Port	Enter the port number of the device receiving media streams.
Protocol	Select a protocol for streaming media data over the network, including TS/UDP, ES/UDP, PS/UDP, and RTMP.
Persistent	Set whether to automatically establish the configured media stream after the camera restarts.

Click OK.

2. RTSP Multicast

RTSP multicast allows third-party players to request RTSP multicast media streams from the camera through the RTSP protocol.

Go to Setup > Video & Audio > Media Stream > RTSP Multicast Address .

Set the multicast address and port number (multicast address range: 224.0.1.0 to 239.255.255.255, port number range: 0 to 65535).

Click Save.

5.4 PTZ

5.4.1 Basic PTZ Settings

Go to Setup > PTZ > Basic Settings.

1. Preset Image Freeze

After you enable Preset Image Freeze , as the camera moves from one preset to another, the live view window keeps displaying the image of the previous preset until the camera stops at the next preset.

2. PTZ Timeout

After you enable Stop PTZ Control After Timeout and set a timeout period, the camera will stop rotation when the predefined timeout period is reached.

3. PTZ Speed

- Speed Level between Presets: Set the rotation speed of the camera between presets.
- Manual Operation Speed Level: Set the speed level for manually controlling the PTZ on the live view page.

NOTE!

- The higher the manual operation speed level, the higher each PTZ speed level on the live view page.
- When both manual operation speed level and PTZ speed on the live view page are set to the maximum, the PTZ speed reaches the upper limit.

4. PTZ Rectification

Check for PTZ zero point offset and perform rectification.

- Rectify manually: Click Rectify to start rectification immediately.
- Rectify automatically: Select the Enable Auto Rectification check box and set the execute time. The camera automatically performs PTZ rectification at the set time.

5. Power Off Memory

When enabled, the system will record the last position of the PTZ and lens in case of power failure. This function is enabled by default.

5.4.2 Home Position

The PTZ camera can automatically operate as configured (e.g., go to a preset or start patrol) if no operation is made within a specified period.

NOTE!
Before use, you need to add a preset or a patrol route. See Preset and Add a patrol route for details.

Go to Setup > PTZ > Home Position .

Enable Home Position and complete the settings.

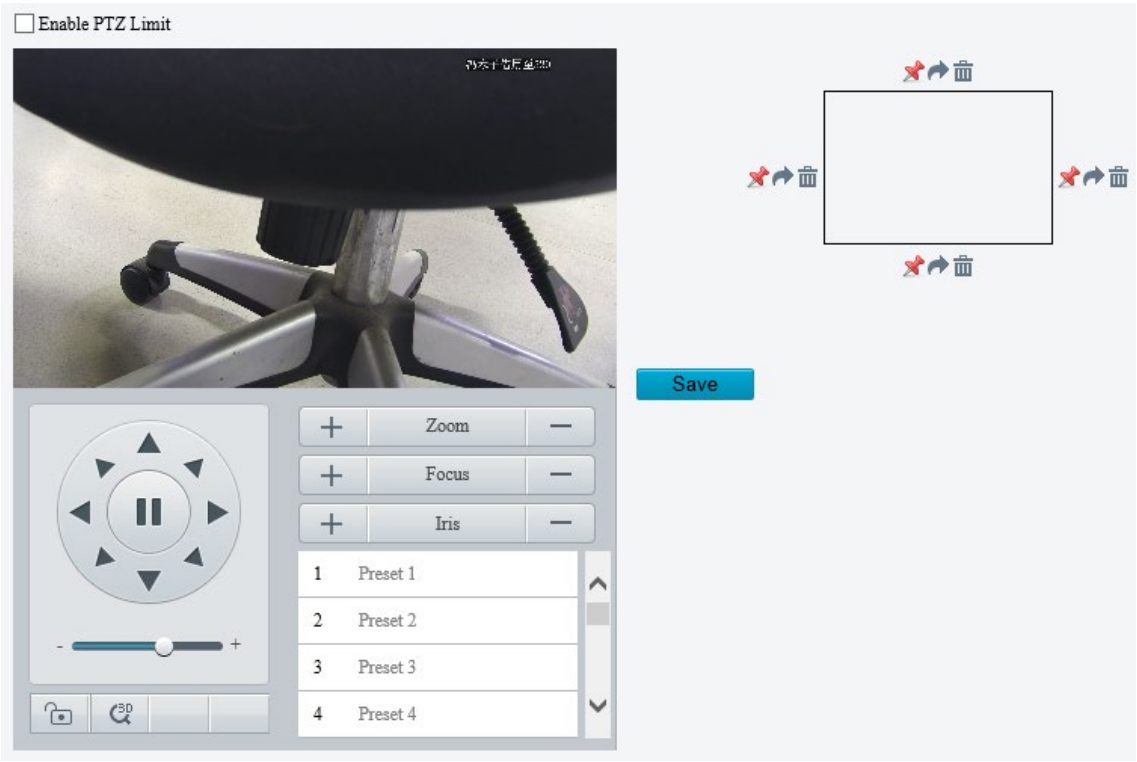
Item	Description
Mode	Select the home position mode, including Preset and Patrol .
ID	Select the desired preset or patrol route.
Idle State	Set the idle duration for the camera to start auto guard.

Click Save.

5.4.3 Pan/Tilt Limit

You can filter out the undesired scenes by limiting the pan and tilt movements.

Go to Setup > PTZ > Limit .

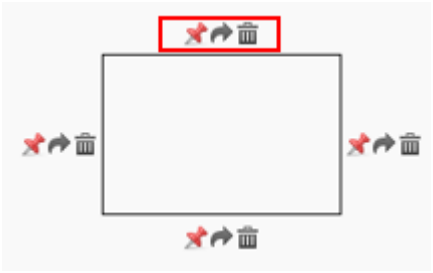


Select the Enable PTZ Limit check box.

Set the pan and tilt limits. Take the tilt limit configuration as an example:

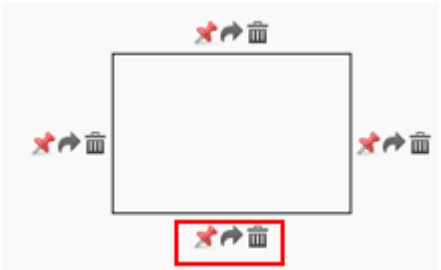
(1) Use to move the camera to the desired upper tilt limit position.

(2) Click above the rectangle to set the position as the upper tilt limit.



(3) Use to move the camera to the desired lower tilt limit position.

(4) Click below the rectangle to set the position as the lower tilt limit.



Item	Description
	Rotate the camera to the limit.
	Delete the limit.

Click Save.

5.4.4 Remote PTZ Control

Remote PTZ control is required when the camera is added to a third-party platform and the PTZ protocol does not match.

Go to Setup > PTZ > Remote Control .

Enable Remote Control and complete the settings.

Item	Description
Listener Port	Local port number of the camera. Make sure that the port number you entered is not in use. In general, it's recommended to keep the default value.
Address Code	The address code in the command must be the same as the address code configured on the camera, so that the camera can parse the command.

5.4.5 Preset Snapshot and Patrol Resumption

Go to Setup > PTZ > Patrol .

- Preset Snapshot

The camera takes a snapshot at each preset during patrol and uploads the snapshots to FTP.

NOTE!
Before use, please configure FTP and Snapshot first.

- Resume Patrol

In the event of a patrol interruption, the camera can automatically resume the patrol after a specified time period.

5.4.6 Orientation Calibration

1. North Calibration

Calibrate the north direction.

Go to Setup > PTZ > Orientation .

Select the mode to calibrate the camera to north.

Item	Description
Manual	- Set the north direction manually. - After calibration, you can click Go to north to rotate the camera to the calibrated north direction.
Automatic	- Automatically determines the north position based on the geomagnetic field. - After calibration, you can click Go to north to rotate the camera to the calibrated north direction. NOTE! This option is only available on cameras that support electronic compass.

2. Home Position

Configure a home position so that the camera can use it as the zero degree pan and tilt positions.

Go to Setup > PTZ > Orientation .

Move the camera to the desired position.

Click Orient to set the position as the home position.

Item	Description
Call	Move the camera to the home position.
Clear	Clear the home position.

5.5 Image

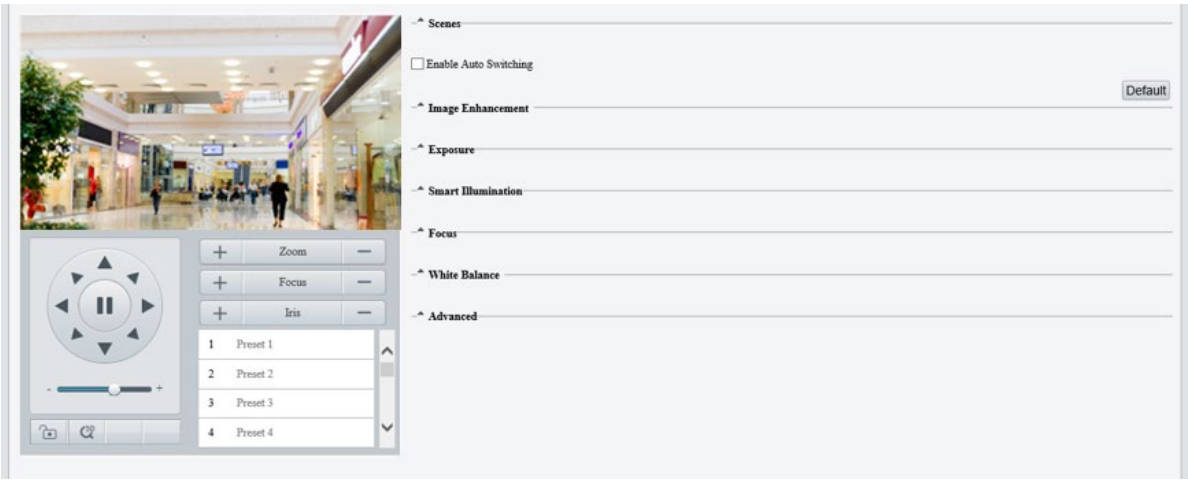
5.5.1 Image

For dual-channel devices, you can set image parameters for the channels separately.

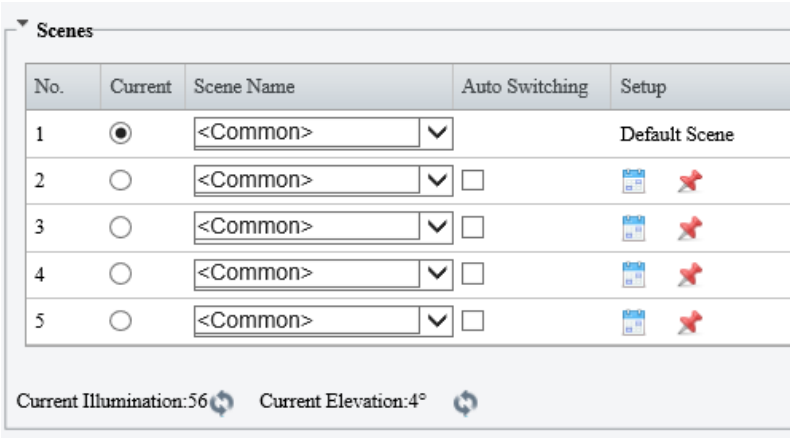
1. Scenes

A scene mode is a collection of image parameters preset in the camera. The camera provides several predefined scene modes for different application scenarios. You can select a scene as required.

Go to Setup > Image > Image.



Click Scenes.



Set the scene parameters.

Item	Description
Current	Select the scene you want to use.
Scene Name	Select the scene mode. z Common: Recommended for outdoor scenes. z Indoor: Recommended for indoor scenes. z Road Highlight Compensation/Park Highlight Compensation: Recommended for capturing vehicle license plates. z WDR: Recommended for scenes with high-contrast lighting, such as window, corridor, front door or other scenes that are bright outside but dim inside. z Custom: Set a scene as needed. z Test: Recommended for test scenes. z Standard: Recommended for most standard scenes both indoor and outdoor. z Vivid: Enhanced saturation based on the Standard scene. z Bright: Enhanced brightness based on the Standard scene. z Starlight: Recommended for obtaining clear and bright images in low light conditions. z Face: Recommended for capturing faces in motion in complicated scenes. z Person And Vehicle: Recommended for detecting motor vehicles, non-motor vehicles and pedestrians in road scenes. z Intrusion Prevention: Recommended for perimeter protection scenes.
Auto Switching	Select whether to add the scene to the auto-switching list. When enabled, if the conditions for switching to a non-default scene are met, the device will automatically switch to the scene.

	Set auto-switching conditions, including schedule, illumination and PTZ elevation. Auto switching can only be triggered when all the set conditions are met.
	Set the scene as the default scene.

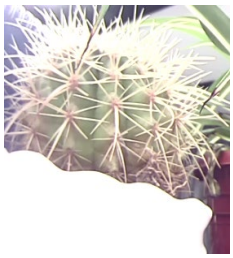
(Optional) Enable auto switching.

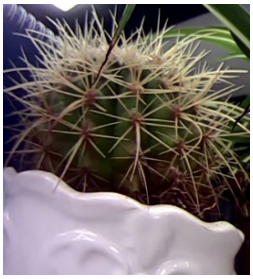
- When enabled, if the conditions for switching to a non-default scene are met, the camera will automatically switch to the scene; otherwise, the camera uses the default scene.
- After you select the Enable Auto Switching check box, all scene parameters cannot be configured.
- If multiple non-default scenes meet the switching condition at the same time, the camera will switch to the scene with the minimum number (starts from 1 to 5).

2. Image Enhancement

On the Image page, click Image Enhancement.

Set the image enhancement parameters.

Item	Description
Brightness	The overall lightness or darkness of the image. Low brightness  High brightness

Item	Description
Saturation	The intensity or vividness of colors in the image. Low saturation High saturation
Contrast	The difference between the lightest and darkest tones in the image. Low contrast High contrast
Sharpness	The definition of edges in the image.  Low sharpness High sharpness
2D Noise Reduction	Reduce noise by individually analyzing each frame, which may cause image blur.
3D Noise Reduction	Reduce noise by analyzing the difference between successive frames, which may cause image smearing or ghosting.

Item	Description
Image Rotation	The rotation of the image. Normal Flip vertical Flip horizontal 180° 90° clockwise 90° anti-clockwise

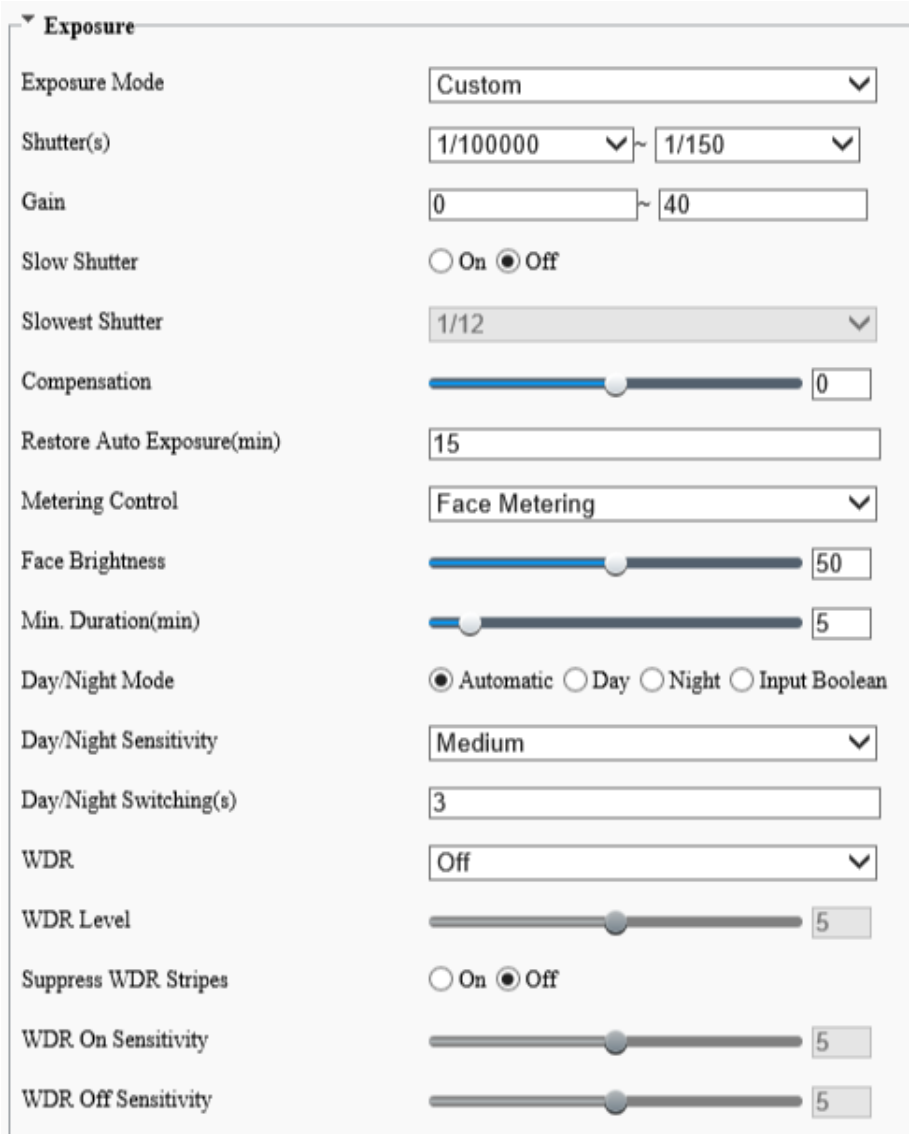
To restore defaults, click Default.

3. Exposure

NOTE!

- The exposure settings may vary with device model.
- The default settings are scene-adaptive. Use default settings unless modification is necessary.

On the Image page, click Exposure .



Set the exposure parameters.

Item	Description
Exposure Mode	Select the exposure mode. z Automatic: The camera automatically set the optimum shutter speed according to the scene. z Custom: User can set exposure parameters as needed. z Shutter Priority: The camera adjusts shutter as priority to adjust the image quality. z Iris Priority: The camera adjusts iris as priority to adjust the image quality. z Indoor 50Hz: Reduce stripes by limiting shutter frequency. z Indoor 60Hz: Reduce stripes by limiting shutter frequency. z Manual: Fine-tune image quality by setting shutter, gain and iris manually. z Low Motion Blur: Control the minimum shutter to reduce motion blur in faces captured in motion.
Shutter(s)	Shutter is used to control the light that comes into the lens. A fast shutter speed is ideal for scenes in quick motion. A slow shutter speed is ideal for scenes that change slowly. NOTE! z This parameter is configurable when Exposure Mode is set to Manual, Shutter Priority, or Custom. z If Slow Shutter is disabled, the reciprocal of the shutter speed must be greater than the frame rate.
Gain	Control image signals so that the camera can output standard video signals in different light conditions. NOTE! This parameter is configurable when Exposure Mode is set to Manual or Custom.

Slow Shutter	Increase image brightness in low light conditions. NOTE! This parameter is configurable when Exposure Mode is not set to Iris Priority and Image Stabilization is disabled.
Slowest Shutter	Set the slowest shutter speed for exposure.
Compensation	Adjust the compensation value as required to achieve the desired image effect. NOTE! This parameter is configurable when Exposure Mode is not set to Manual.
Restore Auto Exposure(min)	Set the duration for the camera to restore automatic exposure mode.
Metering Control	Set how the camera measures the intensity of light. z Center-Weighted Average Metering: Measure light mainly in the central part of the image. z Evaluative Metering: Measure light in the specified area of the image. z Spot Metering: Similar to evaluative metering. But it cannot increase the brightness of images. z Face Metering: Adjust image quality in poor lighting conditions by controlling the brightness of captured faces in face scenes. NOTE! This parameter is configurable when Exposure Mode is not set to Manual.
Day/Night Mode	z Automatic: The camera automatically switches between day mode and night mode according to the ambient lighting condition to output optimum images. z Day: The camera outputs high-quality images in daylight conditions. z Night: The camera outputs high-quality images in low-light conditions. z Input Boolean: The camera switches between day mode and night mode according to the Boolean value input from a connected third-party device. NOTE! The Input Boolean option is only available on certain models.
Day/Night Sensitivity	Light threshold for switching between day mode and night mode. A higher sensitivity value means that the camera is more sensitive to the change of light and is therefore more easily to switch between day mode and night mode. NOTE! This parameter is configurable when Day/Night Mode is set to Automatic.
Day/Night Switching(s)	Set the length of time before the camera switches between day mode and night mode after the switching conditions are met. NOTE! This parameter is configurable when Day/Night Mode is set to Automatic.
WDR	Enable WDR to ensure clear images in high contrast conditions. NOTE! This parameter is configurable when Exposure Mode is set to Automatic, Custom, Shutter Priority, Indoor 50Hz or Indoor 60Hz and when Image Stabilization and Defog are disabled.
WDR Level	Adjust the WDR level. NOTE! Level 7 or higher is recommended if there is a high contrast between the bright and dark areas in the scene. In the case of low contrast, it is recommended to disable WDR or use level 1 to 6.
WDR On/Off Sensitivity	When WDR is set to Automatic, adjust the parameter to change the WDR switching sensitivity.
Suppress WDR Stripes	When enabled, the camera automatically adjusts the slow shutter frequency according to the light frequency to minimize stripes in the image.

To restore defaults, click Default.

4. Smart Illumination

On the Image page, click Smart Illumination.

Enable Smart Illumination .

Set the smart illumination parameters.

Item	Description
Illumination Mode	z Infrared: The camera uses infrared light illumination. z White Light: The camera uses white light illumination. z Warm Light: The camera uses warm light illumination. z Laser: The camera uses laser light illumination. NOTE! Before you select Warm Light , please set the Port Mode to Illumination (go to Setup > System > Ports & Devices > Serial Port).
Control Mode	z Global Mode: The camera automatically adjusts illumination and exposure to achieve the balanced image effect. Some areas might be overexposed if you select this option. This option is recommended if you focus on the monitoring range and image brightness. z Overexposure Restrain: The camera automatically adjusts illumination and exposure to avoid regional overexposure. Some areas might be dark if you select this option. This option is recommended if you focus on the clarity of the monitoring center area. z Road: This mode offers a strong overall illumination and is recommended for monitoring wide-range scenes, for example, road. z Park: This mode offers a uniform illumination and is recommended for monitoring small-range scenes with many obstacles, for example, park. z Custom Level: This mode allows you to manually control the intensity of illumination. z Custom Level(Always On): In this mode, the illumination is always on.
Illumination Level	Set the intensity of the illuminator. The greater the value, the higher the intensity. 0 is off. z Near-illumination Level: Recommended for near focus scenes. z Mid-illumination Level: Recommended for medium distance focus scenes. z Far-illumination Level: Recommended for far focus scenes. NOTE! This parameter is configurable when Control Mode is set to Custom Level .

To restore defaults, click Default.

5. Focus

On the Image page, click Focus .

Set the focus parameters.

Item	Description
Focus Mode	z Auto Focus: Automatic focus control based on the current light conditions. z Manual Focus: Manual focus control. z One-Click Focus: Automatic focus in the event of rotation, zoom, and preset call. z One-Click Focus (IR): Recommended for low light scenes. z One-click Focus (Locked): Recommended for road highlight scenes.
Scene	z Normal: Common monitoring scenes such as road, park, etc. z Long Distance: Long-distance monitoring scenes
Zoom Speed	z 1: Low zoom speed. Recommended for common scenes. z 2: High zoom speed. Recommended when Quick Focus is enabled.
Min. Focus Distance	Select the minimum focus distance.
Max. Zoom Ratio	Select the maximum digital zoom ratio, including 22, 44, 88, 176, and 352.

To restore the default settings, click Default.

6. White Balance

White balance is used to eliminate unnatural color casts in images under different color temperatures for optimal color reproduction.

On the Image page, click White Balance.

Set the white balance parameters.

Item	Description
White Balance	Adjust the red and blue gains of the image to remove unrealistic color casts. z Auto/Auto 2: Automatically adjust the red and blue gains according to the lighting conditions. If there are still color casts in Auto mode, try Auto 2 mode. z Fine Tune: Manually adjust the red and blue offsets. z Sodium Lamp: Automatically adjust the red and blue gains for optimal color reproduction in sodium light sources. z Outdoor: Recommended for outdoor scenes where the color temperature varies widely. z Locked: Keep the current color temperature.
Red/Blue Offset	Set the red/blue offset. NOTE! This parameter is configurable when White Balance is set to Fine Tune .

To restore defaults, click Default.

7. Defog

Defog is used to improve image visibility in foggy, hazy and other low-visibility scenes.

On the Image page, click Advanced .

NOTE!
This function is only available when WDR is disabled.

Set the defog parameters.

Item	Description
Defog	Select the defog mode, including Automatic , On, and Off. In Automatic mode, the camera automatically adjusts the defog intensity according to the fog concentration for clear images.
Defog Intensity	Adjust the defog intensity. In a heavy-fog environment, the higher the defog level, the clearer the image; in a fog-free or light-fog environment, there is not much difference between levels 1 to 9. NOTE! Optical defog is available on certain models. To enable optical defog, select On and set the defog intensity to 6 or higher, or select Automatic . Optical defog is automatically turned on in thick fog, and the image changes from color to black and white.

To restore defaults, click Default.

8. Lens Info

NOTE!
- This function is only available on cameras with external lenses.
- When using a P-IRIS lens with Z/F function, connect the iris control cable to the Z/F port of the camera.

On the Image page, click Lens Info .

Set the lens parameters.

Item	Description
Lens Type	Select the lens type, including Common and IR.
Lens Model	Select the lens model, including LENS-DC-IRIS, LENS-DM0734P, etc. NOTE! The lens models supported may vary with device model.

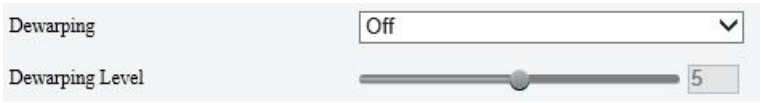
Aperture Control	Select automatic or manual iris control. NOTE! This parameter is configurable when Lens Type is P-IRIS.
F-Number	Set the f-number to adjust the iris opening manually.
Use Recommended Value	The camera optimizes the iris opening based on the current lighting conditions.

To restore defaults, click Default.

9. Dewarping

Dewarping is used to correct distorted images caused by wide-angle lenses.

On the Image page, click Advanced .



Enable Dewarping and set the dewarping level as needed.

To restore defaults, click Default.

10. Image Stabilization

A camera mounted outdoors may be shaken by external forces (e.g., wind), causing image blur. In this case, you can enable image stabilization to ensure the image quality.

On the Image page, click Advanced .

Select On or Off to enable or disable image stabilization.

To restore defaults, click Default.

11. Fusion Mode

In fusion mode, the object details on the visible image are overlayed on the thermal image, so that you can see the object details on the thermal image as well.

On the Image page, select Channel 2 and click Fusion Mode .

Select On to enable fusion mode.

Set the fusion percentage.

Item	Description
Image Fusion Percentage	The greater the value, the closer the thermal image effect is to the visible image effect. Image fusion percentage: 0 Edge fusion percentage: 50 Image fusion percentage: 100 Edge fusion percentage: 50

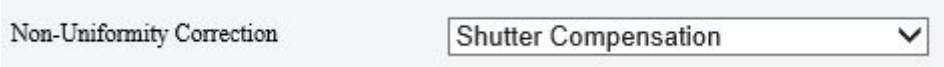
Edge Fusion Percentage	The greater the value, the sharper the object edges in the thermal image. Image fusion percentage: 50 Edge fusion percentage: 0 Image fusion percentage: 50 Edge fusion percentage: 100

NOTE!
The frame rate of live video may be limited when the fusion mode is enabled on certain models.

12. Non-Uniformity Correction

Non-uniformity correction is used to correct the non-uniformity of pixels caused by different response rates between thermal units to generate higher quality and more accurate images.

On the Image page, select Channel 2 and click Advanced .



Select the non-uniformity correction mode.

- Shutter Compensation: In this mode, the live video may be lost.
- Background Compensation: In this mode, scene change may occur during image collection.

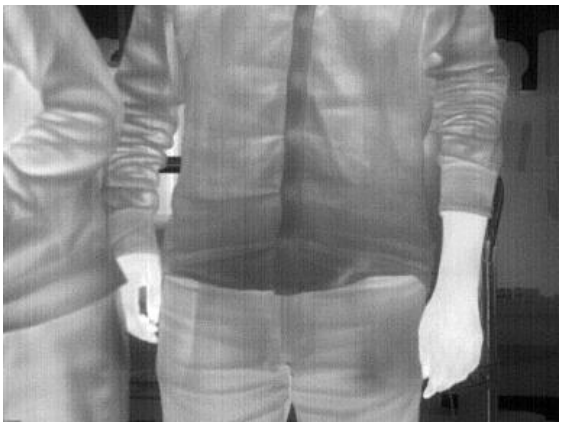
13. Reduce Vertical Stripe Noise

This function helps remove vertical stripes in images caused by sensor process or external temperature.

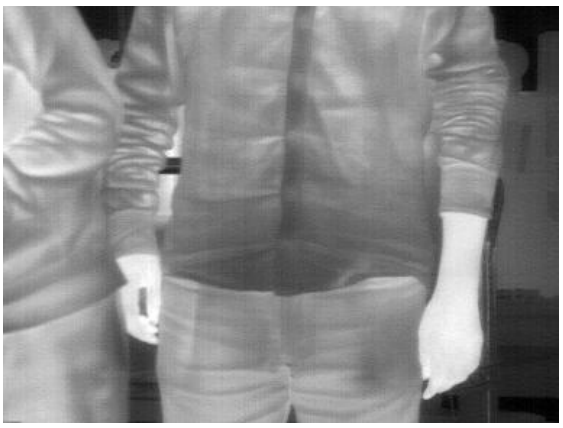
On the Image page, select Channel 2 and click Advanced .

Drag the slider or enter a value to set the intensity. The greater the value, the blurrier the image.

Before removing vertical stripe noise



After removing vertical stripe noise



14. Thermal Imaging Palette

The camera offers a variety of color display options for thermal imaging. The rainbow palette has a strong contrast and a clear distinction between colors of different temperatures, ideal for pinpointing objects in environments with subtle temperature differences.

On the Image page, select Channel 2 and click Advanced .

Select the appropriate thermal imaging palette for your camera.

Common Palette “Rainbow 3”

Common Palette “White Hot”

5.5.2 OSD

On Screen Display (OSD) are characters displayed with video images, for example, camera name, date and time.

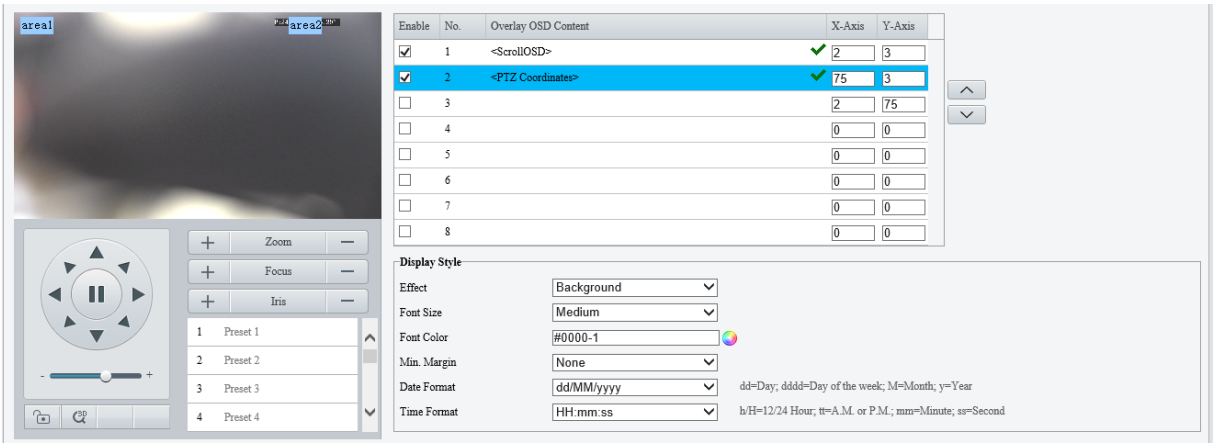
NOTE!

- This function may vary with device model.
- For dual-channel devices, you can set OSD parameters for the channels separately.

1. Live View OSD

Configure OSD overlayed on the live video.

Go to Setup > Image > OSD > Live View .



Set the OSD position and content.

Item	Description
Enable	Select the check boxes in the Enable column to overlay the corresponding contents on the live video. NOTE! Up to 8 overlays allowed.
Overlay OSD Content	Set the OSD content you want to overlay. Point to the OSD content, click , select the OSD content from the drop-down list or customize it. Some OSD contents are described below. z Preset: When you call a preset, the preset ID will be displayed on the live image, such as "Preset 1". z People Counting: Before use, you need to enable and configure People Flow Counting, Crowd Density Monitoring, or Face Detection, then you can view the people flow information (number of people entering/leaving), crowd density information (number of people present), or face detection information (number of people entering/leaving) on the live image. z Motor Vehicle&Non-Motor Vehicle&Pedestrian Count: Before use, you need to enable Mixed-Traffic Detection and Motor Vehicle&Non -Motor Vehicle&Pedestrian Count , then you can view motor vehicle/non-motor vehicle/pedestrian counting information on the live image. NOTE! x The OSD content only takes effect after you select the Enable check box. x Some models allow different OSD contents in one overlay area.
X-Axis/Y-Axis	Specify the exact position of the OSD by entering the X and Y coordinates. Take the top left corner of the image as the origin coordinates (0, 0), the horizontal axis is the X-axis, and the vertical axis is the Y-axis. NOTE! You can also set the OSD position as follows: point to the OSD box in the preview window, drag the box to the desired position after the cursor shape is changed.
	indicates the OSD overlay is set successfully.
/	Use the two buttons to rearrange the OSDs.

Upload Picture	This parameter is available only when the Overlay OSD Content is set to Picture Overlay . 1. Click Browse… to select the picture you want to overlay. 2. Click Upload , then the picture is displayed on the live video.
ScrollOSD	This parameter is available only when the Overlay OSD Content is set to Picture Overlay . 1. Enter the text information you want to overlay. 2. After successful configuration, the text will be scrolled from right to left on the live video

NOTE!
To cancel an OSD, clear the corresponding check box in the Enable column or click × in the Overlay OSD Content text box.

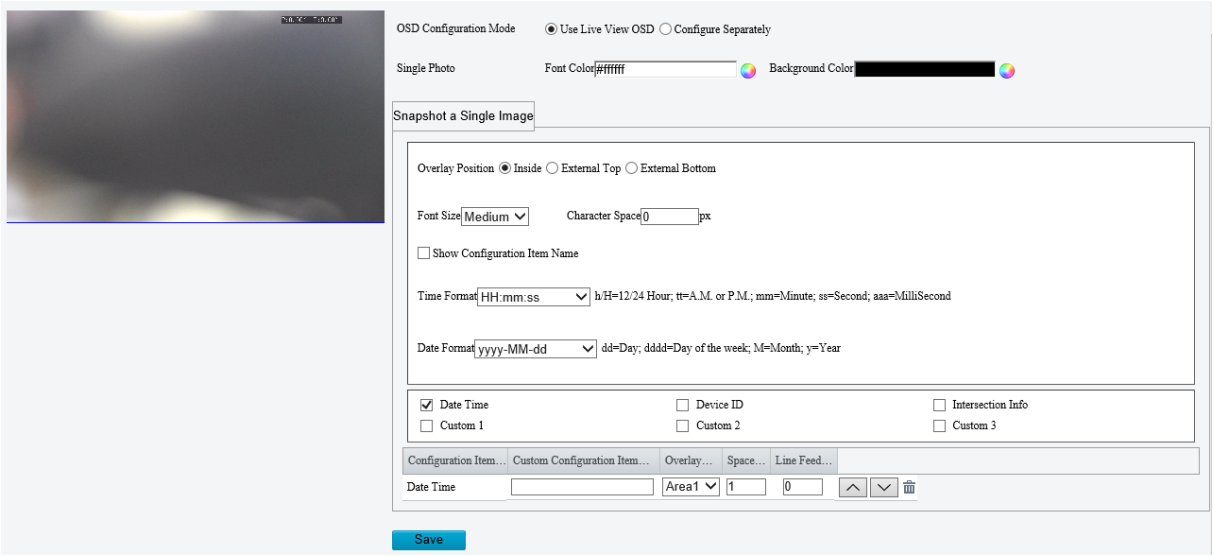
Set the OSD display style.

Item	Description
Effect	Select the display effect of the OSD content, including Background , Stroke , Hollow , or Normal .
Font Size	Select the font size of the OSD content, including X-large , Large , Medium , or Small .
Font Color	Click to select the text color of the OSD content.
Min. Margin	Select the minimum distance between the OSD area and the edge of the image, including None , Single , and Double .
Date Format	Select the date format, including dd/MM/yyyy , MM/dd/yyyy , etc.
Time Format	Select the time format, including HH:mm:ss , HH:mm:ss.aaa , hh:mm:ss tt , and hh:mm:ss.aaa tt .

2. Photo OSD

Configure OSD overlayed on the images captured from the live video.

Go to Setup > Image > OSD > Photo .



Select how the photo OSD is configured, Use Live View OSD or Configure Separately .

- Use Live View OSD: Use the OSD overlayed on the live video.
- Configure Separately: Configure the OSD overlayed on the snapshots separately.

Set the text color and background color for the OSD.

Refer to the table below to set other parameters as needed.

Item	Description
Overlay Position	Select the position for the OSD on the snapshot. - Inside: Overlay inside the image. - External Top: Overlay at the top outside the image - External Bottom: Overlay at the bottom outside the image.
Font Size	Select the font size of the OSD content, including X-large , Large , Medium , and Small .
Character Space	Set the distance between the OSD area and the edge of the image. Range: 0 to 10px.
Show Configuration Item Name	Select whether to show the configuration item name, such as Date Time , Device ID , etc.
Time Format	Select the time format, including HH:mm :ss , HH:mm:ss.aaa , hh :mm:ss tt , and hh:mm:ss.aaa tt .
Date Format	Select the date format, including dd/MM/yyyy , MM/dd/yyyy , etc.
Configuration Item Name	Select the configuration items you want to overlay, then the selected items are listed in the table.
Custom Configuration Item Name	Customize the configuration item name.
Overlay Area	Select an overlay area for the configuration item. You may change the area position by dragging it on the image or entering the X and Y coordinates. NOTE! This parameter is available only when Overlay Position is set to Inside .
Space Count	Set the number of spaces after the overlay. Range: 0 to 10.
Line Feed Count	Set whether and how to break line for the subsequent configuration items. - 0: No line break. - 1: Second line. - 2/3: Third/fourth line. NOTE! x In External Top or External Bottom mode, if the Line Feed Count is set to 2 or 3, the subsequent configuration items move to the next line. x In External Top or External Bottom mode, up to 8 lines are allowed. The larger the font, the fewer lines are displayed; the smaller the font, the more lines are displayed.
/	Use the two buttons to rearrange the configuration items.
	Delete the configuration item.

Click Save.

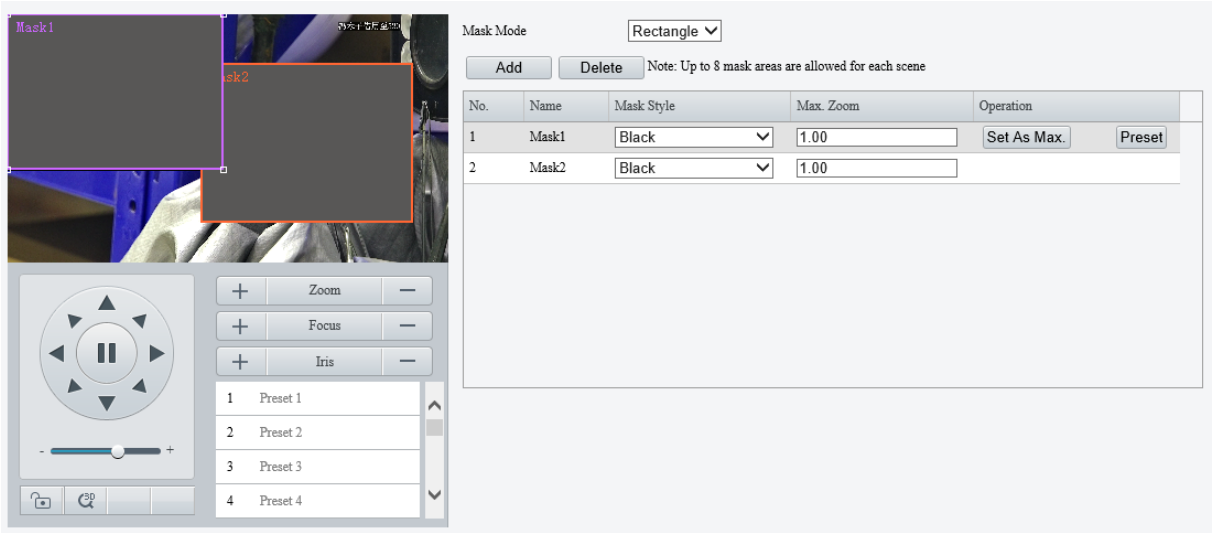
5.5.3 Privacy Mask

Privacy mask is used to cover certain areas on the image for privacy, for example, ATM keyboard.

NOTE!

- This function may vary with device model.
- For dual-channel devices, you can set privacy mask parameters for the channels separately.

Go to Setup > Image > Privacy Mask .

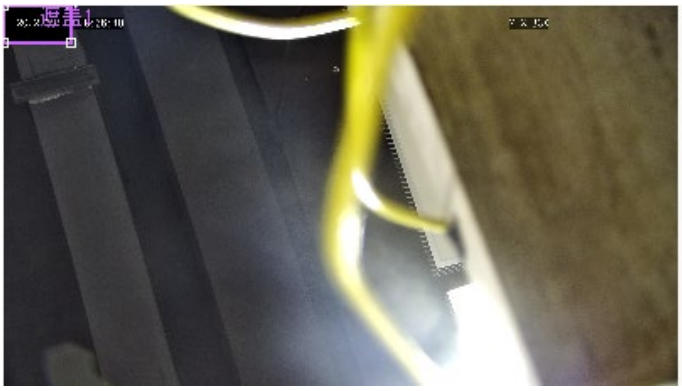


Select the mask mode, Rectangle or Polygon .

- 2D-mask camera: For a PTZ camera, the privacy mask does not move and zoom with the camera.
- 3D-mask camera: For a PTZ camera, the privacy mask moves and zooms with the camera and the masked area is always covered.

Add a privacy mask.

(1) Click Add . The privacy mask is a rectangle by default.



(2) Adjust the position and size of the mask or draw a mask as needed.

- Adjust the position and size of the mask.
  - Point to a border of the mask and drag it to the desired position.
  - Point to a handle of the mask and drag to resize it.
- Draw a mask.
  - Polygon: Click on the image and drag to draw a line. Repeat the action to draw more lines to form an enclosed shape as needed. Up to 4 lines are allowed.
  - Rectangle: Click on the image and drag to draw a rectangle.

Set the privacy mask.

Item	Description
Mask style	Select the mask style, Black or Mosaic. NOTE! x This parameter is configurable when Mask Mode is set to Rectangle. By default, the mask style of polygon mask is black and cannot be modified. x Mosaic is only available on certain models.
Max. Zoom (3D-mask camera)	Set the maximum zoom ratio to determine whether to show or hide the privacy mask. If the current lens zoom ratio is less than the maximum zoom ratio, the privacy mask is invalid.
Set As Max. (3D-mask camera)	Click to set the current lens zoom ratio as the maximum zoom ratio.
Preset (3D-mask camera)	Click to rotate the camera to the masked area (generally, the masked area is in the center of the live video).

5.5.4 Quick Focus

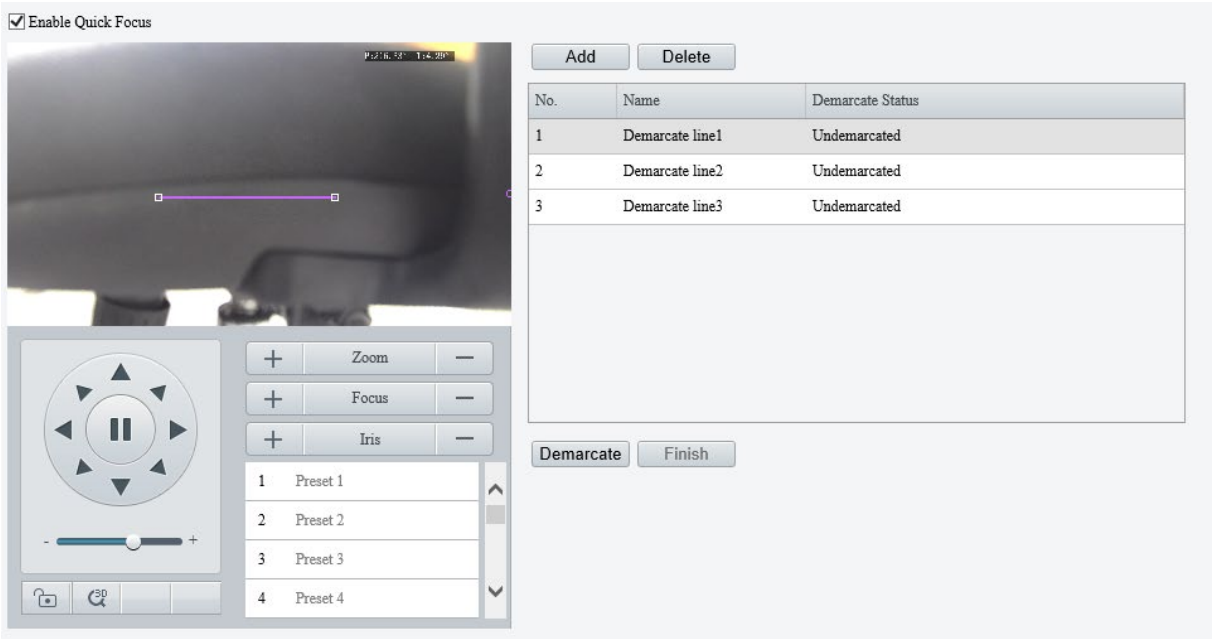
Fast focus effectively saves focus time and avoids missing important information after the camera changes the scene, focus and zoom.

NOTE!

- This function is only available on certain models.
- Set the zoom speed to 2 on the Image page when quick focus is enabled.

Go to Setup > Image > Quick Focus .

Select the Enable Quick Focus check box to enable it.



Add a calibration line for the desired scene.

(1) Click Add . A line displays on the image.

(2) Adjust the position and length of the line or draw a line as needed.

¾ Adjust the position and length of the line.

d Point to the line and drag it to the desired position.

d Point to a handle of the line and drag to resize it.

¾ Draw a line.

Click on the image and drag to draw a line.

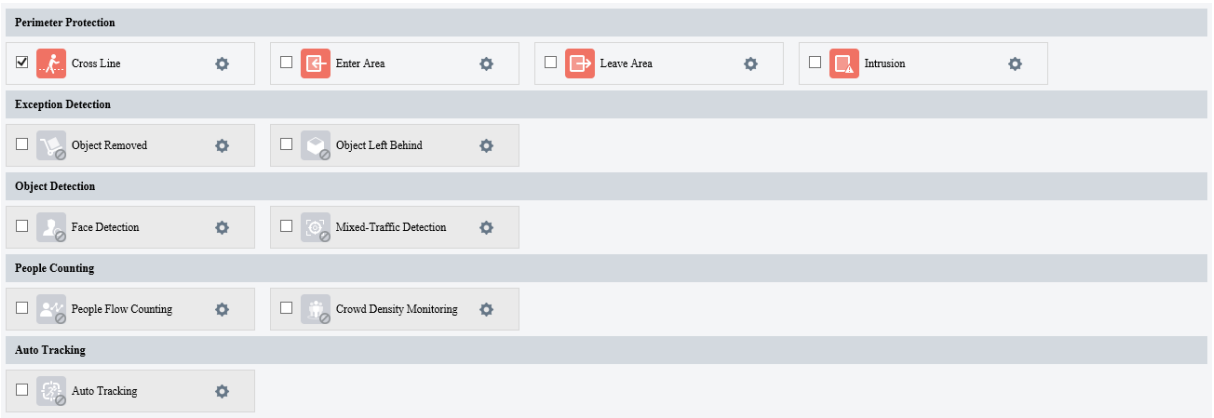
Click Demarcate to start automatic zoom. After the auto zoom is completed, click Finish to complete calibration. If you click Finish during calibration, the calibration line is considered invalid.

Repeat the above steps to calibrate more scenes. Up to 4 scenes are allowed.

5.6 Smart

On the Smart page, you can select the smart event to be monitored and click to configure relevant parameters.

The smart events supported by the device and the parameters supported by the events may vary with device model.



Common Button Description

Button	Description
	Create detection rules. Up to 4 detection rules are allowed for each smart event.
	Delete detection rules.

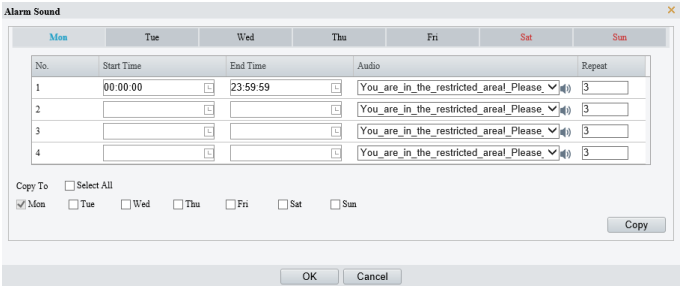
NOTE!

- For dual-channel devices, you can set smart parameters for the channels separately.
- Some smart functions are mutually exclusive. When a smart function is enabled, the functions that are mutually exclusive with it are grayed out.

5.6.1 Alarm -triggered Actions

You can set how the camera responds to an event to alert you to deal with it in time.

Item	Description
Upload to FTP	The camera uploads snapshots to the specified FTP server when an alarm occurs. Please configure FTP and Snapshot first before use.
Send E-mail	The camera sends snapshots to the specified email addresses when an alarm occurs. Please configure E-mail and Snapshot first before use.
Alarm the Center	The camera uploads alarm information to the surveillance center when an alarm occurs.
Attribute Collection	The camera uploads the attribute information of the object that triggers the alarm to the server when an alarm occurs. Please configure Attribute Collection first before use.
Upload Image(Original)	The camera uploads the original snapshots of the object that triggers the alarm to the server when an alarm occurs.
Upload Image(Target)	The camera uploads the object snapshots to the server.
Alarm Output	The camera outputs an alarm to trigger actions by an alarm output device when an alarm occurs. Please configure Alarm Output first before use.

Alarm Sound	The camera plays warning sounds when an alarm occurs. 1. Select the Alarm Sound check box and click to configure relevant parameters. 2. Set the arming schedule for audible alarms. See Arming Schedule for details. 3. Set the alarm audio content and alarm times. z Audio: Set the audio content to be played when an alarms occurs. See Audio File for details. z Repeat: Set the number of times the audio to be played when an alarm occurs.  NOTE! This function may vary with device model.
Alarm Light	The illuminator of the camera flashes for a certain period of time when an alarm occurs. 1. Select the Alarm Light check box and click to configure relevant parameters. 2. Set the duration that the illuminator flashes when an alarm occurs. 3. Set the arming schedule for visible alarms. See Arming Schedule for details. NOTE! This function may vary with device model.
Recording Edge Storage	The camera saves alarm recordings to its memory card or NAS when an alarm occurs. Please configure Memory Card or Network Disk first before use.
Image Edge Storage	The camera saves alarm snapshots to its memory card or NAS when an alarm occurs. Please configure Memory Card or Network Disk first before use.
FTP Video Storage	The camera uploads alarm recordings to the specified FTP server when an alarm occurs. Please configure FTP first before use.
Trigger Tracking	The camera starts tracking the object that triggers the alarm automatically until the set tracking time is reached or the object disappears when an alarm occurs. You can click Tracking to configure tracking parameters. See Tracking for details.
Go to Preset	The camera automatically goes to a preset position when an alarm occurs. Select the preset position you want the camera to go to. See PTZ for details.

5.6.2 Arming Schedule

You can set an arming schedule to determine when the camera performs detection.

z Draw a schedule

To set an armed period, click Armed , and then click or drag on the schedule to select the time cells you want to enable arming. To set a disarmed period, click Unarmed , and then click or drag on the schedule to select the time cells you want to disable arming.

NOTE!
Only browsers of IE 9 or higher allows schedule drawing.

- Edit a schedule

Click Edit , set the arming time, and then click OK.

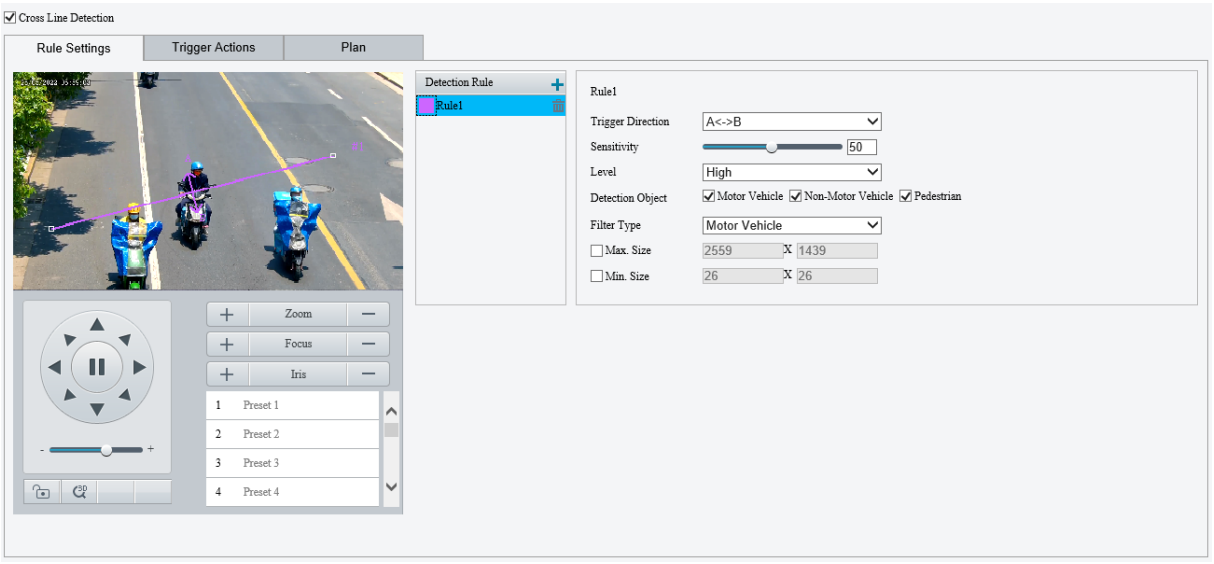
NOTE!
- Up to 4 time periods are allowed per day. The time periods cannot overlap.
- To apply the same time settings to other days, select the desired day(s), and then click Copy .

5.6.3 Cross Line Detection

Cross line detection detects objects crossing a user-specified virtual line in a specified direction. The camera reports an alarm when the detection rule is triggered.

Go to Setup > Intelligent > Smart .

Select Cross Line and click to configure it.



Add a detection rule.

(1) Click to add a detection line. Up to 4 detection rules are allowed.

(2) Adjust the position and length of the line or draw a line as needed.

¾ Adjust the position and length of the line.

d Point to the line and drag it to the desired position.

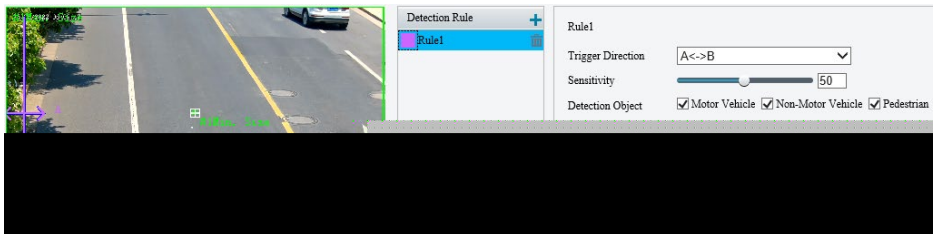
d Point to a handle of the line and drag to resize it.

¾ Draw a line.

Click on the image and drag to draw a line.

Set the detection rule.

Item	Description
Trigger Direction	Select the direction from which the object crosses the line to trigger an alarm. x A->B: The camera reports a cross line alarm when it detects an object crossing the line from A to B. x B->A: The camera reports a cross line alarm when it detects an object crossing the line from B to A. x A<->B (default): The camera reports a cross line alarm when it detects an object crossing the line from A to B or from B to A.
Sensitivity	Set the detection sensitivity. The higher the sensitivity, the more likely cross line behaviors will be detected, and the more likely false alarms will occur.
Level	Select the priority of the detection rule, including High , Medium , and Low . The camera detects the rule that is triggered first by default. If multiple rules are triggered at the same time, the camera detects the rule with higher priority.

Detection Object	Select the object to be detected, including Motor Vehicle , Non-Motor Vehicle , and Pedestrian .
Filter Type	After you select a detection object, you can set a filter rule for it. For example, if you have selected Motor Vehicle as a detection object, select Motor Vehicle from the Filter Type drop-down list and set the Max. Size or Min. Size for it, then motor vehicles larger than the Max. Size or smaller than the Min. Size will not be detected.
Max. Size/Min. Size	When enabled, a box appears on the image, you can point to a handle of the box and drag to resize it. The camera filters objects larger than the Max. Size or smaller than the Min. Size. The width and height of the maximum filter area must be greater than that of the minimum filter area. 

Set the alarm-triggered actions and arming schedule. See Alarm-triggered Actions and Arming Schedule for details.

Click Save.

5.6.4 Enter Area Detection

Enter area detection detects objects entering a user-specified area. The camera reports an alarm when the detection rule is triggered.

Go to Setup > Intelligent > Smart .

Select Enter Area and click to configure it.

Add a detection rule.

(1) Click to add a detection area. The detection area is a hexagon by default. Up to 4 detection rules are allowed.