Network Cameras

User Manual

Manual Version:2.08

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.

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Disclaimer

CAUTION!

The default password is used for your first login. To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters).

- To the maximum extent permitted by applicable law, the product described, with its hardware, software, firmware and documents, is provided on an “as is” basis.
- Best effort has been made to verify the integrity and correctness of the contents in this manual, but no statement, information, or recommendation in this manual shall constitute formal guarantee of any kind, expressed or implied. We shall not be held responsible for any technical or typographical errors in this manual. The contents of this manual are subject to change without prior notice. Update will be added to the new version of this manual.
- Use of this manual and the subsequent result shall be entirely on the user’s own responsibility. In no event shall we be reliable to you for any special, consequential, incidental, or indirect damages, including, among others, damages for loss of business profits, business interruption, or loss of data or documentation in connection with the use of this product.
- Video and audio surveillance can be regulated by laws that vary from country to country. Check the law in your local region before using this product for surveillance purposes. We shall not be held responsible for any consequences resulting from illegal operations of the device.
- 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 a guide for multiple product models and so it is not intended for any specific product.
- 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.

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.

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!	Contains important safety instructions and indicates situations that could cause bodily injury.
CAUTION!	Means reader be careful and improper operations may cause damage or malfunction to product.
NOTE!	Means useful or supplemental information about the use of product.

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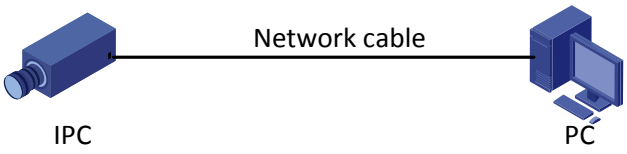
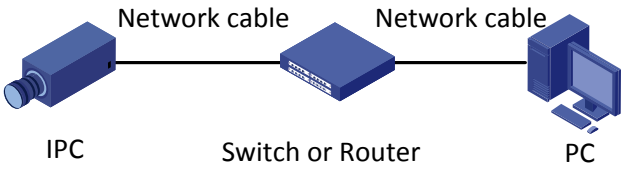
1 Network Connection

Before accessing a network camera (also known as IP Camera or IPC) from a PC, you need to connect the network camera to the PC directly with a network cable or via a switch or router.



Use a Shielded Twisted Pair (STP) cable to connect the network interfaces of the network camera and the PC.



Use Shielded Twisted Pair (STP) cables to connect the network interfaces of the camera and the switch or router.

2 Login

Preparation

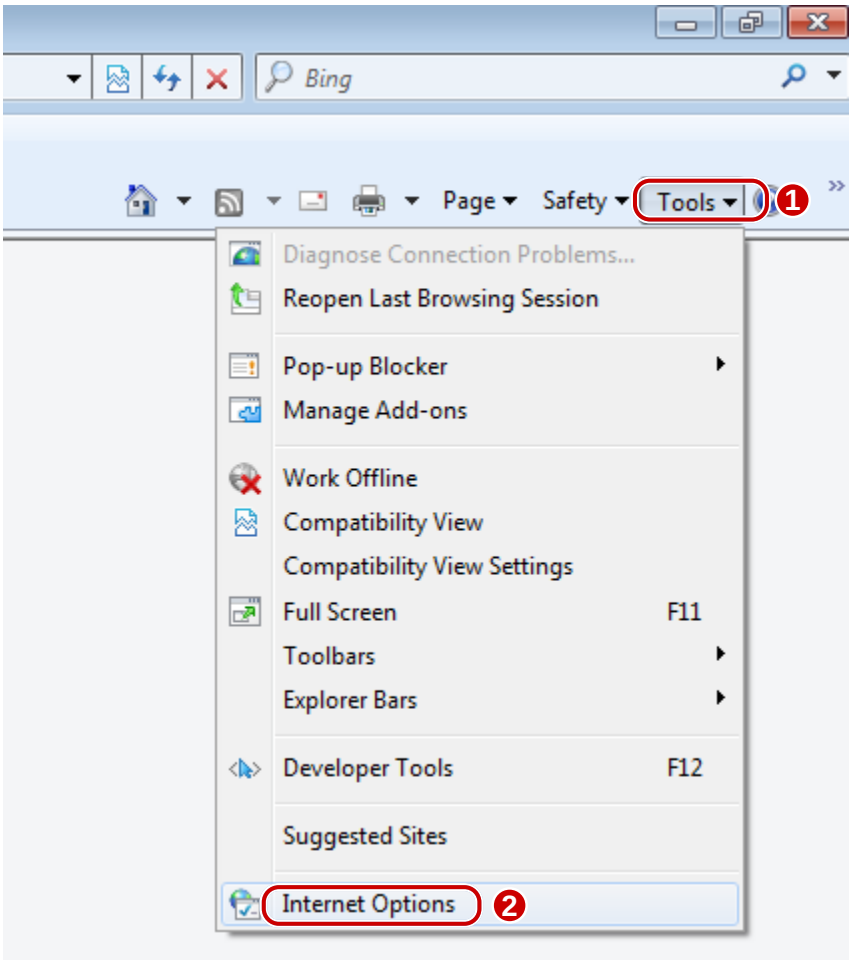
After you have completed the installation in accordance with the quick guide, connect the camera to power to start it. After the camera is started, you can access the camera from a PC client installed with a web browser or the client software EZStation. Internet Explorer (IE) is a recommended web browser. For more information about EZStation, refer to the *EZStation User Manual*.

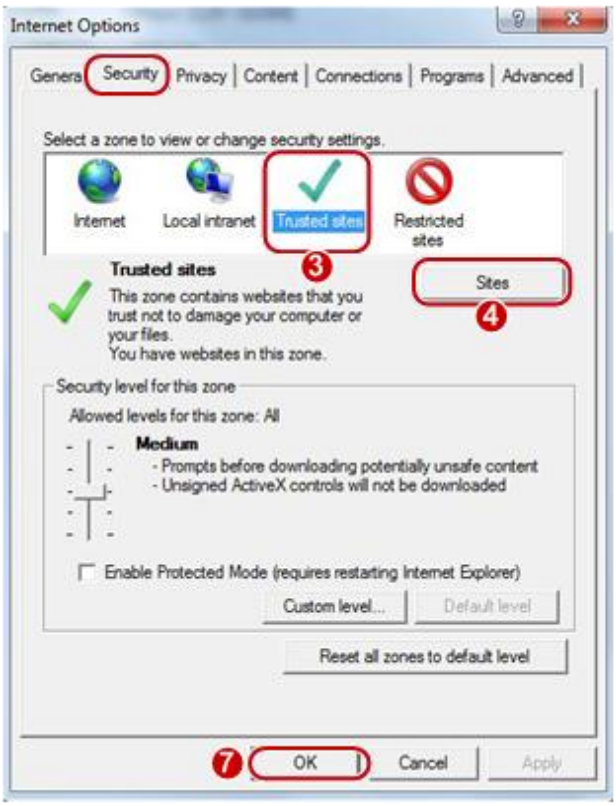
The following takes IE on a Microsoft Windows 7 operating system as an example.

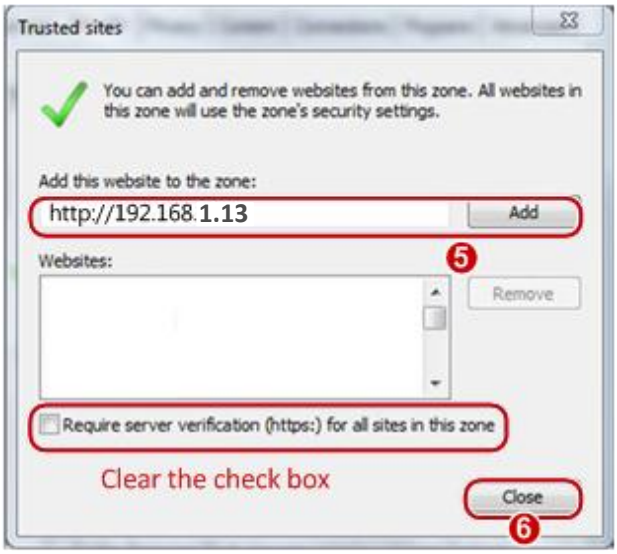
Check before login

- The camera is operating correctly.
- The network connection between the PC and the camera is normal.
- The PC is installed with Internet Explorer 10.0 or higher.
- (Optional) The resolution is set to 1440 x 900.

Add the IP address as a trusted site





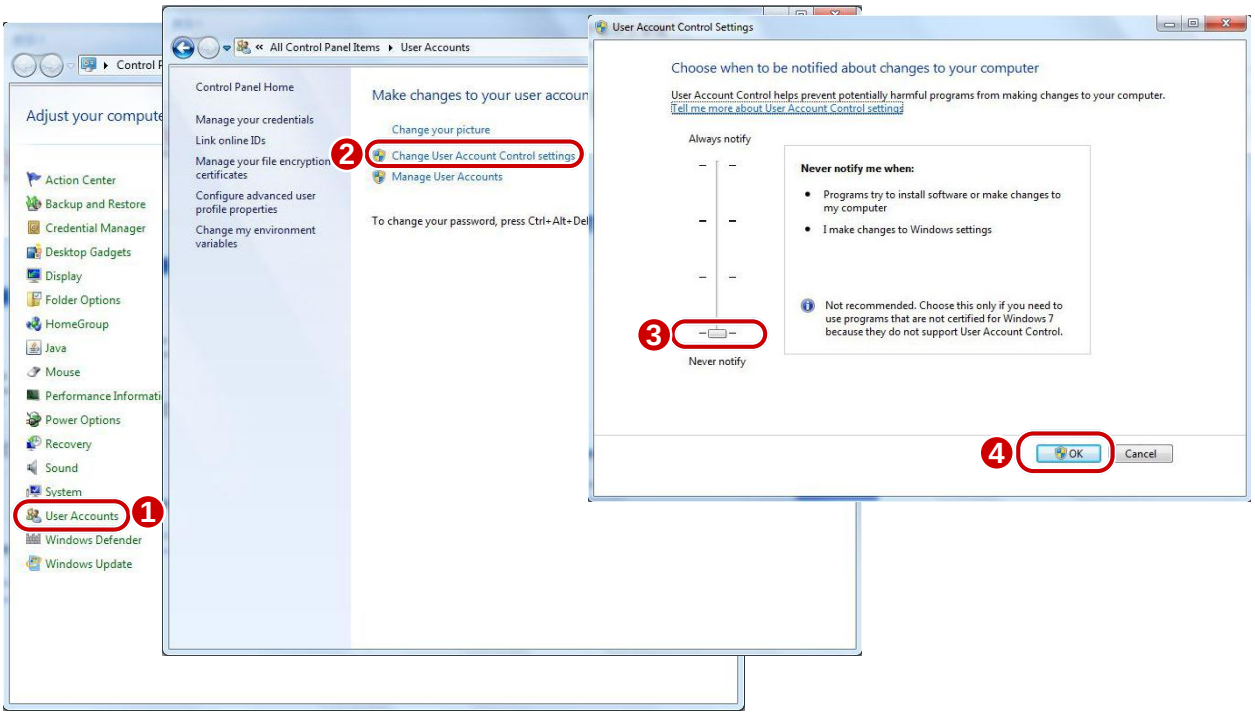


NOTE!

The IP address 192.168.1.13 in this example is the default IP address. Please replace it with the actual address of your camera if it has been changed.

(Optional) Modify user access control settings

Before you access the camera, follow the steps to set **User Account Control Settings** to **Never notify**.



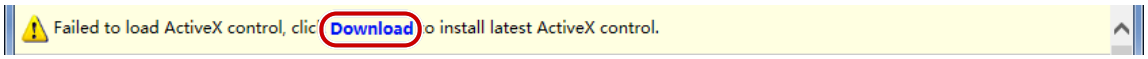
Logging In to the Web Interface

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 turned on by default. If a DHCP server is used in the network, the IP address of your camera may be assigned dynamically, and you need to use the correct IP address to log in. Use the EZStation client to view the dynamic IP address of your camera.

The following takes IE as an example to describe the login procedure.

1. Browse to the login page by entering the correct IP address of your camera in the address bar.



2. If you log in for the first time, follow system prompts and install the ActiveX. You need to close your browser to complete the installation.

NOTE!

- To manually load the ActiveX, type *http*://*IP address*/ActiveX/Setup.exe in the address bar and press **Enter**.
- The default password is used for your first login. To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters).
- The camera protects itself from illegal access by limiting the number of failed login attempts. If login fails six times consecutively, the camera locks automatically for ten minutes.

3. Enter the username and password, and then click **Login**. For the first login, use the default username "admin" and password "123456".

- If you log in with **Live View** selected, live video will be displayed when you are logged in. Otherwise, you need to start live video manually in the live view window.
- If you log in with **Save Password** selected, you do not need to enter the password each time when you log in. To ensure security, you are not advised to select **Save Password**.
- To clear the **Username** and **Password** text boxes and the **Save Password** check box, click **Reset**.

Introduction to the Web Interface

By default the live view window is displayed when you are logged in to the Web interface. The following shows an example.

No.	Description
1	Menu
2	PTZ control area **Note:** This area is available for PTZ dome cameras and PTZ cameras.
3	Live view window
4	Live view toolbar

Initial Configuration

After you log in to the device, please perform the following initial configuration.

Item	Description
1. Ethernet.	Reconfigure the device IP and network parameters based on the actual networking.
2. Log out and log in again to the Web using the new IP address.	-

Item	Description
3. Set the system time.	Set the system time based on the actual situation.
4. (Optional) Set the management server.	Set the management server based on the actual networking.
5. (Optional) Set the server for storing photos.	Set the server for storing photos based on the actual networking.
6. Set OSD.	Set the information displayed on the screen as needed, for example, time.
7. (Optional) Manage users.	Change the default password and add common users as needed.

You can watch the live video after finishing the initial configuration. Please configure other parameters as needed.

NOTE!

- The displayed live view interface, parameters displayed and value ranges may vary with models. Please see the actual Web interface for details.
- The parameters that are grayed out cannot be modified. For the actual settings, see the Web interface.
- It is recommended that you change the password when you are logged in the first time. For details about how to change a password, see Security.

3 Configuring Parameters

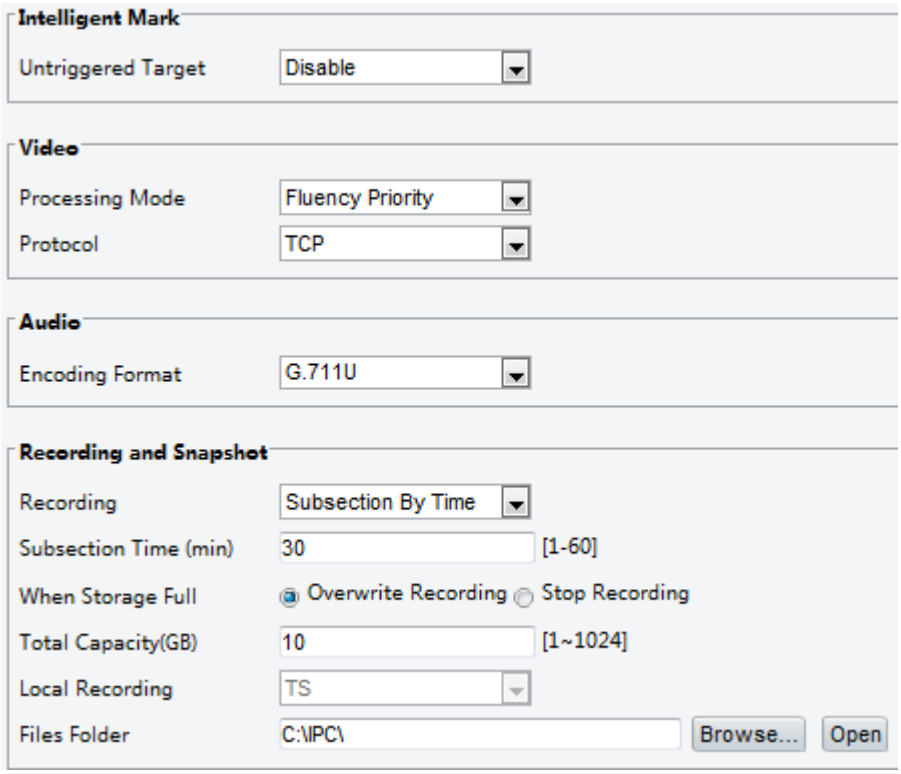
Local Parameters

Set local parameters for your PC.

NOTE!

The local parameters may vary with models. Please see the actual Web interface for details.

1. Select **Setup** > **Common** > **Local Settings**.



2. Modify the settings as required. The following table describes some major parameters.

Parameter		Description
Intelligent Mark	Untriggered Target	When enabled, the camera will display an on-screen mark on the target (e.g., face when face detection is enabled) and track it.
Video	Processing Mode	• Real-Time Priority: Recommended if the network is in good condition. • Fluency Priority: Recommended if you want short time lag for live video. • Ultra-low Latency: Recommended if you want the minimum time lag for live video.
	Protocol	Set the protocol used to transmit media streams to be decoded by the PC.
Record and Snapshot	Recording	• Subsection By Time: Duration of recorded video for each recording file on the computer. For example, 2 minutes. • Subsection By Size: Size of each recording file stored on the computer. For example, 5M.
	Record Overwrite	• Overwrite: When the assigned storage space on the computer is used up, the camera deletes the existing recording files to make room for the new recording file. • Full Stop: When the assigned storage space on the computer is full, recording stops automatically.

3. Click **Save**.

Network Configuration

Ethernet

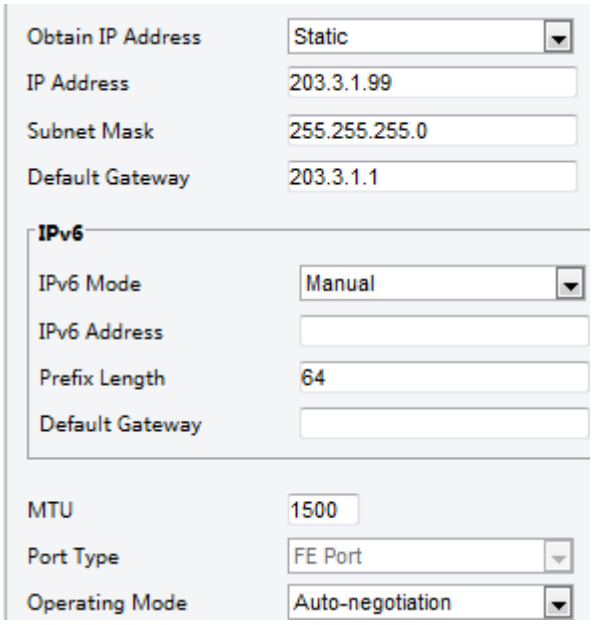
Modify communication settings such as the IP address for the camera so that the camera can communicate with other devices.

NOTE!

- After you have changed the IP address, you need to use the new IP address to log in.
- The configurations of DNS (Domain Name System) server are applicable when the device is accessed by domain name.

Static Address

1. Click **Setup** > **Network** > **Network**.



2. Select **Static** from the **Obtain IP Address** drop-down list.
3. Enter the IP address, subnet mask, and default gateway address. Make sure that the IP address of the camera is unique in the network.
4. Click **Save**.

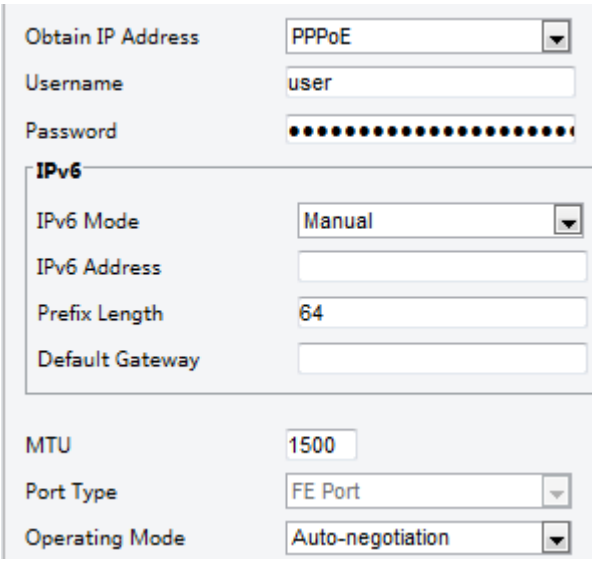
PPPoE

NOTE!

This function is not supported by some models. Please see the actual model for details.

If the camera is connected to the network through Point to Point over Ethernet (PPPoE), you need to select PPPoE as the IP obtainment mode.

1. Click **Setup** > **Network** > **Network**.



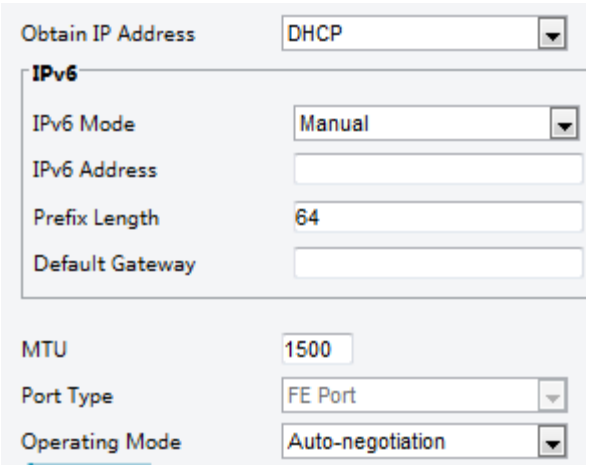
2. Select **PPPoE** from the **Obtain IP Address** drop-down list.
3. Enter the username and password provided by your internet Service Provider (ISP).
4. Click **Save**.

DHCP

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

To manually configure DHCP, follow the steps below:

1. Click **Setup** > **Network** > **Network**.



2. Select **DHCP** from the **Obtain IP Address** drop-down list.
3. Click **Save**.

IPv6

1. Click **Setup** > **Network** > **Network**.

2. By default the **IPv**6 mode is set to **Manual**.
3. Enter the IPv6 address, set the prefix length and default gateway. The IP address must be unique on the network.
4. Click **Save**.

Wi-Fi

NOTE!

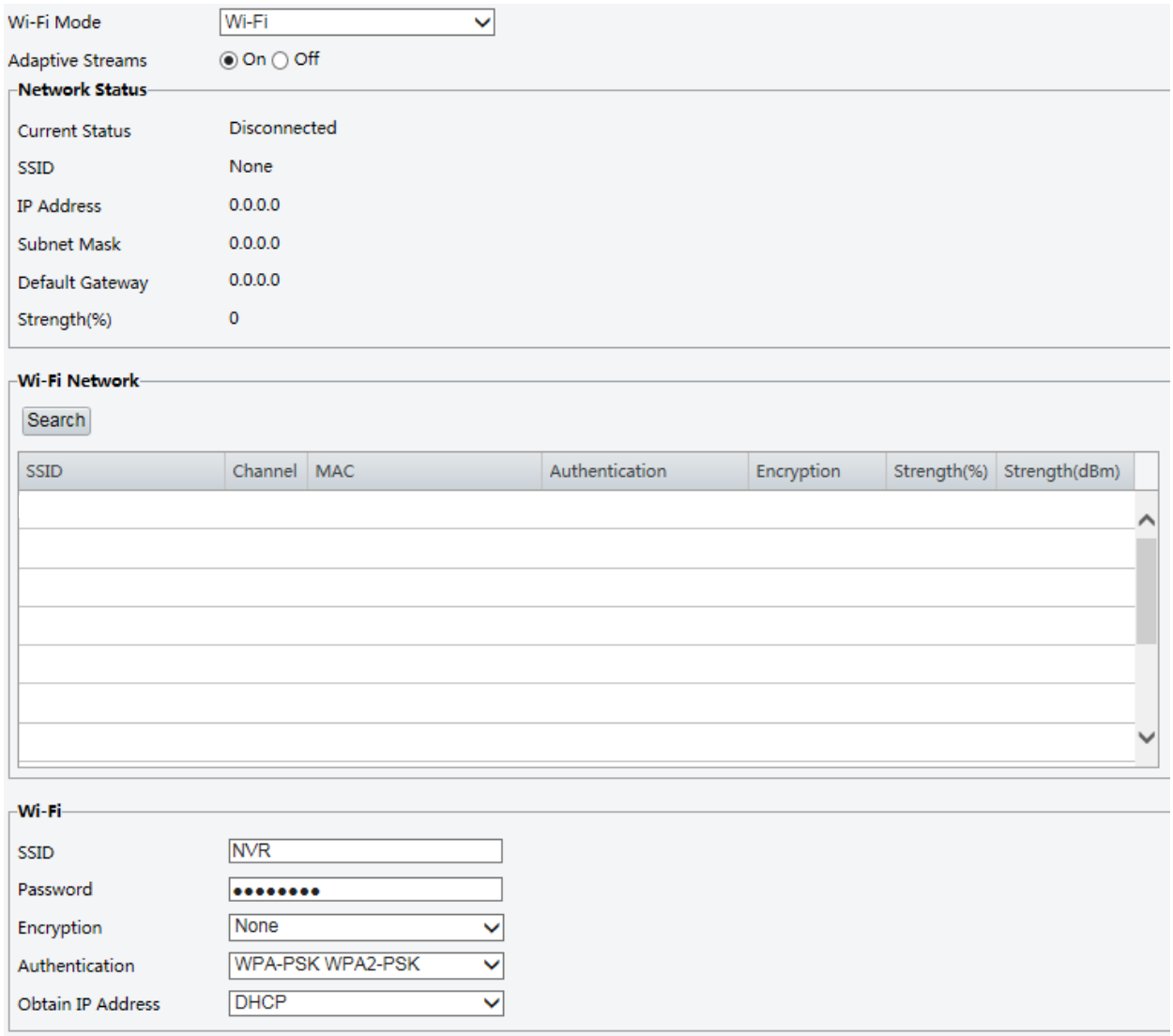
This function is not supported by some models, please see the actual model for details.

1. Click **Setup** > **Network** > **Network**. Click the **Wi-Fi** tab.

2. Select **Sniffer**.
3. Click **Save**.

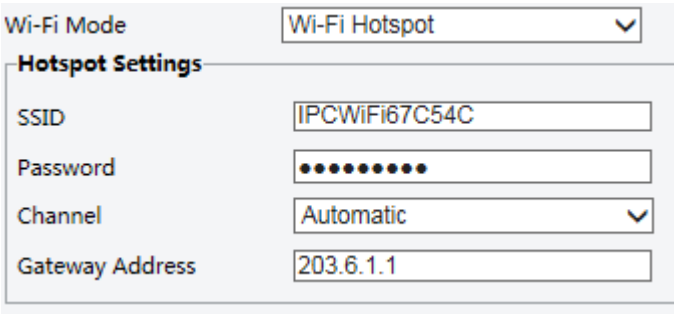
Some devices can search for Wi-Fi networks and connect.

1. Select **Setup** > **Network** > **Network**. Select **Wi-Fi** for **Wi-Fi Mode**.



2. Signal strength is displayed. Turn on **Adaptive Streams**. The page shows that there are other Wi-Fi networks. To search for Wi-Fi networks again, click **Search**.
3. Click an SSID in the Wi-Fi Network list. Information about the corresponding network is displayed.
4. Click **Save**.

5. When **Wi-Fi Mode** is set to **Wi-Fi Hotspot**, the camera can function as a Wi-Fi hotspot for other devices.



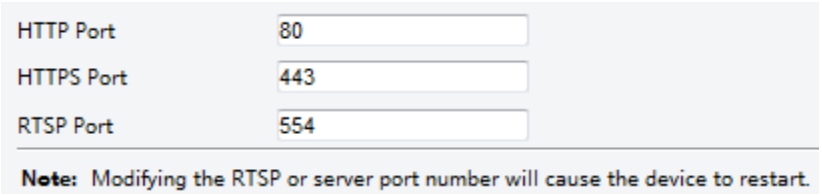
6. Click **Save**.

Port

NOTE!

This function is not supported by some models. Please see the actual model for details.

1. Click **Setup** > **Network** > **Port**.



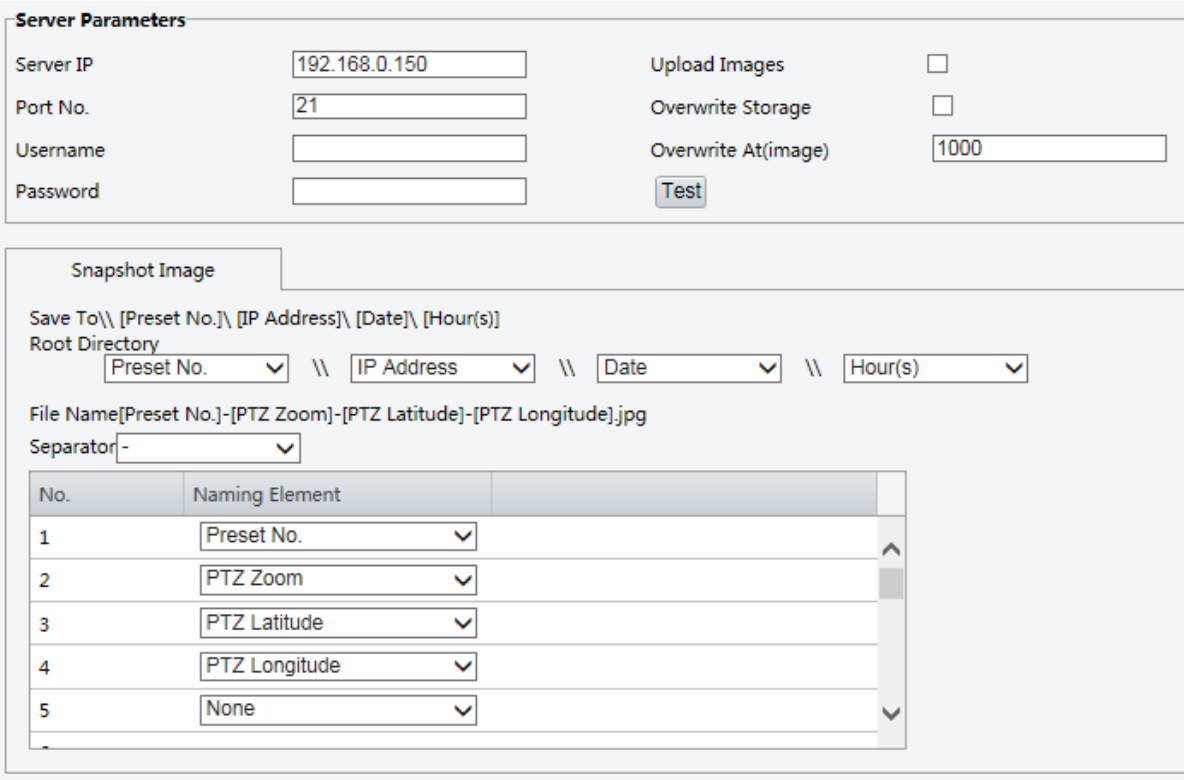
2. Configure relevant port numbers.
3. Click **Save**.

FTP

All snapshots (except face detection) are saved through the general FTP service. After the configuration of FTP, you will be able to upload snapshots from network cameras to the specified FTP server.

General

1. Click **Setup** > **Storage** > **FTP**. Go to **General** tab.

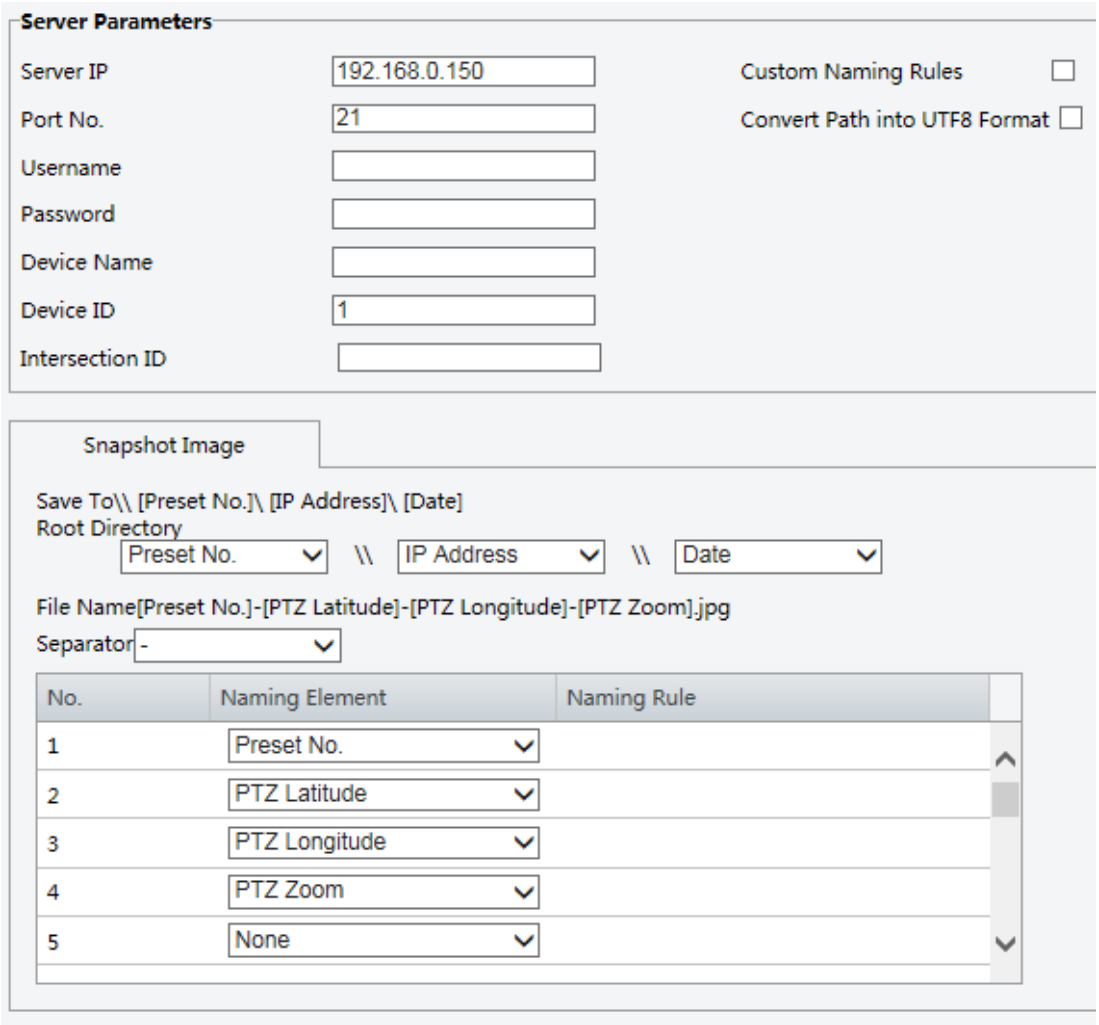


2. Set the IP address and port for the FTP server, username and password used to upload images to the FTP server, select **Upload Images**, **Overwrite Storage** and set **Overwrite At** (threshold for overwriting images). Some camera models support FTP test. You may test FTP after completing FTP settings correctly.
3. Set the path for saving snapshots on the FTP server and the file name format. For example, set path as Preset No.\\IP Address\\Date\\Hour(s), and set file name as Preset No.-PTZ Zoom-PTZ Latitude-PTZ Longitude.jpg.
4. Click **Save**.

Smart

This function is used to store snapshots taken for smart functions such as face recognition. To use smart FTP, click Setup > System > Server > Intelligent Server and set Platform Communication Type to FTP.

1. Click **Setup** > **Storage** > **FTP**. Go to **Smart** tab.

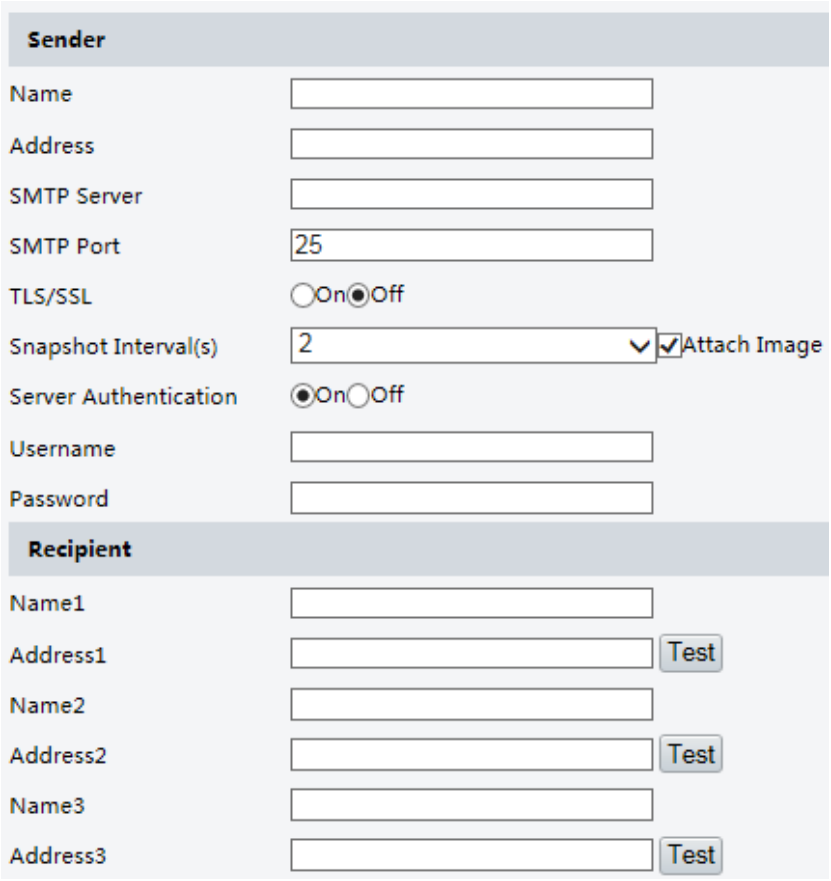


2. Set the IP address and port of the FTP server, username and password used to upload images to the FTP server.
3. Set the path for saving snapshots on the FTP server and the file name format. For example, set path as Preset No.\\IP Address\\Date, and set file name as Preset No.-PTZ Latitude-PTZ Longitude-PTZ Zoom.jpg.
4. Click **Save**.

E-Mail

After the configuration of E-mail, when alarms are triggered, you will be able to send messages to the specified E-mail address.

1. Click **Setup** > **Network** > **E-mail.**



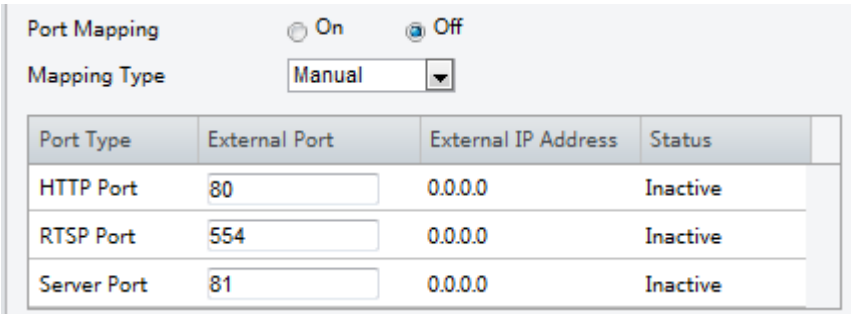
2. Configure relevant parameters of the sender and the recipient. Some camera models support Email test. You may test email after setting the recipient address. The following table describes some major parameters.

Parameter	Description
TLS/SSL	When enabled, the e-mail will be encrypted using TLS (Transport Layer Security) or Secure Socket Layer (SSL) to protect privacy. First it tries to send through an SSL connection. If the SMTP server supports SSL, the e-mail will be sent through the SSL connection; otherwise, it tries to send using STARTTLS.
Attach Image	When enabled, the e-mail will contain 3 instant snapshots as attachment according to the Capture Interval.
Username/Password	Username and password of the registration email address. The password allows the following special characters \ / : * ? ’ ” < > | % &

3. Click **Save**.

Port Mapping

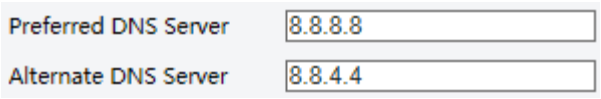
1. Click **Setup** > **Network** > **Port**. Go to **Port Mapping** tab**.**



2. Enable **Port Mapping** and select mapping type. If **Manual** is selected, then external ports must be configured (external IP is obtained automatically by the camera). If the configured port is occupied, then the **Status** will show Inactive.
3. Click **Save**.

DNS

1. Click **Setup** > **Network** > **DNS**.



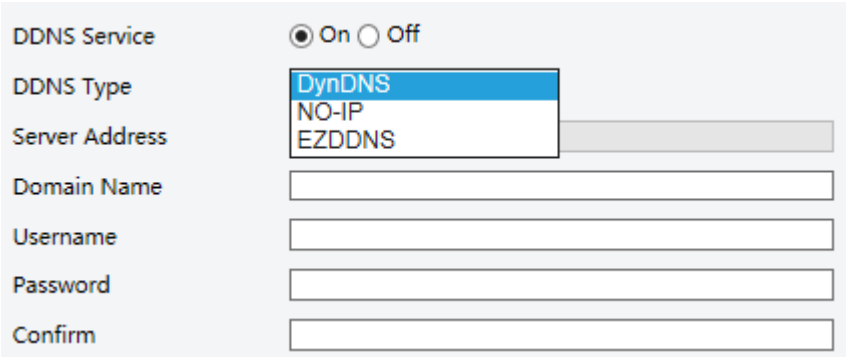
2. Set DNS server addresses.
3. Click **Save**.

DDNS

NOTE!

This function is not supported by some models. Please see the actual model for details.

1. Click **Setup** > **Network** > **DDNS**.



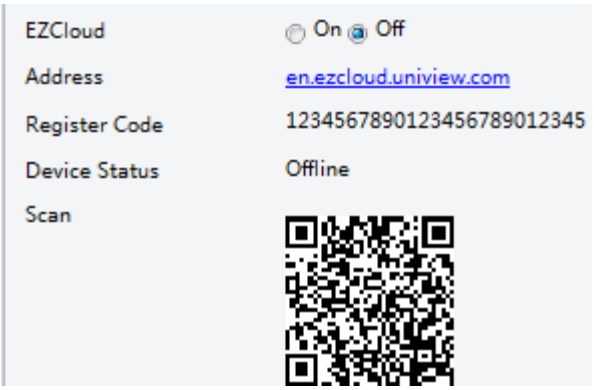
2. Enable **DDNS Service**.
3. Select a DDNS type: DynDNS, NO-IP, or EZDDNS.
4. Complete other settings including server address, domain name, username and password.
5. Click **Save**.

EZCloud

NOTE!

- This function is not available to all models.
- Scan the QR code with your mobile phone (iOS or Android) to download the APP.
- When installed, run the APP to add the camera. Please refer to the online help in the APP for detailed steps.

1. Click **Setup** > **Network** > **EZCloud**.

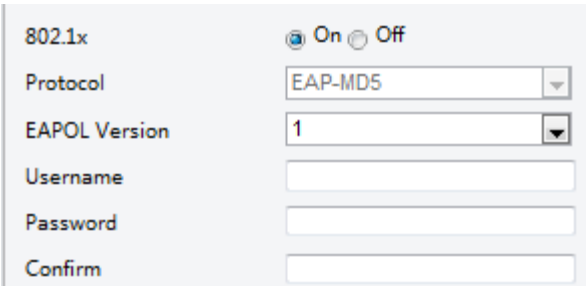


2. Select **On** to enable cloud service.
3. Click **Save**.

802.1x

802.1x provides authentication to devices (e.g., cameras) trying to connect to a network. Only the authenticated devices can connect the network. This enhances security.

1. Click **Setup** > **Network** > **802.1x**.



2. Select **On** and then complete other settings.
3. Click **Save**.

Image Configuration

Image Adjustment

NOTE!

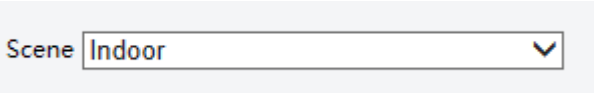
- The image parameters displayed and value ranges allowed may vary with camera model. For the actual parameters and value ranges of your camera, see the Web interface. You may move the sliders to adjust settings or enter values in the text boxes directly.
- Clicking **Default** will restore all the default image settings.

Setting the Scene

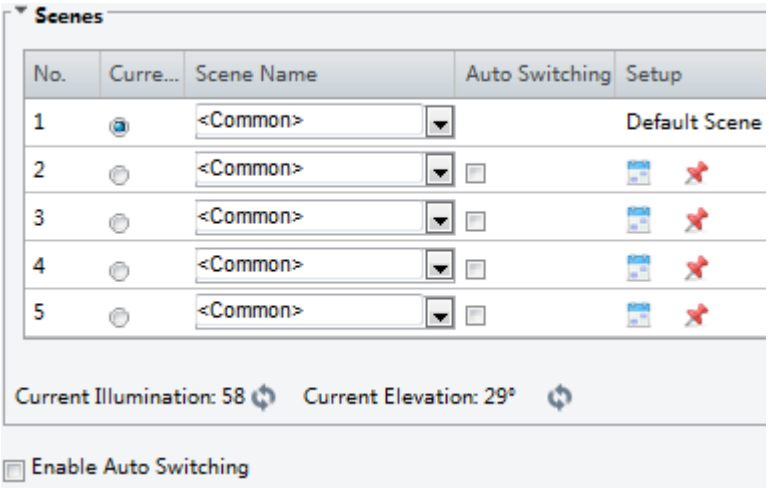
Set image parameters to achieve the desired image effects based on live video in different scenes.

Click **Setup** > **Image** > **Image**.

The scene management page for some models is displayed as follows, you can select the desired scene in the drop-down list.



The scene management page of some models is displayed as follows, you can take the following steps to configure the scene.



1. Click **Scenes**.
2. Select a scene, and then set scene switching parameters. The following table describes some major parameters.

Column	Description
Current	Indicates the scene that is being used. **Note**: • Select an option button to switch to the scene and display the corresponding image parameters for the scene. • The camera switches the current scene automatically when **Enable Auto Switching** is selected.
Scene Name	Name of the current scene. The device provides several preset scene modes. When you select a scene, the corresponding image parameters are displayed. You can adjust image settings according to actual needs.

Column	Description
	• Common: recommended for outdoor scenes. • Indoor: recommended for indoor scenes. • High Sensitivity: recommended for low light environment. • Highlight Compensation: can suppress strong light such as headlights on roads and spotlight in parks. Recommended for capturing vehicle license plates. • WDR: recommeded for scenes with high-contrast lighting, such as window, corridor, front door or other scenes that are bright outside but dim inside. • Custom: set a scene name as needed. • Face: Capture faces in motion in complicated scenes.
Auto Switching	Indicates whether to add a scene to the auto-switching list. **Note**: If **Auto Switching** is selected, the system switches to a scene automatically when the condition for switching to the scene is met. By default the auto-switching list includes the default scene.
Setup	Click to set conditions for auto-switching, including schedule, illumination, and current elevation (angle between the PTZ and the horizontal direction). It means that auto-switching is triggered only when illumination and the current elevation during the set time period meet the set conditions. A condition is invalid if both the start and end values are set to 0.

3. Select a scene and then click to set it as the default scene.
4. If auto-switching is enabled, the camera can switch to the scene automatically when the condition for switching to a non-default scene is met. Otherwise, the camera remains in the default scene. When auto-switching is not enabled, the camera remains in the current scene.

NOTE!

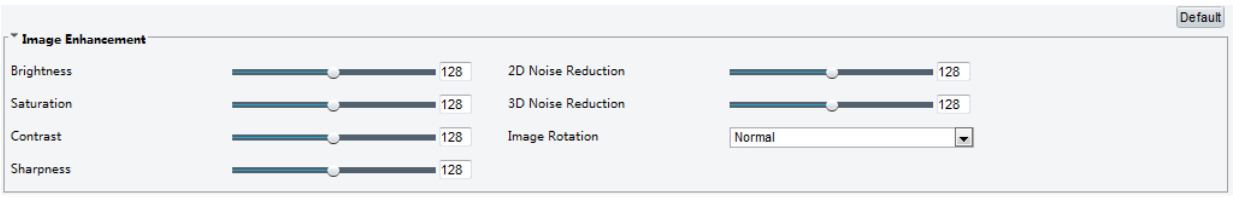
- If Auto Switching is enabled (scene settings will be unavailable), the device will switch between the set scenes. If not, the device will stay at the current scene. The device will stay at default scenes unless the non-default scenes are triggered.
- If multiple non-default scenes are triggered, then the device will switch to the scene with the minimum number (starts from 1 to 5).

Image Enhancement

NOTE!

This function may vary with models. Please see actual Web interface for details.

1. Click **Setup** > **Image** > **Image** and then click **Image Enhancement**.



2. Use the sliders to change the settings. You may also enter values directly. The following table describes some major parameters.

Item	Description
Brightness	Set the degree of brightness of images. Low brightness High brightness
Saturation	The amount of a hue contained in a color. Low saturation High saturation
Contrast	Set the degree of difference between the blackest pixel and the whitest pixel. Low contrast High contrast
Sharpness	Contrast of boundaries of objects in an image. Low sharpness High sharpness
2D Noise Reduction	Reduce the noise of images. The function may cause image blurring.
3D Noise Reduction	Reduce the noise of images. The function may cause motion blur (or ghosting in some applications).
Image Rotation	Rotation of the image.

Item	Description
	Normal Flip Vertical Flip Horizontal 180° 90° Clockwise 90° Anti-clockwise

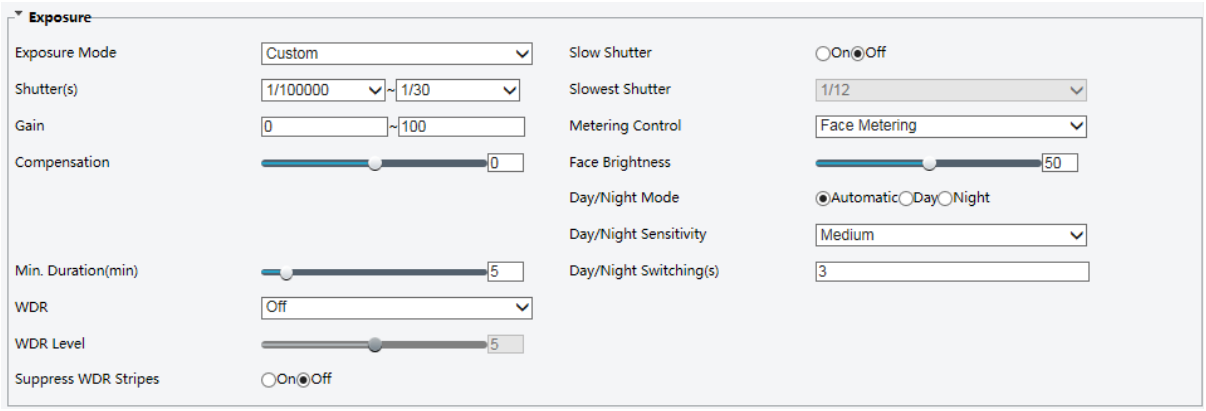
3. To restore default settings in this area, click **Default**.

Exposure

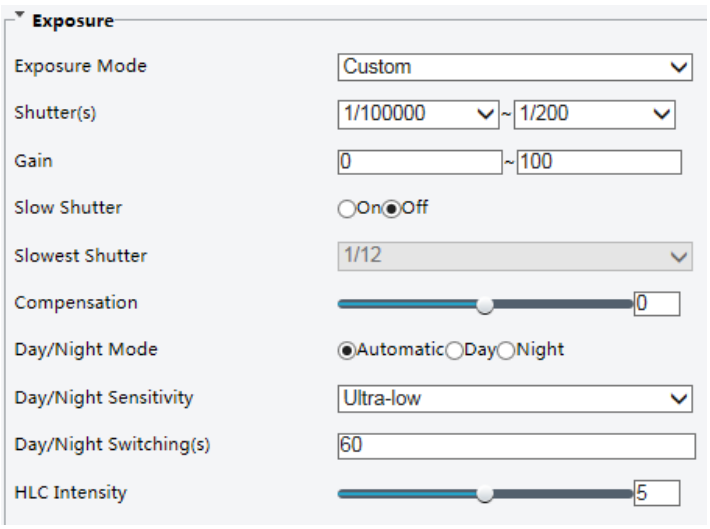
NOTE!

- This function may vary with models. Please see actual Web interface for details.
- The default settings are scene-adaptive. Use default settings unless modification is necessary.

1. Click **Setup** > **Image** > **Image** and then click **Exposure**.



For some camera models, the page is displayed as follows.



2. Set the parameters as required. The following table describes some major parameters.

Parameter	Description
Exposure Mode	Select the correct exposure mode to achieve the desired exposure effect. • Automatic: The camera automatically adjusts exposure according to the environment. • Custom: The user sets exposure as needed. • Indoor 50Hz: Reduce stripes by limiting shutter frequency. • Indoor 60Hz: Reduce stripes by limiting shutter frequency. • Manual: Finetune image quality by setting shutter, gain and iris manually. • 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**: • You can set a shutter speed when **Exposure Mode** is set to **Manual** or **Shutter Priority**. • If **Slow Shutter** is set to **Off**, the reciprocal of the shutter speed must be greater than the frame rate.
Gain (dB)	Control image signals so that the camera outputs standard video signals according to the light condition. **Note:** You can set this parameter only when **Exposure Mode** is set to **Manual** or **Gain Priority**.
Slow Shutter	Improves image brightness in low light conditions. **Note:**

Parameter	Description
	You can set this parameter only when **Exposure Mode** is not set to **Shutter Priority** and when **Image Stabilizer** is disabled.
Slowest Shutter	Set the slowest shutter speed that the camera can use during exposure. **Note:** You can set this parameter only when **Slow Shutter** is set to **On**.
Compensation	Adjust the compensation value as required to achieve the desired effects. **Note:** You can set this parameter only when **Exposure Mode** is not set to **Manual**.
Metering Control	Set the way the camera measures the intensity of light. • Center-Weighted Average Metering: Measure light mainly in the central part of images. • Evaluative Metering: Measure light in the customized area of images. • Highlight compensation: Ignore the brightness of the overexposed area of images. But selecting this setting will decrease the overall brightness of the image. • Face Metering: Adjust image quality in poor lighting conditions by controlling the brightness of captured face in Face scene. **Note:** You can set this parameter only when **Exposure Mode** is not set to **Manual**.
Day/Night Mode	• Automatic: The camera outputs the optimum images according to the light condition. In this mode, the camera can switch between night mode and day mode automatically. • Night: The camera provides high-quality black and white images using the existing light • Day: The camera provides high-quality color images using the existing light.
Day/Night Sensitivity	Light threshold for switching between day mode and night mode. A higher sensitivity means that the camera is more sensitive to the change of light and becomes more easily to switch between day mode and night mode. **Note:** You can set this parameter only 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 conditions for switching are met. **Note:** You can set this parameter only when **Day/Night Mode** is set to **Automatic.**
WDR	Enable WDR to distinguish the bright and dark areas in the same image. **Note:** You can set this parameter only when **Exposure Mode** is neither **Customize** nor **Manual** and when **Image Stabilizer** is disabled**.**
WDR Level	After enabling the WDR function, you can improve the image by adjusting the WDR level. **Note:** Use level 7 or higher when there is a high contrast between the bright and dark areas of the scene. In the case of low contrast, it is recommended to disable WDR or use level 1-6.
Suppress WDR Stripes	When enabled, the camera can automatically adjust slow shutter frequency according to the frequency of light to minimize stripes that may appear in images.

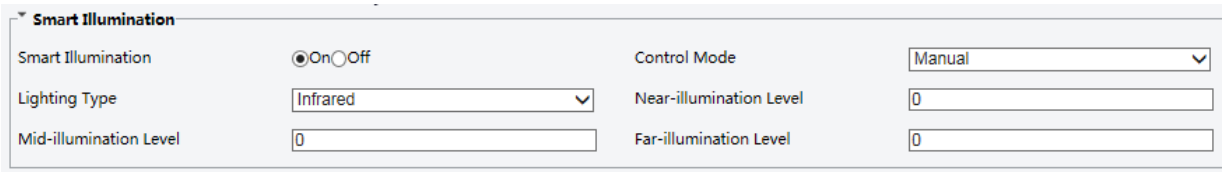
3. To restore the default settings, click **Default**.

Smart Illumination

NOTE!

This function may vary with models. Please see actual Web interface for details.

1. Click **Setup** > **Image** > **Image** and then click **Smart Illumination**.



2. Select the correct IR control mode and set the parameters. The following table describes some major parameters.

Parameter	Description
Lighting Type	• **Infrared**: The camera uses infrared light illumination. • **White Light**: The camera uses white light illumination. **Note**: When **Control Mode** is set to **Manual**, camera can set illumination level from 0~1000.
Control Mode	• **Global Mode**: The camera adjusts IR illumination and exposure to achieve balanced image effects. Some areas might be overexposed if you select this option. This option is recommended if monitored range and image brightness are your first priority. • **Overexposure Restrain**: The camera adjusts IR illumination and exposure to avoid regional overexposure. Some areas might be dark if you select this option. This option is recommended if clarity of the central part of the image and overexposure control are your first priority. • **Road**: This mode offers strong illumination in whole and is recommended for monitoring wide-ranging scenes, for example, road. • **Park**: This mode offers uniform light and is recommended for monitoring small range scenes with many obstacles, for example, industrial parks. • **Manual**: This mode allows you to manually control the intensity of IR illumination. • **Indoor**: This mode is recommended for application in indoor scenes.
Illumination Level	Set the intensity level of the IR light. The greater the value, the higher the intensity. 0 means that the IR light is turned off. • **Near-illumination Level**: You are recommended to set this parameter first for a wide-angle scene. • **Mid-illumination Level**: You are recommended to set this parameter first if the scene requires an intermediate focal length. • **Far-illumination Level**: You are recommended to set this parameter first if the scene requires a telephoto view. **Note**: You can set this parameter only when **Control Mode** is set to **Manual**.

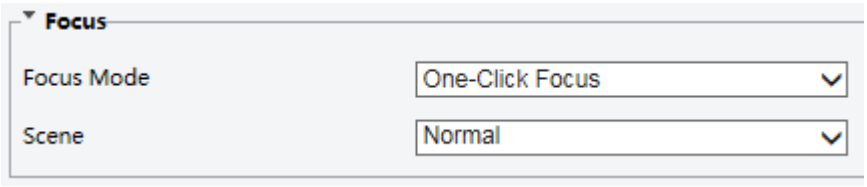
3. To restore the default settings, click **Default**.

Focus

NOTE!

This function may vary with models. Please see actual models for details.

1. Click **Setup** > **Image** > **Image** and then click **Focus**.



2. Select the focus mode as required.

Parameter	Description
Focus Mode	• Auto Focus: The camera focuses automatically according to the current light condition. • Manual Focus: Manually adjust camera focus as required. • One-Click Focus: The camera is triggered to focus once when rotating, zooming or going to a preset. • One-Click Focus (IR): In a low light condition such as during night hours or in a dark house, this focus mode achieves better effects with the IR light turned on.
Scene	• Normal: Used for common scenes, such as road and industrial park. • Long Distance: Used for long-distance monitoring on a road. For example, when the camera is installed over 30 meters high to monitor a distant road intersection.

3. To restore the default settings, click **Default**.

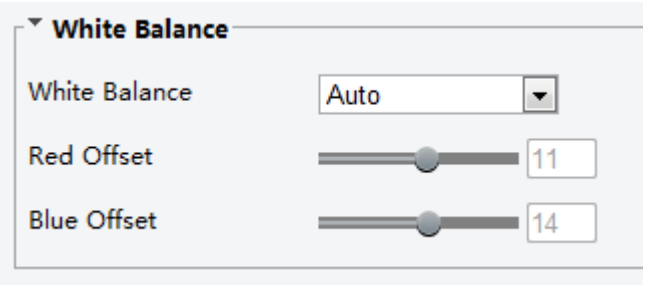
White Balance

White balance is the process of offsetting unnatural color cast in images under different color temperatures so as to output images that best suit human eyes.

NOTE!

This function may vary with models. Please see the actual Web interface for details.

1. Click **Setup** > **Image** > **Image** and then click **White Balance**.



2. Select a white balance mode as required. The following table describes some major parameters.

Parameter	Description
White Balance	Adjust the red or blue offset of the image: • Auto/Auto2: The camera adjusts the red and blue offset automatically according to the light condition (the color tends to be blue). If the images are still unnaturally red or blue in Auto mode, please try Auto2. • Fine Tune: Allow you to adjust the red and blue offset manually. • Outdoor: Suitable for outdoor environment with a relatively greater color temperature range. • Locked: Lock the current color temperature without change. • Sodium Lamp: The camera adjusts red and blue offset automatically according to the light condition (the color tends to be red).

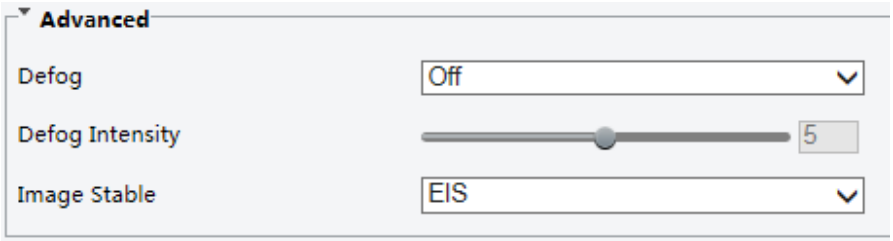
Red Offset	Adjust the red offset manually. **Note**: You can set this parameter only when **White Balance** is set to **Fine Tune**.
Blue Offset	Adjust the blue offset manually. **Note**: You can set this parameter only when **White Balance** is set to **Fine Tune**.

3. To restore the default settings, click **Default**.

Advanced

Use the defog function to adjust the clarity of images captured in fog or haze conditions.

1. Click **Setup** > **Image** > **Image** and then click **Advanced**.



NOTE!

- You can set this parameter only when WDR is turned off.
- Only some camera models support optical defog. When **Defog** is set to **On**, defog intensity level 6-9 represent optical defog, and images change from color to black/white when defog intensity is set from level 5 to 6; if **Defog** is set to **Auto** and defog intensity level is somewhere between 6-9, images do not automatically change to black/white in light fog conditions; the camera automatically switches to optical defog only in heavy fog conditions.

2. Enable the defog function and then select a level for the scene. Level 9 achieves the maximum defog effects, and level 1 achieves the minimum.

Defog Off

Defog On

3. To restore the default settings, click **Default**.

Lighting Type

NOTE!

This function may vary with models. Please see the actual model for details.

1. Click **Setup** > **Image** > **Image** and then click **Smart Illumination**

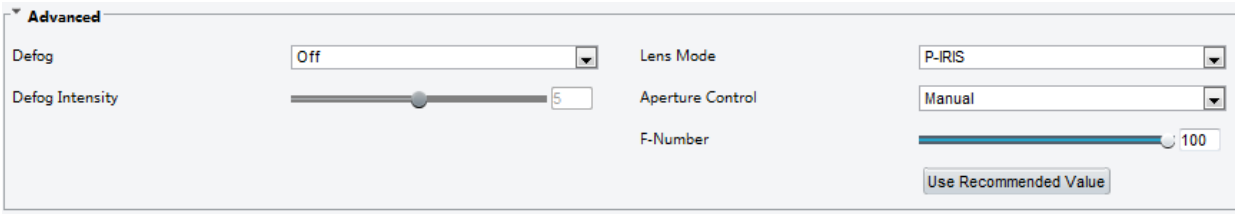
2. Select an option from the **Lighting Type** drop-down list.
3. To restore the default settings, click **Default**.

Configuring Iris and Lens Mode

NOTE!

- This function is only supported by certain network box camera types. Please see the actual model for details.
- Please use the lens with P-Iris control mode, and connect the iris control cable to the Z/F port of the camera.
- Iris can be set only when **Lens Mode** is set to **P-IRIS**.

1. Click **Setup** > **Image** > **Image** and then click **Advanced**.



2. Modify the settings as required. The following table describes some major parameters.

Parameter	Description
Lens Mode	• Z/F: to modify focus and zoom. • P-Iris: to modify iris value.
Aperture Control	Automatically or manually adjust iris. **Note**: You can set this parameter only when **Lens Mode** is set to **P-Iris**.
F-Number	Change aperture manually.

3. To restore the default settings, click **Default**.

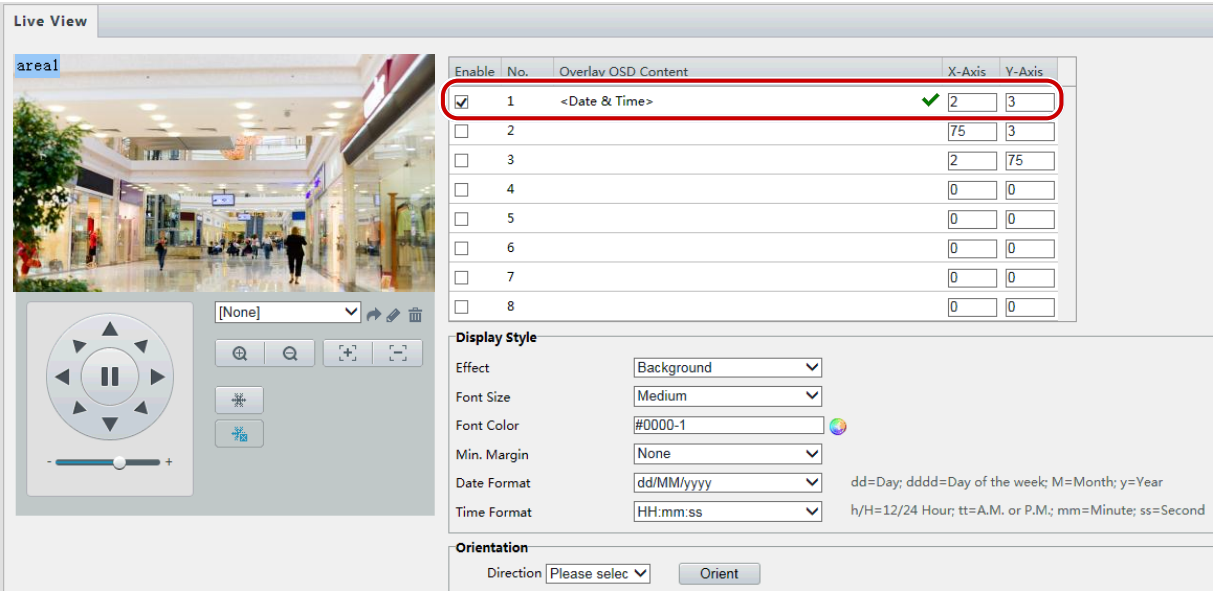
OSD Setting

On Screen Display (OSD) is the text displayed on the screen with video images and may include time and other customized contents.

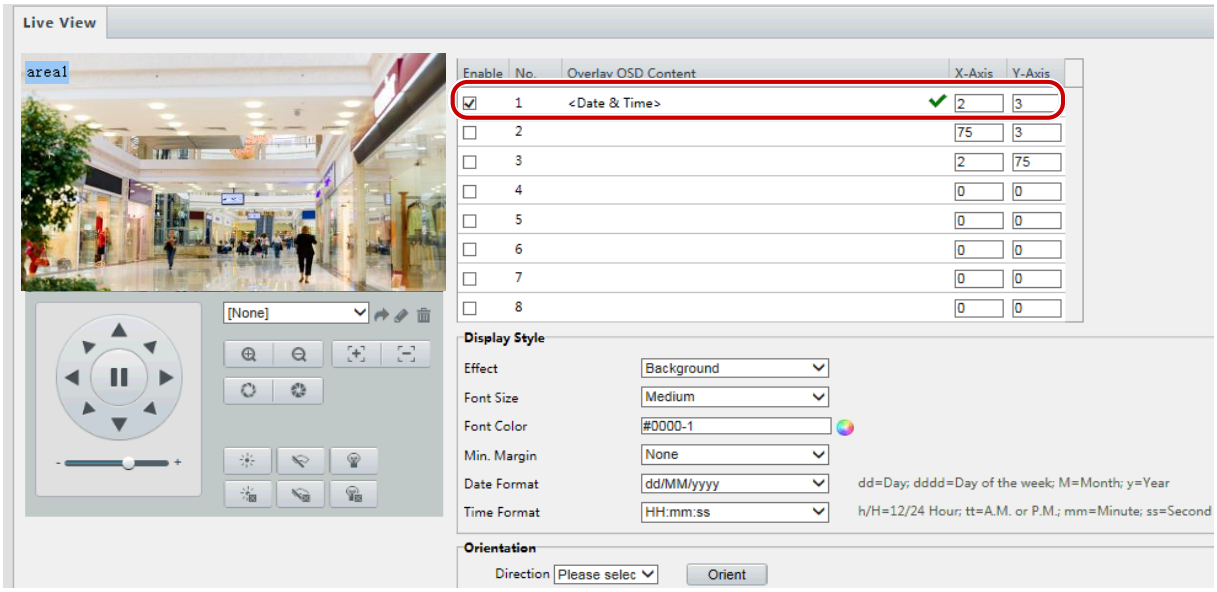
NOTE!

This function may vary with models. Please see the actual Web interface for details.

1. Click **Setup** > **Image** > **OSD**.



The OSD interface of some models is displayed as follows.



2. Select the position and content of the OSD.

- Position: Click the desired box in the **Live View** area. After the cursor shape is changed, click and hold the button to move the box to the desired position. To set the position precisely, use the X and Y coordinates under **Overlay Area**.
- Overlay OSD Content: The drop-down list provides **Time**, **Preset** and **Serial Info**. You may also select **Custom** and enter the content you want.
- After you have set the position and OSD content, the ✔ symbol appears in the **Status** column, which means that the OSD is set successfully. You may set multiple lines of contents for each area and use ∧ and ∨ to adjust the sequence of display.

3. After you have completed the settings, a message appears to indicate the successful settings.

You may right-click in the preview window and then choose to view in full screen mode or at an aspect ratio. You may also double-click the preview window to enter or exit full screen mode.

To cancel OSD for an area, clear the OSD content in the **Overlay OSD Content** column or select **None** in the **Position** column.

The following shows an example time OSD.

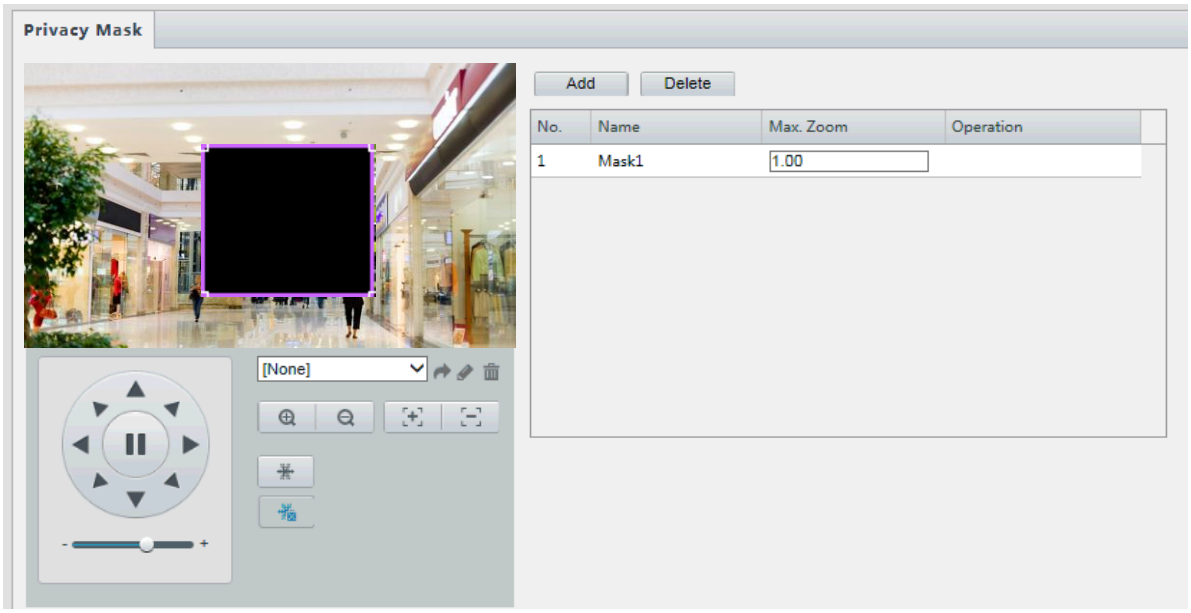
Privacy Mask

On certain occasions, you may need to set a mask area on the camera image to protect privacy, for example, the keyboard of an ATM machine. When PTZ changes its position or zooms, the Privacy Mask will be adjusted accordingly to protect the area all along.

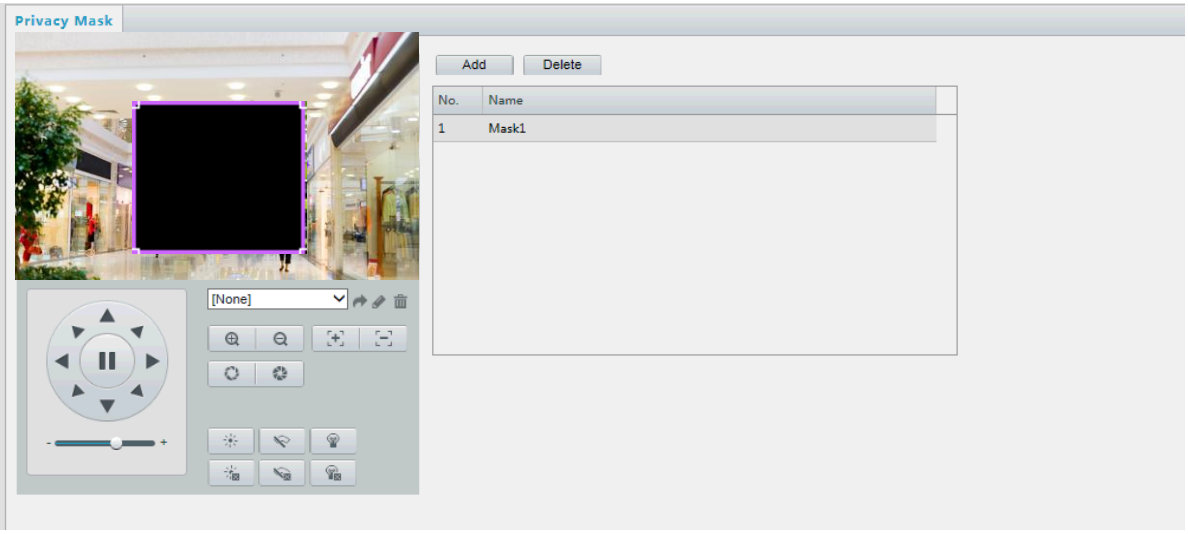
NOTE!

- This function may vary with models. Please see the actual Web interface for details.
- Some models support up to 24 privacy masks. The same picture shows up to only 8 privacy masks.

1. Click **Setup** > **Image** > **Privacy Mask**.



For some camera models, the page is displayed as follows:



2. Click + to add a privacy mask, and click 🗑 to delete a mask.

- To mask a position: Click the box (with **Mask** displayed on it) to activate the mask. After the cursor shape has changed, drag the box to the intended position.
- To mask an area: Use the mouse to draw a box on the area you want to mask.

When privacy mask is configured, the intended area is blocked. The following shows an example.

Audio and Video Configuration

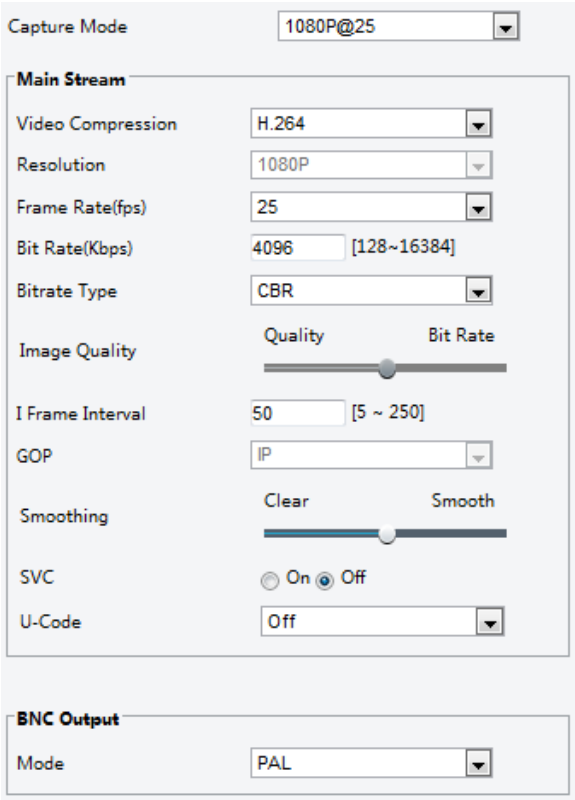
Video Configuration

You can set video parameters that your camera supports and view the current status of BNC output. If available, you may also enable sub-stream and third stream as required.

NOTE!

- This function may vary with models. Only some camera models support the third stream. To determine if your camera supports this function, see the Web interface.
- After enabling the sub or third stream, modify the parameters as required. The parameters for the sub and third stream have the same meanings as that for the main stream.

1. Click **Setup** > **Video & Audio** > **Video**.



2. Modify the settings as required. The following table describes some major parameters.

Parameter	Description
Video Compression	Three options: H.265, H.264 and MJPEG. **Note:** • Image Quality cannot be set when Video Compression is set to H.265 or H.264. When set to MJPEG, only three frame rates are available: 1, 3 and 5; and Bit Rate, I Frame Interval, Smoothing and U-Code cannot be set. • The bit rate changes to the default when you change the setting between H.264 and H.265. The default bit rate for H.265 is half of that for H.264.
Frame Rate	Frame rate for encoding images. Unit: FPS (frame per second). **Note:** To ensure image quality, note that the frame rate should not be greater than the reciprocal of shutter speed.
Bitrate Type	• CBR: Constant Bit Rate, which means that the camera transmits data at a constant data rate. • VBR: Variable Bit Rate, which means that the camera adjusts the bit rate dynamically according to image quality.
Image Quality	When **Encoding Mode** is **VBR**, you can move the slider to adjust quality level for images. Moving the slider toward **Bit Rate** decreases the bit rate and may affect image quality. Moving the slider toward **Quality** increases the bit rate and improves image quality.
I Frame Interval	Interval at which an I frame is encoded. Normally, a shorter I frame interval offers better image quality but consumes more bandwidth.
GOP	Group Of Pictures in MPEG video encoding. This parameter specifies the order in which intra-frames (I frame) and inter-frames are arranged.
SVC	SVC (Scalable Video Coding) can reduce storage without compromising playback quality.
U-Code	• Basic Mode: The actual bit rate is around 3/4 of the set bit rate.

Parameter	Description
	• Advanced Mode: The actual bit rate is around 1/2 of the set bit rate. **Note:** • When U-Code is enabled, video compression only supports H.264 and H.265. MJPEG is not supported. • When U-Code is enabled, the capture mode does not support frame rates higher than 30.
Smoothing	Set the extent of smoothing. Choosing **Clear** means disabling **Smoothing**. Moving the slider toward **Smooth** increases the level of smoothing but will affect image quality. **Note**: In a poor network environment, you can enable smoothing to get more fluent video.
BNC Output	BNC output supports NTSC and PAL.

3. Click **Save**.

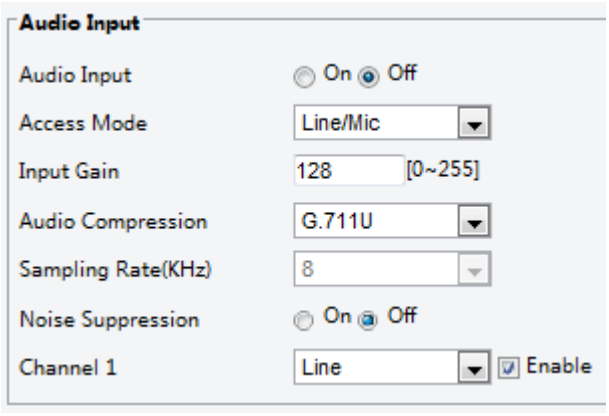
Audio Configuration

Audio configuration means setting audio encoding parameters for your camera.

NOTE!

This function is not supported by some models. Please see the actual model for details.

1. Click **Setup** > **Video & Audio** > **Audio**.



2. Modify the settings as required. The following table describes some major parameters.

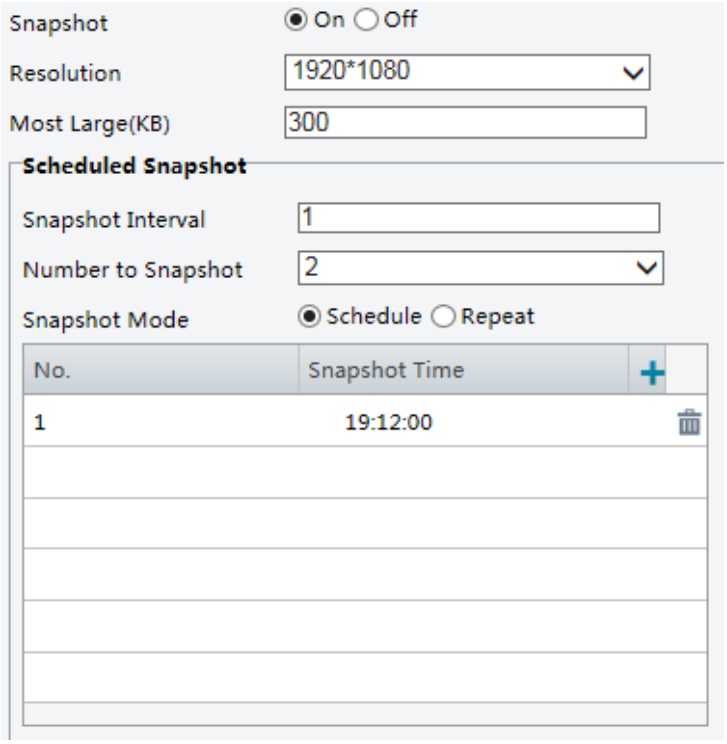
Parameter	Description
Audio Input	No audio data will be encoded when **Off** is selected. **Note**: It is recommended to select **Off** if you do not need audio. This can improve device performance to some extent.
Access Mode	Currently only Line/Mic. **Note**: This function is not available to devices with two audio output channels.
Audio Compression	Three options: G.711U, G.711A and ACC-LC. G.711U and G.711A support 8K sampling rate only, and ACC-LC supports 8K, 16K and 48K sampling rates.

Parameter	Description
Input Gain	Audio signal amplification for sampling. The greater the gain, the greater amplification.
Noise Suppression	Used to reduce noise in images. To enable noise suppression, select **On**.
Channel	Audio output channel. To enable audio output, select **Enable**. **Note**: Only some camera models support two channels.

3. Click **Save**.

Snapshot

1. Click **Setup** > **Video & Audio** > **Snapshot**.



2. Select **On**, and then set resolution, most large and schedule as needed. Some parameters are described in the table below.

Parameter	Description
Snapshot Interval	Interval between two snapshots. For example, with Snapshot Interval set to 1 and Number of Snapshot set to 2, the camera will take 2 snapshots (take one first and then take another after 1 second).
Number to Snapshot	Currently 1, 2, and 3 snapshots are allowed.
Snapshot Mode	**Schedule**: You need to set a snapshot time, e.g., 19:12:00, which means the camera takes a snapshot at 19:12:00. **Repeat**: Allows you to set an interval(unit: sec). For example, according to the settings shown in the figure above, 60 seconds must elapse before the camera takes another two snapshots.

3. Click **Save**.

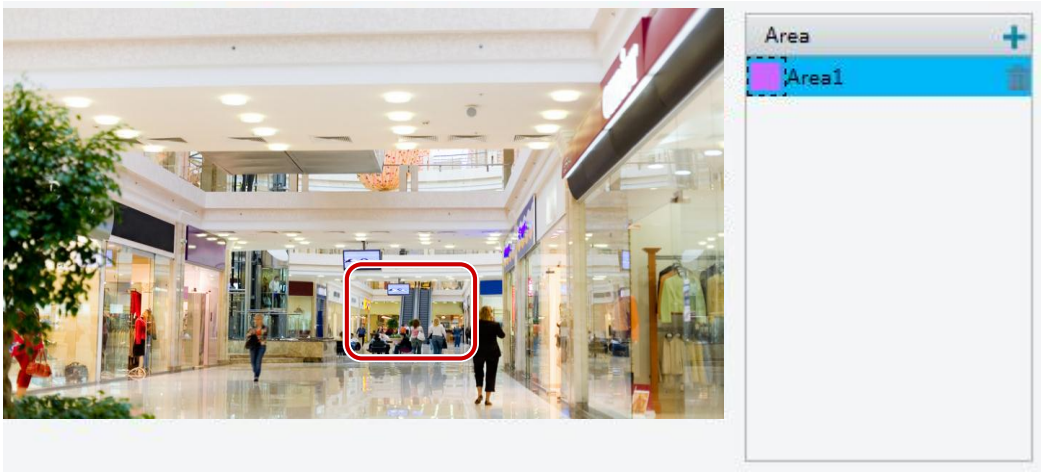
ROI

When Region of Interest (ROI) is enabled, the system ensures image quality for ROI first if the bit rate is insufficient.

NOTE!

This function is not supported by some models. Please see the actual model for details.

1. Click **Setup** > **Video & Audio** > **ROI**.



2. Click , and then drag the mouse to cover the intended part of the images. To delete, select the area and then click .

Media Stream Configuration

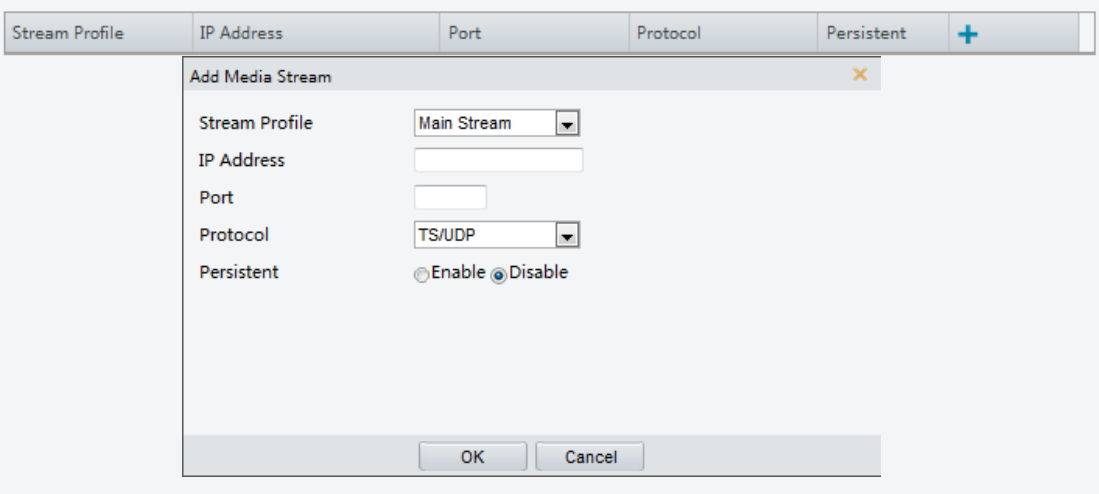
Media Stream

You can display the established media streams from a camera. You may also set the camera so it transmits code streams by the UDP or TCP protocol to a specified IP address and port number. The settings can be saved and take effect after the camera is restarted.

NOTE!

- This function is not supported by some models. Please see the actual model for details.
- Choosing a transport protocol based on your actual needs and network performance. Generally speaking, TCP enables better image quality than UDP but also causes higher latency.

1. Click **Setup** > **Video & Audio** > **Media Stream**.



2. Click , select a stream type, and then set the IP address and port number of the unicast or multicast group for the decoding device that receives audio and video streams from the camera.

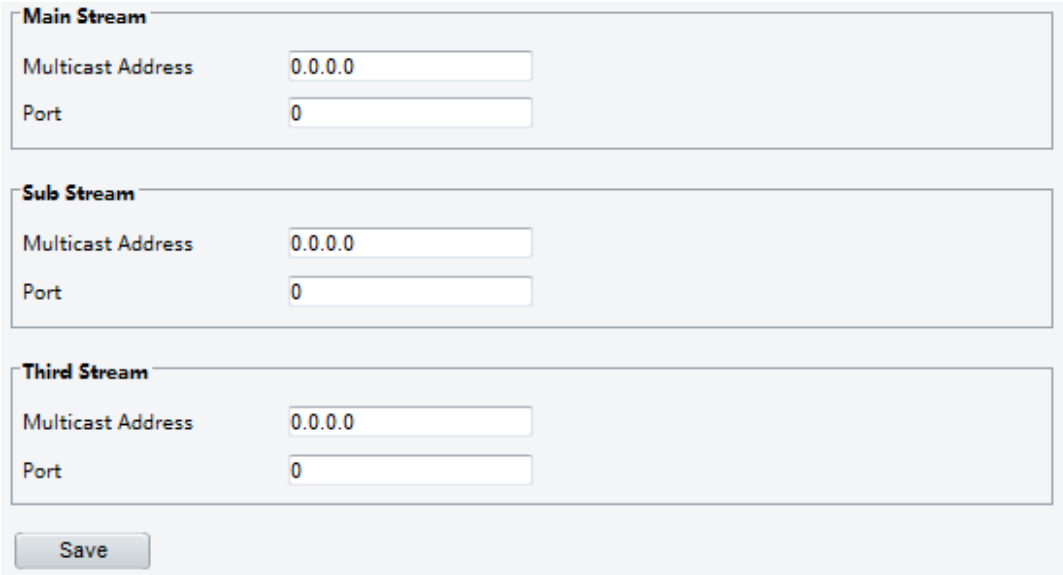
   If you want the device to establish the media stream that has been configured before automatically after the restart, select **Yes** for **Persistent**.

3. To delete a stream, click .
4. Click **Submit** to complete the operations.

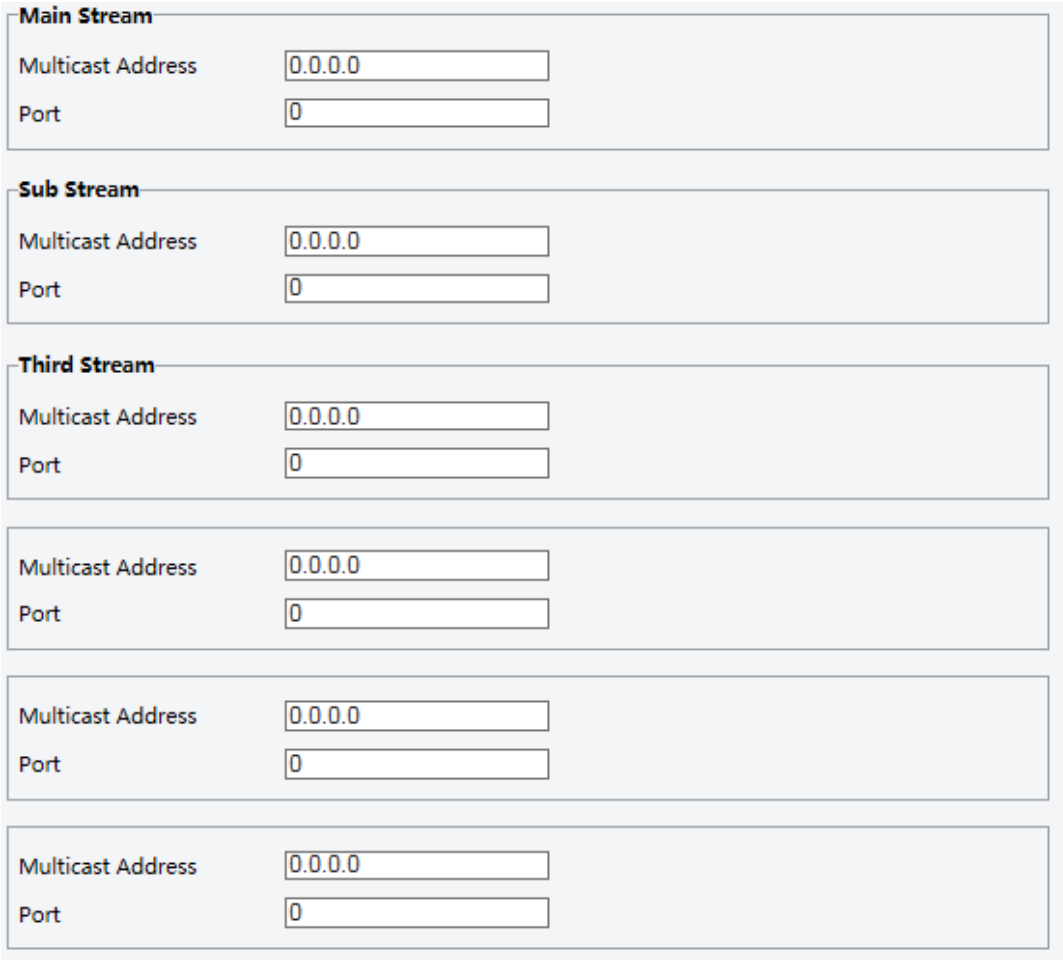
RTSP Multicast Address

After an RTSP multicast address is configured, the third-party player can request the RTSP multicast media stream from the camera through the RTP protocol.

1. Click **Setup** > **Video & Audio** > **Media Stream** > **RTSP Multicast Address**.



For some camera models, the page is displayed as follows.



2. Set the multicast address (224.0.0.0 to 239.255.255.255) and port number (0 to 65535).
3. Click **Save**.

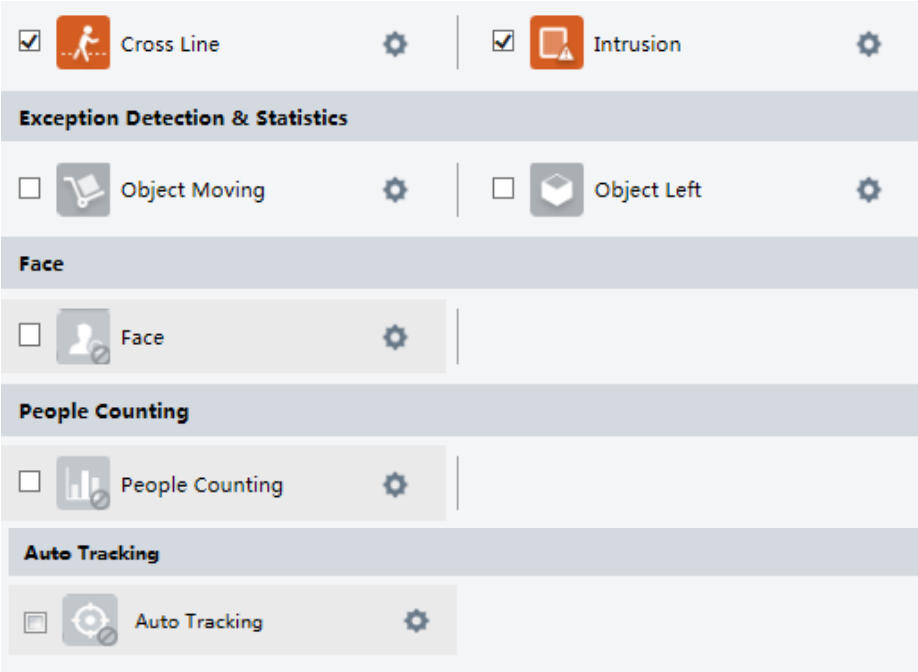
Intelligent Alarm Configuration

You can configure intelligent monitoring to count people and monitor moving objects. Intelligent monitoring includes people counting, intrusion detection, and auto tracking.

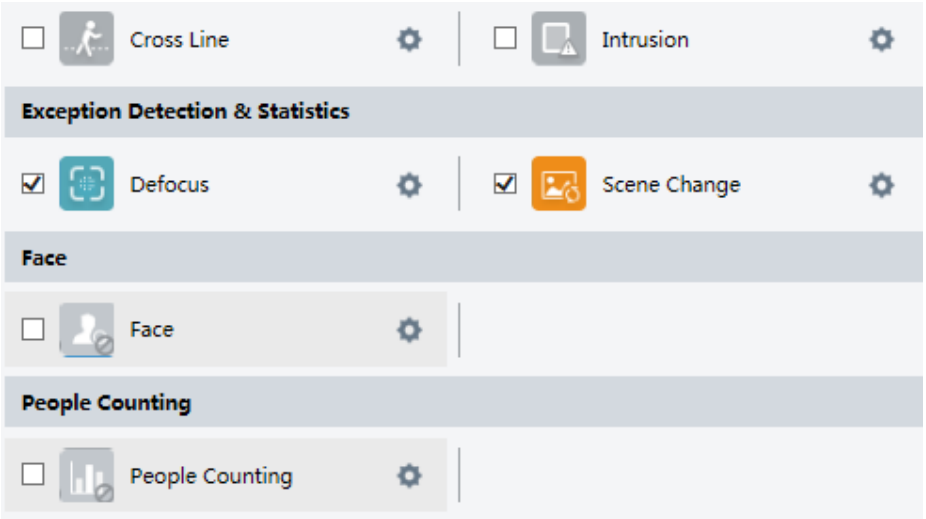
The supported functions may vary with camera model.

Smart Settings

Click **Setup** > **Intelligent** > **Smart Settings**.



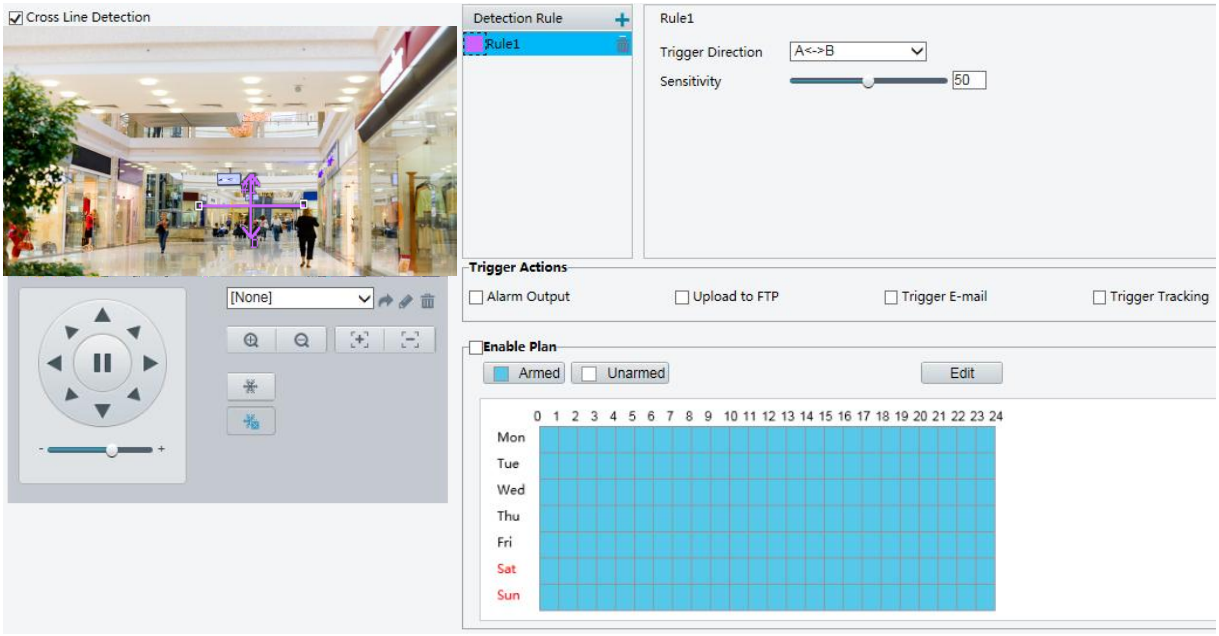
For some camera models, the page is displayed as follows.



Cross Line Detection

Cross line detection detects objects that cross a virtual line in live video and triggers alarm when such an event is detected.

1. Click **Setup** > **Intelligent** > **Smart Settings**. Choose **Cross Line** and then click .

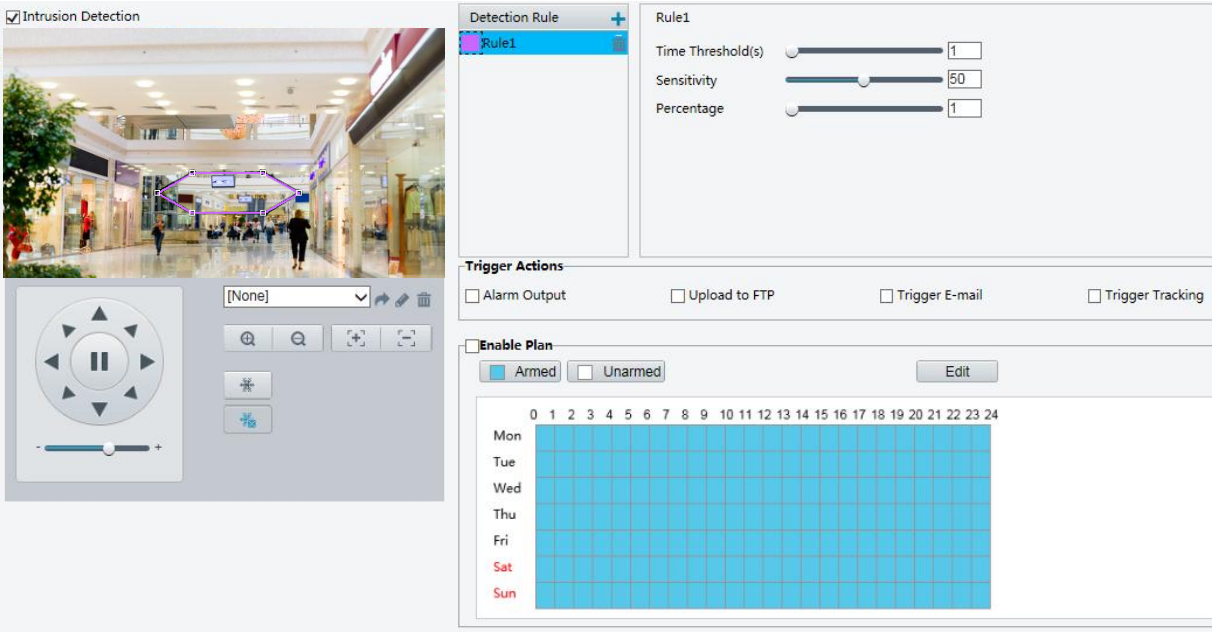


2. Select **Cross Line Detection**.
3. In the **Detection Rule** area, click to add a new detection area. To delete a detection area, click .
4. On the small preview window, drag the line to the intended position and set the detection range.
5. Set the direction and sensitivity for the camera to decide whether to report a cross line detection alarm.
6. Set the alarm-triggered actions and arming schedule as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
7. Click **Save**.

Intrusion Detection

Intrusion detection detects objects that enter a specified area in live video and triggers alarm when such an event is detected.

1. Click **Setup** > **Intelligent** > **Smart Settings**. Choose **Intrusion** and then click .



2. Select **Intrusion Detection**.
3. In the **Detection Rule** area, click to add a new detection area. To delete a detection area, click .
4. Drag the borders of the box to set the intended position and range.
5. Set time threshold, sensitivity, and percentage for the camera to decide whether to report an intrusion detection alarm.

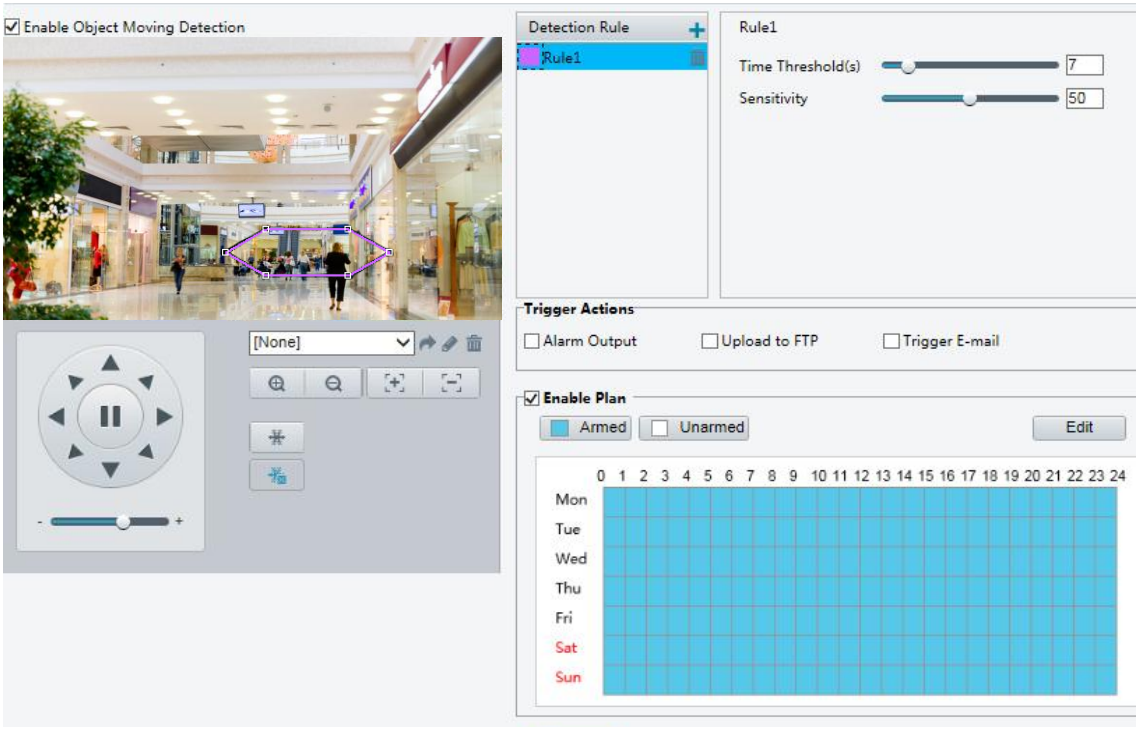
- Time Threshold: The minimum length of time that the intruder stays in the detection area before an alarm will be reported.
- Sensitivity: Sensitivity of detection. A greater value means higher detection sensitivity.
- Percentage: The minimum ratio of the intruder's size to the size of the specified detection area before an alarm will be reported.

6. Set the alarm-triggered actions and arming schedule as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
7. Click **Save**.

Object Moving

Detect objects left behind in the specified area and trigger alarms.

1. Click **Setup** > **Intelligent** > **Smart Settings**. Choose **Object Moving** and then click .



2. Select **Enable Object Moving Detection**.
3. In the **Detection Rule** area, click to add a detection area. To delete, click .
4. Drag the box to set the position and effective range.
5. Set time threshold and sensitivity to decide whether to report an intrusion detection alarm.

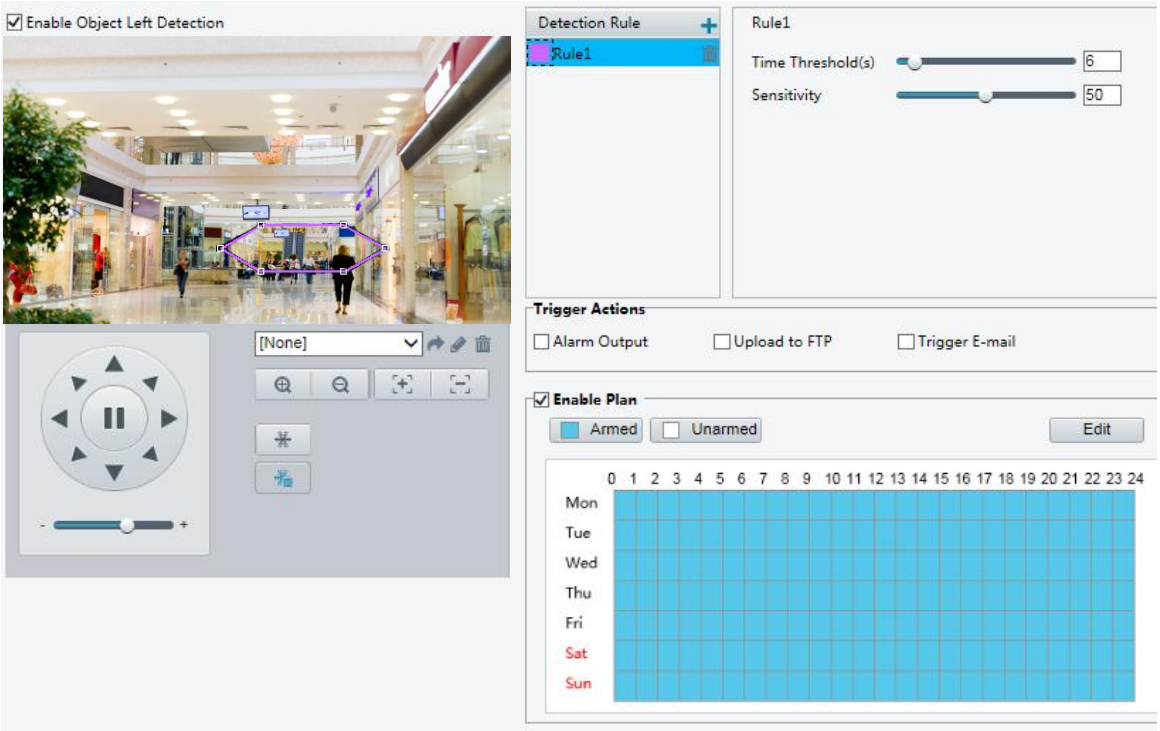
- **Time threshold**: Minimum duration an object is detected in the specified area to trigger an alarm.
- **Sensitivity**: The greater the number, the higher the sensitivity. An alarm is reported if an object is detected in the specified area for the specified length of time.

6. Set the alarm-triggered actions and arming schedule as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
7. Click **Save**.

Object Left

Detect objects left behind in the specified area and trigger alarms.

1. Click **Setup** > **Intelligent** > **Smart Settings**. Choose **Object Left** and then click .



2. Select **Enable Object Left Detection**.
3. In the **Detection Rule** area, click to add a detection area. To delete, click .
4. Drag the box to set the position and effective range.
5. Set time threshold and sensitivity to decide whether to report an intrusion detection alarm.

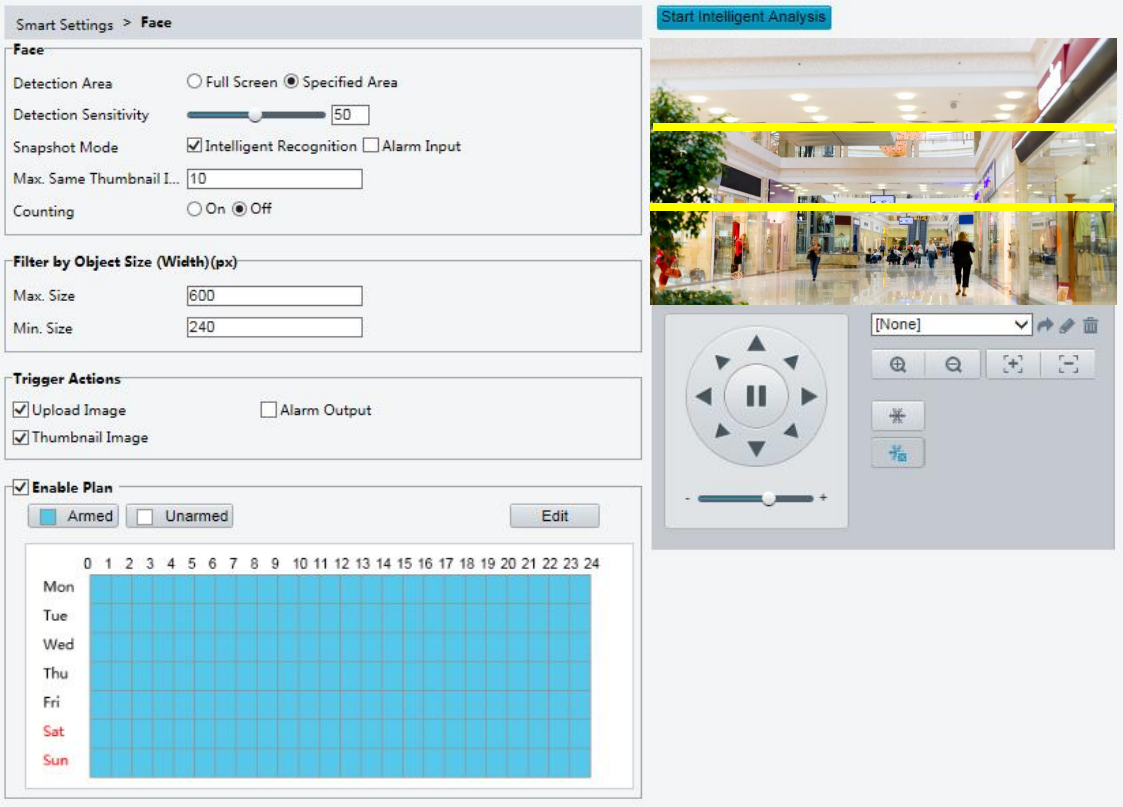
- **Time threshold**: Minimum duration an object is detected in the specified area to trigger an alarm.
- **Sensitivity**: The greater the number, the higher the sensitivity. An alarm is reported if an object is detected in the specified area for the specified length of time.

6. Set the alarm-triggered actions and arming schedule as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
7. Click **Save**.

Face Detection

Face detection detects human faces in live video.

1. Click **Setup** > **Intelligent** > **Smart Settings**. Choose **Face** and then click .



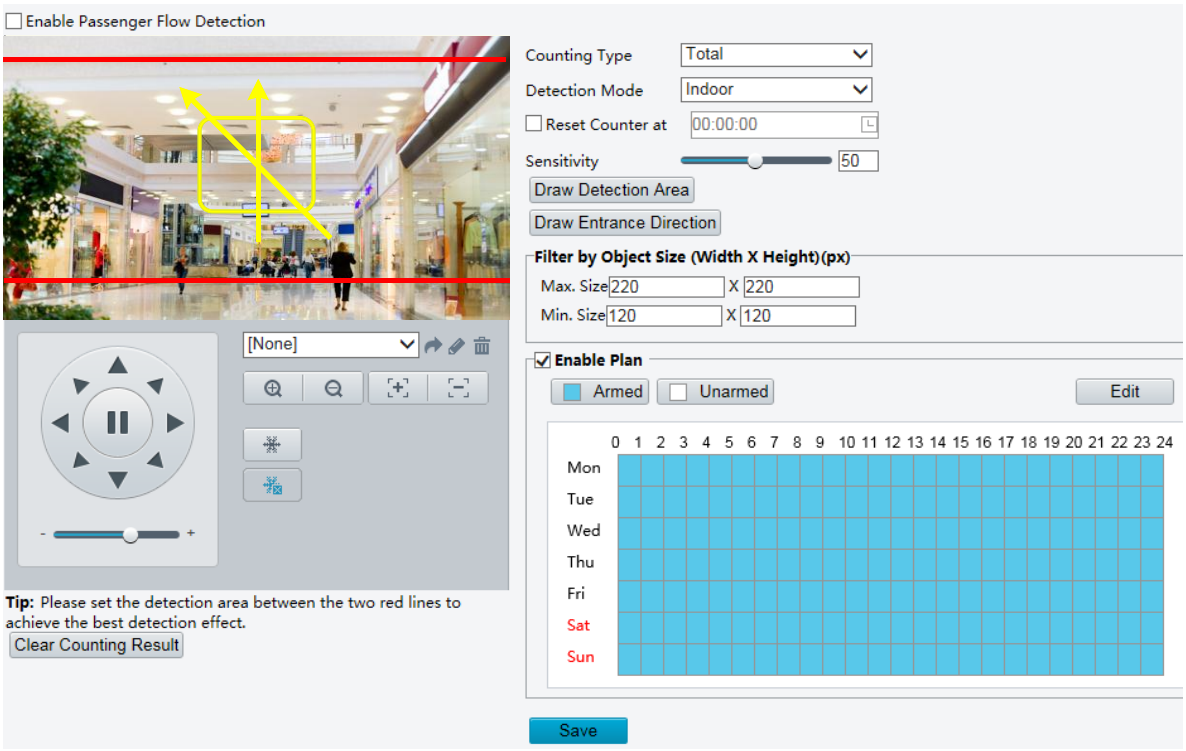
2. Drag the borders to set the intended position and range.
3. Set detection parameters according to actual needs.
4. Set the alarm-triggered actions and arming schedule as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
5. Click **Save**.
6. Click **Start Intelligent Analysis**.

People Counting

NOTE!

- Only some camera models support this function.
- The supported alarm triggering and arming schedule may vary with camera model. Please see the actual Web interface for details.

1. Click **Setup** > **Intelligent** > **Smart Settings**. Choose **People Counting** and then click .



2. Select **Enable Passenger Flow Detection**. Select a detection mode, set report interval and sensitivity.
3. Click **Draw Detection Area**, and then draw a detection area on the preview window on the left, e.g., a square.
4. Click **Draw Entrance Direction**, and then draw the direction on the preview window on the left. The direction is usually vertical or sloping.
5. Set **Max. Size** and **Min. Size** under **Filter by Object Size**. Only objects within the size range will be counted; others will be filtered and not counted. The maximum width or height must be greater than the minimum width or height.
6. Set the alarm-triggered actions and arming schedule as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
7. To reset counting results, click **Clear Counting Result**.
8. Click **Save**.

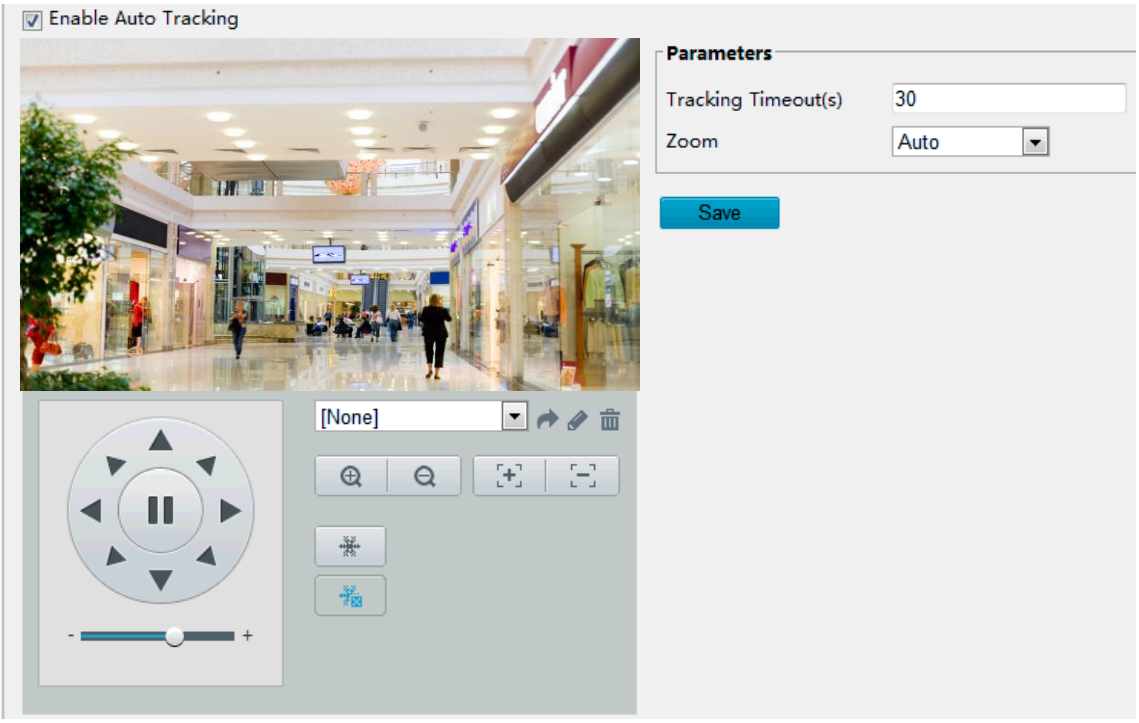
Auto Tracking

The camera automatically tracks an object that triggers the rule.

NOTE!

- Only some camera models support this function.
- The supported alarm triggering and arming schedule may vary with camera model. Please see the actual Web interface for details.

1. Click **Setup** > **Intelligent** > **Smart Settings**. Choose **Auto Tracking** and then click .

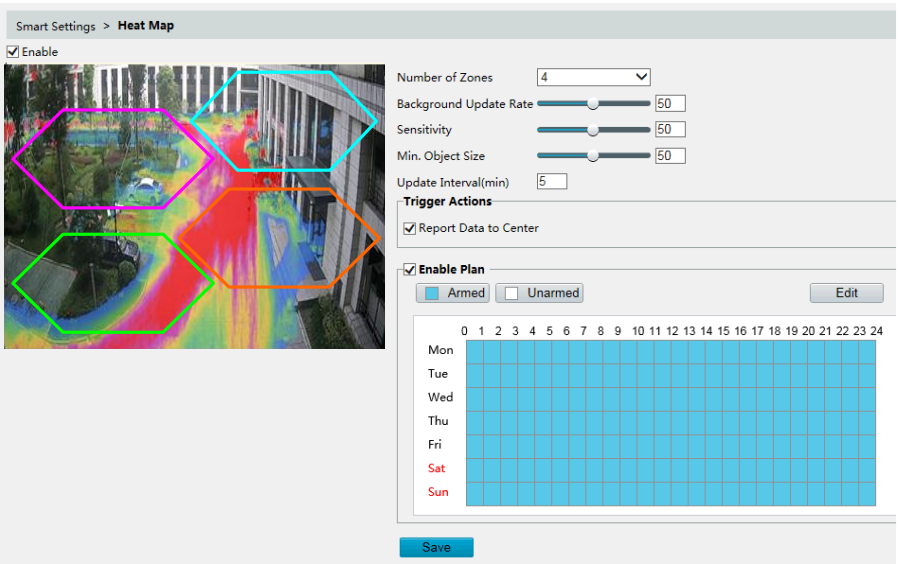


2. Set tracking timeout (unit: sec) and zoom ratio.
3. Click **Save**.

Heat Map

The heat map uses different colors to display visitor traffic patterns. A dark color, red, for example, indicates higher traffic density.

1. Click **Setup** > **Intelligent** > **Smart Settings**. Choose **Heat Map** and then click .



2. Select **Enable**.
3. Set **Background Update Rate**. The greater the value, the quicker the image refreshes.
4. Set **Sensitivity**. The greater the value, the more likely that small objects will be detected.
5. Set **Min. Object Size**. The greater the value, the more small objects will be ignored during detection.
6. Set update interval for reporting statistics to the platform.

7. Set the alarm-triggered actions and arming schedule as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
8. Click **Save**.

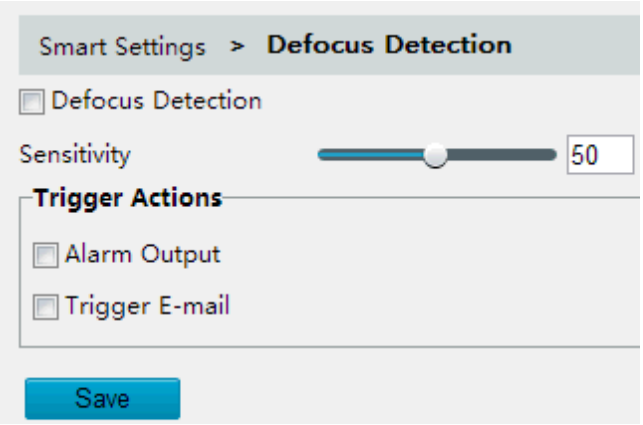
Defocus Detection

NOTE!

- Only some camera models support this function.
- The supported alarm triggering and arming schedule may vary with camera model. Please see the actual Web interface for details.

Use defocus detection to detect defocus of the camera and to report an alarm when such an event is detected.

1. Click **Setup** > **Intelligent** > **Smart Settings**. Choose **Defocus** and then click .



2. Select **Defocus Detection**.
3. Set detection sensitivity and alarm-triggered actions as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
4. Click **Save**.

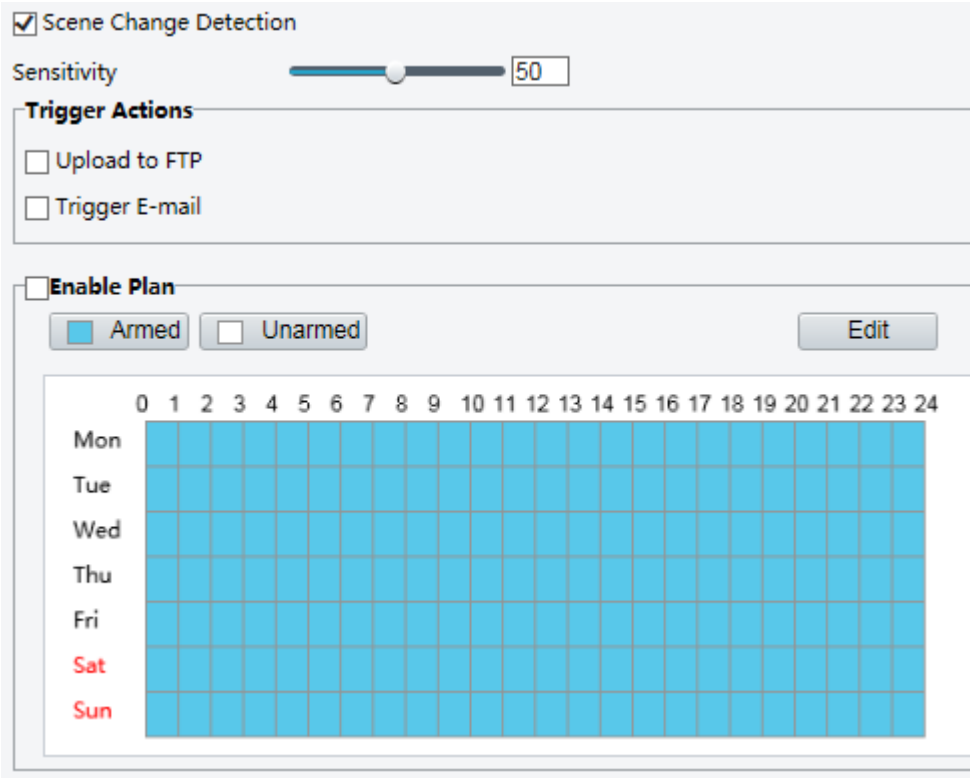
Scene Change Detection

NOTE!

- Only some camera models support this function.
- The supported alarm triggering and arming schedule may vary with camera model. Please see the actual Web interface for details.

Use scene change detection to detect the change of surveillance environment caused by external factors such as intentional rotation of the camera, and to report an alarm when such an event is detected.

1. Click **Setup** > **Intelligent** > **Smart Settings**. Choose **Scene Change** and then click .



2. Select **Scene Change Detection**.
3. Set detection sensitivity. Set the alarm-triggered actions and arming schedule as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
4. Click **Save**.

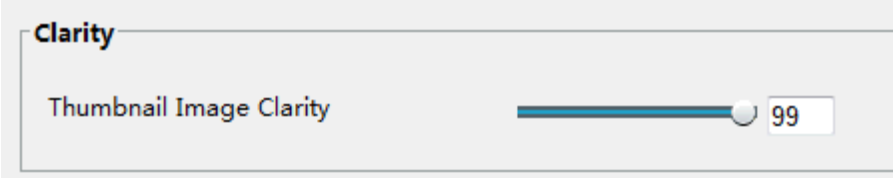
Advanced Settings

Advanced settings include snapshot clarity and detection mode for intelligent functions.

Photo parameters

Set clarity of snapshots.

1. Click **Setup** > **Intelligent** > **Advanced Settings**. Click **Photo parameters** tab.



2. Set the thumbnail image clarity.
3. Click **Save**.

NOTE!

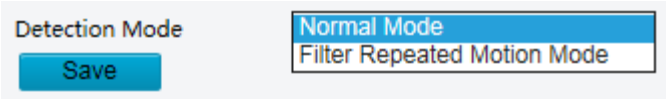
Please turn off the Face Detection before setting the photo parameter.

Detection Parameters

NOTE!

- Only some camera models support advanced settings. Please see the actual Web interface for details.
- The default detection mode is **Normal Mode**. Set as required.

1. Click **Setup** > **Intelligent** > **Advanced Settings**. Click **Detection parameters** tab.



2. Choose a detection mode. Choose **Filter Repeated Motion Mode** to prevent repeated alarm reporting caused by repeated motion detected in the surveillance environment.
3. Click **Save**.

Common Alarm Configuration

You can schedule alarm reporting and set actions that can be triggered by other devices so that alarms and the triggered actions can be handled in time.

Alarm reporting can be scheduled for motion detection alarm, alarm input, alarm output, tampering detection alarm, and audio detection alarm. The supported alarms may vary with device model. For the alarm types that your camera supports, see the Web interface.

Configuring Motion Detection Alarm

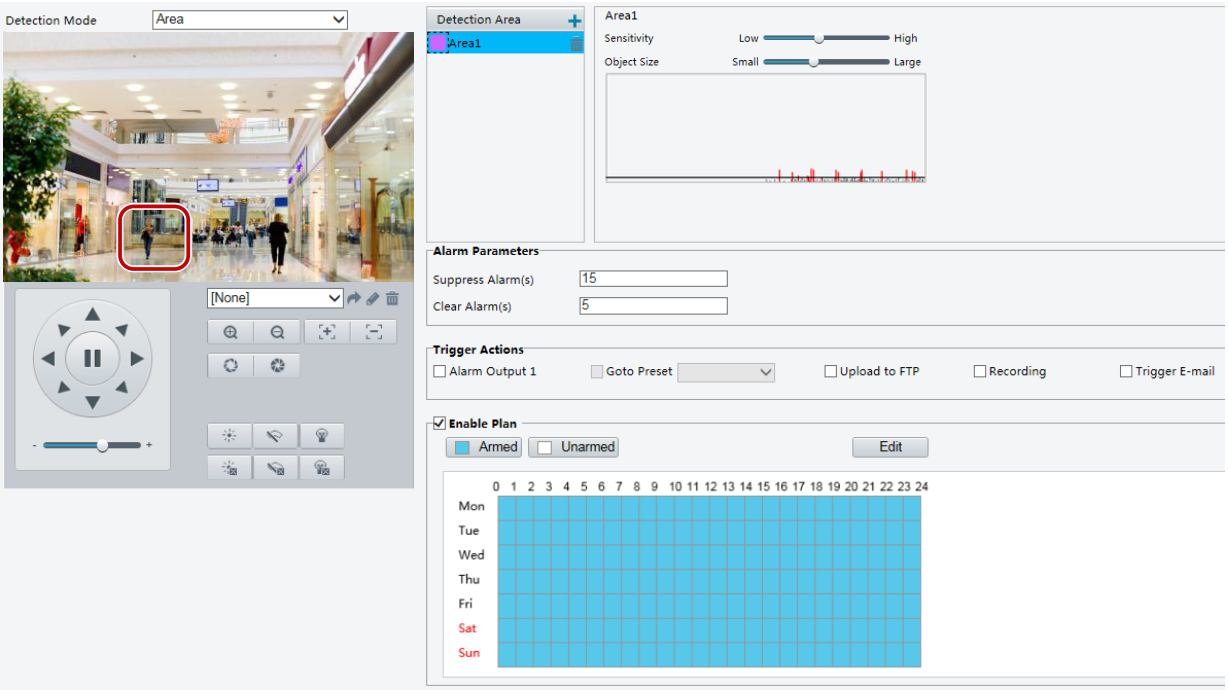
Motion detection detects the object motion in a specified rectangular area during a period. You need to set a detection area, sensitivity of detection, object size, and history for the camera to decide whether to report a motion detection alarm when it detects motion.

NOTE!

- This function is not supported by some models. Please see the actual model for details.
- The alarm triggered actions may vary with models. Please see the actual Web interface for details.

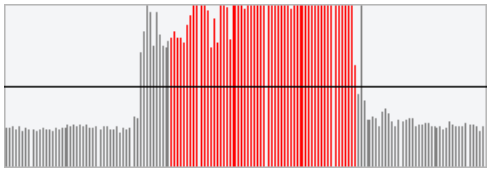
Area Detection

1. Click **Setup** > **Events** > **Common Alarm** > **Motion Detection**. Set **Detection Mode** to **Area**.



2. In the **Detection Area** area, click to add a new detection area. To delete a detection area, click .
3. Click and drag the mouse to set a detection area.
4. Set the detection sensitivity, object size, and history for the camera to decide whether to report a motion detection alarm.

- Moving the slider to the right increases detection sensitivity. When the extent of motion within the detection area exceeds the set object size, the camera reports an alarm.
- Object size specifies the minimum ratio of the object's size to the size of the total detection area before an alarm will be reported. That is to say, to detect motion of tiny objects, you need to draw a small box (detection area) in the actual motion area accordingly.
- Motion detection results are shown in real time. The red lines represent the raised motion detection alarms. The longer a line, the greater the extent of motion. The denser the lines, the greater the frequency of motion.

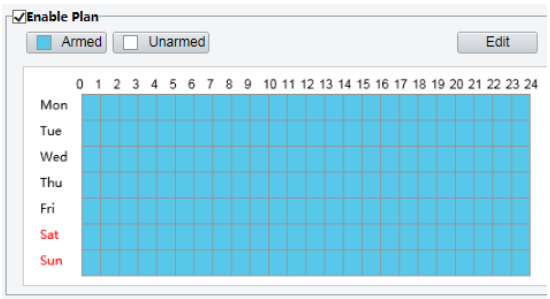
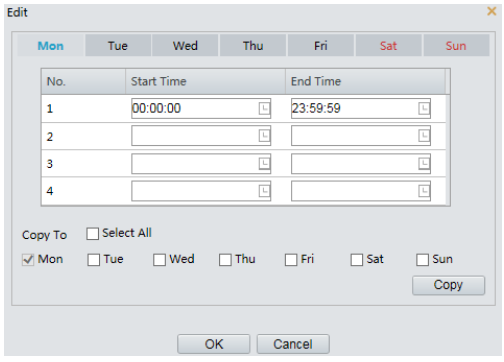


5. Set the alarm parameters.

- Suppress Alarm(s): After an alarm is triggered, the same alarm will not be reported within the set time.
- Clear Alarm(s): After an alarm is triggered,
  - **a.** If the same alarm is not triggered within the set time, the alarm will be cleared and the same alarm can be reported again.
  - **b.** If the same alarm is triggered within the set time, the alarm will not be cleared until the suppress alarm time expires. Then the same alarm can be reported again.

6. Set actions to be triggered by motion detection alarm and the plan.

The following table describes the major alarm-triggered actions and how to set a plan.

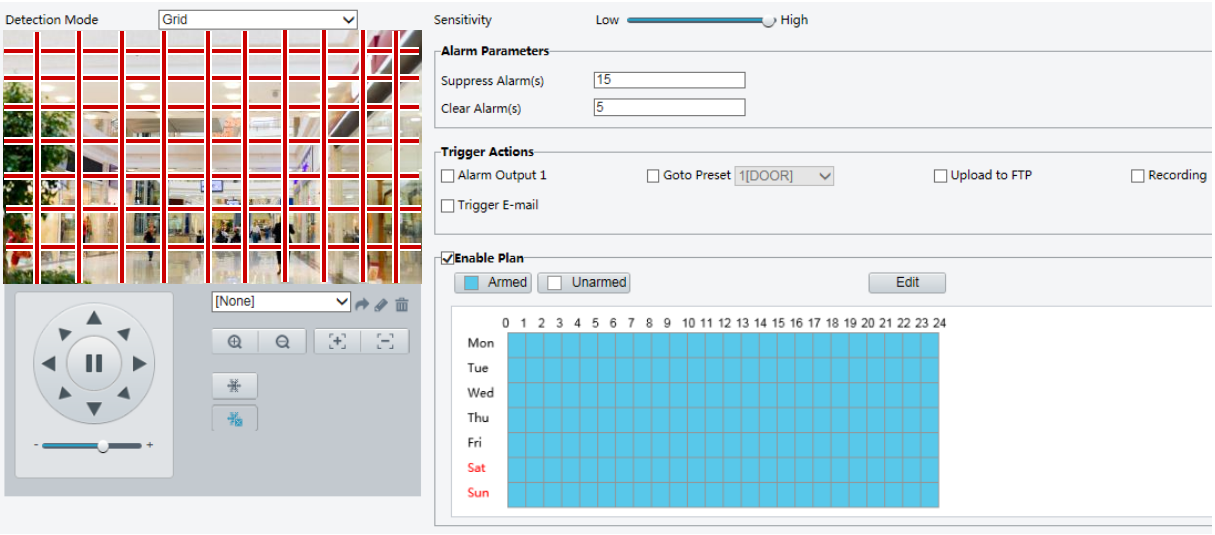
Item	Description
Alarm Output 1	Select the check box. This setting is the alarm output interface linked to motion detection alarm. **Note:** When an alarm is reported, the camera triggers alarm output so as to trigger actions by a third-party device.
Goto Preset	Select the check box and set the preset linked to motion detection alarm. **Note:** • Make sure you have set presets. Otherwise, you cannot set this parameter. For details about how to set a preset, see Setting Presets. • When an alarm is reported, the PTZ camera automatically goes to the preset to capture video in the correct scene.
Upload to FTP	With **Upload to FTP** selected, the camera will automatically upload snapshots to the specified FTP server when an alarm is triggered. **Note:** Make sure you have completed FTP and Snapshot before using this function.
Recording	With **Recording** selected, the camera will automatically record video when an alarm is triggered. **Note:** Please set **Post-Record(s)** on the **Storage** page first. **Post-Record(s)** specifies how long recording continues after the end of an alarm.
Alarm the Center	With **Alarm the Center** selected, the camera will sends alarm information to the central server when an alarm is triggered. **Note:** Please complete settings on the **Server** page first.
Trigger Tracking	With **Trigger Tracking** selected, the camera starts auto tracking when an alarm is triggered. **Note:** Only some camera models support this function. Please set auto tracking on the **Smart Settings** page first.
Trigger E-mail	With **Trigger E-mail** selected, the camera will automatically send snapshots to the specified E-mail address when an alarm is triggered. **Note:** Make sure you have completed E-Mail before using this function.
Enable Plan	Select the check box and set the start and end times during which motion detection alarm is effective. You can directly drag the mouse to draw a plan and click **Edit** to edit time periods in the table. The time periods cannot overlap. The camera reports alarms during the specified period(s) only. You can select from Monday to Sunday and set four periods for each day.  

	Drag the mouse to draw a plan Edit time periods in the table **Note:** Plan drawing using a mouse is only supported by IE versions later than 8.0. After setting the plan for one day, you can apply the same settings to other days by clicking **Copy** and **Paste**.

7. Click **Save**.

Grid Detection

1. Click **Setup** > **Events** > **Motion Detection**. Set **Detection Mode** to **Grid**.



2. Detection area(s) can be irregular on the grid.
3. Set detection sensitivity for the camera to decide whether to report a motion detection alarm (alarm visible on compatible NVR).
4. Set alarm parameters.

- Suppress Alarm(s): After an alarm is triggered, the same alarm will not be reported within the set time.
- Clear Alarm(s): After an alarm is triggered,
  a. If the same alarm is not triggered within the set time, the alarm will be cleared and the same alarm can be reported again.
  b. If the same alarm is triggered within the set time, the alarm will not be cleared until the suppress alarm time expires. Then the same alarm can be reported again.

5. Set actions to be triggered by motion detection alarm and the plan. For the detailed steps, see the descriptions of alarm-triggered actions in Area Detection in Configuring Motion Detection Alarm.
6. Click **Save**.

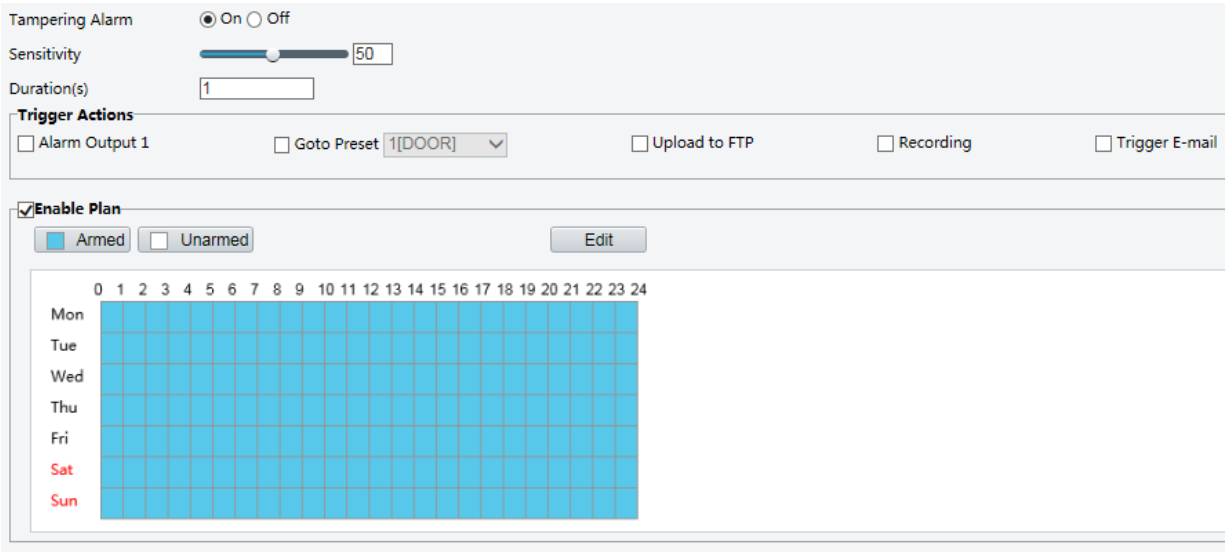
Configuring Tampering Alarm

Configure tampering alarm so that the camera reports a tampering alarm when the lens is blocked for a certain length of time.

NOTE!

- This function is not supported by some models. Please see the actual model for details.
- The alarm triggered actions may vary with models. Please see the actual Web interface for details.

1. Click **Setup** > **Events** > **Common Alarm** >**Tampering Alarm**.



2. Select **On** for **Tampering Alarm**.
3. Set detection sensitivity and duration for the camera to decide whether to report a tampering alarm.

   Sensitivity is divided into three levels: high-level, mid-level and low-level. Compared with mid-level sensitivity, the camera can detect blocking from a farther location when sensitivity is set to high. The camera reports an alarm when the lens is blocked for a specified length of time.

   Tampering alarm is effective to the whole screen. To disable tampering alarm, clear the **Tampering Alarm** check box.
4. Set actions to be triggered by tampering alarms and the plan. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
5. Click **Save**.

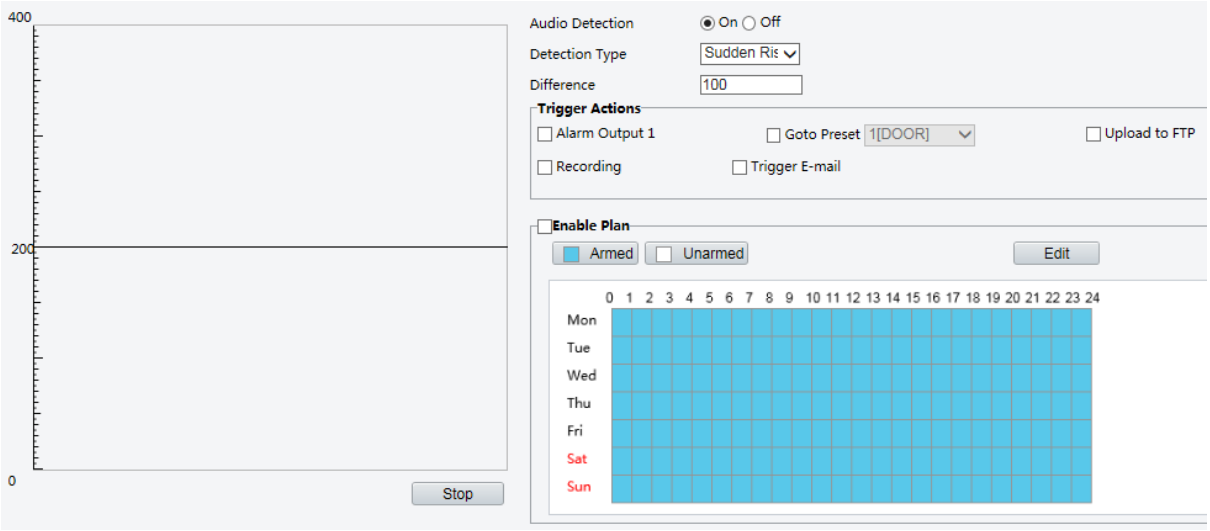
Configuring Audio Detection Alarm

The camera can detect input audio signals for exceptions. When the rise or fall of volume exceeds the set limit, or when the input volume reaches the threshold, the camera reports an alarm and triggers the set actions. Make sure that an audio input device is correctly connected to the camera and audio input is turned on in Configuring Alarm Input.

NOTE!

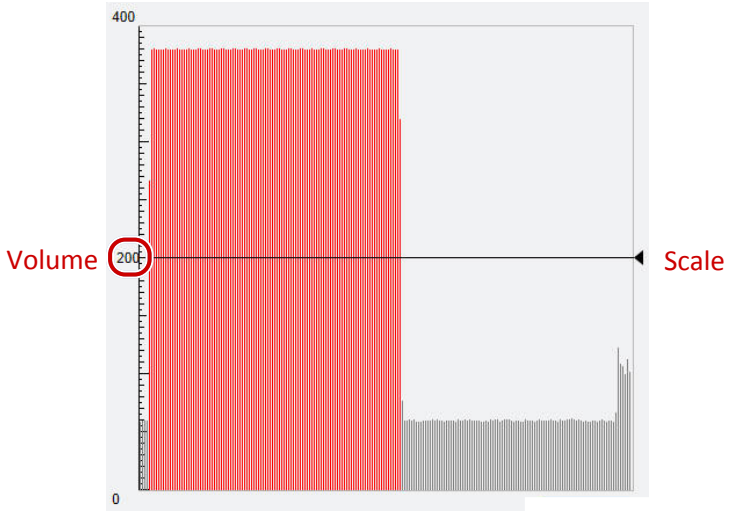
- This function is not supported by some models. Please see the actual web interface for details.
- The alarm triggered actions may vary with models. Please see the actual Web interface for details.

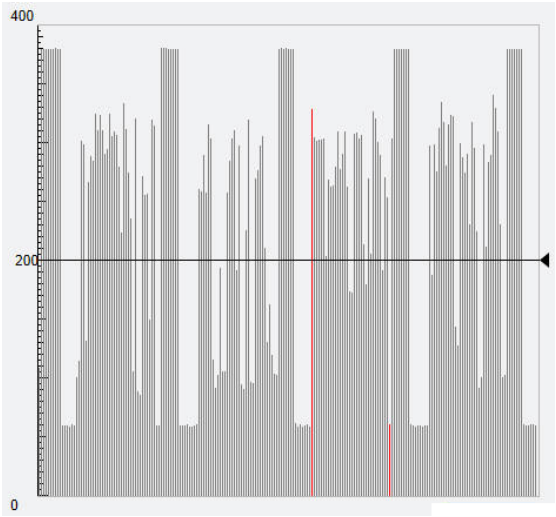
1. Click **Setup** > **Events** > **Common Alarm** >**Audio Detection**.



2. Select **Enable** for **Audio Detection**, select a detection type and set the difference or threshold. To disable audio detection, clear the **Enable** check box.

The following table describes some major parameters.

Parameter	Description
Detection Type	• Sudden Rise: An alarm is reported when the rise of volume exceeds the difference. • Sudden Falls: An alarm is reported when the fall of volume exceeds the difference. • Sudden Change: An alarm is reported when the rise or fall of volume exceeds the difference. • Threshold: An alarm is reported when the volume exceeds a threshold.
Difference	• Threshold: After a volume is set as the threshold, an alarm is reported when the threshold is exceeded. • Difference: the difference between two volumes. When the rise or fall of volume exceeds the difference, an alarm is reported. **Note**: • The scale in the audio detection area is used to measure sound volume. • Audio detection results are shown in real time. The red part indicates the reported audio detection alarms. 

Parameter	Description
	 Difference

3. Set the alarm-triggered actions and arming schedule as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
4. Click **Save**.

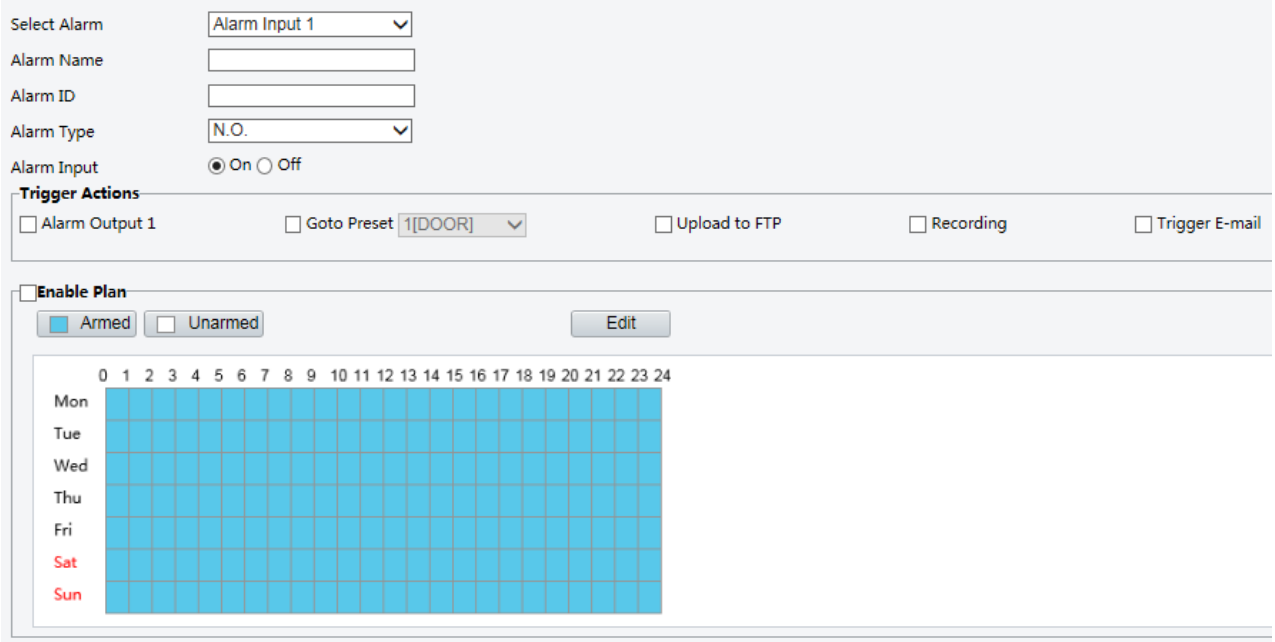
Configuring Alarm Input

The camera can receive alarm information from a third-party device. To use this function, you need to configure the following information for alarm input first: port, alarm name, alarm type (normally open or normally closed) and alarm reporting time.

NOTE!

- This function is not supported by some models. Please see the actual model for details.
- The alarm triggered actions may vary with models. Please see the actual Web interface for details.

1. Click **Setup** > **Events** > **Common Alarm** > **Alarm Input**.



2. Select alarm and set the alarm name.
3. Select **N.O.** or **N.C.** according to the type of the third-party alarm input device. For example, if the third-party alarm input device is normally open, you need to select **N.O.** here, so that the camera can receive alarm information from the third-party alarm input device.
4. Set actions to be triggered by an input alarm and the plan. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
5. Click **Save**.

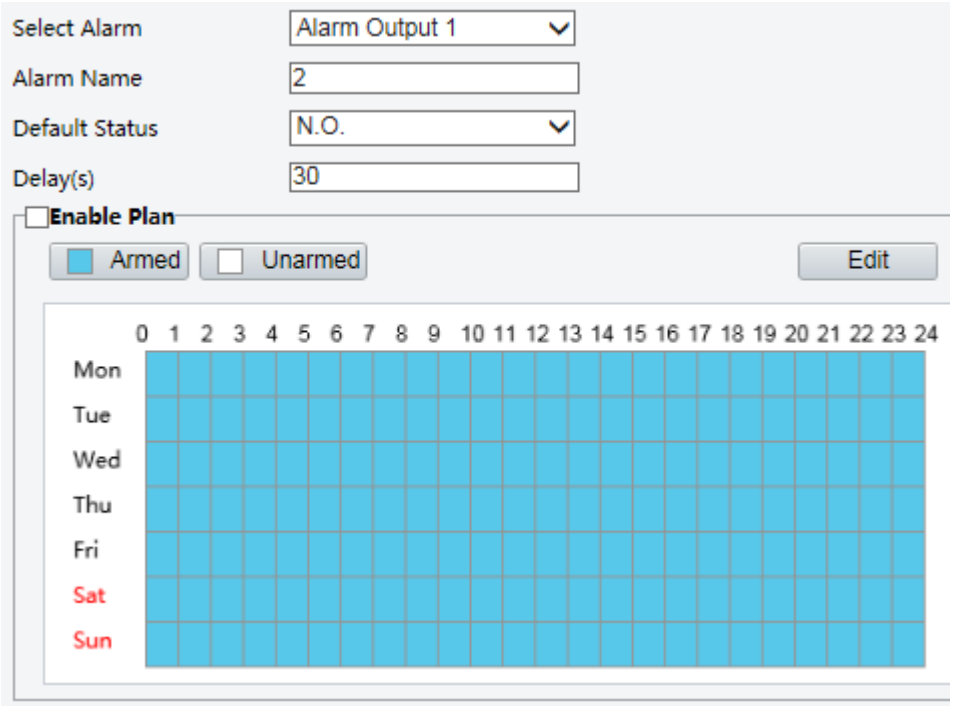
Configuring Alarm Output

After alarm output is triggered by a motion detection alarm, Boolean alarm, the camera can output alarm information to the third-party device if alarm output is set correctly to Normally Open or Normally Closed. The alarm output duration is configurable.

NOTE!

This function is not supported by some models. Please see the actual model for details.

1. Click **Setup** > **Events** > **Common Alarm** > **Alarm Output**.



2. Select the alarm and set the alarm name.
3. Set the status to **N.O.** (default setting) and set the alarm duration.
4. Set actions to be triggered by an input alarm and the plan. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
5. Click **Save**.

CAUTION!

Strictly follow the sequence when powering on the devices to avoid damaging camera components:

1. Check that the alarm type is set to **Normally Open** (default setting), and that the camera and the alarm output device are powered off.
2. After completing the connection, power on the camera first and then power on the alarm output device.

Memory Card Storage

NOTE!

- This function is not supported by some models, and may vary with models. Please see the actual model for details.
- Edge storage is recommended when the camera operates in stand-alone mode. When the camera is managed by the central management server, you need to stop edge storage to avoid affecting the cache post recording service.
- Post-Record is displayed if the camera is capable of this feature; This parameter is not displayed if not supported by the camera

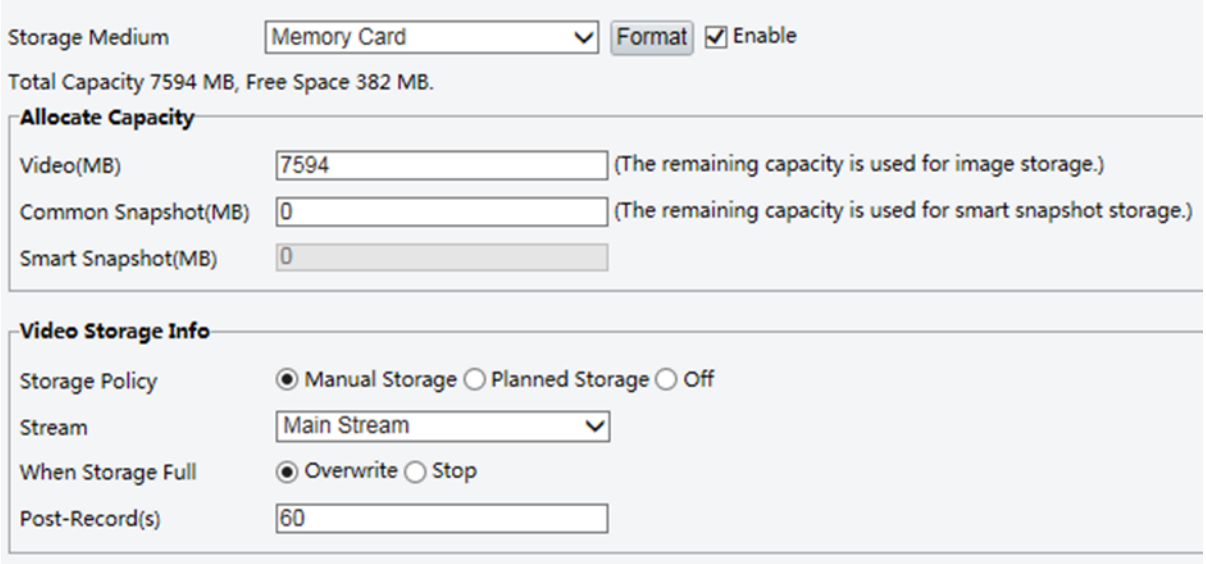
Setting Edge Storage

Edge storage is used to save video data and snapshots to the memory card directly. Edge storage is recommended when the camera is running in stand-alone mode.

Manual storage

The camera records live video repeatedly if manual storage is enabled.

1. Click **Setup** > **Storage** > **Storage**.



2. Start edge storage and modify the settings as required. The following table describes some major parameters.

Parameter	Description
Storage Medium	Storage resource type. **Note:**

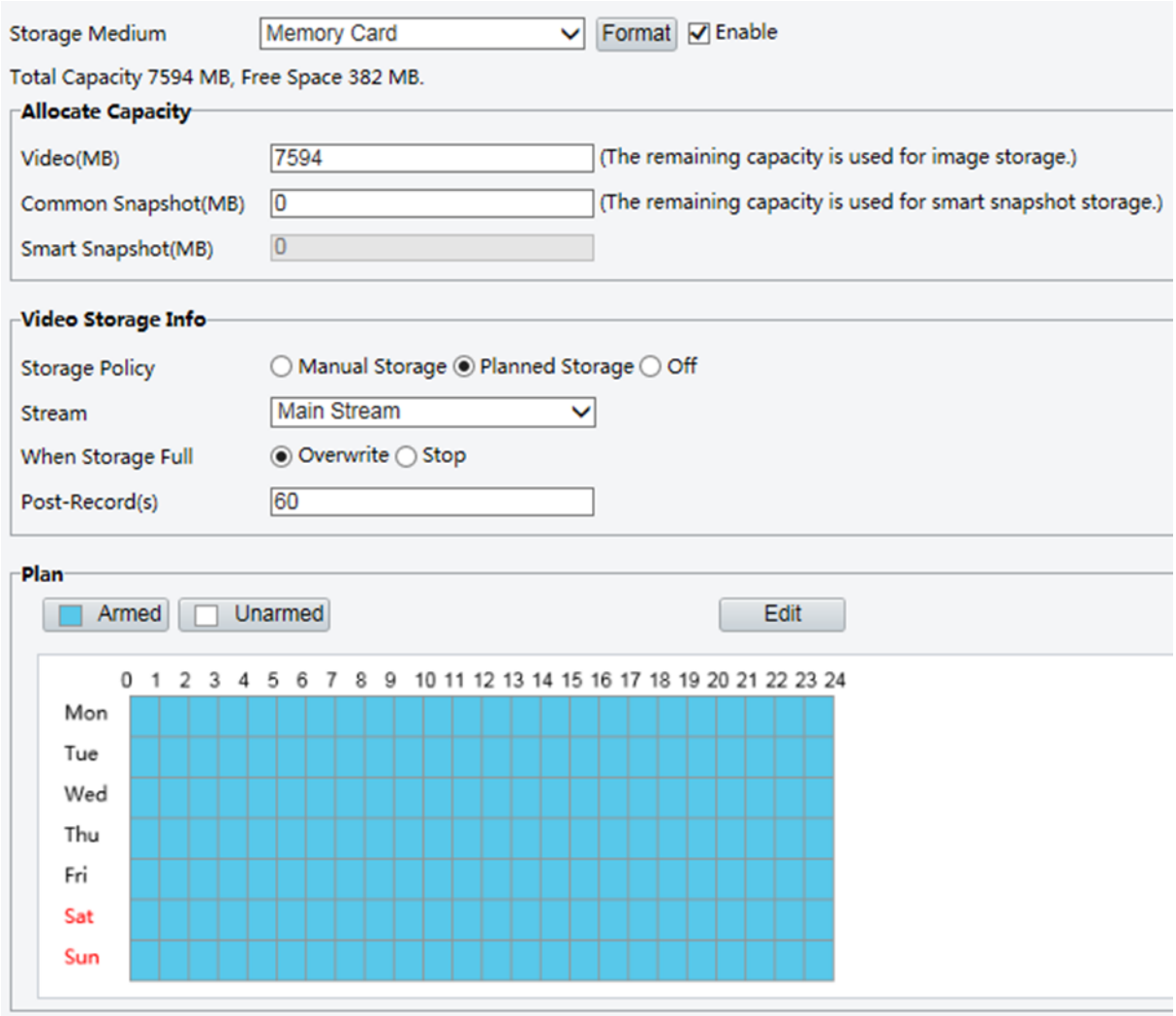
	• To format the memory card, disable the storage function for the card first. Then Click **Format** and then click **OK** to confirm the operation. The system will restart when the format is completed. • Information about the total and free space is displayed.
Data Overwrite Policy	• Overwrite: If there is no free space in the memory card, new data will overwrite the existing data repeatedly. • Stop: If there is no free space in the memory card, new data will not be saved to the memory card.
Post-Record(s)	For alarm-triggered recording, length of time that recording continues after the end of the alarm.

3. Click **Save**.

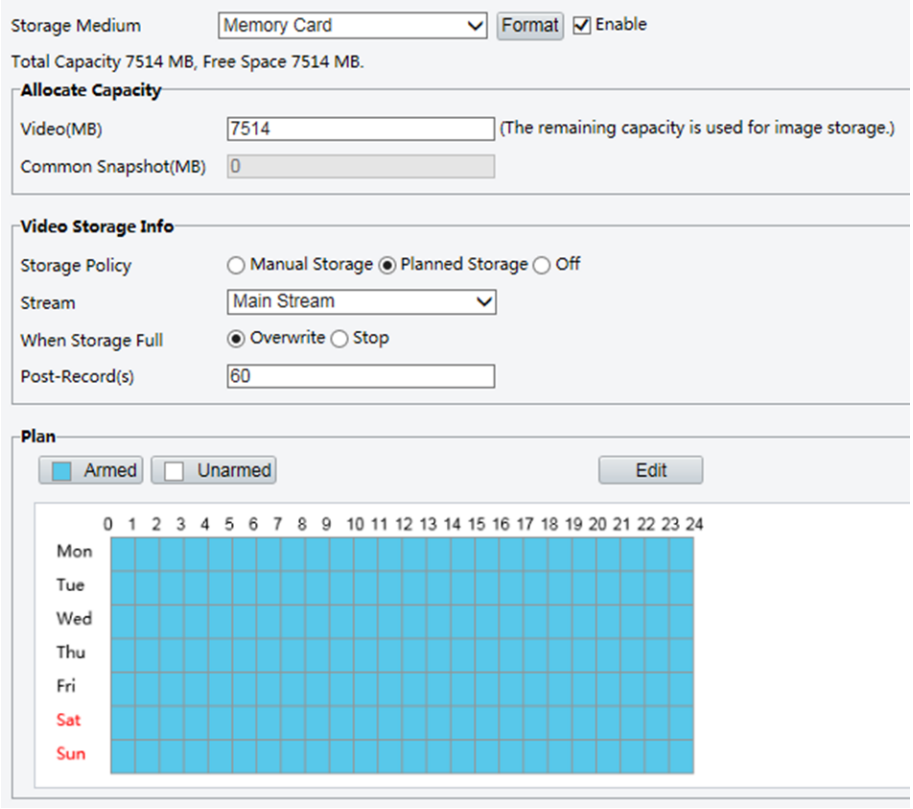
Planned storage

If planned storage is enabled, the camera records video to the memory card during the specified periods.

1. Click **Setup** > **Storage** > **Storage**.



For some camera models, the page is displayed as follows.



2. Select **Planned Storage**, and then set the periods during which the camera records video to the memory card.
3. Click **Save**.

NOTE!

- Planned storage is not effective when manual storage and planned storage are both enabled.
- To query recordings in the memory card, see Video Playback and Download with Edge Storage.

Setting Cache Post Recording

A camera under centralized management can use the memory card as a backup storage resource of the central management server. If storage from the camera to the central storage device is interrupted due to unstable network connection, the camera automatically will start cache post recording and store videos to the memory card.

With recording backup enabled, the camera can automatically transfer the video stored in the memory card to a storage resource of the backup server in form of file when the communication between the camera and the backup server is restored.

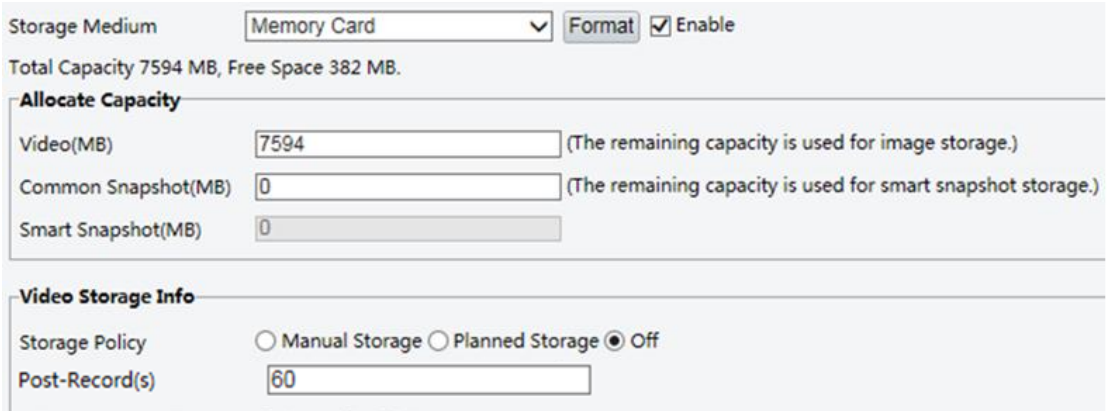
NOTE!

Before you set cache post recording for a camera, check that:

- The memory card is correctly installed on the camera.
- Backup resource has been added on the central server.
- Backup resource has been allocated for the camera.
- Post-Record is displayed if the camera is capable of this feature; This parameter is not displayed if not supported by the camera

Disable edge storage

1. Click **Setup** > **Storage** > **Storage**.



2. Set **Storage Policy** to **Off**. Post-Record is displayed if the camera is capable of this feature and then set **Post-Record(s)**.
3. Click **Save**.

System Maintenance

NOTE!

This function is not supported by some models. Please see the actual model for details.

Security

User Management

There are two types of users in the system:

- Administrator: referred to as “admin” in this manual. The default name of the administrator is admin, which cannot be modified. Admin has full permission and can manage all users and devices. Only one admin user is allowed in the system.
- Common user: referred to as “user” in this manual. User only has permission to play live and recorded video. Up to 32 common users are allowed in the system.

You can add a user on the user management interface (under **Setup** > **Security** > **User**).

After the user is added successfully, you can change the password by entering the new password or delete the user by clearing the username.

NOTE!

- Only admin can change passwords. Changing the username or password for a user when the user is still logged in will force the user to log out. The user must use the new username or password to log in.
- Only admin can add and delete users. Deleting a user when the user is still logged in will force the user to log out. A deleted user cannot log in.

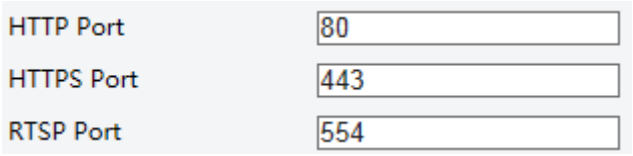
Setting Secure Data Transmission

Set a secure channel for data transmission to ensure security.

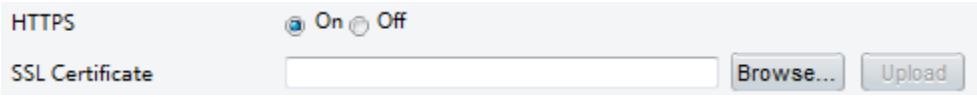
NOTE!

This function is not supported by some models. Please see the actual model for details.

1. Click **Setup** > **Network** > **Port**.



2. Enter the port number in the **HTTPS Port** text box.
3. Click **Save**.
4. Click **Setup** > **Security** > **Network Security** > **HTTPS**.



5. Select **On** for **HTTPS**. You may import a custom SSL certificate as needed.
6. Click **Save**.

Next time you log in, enter the address in *https://IP:HTTPS port number* format, for example, *https://192.168.1.13:443* to enter secure channel mode. If you use the default HTTPS port, enter *https://IP*.

Authentication

RTSP (Real Time Streaming Protocol) is an application layer protocol. To transmit and control the audio and video, set RTSP authentication on the Web interface.

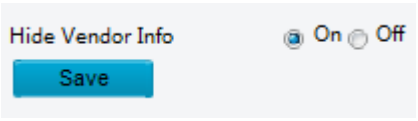
1. Click **Setup** > **Security** > **Network Security** > **Authentication**.

2. Select an authentication mode and then click **Save**.

Hide Vendor Information

You can set to hide the vendor information of the network camera on the Web interface.

1. Click **Setup** > **Security** > **Registration Info**.

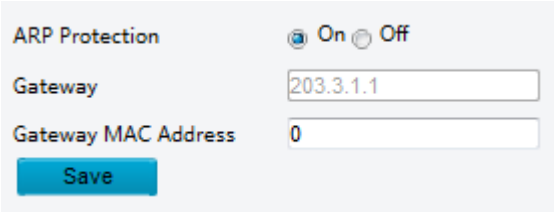


2. Under **Registration Info**, select **On**.
3. Click **Save**.

APR Protection

This function protects a camera from ARP attacks. The gateway and the MAC address must be set properly before a PC can access the camera from another network; if an incorrect MAC is set, only PCs on the same LAN can access.

1. Click **Setup** > **Security** > **Network Security** > **ARP Protection**.



2. Select the check box to enable the ARP binding function and set the gateway MAC address.
3. Click **Save**.

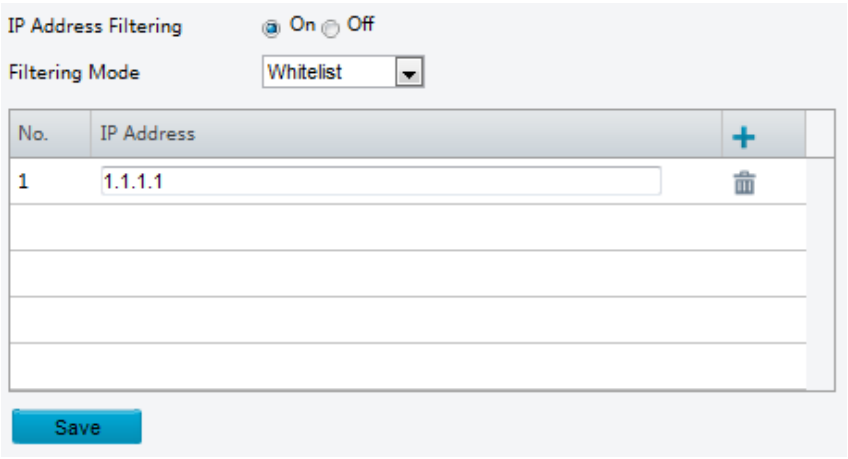
IP Address Filtering

Use IP address filtering to allow or forbid access from specified IP address(es).

NOTE!

This function is not supported by some models. Please see the actual model for details.

1. Click **Setup** > **Security** > **Network Security** > **IP Address Filtering**.



2. Select **On** to enable IP address filtering.
3. Select a filtering mode, and then add IP address(es).
4. Click **Save**.

NOTE!

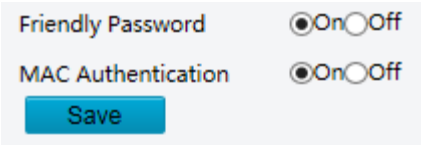
- If **Filtering Mode** is set to **Whitelist**, then only the added IP address(es) are allowed to access the camera. If **Filtering Mode** is set to **Deny Access**, then only the added IP address(es) are not allowed to access the camera.
- Up to 32 IP addresses are allowed. Each IP address can be added once only.
- The first byte of each IP address must be 1-223, and the fourth cannot be 0. For example, the following IP addresses are illegal and cannot be added: 0.0.0.0, 127.0.0.1, 255.255.255.255, 224.0.0.1.

Access Policy

NOTE!

Enabling friendly password does not affect use. If you turn it off and log in with a weak password, a page will pop up, prompting you to change the password. There is no Cancel or Close button on this page. The default password is treated as weak.

1. Click **Setup** > **Security** > **Network Security** > **Access Policy.**



2. Select **On** to enable friendly password and MAC Authentication.
3. Click **Save**.

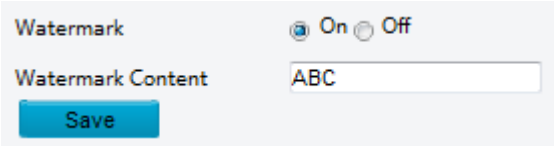
Watermark

Use watermark to encrypt custom information with video to prevent unauthorized delete or alteration.

NOTE!

Only some camera models support this function.

1. Click **Setup** > **Security** > **Watermark.**



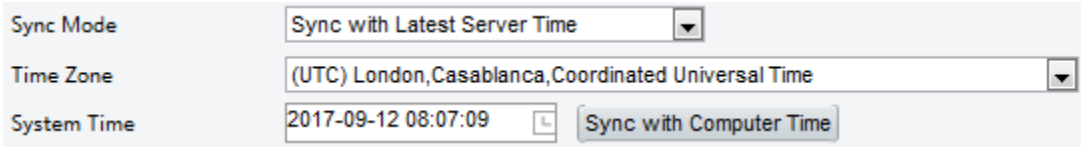
2. Select **On** to enable watermark, and then input watermark content.
3. Click **Save**.

Setting the System Time

You can use the following methods to adjust the system time of your device.

Manually Setting or Synchronizing the System Time

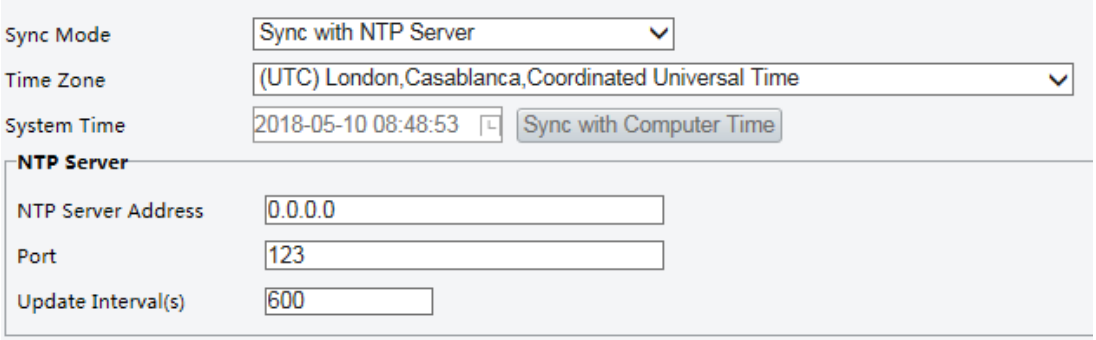
1. Click **Setup** > **Common** > **Time**, and then click the **Time** tab.



2. Select a synchronization mode.
3. Set the correct time zone and system time. You may also click **Sync with Computer Time** to synchronize the time settings of your camera with that of your PC.
4. Click **Save**.

Synchronizing with the NTP Server

1. Click **Setup** > **Common** > **Time**, and then click the **Time** tab.

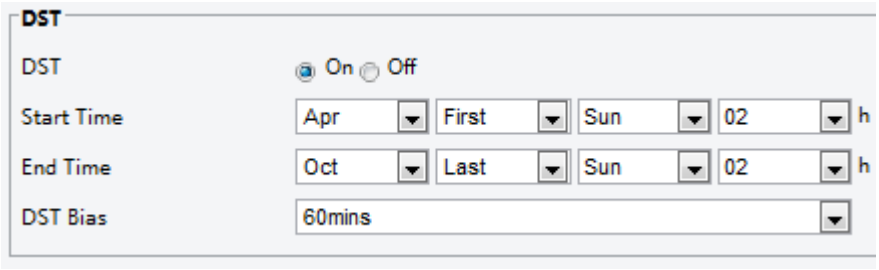


2. Set **Sync Mode** to **Sync with NTP Server**, and then set the IP address and port of the NTP server and update interval.

3. Click **Save**. The camera will periodically synchronize time with the NTP server.

Setting the DST

1. Click **Setup** > **Common** > **Time**, and then click the **DST** tab.



2. Select **On** for **DST**, set the start time, end time, and DST bias.
3. Click **Save**.

Setting Servers

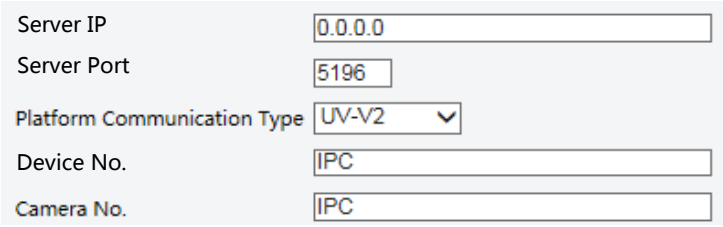
Intelligent Server

You need to configure the intelligent server if an ultra sensitive camera is managed by a central server.

NOTE!

- Only some camera models support intelligent server.
- To use face snapshot, you need to configure the TMS server to which snapshots are uploaded.

1. Click **Setup** > **Common** > **Server**, and then click the **Intelligent Server** tab.



2. Set the IP address of the TMS server and complete other settings.
3. Click **Save**.

Serial Port Mode Configuration

The RS485 serial port is used for data exchange with the third-party device. Serial port settings on the camera should be consistent with that of the connected third-party device.

NOTE!

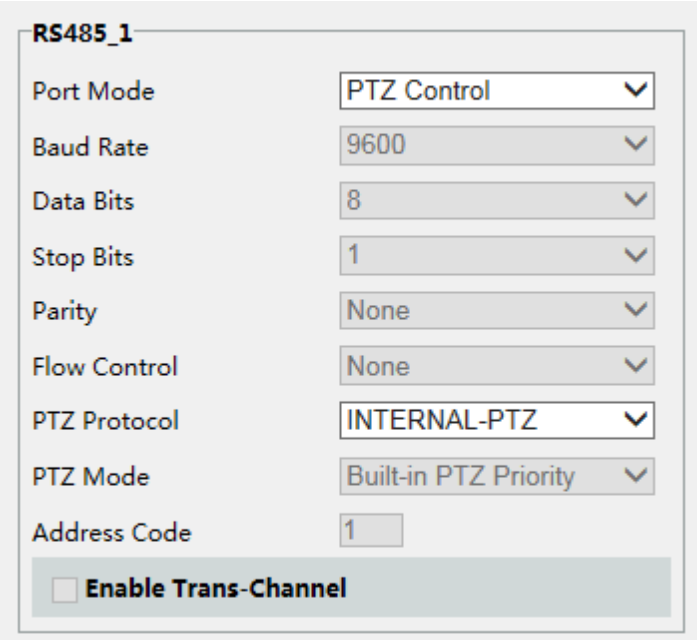
This function is not supported by some models. Please see the actual model for details.

PTZ control

To control a PTZ camera through a third-party device, you need to set **Port Mode** to **PTZ Control**.

By sending PELCO-D compliant PTZ control commands through the RS485 port, you can control the PTZ camera without using the PTZ control panel.

1. Click **Setup** > **System** > **Ports & Devices**, and then click the **Serial Port** tab.



2. Select **PTZ Control** from the **Port Mode** drop-down list. The following table describes some major parameters.

Parameter	Description
PTZ Protocol	Set the PTZ protocol that the channel supports. **Note:** • You can set this parameter only when **Port Mode** is set to **PTZ Control**. • When **PTZ Protocol** is set to **INTERNAL-PTZ**, the camera can connect to the external PTZ without using the serial port (serial port parameters are grayed out). In this case, you only need to connect the zoom and focus interfaces of the camera to the lens, and then you can operate the PTZ like an internal PTZ.
PTZ Mode	• Built-in PTZ Priority: When this option is selected, the camera first tries to control the PTZ (for example, to zoom or focus) by itself instead of through the external PTZ. For operations that the camera cannot accomplish by itself, the camera uses the external PTZ. • External PTZ Priority: The camera first tries to control the PTZ through the PTZ connected through the serial port. **Note:** • You can set this parameter only when **Port Mode** is set to **PTZ Control**. • When **INTERNAL-PTZ** is selected, this parameter is always set to **Built-in PTZ Priority**, and it is unnecessary to connect the camera to an external PTZ through the serial port. Control through the external PTZ is not effective even when the camera has been connected to an external PTZ. • Set this parameter as required. Make sure PTZ control related interfaces are correctly connected.
Address Code	Set the address code for the PTZ. **Note**: You can set this parameter only when **Port Mode** is set to **PTZ Control** and **PTZ Protocol** is not set to **INTERNAL-PTZ.**

3. Click **Save**.

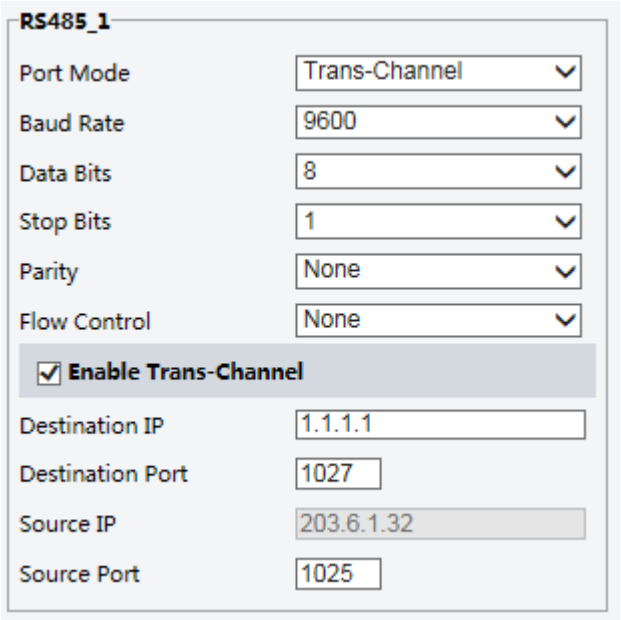
Transparent channel

Use the RS485 serial port to achieve transparent data transmission with the third-party device. Transparent channel is mainly used to achieve transparent data transmission between two devices.

NOTE!

- This function is not supported by some models. Please see the actual model for details.
- Make sure that you have set **Port Mode** to **Trans-Channel** for your camera.

1. Click **Setup** > **System** > **Ports & Devices**, and then click the **Serial Port** tab.



2. Select **Trans-Channel** from the **Port Mode** drop-down list.
3. Select **Enable** for **Trans-Channel**.
4. Enter the destination IP address and port number (IP address and port number that the transparent channel connects to).
5. Click **Save**.

OSD

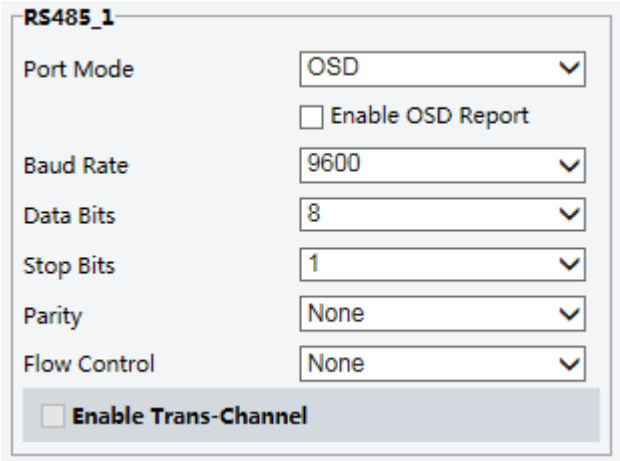
To display information from the third-party device on the OSD, you need to select OSD as the port mode.

The camera receives information from the third-party device through the RS485 serial port, translates the received information, and then displays it on the OSD.

NOTE!

To enable the camera to correctly translate information received from the third-party device, make sure that the information sent by the third-party device through the serial port complies with the data format specified by our company. For more details, contact your dealer.

1. Click **Setup** > **System** > **Ports & Devices**, and then click the **Serial Port** tab.

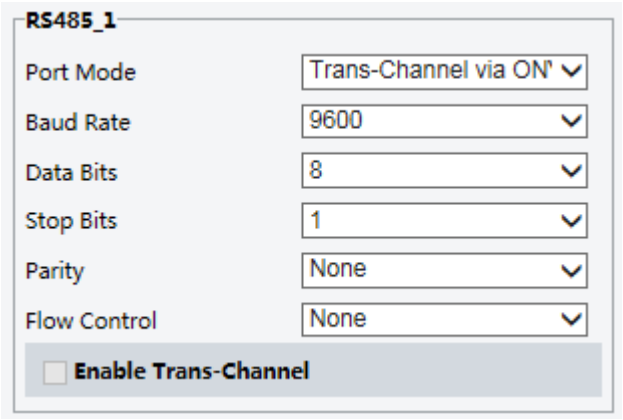


2. Select **OSD** from the **Port Mode** drop-down list. Select **Enable OSD Report** (so OSD data will be uploaded to the platform).
3. Click **Save**.

ONVIF Transparent Channel

Transmit data through the transparent channel (ONVIF) between the camera's RS485 port and a third-party device.

1. Click **Setup** > **System** > **Ports & Devices**, and then click the **Serial Port** tab.



2. Set **Port Mode** to **Select Trans-Channel via ONVIF**.
3. Click **Save**.

Wiper Control

Set wiper parameters before you can control the wiper.

NOTE!

This function is not supported by some models. Please see the actual model for details.

1. Click **Setup** > **System** > **Ports & Devices**, and then click the **External Device** tab.

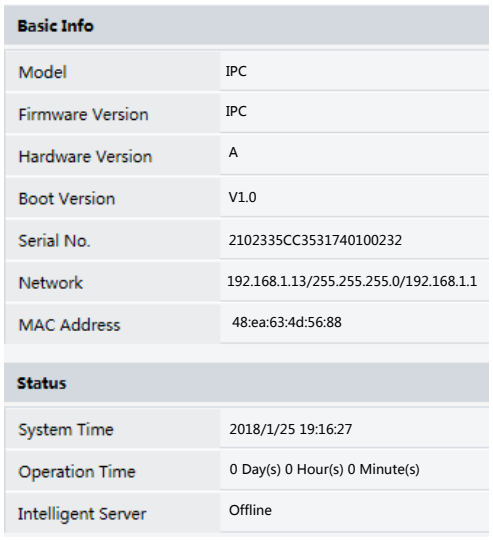
2. Set control mode for the wiper. The following table describes some major parameters.

Parameter	Description
Serial Port	The wiper is controlled by PELCO-D instructions; therefore, the PTZ protocol should be set to PELCO-D. See PTZ control for details.
Alarm Input/Output	Use alarm input and output to open or close the circuit and control the wiper.

Viewing Device Status

You can view the current status of your camera.

1. Click **Setup** > **Common** > **Basic Info**.



2. Click **Refresh** for the latest status information.
3. View the device information.

NOTE!

You may view device model, firmware version, intelligent server status, etc, on the basic info page.

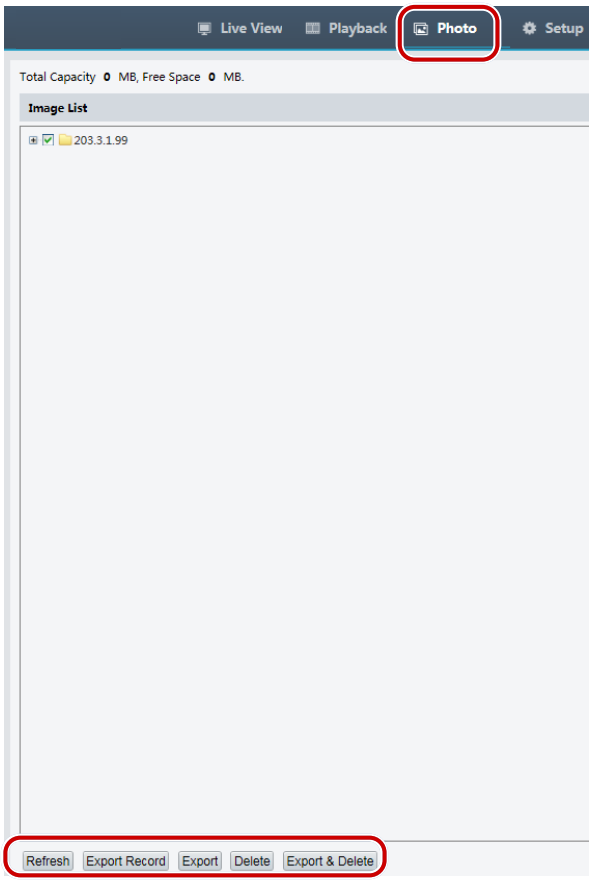
Photo Storage Status

View the current photo storage status. See Memory Card Storage for the full storage policy.

NOTE!

Only models with storage function support this function. Please see the actual model for details.

1. Click **Photo**.



2. Click **Refresh** to update the storage status.
3. You can export or delete photos in the **Image List** area.

Upgrading the Device

If the device is managed by the central management server and you want to upgrade the devices in batch mode, it is recommended to perform the upgrade operation on the central server. For detailed steps, see the user manual for the central management server.

1. Click **Setup** > **System** > **Maintenance**.

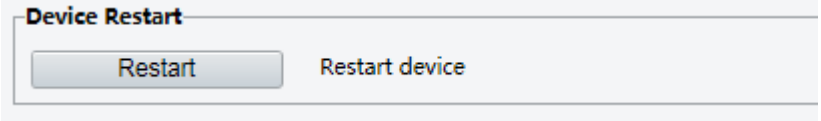
2. Under **Software Upgrade**, click **Browse** and select the correct upgrade file.
3. Click **Upgrade** and then confirm to start. The camera will restart automatically after the upgrade is completed. Some devices support boot program upgrade. To upgrade, select **Upgrade Boot Program**.
4. You may click **Detect** to check for new versions available to cloud upgrade.

NOTE!

- You must use the correct upgrade file for you camera. Otherwise, unexpected results may occur.
- The upgrade file is a ZIP file and must include all the necessary files.
- The boot program loads the operating system and then the system starts running. The upgrade boot program function is disabled by default, and only the camera will be upgraded to the latest version. If enabled, both the camera and the boot program are upgraded, and the operating system of the following new versions can be booted properly and the camera can be upgraded conveniently.
- Ensure that the power supply is normal during upgrade. The device will restart after the upgrade is completed.

Restarting the System

1. Click **Setup** > **System** > **Maintenance**.



2. Under **Device Restart**, click **Restart**. The device will restart after you confirm the operation.

CAUTION!

Perform this operation with caution because restarting the system interrupts the ongoing service.

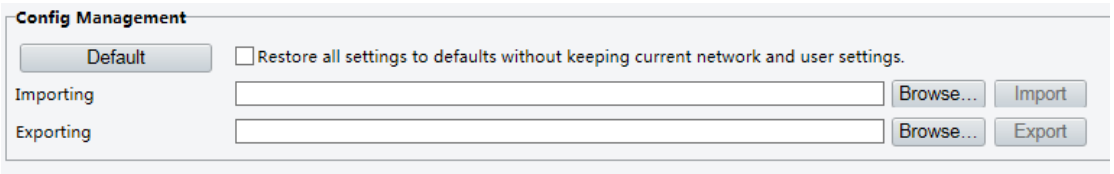
Importing and Exporting System Configuration File

Export the current configurations of the camera and save them to the PC or an external storage medium. You can also quickly restore configurations by importing backup configurations stored on the PC or an external storage medium back to the camera.

CAUTION!

- After you perform the Default operation, all settings are restored to factory defaults, except the following: login password of the system administrator, network settings, and system time.
- Make sure you import the correct configuration file for your camera. Otherwise, unexpected results may occur.
- The camera will restart when the configuration file is imported successfully.

1. Click **Setup** > **System** > **Maintenance**.



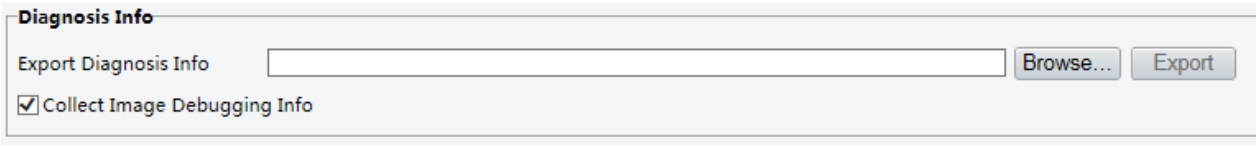
2. To import configurations that you have backed up, click **Browse** next to the **Import** button and select the configurations you want to import, and then click **Import**. The result will be displayed.
3. To export current system configurations, click **Browse** (next to the **Exporting** field), set the destination and then click **Export**.

4. To restore default configurations, click **Default** and then confirm the operation. The device will restart and restore the default configurations. Clicking **Default** with the check box selected will completely restore the device to factory default settings.

Collecting Diagnosis Information

Diagnosis information includes logs and system configurations. You can export diagnosis information to your PC.

1. Click **Setup** > **System** > **Maintenance**.



2. In the **Diagnosis Info** area, click **Browse** to set the destination and then click **Export**.

NOTE!

- Diagnosis information is exported to the local folder in form of a compressed file. You need to decompress the file using a tool such as WinRAR and then open the file using a text editor.
- By selecting **Collect Image Debugging Info**, you can display video with debugging information at the same time, which makes troubleshooting easier.

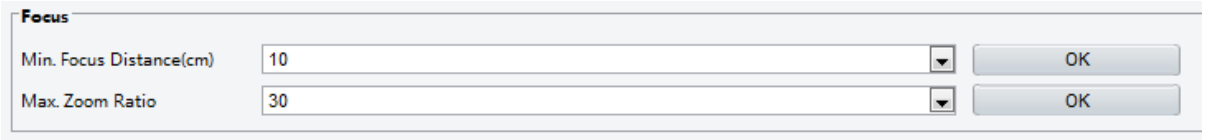
Focus Configuration

The device can adjust the speed of auto-focus according to the minimum focus distance. In order to shoot clear objects, it is recommended that the minimum focus distance is set shorter than the distance between the objects and lens, for example, if the minimum focus distance is 3m, then the objects within 3m from lens will be out of focus.

NOTE!

This function is only supported by the devices with auto-focus. Please see the actual model for details.

1. Click **Setup** > **System** > **Maintenance**.



2. Under **Focus**, configure **Min. Focus Distance** (unit: cm) and **Max. Zoom Ratio**.
3. Click **OK**.

Device Mounting Height

Enter the actual height from the installed infrared dome to the ground, so that the dome will be able to automatically adjust its infrared lamp.

NOTE!

This function is only supported by some infrared cameras. Please see the actual model for details.

1. Click **Setup** > **System** > **Maintenance**.

2. Enter the actual height from the installed Infrared Dome to the ground.
3. Click **OK**.

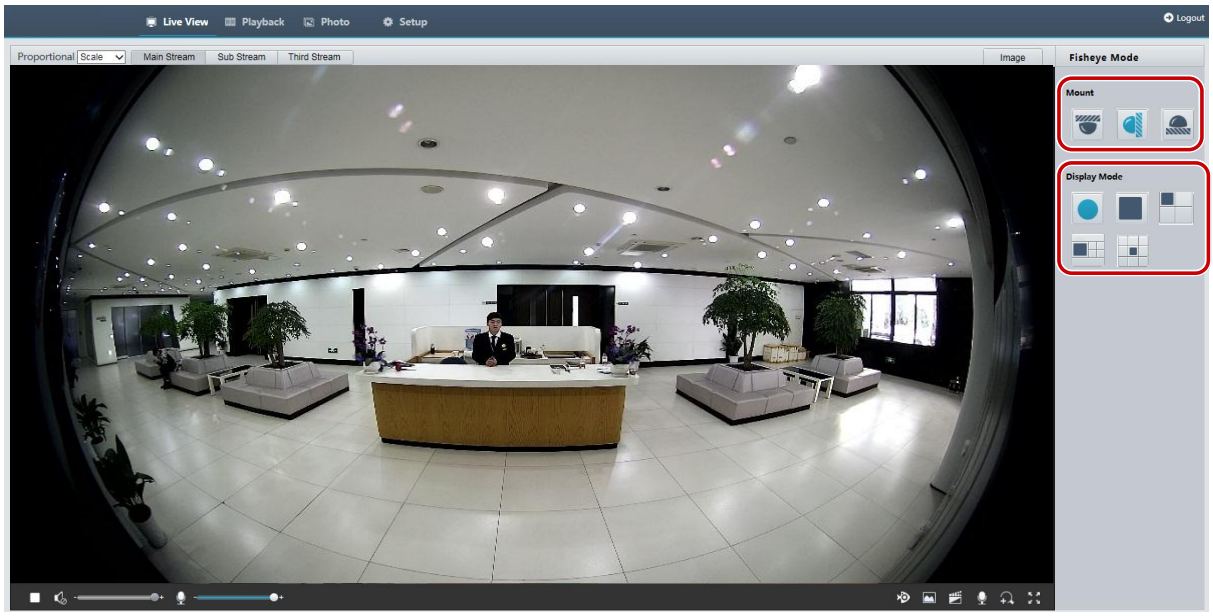
Fisheye Camera Parameter

To display video properly, you need to set fisheye parameters properly according to the actual mounting mode.

NOTE!

This function is only supported by fisheye cameras. Please see the actual model for details.

1. Click **Live View** > **Mount**. Select the mounting mode. The selected mounting mode must be consistent with the actual mounting mode.



For some camera models, the page is displayed as follows.

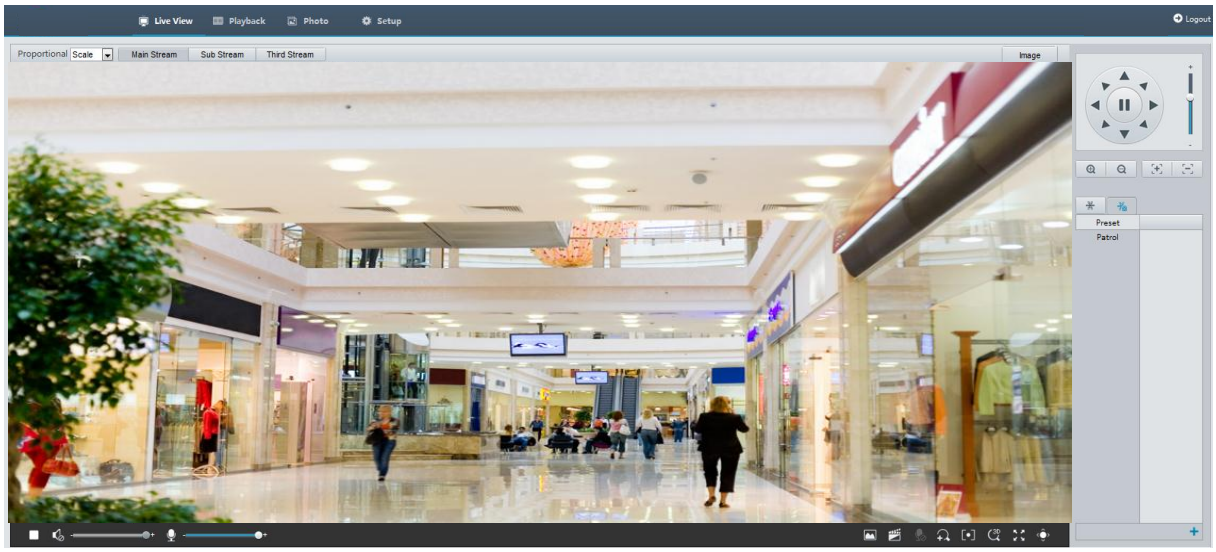
2. Set the parameters. The following table describes some major parameters.

Parameter	Description
	Eleven display modes: • Original Image • Panoramic • Panoramic+3PTZ • Panoramic+4PTZ • Panoramic+8PTZ • 360°Panoramic+1PTZ • 180°Panoramic • Fisheye+3PTZ • Fisheye+4PTZ • 360°Panoramic+6PTZ • Fisheye+8PTZ
	Three mounting modes: • Ceiling • Wall • Desktop **Note:** The selected mounting mode must be consistent with the actual mounting mode.

4 Live View

Live view means playing live video (real-time audio and video) received from a camera in a window through the Web interface.

If you log in with the **Live View** check box selected, live video appears by default when you are logged in. You may double-click the window to enter or exit full screen mode.

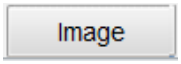


Live View Toolbar

NOTE!

The supported live view operations may vary with camera model. For the operations that your camera supports, see the Web interface.

Button	Description
/	Play/stop live video.
	Adjust the output volume for the media player on the PC.
	Adjust the microphone volume on the PC during audio communication between the PC and the camera.
	Take a snapshot of the current image displayed on the PC. **Note:** The path for saving snapshots are set in **System Configuration**.
/	Start/stop local recording. **Note:** The path for saving local recordings is set in **System Configuration.**
/	Start/stop audio communication between the PC and the camera.
/	Start/stop digital zoom. For more details, see Using Digital Zoom.
/	Start/stop area focus. For more details, see Using Area Focus.
/	Start/stop 3D positioning. For more details, see Using 3D Positioning.
	Show/hide the PTZ control panel.
Proportional Scale	Set image display ratio in the window. For example, to display high-definition images at original 16:9, select **Scale**; to display according to window size, select **Stretch**; to display with the original image size, select **Original**.

Button	Description
	Reset the packet loss rate to zero. **Note:** After you move the mouse cursor on a live view window, this button appears on the floating toolbar.
	Display packet loss rate and bit rate information at the bottom of the window. **Note**: After you move the mouse cursor on a live view window, this button appears on the floating toolbar. Click this button to always display the information. With another click, the information appears only when you move the mouse cursor over the window or place it at the bottom. If the mouse cursor rests on the window for around 3 seconds or leaves the window, the information disappears.
	Click this button to open the image setting page.
	Display in full screen mode.
	Select a live video stream that the camera supports: main stream, sub stream or third stream.

Viewing Certain Area of Images

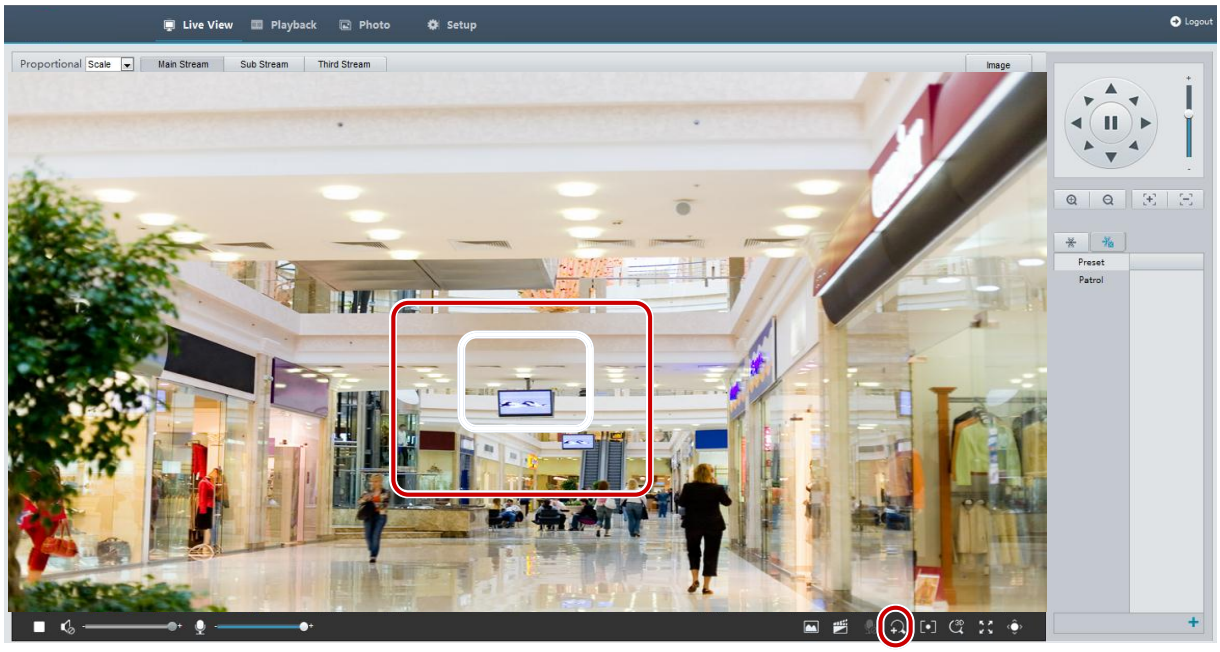
Digital zoom, area focus and 3D positioning allow you to get more details of certain part of images. Digital zoom enlarges an image with loss in image quality, while 3D positioning enlarges an image without.

Using Digital Zoom

NOTE!

The supported live view operations may vary with camera model. For the operations that your camera supports, see the Web interface.

1. On the **Live View** page, click on the toolbar.



2. Click and hold the mouse button, and then drag from top down (draw a rectangle) to specify an area. To restore the original image size and zoom in on other areas of the image, right-click the mouse.

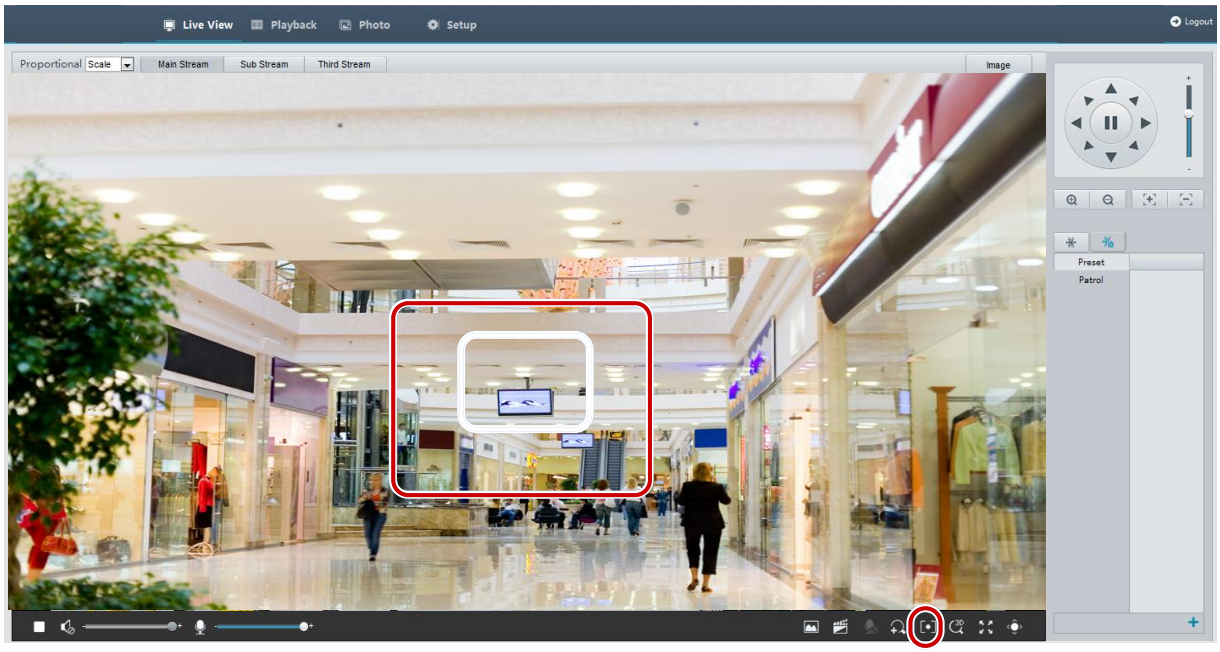
3. To exit, click .

Using Area Focus

NOTE!

The supported live view operations may vary with camera model. For the operations that your camera supports, see the Web interface.

1. On the **Live View** page, click on the toolbar.



2. Click and hold the mouse button, and then drag from top down (draw a rectangle) to specify an area.

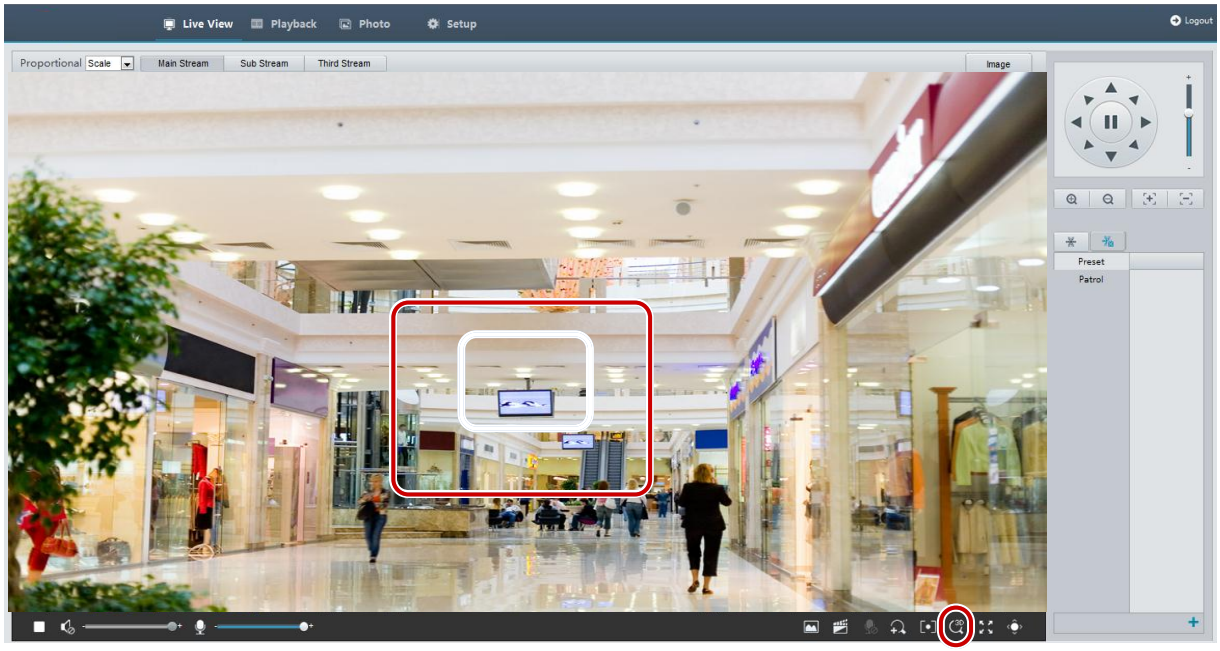
3. To exit, click .

Using 3D Positioning

NOTE!

This function is available only for network PTZ cameras and network box cameras equipped with motorized zoom lens and PTZ. Please see actual models for details.

1. On the **Live View** page, click on the toolbar.



2. Click and hold the mouse button, and then drag from top down (draw a rectangle) to specify an area. Dragging reversely (from down top) will zoom out.

3. To exit, click .

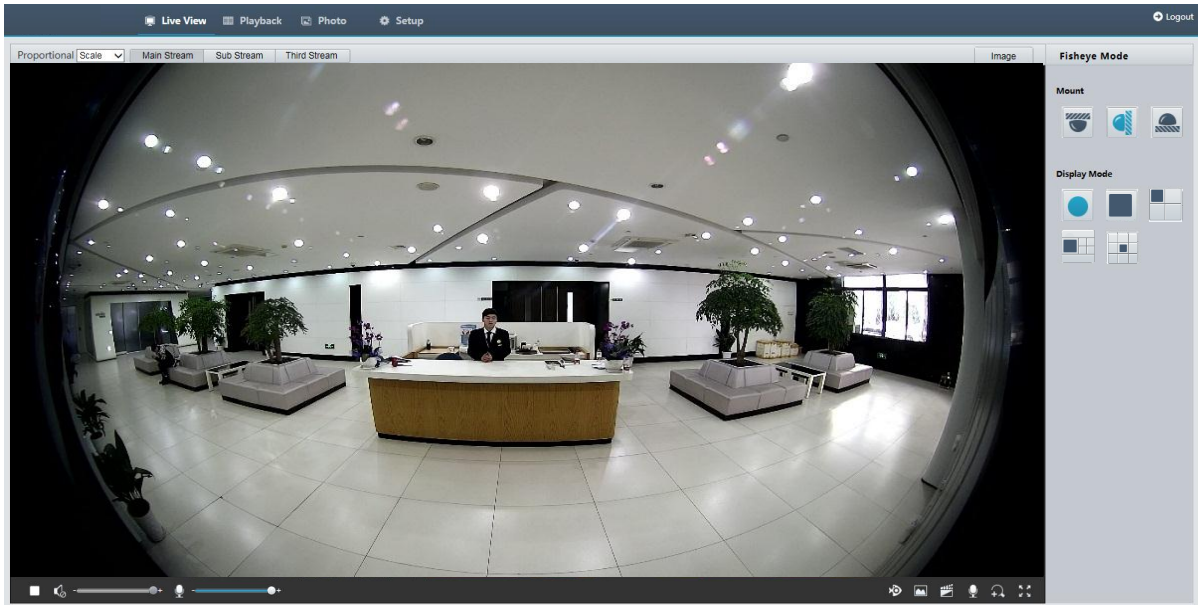
Live View of Fisheye Cameras

NOTE!

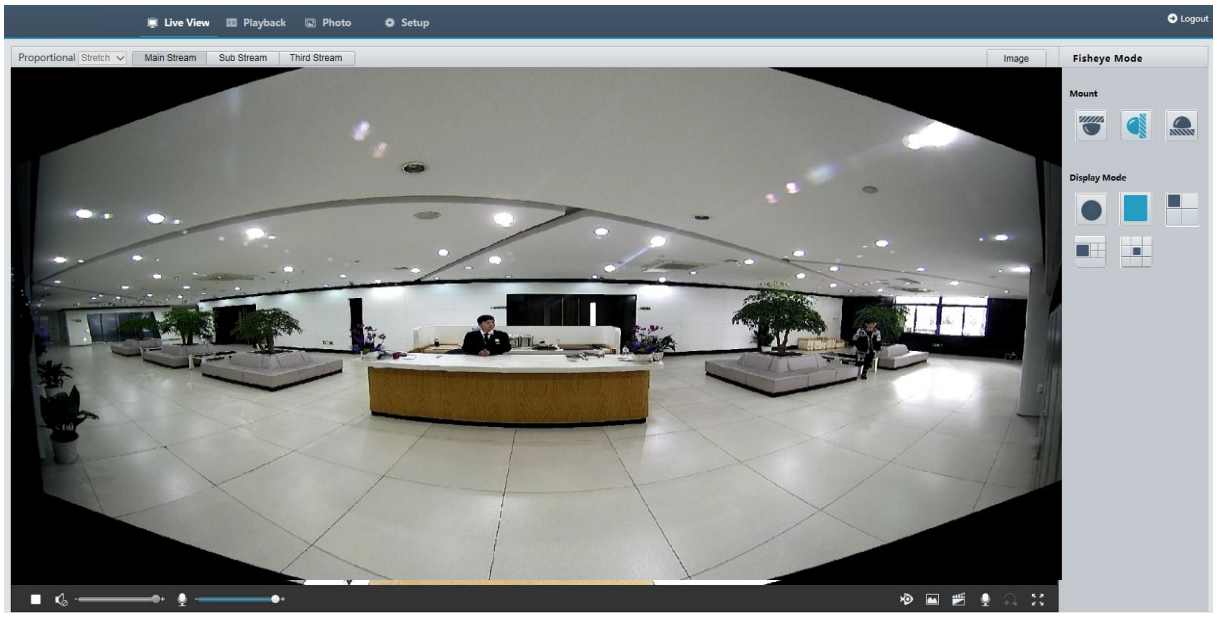
- This function is only supported by the network fisheye cameras. Please see actual models for details.
- The preview image on the Web may vary with the fisheye settings for the camera. Please set the fisheye parameters (see Fisheye Cameras Parameter) and the fisheye mode of the camera before you start live view.

Display modes include three major types: Original Image, Fisheye and PTZ, Panoramic and PTZ. In different mounting modes, images are displayed differently. The following takes wall mount as an example.

When Original Image is selected, fisheye images are displayed as follows.



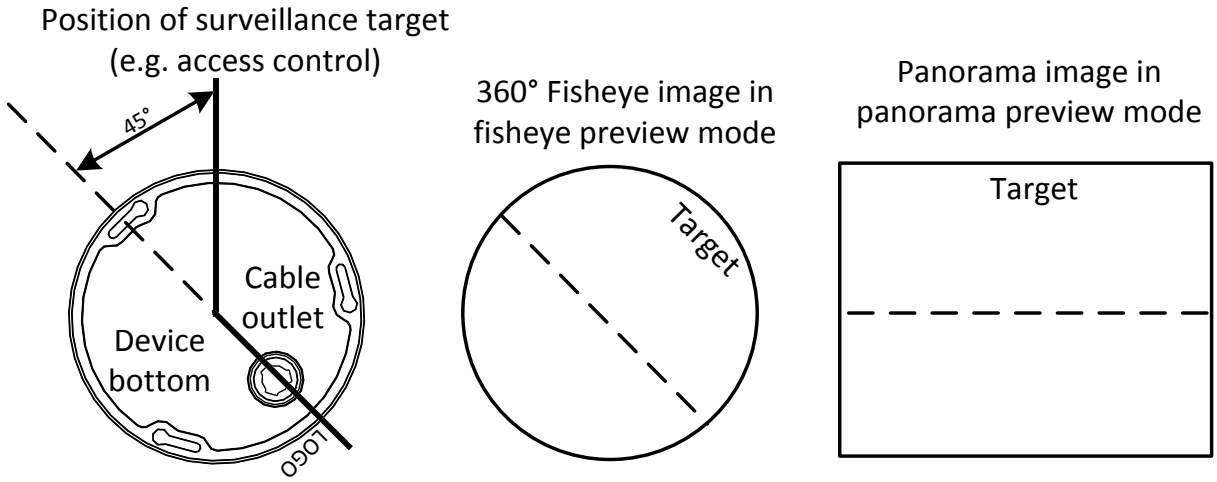
When Panoramic is selected, dewarped panoramic images are displayed as follows.



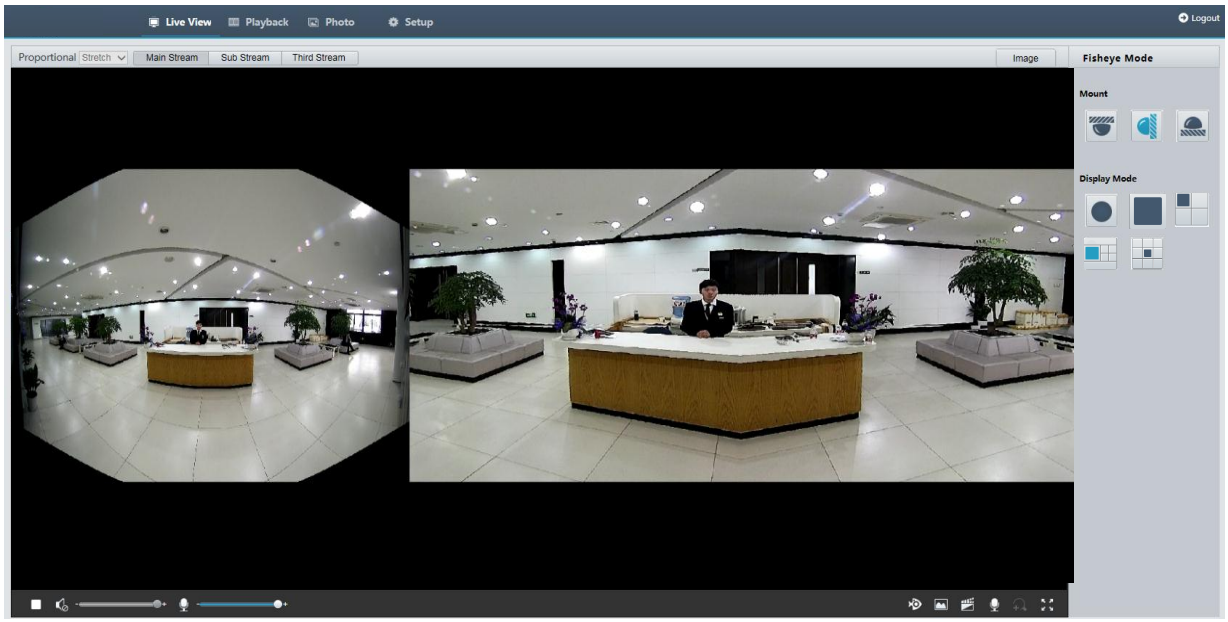
NOTE!

If the ceiling mount or desktop mount is adopted, the panorama image (two 180° images) is a dewarped image of the fisheye preview image (360° image). Please mount the camera with an appropriate angle of view according to the actual surveillance requirements.

For example, if the camera is installed on the ceiling, the surveillance target is displayed on the upper part of the panorama image when the intersection angle between the device cable outlet (logo) and the surveillance target in clockwise direction is 135°.



When Panoramic+4PTZ preview mode is selected from the list on the right, 4 local images are displayed, from left to right, from top to down, by default. You may perform PTZ control and zoom operations on each local image, as shown in the figure below.



5 Video Playback and Download with Edge Storage

NOTE!

- Edge storage refers to recording video to the memory card of a frontend device (mostly a camera). Local recording refers to recording video to a local PC client.
- Before you play back video with edge storage, check that the camera has been installed with a memory card and storage has been configured.
- This function is not supported by some models. Please see actual models for details.

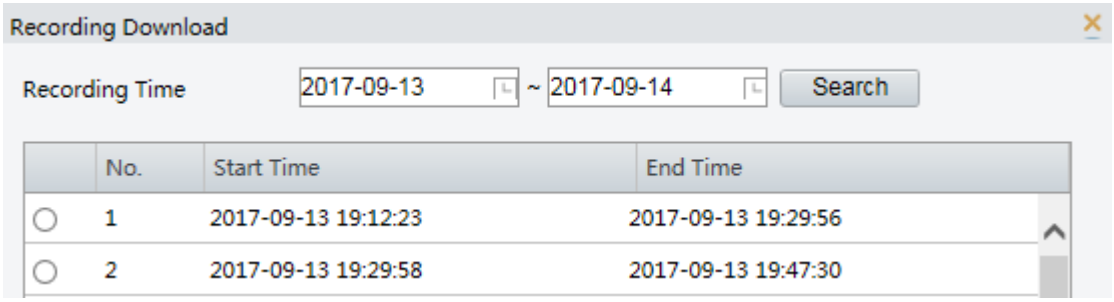
Video Playback

1. Click **Playback** on the home page.

2. Select the date from the calendar.
3. Click **Query**.
4. Under **Results**, double-click the time period to start playing the recording.

Download

1. Click **Playback** on the home page.



2. Search for video within a specified period. The results will be shown in a list.
3. Select your video and click **Download**. The video will be downloaded to your local path from the memory card (local path can be changed in **Local Settings**).
4. Click **Open** to show the folder where the downloaded video is saved.

6 PTZ Control

This function is available only for the PTZ dome cameras or a box camera installed on a Pan/Tilt motor.

NOTE!

- Some of the lens control functions are applicable to cameras equipped with motorized lens.
- The PTZ control buttons may vary with camera model. For the PTZ control buttons that your camera supports, see the Web interface.

PTZ Control Toolbar

Item	Description
Preset	Select a preset and then click . The PTZ camera goes to the selected preset. To add a preset, click . To delete a preset, click .
Patrol	Select a patrol route and then click to start patrol. • To edit a patrol route, click . • To add a patrol route, click . • To delete a patrol route, click .
	Adjust the moving speed of the PTZ camera.
	Control the direction of the PTZ camera and release the control.
	Turn on or off IR. Turn on or off the wiper. Turn on or off the heater. Turn on or off the illuminator. Turn on or off snow control.

Item	Description
	Adjust camera focus.
	Adjust camera zoom.
	Increase or decrease iris diameter.
	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:** • Only PTZ dome cameras and PTZ cameras support this function. • These buttons are unusable when you are using 3D positioning or digital zoom.
	Shortcut keys for zooming in or out in live view. Scroll the wheel forward to zoom in or backward to zoom out. **Note:** Only cameras with motorized zoom lens support this function.

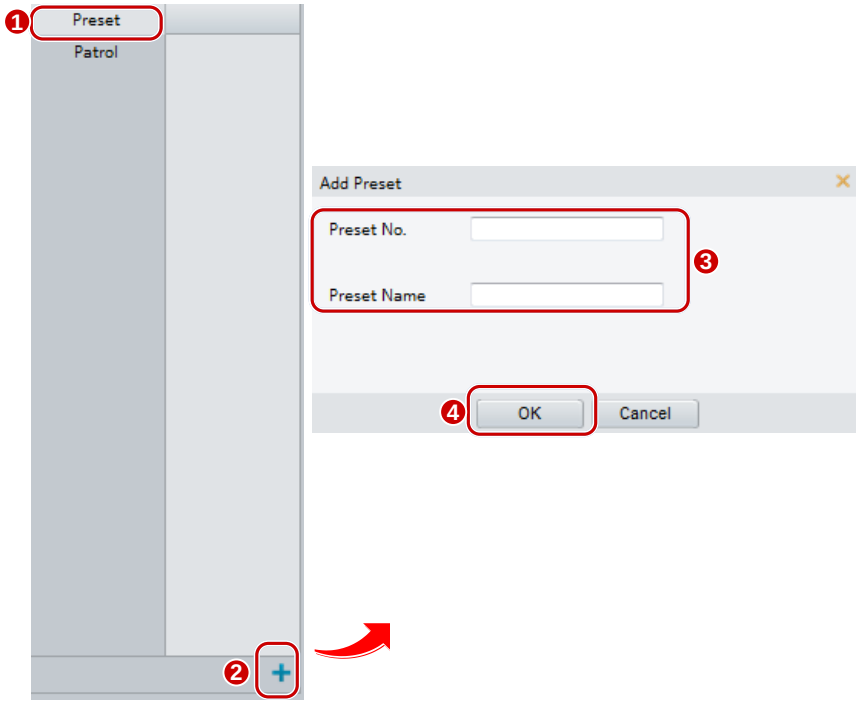
Setting Patrol by Presets

Setting Presets

On the **Preset** tab, you can manage presets or perform certain control operations to the PTZ camera. For more details, see PTZ Control Toolbar.

Add a preset

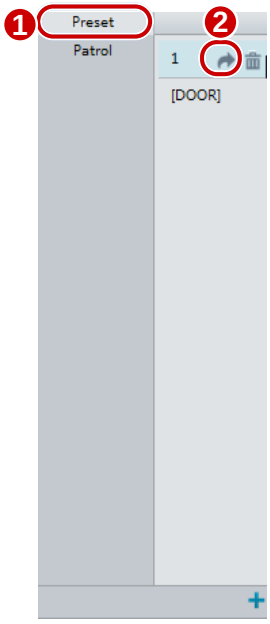
1. On the **Live View** page, click **Preset** on the control panel.



2. Adjust the camera till it points toward the desired direction.
3. Adjust zoom and focus as needed to obtain the optimal image.
4. Click + to add it as a preset. Enter a number and name for the preset and then click **OK**.

Go to a preset

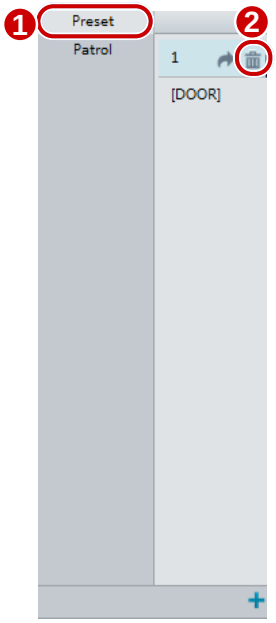
1. On the **Live View** page, click **Preset** on the control panel.



2. Click for a preset. The PTZ camera goes to the selected preset.

Delete a preset

1. On the **Live View** page, click **Preset** on the control panel.



2. Click for a preset and then confirm the delete.

Setting Patrol

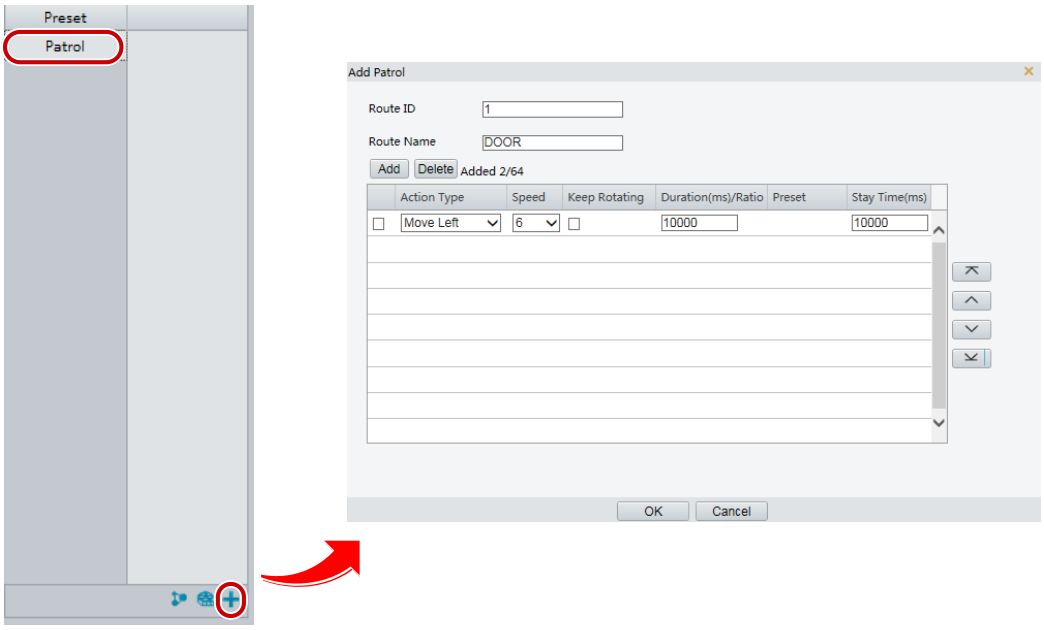
A patrol route is the track by which a PTZ camera follows when moving from a preset to the next. The length of time that a PTZ camera stays at each preset is configurable. Multiple patrol routes are allowed for a PTZ camera.

Patrol actions include going to a preset and staying at the preset for a certain amount of time before going to the next. You can set the rotation direction, zoom, rotation speed, patrol time, and stay time. The system

records the route and adds it to the action list. You may select **Keep Rotating** so the PTZ camera follows the same route and patrols repeatedly.

Add a patrol route

1. On the **Live View** page, click **Patrol** on the control panel.



2. Click .
3. On the **Add Patrol** page, enter the route ID and name, and then click **Add** to add a patrol action. Up to 64 actions are allowed. Each line includes two actions when action type is set to **Move Direction** and **Zoom**, so 32 actions are allowed. Use the buttons to adjust the sequence of the actions.

Patrol actions include:

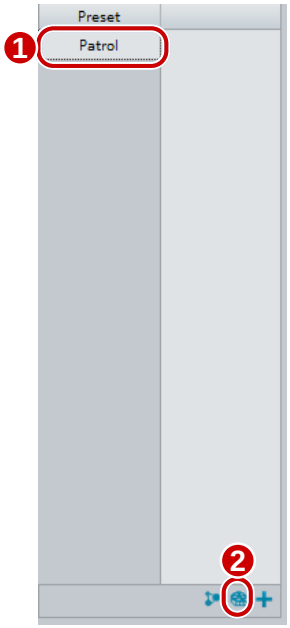
- Go to a preset and stay for a certain amount of time before going to the next preset.
- Rotate at the set speed in the set direction for a certain amount of time, zoom, stay at a set position for a certain amount of time, or patrol repeatedly if **Keep Rotating** is selected.

It is recommended that the first action type is **Go to Preset**.

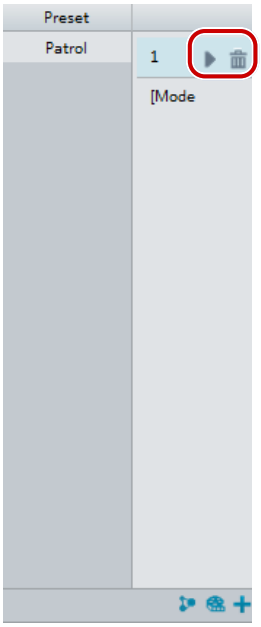
4. Click **OK**.

Record a patrol route

1. On the **Live View** page, click **Patrol** on the control panel.

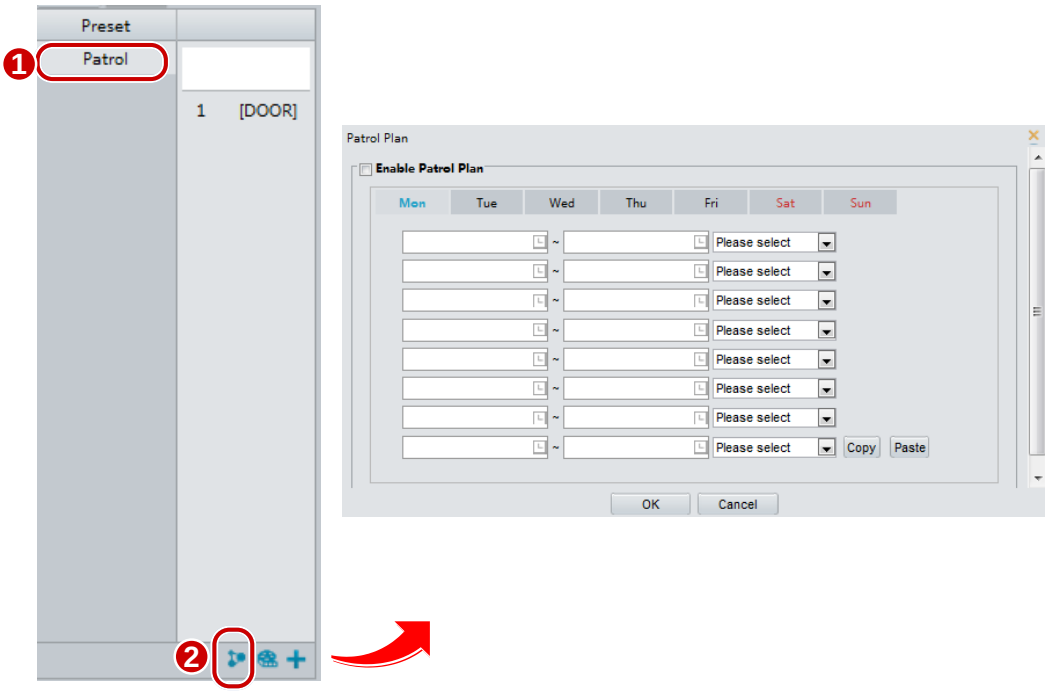


2. Click to start recording the patrol route. You can adjust the direction and zoom of the camera during the recording. The system records the motion and track of the camera and adds them to the action list.
3. Click to finish recording. Then the patrol route is saved as a mode route automatically. You can click to start patrol or to delete the mode route.



Make a patrol plan

1. On the **Live View** page, click **Patrol** on the control panel.

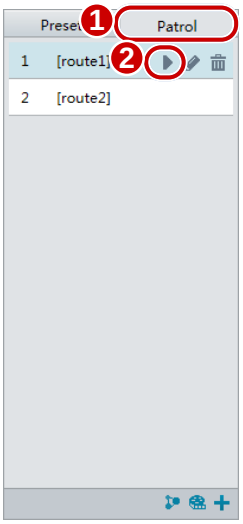


2. Click . The page for setting patrol plans is displayed.
3. Set the correct patrol time and route.
4. Select **Enable Patrol Plan**.
5. Click **OK**.

Start a patrol route

After you have added a patrol route, select the patrol route to start patrol.

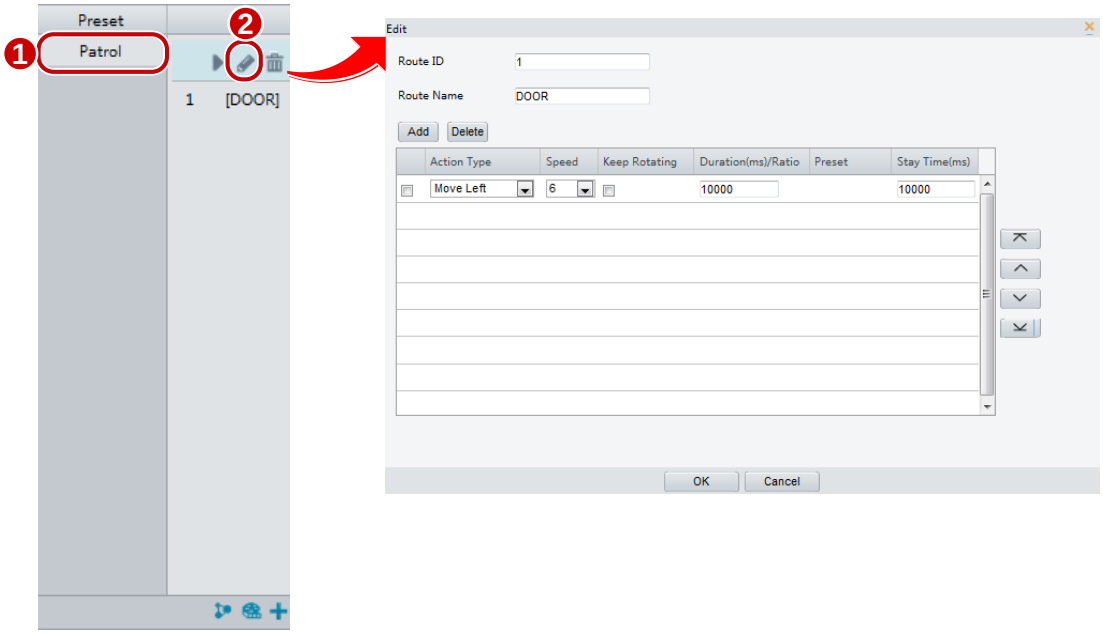
1. On the **Live View** page, click **Patrol** on the control panel.



2. Click for the patrol route you want to start.

Edit a patrol route

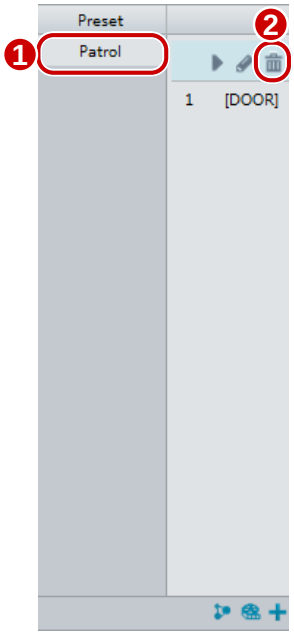
1. On the **Live View** page, click **Patrol** on the control panel.



2. Click for the patrol route you want to edit and modify the settings as required.

Delete a patrol route

1. On the **Live View** page, click **Patrol** on the control panel.



2. Click for the patrol route you want to delete and then confirm the delete.

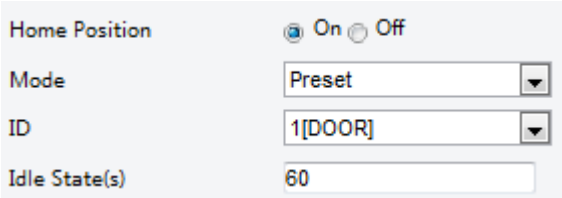
Setting Home Position

PTZ camera will return to home position if no operation is made within a specified period.

NOTE!

- This function is available for network PTZ cameras only.
- You need to add presets or a patrol route first. See Add a preset and Add a patrol route for details.

1. Click **Setup** > **PTZ** > **Home Position**.



2. Select a mode and ID.
3. Click **Save**.

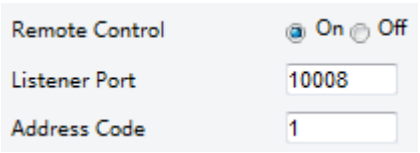
Remote Control PTZ

When the third-party platform is used and the PTZ protocol does not match that, you can set the remote control function to control the PTZ.

NOTE!

This function is only supported by PTZ cameras.

1. Click **Setup** > **PTZ** > **Remote Control**.



2. Select **On** to enable **Remote Control**. Set the listener port and address code. The following table describes some major parameters.

Acronym	Description
Listener Port	Camera's local port, which cannot be a port that is already in use. Change the default setting only when necessary.
Address Code	The camera can read the address code contained in instructions. The camera interprets the instruction only when the address code in the instruction is the address code configured here.

3. Click **Save**.

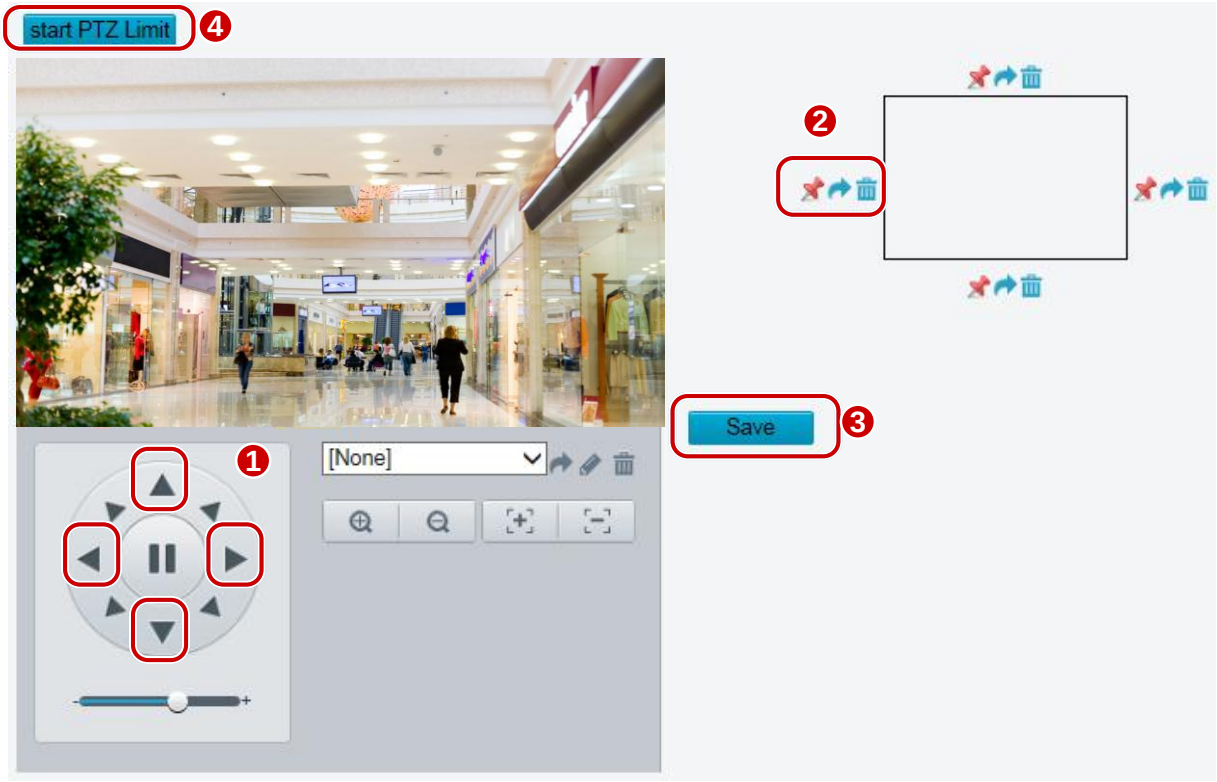
PTZ Limit

Set rotation limits to prevent the PTZ camera from hitting obstacles such as a wall.

NOTE!

This function is only supported by some PTZ cameras.

1. Click **Setup** > **PTZ** > **PTZ Limit**.

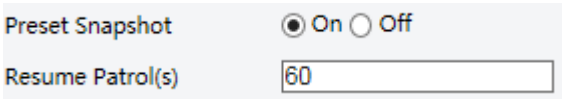


2. Use directional buttons to rotate the camera to an intended position.
3. Click to set the current position as a limit. For example, click on the top to set the upper limit.

   Clicking will rotate the camera to the current position if the direction has been changed.
4. Repeat the above steps to set all limits as needed (up, down, left, right).
5. Click **Save**.
6. Click **Start PTZ Limit** to apply the setting.
7. Click to delete settings and reset the limit.

Resume Patrol

1. Click **Setup** > **PTZ** > **Patrol**.



2. Set the time when patrol resumes.
3. Click **Save**.

Appendix A Glossary

Acronym	Description
ARP	Address Resolution Protocol
CBR	Constant Bit Rate
DNS	Domain Name Service
DDNS	Dynamic Domain Name Service
DHCP	Dynamic Host Configuration Protocol
DST	Daylight Saving Time
FTP	File Transfer Protocol
GOP	Group Of Pictures
GUI	Graphical User Interface
HTTPS	Hyper Text Transfer Protocol over SSL
IE	Internet Explorer
IMOS	IP Multimedia Operation System
IP	Internet Protocol
IPC	IP Camera
MTU	Maximum Transmission Unit
NTP	Network Time Protocol
OSD	On Screen Display
PoE	Power over Ethernet
PPPoE	Point-to-Point Protocol over Ethernet
PTZ	Pan, Tilt, Zoom
ROI	Region of Interest
SMTP	Simple Mail Transfer Protocol
SSL	Secure Socket Layer
UNP	Universal Network Passport
USB	Universal Serial Bus
VBR	Variable Bit Rate
WDR	Wide Dynamic Range

Appendix B FAQ

What to do if no message prompts me to install ActiveX when I log in on a Windows 7 PC the first time

Answer: Follow these steps to turn off UAC and then log in again:

1. Click the **Start** button, and then click **Control Panel**.
2. In the search box, type uac, and then click **Change User Account Control Settings**.
3. Move the slider to the **Never Notify** position, and then click **OK**.
4. After UAC is turned off, log in again.

What to do if the installation of ActiveX failed

Answer: If the installation failed, add the IP address of the camera as a trusted site: open **Internet Option** in IE, click the **Security** tab, click **Trusted sites**, and then click **Sites** to add the website.

If you use Windows 7, you need to save the **setup.exe** to your PC first, right-click the file, select **Run as administrator**, and then install it according to instructions.

What to do if live video fails when I log in for the first time

Answer: Close the firewall on your PC and then log in to the Web interface again.