Network Camera User Manual

PTZ Series

Applicable Models: MS-CXXXX-PG1

Version: V1.1

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Chapter 1. Introduction

1.1 Copyright Statement

This manual may not be reproduced in any form or by any means to create any derivative work, such as translation, transformation, or adaptation, without the prior written permission of Milesight IoT Co., Ltd. (hereinafter referred to as Milesight).

Milesight reserves the right to change this manual and the specifications without prior notice. The latest specifications and user documentation for all Milesight products are available on our official website http://www.milesight.com

1.2 Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss. The precaution measures are divided into “Warnings” and “Cautions”

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

- This installation must be performed by a qualified service person and should strictly comply with the local electrical safety regulations
- To avoid risk of fire and electric shock, keep the product away from rain and moisture before installation.
- Do not touch components such as heat sinks, power regulators, and processors, as they may be hot
- Power Supply: DC 12V or PoE
- Please make sure the plug is firmly inserted into the power socket
- When the product is installed on a wall or ceiling, it should be firmly fixed
- If the product does not work properly, please contact your dealer. Never attempt to disassemble the camera yourself

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

- Make sure that the power supply voltage is correct before using the camera
- Do not store or install the device in extremely hot or cold temperatures, dusty or damp locations, and do not expose it to high electromagnetic radiation
- Only use components and parts recommended by the manufacturer
- Do not drop the camera or subject it to physical shock
- To prevent heat accumulation, Do not block air circulation around the camera
- Laser beams may damage image sensors. The surface of image sensors should not be exposed to areas where laser beam equipment is used

- Use a blower to remove dust from the lens cover
- Use a soft, dry cloth to clean the surface of the camera. Stubborn stains can be removed using a soft cloth dampened with a small quantity of detergent solution, then wipe dry
- Do not use volatile solvents such as alcohol, benzene, or thinners, as they may damage the surface finish
- Save the packaging to ensure shipping containers are available for future transportation

1.3 EU Conformity Statement

2012/19/EU (WEEE Directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information, see: www.recyclethis.info.

1.4 Revision History

Table 1.

Version	Revision Content	Release Date
V1.0	First release (AI 5-inch 25X Speed Dome)	July 2026
V1.1	New Features Added for MS-CXX67/41/71-PG1 Models	October 2026

Chapter 2. Product Description

2.1 Product Overview

Milesight provides a comprehensive range of cost-effective and reliable network cameras to fully meet your requirements. Based on the embedded Linux operating system, Milesight network

cameras could be easily accessed and managed either locally or remotely with great

reliability. With built-in high-performance DSP video processing modules, the cameras feature low power consumption and high stability. They support state-of-the-art H.265/ H.264/

MJPEG video compression algorithm and industry-leading HD dual-stream technology to achieve the highest level of video image quality under the limited network resources. It is fully functional, supporting a flexible and comprehensive alarm linkage mechanism, day and night auto switch and privacy masking, etc.

In practical applications, Milesight network cameras can either work independently in the LAN or be networked to form a powerful safety monitoring system. It is widely used in fields such

as finance, education, industrial production, civil defense, health care for security's sake.

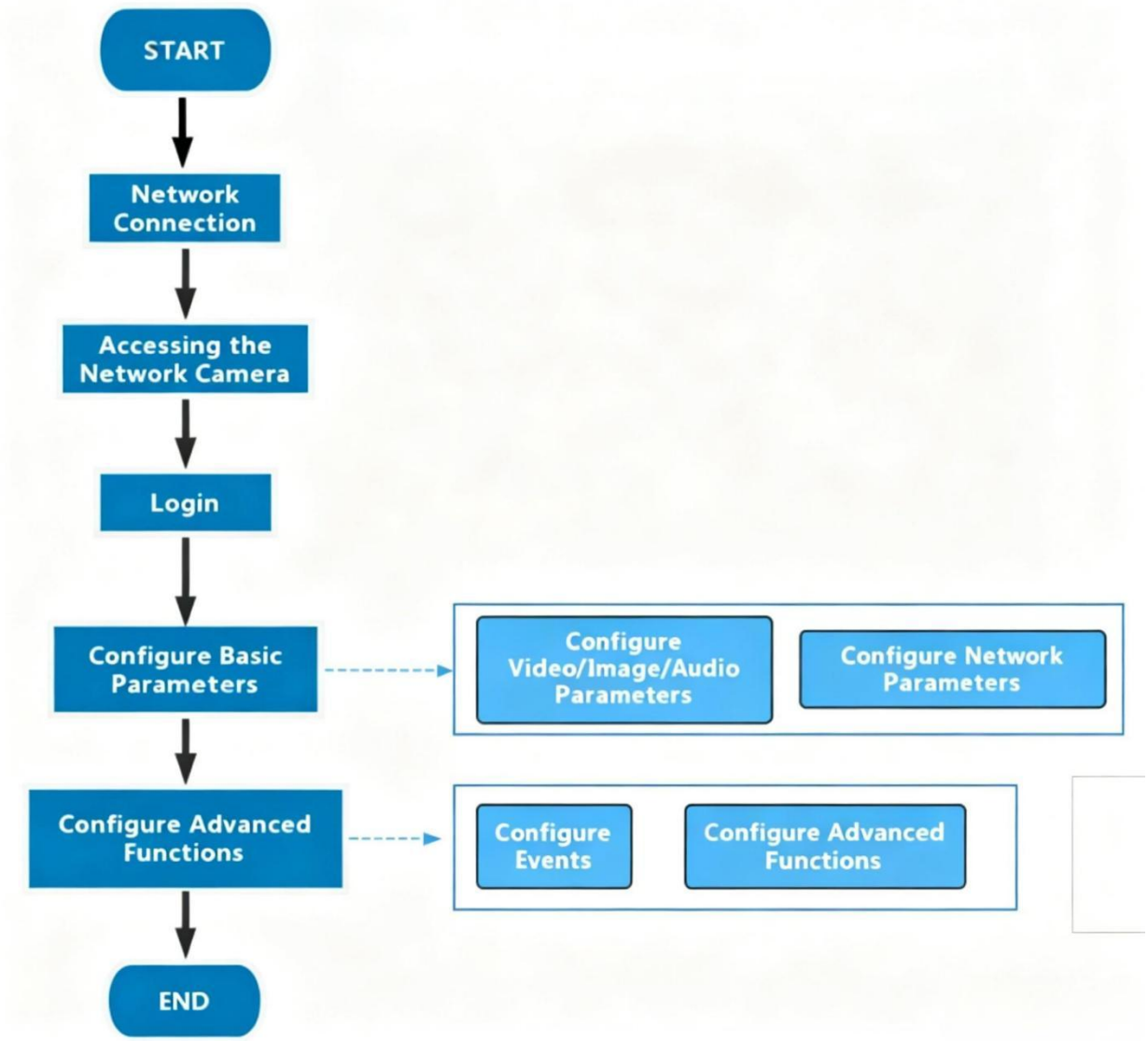
2.2 System Requirements

Operating System: Windows XP/Windows 7/8/10/11/Server 2000/Windows Server 2008
CPU: 1.66 GHz or higher
RAM: 1 GB or higher
Graphics memory: 128 MB or more
Internet Protocol: TCP/IP (IPv4/IPv6)
Web Browsers: Microsoft Edge, Google Chrome, Safari, Mozilla Firefox

Chapter 3. Configuration Flow

The configuration flow of the cameras is shown in the following figure.

Note: The configuration must be based on the actual situation of different models.



More configuration details are shown in the following table.

Table 2. Description of flow

Configuration	Description	Reference
Network Connection	Connect the network camera. You can set the camera over the LAN or dynamic IP connection.	4.1 Setting the Camera over the LAN
Accessing the Network Camera	Accessing from IP address, web browser and Milesight back-end software are available.	5.1 Assigning an IP Address
Configure Basic Parameters	After login the camera, you can adjust the video/image/audio/network parameters as needed.	8.1 Media 8.2 Network
Configure Advanced Functions	Configure the advanced functions, such as VCA and people counting.	8.4 Event

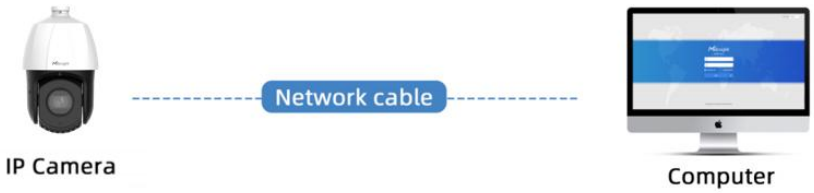
Chapter 4. Network Connection

4.1 Setting the Camera over the LAN

Connecting the camera to a switch or router is the most common connection method. The camera must be assigned an IP address that is compatible with its LAN.

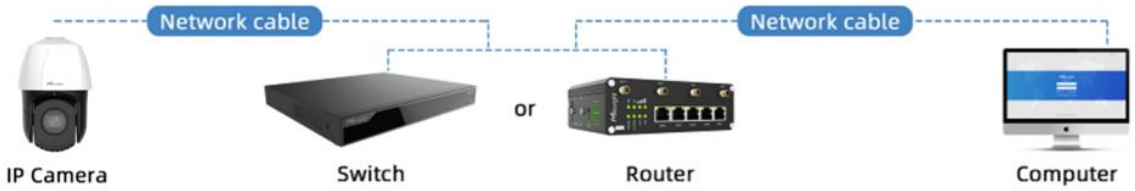
4.1.1 Connecting the Camera to the PC Directly

In this method, only the computer connected to the camera will be able to access it. The camera must be assigned a compatible IP address to the computer. Details are shown in the following figure.



4.1.2 Connecting via a Switch or Router

Refer to the following figure to set up the network camera over the LAN via a switch or router.



4.2 Dynamic IP Connection

Step1: Connect the network camera to a router.

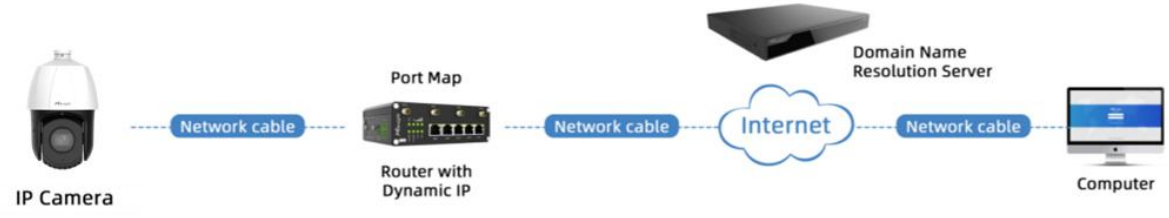
Step2: On the camera, assign a LAN IP address, the subnet mask, and the gateway.

Step3: On the router, set up port forwarding. E.g., 80, 8000, and 554 ports. The steps for port forwarding vary depending on different routers. Please look up the router's user manual for assistance with port forwarding.

Step4: Apply for a domain name from a domain name provider.

Step5: Configure the DDNS settings in the settings interface of the router.

Step6: Access the camera via the domain name.



Chapter 5. Accessing the Network Camera

5.1 Assigning an IP Address

The network camera must be assigned an IP address to be accessible. The default IP address of Milesight network cameras is 192.168.5.190.

You can change the IP address of the camera via either Smart Tools or a browser. Please connect the camera to the same LAN as your computer.

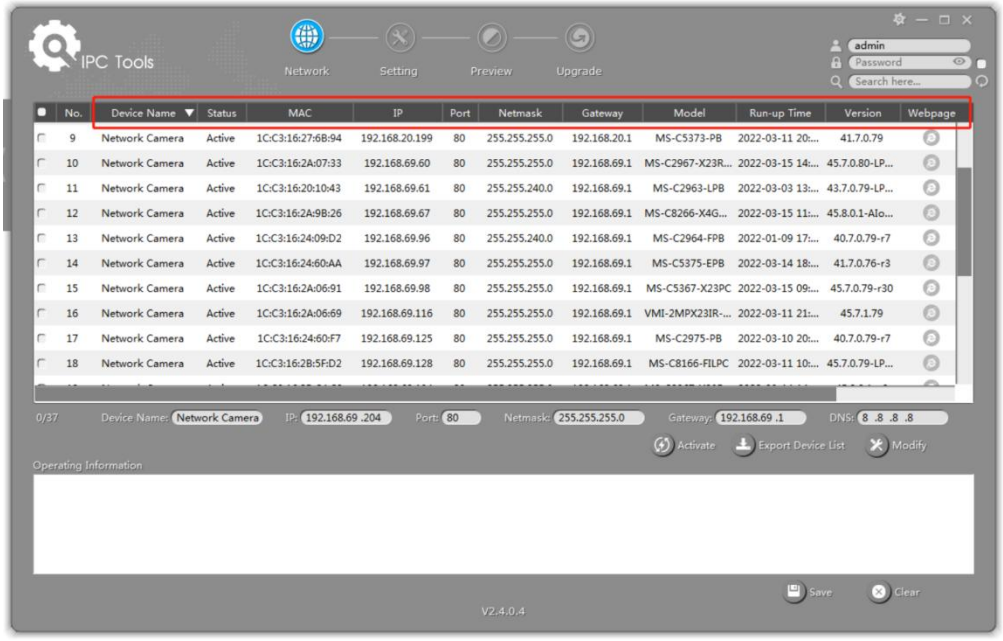
5.1.1 Assigning an IP Address Using Smart Tools

Smart Tools is a software tool that can automatically detect multiple online Milesight network cameras in the LAN, set IP addresses, and manage firmware upgrades. It's

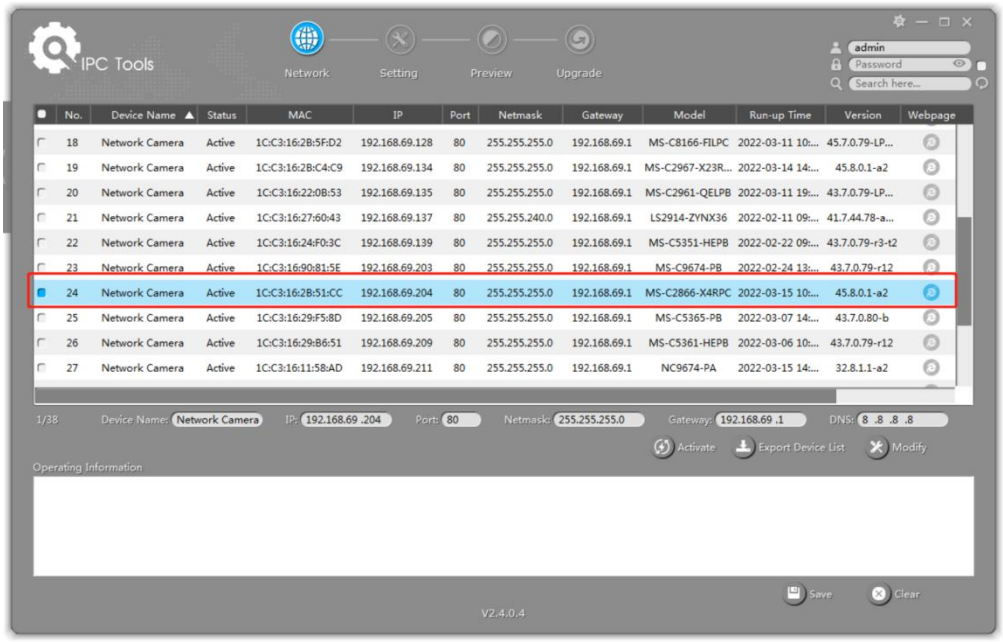
recommended to use when assigning IP addresses for multiple cameras.

Step1: Install Smart Tools (The software can be downloaded from our website).

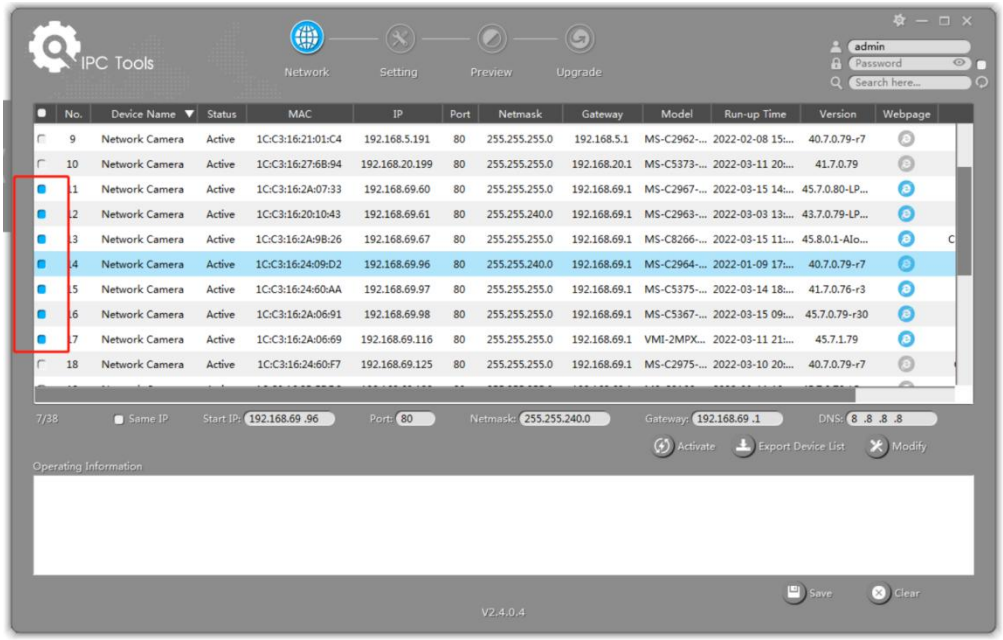
Step2: Start Smart Tools, click the IPC Tools page, then enter the device information, such as IP address, MAC address, status, port number, netmask, and gateway. Then all related Milesight network cameras in the same network will be displayed. Details are shown as the figure below.



Step3: Select a camera or multiple cameras according to the MAC addresses.
Select a single camera:



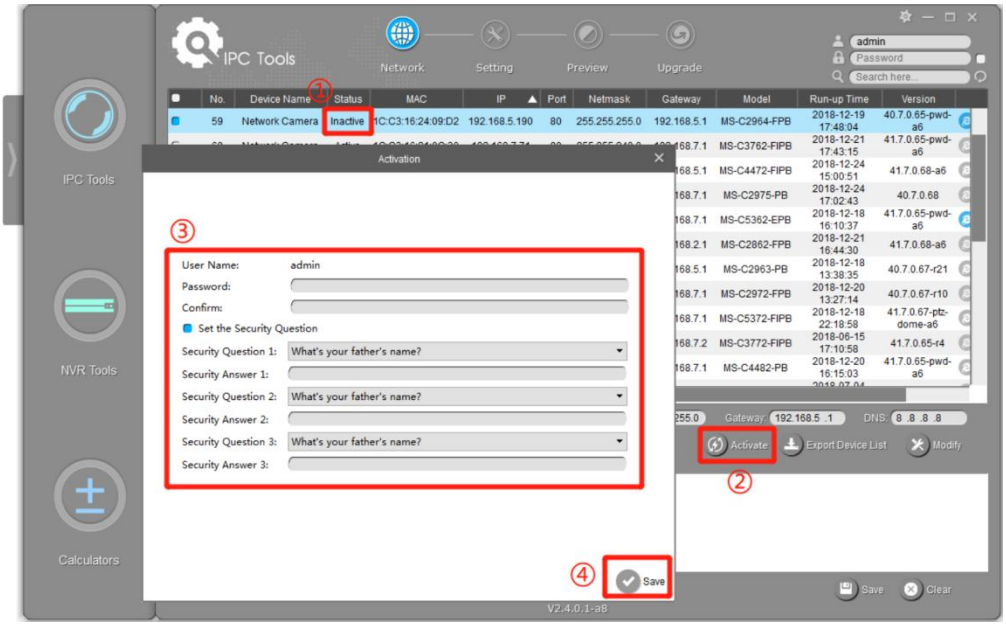
Select multiple cameras:



Step4: If the selected camera shows "Inactive" in the status bar, click "Activate" to set the password when using it for the first time. You can also set the security questions when activating the camera in case you forget the password (You can reset the password by answering three security questions correctly). Click íSave' and it will indicate successful activation.

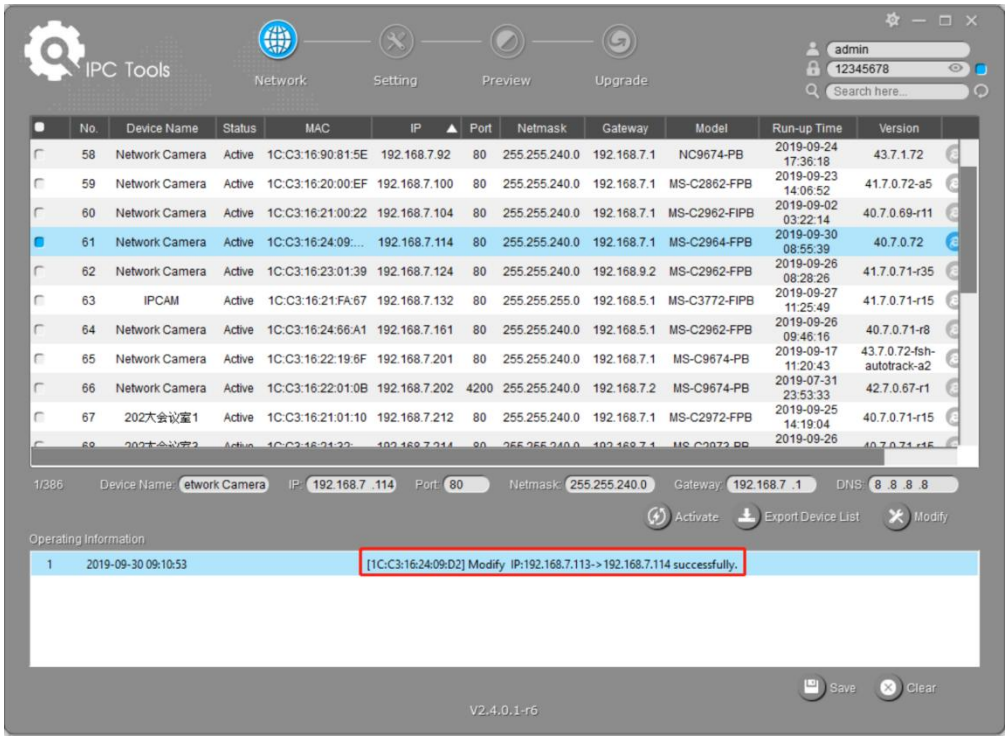
Note:

- The password must be 8 to 32 characters long, contain at least one number and one letter.
- You need to upgrade Smart Tools version to V2.4.0.1 or above to activate the camera.

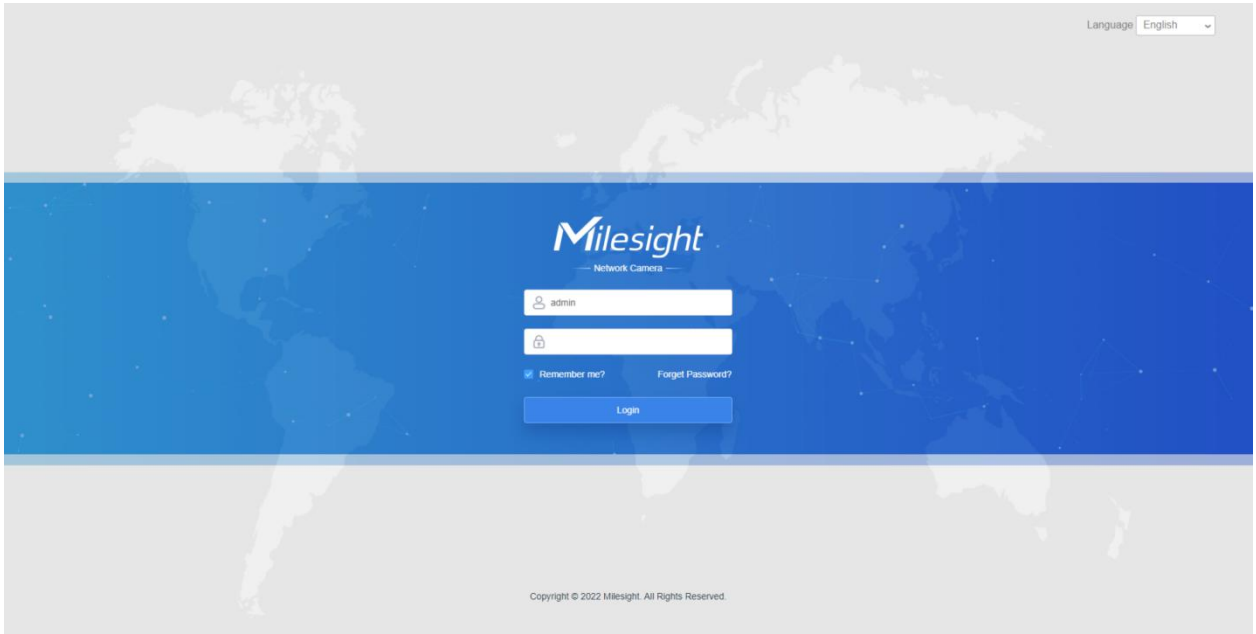


Step5: After activation, you can change the IP address or other network values, and then

click “Modify” button.



Step6: By double clicking the selected camera or the browser of interested camera, you can access the camera via web browser directly. The Internet Explorer window will pop up.



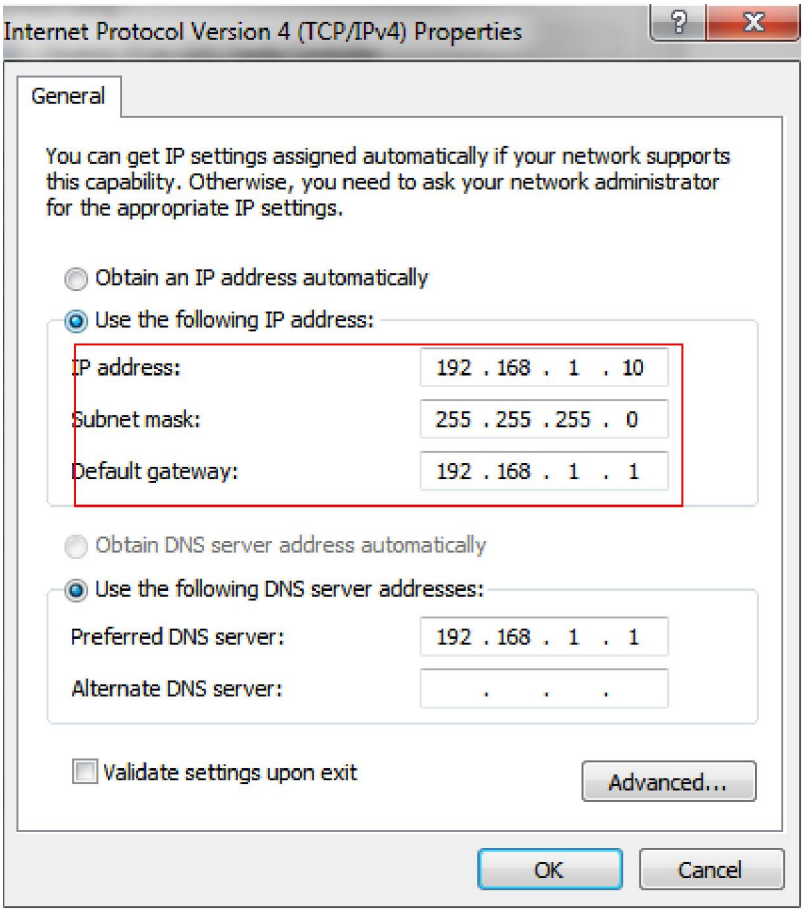
For more usage of Smart Tools, please refer to the Smart Tools User Manual.

5.1.2 Assigning an IP Address via Browser

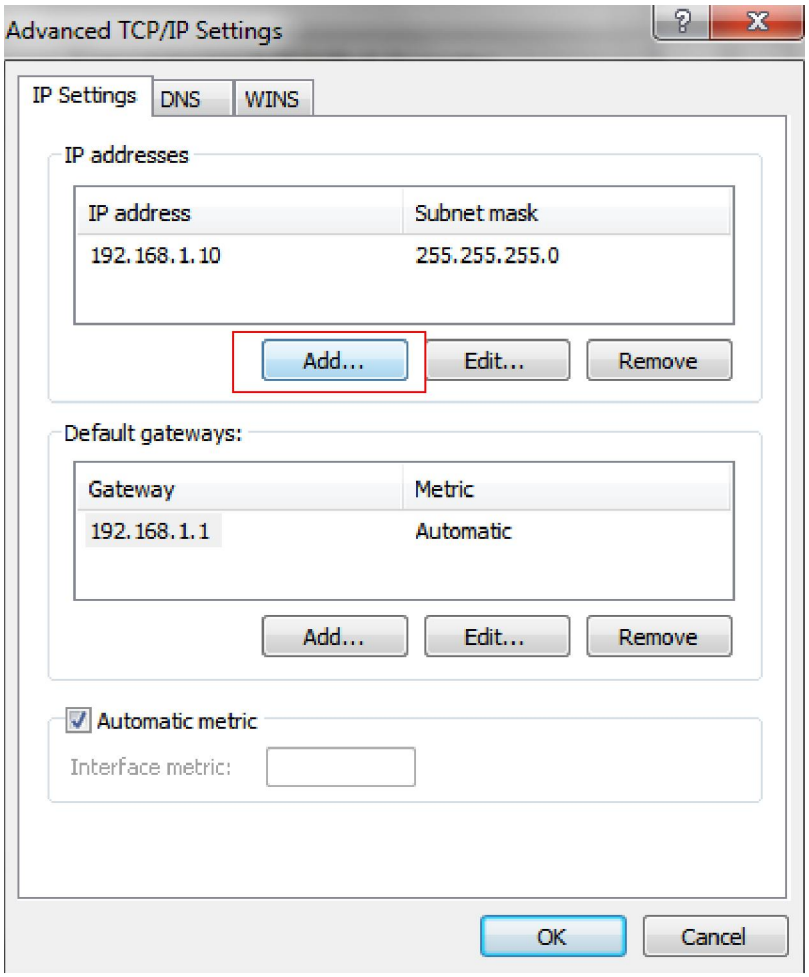
If the network segment of the computer and that of the camera are different, please follow the steps below to change the IP address:

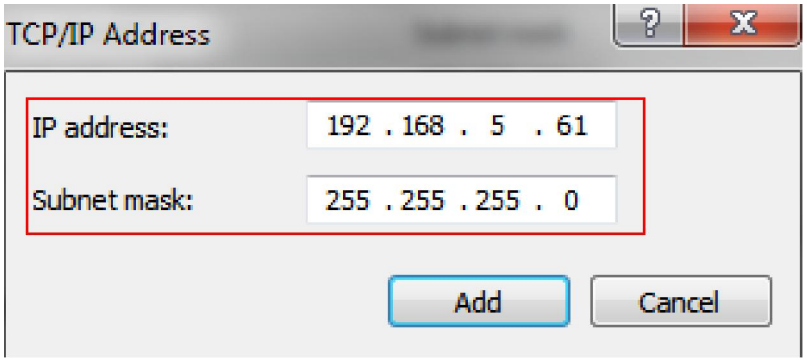
Step1: Change the computer's IP address to the 192.168.5.x subnet, here are two ways as shown below:

a. Start → Control Panel → Network and Internet → Network Connections → Local Area Connection, and double-click it.



b. Click “Advanced”, and then click “IP settings”--> “IP address”--> “Add”. In the pop-up window, enter an IP address that is in the same subnet with Milesight network camera (e.g. 192.168.7.41, but please note that this IP address must not conflict with existing IP addresses on the network).





Step2: Open the browser. In the address bar, enter the default IP address of the camera:http://192.168.5.190;

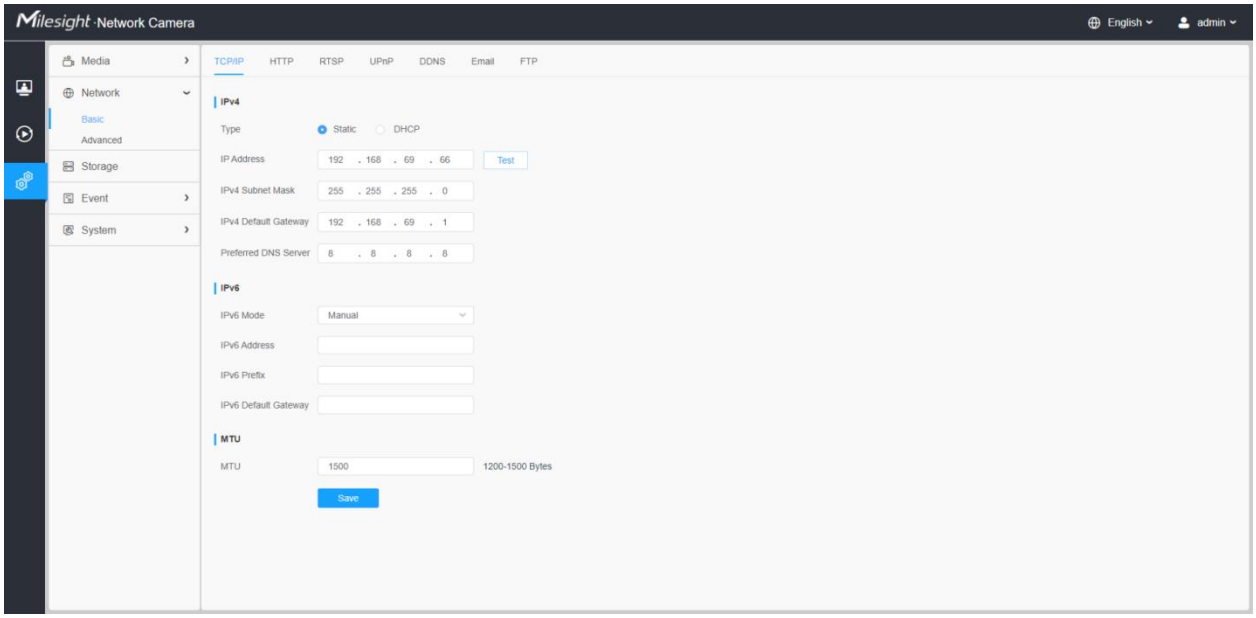
Step3: You need to set a password when using it for the first time. And you can also set three security questions for your device after activation. Then you can log in to the camera with the user name (admin) and a custom password.

Note:

• The password must be 8 to 32 characters long, contain at least one number and one letter.

- You can click the “forget password” in login page to reset the password by answering three security questions when you forget the password, if you set the security questions in advance.

Step4: After login, please select “Settings” --> “Network” --> “Basic” --> “TCP/IP”. The Network Settings page appears (as shown in the figure below).



Step5: Change the IP address or other network values. Then click “Save” button.

Step6: The default IP address has been changed.

5.2 Accessing from the Web Browser

The camera can be used with most standard operating systems and browsers. The camera has been upgraded to support Plugin-Free Mode. In Plugin-Free Mode, you can preview the video on the browser without plugin. Currently, Plugin-Free Mode is supported in Firefox, Google Chrome, Safari, and Edge browsers for Windows, macOS, iOS, and Android systems. Both H.265 and H.264 video codecs are supported in Plugin-Free Mode for camera, and it will play the secondary stream by default.

Note:

- For more details about setting the plugin-free mode of Milesight cameras, please refer to https:// milesight.freshdesk.com/a/solutions/articles/69000643388.

Chapter 6. Live View

6.1 Live Video

After logging in to the network camera web GUI successfully, the user can view live video as

follows.

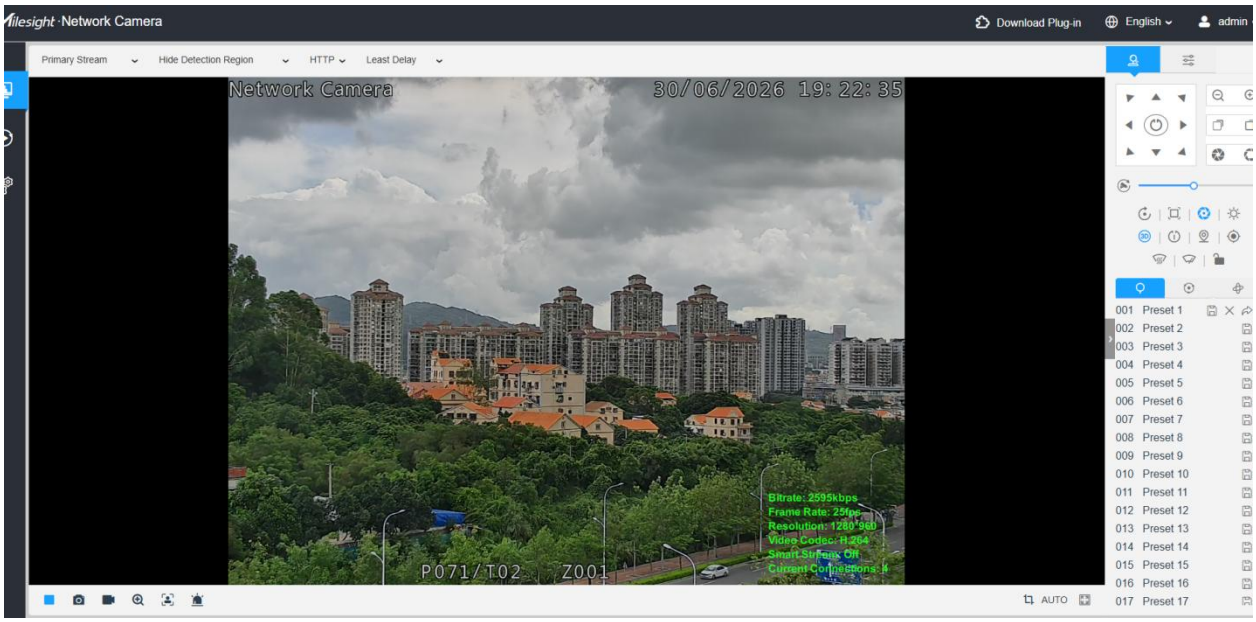
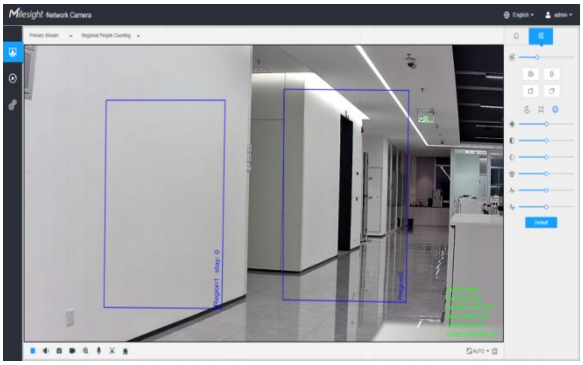


Table 3. Description of the Live View and PTZ Buttons

No.	Parameter	Description
1	Live Video	Click to access the live view page.
2	Playback	Click to access the playback page.
3	Settings	Click to access the configuration page.
4	Download Plug-in	Click to download the plugin.
5	English	Click to select system language.
6	admin	Display the user name and click to logout.
7	Primary Stream	Choose the stream (**Primary/Secondary/Tertiary/Quaternary Stream)** to show on the current video window.

8	Hide Detection Region	Choose the options (**Hide Detection Region/Intrusion Detection/ Region Entrance/Region Exiting/Advanced Motion/Line Crossing/Loitering//Object Left/Object Remove//Object Counting/Attribute Extraction/Motion Detection /Regional People Counting, etc.**) to hide/display detection region on the current video window. 
9	HTTP	**TCP:** More reliable connection. **UDP:** More instantaneous connection, but if you cannot get the live view successfully, please turn into TCP connection. **HTTP:** Faster and safer connection especially in Internet environment. **Note:** These options are only available in Plugin Mode.
10	Least Delay	**Least Delay:** The most instantaneous mode. **Balanced:** A balanced mode between Least Delay and Best Fluency, maintains the fluency while keeps an acceptable delay. **Best Fluency:** The most fluent mode. **Note:** These options are only available in Plugin Mode.
11	Recording	When recording, the icon appears.
12	VCA Event Alarm	When an alarm of VCA event was triggered, the icon appears.
13	Object Counting Alarm	When an alarm of object counting is triggered, the icon appears.
14	Motion Detection Alarm	When an alarm of Motion Detection is triggered, the icon appears.
15	PPE Detection Alarm	When an alarm of PPE Detection is triggered, the icon appears.

16	 Sound Classification Alarm	When an alarm of Sound Classification is triggered, the icon appears.
17	 Violence Detection Alarm	When an alarm of Violence Detection is triggered, the icon appears.
18	 Fall Detection Alarm	When an alarm of Fall Detection is triggered, the icon appears.
19	 Hard Hat Detection Alarm	When an alarm of Hard Hat Detection was triggered, the icon appears.
20	 Alarm	Except for the kinds of alarms above, when other alarms were triggered, the icon appears.
21	 Stop/Play	**Stop/Play** live view.
22	 Snapshot	Click to capture the current image and save to the configured path. The default path is: C:VMS\+-1\ IMAGE-MANUAL.
23	 Start/Stop Recording	Click to **Start Recording** video and save to the configured path. The default path is **C:\ProgramData\MPlayer**. Click again to **Stop Recording**.
24	 Digital Zoom	When enabled, you can zoom in a specific area of video image with your mouse wheel.
25	 Manual Output	Manually trigger Camera Alarm Output.
26	 Window Size	Click to display images at a window size.

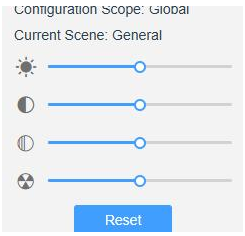
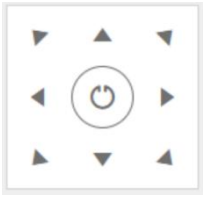
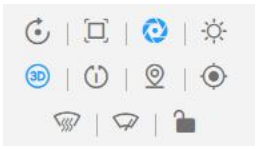
27	 Full Screen	Click to display images at full-screen.
28	 Face Detection	Click to enable the Face Detection Mode.
29		**Brightness**: Adjust the Brightness of the scene. **Contrast**: Adjust the color and light contrast. **Saturation**: Adjust the Saturation of the image. Higher Saturation makes colors appear more "pure" while lower one appears more “wash-out”. **Sharpness**: Adjust the Sharpness of image. Higher Sharpness sharps the pixel boundary and makes the image looks “more clear”. **Reset:** Click to reset all configuration values on the current page to the default midpoint (50).

Table 4. Description of the PTZ buttons

No.	Parameter	Description
	 PTZ Control	Navigation key is used to control the direction. The rotation key is used for auto-rotation.
	 PTZ Speed	To adjust the speed of pan/tilt movements, from 1 to 10 .
	 Zoom-/Zoom+	Adjust the focal length of the lens. Press **Zoom +** to magnify the image for closer viewing of details, or press **Zoom -** to reduce magnification and expand the viewing range.
	 Focus-/Focus+	Adjust the lens focus to make the image clearer. Press **Focus +** or **Focus -** to fine-tune the sharpness until the target object is clearly visible.
	 Iris-/Iris+	Adjust the aperture size to control the amount of light entering the lens. Press **Iris +** to brighten the image, or press **Iris -** to darken it.
		Lens initialization: Resets the lens to its default calibration state and re-initializes all lens control parameters (zoom, focus, and iris).

		**Auxiliary Focus:** Assists in achieving precise focus with a single click. When manual focus adjustment fails to produce a clear image, click this button to automatically fine-tune the focus to the sharpest position.
		Auto Iris: Automatically adjusts the lens aperture to regulate the amount of light entering the camera sensor, ensuring optimal image brightness under varying lighting conditions. **Note:** This function is enabled by default.
		Lighting For 30s: Click to open/ close the White LED for lighting 30s. **Note:** This feature is only supported on the MS-CXX67 model.
		3D Positioning: Click to enable/ disable 3D positioning.
		One-touch Patrol: Click to carry out the patrol.
		Auto Home: Click to enable Auto Home.
		Manual Tracking: Allows the user to manually define a tracking zone on the live view screen during auto-tracking mode. Use the mouse to draw a bounding box around the area of interest — the camera will immediately detect and begin tracking any recognized object (person or vehicle) moving within that selected region.
		Dehumidifying: Activates the window heater and fan simultaneously for 15 minutes to eliminate internal fog or moisture from the lens window. Press the button again to stop the process at any time.
		Manual Wiper: Click to enable the manual wiper. **Note:** This feature is only supported on the MS-CXX41 model.
		PTZ Lock: Click to disable Pan, Tilt, and Zoom functions.
		Enable to set 300 preset positions.
		Enable to set 8 patrol paths.
		Click to record up to 4 pattern paths.

6.2 3D Positioning

3D Positioning allows user to use mouse clicking and dragging to control the PTZ.

Steps:

1. Click on the toolbar of Live View interface.
2. Operate the 3D positioning function
   - Left click a position of the Live View, and the corresponding position will be moved to the center of the Live View.
   - Hold down the left mouse button and drag the mouse to the lower right or upper right on the Live View, then you can see a blue rectangle. The corresponding position will be moved to the center of the Live View and Zoom in.
   - Hold down the left mouse button and drag the mouse to the lower left or upper left on

the Live View, then you can see a blue rectangle. The corresponding position will be moved to the center of the Live View and Zoom out.

- The Bigger the rectangle is, the smaller zoom in/out will be acted.

6.3 Set/Call a Preset/Patrol/Pattern

A preset is a predefined image position. You can click the call button from the preset list to quickly go to the desired image position.

Set a preset:

Step1: In the PTZ control panel, select a preset number from the preset list, and you can also customize the preset name displayed on the screen. The patrol name displayed on the screen will also be customized if you customize preset name and set a patrol.



Step2: Use the PTZ control buttons to move the lens to the interested position;

Step3: Click to save the setting of the current preset;

Step4: Click to delete the chosen preset.

Note: Up to 300 presets can be configured (18 presets are not modifiable).

Calling a preset:

Select a defined preset from the preset list and click to call the preset.

Note: The following presets are predefined with special commands. You can only call them but can't configure them. For example, preset 037 is the "Self Check". If you call the preset number 037, the PTZ camera will start self check function at once.

Table 5. Special Presets

Special Preset	Function	Special Preset	Function

33	Auto Flip	44	Path8
34	Go to Zero	45	Pattern1
35	Self Check	46	Pattern2
36	Patrol	47	Pattern3
37	Path1	48	Pattern4
38	Path2	49	Stop Scan
39	Path3	50	Auto Scan
40	Path4	51	Tilt Scan
41	Path5	52	Panoramic Scan
42	Path6		
43	Path7		



Set / Call a patrol

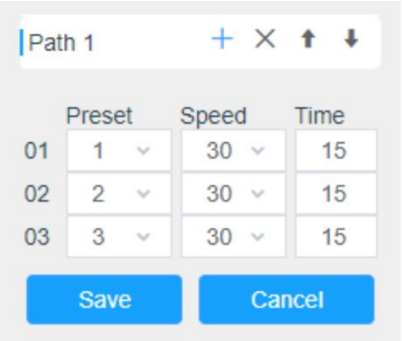
A patrol is a memorized series of preset function. It can be configured and called on the patrol setting list. You can customize up to 8 patrols and it can be configured with 48 presets. Before configuring the patrol, you should make sure that the presets you want to add to the patrol have been defined.

Set a patrol:

Step1: In the PTZ control panel, select a patrol number from the patrol list, and you can also customize the patrol name displayed on the screen, click to enter the patrol settings interface;

Step2: Select a patrol number, the setting icon will appear , click it;

Step3: Click + to add presets to this patrol, as shown in Figure;



Step4: Configure the preset number, patrol speed and patrol time;

Table 6. Description of Patrol Settings

Name	Description
Patrol Speed	The speed of moving from one preset to another.
Patrol Time	The duration staying on one patrol point. The PTZ camera moves to another patrol point after the set patrol time.

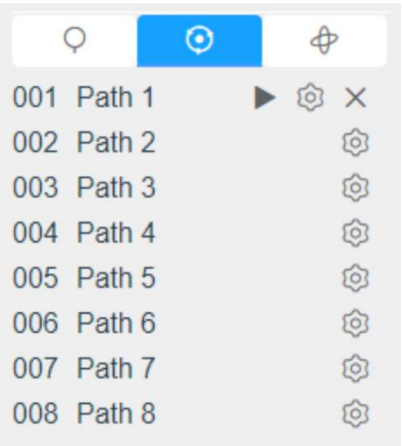
Step5: Click Save to save the patrol settings.

Note:

- Patrol Speed only works in Patrol mode.
- Patrol Time should be 10~120s.

Call a patrol:

In the PTZ control panel, select a defined patrol from the patrol list, and click ▶ to call the patrol, as shown below.



Note: The three buttons behind the Patrol list means: Play, Set and Delete.

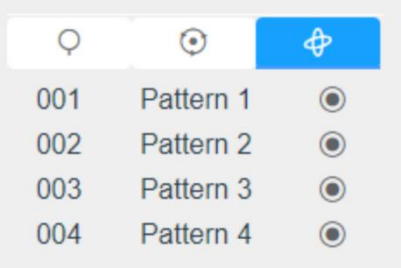
Set / Call a pattern

A pattern is a memorized series of pan, tilt, zoom and preset functions. It can be called on the pattern settings interface. There are up to 4 patterns can be set.

Set a pattern:

Step1: In the PTZ control panel, select a pattern number from the pattern list, and you can also customize the pattern name displayed on the screen, click to enter the pattern settings interface;

Step2: Select a pattern number from the pattern list as shown in the figure below;



Step3: Click to activate recording the panning, tilting and zooming actions;

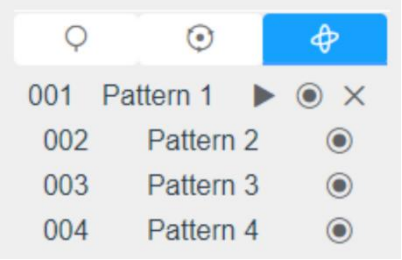
Step4: Use the PTZ controller buttons to move the lens to the interested position;

Step5: Click to save all the pattern settings.

Note: The percentage of number on the OSD is the remaining space of pattern. Start with 100% and run out of 0%.

Call a pattern:

In the PTZ control panel, select a defined pattern from the pattern list, click to call the pattern, as shown in the figure below.



Note:

The three button behind the Pattern list means: Play, Record and Delete.

When configuring the pattern, pan and tilt are valid but the limit stops and auto flip will be invalid. Also, 3D Positioning operation is not supported.

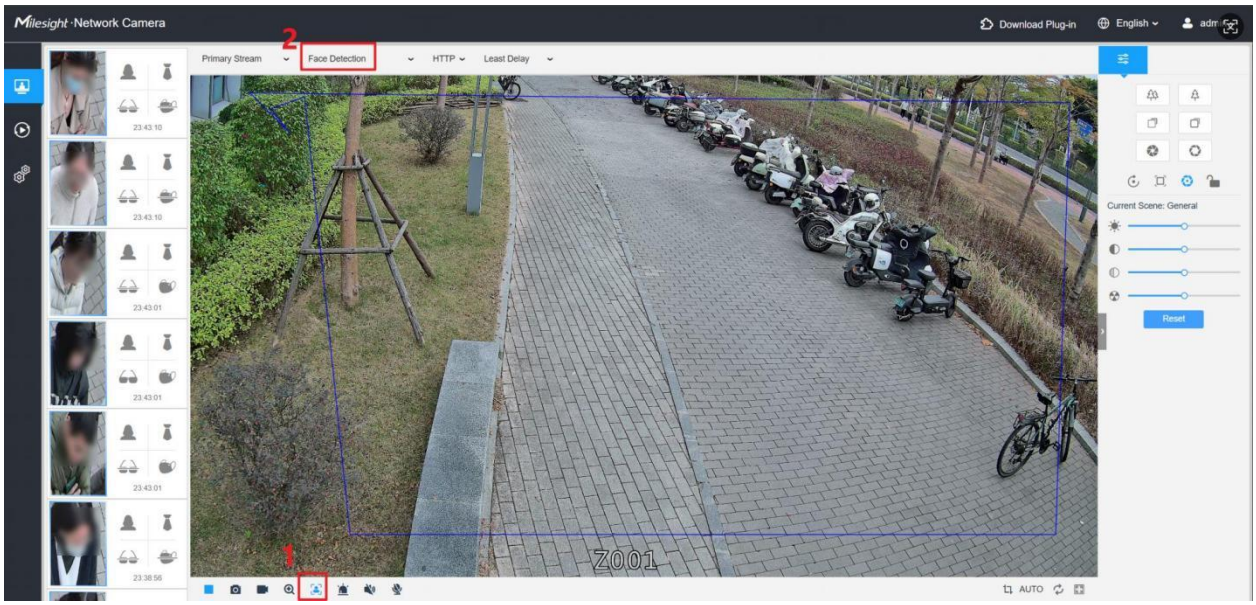
6.4 Face Detection Mode

Milesight face detection function detects human faces in the monitoring scene and captures the snapshots, which greatly enhances the monitoring efficiency and benefits the

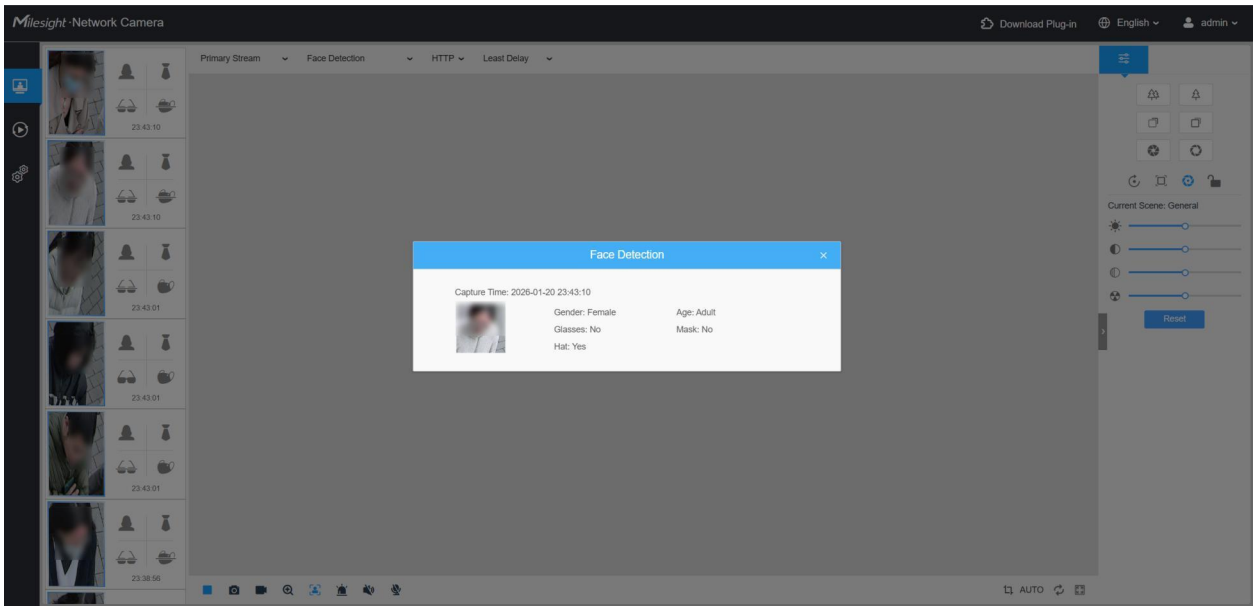
large population related industries such as public security, access control and business management.

Step1: Click  to enable the Face Detection Mode. And the camera will detect faces in live view according to the region and conditions you set.

Note: Before enabling the face detection mode, ensure that the face detection function has been enabled and configured. For more details about how to configure the face detection, please refer to Face Detection.



Step2: When Attribute Recognition is enabled, the attributes of detected faces will be displayed on the left side of the Live View interface.

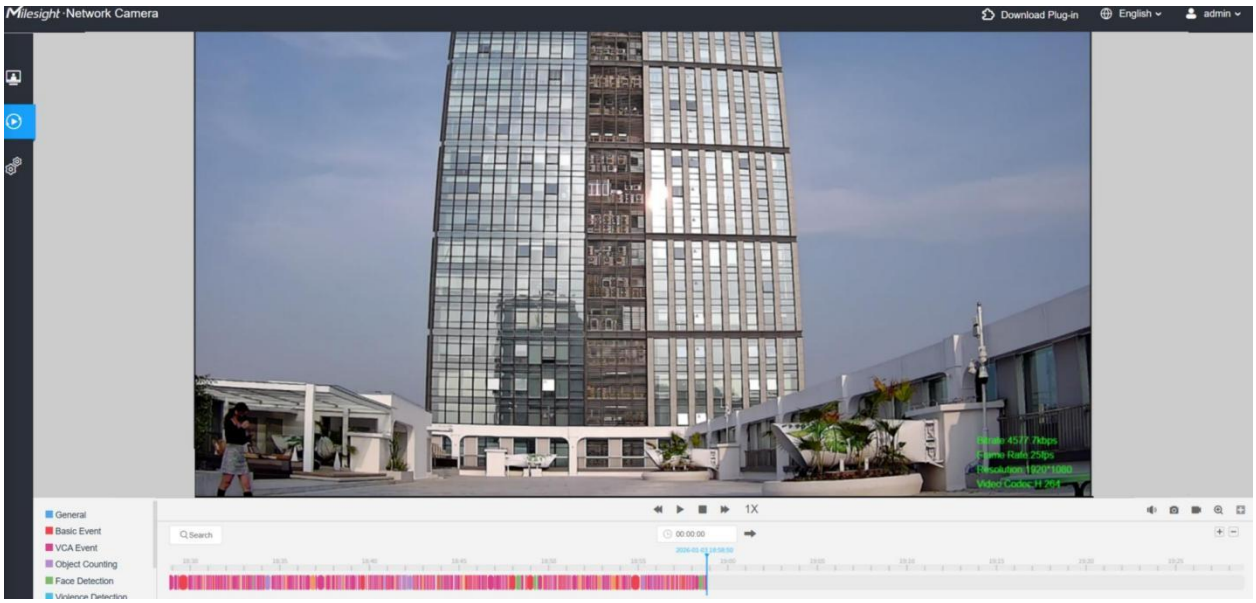


Step3: When Face Privacy Settings is enabled, the detected faces in the face detection

area will be mosaic automatically. The size of the mosaic is related to that of the detected faces, and users can customize the size of the detected faces as needed.

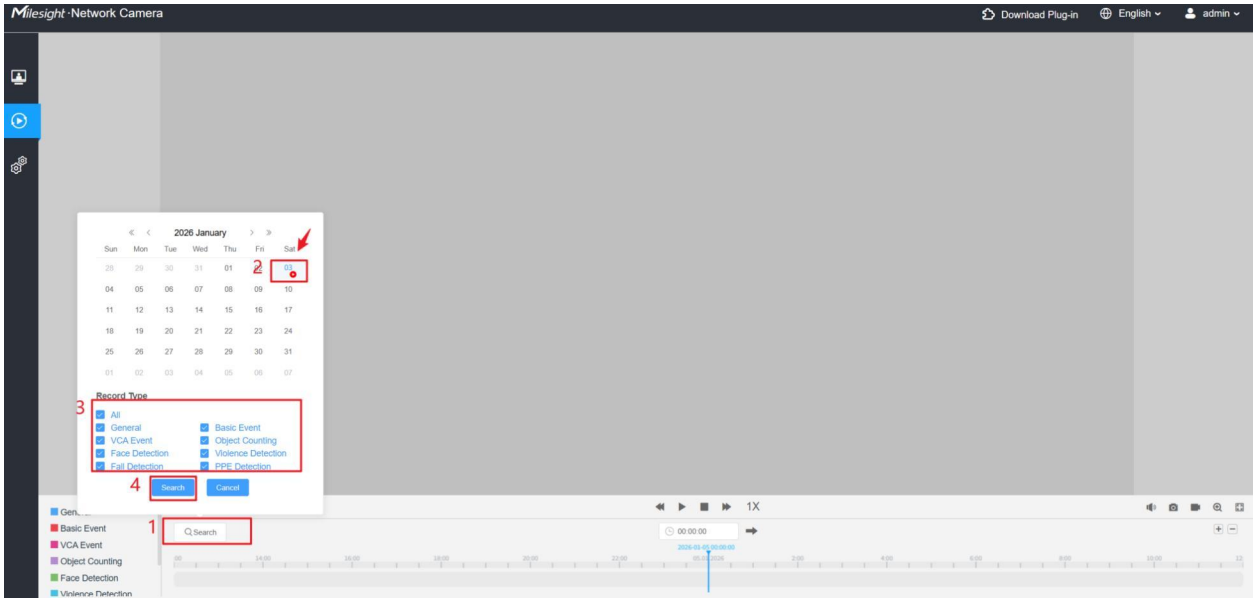
Chapter 7. Playback

Click  to enter playback interface. In this part, you can search and playback the recorded video files stored in SD cards or NAS. The Playback interface is as below:



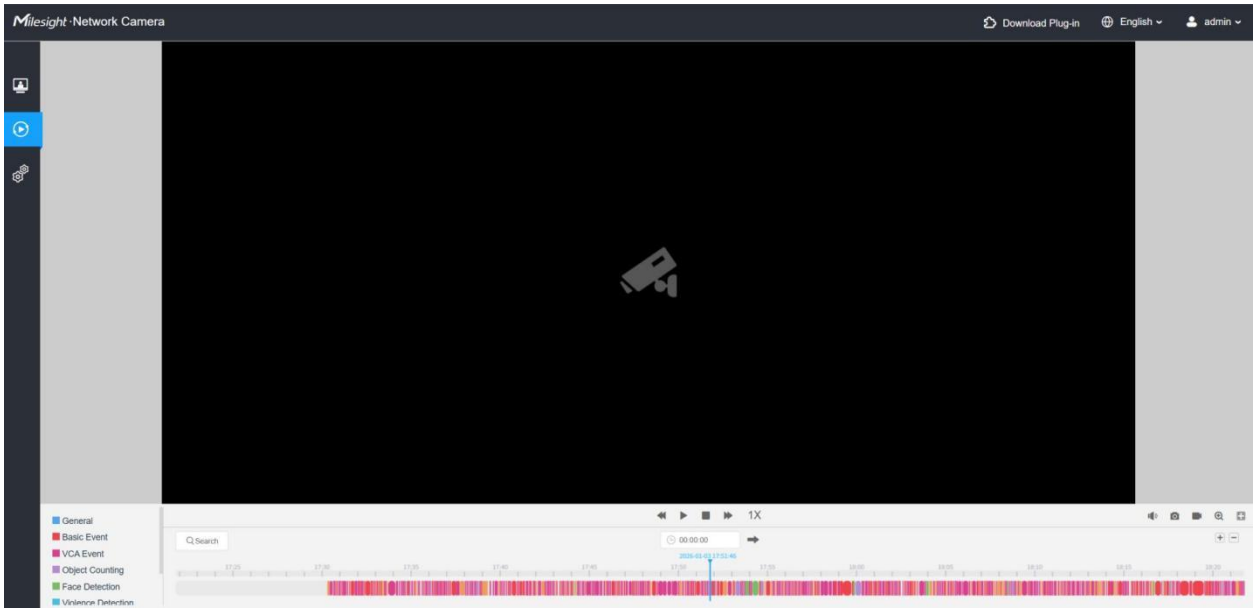
Step1: Click the **Search** button, choose the data and record type when the window pops up.

Note: A red icon will appear under the corresponding date when there is a recording for that day users can quickly identify which dates have recordings.



Step2: The timeline displays the video files for the day and show different colors according to selected record type. Drag the progress bar with the mouse to locate the exact playback point as needed.

Note: You can also input the time and click to locate the playback point in the 00:00:00 filed. You can also click to zoom out/in the progress bar.



Step3: Click to play the video files found on this date. The toolbar on the button of playback interface can be used to control playing progress.

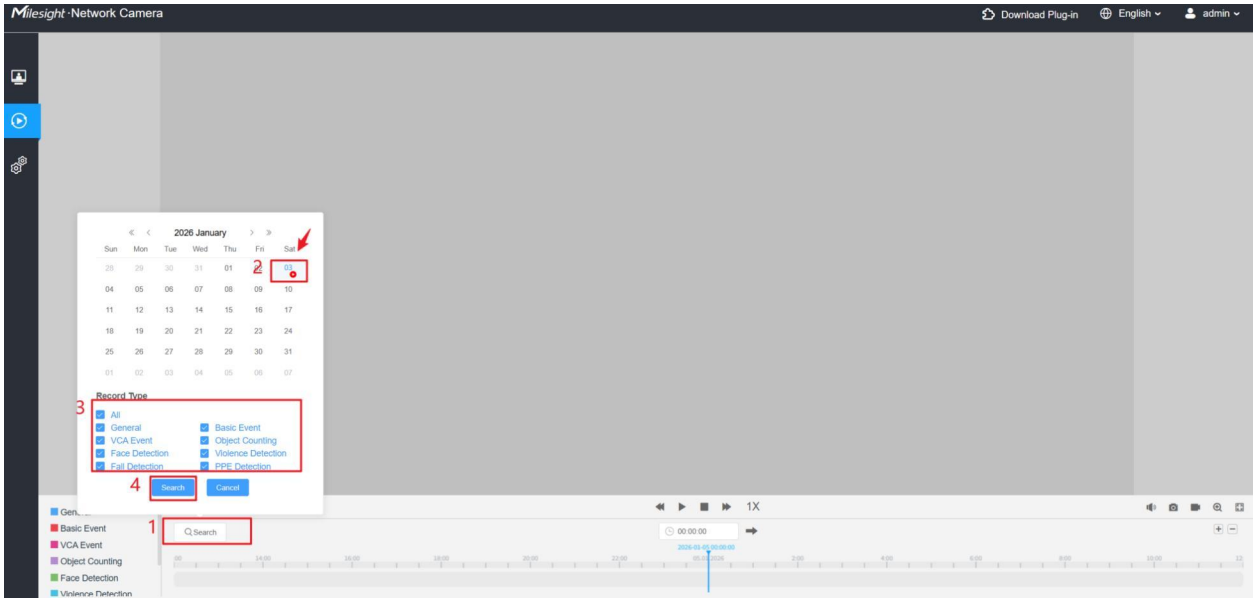


Table 7. Description of the buttons

No.	Parameter	Description
1	/ Play/Pause	Play/Pause the video.
2	Stop	Stop the video.
3	00:00:00 Search Time	Select the time point that you want to locate.
4	Jump	Click it to jump to the time point corresponding to the search.
5	Mute	Click to disable/enable the audio.
6	Snapshot	Click to take a snapshot.
7	/ Start/Stop recording	Click to start/stop recording.

8	Digital Zoom	Click to zoom on/off.
9	Full Screen	Full Screen.
10	Time Expand/Narrow	Time narrow/expand.

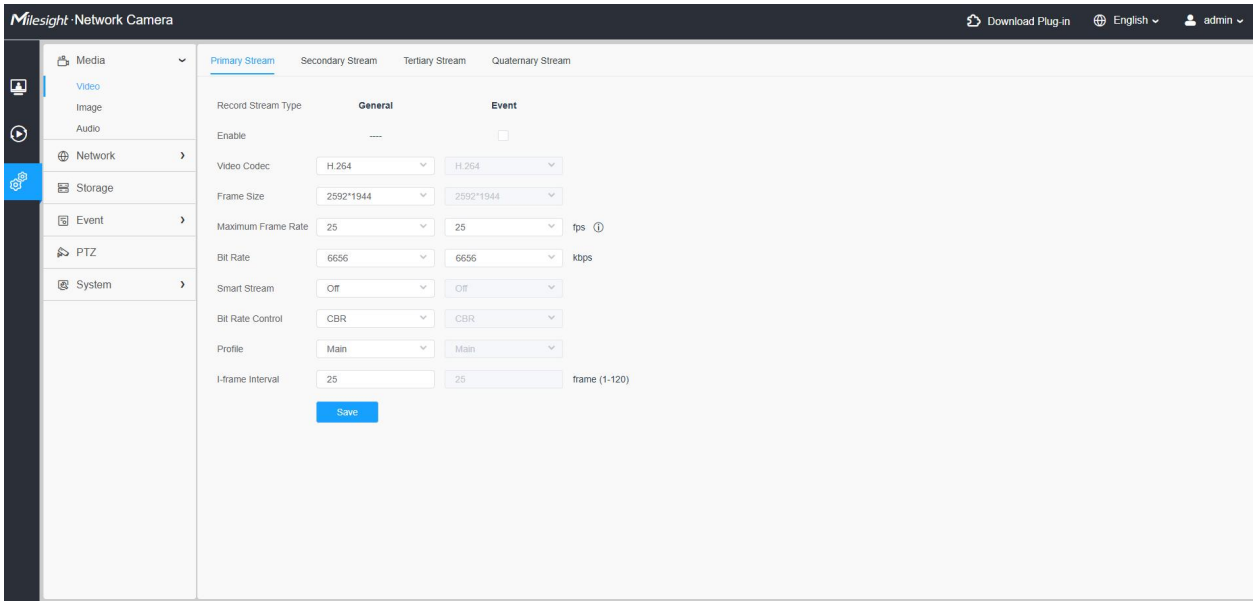
Chapter 8. Settings

8.1 Media

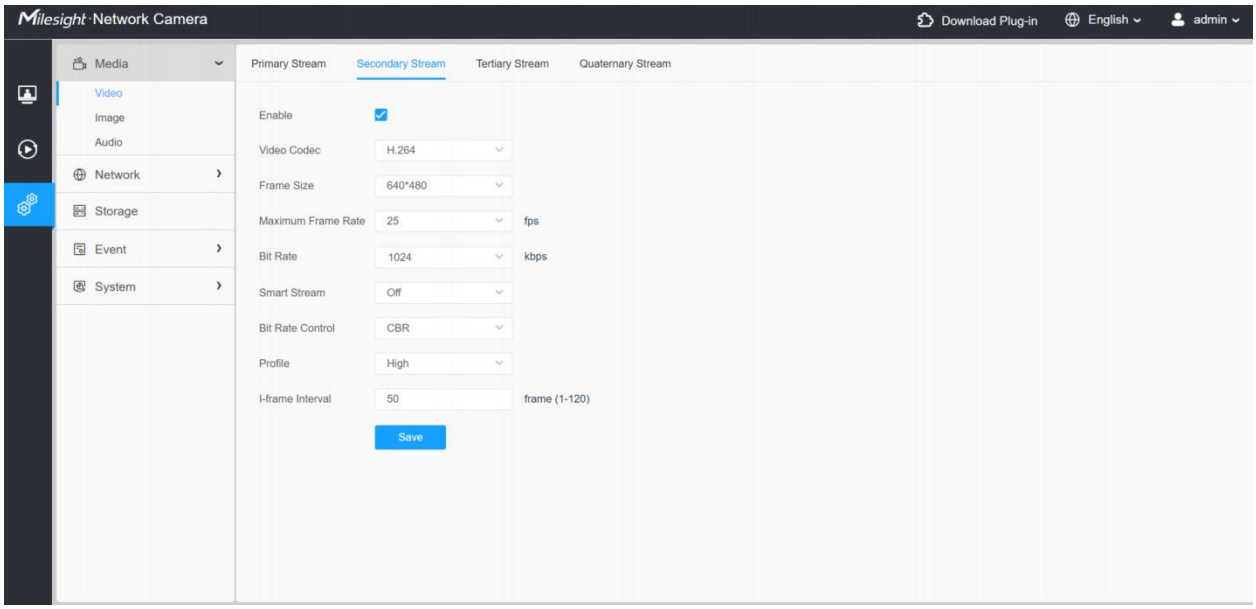
8.1.1 Video

Stream parameters can be set in this module, adapting to different network environments and demands.

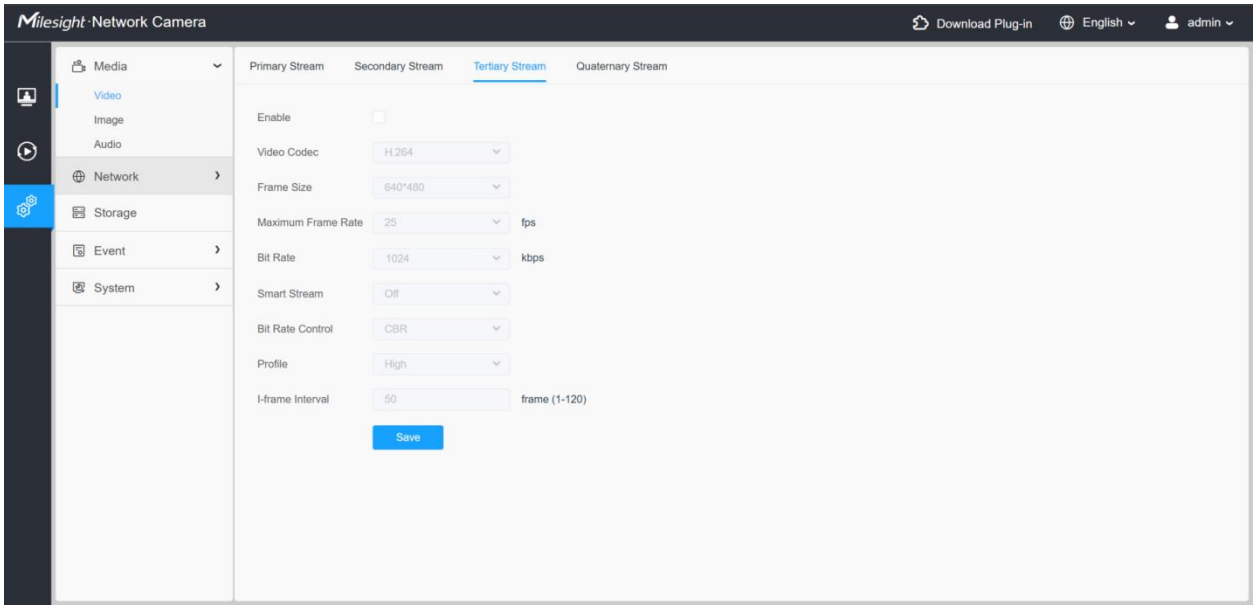
Primary Stream Settings



Secondary Stream Settings



Tertiary Stream Settings



Quaternary Stream Settings

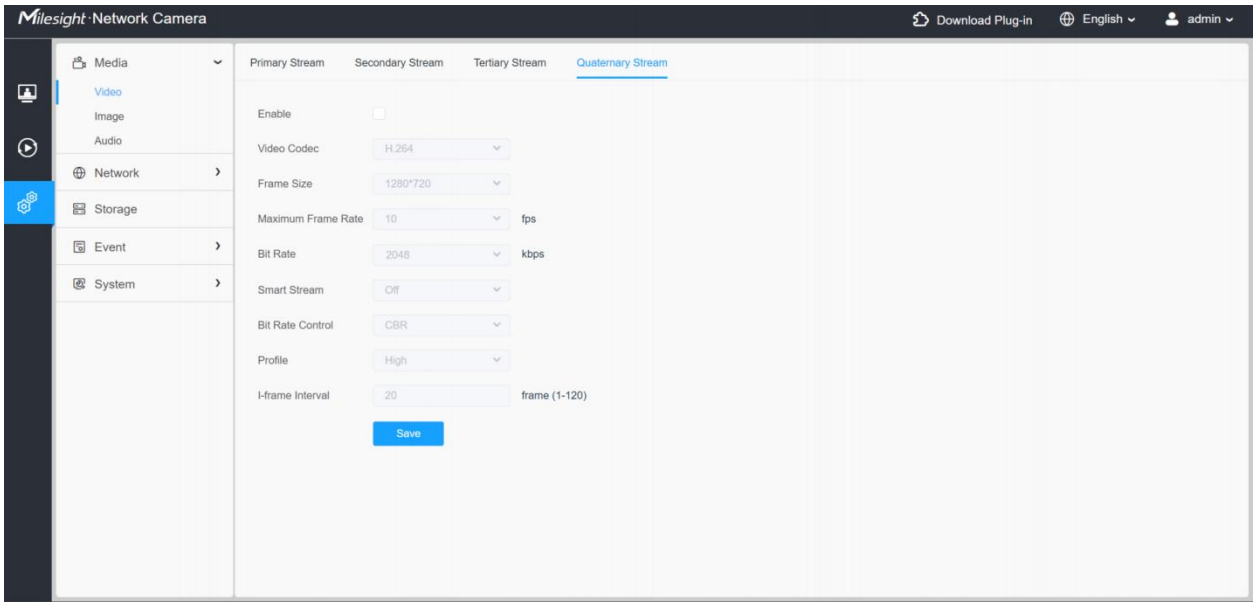
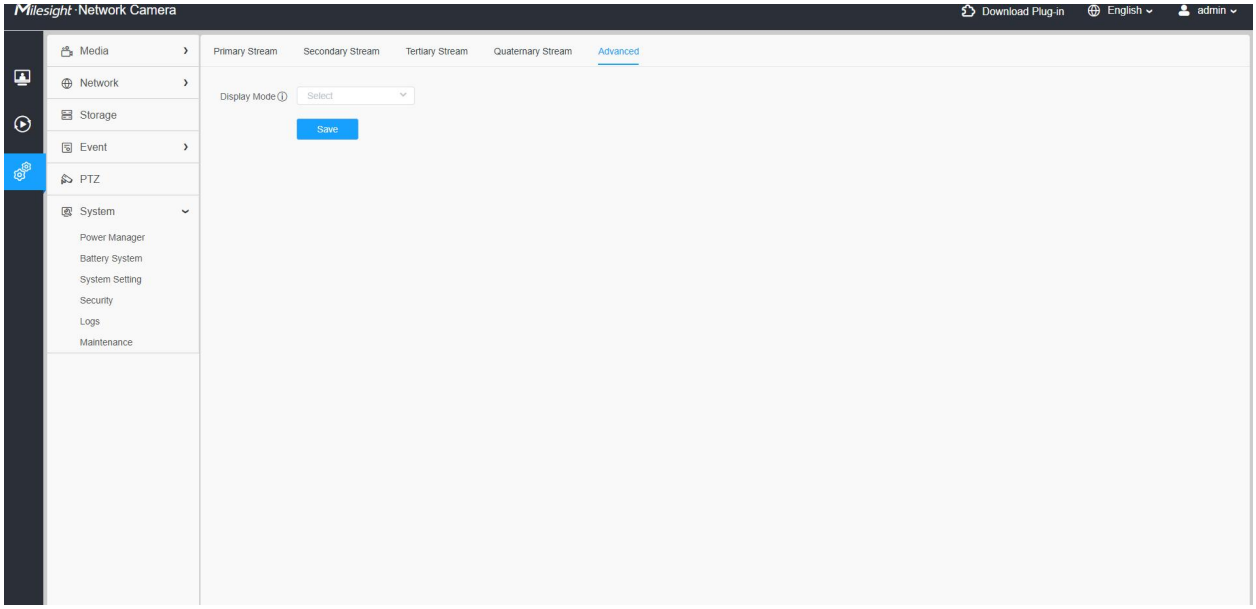


Table 8. Description of the buttons

Parameters	Function Introduction
Record Stream Type	**General** & **Event** are available only for **Primary Stream**. **General** refers to continuous record video, while **Event** includes events that can trigger alarms, such as Motion and Exception. This item can separately set different bit rate and frame rate for different Recording Stream Types. If you choose **Event**, video will be recorded according to the configuration of video stream type when an event happens, thereby greatly reducing the recording storage space.
Enable Event Stream	This item is optional only if you selected the Event.
Video Codec	Video Codec compresses and decompresses video, reducing file size and bandwidth usage while maintaining image quality. **H.264**, **H.265**, and **MJPEG** are available. When **H.264** is selected, the default value of **Profile** is **High**. **Note:** For more details about **Milesight-H.264 VS H.265+**, you can click the link: https://www.youtube.com/watch?v=Wkom8HQ00jI

Frame Size	For **Primary Stream**, options include 5M(2592*1944), 4M(2592*1520), 3M(2048*1536), 1080P(1920*1080), 1.3M(1280*960), and 720P(1280*720). For **Secondary Stream**, options include 704*576, 640*480, and 640*360. For **Tertiary Stream**, options include 2048*1536, 1920*1080, 1600*1200, 1280*720, 704*576, 640*480, and 640*360. For **Quaternary Stream**, options include 1280*720, 704*576, 640*480, and 640*360.
Maximum Frame Rate	Maximum refresh frame rate of per second and it is variable according to the mode.
Bit Rate	Transmitting bits of data per second, this item is optional only if you select the H.265/ H.264 Set the bitrate to 16~16384 Kbps. The higher value corresponds to the higher video quality, and the higher bandwidth is required as well.
Smart Stream	Optional to turn On/Off Smart Stream mode. Smart Stream mode remarkably reduces the bandwidth and the data storage requirements for network cameras while ensuring the high quality of images, and it is a 10-level adjustable codec. If Smart Stream is enabled, Video Codec will also be enabled. The specific codec used depends on the Video Codec selection. **Level**: Level 1~10 are available as needed.
Bit Rate Control	**CBR**: Constant Bitrate. The rate of CBR output is constant.
Bit Rate Control	**VBR**: Variable Bitrate. VBR files vary the amount of output data per time segment.
Image Quality	**Low**/**Medium**/**High** are available, this item is optional only if you select VBR.
Profile	The option is for H.264, Main/High/Base can be selected as needed. The default value is **High**.
I-frame Interval	Set the I-frame interval to 1~120, 25 for the default. This item is optional only if you select the H.265/H.264. The number must be a multiple of the number of frames.

Advanced



This feature is only available on 5MP models, as their native resolution ratio is 4:3. When changed to a 16:9 resolution, such as 1080P, the image may become stretched. To address this, two options are provided to suit different needs.

Stretch:

Full field of view, may distort when scaled to target resolution.

Crop:

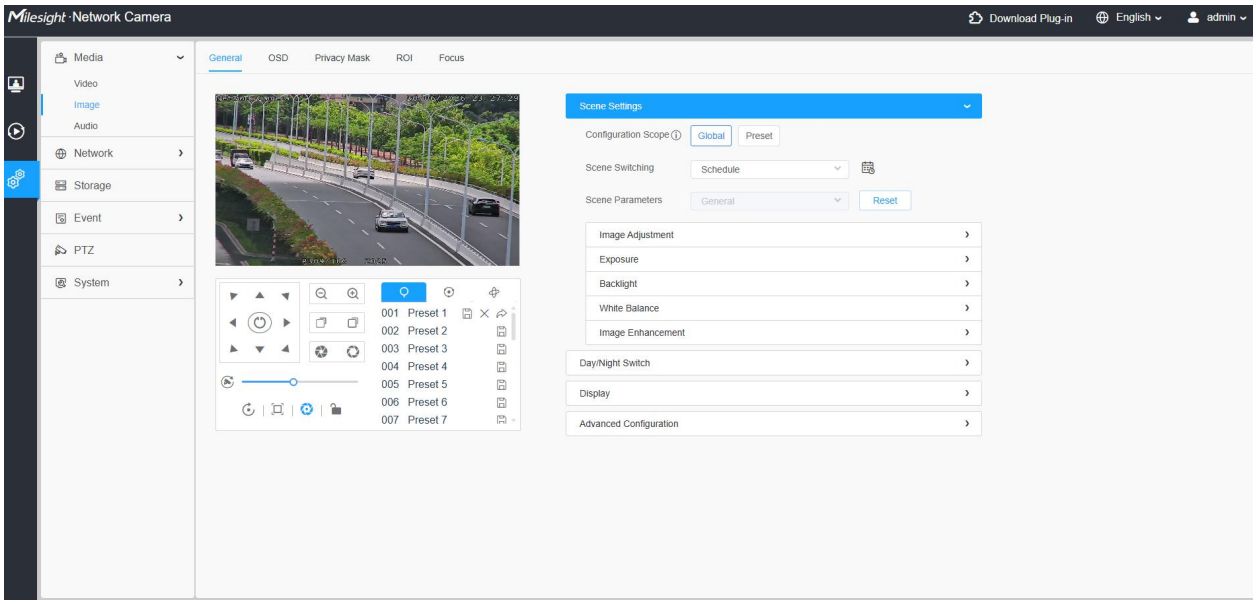
No distortion; crop edges to fit resolution and reduce field of view.

8.1.2 Image

General settings of image including the image adjustment, day/night setting and image enhancement can be set in this module. OSD (On Screen Display) content, privacy mask, ROI (Region of Interest), and video time can be displayed to enrich the image information.

8.1.2.1 General

General settings of image including the Image Adjustment, Day/Night Switch, Day/Night Parameters, Exposure, Backlight, White Balance, Image Enhancement, and Display can be set in this module.



[Scene Settings]

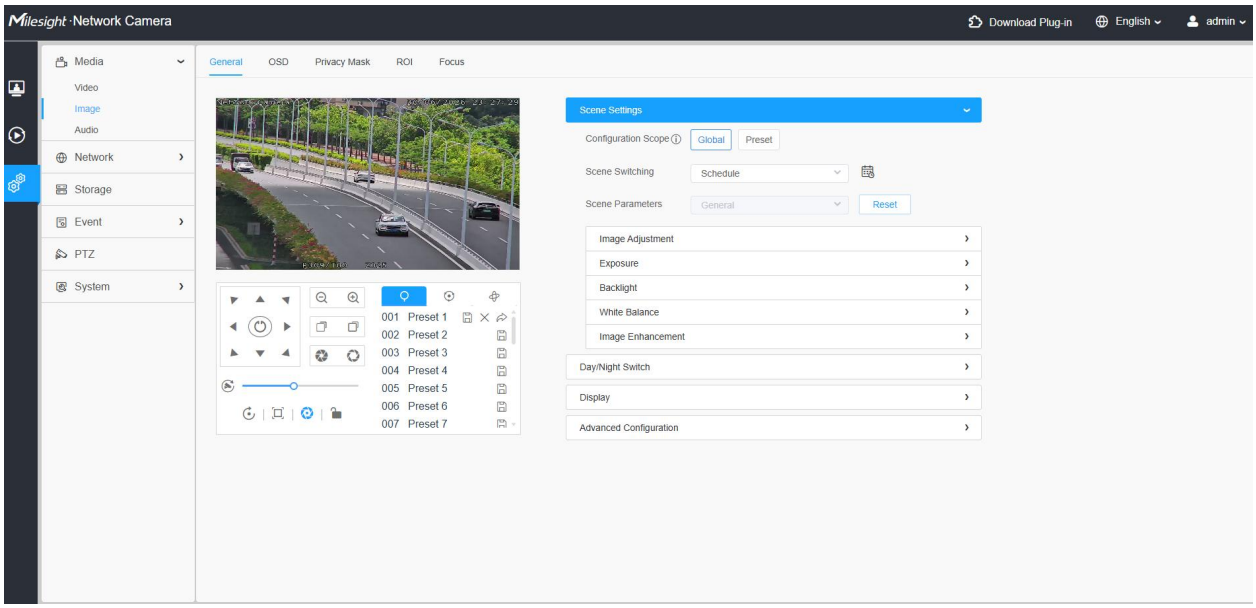
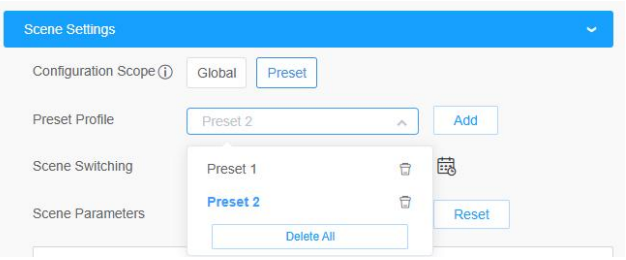
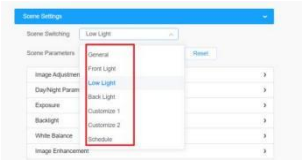
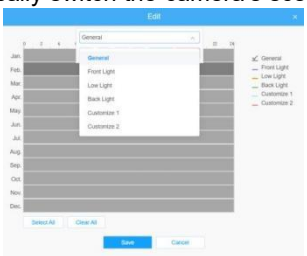


Table 9. Description of the buttons

Parameters	Function Introduction

Configuration Scope	The Configuration Scope allows you to configure image settings at either a Global level or per Preset level.  Select between Global and Preset modes: **Global:** The default configuration applies to all positions. **Preset:** Allows independent image settings for each Preset position. **Note:** If a Preset has custom image settings, it takes priority; otherwise, Global settings apply. **Preset Profile:** When Configuration Scope is set to Preset, you can manage Preset Profiles: - Add: Click Add to select a Preset from the list and create a profile for it. Up to 8 Preset Profiles are supported. - Delete: Select a profile and click Delete to remove it. - Delete All: Click to remove all Preset Profiles.
Scene Switching	You can switch scenarios here. **General**, **Front Light**, **Low Light**, **Back Light**, **Customize 1**, **Customize 2**, and Schedule are available. You can set parameters for each scene displayed in the following figure:  **General**: Default scene mode optimized for typical surveillance environments such as brightly daytime, providing balanced image quality under normal lighting conditions. **Front Light**: A mode designed to counteract strong light sources coming from the front of the camera, preventing overexposure and ensuring clear visibility of subjects facing the light. **Low Light**: A mode designed to optimize image quality in nighttime or low- light environments, improving brightness and noise control. **Back Light**: A mode designed to address backlight environments to prevent subjects from appearing dark and backgrounds from being overexposed. **Customize 1/Customize 2**: These two modes allow you to save your own customized image settings for use in special scenarios. **Schedule**: The **Schedule** mode allows you to set a time-based timetable to automatically switch the camera's scene profiles. 

Scene Settings--> Image Adjustment

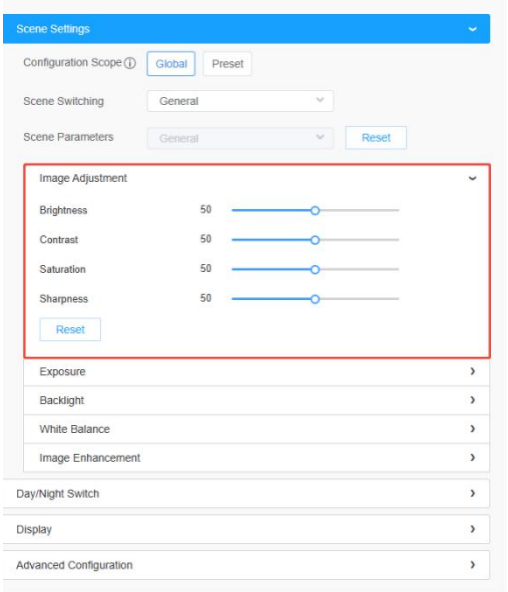


Table 10. Description of the buttons

Parameters	Function Introduction
Brightness	Adjust the Brightness of the scene.
Contrast	Adjust the color and light contrast.
Saturation	Adjust the Saturation of the image. Higher Saturation makes colors appear more "pure" while lower one appears more “wash-out”.
Sharpness	Adjust the Sharpness of the image. Higher Sharpness sharpens the pixel boundary and makes the image look “more clear”.
Reset	Reset the image adjustment parameters to their default values.

Scene Settings--> Exposure

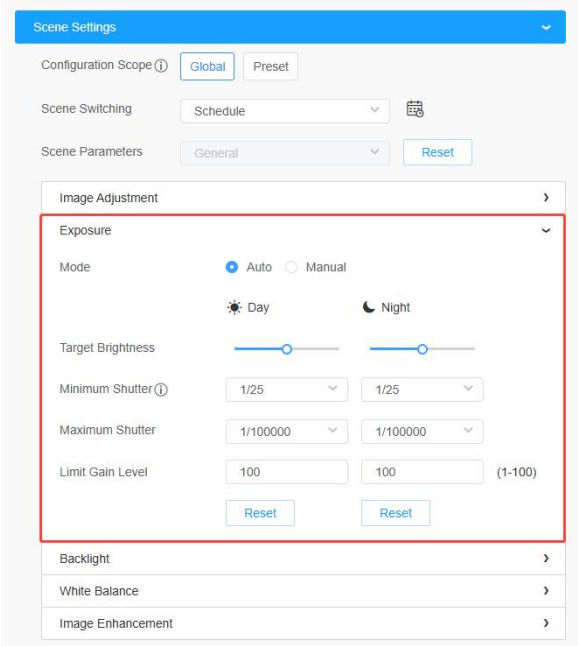


Table 11. Description of the buttons

Parameters	Function Introduction
Exposure Mode	Auto Mode and Manual Mode are available. **Auto Mode:** The camera will adjust the brightness according to the light environment automatically. **Manual Mode:** The camera will adjust the brightness according to the value you set, you can configure the exposure time from 1~1/100000s and set Gain Level from 1~100 (default value: 50), the higher the gain value is, the brighter the image is. If Power Line Frequency is set as 50 Hz, 1, 1/5, 1/10, 1/25, 1/50, 1/100, 1/250, 1/500, 1/750, 1/1000, 1/2000, 1/4000, 1/10000, and 1/100000 are available. If Power Line Frequency is set as 60 Hz, 1, 1/5, 1/15, 1/30, 1/60, 1/120, 1/250, 1/500, 1/750, 1/1000, 1/2000, 1/4000, 1/10000, and 1/100000 are available.
Target Brightness	When the exposure is set to Auto mode, the image brightness will be adjusted to the predefined value when exposure changes occur.
Minimum Shutter	Minimum Shutter is the same as Maximum Exposure Time. The default option is **1/25**.
Maximum Shutter	Maximum Shutter is the same as Minimum Exposure Time. The default option is **1/100000**.
Limit Gain Level	Set the maximum gain level to 1~100. The default value is **100**.

Note:

1. Both Minimum Shutter and Maximum Shutter now support an Auto option. Enabling Auto activates Frame Rate Reduction technology, which improves static image quality

in low-light environments by reducing the frame rate, extending the exposure time per frame, increasing brightness, and minimizing noise.

2. When the Shutter is set to Auto, static images will appear brighter with reduced noise, but moving objects may experience motion blur.

Scene Settings--> Backlight

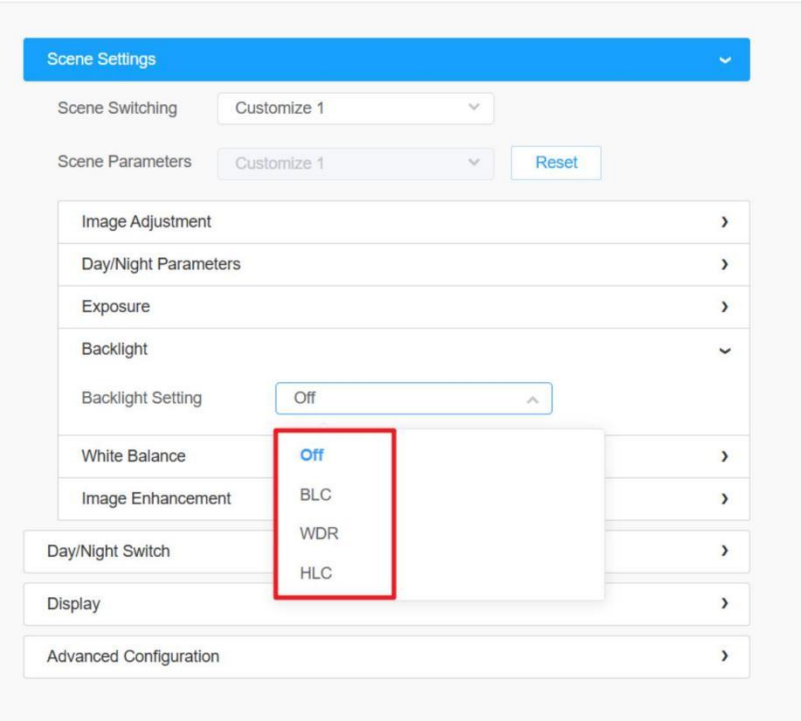
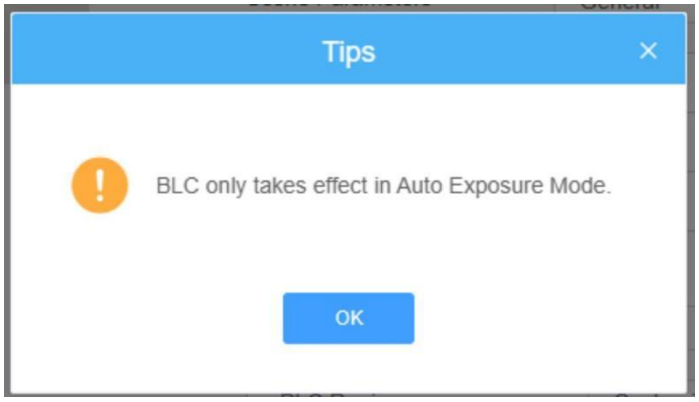


Table 12. Description of the buttons

Parameters	Function Introduction

Backlight Mode	**Backlight Setting:** Off, BLC, WDR,HLC and Auto-WDR are available for detailed configurations. The default setting is "Off". Select **BLC** to customize its region or use the default center one; select **WDR** to set its level to **High**, **Low**, or **Auto**; select **HLC** to adjust its level from 0 to 100. **Auto WDR**: Automatically enables or disables WDR in high#contrast environments. This function is unavailable in **Manual** mode or when the frame rate exceeds 30 fps. **Note:** • To enable WDR, BLC, and HLC, you must set the exposure to **Auto** mode.  • Do not support WDR while High Frame Rate is enabled.

Scene Settings--> White Balance

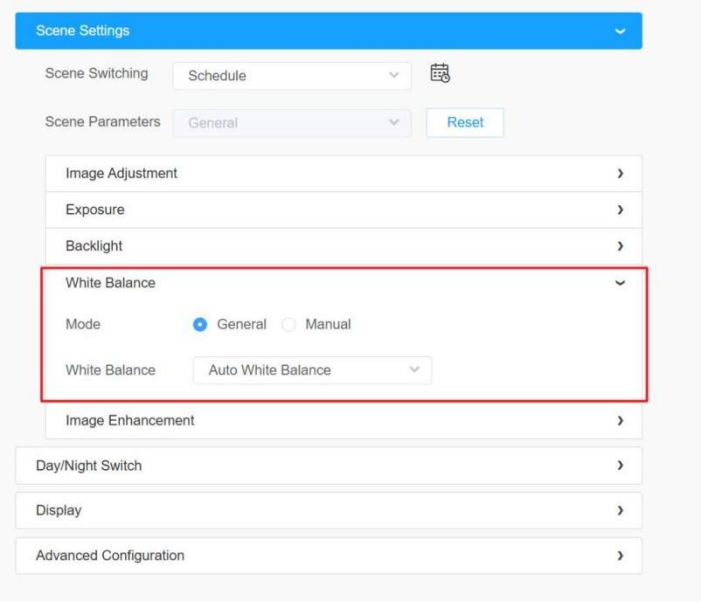


Table 13. Description of the buttons

Parameters	Function Introduction

White Balance	To restore white objects, remove color distortion caused by the light of the environment.
Mode	**General** and **Manual** are available. **Manual > Manual White Balance Settings:** Set Red Gain Level and Blue Gain Level manually. **General Mode:** Select a white balance mode as required • **Auto White Balance:**This option will automatically enable the White Balance function. • **Incandescent Lamp:** Select this option when light is similar with incandescent lamp. • **Warm Light Lamp:** Select this option when light is similar with warm light lamp. • **Natural Light**: Select this option when there is no other light but natural light. • **Fluorescent Lamp:** Select this option when light is similar with Fluorescent Lamp.

Scene Settings--> Image Enhancement

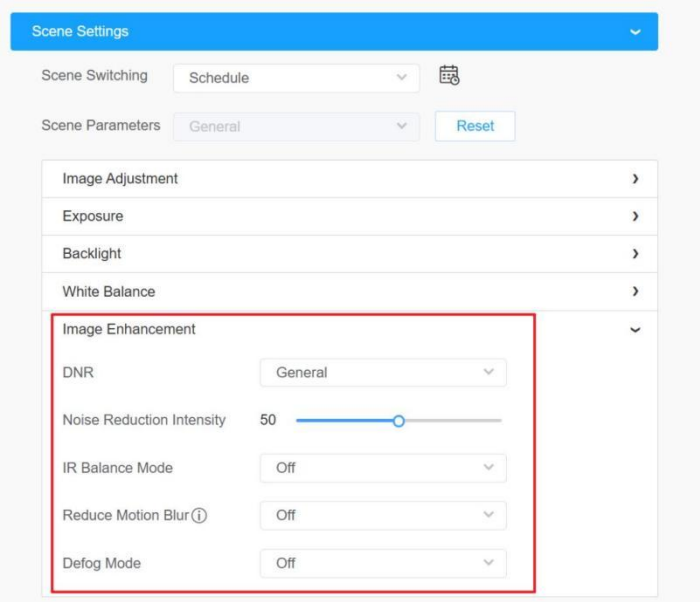
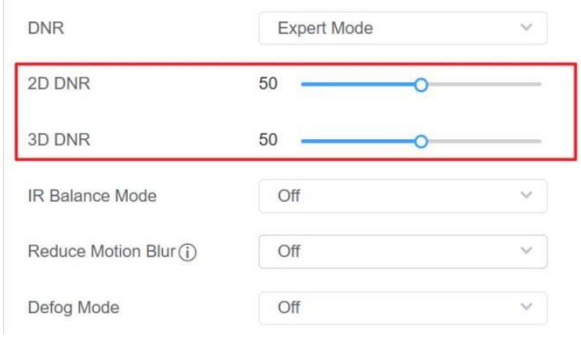


Table 14. Description of the buttons

Parameters	Function Introduction

DNR	Choose the DNR mode, **General** and **Expert Mode** are available. **General:** Automatically adjust noise reduction using algorithms. **Expert Mode:** You can manually adjust the 3D and 2D DNR settings to reduce image noise. 
Noise Reduction Intensity	Adjust the bar to set the DNR level, a higher level indicates stronger DNR capabilities, the range of adjustment is from 0 -100, with a default value of 50.
IR Balance Mode	There is an option to avoid IR overexposure. IR Balance Mode would avoid the problem of overexposure and darkness, and the IR LED will change according to the actual illumination.
Reduce Motion Blur	Enable this function to reduce the motion blur of objects effectively. You can adjust the deblur level from 1 to 100. **Note:** When Reduce Motion Blur and Shutter Auto mode are enabled at the same time, only Reduce Motion Blur will take effect. **Note:** For more details about **Milesight Deblur**, you can click to the YouTube: https://www.youtube.com/watch?v=-vynrami51s
Defog Mode	Better image effect in foggy weather. **Anti-fog Intensity** can be adjusted from 0 to 100, with a default value of 50. **Note:** • For more details about **Milesight Defog**, you can click to the YouTube: https://www.youtube.com/watch?v=a9od7Trao4U

[Day/Night Switch]

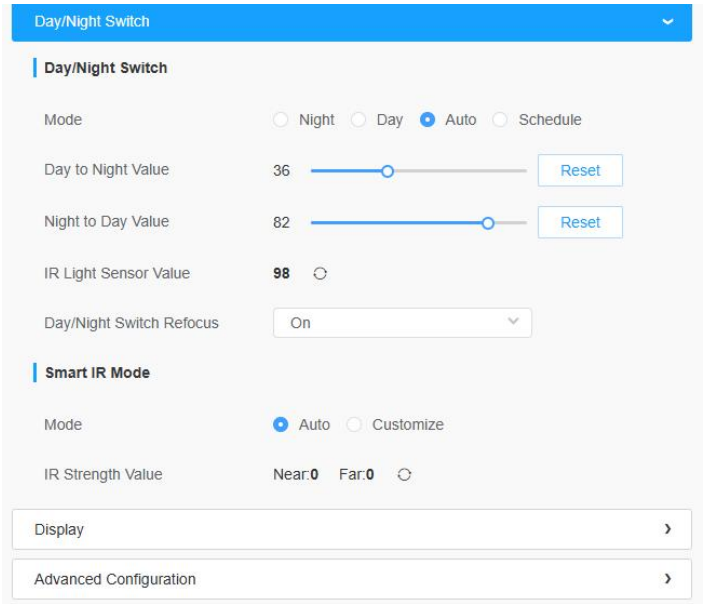
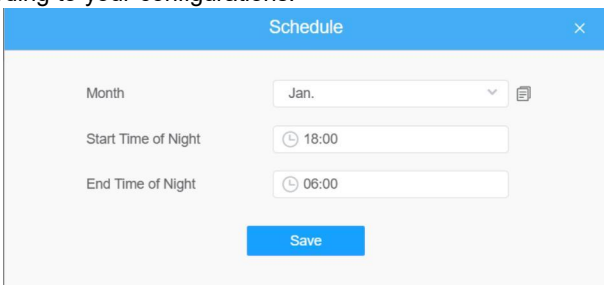
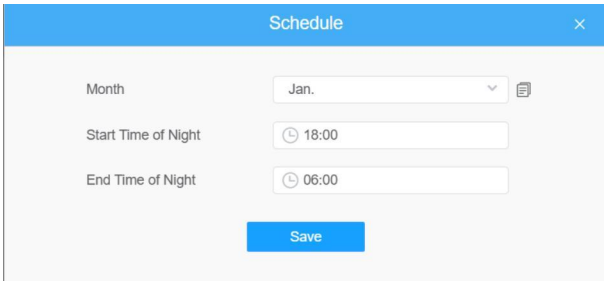


Table 15. Description of the buttons

Parameters	Function Introduction

Day/Night Swich	**Night:** Shown in live view based on Night Mode settings. **Day:** Shown in live view based on Day Mode settings. **Auto:** Shown in live view based on environment, set the sensitivity for switching Day Mode to Night Mode, or Night Mode to Day Mode. **- Day to Night Sensitivity:** You can set the sensitivity for switching Day Mode to Night Mode. You can click Reset to reset the value to 5. **- Night to Day Sensitivity:** This is the sensitivity for switching Night Mode to Day Mode. You can click Reset to reset the value to 5. **Note:** The two parameters are only for **Auto** mode. **- IR Light Sensor Value:** When IR light sensor value is lower than day to night sensitivity value, it will switch Day Mode to Night Mode. When IR light sensor value is higher than night to day sensitivity value, it will switch Night Mode to Day Mode. **Schedule:** Shown in the live view based on your schedule. You can configure the month, start time, and end time to perform day/night switch. Click to set the month, start time, and end time. Once done, the camera will perform day/night switch according to your configurations.  **Month**: Select a month for your schedule. **Start time of Night**: Set the time for starting the Night mode. **End time of Night**: Set the time for ending the Night mode. 
Day/Night Switch Refocus	Automatically refocuses the lens when switching between day and night modes, ensuring consistent sharpness for both color and infrared imaging.

Smart IR Mode	The camera features three sets of IR LEDs with different beam angles, each optimized for near, middle, and far viewing distances. The **Near View IR Level, Middle View IR Level,** and **Far View IR Level** control the brightness of each respective LED group. **- Auto Mode:** The camera automatically adjusts the brightness of each LED group based on the current lens focal length to achieve optimal IR illumination. **- Customize Mode:** Allows you to independently adjust the brightness of each LED group from 0 to 100 to suit your specific environment. Click Reset to restore the brightness of all three LED groups to 50. The current brightness level of all three LED groups is displayed in real-time as the IR Strength Value on the interface.

[Display]

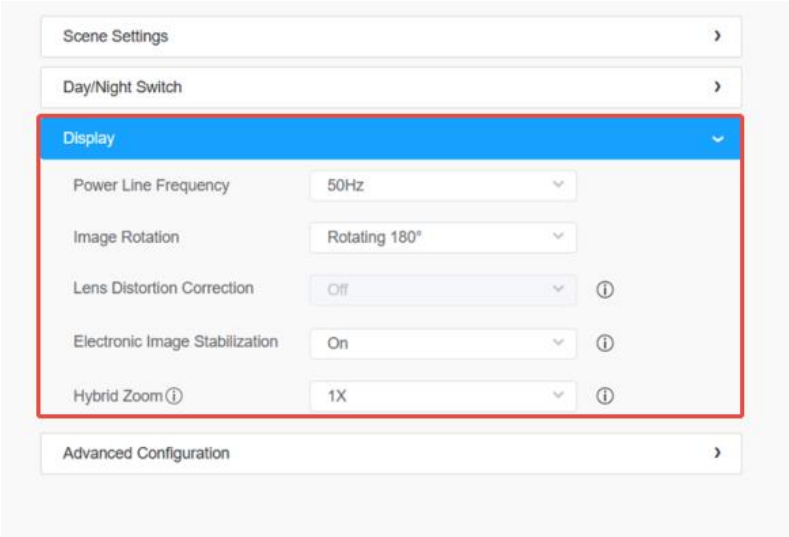


Table 16. Description of the buttons

Parameters	Function Introduction
Power Line Frequency	**60Hz** and **50Hz** are available to help prevent flickering and horizontal lines in the image.
Image Rotation	You can select one from the following six options. **Off:** Keep the image in normal direction. **Rotating 180°:** Upside down the image. **Flip Horizontal:** Flip the image horizontally. **Flip Vertical:** Flip the image vertically. **Clockwise 90°:** Rotate the image 90 degrees clockwise. **Anticlockwise 90°:** Rotate the image 90 degrees anticlockwise.
Lens Distortion Correction	This function helps the camera to reduce image distortion caused by wide- angle lenses. However, it will cause image cropping. **Note:** Do not support LDC while High Frame Rate or DIS is enabled.

Electronic Image Stabilization	Enabling this option uses the built-in gyroscope to reduce image shake, especially in high zoom scenarios.
Hybrid Zoom	Hybrid Zoom combines optical zoom and digital zoom to magnify surveillance details while maintaining image clarity. **1X**, **2X**, **4X**, and **8X** are available for hybrid zoom. The final zoom ratio is the ratio you set here and the optical zoom ratio. **Note:** Do not support Hybrid Zoom while High Frame Rate is enabled.

[Advanced Configuration]

You can set the following parameters for Day and Night modes respectively.

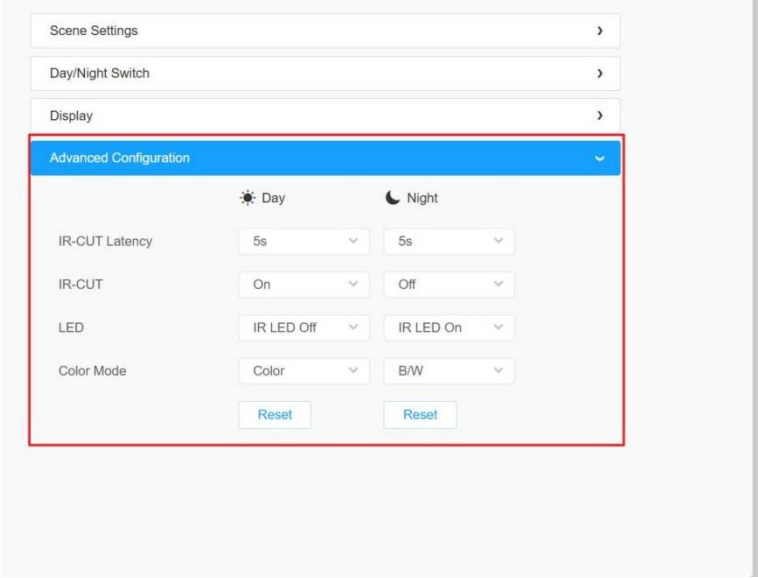


Table 17. Description of the buttons

Parameters	Function Introduction
IR-CUT Latency	IR-CUT Latency sets the waiting time for the camera's infrared filter to engage or disengage when switching between day and night modes. Select the IR-cut latency time from 1 to 20 seconds.
IR-CUT	Select **On** to activate the infrared cut filter to block ambient infrared light. Select **Off** to allow infrared light to reach the sensor.
LED	LED is an auxiliary light source for cameras that emits invisible infrared light in low-light environments to supplement illumination for the camera, enabling the sensor to capture clear images in dark conditions. You can select **IR LED On** or **IR LED Off**.

Color Mode	Color Mode is the camera's imaging mode selection, which allows switching between **Color** and **B/W** modes to adapt to different lighting conditions and balance image color and night vision performance. **Color** and **B/W** are available.
Reset	Click it to reset the configurations.

8.1.2.2 OSD

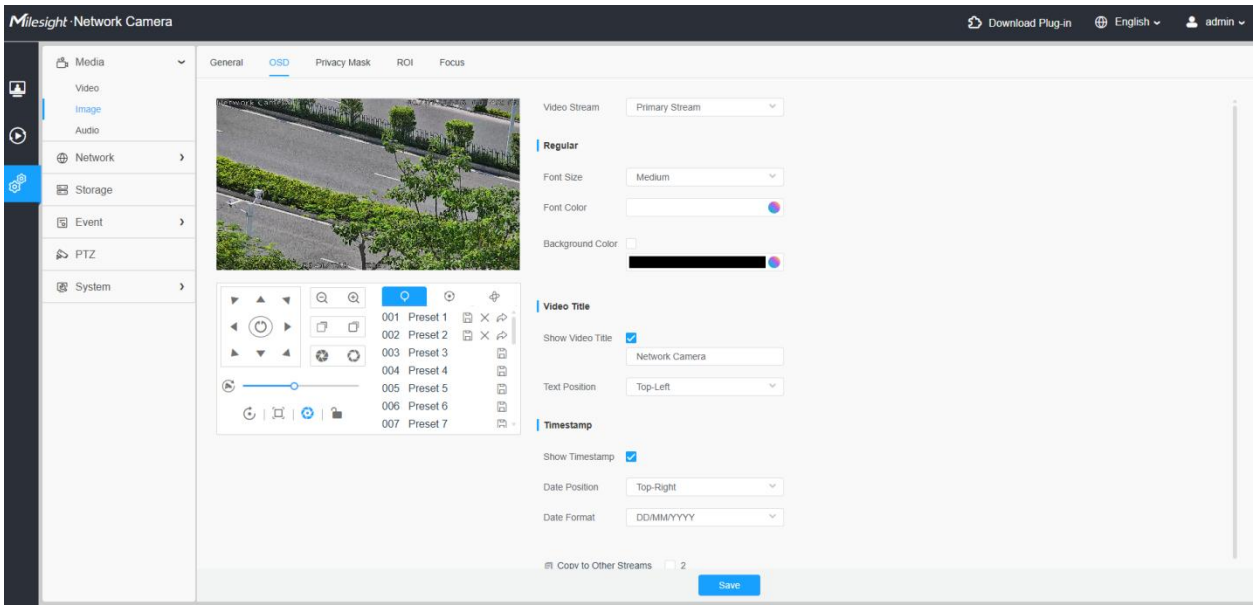


Table 18. Description of the buttons

Parameters	Function Introduction
Video Stream	Enable to set OSD for the primary stream, secondary stream, tertiary stream, and quaternary stream.
Font Size	Smallest/Small/Medium/Large/Largest/Auto are available for title and date.
Font Color	Enable to set different color for title and date.

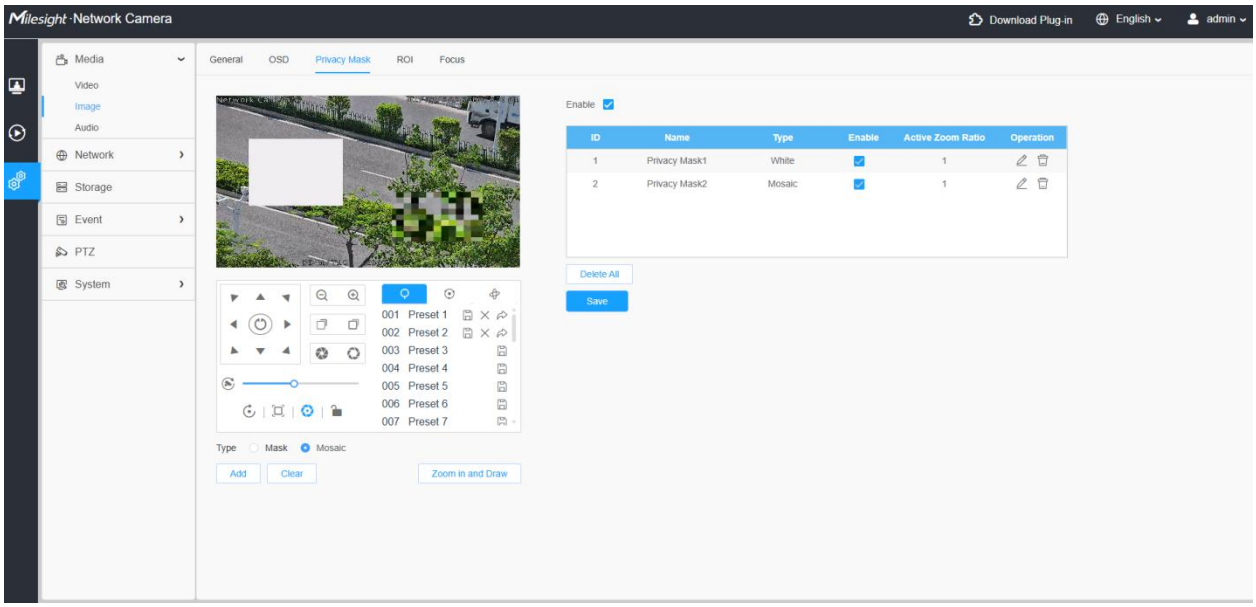
Background Color	Enable to set different colors for display information background on screen. You can set different colors for font and background of image, then the image OSD will show as below: 

Parameters	Function Introduction
Show Video Title	Check the check box to show video title.
Video Title	Customize the OSD content to be displayed as the video title.
Text Position	OSD display position on the image.
Show Timestamp	Check the checkbox to display date on the image.
Date Position	Date display position on the image.
Date Format	The format of date.
Show Power Consumption	When enabled, real-time device power value will be overlaid on the video via OSD.
Show Position	Power Consumption display position on the image.
Copy to Other Streams	Copy the settings to other streams.

8.1.2.3 Privacy Mask

Privacy mask enables to cover certain areas on the live video to prevent certain spots in the surveillance area from being viewed and recorded.

[Privacy Mask]



You can select the color to use for the cover certain areas on the live video.

Table 19. Description of the buttons

Parameters	Function Introduction	
Enable	Check the check box to enable the Privacy Mask function.	
Type	Select the type to use for the privacy areas, there are two types available: Mask and Mosaic. Select the color to use for the privacy areas, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red and Purple. When the privacy type is set to Mask, you can select a color for the privacy areas, eight colors are available: White, Black, Blue, Yellow, Green, Brown, Red and Purple. The Mosaic type is also available as an alternative privacy option.	
Add	Draw a privacy area on the live video as needed.	
Zoom in and Draw	By clicking the **'Zoom in and Draw'** button, you can activate a full-screen pop-up window to draw more accurate detection areas.	
Operation	/	Enable/disable the selected ROI areas.
Operation		Change the color of Mask area, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red and Purple
		Delete the privacy mask area
Clear	Clear the area you drew on the live video.	

Parameters	Function Introduction
Delete All	Clear all areas you drew before.

8.1.2.4 ROI

Region of interest (ROI) is a selected subset of samples within a dataset identified for a particular purpose. Users can select up to 8 key regions of a scene to transmit through separate streams for targeted preview and recording.

By using Milesight ROI technology, more than 50% of bit rate can be saved and therefore less bandwidth demanded and the storage usage reduced. So according to this, you can set a small bit rate for high resolution.

Note: For more details about how to set ROI, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000643441.

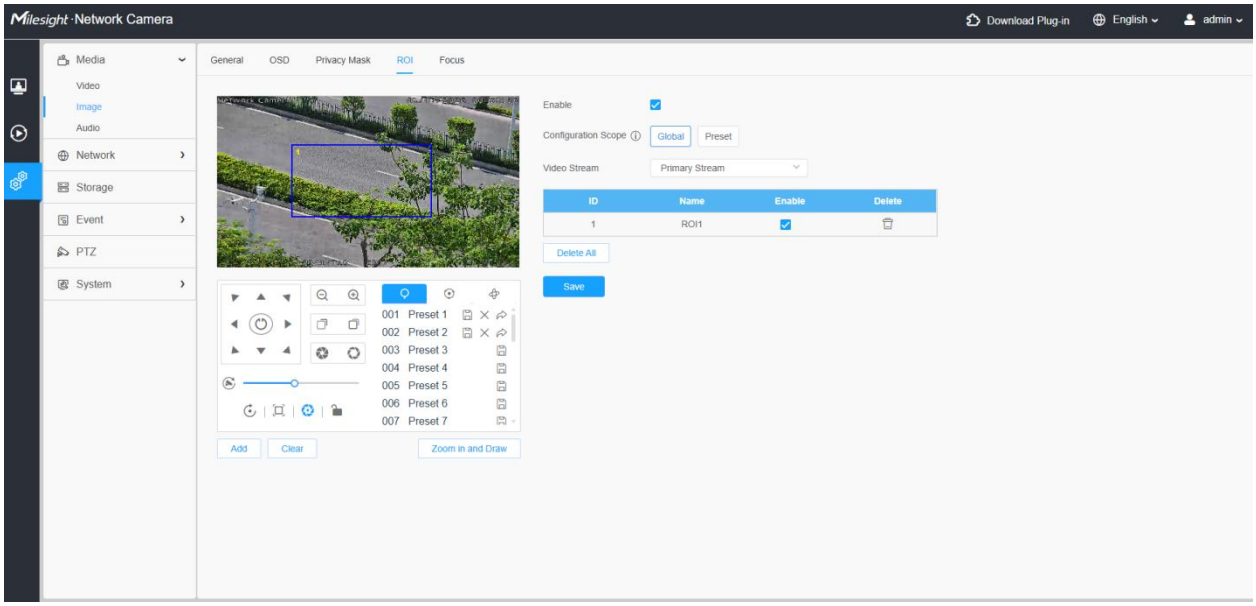


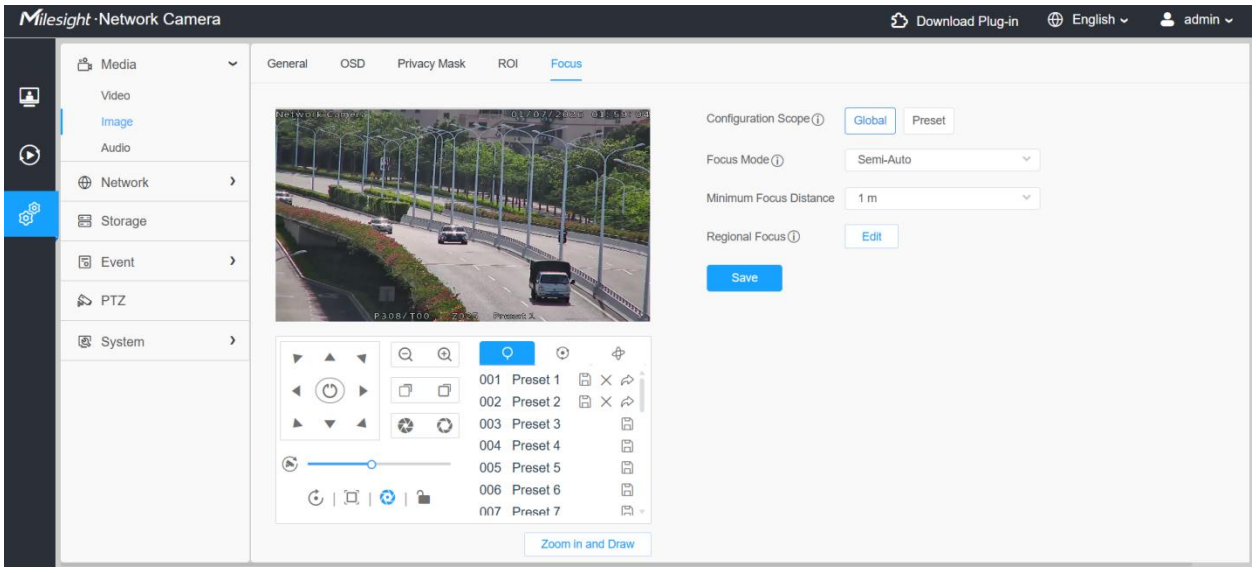
Table 20. Description of the buttons

Parameters	Function Introduction
Enable	Check the checkbox to enable the ROI function.
Configuration Scope	The Configuration Scope allows you to configure ROI settings at either a Global level or per Preset level.  Select between Global and Preset modes:

	Global: The default configuration applies to all positions. **Preset:** Allows independent ROI settings for each Preset position. **Note:** If a Preset has custom ROI settings, it takes priority; otherwise, Global settings apply. **Preset Profile:** When Configuration Scope is set to Preset, you can manage Preset Profiles: - Add: Click Add to select a Preset from the list and create a profile for it. Up to 8 Preset Profiles are supported. - Delete: Select a profile and click Delete to remove it. - Delete All: Click to remove all Preset Profiles.	
Video Stream	Choose the video stream. **Primary Stream** and **Secondary Stream** are supported.	
ROI	/	Enable/disable the selected ROI areas.
		Delete the selected ROI areas.
Add	Drew a ROI area on the live video as needed.	
Clear	Clear the area you drew on the live video.	
Zoom in and Draw	By clicking the **'Zoom in and Draw'** button, you can activate a full-screen pop-up window to draw more accurate detection areas.	
Delete All	Clear all areas you drew before.	

8.1.2.5 Focus

Focus settings allow you to configure the focus mode and focus region for the camera. This module supports independent focus configuration at both Global level and per Preset level.



[Configuration Scope]

The Configuration Scope allows you to configure focus settings at either a Global level or per Preset level.

Table 21. Description of Focus Configuration Scope

Parameters	Function Introduction
Configuration Scope	Select between Global and Preset modes: - Global: The default focus configuration applies to all positions. - Preset: Allows independent focus settings for each Preset position. ***Note:***If a Preset has custom focus settings, it takes priority; otherwise, Global settings apply.
Preset Profile	When Configuration Scope is set to Preset, you can manage Preset Profiles: - Add: Click Add to select a Preset from the list and create a focus profile for it. Up to 8 Preset Profiles are supported. - Delete: Select a profile and click Delete to remove it. - Delete All: Click to remove all Preset Profiles.

[Focus Settings]

Table 22. Description of Focus Settings

<table>
<tr><th>Parameters</th><th colspan="4">Function Introduction</th></tr>
<tr><td rowspan="5">Focus Mode</td><td colspan="4">Three focus modes are available:</td></tr>
<tr><td>Function</td><td>Auto Mode</td><td>Semi-Auto Mode</td><td>Manual Mode</td></tr>
<tr><td>Focus + / Focus -</td><td>✗</td><td>✓</td><td>✓</td></tr>
<tr><td>PTZ-triggered Focus</td><td>✓</td><td>✓</td><td>✗</td></tr>
<tr><td>Manual-triggered Focus</td><td>✓</td><td>✓</td><td>✗</td></tr>
<tr><td></td><td>Auto-triggered Focus</td><td>✓</td><td>✗</td><td>✗</td></tr>
<tr><td>Minimum Focus Distance</td><td colspan="4">Set the minimum focus distance to adjust the step length of each focus. Available options: 1 meter, 1.5 meters, 3 meters, 6 meters, 10 meters and 20 meters. The default minimum focus distance is 1 meter.</td></tr>
<tr><td>Regional Focus</td><td colspan="4">Configure a specific focus region on the video:
- Click "Edit" to enter the editing mode. The video will display a default full-area selection (8x8 grid, 64 rectangular cells).
- Draw a rectangle area on the video to set the focus region. The camera will focus according to the selected area.
- Click "Finish" to save the focus region configuration.
Note:When Focus Mode is set to Semi-Auto or Auto, Regional Focus is available.</td></tr>
<tr><td>Zoom in and Draw</td><td colspan="4">Click to activate a full-screen pop-up window for more accurate focus region drawing.</td></tr>
</table>

8.1.3 Audio

8.1.3.1 Audio

This audio function allows you to hear the sound from the camera or transmit your sound to the camera side. A two-way communication is also possible to be achieved with this feature. Alarm can be triggered when the audio input is above a certain alarm level you set, and

configured audio can be played when an alarm occurs.

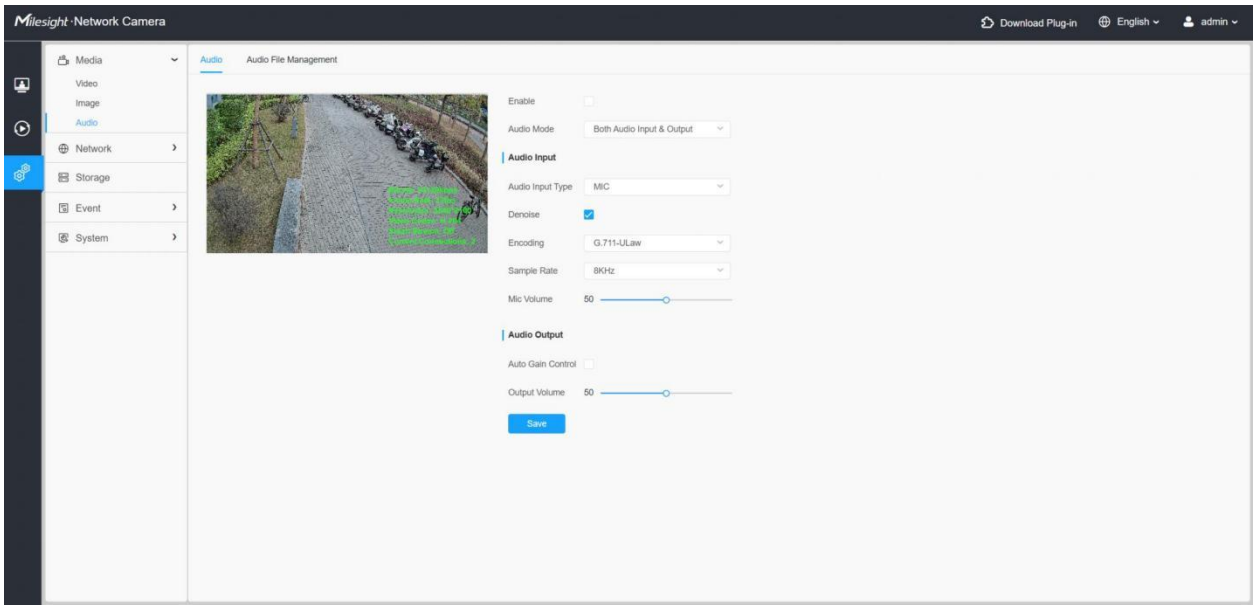
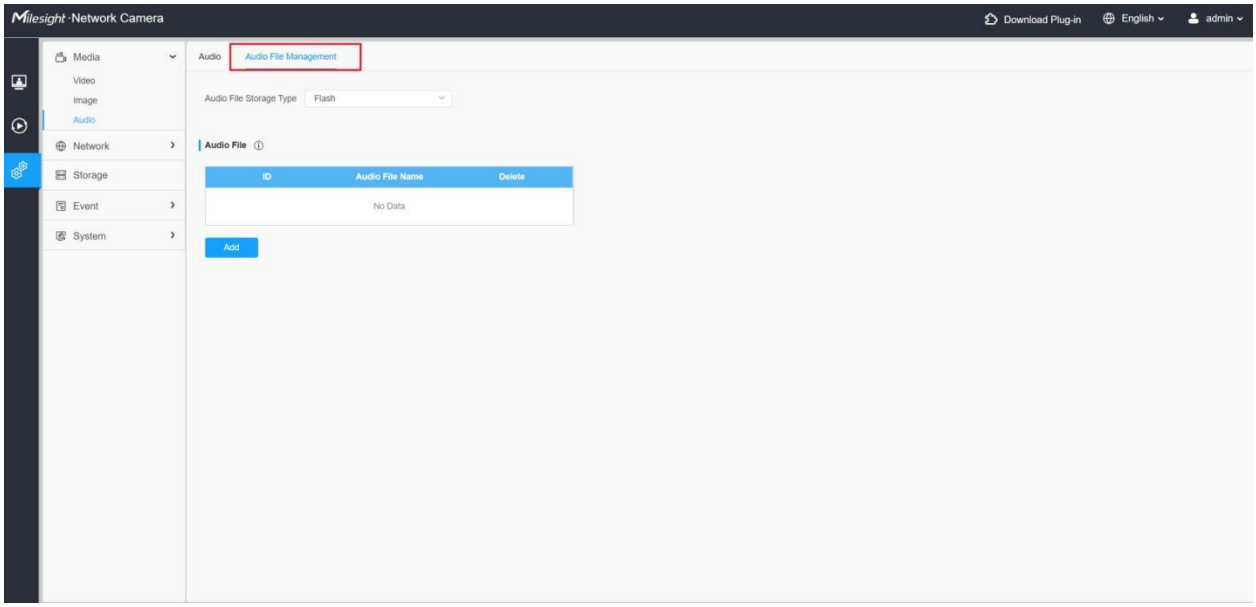


Table 23. Description of the buttons

Parameters	Function Introduction
Enable	Check on the checkbox to enable audio feature.
Audio Mode	**Audio Input/Audio Output/Both Audio Input & Output** are optional.
Audio Input	**Audio Input Type:** Mic is available only for models equipped with microphone. Line In is available only for models equipped with an audio input cable. **Denoise:** Check the check-box to enable this function, After enabling it, the noise detected can be filtered. **Encoding:** G.711-ULaw, G.711-ALaw, AAC LC, G.722 and G.726 are available. **Sample Rate:** 8KHz, 16KHz, 32KHz, 44.1KHz, and 48KHz are available. **Audio Bit Rate:** The function is available only for AAC LC, and supports up to 48kbps. **Mic Volume/Input Volume:** Input audio volume level: 0-100.
Audio Output	**Auto Gain Control:** This function is only for H.265 series, improve the quality of audio. **Output Volume:** Adjust the output volume when the alarm is triggered, 0-100.

8.1.3.2 Auto File Management

You can upload up to 5 audio files manually to Flash or SD Card on the Audio web page and you can also edit the audio file's name when upload.



Note:

- Only support '.wav' audio files with codec type PCM/PCMU/PCMA, 64kbps or 128kbps bitrate and no more than 500k.

8.2 Network

8.2.1 Basic

8.2.1.1 TCP/IP

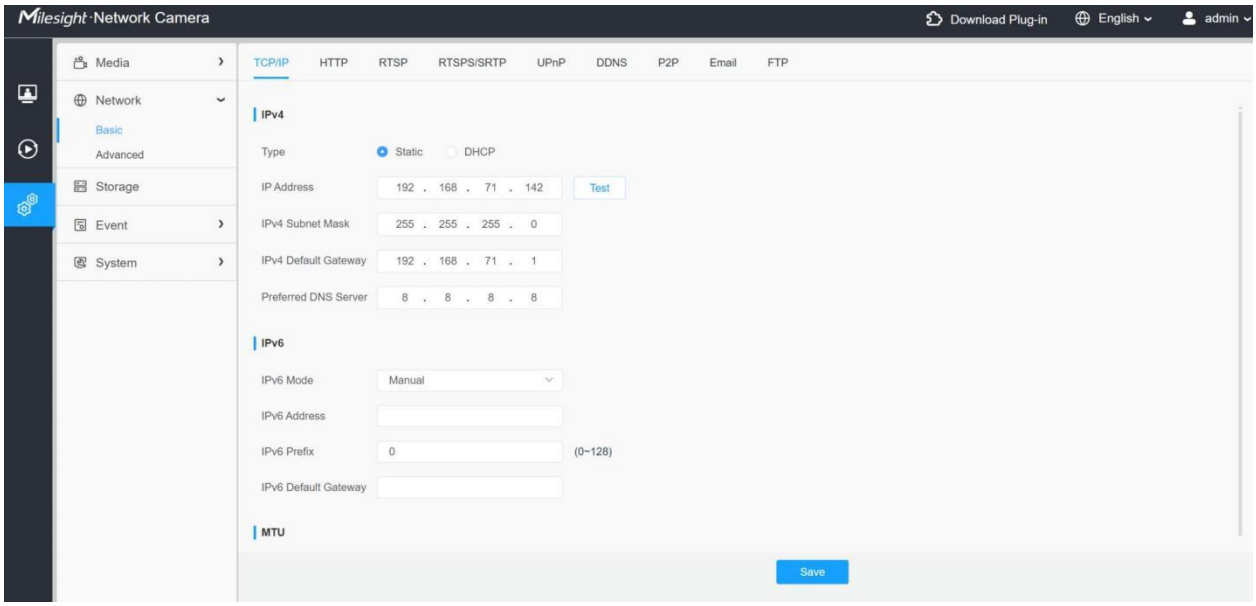


Table 24. Description of the buttons

Parameters	Function Introduction
IPv4	**Type:** You can choose between **Static** and **DHCP** types to obtain the IPv4 address. • **DHCP**: The camera automatically obtains an IP address from the DHCP server . • **Static**: Allows you to manually assign a fixed IP address to the camera. **IPv4 Address:** An address that used to identify a network camera on the network. **Note:** The **Test** button is used to test if the IP is conflicting. **IPv4 Subnet Mask:** It is used to identify the subnet where the network camera is located. **IPv4 Default Gateway:** The default router address. **Preferred DNS Server:** The DNS Server translates the domain name to IP address.
IPv6	**IPv6 Mode:** Choose different modes for IPv6: Manual/Route Advertisement/ DHCPv6. **IPv6 Address:** IPv6 Address used to identify a network camera on the network. **IPv6 Prefix:** Define the prefix length of IPv6 address: 0 to 128. **IPv6 Default Gateway:** The default router IPv6 address.
MTU	Maximum Transmission Unit. Enter a value from 1200 to 1500 as needed. The default value is 1500.
Save	Save the configurations.

8.2.1.2 HTTP

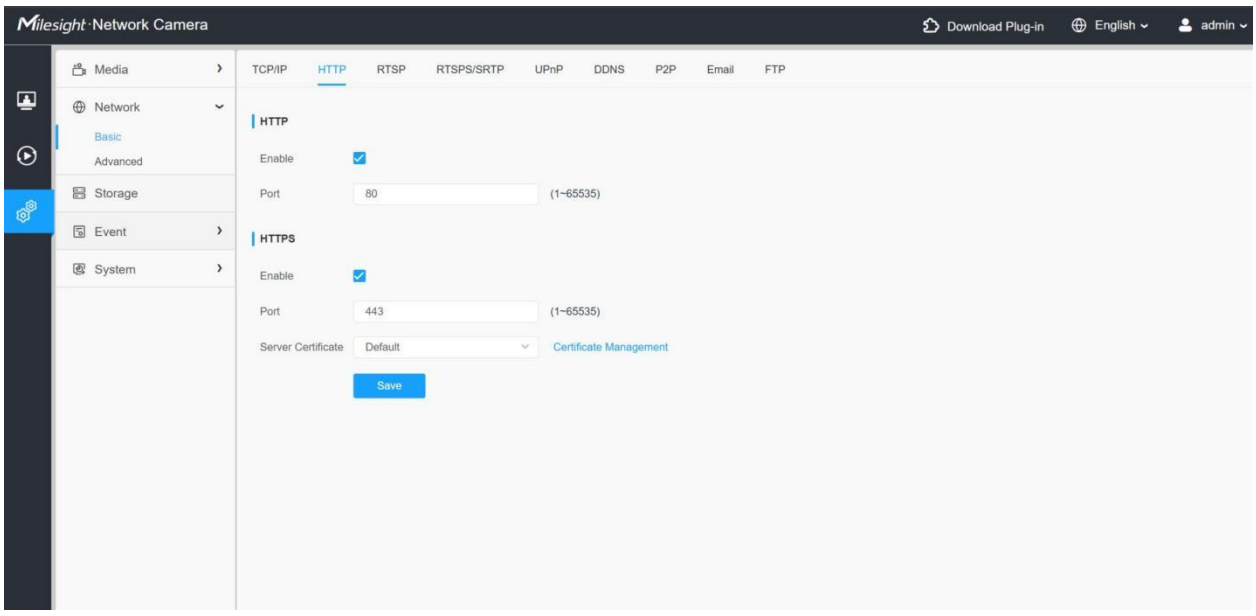


Table 25. Description of the buttons

Parameters	Function Introduction
HTTP	**Enable:** Start or stop using HTTP. **Port:** Enter a Web GUI login port from 1 to 65535. The default is 80, same with ONVIF port.
HTTPs	**Enable:** Start or stop using HTTPs. **Port:** Enter a Web GUI login port via HTTPS from 1 to 65535. The default is 443. **Note:** For more details about how to enable HTTPS access, see https:// milesight.freshdesk.com/a/solutions/articles/69000797384.
Server Certificate	You can select the certificates created in **Certificate Management**.
Save	Save the configurations.

Table 26. HTTP URL are as below:

Stream	URL
Main Stream	https://username:password@IP:port/ipcam/mjpeg.cgi
Secondary Stream	https://username:password@IP:port/ipcam/mjpegcif.cgi
Tertiary Stream	https://username:password@IP:port/ipcam/mjpegthird.cgi

8.2.1.3 RTSP

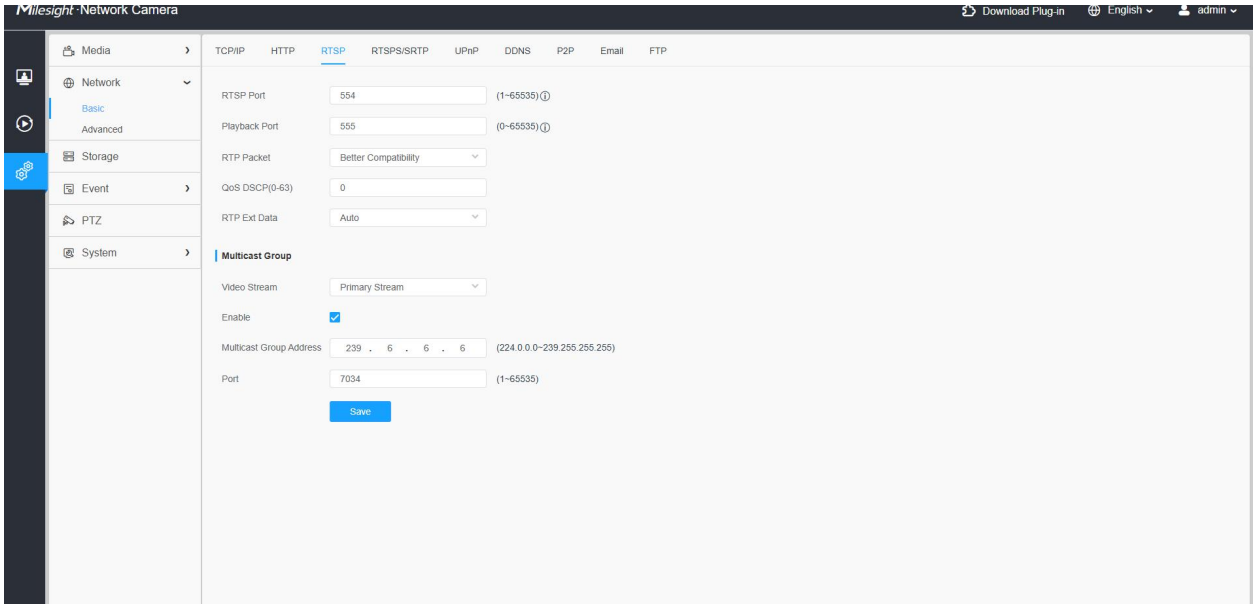


Table 27. Description of the buttons

Parameters	Function Introduction	
RTSP Port	The port of RTSP (1~65535), the default is 554.	
Playback Port	Playback Port The port of playback (0~65535), the default is 555. **Note:** Port 0 means closing playback function.	
RTP Packet	There are Better Compatibility and Better Performance two options, if your camera's image mess up, please switch this option.	
QoS DSCP	The valid value range of the DSCP is 0-63.	
RTP Ext Data	There are three selectable options: Auto (default), Off, and On. **Auto:** By default, extended data push is disabled. When the RTP client is identified as an Milesight NVR or a third-party platform added via P2P connection, RTP Ext Data push will be automatically enabled. **Off:** Extended data push is disabled for all RTP clients, regardless of the connection method. **On:** Extended data push is enabled after an Milesight protocol request.	
Multicast Group	**Video Stream**	Primary Stream, Secondary Stream, Tertiary Stream, and Quaternary Stream are optional.
	Enable	Enable or disable the Multicast Group.
Multicast Group	**Multicast Group Address**	Support multicast function.
Multicast Group	**Port**	The port of multicast group, the default is 7034. The valid value range of the port is 1-65535.

Save	Save the configurations.

Table 28. RTSP URL are as below:

Stream	URL
Primary Stream:	rtsp://IP:RTSP Port/main
Secondary Stream	rtsp://IP:RTSP Port/sub
Tertiary Stream	rtsp://IP:RTSP Port/third
Quaternary Stream	rtsp://IP:RTSP Port/fourth

Note:

- DSCP refers to the Differentiated Service Code Point; and the DSCP value is used in the IP header to indicate the priority of the data.
- A reboot is required for the settings to take effect.

8.2.1.4 RTSPS/SPTP

RTSP is a standard real-time streaming protocol for local/LAN and third-party video transmission, while SPTP is a smart P2P protocol for convenient remote monitoring of intranet cameras.

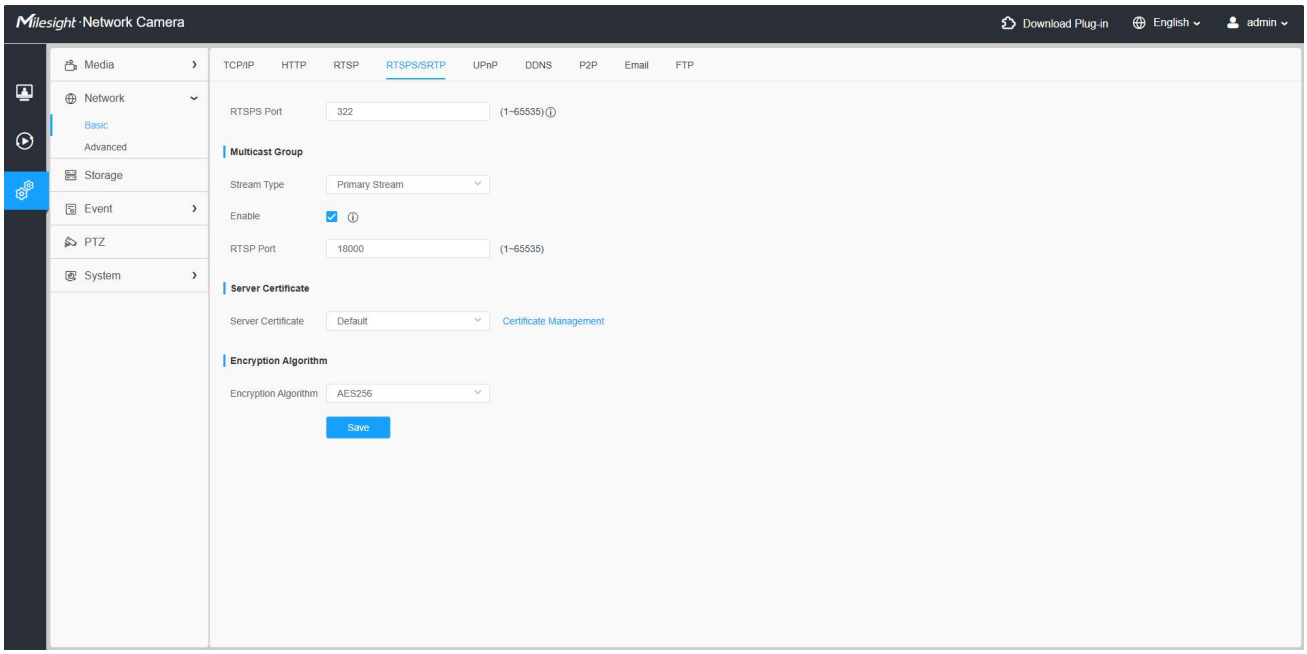


Table 29. Parameter Description

Parameter	Description
RTSPS Port	Enter the RTSPS port from **1-65535**.

Stream Type	Primary Stream, Secondary Stream, Tertiary Stream, and Quaternary Stream are optional.
Enable	Enable or disable the Multicast Group.
Port	The port of multicast group, the default is **5600**. The valid value range of the port is **1-65535**.
Server Certificate	You can select the certificates created in **Certificate Management**.
Encryption Algorithm	Select an encryption algorithm. **AES128** and **AES256** are available.
Save	Save the configurations.

8.2.1.5 UPnP

Universal Plug and Play (UPnP) is a networking architecture that provides compatibility among networking equipment, software and other hardware devices. The UPnP protocol allows devices to connect seamlessly and to simplify the implementation of networks in the home and corporate environments. With the function enabled, you don't need to configure the port mapping for each port, and the camera is connected to the Wide Area Network via the router.

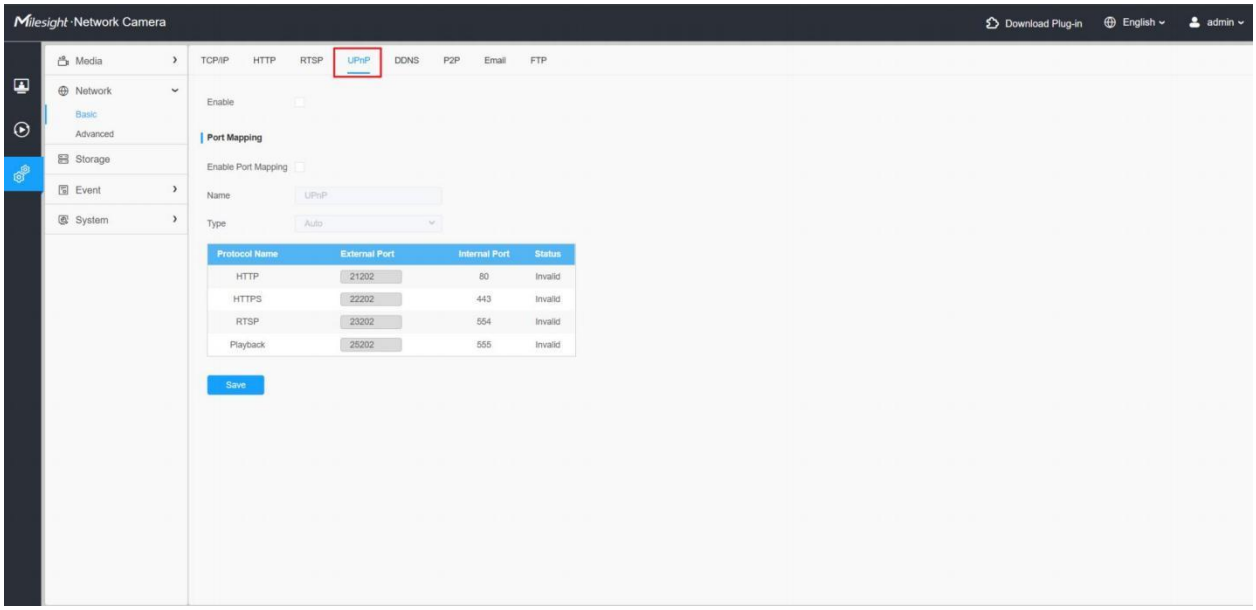


Table 30. Description of the buttons

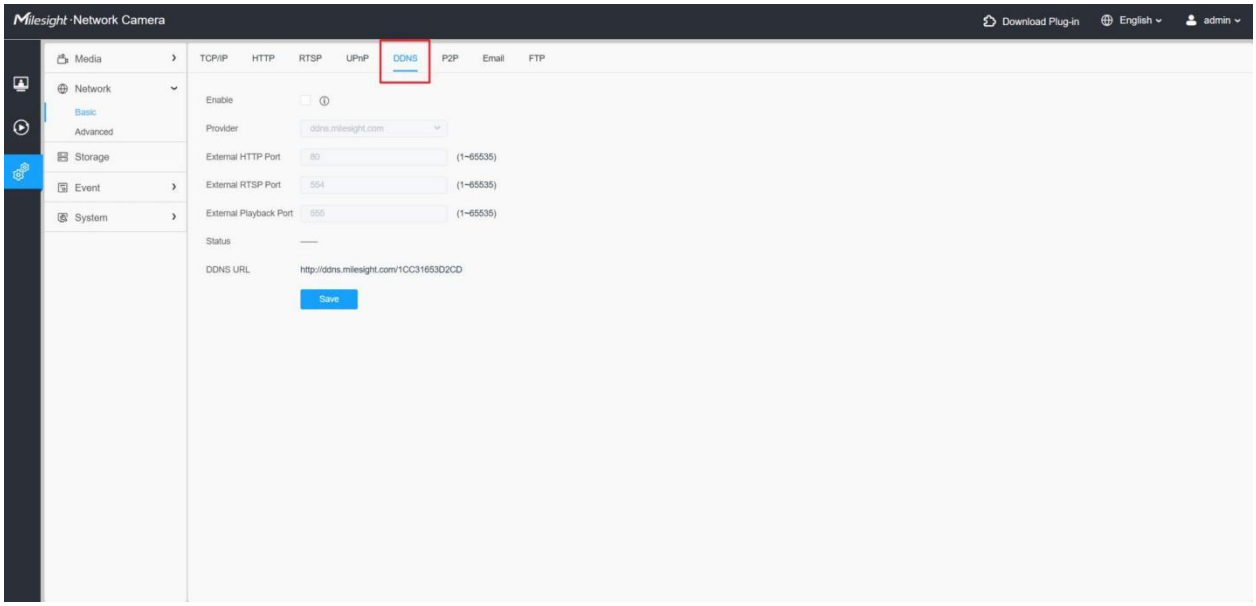
Parameters	Function Introduction
Enable	Check the checkbox to enable the UPnP function.
Enable Port Mapping	Check the checkbox to enable the Port Mapping
Name	The name of the device detected online, which can be edited.

Type	**Auto:** Automatically obtain the corresponding HTTP and RTSP port, without any settings **Manual:** Need to manually set the appropriate HTTP port and RTSP Port. When choose Manual, you can customize the value of the port number by yourself
Save	Save the configurations.

8.2.1.6 DDNS

DDNS allows you to access the camera via domain names instead of IP address. It manages to change IP address and update your domain information dynamically. You need to register an account from a provider.

Note: For more details about how to set DDNS, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000643406.



You can choose “ddns.milesight.com” as provider for DDNS. After enabling it, you can access the device via the URL “http://ddns.milesight.com/MAC address”.

Table 31. Description of the buttons

Parameters	Function Introduction
Enable DDNS	Check the checkbox to enable DDNS service. **Note:** Recommend to enable and configure UPnP ports which can be used directly in DDNS.

Provider	Get support from DDNS provider: ddns.milesight.com, freedns.afraid.org, dyndns.org, www.no-ip.com, www.zoneedit.com. When **ddns.milesight.com** is selected here, enter the following information: • **External HTTP Port**: Enter an external HTTP port from 1 to 65535. • **External RTSP Port**: Enter an external RTSP port from 1 to 65535. • **External Playback Port**: Enter an external playback port from 1 to 65535. • **DDNS URL**: DDNS URL, which is automatically formed. • **Status**: DDNS running status. When **freedns.afraid.org** is selected here, enter the following information: • **Hash**: A string used for verification. • **Host Name**: Account name from the DDNS provider. • **Status**: DDNS running status. When **dyndns.org** is selected here, enter the following information: • **Host IP**: Enter the host IP. • **User Name**: Enter the user name. • **Password**: Enter your password. • **Host Name**: Account name from the DDNS provider. • **Status**: DDNS running status. When **www.no-ip.com** or **www.zoneedit.com** are selected here, enter the following information: • **User Name**: Enter the user name. • **Password**: Enter your password. • **Host Name**: Account name from the DDNS provider. • **Status**: DDNS running status. You can also customize the provider for DDNS and enter the following information: • **DDNS URL**: Enter the DDNS URL manually. • **User Name**: Enter the user name. • **Password**: Enter your password. • **Status**: DDNS running status.
Save	Save the configurations.

Note:

- Before using Milesight DDNS, forward HTTP Port and RTSP Port first.
- Make sure that the internal and the external port number of RTSP are the same.

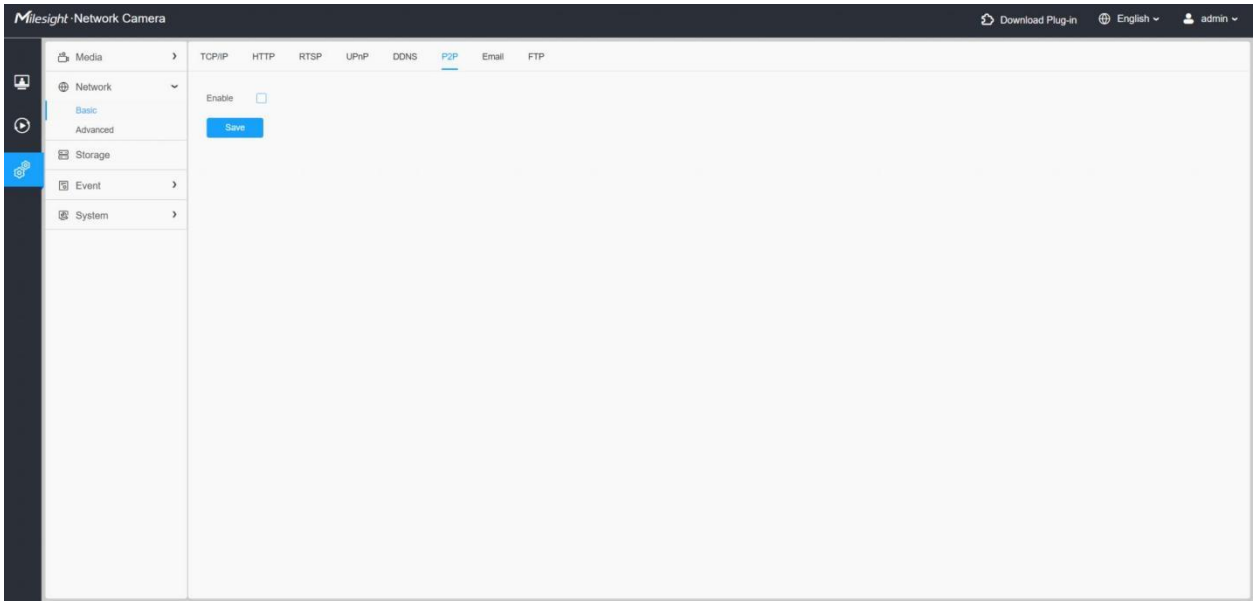
8.2.1.7 P2P

Peer-to-peer (P2P) protocols are network protocols that enable direct communication between nodes (peers) in a network, without requiring a central server or intermediary.

These protocols are fundamental in various applications, including file sharing, distributed computing, and decentralized networks. Milesight camera supports P2P protocol, you can enable it within the Network interface.

You can enable P2P simply by ticking the checkbox.

Note: Before using P2P, please reach out to our support team to activate the P2P feature on our cloud.



8.2.1.8 Email

Alarm video files can be sent to specific mail account through SMTP server. You must configure the email settings correctly before using it.

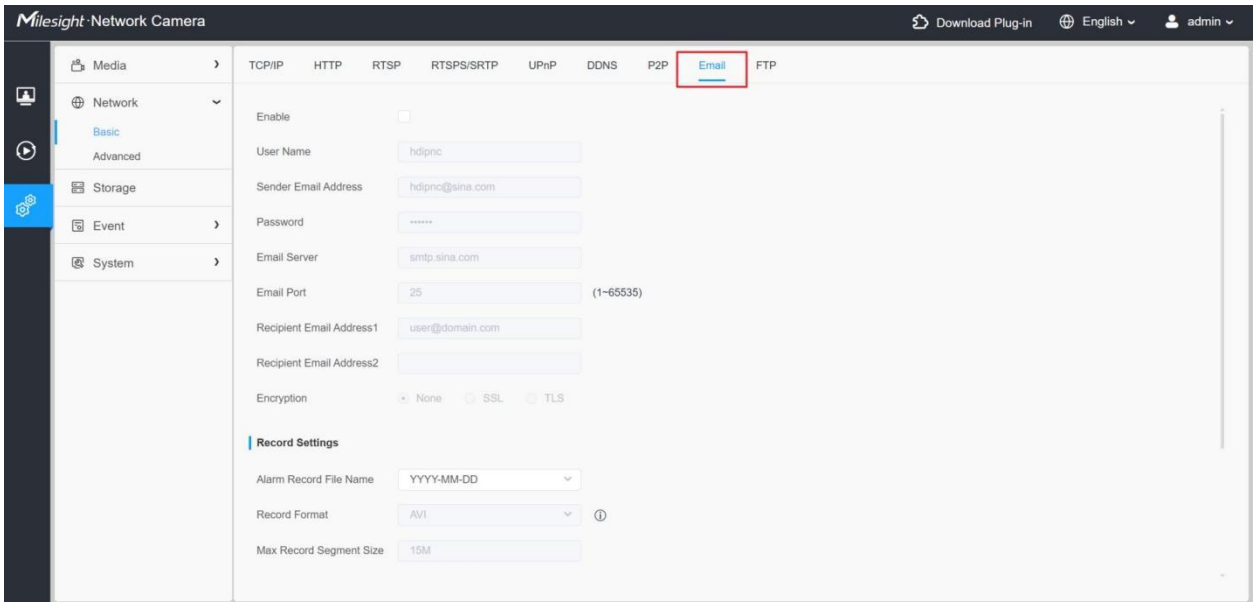


Table 32. Description of the buttons

Parameters	Function Introduction
Enable	Check the checkbox to enable Email function.
User Name	The sender's name. It is usually the same as the account name.

Sender Email Address	Email address to send video files attached emails.
Password	The password of the sender.
Email Server	The email server IP address or host name(e.g. smtp.gmail.com).
Email Port	The default TCP/IP port for SMTP is 25(not secured). For SSL/TLS port, it depends on the mail you use.
Recipient Email Address1	Email address to receive video files.
Recipient Email Address2	Email address to receive video files.
Encryption	Check the checkbox to enable SSL or TLS if it is required by the SMTP server. You can also select **None**.
Record Settings	**Alarm Record File Name:** Default(YYYY-MM-DD) /MM-DD-YYYY/ DD- MM-YYYY/ Add prefix/ Customize are available. **Record Format**: Selects the recording file format; MP4 and AVI are available. **Max Record Segment Size**: Limits the size of each recording file.
Snapshot Settings	**Alarm Snapshot File Name:** Default(YYYY-MM-DD) /MM-DD-YYYY/ DD- MM-YYYY/ Add prefix/ Customize are available. **Timing Snapshot File Name:** Default(YYYY-MM-DD) /MM-DD-YYYY/ DD- MM-YYYY/ Add prefix/ Customize are available.
Save	Save the configuration.
Test	Test whether the configurations are successful.

Note: You can refer to the following file name tip to customize the file name.

File Name Tip
&Device - Device Name
&Y - Year
&M - Month
&D - Day
&h - hour
&m - minute
&s - second
&ms - millisecond
&& - &

8.2.1.9 FTP

Alarm video files can be sent to specific FTP server. You must configure the FTP settings

correctly before using it.

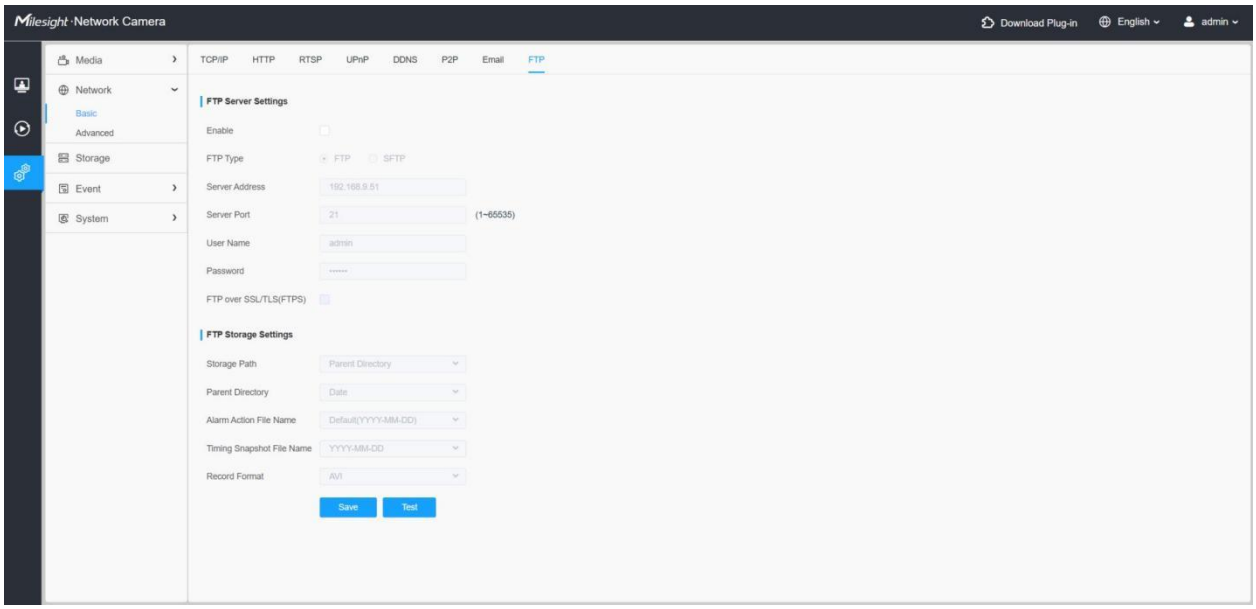


Table 33. Description of the buttons

Parameters		Function Introduction
FTP Server Settings	**Enable**	Check the checkbox to enable the FTP function.
	FTP Type	FTP and SFTP are optional.
	Server Address	FTP/SFTP server address.
	Server Port	The port of the FTP server. Generally it is 21. The port of the SFTP server. Generally it is 22.
	User Name	User name used to log in to the FTP/SFTP sever.
	Password	User password.
	FTP over SSL/ TLS(FTPS)	Check the checkbox to encrypt the data transmitted between the camera and the FTP server via the SSL/TLS protocol to ensure the security of file transfers.
FTP Storage Settings	**Storage Path**	Storage Path where video and image will be uploaded to the FTP server. Four FTP storage path types are available, including Root Directory, Parent Directory, Child Directory and Customize.
FTP Storage Settings	**Parent Directory**	Choose IP Address/ Device Name/ Date as the folder name of Parent Directory, or customize the folder name.

Parameters		Function Introduction
FTP Storage Settings	Multilevel Folder Name	If the storage path is more than two levels, enter Multilevel FTP storage path here manually.
	Child Directory	Choose IP Address/ Device Name/ Date as the folder name of Child Directory, or customize the folder name.
FTP Storage Settings	Alarm Action File Name	Choose the default (YYYY-MM-DD) or customize the alarm action file name.
	Timing Snapshot File Name	Default(YYYY-MM-DD) /MM-DD-YYYY/ DD-MM-YYYY/ Add prefix/ Overwrite with the base file name are available. You can also customize one.
	Record Format	AVI and MP4 are optional.
Save		Save the configurations.
Test		Test whether the configurations are successful.

Note:

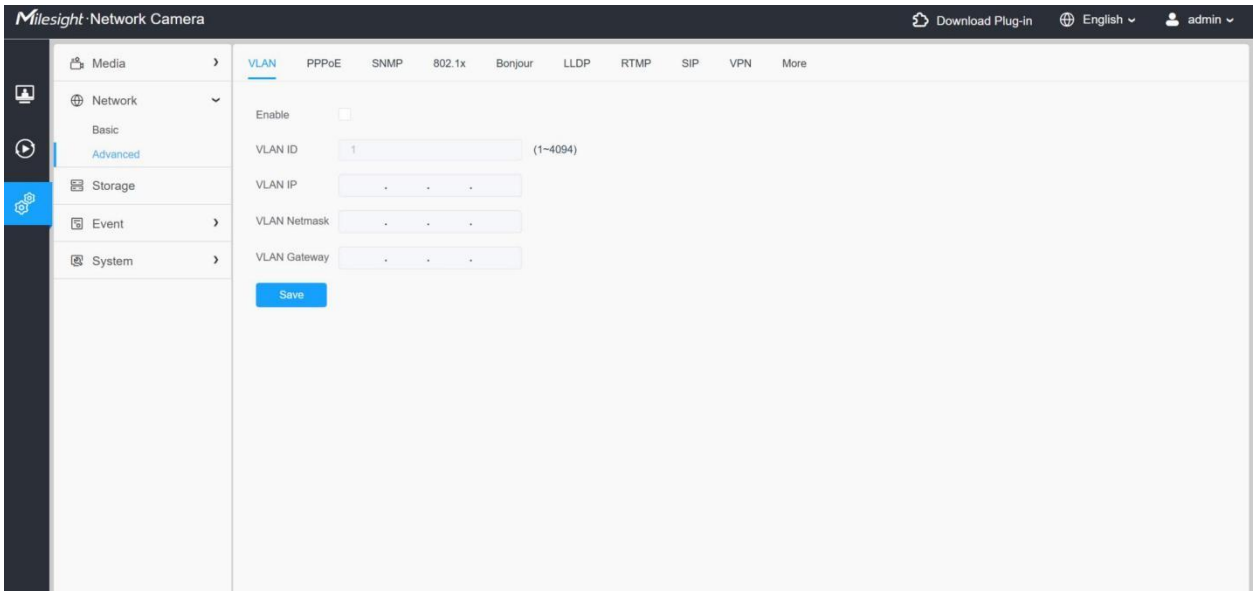
- Parent Directory will be under Root Directory, and Child Directory will be under Parent Directory.
- You can refer to the following file name tip to customize the file name.

8.2.2 Advanced

8.2.2.1 VLAN

A virtual LAN (VLAN) is any broadcast domain that is partitioned and isolated in a computer network at the data link layer (OSI layer 2). LAN is an abbreviation of local area network.

VLANs allow network administrators to group hosts together even if the hosts are not on the same network switch. This can greatly simplify network design and deployment, because VLAN membership can be configured through software. Without VLANs, grouping hosts according to their resource needs necessitates the labour of relocating nodes or rewiring data links.



Note: About how to set up VLAN in switches, please refer to your switches user manual.

8.2.2.2 PPPoE

This camera supports the PPPoE auto dial-up function. The camera gets a public IP address by ADSL dial-up after the camera is connected to a modem. You need to configure the PPPoE parameters of the network camera.

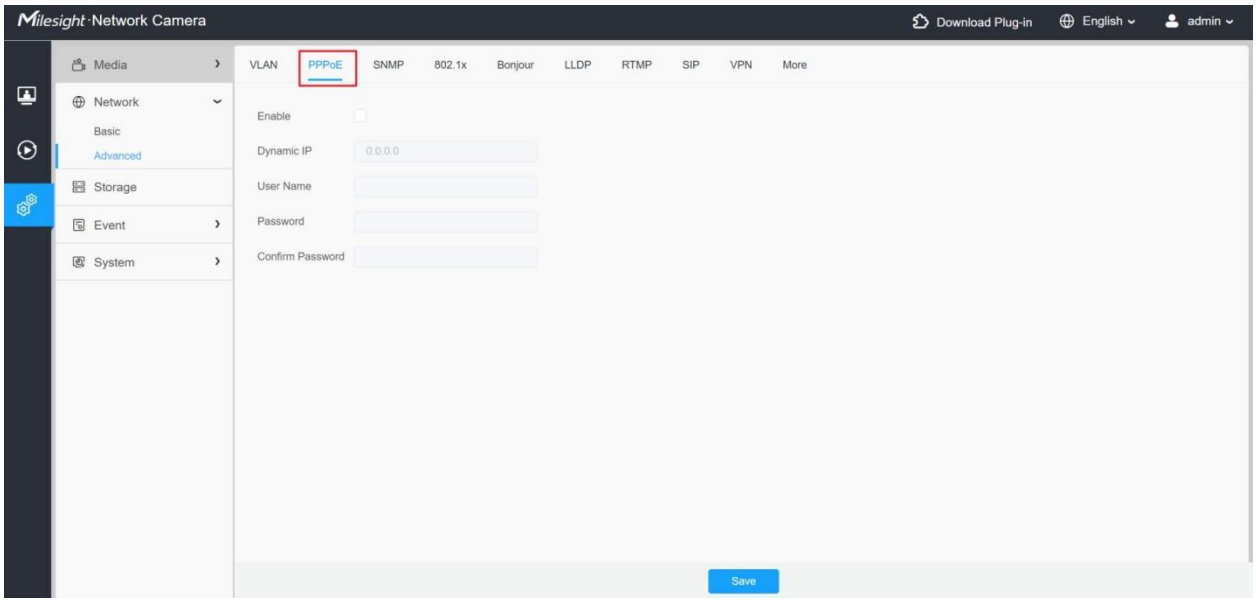


Table 34. Parameter Description

Parameter	Function Introduction
Enable	Check the checkbox to enable this function.
Dynamic IP	Enter a dynamic IP address. It is fixed and default.

User Name	Enter a user-name.
Password	Enter a password.
Confirm Password	Confirm the password.
Save	Click it to save the configurations.

Note:

- The obtained IP address is dynamically assigned via PPPoE, so the IP address always changes after rebooting the camera. To solve the inconvenience of the dynamic IP, you need to get a domain name from the DDNS provider (e.g. DynDns.com).
- The user-name and password should be assigned by your ISP.

8.2.2.3 SNMP

You can set the SNMP function to get camera status, parameters and alarm related information and manage the camera remotely when it is connected to the network.

Before setting the SNMP, please download the SNMP software and manage to receive the camera information via SNMP port. By setting the Trap Address, the camera can send the alarm event and exception messages to the surveillance center.

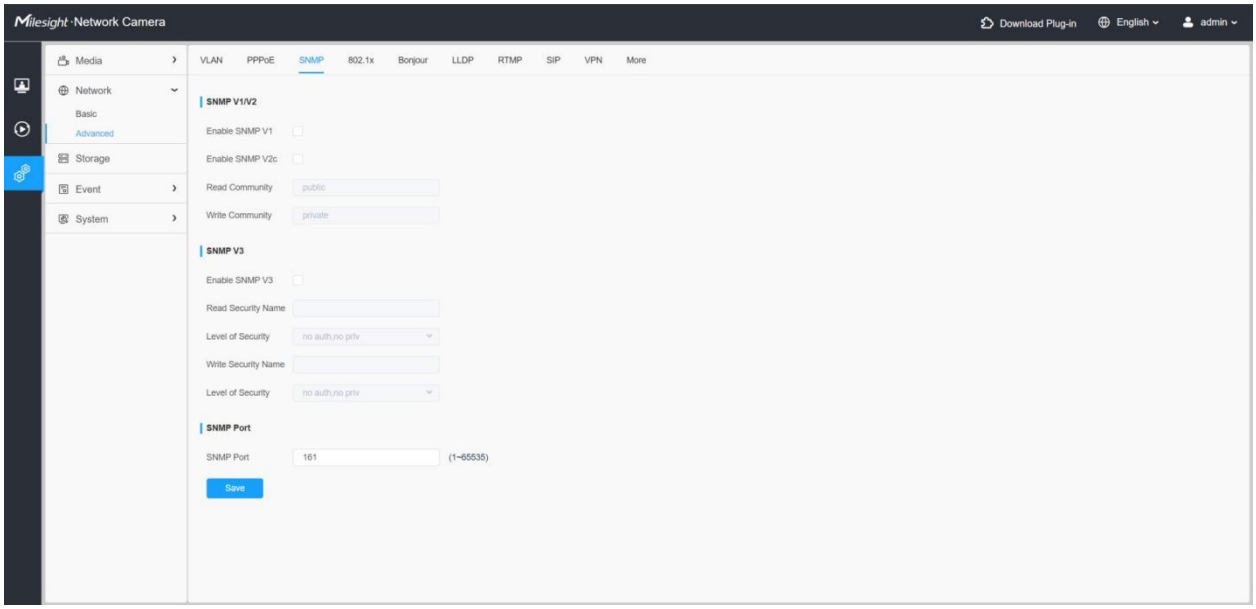


Table 35. Description of the buttons

Parameters	Function Introduction

SNMP v1/v2	The version of SNMP, please select the version of your SNMP software. **Enable SNMP v1:** Provide no security. **Enable SNMP v2:** Require password for access. **Write Community:** Input the name of Write Community. **Read Community:** Input the name of Read Community
SNMP v3	**Enable SNMP v3:** Provide encryption and the HTTPS protocol must be enabled. **Read Security Name:** Input the name of Read Security Community. **Level of Security:** There are three levels available: (auth, priv), (auth, no priv) and (no auth, no priv). **Write Security Name:** Input the name of Write Security Community. **Level of Security:** There are three levels available: (auth, priv), (auth, no priv) and (no auth, no priv).
SNMP Port	Enter a port of SNMP from 1 to 65535. The default value is 161.
Save	Save the configurations.

Note:

- The SNMP software settings must match the configurations you set here.
- A reboot is required for the settings to take effect.

8.2.2.4 802.1x

The IEEE 802.1X standard is supported by the network cameras, and when the feature is enabled, the camera data is secured and user authentication is needed when connecting the camera to the network protected by the IEEE 802.1X.

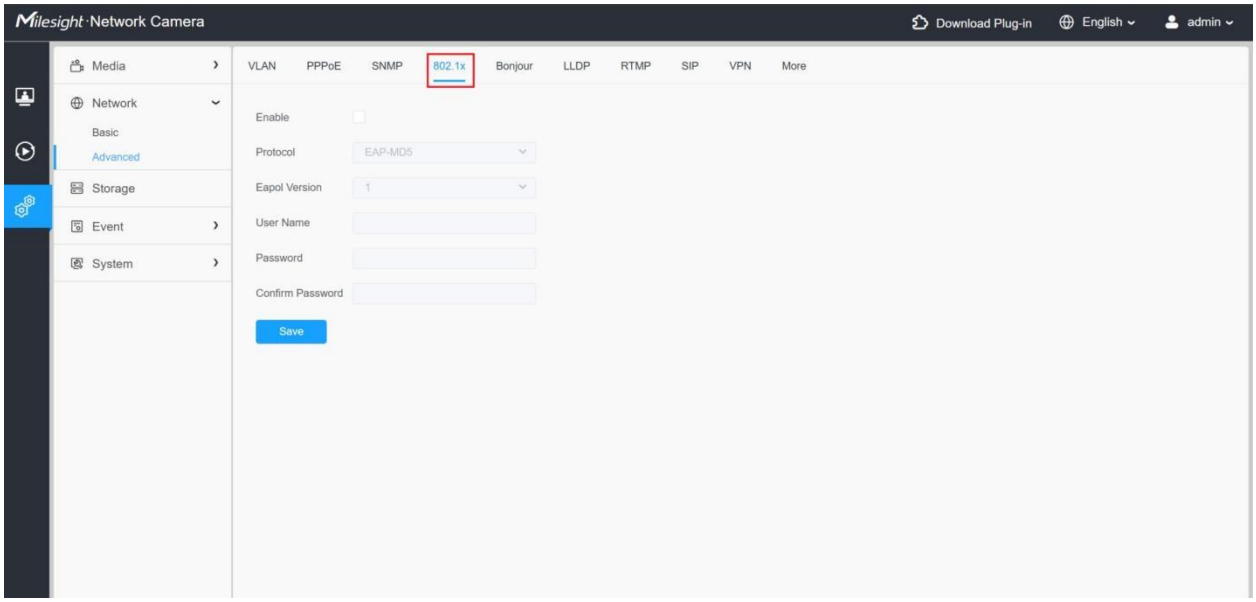


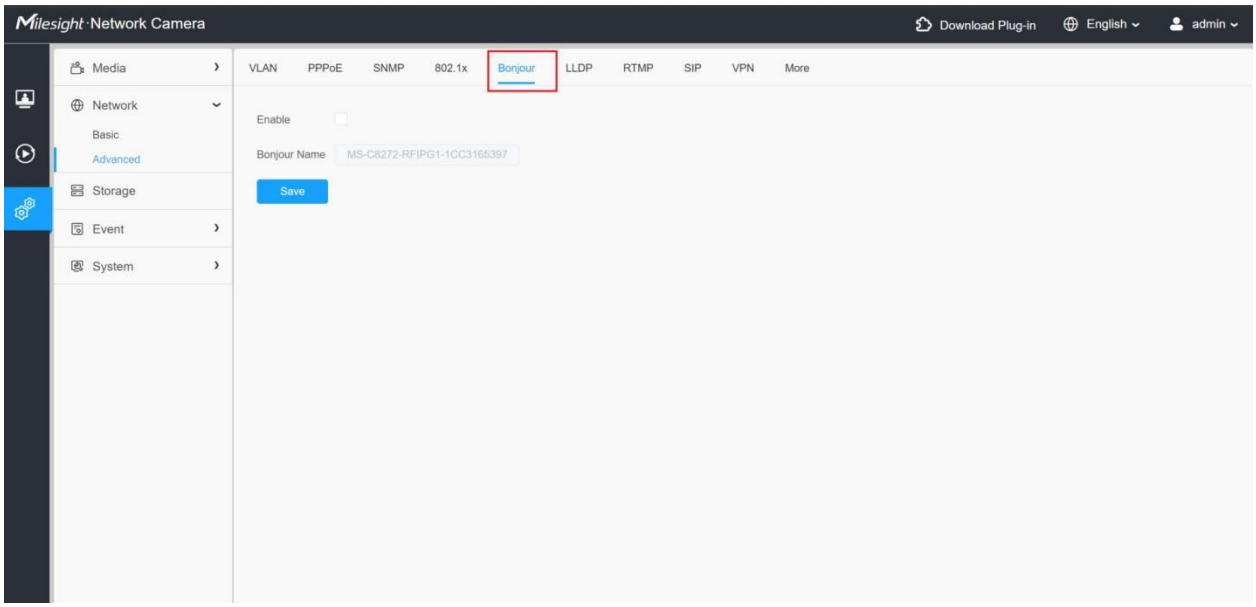
Table 36. Description the Buttons

Parameters		Function Introduction
Enable		Start or stop using 802.1x certification.
Protocol		Choose the protocol, **EAP-MD5** and **EAP-TLS** are available.
EAP-MD5	**Eapol Version**	This version number helps ensure compatibility between devices implementing different versions of the EAPOL protocol. Version 1 and version 2 can be chosen.
	User Name	EAP-MD5 encryption account name.
	Password	EAP-MD5 encryption account password.
	Confirm Password	Re-enter the EAP-MD5 encryption account password.
EAP-TLS	**Identify**	EAP-TLS encryption account name. **Note:** Please insert letters/digits/space/other standard characters,and make sure the amount of identify not more than 32.
EAP-TLS	**Eapol Version**	Version 1 and version 2 can be chosen.
EAP-TLS	**Client Certificate**	Upload and set the client certificate.
EAP-TLS	**Private Key**	The key certificate in the client certificate.
EAP-TLS	**Private-key Password**	Enter the password of the client certificate **Note:** Please insert letters/digits/other standard characters, and make sure the amount of password not more than 32.
EAP-TLS	**CA Certificate**	Upload and set the CA certificate.

8.2.2.5 Bonjour

Bonjour is based on Apple's multicast DNS service. Bonjour devices can automatically broadcast their service information and listen to the service information of other devices.

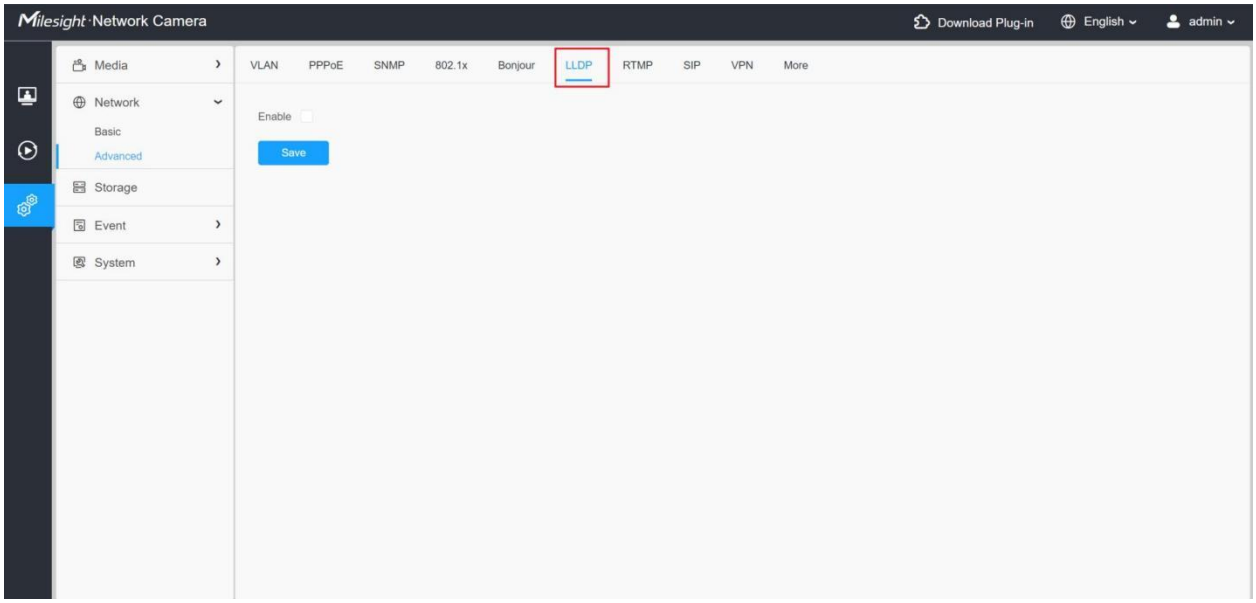
If you don't know the camera information, you can use the Bonjour service on the same LAN to search for network camera devices and then to access the devices.



8.2.2.6 LLDP

The Link Layer Discovery Protocol (LLDP) is a standardized network discovery protocol used by network devices to advertise their identity, capabilities, and neighbors on a local area network (LAN). It operates at the data link layer (Layer 2) of the OSI model. LLDP is defined by the IEEE 802.1AB standard. By using this protocol, devices can automatically discover and understand each other's presence and capabilities, which simplifies network management and configuration.

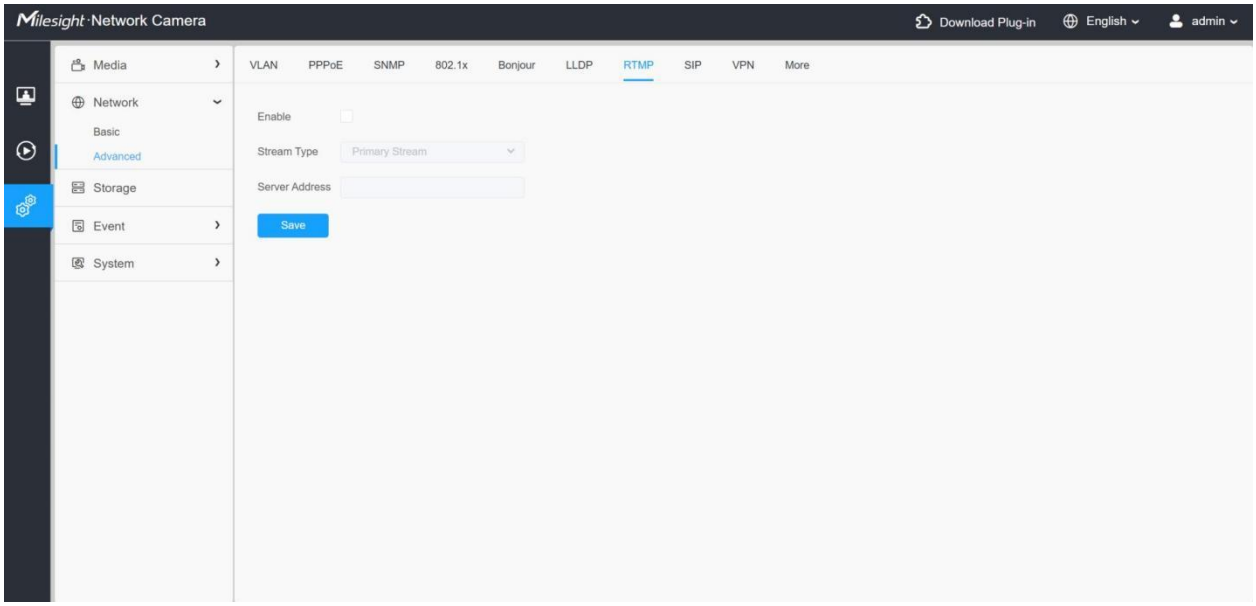
Once the LLDP protocol is enabled, you can obtain the camera's information on your switch that supports the LLDP protocol.



8.2.2.7 RTMP

Real-Time Messaging Protocol (RTMP) was initially a proprietary protocol for streaming audio, video and data over the Internet, between a Flash player and a server. RTMP is

a TCP-based protocol which maintains persistent connections and allows low-latency communication. It can realize the function of live broadcast so that customers can log in to the camera wherever there is a network.



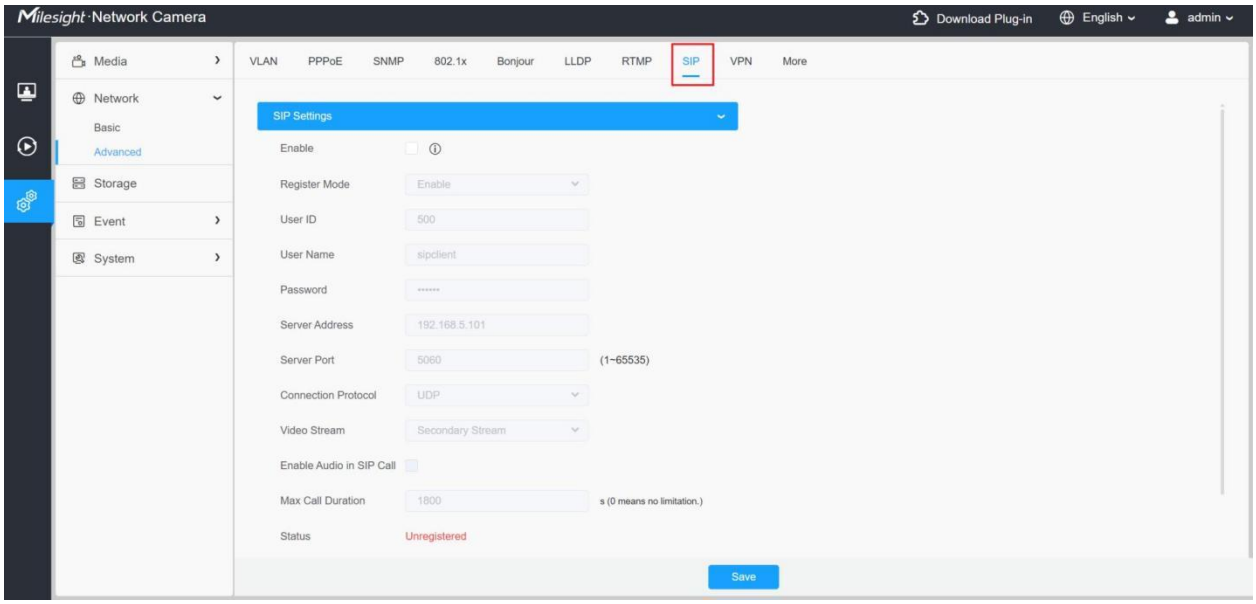
Note:

- For YouTube live broadcast, if you use a newly created account to live broadcast, you need to wait for 24hrs to activate the account for using live function.
- For RTMP, since G.711 is not available for YouTube, so you can only play video from Milesight Network Camera with H.264 video coding and AAC audio coding on YouTube.
- Server Address in Network Camera RTMP interface needs to be filled with the format: rtmp://< Server URL >/< Stream key >, remember it needs '/'to connect between < Server URL > and < Stream key >.
- For more details about how to use RTMP for live broadcast, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000643313.

8.2.2.8 SIP

The Session Initiation Protocol(SIP) is a signaling communications protocol, widely used for controlling multimedia communication sessions such as voice and video calls over Internet Protocol (IP) networks. This page allows user to configure SIP related parameters. Milesight Network cameras can be configured as SIP endpoint to call out when alarm triggered; or allow permitted number to call in to check the video if the video IP phone is used.

Note: For more details about how to use SIP, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000643391.



To use this function, the settings in SIP page must be configured properly. There are two ways to get video through SIP, one is to dial the IP address directly, the other is account registration mode. the details are as follows:

Method 1: IP Direct mode

Dial on the camera's IP address directly through SIP phone, so you can see the video.

Note: SIP phone and the camera should in the same network segment.

Method2: Account registration mode

- Before using the SIP, you need to register an account for the camera from the SIP server;
- Register another user account for the SIP device from the same SIP server;
- Call the camera User ID from the SIP device, you will get the video on the SIP device.

[SIP Settings]

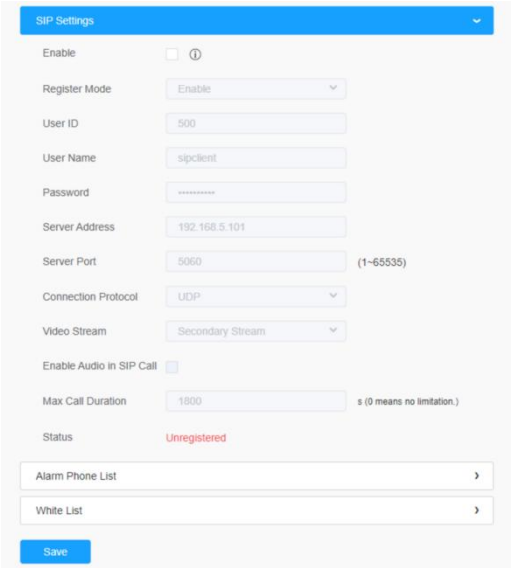


Table 37. Description of the buttons

Parameters	Function Introduction
Enable	Start or stop using SIP. **Note:** SIP supports Direct IP call.
Register Mode	Choose to use Enable mode or Disable mode. Enable mode means to use SIP with register account. Disable mode refers to use SIP without register account, just use the IP address to call.
User ID	SIP ID.
User Name	SIP account name.
Password	SIP account password.
Server Address	Server IP address.
Server Port	Server port.
Connection Protocol	UDP/TCP.
Video Stream	Choose the video stream.
Enable Audio in SIP Call	Enable/disable audio in SIP call.
Max Call Duration	The max call duration when use SIP.
Status	SIP registration status. Display “Unregistered” or “Registered” .

[Alarm Phone List]

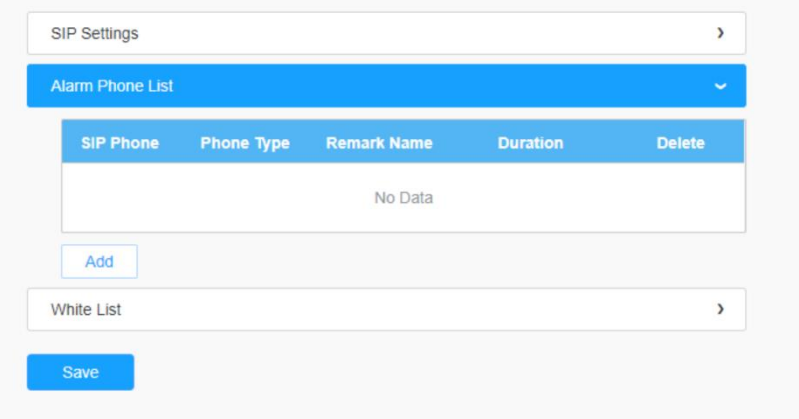


Table 38. Description of the buttons

Parameters	Function Introduction
Add	Add alarm phone to the camera. **Phone Type:** Phone Number(Call by phone number) & Direct IP Call(Check to accept peer to peer IP call). **To Phone Number/IP Address:** Call by phone number or IP address. **Remark Name:** Display name. **Duration:** The time schedule to use SIP.
	Delete the selected alarm phone.
Delete All	Delete all added alarm phone.

[White List]

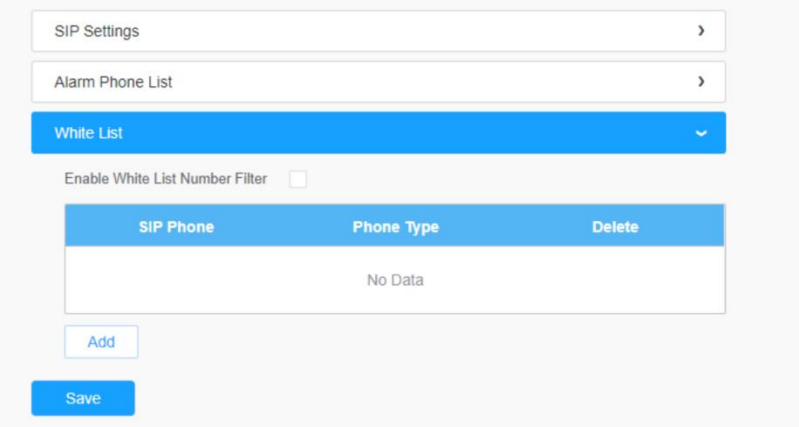


Table 39. Description of the buttons

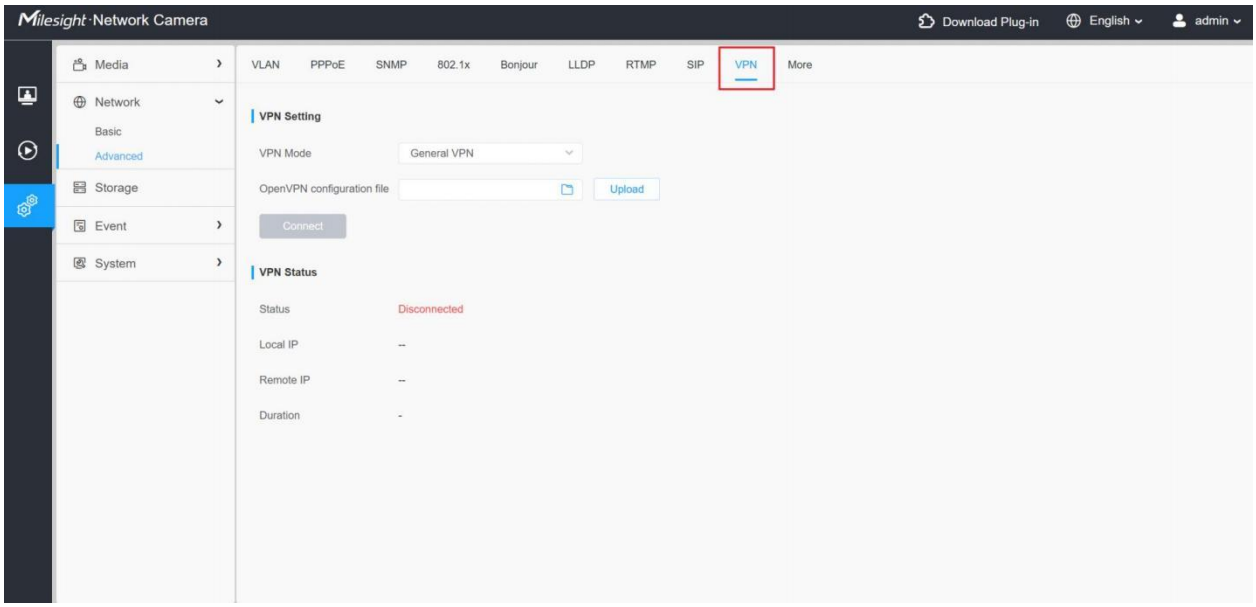
Parameters	Function Introduction
Enable White List Number Filter	When enabled, only the designated phone number or IP address can visit
Add	**Phone Type:** Phone Number(Call by phone number) & Direct IP Call. **Phone Number/IP Address:** Including the phone number or IP address on the white list.

8.2.2.9 VPN

VPN stands for Virtual Private Network. It is a network protocol that can provide you secure encrypted connection over the public internet. It is a significant technology in surveillance industry. Imagine that you have a network camera connected via public IP address, it's possible for others to log in or listen illegally if someone knows the specific IP address and forwarded port. Via VPN the camera streams and data will be transferred through an encrypted tunnel. This encrypted VPN tunnel makes it appear as though you are directly

connected to the private network, keeping your online activity (including your browsing history) hidden. For Milesight camera, VPN feature allows us to log in the camera via a virtual IP, which makes it easier to configure the camera remotely.

For more details about **How to use VPN on Milesight Camera**, please refer to https://milesight.freshdesk.com/support/solutions/articles/69000829102-how-to-use-vpn-on-milesight-network-camera.



8.2.2.10 More

Here you can set more functions, like Push Message Settings and ONVIF Settings.

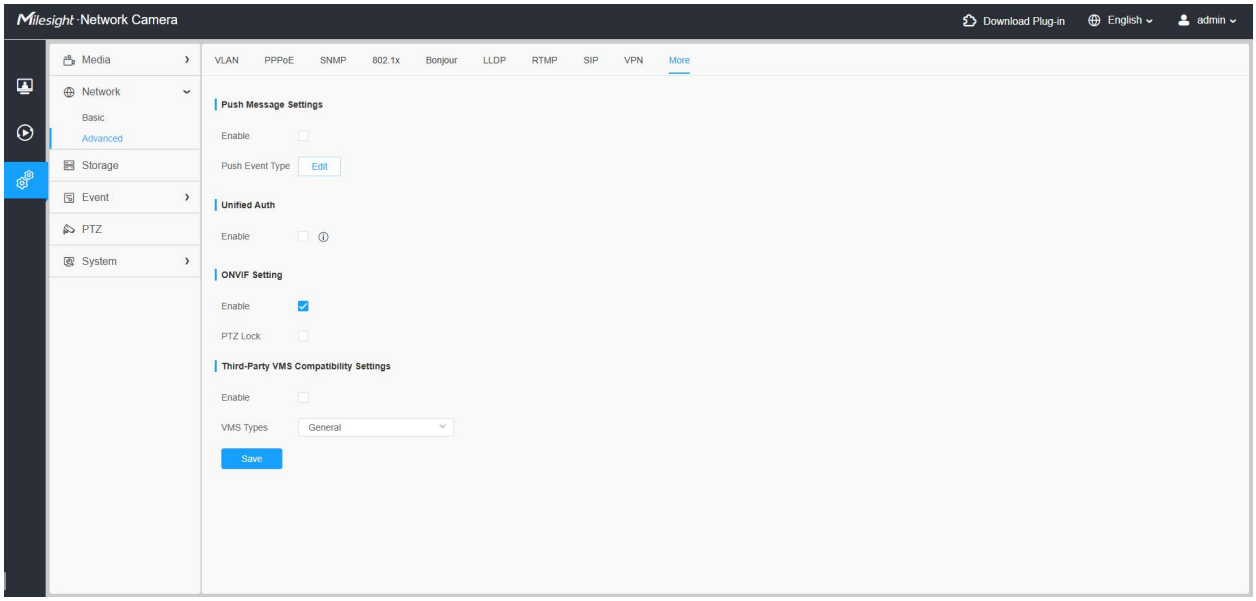
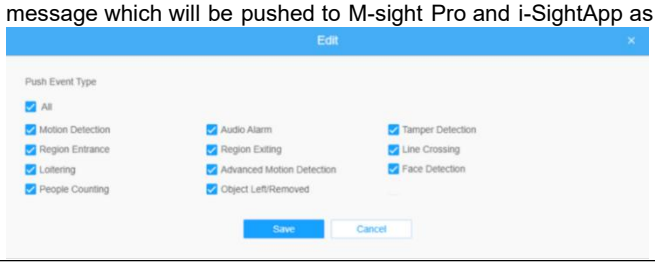


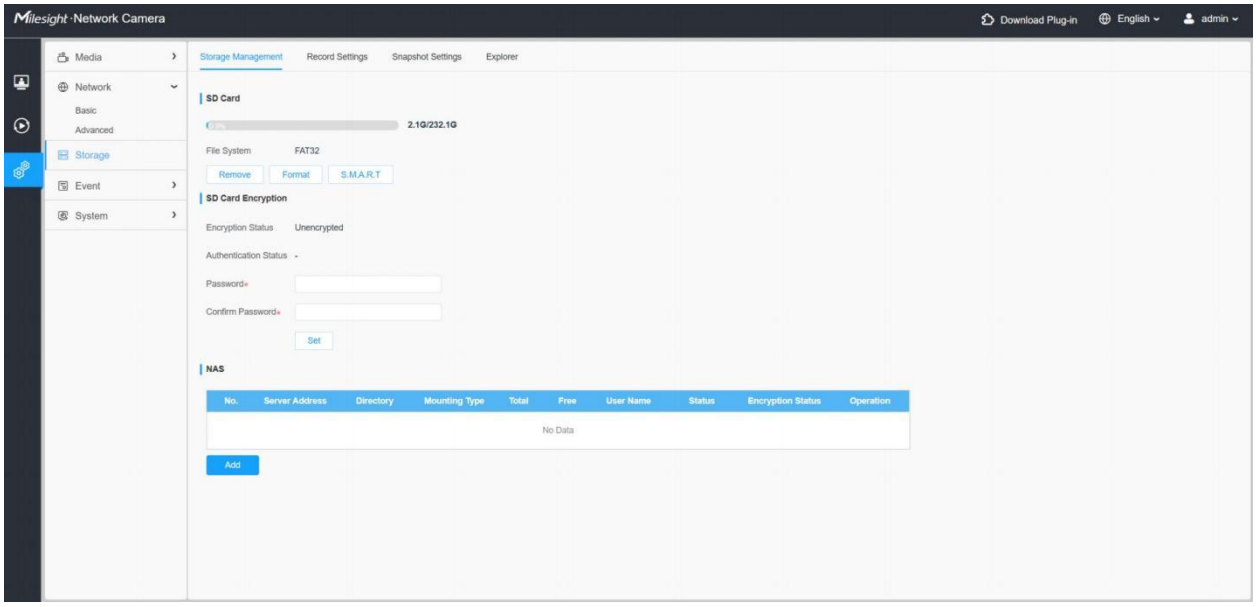
Table 40. Description of the buttons

Parameters	Function Introduction
Push Message Settings	**Enable: Enable/disable the Push Message function.**

	Push Event Type: You can click Edit to choose the types of Events' message which will be pushed to M-sight Pro and i-SightApp as shown below: 
Unified Auth	Enable to let your browser remember login details for next time and enable passwordless login.
ONVIF Setting	**Enable**: Select to enable/disable the camera's ONVIF function; enabled by default, allowing third-party software to search, add and connect via ONVIF protocols. **PTZ Lock**: Intercepts ONVIF-initiated PTZ commands (ONVIF is the main way for third-party devices to control the camera); select to enable/disable it, and enabling locks the camera's operating settings to avoid unintended zoom or focus changes
Third-Party VMS Compatibility Settings	**Enable**: Check the checkbox to enable compatibility with third-party VMS systems. **VMS Types**: Select the desired third-party VMS type for compatibility.

8.3 Storage

8.3.1 Storage Management



- Insert the SD card into the SD card slot of the device. After that, it will be automatically detected , and the detailed information of the SD card will be displayed on the SD Card bar.

- In the SD card bar, you can click on Remove to remove the SD card or click on Format to format the SD card and clear all files on it. It supports two file system formats including EXT4 and FAT32, and EXT4 is recommended to prevent data loss during card ejection or power failure, while FAT32 offers better compatibility for Operating systems.

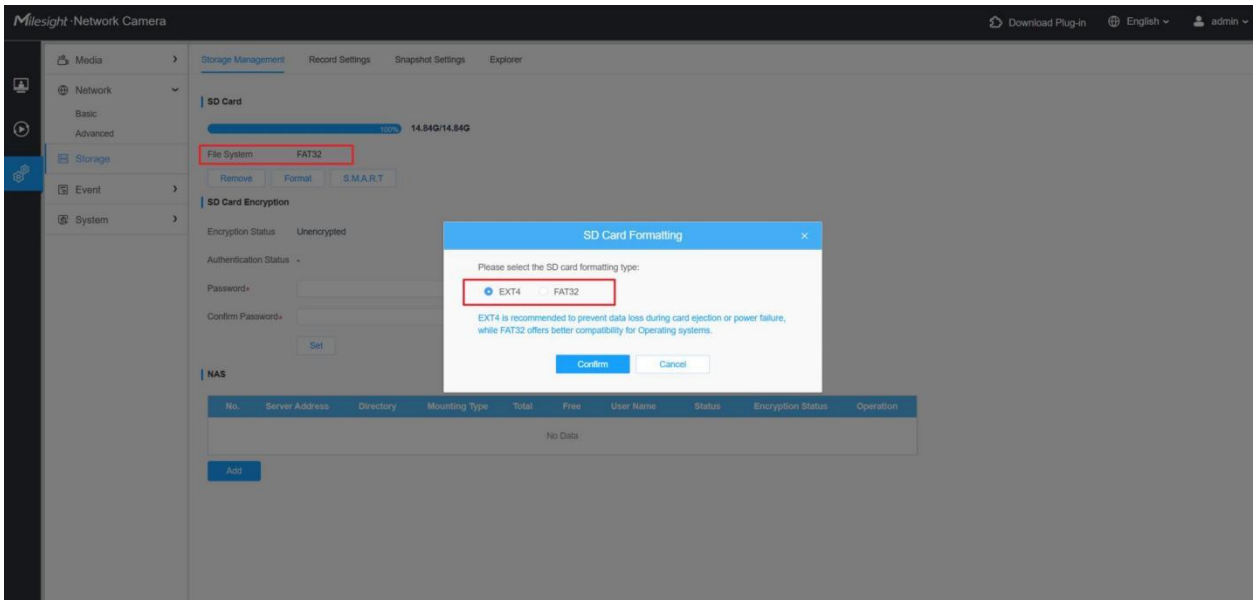
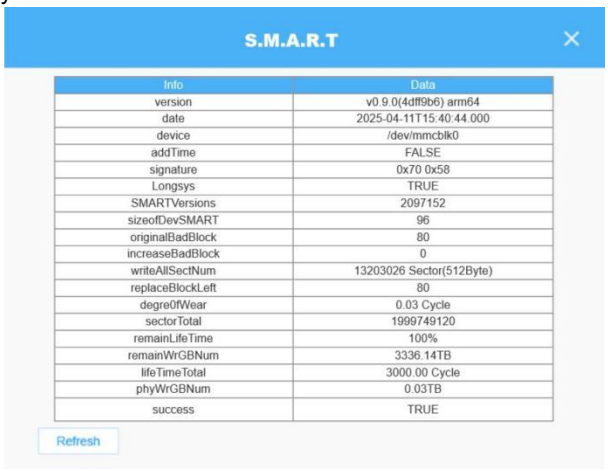
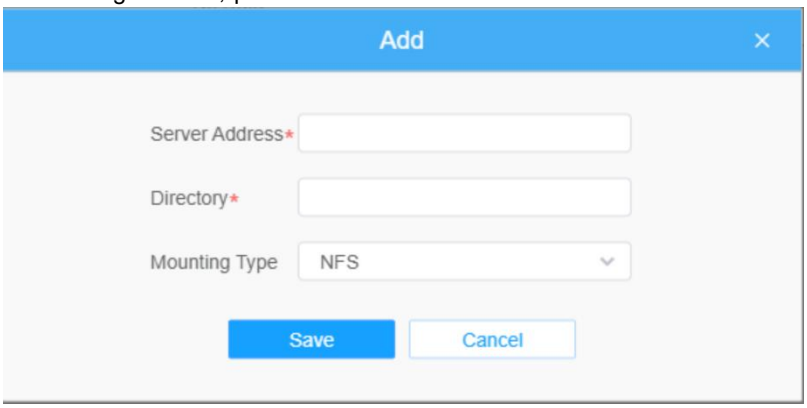


Table 41. Description of the buttons

Parameters	Function Introduction

<table>
<tr>
<td>SD Card</td>
<td>
Format: Format SD card, the files in SD card will be removed.
Remove: Remove SD card.
Encryption Status: Show the encryption status of the SD card, including Encrypted and Unencrypted.
S.M.A.R.T: It is used to detect and display the SD card's health status. Click to view detailed health status information and the following window will displayed.


Authentication Status: Display the authentication status.
Password/ Confirm Password: Enter the password to lock you SD card.
</td>
</tr>
<tr>
<td>NAS</td>
<td>
The network disk should be available within the network and properly configured to store the recorded files, etc.
NAS (Network-Attached Storage), connecting the storage devices to the existing network, provides data and files services.


Server Address: IP address of NAS server.
Directory: Input the NAS directory, e.g. "\path".
Mounting Type: NFS and SMB/CIFS are available. And you can set the user name and password to guarantee the security if SMB/CIFS is selected.
Note:

Up to 5 NAS disks can be connected to the camera.
For more details about how to use NAS on Milesight Network Camera, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000797902.

</td>
</tr>
</table>

8.3.2 Record Settings

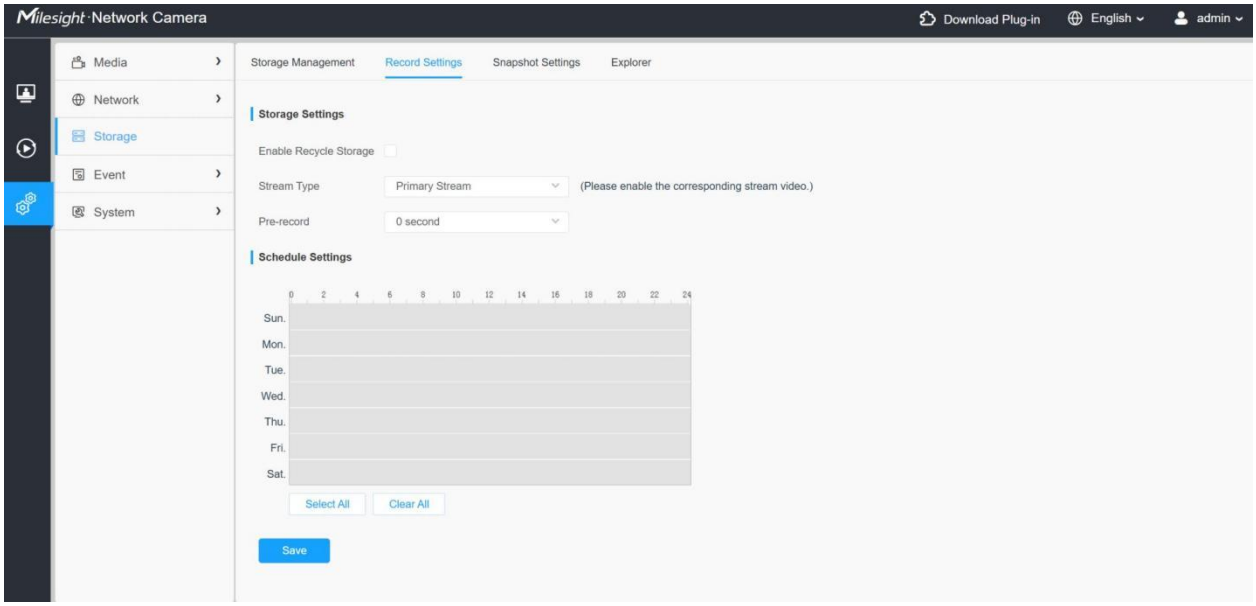
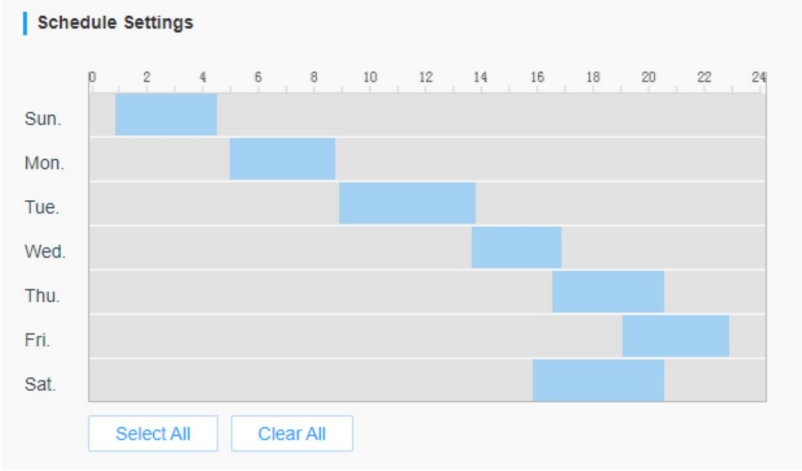
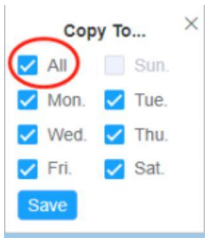
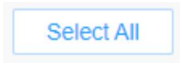
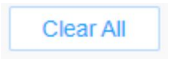
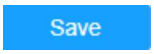


Table 42. Description of the buttons

Parameters	Function Introduction
Enable Recycle Storage	Enable/Disable Recycle Storage, if you enable this option, it will delete the files when the free disk space reaches a certain value.
Stream Type	Select the Stream type, including Primary Stream, Secondary Stream, Tertiary Stream and Quaternary Stream. **Note:** please enable the corresponding stream video.
Pre Second	Reserve the record time before alarm, 0~10 sec.
Schedule Settings	Edit record schedule as needed. Intuitive scheduling by drawing the time bar directly. 

Parameters	Function Introduction	
Schedule Settings		Copy the schedule area to another date. The "All" button is handy to copy today's schedule to all days.
		Select all schedule.
		Clear all schedule.
	Save the configurations.	

Note: SD Card or NAS are available.

8.3.3 Snapshot Settings

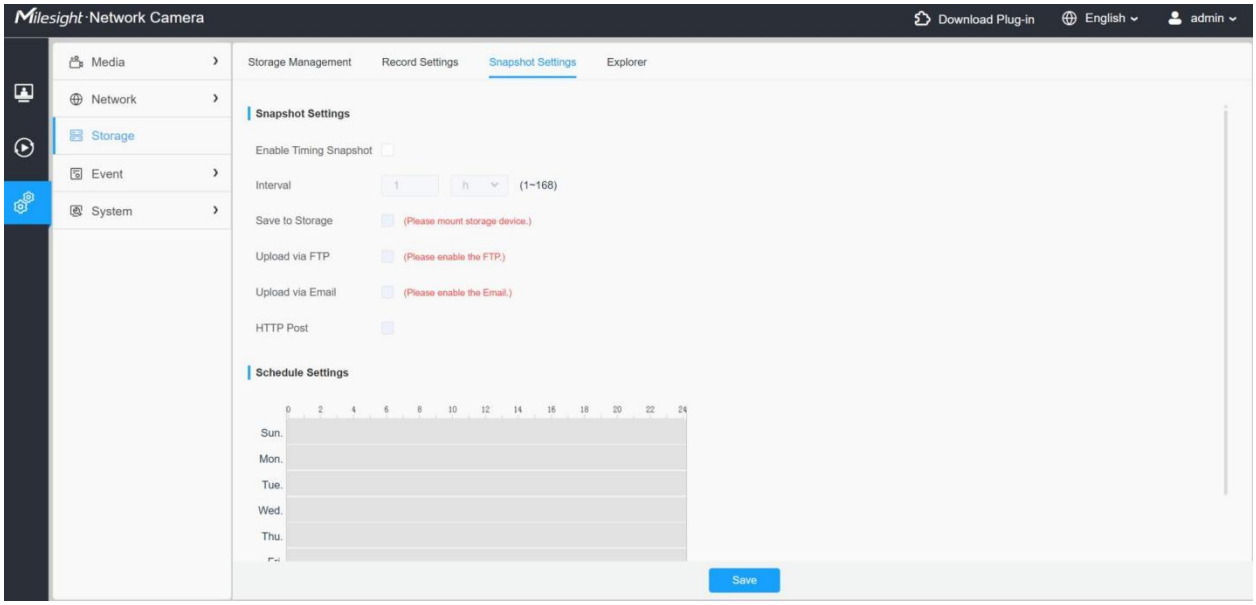
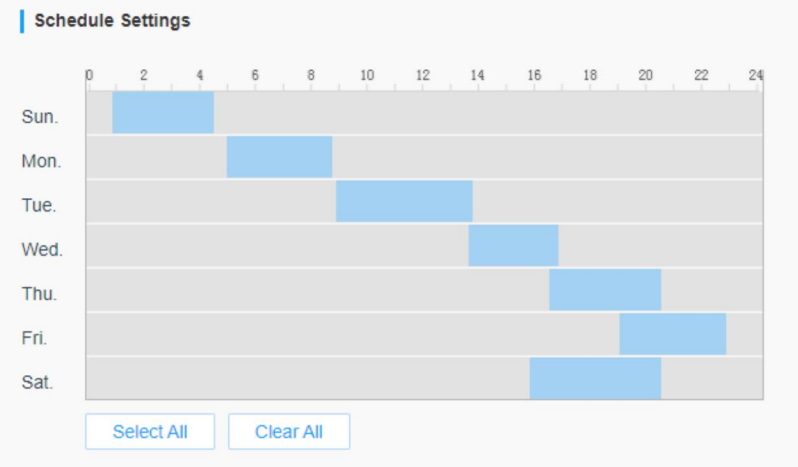
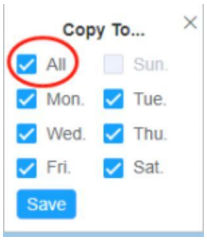
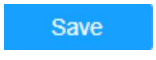


Table 43. Description of the buttons

Parameters	Function Introduction

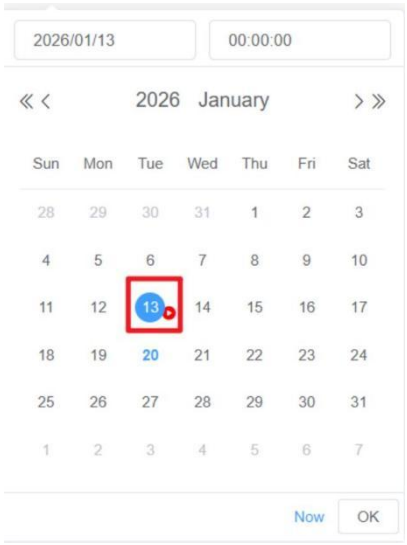
<table>
<tr><td>Snapshot Settings</td><td>Enable Timing Snapshot: Check the checkbox to enable the Timing Snapshot function
Interval: Set the snapshots interval, input the number and choose the unit(millisecond, second, minute, hour, day).
Snapshot Quality: Selects the compression level for snapshots from three options: Low, Medium, and High. Higher quality gives better image detail at the cost of larger file size; lower quality reduces file size to save storage or bandwidth.
Save to Storage: Save the snapshots into SD card or NAS, and choose the file name to add time suffix or overwrite the base file name.
Upload Via FTP: Upload the snapshots via FTP.
Upload Via Email: Upload the snapshots via Email.
Note: If you choose to add time suffix, every snapshot picture will be saved, but if you choose to overwrite the base file name, only one latest picture will be saved. When you choose add overwrite the base file name to SD Card or NAS, it will create a file named “Snapshot” to place the snapshot.
HTTP Post: Upload the snapshots via HTTP Post. Support uploading the snapshots to specified HTTP URL.</td></tr>
<tr><td rowspan="3">Schedule Settings</td><td colspan="2">Edit record schedule as needed. Intuitive scheduling by drawing the time bar directly.

</td></tr>
<tr><td>
</td><td>Copy the schedule area to another date.
The "All" button is handy to copy today’s schedule to all days.</td></tr>
<tr><td>Schedule Settings</td><td>
</td><td>Select all schedule.</td></tr>
<tr><td>Schedule Settings</td><td>
</td><td>Clear all schedule.</td></tr>
<tr><td>
</td><td colspan="2">Save the configurations.</td></tr>
</table>

8.3.4 Explorer

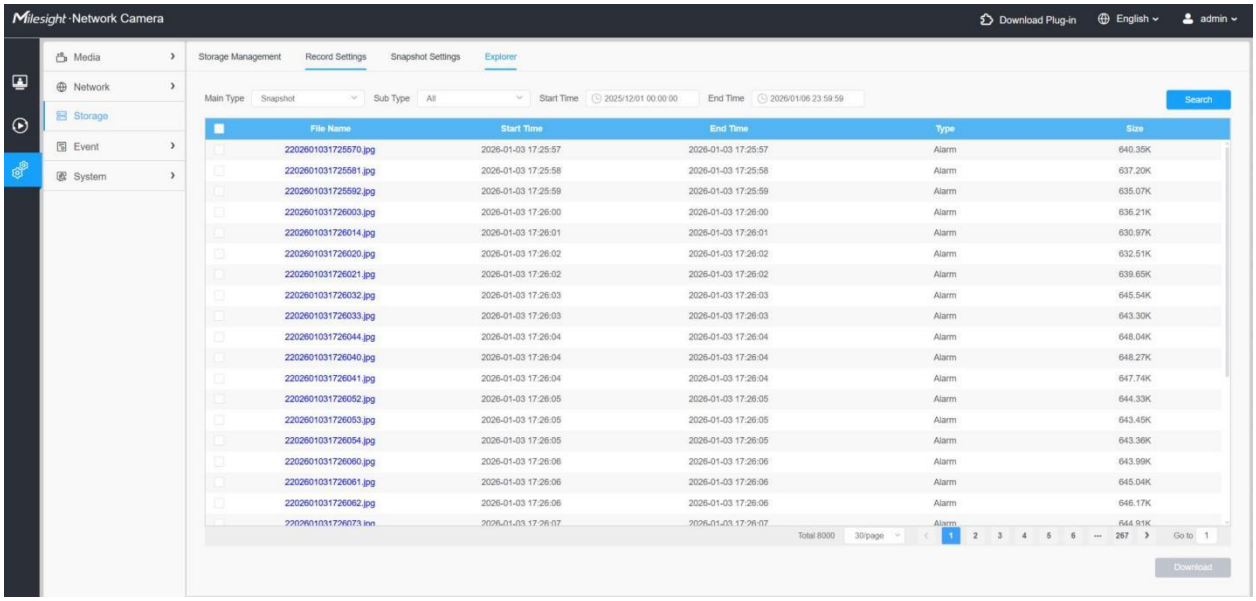
Files will be seen on this page when they are configured to save into SD card or NAS. You can set time schedule every day for recording videos and save video files to your desired location.

Note:

1. Files are visible once SD card is inserted. Don't insert or pull out SD card when power on
2. A red icon will appear under the corresponding date when there is a recording or snapshot exists for that day, allowing you to swiftly discern which dates possess files.



Video files are arranged by date. Set file type and start/end time to search out files. Each day files will be displayed under the corresponding date, from here you can copy and delete files etc. You can visit the files in SD card by ftp, for example, ftp://username:password@ 192.168.5.190(user name and password are the same as the camera account and the IP followed is the IP of your device.).

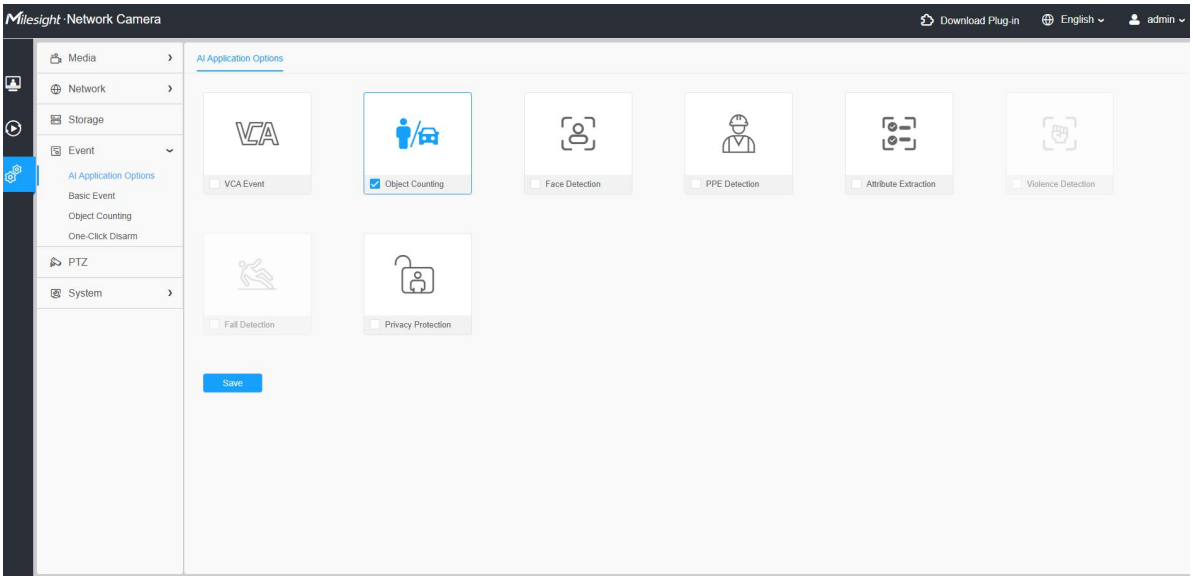


8.4 Event

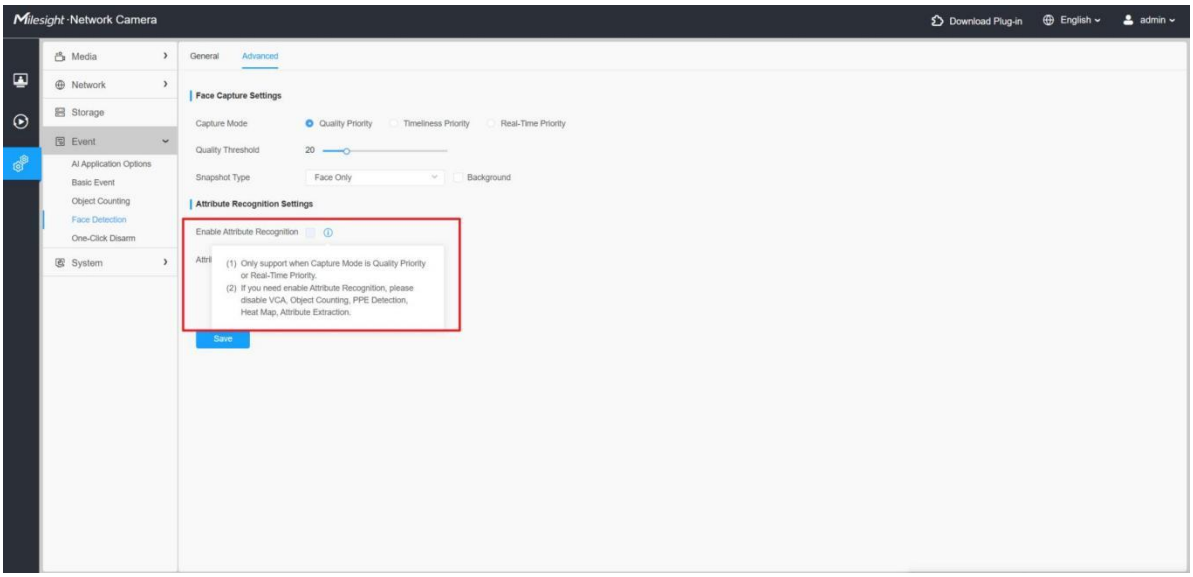
Milesight event provides advanced, accurate smart video analytics for Milesight network cameras. It enhances the performance of network cameras through basic events and VCA events, enabling a comprehensive surveillance system and quicker response of cameras to different monitoring scenes.

Note:

1. Before you utilizing the corresponding function, enable it first in the AI Application Options interface.
2. Violence Detection and Fall Detection cannot be used simultaneously with VCA Event, Object Counting, Face Detection and Attribute Extraction.

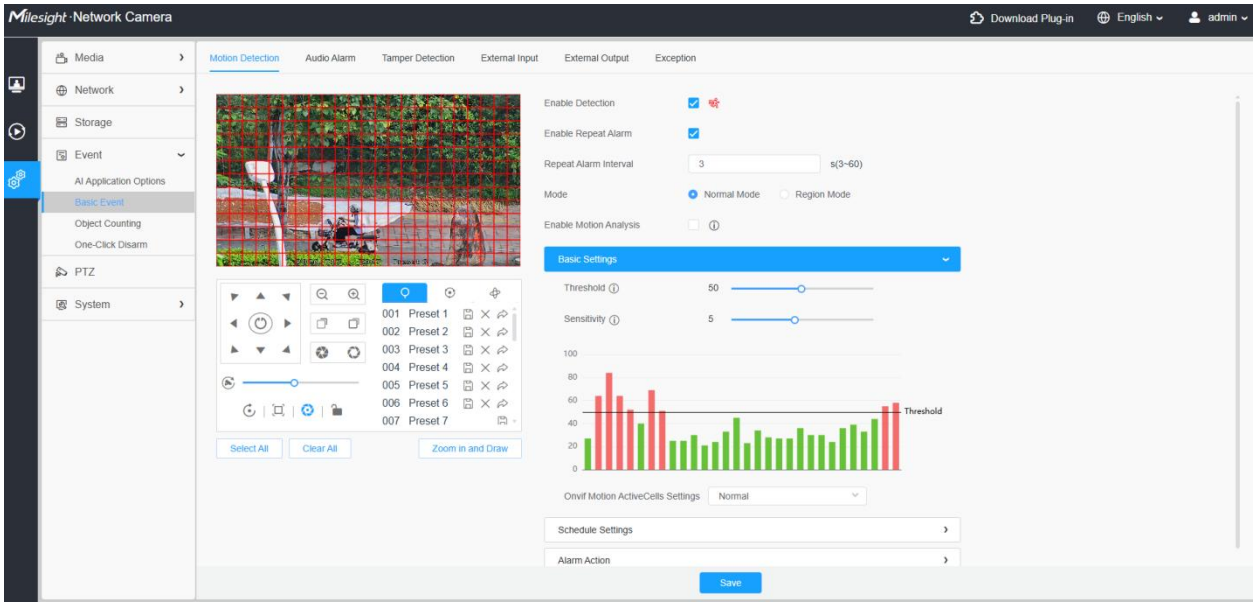


3. Attribute Recognition in Face Detection cannot be used simultaneously with VCA, Object Counting, PPE Detection and Attribute Extraction.



8.4.1 Basic Event

8.4.1.1 Motion Detection



Note: For details about how to configure **Motion Detection**, see https://milesight.freshdesk.com/a/solutions/articles/69000643423.

Configuration steps are shown as follows:

Step1: Choose **Settings** > **Event** > **Basic Event** > **Motion Detection**.

Step2: Check the check box to enable the function.

Step3: Select the detection mode. **Normal Mode** and **Region Mode** are available.

Step4: Set a motion region.

Table 44. Description of the buttons

Parameters	Function Introduction
Enable Detection	Check the checkbox to enable the motion detection function.
Enable Repeat Alarm	Check this checkbox to enable repeat alarms.
Repeat Alarm Interval	Enter the repeat interval from **3** to **60**.
Mode	**Region Mode** and **Normal Mode** are available. Normal Mode allows you to draw and customize detection zones freely across the entire live view, while Region Mode allows you to configure four independent rectangular detection areas.
Enable Motion Analysis	When Motion Analysis is enabled, the moving region will turn yellow so that the user can know exactly where the motion occurred. **Note:** Only support when HTTP is selected in Live View. 
Select All	Click it to select the whole area.
Clear All	Click it to clear the selected areas.
Zoom in and Draw	Click it to draw more precise detection regions in the pop-up window.
Save	Click it to save the configurations.

[Basic Settings]

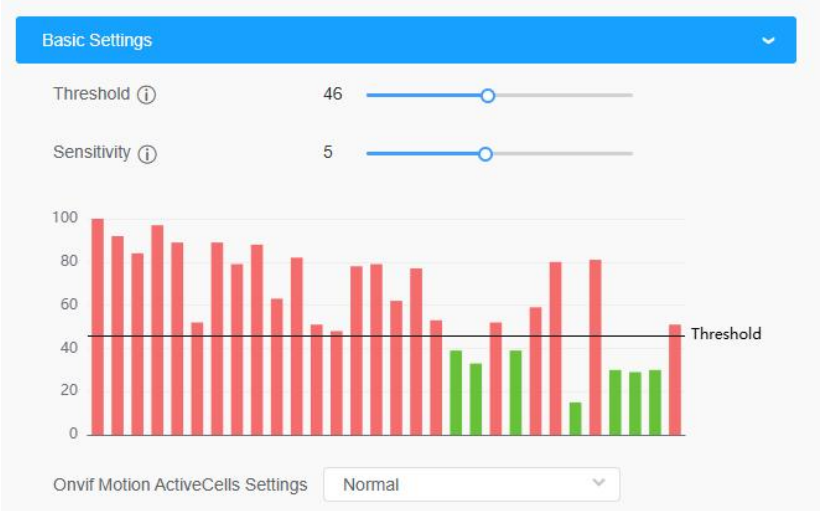


Table 45. Description of the buttons

Parameters	Function Introduction
Threshold	Higher threshold requires a larger sum of movements to trigger alarm.
Sensitivity	Higher sensitivity detects smaller movement to trigger alarm. Sensitivity level: 1~10.
Threshold Curve	The threshold curve displays whether the detection value exceeds the preset threshold over time, helping you visualize and fine-tune the motion detection settings.
Onvif Motion ActiveCells Settings	**Normal** and **Compatible** are available for the option. If the setting of motion region of the third-party software is different from ours, select **Compatible** here.

[Schedule Settings]

Step6: Set a motion detection schedule.

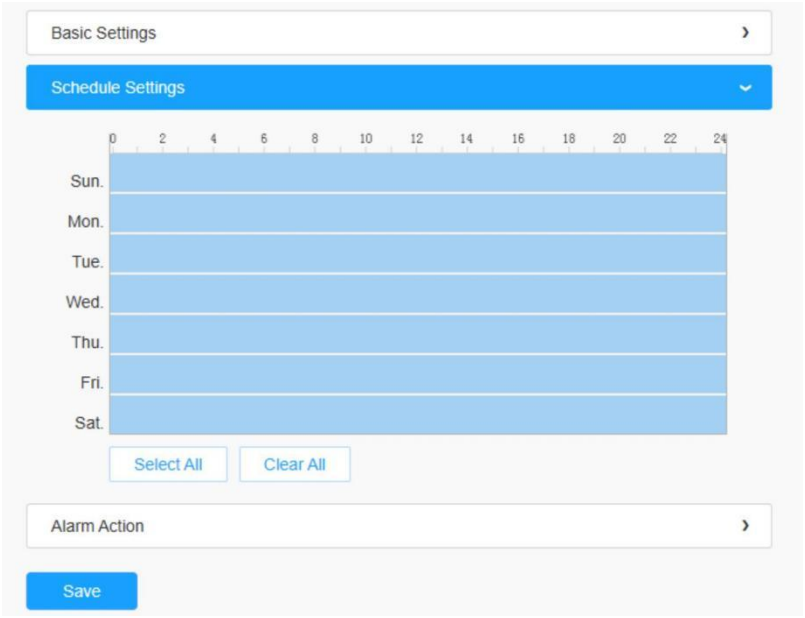
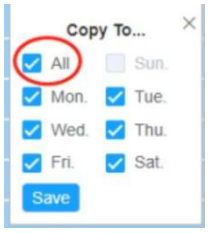
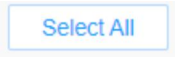


Table 46. Parameter Description

Parameter	Function Introduction
	Copy the schedule area to another date. The **All** button is handy to copy today's schedule to all days.
	Select all schedules.
	Clear all schedules.

[Alarm Action]

Step7: Set an alarm action.

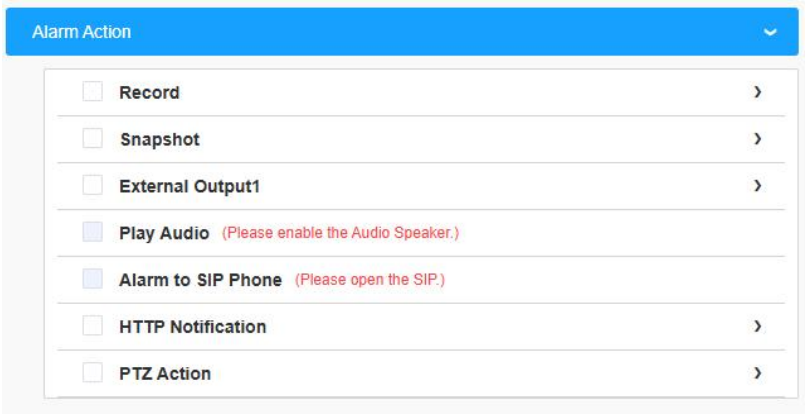


Table 47. Description of the buttons

Parameters	Function Introduction
Record	**Duration:** Selected the duration time of alarm. 5s/10s/15s/20s/25s/30s are available. **Linkage:** Alarm recording files can be saved to SD Card or NAS, uploaded via FTP, or sent via email.
Snapshot	**Number:** The number of snapshot, 1~5 are available. **Interval:** This cannot be edited unless you choose more than 1 to Snapshot. **Linkage:** Save alarm recording files into an SD card or NAS, upload the recording files via FTP, and send an alarm email.

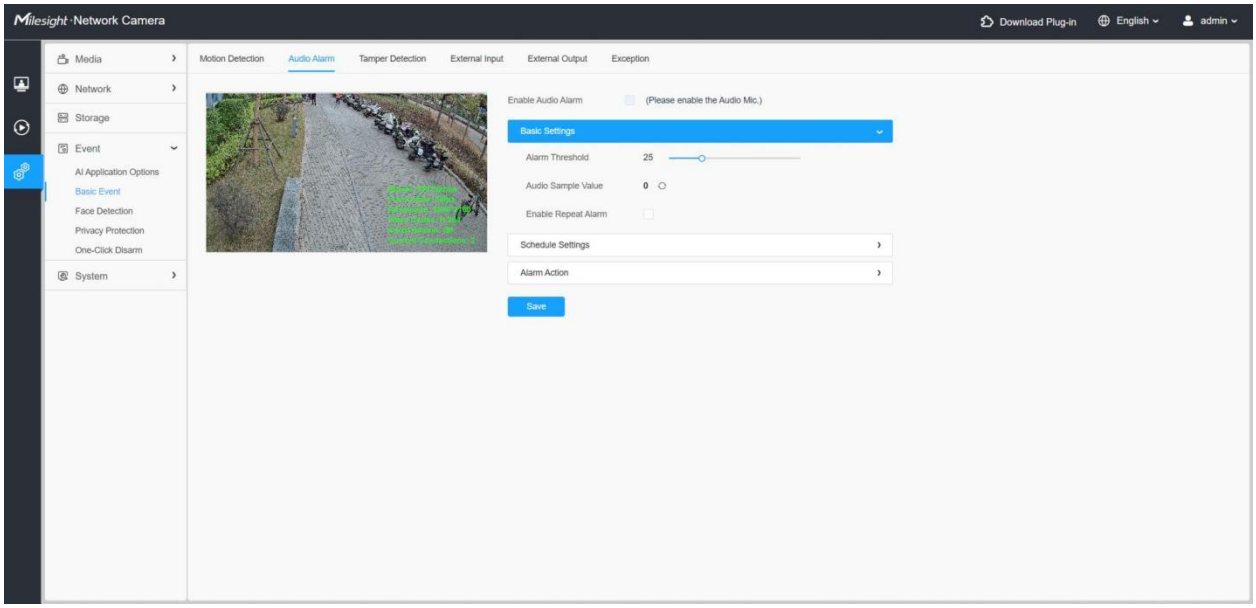
External Output	If the camera is equipped with external outputs, you can enable the action after configuring the trigger duration. Two external output interfaces are available and can be configured independently. **Action Time:** Customize, 10 s, 30 s, 1 min., 5 min., and Constant are available for each output.
Play Audio	Auto/10 seconds/30 seconds/1 minute/5 minutes/10 minutes are available. **Note:** Enable the Audio Speaker first.
Alarm to SIP Phone	Support to call the SIP phone after enabling the SIP function.
HTTP Notification	Support to push the alarm news to specified HTTP URL. **Note:** • Three HTTP notifications at most can be added to the same event. • HTTP Notification supports Basic & Digest authentication.
White LED	Support to enable the White LED. **Flash Mode:** Twinkle: The white led flashes during an alarm. Always: The white led stays on continuously during an alarm. **Flash Time:** Adjustment Method: Use the slider bar to set the flash duration from 1 to 10 seconds. Reset Function: The Reset button on the right resets the slider to the default position (3 seconds), regardless of the current setting. **Effective Mode:** Always: The white light alarm is always enabled. Light Environment:Selecting this option displays additional settings: • Current Environment: Shows the current ambient light intensity (range: 0–100). Click the refresh button to update the value in real time. The value represents the detected light intensity level. • Effective Brightness: Use the slider to set the threshold for ambient light intensity (range: 0–100, default is 70). The white light alarm will be enabled when the current environment meets or exceeds the set brightness level. Customize: Selecting this option displays time configuration settings: Click inside the box to open the time selection window. The default start time is 18:00, and the default end time is 06:00.

PTZ Action	When motion is detected, the camera can trigger various PTZ actions, including PTZ motion, calling preset positions, patrol, and pattern. **Supported Actions:** **PTZ Motion:** The camera will zoom in on the area where motion is detected. **Proportional Zoom Times:** Supports zoom levels from 1X to 45X, based on the size of the detected motion area. **Call Preset / Patrol / Pattern:** The camera can be linked to specific preset, patrol or pattern IDs. **Additional Parameters:** **Recovery Time:** Defines the duration after the PTZ action ends before the camera returns to its previous state. **Trigger Interval:** Specifies the minimum time interval between the end of one PTZ action and the start of the next action.

8.4.1.2 Audio Alarm

Check the checkbox to enable the audio alarm function.

Note: Enable the Audio Mic before using Audio Alarm function.



[Basic Settings]

Table 48. Description of the buttons

Parameters	Function Introduction
Alarm Threshold	Audio Alarm will be triggered when the thresholds reaches to a certain value from **0** to **100**.
Audio Sample Value	The current value of the audio sample.
Enable Repeat Alarm	Check this checkbox to enable repeat alarms.
Repeat Alarm Interval	Enter the repeat interval from **3** to **60**.

[Schedule Settings]

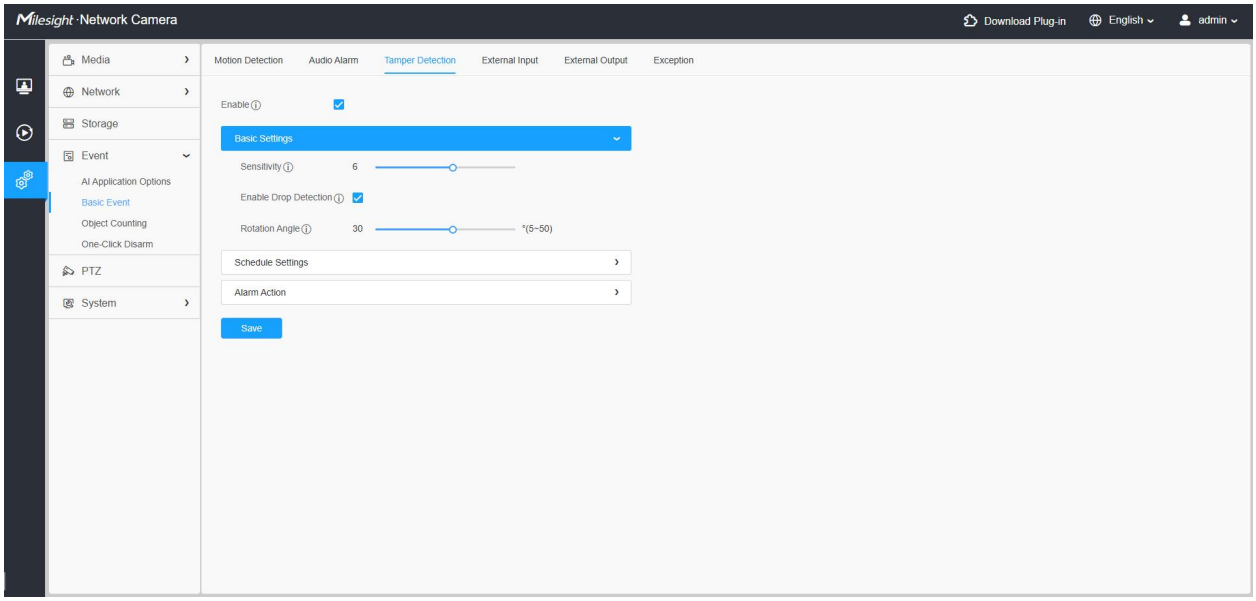
For details about **Schedule Settings**, see Motion Detection *(page 96)*.

[Alarm Action]

For details about **Alarm Action**, see Motion Detection *(page 96)*.

8.4.1.3 Tamper Detection

Tamper detection triggers an alarm if the device is blocked (detected by image changes), rotated, or dropped (detected by the acceleration sensor), and also supports defocus detection.



Settings steps are shown as follows:

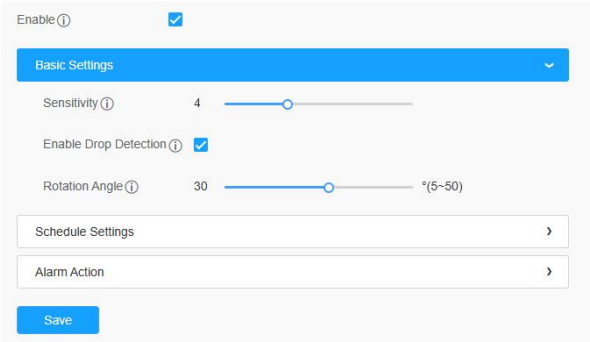
Step1: Choose **Settings** > **Event** > **Basic Event** > **Tamper Detection**.

Step2: Enable Tamper Detection.

Sensitivity: Adjusts the detection sensitivity on a scale from 1 to 10. Higher sensitivity values allow the system to detect smaller changes in the image.

Enable Drop Detection: When enabled, the device will trigger an alarm if a drop event is detected.

Rotation Angle: Drop Detection is evaluated based on the rotation angle. An alarm is triggered when the rotation angle exceeds the configured threshold (0–50°).



[Schedule Settings]

Step3: Set a detection schedule.

Note: For details about **Schedule Settings**, see Motion Detection *(page 96)*.

[Alarm Action]

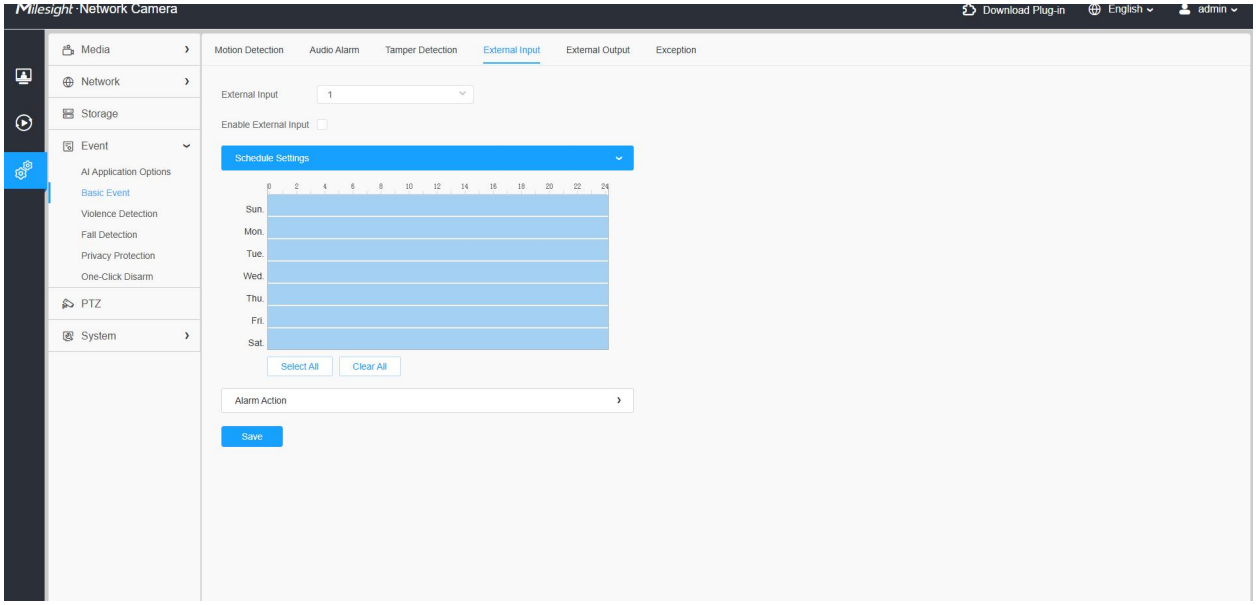
Step4: Set an alarm action.

Note:

- For details about **Alarm Action**, seeMotion Detection *(page 96)*.
- If you enable **External Output** and choose **Constant External Output Action Time**, when possible tampering is detected, the alarm time will be always constant till the alarm is released.

8.4.1.4 External Input

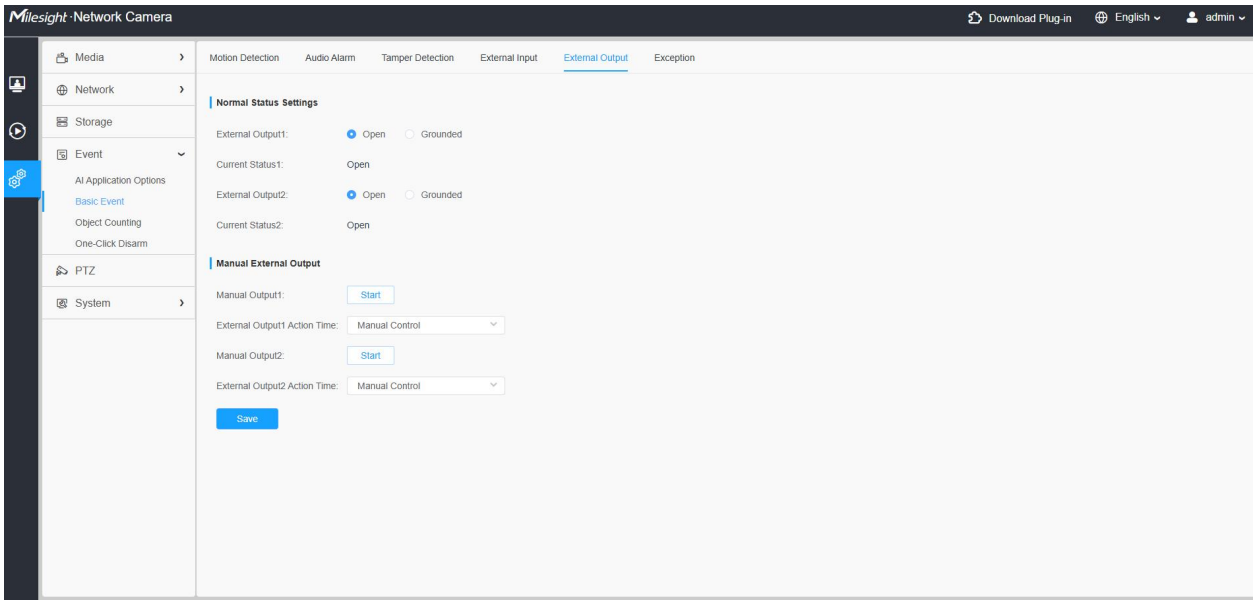
This interface enables the camera to integrate with external devices (e.g., door contacts, motion sensors, or panic buttons). When an external device is activated, the camera can automatically trigger alarms, record video, or perform other preset actions based on your configuration.



For details about **External Input**, see Table 3 *(page 96)*.

8.4.1.5 External Output

Supports configuration of two external output interfaces.



[Normal Status Settings]

Set the normal status first, when the **Current Status** is different with **Normal Status**, an alarm will be triggered.

[Manual External Output]

You can set the manual external output.

Table 49. Description of the buttons

Parameter	Function Introduction
Manual Output	Click it to start or stop manual external output.
External Output Action Time	**Manual Control**, **Customize**, **10 s**, **1 min.**, **5 min.**, **and 10 min.** are available.

8.4.1.6 Exception

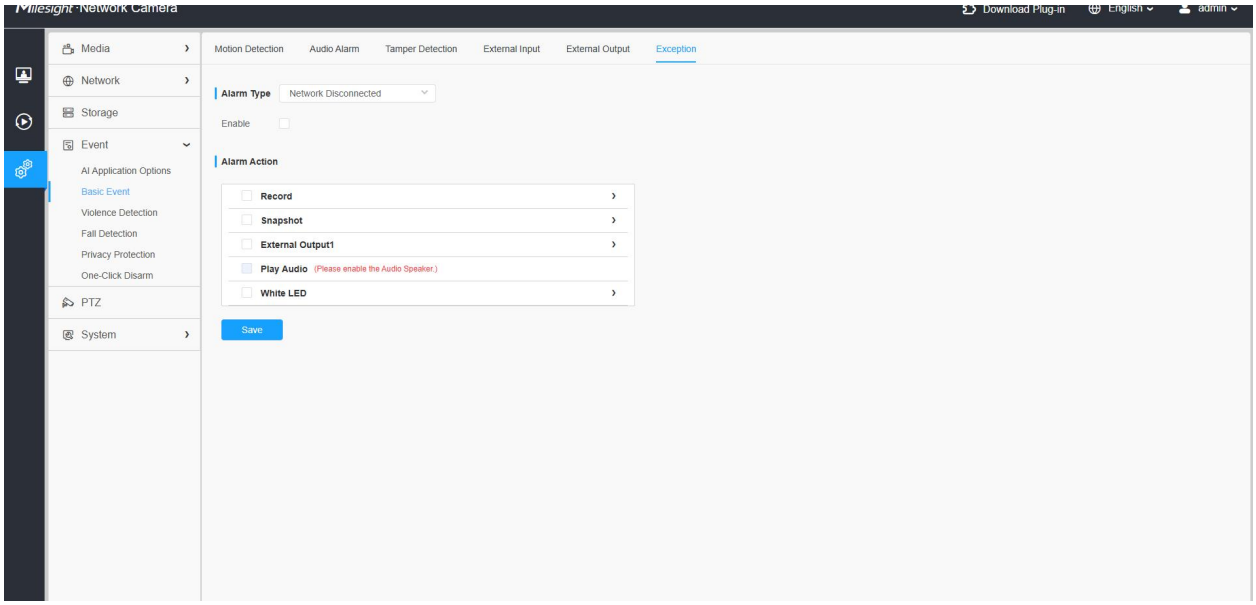


Table 50. Description of the buttons

Parameters	Function Introduction
Alarm Type	**Network Disconnected**, **IP Address Conflicted, Record Failed, SD Card Full**, **SD Card Uninitialized**, **SD Card Error**, and **No SD Card** are available. When **Record Failed** is selected, Repeat alarm can be enabled. You can enter the Repeat Alarm interval from **3** to **60**(s). Check the checkbox to enable the alarm type you selected.
Alarm Action	For more details, see Table 3 *(page 96)*.

8.4.2 VCA Event

Smart Event uses VCA (Video Content Analysis) technology, which provides advanced, accurate smart video analysis for Milesight network cameras. Powered by AI chip,the new generation video analytics is capable of recognizing vast attributes of human, vehicle, and object pattern recognition models. As vehicle and human related events are very important in security monitoring, the filtering is supported to better optimize the efficiency.

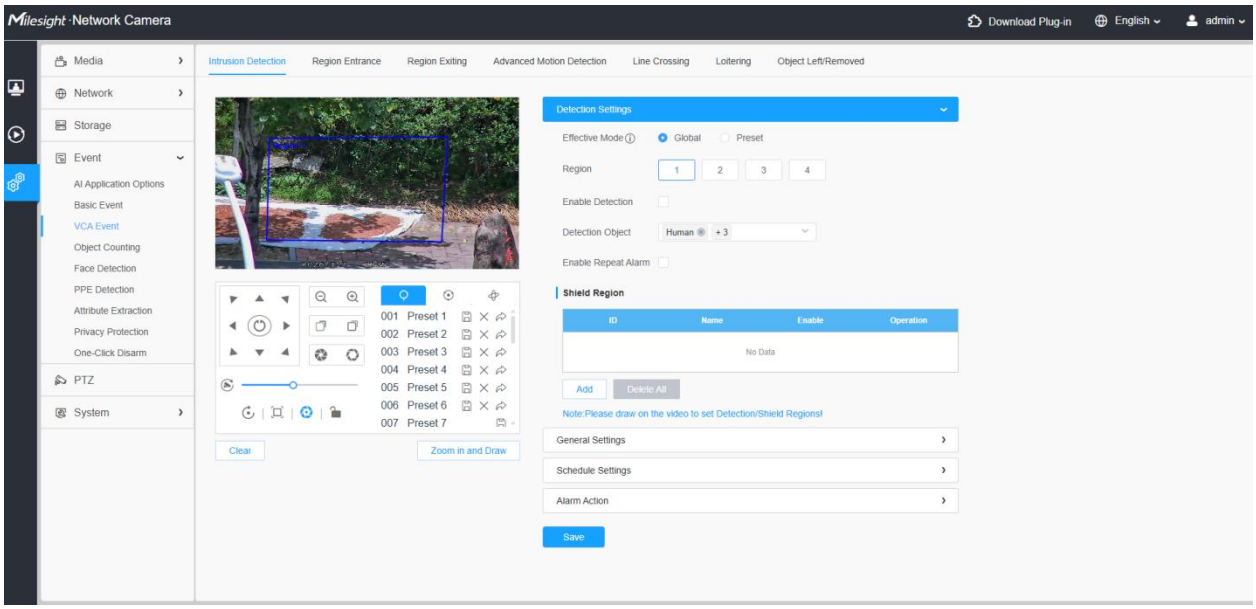
Note:

- VCA Event can identify three main categories: human, vehicles (Bus, Car, Truck), and non-motor vehicles (E-scooter, Bicycle).
- For more details about the Milesight AI Video Content Analysis information, please refer to https://resource.milesight.com/milesight/security/document/a-milesight-technology-moment/a-milesight-technology-moment-milesight-vca.pdf

8.4.2.1 Intrusion Detection

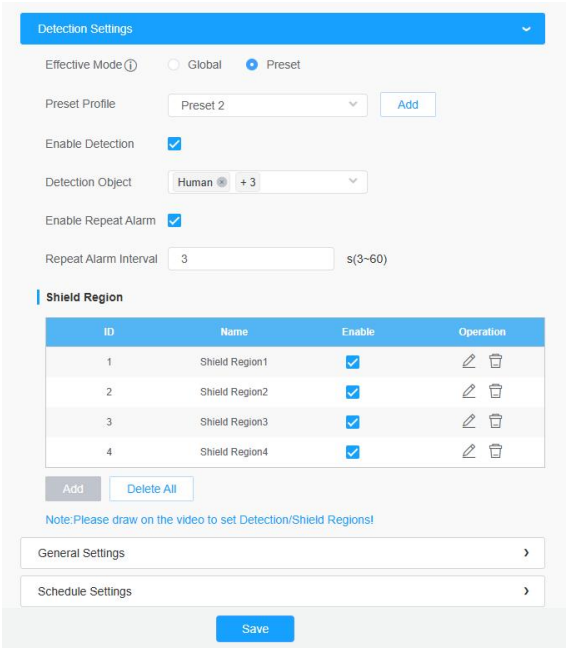
Intrusion detection is used to protect a specific area from potential threats of intrusion by

suspicious people or other objects. Whether it is an intrusion from outside the region or a sudden appearance within the region, an alarm action will be triggered.



Settings steps are shown as follows:

[Detection Settings]



Step 1:

Go to **Settings > Event > VCA Event > Intrusion Detection**.

Step 2:

Select the **Effective Mode**:

- **Global:** The same set of detection rules applies regardless of the PTZ position.

- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step 3:
Draw a detection region on the live view. You can also click **Zoom in and Draw** for more precise area selection.

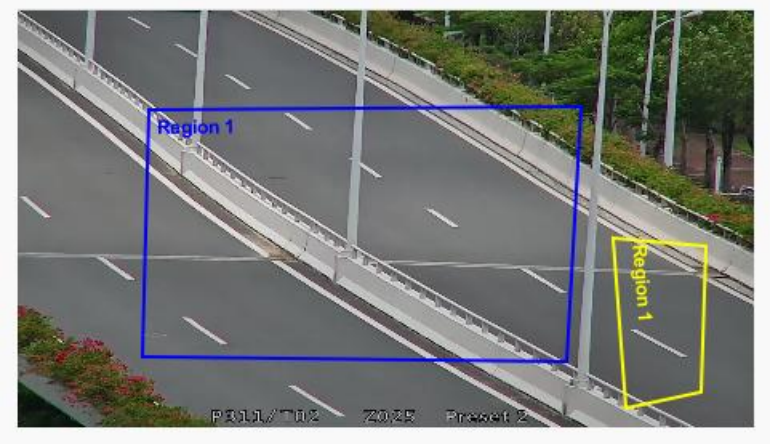
- In **Global** mode, up to four detection regions can be drawn.
- In **Preset** mode, only one detection region can be drawn for each preset.

Step 4:
Enable **Intrusion Detection**.

Step 5:
Select the detection object(s): **Human**, **Non-motor Vehicle** (E-scooter, Bicycle), or **Vehicle** (Bus, Car, Truck). An alarm will be triggered when the selected object is detected.

Step 6:
Enable **Repeat Alarm** if you want the alarm to repeat. Set the **Repeat Alarm Interval** (3–60 seconds).

Step 7:
To exclude certain areas from detection, manually draw and add up to four **Shield Regions**. The method is the same as drawing detection regions. Detection regions are marked with a blue box, and shield regions with a yellow box.



[General Settings]

Step4: Set detecting sensitivity and object size limits, and set the trigger mode with General Mode or Bottom Mode.

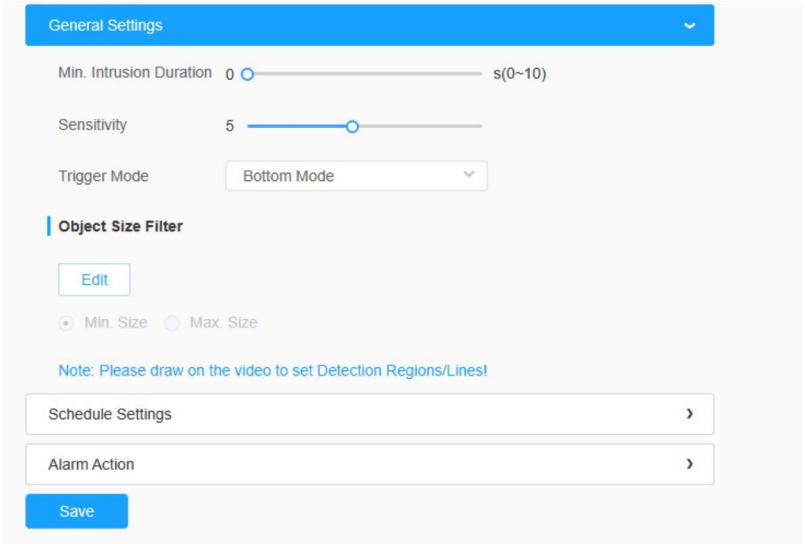
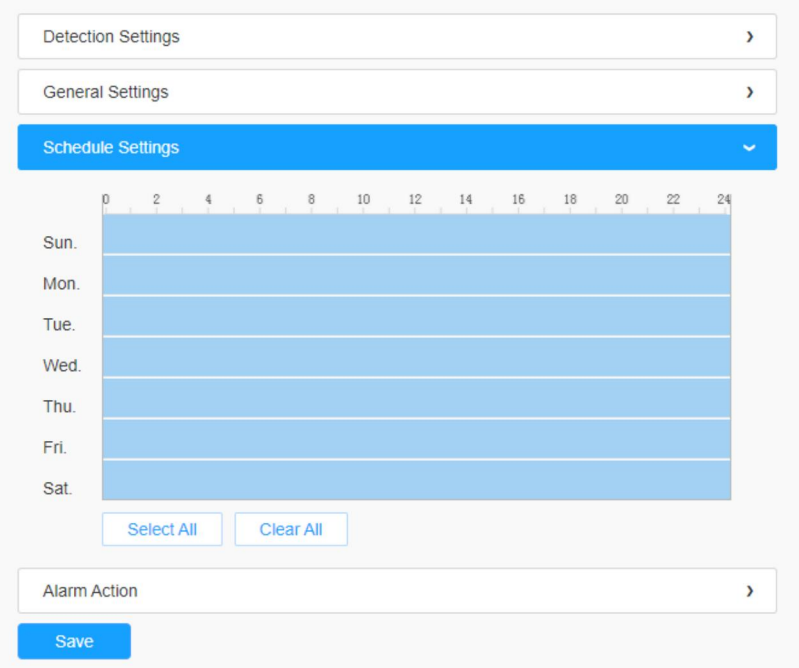


Table 51. Description of the buttons

Parameters	Function Introduction
Min. Intrusion Duration	Set the minimum time (0–10 seconds) that a target must remain within the detection region before the camera triggers an intrusion alarm. This helps reduce false alarms caused by brief or accidental entries.
Sensitivity	Level **1~10** are available, the default level is **5**. The higher the sensitivity, the easier it is for moving objects to be recorded in the results.
Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. General Mode: The alarm is triggered when the object's body roughly enters the detection area. Bottom Mode: the alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/ bottom detection preference.
Min. Size	Draw on the screen to set the maximum size of the detected object. Objects larger than this size will not be detected. The default maximum size is 320x240.
Max. Size	Draw the screen to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

[Schedule Settings]

Step5: Set a detection schedule.



Note: For details about **Schedule Settings**, see 8.4.1.1 Motion Detection

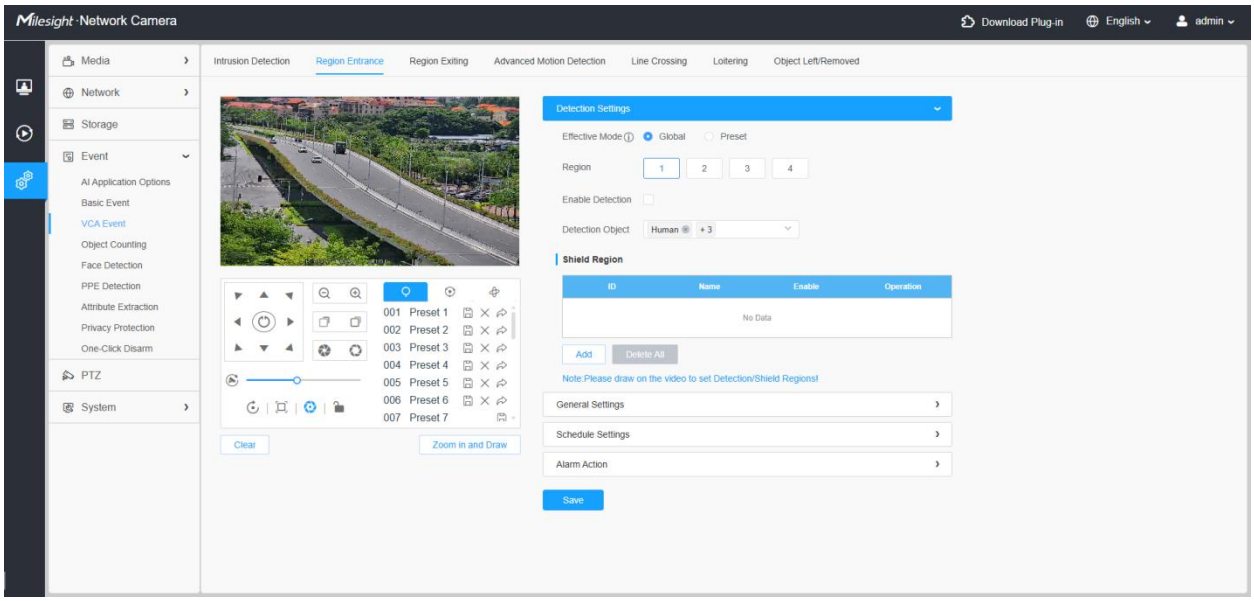
Step6: Set an alarm action.



Note: For details about **Alarm Action**, see 8.4.1.1 Motion Detection

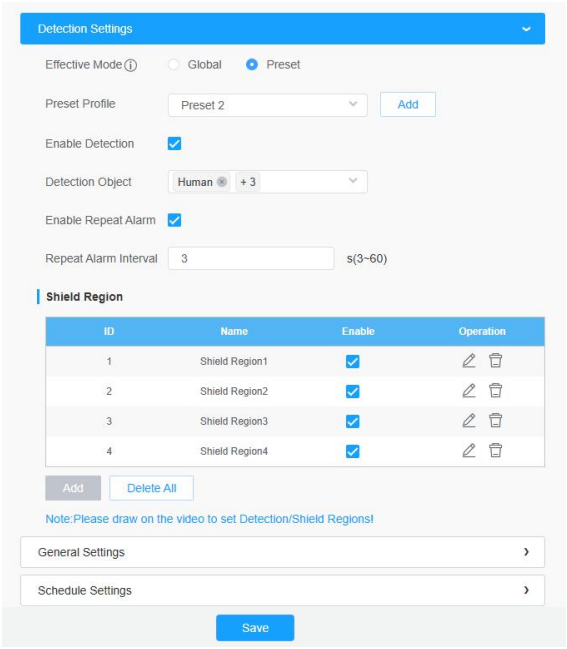
8.4.2.2 Region Entrance

Region entrance helps to protect a special area from potential threat of suspicious person's or object's entrance. An alarm will be triggered when objects enter the selected regions by enabling region entrance.



Settings steps are shown as follows:

[Detection Settings]



Step 1:

Go to **Settings > Event > VCA Event > Region Entrance**.

Step 2:

Select the **Effective Mode**:

- **Global:** The same set of detection rules applies regardless of the PTZ position.
- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step 3:
Draw a detection region on the live view. You can also click **Zoom in and Draw** for more precise area selection.

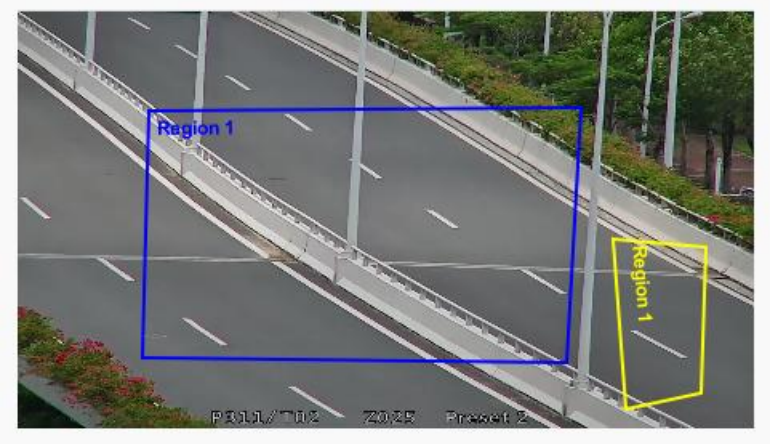
- In **Global** mode, up to four detection regions can be drawn.
- In **Preset** mode, only one detection region can be drawn for each preset.

Step 4:
Enable **Region Entrance**.

Step 5:
Select the detection object(s): **Human**, **Non-motor Vehicle** (E-scooter, Bicycle), or **Vehicle** (Bus, Car, Truck). An alarm will be triggered when the selected object is detected.

Step 6:
Enable **Repeat Alarm** if you want the alarm to repeat. Set the **Repeat Alarm Interval** (3–60 seconds).

Step 7:
To exclude certain areas from detection, manually draw and add up to four **Shield Regions**. The method is the same as drawing detection regions. Detection regions are marked with a blue box, and shield regions with a yellow box.



[General Settings]

Step4: Set detecting sensitivity, choose Trigger Mode and object size limits.

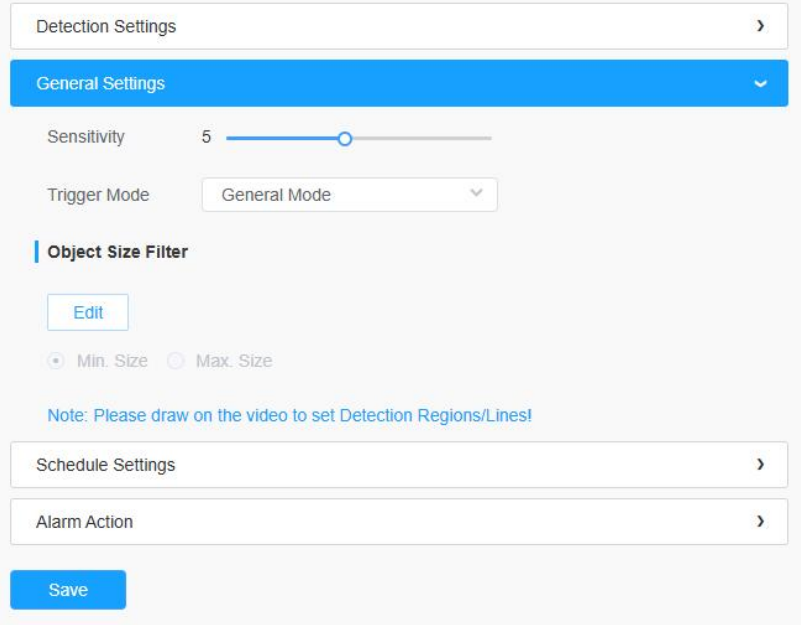
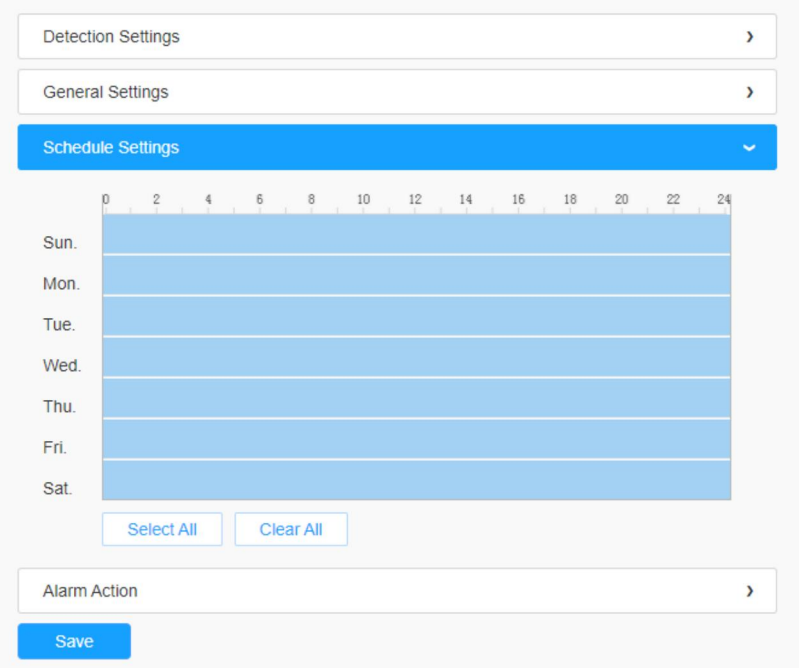


Table 52. Description of the buttons

Parameters	Function Introduction
Sensitivity	Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results.
Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. General Mode: The alarm is triggered when the object's body roughly enters the detection area. Bottom Mode: the alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/ bottom detection preference.
Min. Size	Draw on the screen to set the minimum size of the detected object. Objects smaller than this size will not be detected. The default minimum size is 3x3.
Max. Size	Draw on the screen to set the maximum size of the detected object. Objects larger than this size will not be detected. The default maximum size is 320x240.

[Schedule Settings]

Step5: Set a detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection

[Alarm Action]

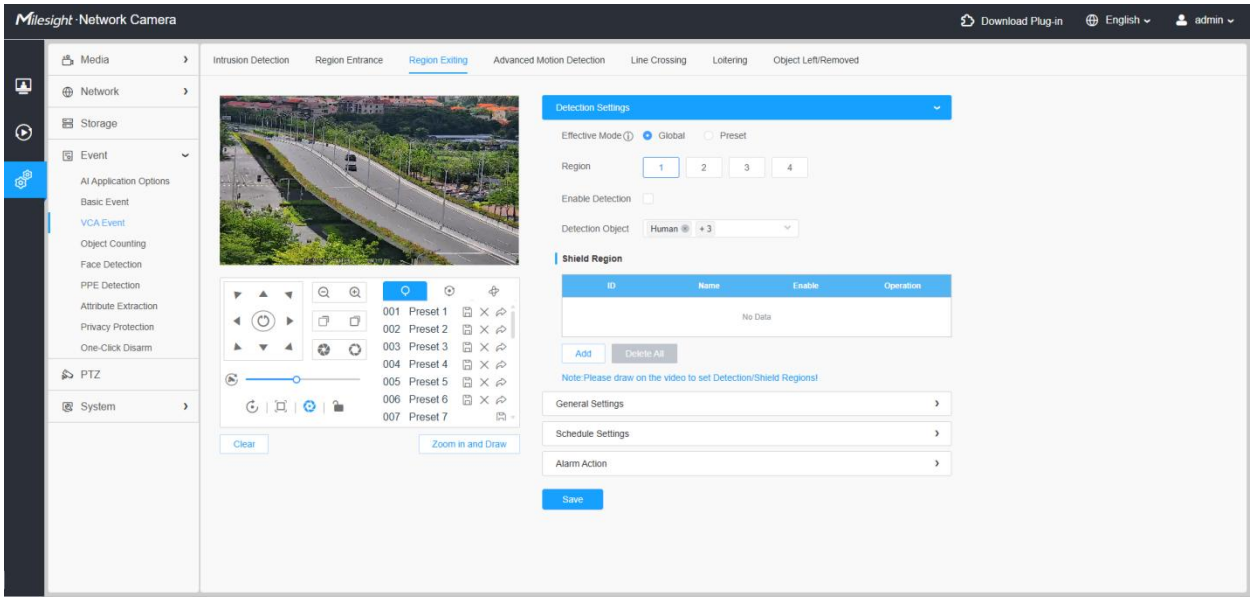
Step6: Set an alarm action.



Note: This part is the same as the regular alarm settings. You can refer to 8.4.1.1 Motion Detection

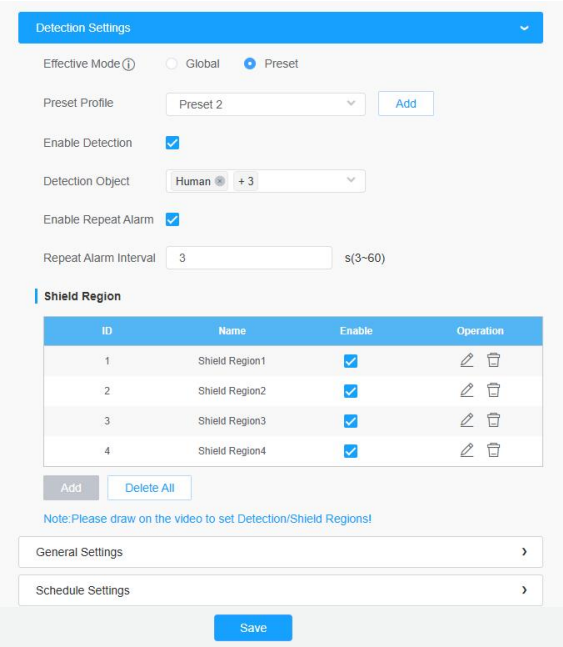
8.4.2.3 Region Exiting

Region exiting is to make sure that any person or object won't exit the area that is being monitored. Any exit of people or objects will trigger an alarm.



Settings steps are shown as follows:

[Detection Settings]



Step 1:

Go to **Settings > Event > VCA Event > Region Exiting**.

Step 2:
Select the **Effective Mode**:

- **Global:** The same set of detection rules applies regardless of the PTZ position.
- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step 3:
Draw a detection region on the live view. You can also click **Zoom in and Draw** for more precise area selection.

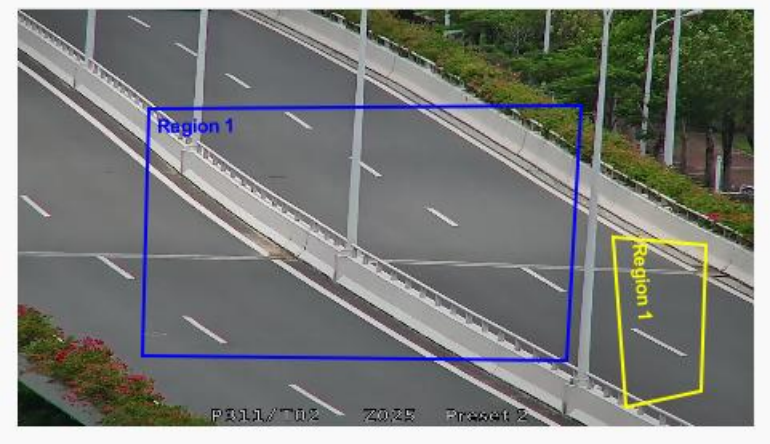
- In **Global** mode, up to four detection regions can be drawn.
- In **Preset** mode, only one detection region can be drawn for each preset.

Step 4:
Enable **Region Exiting**.

Step 5:
Select the detection object(s): **Human**, **Non-motor Vehicle** (E-scooter, Bicycle), or **Vehicle** (Bus, Car, Truck). An alarm will be triggered when the selected object is detected.

Step 6:
Enable **Repeat Alarm** if you want the alarm to repeat. Set the **Repeat Alarm Interval** (3–60 seconds).

Step 7:
To exclude certain areas from detection, manually draw and add up to four **Shield Regions**. The method is the same as drawing detection regions. Detection regions are marked with a blue box, and shield regions with a yellow box.



[General Settings]

Step4: Set detecting sensitivity and object size limits, and set the trigger mode with General Mode or Bottom Mode.

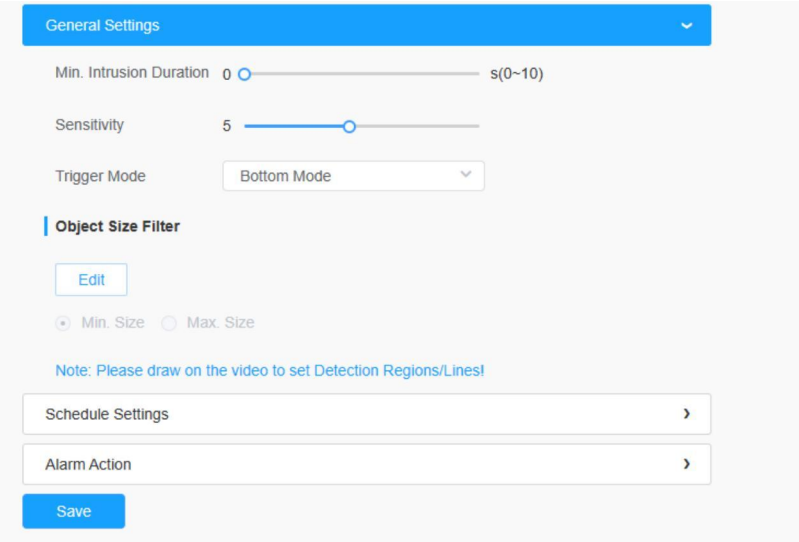
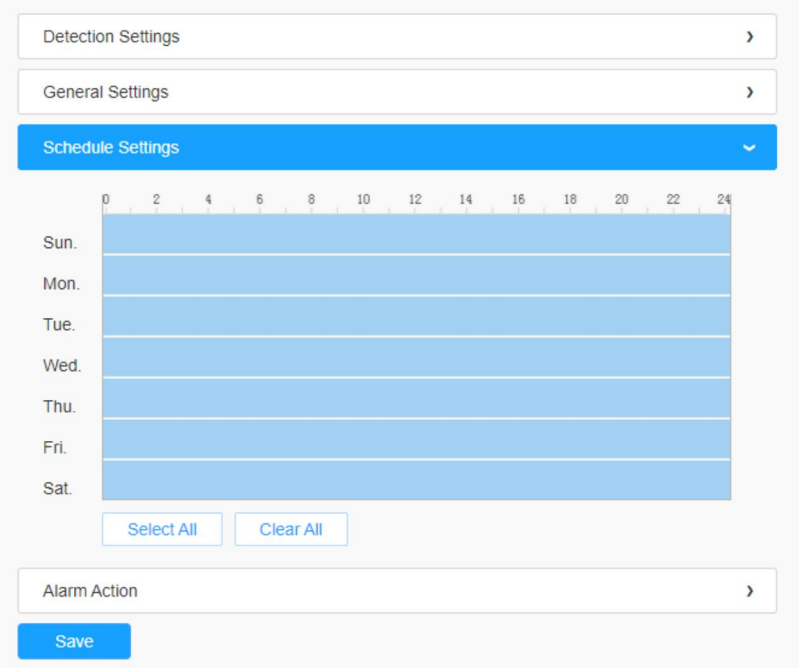


Table 53. Description of the buttons

Parameters	Function Introduction
Sensitivity	Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results.
Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. General Mode: The alarm is triggered when the object's body roughly enters the detection area. Bottom Mode: the alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/bottom detection preference.
Min. Size	Draw the screen to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.
Max. Size	Draw the screen to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

[Schedule Settings]

Step5: Set a detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection

[Alarm Action]

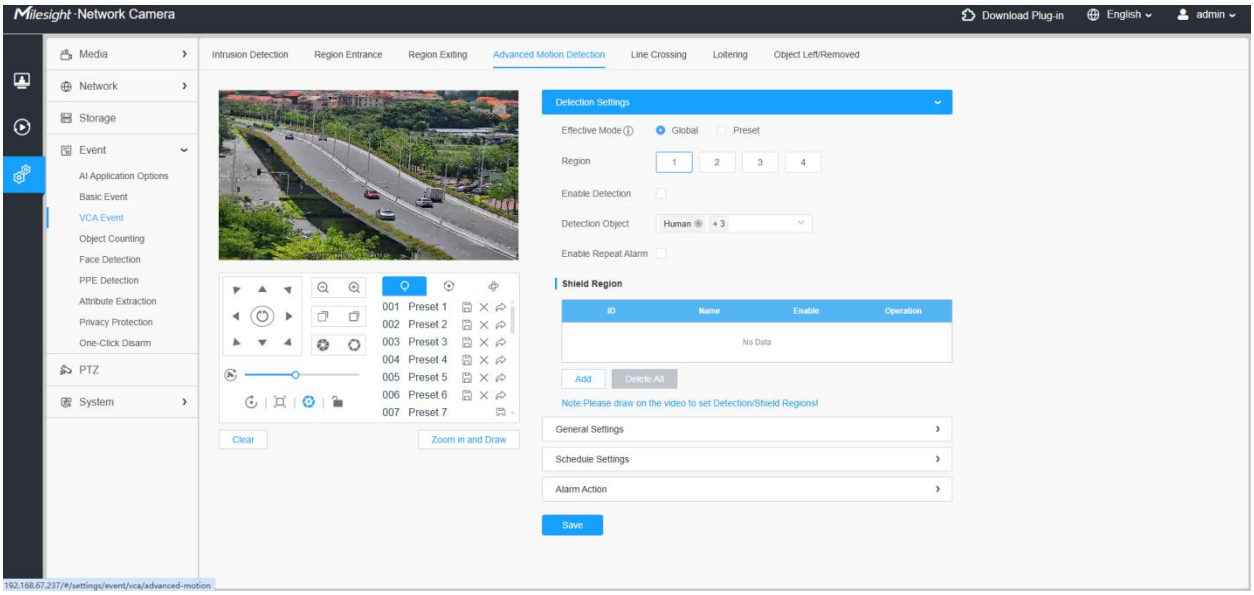
Step6: Set an alarm action.



Note: This part is the same as the regular alarm settings. You can refer to 8.4.1.1 Motion Detection

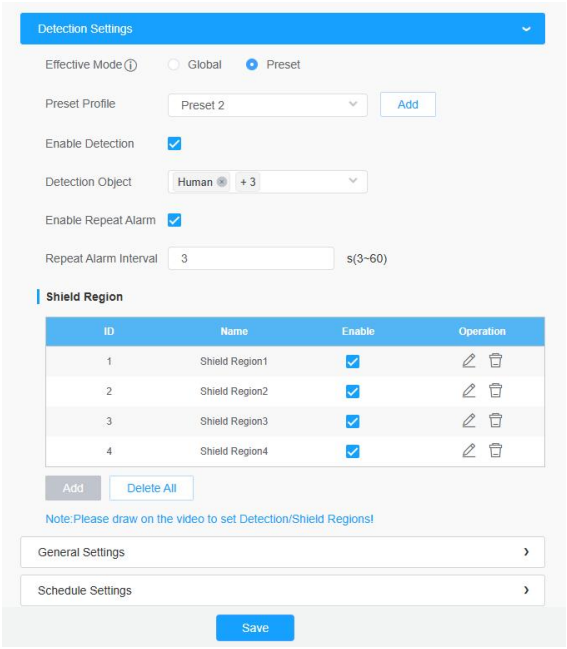
8.4.2.4 Advanced Motion Detection

Different from traditional motion detection, advanced motion detection can filter out “noise” such as lighting changes, natural tree movements, etc. When an object moves in the selected area, it will trigger alarm.



Settings steps are shown as follows:

[Detection Settings]



Step 1:

Go to **Settings > Event > VCA Event > Advanced Motion Detection**.

Step 2:

Select the **Effective Mode**:

- **Global:** The same set of detection rules applies regardless of the PTZ position.
- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step 3:
Draw a detection region on the live view. You can also click **Zoom in and Draw** for more precise area selection.

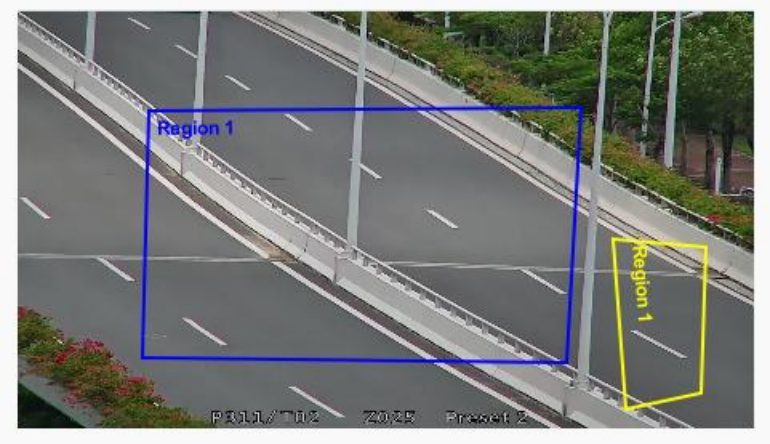
- In **Global** mode, up to four detection regions can be drawn.
- In **Preset** mode, only one detection region can be drawn for each preset.

Step 4:
Enable **Advanced Motion Detection**.

Step 5:
Select the detection object(s): **Human**, **Non-motor Vehicle** (E-scooter, Bicycle), or **Vehicle** (Bus, Car, Truck). An alarm will be triggered when the selected object is detected.

Step 6:
Enable **Repeat Alarm** if you want the alarm to repeat. Set the **Repeat Alarm Interval** (3–60 seconds).

Step 7:
To exclude certain areas from detection, manually draw and add up to four **Shield Regions**. The method is the same as drawing detection regions. Detection regions are marked with a blue box, and shield regions with a yellow box.



[General Settings]

Step4: Set Ignore Short-Lived Motion time. If you set the time, when the moving duration of an object is within the setting time, the alarm will not be triggered.

Step5: Set detecting sensitivity and object size limits.

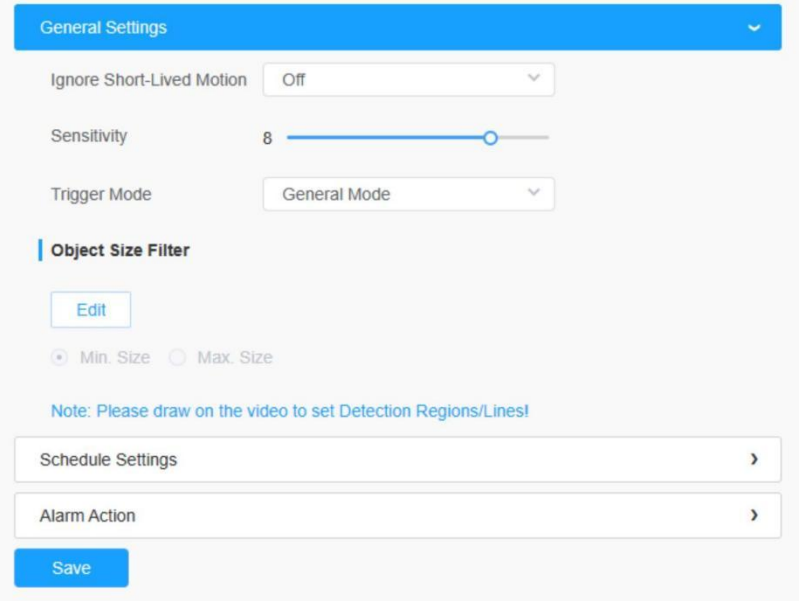


Table 54. Description of the buttons

Parameters	Function Introduction
Ignore Short-Lived Motion	The alarm will not be triggered when the moving duration of an object is within the setting time. Off/1s/2s/3s/4s/5s are available. **Note:** Ignore Short-Lived Motion time is to avoid false alarm caused by instant object movement within time setting.
Sensitivity	Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results. **Note:** The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won't trigger the alarm.
Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. General Mode: The alarm is triggered when the object's body roughly enters the detection area. Bottom Mode: the alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/bottom detection preference.
Min. Size	Draw the screen or input pixel number to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.
Max. Size	Draw the screen or input pixel number to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

[Schedule Settings]

Step6: Set a detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection

[Alarm Action]

Step7: Set an alarm action.



Note:

- This part is the same as the regular alarm settings. You can refer to 8.4.1.1 Motion Detection
- If you enable External Output and choose Constant External Output Action Time, when object motion time is longer than the Ignore Short-Lived Motion time which you set in the selected regions, External Output Action alarm time will be always constant till the alarm is released.

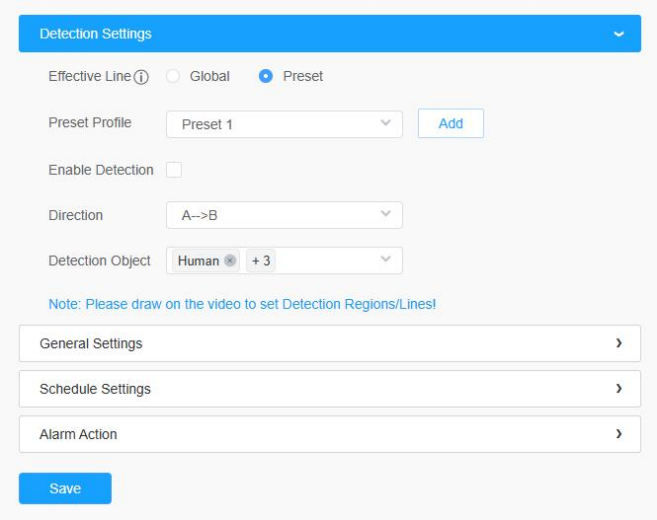
8.4.2.5 Line Crossing

Line Crossing detection is designed to work in most indoor and outdoor environment. An

event will be triggered every time when the camera detects objects crossing a defined virtual line.

Settings steps are shown as follows:

[Detection Settings]



Step 1:

Go to **Settings > Event > VCA Event > Line Crossing**.

Step 2:

Select the **Effective Mode**:

- **Global:** The same set of detection rules applies regardless of the PTZ position.
- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step3: Draw a detection line, enable line crossing detection and define its direction.

Alternatively, you can click the **'Zoom in and Draw'** button to activate a full-screen pop-up window, allowing you to draw more accurate detection lines.

- In **Global** mode, up to four detection lines can be drawn.
- In **Preset** mode, only one detection line can be drawn for each preset.

Note:

• Allows to set up to four lines at a time. There are three direction modes to choose for triggering alarm. “A-->B” means when there is any object crossing the line from the “A” side to the “B” side, the alarm will be triggered. “B-->A” vice versa. “A<--> B” means that the alarm will be triggered when objects cross line from either side.

Step 4:

Enable **Detection**.

Step 5:

Select the detection object(s): **Human**, **Non-motor Vehicle** (E-scooter, Bicycle), or **Vehicle** (Bus, Car, Truck). An alarm will be triggered when the selected object is detected.

[General Settings]

Step4: Set detecting sensitivity and object size limits.

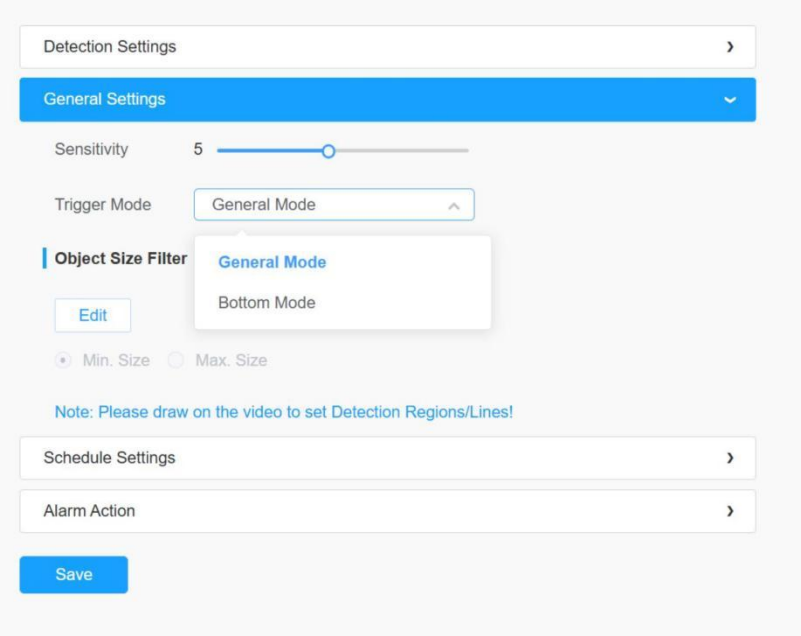
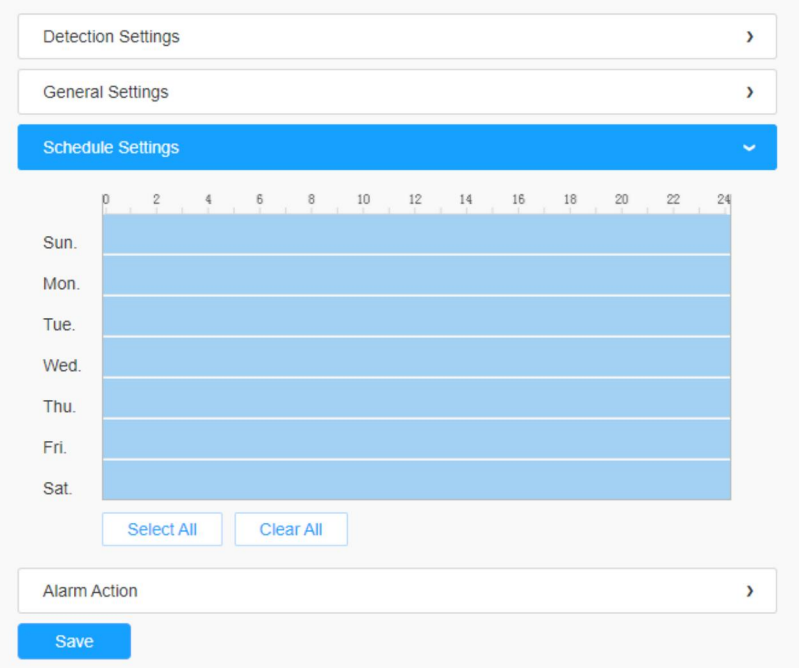


Table 55. Description of the buttons

Parameters	Function Introduction
Sensitivity	Level 1~10 are available. The default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results.
Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. General Mode: The alarm is triggered when the object's body roughly enters the detection area. Bottom Mode: the alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/bottom detection preference.
Min. Size	Draw the screen to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.
Max. Size	Draw the screen to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

[Schedule Settings]

Step5: Set a detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection

[Alarm Action]

Step6: Set an alarm action.

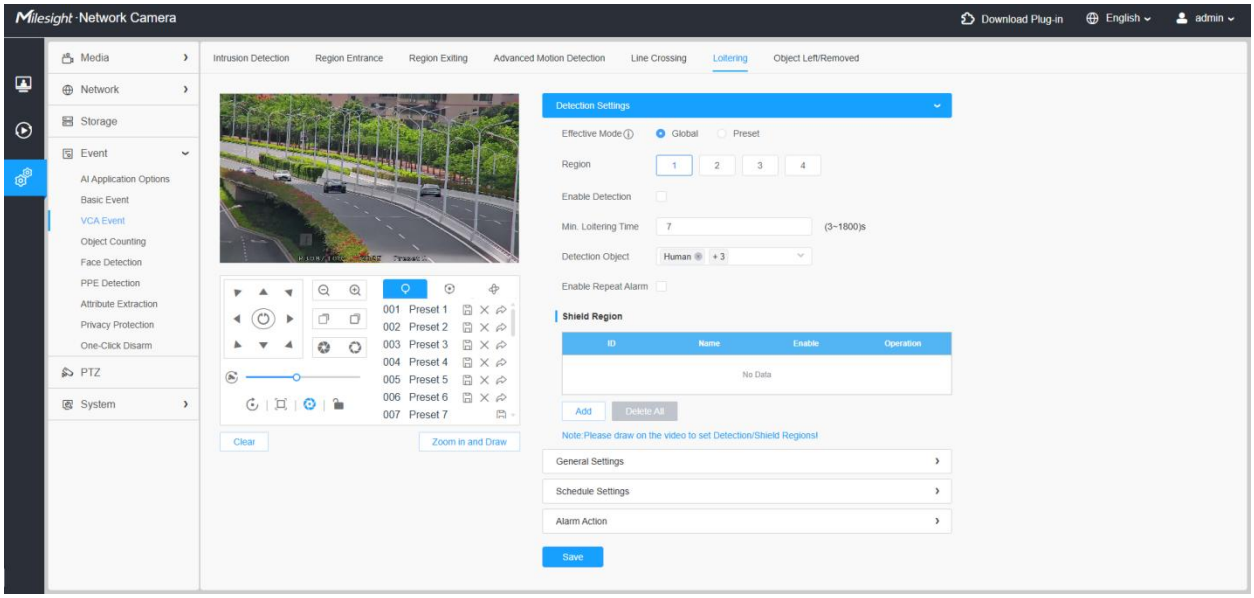


Note:

- This part is the same as the regular alarm settings. You can refer to 8.4.1.1 Motion Detection
- If you enable External Output and choose Constant External Output Action Time, when objects cross a defined virtual line, External Output Action alarm time will be always constant till the alarm is released

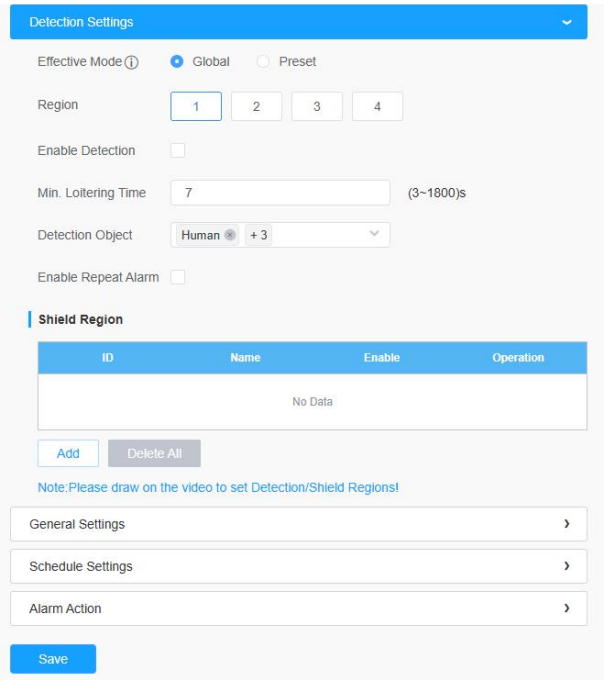
8.4.2.6 Loitering

When objects are loitering in a defined area for a specific period of time, it would trigger an alarm.



Settings steps are shown as follows:

[Detection Settings]



Step 1:
Go to **Settings > Event > VCA Event > Loitering**.

Step 2:
Select the **Effective Mode**:

- **Global:** The same set of detection rules applies regardless of the PTZ position.
- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step 3:
Draw a detection region on the live view. You can also click **Zoom in and Draw** for more precise area selection.

- In **Global** mode, up to four detection regions can be drawn.
- In **Preset** mode, only one detection region can be drawn for each preset.

Step 4:
Enable **Detection**.

Step 5:

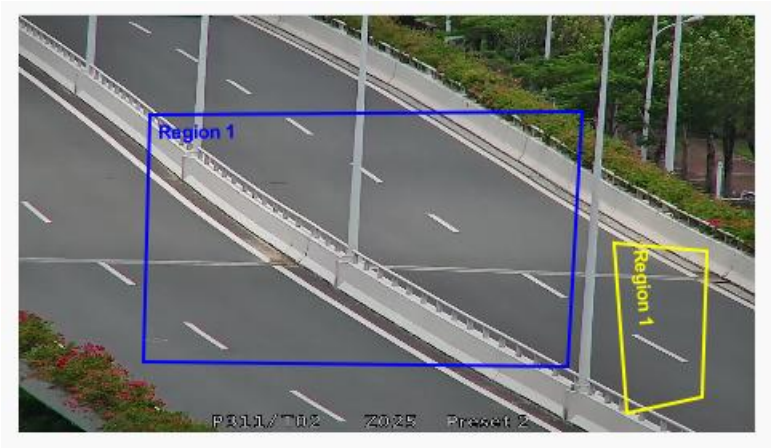
Set Min. Loitering Time. After setting minimum loitering time from 3s to 1800s, any objects loitering in the selected area over the minimum loitering time will trigger the alarm.

Step 6:
Select the detection object(s): **Human**, **Non-motor Vehicle** (E-scooter, Bicycle), or **Vehicle** (Bus, Car, Truck). An alarm will be triggered when the selected object is detected.

Step 7:
Enable **Repeat Alarm** if you want the alarm to repeat. Set the **Repeat Alarm Interval** (3–60 seconds).

Step 8:

To exclude certain areas from detection, manually draw and add up to four **Shield Regions**. The method is the same as drawing detection regions. Detection regions are marked with a blue box, and shield regions with a yellow box.



[General Settings]

Step5: Set object size limits.

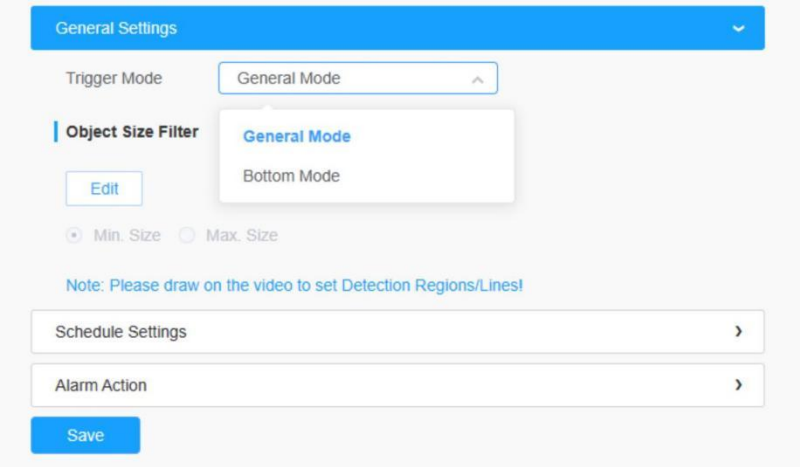


Table 56. Description of the buttons

Parameters	Function Introduction
Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. General Mode: The alarm is triggered when the object's body roughly enters the detection area. Bottom Mode: the alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/bottom detection preference.
Min. Size	Draw the screen to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.

Max. Size	Draw the screen to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

[Schedule Settings]

Step6: Set a detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection

[Alarm Action]

Step7: Set an alarm action.



Note:

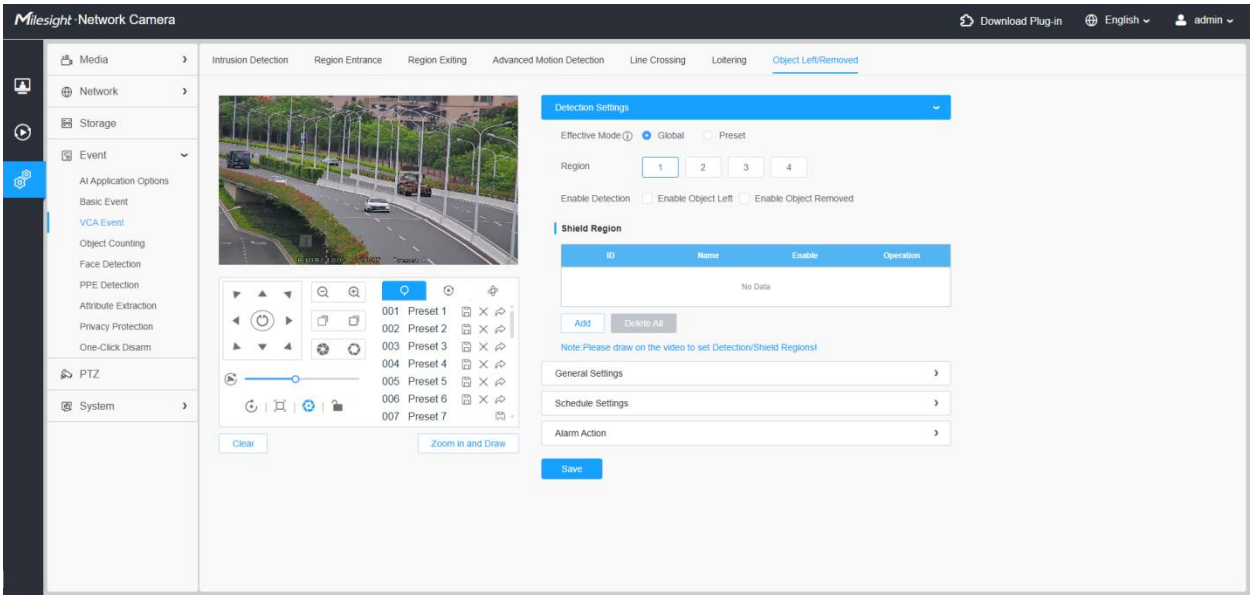
- This part is the same as the regular alarm settings. You can refer to 8.4.1.1 Motion Detection

- If you enable External Output and choose Constant External Output Action Time, when objects loiter in the selected regions, External Output Action alarm time will be always constant till the alarm is released.

8.4.2.7 Object Left/Removed

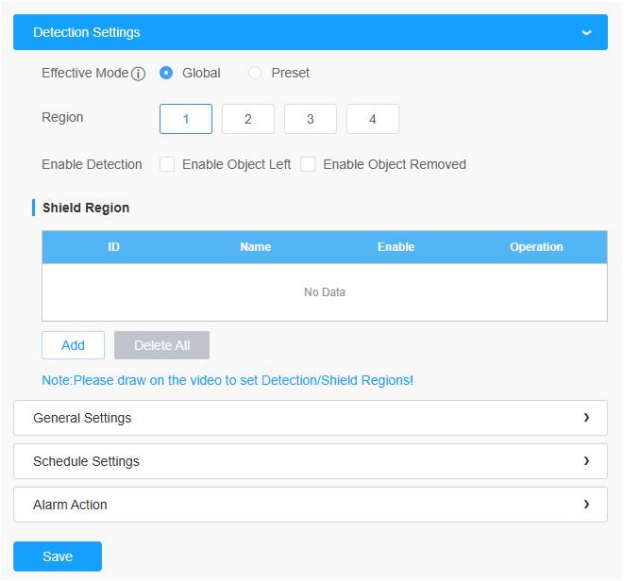
Object Left can detect and prompt an alarm if an object is left in a pre-defined region.

Object Removed can detect and prompt an alarm if an object is removed from a pre-defined region.



Settings steps are shown as follows:

[Detection Settings]



Step 1:
Go to **Settings > Event > VCA Event > Object Left/Removed**.

Step 2:
Select the **Effective Mode**:

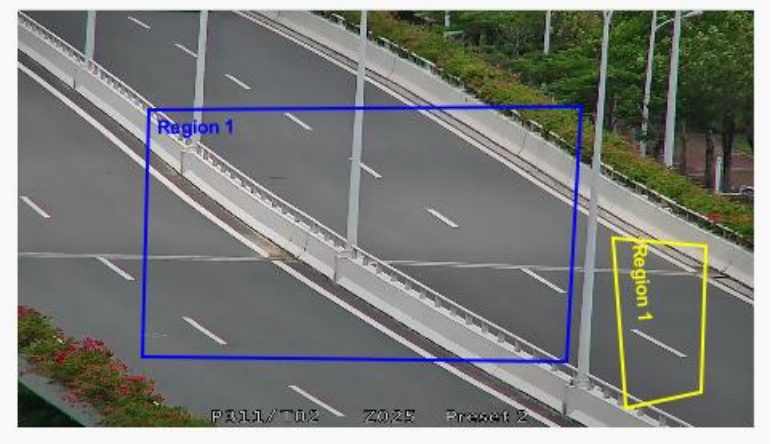
- **Global:** The same set of detection rules applies regardless of the PTZ position.
- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step 3:
Draw a detection region on the live view. You can also click **Zoom in and Draw** for more precise area selection.

- In **Global** mode, up to four detection regions can be drawn.
- In **Preset** mode, only one detection region can be drawn for each preset.

Step 4:
Enable **Detection**.

Step 5:
To exclude certain areas from detection, manually draw and add up to four **Shield Regions**. The method is the same as drawing detection regions. Detection regions are marked with a blue box, and shield regions with a yellow box.



[General Settings]

Step3: Set Min. time, detecting sensitivity and object size limits.

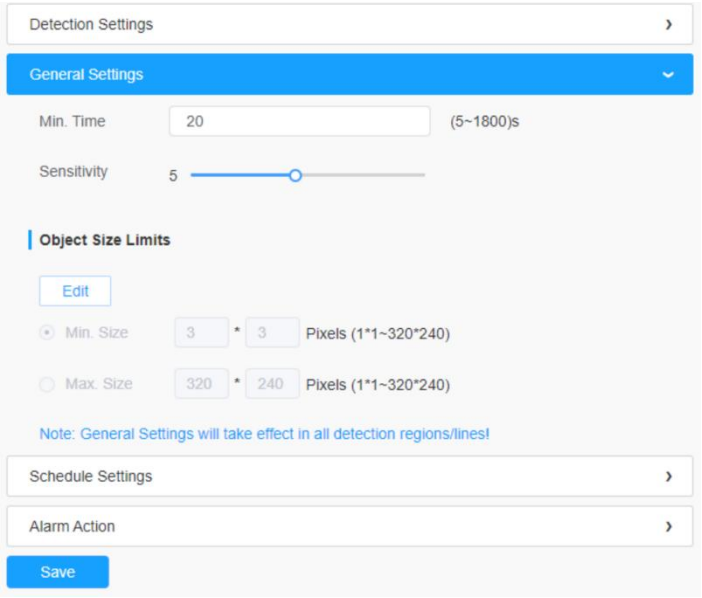
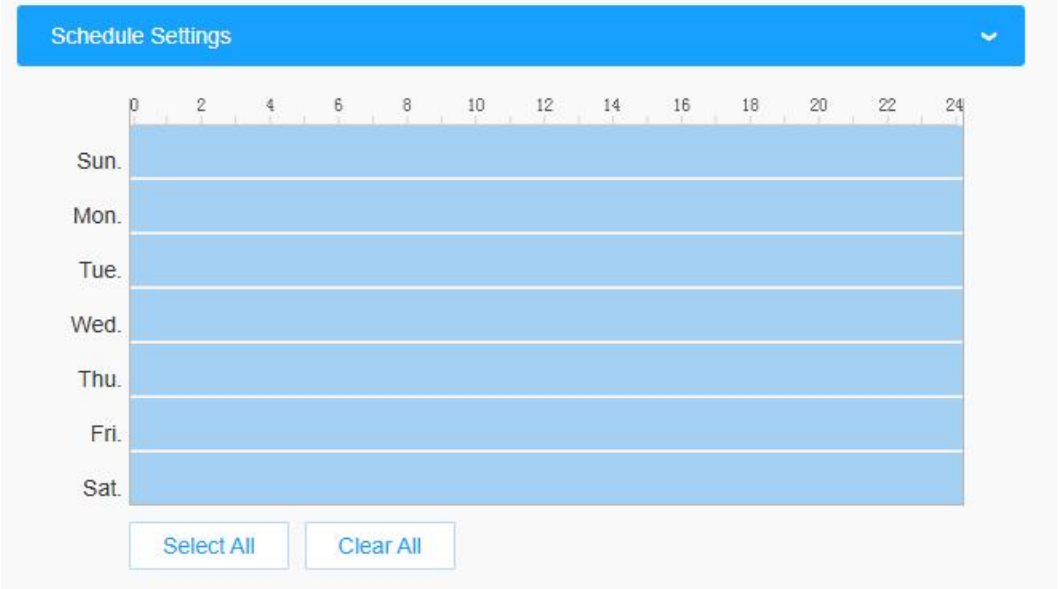


Table 57. Description of the buttons

Parameters	Function Introduction
Min. Time	After setting Min. time from 5s to 1800s, any objects are left in the selected area or removed from the selected area over the minimum time will trigger the alarm.
Sensitivity	Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results. **Note:** The sensitivity can be configured to detect various movement according to different requirements. When the level of sensitivity is low, slight movement won't trigger the alarm.
Min. Size	Draw the screen or input pixel number to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.
Max. Size	Draw the screen or input pixel number to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

[Schedule Settings]

Step4: Set a detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection

[Alarm Action]

Step5: Set an alarm action.



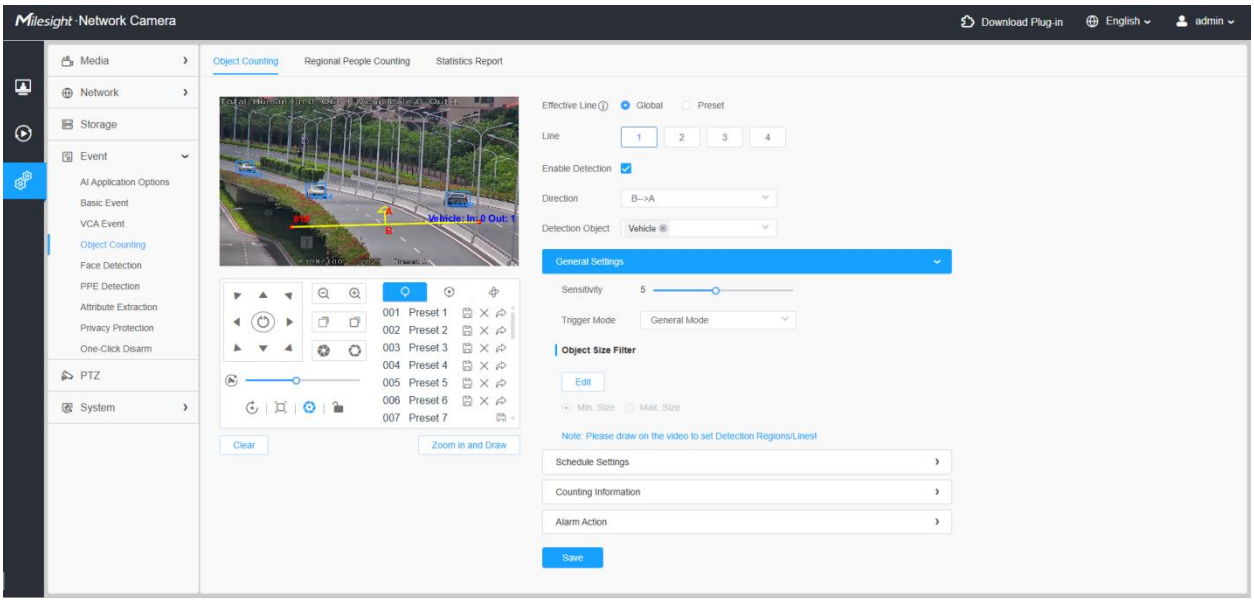
Note:

- This part is the same as the regular alarm settings. You can refer to 8.4.1.1 Motion Detection
- If you enable External Output and choose Constant External Output Action Time, when an object is left/removed from the selected regions, External Output Action alarm time will be always constant till the alarm is released.

8.4.3 Object Counting

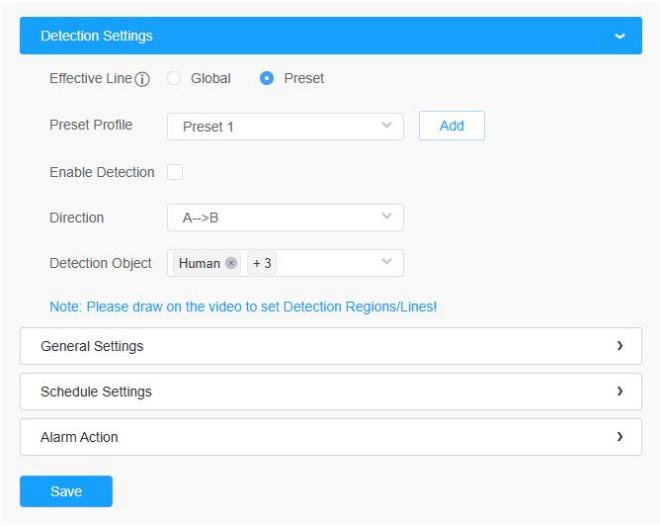
8.4.3.1 Object Counting

Object counting is able to count how many object enter or exit during the setting period.



Settings steps are shown as follows:

[Detection Settings]



Step 1:

Go to Settings > Event > AI Application Options, and enable Object Counting.

Step2:

Go to **Settings > Event > VCA Event > Object Counting**.

Step 3:

Select the **Effective Mode**:

- **Global:** The same set of detection rules applies regardless of the PTZ position.
- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step3: Draw a detection line and define its direction.

Alternatively, you can click the **'Zoom in and Draw'** button to activate a full-screen pop-up window, allowing you to draw more accurate detection lines.

- In **Global** mode, up to four detection lines can be drawn.
- In **Preset** mode, only one detection line can be drawn for each preset.



Note:

•Crossing along the direction of the arrow will record as “In”, opposite is “Out”.

Step 4:

Enable **Detection**.

Step 5:

Select a detection object including human and vehicle.

[General Settings]

Step6: Set sensitivity, Trigger Mode and object size limits.

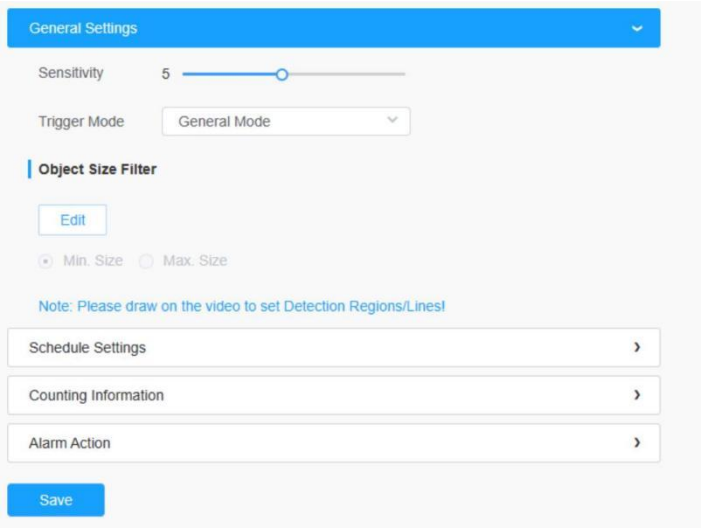


Table 58. Description of the buttons

Parameters	Function Introduction

Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. **General Mode:** The alarm is triggered when the object's body roughly enters the detection area. **Bottom Mode:** the alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/bottom detection preference.
Sensitivity	Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results.
Min. Size	Draw the screen to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.
Max. Size	Draw the screen to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

[Schedule Settings]

Step7: Set a detection schedule.

Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection

[Counting Information]

Step8: Set counting information.

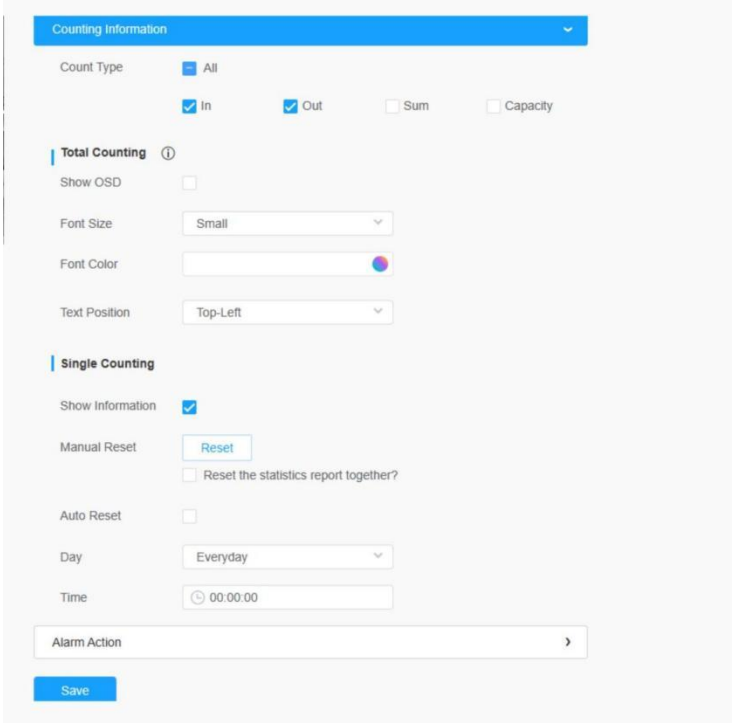
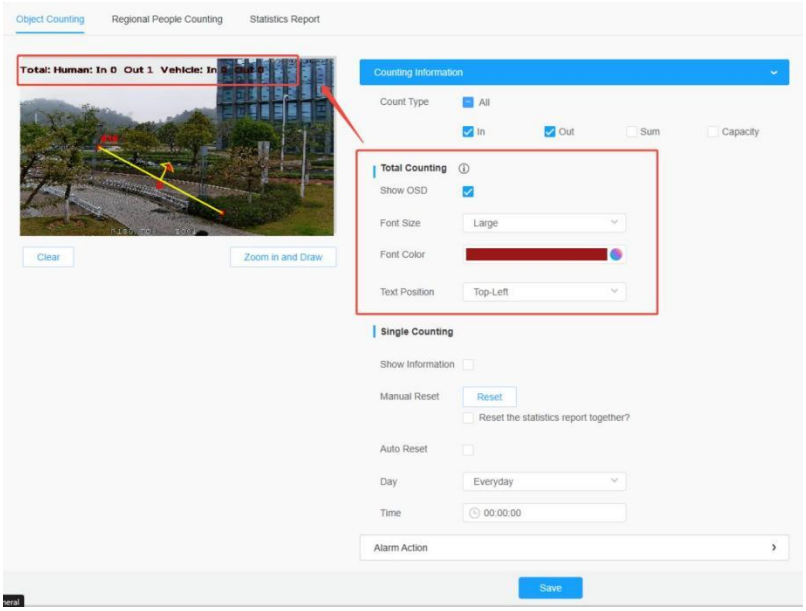
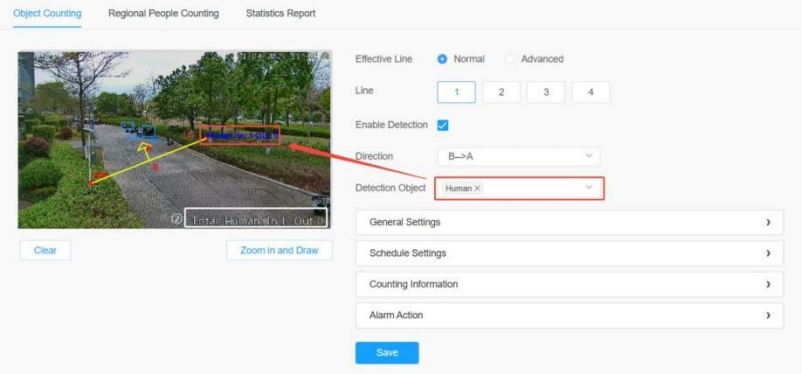


Table 59. Description of the buttons

Parameters	Function Introduction
Count Type	Choose the information you want to display in Live Video.
Total Counting	Set counting OSD. **Note:** The Total Counting OSD configuration is linked in all detection lines. **Show OSD:** Click to enable/disable the OSD shown. **Font Size:** The font size of the OSD display. **Font Color:** The font color of the OSD display. **Text Position:** The text position of the OSD display. 

Single Counting	Set Single Counting. **Note:** The Total Counting OSD configuration is linked in all detection lines. **Show Information:** Click it to show the information. **Note:** • When the detection object is set to "Human" or "Vehicle" only, the **Line OSD** will display "Human" or "Vehicle" accordingly to indicate the counting of these objects, Otherwise, this data will not be shown. • To hide the "Human" or "Vehicle" count in the **Total OSD**, you must deselect the corresponding detection object in all four lines. If at least one line has "Human" or "Vehicle" detection enabled, the **Total OSD** will continue to display the respective count.  **Manual Reset:** Reset the counting of each single line. You can choose to reset the statistics report together. **Auto Reset:** It is used to automatically clear the single counting information. **Day:** The day of Auto Reset. **Time:** The time of Auto Reset.

[Alarm Action]

Step9: Set alarm trigger and alarm action.

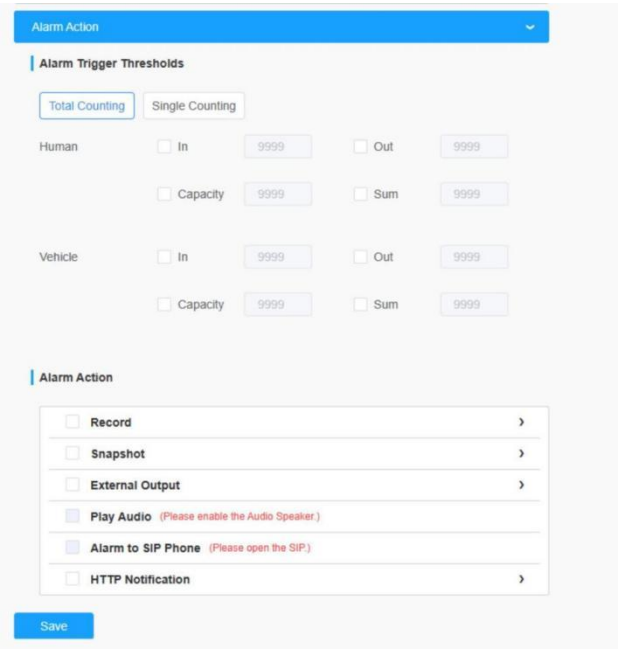


Table 60. Description of the buttons

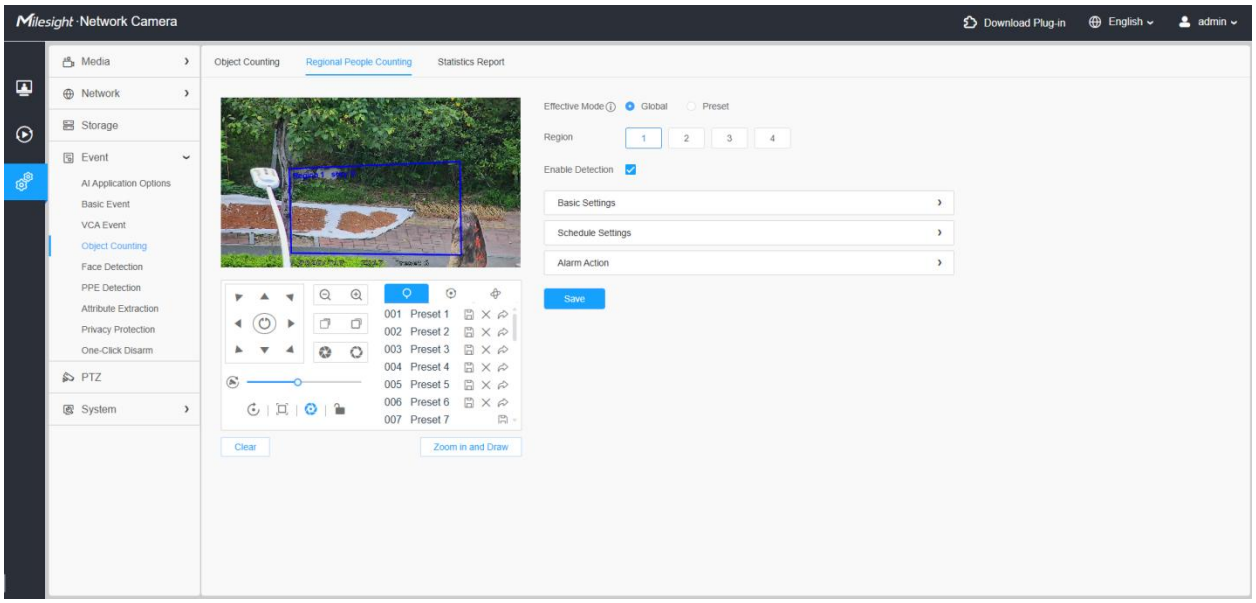
Parameters	Function Introduction
Alarm Trigger	Alarm will be triggered when the thresholds reaches to a certain value from 1 to 9999. Total Counting and Single Counting are available. You can set the Alarm Thresholds of In/Out/Capacity/Sum. **Note:** • For Total Counting, the thresholds are the sum of the total number of 4 detection lines. • For Single Counting, the threshold is for the selected detection line.
Alarm Action	This part is the same as the regular alarm settings. You can refer to 8.4.1.1 Motion Detection **Note:** • The alarm action is effective on 4 detection lines simultaneously. • If you enable External Output and choose Constant External Output Action Time, when the thresholds reach to a certain value you set, External Output Action alarm time will be always constant till the alarm is released.

8.4.3.2 Regional People Counting

When enabling Regional People Counting, users can check the real-time number of people and the time of each person's stay in the detection region.

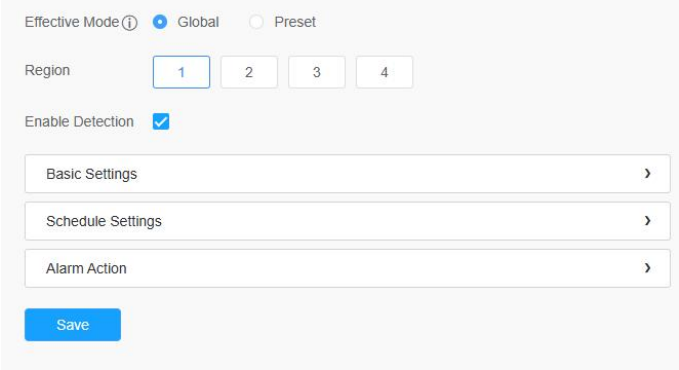
Note:

• You can check the real-time number of people and the time of each person's stay in the detection region on Live View interface.



Settings steps are shown as follows:

[Detection Settings]



Step 1:

Go to Settings > Event > AI Application Options, and enable Object Counting.

Step2:

Go to **Settings > Event > VCA Event > Region People Counting**.

Step 2:

Select the **Effective Mode**:

- **Global:** The same set of detection rules applies regardless of the PTZ position.
- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step 3:

Draw a detection region on the live view. You can also click **Zoom in and Draw** for more precise area selection.

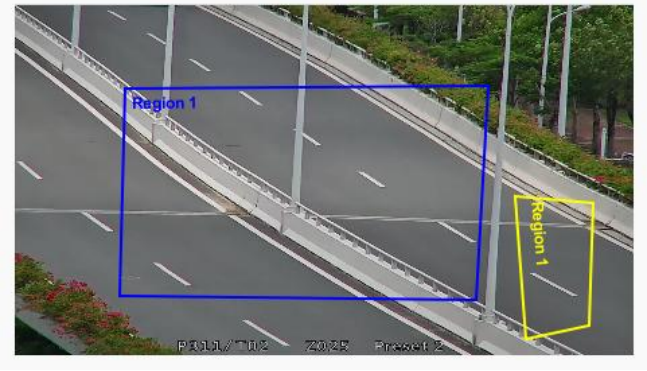
- In **Global** mode, up to four detection regions can be drawn.
- In **Preset** mode, only one detection region can be drawn for each preset.

Step 4:

Enable **Detection**.

Step 5:

To exclude certain areas from detection, manually draw and add up to four **Shield Regions**. The method is the same as drawing detection regions. Detection regions are marked with a blue box, and shield regions with a yellow box.



[Basic Settings]

Step3: Set sensitivity and object size limits.

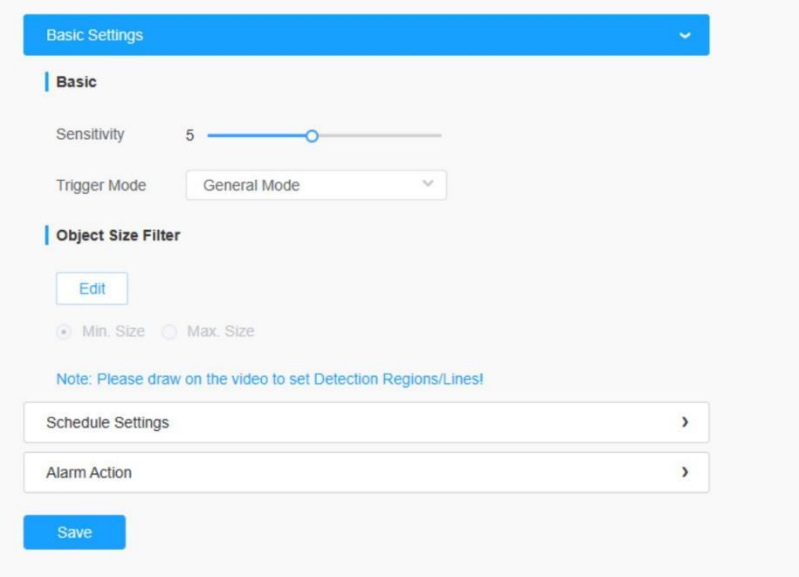


Table 61. Description of the buttons

Parameters	Function Introduction
Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. **General Mode:** The alarm is triggered when the object's body roughly enters the detection area. **Bottom Mode:** the alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/bottom detection preference.
Sensitivity	Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results.
Min. Size	Draw the screen or input pixel number to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.
Max. Size	Draw the screen or input pixel number to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

[Schedule Settings]

Step4: Set a detection schedule.

Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection

[Alarm Action]

Step5: Set alarm trigger and alarm action.

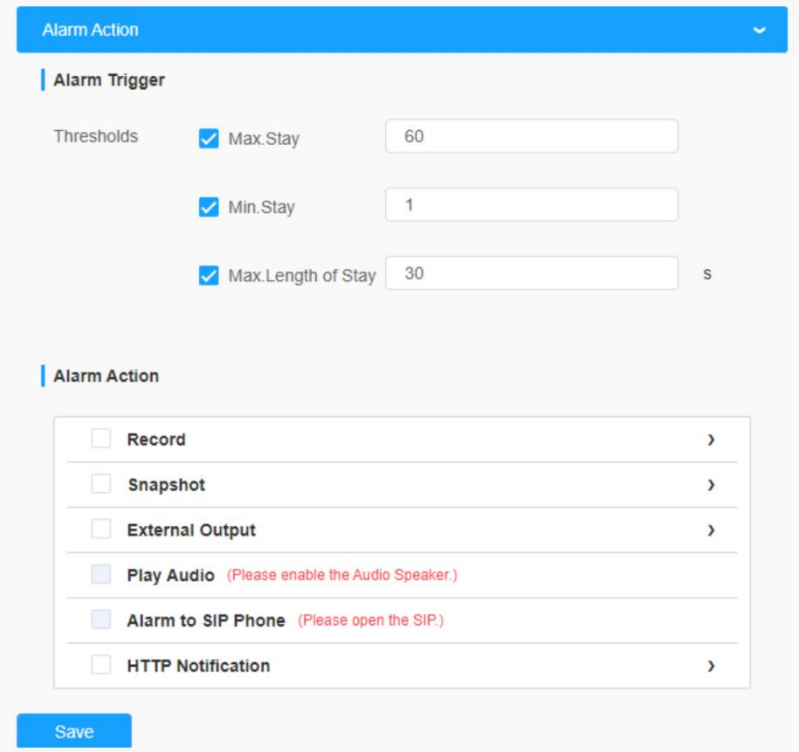
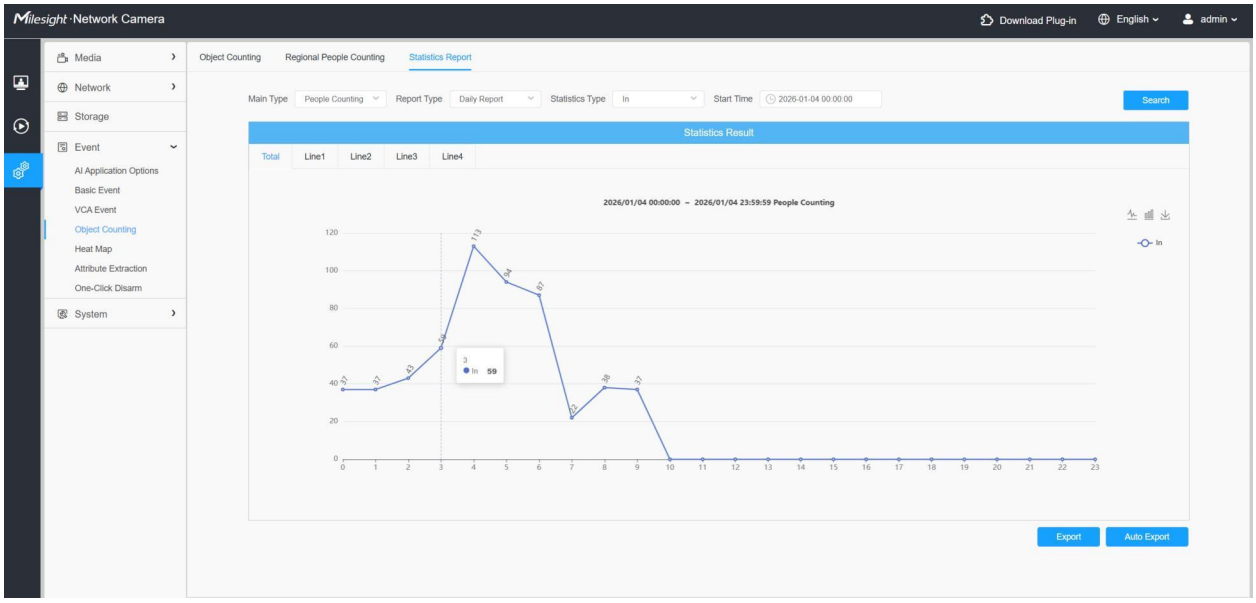


Table 62. Description of the buttons

Parameters	Function Introduction
Alarm Trigger	Alarm will be triggered when the Max./Min. Stay/Max. Length of Stay thresholds reaches to the value. **Note:** The value must be in the range of 1 to 60.
Alarm Action	This part is the same as the regular alarm settings. You can refer to 8.4.1.1 Motion Detection **Note:** • The alarm action is effective on 4 detection regions simultaneously. • If you enable External Output and choose Constant External Output Action Time, when the thresholds reach to a certain value you set, External Output Action alarm time will be always constant till the alarm is released.

8.4.3.3 Statistics Report

The results during the enabling period will be displayed on "**Statistics Report**" interface.



Step 1: Select Main Type.

Step2: Select Report Type including Daily Report, Weekly Report, Monthly Report and Annual Report.

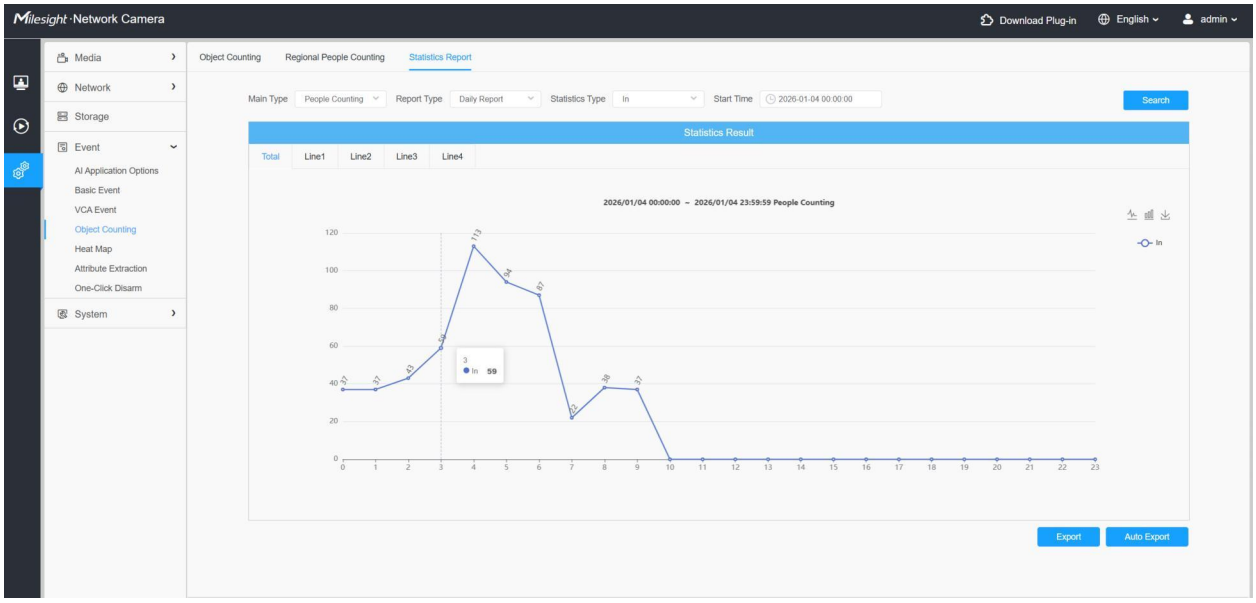
Step3: For people counting and vehicle counting, select Statistics Type including In, Out and Sum. For regional people counting, select Length of Stay including All, More Then and Less Then and set the time of more then/less then.

Note: For regional people counting, check the check box to search the report of regions as needed.

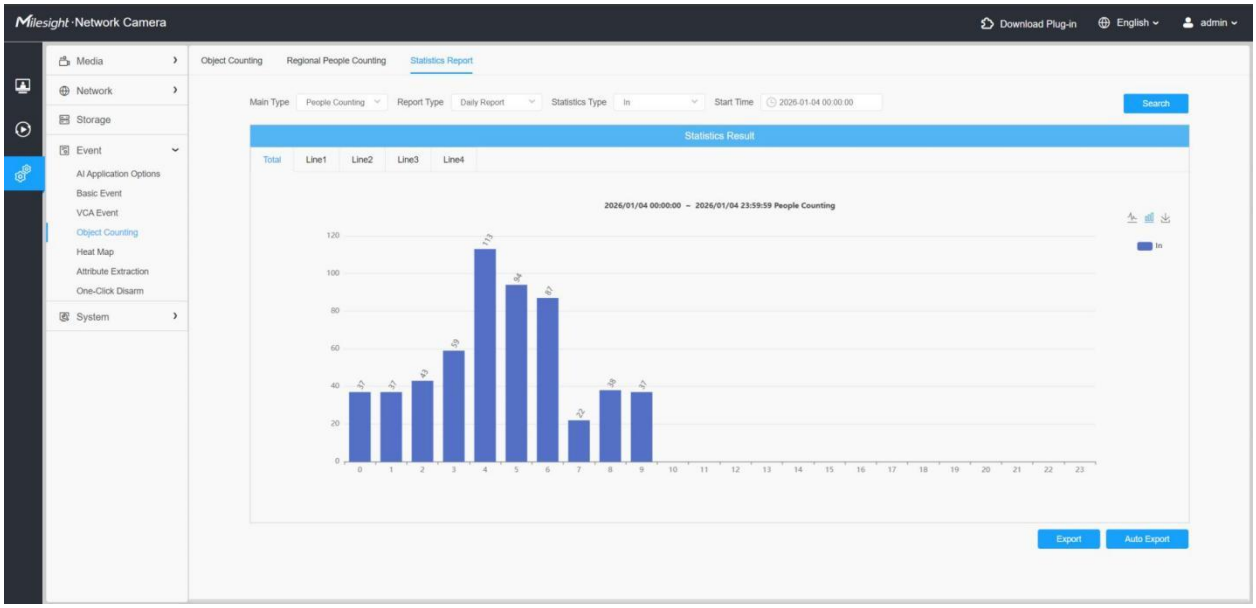
Step4: Select Start Time, then click "Search" button, the camera will automatically count the data for the day/ week/ month/ year (based on the report type selected by the user) from the start time and generate the corresponding report.

Step5: Moreover, you can also click "Line Chart" or "Bar Chart" to switch display mode of Statistics Report as shown below.

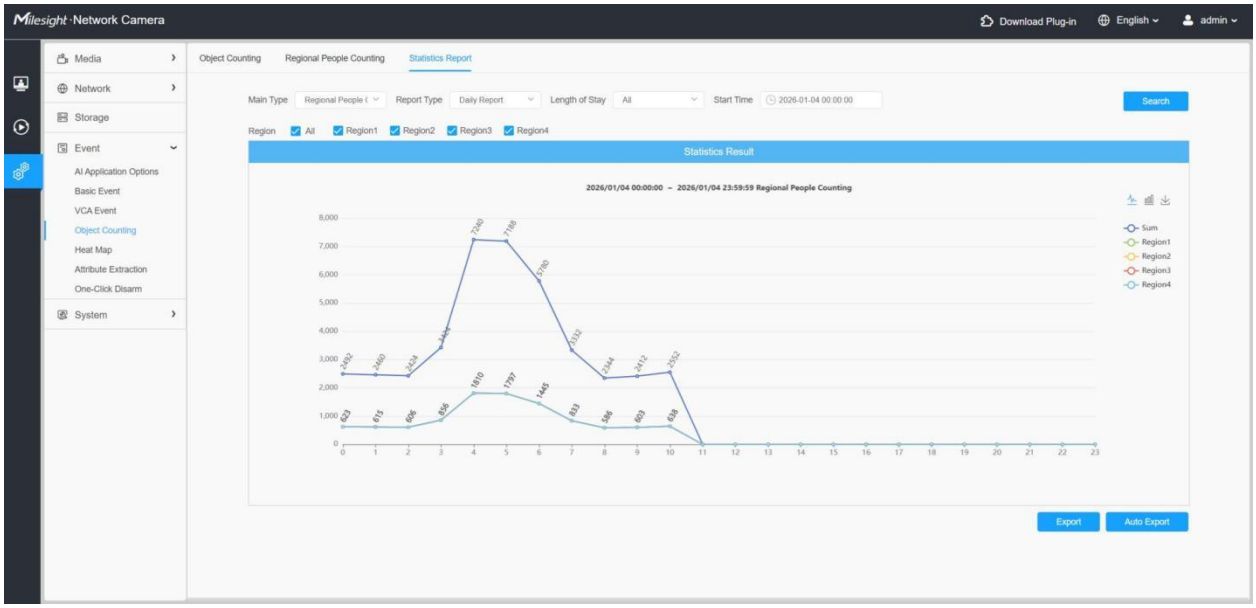
People Counting-Statistics Report (Line Chart)



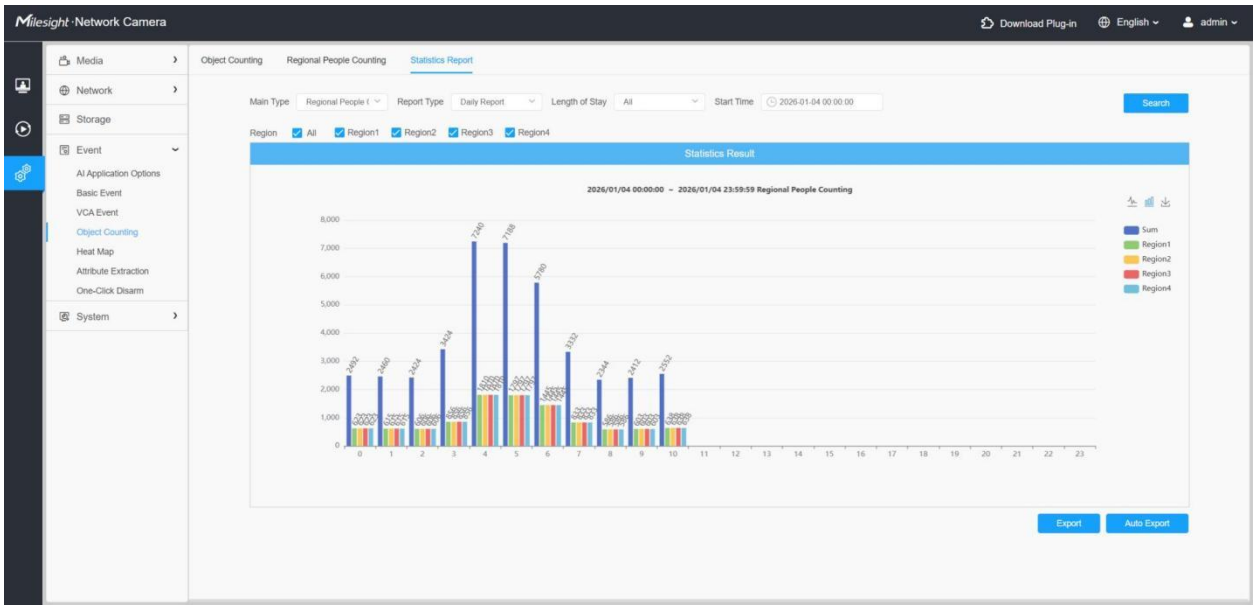
People Counting-Statistics Report (Bar Chart)



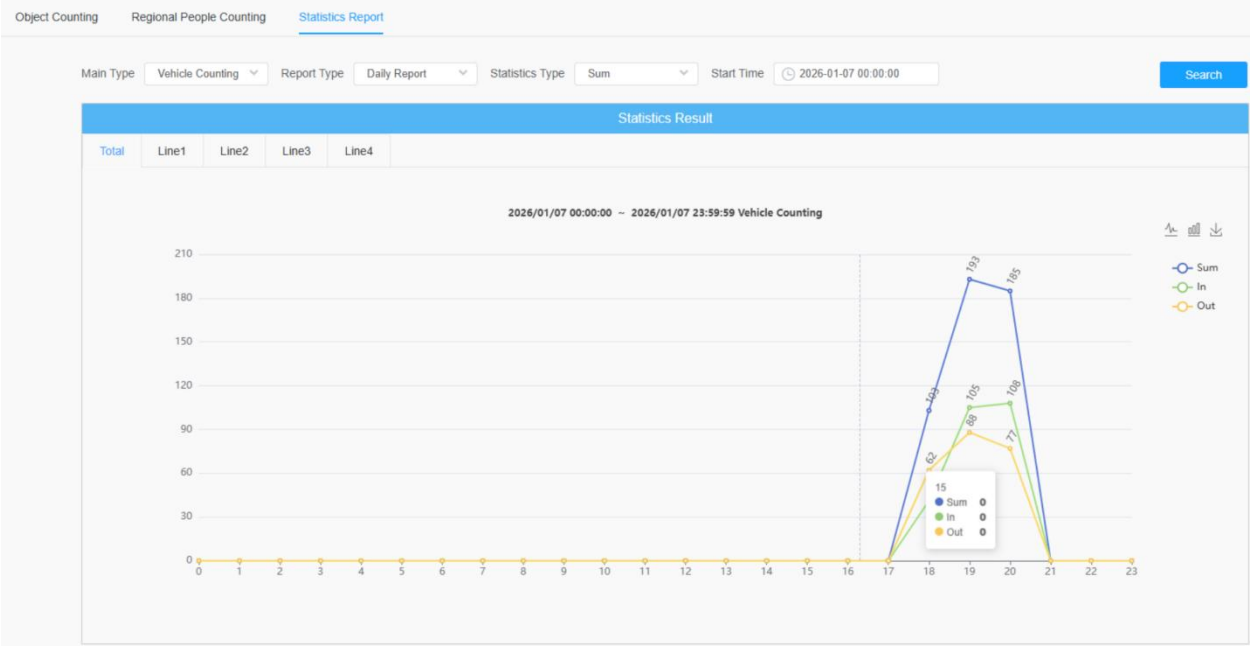
Regional People Counting-Statistics Report (Line Chart)



Regional People Counting-Statistics Report (Bar Chart)



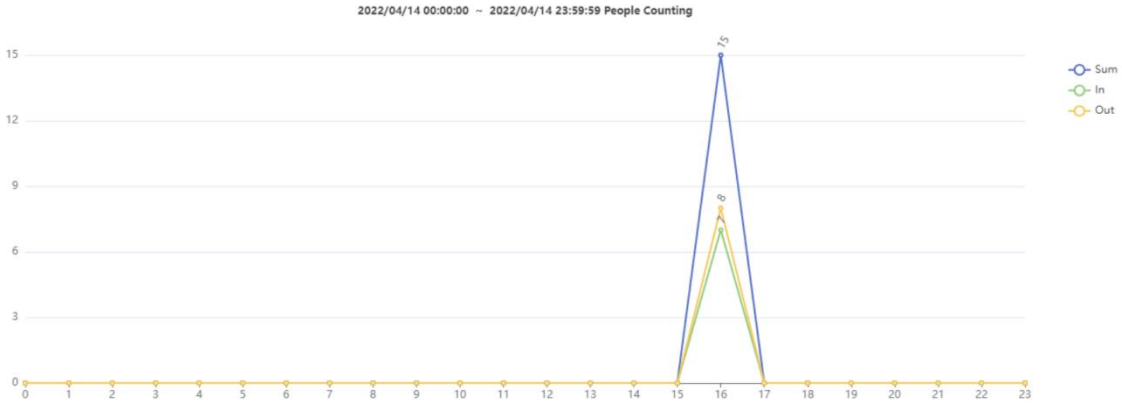
Vehicle Counting-Statistics Report (Line Char)



Vehicle Counting-Statistics Report (Bar Chart)

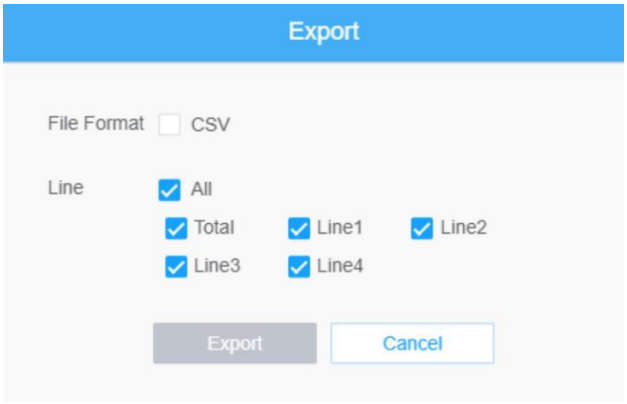


Step6: Click the **Download** button to download the screenshot of the statistical report chart.

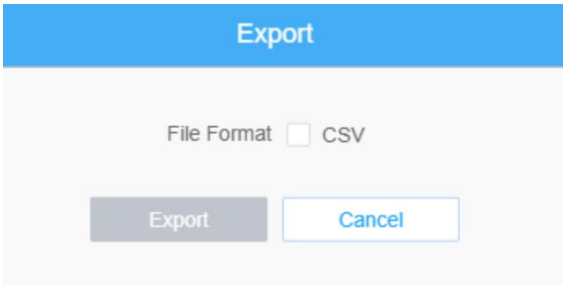


Step7: Click "Export" button to pop up the Export window as shown below, and you can choose File Format to export the report to local. For people counting Statistics Report, you can check the check box to export the report of different lines as needed.

People Counting-Export, *Vehicle Counting-Export*

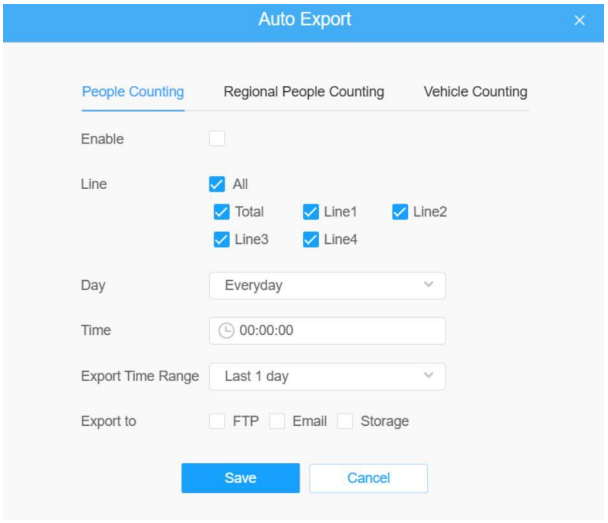


Regional People Counting-Export

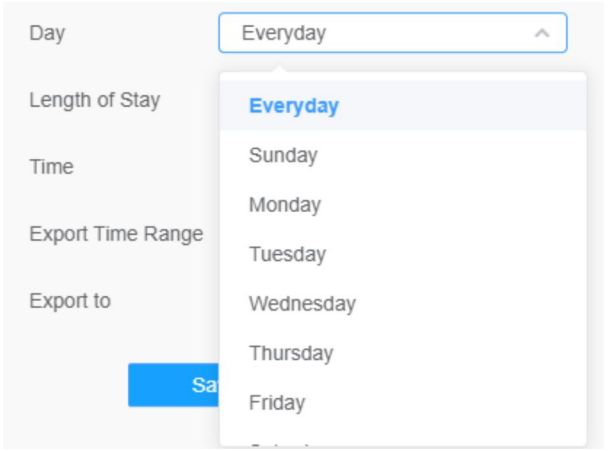


Step8: Click "Auto Export" button to pop up the Statistics Report Settings as shown below.

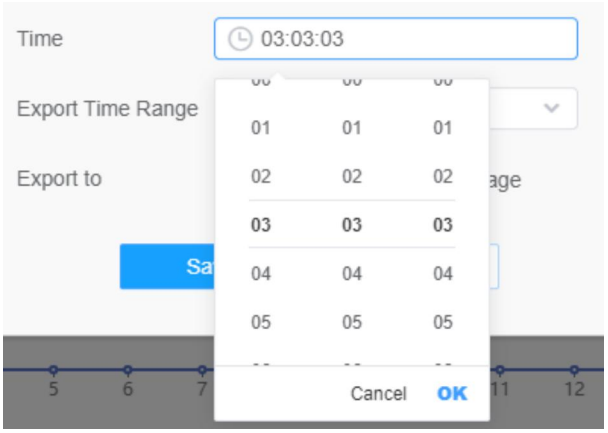
People Counting-Auto Export



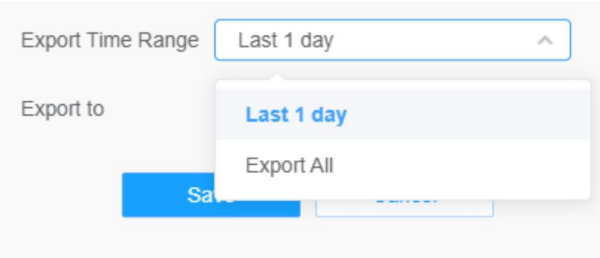
- Check the check box to enable the auto export of people counting, then select the lines as needed.
- Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the week;



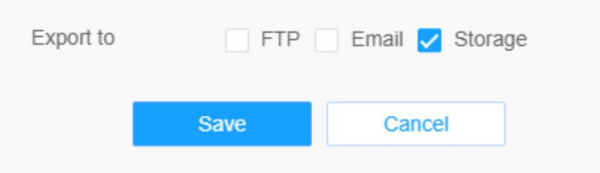
- Set Time. User can choose the time of day to export the Statistics Report automatically, click the calendar icon to pop up the following Quick Selection;



• Set Export Time Range;

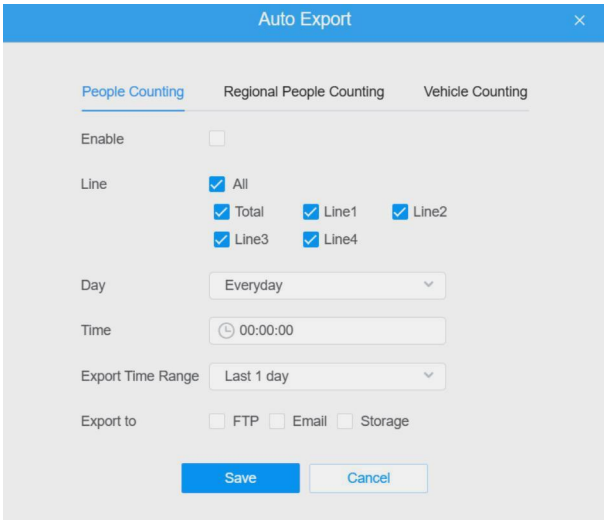


• Set the destination path of the automatically exported report. The report can be exported to FTP/Email/Storage automatically as the form of an Excel spreadsheet according to the day, time and export time range you set. Then click “Save”.



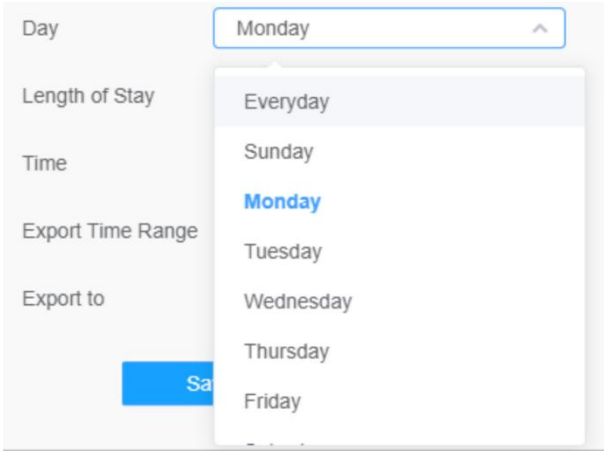
Note: If the current Statistics Report is generated, it will be saved as a csv form.

Regional People Counting-Auto Export

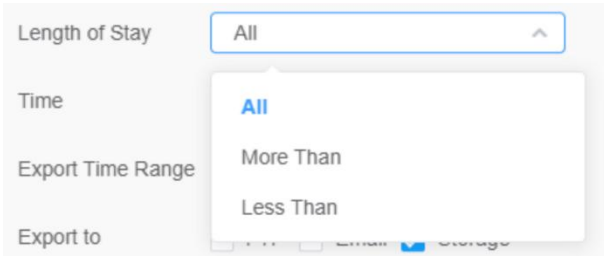


• Check the check box to enable the auto export of regional people counting.

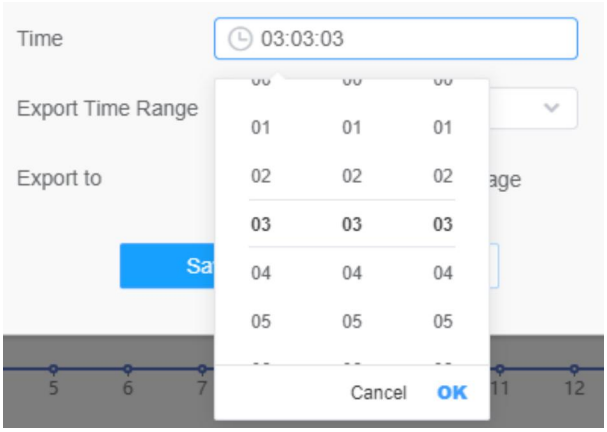
• Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the week;



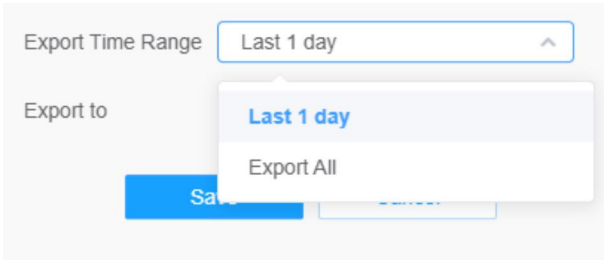
• Set Length of Stay.



• Set Time. User can choose the time of day to export the Statistics Report automatically, click the calendar icon to pop up the following Quick Selection;

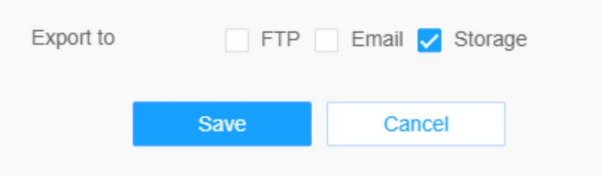


• Set Export Time Range;



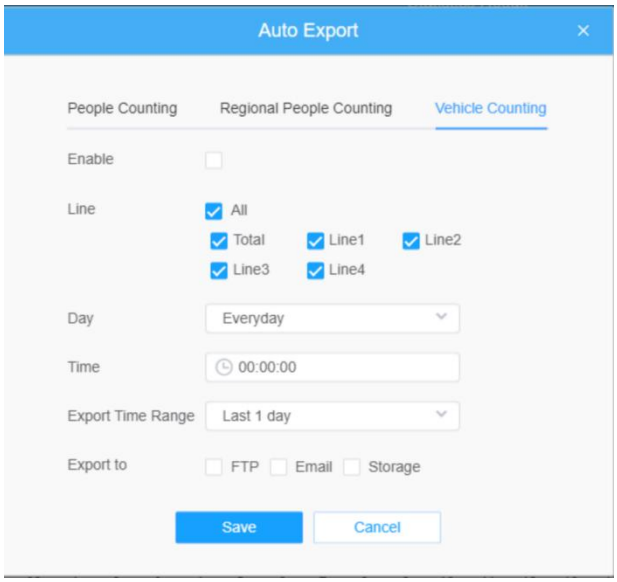
• Set the destination path of the automatically exported report. The report can be exported to FTP/Email/Storage automatically as the form of an Excel spreadsheet

according to the day, time and export time range you set. Then click “Save”.

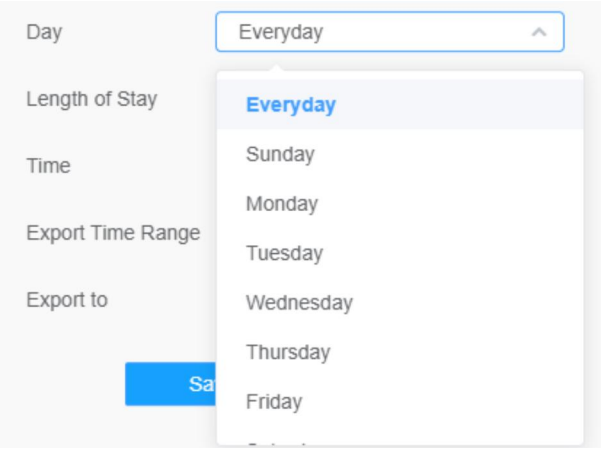


Note: If the current Statistics Report is generated, it will be saved as a csv form.

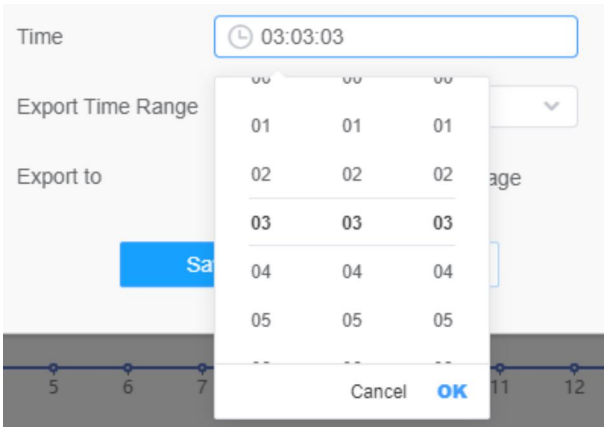
Vehicle Counting-Auto Export



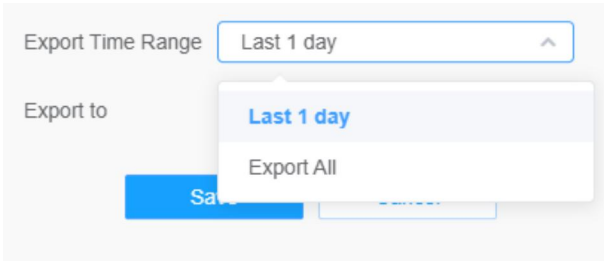
- Check the check box to enable the auto export of people counting, then select the lines as needed.
- Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the week;



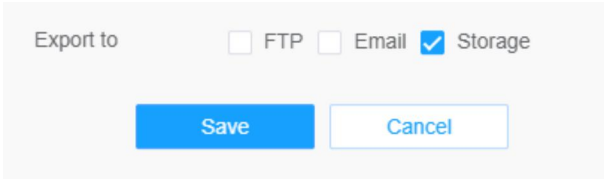
- Set Time. User can choose the time of day to export the Statistics Report automatically, click the calendar icon to pop up the following Quick Selection;



• Set Export Time Range.



• Set the destination path of the automatically exported report. The report can be exported to FTP/Email/Storage automatically as the form of an Excel spreadsheet according to the day, time and export time range you set. Then click “Save”.



Note: If the current Statistics Report is generated, it will be saved as a csv form.

8.4.4 Face Detection

The Face Detection function can detect the face appearing in the drawn area and support saving face snapshots into Storage, upload via FTP or Email, display in Live View.

8.4.4.1 General

Note:

1. Face Detection (Attribute Recognition enabled) cannot be used simultaneously with VCA, Object Counting, PPE Detection, Violence Detection, Fall Detection and Attribute Extraction.

2. Face Detection (Attribute Recognition disabled) cannot be enabled simultaneously only with Violence Detection and Fall Detection.

Settings steps are as shown below:

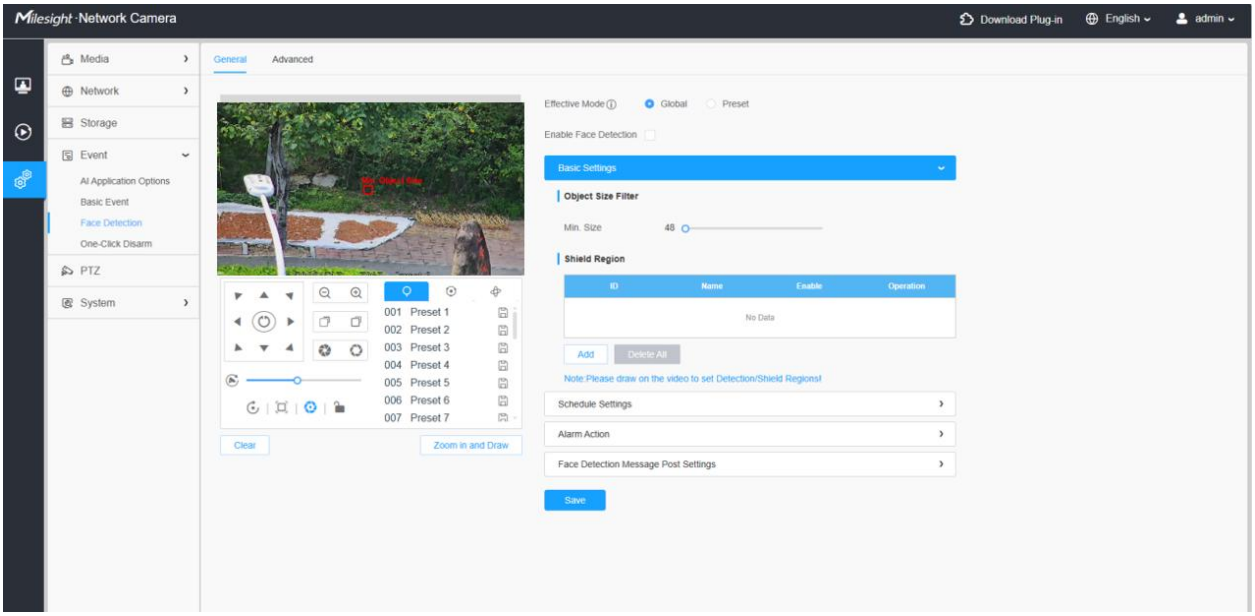
Step1: Go to **Settings** > **Event** > **AI Application Options, enable Face Detection**.

Step2: Go to Event > Face Detection > General, select the **Effective Mode**:

- **Global:** The same set of detection rules applies regardless of the PTZ position.

- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step3: Enable Face Detection.



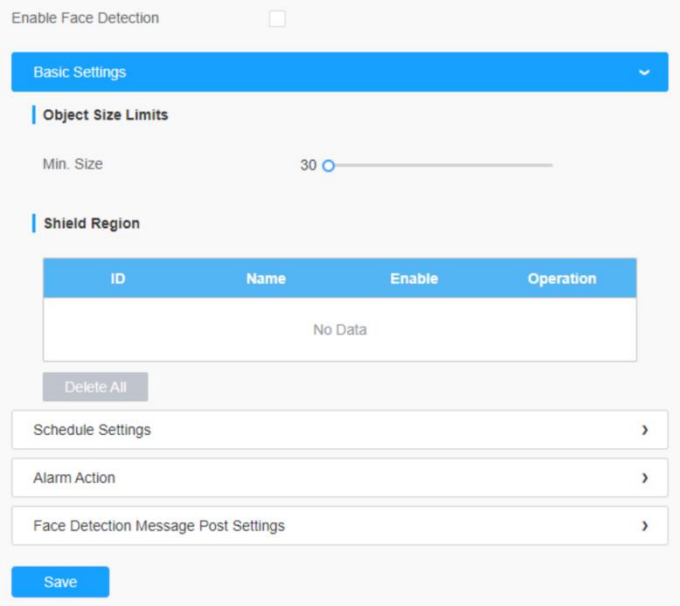
[Basic Settings]

Step4: Set Min. Object Size.

Step5: Set a detection region, you can drag the detection region to adjust the size. Only faces in this region will be detected.

By clicking the **'Zoom in and Draw'** button, you can activate a full-screen pop-up window to draw more accurate detection areas.

Step6: Set Shield Region to make faces in the some places of detection region be not detected. The faces can be set to be not detected in some places of detection region via setting the Shield Region. You can draw a Shield Region in the preview interface firstly, then click Add button. There are at most four Shield Region drawn available.



[Schedule Settings]

Step7: Set a detection schedule.

Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection

[Alarm Action]

Step8: Set an alarm action.

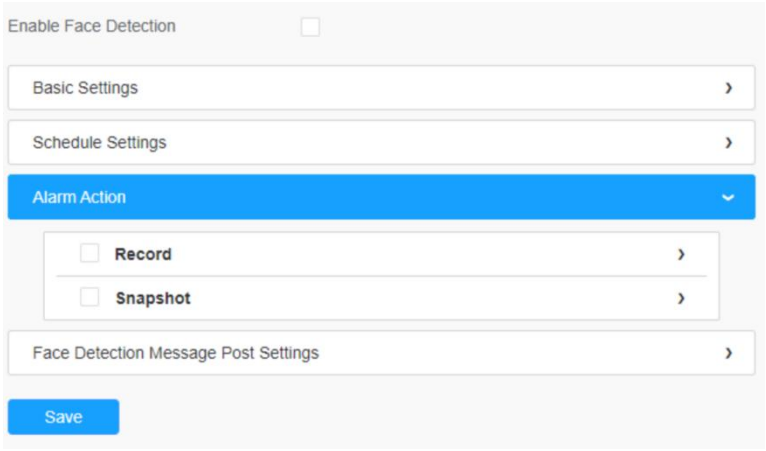


Table 63. Description of the buttons

Parameters	Function Introduction
Record	**Duration:** Select the duration time of alarm. 5s/10s/15s/20s/25s/30s are available. **Linkage:** Save alarm recording files into SD Card or NAS or Upload the recording files via FTP and send alarm email.

Snapshot	**Number:** The number of snapshot, 1~5 are available. **Interval:** This cannot be edited unless you choose more than 1 to Snapshot. **Linkage:** Save alarm recording files into SD Card or NAS. Upload the recording files via FTP and send alarm email.

[Face Detection Message Post]

Step9: Enable face detection message post.

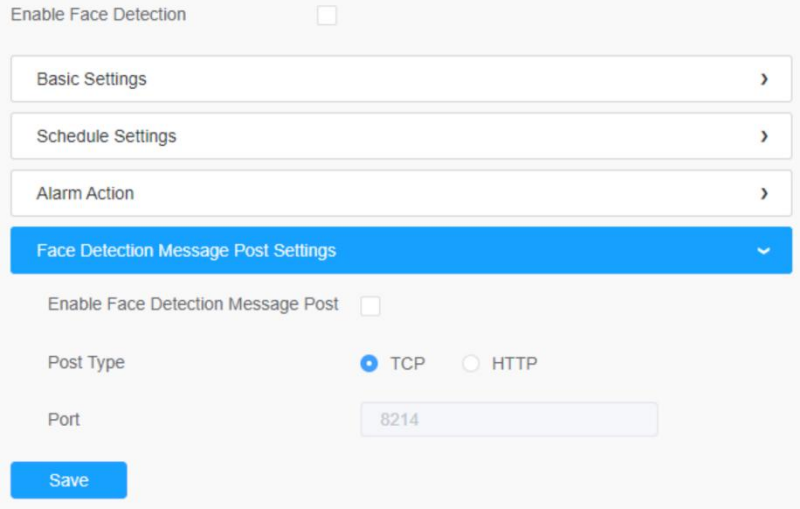
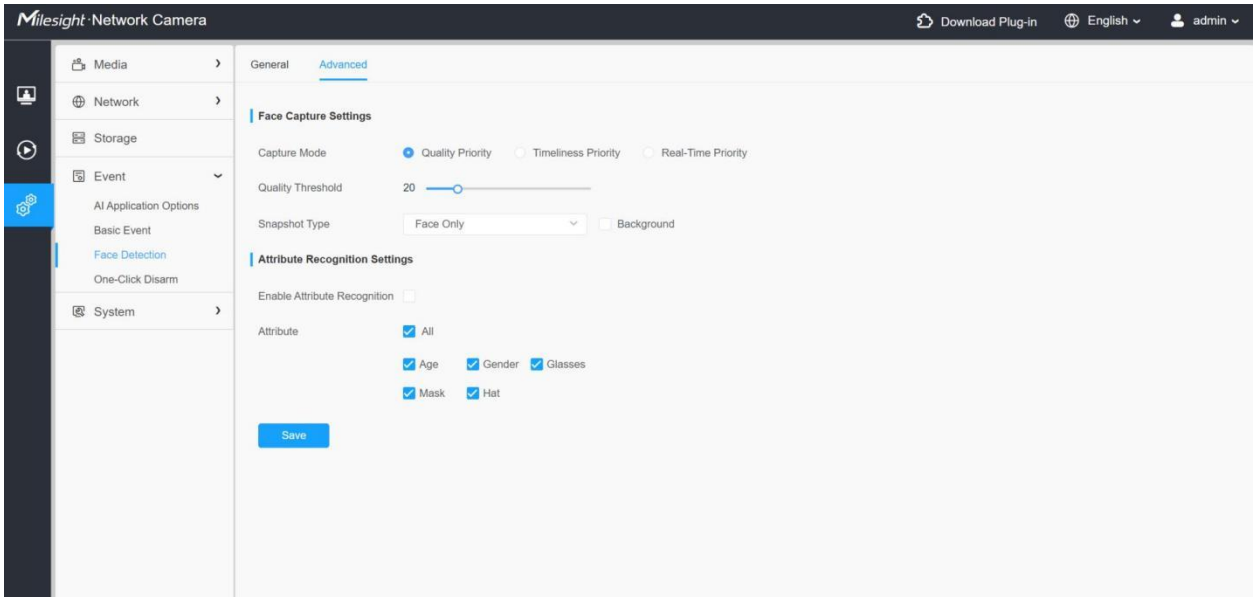


Table 64. Description of the buttons

Parameters	Function Introduction
Enable Face Detection Message Post	Check the check box to enable Face Detection Message Post. It will push information to some third-party devices or compatible software. Information can be pushed by TCP or HTTP.
Port Type	Information can be pushed by **TCP** or **HTTP**.

8.4.4.2 Advanced



[Face Capture Settings]

Here you can make configuration for face capture snapshot.

Table 65. Description of the buttons

Parameters	Function Introduction
Capture Mode	**Quality Priority, Timeliness Priority, Real-Time Priority,** are available. **Quality Priority:** In this mode, it will capture the best image of a face from the moment of face appears until it disappears, provided it exceeds the set threshold. **Timeliness Priority:** In this mode, it will immediately push the image once its quality exceeds the threshold, without considering any subsequent images that may have better quality. **Real-Time Priority:** In this mode, it will continuously push face images that exceed the threshold as they are captured in real time. **Note:** Attributes recognition only supports when Capture Mode is Quality Priority or Real-Time Priority
Quality Threshold	The default value is 20. Once the face image quality exceeds the default capture threshold of 20, the camera will capture the face and upload the image with its attributes to the back end.
Snapshot Number	Configure the Number of Snapshots captured upon face detection. **Note:** Optional for Timeliness Priority mode.

Snapshot Type	**Face Only, Upper Body, Whole Body** are available. **Face Only:** Capture the screenshot of face only. **Upper Body:** Capture the screenshot of upper body. **Whole Body:** Capture the screenshot of whole body. If you check the "Background" option, it will take another screenshot of the entire image.

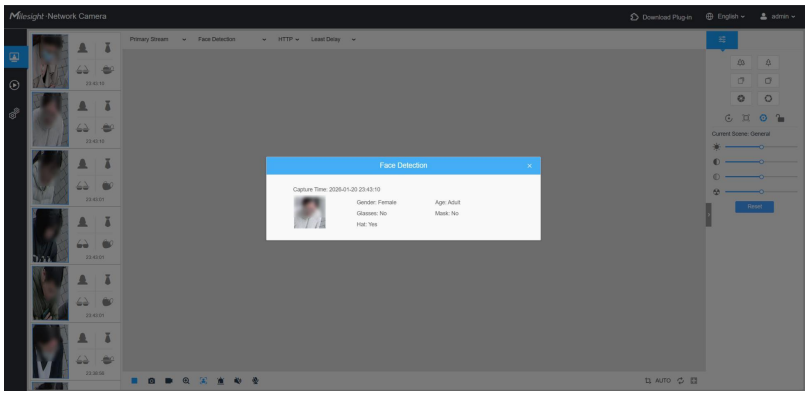
[Attribute Recognition Settings]

Here you can enable Attribute Recognition and configure the attributes you want to detect.

Note:

1. Only support when Capture Mode is Quality Priority or Real-Time Priority.
2. If you need enable Attribute Recognition, please disable VCA, Object Counting, PPE Detection, Heat Map, Attribute Extraction.

Table 66. Description of the buttons

Parameters	Function Introduction
Enable Attribute Recognition	When Attribute Recognition is enabled, the attributes of detected faces will be displayed on the left side of the Live View interface. The attributes include Age, Gender, Glasses, Mask and Cap. These attributes can also be pushed to your back-end devices. Attribute Recognition meets your needs in some special scenarios, which improves user experience. In addition, this feature is also compatible with the back-end and supports pushing facial attribute data to the back-end.  **Note:** • Make sure the face detection function is enabled. • Make sure the Capture Mode Option is set to Quality Priority or Real-Time Priority. • Attribute Recognition cannot be used simultaneously with VCA, Object Counting, PPE Detection, Heat Map, Attribute Extraction.

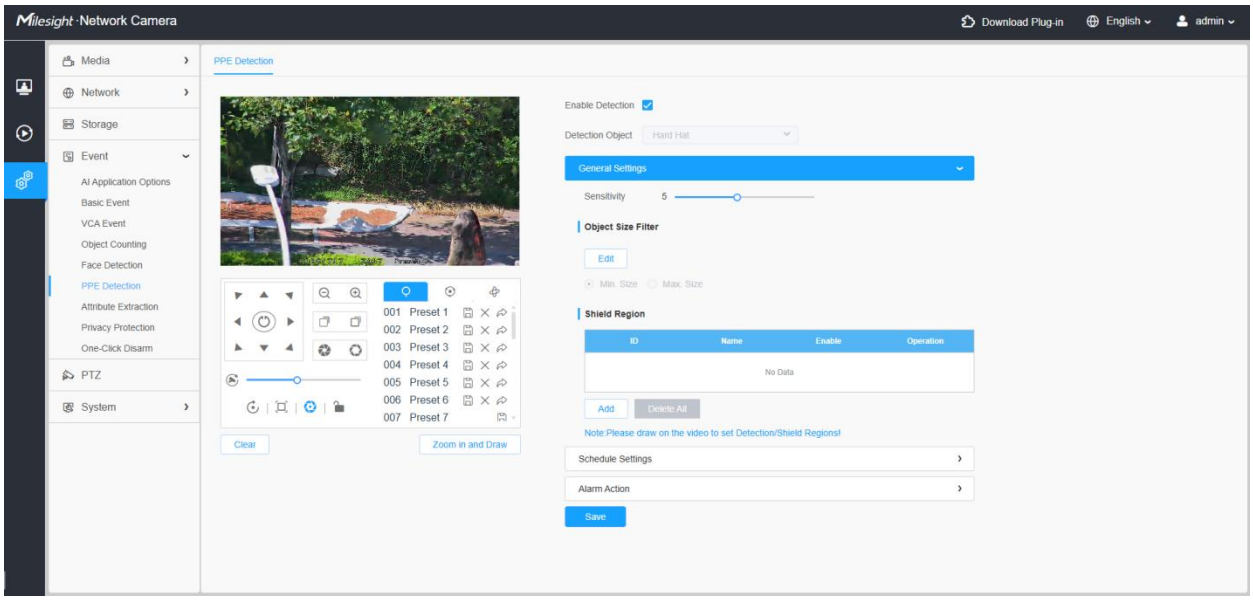
Attribute	You can choose the following attributes: **All:** Select or deselect all attributes in one click. **Age:** Recognize the age according the face, the types including Child (Age 0-17), Adult (Age 18-59), Elderly (Age more than 59). **Gender:** Recognize the gender according to the face, the types including Male and Female. **Glasses:** Recognize whether person is wearing glasses or not. **Mask:** Recognize whether person is wearing mask or not. **Cap:** Recognize whether person is wearing cap or not. **Note:** Unrecognized or abnormally recognized attributes will be displayed as "-".

8.4.5 Hard Hat Detection

PPE Detection ensures the safety of construction workers. If a worker is detected **without** safety clothing (coming soon) or a hard hat (currently supported), an alarm action will be triggered.

Note:

- For more details about how to use PPE Detection, see https://www.youtube.com/watch?v=9AYwzheLoCE.



Settings steps are as shown below:

Step1: Go to **Settings** > **Event** > **AI Application Options, enable PPE Detection**.

Step2: Go to Event > PPE Detection, enable PPE Detection.

Note: Only Hard Hat Detection is supported now. Safety Clothing Detection will be available in a future update.

Step3: Draw detection regions on the live video.

[General Settings]

Step4: Set sensitivity and object size limits.



Table 67. Description of the buttons

Parameters	Function Introduction
Sensitivity	Levels 1–10 are available. The default level is 5. The higher the sensitivity, the easier it is for people without **a** hard hat to be detected in the results.
Min. Size	Draw on the screen or enter pixel values to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.
Max. Size	Draw the screen or input pixel number to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.
Shield Region	The camera the camera will ignore content in shield regions to prevent false fall detection alarms. Click **Add** to add a shield region. Up to 4 regions are supported.

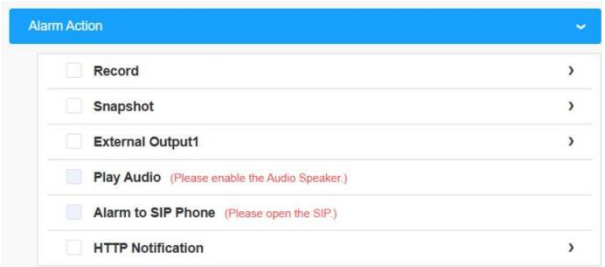
[Schedule Settings]

Step5: Set a detection schedule.

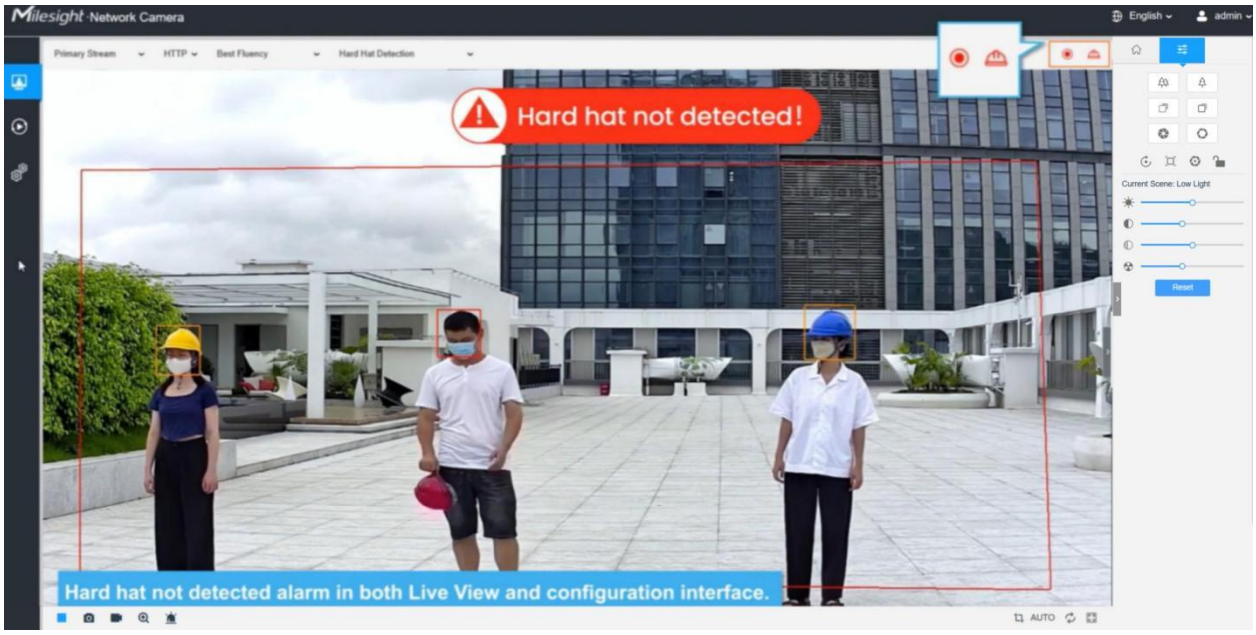
Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection

[Alarm Action]

Step6: Set an alarm action. This part is the same as the regular alarm settings. You can refer to 8.4.1.1 Motion Detection



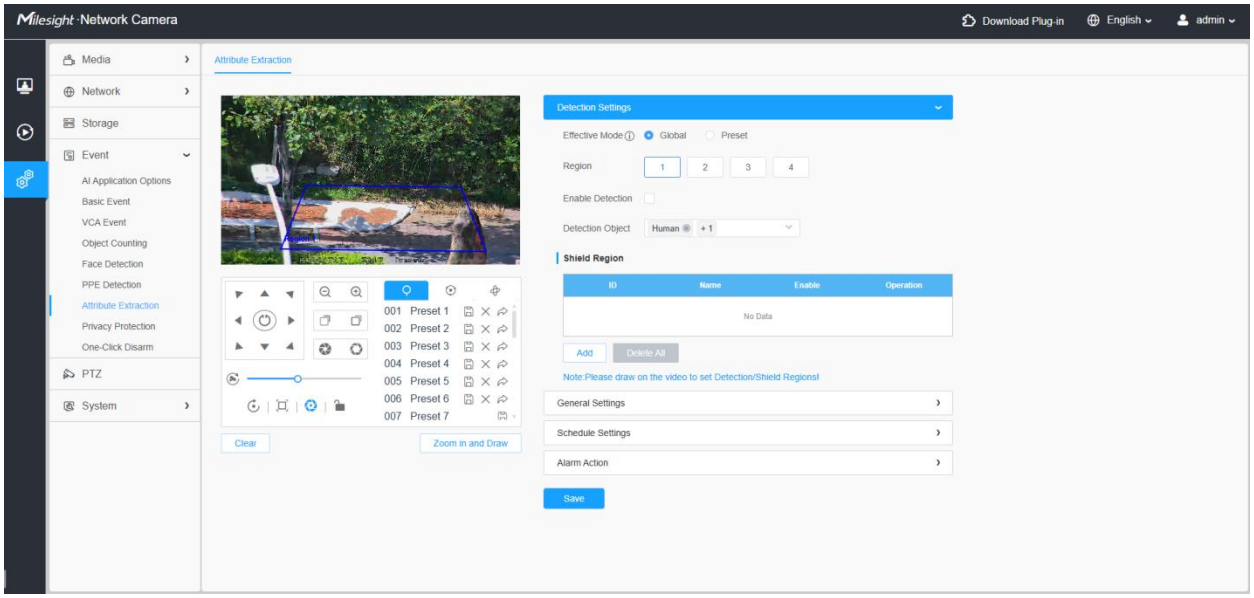
Click **Save** to finish the configurations. An alarm will be triggered when targets in the detection area do not properly wear a hard hat. An alarm icon will be displayed and the detection box will turn red. You can also select PPE Detection to display real-time compliance status of PPE in the Live Video.



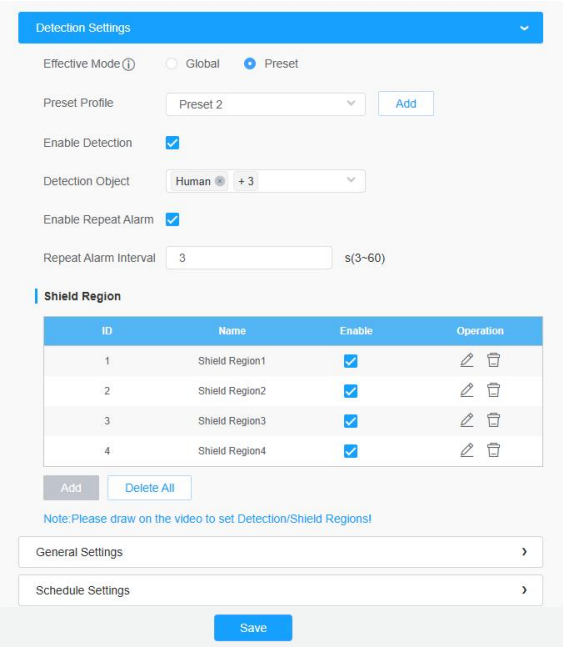
8.4.6 Attribute Extraction

Milesight's camera features intelligent AI-powered Attribute Recognition technology, enabling real-time and accurate differentiation between humans and vehicles. The system analyzes multiple attributes—such as upper and lower body clothing colors (black, white, gray, red, yellow, green, blue, purple, orange, and brown), hats, vehicle types (Bicycle, Motorcycle, E-scooter, Car, Bus, Truck) and colors (black, white, gray, red, yellow, green, blue, purple, and brown for Car, Bus, Truck), and more—to enhance target identification.

This advanced recognition capability significantly improves security efficiency across a wide range of surveillance scenarios.



[Detection Settings]



Step1: Go to Settings > Event > AI Application Options, enable Attribute Extraction.

Step 2:

Select the **Effective Mode**:

- **Global:** The same set of detection rules applies regardless of the PTZ position.
- **Preset:** Independent detection rules are supported for each preset. Detection is disabled when the camera is not at a preset position.

Step 3:

Draw a detection region on the live view. You can also click **Zoom in and Draw** for more precise area selection.

- In **Global** mode, up to four detection regions can be drawn.
- In **Preset** mode, only one detection region can be drawn for each preset.

Step 4:

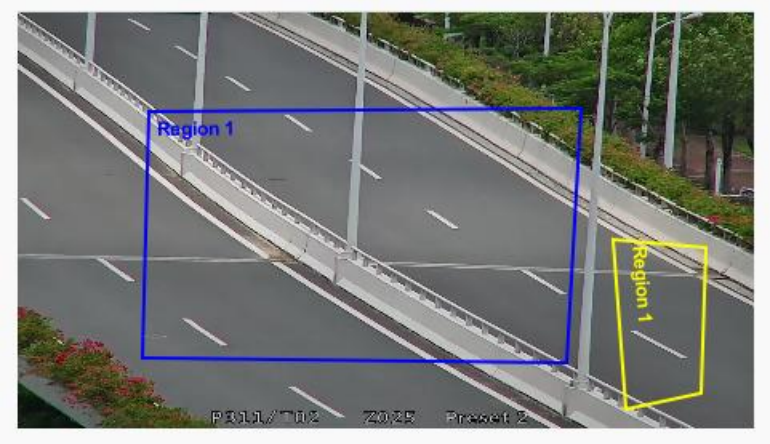
Enable **Detection**.

Step 5:

Select the detection object(s): **Human** or **Vehicle**. An alarm will be triggered when the selected object is detected.

Step 6:

To exclude certain areas from detection, manually draw and add up to four **Shield Regions**. The method is the same as drawing detection regions. Detection regions are marked with a blue box, and shield regions with a yellow box.



[General Settings]

Step4: Set detecting object size limits, and select the detection mode with Optimal Mode, Quick Mode or Real-Time Mode.

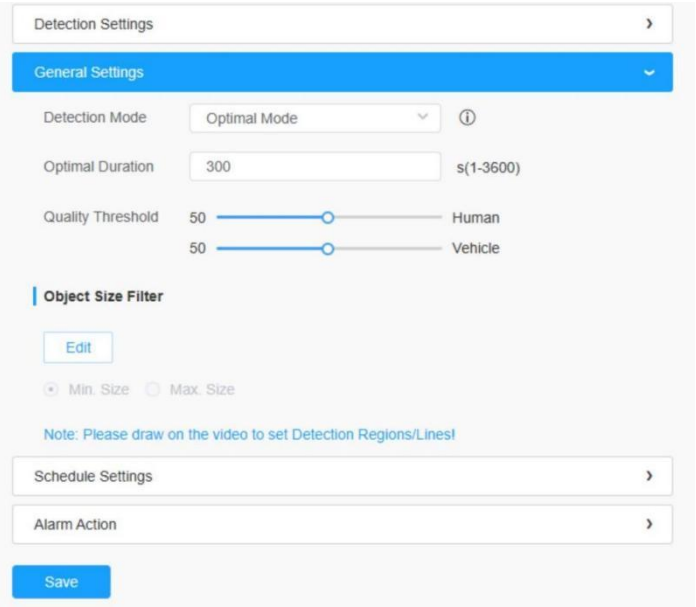


Table 68. Description of the buttons

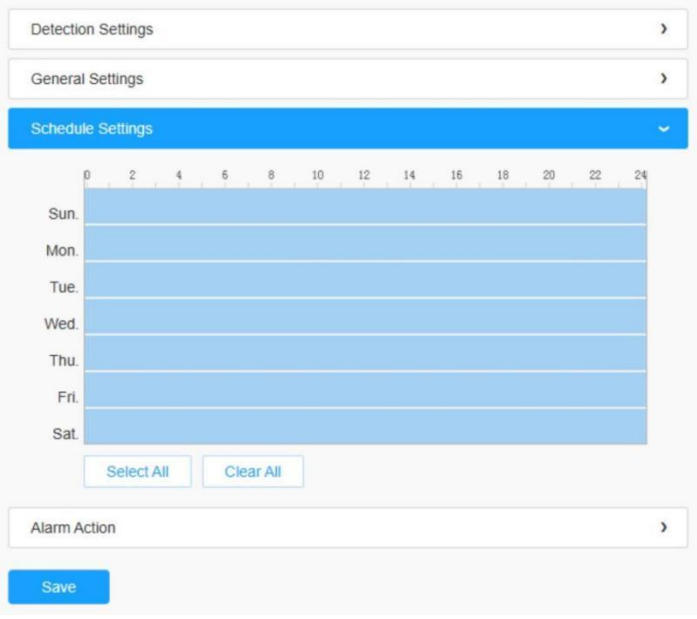
Parameters	Function Introduction

Detection Mode	**Optimal Mode, Quick Mode, Real-Time Mode** are available, **Optimal Mode:** In this mode, it will push the most accurate attribute analysis result when the target stays longer than the "Optimal Duration" or leaves the detection area. **Quick Mode:** In this mode, it will push attribute analysis results once the target's confidence level exceeds the "Quality Threshold". **The same target will only be pushed once within the same area.** **Real-Time Mode:** In this mode, it will continuously push attribute analysis results with higher accuracy in real time. If a target's confidence level increases in a later detection, the camera will push the updated data. **For the same target within the same area, multiple data entries may be sent.**
Optimal Duration	This setting is only applicable in Optimal Mode. It defines the optimal dwell time starting from when the target enters the detection area.
Quality Threshold	Levels from 1 to 100 are available for both human and vehicle detection, with the default set to 50. If the target's confidence level is below the set "Quality Threshold", attribute detection will not be performed.
Min. Size	Draw on the screen to set the minimum size of the detected object. Objects larger than this size will be detected.
Max. Size	Draw the screen to set the maximum size of the detected object. When the object is larger than this size, it will not be detected.

[Schedule Settings]

Step5: Set a detection schedule.

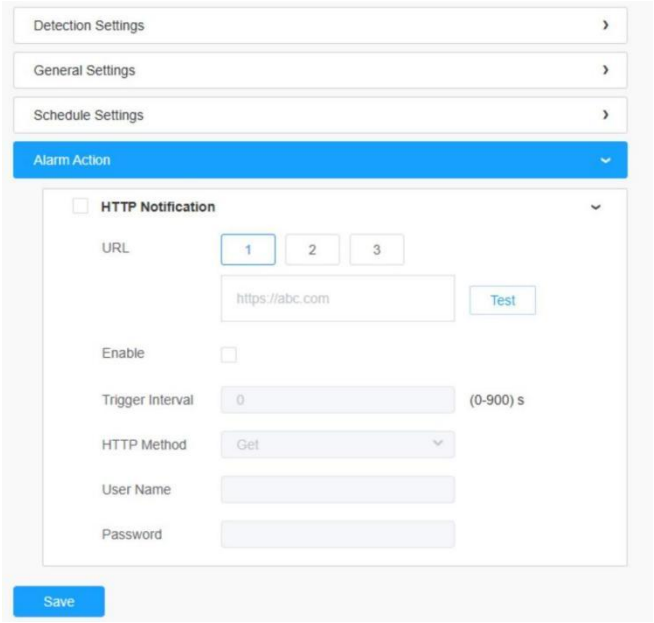
Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection



[Alarm Action]

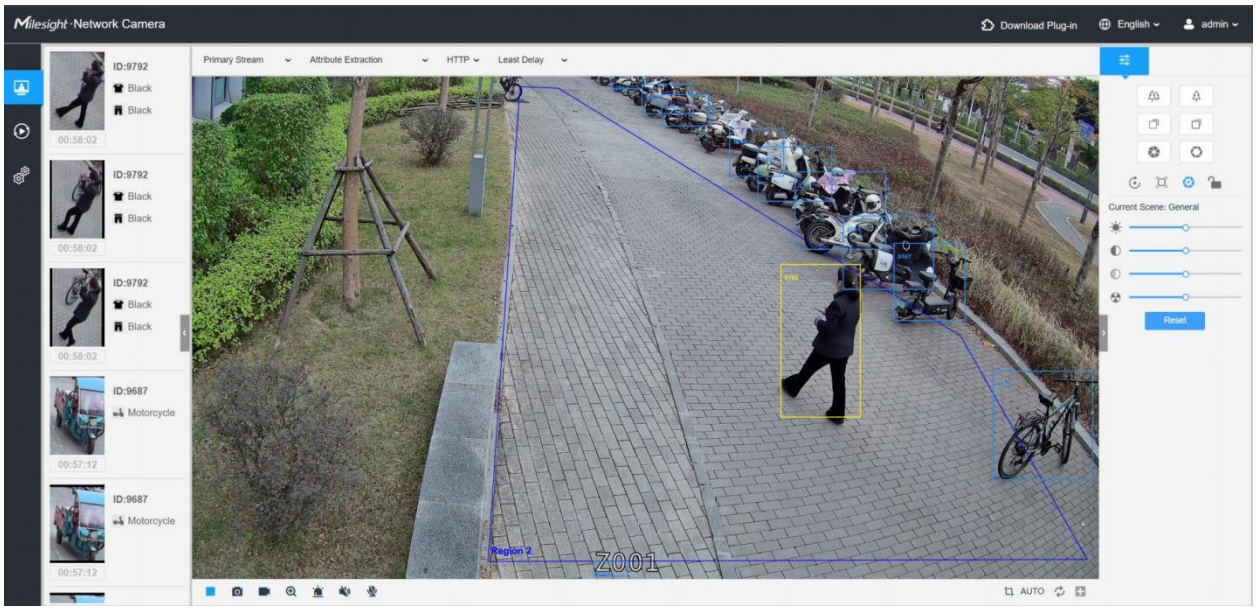
Step6: Set an alarm action.

HTTP Notification: Support to send alarm notifications to specified HTTP URL. After filling in the basic information, you can click the test button to verify HTTP connectivity.



When Attribute Extraction is enabled, the attributes of detected humans or vehicles are displayed on the left side of the Live View interface. These attributes include upper and lower clothing color, presence of a hat, vehicle type, and more. This feature is particularly useful in specialized scenarios, making it easier to locate specific individuals or vehicles.

The extracted data can also be seamlessly transferred to a back-end system for centralized management, significantly enhancing overall user experience and operational efficiency.

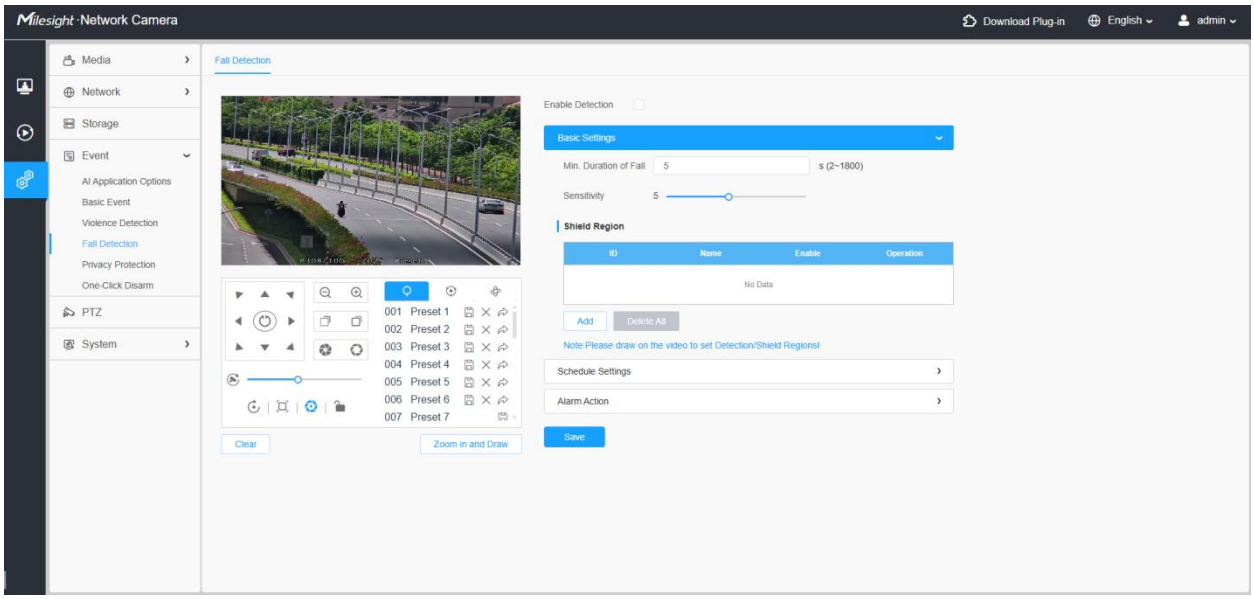


8.4.7 Fall Detection

Fall Detection identifies human fall events and triggers alarms to enable timely assistance.

Note: Violence Detection and Fall Detection cannot be enabled simultaneously with VCA Event, Object Counting, Face Detection (Attribute Recognition disabled), Heat Map, and Attribute Extraction.

For more details about how to use Fall Detection, see https://youtu.be/UAcBflUryCA.

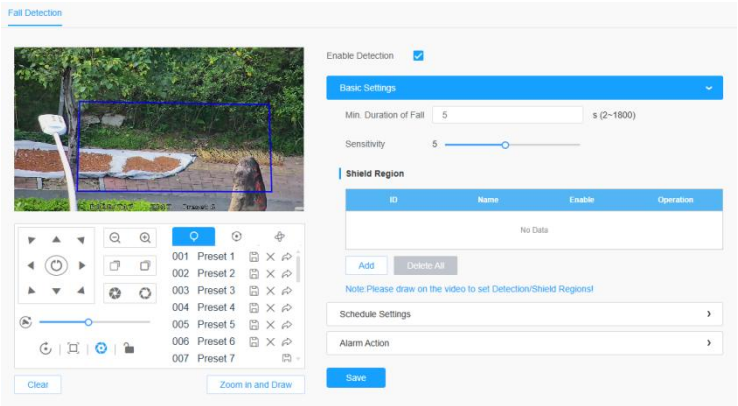


You can configure the function according to the following steps:

[Enable Detection]

Step1: Goto Settings > Event > AI Application Options, enable Fall Detection, and back to Fall Detection interface.

Step2: Draw a detection region on the live view.



Step3: Check the checkbox to enable the function.

[Basic Settings]

Step4: Configure the minimum duration of **a fall event** from 2 to 1800 seconds.

Step5: Configure the sensitivity from **1** to **10**. The default value is **5**.

Table 69. Parameter Description

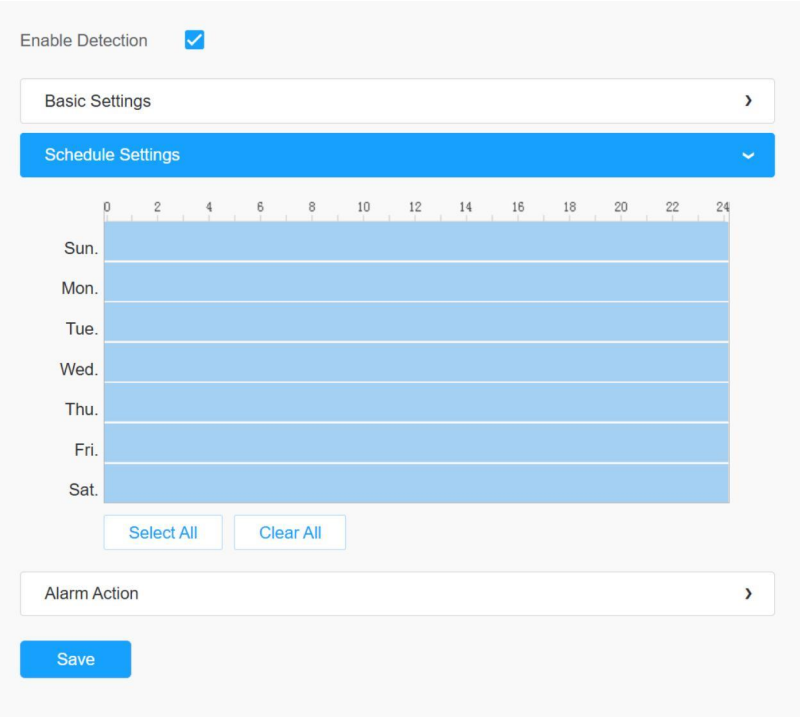
Parameter	Function Introduction

Min. Duration of Fall	An alarm will be triggered when the fall event duration exceeds the minimum threshold. The default threshold is 5 seconds.
Sensitivity	Set the sensitivity from1 to 10.
Shield Region	The camera the camera will ignore content in shield regions to prevent false fall detection alarms. Click **Add** to add a shield region. Up to 4 regions are supported.

[Schedule Settings]

Step6: Set a detection schedule.

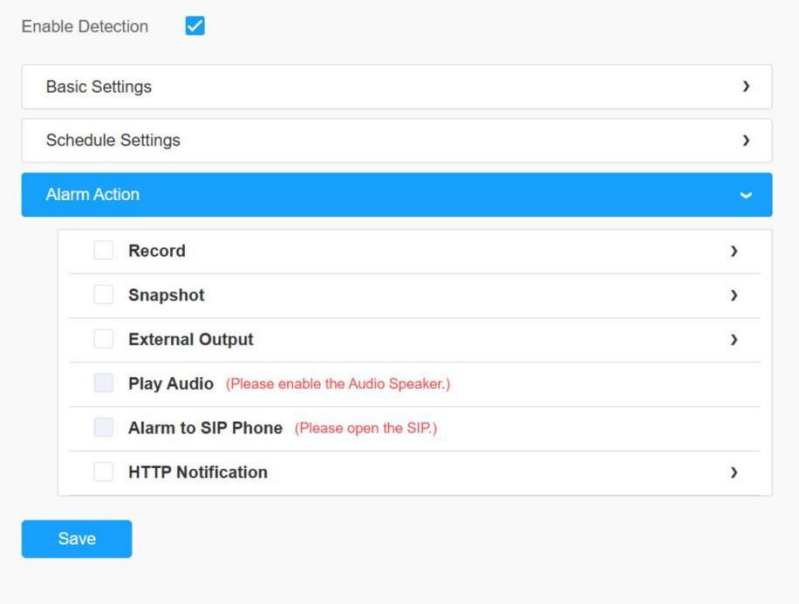
Note: For more details, see 8.4.1.1 Motion Detection



[Alarm Action]

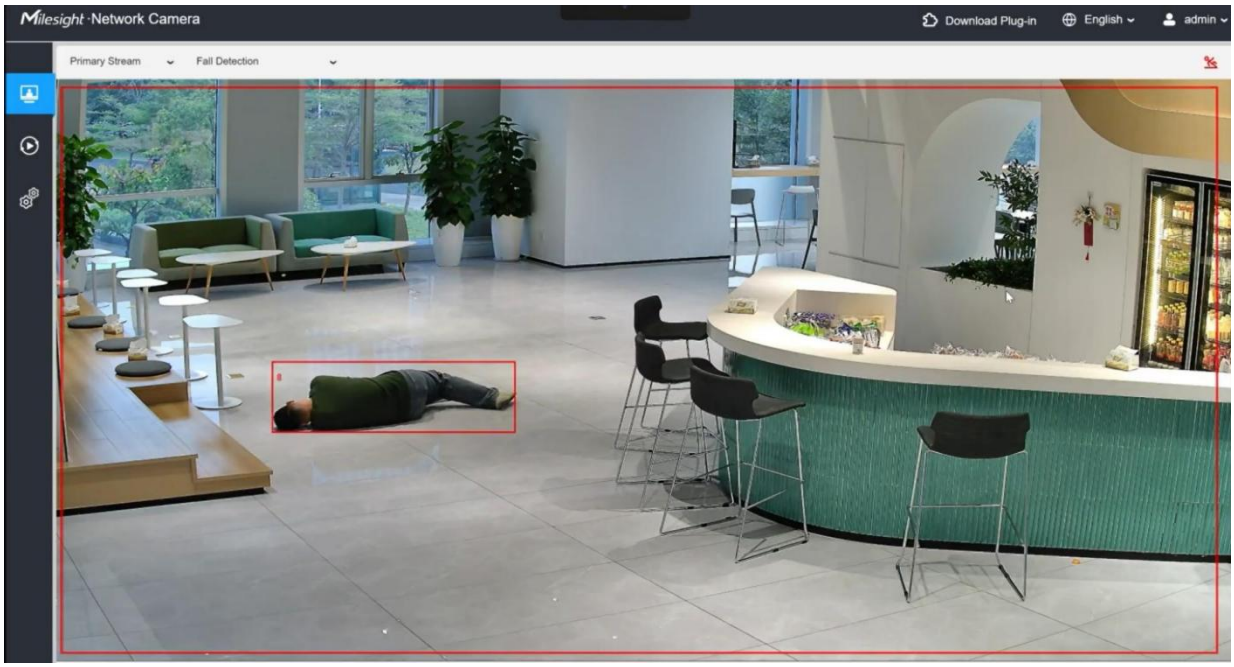
Step7: Set an alarm action.

Note: For more details, see 8.4.1.1 Motion Detection



Step8: Click **Save** to save your configurations.

Step9: Return to the Live View interface and select **Fall Detection** from the top menu to display the detection region and target bounding boxes on the screen. When a person is detected as fallen and the duration exceeds the configured time threshold, an alarm icon will appear in the upper-right corner.



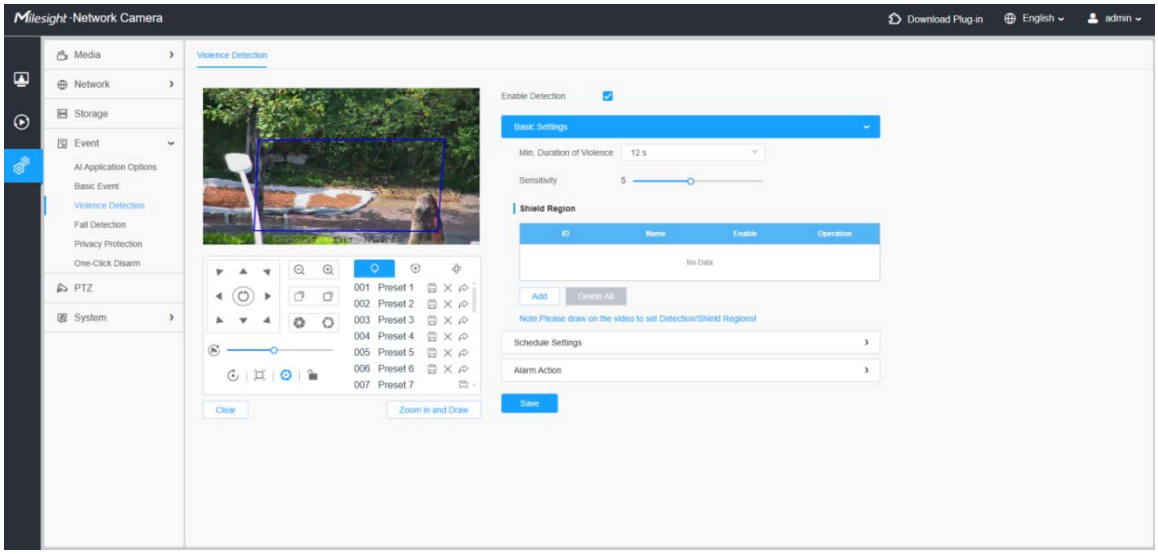
8.4.8 Violence Detection

Violence Detection detects violent behavior and triggers alarms to help intervene early and improve scene safety.

Note: If Violence Detection is enabled, VCA Event, Object Counting, Face Detection, Heat Map,

and Attribute Extraction cannot be used.

For more details about how to use Violence Detection, see https://youtu.be/HTKbnzz4Ty4.



You can configure the function according to the following steps:

[Enable Detection]

Step1: Go to Settings > Event > AI Application Options, enable Violence Detection, then back to Violence Detection interface.

Step2: Draw a detection region on the live view.

Step3: Check the checkbox to enable the function.

[Basic Settings]

Step4: Configure the minimum duration of violence event.

Step5: Configure the sensitivity from **1** to **10**. The default value is **5**.

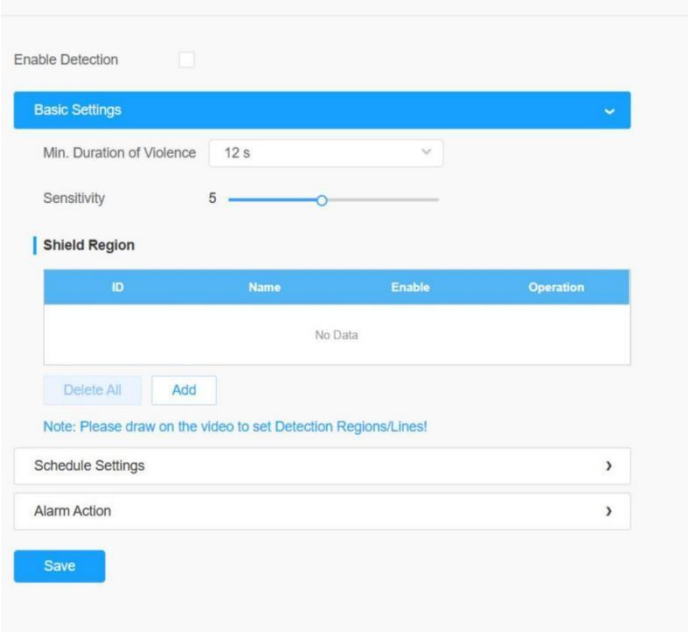


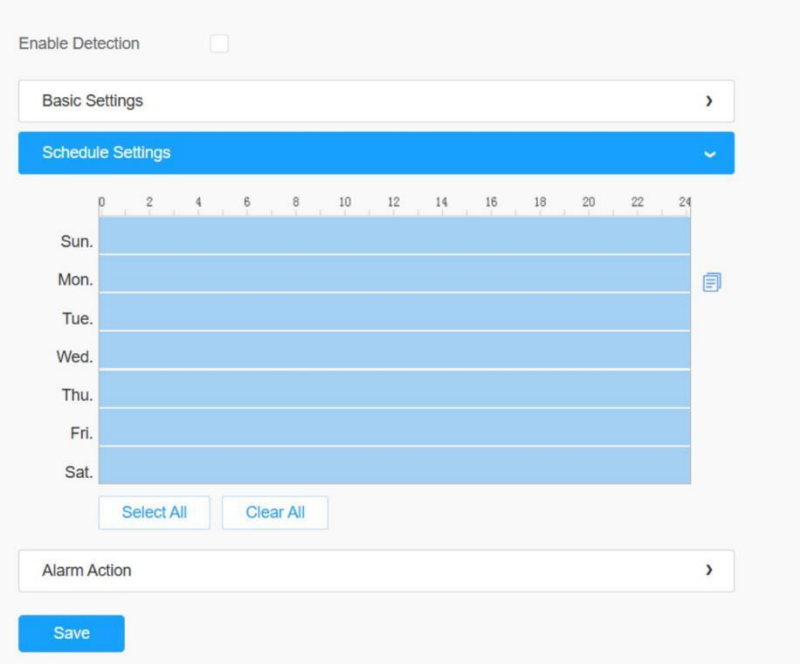
Table 70.

Parameter	Function Introduction
Min. Duration of Violence	An alarm will be triggered when the violence event duration exceeds the minimum threshold. The default threshold is 12 seconds. **4s**, **8s**, **12s**, **16s**, **32s**, **60s**, **5min**, **10min**, and **30min** are supported.
Sensitivity	Set the sensitivity from1 to10.
Shield Region	The camera the camera will ignore content in shield regions to prevent false fall detection alarms. Click **Add** to add a shield region. Up to 4 regions are supported.

[Schedule Settings]

Step6: Set a detection schedule.

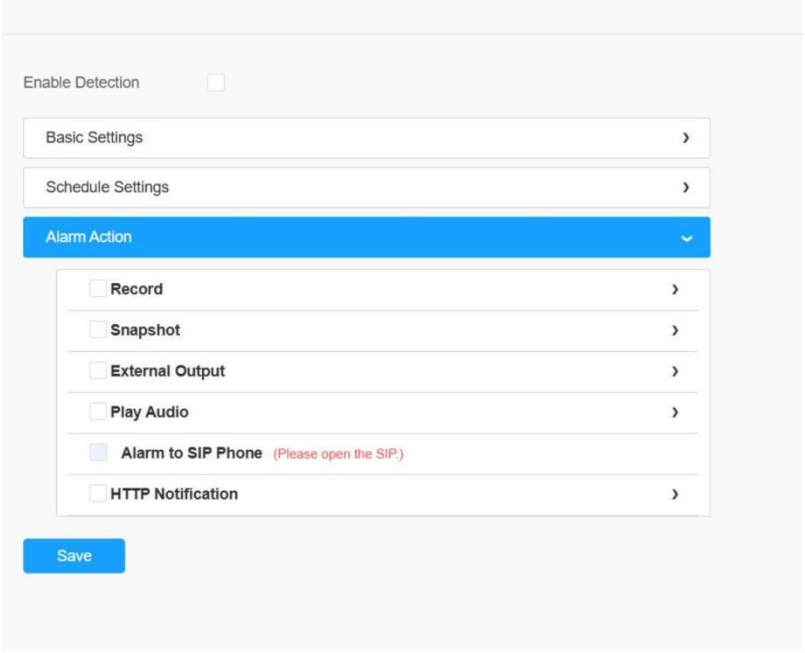
Note: For more details, see 8.4.1.1 Motion Detection



[Alarm Action]

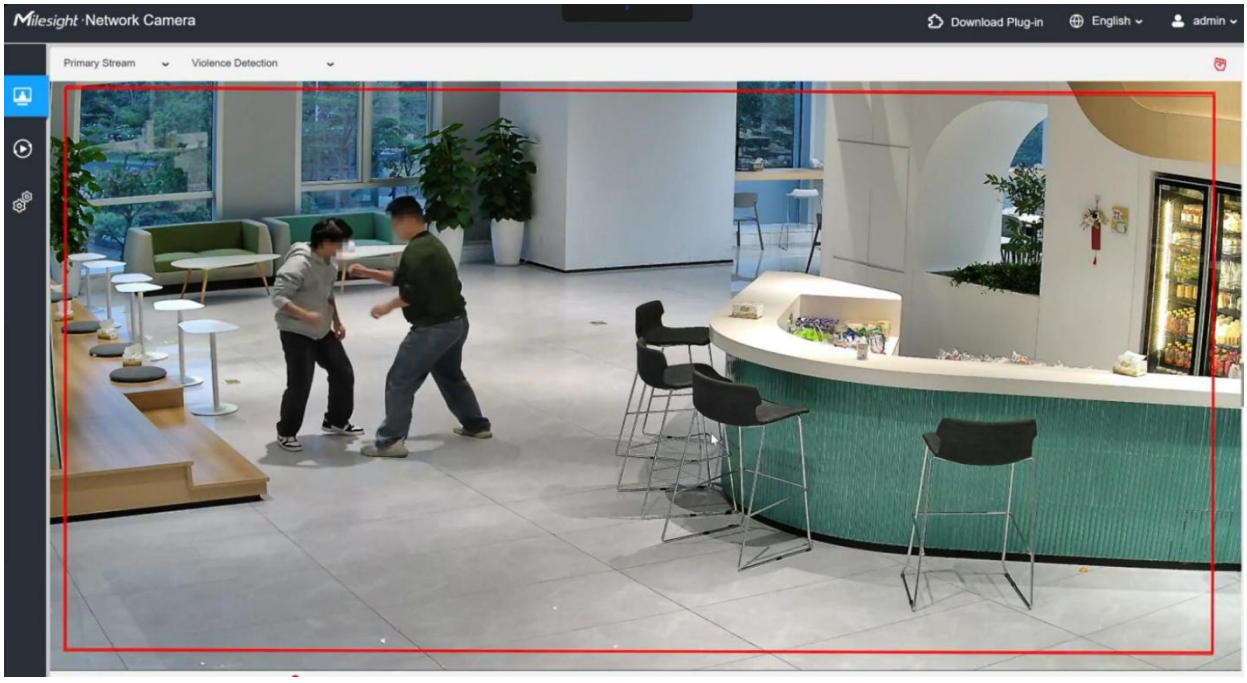
Step7: Set an alarm action.

Note: For more details, see 8.4.1.1 Motion Detection



Step8: Click **Save** to save your configurations.

Step9: Return to the Live View interface and select **Violence Detection** from the top menu to display the detection region on the screen. When a violent behavior is detected, an alarm icon will appear in the upper-right corner.



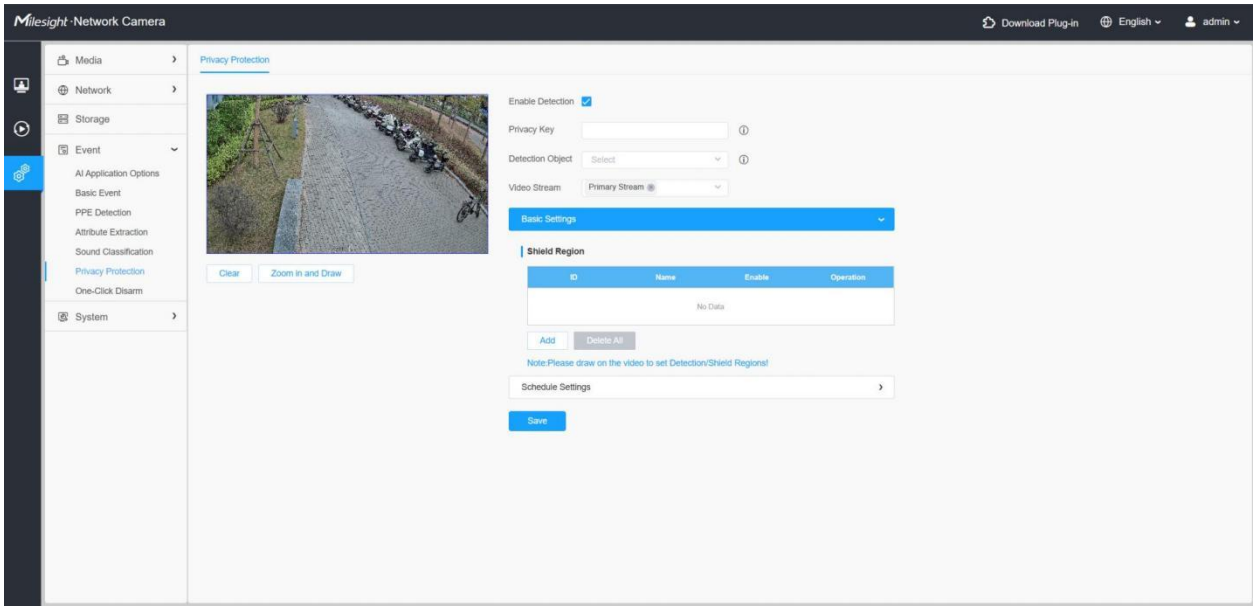
8.4.9 Privacy Protection

Privacy Protection masks detected faces or bodies in video streams. It supports the primary stream and the secondary stream. It supports H.265 and H.264 encoding and is GDPR

compliant.

Note:

1. You can remove mosaics via Smart Tools. Download Smart Tools, and choose **IPC Tools** > **Others**. Select a video file path and enter a private key. Then, click **Demosaic** to remove the mosaics.
2. If Privacy Protection is enabled, the frame rate cannot exceed 30 fps.
3. For more details about how to use Privacy Protection, see https://youtu.be/D6KqYmb6q-E.



You can configure the function according to the following steps:

[Enable Detection]

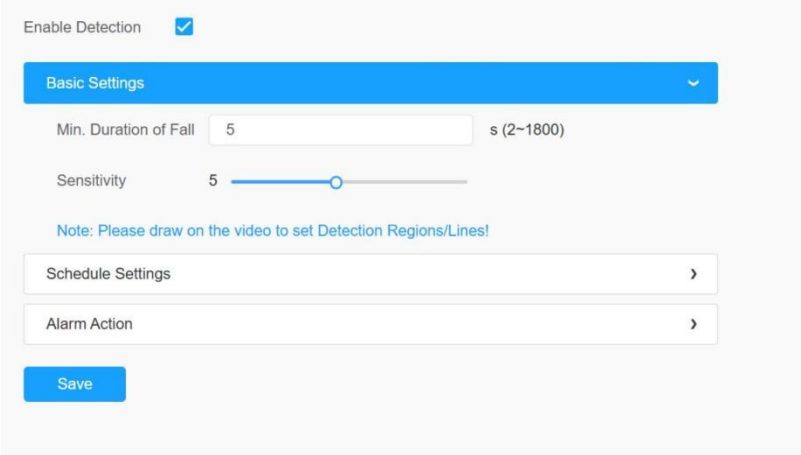
Step1: Go to **Settings** > **Event** > **AI Application Options, enable Privacy Protection, then back to Privacy Protection interface**.

Step2: Draw a detection region on the live view.

Step3: Check the checkbox to enable the function.

Step4: Enter a privacy key.

Step5: Select a detection object (human or face).



Step6: Select a video stream.

Table 71. Parameter Description

Parameter	Function Introduction
Enable Detection	Check the check-box to enable this function.
Privacy Key	Enter a privacy key. **Note:** The key is used for encrypting and decrypting mosaics. After it is set, the mosaic on video files can be removed using this key in Smart Tools.
Detection Object	**Human** and **Face** are supported. **Note:** In the AI Application Options, VCA must be enabled before you can select Human, and Face Detection must be enabled before you can select Face. Face is not supported in Corridor Mode.
Video Stream	**Primary Stream** and **Secondary Stream** are supported.

[Basic Settings]

Step6: Add a shield region.

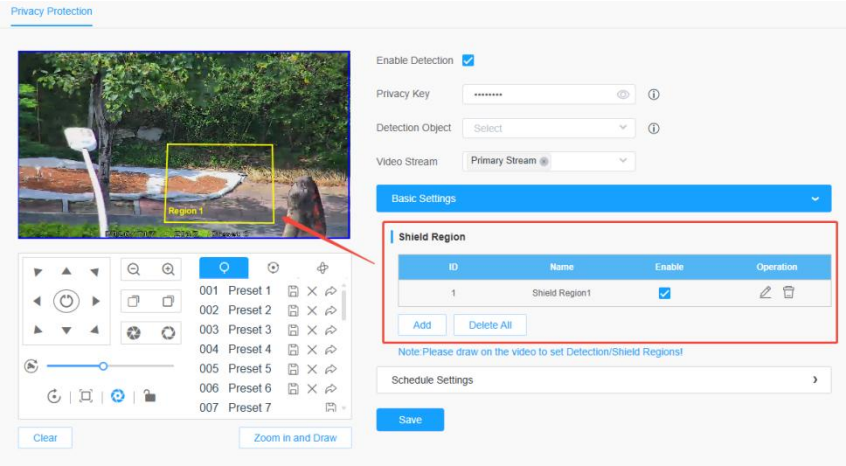


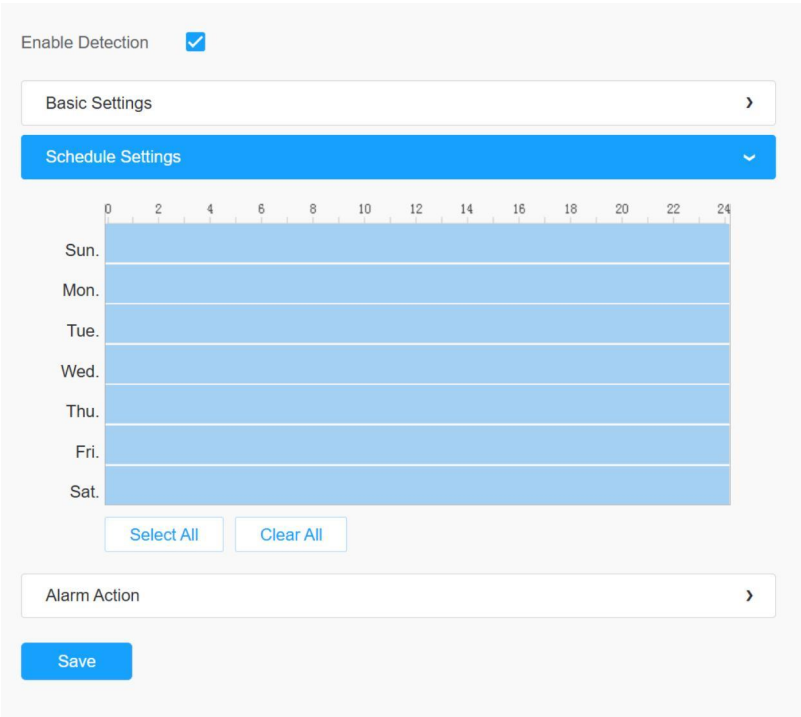
Table 72.

Parameter	Function Description
Shield Region	Shield Region lets you define detection areas in the surveillance feed, preventing those regions from being recorded or displayed to protect sensitive information. Click **Add** to add a shield region. Up to 4 regions are supported.
Delete All	Click it to delete all regions you drawn.

[Schedule Settings]

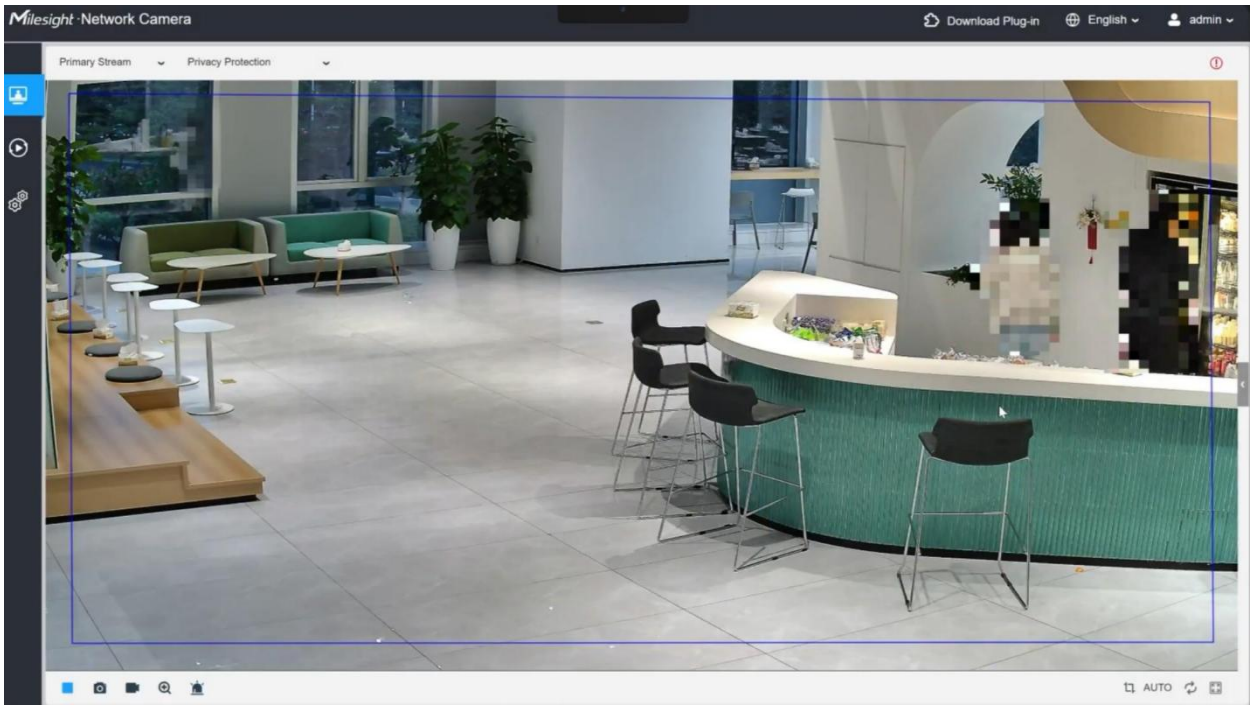
Step7: Set a detection schedule.

Note: For more details, see 8.4.1.1 Motion Detection



Step8: Click **Save** to save your configurations.

Step9: Return to the Live View interface and select **Privacy Protection** from the top menu to display the detection region on the screen. Any human or face detected within the zones will be automatically masked according to your settings, and an icon will appear in the upper-right corner.



8.4.10 One-Click Disarm

Easily control alarm linkage actions with a single click. Enabling this triggers an alarm and generates logs while disabling the specified alarm linkage actions.

- **Enable One-Click Disarm**: Specified alarm linkage actions will be disabled temporary , original Alarm Action configurations will not be deleted.
- **Disarm Alarm Linkage Action:** To temporarily disable configured alarm actions, simply check the checkbox and set a disarm schedule.

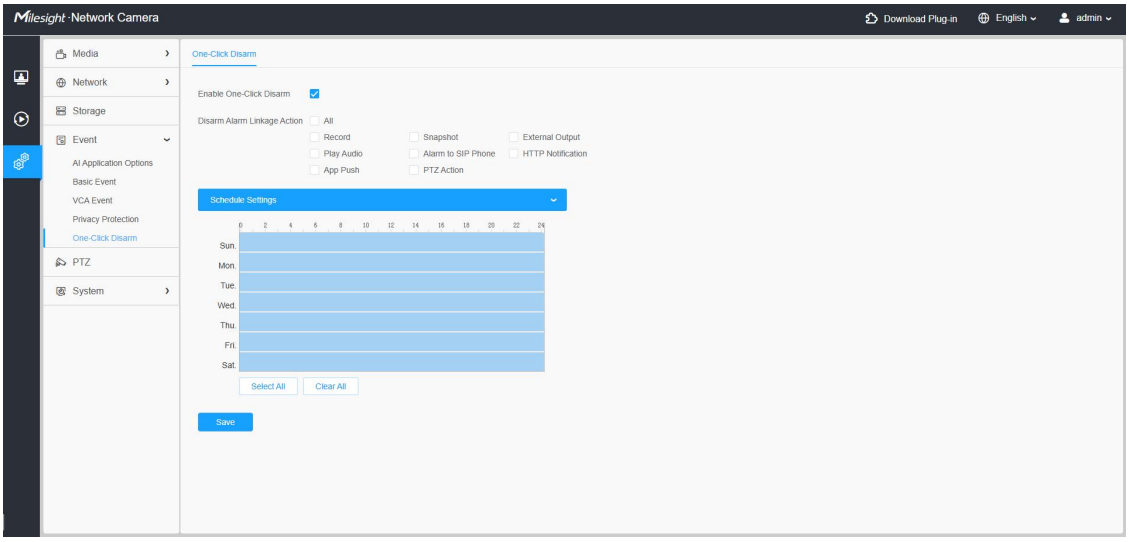
Table 73. Description of the buttons

Parameters	Function Introduction
Record	Do not record when the event is triggered.
Snapshot	Do not take a snapshot when the event is triggered.
External Output	Do not trigger the external output when the event is triggered.
Play Audio	Do not play the audio file when the event is triggered.
Alarm to SIP Phone	Do not call the SIP phone after enabling the SIP function.

HTTP Notification	Do not send alarm notifications to the specified HTTP URL.
Warning Light	Do not trigger the warning light.
App Push	Do not push the alarm message to the app.
PTZ Action	Do not perform PTZ actions when the event is triggered.

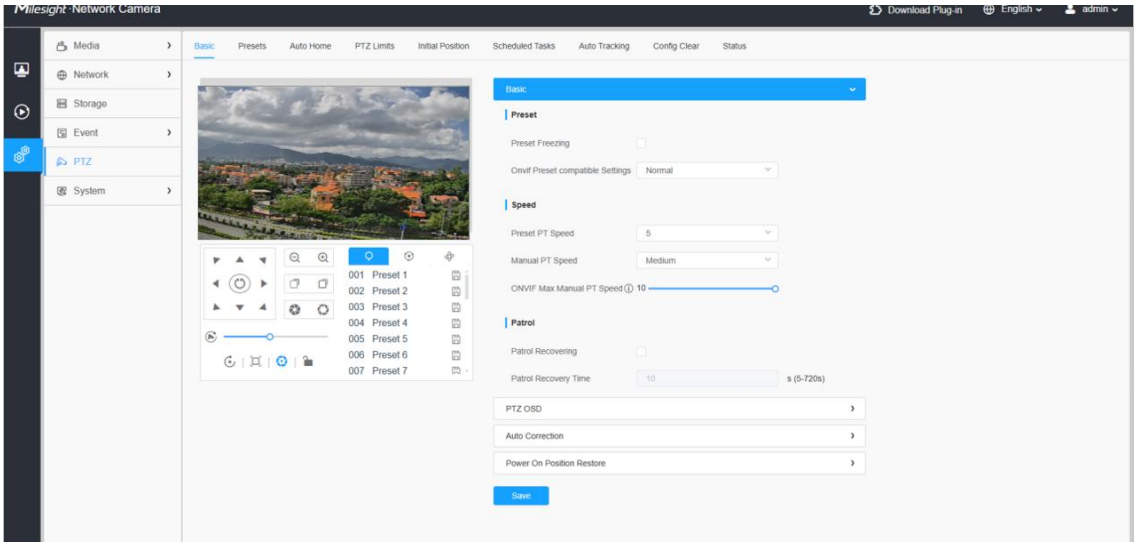
- **Disarm by Schedule**: Alarm linkage actions are disabled during the specified time periods.

  For the schedule settings, please refer to 8.4.1.1 Motion Detection



8.5 PTZ

8.5.1 Basic



[Basic]

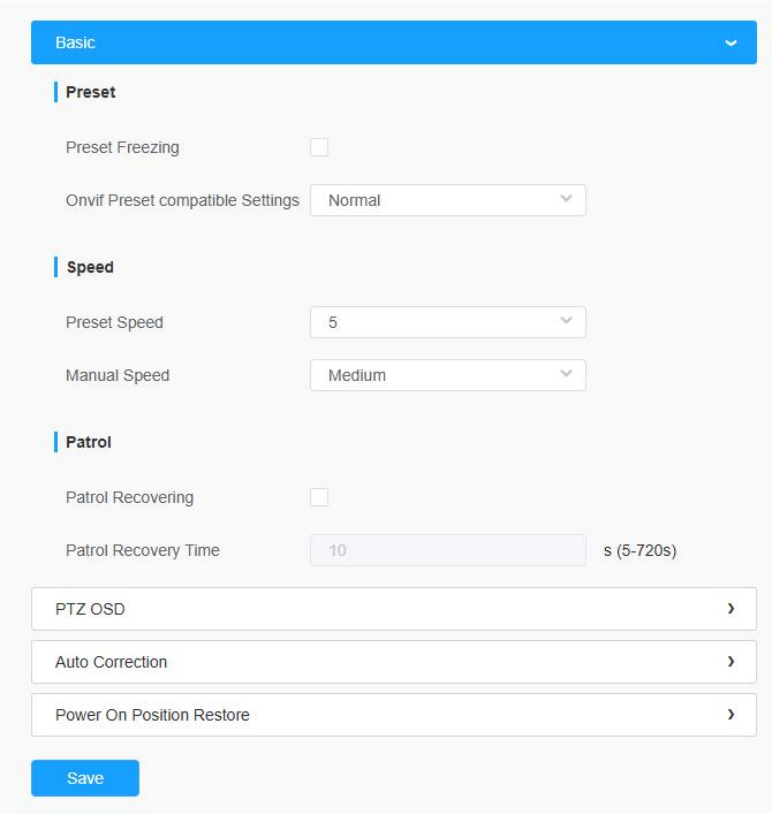


Table 74. Description of the buttons

Parameters	Function Introduction
Preset Freezing	If you enabled Preset Freezing, the live view of preset position will be showed directly instead of showing both the moving path to the position and the live view. It can also reduce the use of bandwidth in the digital network system.
Onvif Preset compatible Settings	**Normal** and **Compatible** are available for ONVIF Preset Compatible Settings: When **Normal mode** is selected, only the preset positions that have been actually configured by the user will be sent to the third-party back-end platform. These preset points are transmitted in the order in which they were set by the user. When **Compatible mode** is selected, all 300 configurable preset points will be sent to the third-party back-end platform, regardless of whether they have been set or not.
Speed	**Preset Speed:** It determines the speed of calling presets. Level 1~10 are available.
	Manual Speed: It determines the PTZ speed of Manually control. **Low**/ **Medium**/ **High** are available.

	ONVIF Max Manual PT Speed: Limits max pan/tilt speed for ONVIF third-party manual control. Its upper bound cannot exceed the value of Manual PT Speed.Local web control will not be affected.
Patrol	**Patrol Recovering**: Click to enable Patrol Recovering.
	Patrol Recovery Time: Set time for Patrol Recovering, which is between 5 to 720 seconds.

[PTZ OSD]

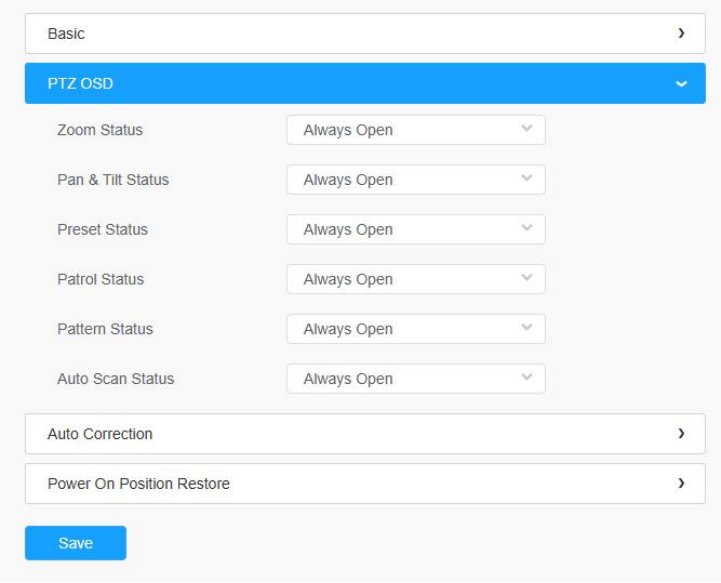


Table 75. Description of the buttons

Parameters	Function Introduction
Zoom Status	2s/ 5s/ 10s/Always Open/ Always Close are available.
Pan & Tilt Status	2s/ 5s/ 10s/Always Open/ Always Close are available.
Preset Status	2s/ 5s/ 10s/Always Open/ Always Close are available.
Patrol Status	Always Open/ Always Close are available.
Pattern Status	Always Open/ Always Close are available.
Auto Scan Status	Always Open/ Always Close are available.

[Auto Correction]

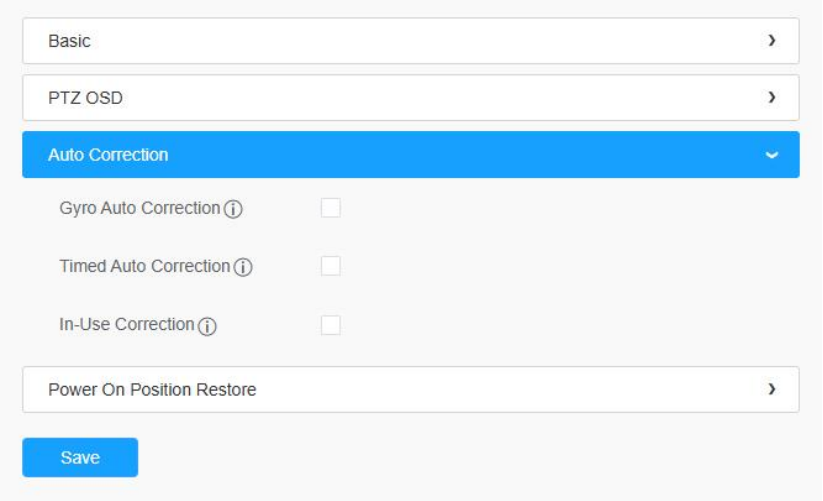


Table X. Description of Auto Correction

Parameters	Function Introduction
Gyro Auto Correction	**Gyro Auto Correction:** Enable or disable the gyroscope auto-correction function. When enabled, if the gyroscope detects that the device has rotated beyond the configured Offset Angle (due to human interference or device vibration), the camera will automatically return to the optocoupler position for correction. During the correction process, the camera behaves similarly to a self-check and will not respond to any operations. **Offset Angle:** Set the offset angle that triggers the auto-correction. When Gyro Auto Correction is enabled, if the static offset angle exceeds this value, the device automatically returns to the optocoupler for correction. Range: 5 degrees to 50 degrees, step 5 degrees. Default: 10 degrees. ***Note:***Filtering is applied to prevent false detection and frequent correction. The minimum value is set to 5 degrees, which may be adjusted lower based on actual testing.
Timed Auto Correction	**Timed Auto Correction:** Enable or disable the timed auto-correction function. When enabled, the gyroscope performs a correction at the configured Trigger Time daily. If a PTZ command is being executed (key control, preset/patrol/pattern call, AI Action, Auto Tracking, etc.) at the scheduled time, the correction will be skipped and attempted at the next scheduled time. **Trigger Time:** Set the daily time for the timed auto-correction to trigger. **Range:** 00:00 to 23:59. **Default:** 00:00.
In-Use Correction	**In-Use Correction:** Enable or disable the in-use correction function. When enabled, during patrol execution, the gyroscope performs a correction when the accumulated patrol count reaches the configured Patrol Count, then continues patrolling. The count resets to zero if an optocoupler is passed during the patrol.

	Patrol Count: Set the number of patrol cycles that trigger a correction. **Range:** 2 to 10, step 1. **Default:** 5.

[Power On Position Restore]

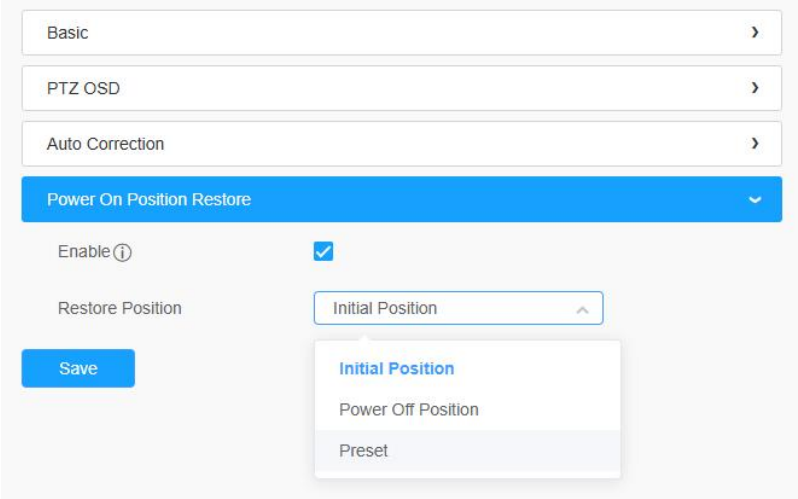
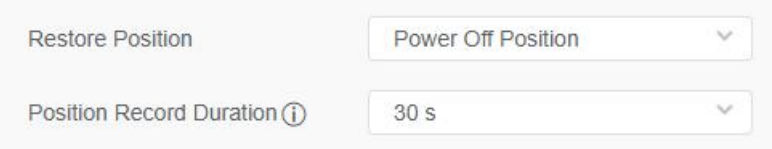
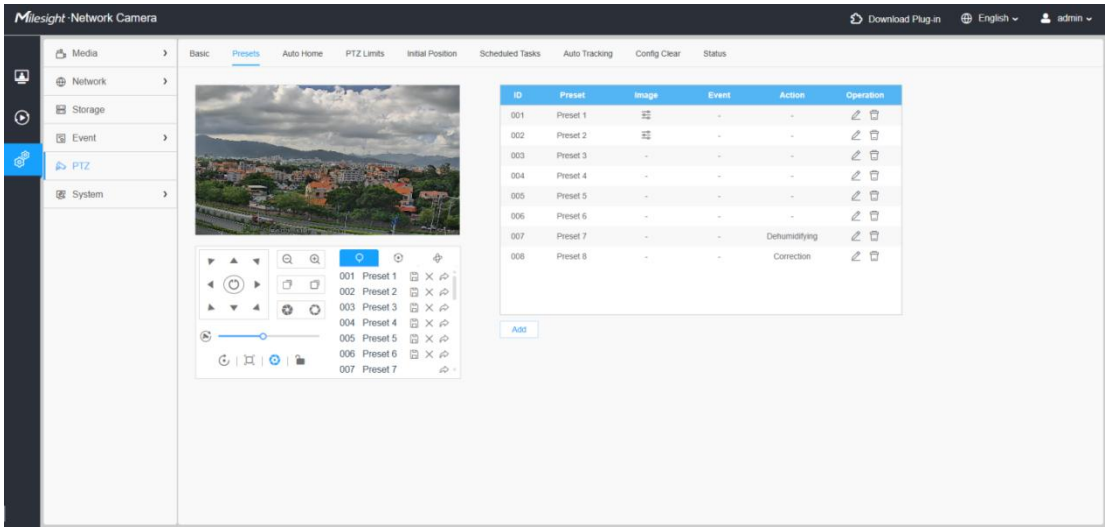


Table 76. Description of the buttons

Parameters	Function Introduction
Enable	**Enable:** Enable or disable the Power On Position Restore function. When enabled, the camera will restore to the specified position after power is restored.
Restore Position	**Restore Position:** Select the position to restore to after power-on: **- Initial Position:** The user-configured initial position. If not configured, the default physical initial position is used. **- Power Off Position:** The position when power was lost. When selected, the Position Record Duration setting is displayed, You need to set the duration after PTZ stops moving before the current position is recorded as the power-off position. **Available options:** 30s, 60s, 300s, 600s.  **- Preset:** A specific preset position. When selected, a Preset dropdown is displayed for selection, please select a preset position for power-on restore. 

8.5.2 Presets

The Presets page allows you to manage preset positions and configure action presets.



Preset List:

The list displays the following columns: ID, Preset, Image, Event, Action, and Operation.

- ID: The Preset ID number.

- Preset: The Preset name.

- Image: Shows the image configuration associated with the Preset. Displays a link icon if configured, or "-" if not. Clicking opens the corresponding configuration page (General, ROI, or Focus) in a new tab.

- Event: Shows the Event names associated with the Preset. Clicking an event name opens the corresponding configuration page in a new tab.

- Action: Shows the Action name associated with the Preset. Displays "-" for non-action presets.

- Operation: Shows Edit and Delete buttons for each Preset.

Add Action Preset:

Click "Add" to add an action preset. If no available preset slots remain, the Add button is disabled.

Note: Only action presets can be configured here.

- ID: Dropdown selection showing only unconfigured Preset IDs, sorted in ascending order. Required.

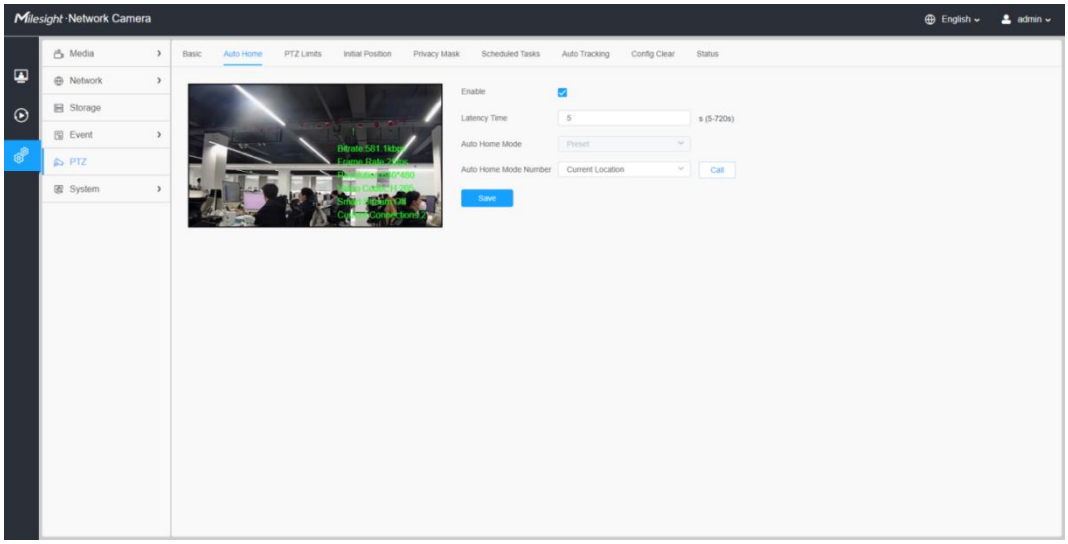
- Name: Custom Preset name, up to 64 characters.

- Action: Select the associated action. Options: Dehumidifying (fan + heating for 15 minutes) or Correction (return to optocoupler for correction once).

Note: Dehumidifying action preset shares the same priority as the manual Dehumidifying button. Priority: Dehumidifying button = Dehumidifying preset > Preset schedule > Power-on default heating. Higher priority can interrupt lower priority.

- Save/Cancel: Save or cancel the configuration.

8.5.2 Auto Home



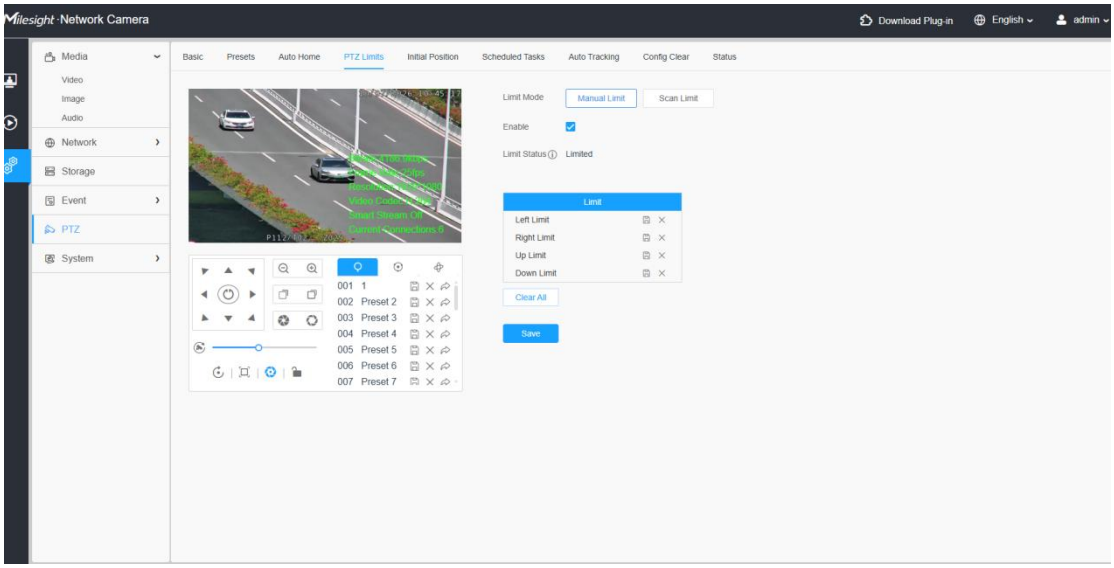
Auto Home allows the PTZ camera to return to a predefined Home Position automatically after a period of latency time. Check the checkbox to enable the Auto Home mode.

Table 77. Description of the buttons

Parameters	Function Introduction
Enable	Enable/disable the auto home function.
Latency Time	Set a latency time to trigger Auto Home mode, 5-720s.
Auto Home Mode	Preset: A preset point will take effect when triggering the Auto Home.
Auto Home Mode Number	Select a predefined preset in the list, press “Call” to check the location. Also support to select current location.

8.5.3 PTZ Limits

The PTZ camera can be programmed to move within the configurable PTZ Limits (Left/ Right/Up/Down)



Step1: Check the checkbox to enable the PTZ Limit function.

Step2: Choose the limit mode as Manual limit or scanning limit.

- Manual Limit:

When Manual limit stops are set, you can operate the PTZ control panel manually only in the limited surveillance area.

- Scan Limit:

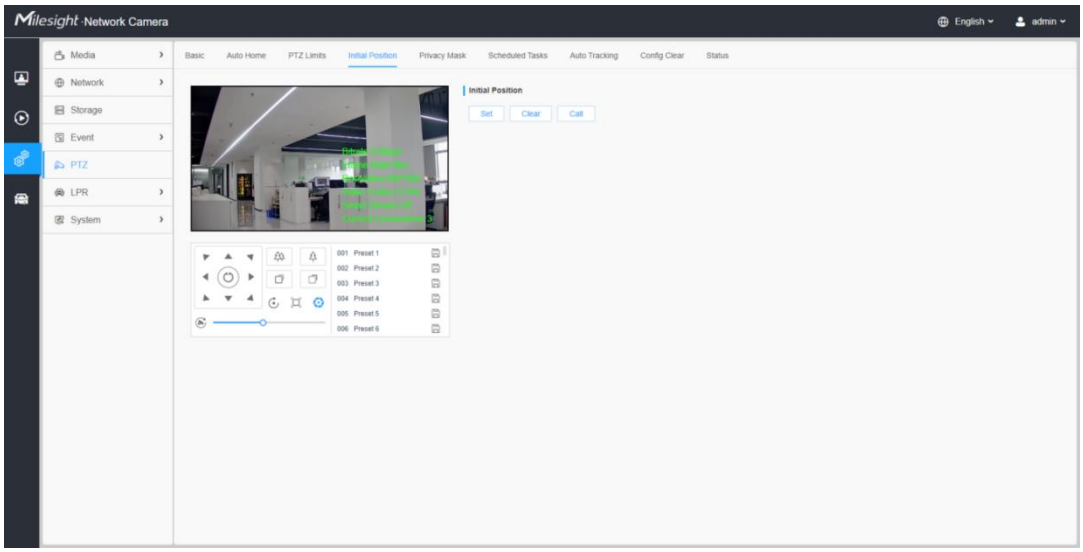
When Scan limit stops are set, the auto scan is performed only in the limited surveillance area.

Step3: Click the PTZ controller buttons to set the left/right/Up/Down limit stops; you can also call the defined presets and set them as the limits of the PTZ camera.

Step4: Click **Set** to save the limits or **Clear** to clear the limits.

Note: The Limit Status changes to Limited only when different position points for the Up, Down, Left and Right limits have been saved and the limit function is enabled.

8.5.4 Initial Position



You can configure the Initial Position for PTZ cameras as a zero point.

Step1: Click the PTZ control buttons as the Initial Position of the camera, you can also call a defined preset and set it as the Initial Position.

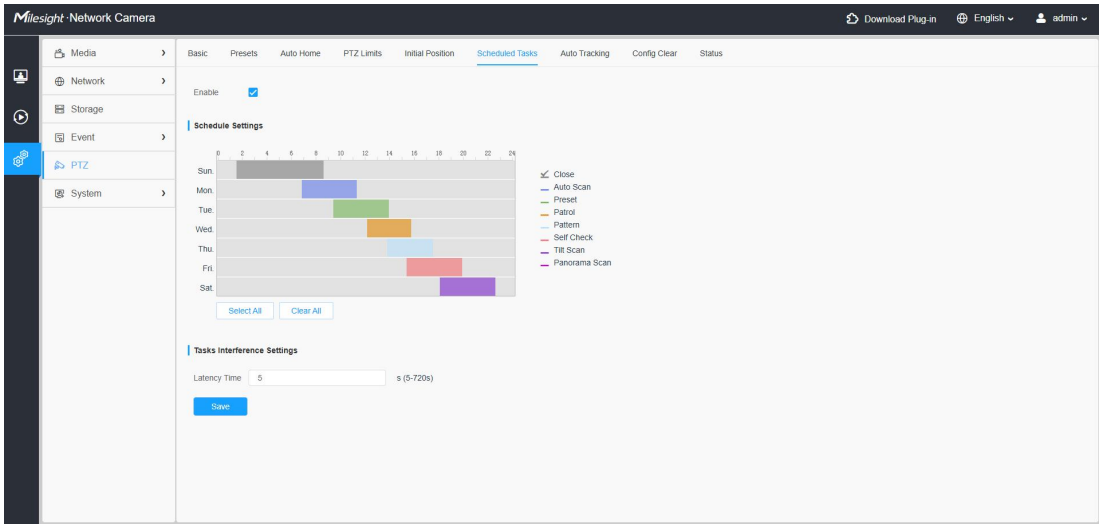
Step2: Click Set to save the position as the Initial Position.

Table 78. Description of the buttons

Parameters	Function Introduction
Set	Click to set the current position as a Initial Position
Clear	Clear the Initial Position to default settings.
Call	Click to call the Initial Position.

8.5.5 Schedule Tasks

You can configure the PTZ camera to perform a certain action automatically in a user- defined time period.



Step1: Enter the Scheduled Task Settings interface:

Step2: Check the check box to Enable Scheduled Task.

Step3: Set the schedule and task details.

Step4: Set the Task Latency Time (from 5 to 720 seconds). You can set the time(a period of inactivity) before the PTZ camera starts the schedule and task details.

Step5: Click Save button to save all the configurations.

Note:

- The time of each task cannot be overlapped. Up to 10 tasks can be configured for each day.
- The Scheduled Tasks function is prior to Auto Home function. When these two functions are set at the same time, only the Scheduled Tasks function takes effect.
- You can click button to select or close all schedule of different kinds of tasks.

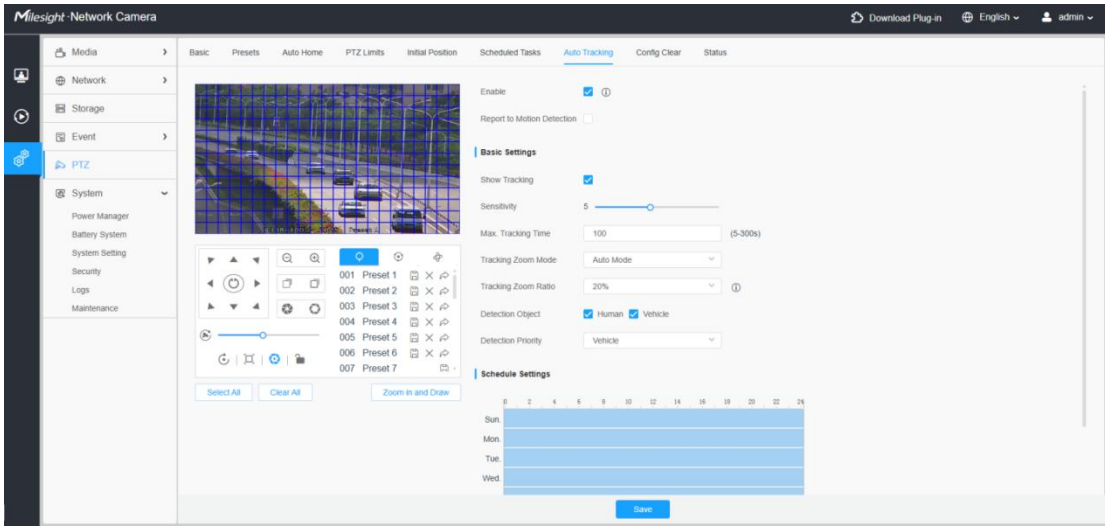
8.5.6 Auto Tracking

PTZ series cameras support to track the moving objects automatically after you configure this function.

Note:

1. Auto Tracking cannot be used simultaneously with Violence Detection, Fall Detection, or Face Detection-Attribute Recognition. If you need to enable Auto Tracking, please disable these functions first. Conversely, when Auto Tracking is enabled, these AI functions cannot be enabled.

2. In non-associated conditions, the priority for Auto Tracking is:VCA Event > Auto Tracking > Motion Detection.



Settings steps are shown as follows:

Step1: Check the check box to enable Auto Tracking.

Step2: Check the check box to enable Report to Motion Detection. The motion detection alarm will be triggered during auto tracking.

Note: Please enable motion detection first.

[Basic Settings]

Step3: Enable “Show Tracking” to show tracking in Auto Tracking function.

Step4: Set detecting sensitivity.

Step5: Set Max. Tracking Time which must be between 5~300s. The camera will stop tracking when the tracking time is used up.

Step6: Set Tracking Zoom Ratio including Auto Mode and Customize. The camera will automatically adjust tracking zoom ratio when Auto Mode is chosen. When Customize is chosen, user needs to set the tracking zoom ratio first by adjusting zoom button, then camera will automatically track the moving objects according to customized tracking zoom ratio and the object's proportion in the picture at the moment. At the same time, the object will always keep the same proportion in the picture during the tracking process.

Step7: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events;

Step8: Set the **Detection Priority** to **Human** or **Vehicle**. The camera will prioritize tracking the selected object type. If **None** is selected, the camera will track the first detected object by default.

[Schedule Settings]

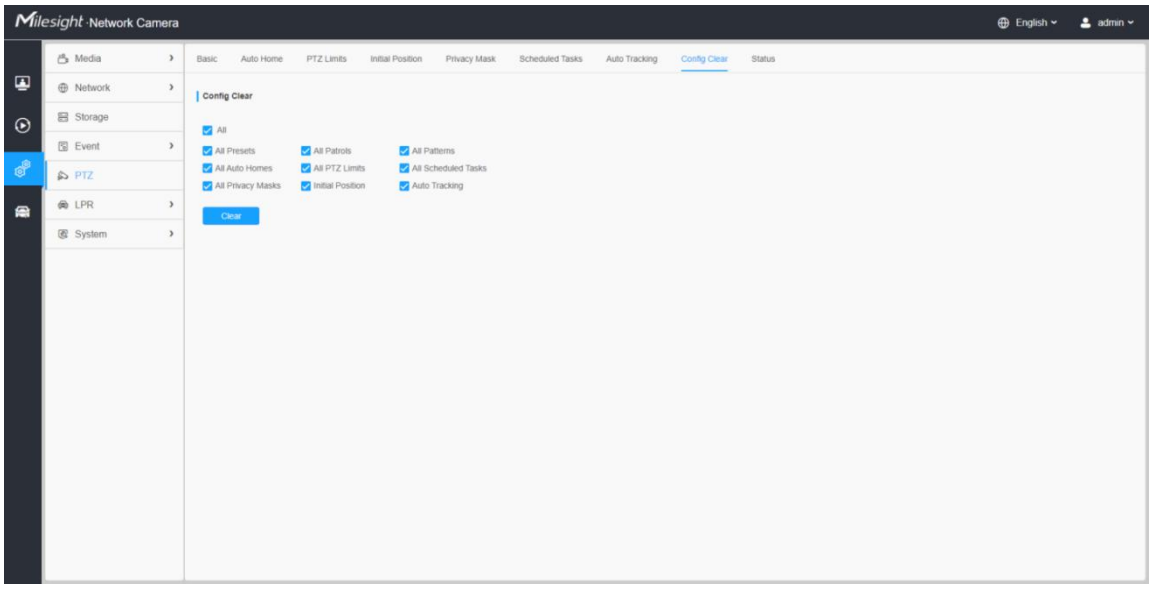
Step8: Set Auto Tracking schedule.

Step9: Draw the screen to set the detection region.

Step10: Click Save to save the configuration.

Note: Please turn off Auto Home before using Auto Tracking.

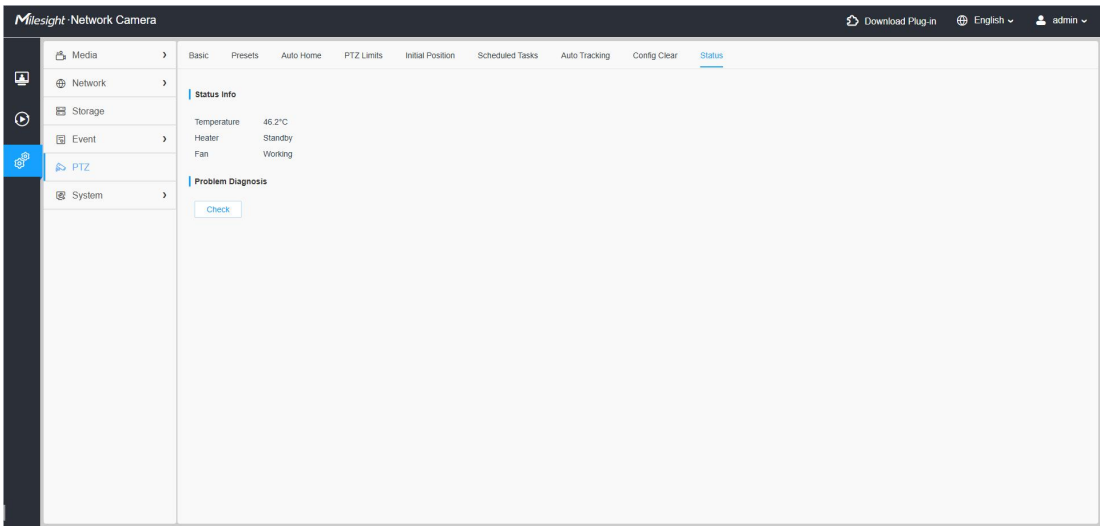
8.5.7 Config Clear



Here you can clear PTZ configurations, including all PTZ configurations, Presets, Patrols, Patterns, Auto Homes, PTZ Limits , Initial Position (PTZ Bullet), Privacy Masks and

Scheduled Tasks.

8.5.8 Status



Status Info

Here you can see the status information for PTZ camera, including temperature, heater and fan status.

Problem Diagnosis

By pressing the check button, you can export the PTZ diagnostic logs.

8.6 System

Here you can check device status such as power consumption and battery status, as well as perform system settings and maintenance.

8.6.1 Power Manager

The Power Manager module allows you to monitor and manage the camera's power consumption.

8.6.1.1 Power Meter

Monitor the camera's power consumption in real-time.

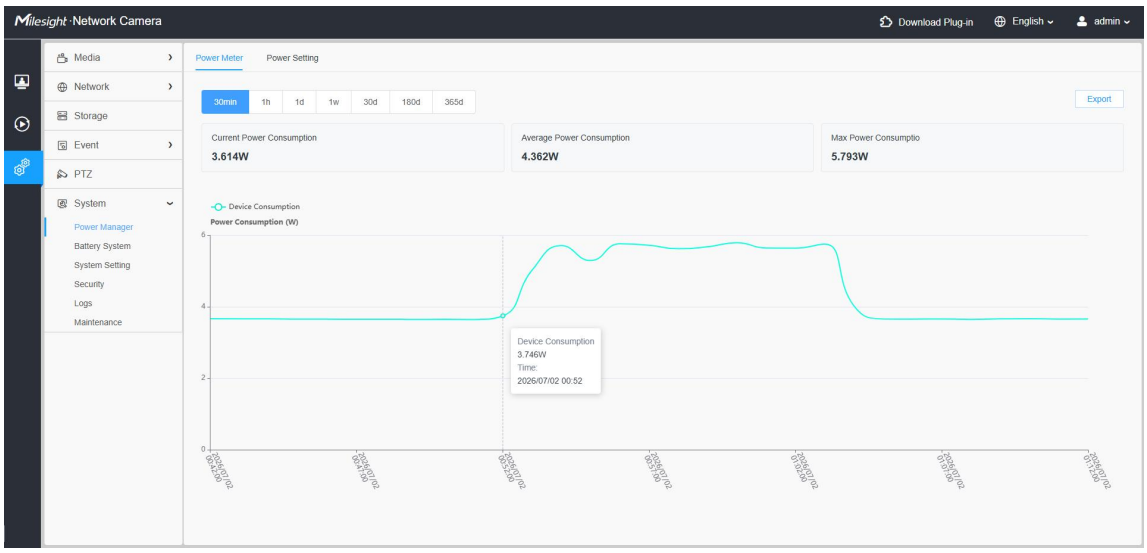


Table 79. Description of Power Meter

Parameters	Function Introduction
Time Range	Select a time range to view power consumption data. Options include 30 minutes, 1 hour, 1 day, 1 week, 30 days, 180 days, and 365 days.
Current Power Consumption	Display the current power consumption of the device, updated dynamically.

Average Power Consumption	Display the average power consumption for the selected period.
Max Power Consumption	Display the maximum power consumption for the selected period.
Power Trend Chart	Display the power consumption trend chart.
Data Export	Export the data in CSV format. The exported file contains two columns: Date and Device Power (W).

8.6.1.2 Power Settings

Configure power-related settings.

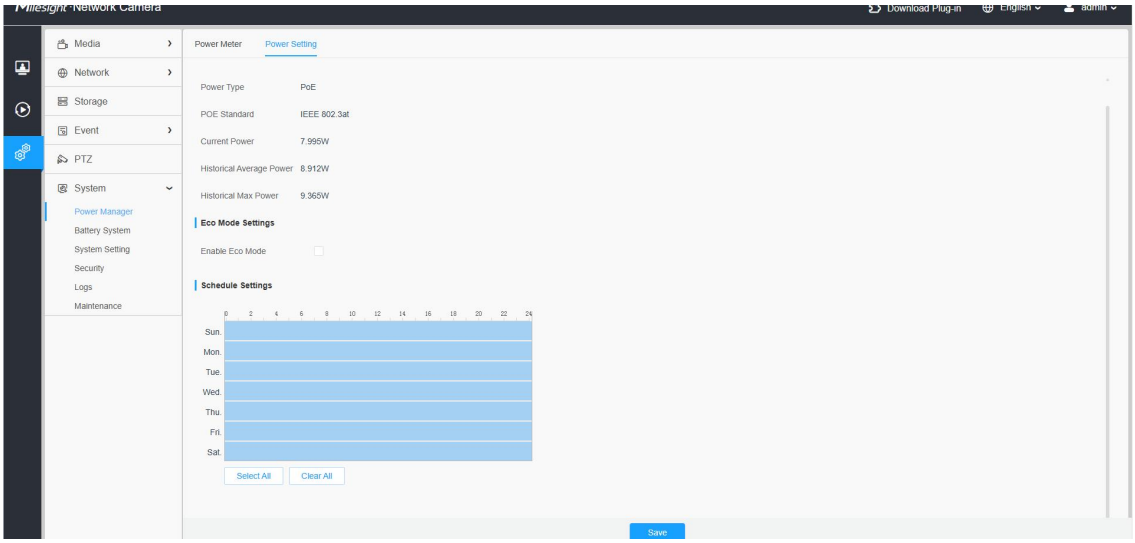


Table 80. Description of Power Settings

Parameters	Function Introduction
Power Type	Display the power supply type: DC/AC/POE.
POE Standard	Display the POE standard type when Power Type is POE. Values: IEEE 802.3af, IEEE 802.3at, IEEE 802.3bt.
Current Power	Display the current device power consumption in real-time.
Historical Average Power	Display the historical average power consumption since data collection began.
Historical Max Power	Display the historical maximum power consumption since data collection began.
Enable Eco Mode	Check to enable Eco Mode with a single click. When confirmed, the following configurations are modified:

	- resolution is reduced to 5MP - Frame rate is reduced to 30fps. - If AI is enabled, only VCA and PPE functions are retained. - All Image View IR Levels are reduced to 25 -Disable preset heater schedules.
Schedule	After Eco Mode is enabled, you can set a schedule for its active period.

8.6.2 Battery System

8.6.2.1 Battery Status

The Battery System module allows you to monitor and configure the external battery system.

Note:

1. The camera automatically detects the external solar battery system via RS485. If not detected (not connected or connected an unsupported battery system), the External Battery will display "Not Detected", and Level and SOH will display "-".
2. Battery status refresh logic: Upon connection, the system completes link establishment and status reporting within 5 seconds. Subsequently, status refreshes every 1 minute in stable state.

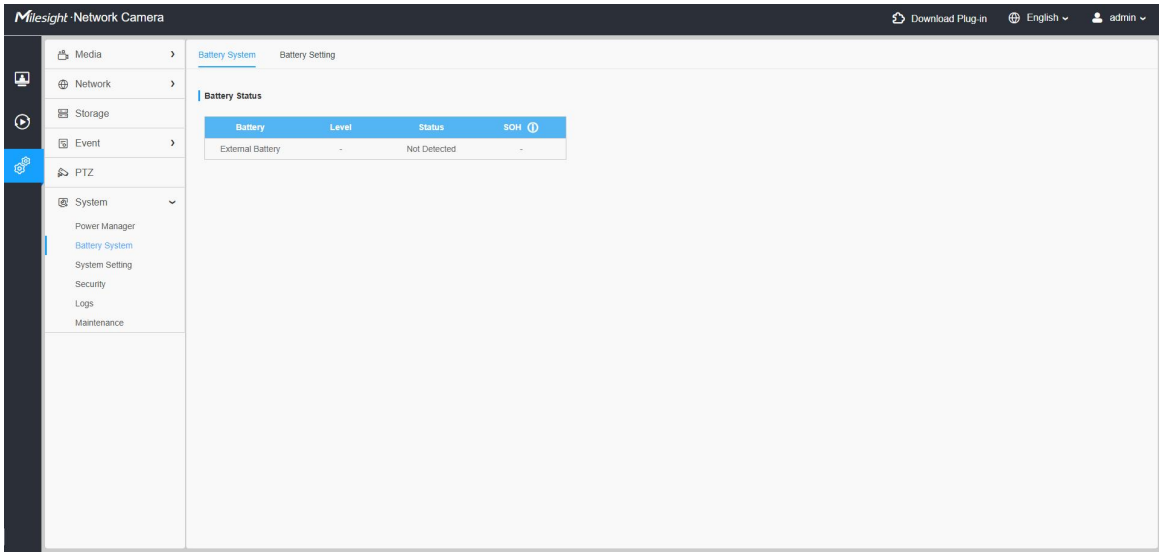


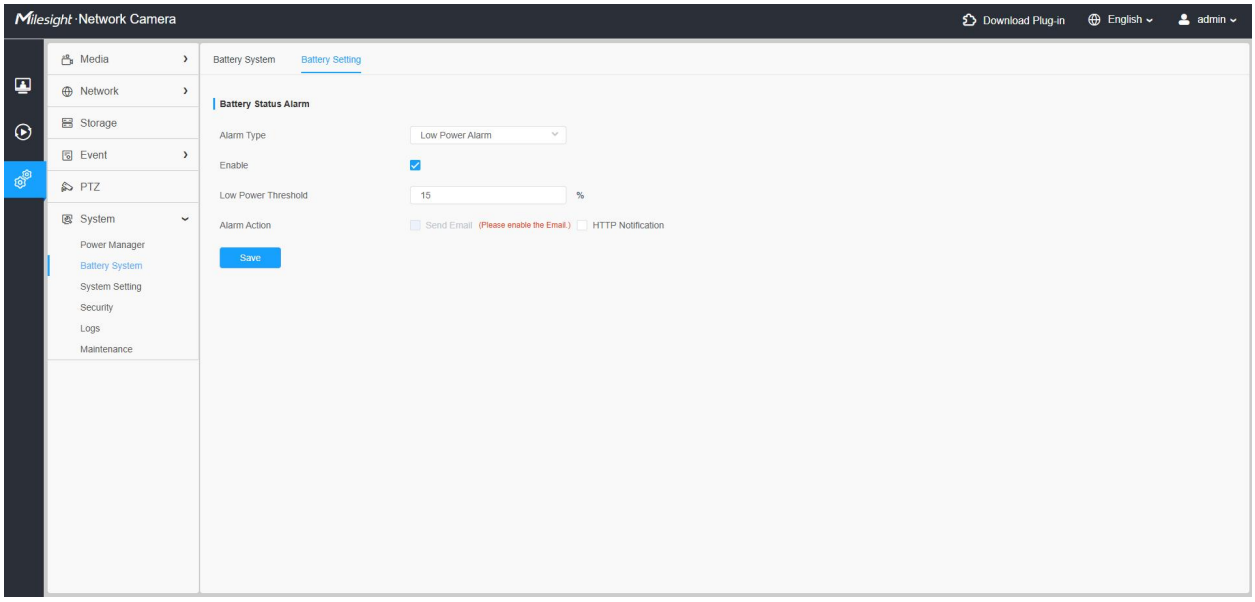
Table 81. Description of Battery Status

Parameters	Function Introduction
Battery Status	Display the external battery system status: - Running: Normal usage and charging/discharging. - Malfunction: Internal battery system fault, including temperature

	abnormality, register errors, etc. (displayed in red). - Not Detected: No external battery detected. External power without RS485 also shows this status (displayed in black). - Low Power: Battery level below 15%, displayed as Low Power (displayed in red). - HighTempProtect: Battery temperature exceeds the high temperature protection threshold (displayed in red). - LowTempProtect: Battery temperature below the low temperature protection threshold (displayed in red). ***Note:***Display priority: Fault > High/Low Temperature Protection > Low Power.
Level	Display the current battery level. Range: 0~100%.
SOH	Display the battery health status (State of Health). Range: 0~100.

8.6.2.2 Battery Settings

Configure battery alarm settings.



[Battery Status Alarm]

Table 82. Description of Battery Settings

Parameters	Function Introduction
Alarm Type	Select the battery alarm type: - Low Power Alarm - Malfunction Alarm - Low Battery Health Alarm (triggers when SOH falls below 70)

Enable	Enable/disable the selected battery alarm.
Low Power Threshold	Set the low power alarm threshold. **Range:** 10~50. Default: 15. ***Note:***Only displayed when Alarm Type is "Low Power Alarm".
Alarm Action	Select the alarm action: **- Send Email** ***Note:***If Network-Email is not enabled, "Send Email" is grayed out with a red hint: "Please enable the Email." **- HTTP Notification** URL: Set the HTTP Notification URL address. Range: Up to 512 bytes. ***Note:***Special characters \<>[]^|~()! cannot be entered. Invalid character prompt: "Invalid characters in: \<>[]^|~()!" Enable: Enable/disable the URL. HTTP Method: Select the HTTP method: Get or Post. Default: Get. User Name: Set the authentication username. Length: up to 64 bytes. Password: Set the authentication password. Length: up to 64 bytes. Displayed as ***** for security. Save: Click Save to apply the configuration.

8.6.3 System Setting

Here you can check System information and Date&Time.

8.6.3.1 System Info

This section describes all information about the hardware and software of the camera.

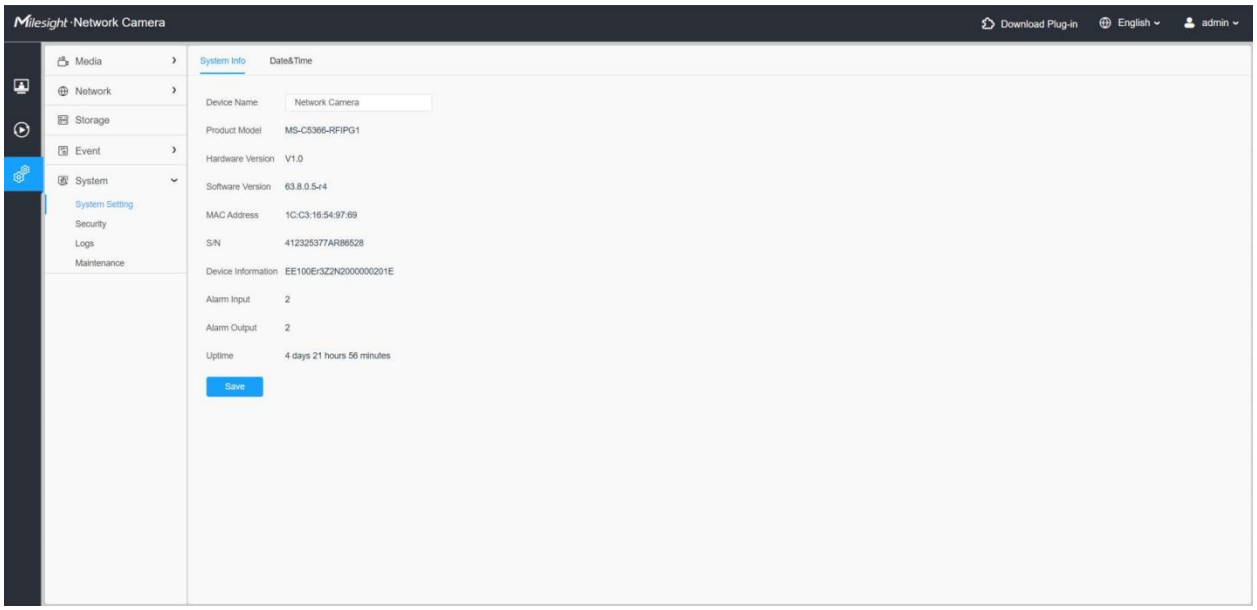


Table 83. Description of the buttons

Parameters	Function Introduction
Device Name	A customizable name, which will be shown in file names of video files.
Product Model	The product model of the camera.
Hardware Version	The hardware version of the camera.
Software Version	The software version of the camera, which can be upgraded.
MAC Address	Media Access Control address.
S/N	Stock Number.
Device Information	The device information, including information about alarm I/O and clipper chip.
Alarm Input	The number of Alarm Input interface. **Note:** The Alarm Input will appear only when the camera have alarm input/ output interface.
Alarm Output	The number of Alarm Output interface. **Note:** The Alarm Output will appear only when the camera have alarm input/ output interface.
Uptime	The elapsed time since the last restarted of the device.
Save	Save the configurations.

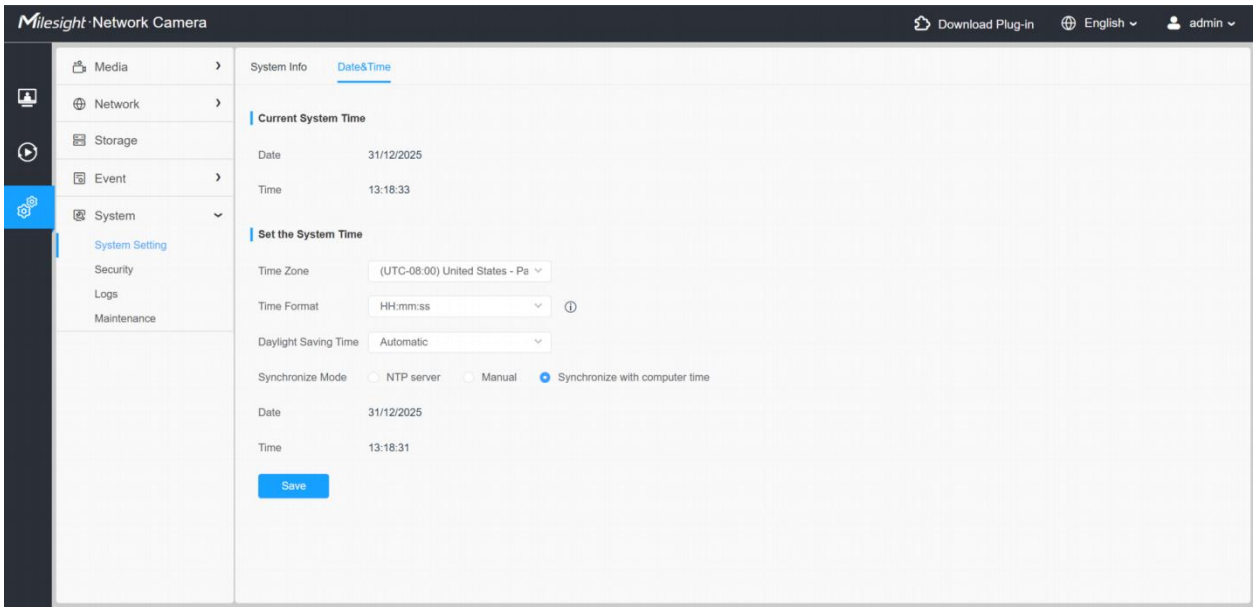


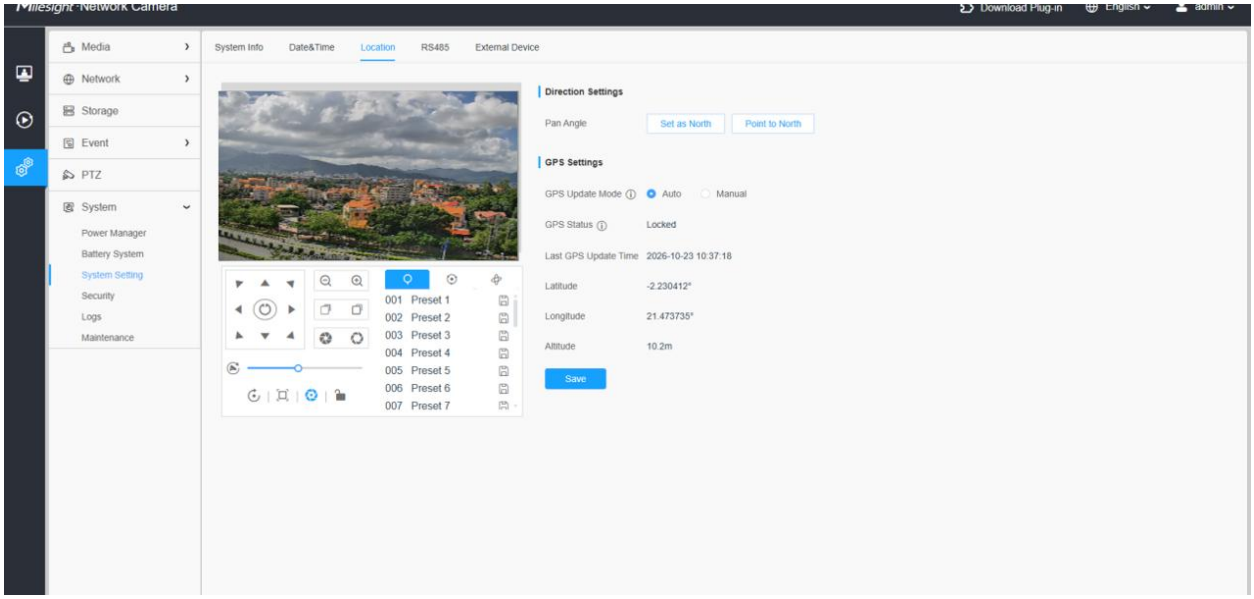
Table 84. Parameter Description

Parameters	Function Introduction
Current System Time	Current **Date&Time** of the system.
Set the System Time	**Time Zone:** Choose a time zone for your location.

	Daylight Saving time: Select **Disabled**, **Manual**, or **Automatic** as a daylight saving time mode.
	Time Format: Choose a time format. **HH:mm:ss** displays time in 24-hour format (e.g., 14:30:25), while **hh:mm:ss tt** uses 12-hour format with AM/PM indicators (e.g., 02:30:25 PM).
	Synchronize Mode: Select a time synchronization mode from **NTP server**, **Manual**, and **Synchronize with computer time**. **NTP server:** Input the address of NTP server. **Server Address:** Input the server address. **NTP Sync:** Regularly update your time according to the interval time. **Interval:** Input an interval from **1** to **43,200** (min). **Manual:** Set the system time manually. **Synchronize with computer time:** Synchronize the time with your computer.
Save	Save the configurations.

8.6.3.2 Location

Configure the geographic location and directional settings for the camera.



[Direction Settings]

Table 85. Description of Direction Settings

Parameters	Function Introduction
Pan Angle	Configure the north direction for the camera: - Set as North: Save the current Pan angle as the north direction. - Point to North: Control the PTZ to rotate to the saved north direction.

	Note:If the north direction has not been saved, the camera will point to the Initial Position's zero Pan position by default.

[GPS Settings]

Table 86. Description of GPS Settings

Parameters	Function Introduction
GPS Update Mode	Select Auto Mode or Manual Mode as needed. **Auto Mode:** Automatically retrieves GPS coordinates from an external GPS module (updates every 1 second). Requires a connected GPS module. **Manual Mode:** Enter GPS coordinates manually. Coordinates are fixed and will not update automatically.
Auto Mode	**GPS Status:** **Acquiring...:** Searching for satellites. Location unavailable. First-time: "-" displayed for coordinates and time. If history exists, last known data shown. **Locked:** GPS locked. Receiving valid data. Real-time update. **No Module:** GPS module not connected.
Manual Mode	Set the longitude. Range: -180.000000 to 180.000000. Default: 0.000000. Set the latitude. Range: -90.000000 to 90.000000. Default: 0.000000. Set the altitude. Default: 0.0.

8.6.3.3 RS485

Configure the RS485 interface for external device communication.

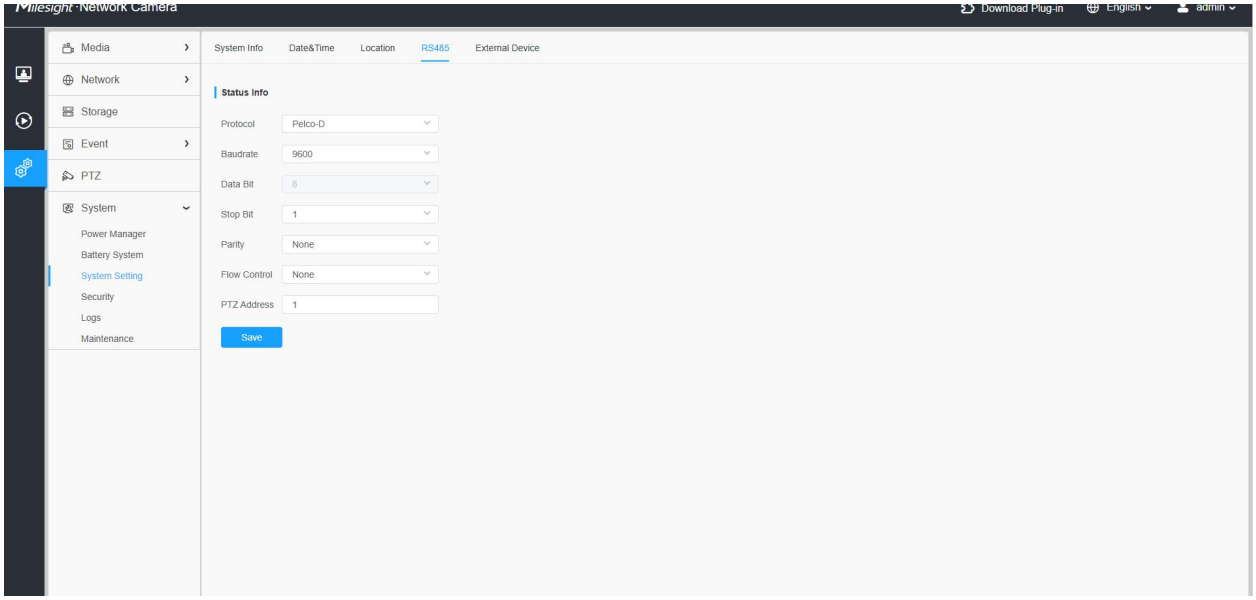
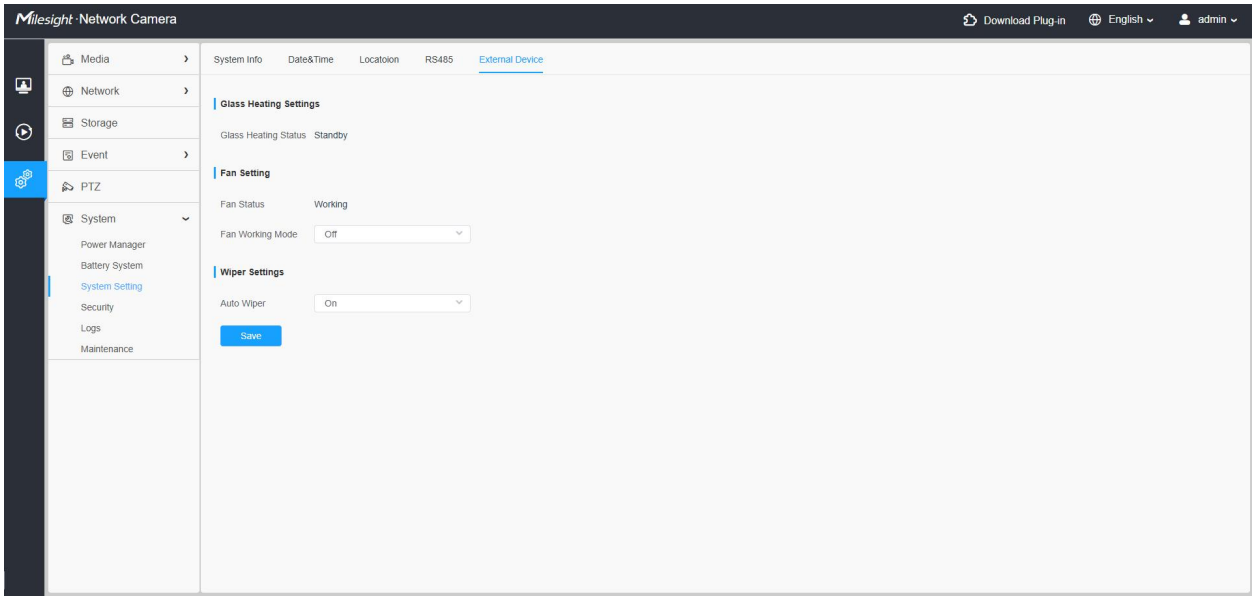


Table 87. Description of RS485

Parameters	Function Introduction
Protocol	Select the RS485 protocol: - Pelco-D - Pelco-P - Solar Power: When selected, the RS485 interface is used to connect to the solar power system. All other options below will be hidden. Click Save to apply. **Note:** Only Milesight solar power system is supported. - NMEA - 0183: GPS standard protocol.
Baud Rate	Set the baud rate.
Data Bits	Set the data bits.
Stop Bits	Set the stop bits.
Parity	Set the parity.
Flow Control	Flow control in RS485 communication refers to methods used to manage the data transmission rate between devices, preventing data loss or overflow. Flow control can be hardware-based (hard flow control, e.g., RTS/CTS) or software-based (soft flow control, e.g., XON/XOFF).
PTZ Address	PTZ address is a unique identifier assigned to each PTZ (Pan-Tilt-Zoom) camera in a control system. In Pelco-D protocol, each camera must have a unique PTZ address so the controller can send commands to the correct device.

8.6.3.4 External Device

Configure external devices including glass heating and fan.



Glass Heating Status: displays the current working state of the lens heating system.

- Working: Indicates that the glass heating is actively running.
- Standby: Indicates that the glass heating is not running.

Heating Activation Logic:

Heating can be triggered by power-on, scheduled tasks, or manual defogging. Whenever the activation time condition is met, heating will start.

The heating will remain active until the latest end time among all activation conditions.

For example, if the schedule has 10 minutes left and you press the defog button (which adds 15 minutes), the heating will stop after 15 minutes.

Supported Models:

Glass heating is only supported on XX41, XX42, and XX67 models.

Fan Working Mode: Three fan working modes are available: General/ Enhancement/ Constant/ Off.

General: The fans are turned on from 4am to 7am and 5pm to 8pm every day.

Enhancement: The fans are turned on from 5pm to 7am every day.

Constant: The fans work 24 hours a day

Off: Turn off the fans.

Wiper: Turn on the smart wiper function to control the wiper of speed dome camera.

After the smart wiper function is enabled, the wiper of the speed dome camera will automatically start working in rainy weather, and the working frequency of the wiper will be adjusted intelligently according to the rainfall like.

Supported Models:

Wiper is only supported on XX41 models.

8.6.4 Security

Here you can configure User, Access List, Security Service, Watermark, etc.

8.6.4.1 User

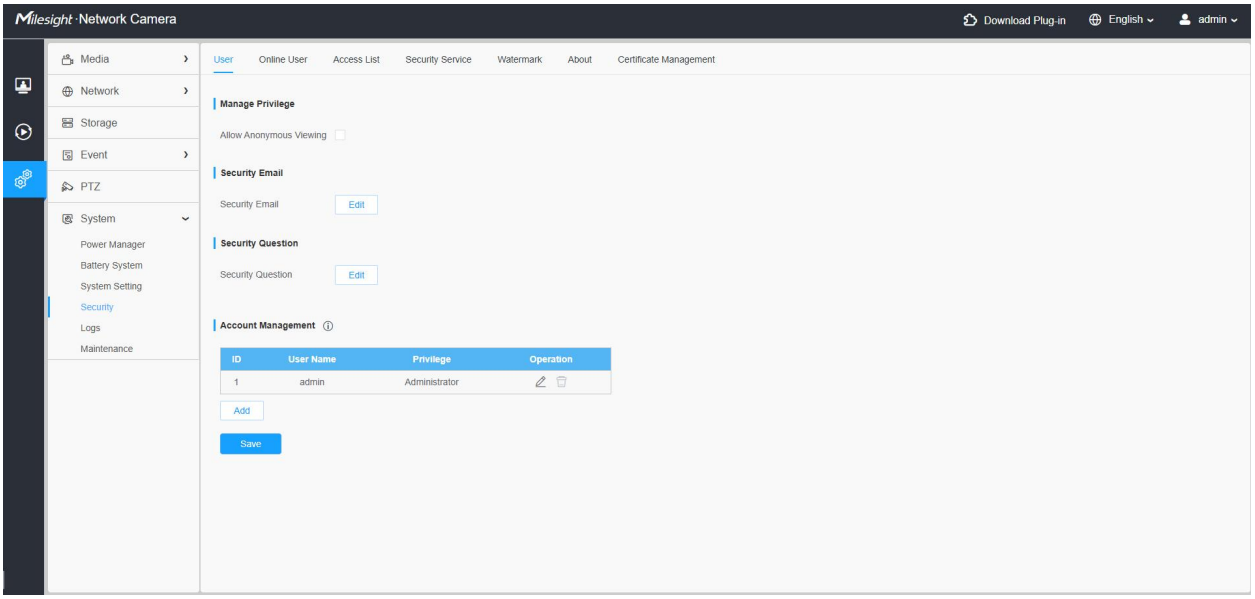
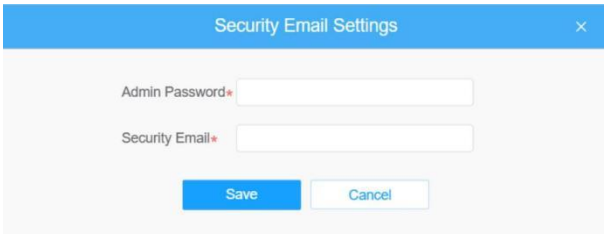
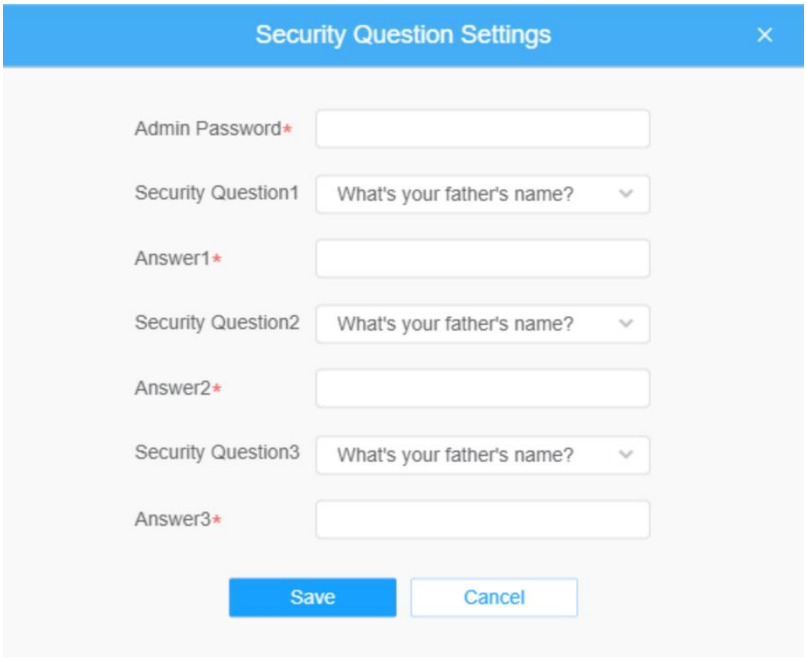
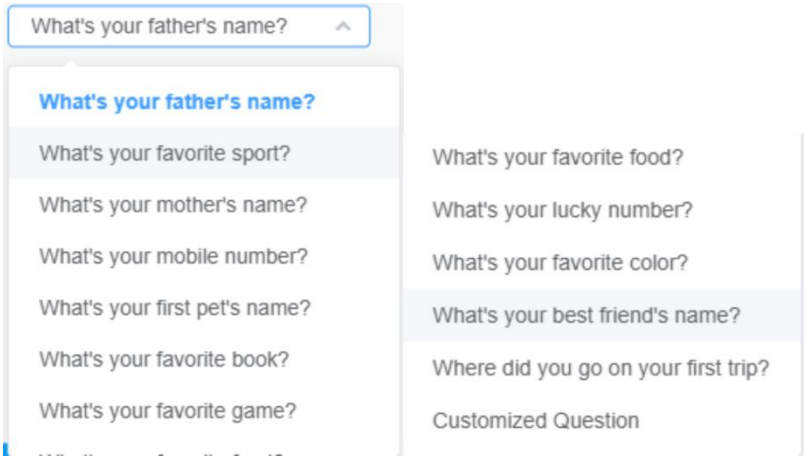


Table 88. Description of the buttons

Parameters	Function Introduction
Manage Privilege	**Allow Anonymous Viewing:** Check the check box to enable visit from whom doesn't have an account of the device. **Note:** This method may cause video leakage.
Security Email	It allows you to reset your password through the email you set, enhancing both user experience and account security. Click **Edit** to set your security email. Enter the admin password and security email address and click **Save**. Once done, the configuration is complete. 

Security Question	Click the **Edit** button to set three security questions for your camera. In case that you forget the password, you can click "Forget Password" button on login page to reset the password by answering three security questions correctly.  There are twelve default questions below, you can also customize the security questions. 
Account Management	Click the **Add** button, it will display Account Management page. You can add an account to the camera by entering Admin Password, User Level, User Name, New Password, Confirm, and edit user privilege by clicking . The added account will be displayed in the account list. **Admin Password:** You can add an account only after you enter the correct admin password. **User Level:** Set the privilege for the account. **User Name:** Input user name for creating an account. **New Password:** Input password for the account. **Confirm:** Confirm the password.

8.6.4.2 Online User

Here real-time status of user logging in camera will be shown.

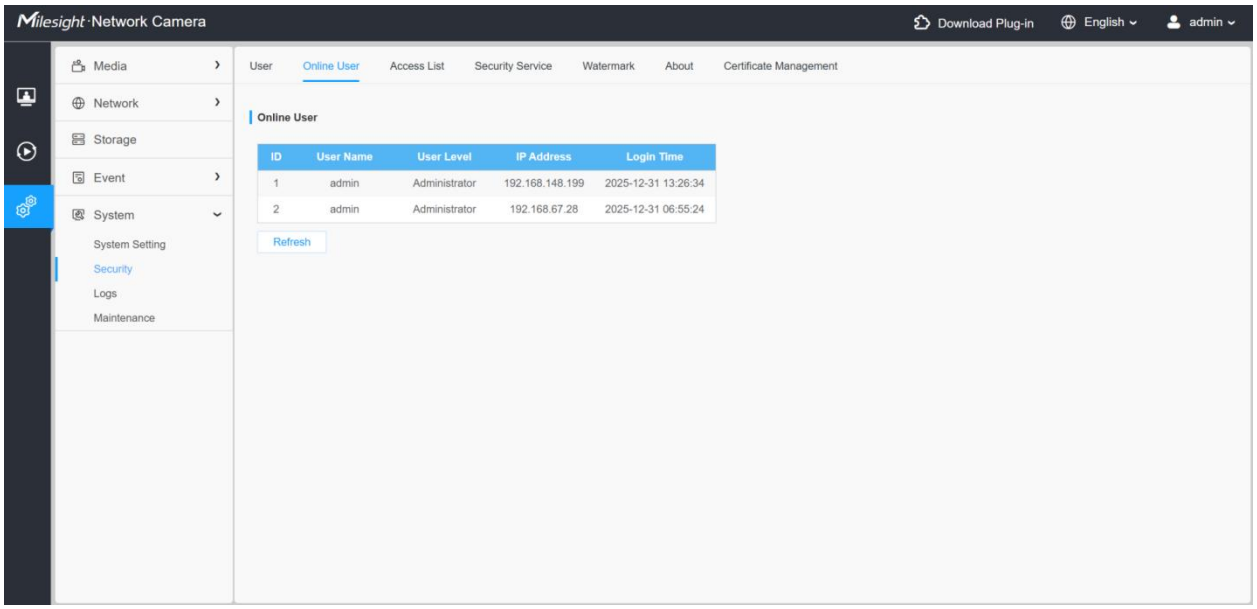


Table 89. Description of the buttons

Parameters	Function Introduction
Refresh	Click it to get the latest status of user accessing to camera.
ID	Record serial number of user logging in camera. **Note:** • There are at most 30 records shown at the list. • There is only one record if the same user logging on camera by the same IP address.
User Name	Name of user logging in camera.
User Level	Level of user logging in camera.
IP Address	Device IP address where user logging in camera web located.
Login Time	Camera system time of user logging in camera.

8.6.4.3 Access List

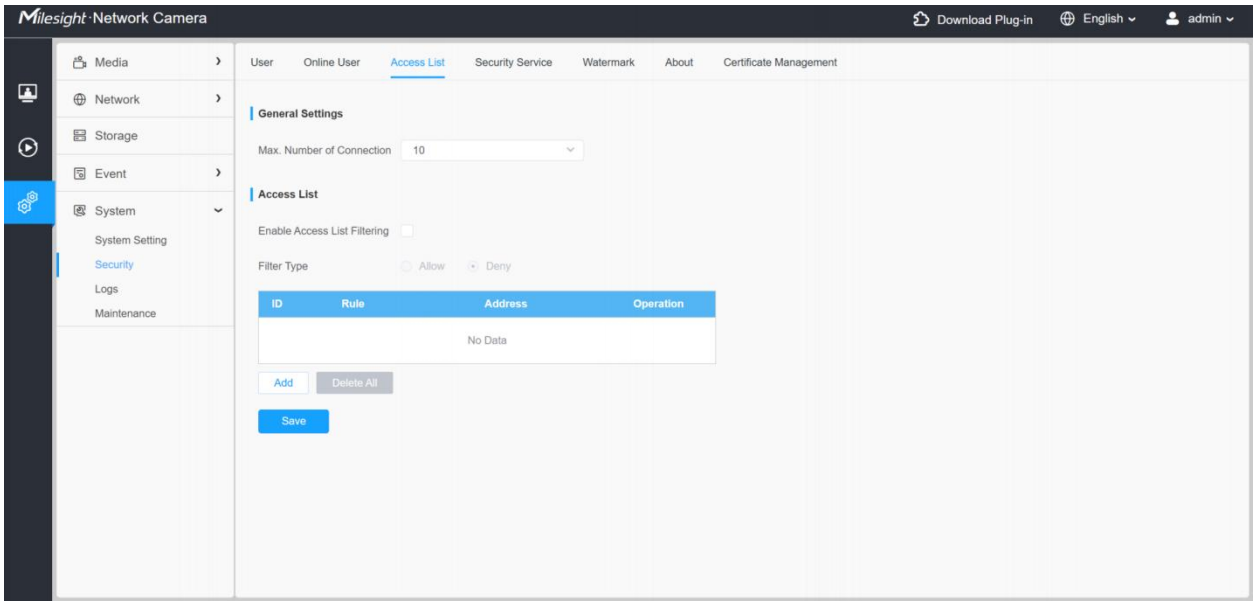


Table 90. Description of the buttons

Parameters	Function Introduction	
General Settings	**Max. Number of Connection:** Select the maximum number of concurrent streaming (including the number of channels displayed for currently logged-in users, RTSP connections, and ONVIF connections. Options include No Limit, 1~10.	
Access List	**Enable Access List Filtering:** Able to access or restrict access for some IP address.	
Access List	**Filter type:** Allow or deny access.	
Access List	Add	**Rule: IP Address**, **Network Address**, **IP Range**, **MAC Address** are available. **IP address:** A unique numerical label assigned to a single device on a network. Input the address to get the access to the device. **Network Address**: A subnet address that represents a group of devices on the same network. **Address**: The base IP address of the subnet you want to control. **Mask**: A 32-bit number that defines which part of the IP address represents the network and which part represents the host. **IP Range**: A continuous sequence of IP addresses. **Mac Address**: A unique physical hardware address embedded in your camera's network interface.
Access List	Delete All	Delete all the access list.
Access List		Edit the selected IP on access list.
		Delete the selected IP on access list.

Save	Save the configurations.

8.6.4.4 Security Service

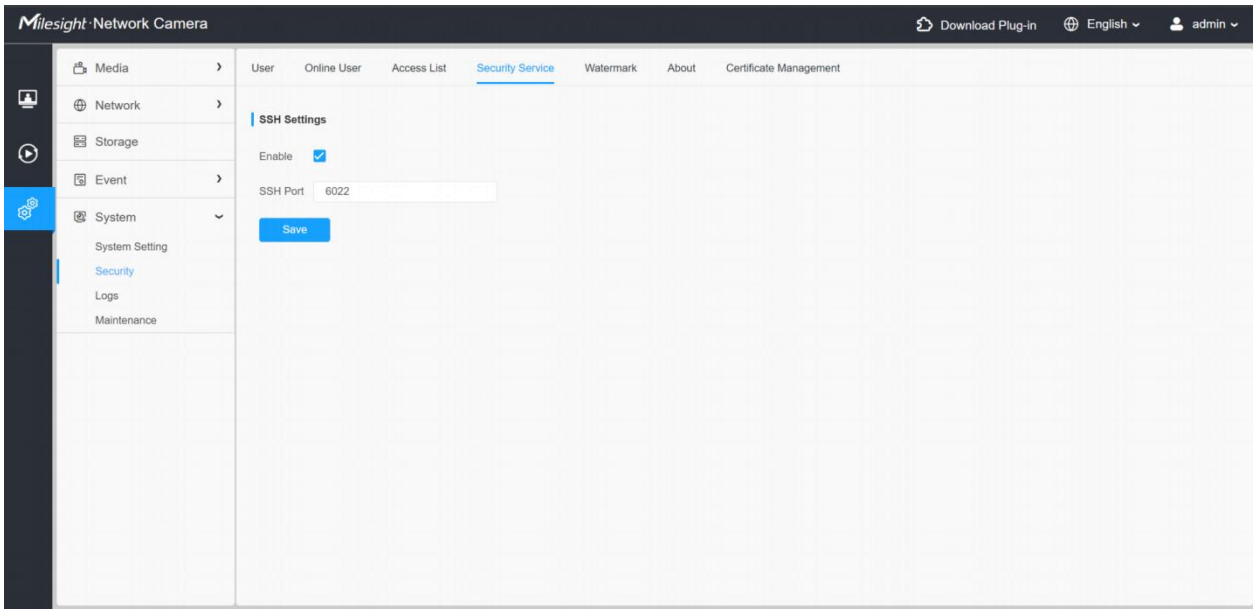
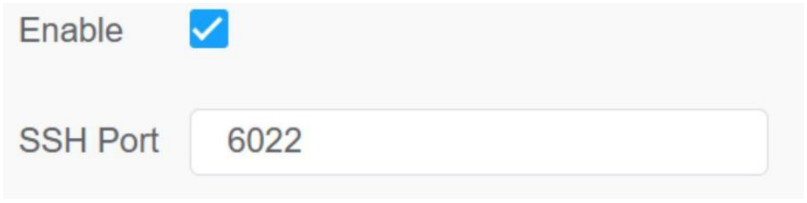
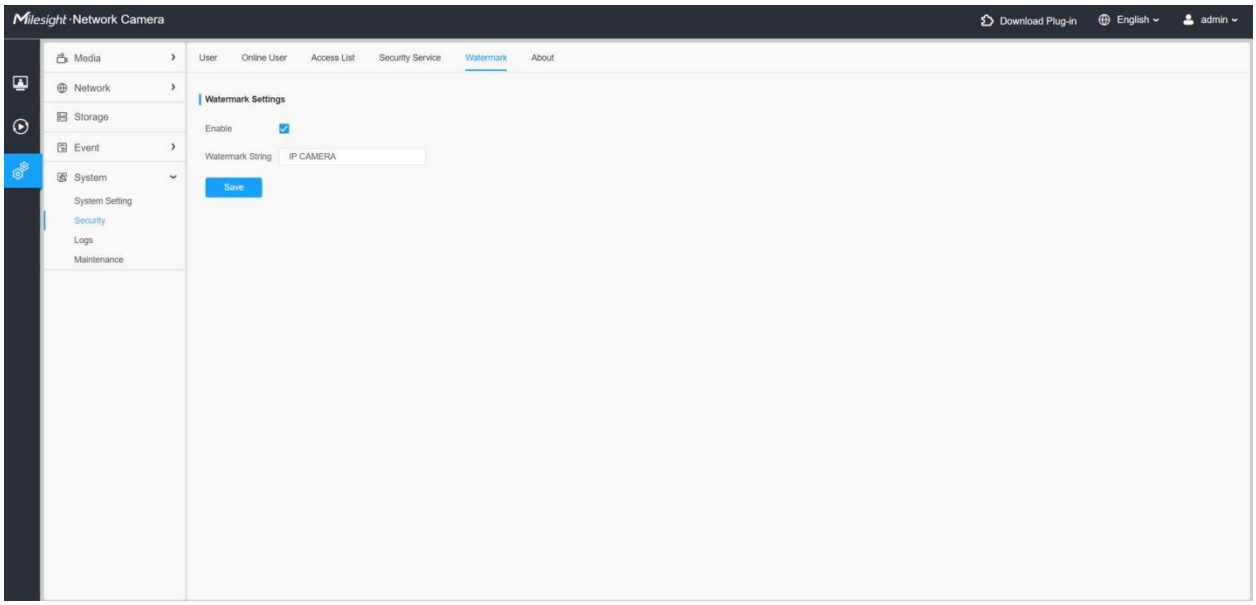


Table 91. Description of the buttons

Parameters	Function Introduction
SSH Settings	Secure Shell (SSH) has many functions: it can replace Telnet and also provides a secure channel for FTP, POP, even for PPP. Check the check box to enable the function and enter an SSH port.  **Note:** Enabling this feature poses security risks!
Save	Save the configurations.

8.6.4.5 Watermark



Watermarking is an effective method to protect information security, realizing anti-counterfeiting traceability and copyright protection. Milesight Network cameras supports Watermark function to ensure information security.

8.6.4.6 About

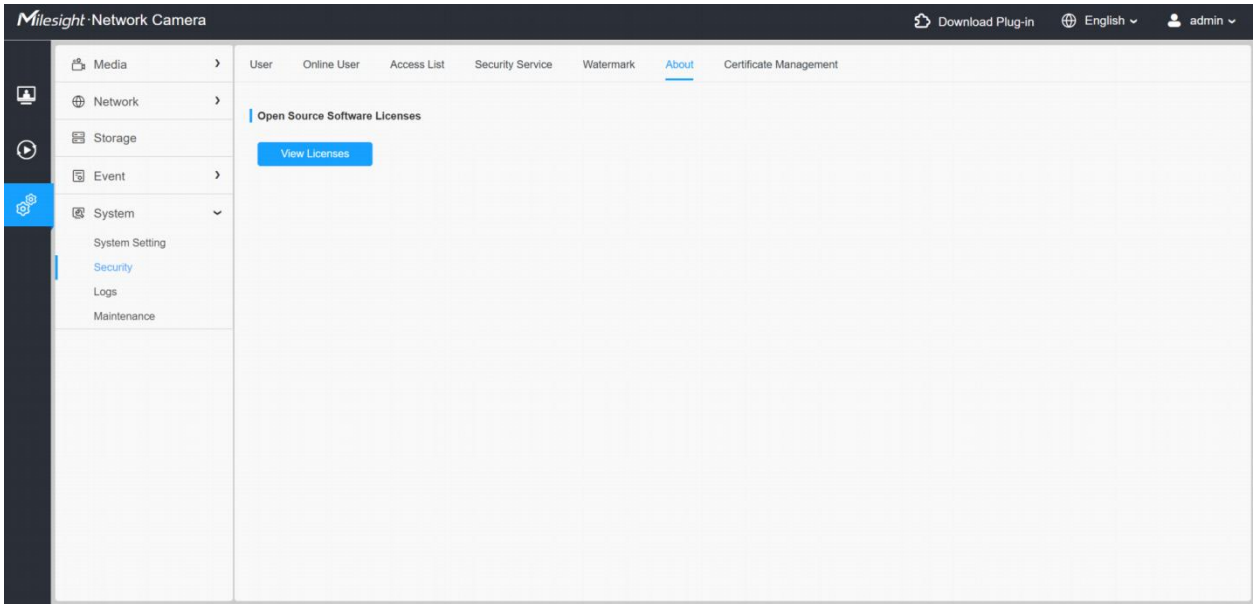


Table 92. Parameter Description

Parameters	Function Introduction
Open Source Software Licenses	Click **View Licenses** to view open source software licenses about the camera.

8.6.4.7 Certificate Management

This section describes the information about certificate management.

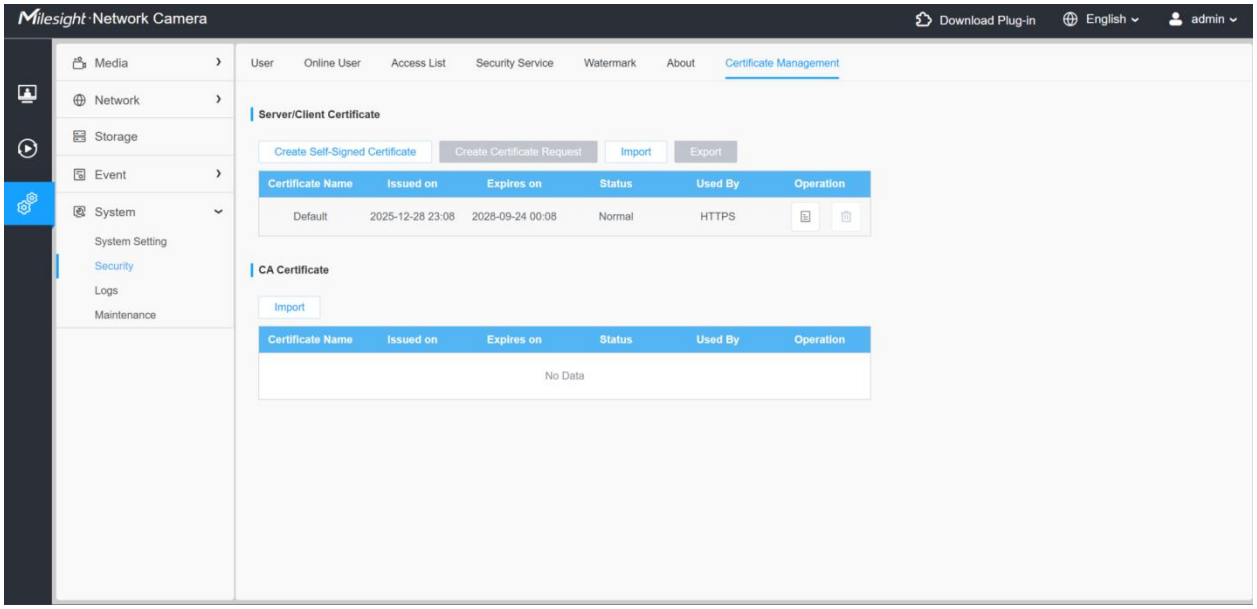
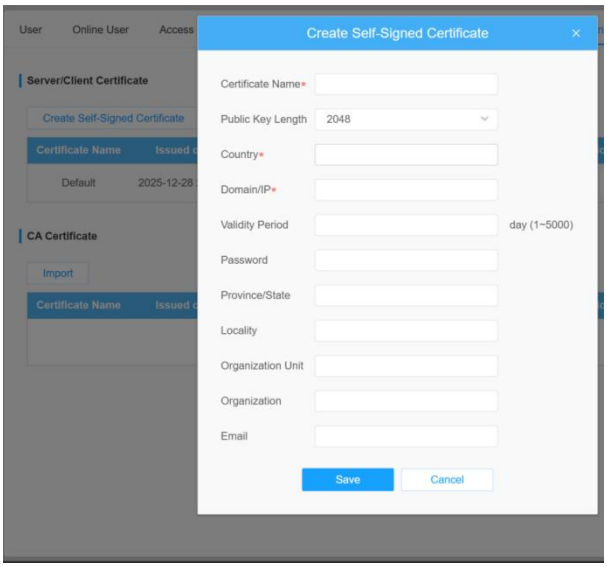
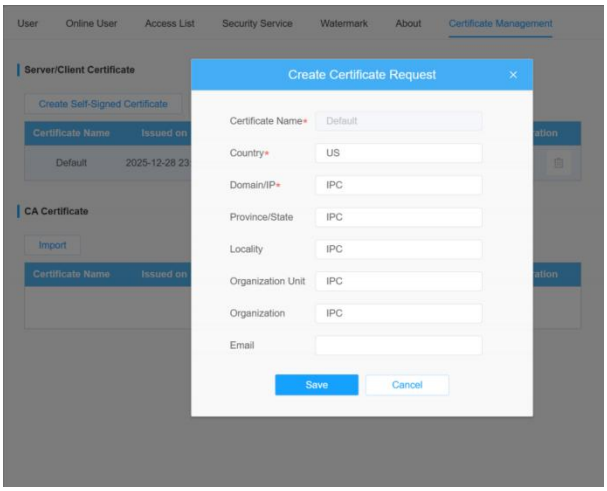
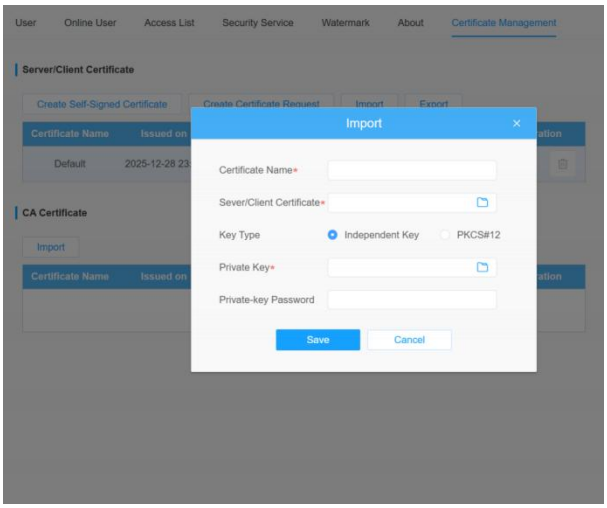
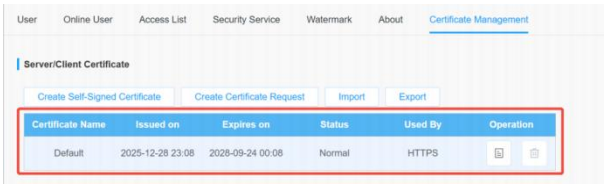
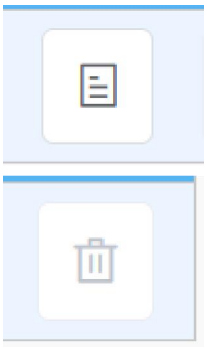
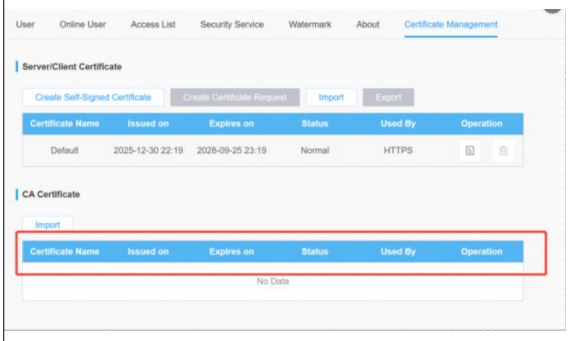
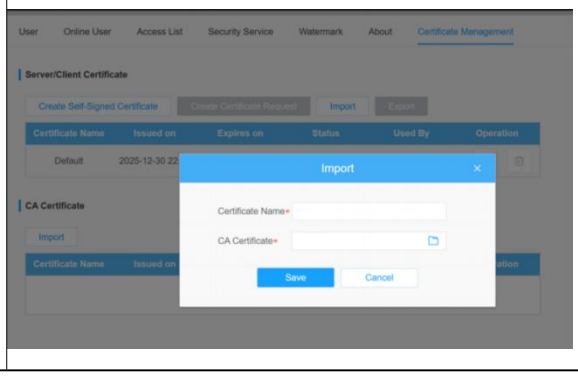


Table 93. Parameter Description

Parameters	Function Introduction

Server/Client Certificate	**Create Self-Signed Certificate:** Click it to create a self- signed certificate. When you click it, the following buttons are displayed. **Certificate Name:** Enter a certificate name. **Public Key Length:** Select **1024** or **2048** for the public key length. **Country:** Enter a country. **Domain/IP:** Enter a domain or an IP. **Validity Period:** Enter a validity period (day) from **1** to **5,000**. **Password:** Enter a password. **Province/State:** Enter a province or state. **Locality:** Enter a locality. **Organization Unit:** Enter an organization unit. **Organization:** Enter an organization. **Email:** Enter an email address. 

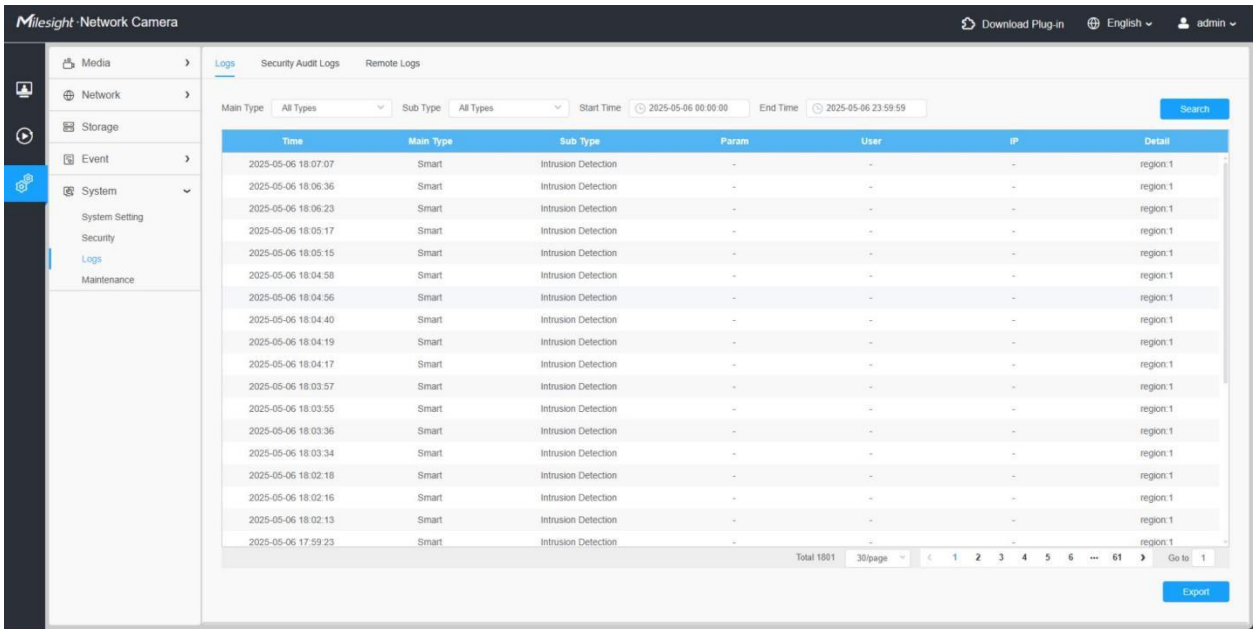
Server/Client Certificate	**Create Certificate Request:** Click it to create a certificate request. When creating a certificate request, you are advised to enter the following buttons: **Certificate Name**, **Country**, **Domain/IP**, **Province/State**, **Locality**, **Organization Unit**, **Organization**, and **Email**. 
Server/Client Certificate	**Import:** Import a certificate. **Certificate Name:** Enter a certificate name. **Sever/Client Certificate:** Import a sever or client certificate. **Key Type:** Select **Independent Key** or **PKCS#12**. **Private Key:** Import a private key. **Private-key Password:** Enter a private-key password.  **Export:** Click it to export the certificate.

Server/Client Certificate	 **Certificate Name:** Certificate name. **Issued On:** The Issue time of the certificate. **Expires On:** The validate period of the certificate. **Status:** The status of the certificate. **Used By:** The application method of the certificate. **Operation:** The following icons are displayed under the column of **Operation**.  Click the first icon to see the detailed information of the certificate; click the latter to delete the certificate.
CA Certificate	You can import CA certificates by clicking **Import** and configuring **Certificate Name** and **CA Certificate**. There also have **Certificate Name**, **Issued On**, **Expires On**, **Status**, **Used By**, and **Operation** options.  

8.6.5 Logs

The section describes the information about **Logs**, **Security Audit Logs**, and **Remote Logs**.

8.6.5.1 Logs



Note:

This interface is used to record logs (including **All Types**, **Event**, **Operation**, **Information**, **Exception**, and **Smart**). Before configuring it, ensure a storage device is available.

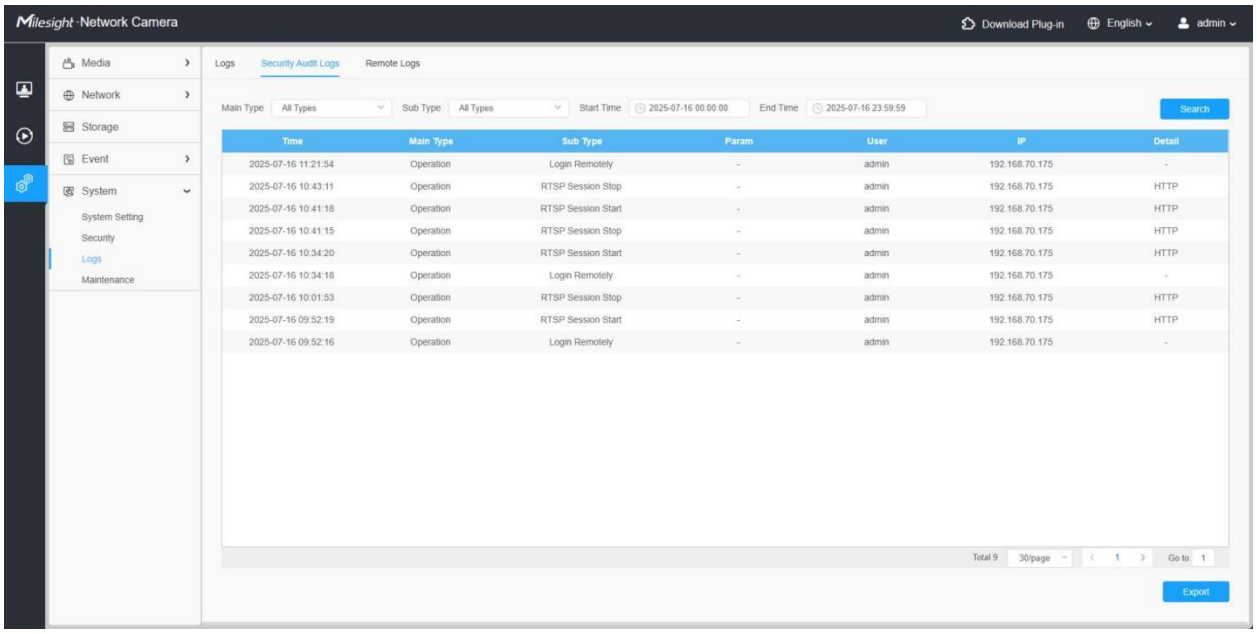
Logs can only be stored on the SD card or NAS.

Table 94. Description of the buttons

Parameters	Function Introduction
Main Type	Five main types are supported: **All Types, Event, Operation, Information, Exception**, and **Smart.**
Sub Type	Configure **Main Type** first, and then select the sub type to narrow the range of logs.
Start Time	The start time of logs.
End Time	The end time of logs.
Search	Search the logs.

Export	Export the logs.
Go to	Enter the log page number to navigate to the target page.

8.6.5.2 Security Audit Logs



The **Security Audit Logs** interface records critical operations and exception information related to the camera. The **Main Type** options include: **All Types**, **Operation**, **Information**, and **Exception**. Compared to the standard **Logs** interface, the information category here excludes **Basic Event** , **VCA**, and **Advanced Events**.

- These logs contain vital data for device security and exception tracking.
- The logs must be persistently stored and must not be lost even after the camera reboots.

Table 95. Description of the buttons

Parameters	Function Introduction
Main Type	Five main types are supported: **All Types**, **Event**, **Operation**, **Information**, **Exception**, and **Smart.**
Sub Type	Configure **Main Type** first, and then select the sub type to narrow the range of logs.
Start Time	The start time of logs.
End Time	The end time of logs.

Search	Search logs.
Export	Export logs.
Go to	Enter the log page number to navigate to the target page.

8.6.5.3 Remote Logs

This section is about how to forward logs to a third-party server for centralized management.

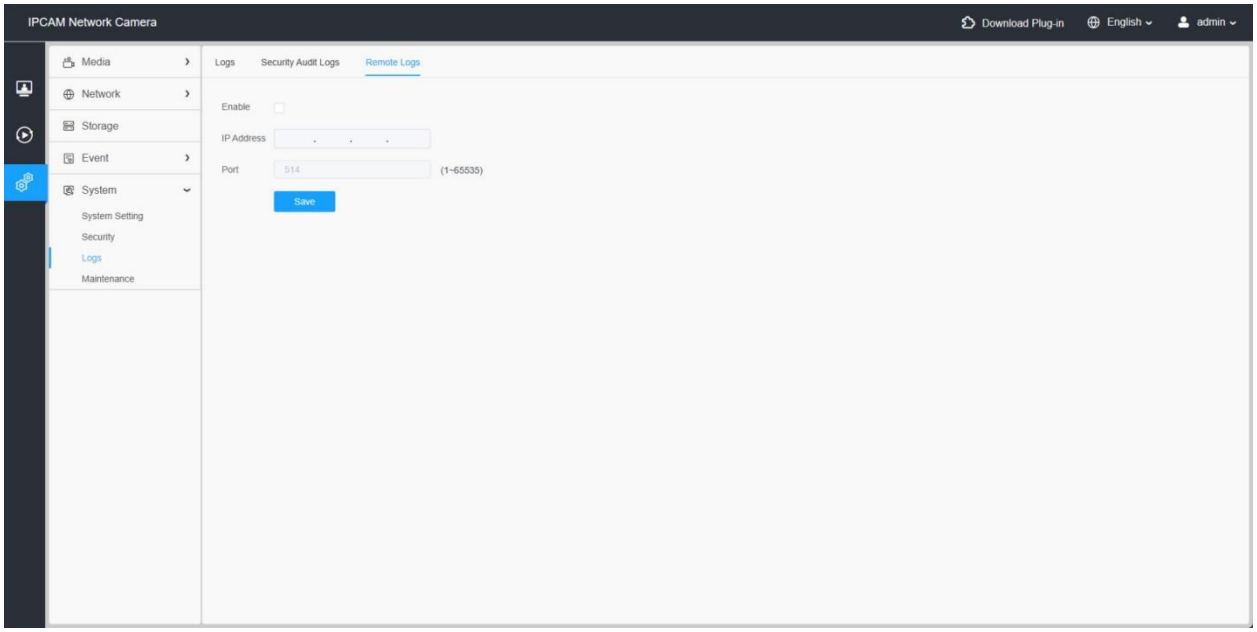


Table 96. Parameter Description

Parameter	Function Introduction
Enable	Turn on this option to activate log forwarding.
IP Address	Enter the destination IP address of the server that can receive the logs.
Port	Specify a port number used by the receiving server to accept log data.

8.6.6 Maintenance

This section describes how to configure **System Maintenance** and **Auto Reboot**.

8.6.6.1 System Maintenance

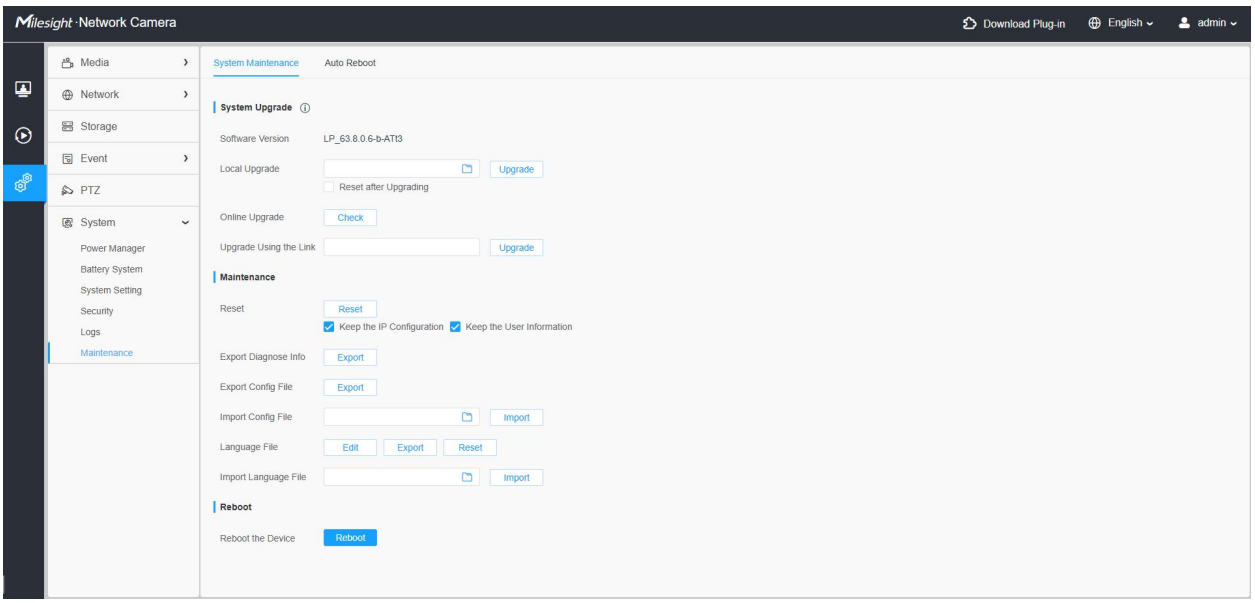
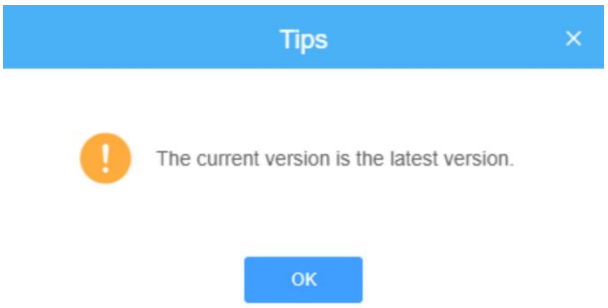
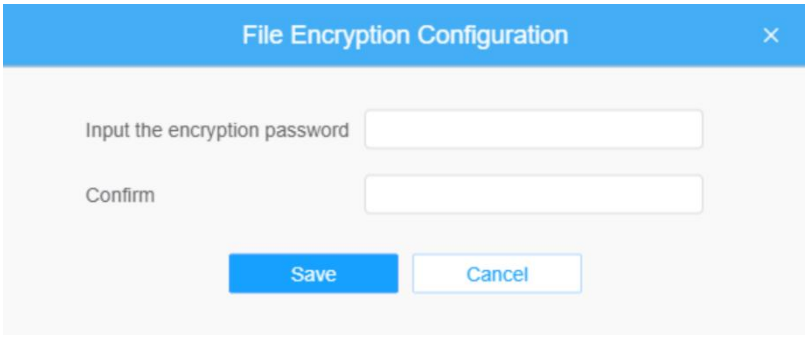
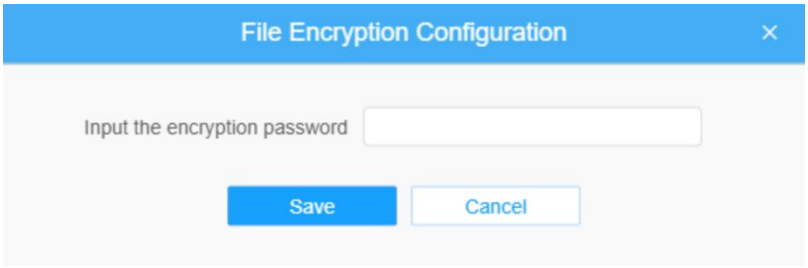


Table 97. Description of the buttons

Parameters	Function Introduction
System Upgrade	**Software Version:** The software version of the camera. **Local Upgrade:** Click to select a upgrade file, click the "Upgrade" button to upgrade the version. After the system reboots successfully, the update is done. You can check **Reset after Upgrading** to reset the camera after upgrading it. **Online Upgrade:** Click **Check** to verify if the current firmware version is the latest one and then click **OK** to upgrade to this version. **The current version is the latest version** will be displayed, if your camera is already the latest version. 
System Upgrade	**Upgrade Using the Link:** When you have uploaded the upgrading file to the cloud, like Google Driver, etc., you can input the link address and then click **Upgrade** to upgrade. **Note:** • Do not disconnect the power of the device during the update. The

	device will be restarted to complete the upgrading.
Maintenance	**Reset:** Click **Reset** to reset the camera. **Keep the IP Configuration:** Check this option to keep the IP configuration when resetting the camera. **Keep the User information:** Check this option to keep the user information when resetting the camera. **Export Diagnose Info:** Click **Export** to export logs and system information of the device operation status. **Note:** Must be in the format of ".txt". **Export Config File:** Click **Export** and a window will pop up as shown below:  Enter and confirm your password again, and then click **Save** to export configuration file.
Maintenance	**Import Config File:** A window will be popped up after clicking the icon. Click **OK** to update the configurations. The **File Encryption Configuration** will be displayed after the above steps. Enter a password and click **Save** to import the configuration file.  **Note:** Export and import the same configuration file. Password must be the same. **Language File:** You can edit, export, and reset the language file here. **Import Language File:** Click the **Import** button to import the language file, and then click **OK** to import the language file. **Note:** You can customize the interface language by modifying or importing the predefined language translation packs.
Reboot	Click **Reboot** to restart the device immediately.

8.6.6.2 Auto Reboot

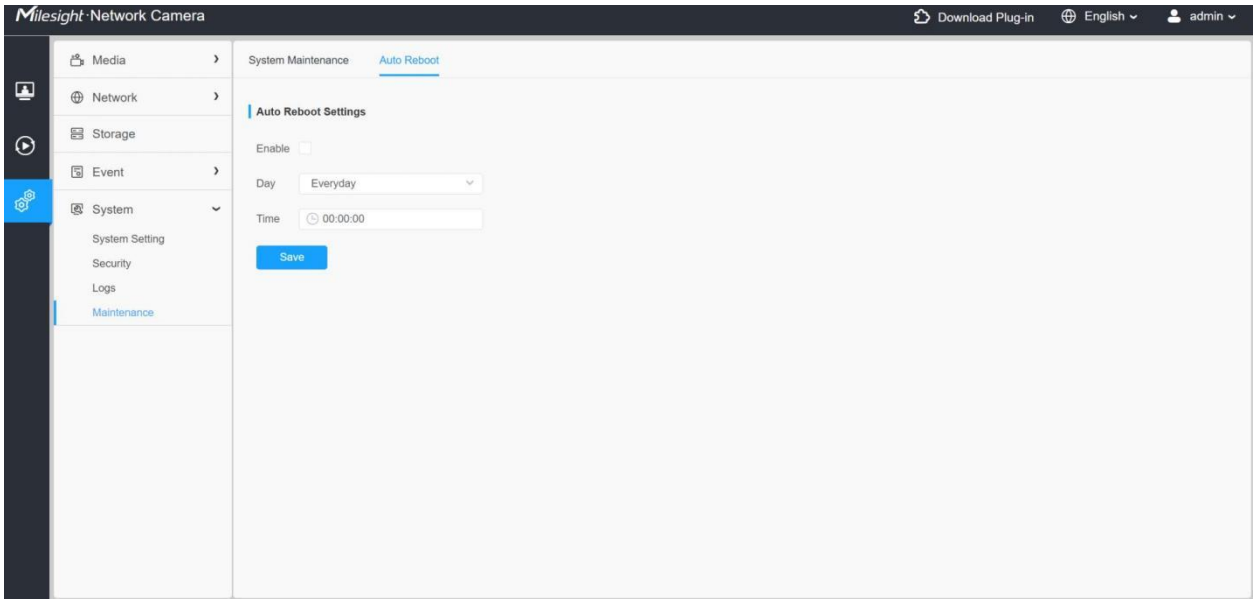


Table 98. Parameter Description

Parameter	Function Introduction
Enable	Check the checkbox to enable this function. You can configure **Day** and **Time** for the camera. Once done, the camera will reboot automatically.

Chapter 9. Services

Milesight provides customers with timely and comprehensive technical support services. End-users can contact your local dealer to obtain technical support. Distributors and resellers can contact directly with Milesight for technical support.

Technical Support Mailbox: support@milesight.com

Web: http://www.milesight.com

Online Problem Submission System: http://www.milesight.com/service/feedback.asp

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