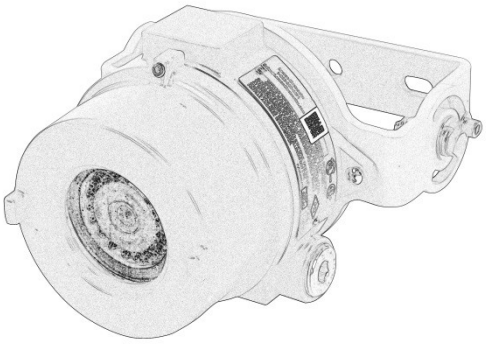


USER MANUAL

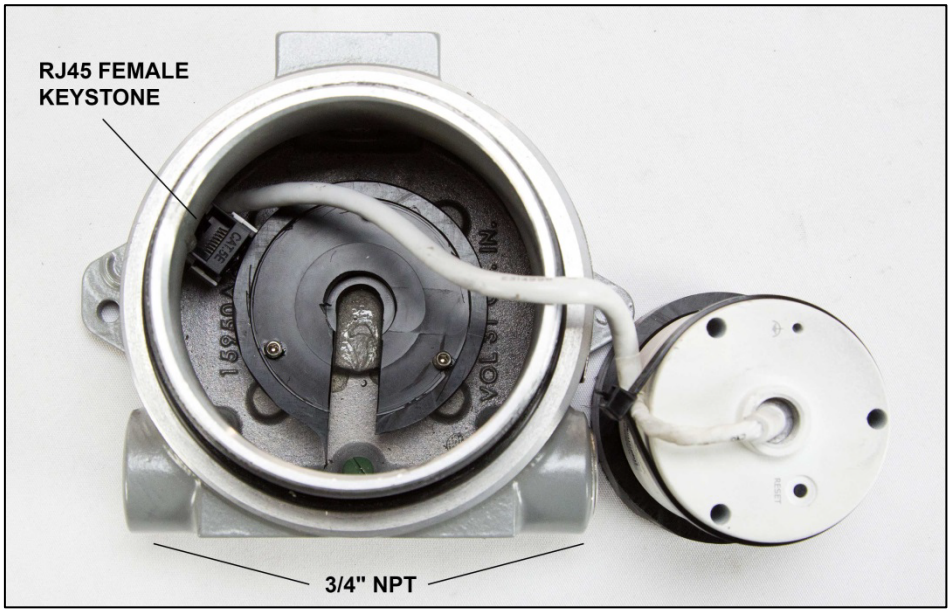
Explosion Proof Network IP Camera for Cannabis Extraction

EXPCMR-CER-IP-POE-4MP-IR-V3

LARSON ELECTRONICS LLC • 9419 E US HWY 175 • KEMP, TX 75143

p: 1-800-369-6671 • intl: 903-498-3363 • f: 903-498-3364 • sales@larsonelectronics.com

❖ INSTALLATION



- Choose a suitable location for mounting the camera. You will need to run RJ45 Ethernet cable to this location while maintaining area safety requirements. 3/8”-16 or 3/8”-24 bolts are recommended for mounting the camera with a minimum bolt length of ¼” depending on the location.

- There are two 3/4" NPT hubs available for feeding wire to the camera. Power and data is delivered via the same Ethernet cable using Power over Ethernet (PoE) technology.

- Loosen the set screw and unscrew the lens of the enclosure. This will reveal the cameras internals. Feed your supplied Ethernet cable through one end of the camera. Find the female RJ45 keystone jack inside and attach the male end of your supplied Ethernet cable. Once connected, test to ensure everything works via your NVR or computer. Refer to *page 22* for accessing the camera via a web browser.

Camera Defaults

IP Address:	192.168.1.64
Username:	admin
Password:	ChangeMeNØw

Ø - Indicates a zero*

- Once everything has been connected and tested, replace the camera and lens. Then, tighten the set screw.

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

Safety Instruction

These instructions are intended to ensure that the user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into 'Warnings' and 'Cautions':

Warnings: Serious injury or death may be caused if any of these warnings are neglected.

Cautions: Injury or equipment damage may be caused if any of these cautions are neglected.

	
Warnings Follow these safeguards to prevent serious injury or death.	**Cautions** Follow these precautions to prevent potential injury or material damage.

 **Warnings:**

- This installation should be made by a qualified service person and should conform to all the local codes.
- Please install blackouts equipment into the power supply circuit for convenient supply interruption.
- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)

 **Cautions:**

- Make sure the power supply voltage is correct before using the camera.
- Do not drop the camera or subject it to physical shock.
- Do not touch sensor modules with fingers. If cleaning is necessary, use a clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period of time, put on the lens cap to protect the sensor from dirt.
- Do not aim the camera lens at the strong light such as sun or incandescent lamp. The strong light can cause fatal damage to the camera.
- The sensor may be burned out by a laser beam, so when any laser equipment is being used, make sure that the surface of the sensor not be exposed to the laser beam.
- Do not place the camera in extremely hot, cold temperatures (the operating temperature should be between -30°C ~ 60°C), and do not expose it to high electromagnetic radiation.
- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- Keep the camera away from water and any liquid during installation.
- While shipping, the camera should be packed in its original packing.

Notes:

For the camera supports IR, you are required to pay attention to the following precautions to prevent IR reflection:

- Dust or grease on the dome cover will cause IR reflection. Please do not remove the dome cover film until the installation is finished. If there is dust or grease on the dome cover, clean the dome cover with clean soft cloth and isopropyl alcohol.
- Make certain the installation location does not have reflective surfaces of objects too close to the camera. The IR light from the camera may reflect back into the lens causing reflection.
- The foam ring around the lens must be seated flush against the inner surface of the bubble to isolate the lens from the IR LEDS. Fasten the dome cover to camera body so that the foam ring and the dome cover are attached seamlessly.

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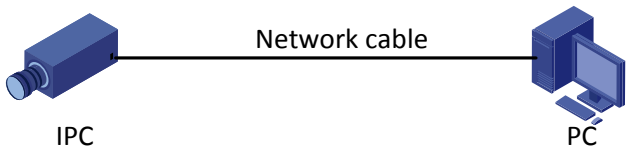
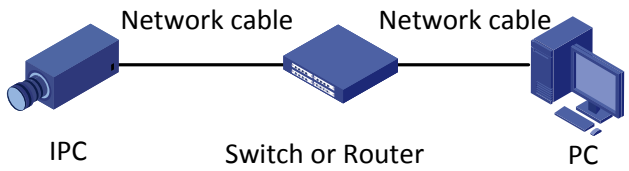
Table of Contents

Network Connection

Before accessing a network camera 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.

Login

Preparation

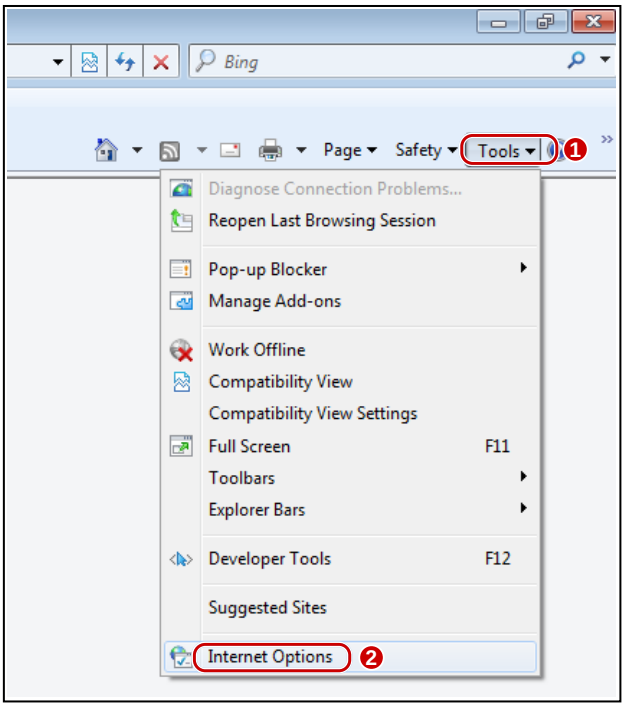
After you have completed the installation in accordance with the quick guide, connect the camera to power to start it. After the camera is started, you can access the camera from a PC client installed with a web browser or the video management software. Internet Explorer (IE) is a recommended web browser. Please contact your dealer to get the video management software. Please refer to the user manual of video management software for detailed information.

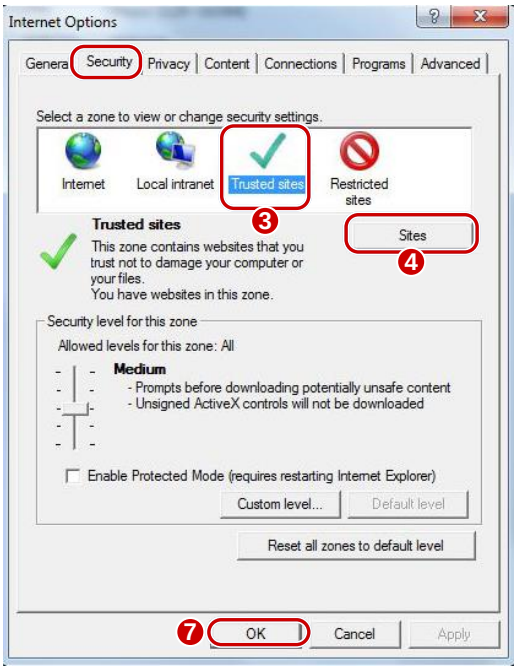
The following takes IE on a Microsoft Windows 7.0 operating system as an example.

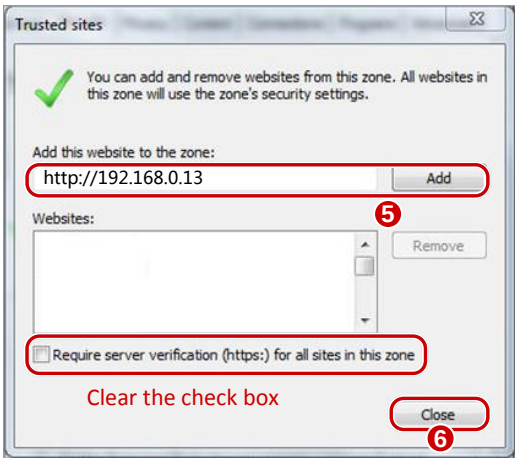
Check before **login**

- The camera is operating correctly.
- The network connection between the PC and the camera is normal.
- The PC is installed with Internet Explorer 10 or higher.
- (Optional) The resolution is set to 1440 x 900.

Add the IP address as a trusted site



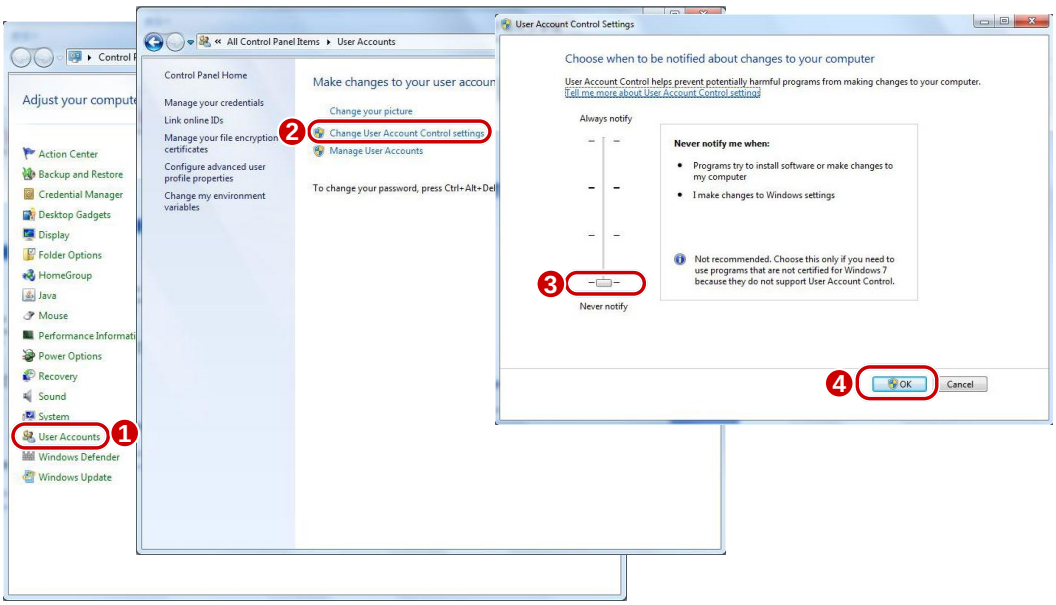




NOTE: The IP address 192.168.0.13 is the example IP address. Please replace it with the actual address of your camera.

Modify user access control settings (Optional)

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



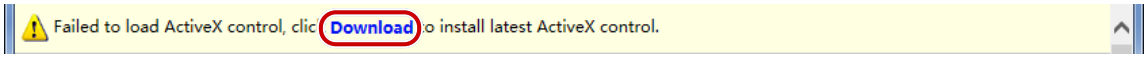
Logging In to the Web Interface

The default static IP address of the camera is **192.168.0.100**, 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 video management software 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. Below is an example.

No.	Description
1	Menu
2	Control panel **NOTE:** The PTZ buttons are available for PTZ dome cameras and PTZ cameras only.
3	Live view window
4	Live view toolbar

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***.

Initial Configuration

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

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.	-
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.

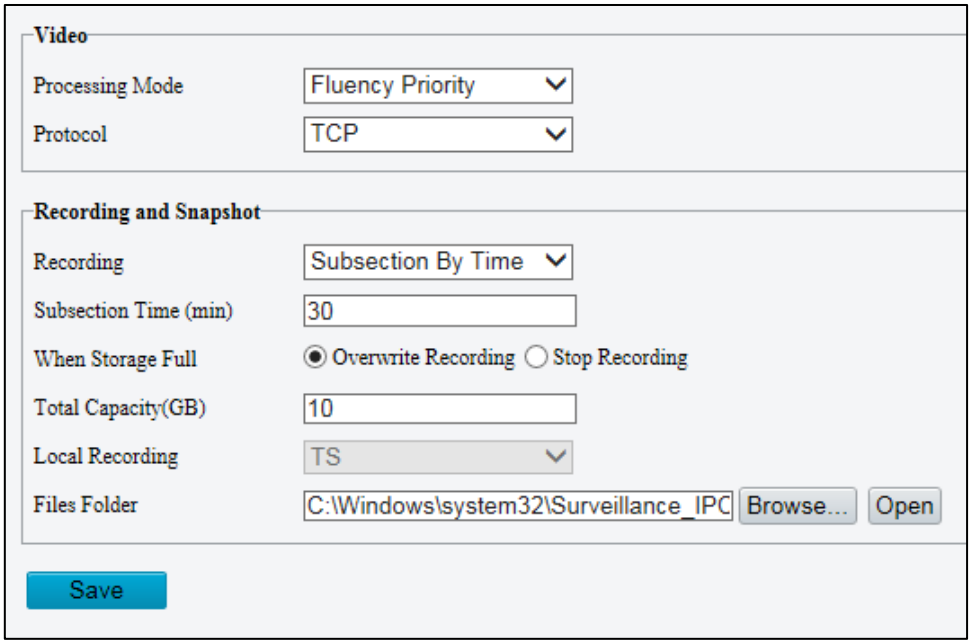
Configuring Parameters

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 Parameters**.



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

Parameter		Description
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.
Recording 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

Parameter		Description
		computer. For example, 5M.
	When Storage Full	• Overwrite Recording: 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. • Stop Recording: When the assigned storage space on the computer is full, recording stops automatically.
	Files Folder	The save path of snapshots and recordings. The max. path length is 260 bytes. If the limit is exceeded, recording or snapshot during live view will fail, and messages will appear on the screen.

3. Click **Save**.

Network Configuration

Ethernet

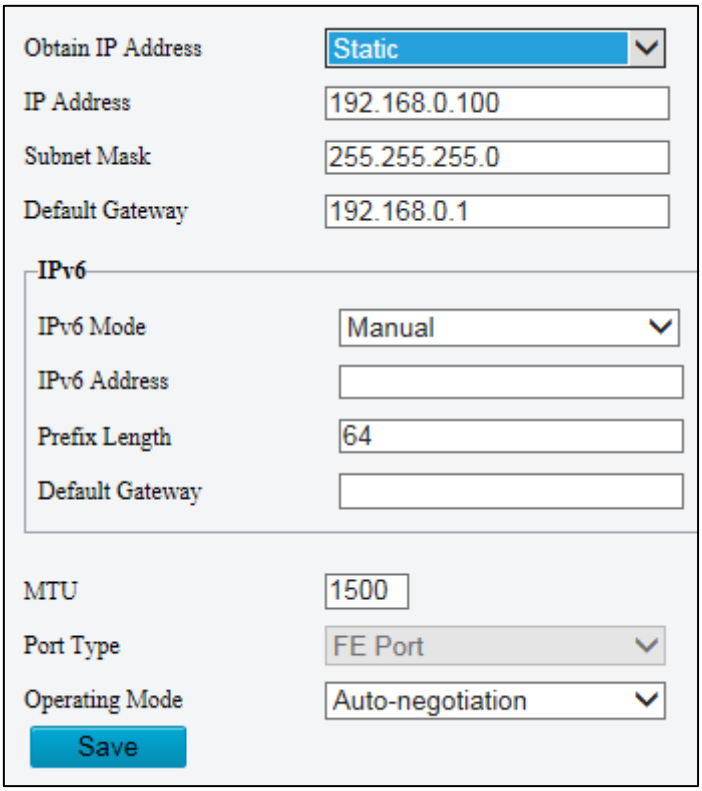
Modify communication settings such as the IP address for the camera so that the camera can communicate with other devices.

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.

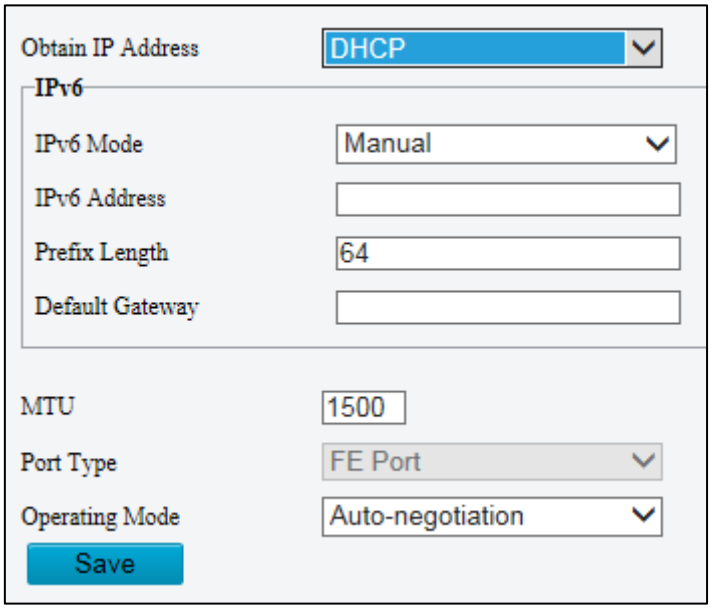
4. Click **Save**.

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**.



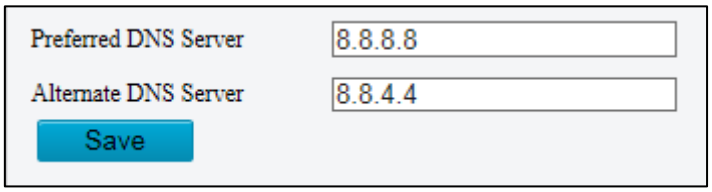
2. Select **DHCP** from the **IP Obtain Mode** drop-down list.

3. Click **Save**.

DNS

This section allows users to configure the Domain Name Service (DNS) for the camera.

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



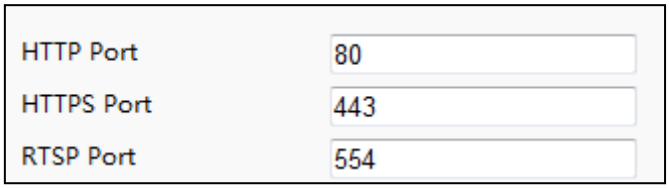
2. Enter the **Preferred DNS Server** and **Alternate DNS Server**.

3. Click **Save**.

Port

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

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



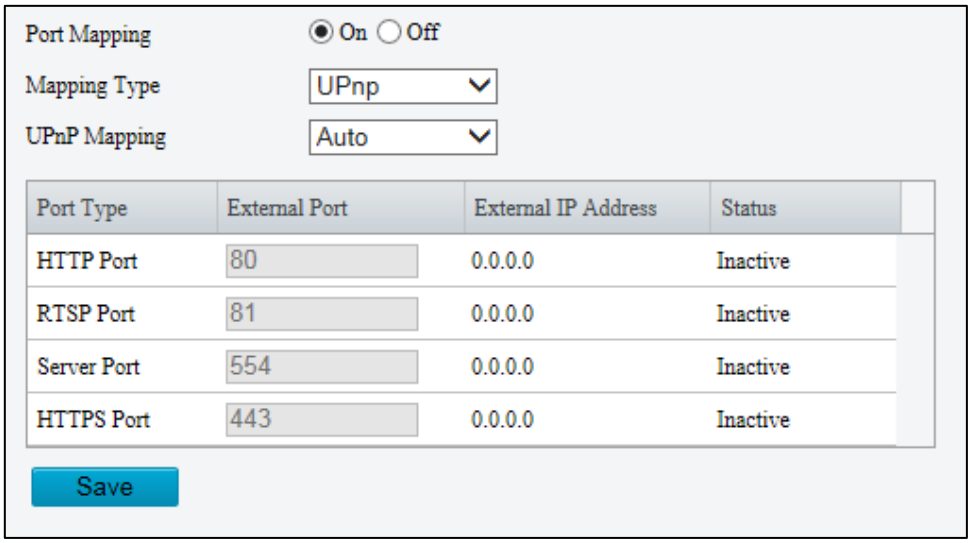
2. Configure relevant port numbers.

3. Click **Save**.

NOTE: If the entered HTTP port number has been occupied, a prompt message will be displayed as **Port conflicts. Please try again.** 23, 81, 82, 85, 3260 and 49152 are occupied by default. And other occupied ports will be detected automatically.

Port Mapping

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



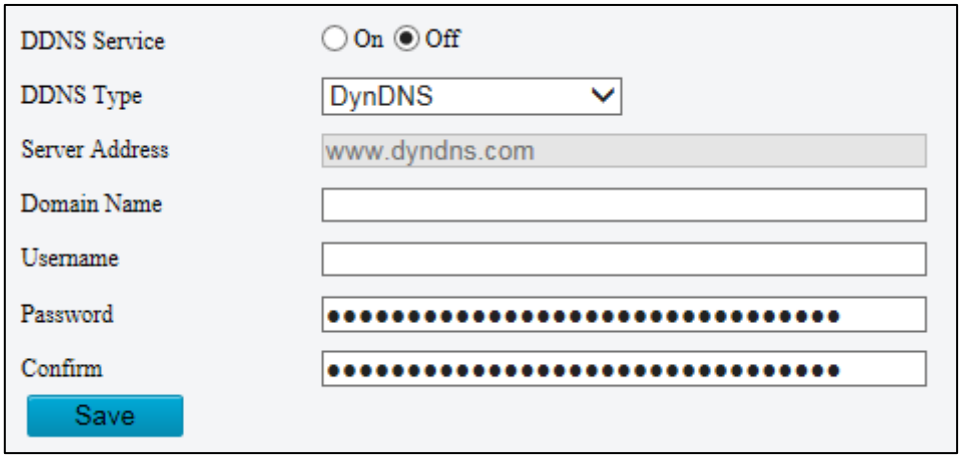
2. Enable **Port Mapping** and select mapping type. If **Manual** is selected, then external ports must be configured (external IP is obtained automatically by the camera). If the configured port is occupied, then the **Status** will show Inactive.

3. Click **Save**.

DDNS

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

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



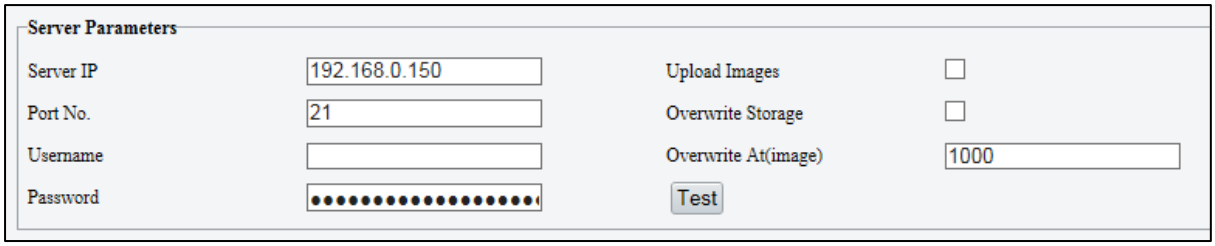
2. Enable DDNS Service.

3. Click **Save**.

FTP

After the configuration of FTP, you will be able to upload snapshots from network cameras to the specified FTP server.

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



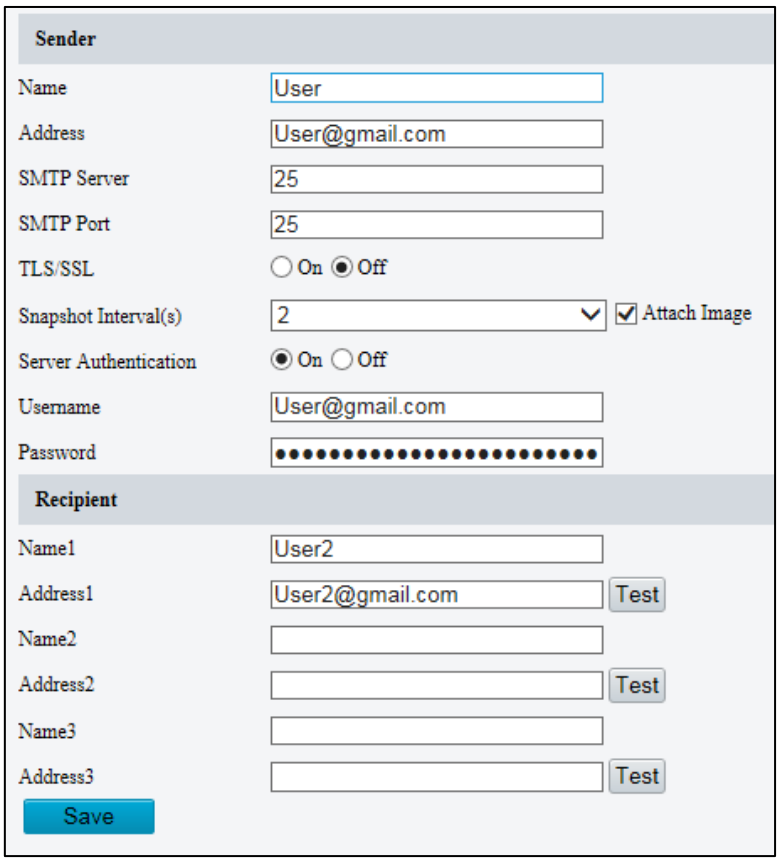
2. Configure the IP address, port number of the FTP server, the username and password of the upload account, enable **Upload Images** and **Overwrite Storage**, and then set the overwrite image threshold.

3. 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

The following table describes some major parameters.

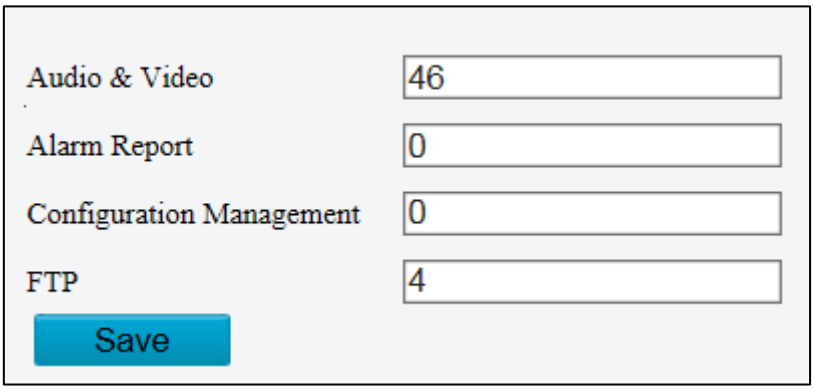
Parameter	Description
SSL	When enabled, the e-mail will be sent through SSL encryption.
Attach Image	When enabled, the e-mail will contain 3 instant snapshots as attachment according to the Snapshot Interval(s).

3. Click **Save**.

QoS

QoS (Quality of Service) is the ability to provide better service for specified network communication. As a network security mechanism, QoS is used to address problems like network delay and blocking. When the network is overloaded or congested, QoS ensures that critical services are not delayed or discarded and that the network runs efficiently.

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



2. Set a priority level (0~63) for each service. At present, QoS allows you to assign different priority to audio and video, alarm report, configuration management and FTP transmission. The greater the value, the higher the priority. For example, if the value of audio and video is set to 60, alarm report and configuration management is set to 0, and FTP is set to 4, when network congestion occurs, the priority is to ensure the smooth running of audio and video.

3. Click **Save**.

NOTE: To use QoS, make sure that the switch supports QoS mode.

Image Configuration

Image Adjustment

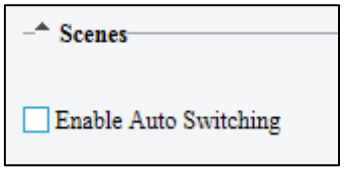
NOTE:

- 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.

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

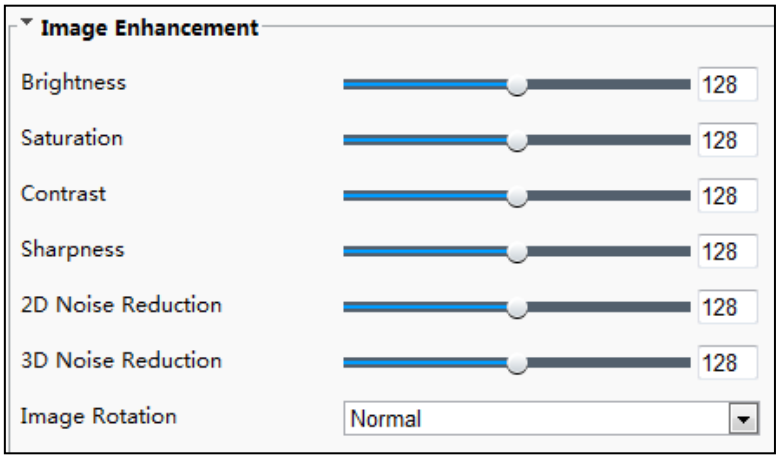


2. Enable **Auto Switching** to automatically let the camera adjusts the image parameters according to the default scene.

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.

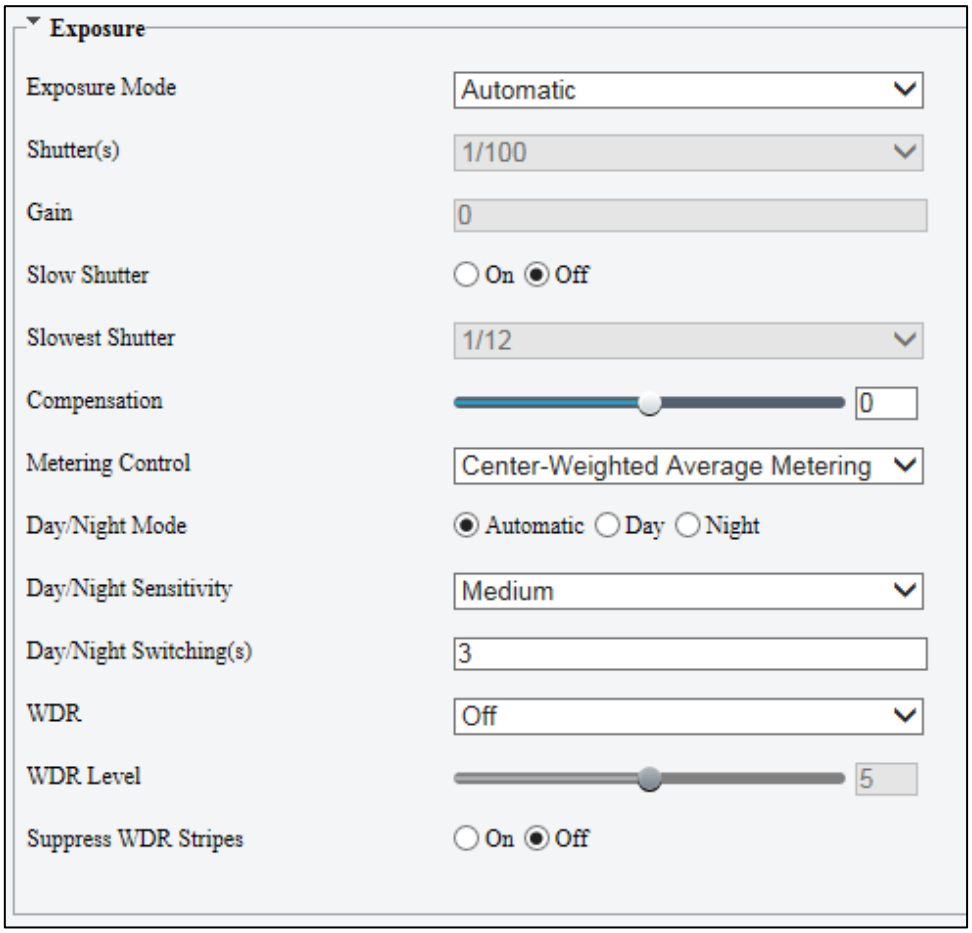
Item	Description
3D Noise Reduction	Reduce the noise of images. The function may cause motion blur (or ghosting in some applications).
Image Rotation	Rotation of the image.  Normal  Flip Vertical  Flip Horizontal  180°  90° Clockwise  90° Anti-clockwise **NOTE:** Not available in all models.

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 used for common scenes. Keep the default settings unless a particular scene is required.

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



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.
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.

Parameter	Description
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:** 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. **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. Input Boolean: The camera switches between day mode and night mode based on the alarm input.
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 set to**

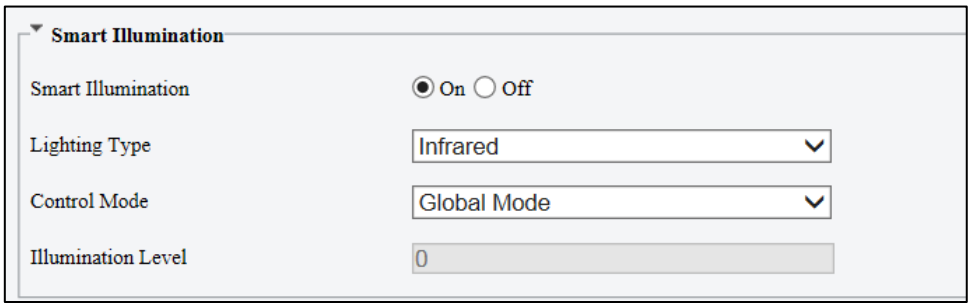
Parameter	Description
	Automatic**,** Indoor 50Hz**,** Indoor 60Hz **and when** Image Stabilizer **and** Defog **is disabled**.
WDR Level	After enabling the WDR function, you can improve the image by adjusting the WDR level. **NOTE: Use level 7 or higher when there is a high contrast between the bright 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. **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. • **Manual**: This mode allows you to manually control the intensity of IR illumination.
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. **NOTE:** You can set this parameter only when **Control Mode** is set to **Manual**.

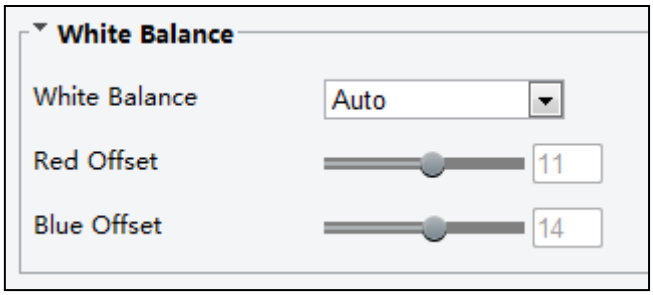
3. To restore the default settings, click **Default**.

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.

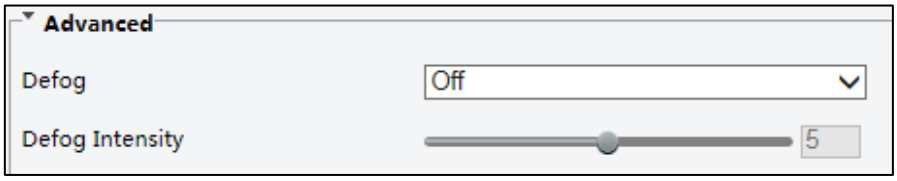
Parameter	Description
White Balance	Adjust the red or blue offset of the image: • **Auto**: The camera adjusts the red and blue offset automatically according to the light condition (the color tends to be blue). • **Outdoor**: It is recommended for the outdoor scenes with a wide range of the color temperature variation • **Fine Tune**: Allow you to adjust the red and blue offset manually. • **Sodium Lamp**: The camera adjusts red and blue offset automatically according to the light condition (the color tends to be red). • **Locked**: Lock the current color temperature settings without adjustment. • **Auto 2**: The camera adjusts the red and blue offset automatically according to the light condition (the color tends to be blue).
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 > Defog

Use the Advanced > Defog function to adjust the clarity of images captured in fog or haze conditions. Parameters may vary depending on camera model.

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



NOTE:

- This function can be configured only when WDR is disabled.
- 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.

Digital Defog Off

Digital Defog On

Optical Defog Off

Optical Defog On

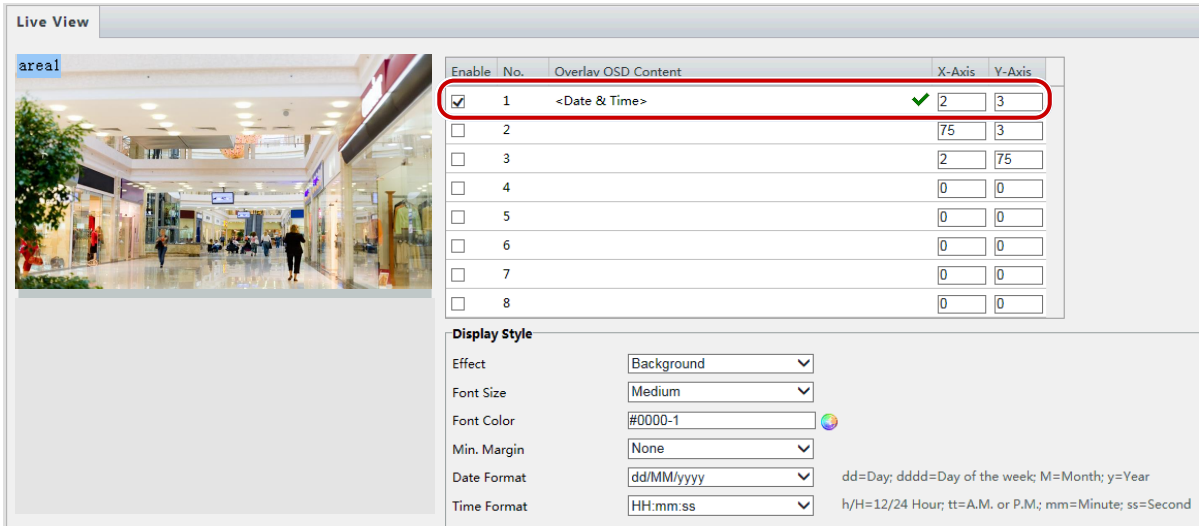
3. To restore the default settings, click **Default**.

OSD Settings

On Screen Display (OSD) is the text or image displayed on the screen with video images. OSD contents 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**.



2. Select the check box, the content of the OSD and then set the position to display it.

   - 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.

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

2. Click Add to add a privacy mask, and click Delete 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.

Video Configuration

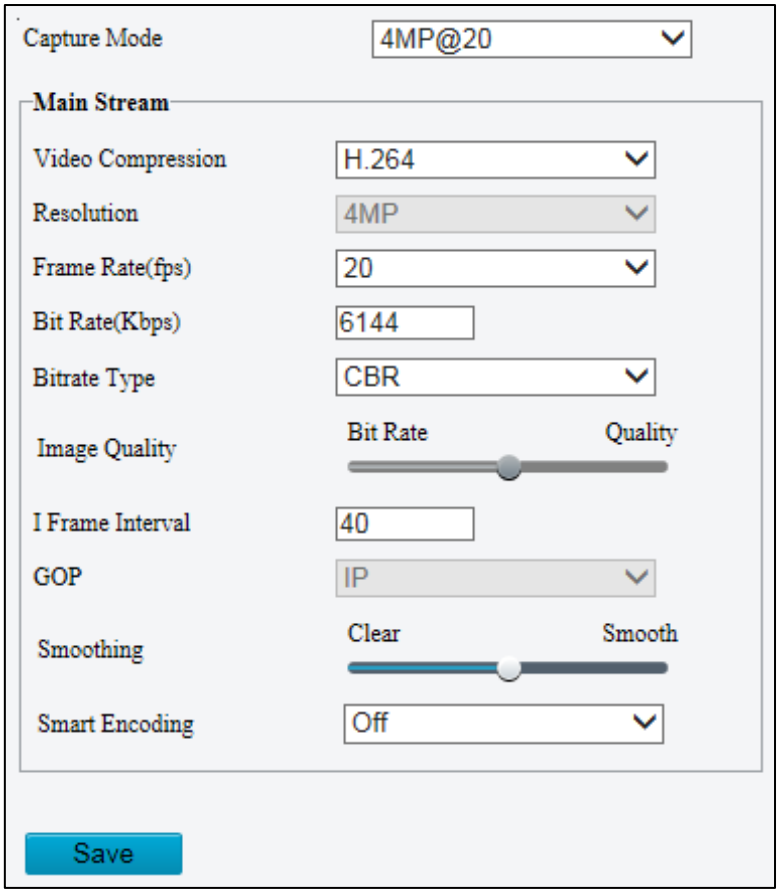
Video Configuration

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 > Video**.



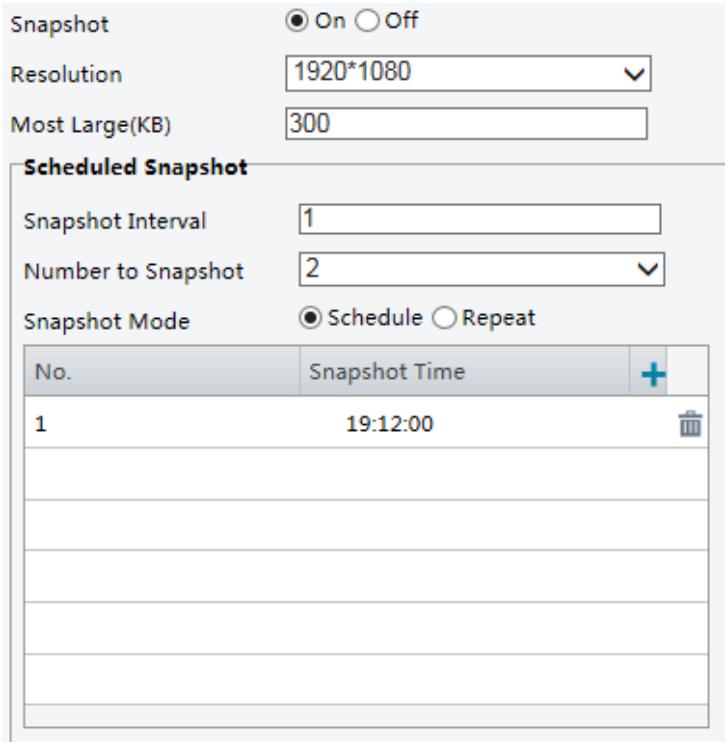
2. Modify the settings as required. The following table describes some major parameters.

Parameter	Descriptions
Capture Mode	Select the video resolution.
Video Compression	Select the compression: H.265, H.264, MJPEG.
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.
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.
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.
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**.

Snapshot

1. Click **Setup > Video > 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.

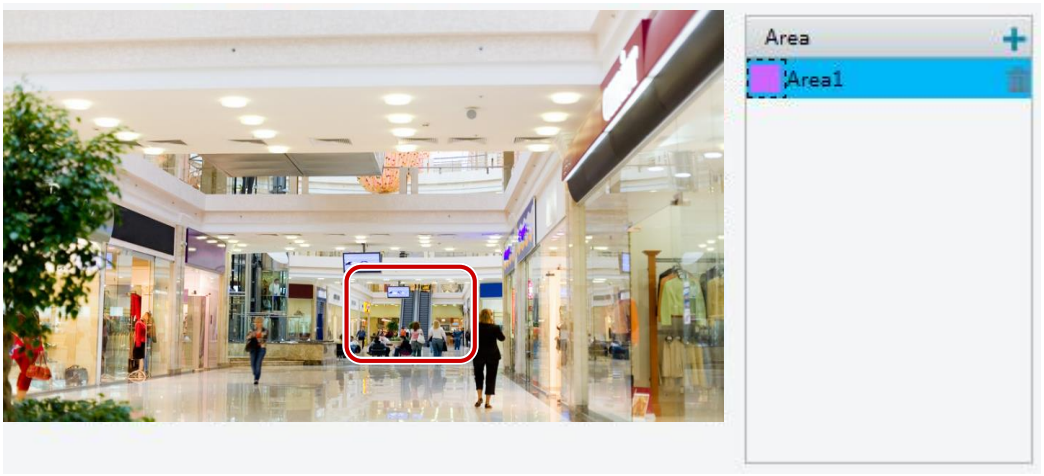
3. Click **Save**.

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 image. To delete, select the area and then click .

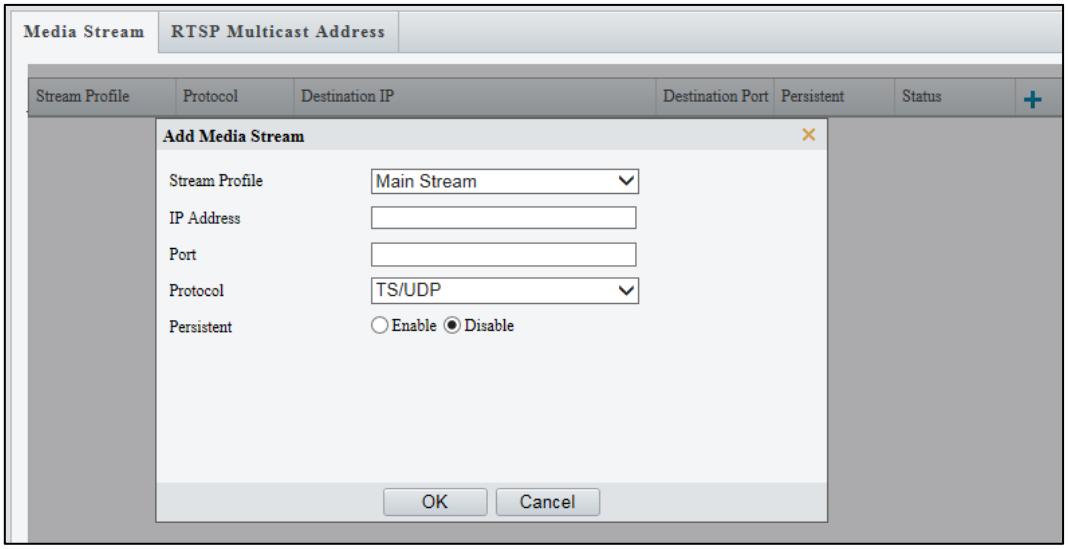
Media Stream Configuration

NOTE: This function is only supported by certain models, please see the actual model for details.

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.

1. Click **Setup > Video > 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.

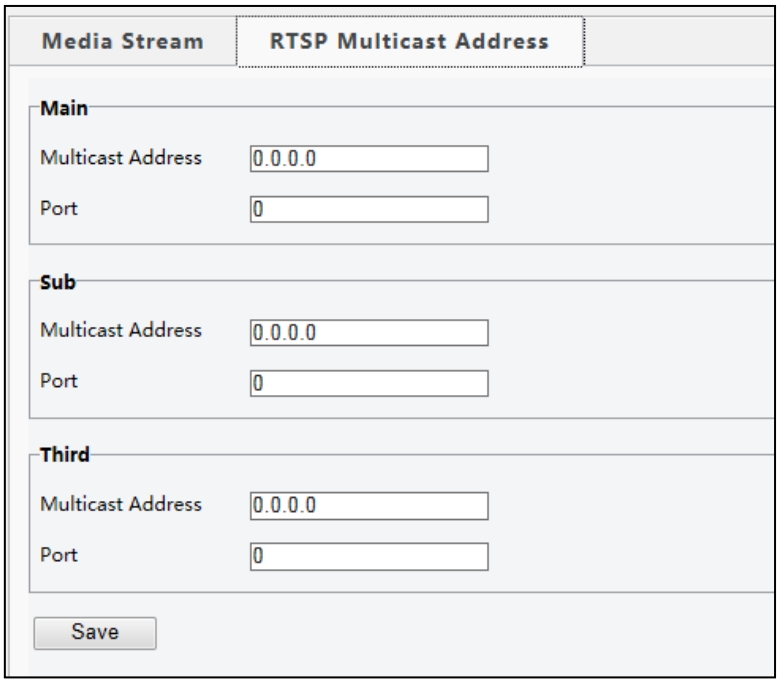


3. If you want the device to establish the media stream that has been configured before automatically after the restart, select **Enable** for **Persistent**.
4. To delete a stream, click .
5. Click **Submit** to complete the operations.

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 > Media Stream > RTSP Multicast Address**.



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

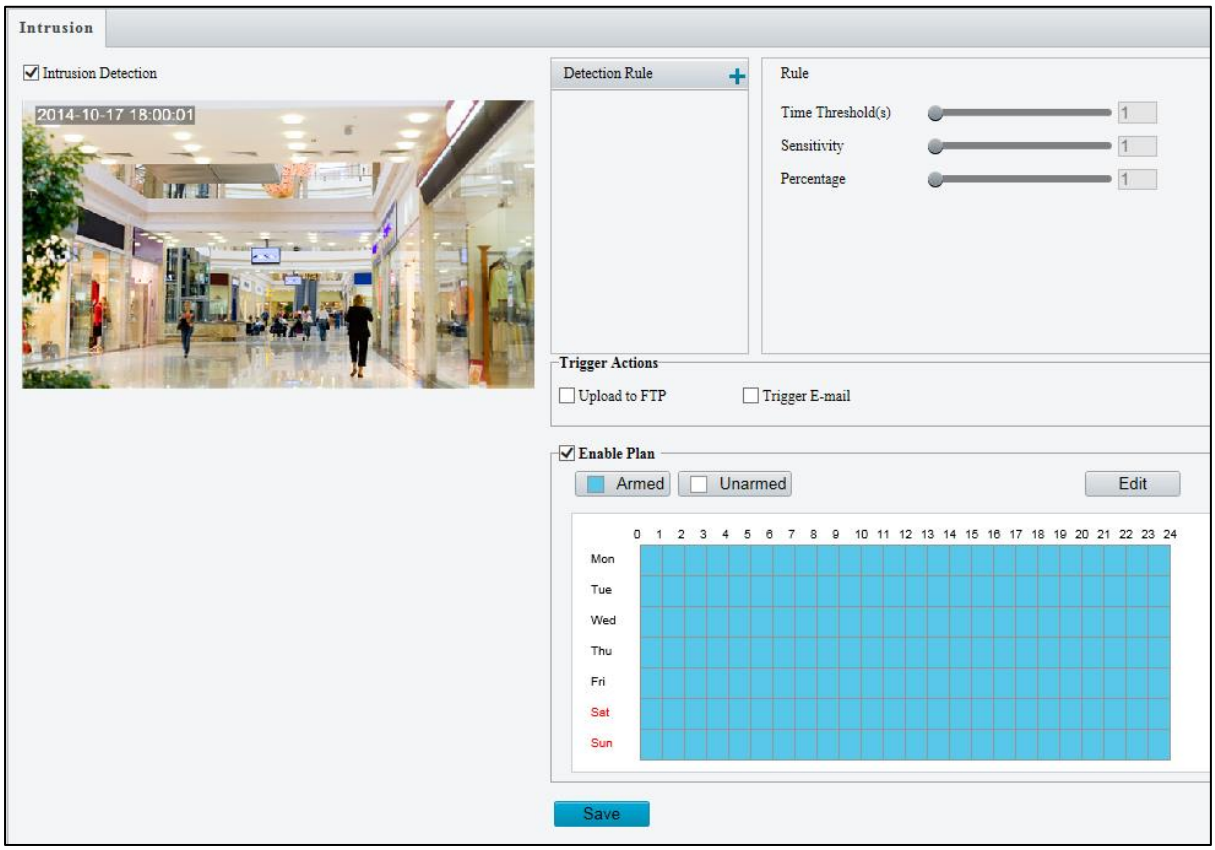
Intelligent Monitoring

Intelligent monitoring includes intrusion detection or otherwise referred to as enter area detection. The supported functions may vary with device model.

Intrusion Detection

Use Intrusion Detection (also called Enter Area Detection) to automatically detect when a person or object goes into a particular region of interest.

1. Click Setup > Intelligent > Intrusion Detection.



2. Enable Intrusion Detection
3. Click , an octagon appears on the view. Click and drag on the lines to reposition or click and drag the end points to re-shape the region of interest.
4. Set the time threshold, sensitivity, and percentage.
5. Select trigger action: to upload to screenshot to FTP or trigger by email. Make sure to complete FTP and email settings first to make this feature work.
6. Set the schedule to activate intrusion detection. By default, the detection is enabled 24/7. To disable it at certain times, click **Unarmed** then remove the blue highlight on the table. Or, click

Edit to further customize the schedule. Make sure **Enable Plan** is checked to enable the detection.

7. Click **Save** to save and apply any changes to this page.

Alarm Configuration

Alarm reporting can be scheduled for motion detection alarm and tampering 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

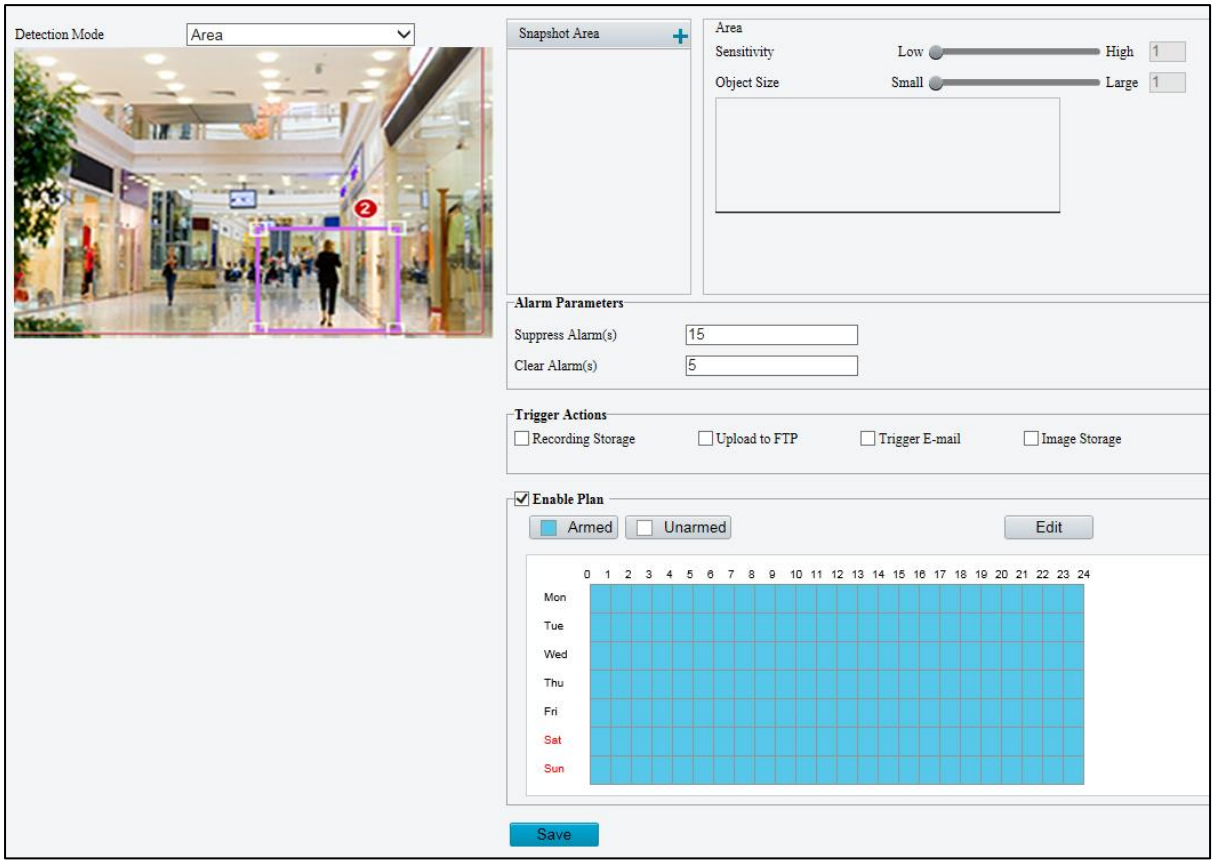
NOTE:

- This function is only supported by certain models, please see the actual model for details.
- The alarm triggered actions supported by the camera may vary with models, please see the actual Web interface for details.

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

Detection Mode: **Area**

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

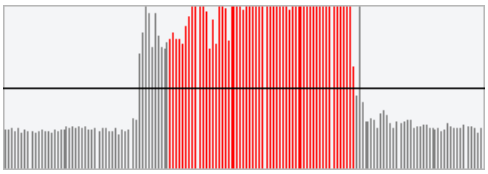


2. In the **Detection Area** area, click  to add a new detection area. To delete a detection area, click  .

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, and if the duration of motion exceeds the set duration, the camera reports an alarm.
   - Object size means the ratio of the size of the moving object to the size of the whole detection area. So, if it is the small objects that you want to detect, it is recommended to draw separate detection area(s) according to the actual motion area.
   - 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.



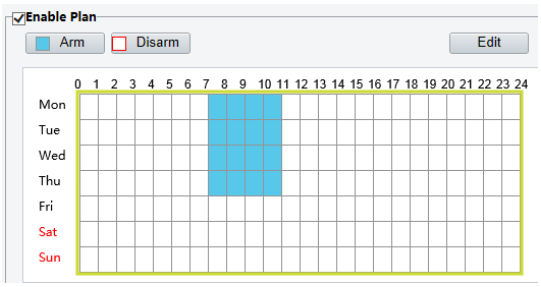
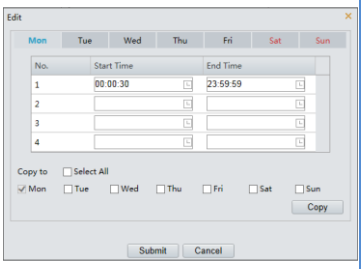
5. Set the alarm parameters.

   - 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
Recording Storage	With **Recording Storage** enabled, the camera automatically starts recording after an alarm is triggered. **NOTE:** Make sure you have completed the post-recording time settings before using this function.
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.

Item	Description
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*** and ***Snapshot*** before using this function.
Image Storage	With **Image Storage** enabled, the camera automatically saves a snapshot to the storage after an alarm is triggered. **NOTE:** Make sure you have completed ***Memory Card Storage*** and ***Snapshot*** 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**.

Detection Mode: **Grid**

1. Click **Setup** > **Events** > **Common Alarm** > **Motion Detection** > **Detection Mode** > **Grid**.
2. Set desired detection area(s) on the grids. Irregular detection areas are allowed.
3. Set detection sensitivity.
4. 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.
5. Set actions to be triggered by motion detection alarm and the plan.
6. Click **Save**.

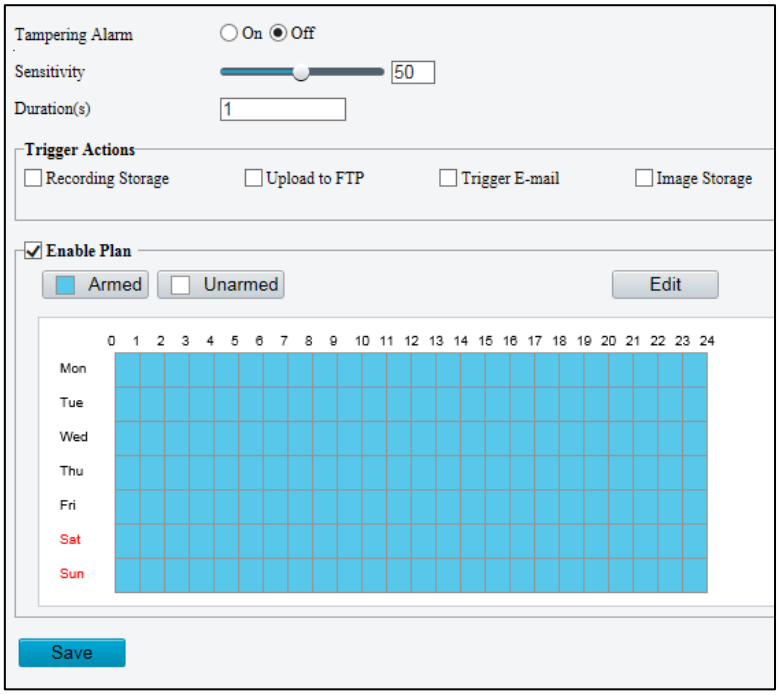
Configuring Tampering Alarm

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** > **Tampering Alarm**.



2. Turn on Tampering Alarm.

3. Set detection sensitivity and duration for the camera to decide whether to report a tampering alarm.

   The camera can be more sensitive to the blocking even it only blocks the camera lens slightly 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**.

Memory Card Storage

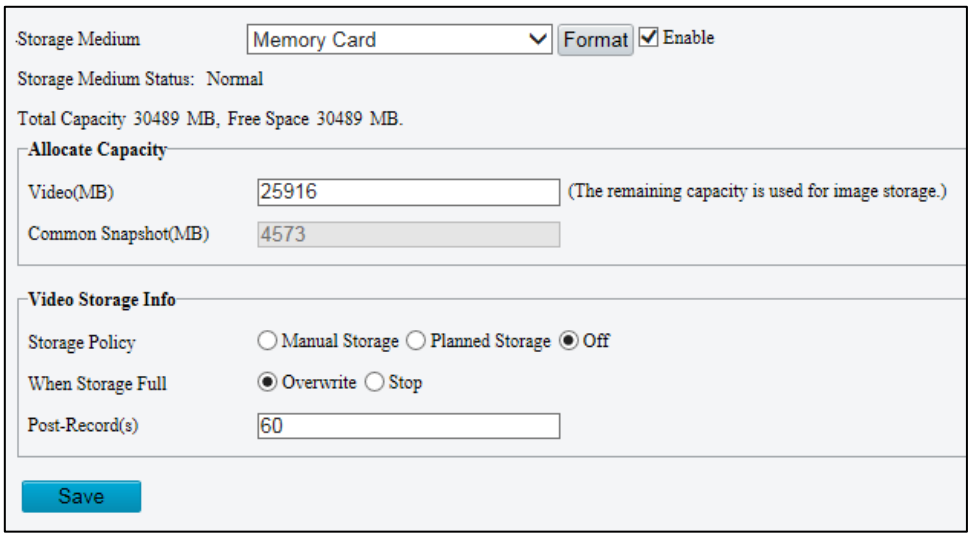
NOTE: This function is not supported by some models, and may vary with models, please see the actual model for details. Memory storage is recommended when the camera operates in stand-alone mode.

Memory card storage is used to save videos and snapshots to the memory card directly.

Manual storage

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

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



2. Enable memory card storage and modify the settings as required. The following table describes some major parameters.

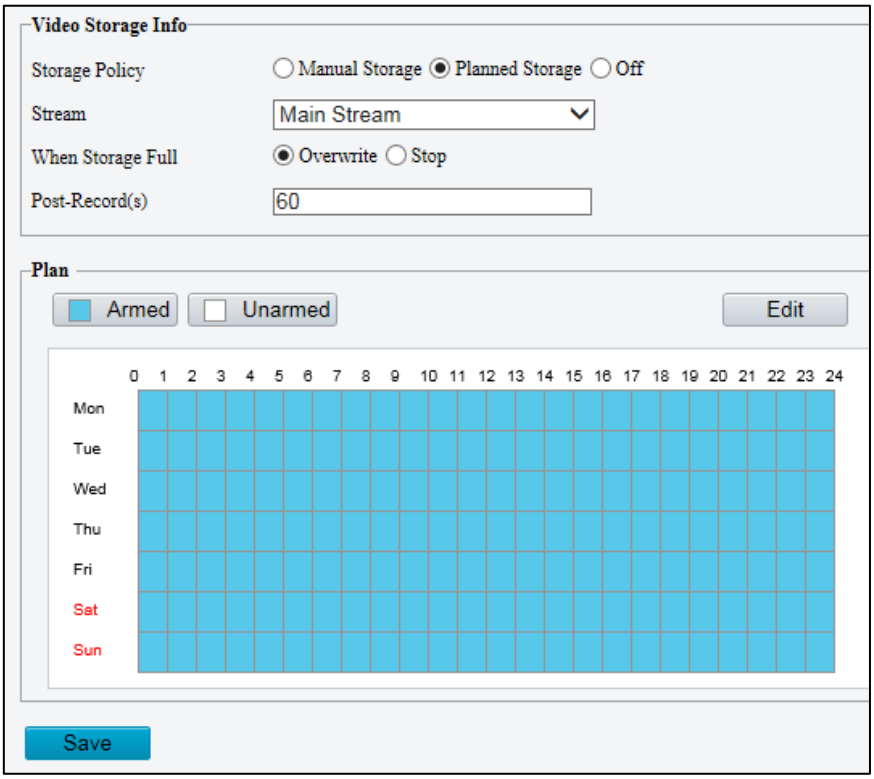
Parameter	Description
Storage Medium	Storage resource type. **Note:** To format the memory card, disable the storage function for the card first. Then Click **Format** and then click **OK** to confirm the operation. The system will restart when the format is completed. Information about the total and free space is displayed.
When Storage Full	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)	When an alarm is raised, the camera is triggered to record live video and continues recording for a set post-record time after the alarm is cleared.

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**.



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

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 31 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:

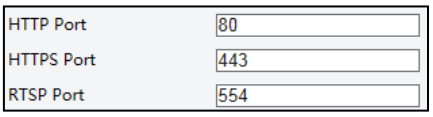
- Only admin can change passwords. Changing the username or password for a user when the user is still logged in will force the user to log out. The user must use the new username or password to log in.
- Only admin can add and delete users. Deleting a user when the user is still logged in will force 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.

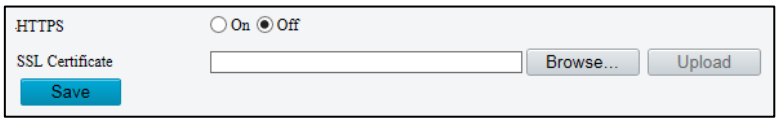
NOTE: This function is not supported by some models, please see the actual model for details.

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



2. Enter the port number in the **HTTPS Port** text box and then click **Save**.

3. Click **Setup** > **System** > **Security**.



4. Under **HTTPS**, select **Enable**. Uploading a custom SSL certificate is also supported to ensure security.

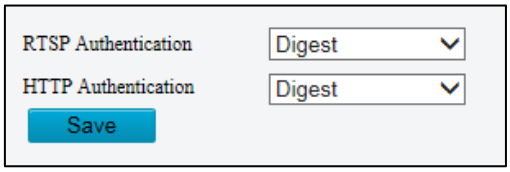
5. Click **Save**.

Next time you log in, enter the address in *https://IP:HTTPS port number* format, for example, https://192.168.0.13:443, to enter secure channel mode. If HTTPS uses a default port number, enter the address in *https://IP* directly.

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**.

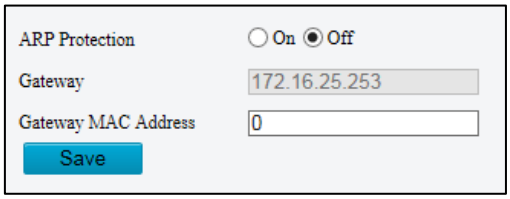


2. Select On.
3. Click Save.

APR Protection

This function can protect the camera from ARP attacks. When the camera visits an IP of another network segment via a gateway, it can communicate only with the MAC address binding to the gateway address in the same segment.

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



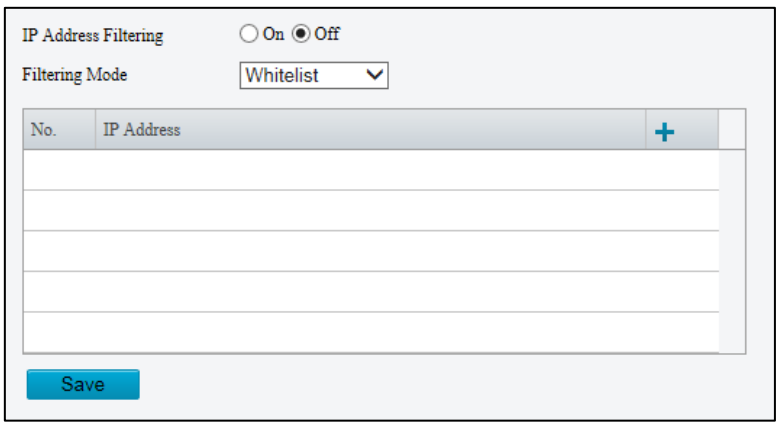
2. Select the check box to enable the ARP binding function and set the MAC address.
3. Click **Save**.

IP Address Filtering

You can allow or deny the access from the specified IP address to you camera.

NOTE: This function is only supported by certain 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 the filtering mode and then enter the desired IP address(es).
4. Click **Save**.

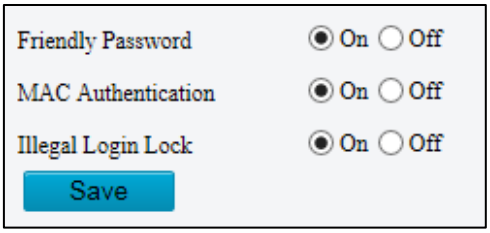
NOTE:

- If the filtering mode is set to **Whitelist**, only the specified IP addresses are allowed to access the camera. If the filtering mode is set to **Deny Access**, the specified IP addresses are denied for the access.
- Up to 32 IP addresses are allowed. And the added IP addresses cannot duplicate.
- The first byte of the IP address can only be a number ranging from 1 to 223 and the fourth byte cannot be 0. For example, 0.0.0.0, 127.0.0.1, 255.255.255.255 and 224.0.0.1 all are invalid IP addresses.

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**.

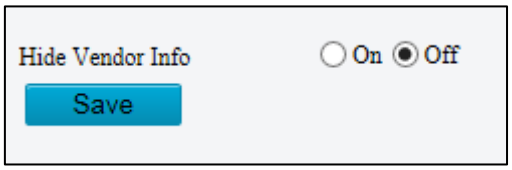


2. Select **On** to enable friendly password and MAC Authentication.
3. Click **Save**.

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**.



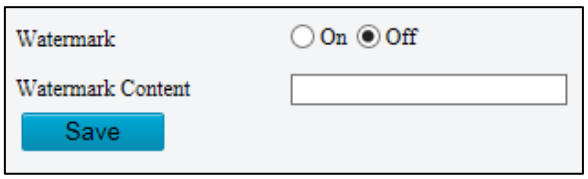
2. Select **On**.
3. Click **Save**.

Watermark

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

NOTE: This function is only supported by certain models, please see the actual model for details.

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



2. Select **Enable** and set the watermark content.

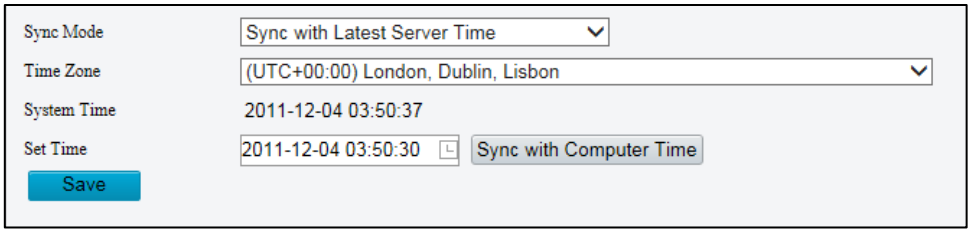
3. Click **Save**.

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 Enable for Client Time Synchronization.

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

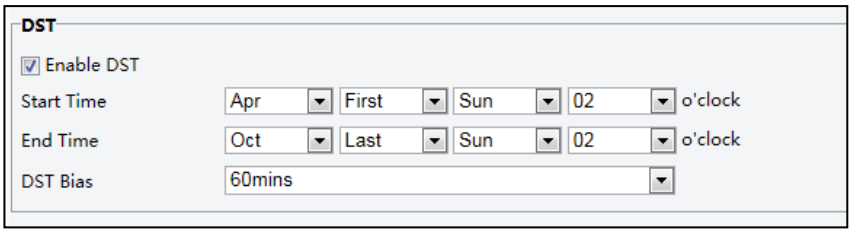
1. Click **Setup** > **Common** > **Time**, and then click the **Time** tab.

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

3. Click **Save**.

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**.

Viewing Device Status

1. You can view the current status of your camera.

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

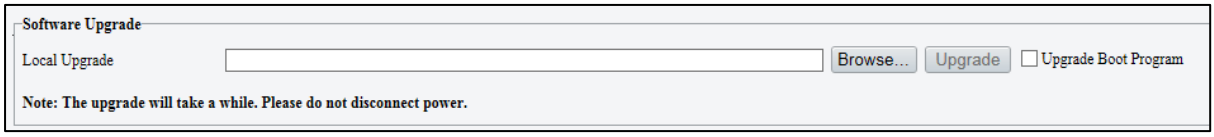
3. Click **Refresh** for the latest status information.

4. View the device information.

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 **Firmware Upgrade**, click **Browse** and select the correct upgrade file.

3. (Optional) Select the check box to enable **Upgrade Boot Program**.

4. Click **Upgrade** and then confirm to start. The camera will restart automatically after the upgrade is completed.

NOTE:

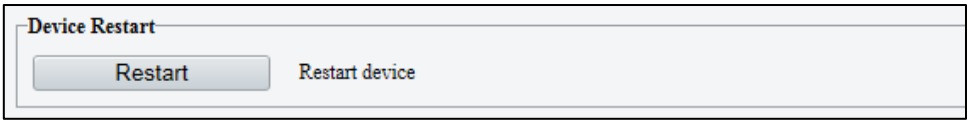
- You must use the correct upgrade file for you camera. Otherwise, unexpected results may occur.
- The upgrade file is a ZIP file and must include all the necessary files.
- The boot program loads the operating system and then the system starts running. The upgrade boot program function is disabled by 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 configurations, click **Browse** next to the **Export** button, select the destination folder, and then click **Export**.

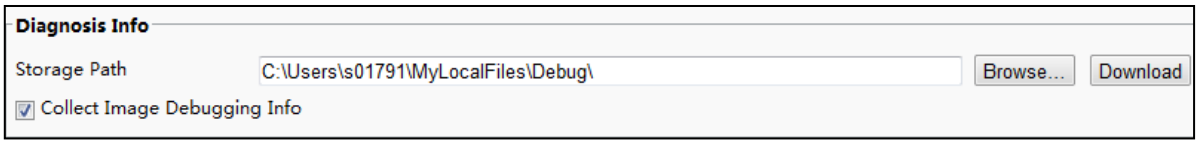
4. To restore default configurations, click **Default** and then confirm the operation. The device will restart and restore the default configurations.

Collecting Diagnostic Information

Diagnostic information includes logs and system configurations. You can export diagnostic information to your PC.

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

2. Under **Diagnosis Info**, click **Browse** to select the destination folder, and then click **Download** to save the diagnostic information to the specified folder.



NOTE:

- Diagnostic 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.
- Select Collect Image Debugging Info. Then the recording and the debugging information can be displayed synchronously for convenient troubleshooting.

Live View

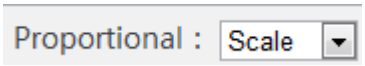
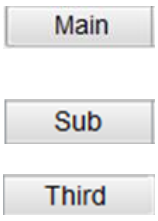
Live view means playing live video (real-time audio and video) received from a camera in a window through the Web interface.

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 is set in** Local Settings**.**
	Start/stop local recording. **NOTE: The path for saving local recordings is set in** Local Settings**.**
	Start/stop audio communication between the PC and the camera.
	Start/stop digital zoom. For more details, see ***Using Digital Zoom***.
	Show/hide the control panel.
	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 in the bottom. **NOTE:** After you move the mouse cursor on a live view window, this button appears on the floating toolbar. Click this icon to display the bottom information. Click this

Button	Description
	icon again, the bottom information is displayed if the mouse cursor is moved on a live view window or on the bottom information, and it hides automatically if the mouse cursor remains on a live view window for 3 seconds or leaves the window.
	Display in full screen mode.
	Set the display ratio of the image. Scale: display images by 16:9 Stretch**:** display images by window size Original: display images in its original size
	Select a live video stream that the camera supports: main stream, sub stream or third stream.

Control Panel Toolbar

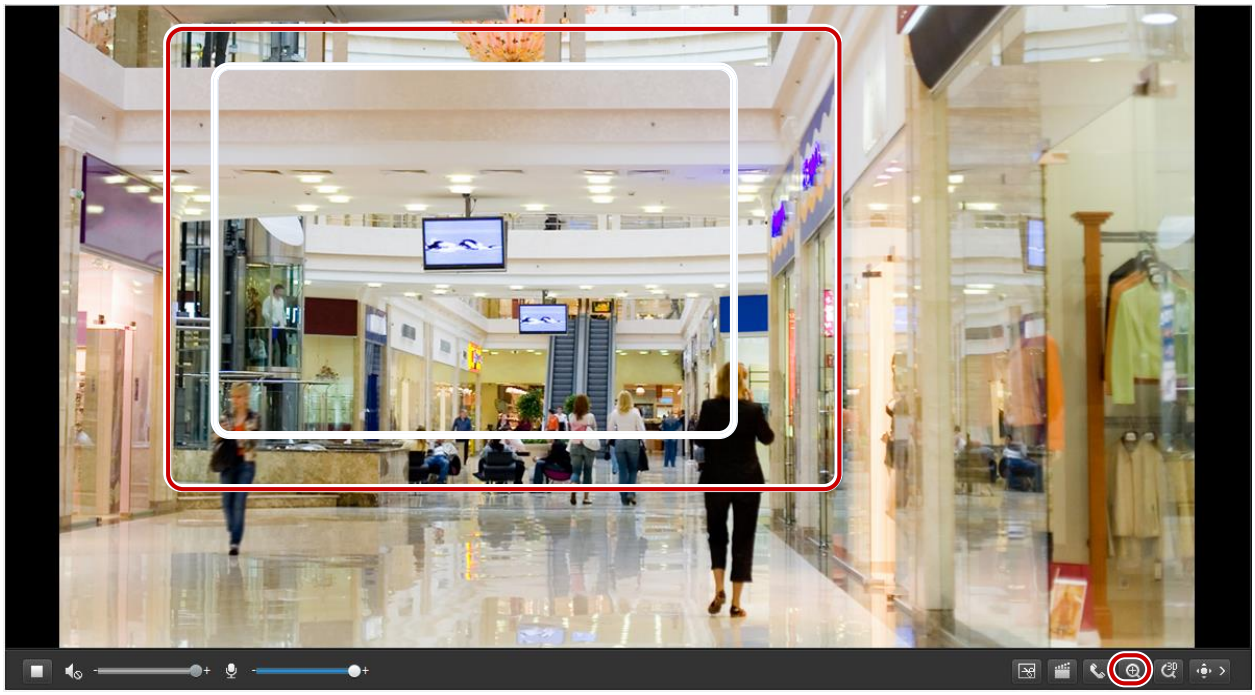
Button	Description
	Adjust camera focus.
	Adjust camera zoom.

Viewing Certain Area of Images

You ca nuse digital zoom to get more details of certain parts of images. Digital zoom enlarges an image with loss in image quality, while 3D positioning enlarges an image without.

Using Digital Zoom

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



2. Click and hold the mouse button, and then drag from the top down to specify an area.
3. To restore the original image size, click in the enlarged area, or drag from the bottom top.
4. To exit, click  .

Appendix: 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

Acronym	Description
WDR	Wide Dynamic Range

MAINTENANCE

Caution: To avoid personal injury, disconnect power to the light and allow the unit to cool down before performing maintenance.

Warning: No user serviceable parts inside of fixture. Risk of electric shock. Removal of the lens will void the warranty.

1. Perform visual, mechanical and electrical inspections on a regular basis. We recommend routine checks to be made on a yearly basis. Frequency of use and environment should determine this. It is recommended to follow an Electrical Preventive Maintenance Program as described in NFPA 70B: Recommended practice for Electrical Equipment.
2. The lens should be cleaned periodically as needed to ensure continued photometric performance. Clean the lens with a damp, non-abrasive, lint-free cloth. If not sufficient, use mild soap or a liquid cleaner.
3. Inspect the cooling fins on the luminaire to ensure that they are free of any obstructions or contamination (i.e. excessive dust build-up). Clean with a non-abrasive cloth if needed.
4. Do not operate if the lens is cracked or damaged. All fasteners should be properly seated.

USE AND CARE

Unauthorized modification may impair the function and/or safety of this device and could affect the life of the equipment. Always check for damaged or worn out parts before using the device. Store it in a secure place out of the reach of children when not in use. Inspect for good working condition prior to storage and before re-use.

REPLACEMENT PARTS

The EXPCMR-CER-IP-POE-4MP-IR-V3 is designed to provide years of reliable performance. Should the need for replacement parts arise, please contact Larson Electronics.

THESE INSTRUCTIONS MAY NOT COVER ALL DETAILS OR VARIATIONS OF THIS PRODUCT FOR YOUR EQUIPMENT OR INSTALLATION REQUIREMENTS. SHOULD FURTHER INFORMATION NOT COVERED BY THESE INSTRUCTIONS BE REQUIRED, PLEASE CONTACT LARSON ELECTRONICS BY EMAIL AT SALES@LARSONELECTRONICS.COM OR BY PHONE AT 1-800-369-6671 FOR FURTHER ASSISTANCE.

PLEASE VISIT LARSONELECTRONICS.COM FOR **WARRANTY** AND **RETURN** INFORMATION.