Milesight

Network Camera User Manual

Pro Series

Version: V1.0

Date: 2026-02-13

Chapter 1. Introduction

1.1 Copyright Statement

This manual may not be reproduced in any form or by any means to create any derivative 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 https://www.milesight.com/security/.

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 is neglected.

- This installation must be conducted by a qualified service person and should strictly comply with the electrical safety regulations of the local region.
- To avoid risk of fire and electric shock, do keep the product away from rain and moisture before installed.
- Do not touch components such as heat sinks, power regulators, and processors, which may be hot.
- Use a correct power supply of DC 10V-28V or PoE.
- Please make sure the plug is firmly inserted into the power socket.
- When the product is installed on a wall or ceiling, the device should be firmly fixed.
- If the product does not work properly, please contact your dealer. Never attempt to disassemble the camera by yourself.

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

- 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 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 where a 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 finishes.
- Save the package to ensure availability of shipping containers 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. Revision History

Version	Revision Content	Release Date
63.8.0.5-r4 (V1.0)	First release	November 2025

Chapter 2. Product Description

2.1 Product Overview

Milesight provides a consistent range of cost-effective and reliable network cameras to fully meet your requirements. Based on embedded Linux operating system, Milesight network cameras could be easily accessed and managed either locally or remotely with great reliability. 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 for flexible and comprehensive alarm linkage mechanism, day and night auto switch and privacy masking, etc.

In practical applications, Milesight network cameras could 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

Ensure that your computer meets the system requirements to access and operate the product properly.

Operating System: Windows XP/Windows 7/8/10/11/Server 2000/Windows Server 2008

CPU: 1.66GHz or higher

RAM: 1G or higher

Graphic memory: 128MB or more

Internet protocol: TCP/IP (IPv4/IPv6)

Web Browsers: Support Micro Edge/ Google Chrome/ Safari/ Mozilla Firefox Browser

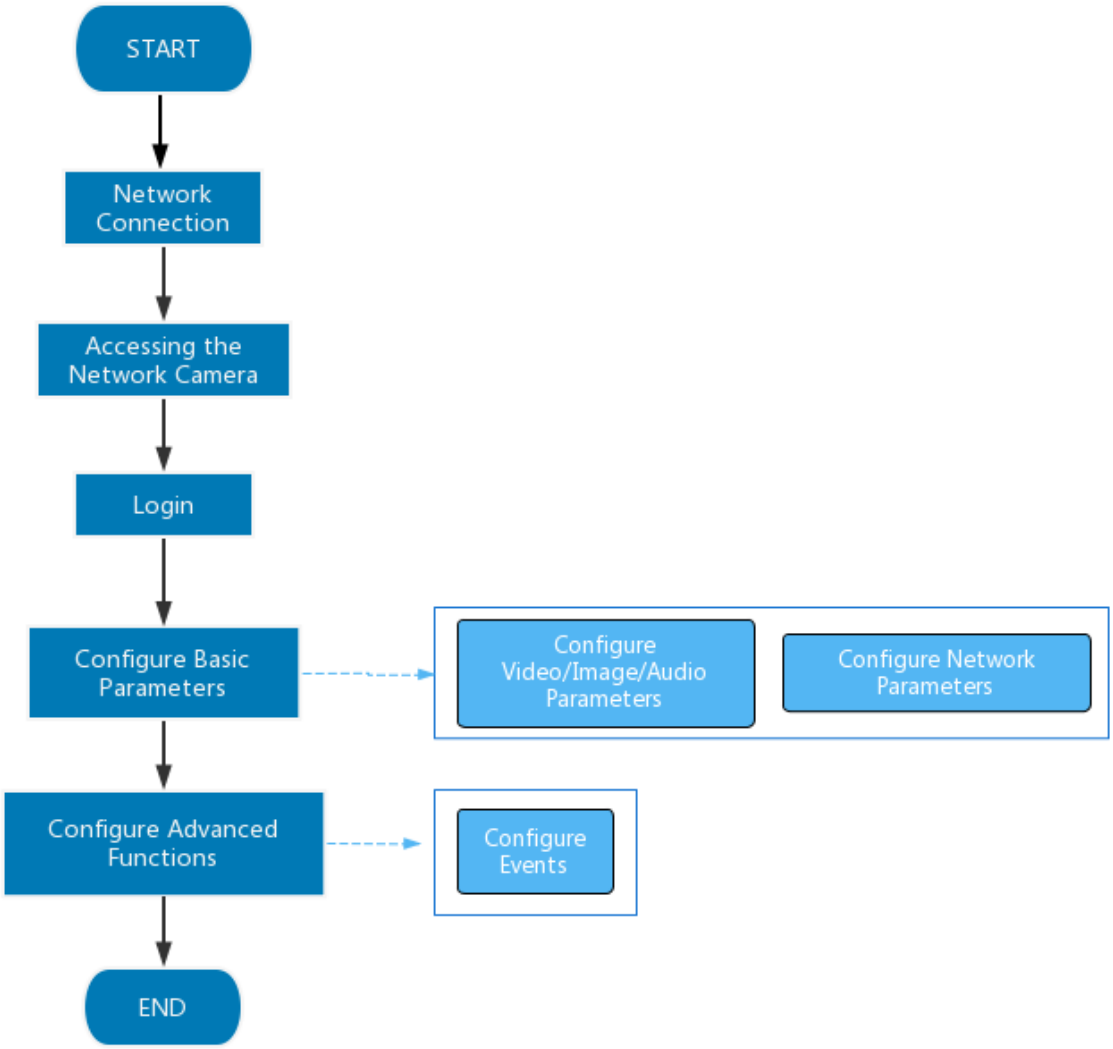
Chapter 3. Configuration Flow

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

Note:

A login password must be set to activate the device on first use. For details, see 4.1 Setting a Camera over the LAN *(page 9)* and 4.2 Dynamic IP Connection *(page 10)*.

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 a Camera over the LAN *(page 9)*
Accessing the Network Camera	Accessing from IP address, web browser and Milesight back-end software are available.	5.1 Assigning an IP Address *(page 11)*
Configure Basic Parameters	After logging in to the web page of the camera, you can adjust the video/ image/audio/network parameters as needed.	8.1 Media *(page 32)* 8.2 Network *(page 58)*
Configure Advanced Functions	Configure the advanced functions, such as VCA and people counting.	8.4 Event *(page 90)*

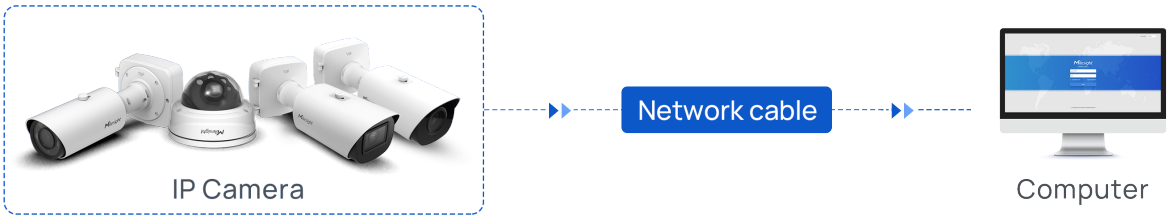
Chapter 4. Network Connection

4.1 Setting a Camera over the LAN

This section describes how to set your camera over the LAN. The camera must be assigned an IP address that is compatible with its LAN.

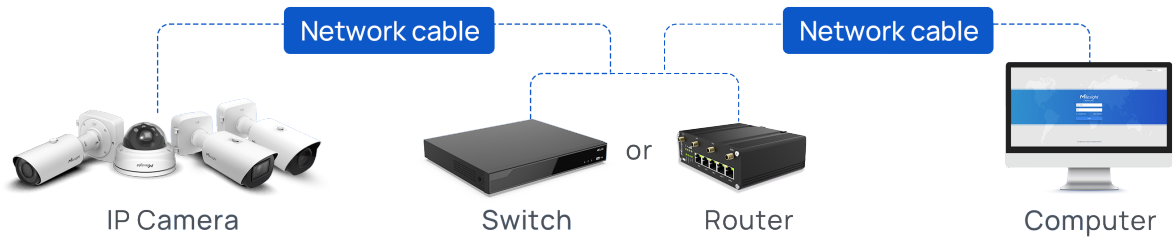
4.1.1 Connecting a Camera to the PC Directly

In this method, you can view the web page of the camera only through the computer connected to your cameras. The camera must be assigned a compatible IP address to the computer. Details are shown as the following figure.



4.1.2 Connecting via Switch or a Router

See the following figure to check how to set network camera over the LAN via the switch or router.



4.2 Dynamic IP Connection

Step1: Connect the network camera to a router.

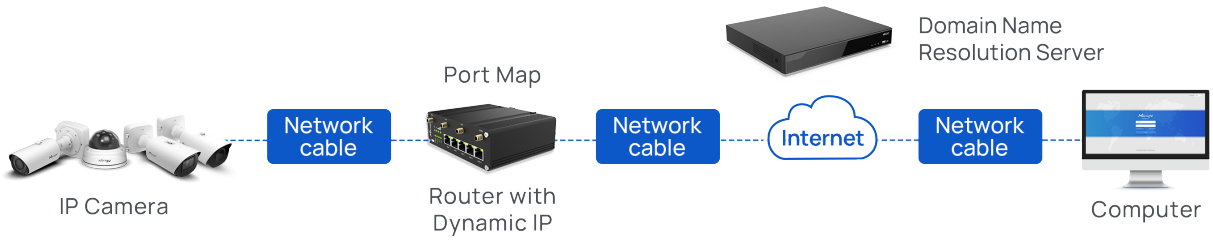
Step2: On the camera, assign a LAN IP address, the Subnet mask and the Gateway.

Step3: On the router, set 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 a domain name from a domain name provider.

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

Step6: Visit 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 either change the IP address of the camera via Smart Tools or browser. Connect the camera in the same LAN of your computer first.

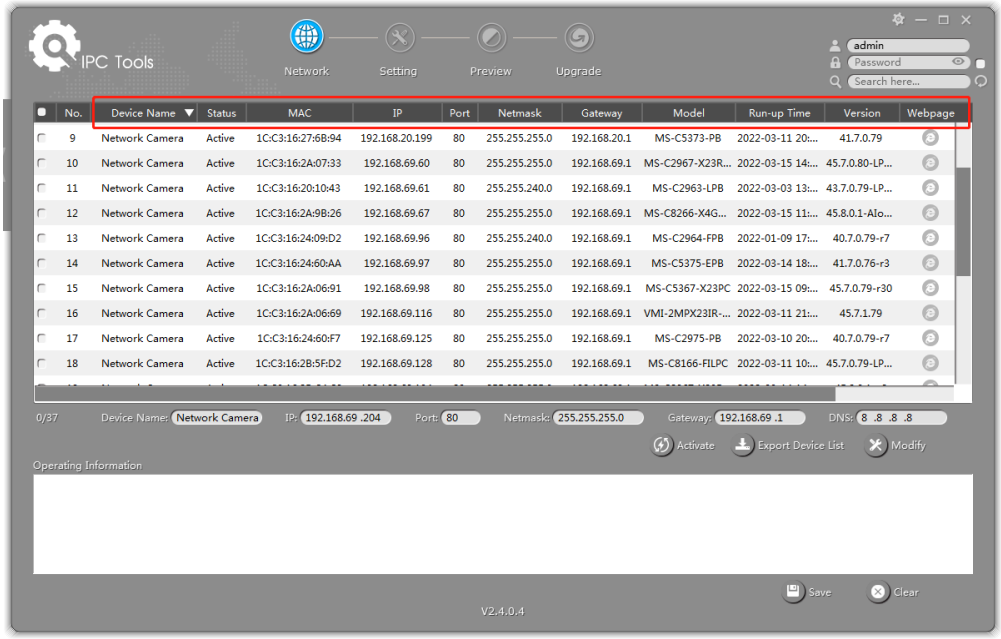
5.1.1 Assigning an IP Address via Smart Tools

Smart Tools is a software tool which 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.

You can refer to the following steps to assign an IP address via Smart Tools

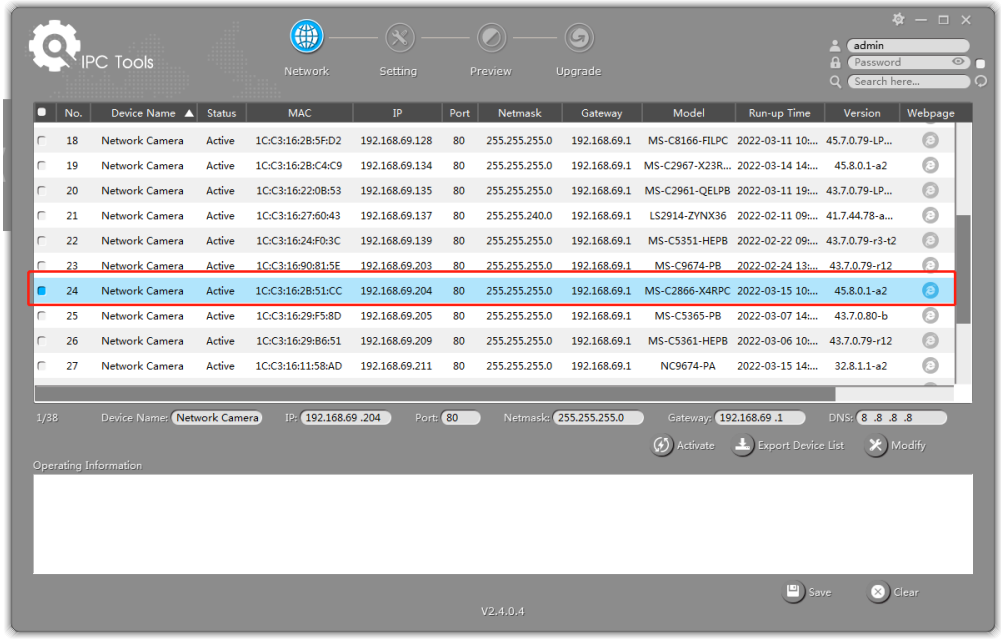
Step1: Install Smart Tools from the official website.

Step2: Start Smart Tools, choose the IPC Tools page, and enter the device information, such as IP address, MAC address, Status, Port number, Netmask, and Gateway. All related Milesight network cameras in the same network will be displayed. Details are shown as the figure below.

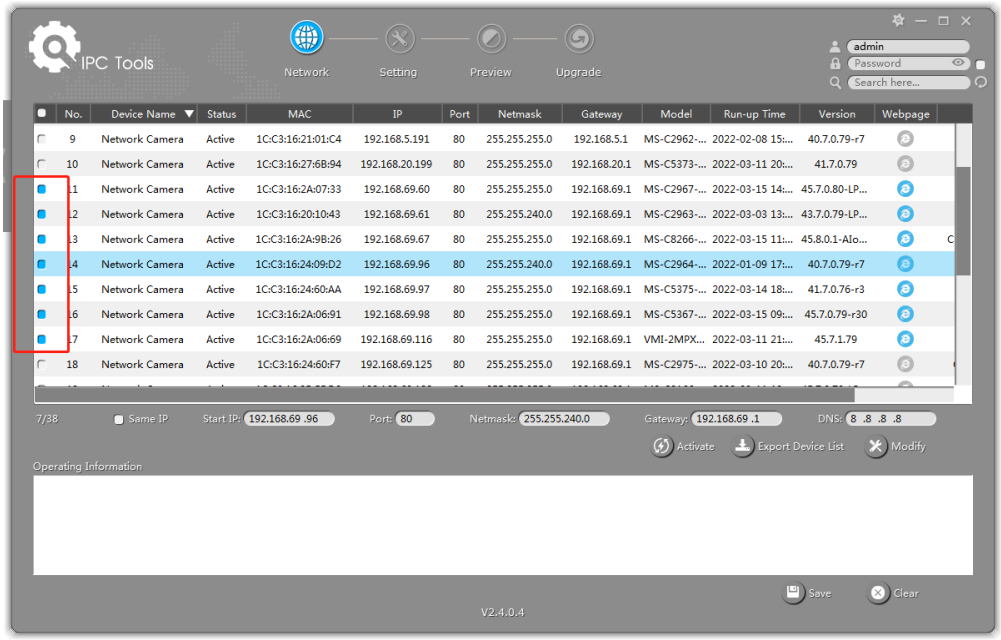


Step3: Select one or more cameras according to the MAC addresses.

Select a single camera:



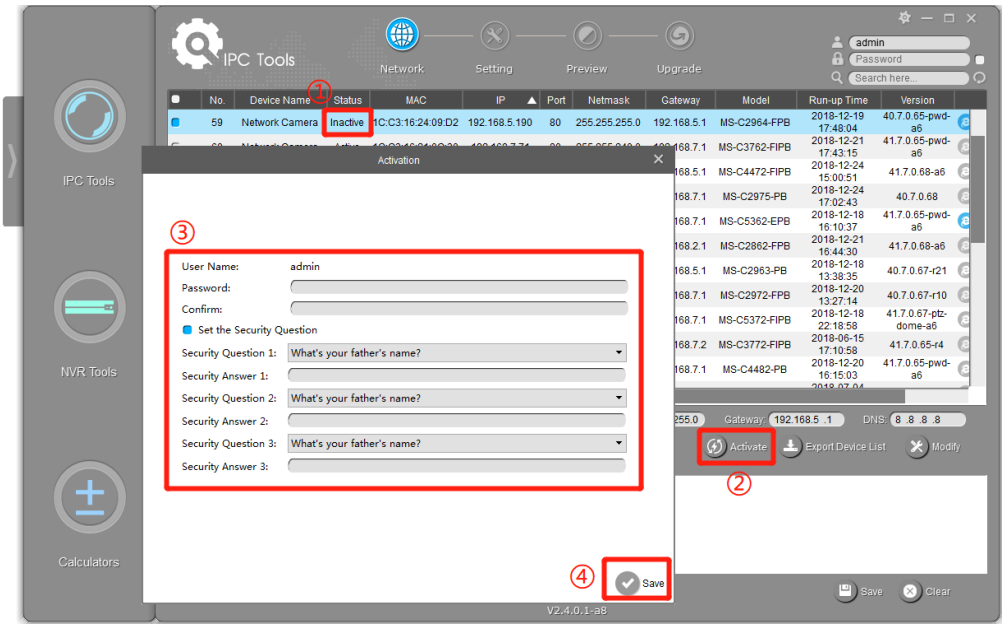
Select multiple cameras:



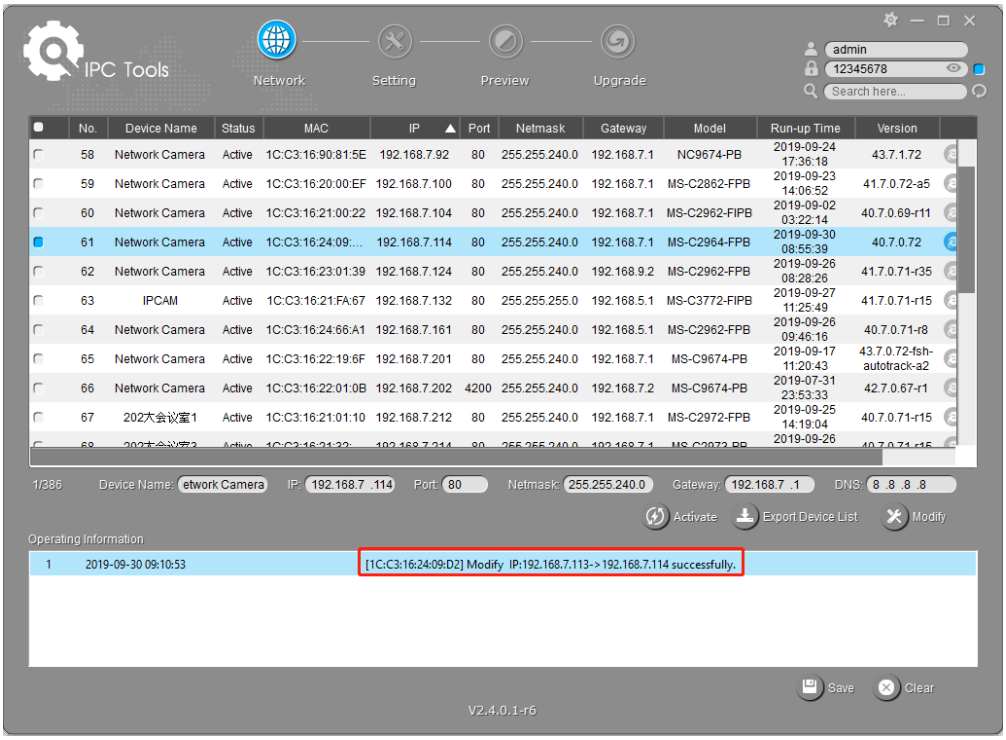
Step4: If the selected cameras show **Inactive** in the status bar, click **Activate** to set the password when using them for the first time. You can also set the security questions when activating the camera in case that you forget the password (You can reset the password by answering three security questions correctly). Click **Save** and it will show that the activation was successful.

Note:

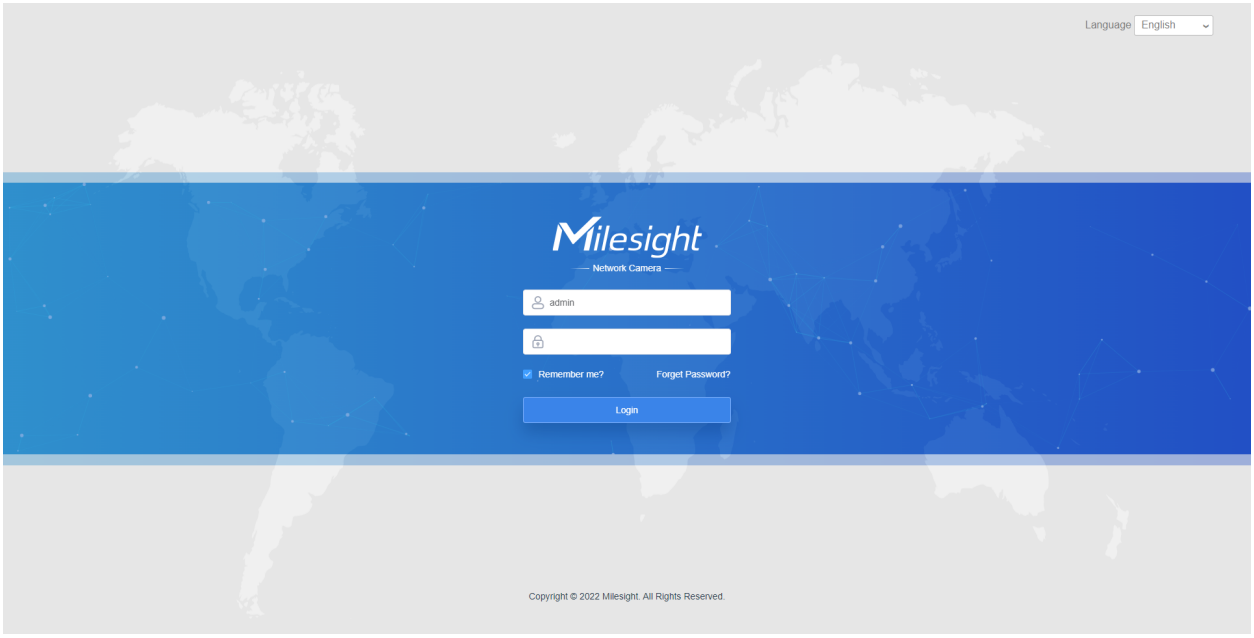
- The length of password must be 8 to 32 characters, including at least one number and one letter.
- Upgrade the Smart Tools version to V2.4.0.1 or above to activate the camera.



Step5: After activation, you can change the IP address or other network values, and then click **Modify** button.



Step6: Double click the selected camera or click the browser button in the column of **Webpage** of the interested camera to access the camera via web browser directly. The Internet Explorer window will be displayed as shown in the following figure.



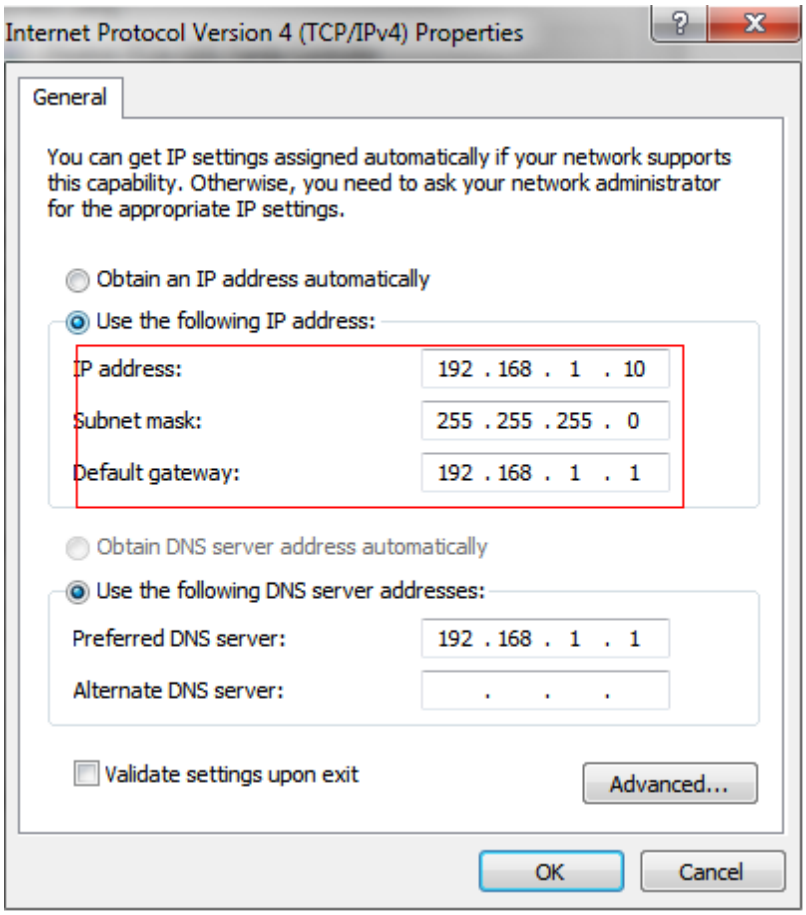
For more usage details about Smart Tools, refer to the ***Smart Tools User Manual***.

5.1.2 Assign an IP Address via Browser

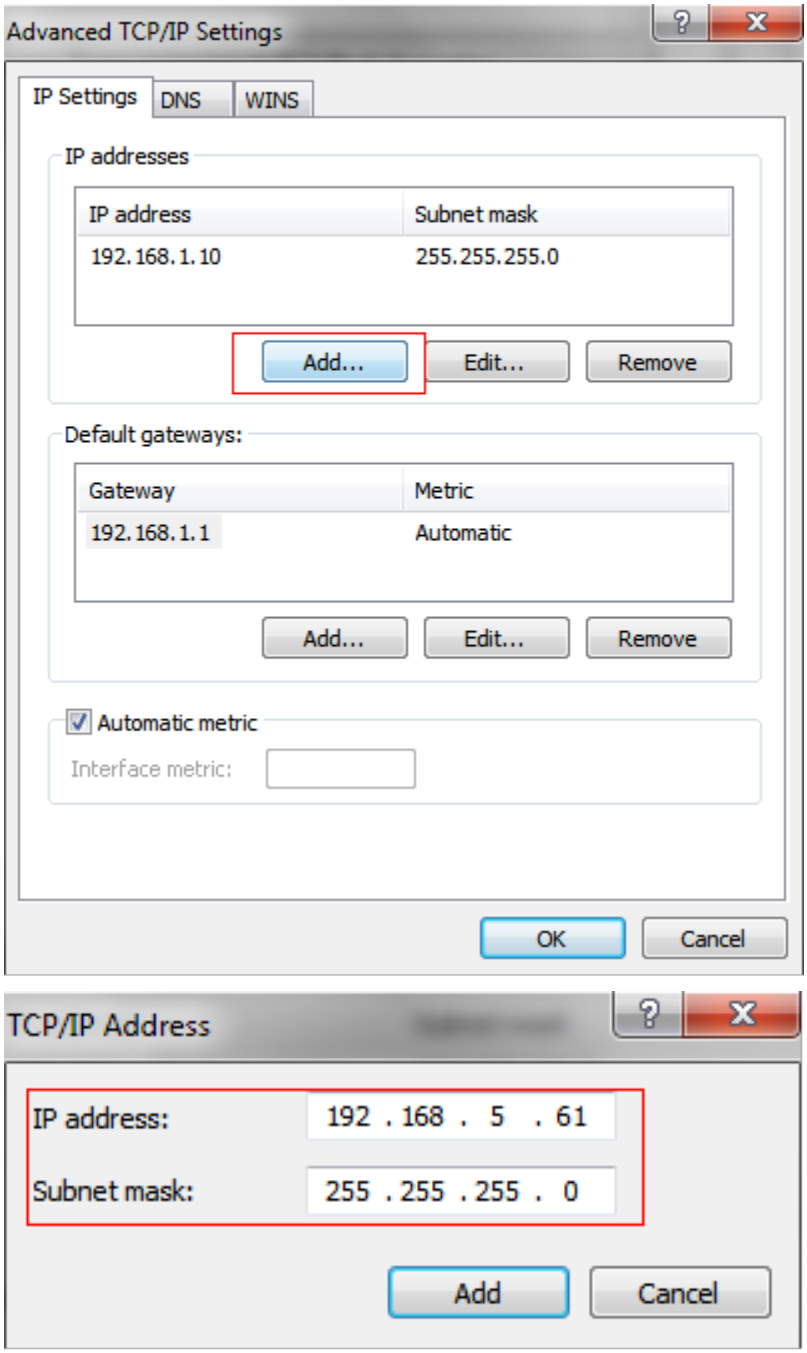
If the network segment of the computer and that of the camera are different, follow the steps to change the IP address:

Step1: Change the IP address of computer to 192.168.5.0 segment, there are two ways as below:

a. Choose **Start** > **Control Panel** > **Network and Internet Connection** > **Network Connection** > **Local Area Connection**, and double click it.



b. Click **Advanced** and choose **IP settings** > **IP address** > **Add**. In the pop-up window, enter an IP address that in the same segment with Milesight network camera (e.g. 192.168.5.61, but please note that this IP address shall not conflict with the IP address on the existing network).



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

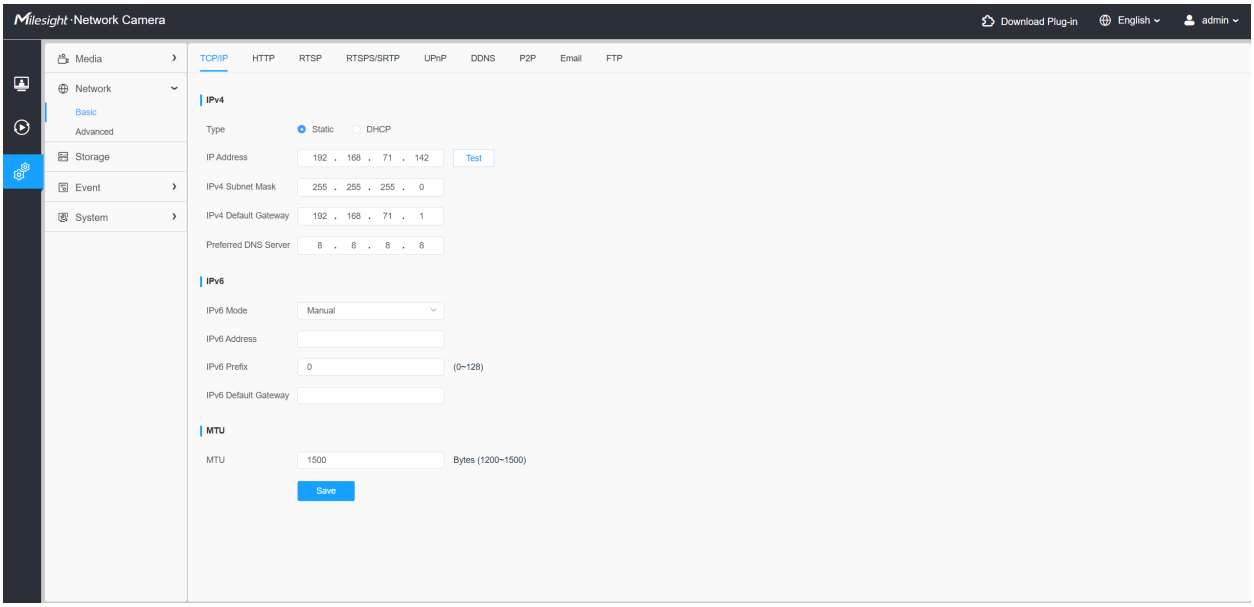
Step3: Set the password first when using it for the first time. You can also set three security questions for your device after activation. Then you can log in to the camera with the user-name (admin) and a custom password.

Note:

- The length of password must be 8 to 32 characters, including 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 set before when you forget the password.

Step4: After login, choose **Settings** > **Network** > **Basic** > **TCP/IP**. The **Network Settings** page appears (shown as below figure).



Step5: Change the IP address or other network values. Click **Save** to save the configurations.

Step6: The change of default IP address is completed.

5.2 Accessing from the Web Browser

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

Note:

- For more details about setting plugin-free mode of Milesight camera, see https://milesight.freshdesk.com/a/solutions/articles/69000643388.

5.3 Accessing from Milesight Back-End Software

5.3.1 Accessing from Milesight NVR (Network Video Recorder)

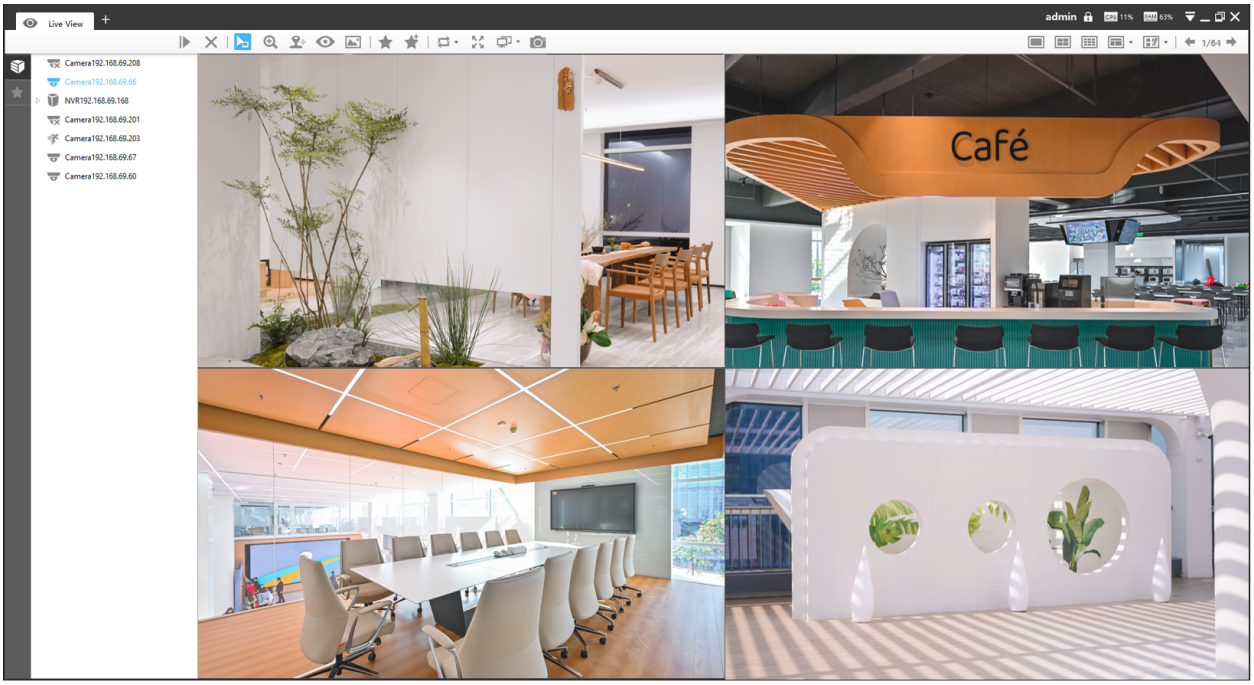
Milesight NVR Series can work with Milesight network cameras. Based on embedded Linux operation system, Milesight NVR Series manages and stores HD video data. It owns multi-disk management systems, front end HD device management system, HD video analysis system and high-capacity system for video. Also, it adopts the technology of high flow capacity data network transmitting&transmission, with multi-channel video decoding, to achieve functions like intelligent management, safe storage, HD decoding, etc.

For detailed information about how to use the Milesight NVR Series, refer to ***Milesight NVR User Manual***.

5.3.2 Accessing from Milesight CMS (Center Management System)

Milesight Central Management System (CMS) is a central management system for Milesight network cameras and Milesight NVR. It is an intelligent surveillance solution for users to control up to 256 devices, to remote preview and playback more conveniently. With high-efficient management performance, Milesight CMS software offers you a superior administration experience in such centralized system. Featured with friendly UI design, the intelligent video management system CMS allows users of all levels to setup and deploy solutions as easy as ABC. Moreover, E-map function provides users a smarter way to show the devices spatial distribution. The software could be downloaded from the official website.

Please install Milesight CMS; then launch the program to add the camera to the channel list. For detailed information about how to use the software, refer to ***Milesight CMS User Manual***.


Live View
admin
Camera192.168.69.208
Camera192.168.69.66
NVR192.168.69.168
Camera192.168.69.201
Camera192.168.69.203
Camera192.168.69.67
Camera192.168.69.60
1/64
Café

Chapter 6. Live View

6.1 Live Video

After logging in the network camera web GUI successfully, you can view live video as follows.

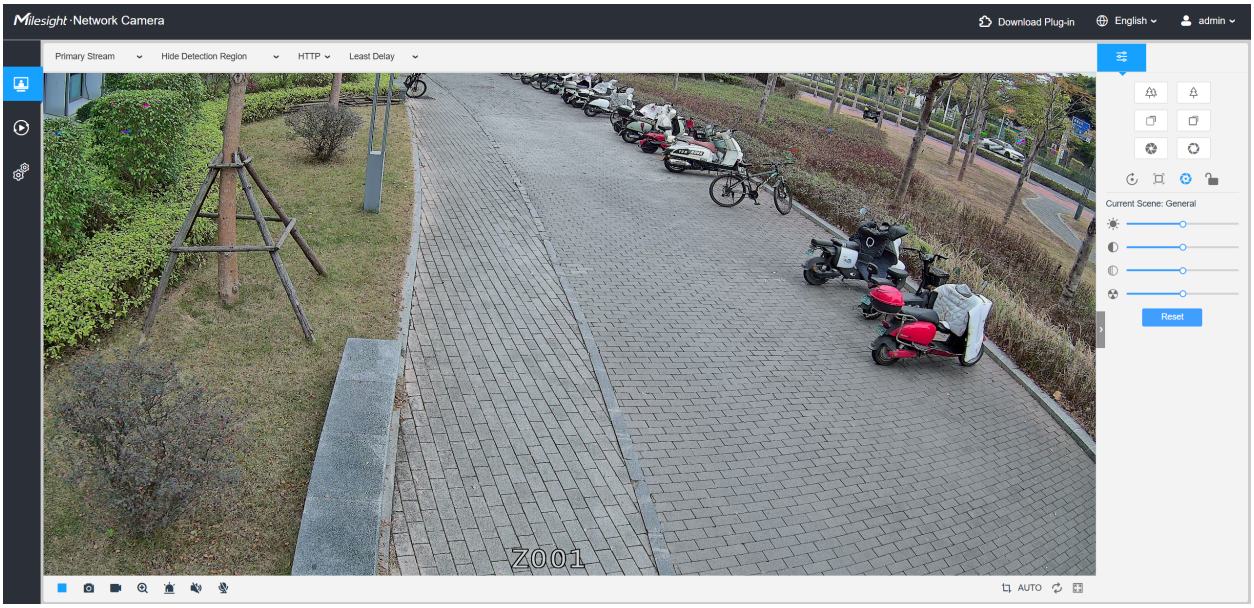
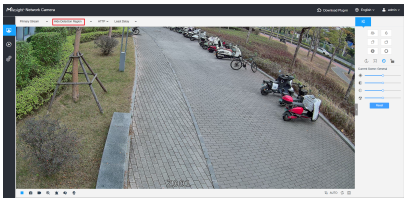
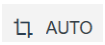
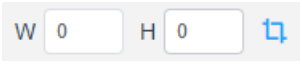
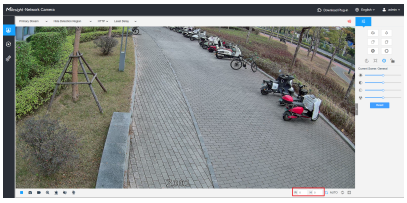
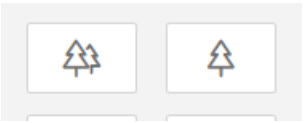
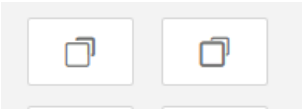


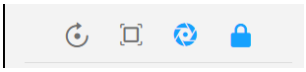
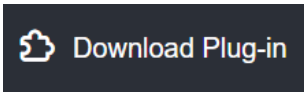
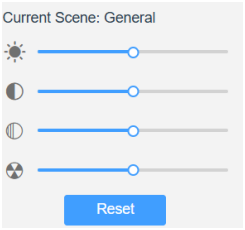
Table 3. Description of the buttons

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	English	Click to select system language.

No.	Parameter	Description
5	admin	Display the username and click to logout.
6	Primary Stream	Choose the stream (**Primary/Secondary**) to show on the current video window.
7	Hide Detection Region	Choose the options (**Hide Detection Region/Intrusion Detection/ Region Entrance/Region Exiting/Advanced Motion/Line Crossing/Loitering//Object Left/Object Removed//Object Counting/Regional People Counting/PPE Detection/Attribute Extraction/Motion Detection/Privacy Protection/Violence Detection/Fall Detection**) to hide/display detection region on the current video window. 
8	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.
9	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.
10	Recording	When recording, the icon appears.
11	Privacy Detection Alarm	When an alarm of and Privacy Detection is triggered, the icon appears. **Note:** • To use Face Masking, Face Detection must be enabled. • For Human Body Masking, please enable VCA Human Detection.

No.	Parameter	Description
12	 Object Counting Alarm	When an alarm of object counting is triggered, the icon appears.
13	 Motion Detection Alarm	When an alarm of Motion Detection is triggered, the icon appears.
14	 PPE Detection Alarm	When an alarm of PPE Detection is triggered, the icon appears.
15	 Sound Classification Alarm	When an alarm of Sound Classification is triggered, the icon appears.
16	 Violence Detection Alarm	When an alarm of Violence Detection is triggered, the icon appears.
17	 Fall Detection Alarm	When an alarm of Fall Detection is triggered, the icon appears.
18	 Alarm	Except for the kinds of alarms above, when other alarms are triggered, the icon appears.
19	 Stop/Play	**Stop/Play** live view.
20	 Snapshot	Click to capture the current image and save to the configured path. The default path is: C:VMS\+-1\ IMAGE-MANUAL.
21	 Start/Stop Recording	Click to start recording a video and save to the configured path. Click again to stop recording the video.
22	 Digital Zoom	When enabled, you can zoom in a specific area of video image with your mouse wheel.

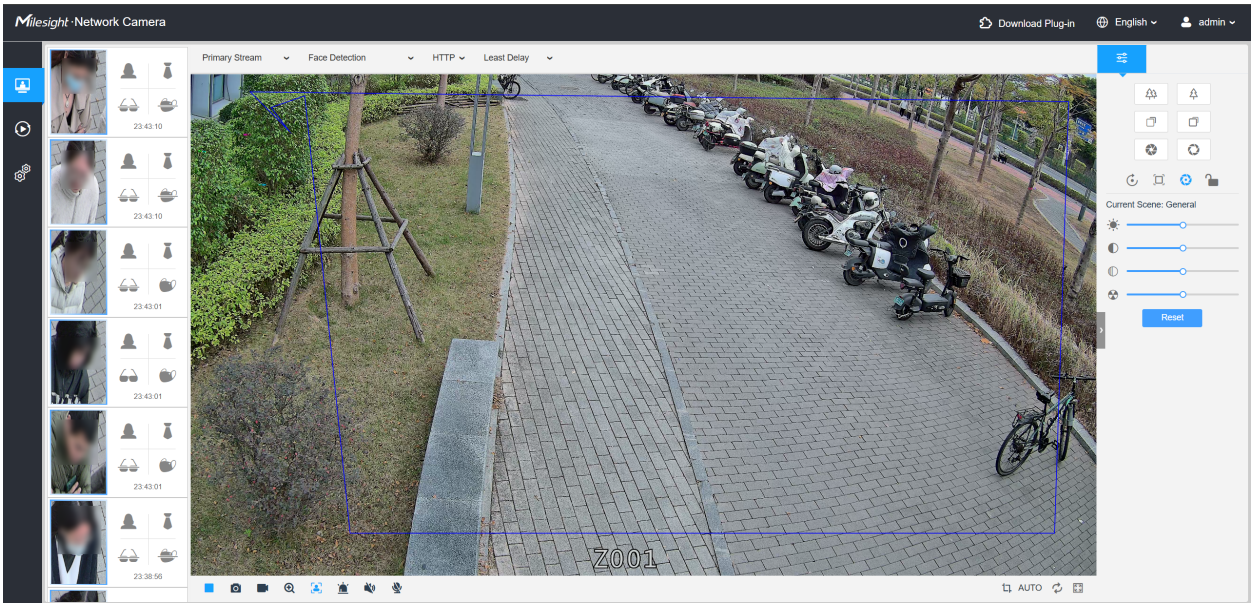
No.	Parameter	Description
23	 Manual Output	Manually trigger Camera Alarm Output.
24	 Window Size	Click to display images at a window size.
25	 Full Screen	Click to display images at full-screen.
26	 Face Detection	Click to enable the Face Detection Mode.
27		Click to enable the flashing white light, which serves as a visual deterrent to intruders in the detection area.
28		By clicking  to enable the Pixel Counter function, you can either input the pixel value or draw on the live view to measure the object's size. 
29		**Zoom**: Click -/+ to zoom in and zoom out.
30		**Focus-/Focus+:** Adjust focus of the lens. **Note:** Only work when your camera is equipped with motorized or auto focal motorized lens.
31		**Focus-/Focus+:** Click to focus near or far of the lens. **Note:** Only work when your camera is equipped with auto focus lens.

No.	Parameter	Description
32		Lens Initialization, Auxiliary Focus, Auto Iris, and PTZ Lock/Unlock. **Note:** • The Auto Iris support turn on/off when your camera is equipped with P-Iris. • PTZ Lock is used to prevent unintended zoom or focus changes by locking the camera's zoom and focus.
33		It enables your browser to display and manage the camera's live video stream, and supports advanced functions such as video recording, greatly improving convenience and compatibility. Click it to download the plugin and install "Mplayer" according to the displayed window.
34		**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”. For more parameters, see Table 3 in 8.1.2.1 General *(page 36)*.

6.2 Face Detection Mode

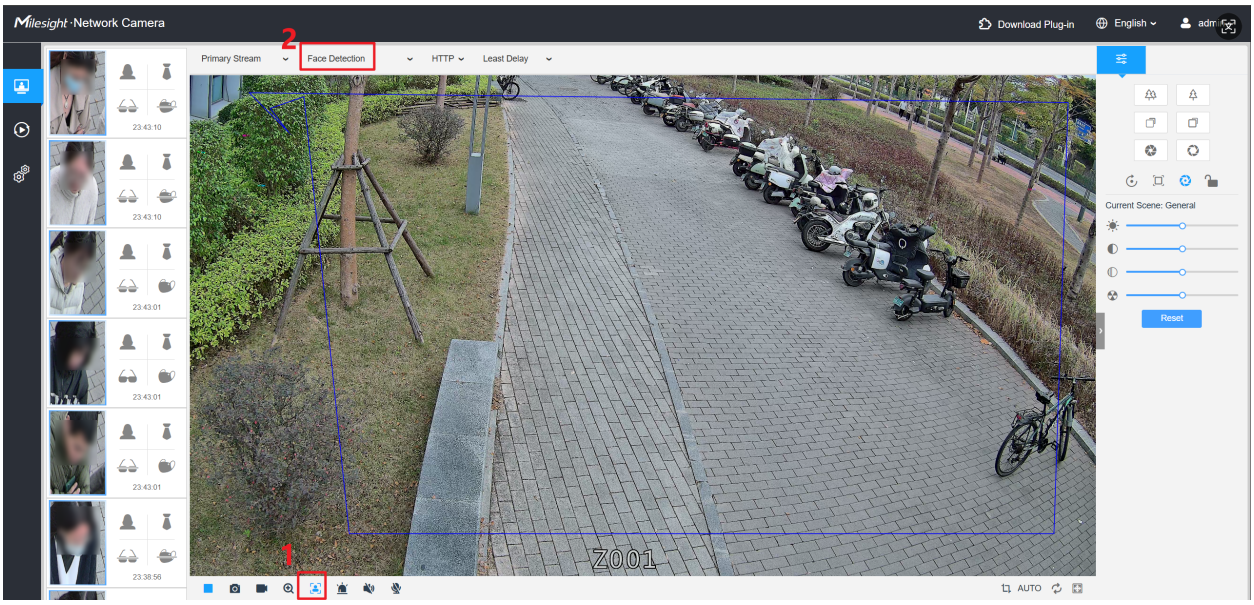
Milesight face detection function detects human faces in the monitoring scene and captures the snapshots, which greatly enhances the monitoring efficiency and benefits the large population related industries such as public security, access control and business management.

Note:

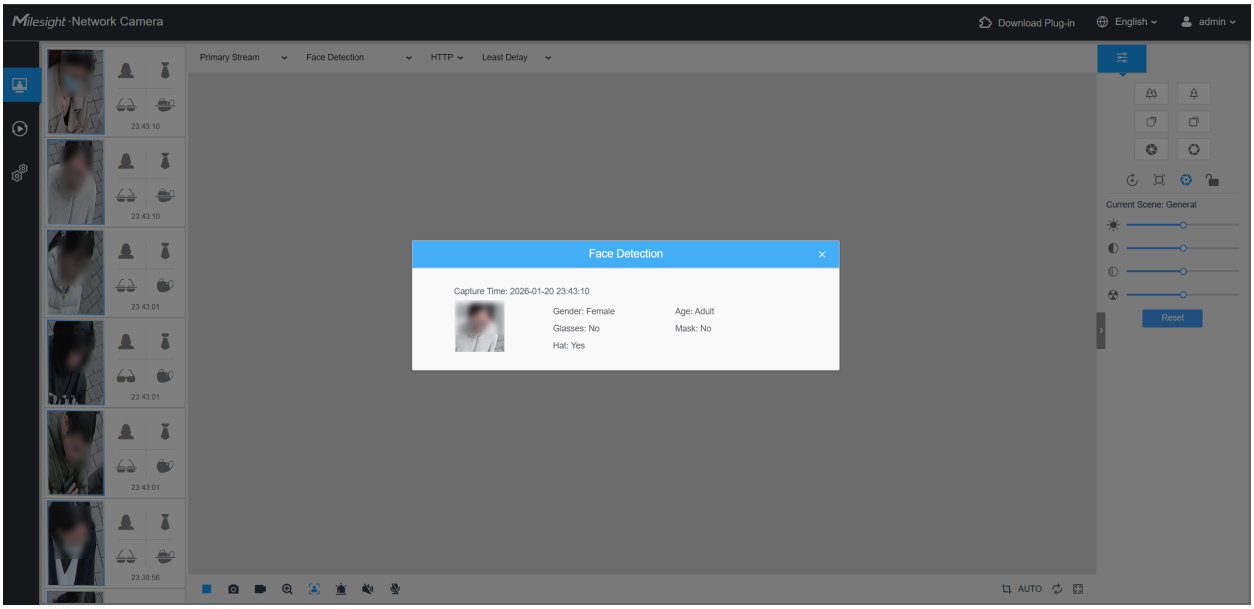


Step1: Click  to enable the Face Detection Mode. The camera will detect faces in live view according to the region and conditions you set.

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, refer to 8.4.5 Face Detection *(page 151)*.

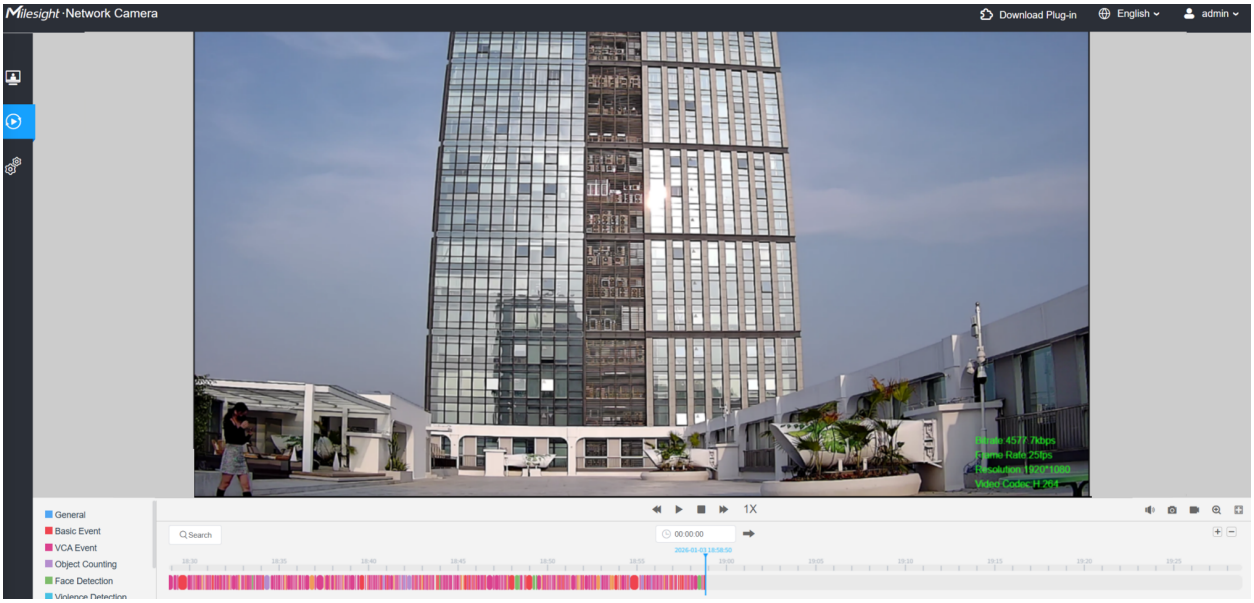


Step2: When Attribute Recognition is enabled, the attributes of detected faces will be displayed on the left side of the Live View interface.


Milesight·Network Camera
Download Plug-in
English
admin
Primary Stream
Face Detection
HTTP
Least Delay
Face Detection
Capture Time: 2026-01-20 23:43:10
Gender: Female
Age: Adult
Glasses: No
Mask: No
Hat: Yes
Current Scene: General
Reset
AUTO

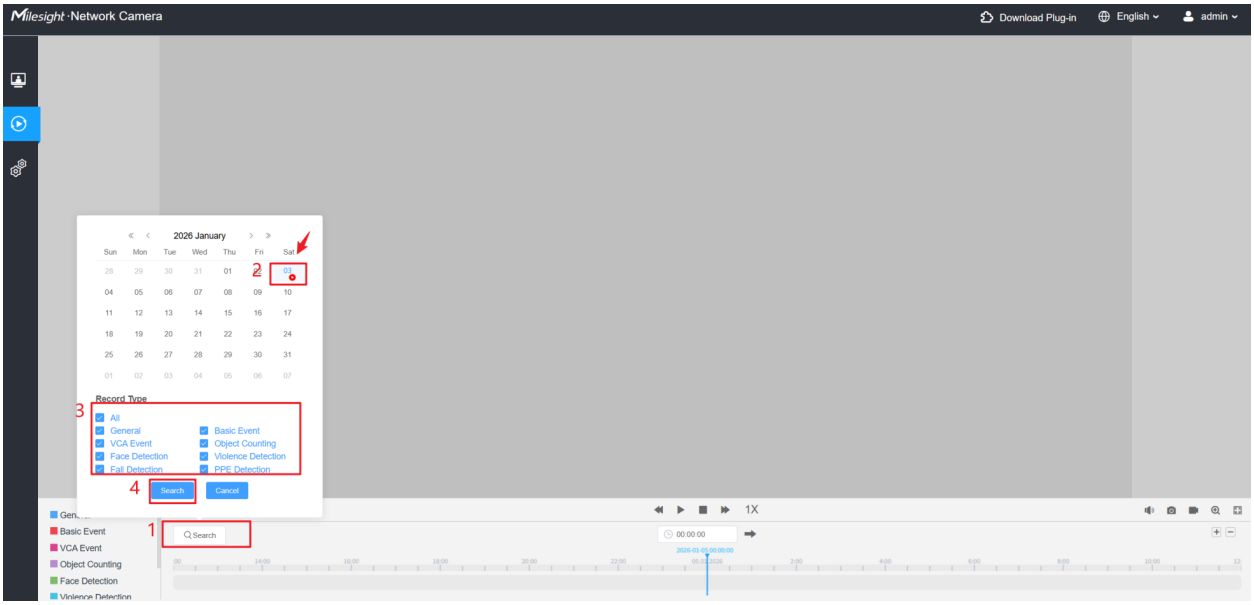
Chapter 7. Playback

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:



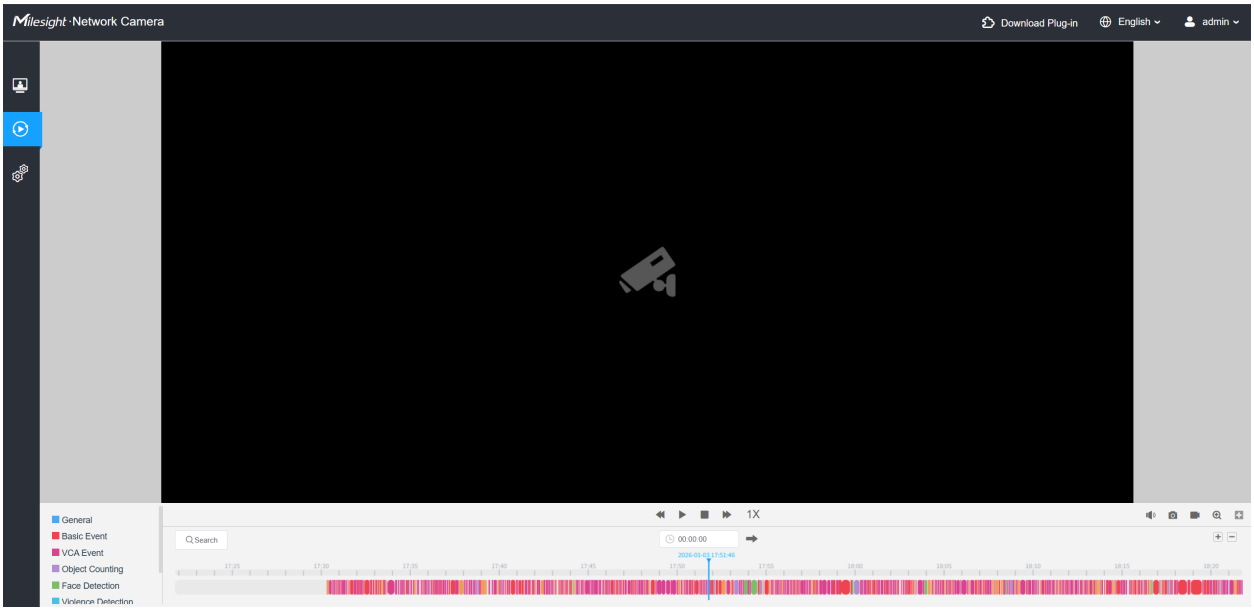
Step1: Click the **Search** button, choose the data and record type when the window pops up.

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.

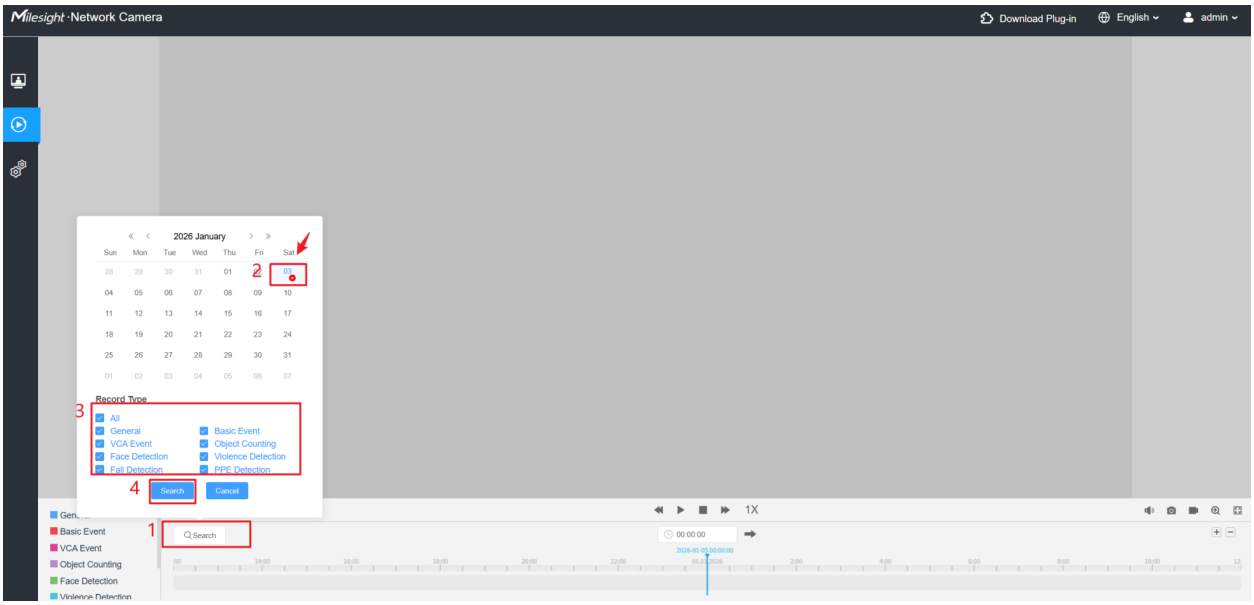
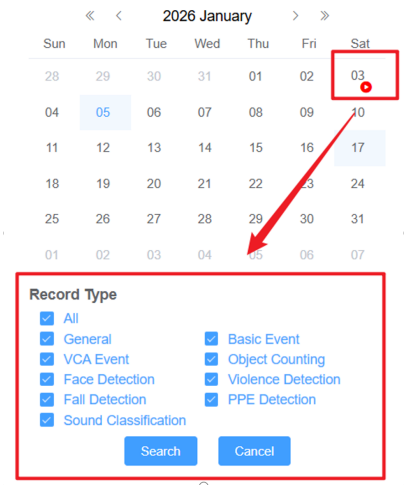


Table 4. Description of the buttons

No.	Parameter	Description
1		Choose date to search recorded videos.
		Search the recorded videos by record type (**All/General/ Basic Event/VCA Event/Object Counting/Face Detection/ Violence Detection/Fall Detection/Sound Classification/ PPE Detection**). The timeline will show different colors according to selected record type as below: ☑ All ☑ General ☑ Basic Event ☑ VCA Event ☑ Object Counting ☑ Face Detection ☑ Violence Detection ☑ Fall Detection ☑ PPE Detection ☑ Sound Classification
2	◀◀ / ▶▶ / 1X Speed Down/Speed Up/Speed	Adjust the speed of video playback. **Speed Down:** Includes 0.5X and 0.25X for Play. **Speed Up:** Includes 2X and 4X for Play. **Speed:** The default playback speed is 1X.

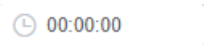
No.	Parameter	Description
3	 Play/Pause	Play/Pause the video.
4	 Stop	Stop the video.
5	 Search Time	Select the time point that you want to locate.
6	 Jump	Click it to jump to the time point corresponding to the search.

Table 5. Description of the buttons

No.	Parameter	Description
1	 Mute	Click to disable/enable the audio.
2	 Snapshot	Click to take a snapshot.
3	 Start/Stop recording	Click to start/stop recording.
4	 Digital Zoom	Click to zoom on/off.
5	 Full Screen	Full Screen.
6	 Time Expand/Narrow	Time narrow/expand.

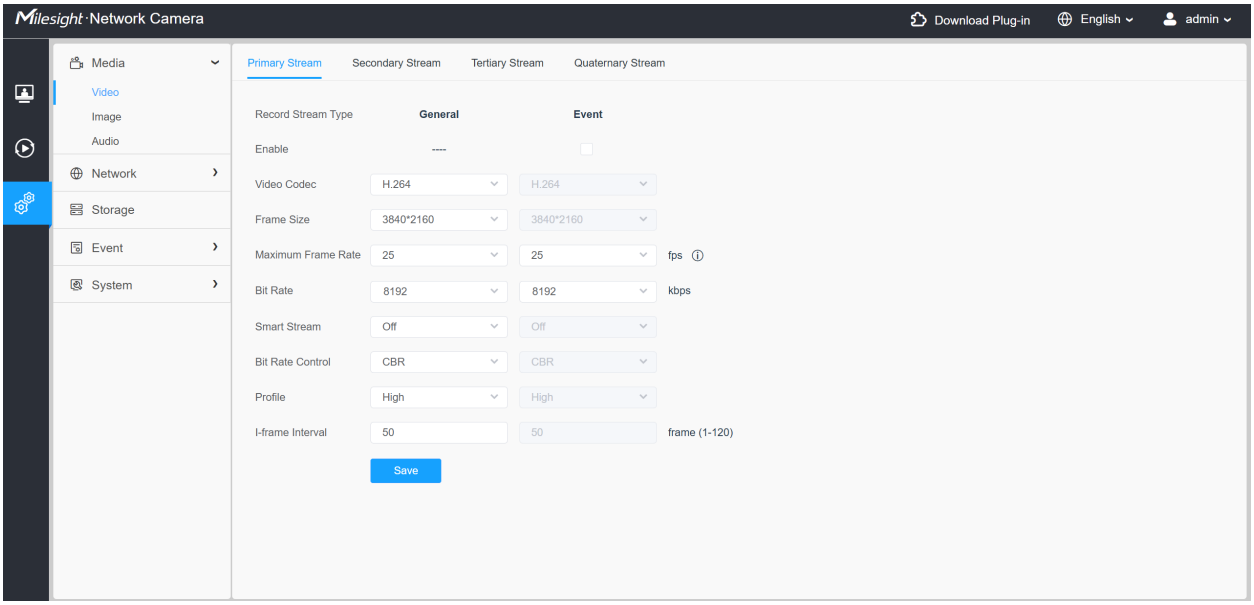
Chapter 8. Settings

8.1 Media

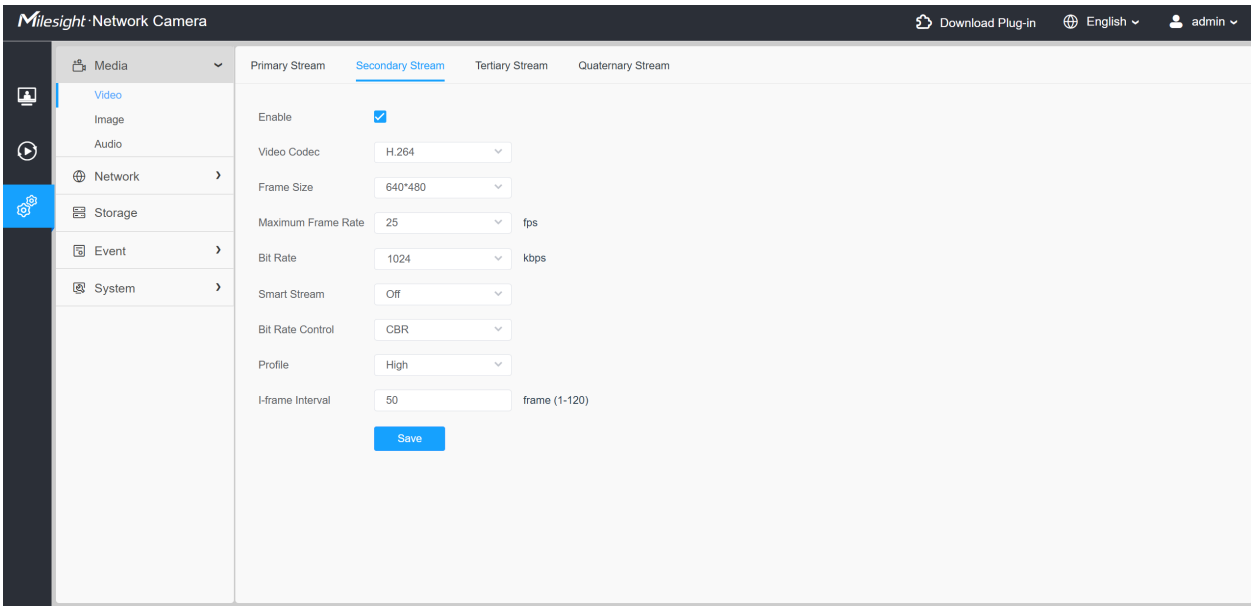
8.1.1 Video

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

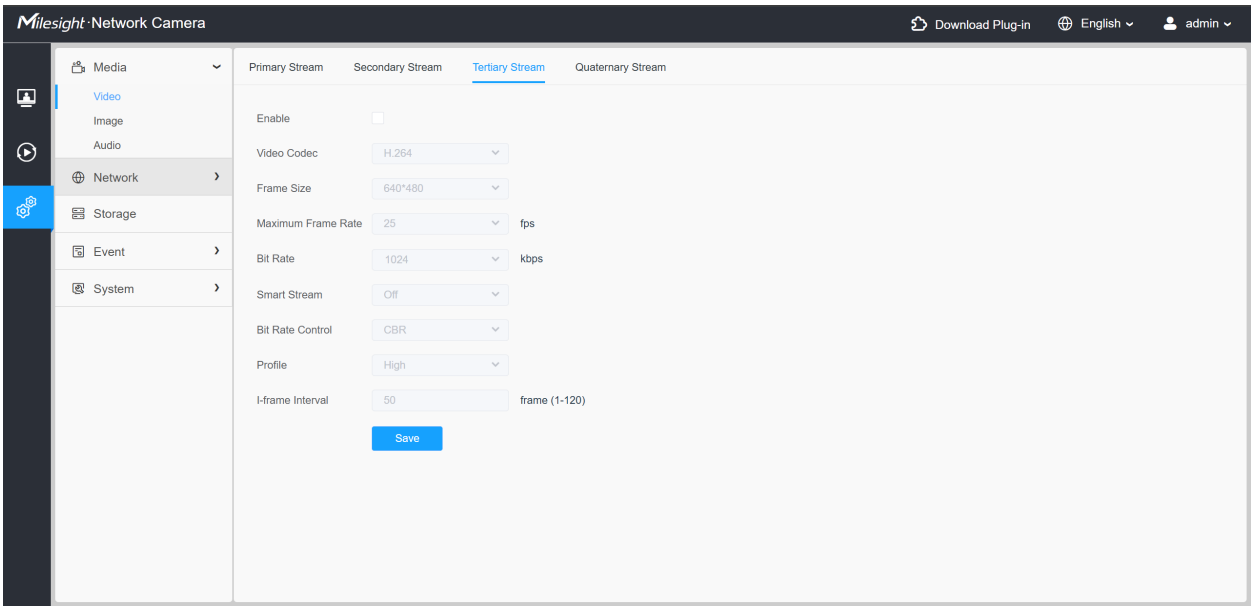
Primary Stream Settings



Secondary Stream Settings



Tertiary Stream Settings



Quaternary Stream Settings

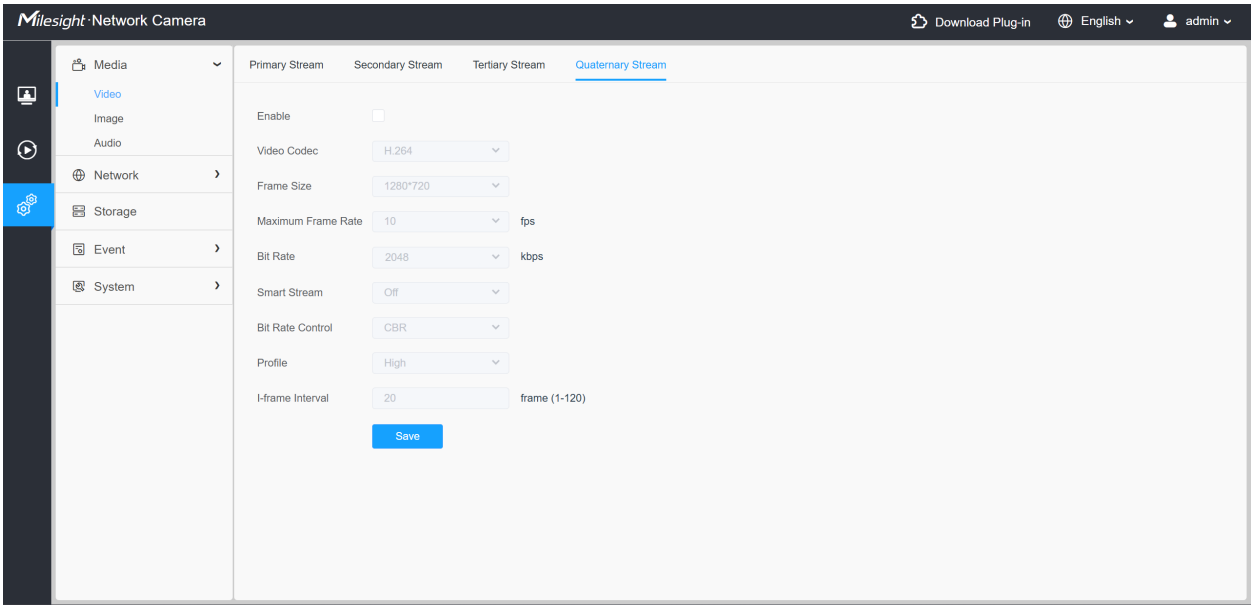


Table 6. Description of the buttons

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. **Note:** For more details about **Milesight-H.264 VS H.265+**, you can click the link: https://www.youtube.com/watch?v=Wkom8HQ00jI

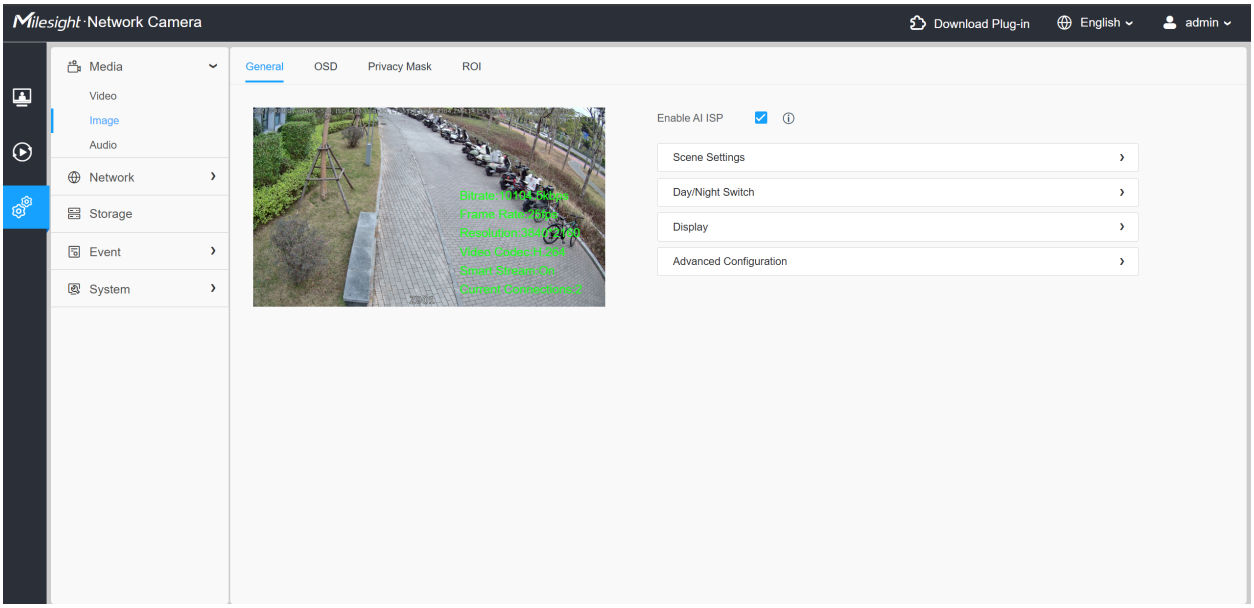
Parameters	Function Introduction
Frame Size	For **Primary Stream**, options include 8M(3840×2160), 6M(3072×2048), 5M(2592*1944), 4M(2592*1520), 3M(2048*1536), 1080P(1920*1080), 1.3M(1280*960), and 720P(1280*720). For **Secondary Stream**, options include 704*576, 640*480, and 640*360. For **Tertiary Stream**, options include 1920*1080, 1280*720, 704*576, 640*480, and 640*360. For **Quaternary Stream**, options include 1280*720, 704*576, 640*480, and 640*360. **Note:** The options of **Frame Size** are variable according to the model.
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, 50 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.

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

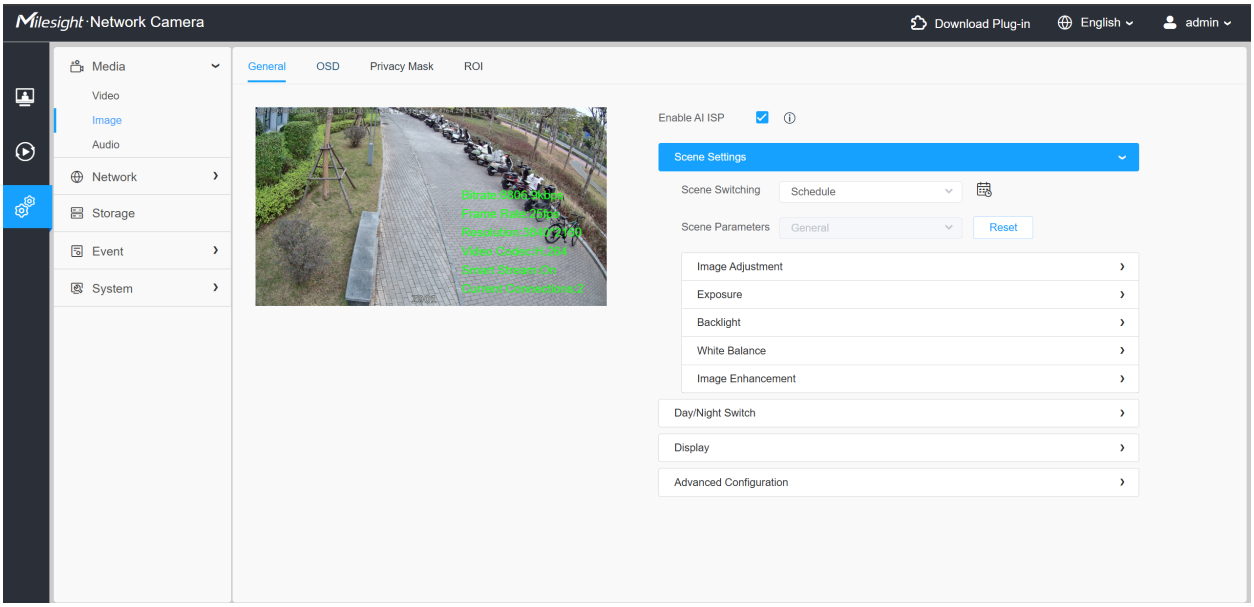
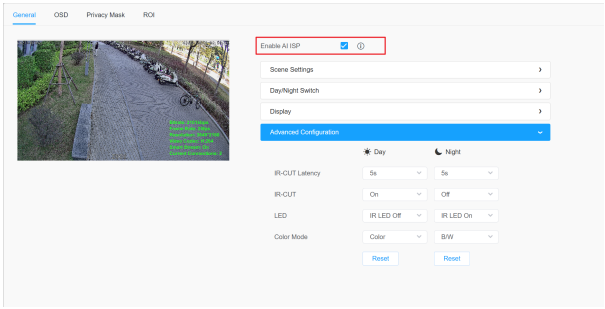
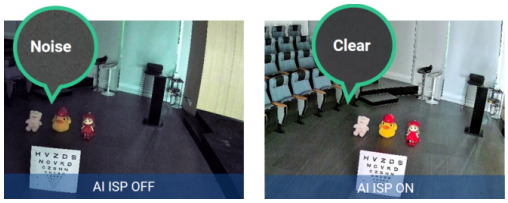
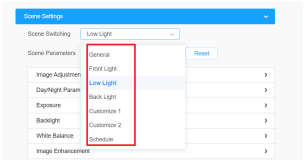
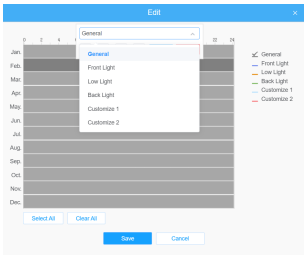
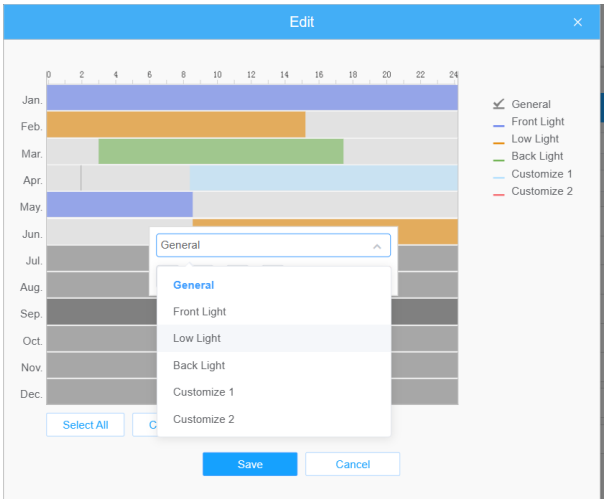
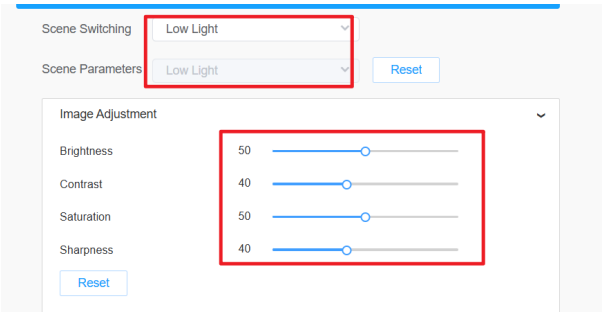
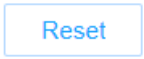


Table 7. Description of the buttons

Parameters	Function Introduction
Enable AI ISP	Check the check-box to enable this function. It is used for improving image quality and significantly reducing noise in low-light or nighttime environments.  **Note:** In low-light or nighttime conditions, enabling AI ISP may reduce frame rate. Shutter/Exposure will be switched to auto mode, and WDR/ HLC will be unavailable.  **Note:** Only for MS-C82xx-xG1.

Parameters	Function Introduction
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. 

Parameters	Function Introduction
	Set the scene switching schedule after selecting "Schedule" in the Scene Switching settings. 
Scene Parameter	This function allows you to configure a customized set of parameters for each specific scenario. When you select a scenario in Scene Switching, the scenario will be displayed here. 
	You can reset the image parameter of the selected scene by clicking "Reset".

Step 1: Select a scene and set parameters for the chosen scene: **General, Front Light, Low Light, Back Light, Customize 1, Customize 2, and Schedule** are available.

Step 2: Adjust the detailed parameters using functions such as **Image Adjustment, Day/ Night Parameter, Exposure, Backlight, White Balance, and Image Enhancement**.

Step 3: Select Scene Switching to change to the corresponding scene, by selecting **"Save"** to apply the adjustments to the current real-time stream.

Scene Settings --> Image Adjustment

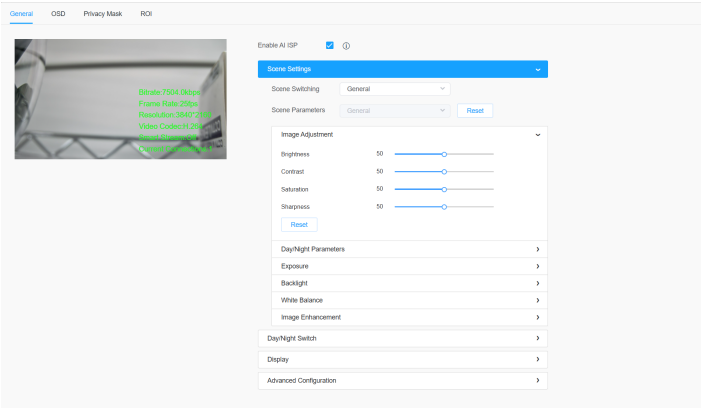


Table 8. Description of the buttons

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--> Day/Night Parameters

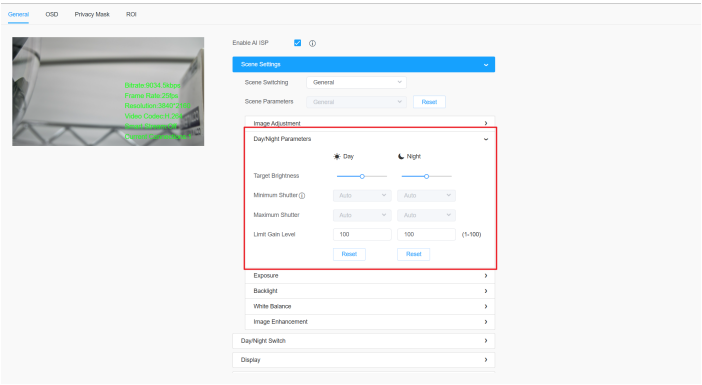


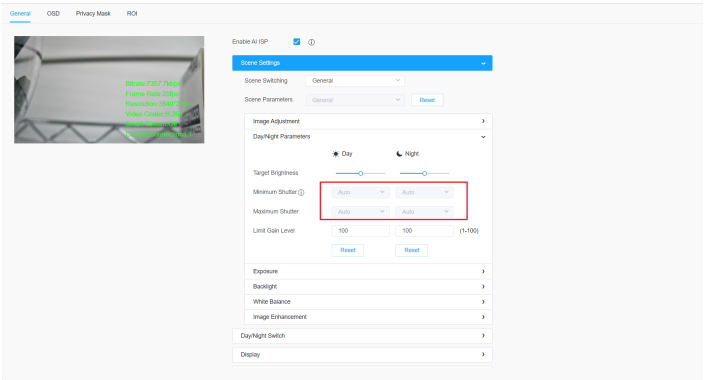
Table 9. Description of the buttons

Parameters	Function Introduction
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**.

Parameters	Function Introduction
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--> Exposure

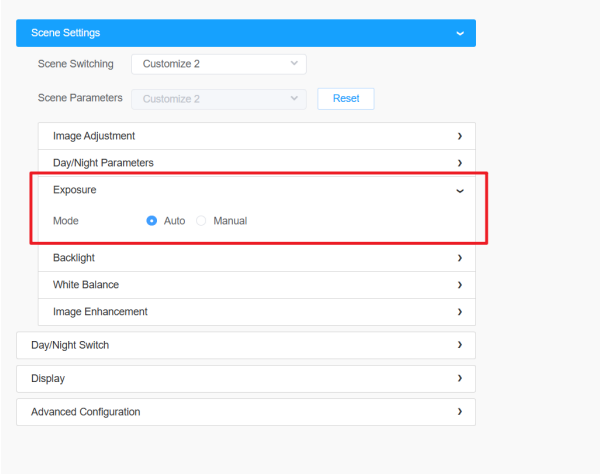


Table 10. Description of the buttons

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.

Scene Settings--> Backlight

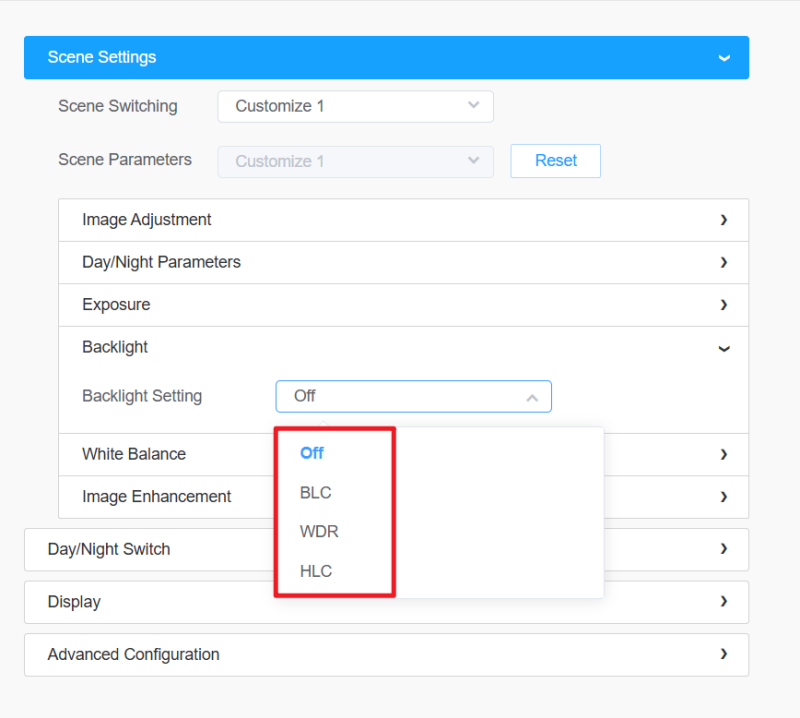
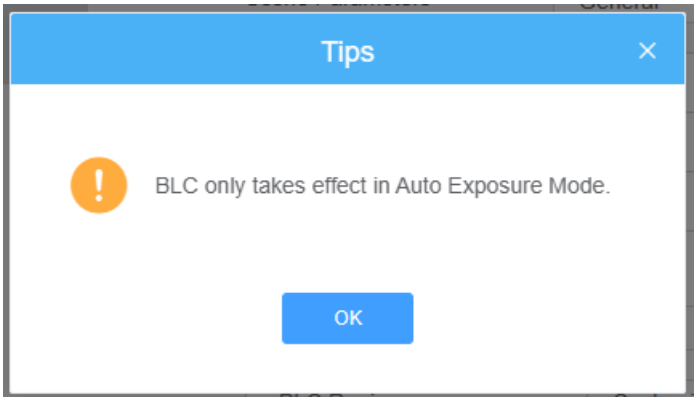


Table 11. Description of the buttons

Parameters	Function Introduction
Backlight Mode	**Backlight Setting:** Off, BLC, WDR, and HLC 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. **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

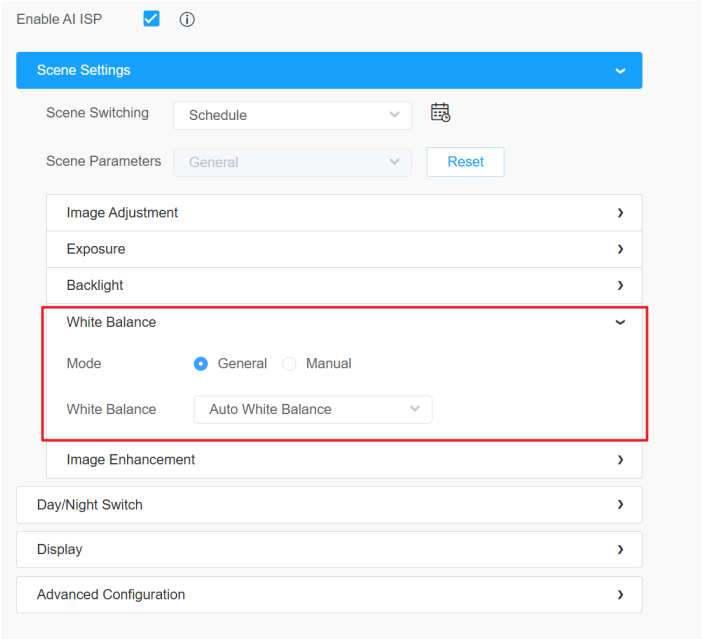


Table 12. Description of the buttons

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.
White Balance	**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

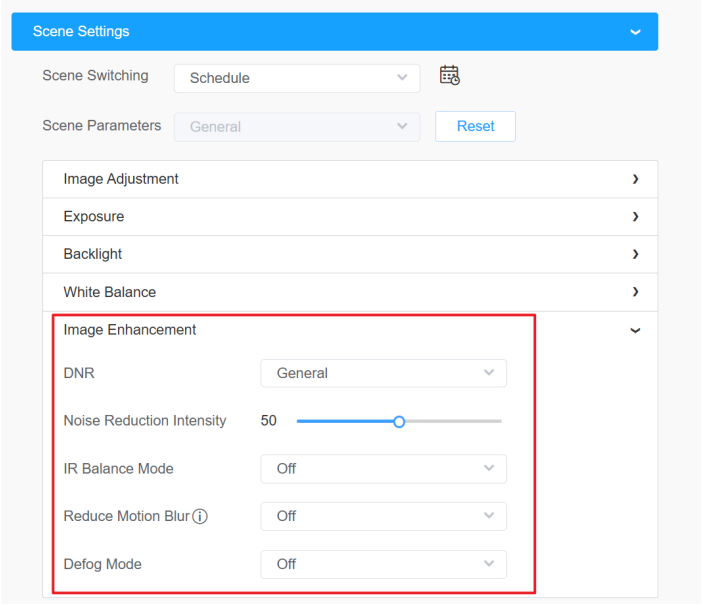
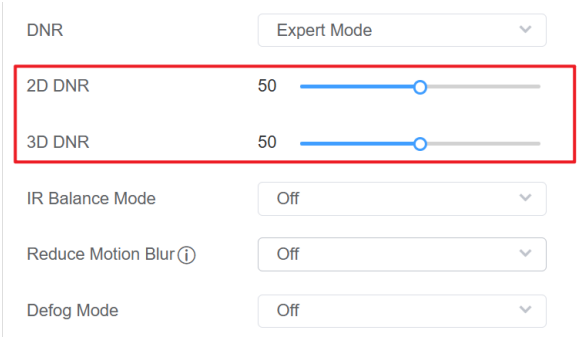


Table 13. Description of the buttons

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

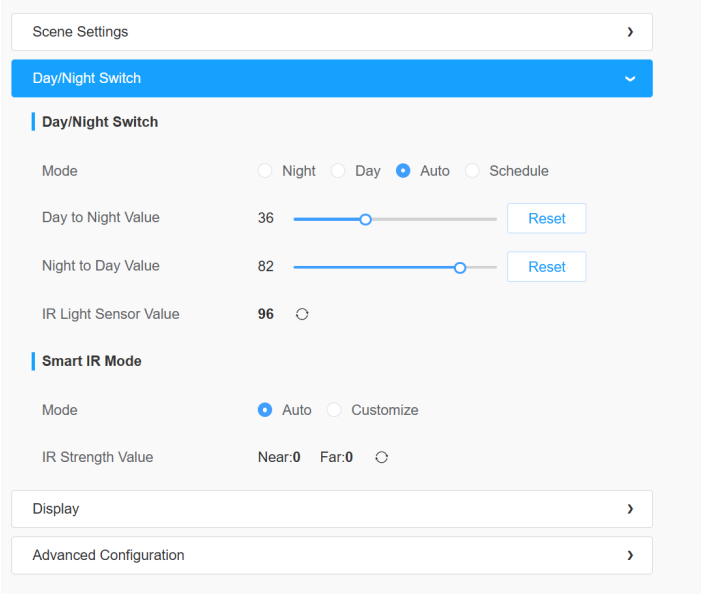
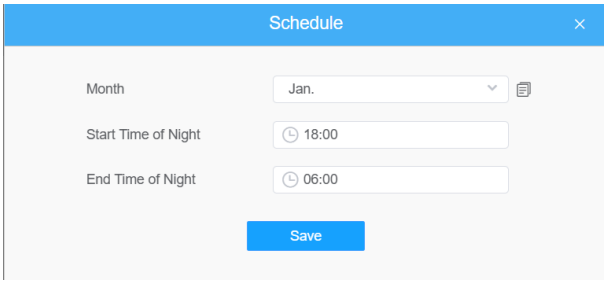


Table 14. Description of the buttons

<table>
<tr><th>Parameters</th><th>Function Introduction</th></tr>
<tr><td>Mode</td><td>
Night Mode: Shown in live view based on Night Mode settings.

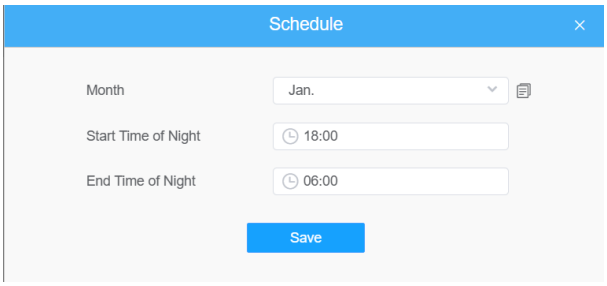
Day Mode: Shown in live view based on Day Mode settings.

Auto Mode: Shown in live view based on environment, set the sensitivity for switching Day Mode to Night Mode, or 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.


</td></tr>
<tr><td>Auto Mode</td><td>
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 buttons are optional only if you select 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.
</td></tr>
</table>

Parameters	Function Introduction
Smart IR Mode	Support to set the strength of the IR to **Auto Mode** or **Customize** to achieve the best effect. **Auto Mode**: Automatically adjust IR based on zoom ratio. **Customize**: Set **Near View IR Level**, **Far View IR Level**, and **IR Strength Value**. **Near View IR Level:** Adjust the light strength of Low-Beams LED light level from 0 to 100. **Far View IR Level:** Adjust the light strength of High-Beams LED light level from 0 to 100. **Note:** • Near/Far View IR Level are optional only if you select Customize Mode of Smart IR. • Click Reset to reset the light strength to 50. **IR Strength Value:** The current value of Low-Beams LED and High-Beams LED light value. Upgraded IR LED technology with High/Low Beam delivers clear, high-quality imaging at any distance, with manually/automatically adjustable brightness based on zoom ratio; the IR anti-reflection panel greatly boosts infrared light transmittance.

[Display]

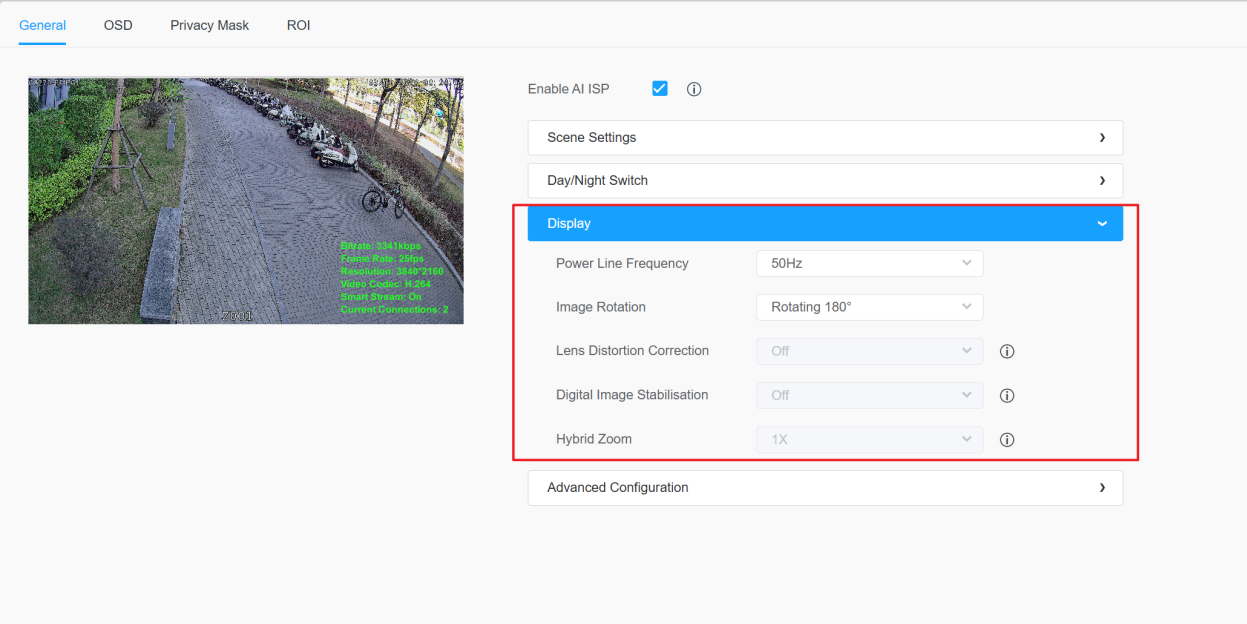


Table 15. Description of the buttons

Parameters	Function Introduction
Power Line Frequency	60Hz and 50Hz are available to help prevent flickering and horizontal lines in the image.

Parameters	Function Introduction
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.
Digital Image Stabilisation	This function helps the camera to reduce image shifts caused by camera shaking or vibration. However, it will cause image cropping. **Note:** Do not support DIS while High Frame Rate or LDC is enabled.
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.

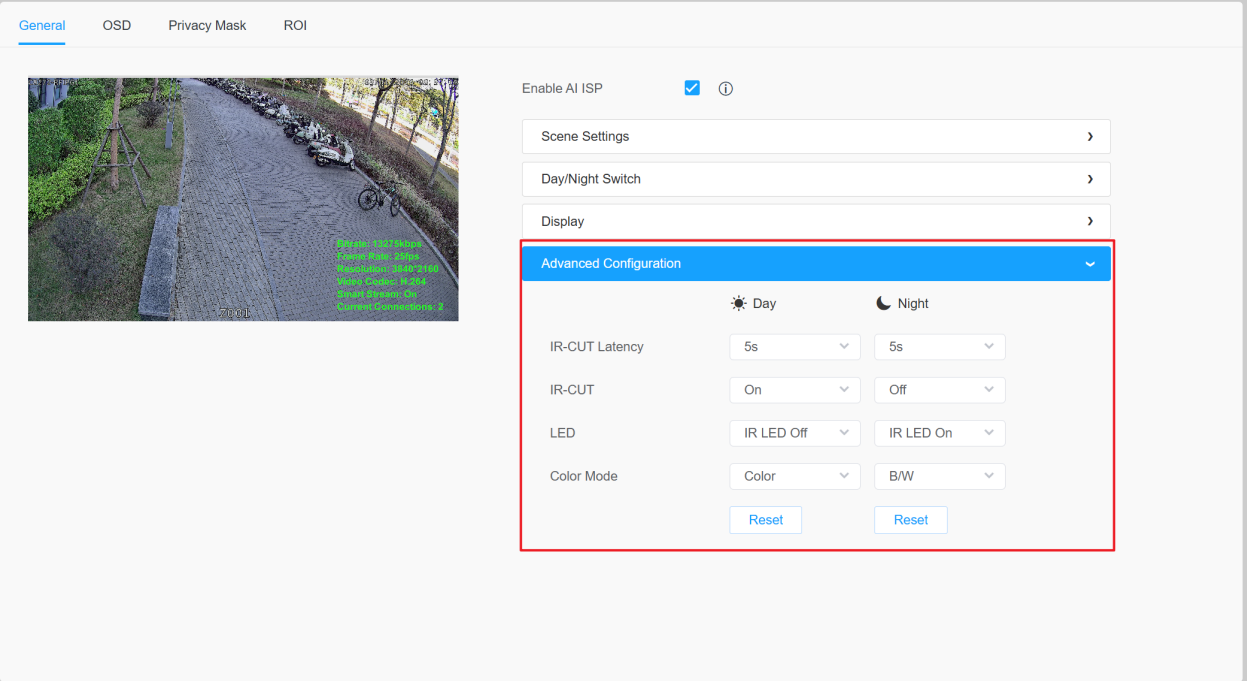


Table 16. Description of the buttons

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

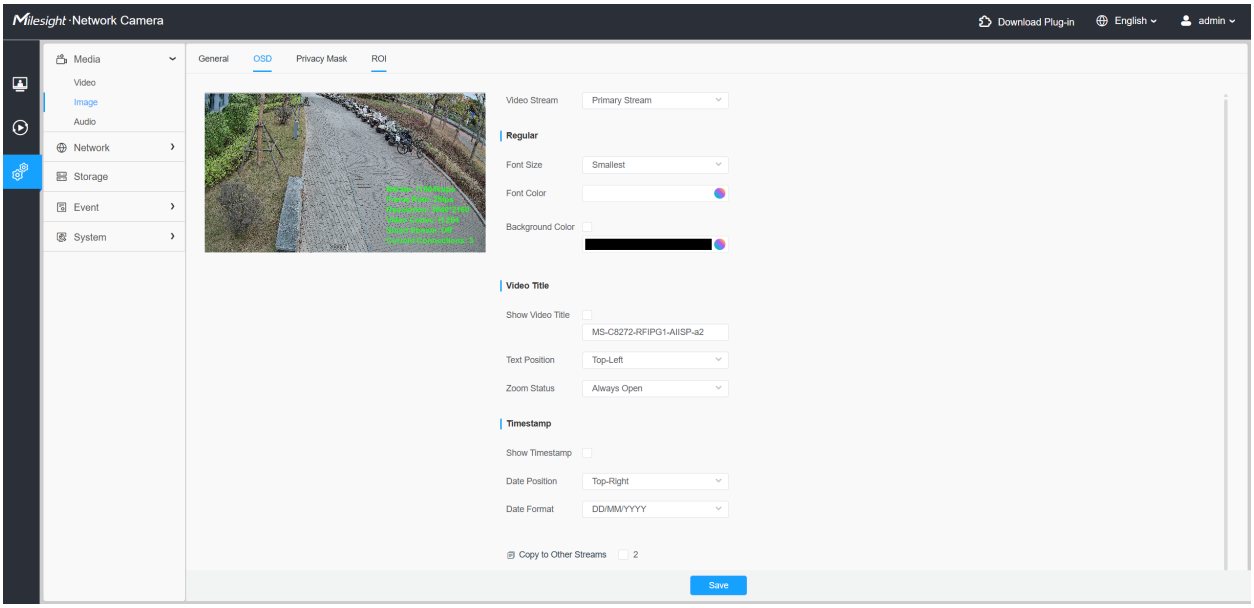
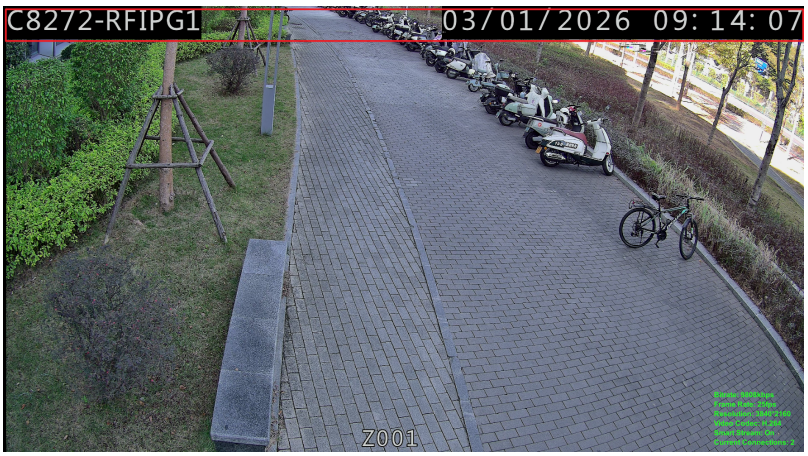
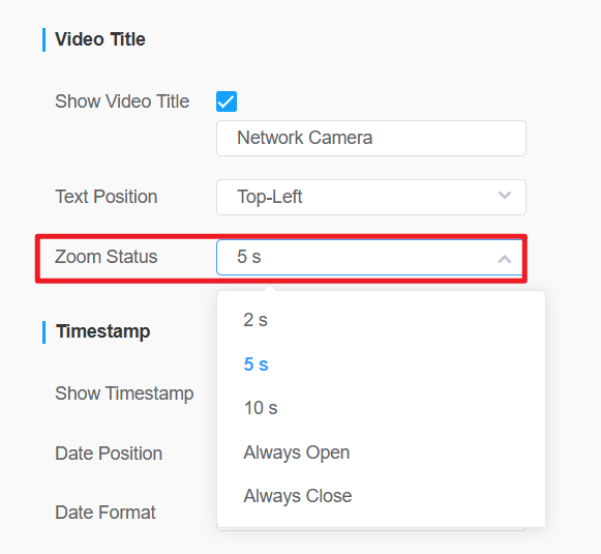
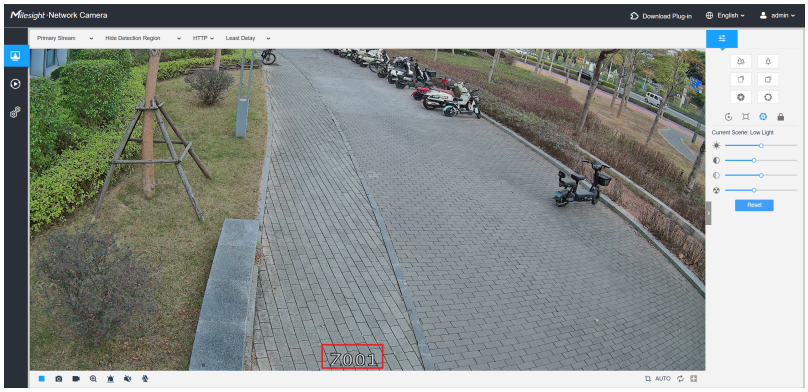


Table 17. Description of the buttons

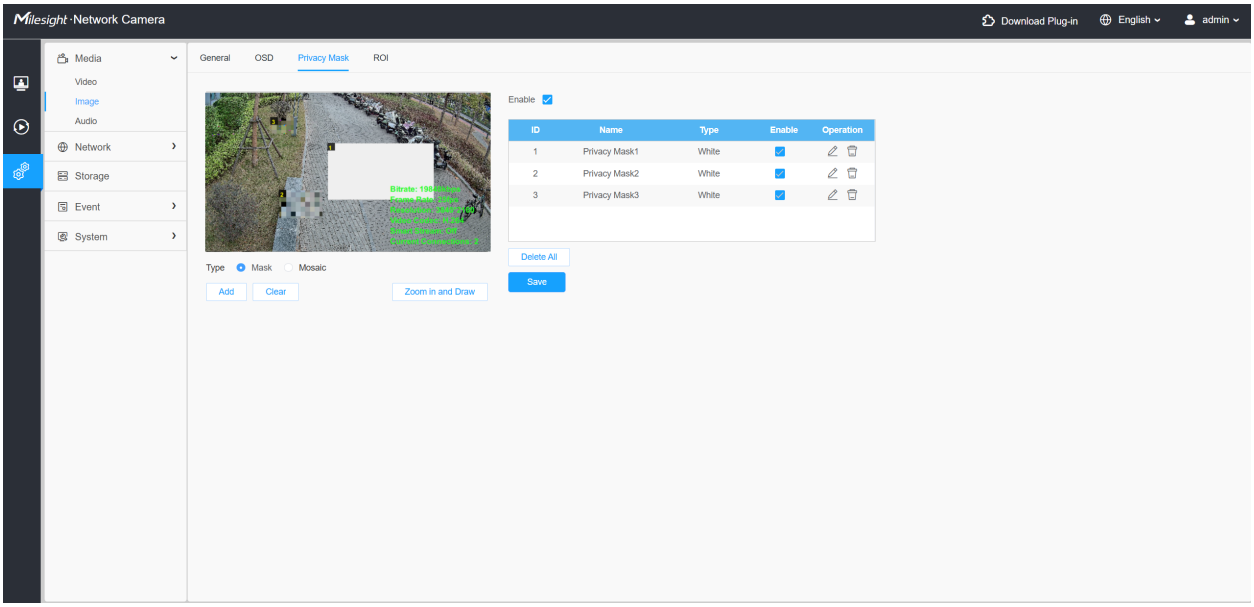
Parameters	Function Introduction
Video Stream	Enable to set OSD for the primary stream, secondary stream, tertiary stream, and quaternary stream.
Font Size	Smallest/Small/Medium/Large/Largest/Auto are available for title and date.
Font Color	Enable to set different color for title and date.
Background 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.
Zoom Status	Zoom status. **2s**, **5s**, **10s**, **Always Open**, and **Always Close** are available.  
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.
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.

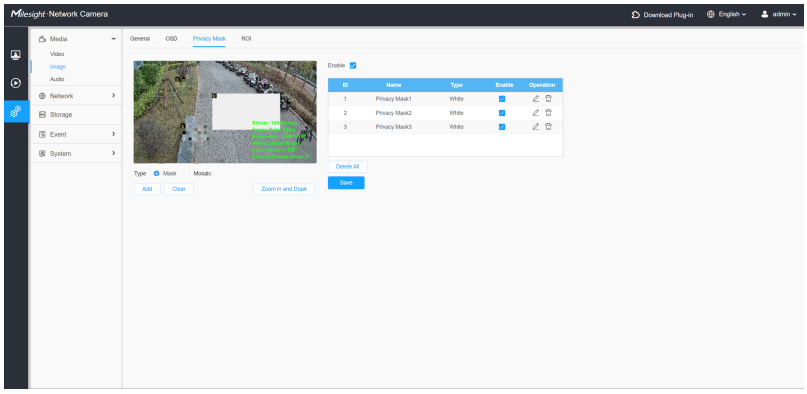
Table 18. Description of the buttons

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.

[Mosaic type of Privacy Mask]

You can select the color type and mosaic type to use for the cover certain areas on the live video. The mosaic type can maintain the continuity of the picture and improve the visual effect.



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.

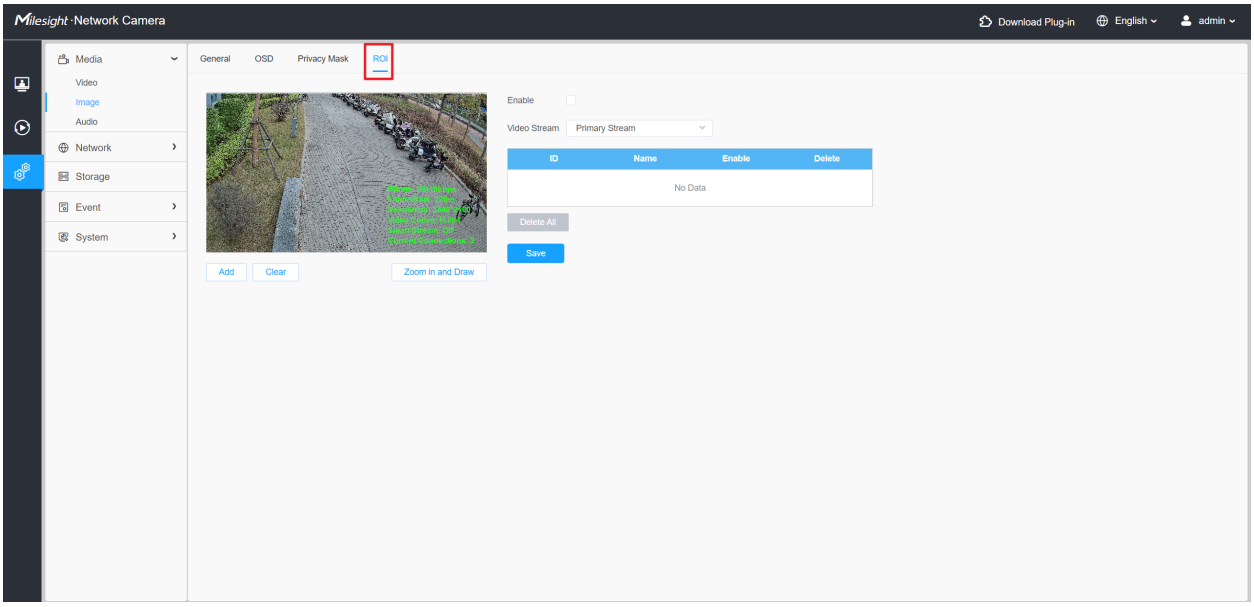


Table 19. Description of the buttons

Parameters	Function Introduction	
Enable	Check the checkbox to enable the ROI function.	
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.	

Note:

- You can set a low bit rate. For example, you can set a bit rate with 512Kbps and a resolution with 1080P, then you can see the image quality of ROI is more clear and fluent than the other region.

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.

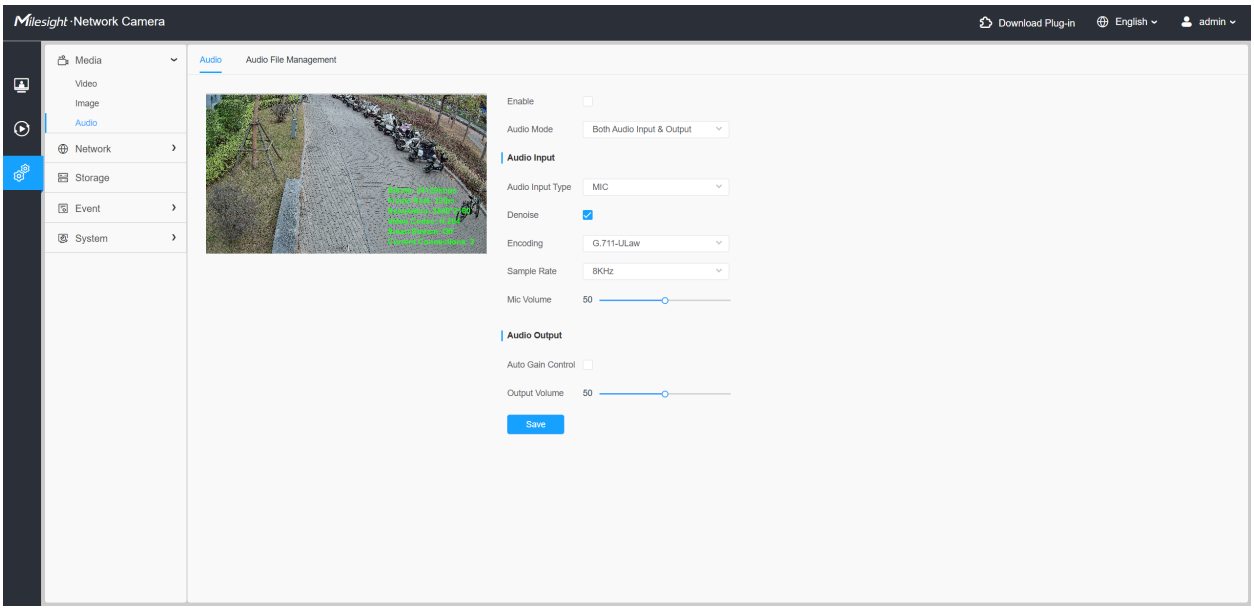


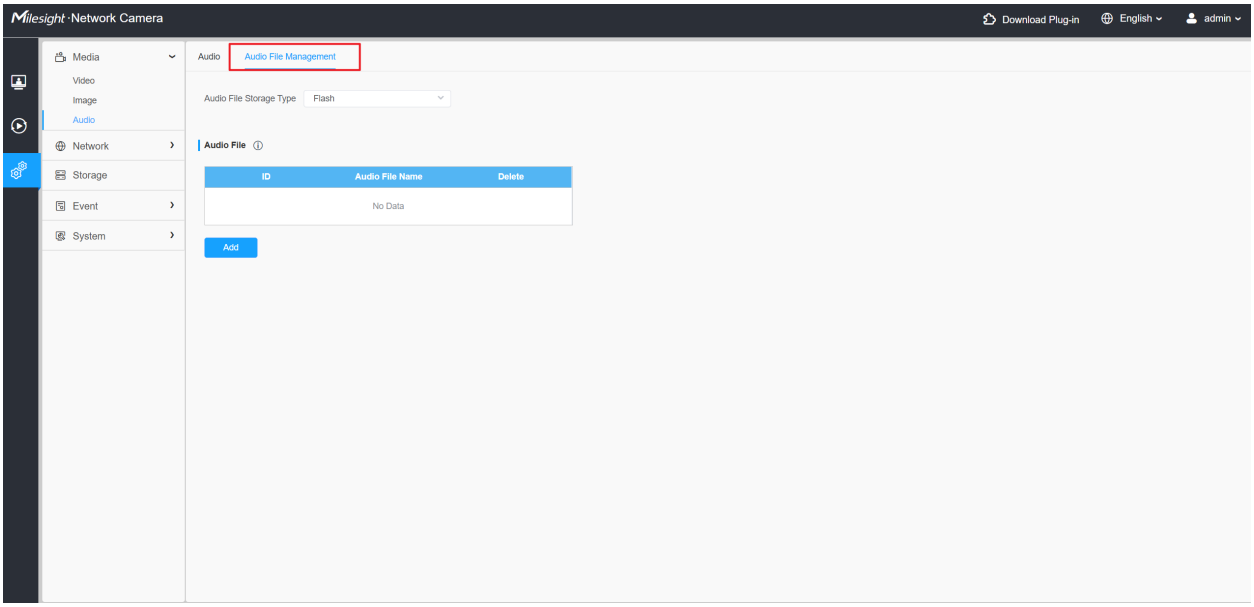
Table 20. Description of the buttons

Parameters	Function Introduction
Enable	Check on the checkbox to enable audio feature.
Audio Mode	**Audio Input/Audio Output/Both Audio Input & Output** are optional.

Parameters	Function Introduction
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

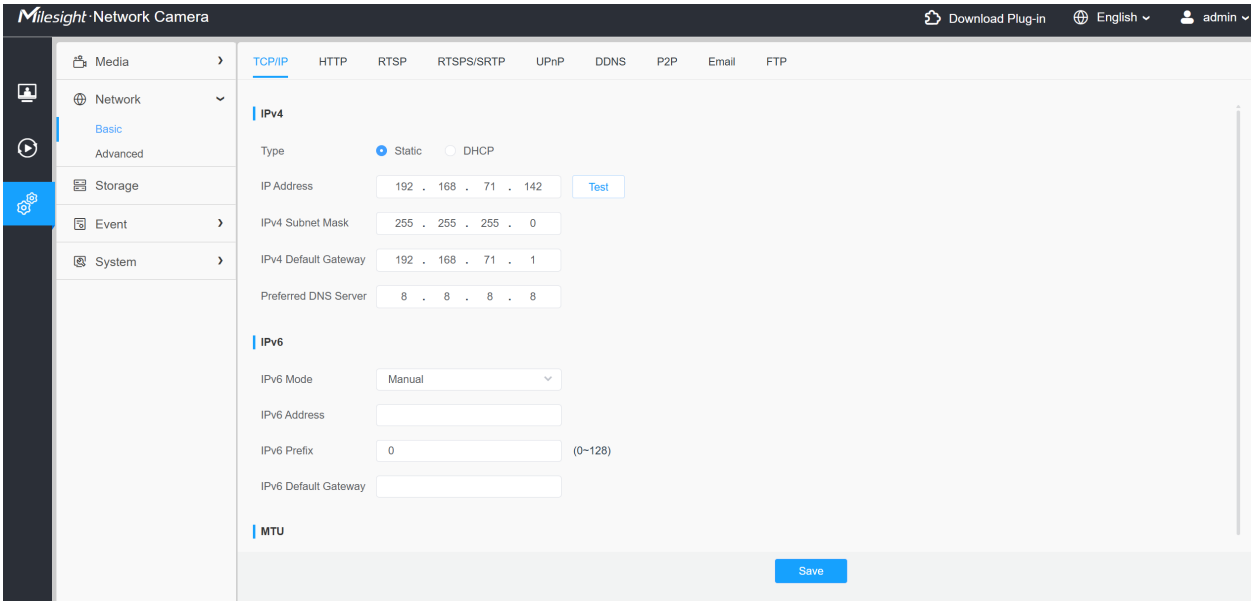


Table 21. Description of the buttons

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

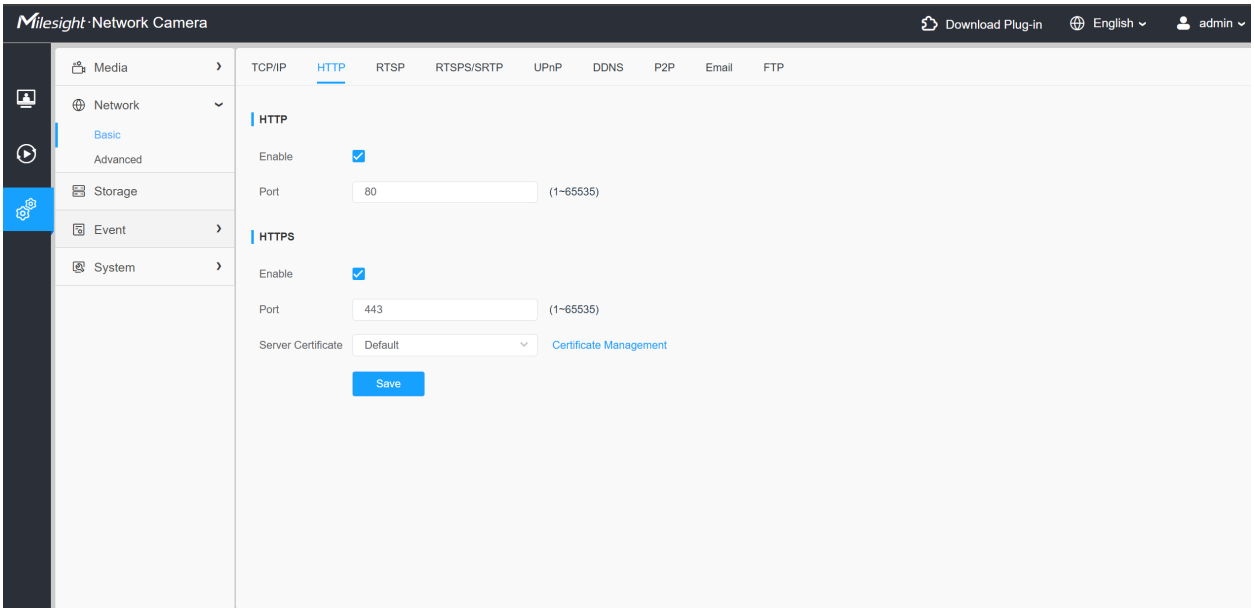


Table 22. Description of the buttons

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.
Installed Certificate	Upload and set the SSL certificate.
Attributes	
Installation Type	
Save	Save the configurations.

Table 23. 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

Stream	URL
Tertiary Stream	https://username:password@IP:port/ipcam/mjpegthird.cgi

8.2.1.3 RTSP

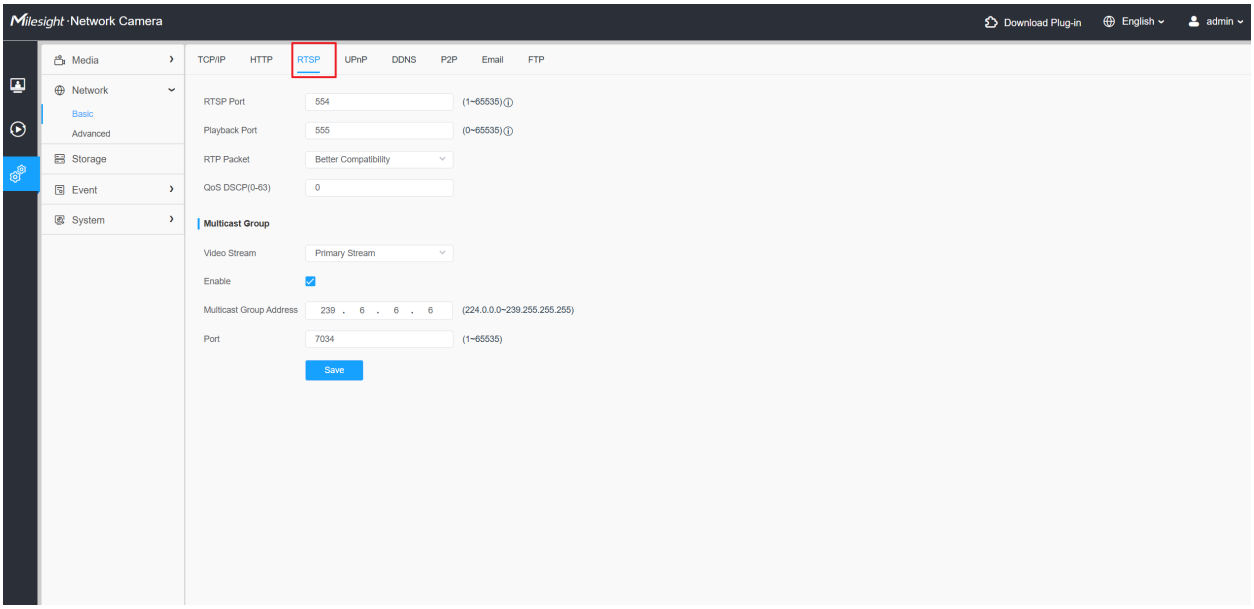


Table 24. Description of the buttons

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.	
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.

Parameters	Function Introduction	
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 25. 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 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.

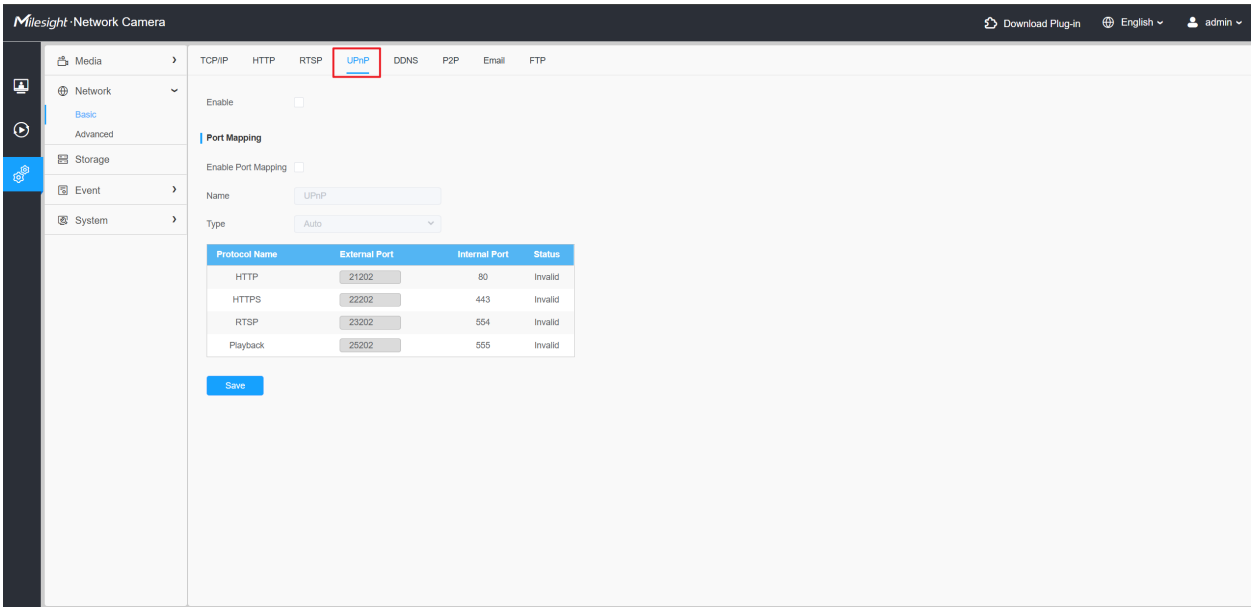


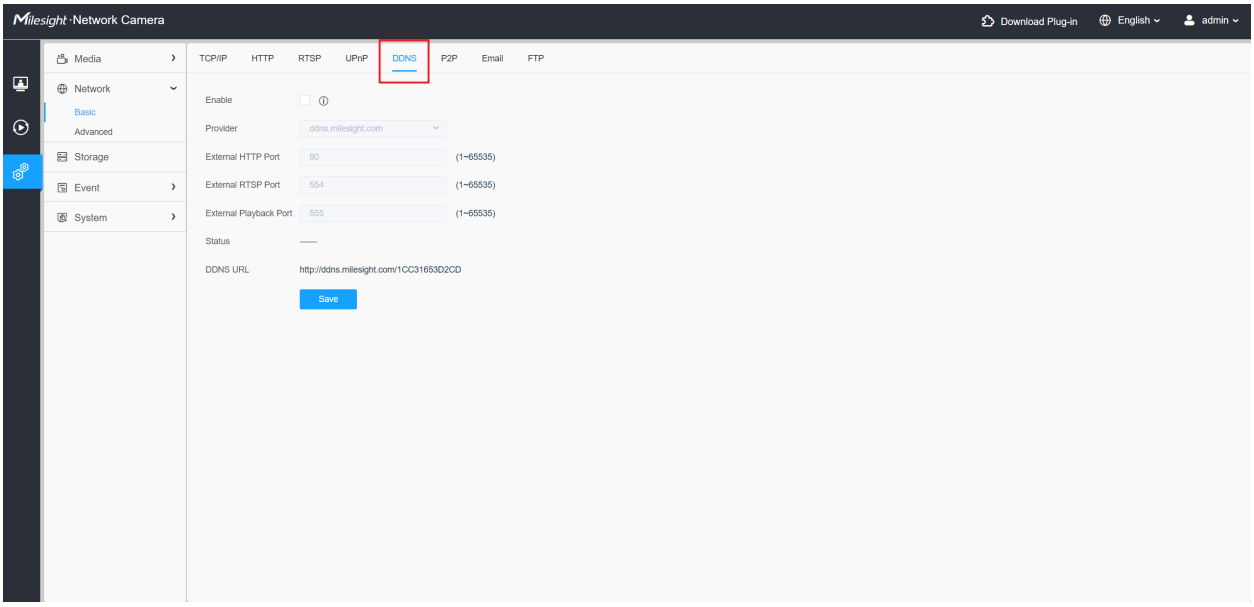
Table 26. Description of the buttons

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.

8.2.1.5 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 27. 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.

Parameters	Function Introduction
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:

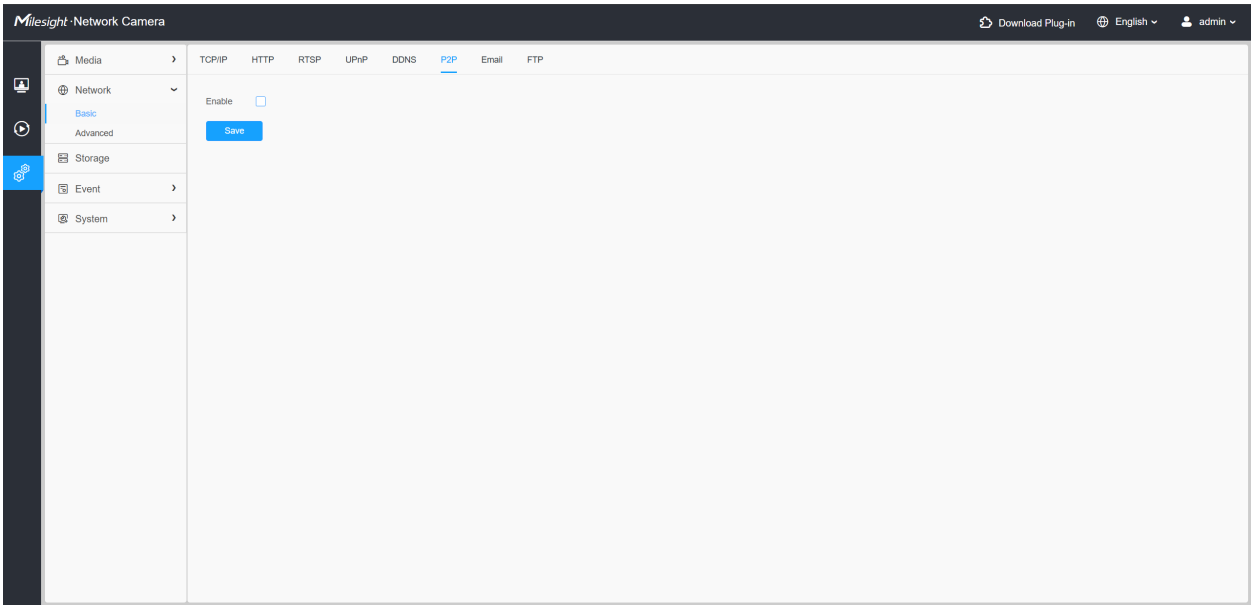
- Before using Milesight DDNS, forward HTTP Port and RTSP Port first.
- Make sure that the internal and the external port number of RTSP are the same.

8.2.1.6 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.



8.2.1.7 Email

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

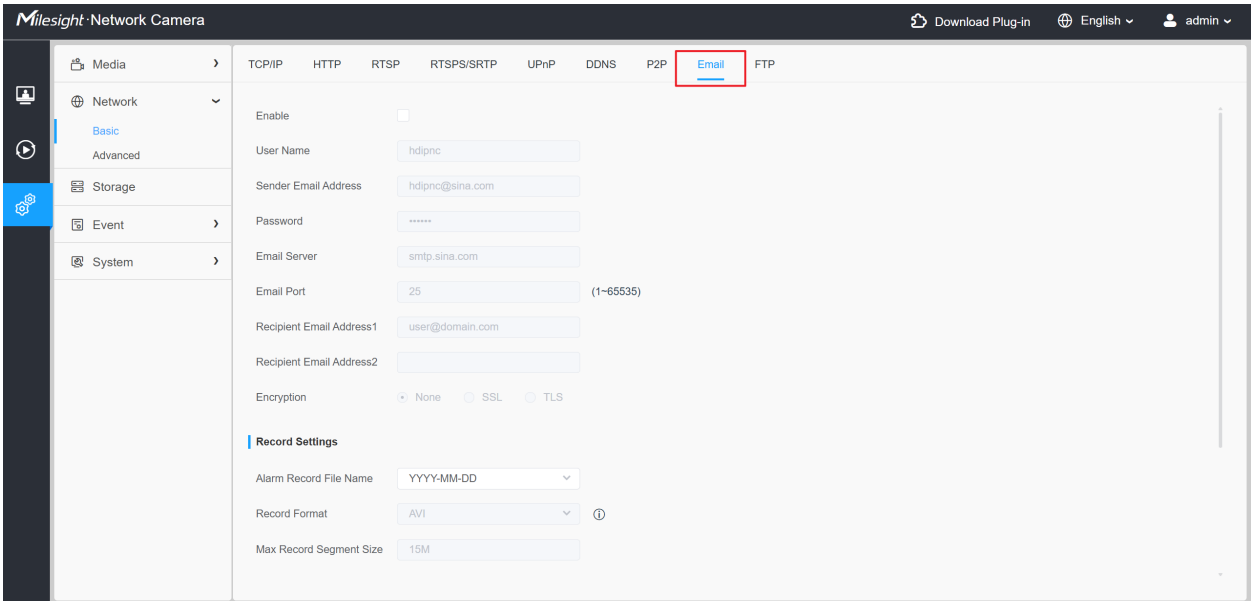


Table 28. Description of the buttons

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**.

Parameters	Function Introduction
Snapshot Settings	**Alarm Snapshot File Name:** Default(YYYY-MM-DD) /MM-DD-YYYY/ DD-MM-YYYY/ Add prefix/ Overwrite with the base file name/ Customize are available. **Timing Snapshot File Name:** Default(YYYY-MM-DD) /MM-DD-YYYY/ DD-MM-YYYY/ Add prefix/ Overwrite with the base file name/ 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
&& - &

8.2.1.8 FTP

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

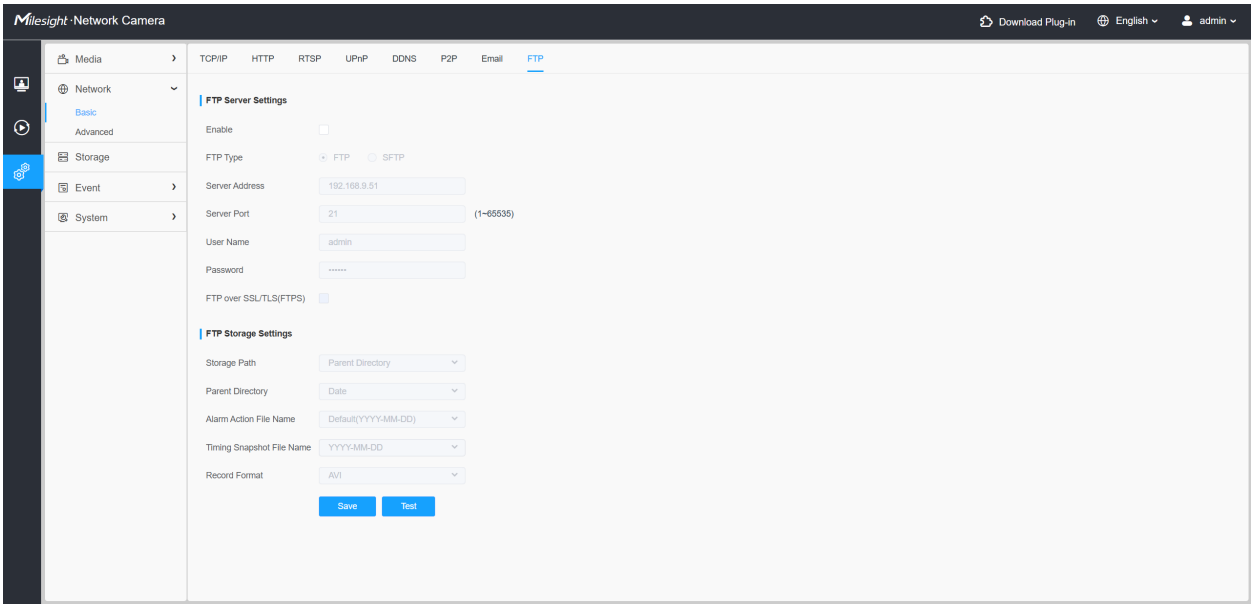


Table 29. Description of the buttons

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	Child Directory	Choose IP Address/ Device Name/ Date as the folder name of Child Directory, or customize the folder name.
	Multilevel Folder Name	If the storage path is more than two levels, enter Multilevel FTP storage path here manually.
FTP Storage Settings	Alarm Action File Name	Choose the default(YYYY-MM-DD) or customize the alarm action file name.
	Video File Name	If you choose to customize the alarm action file name, YYYY-MM-DD/ MM-DD-YYYY/ DD-MM-YYYY/ Add prefix are available.
	Image File Name	If you choose to customize the alarm action file name, YYYY-MM-DD/ MM-DD-YYYY/ DD-MM-YYYY/ Add prefix are available.
	Timing Snapshot File Name	Default(YYYY-MM-DD) /MM-DD-YYYY/ DD-MM-YYYY/ Add prefix/ Overwrite with the base file name are available.
	Pre Second	Reserve the record time before alarm, 0~10 sec.
	Record Format	AVI and MP4 are optional.
Save		Save the configurations.
Test		Test whether the configurations are successful.

Note:

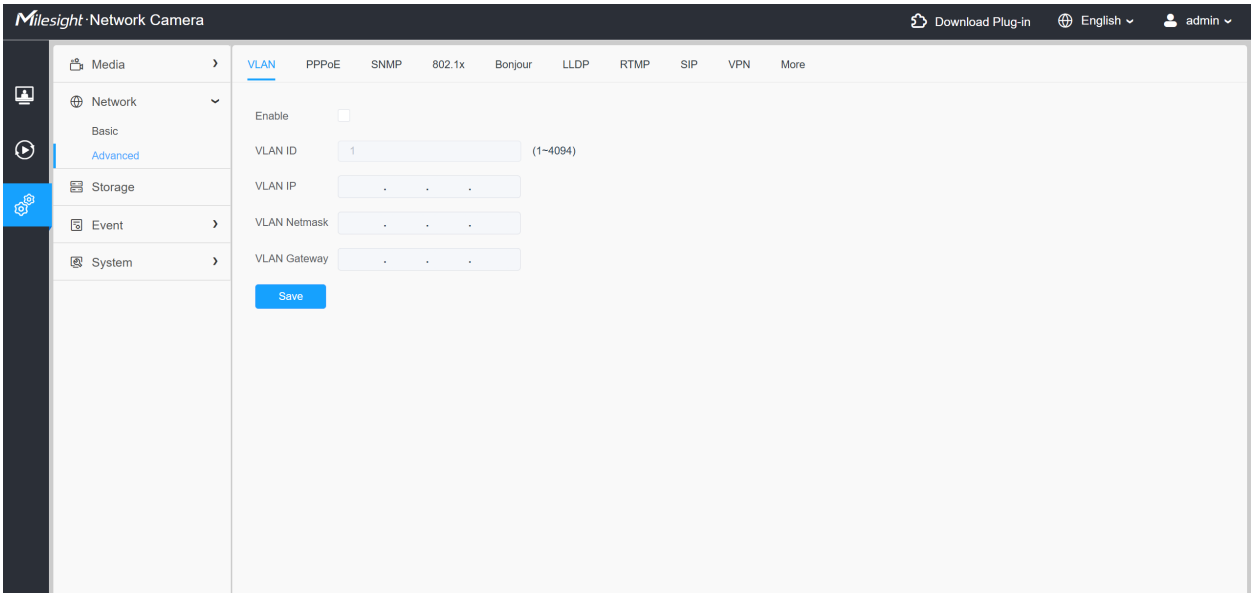
- Parent Directory will be under Root Directory, and Child Directory will be under Parent Directory.
- You can refer to the following file name tip to customize the file name.

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 refers 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.

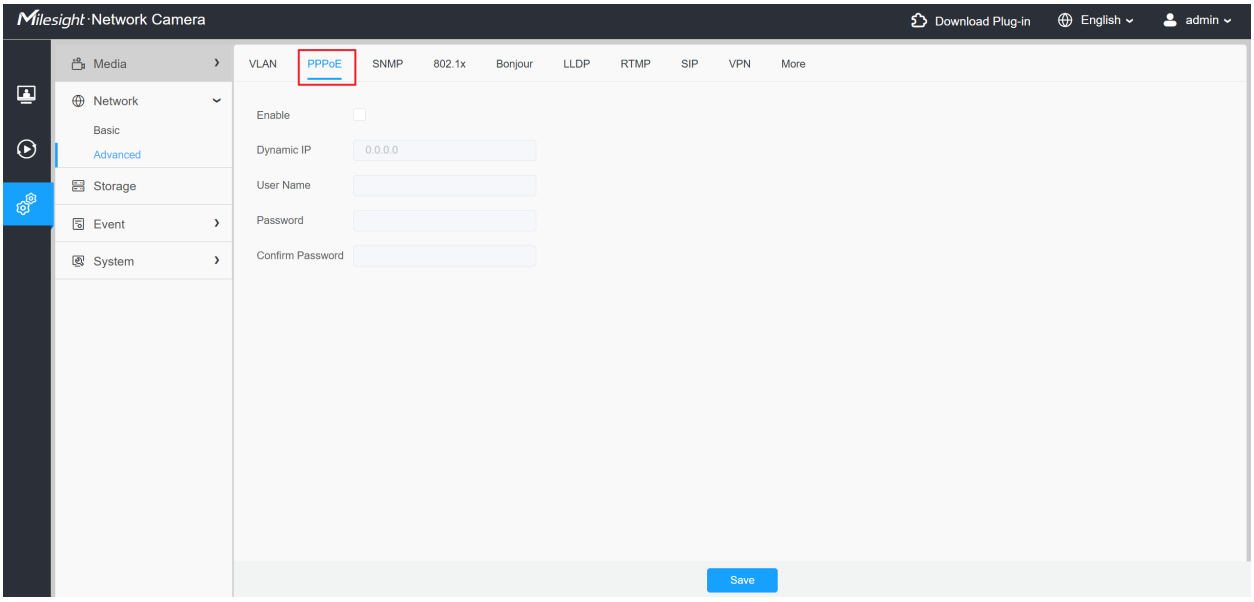


Table 30. Parameter Description

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.

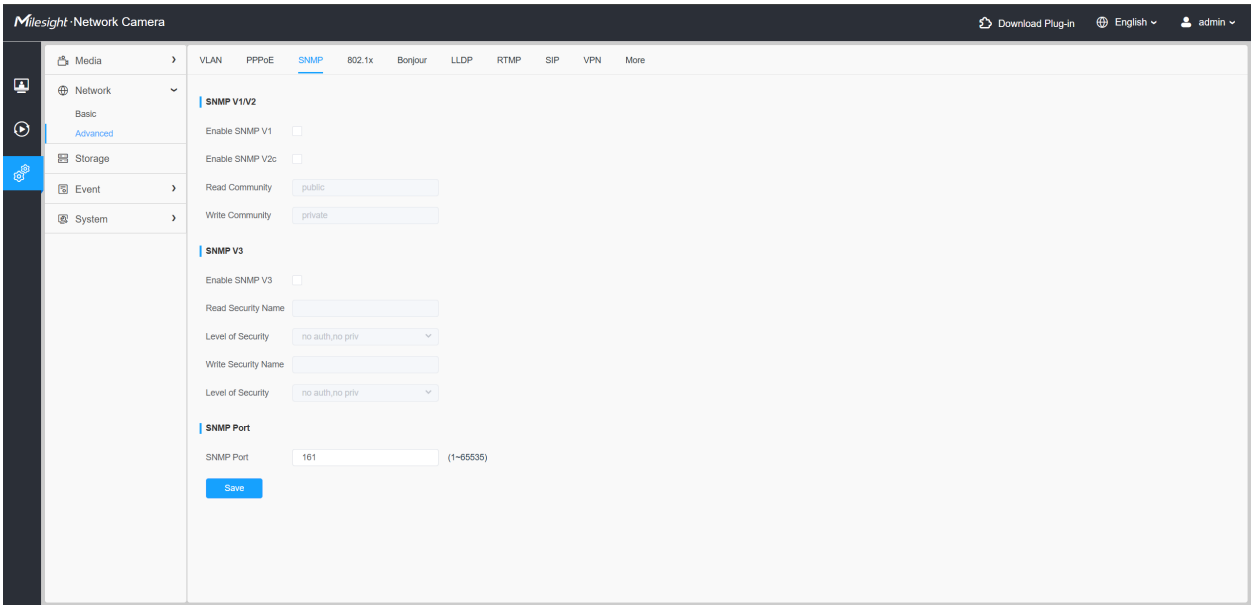


Table 31. Description of the buttons

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.

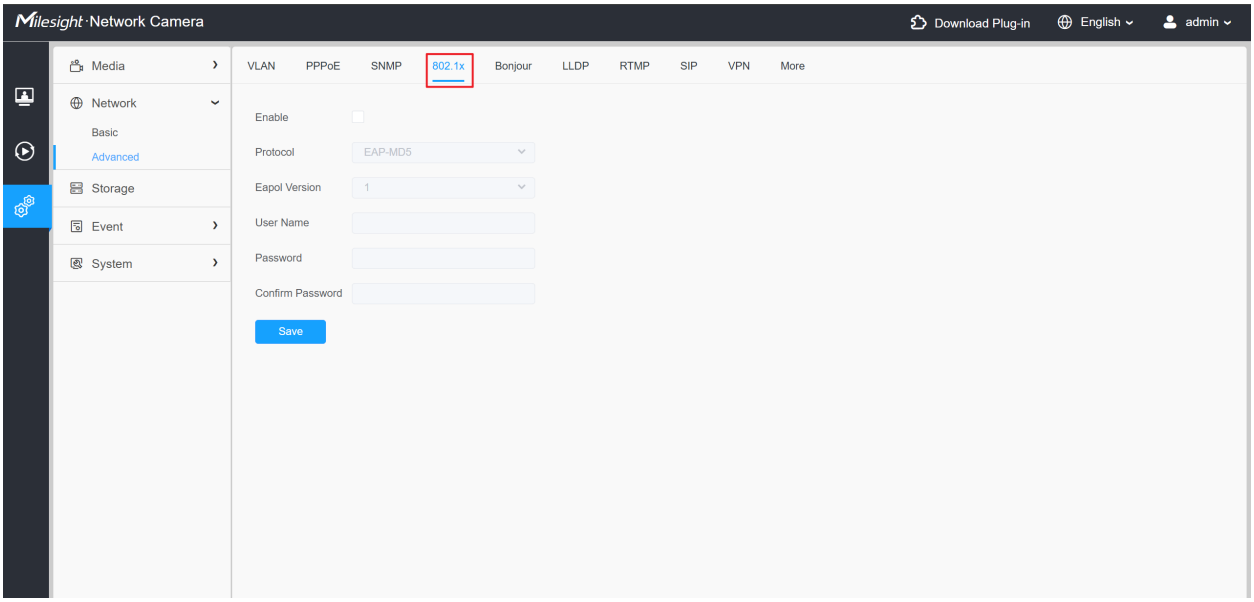


Table 32. Description the Buttons

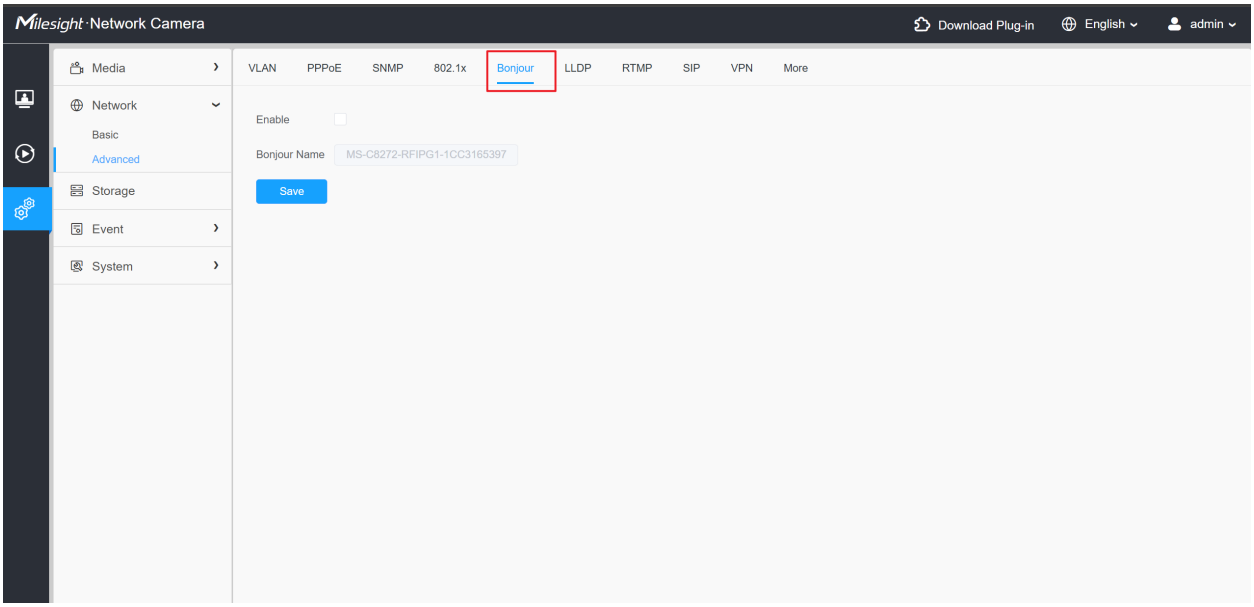
Parameters		Function Introduction
Enable		Start or stop using 802.1x certification.
Protocol		Choose the protocol, **EAP-MD5** and **EAP-TLS** are available.
EAP-MD5	**Eapol Version**	This version number helps ensure compatibility between devices implementing different versions of the EAPOL protocol. 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.

Parameters		Function Introduction
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.

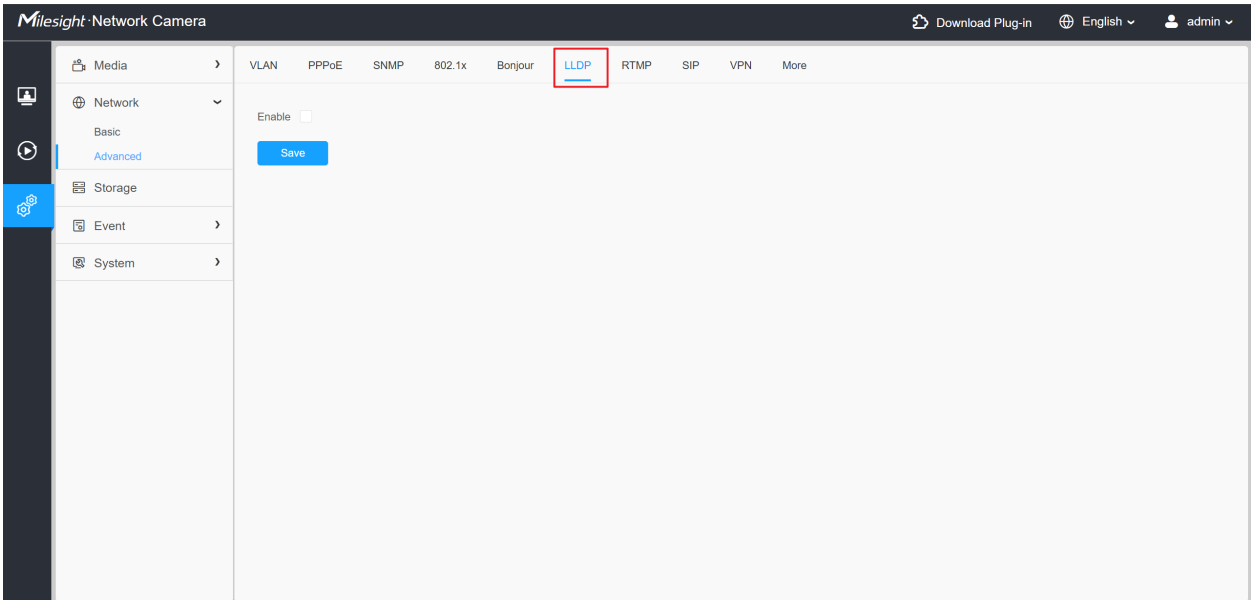
If you don't know the camera information, you can use the Bonjour service on the same LAN to search for network camera devices and then to access the devices.



8.2.2.6 LLDP

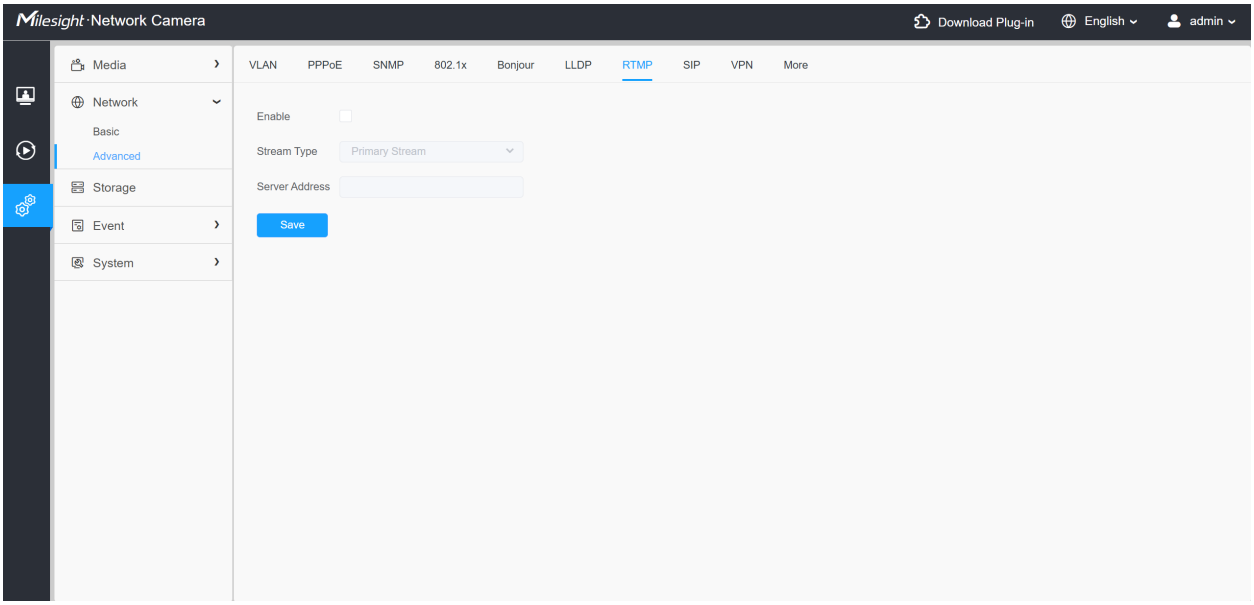
The Link Layer Discovery Protocol (LLDP) is a standardized network discovery protocol used by network devices to advertise their identity, capabilities, and neighbors on a local area network (LAN). It operates at the data link layer (Layer 2) of the OSI model. LLDP is defined by the IEEE 802.1AB standard. 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:

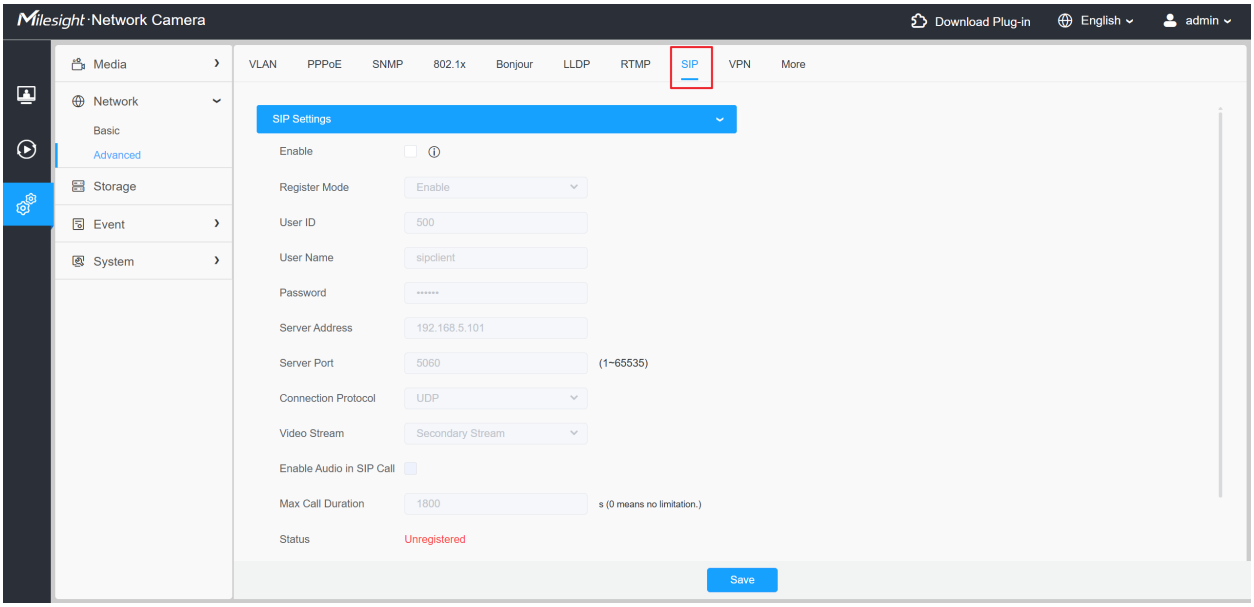
- For YouTube live broadcast, if you use a newly created account to live broadcast, you need to wait for 24hrs to activate the account for using live function.

- 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]

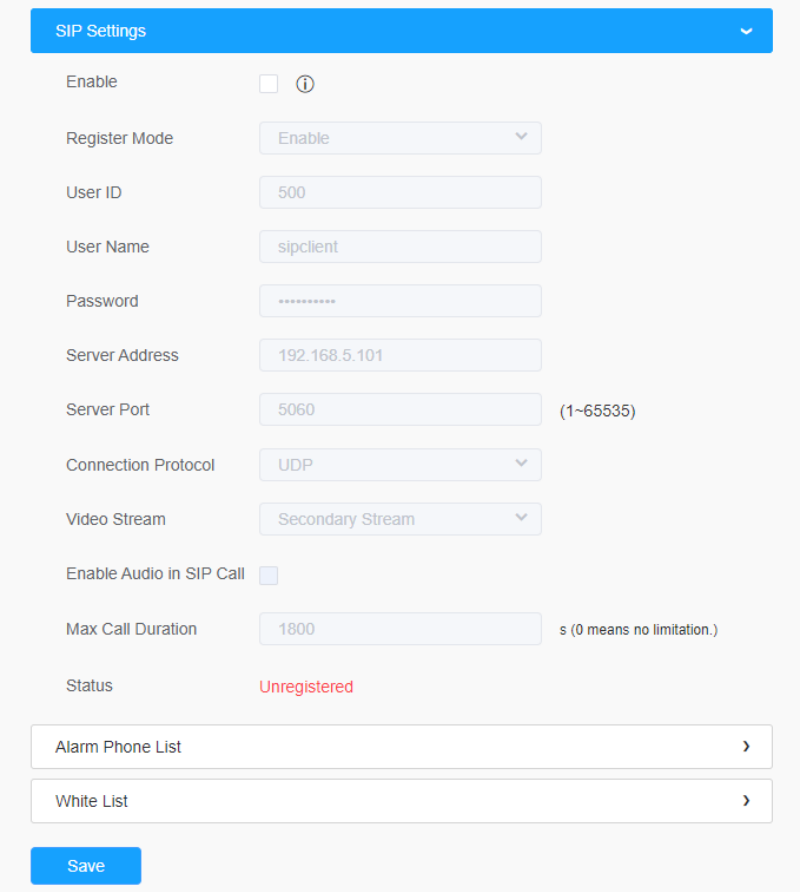


Table 33. Description of the buttons

Parameters	Function Introduction
Enable	Start or stop using SIP. **Note:** SIP supports Direct IP call.

Parameters	Function Introduction
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]

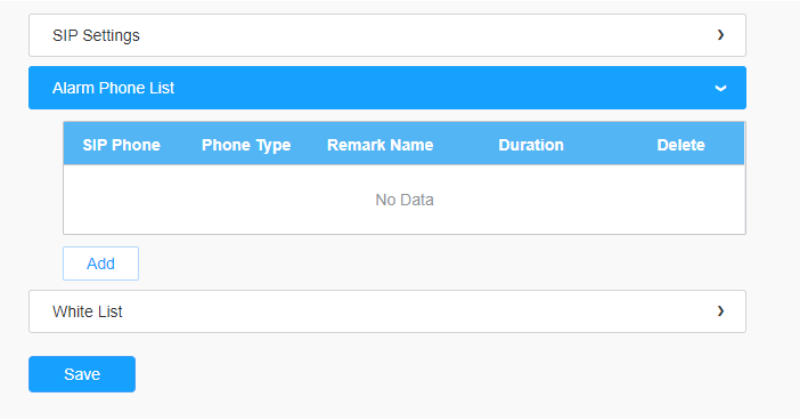


Table 34. Description of the buttons

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]

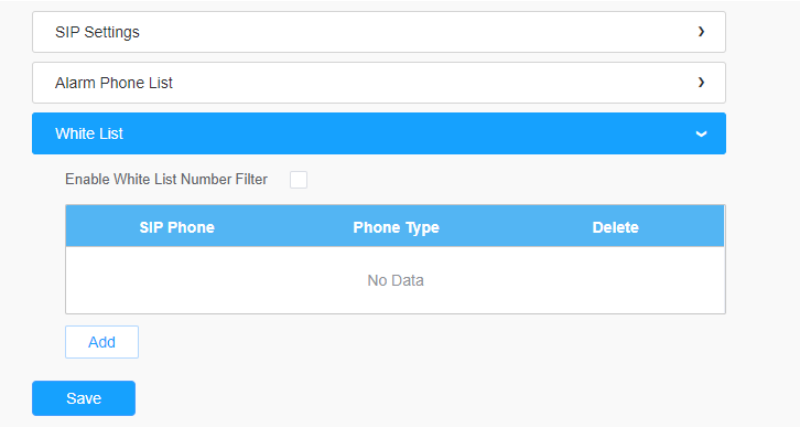


Table 35. Description of the buttons

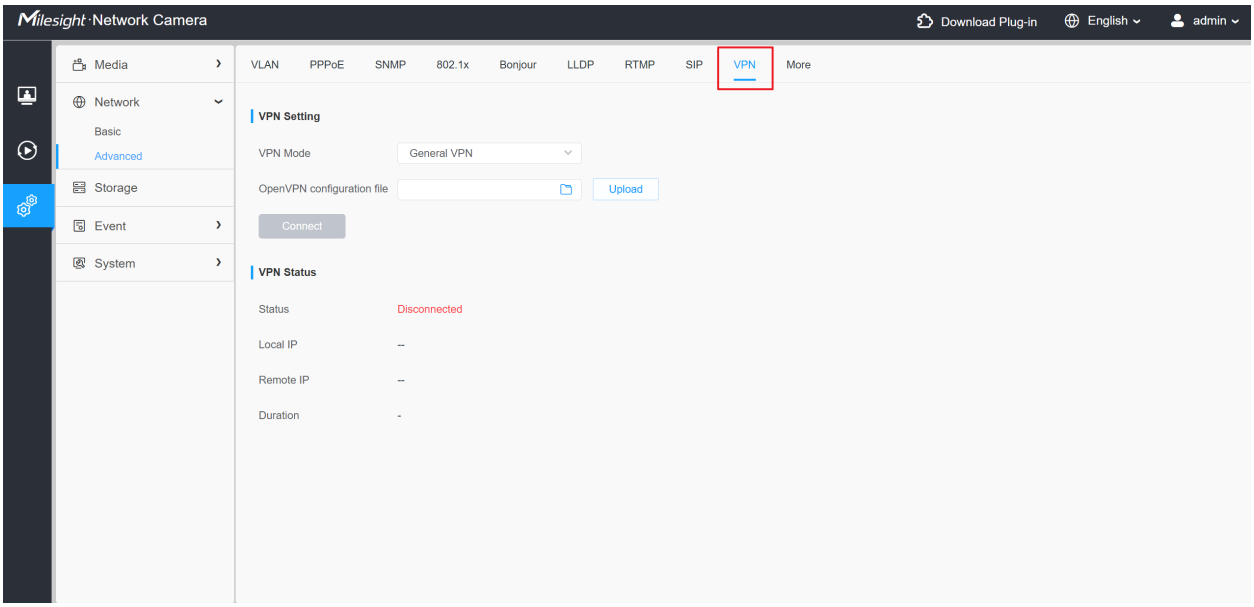
Parameters	Function Introduction
Enable White List Number Filter	When enabled, only the designated phone number or IP address can visit
Add	**Phone Type:** Phone Number(Call by phone number) & Direct IP Call. **Phone Number/IP Address:** Including the phone number or IP address on the white list.

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.

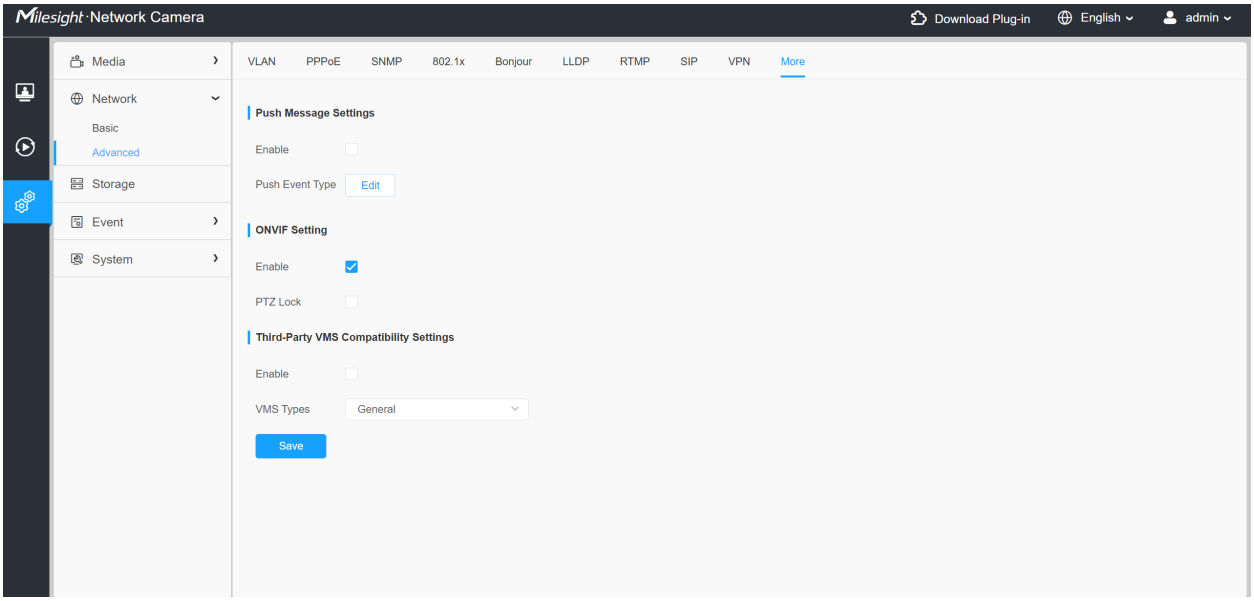
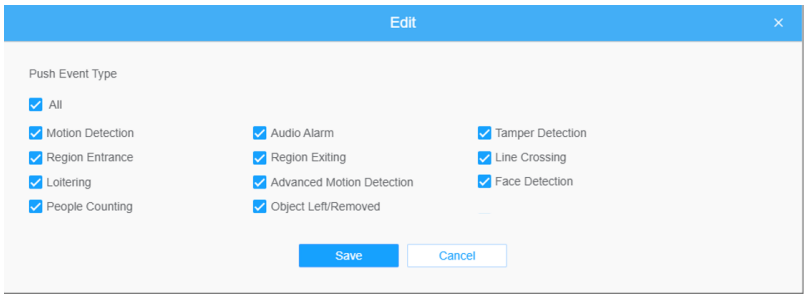
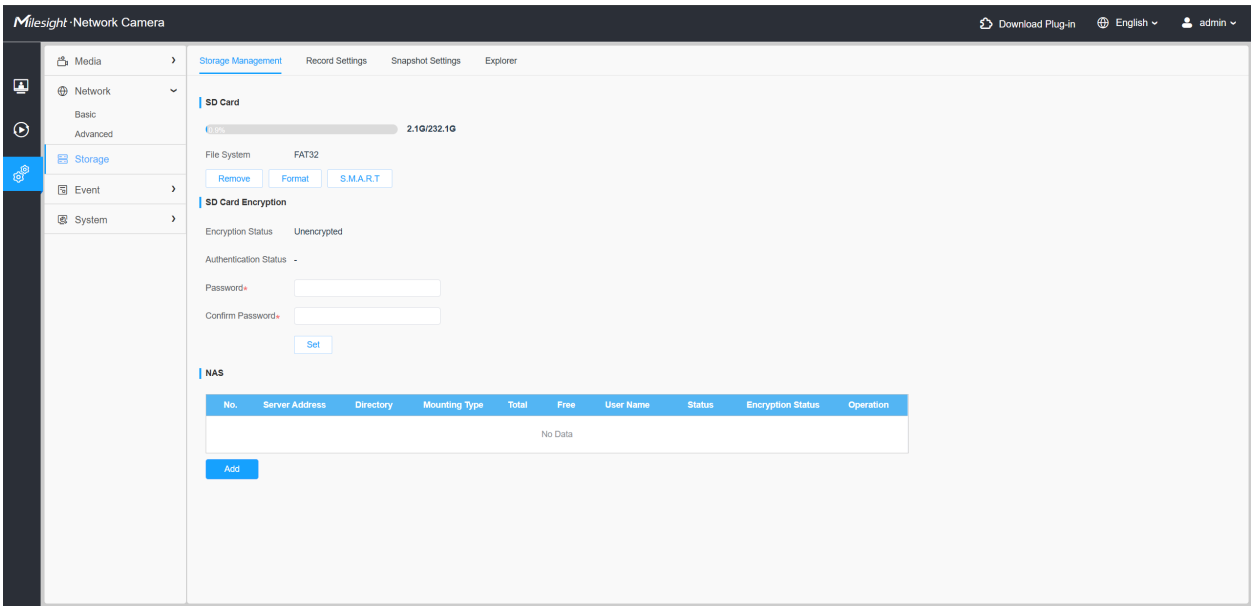


Table 36. Description of the buttons

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: 
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.

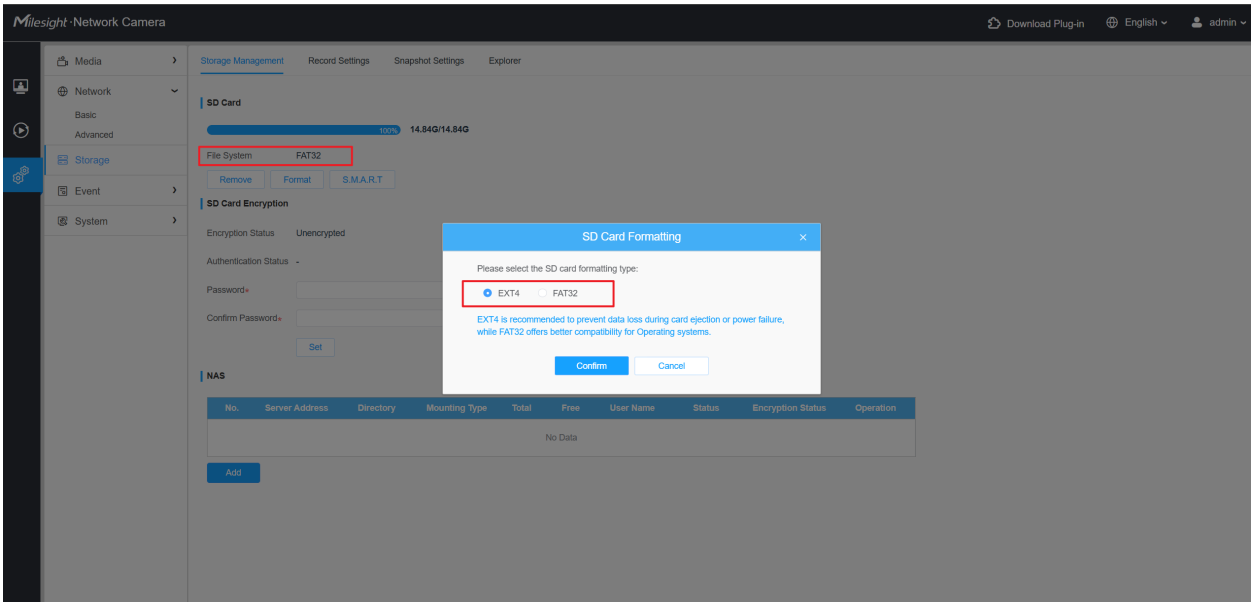
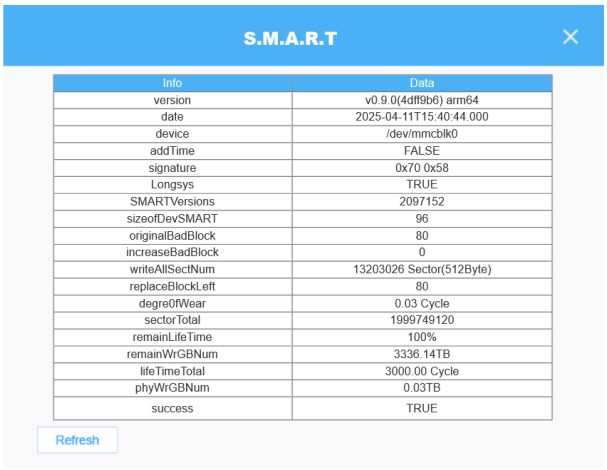
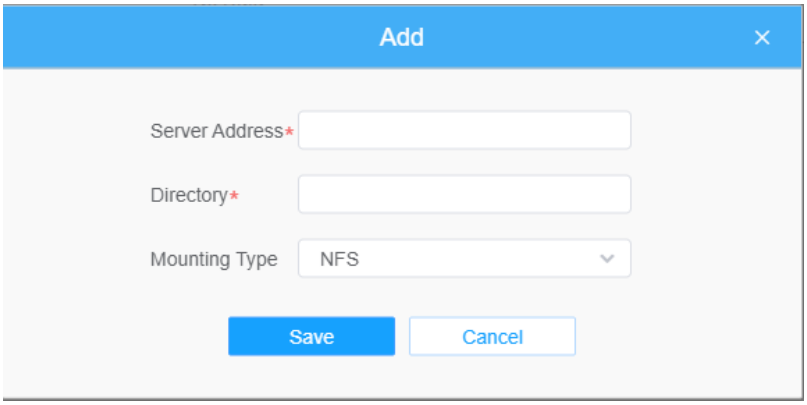


Table 37. Description of the buttons

Parameters	Function Introduction
SD Card	**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.

Info	Data
version	v0.9.0(4dff9b6) arm64
date	2025-04-11T15:40:44.000
device	/dev/mmcblk0
addTime	FALSE
signature	0x70 0x58
Longsys	TRUE
SMARTVersions	2097152
sizeofDevSMART	96
originalBadBlock	80
increaseBadBlock	0
writeAllSectNum	13203026 Sector(512Byte)
replaceBlockLeft	80
degre0fWear	0.03 Cycle
sectorTotal	1999749120
remainLifeTime	100%
remainWrGBNum	3336.14TB
lifeTimeTotal	3000.00 Cycle
phyWrGBNum	0.03TB
success	TRUE

Parameters	Function Introduction
NAS	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.

8.3.2 Record Settings

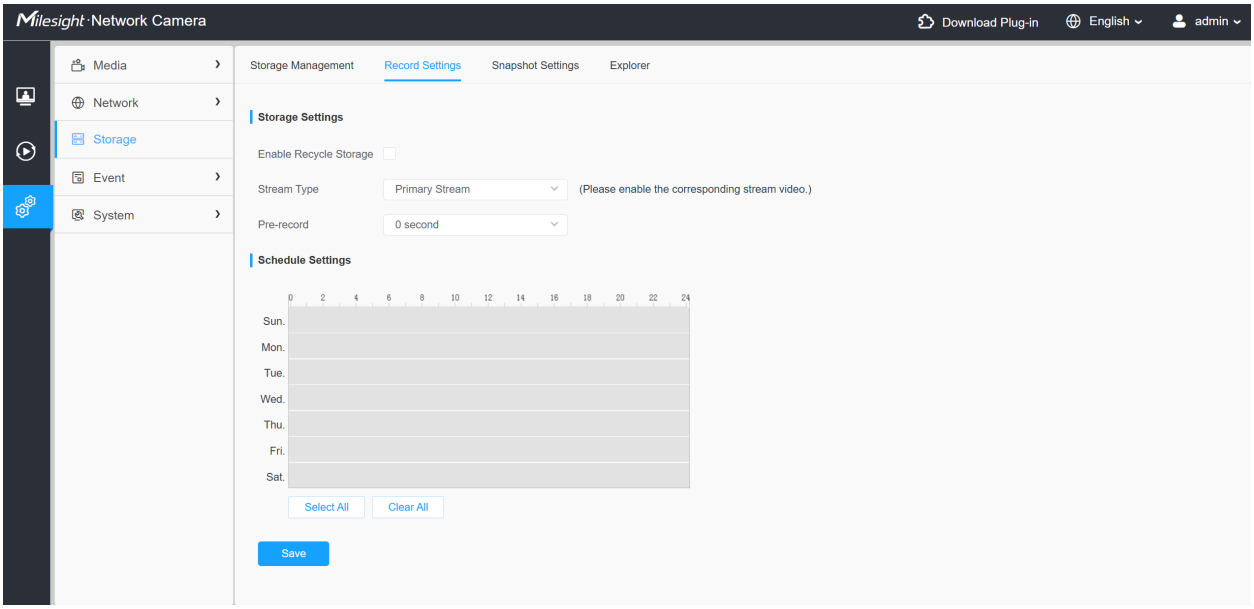
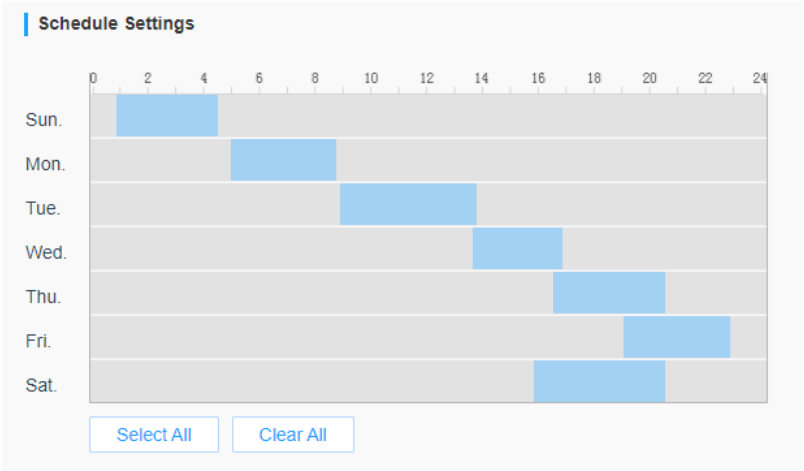
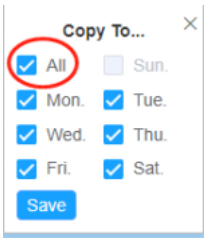
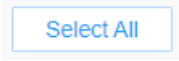
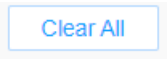
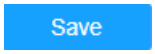


Table 38. Description of the buttons

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 and Secondary 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

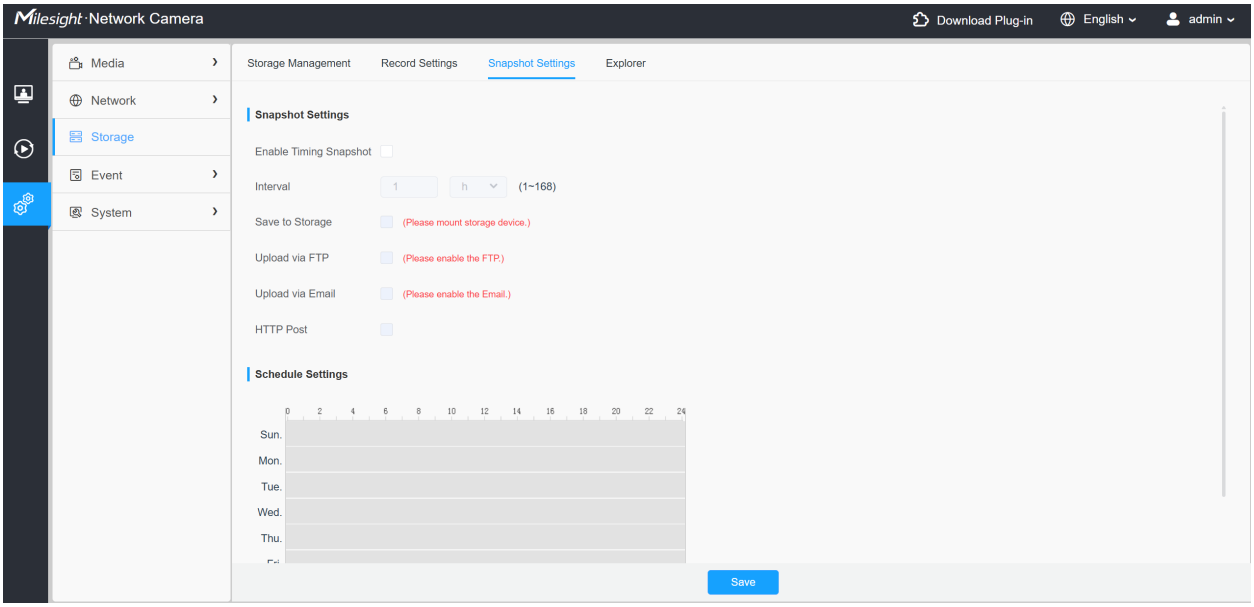


Table 39. Description of the buttons

<table>
<tr><th>Parameters</th><th colspan="2">Function Introduction</th></tr>
<tr><td>Snapshot Settings</td><td colspan="2">Enable Timing Snapshot: Check the checkbox to enable the Timing Snapshot function

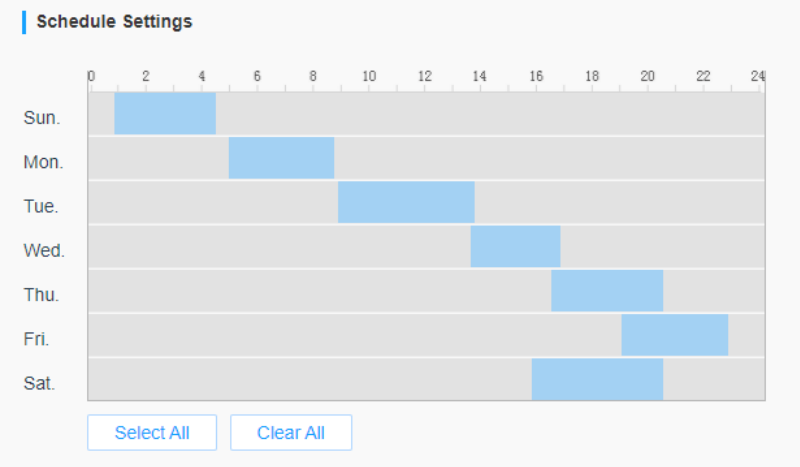
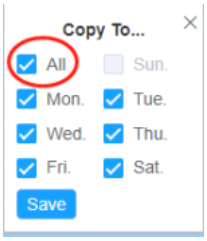
Interval: Set the snapshots interval, input the number and choose the unit(millisecond, second, minute, hour, day).

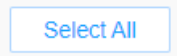
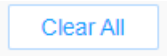
Save to Storage: Save the snapshots into SD card or NAS, and choose the file name to add time suffix or overwrite the base file name.

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="2">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>
</table>

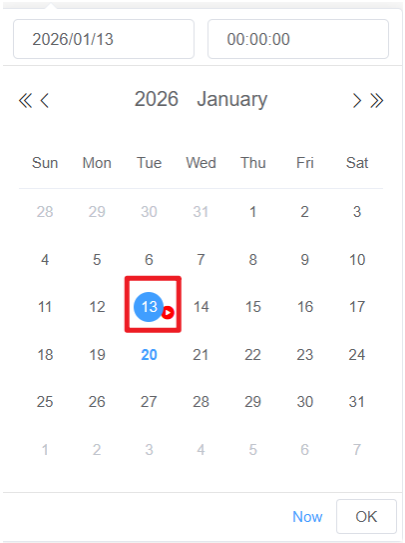
Parameters	Function Introduction
Save	Save the configurations.

8.3.4 Explorer

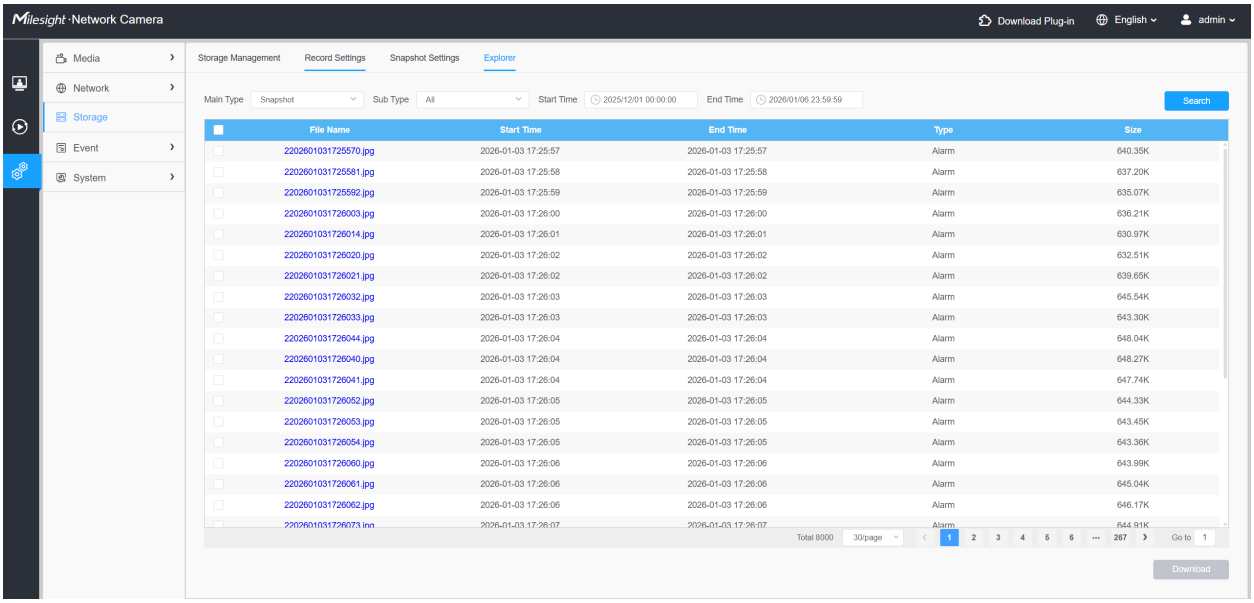
Files will be seen on this page when they are configured to save into SD card or NAS. You can set time schedule every day for recording videos and save video files to your desired location.

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.).

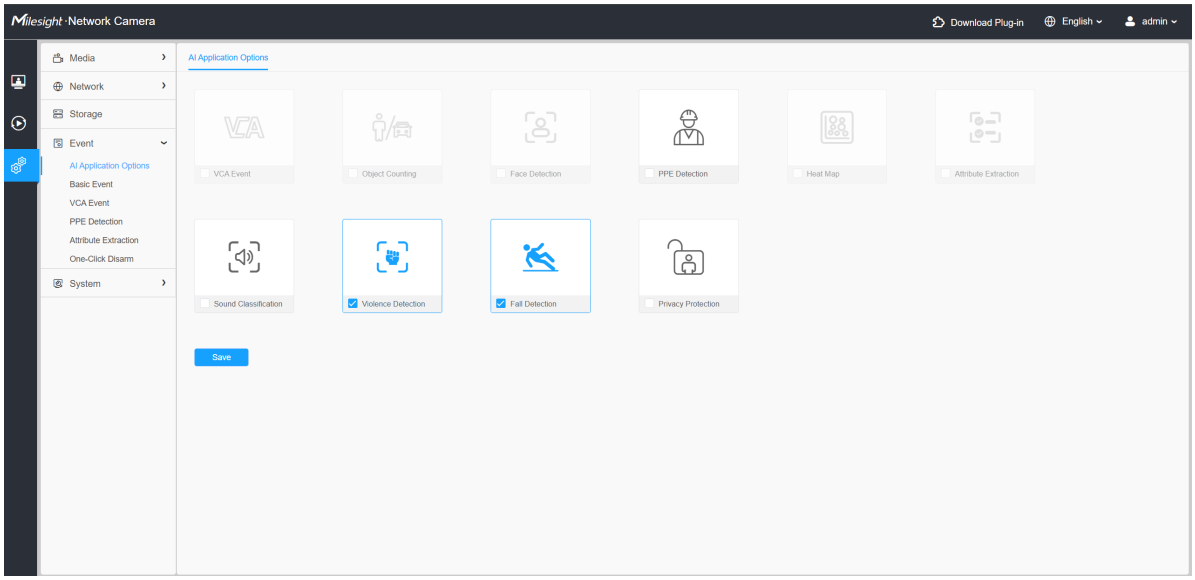


8.4 Event

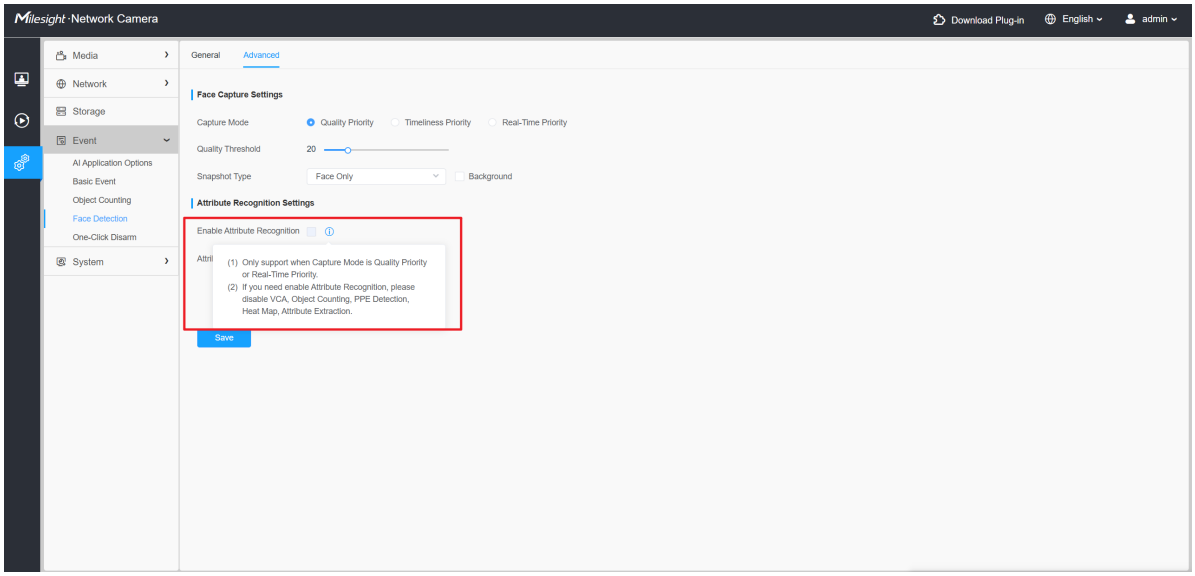
Milesight event provides advanced, accurate smart video analytics for Milesight network cameras. It enhances the performance of network cameras through basic events and VCA events, enabling a comprehensive surveillance system and quicker response of cameras to different monitoring scenes.

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, Heat Map, and Attribute Extraction.

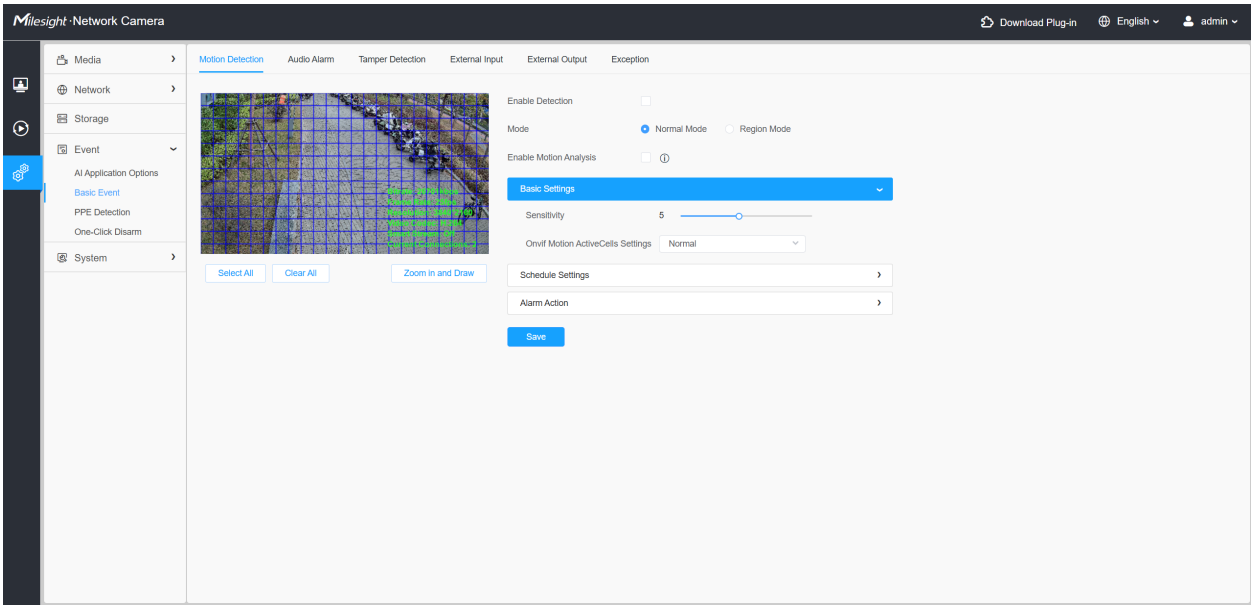


3. Attribute Recognition in Face Detection cannot be used simultaneously with VCA, Object Counting, PPE Detection, Heat Map, and Attribute Extraction.



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.

Note: When you enable this function, the camera supports detection based on human, non-motor vehicle, and vehicle targets, significantly reducing false alarms caused by environmental movements such as insects, mosquitoes, dogs, cats, and other small animals. It is also compatible with third-party systems via ONVIF and Metadata, enabling seamless integration.

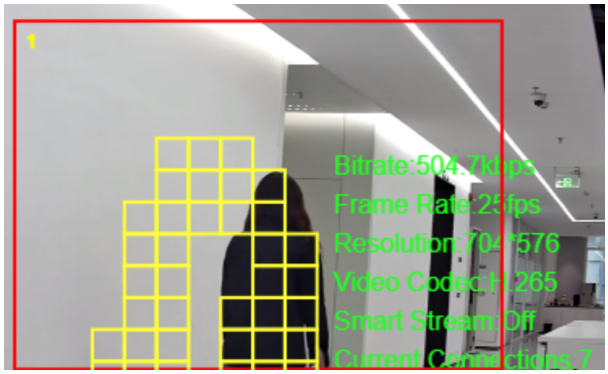
Note: If AI Advanced Motion Detection is enabled, the attributes of Face Detection cannot be used.

Step4: Check the check box to enable the motion analysis.

Step5: Set a motion region.

Table 40. Description of the buttons

Parameters	Function Introduction
Enable Detection	Check the checkbox to enable the motion detection function.
Enable AI Advance Detection	Check this checkbox to enable AI-advanced detection for human, non-motor vehicle, and vehicle targets.

Parameters	Function Introduction
Detection Object	Select the **Human**, **Non-motor Vehicle**, or **Vehicle** options, the camera will trigger an alarm when it detects a person, a non-motor vehicle, or a vehicle.
Detection Mode	Normal Mode and Region Mode are available for the option. When Region Mode is selected, you can configure up to 4 detection regions and sensitivity for each detection region.
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]

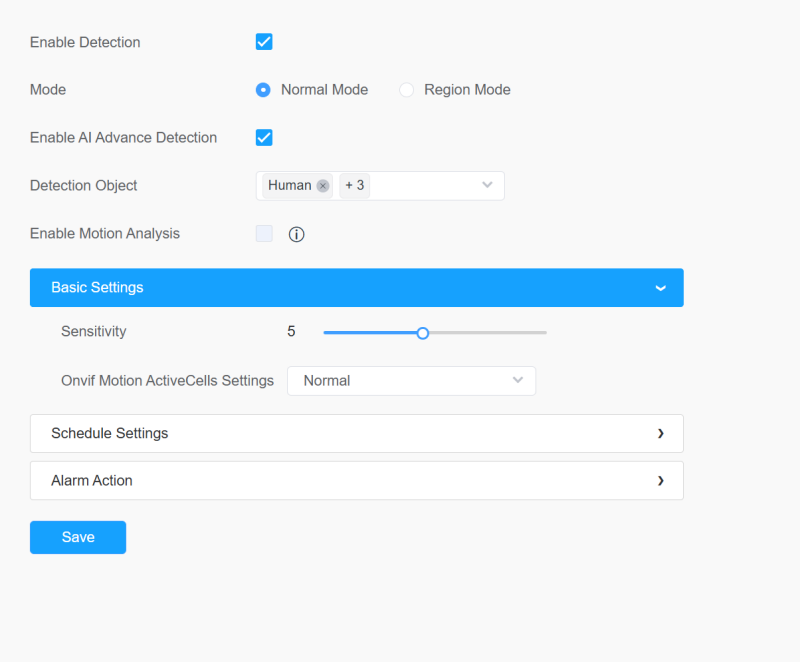


Table 41. Description of the buttons

Parameters	Function Introduction
Sensitivity	Sensitivity level: 1~10.
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.

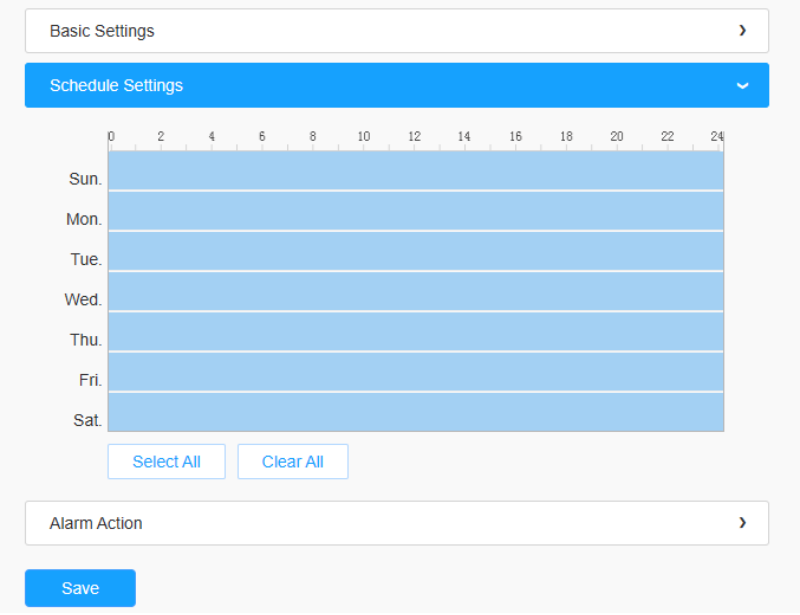
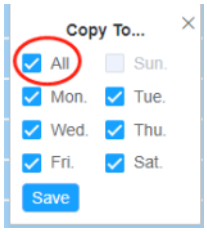
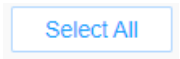
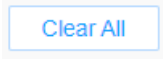


Table 42. Parameter Description

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.

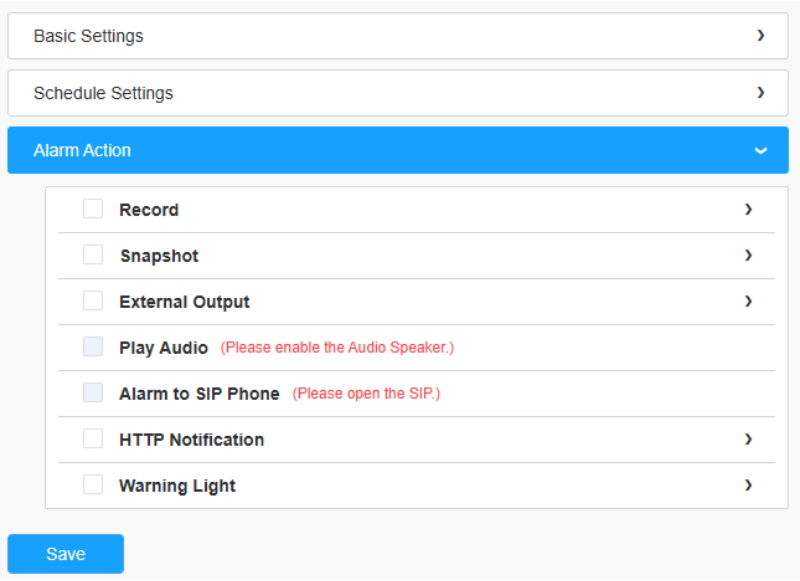


Table 43. Description of the buttons

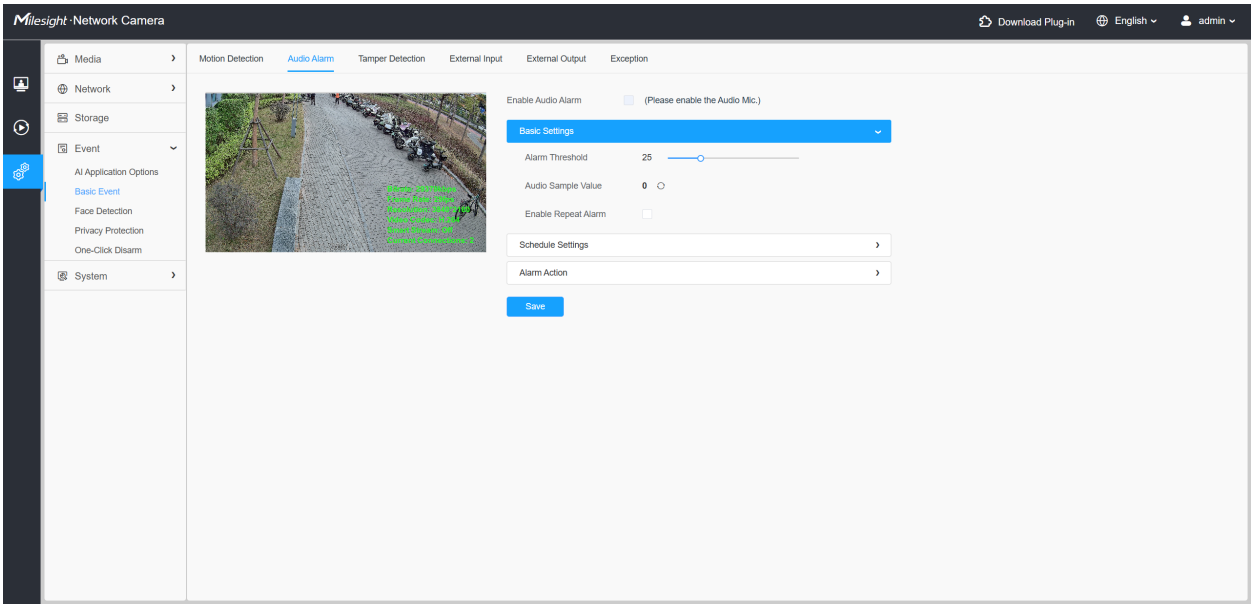
Parameters	Function Introduction
Record	**Duration:** Selected the duration time of alarm. 5s/10s/15s/20s/25s/30s are available. **Linkage:** Save alarm recording files into SD Card or NAS or upload the recording files via FTP.

Parameters	Function Introduction
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 equips with external outputs, you can enable the action after configuring the trigger duration. **Action Time: Customize**, **10 s**, **30 s**, **1 min.**, **5 min.**, and **Constant** are available.
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.

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 44. 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.

[Schedule Settings]

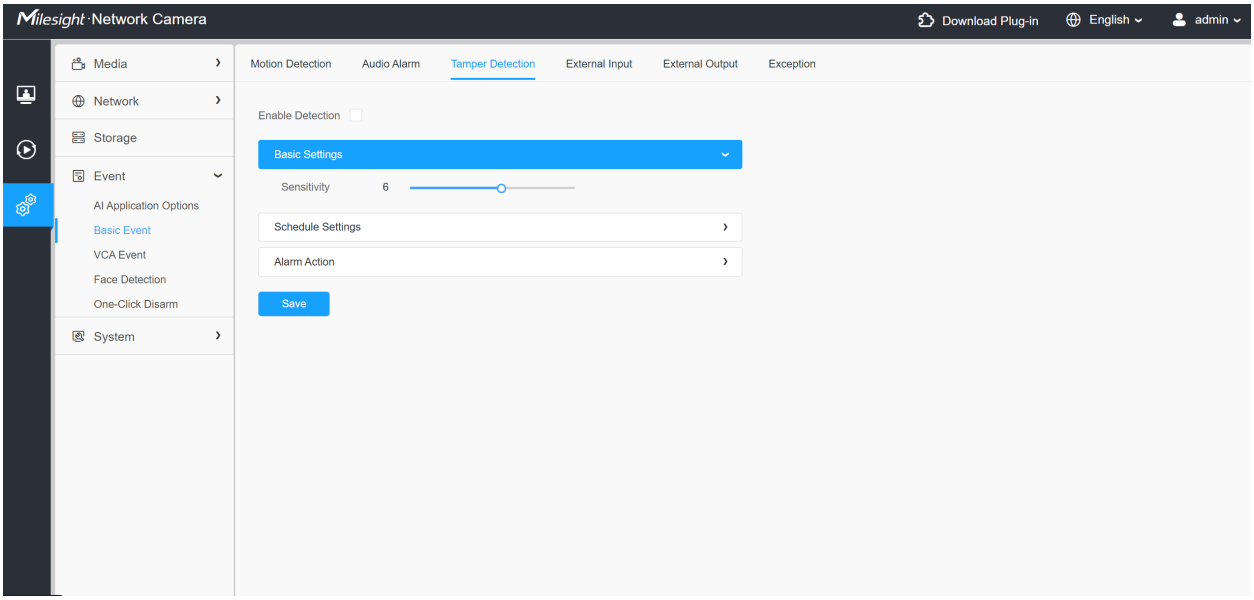
For details about **Schedule Settings**, see Motion Detection *(page 95)*.

[Alarm Action]

For details about **Alarm Action**, see Motion Detection *(page 95)*.

8.4.1.3 Tamper Detection

Tamper Detection is used to detect possible tampering like the camera being obstructed or moved. This functionality alerts security staff immediately when any above-mentioned actions occur.



Settings steps are shown as follows:

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

Step2: Enable Tamper Detection.

[Schedule Settings]

Step3: Set a detection schedule.

Note: For details about **Schedule Settings**, see Motion Detection *(page 95)*.

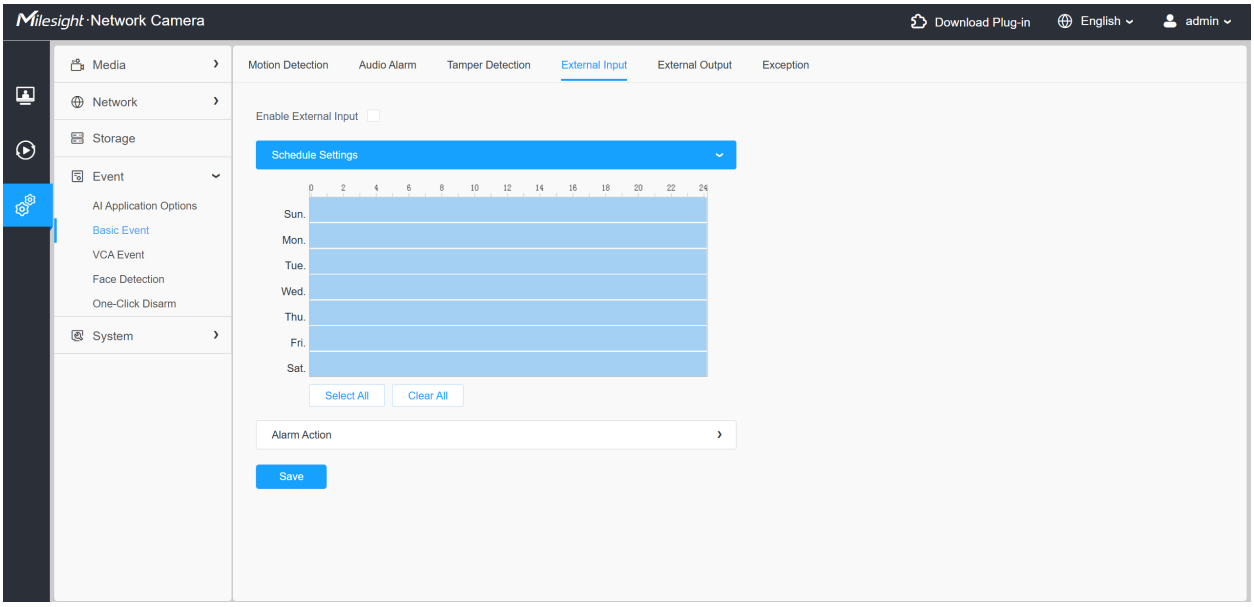
[Alarm Action]

Step4: Set an alarm action.

Note:

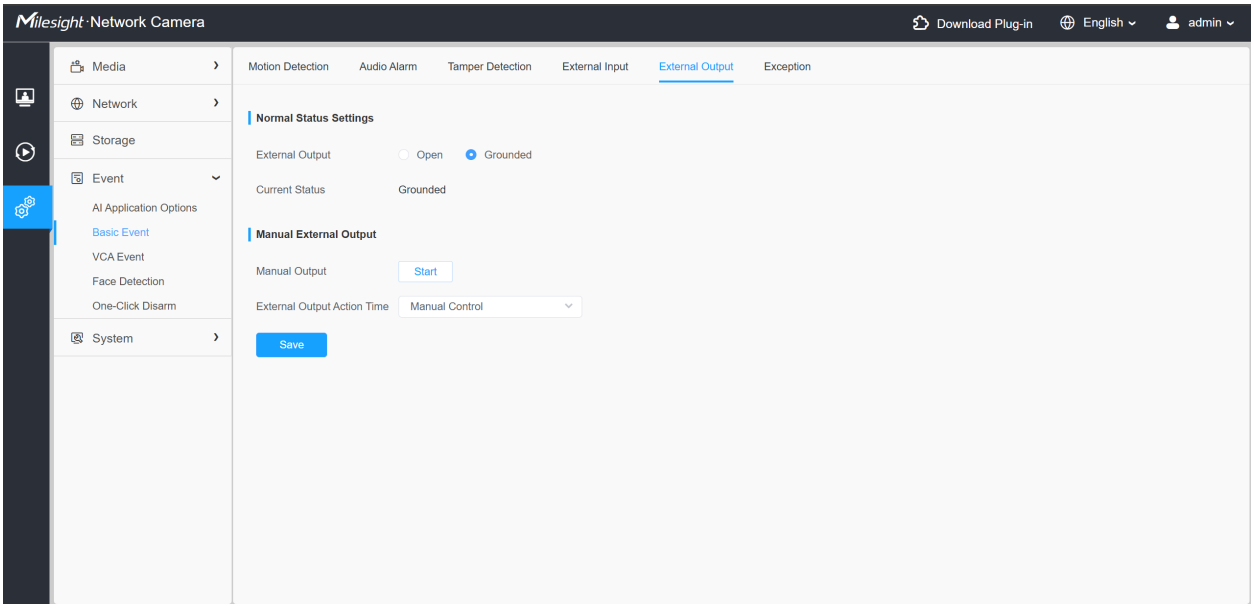
- For details about **Alarm Action**, seeMotion Detection *(page 95)*.
- If you enable **External Output** and choose **Constant External Output Action Time**, when possible tampering is detected, the alarm time will be always constant till the alarm is released.
- The algorithm supports defocus detection in the Tamper Detection function.

8.4.1.4 External Input



For details about **External Input**, see Table 3 *(page 95)*.

8.4.1.5 External Output



[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 45. 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

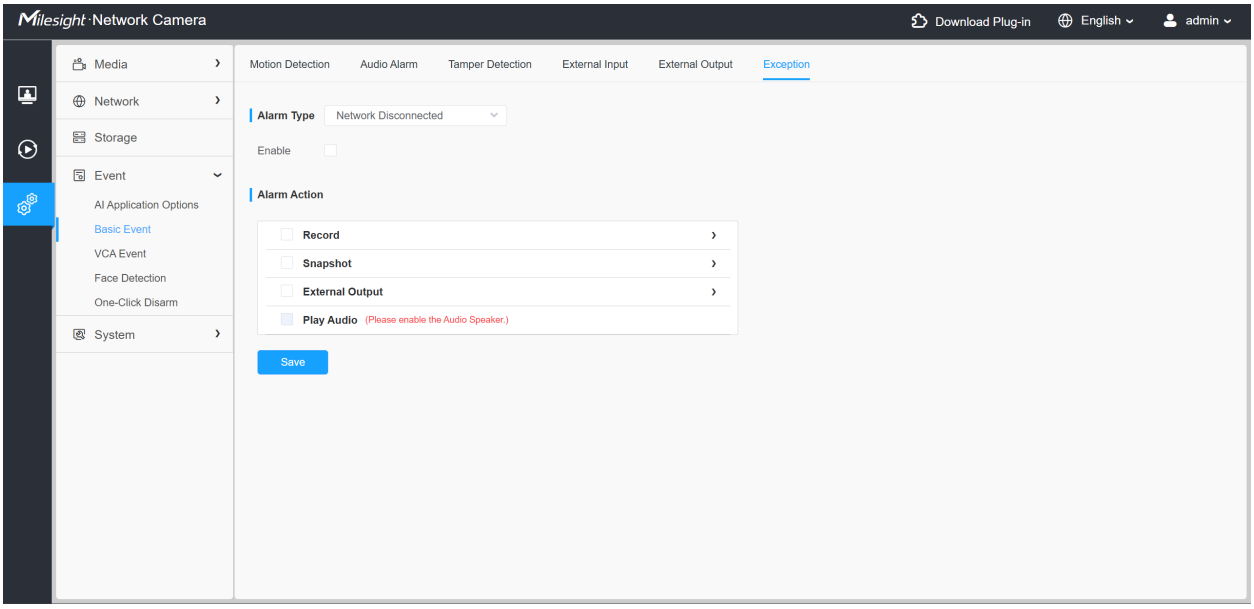


Table 46. Description of the buttons

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. Check the checkbox to enable the alarm type you selected.
Alarm Action	For more details, see Table 3 *(page 95)*.

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.

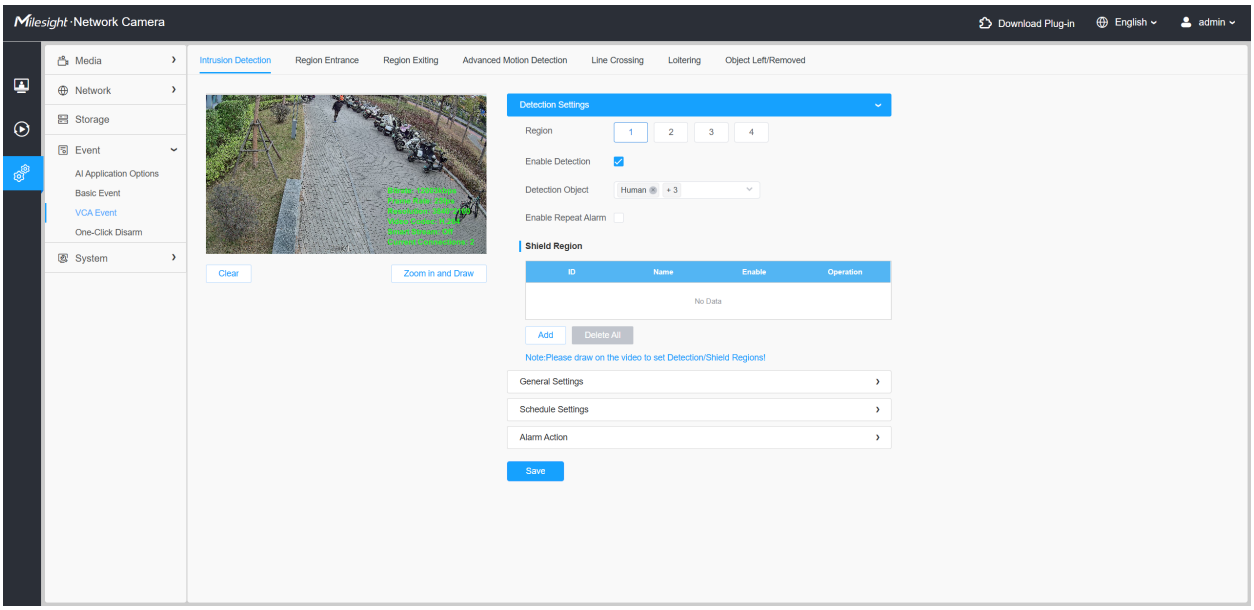
Note:

- For more details about how to use set VCA solution, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000643371.

- 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]

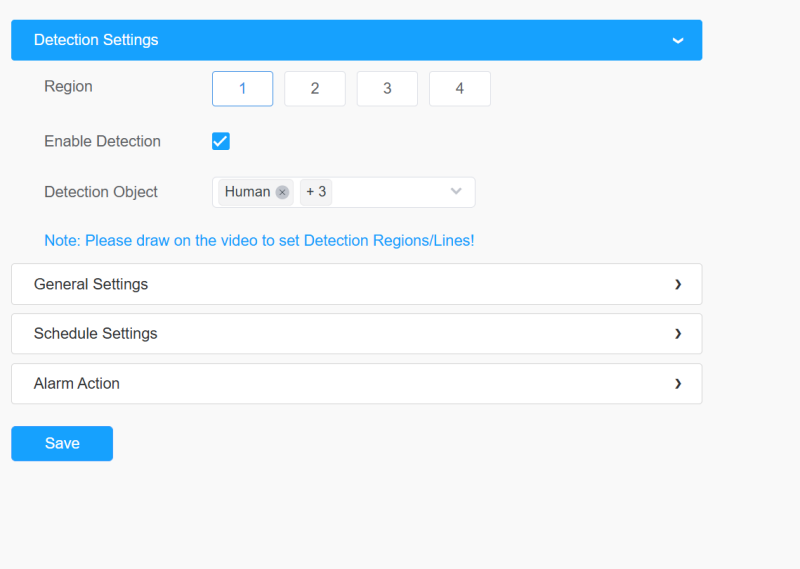
Note: General Settings will take effect in all detection regions/lines!

Step1: Choose **Settings** > **Event** > **VCA Event** > **Intrusion Detection**.

Step2: Select a detection region and enable intrusion detection.

Draw a detection area on the live view. Alternatively, you can click **Zoom in and Draw** to draw more precise detection areas.

Step3: Choose a detection object. Check **Human**, **Non-motor Vehicle**, or **Vehicle** attribute. An alarm will be triggered once detecting objects.



[General Settings]

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

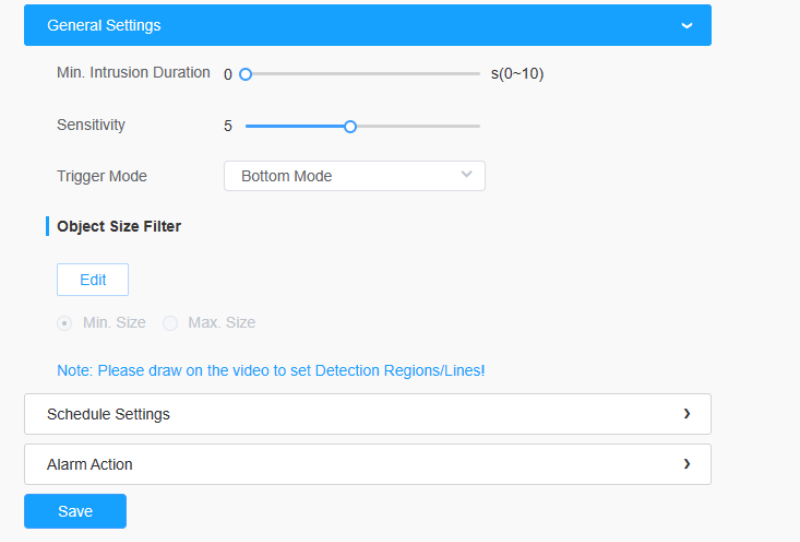


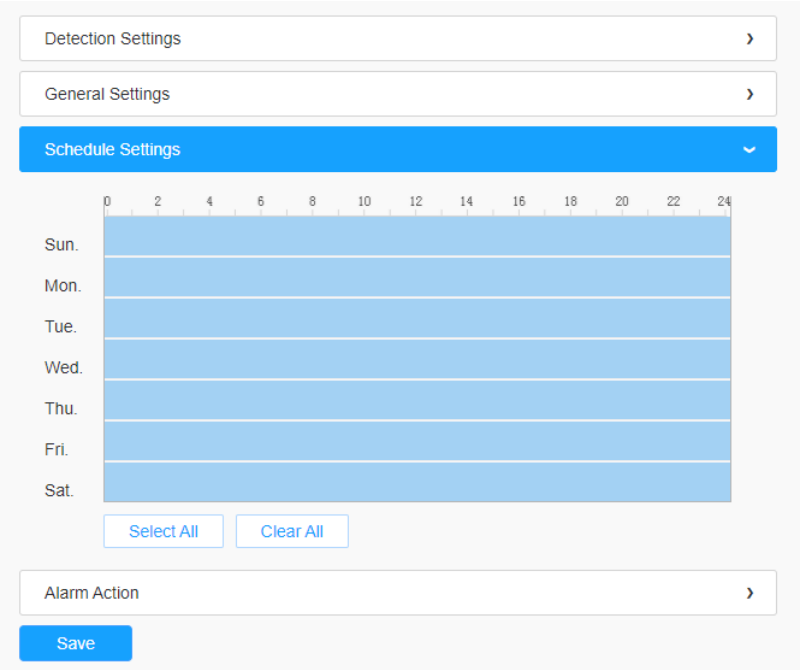
Table 47. Description of the buttons

Parameters	Function Introduction
Min. Intrusion Duration	Minimum time that a target must remain in the detection zone before the camera triggers an intrusion alarm. Set the triggering interval for intrusion.
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.

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 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]

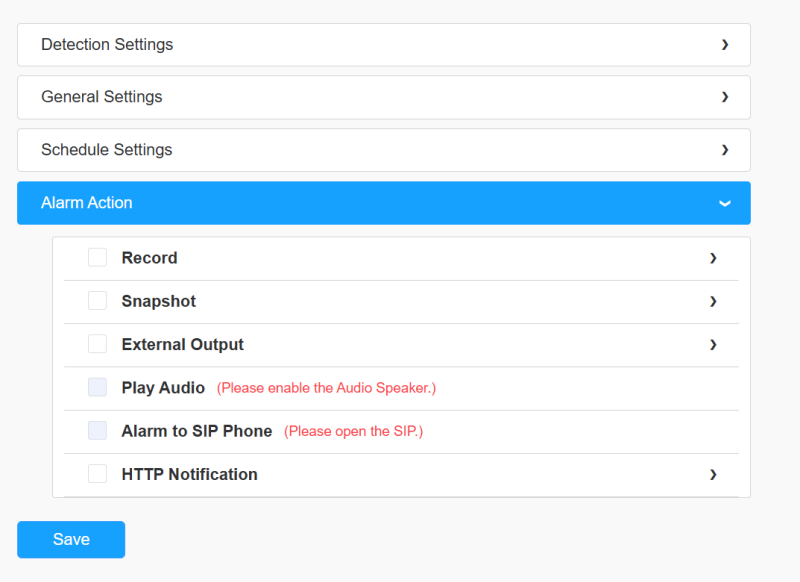
Step5: Set a detection schedule.



Note: For details about **Schedule Settings**, see Motion Detection *(page 95)*.

[Alarm Action]

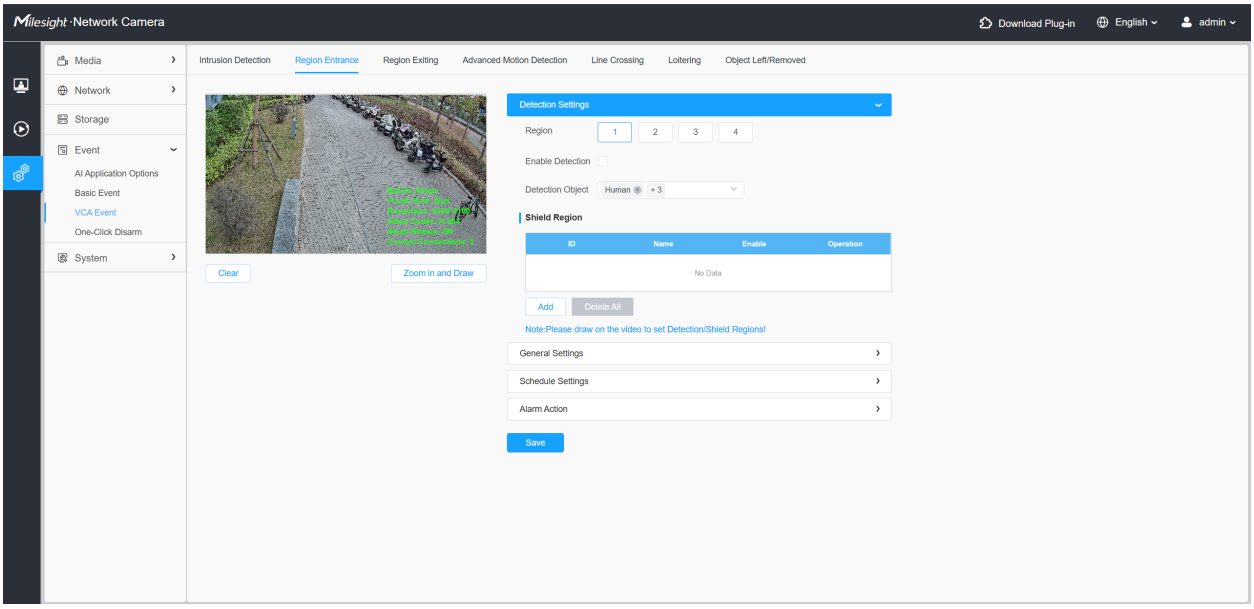
Step6: Set an alarm action.



Note: For details about **Alarm Action**, see Motion Detection *(page 95)*.

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:

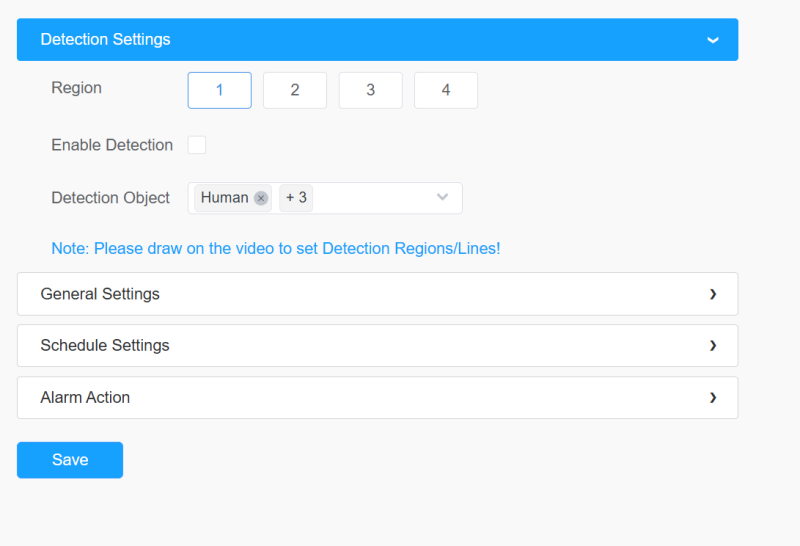
[Detection Settings]

Step1: Choose **Settings** > **Event** > **VCA Event** > **Region Entrance**.

Step2: Select a detection region and enable Region Entrance.

Draw a detection area on the live view. Alternatively, you can click **Zoom in and Draw** to draw more precise detection areas.

Step3: Choose a detection object. Check **Human**, **Non-motor Vehicle**, or **Vehicle** attribute. An alarm will be triggered once detecting objects.



[General Settings]

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

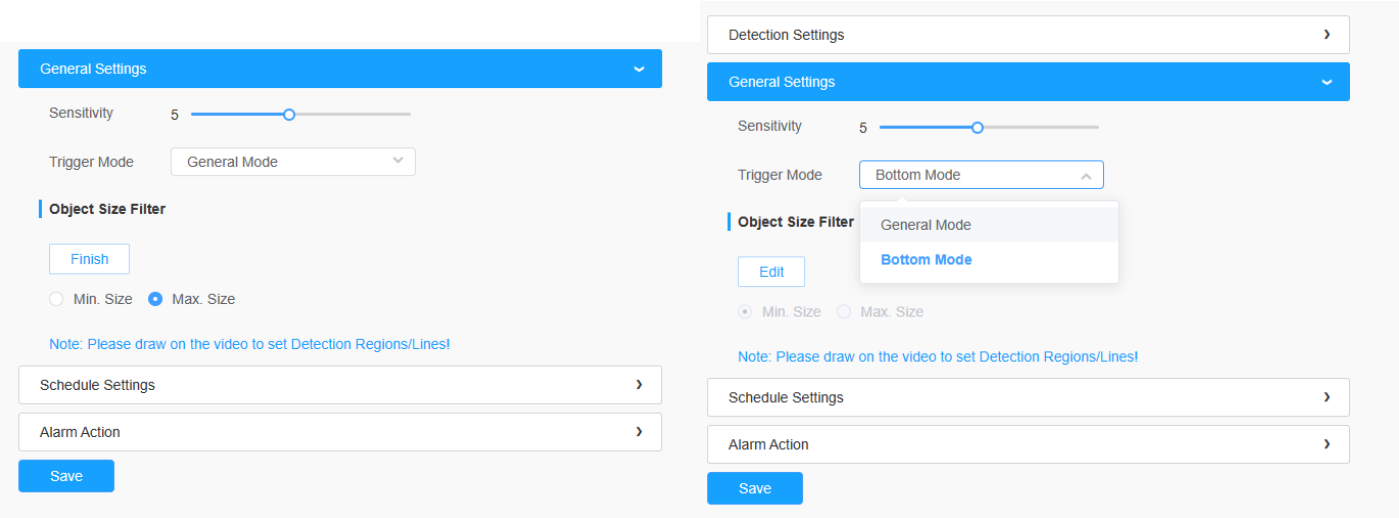
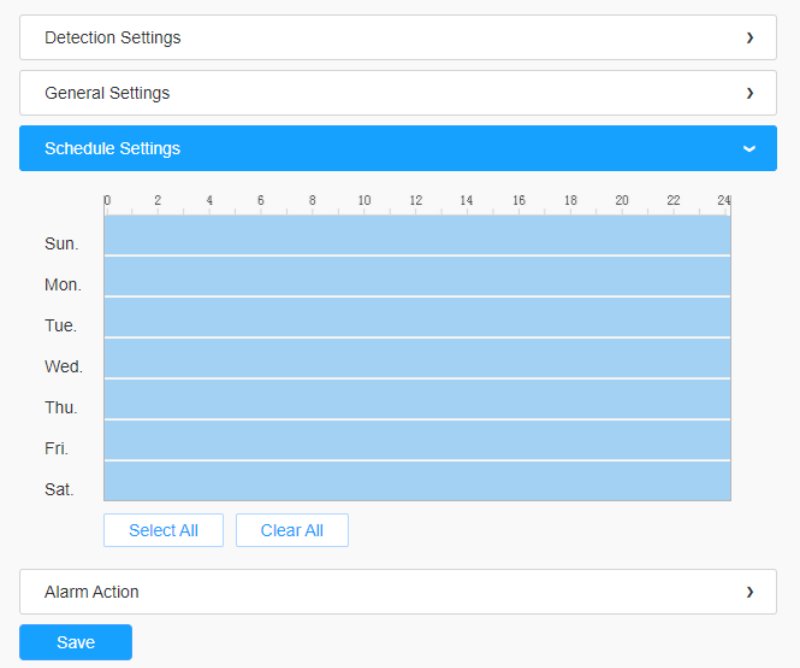


Table 48. Description of the buttons

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]

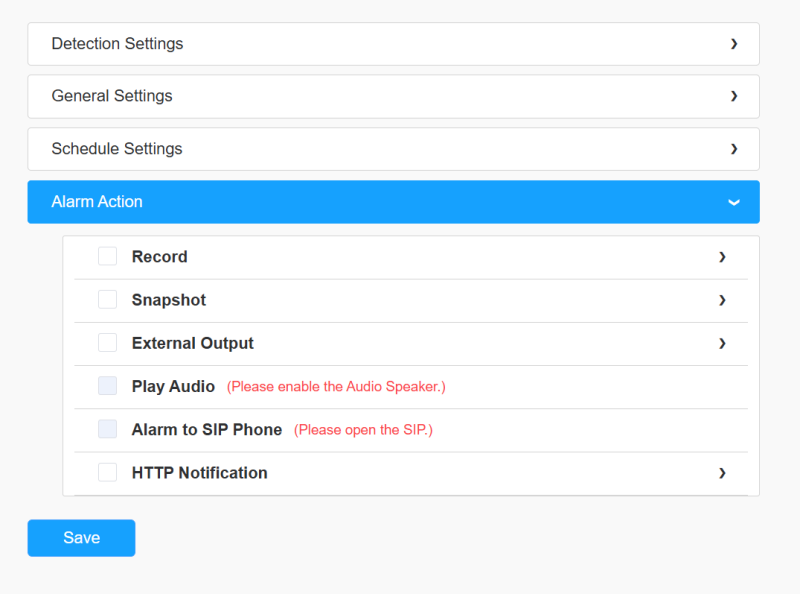
Step5: Set a detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 95)*.

[Alarm Action]

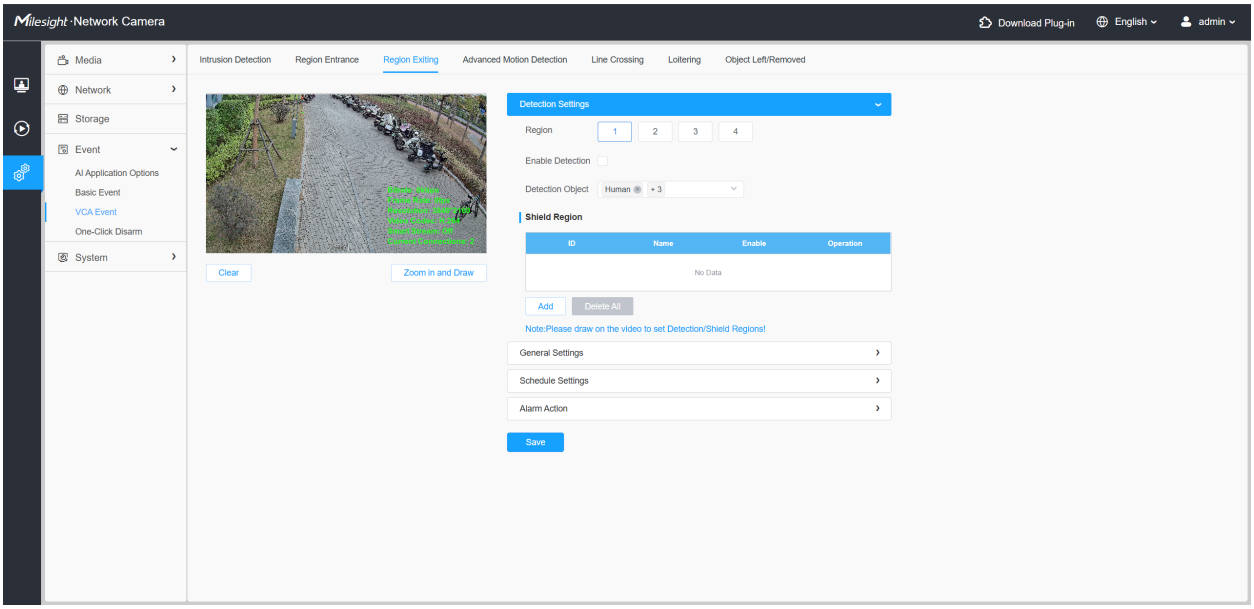
Step6: Set an alarm action.



Note: This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 95)*.

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]

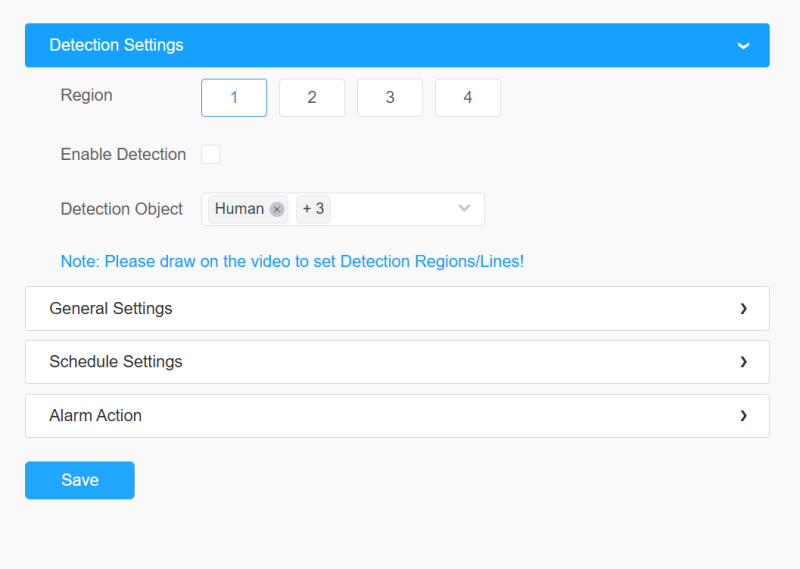
Note: General Settings will take effect in all detection regions/lines!

Step1: Choose **Settings** > **Event** > **VCA Event** > **Region Exiting**.

Step2: Select a detection region and enable Region Exiting.

Draw a detection area on the live view. Alternatively, you can click **Zoom in and Draw** to draw more precise detection areas.

Step3: Choose a detection object. Check **Human**, **Non-motor Vehicle**, or **Vehicle** attribute. An alarm will be triggered once detecting objects.



[General Settings]

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

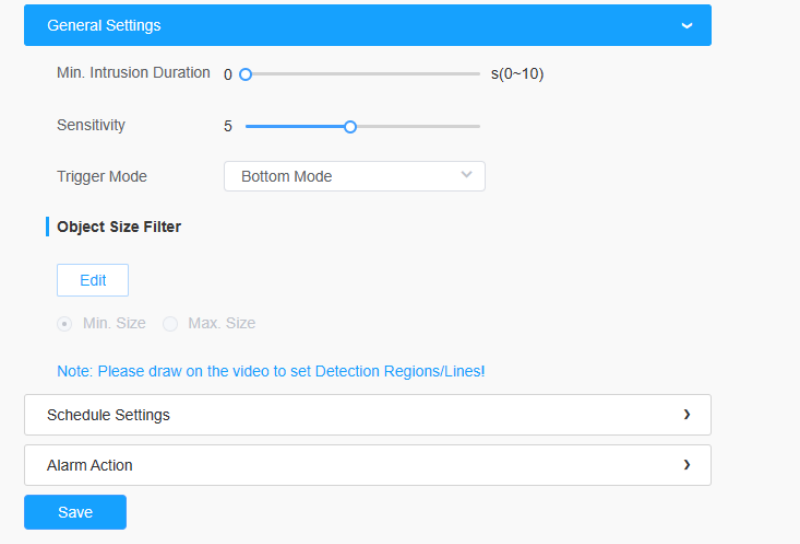
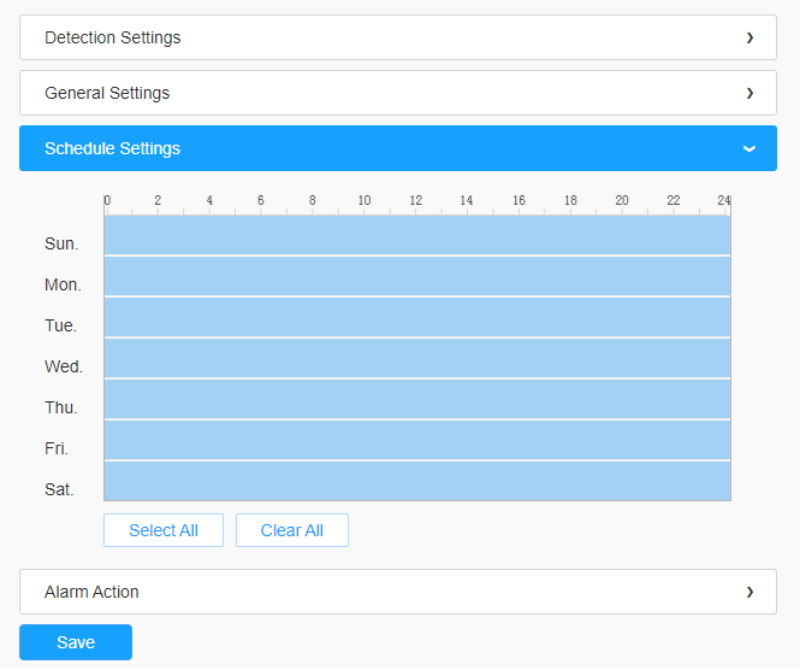


Table 49. Description of the buttons

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]

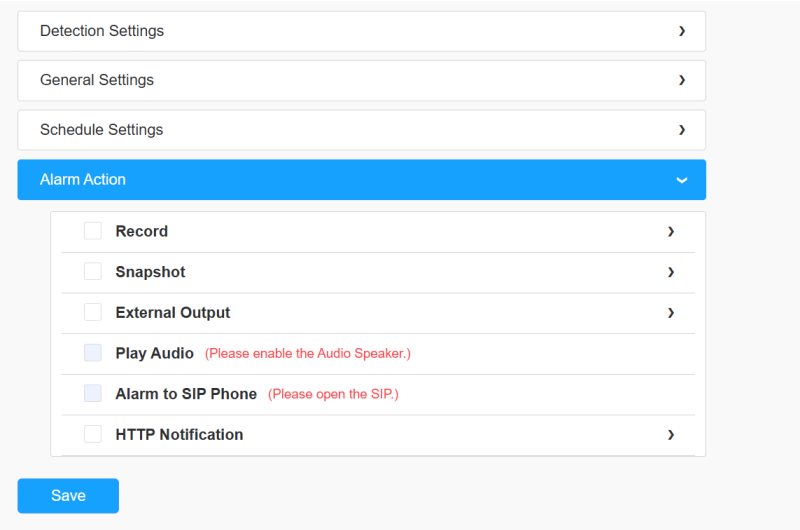
Step5: Set a detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 95)*.

[Alarm Action]

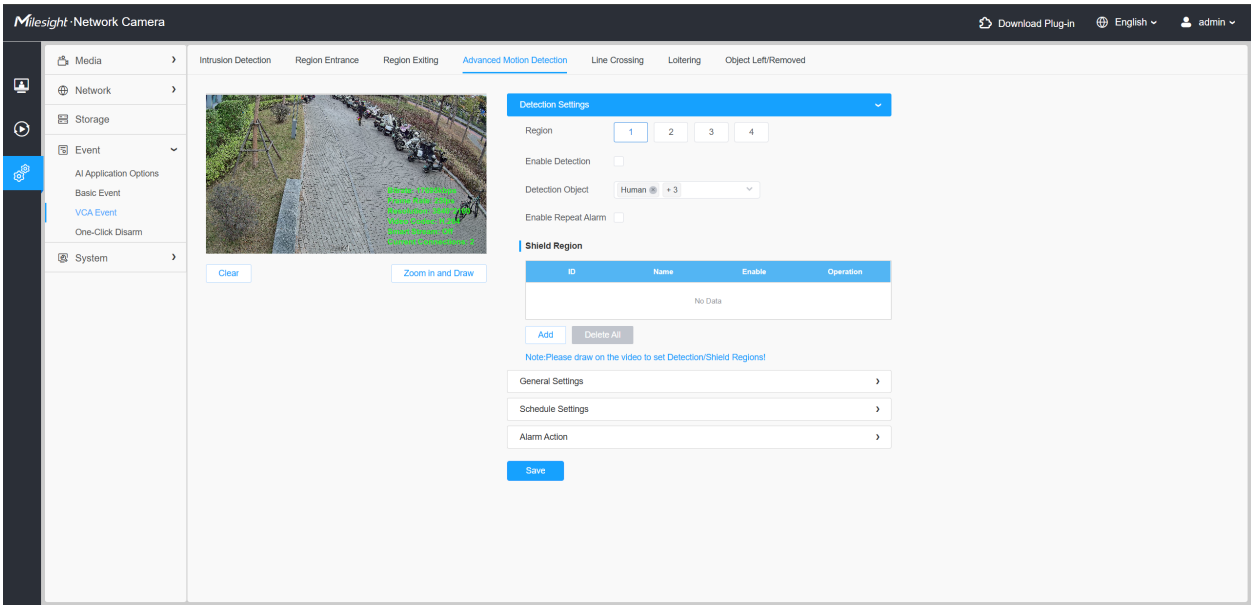
Step6: Set an alarm action.



Note: This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 95)*.

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:

Step1: Choose **Settings** > **Event** > **VCA Event** > **Advanced Motion Detection**.

Step2: Select Detection Region and enable advanced motion detection.

Draw a detection area by clicking on the live view. 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 areas.

Step3: Enable region entrance detection. And choose detection object. Check Human, Non-motor Vehicle, or Vehicle attribute. An alarm will be triggered once detecting objects.

[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.

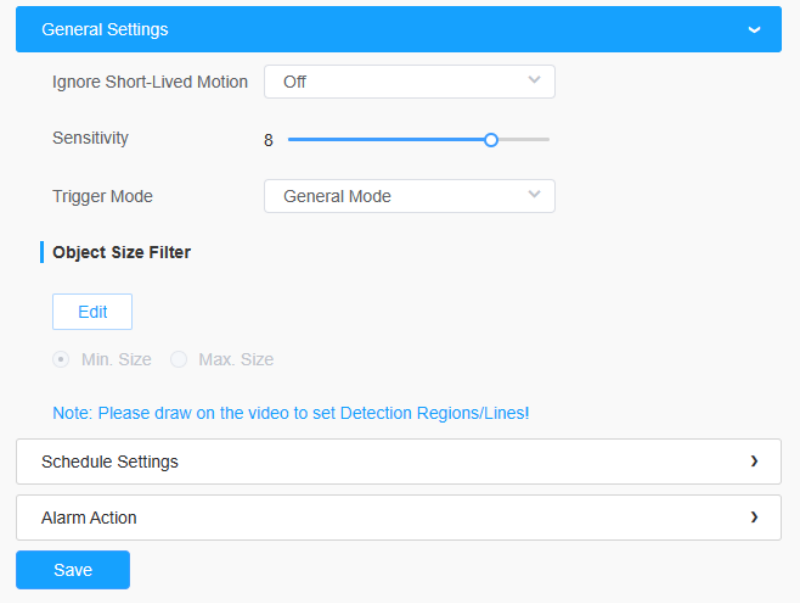


Table 50. Description of the buttons

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 Motion Detection *(page 95)*.

[Alarm Action]

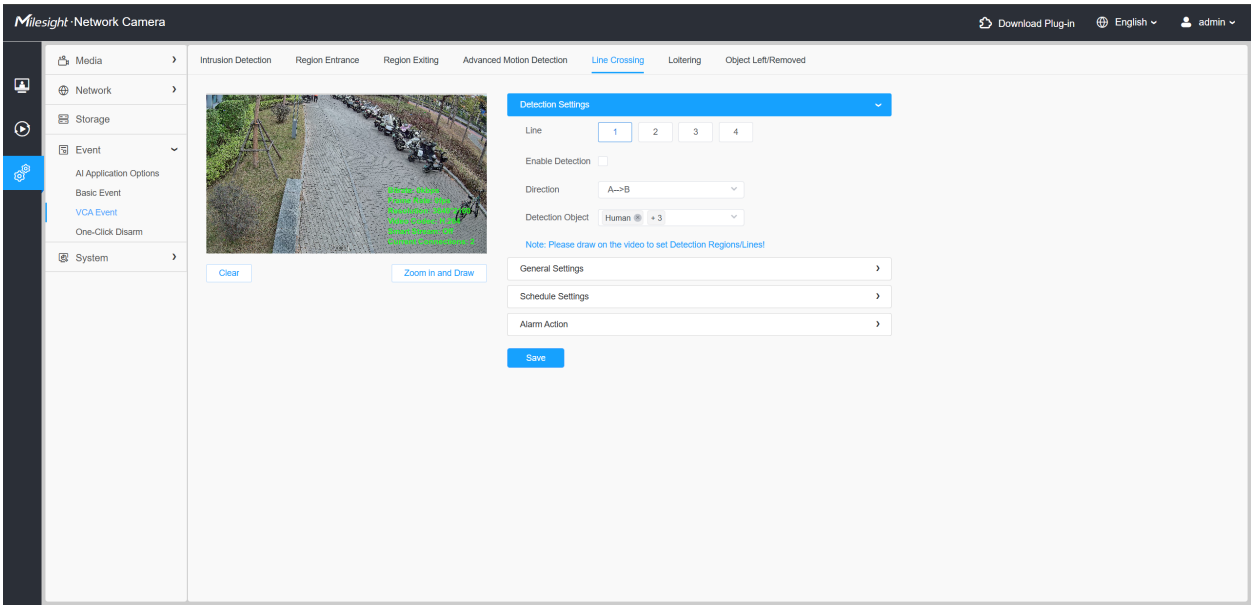
Step7: Set an alarm action.

Note:

- This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 95)*.
- 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]

Step1: Choose **Settings** > **Event** > **VCA Event** > **Line Crossing**.

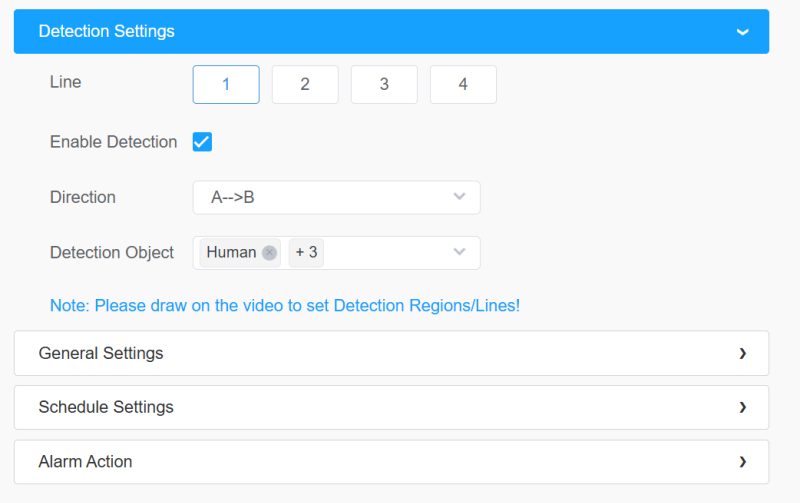
Step2: Select a detection line, enable line crossing detection and define its direction.

Draw a detection area by clicking on the live view. 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.

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.

Step3: Choose a detection object. Check Human, Non-motor Vehicle, or Vehicle attribute. An alarm will be triggered once detecting objects.



[General Settings]

Step4: Set detecting sensitivity and object size limits.

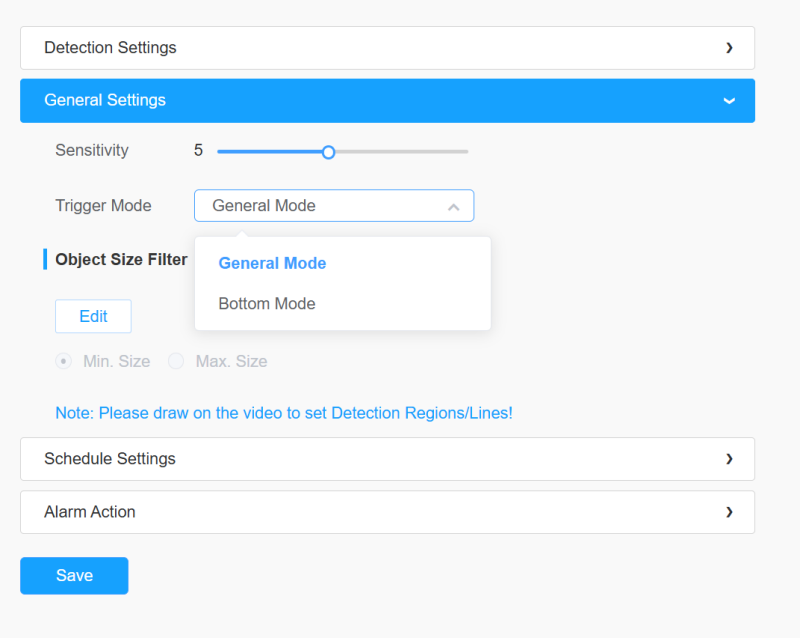
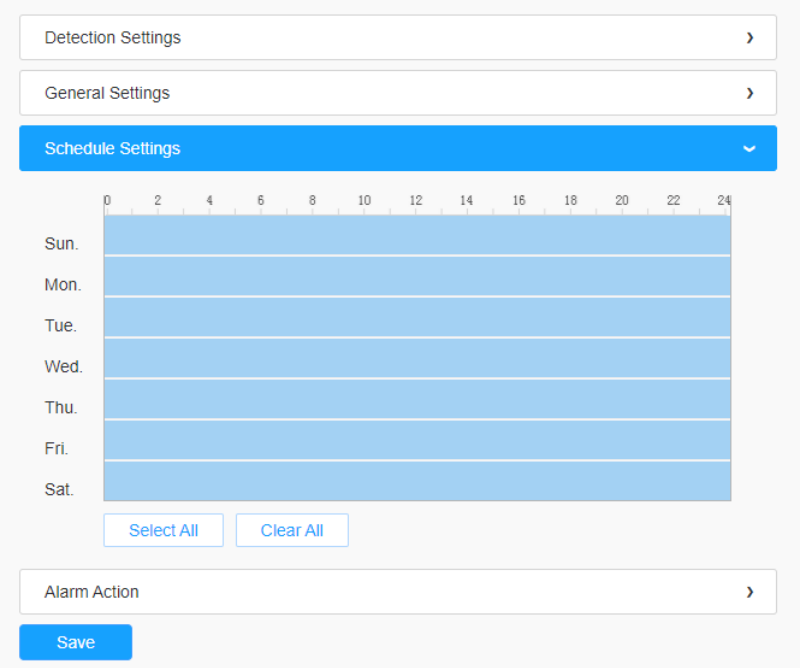


Table 51. Description of the buttons

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 Motion Detection *(page 95)*.

[Alarm Action]

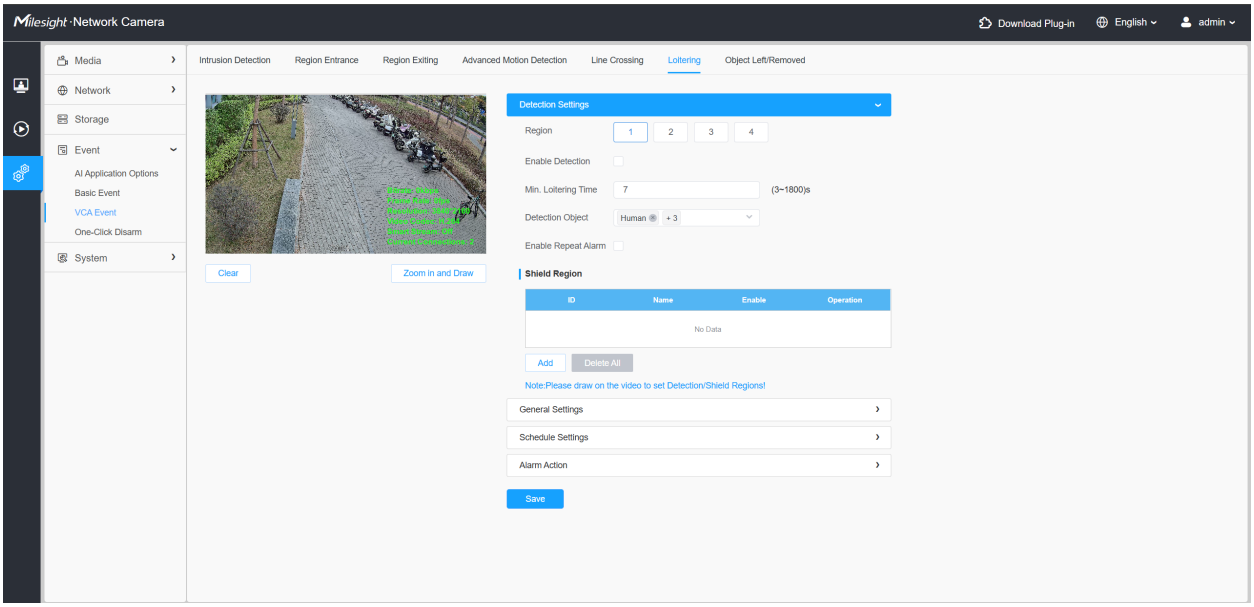
Step6: Set an alarm action.

Note:

- This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 95)*.
- 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]

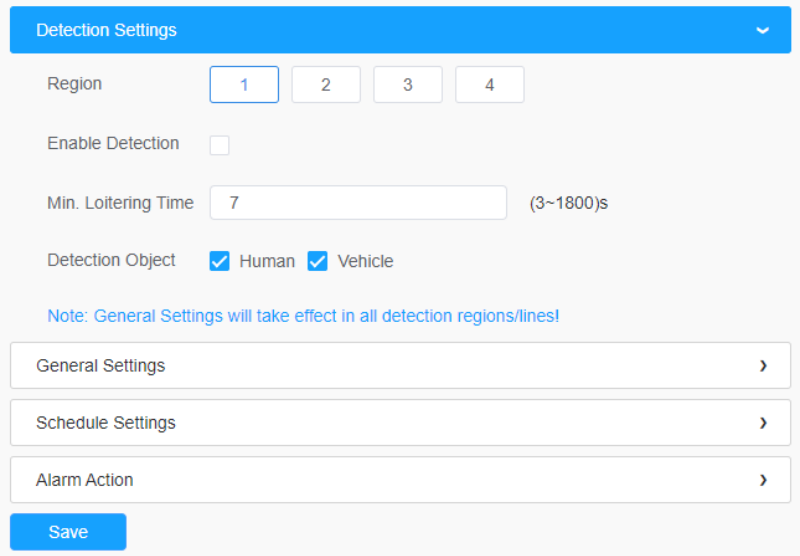
Note: General Settings will take effect in all detection regions/lines!

Step1: Choose **Settings** > **Event** > **VCA Event** > **Loitering**.

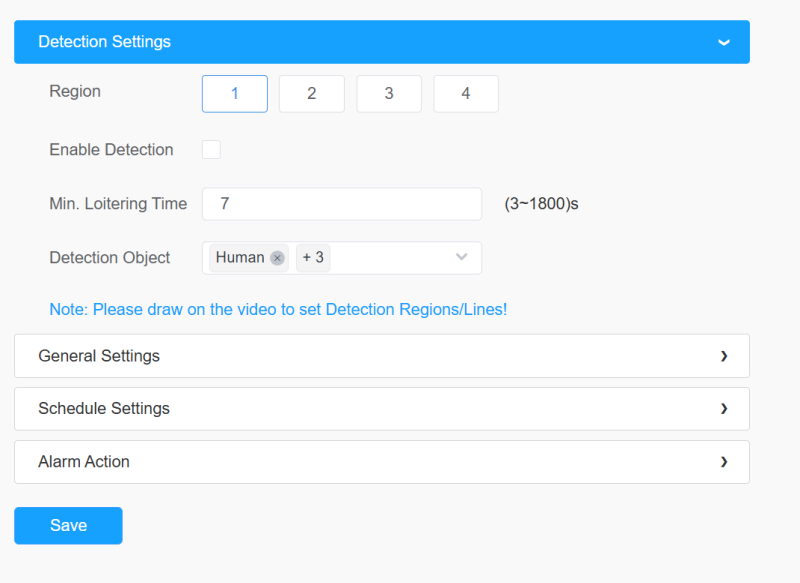
Step2: Select a detection region and enable loitering detection.

Draw a detection area by clicking on the live view. 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 areas.

Step3: 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.



Step4: Choose a detection object. Check Human, Non-motor Vehicle, or Vehicle attribute, and the camera will alarm once detecting objects.



[General Settings]

Step5: Set object size limits.

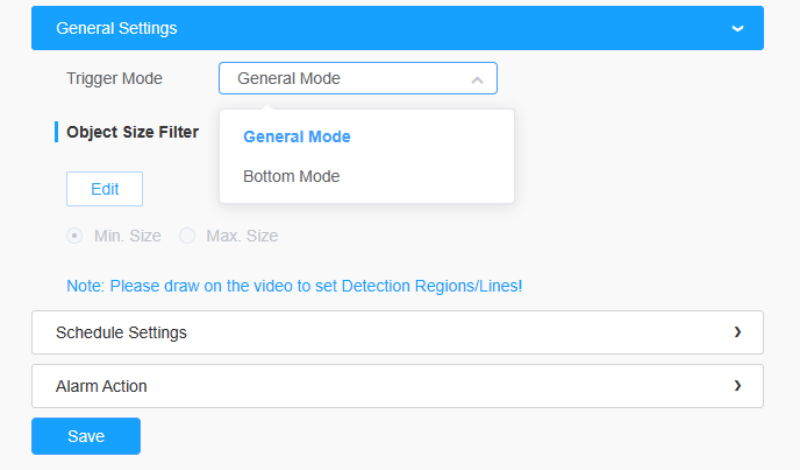


Table 52. Description of the buttons

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 Motion Detection *(page 95)*.

[Alarm Action]

Step7: Set an alarm action.

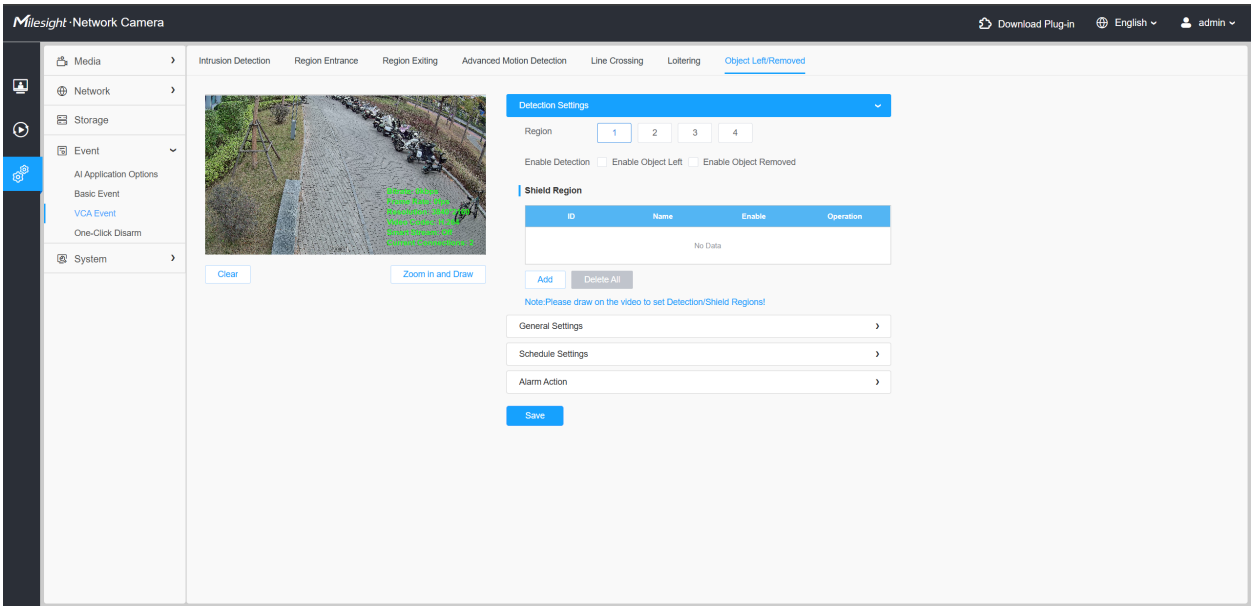
Note:

- This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 95)*.

- 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:

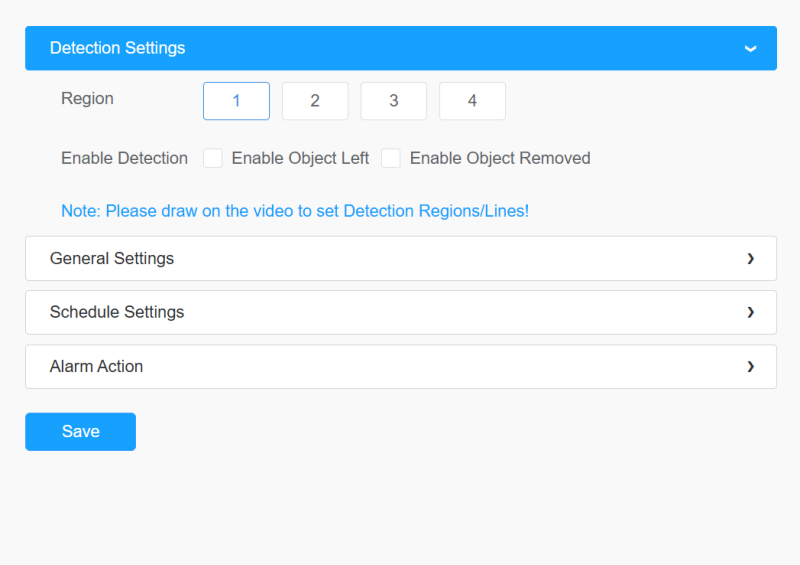
[Detection Settings]

Note: General Settings will take effect in all detection regions/lines!

Step1: Choose **Settings** > **Event** > **VCA Event** > **Object Left/Removed**.

Step2: Select a detection region and enable object left/removed detection (Or you can enable both features at the same time).

Draw a detection area by clicking on the live view. 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 areas.



[General Settings]

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

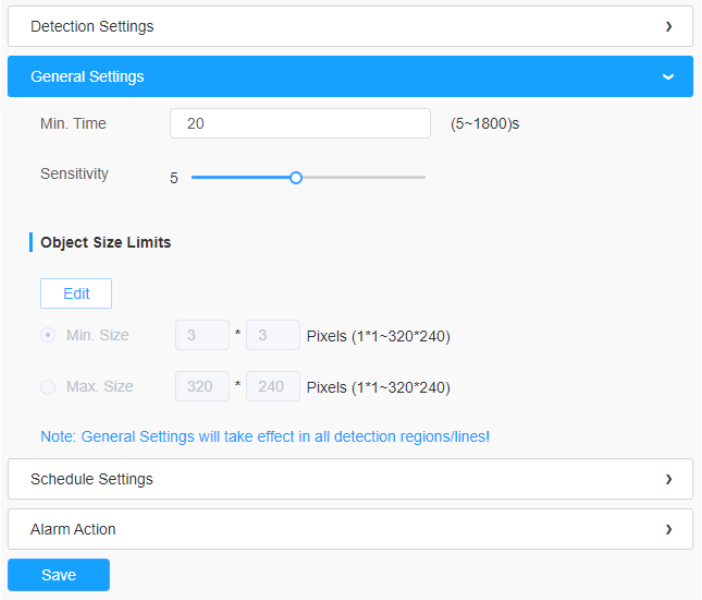


Table 53. Description of the buttons

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.

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. **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 Motion Detection *(page 95)*.

[Alarm Action]

Step5: Set an alarm action.

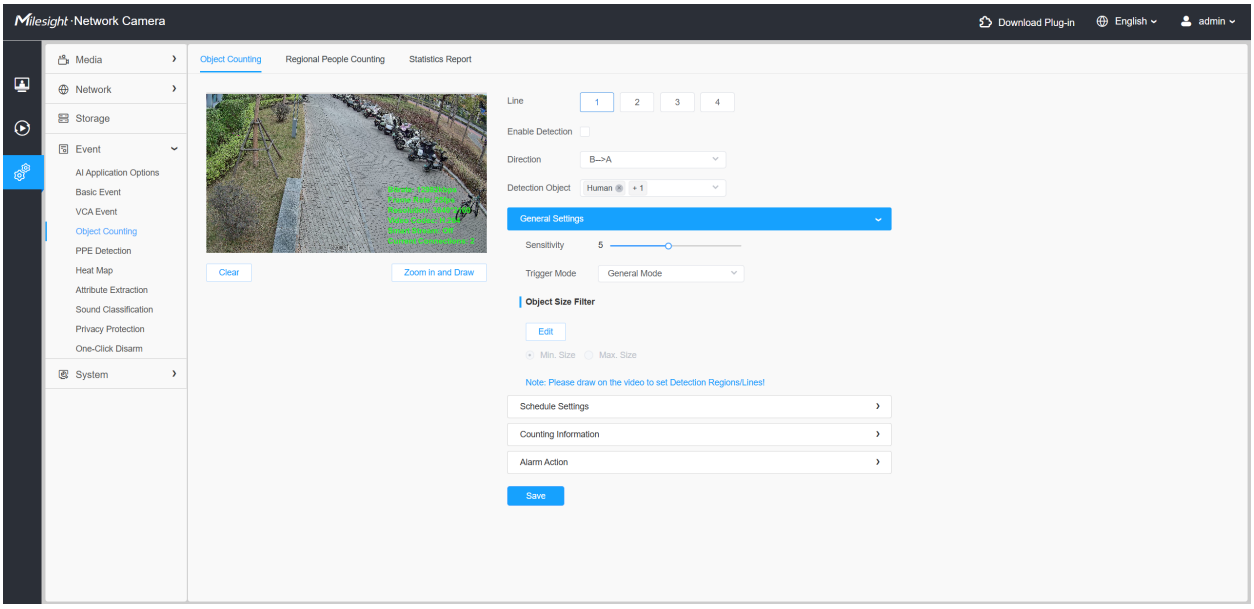
Note:

- This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 95)*.
- 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 as shown below:

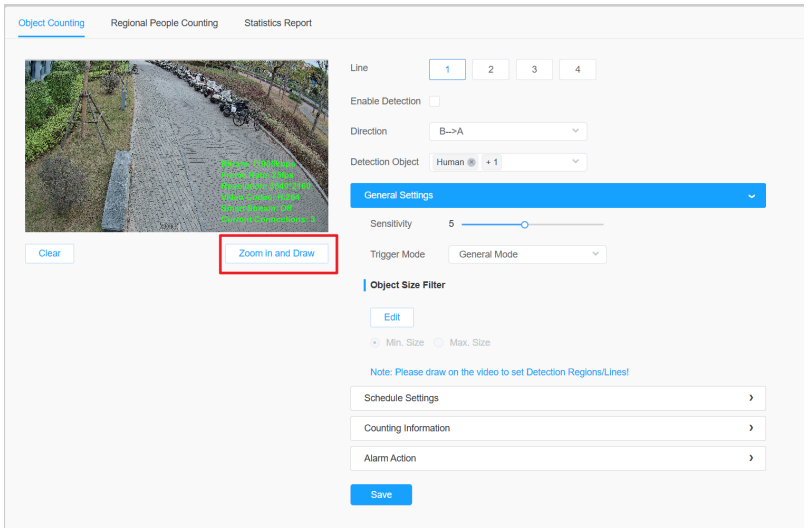
Step1: Choose **Settings** > **Event** > **AI Application Options** > **Object Counting**.

Step2: Select a detected region, up to 4 regions can be chosen.

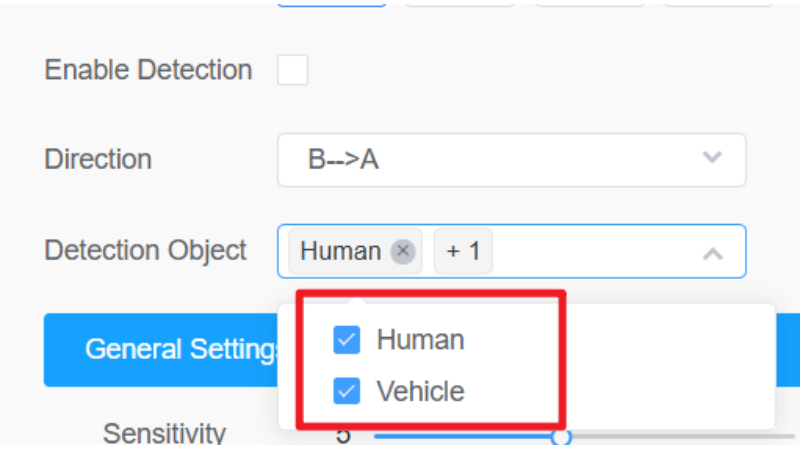
Step3: Enable Object Counting.

Step4: Set a detection line and direction.

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

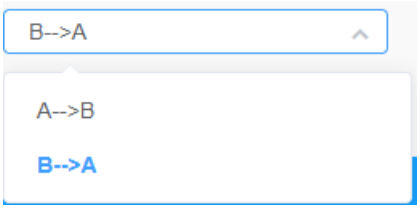


Step5: Select a detection object including human and vehicle.



Note:

- Crossing along the direction of the arrow will record as “In”, opposite is “Out”.
- Support up to 4 detection lines.



[General Settings]

Step6: Set sensitivity and object size limits.

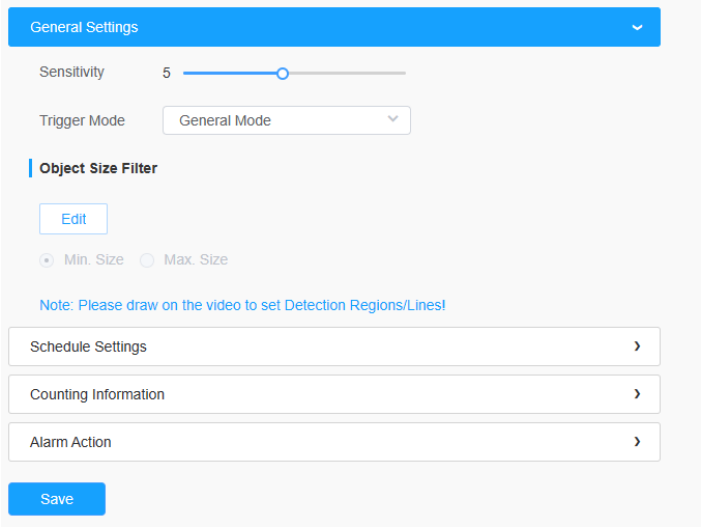


Table 54. Description of the buttons

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 Motion Detection *(page 95)*.

[Counting Information]

Step8: Set counting information.

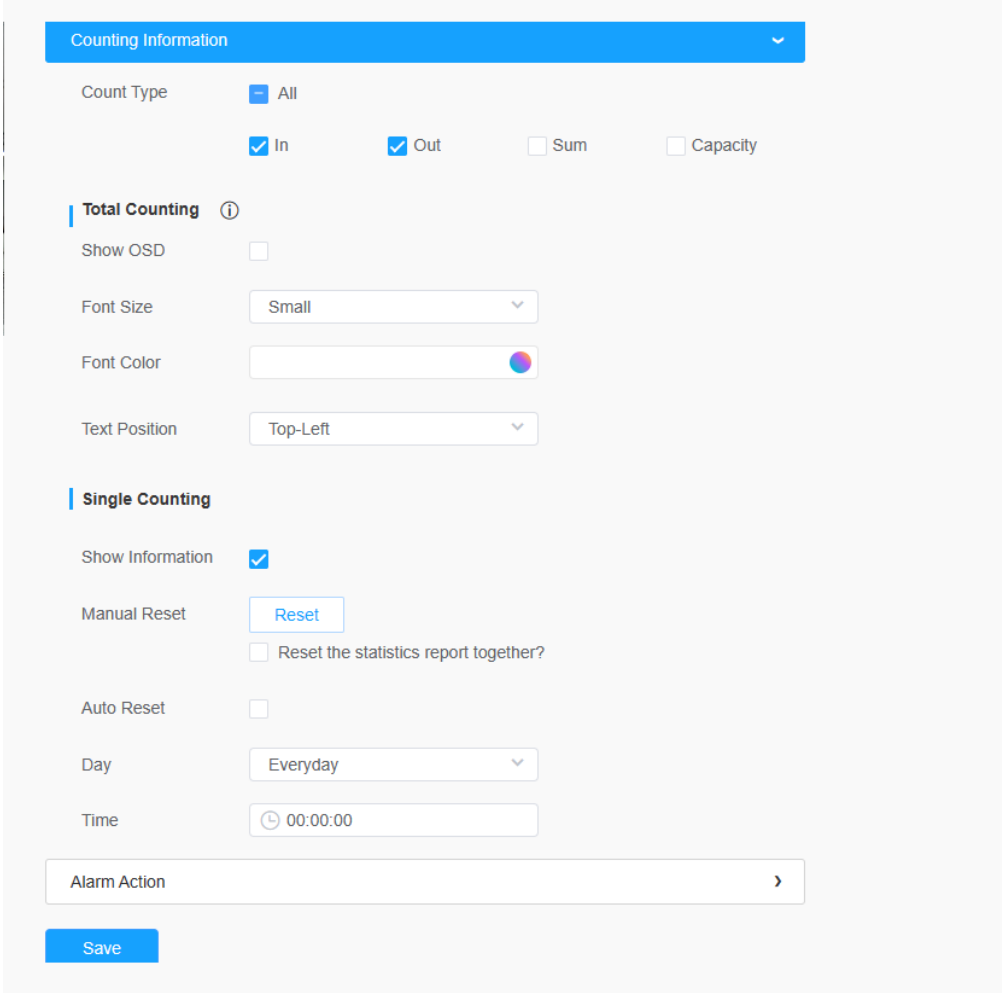
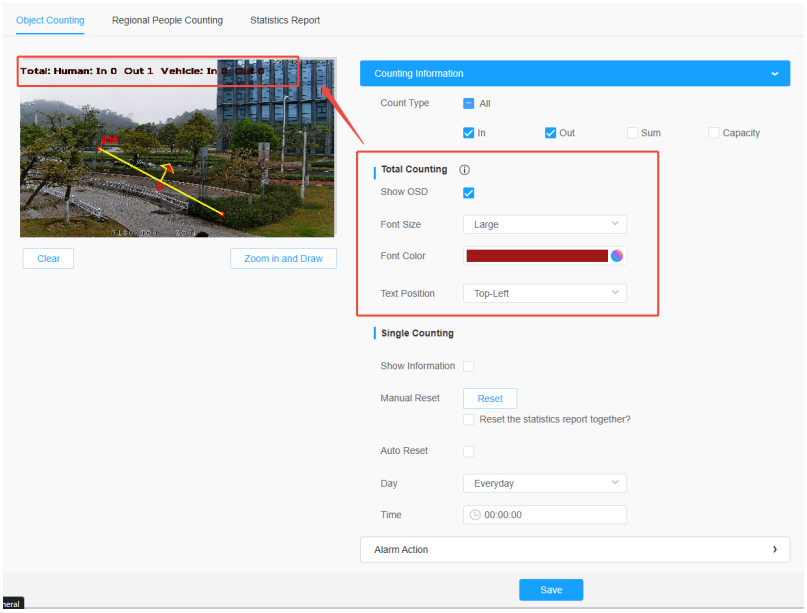
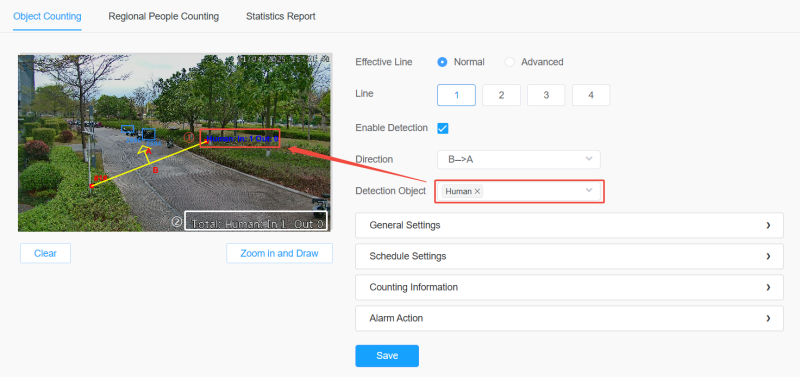


Table 55. Description of the buttons

Parameters	Function Introduction
Count Type	Choose the information you want to display in Live Video.

Parameters	Function Introduction
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. 

Parameters	Function Introduction
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 regions. If at least one region 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.

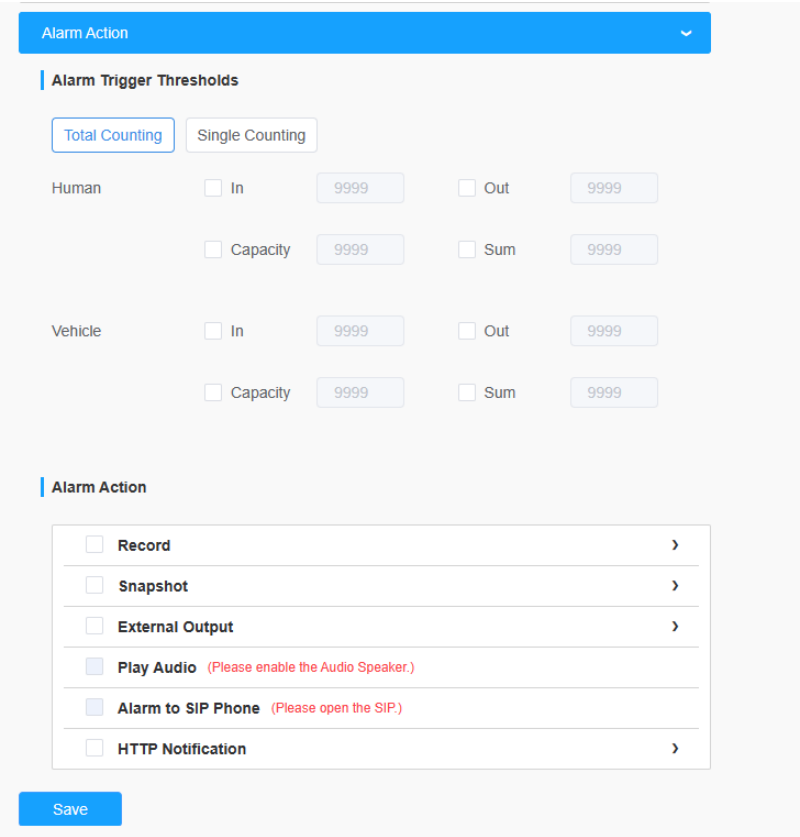


Table 56. Description of the buttons

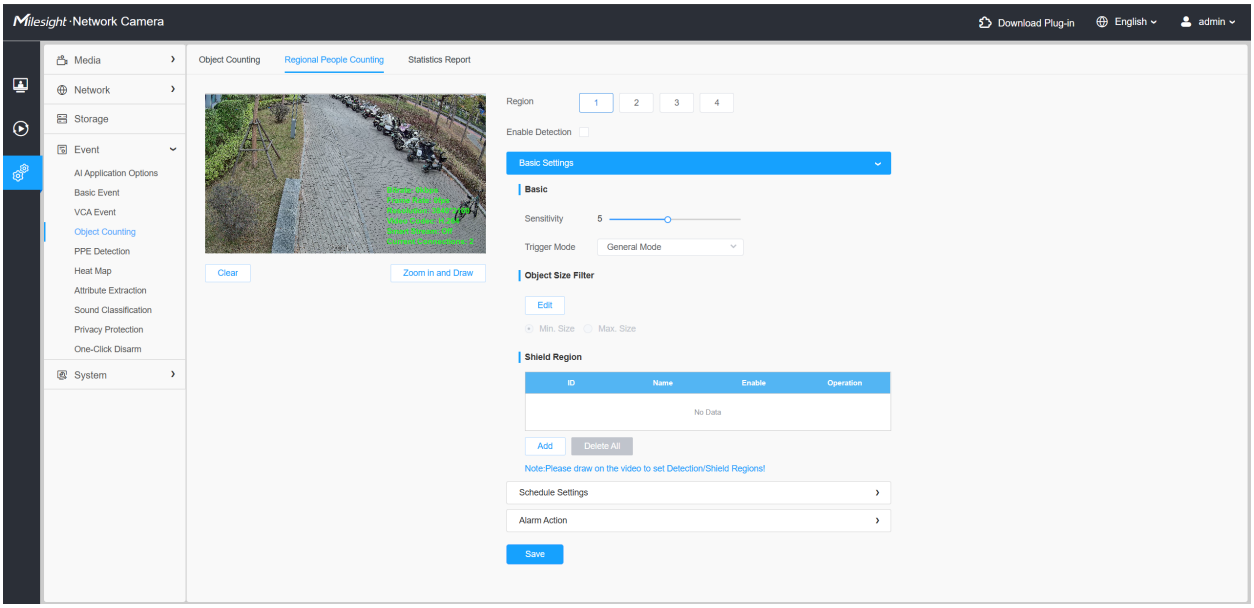
Parameters	Function Introduction
Alarm Trigger	Alarm will be triggered when the thresholds reaches to a certain value from 1 to 9999. Total Counting and Single Counting are available. You can set the Alarm Thresholds of In/Out/Capacity/Sum. **Note:** • For Total Counting, the thresholds are the sum of 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 Motion Detection *(page 95)*. **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 as shown below:

Step1: Choose **Settings** > **Event** > **AI Application Options** > **Object Counting** > **Regional People Counting**.

Step2: Select a detection region and enable regional people counting detection.

Note: Support up to 4 detection regions.

[Basic Settings]

Step3: Set sensitivity and object size limits.

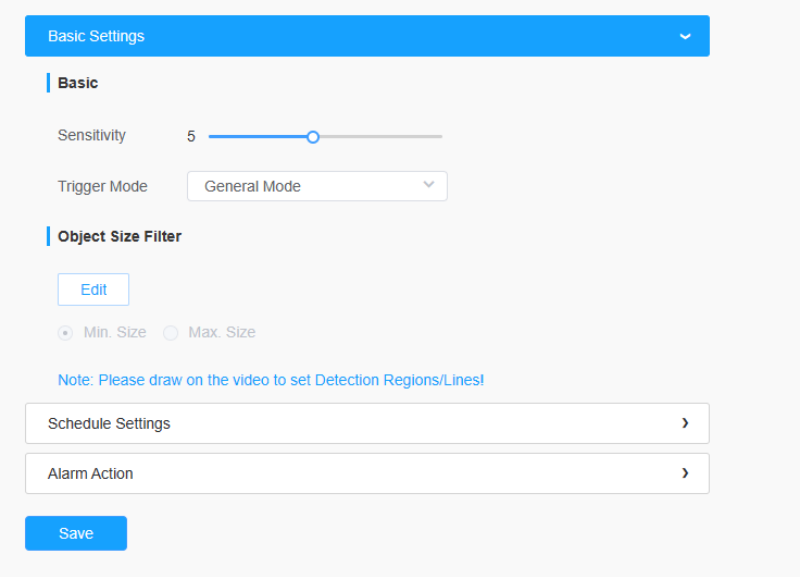


Table 57. Description of the buttons

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 Motion Detection *(page 95)*.

[Alarm Action]

Step5: Set alarm trigger and alarm action.

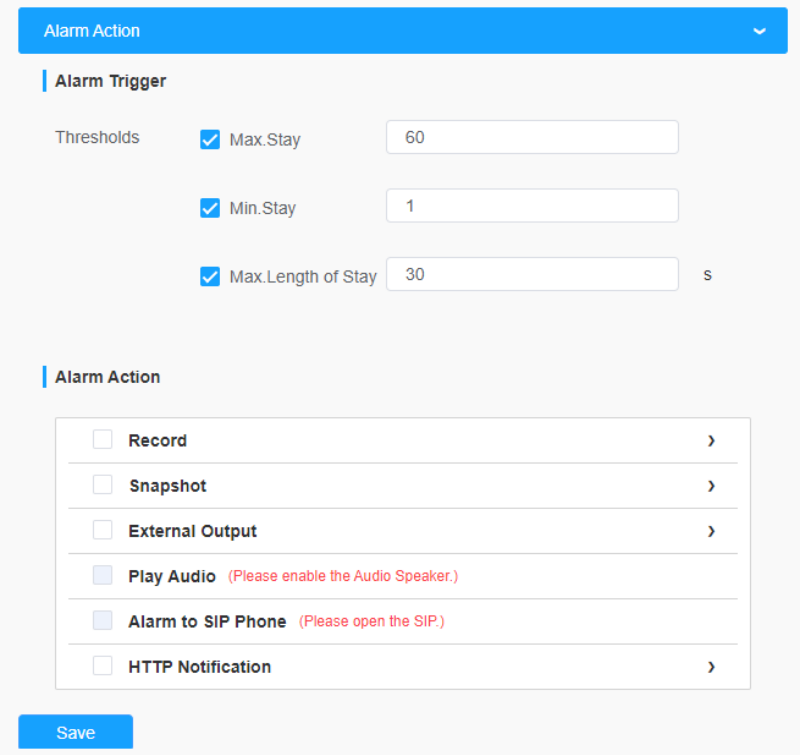
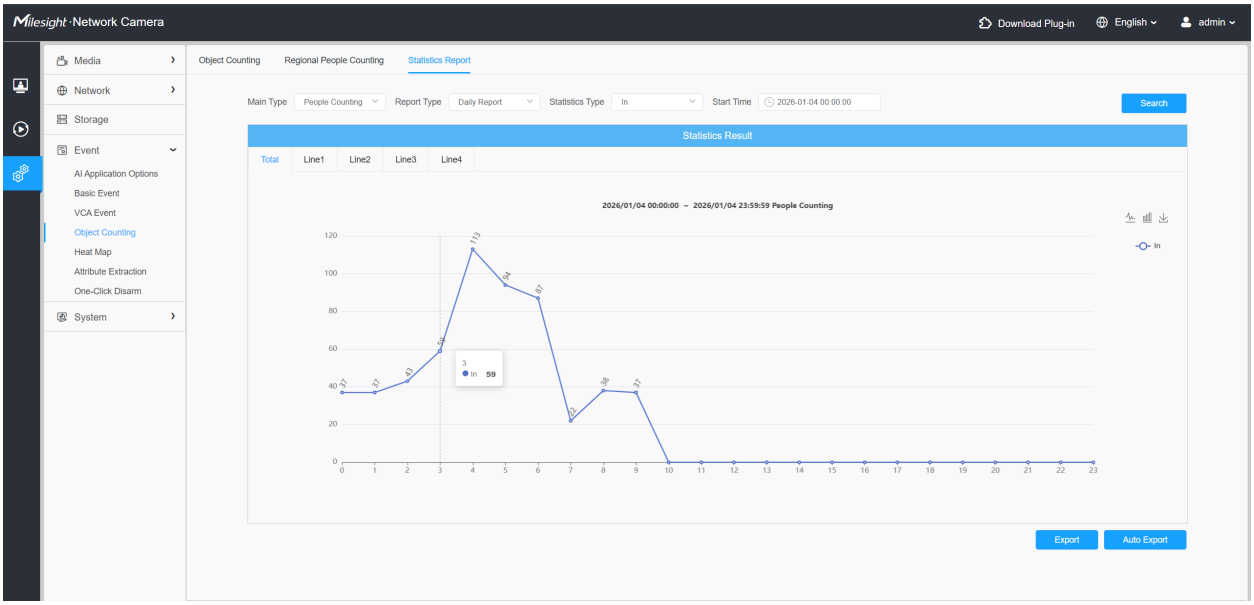


Table 58. Description of the buttons

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 Motion Detection *(page 95)*. **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.

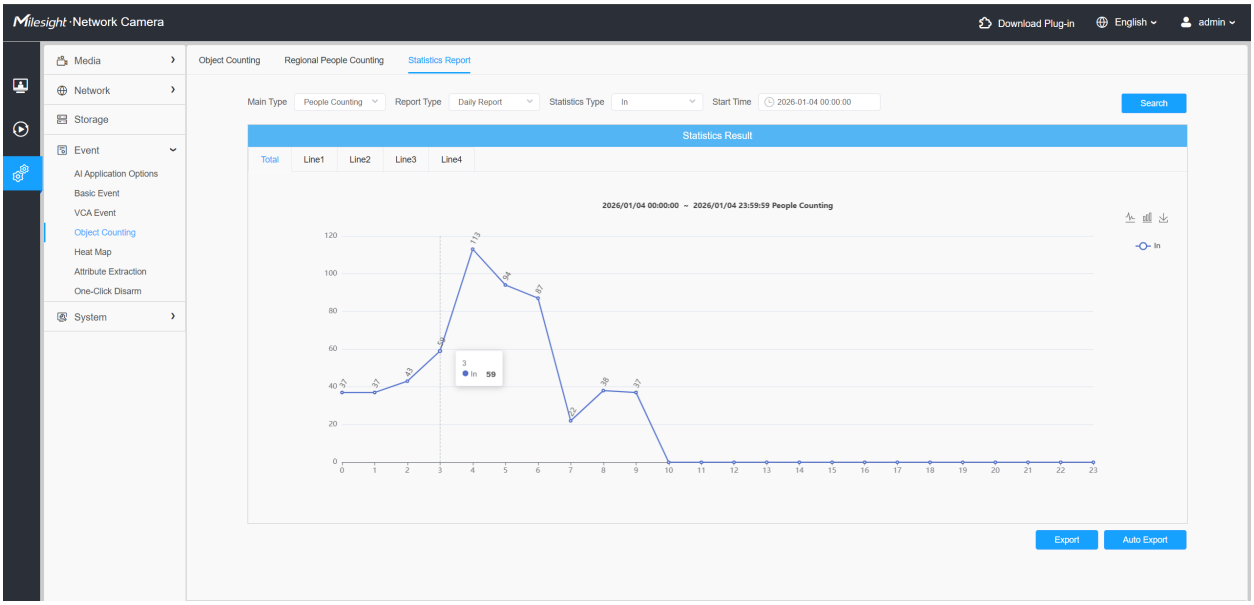
Step3: For people counting, select Statistics Type including In, Out and Sum. For regional people counting, select Length of Stay including All, More Then and Less Then and set the time of more then/less then.

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

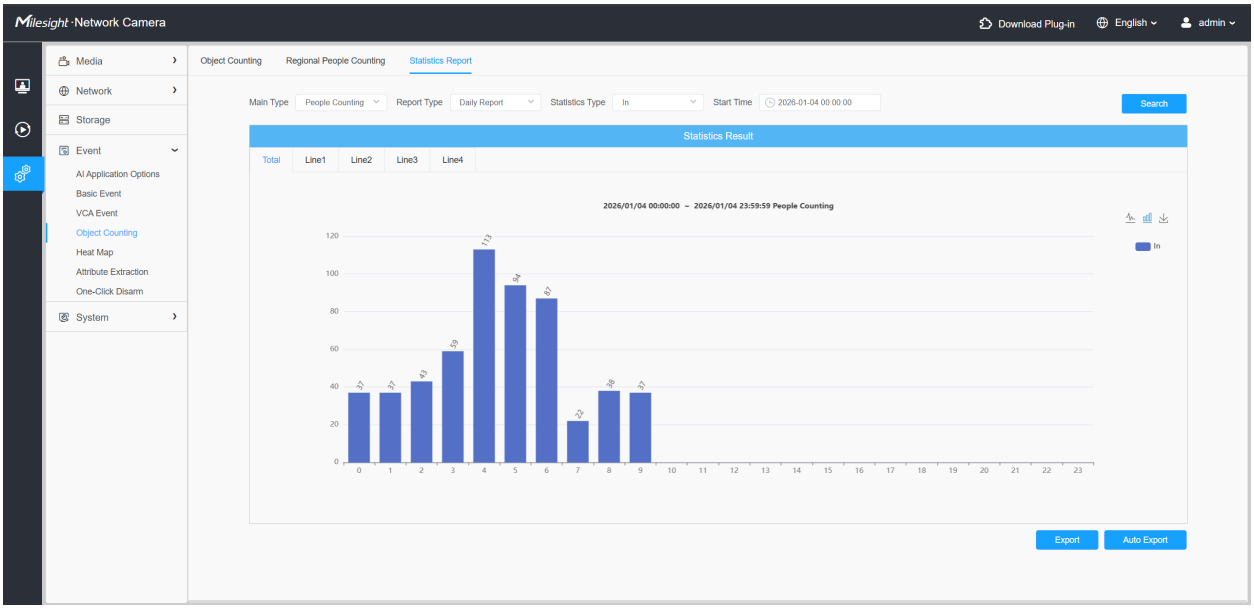
Step4: Select Start Time, then click "Search" button, the camera will automatically count the data for the day/ week/ month/ year (based on the report type selected by the user) from the start time and generate the corresponding report.

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

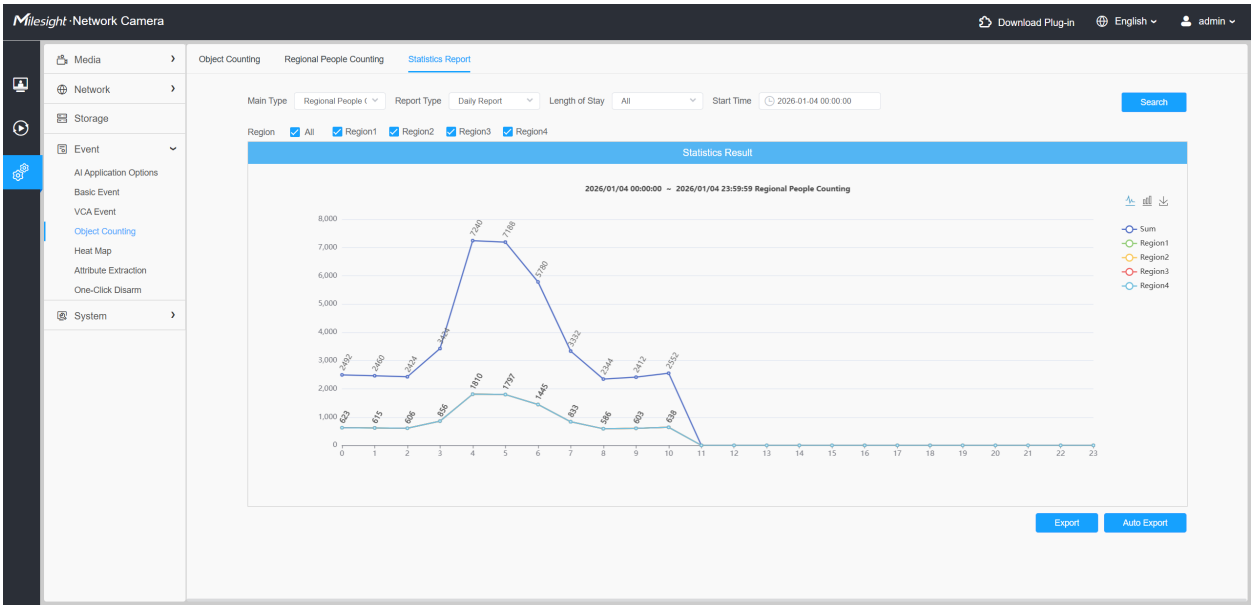
People Counting-Statistics Report (Line Chart)



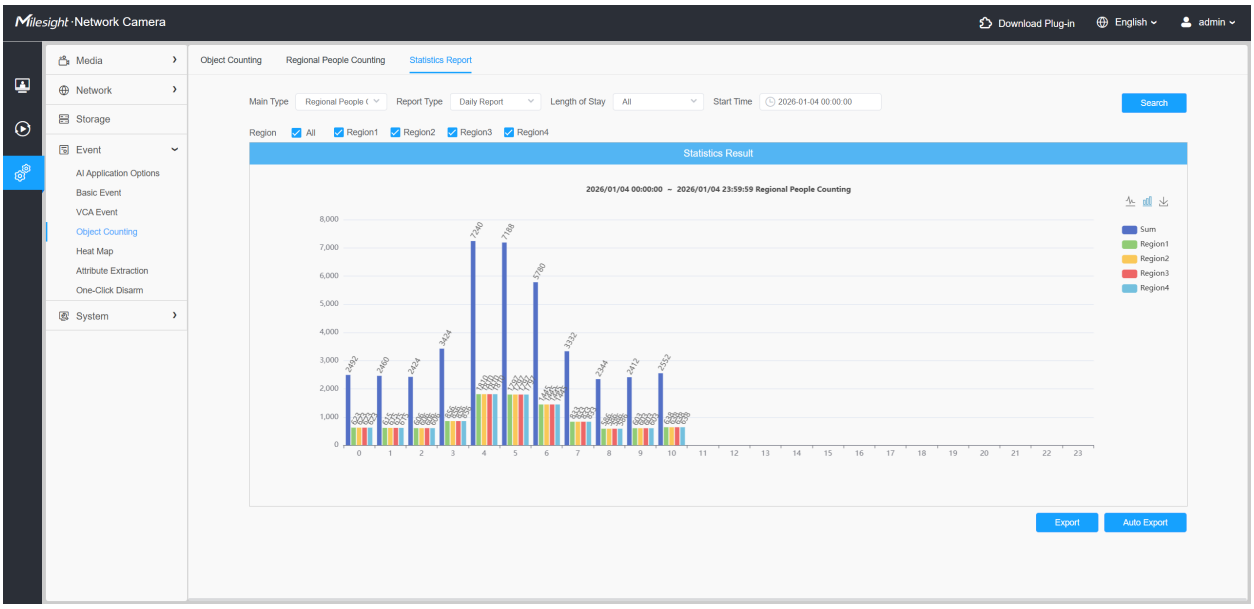
People Counting-Statistics Report (Bar Chart)



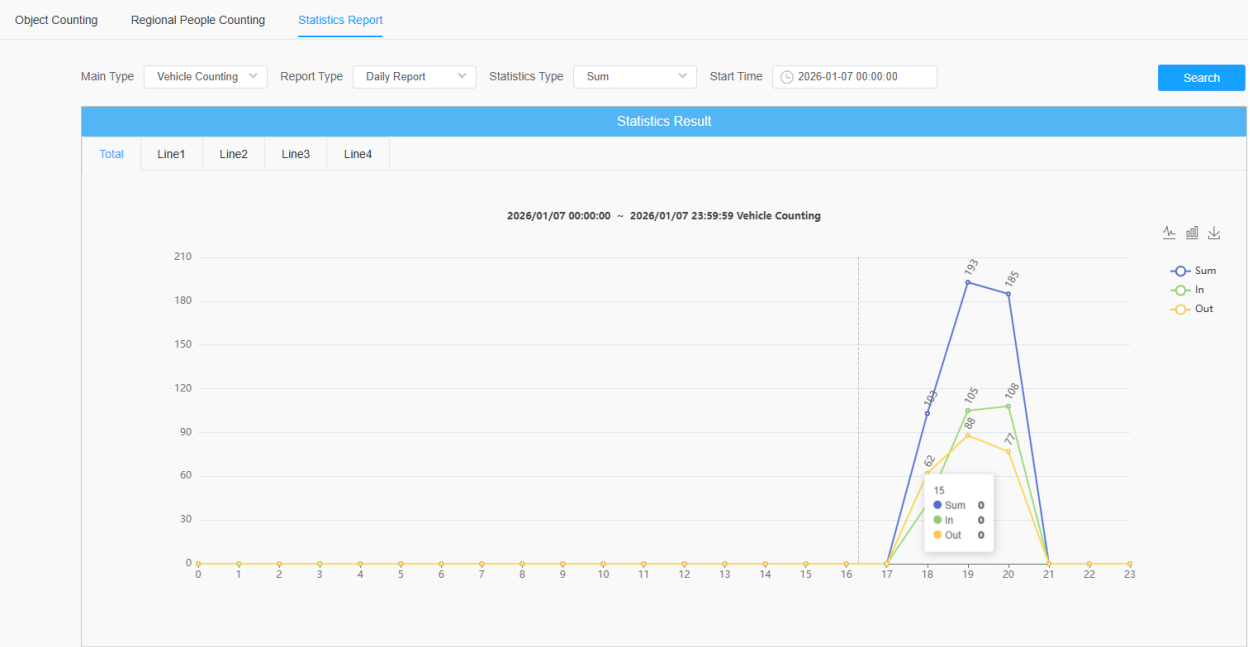
Regional People Counting-Statistics Report (Line Chart)



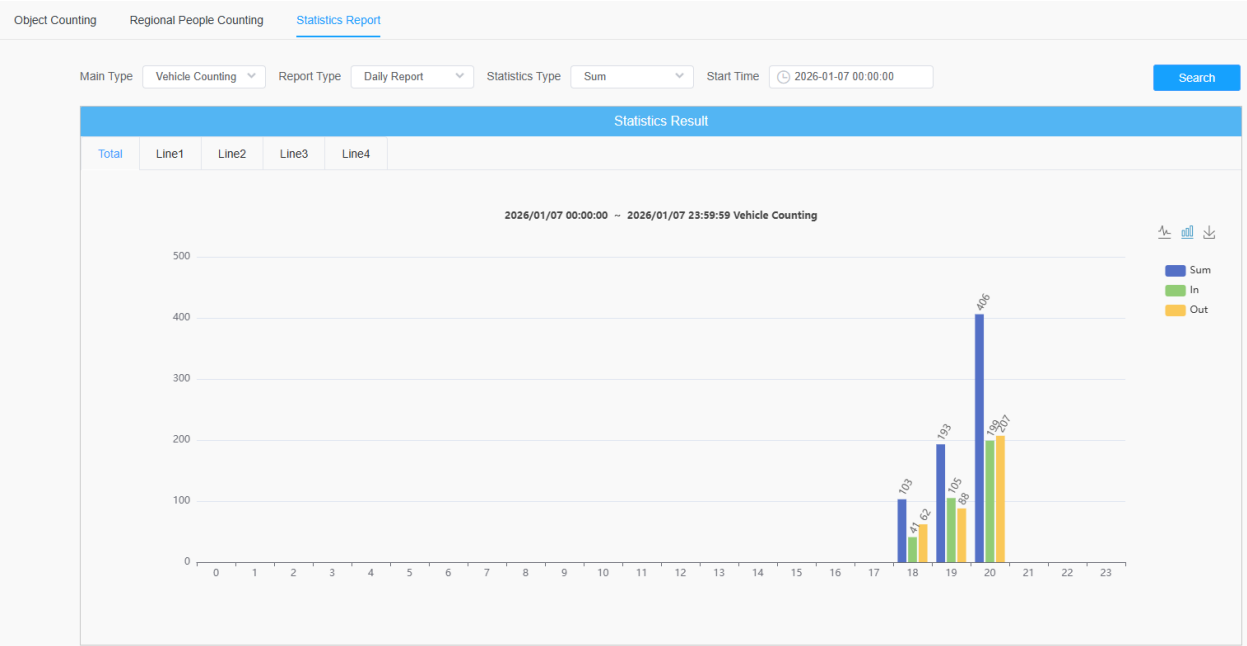
Regional People Counting-Statistics Report (Bar Chart)



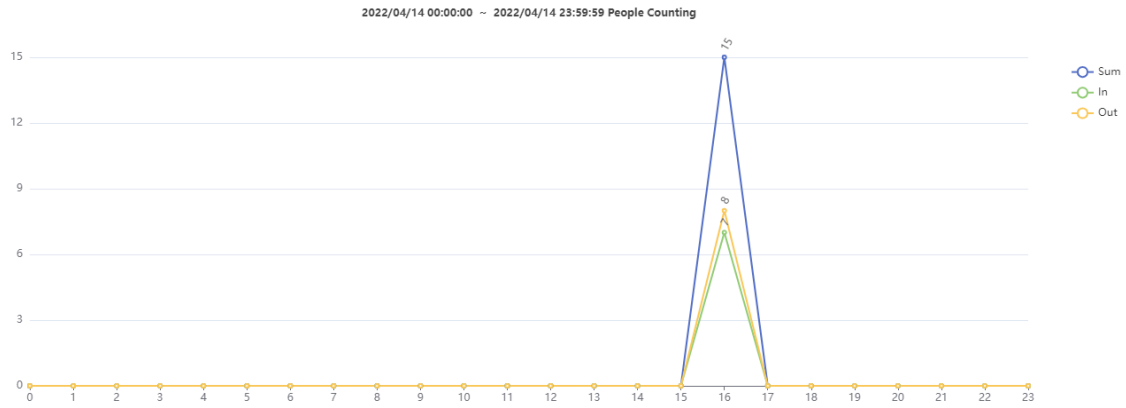
Vehicle Counting-Statistics Report (Line Char)



Vehicle Counting-Statistics Report (Bar Chart)

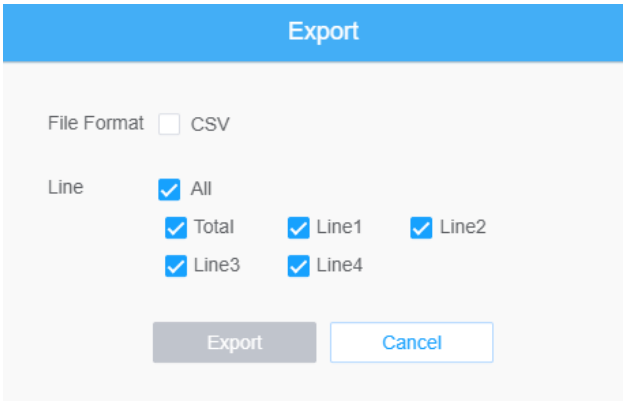


Step6: Click the **Download** button to download the screenshot of the statistical report chart.

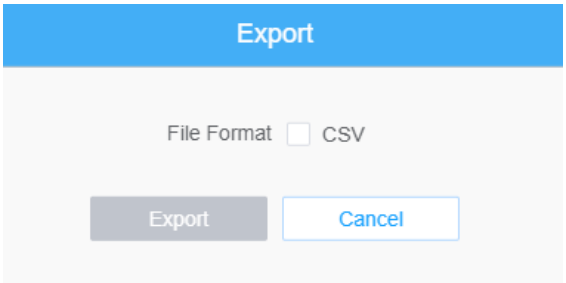


Step7: Click "Export" button to pop up the Export window as shown below, and you can choose File Format to export the report to local. For people counting Statistics Report, you can check the check box to export the report of different lines as needed.

People Counting-Export, *Vehicle Counting-Export*

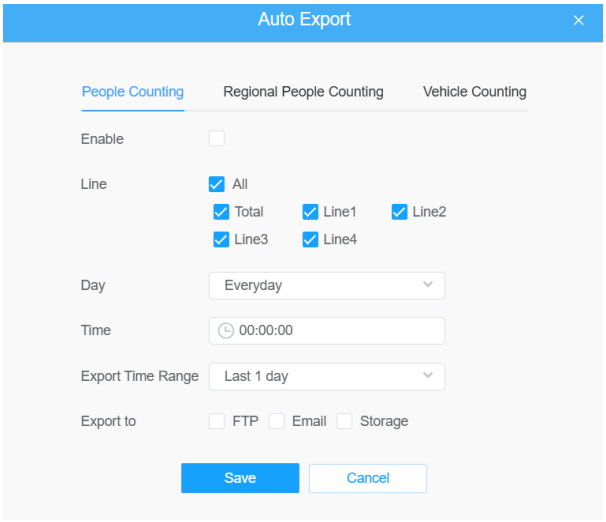


Regional People Counting-Export

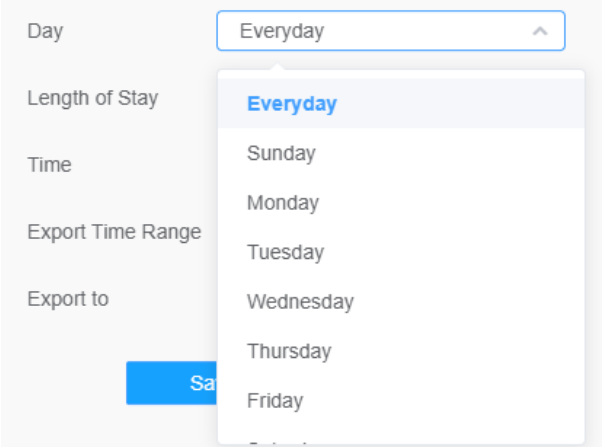


Step8: Click "Auto Export" button to pop up the Statistics Report Settings as shown below.

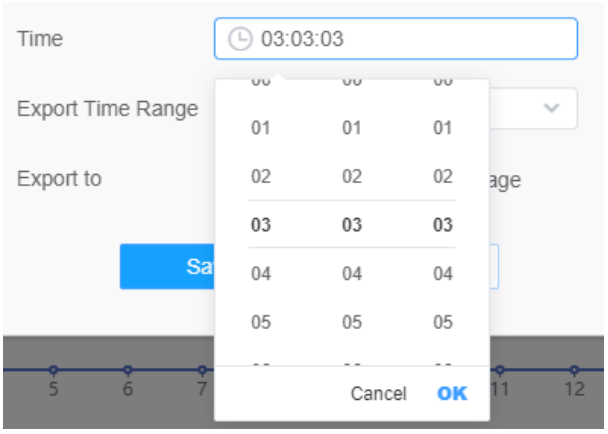
People Counting-Auto Export



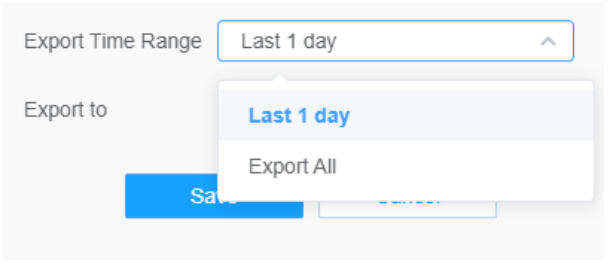
- Check the check box to enable the auto export of people counting, then select the lines as needed.
- Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the week;



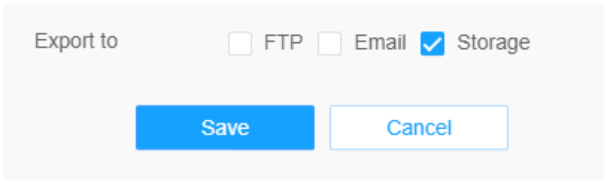
- Set Time. User can choose the time of day to export the Statistics Report automatically, click the calendar icon to pop up the following Quick Selection;



- Set Export Time Range;

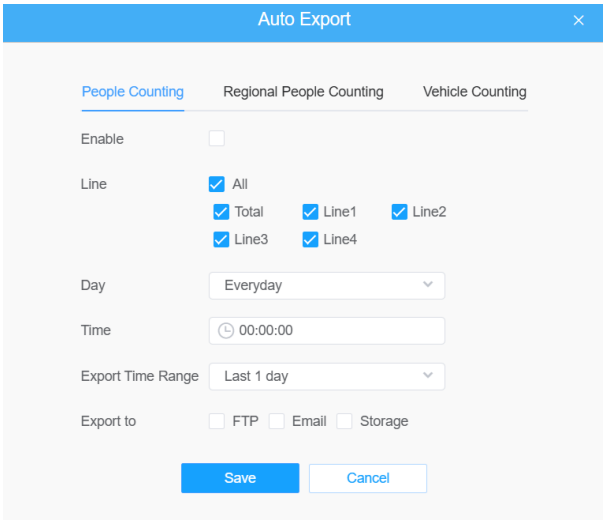


- Set the destination path of the automatically exported report. The report can be exported to FTP/Email/Storage automatically as the form of an Excel spreadsheet according to the day, time and export time range you set. Then click “Save”.

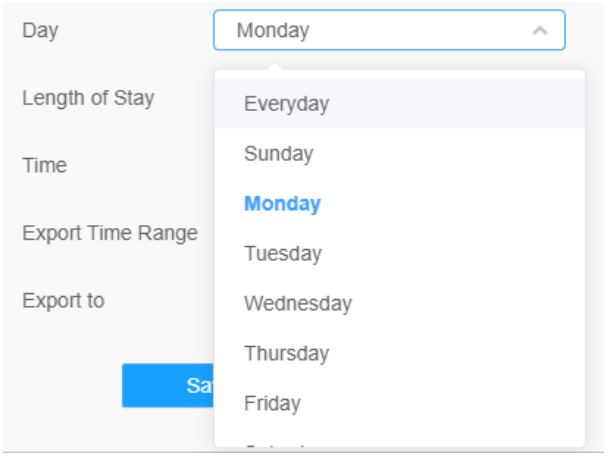


Note: If the current Statistics Report is generated, it will be saved as a csv form.

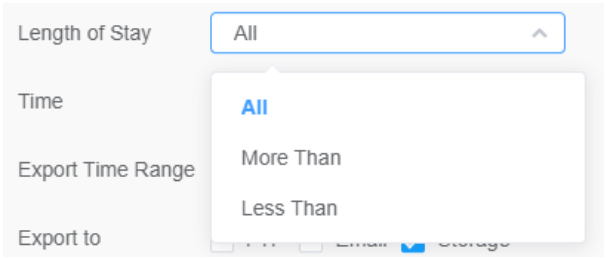
Regional People Counting-Auto Export



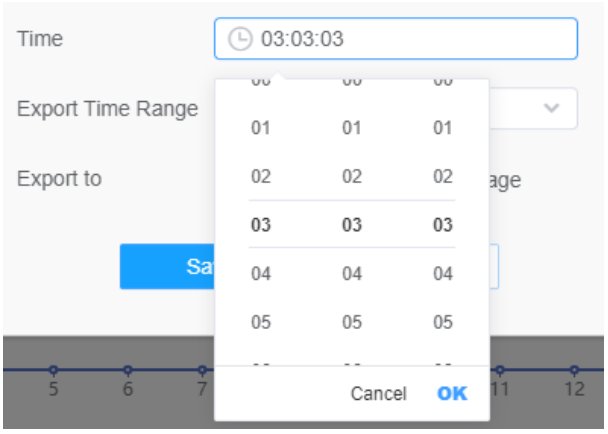
- Check the check box to enable the auto export of regional people counting.
- Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the week;



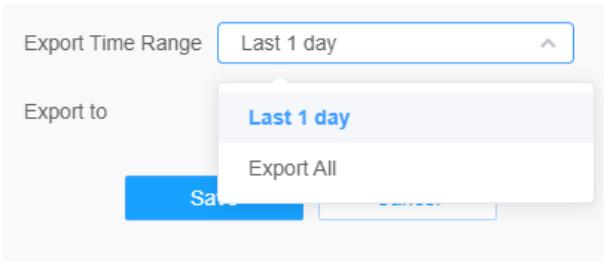
- Set Length of Stay.



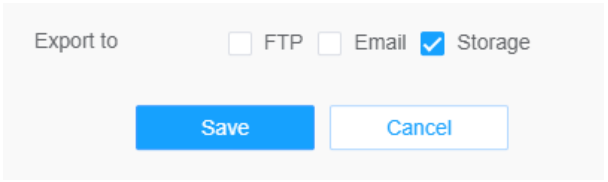
- Set Time. User can choose the time of day to export the Statistics Report automatically, click the calendar icon to pop up the following Quick Selection;



- Set Export Time Range;

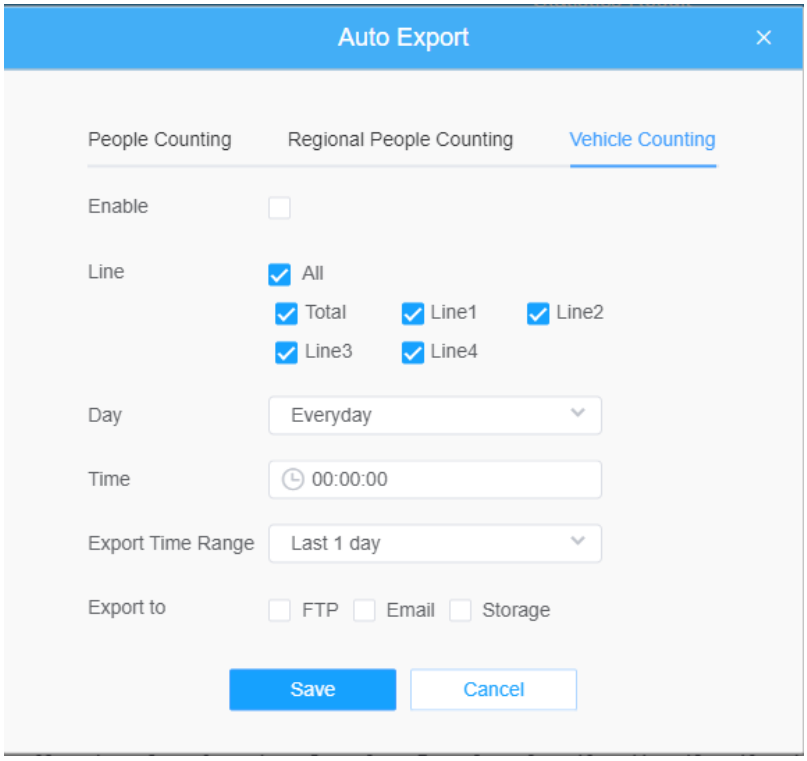


- Set the destination path of the automatically exported report. The report can be exported to FTP/Email/Storage automatically as the form of an Excel spreadsheet according to the day, time and export time range you set. Then click “Save”.

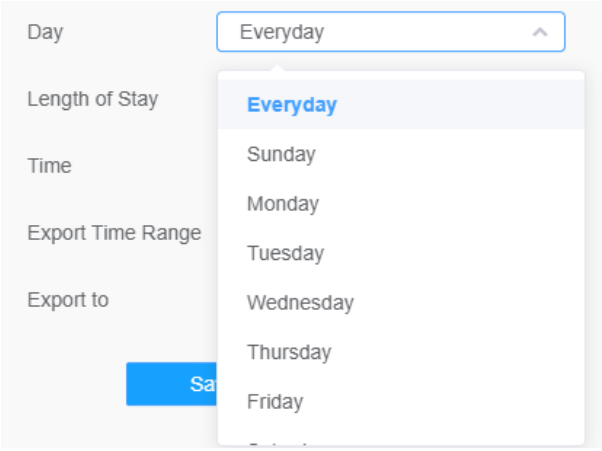


Note: If the current Statistics Report is generated, it will be saved as a csv form.

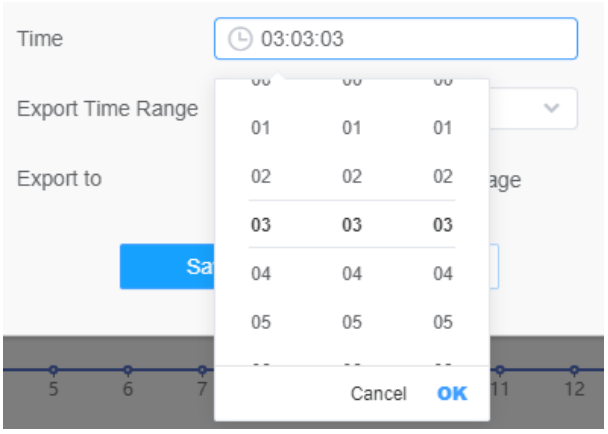
Vehicle Counting-Auto Export



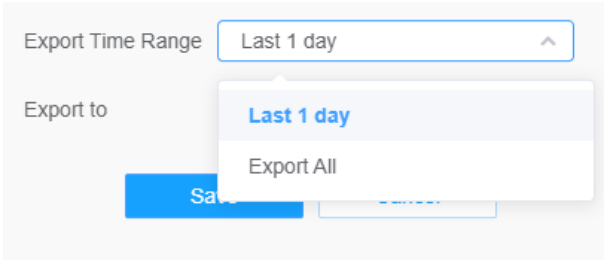
- Check the check box to enable the auto export of people counting, then select the lines as needed.
- Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the week;



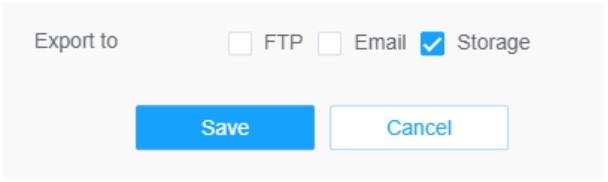
- Set Time. User can choose the time of day to export the Statistics Report automatically, click the calendar icon to pop up the following Quick Selection;



- 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.

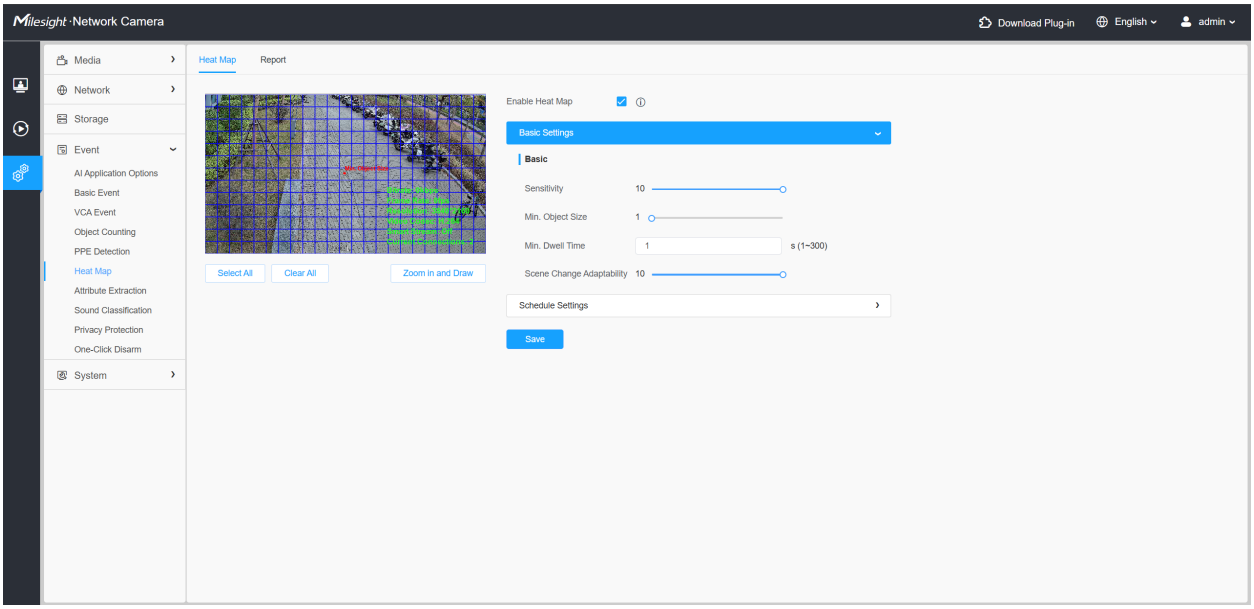
8.4.4 Heat Map

Heat Map function can analyze customers movement to reveal insights for better business management with the intuitive and accurate statistical analysis results in time or space pattern as needed.

8.4.4.1 Heat Map

Note:

- Only allowed to view reports within 7 days without a SD card or NAS.
- For more details about how to set Heat Map, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000643314.



Step1: Choose **Settings** > **Event** > **AI Application Options** > **Heat Map**.

Step2: Enable Heat Map function.

[Basic Settings]

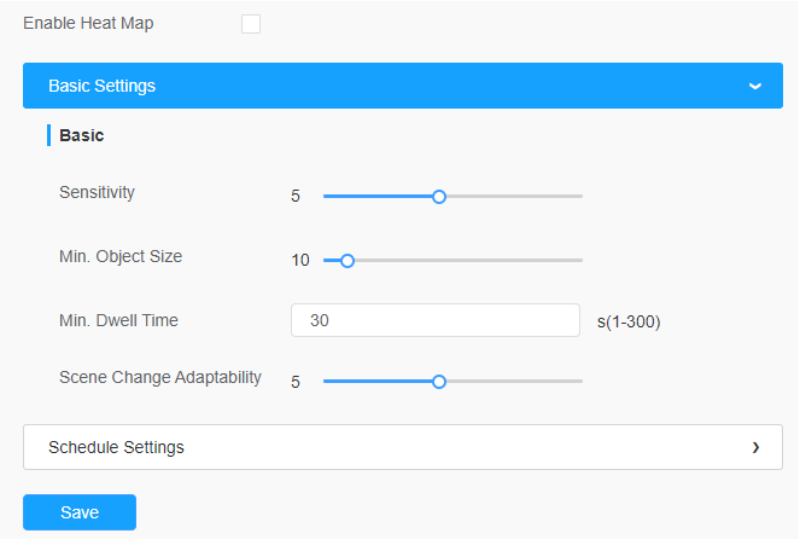
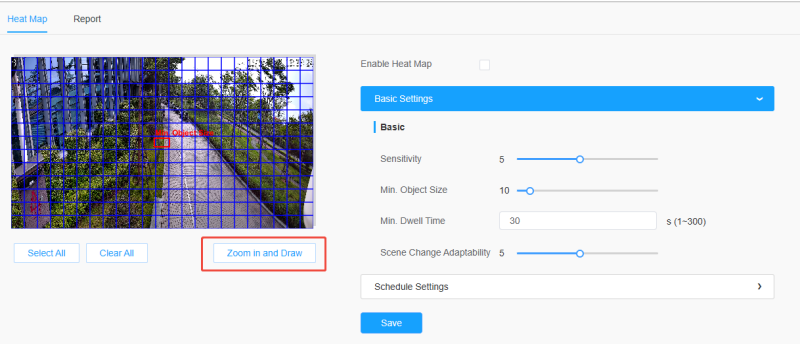


Table 59. Description of the buttons

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.
Min. Object Size	Set the minimum object size from 1 to 100, the default value is 10. Objects smaller than this value will not be recorded in the result.
Min. Dwell Time	Set the minimum dwell time from 1 to 300, the default value is 30. If the object stays in the area longer than the set "Minimum Dwell Time", it will not be recorded in the result.
Scene Change Adaptability	Level 1~10 are available, the default level is 5. Scene Change Adaptability indicates the camera's adaptability to scene changes, which can increase the accuracy of detection. The camera better adapts to faster changing scenes if the value is higher.

Step3: Set Heat Map Region. Draw the screen to set the detection area. You can click "**Select All**" button to select all areas, or "**Clear All**" button to remove the current drawn area.

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



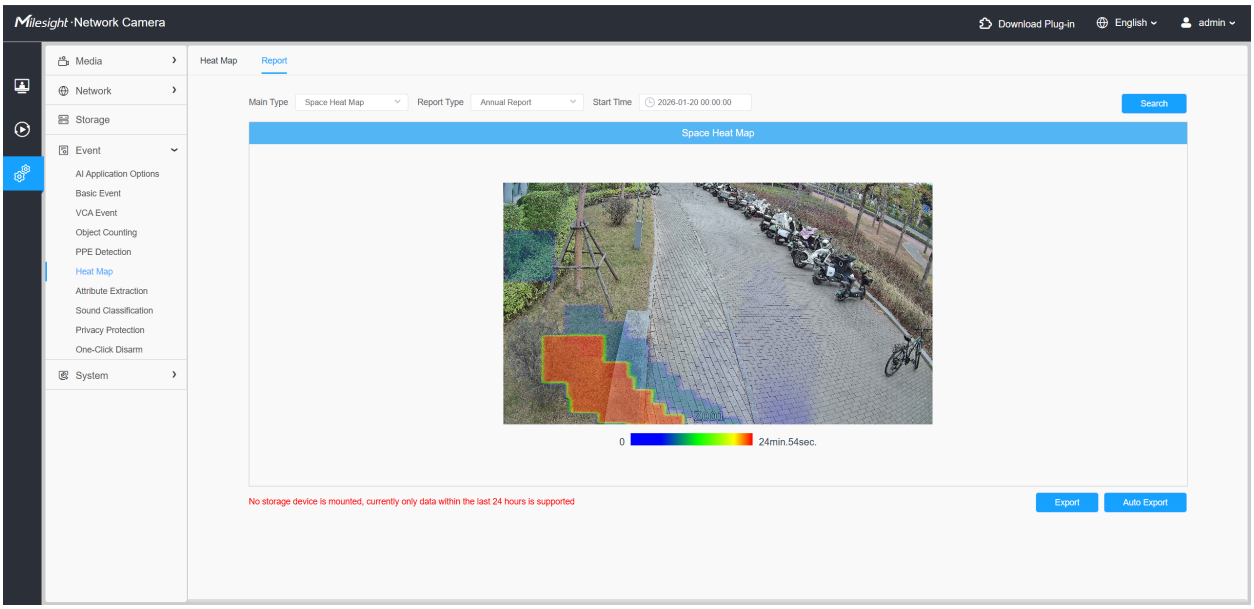
[Schedule Settings]

Step4: Schedule Settings.

Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 95)*.

8.4.4.2 Report

The heat map results will be displayed on this interface.



Step1: Select Main Heat Map Type.

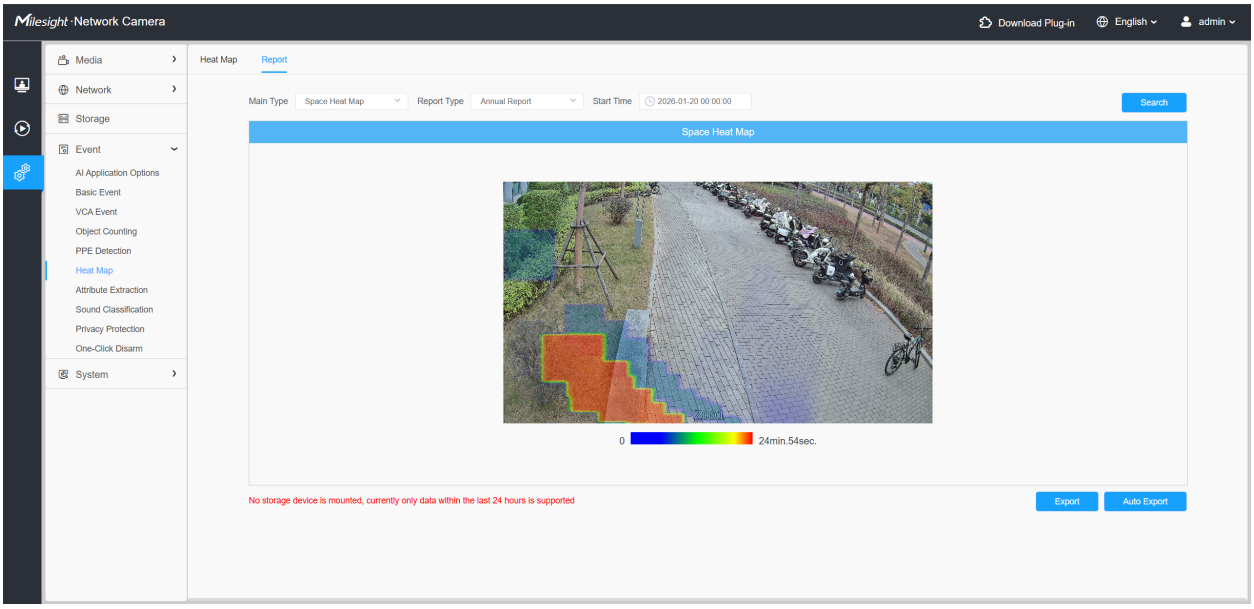
[Space Heat Map]: Space Heat Map will be presented as a picture with different colors. Different colors represent different heat values. Red represents the highest and blue represents the lowest.

[Time Heat Map]: Time heat map will be presented as a line chart to show the heat at different times.

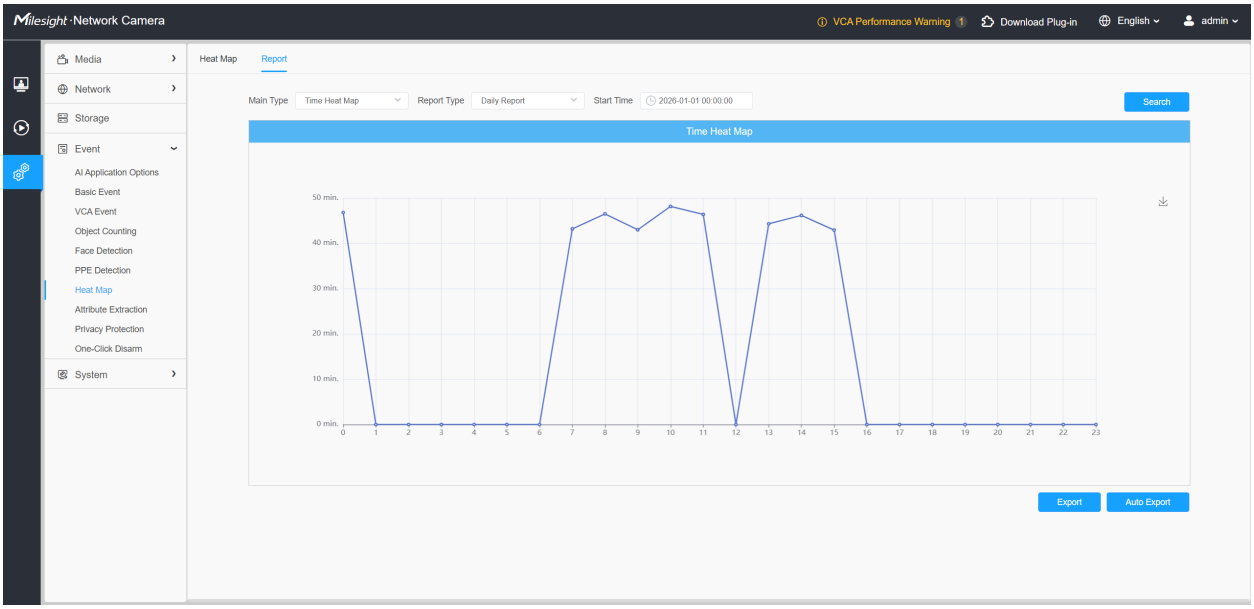
Step2: Select Report Type including Hourly Report, Daily Report, Weekly Report, Monthly Report and Annual Report.

Step3: Select the start time, then click the **"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 as shown below.

Space Heat Map

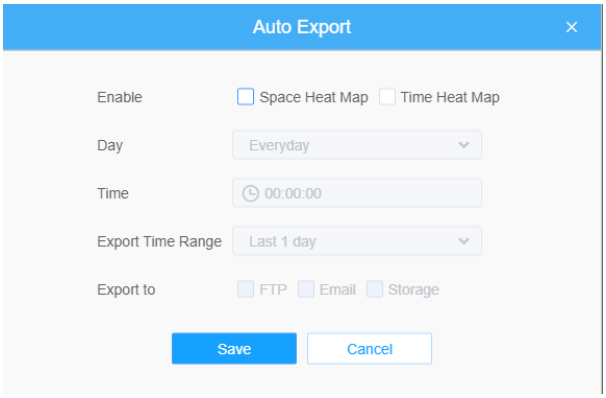


Time Heat Map

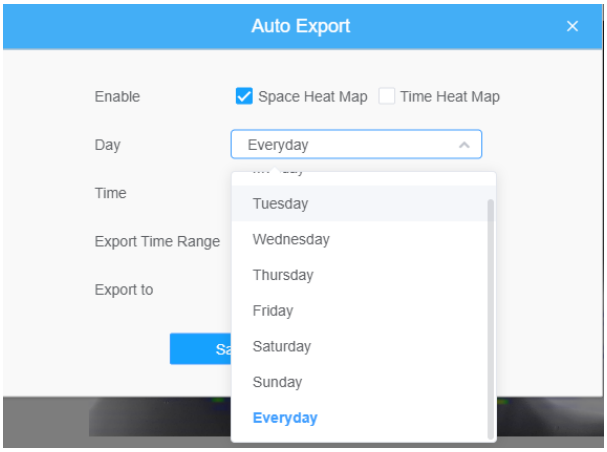


Step4: Click the "**Report Export**" button to export the report to local.

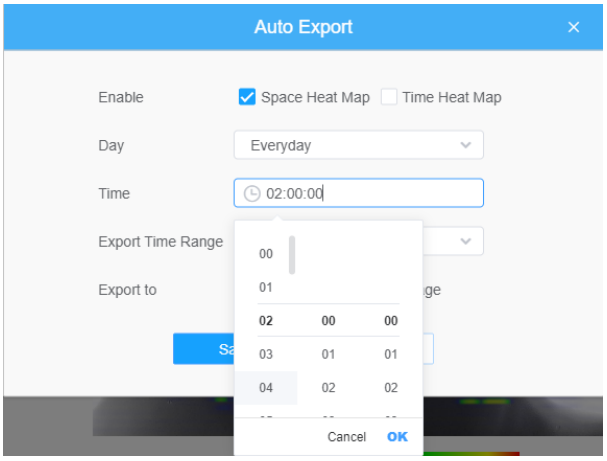
Step5: Click the **"Auto Export"** button to pop up the Heat Map Report Settings as shown below.



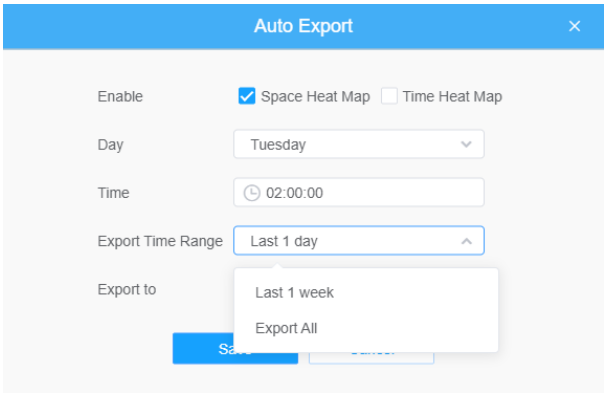
- Set Export Type. User can check Space Heat Map or Time Heat Map or both. When either Space Heat Map or Time Heat Map is checked, the gray item becomes editable as shown below;
- Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the week;



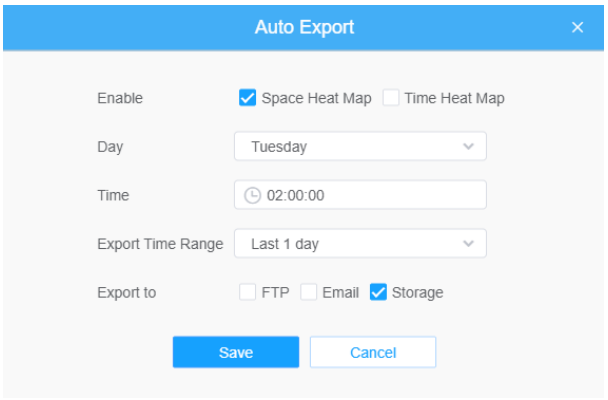
- Set Time. User can choose the time of day to export the heat map automatically, click the calendar icon to pop up the following Quick Selection;



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

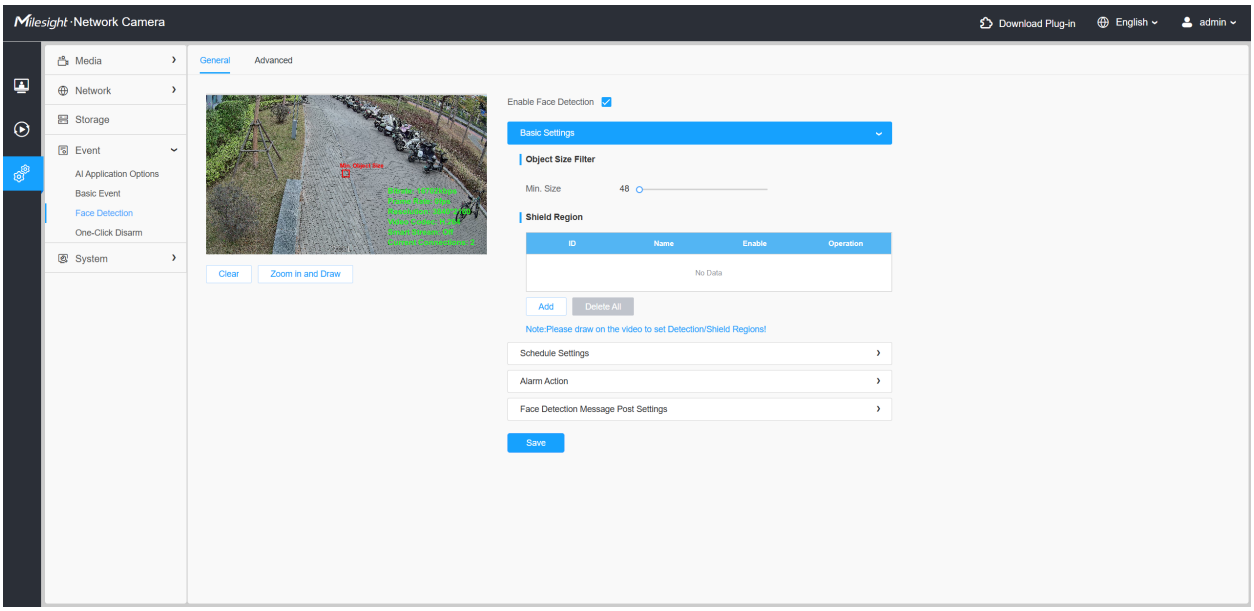


If the current Space Heat Map is generated, it will be saved as a png image. If the current Time Heat Map is generated, it will be saved as a csv form.

8.4.5 Face Detection

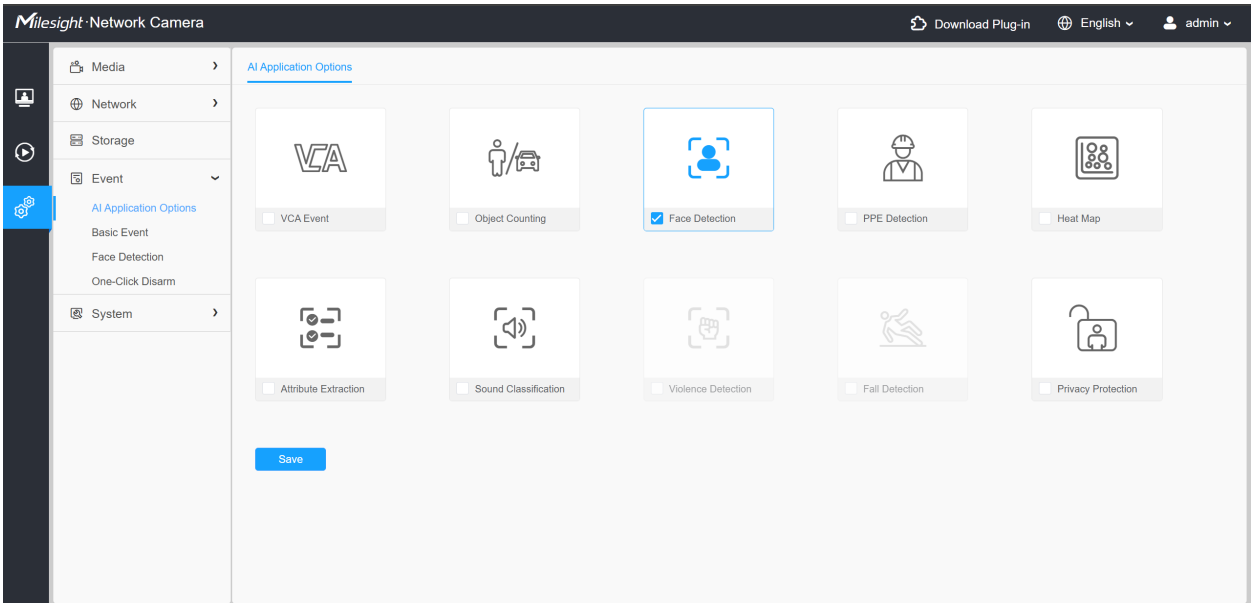
The Face Detection function can detect the face appearing in the drawn area and support saving face snapshots into Storage, upload via FTP or Email, display in Live View.

8.4.4.1 General



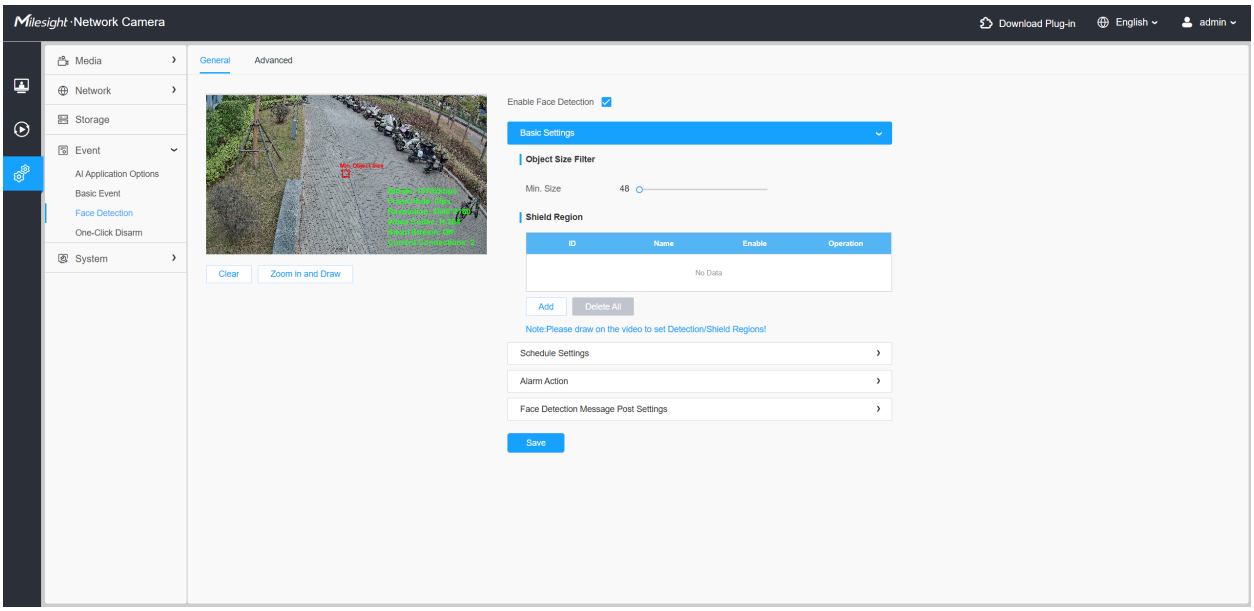
Settings steps are as shown below:

Before utilizing this function, please check the Face Detection box within the AI Application Options interface.



Step1: Choose **Settings** > **Event** > **AI Application Options** > **Face Detection**.

Step2: Enable Face Detection.



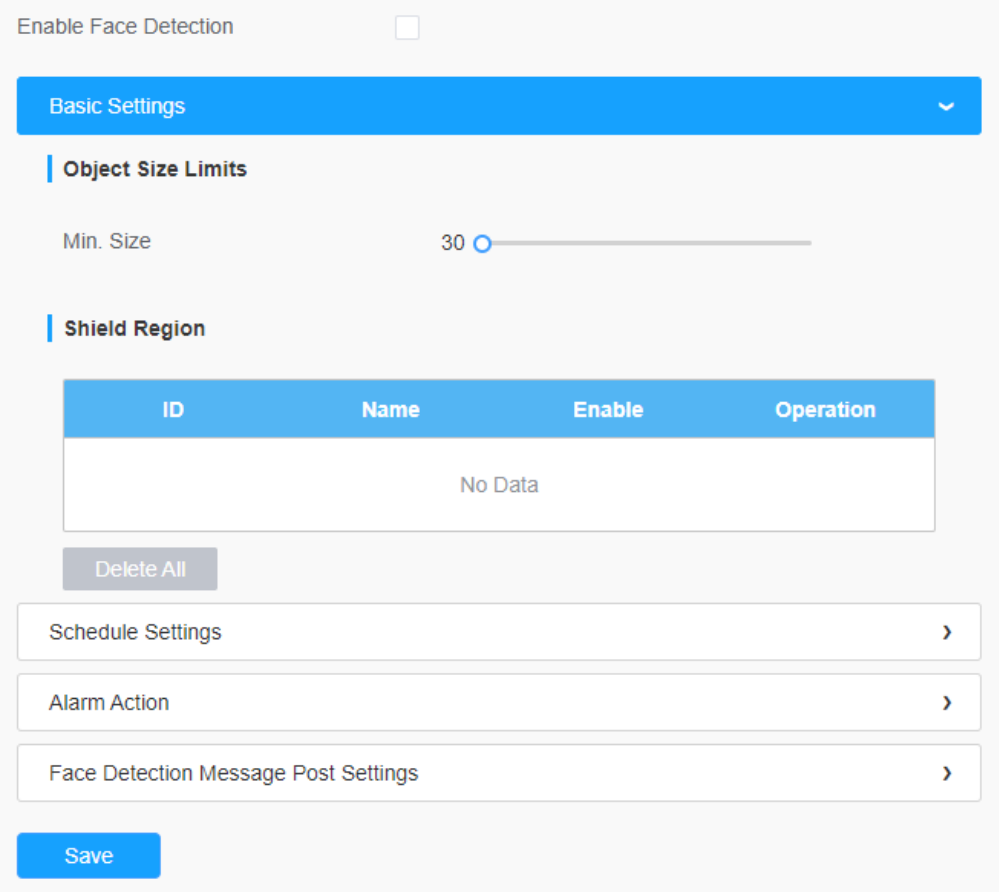
[Basic Settings]

Step3: Set Min. Object Size.

Step4: 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.

Step5: 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]

Step6: Set a detection schedule.

Note: This part is the same as the regular schedule settings. You can refer to 8.4.2.2 Region Entrance *(page 105)*.

[Alarm Action]

Step7: Set an alarm action.

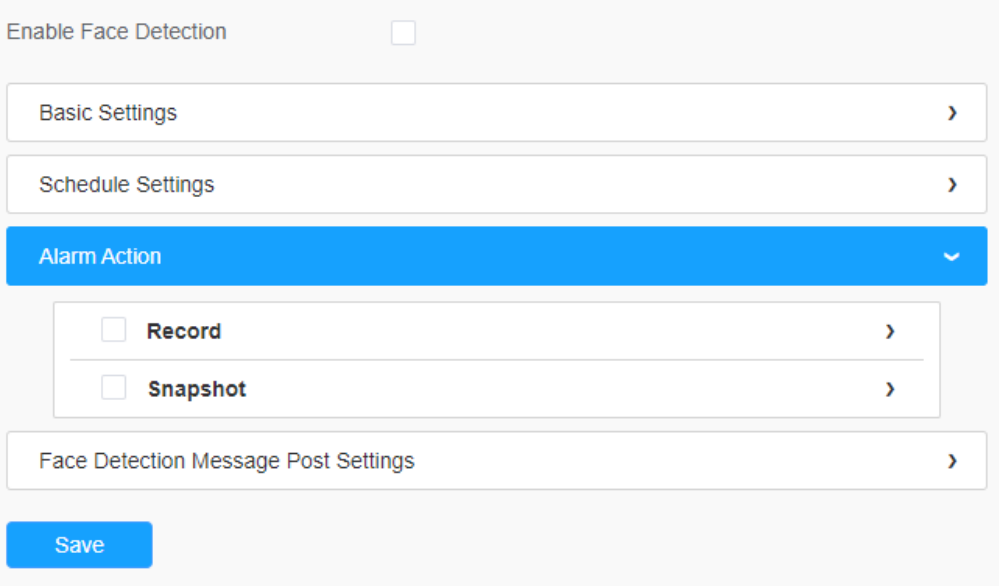


Table 60. Description of the buttons

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.
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 Settings]

Step8: Enable face detection message post.

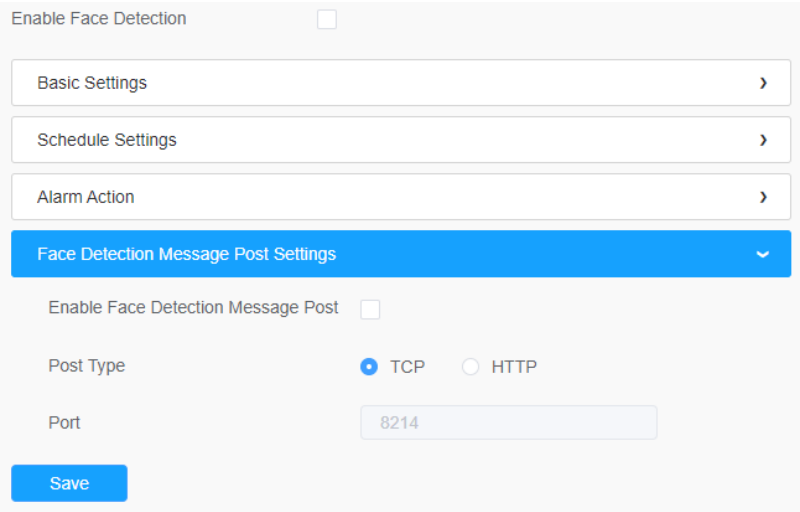
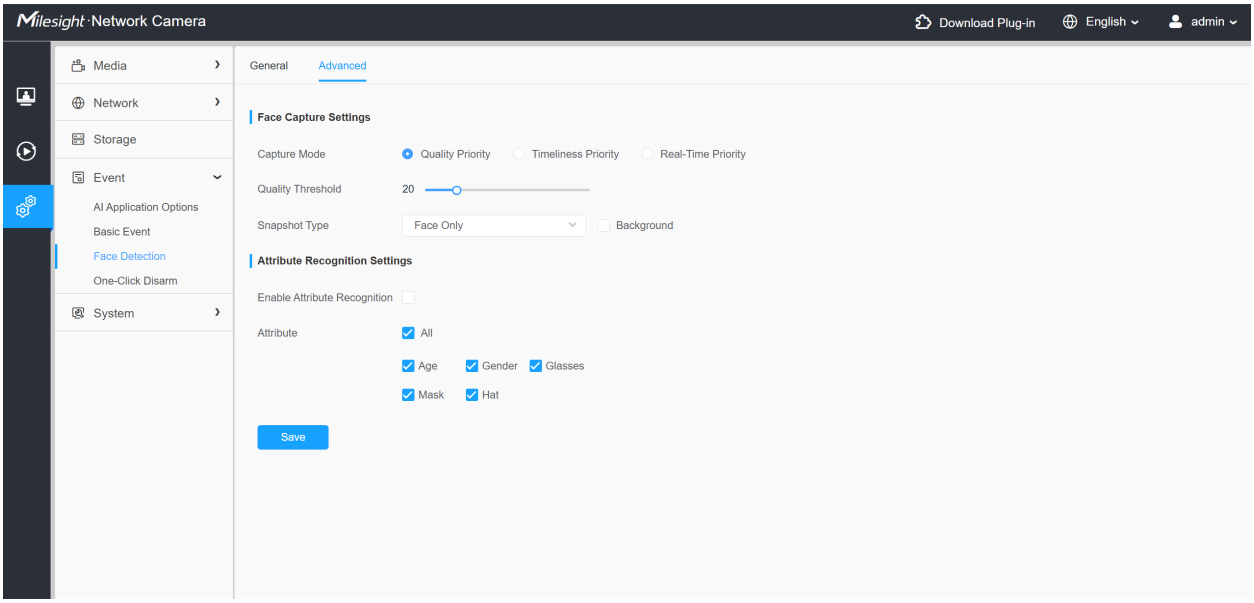


Table 61. Description of the buttons

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 62. 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.

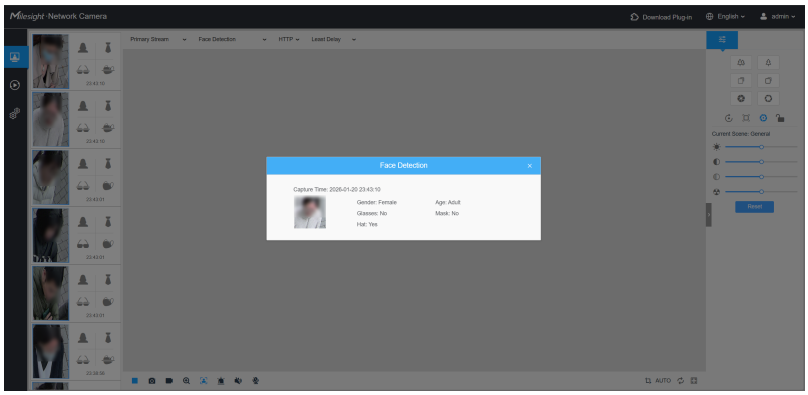
[Attribute Recognition Settings]

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 63. Description of the buttons

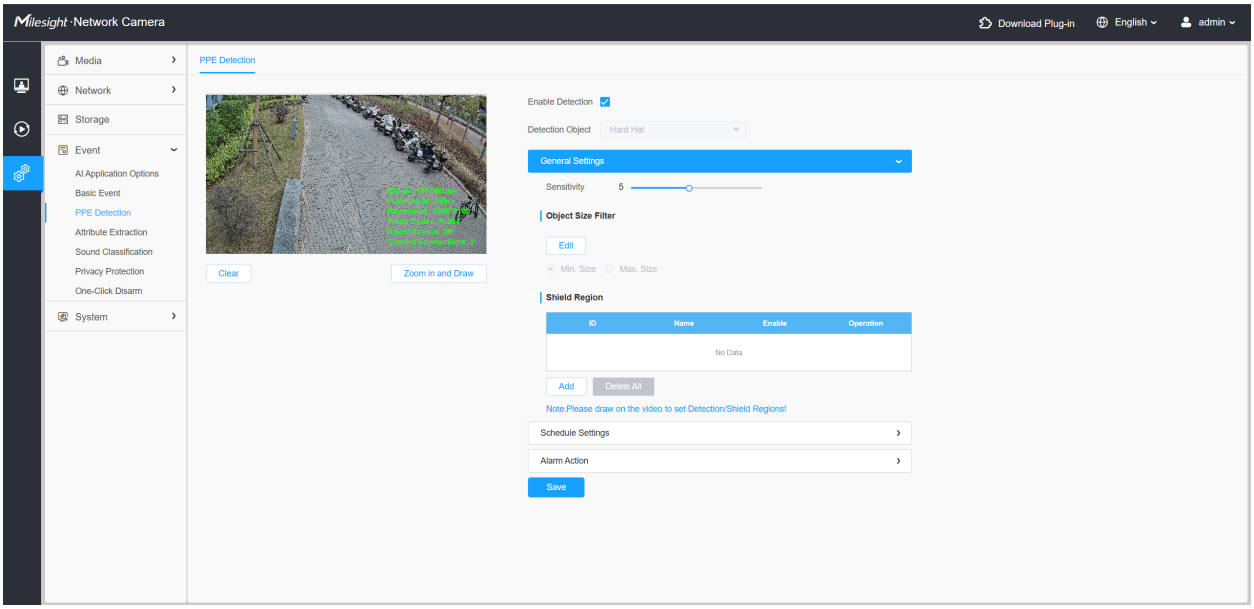
Parameters	Function Introduction
Enable Attribute Recognition	When Attribute Recognition is enabled, the attributes of detected faces will be displayed on the left side of the Live View interface. The attributes include Age, Gender, Glasses, Mask and Cap. These attributes can also be pushed to your back-end 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 function cannot be used together with Face Privacy function.
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 “-”.

8.4.6 PPE 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: Choose **Settings** > **Event** > **AI Application Options** > **PPE Detection**.

Step2: 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.

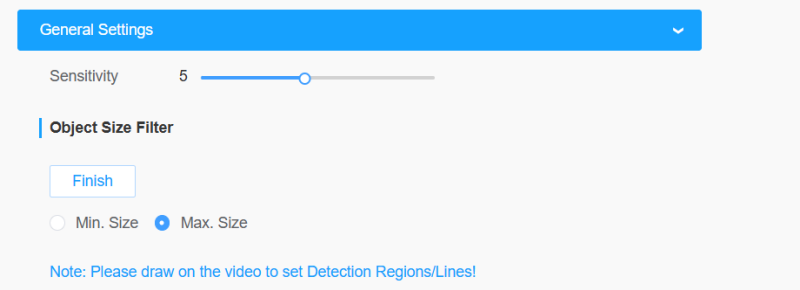


Table 64. Description of the buttons

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.

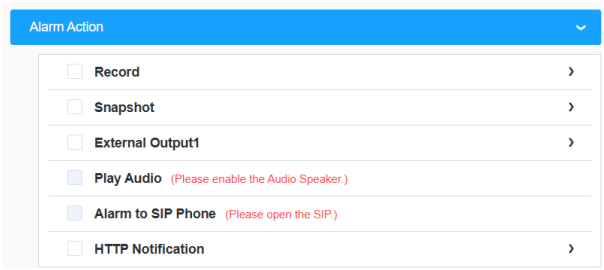
[Schedule Settings]

Step5: Set a detection schedule.

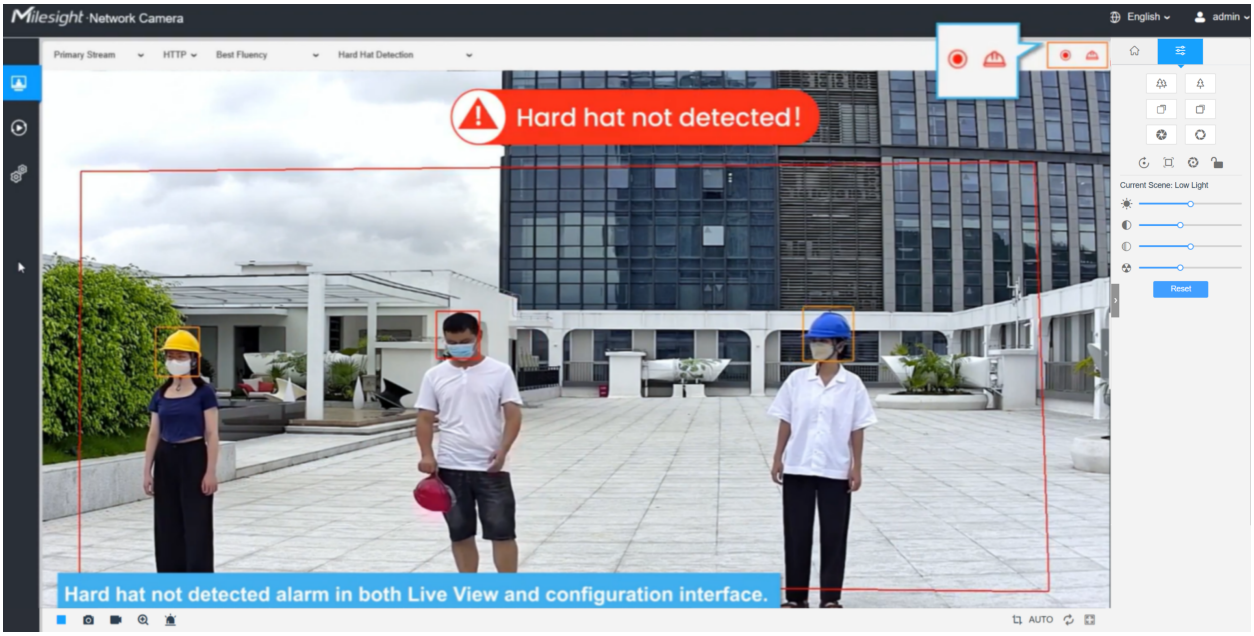
Note: This part is the same as the regular schedule settings. You can refer to 8.4.1.1 Motion Detection *(page 91)*.

[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 *(page 91)*.

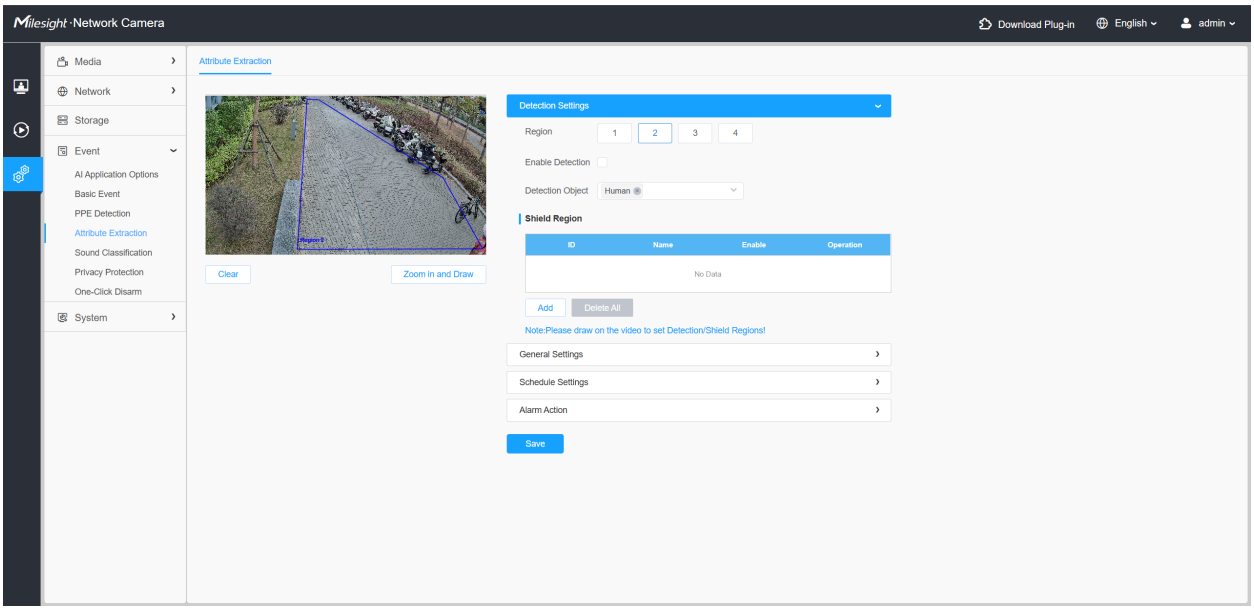


Click **Save** to finish the configurations. An alarm will be triggered when targets in the detection area do not properly wear a hard hat. An alarm icon will be displayed and the detection box will turn red. You can also select PPE Detection to display real-time compliance status of PPE in the Live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



8.4.7 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, hats, vehicle type, and more—to enhance target identification. This advanced recognition capability significantly improves security efficiency across a wide range of surveillance scenarios.



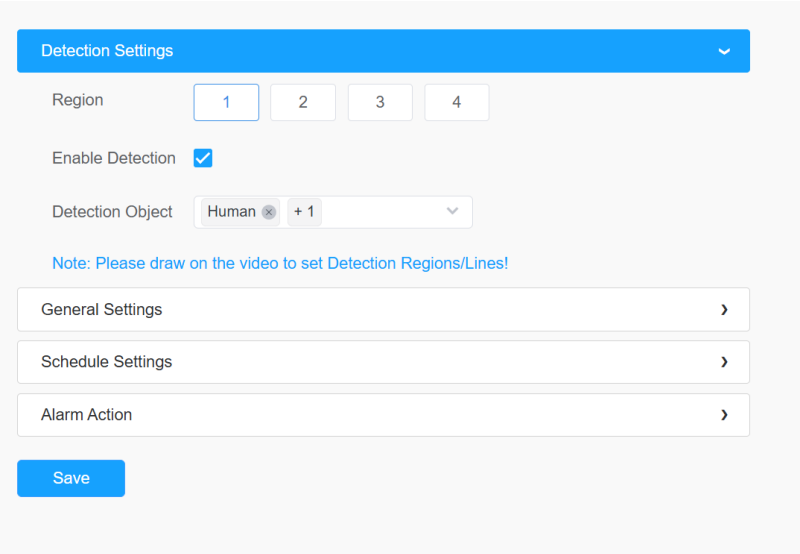
[Detection Settings]

Step1: Choose **Settings** > **Event** > **AI Application Options** > **Attribute Extraction**.

Step2: Select a detection region and enable attribute extraction.

Draw a detection area by clicking on the live view. 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 areas.

Step3: Select a detection object (human or vehicle). The camera will trigger an alarm when a person or vehicle is detected.



[General Settings]

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

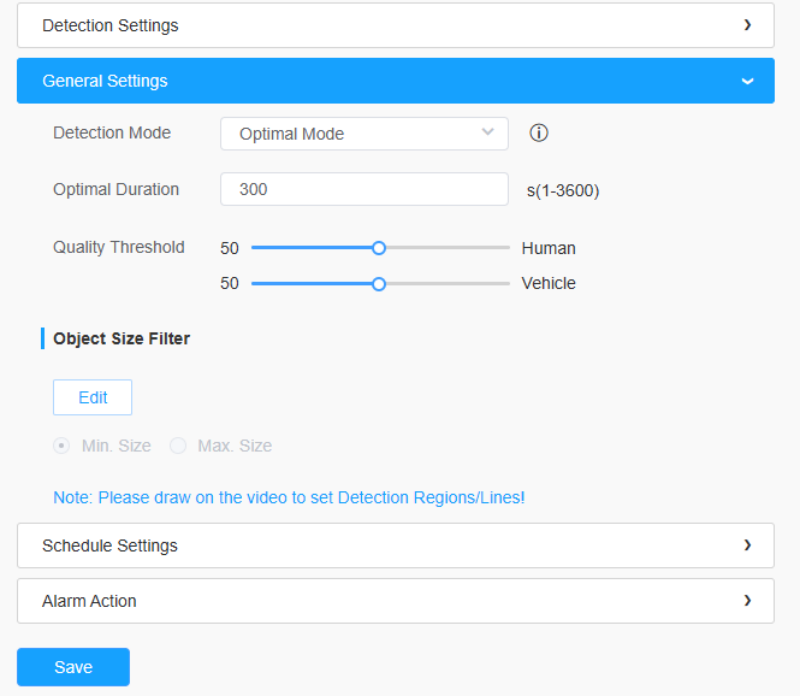


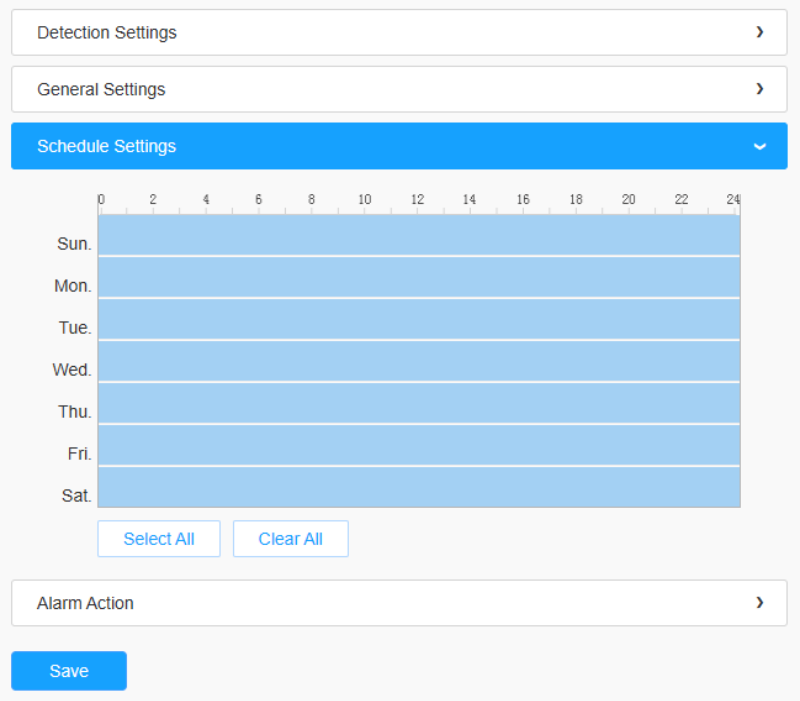
Table 65. Description of the buttons

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.

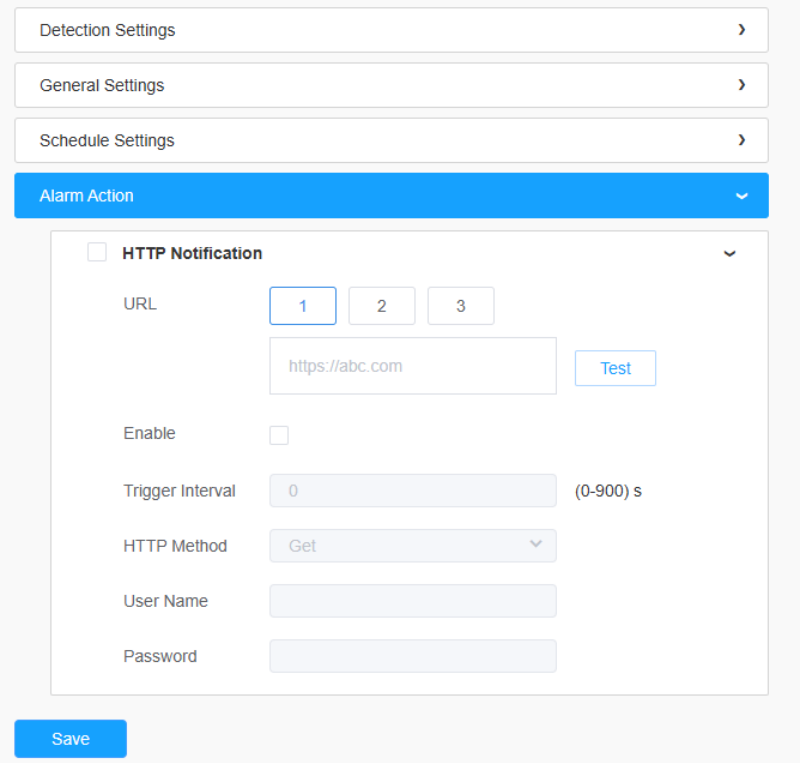
Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 95)*.



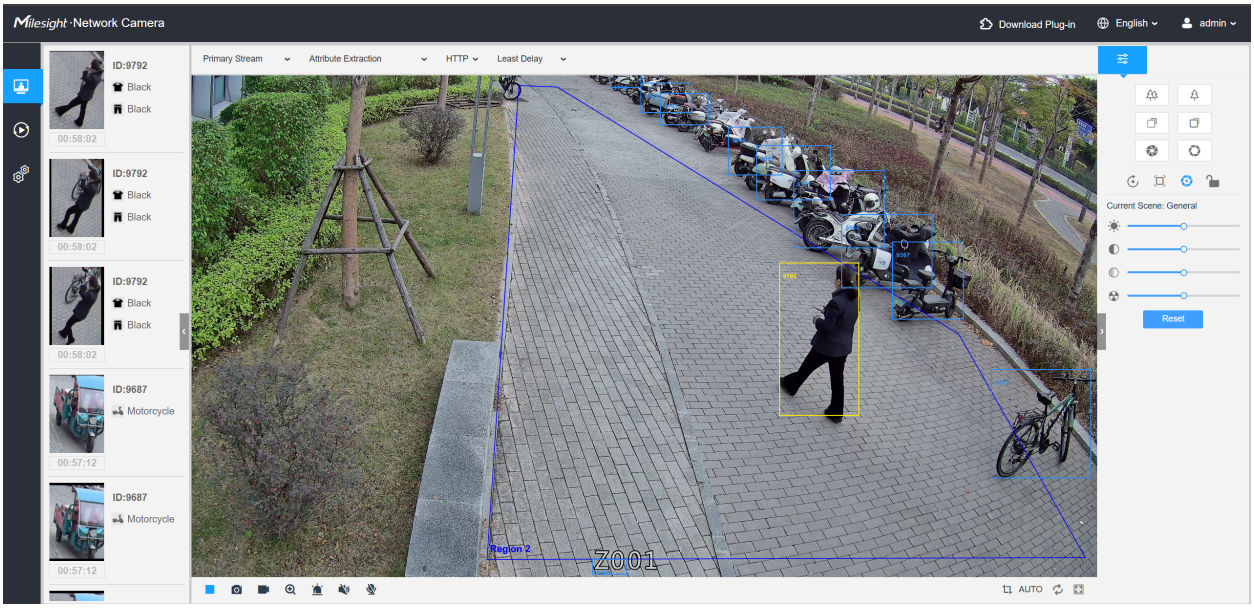
[Alarm Action]

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.



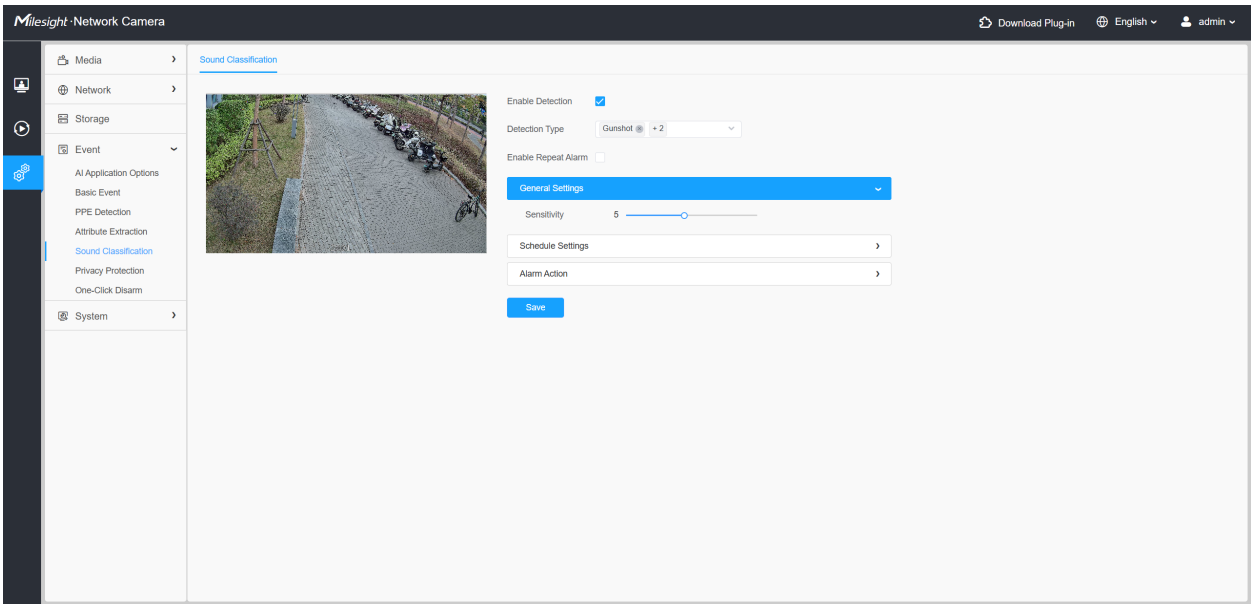
8.4.8 Sound Classification

Sound Classification supports instant detection of gunshots, glass breaking, and screaming sounds. If screaming, gunshots, or glass breaking are detected, an alarm will be triggered immediately.

Note:

This function is only supported on MS-Cxx72-xG1 models.

For more details about how to use Sound Classification, see https://youtu.be/gpMI-egXiOg.



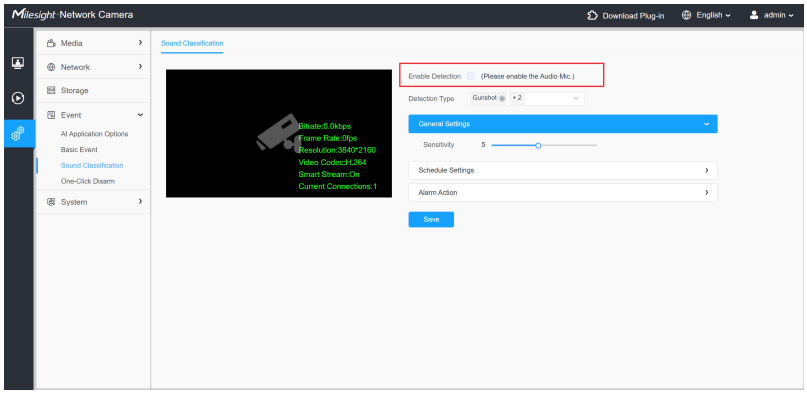
You can configure the function according to the following steps:

[Enable Detection]

Step1: Choose **Settings** > **Event** > **AI Application Options** > **Sound Classification**.

Step2: Check the checkbox to enable the function.

Note: Before enabling the function, choose **Settings** > **Media** > **Audio** > **Enable** to enable the Audio Mic first. For details about **Audio**, see 8.1.3.1 Audio *(page 56)*.



Step3: Select a detection type. **Gunshot**, **Glassbreak**, and **Screaming** are available.

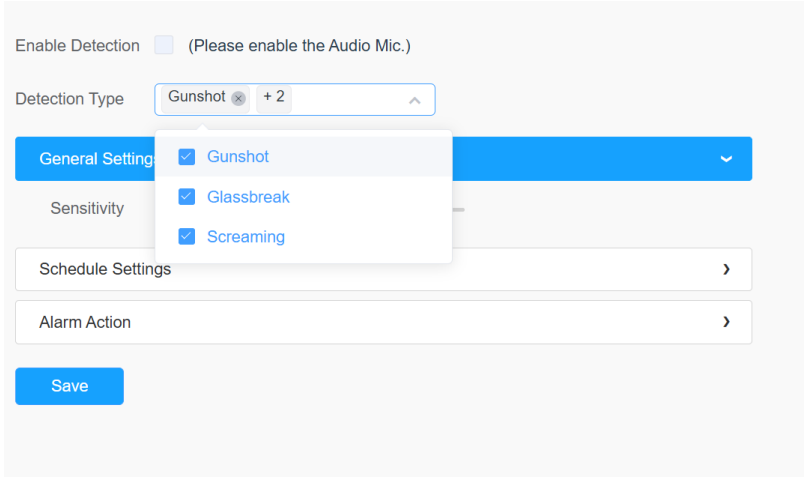
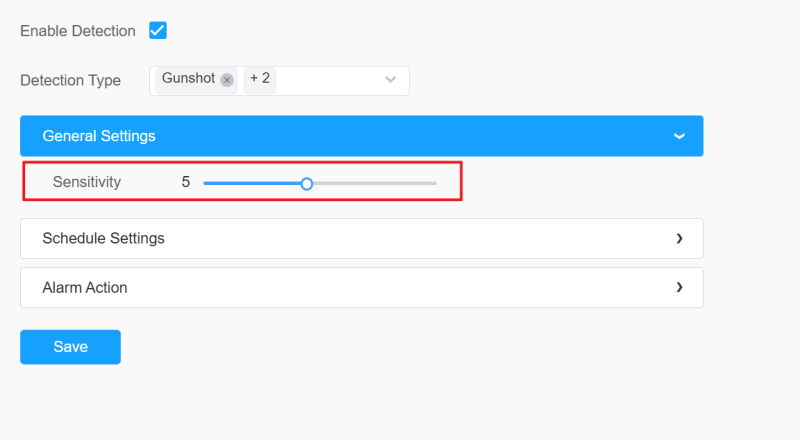


Table 66. Parameter Description

Parameter	Function Introduction
Enable Detection	Check the check-box to enable this function.
Detection Type	Select a detection type. **Gunshot**, **Glassbreak**, and **Screaming** are supported.

[General Settings]

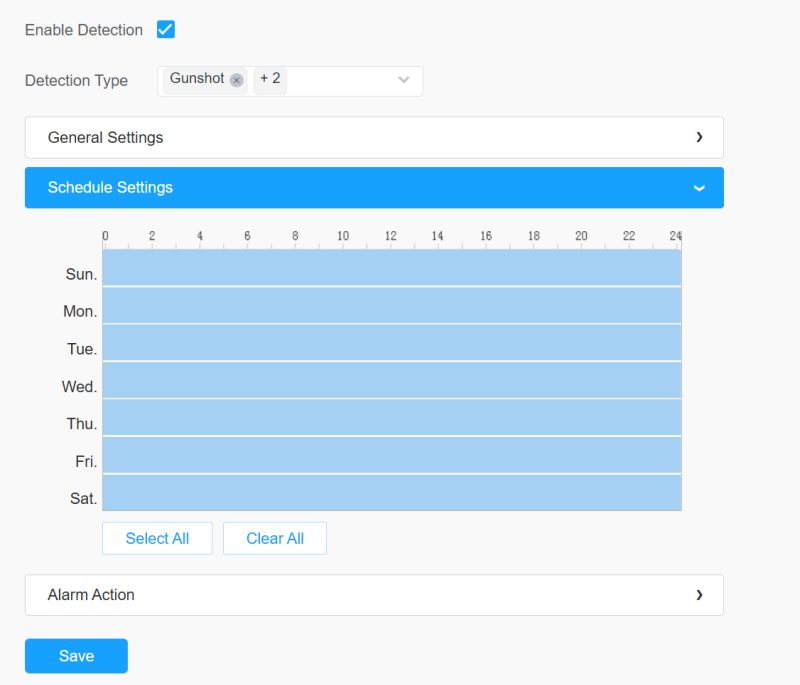
Step4: Configure the sensitivity from **1** to **10**. The default value is **5**.



[Schedule Settings]

Step5: Set a detection schedule.

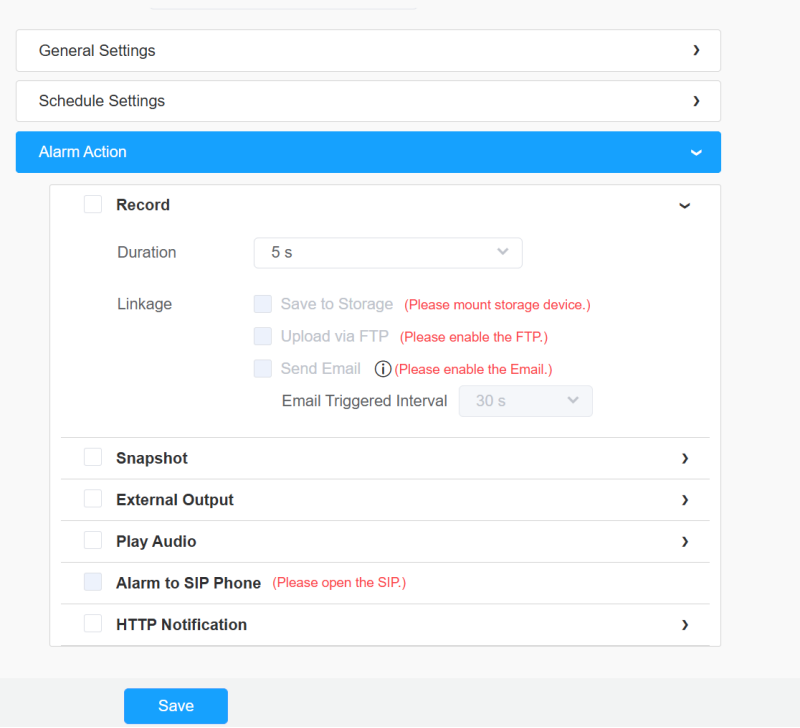
Note: For more details, see Motion Detection *(page 95)*.



[Alarm Action]

Step6: Set an alarm action.

Note: For more details, see 8.4.1.1 Motion Detection *(page 91)*.



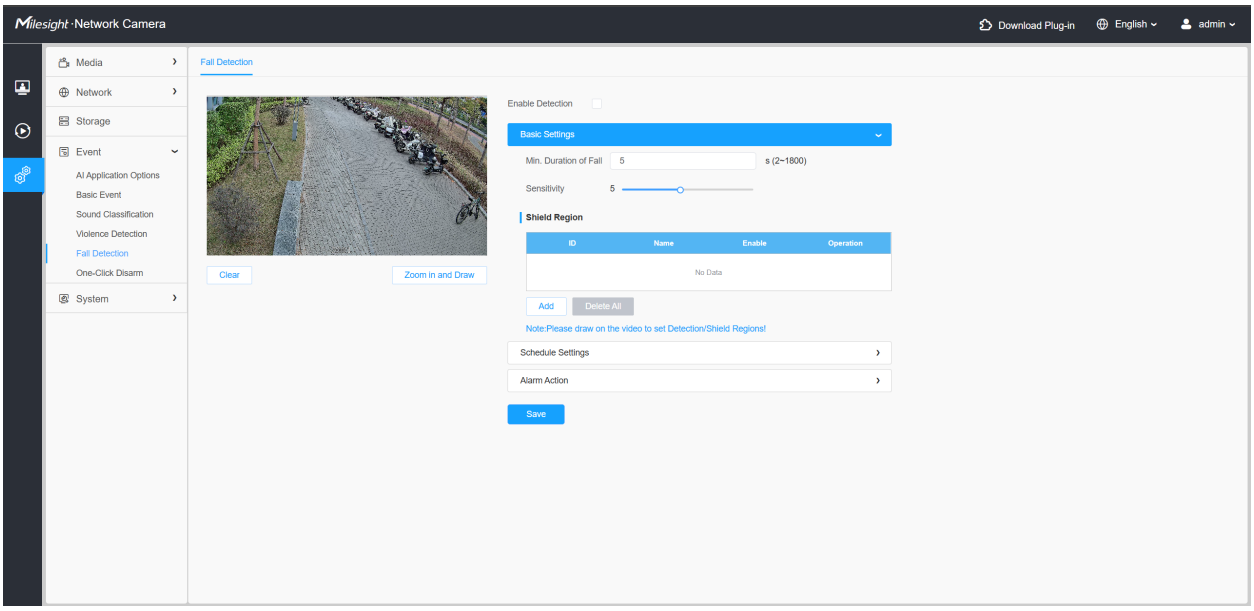
Step7: Click **Save** to save your configurations.

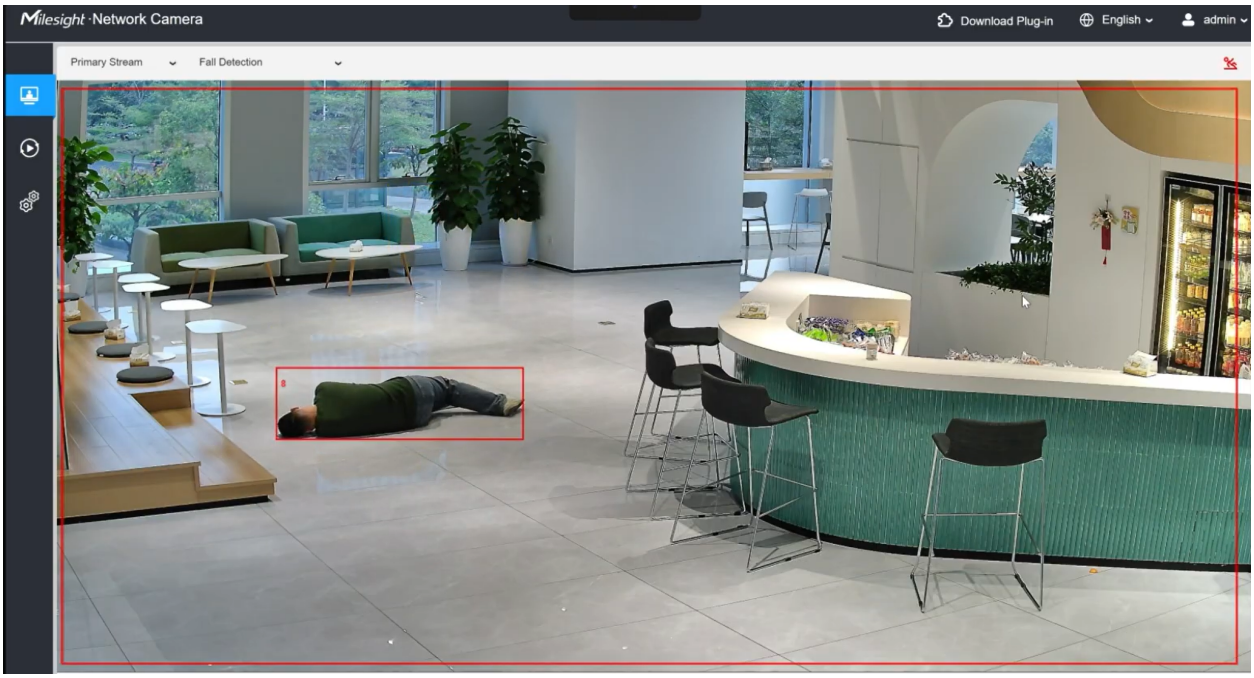
8.4.9 Fall Detection

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

Note: If Fall Detection is enabled, VCA Event, Object Counting, Face Detection, Heat Map, and Attribute Extraction cannot be used.

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



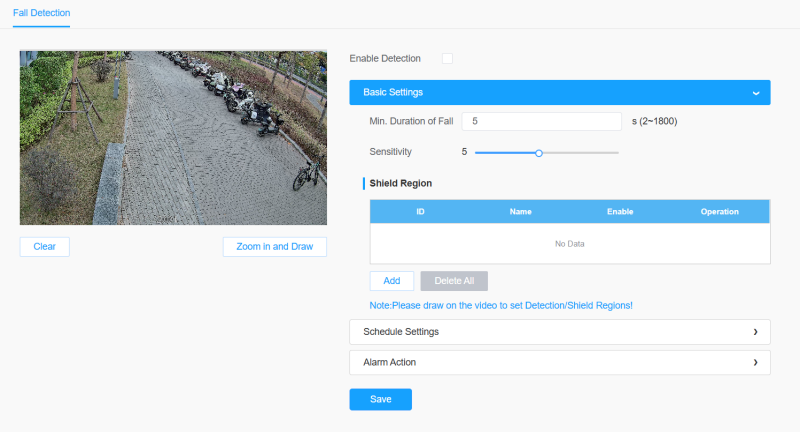


You can configure the function according to the following steps:

[Enable Detection]

Step1: Choose **Settings** > **Event** > **AI Application Options** > **Fall Detection**.

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**.

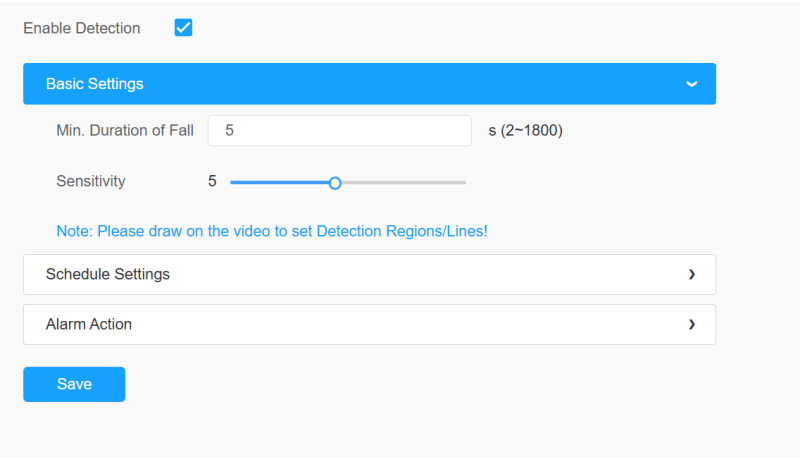


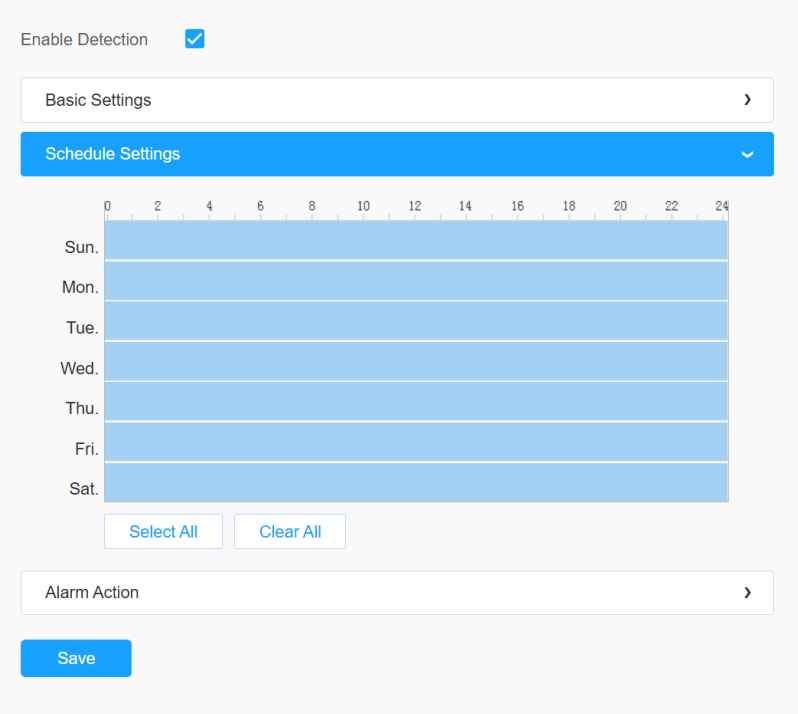
Table 67. Parameter Description

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.

[Schedule Settings]

Step6: Set a detection schedule.

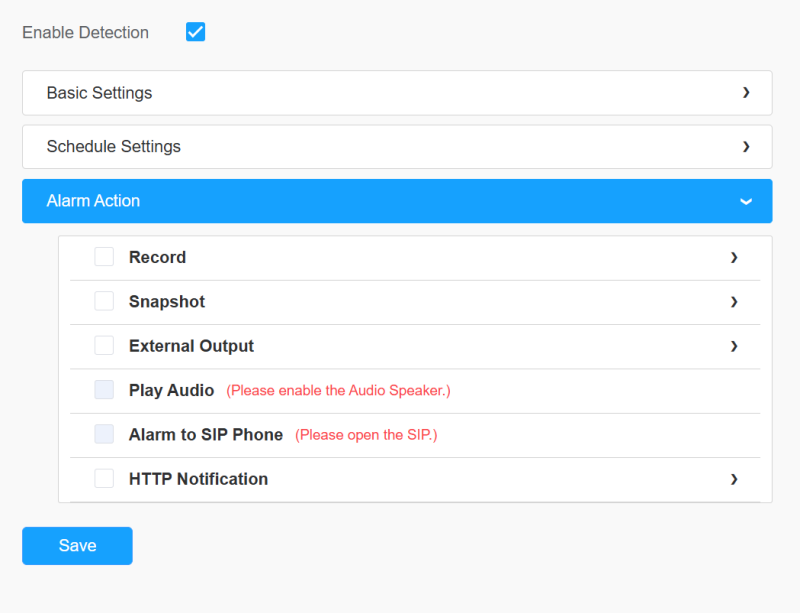
Note: For more details, see Motion Detection *(page 95)*.



[Alarm Action]

Step7: Set an alarm action.

Note: For more details, see 8.4.1.1 Motion Detection *(page 91)*.



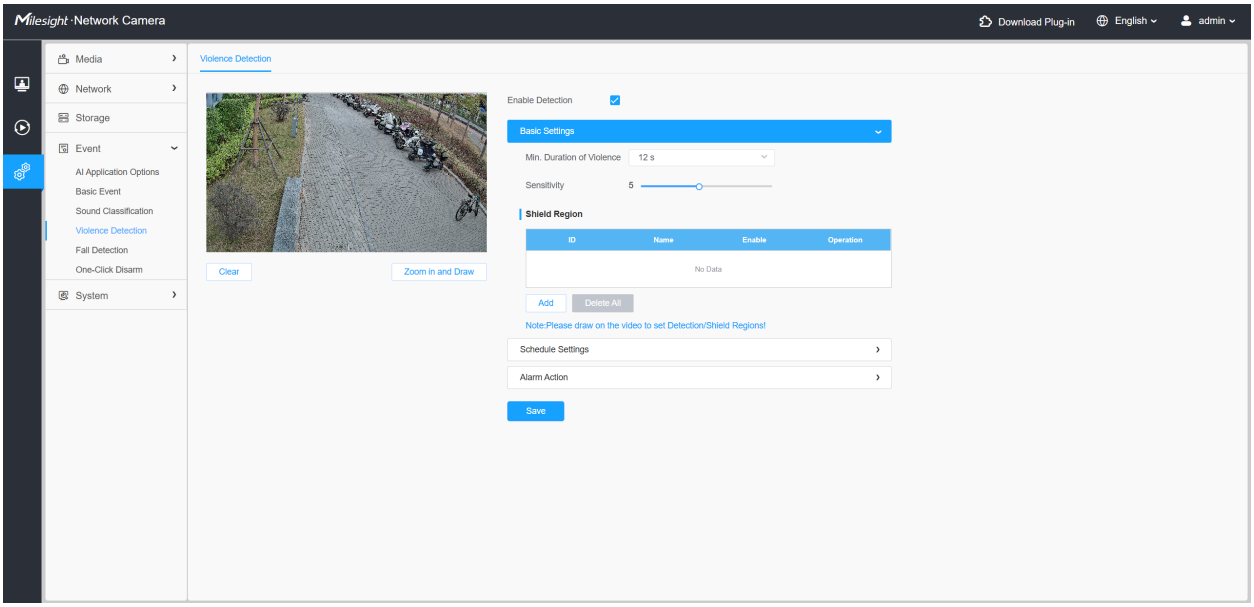
Step8: Click **Save** to save your configurations.

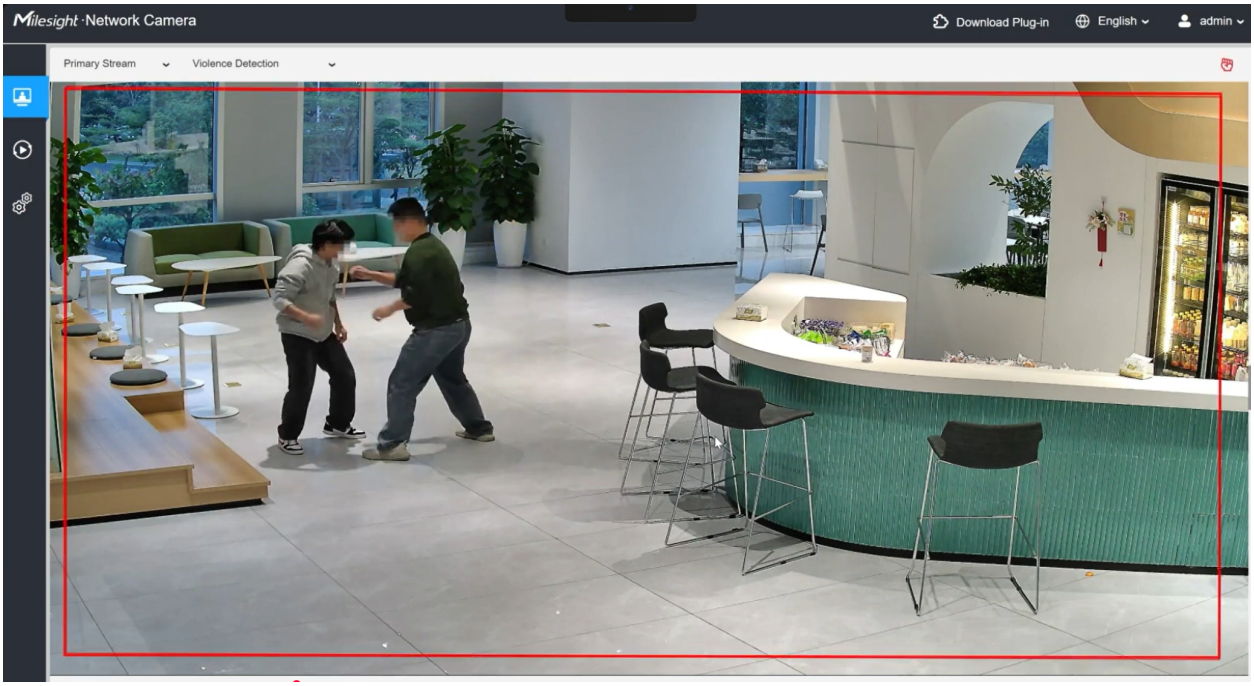
8.4.10 Violence Detection

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.





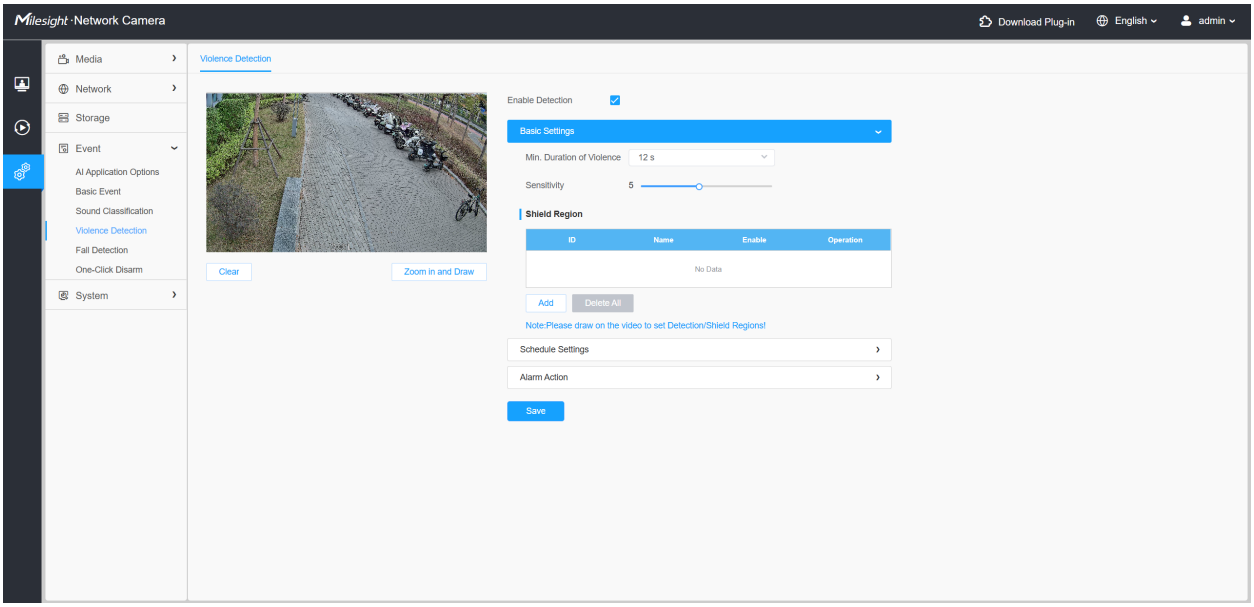
You can configure the function according to the following steps:

[Enable Detection]

Step1: Choose **Settings** > **Event** > **AI Application Options** > **Violence Detection**.

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**.

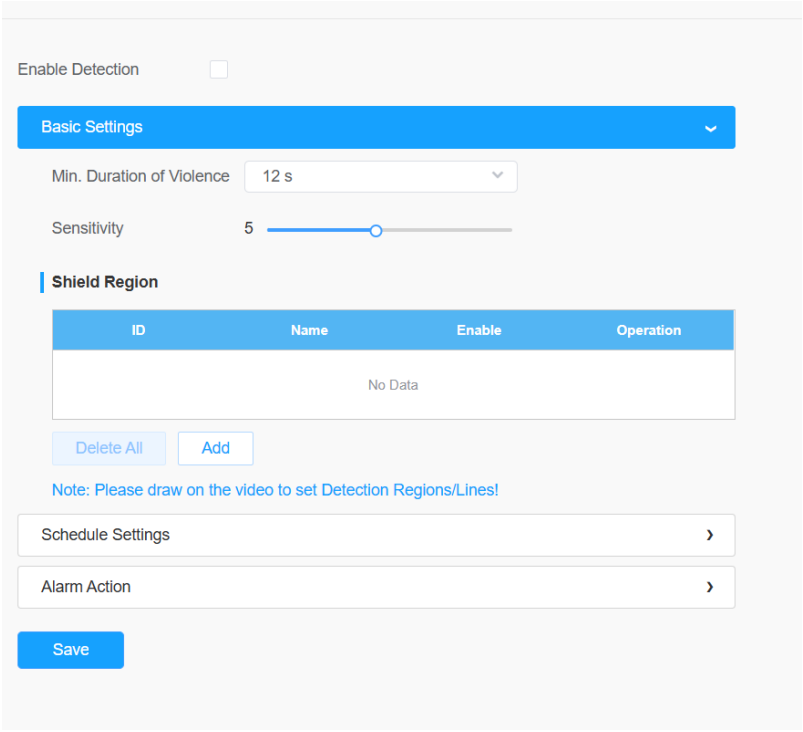


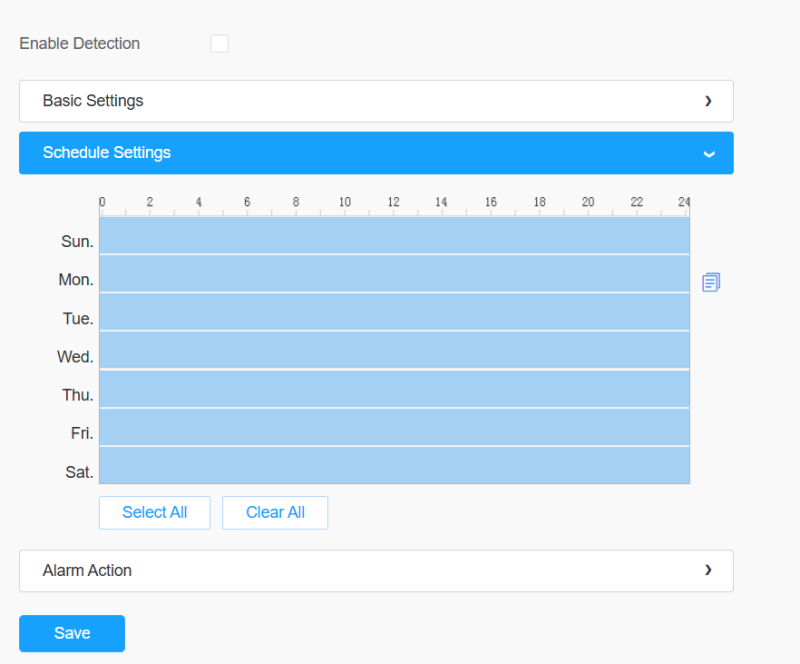
Table 68.

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.

[Schedule Settings]

Step6: Set a detection schedule.

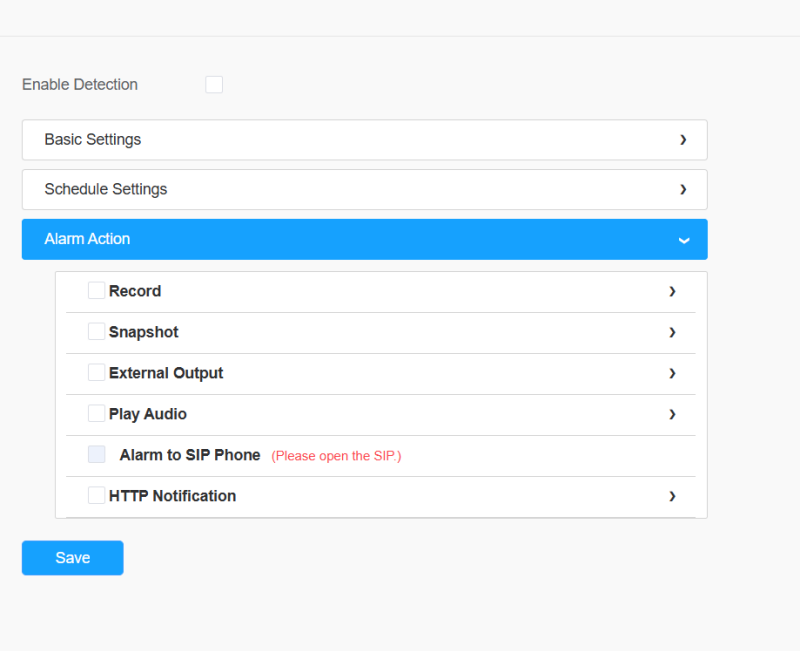
Note: For more details, see Motion Detection *(page 95)*.



[Alarm Action]

Step7: Set an alarm action.

Note: For more details, see 8.4.1.1 Motion Detection *(page 91)*.



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

8.4.11 Privacy Protection

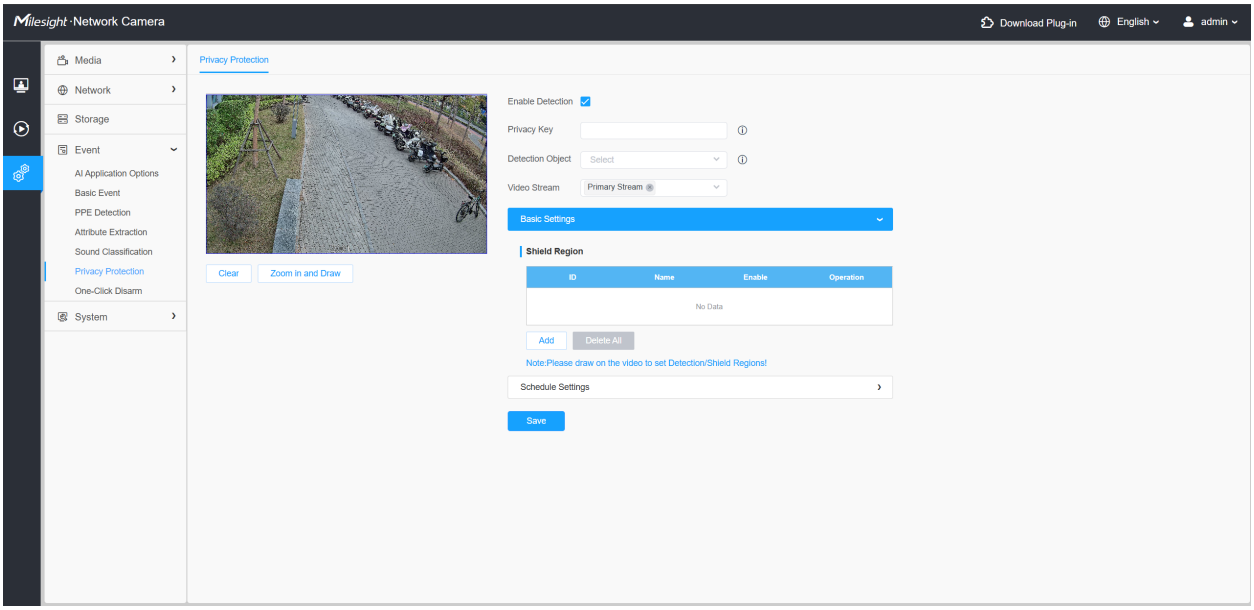
Privacy Protection masks detected faces or bodies in video streams. It supports the primary stream and the secondary stream. It supports H.265 and H.264 encoding and is GDPR compliant, and H.265/H.264, is GDPR compliant.

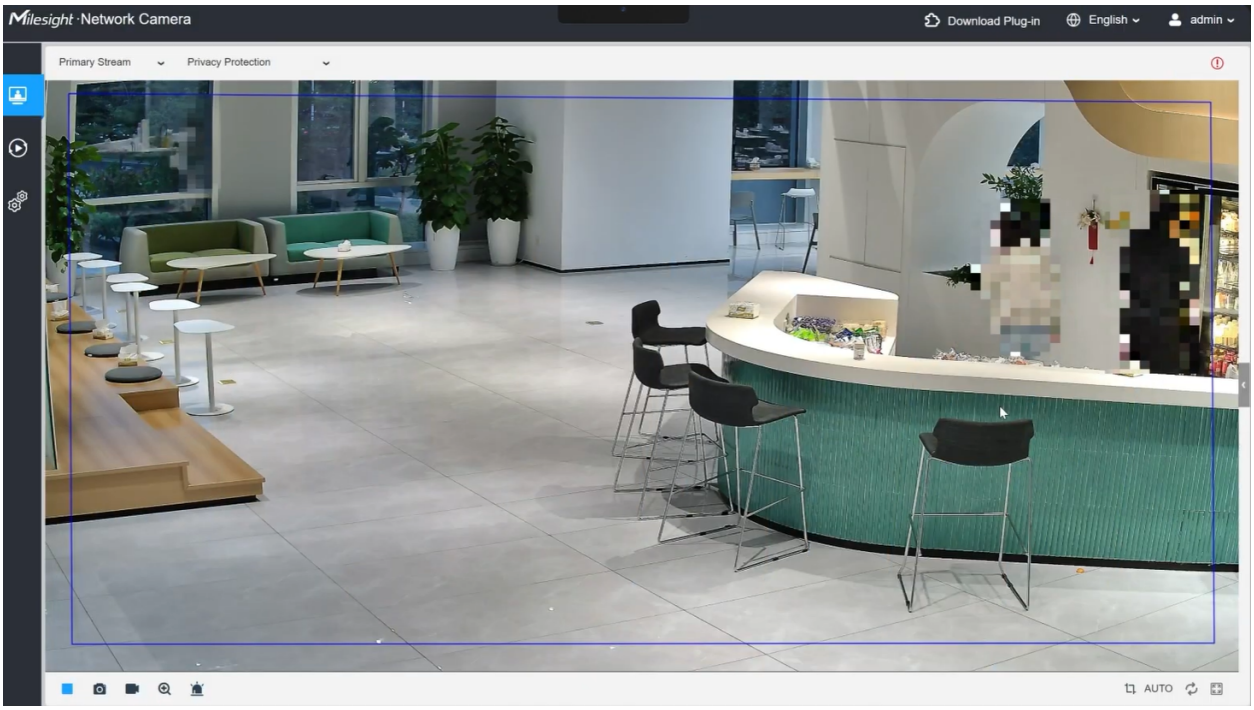
Note:

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.





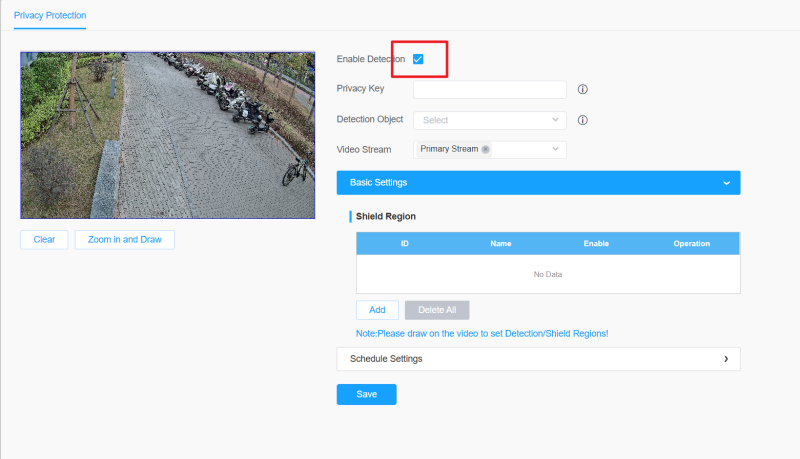
You can configure the function according to the following steps:

[Enable Detection]

Step1: Choose **Settings** > **Event** > **AI Application Options** > **Privacy Protection**.

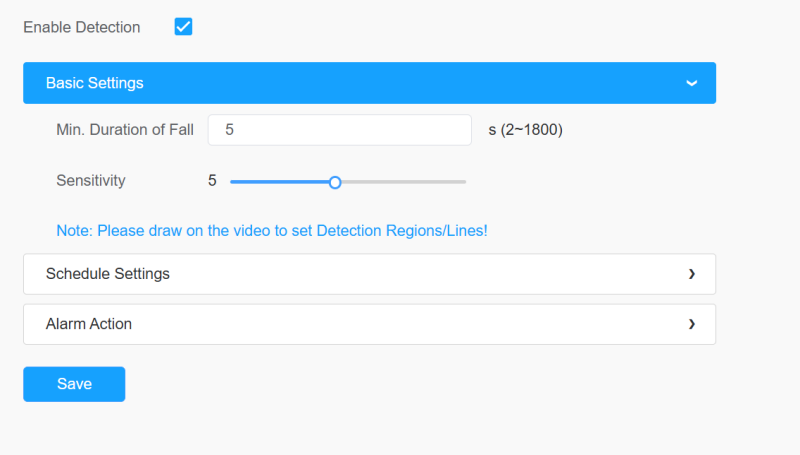
Step2: Draw a detection region on the live view.

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 69. 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.

Parameter	Function Introduction
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.

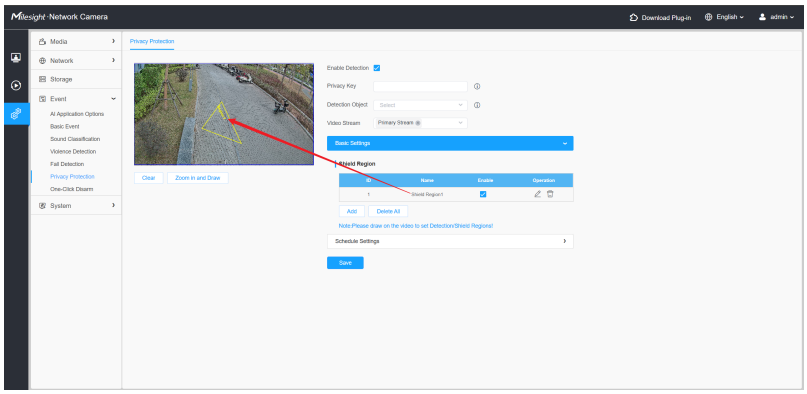


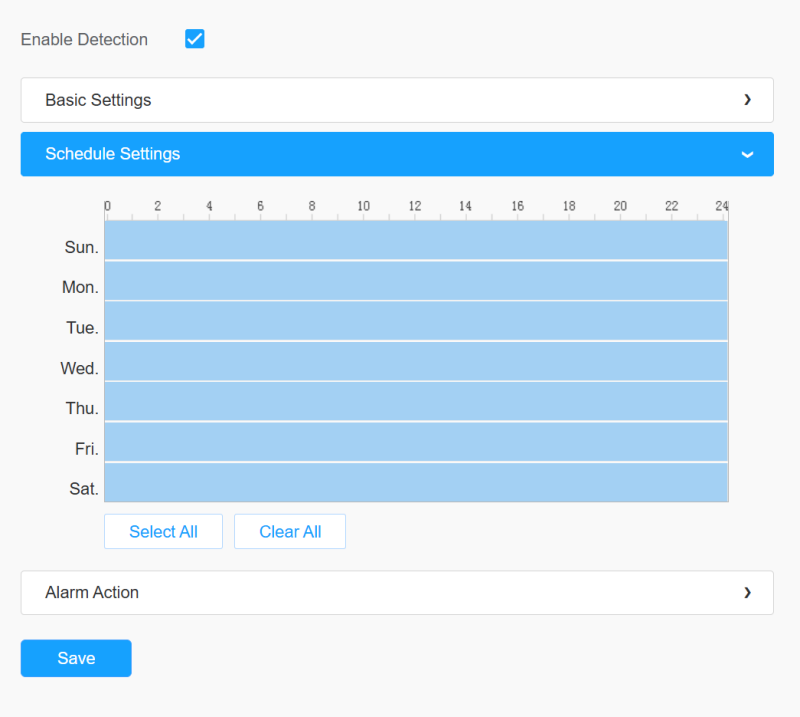
Table 70.

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 Motion Detection *(page 95)*.



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

8.4.12 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.

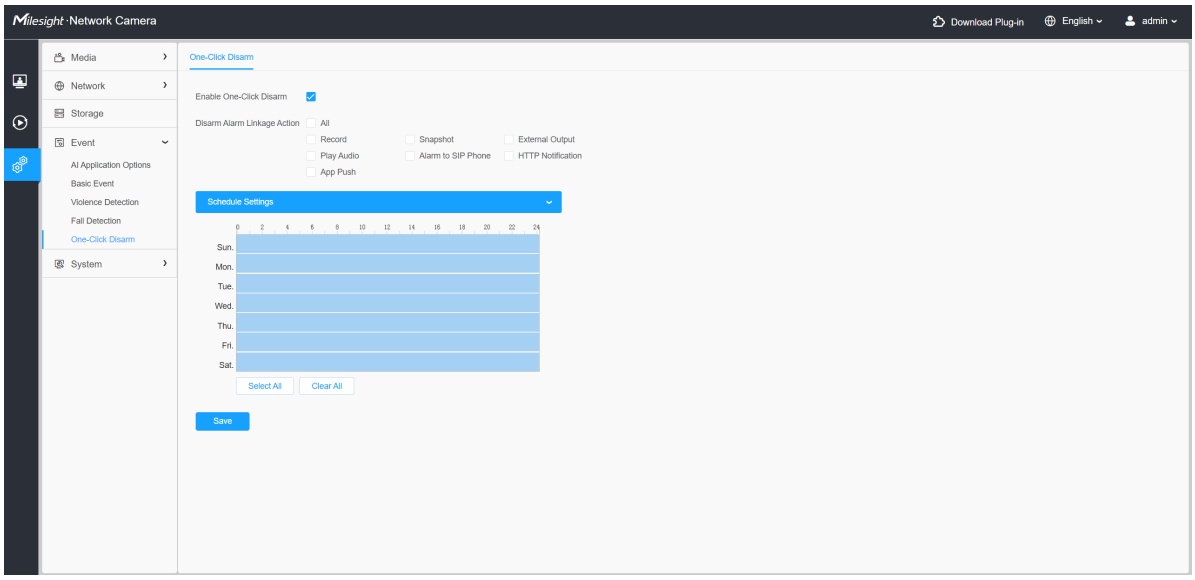
Table 71. Description of the buttons

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.

Parameters	Function Introduction
App Push	Do not push the alarm message to the app.

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

  For the schedule settings, please refer to Motion Detection *(page 95)*.



8.5 System

Here you can configure System Setting, Security, Logs and Maintenance.

8.5.1 System Setting

Here you can check System information and Date&Time.

8.5.1.1 System Info

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

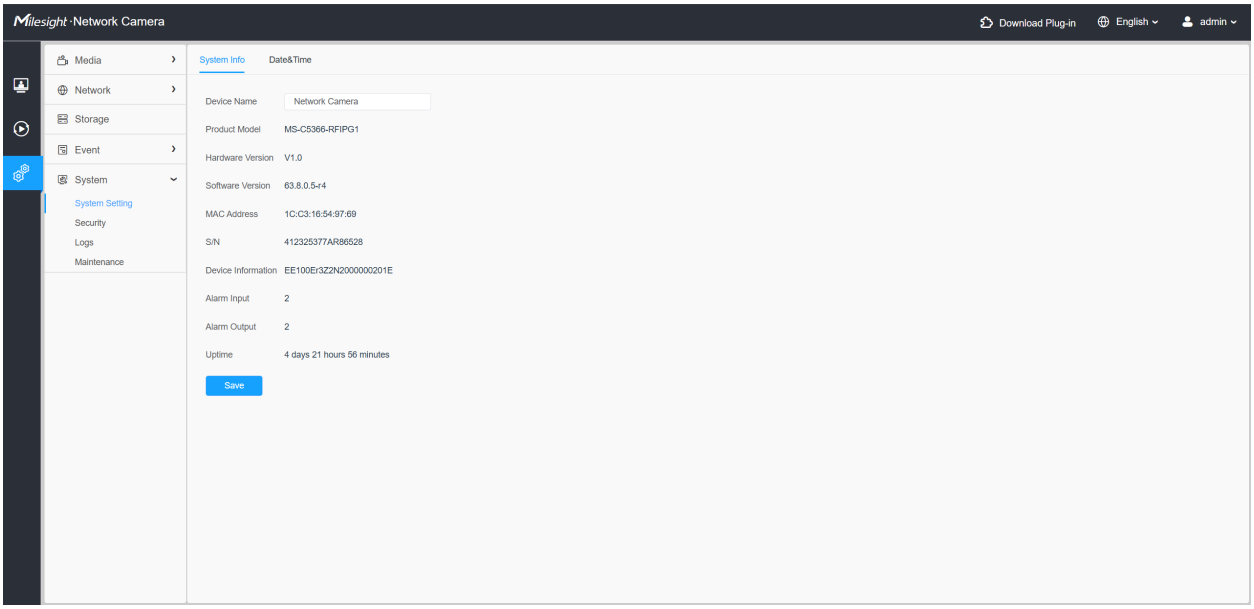


Table 72. Description of the buttons

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.

8.5.1.2 Date&Time

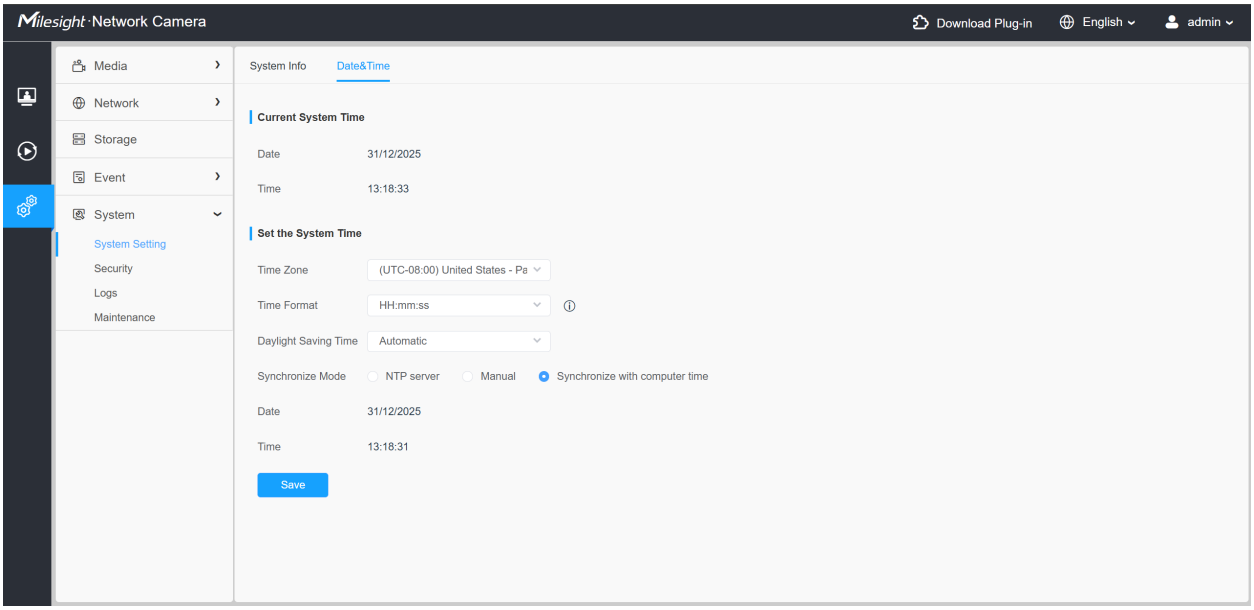


Table 73. Parameter Description

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.

8.5.2 Security

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

8.5.2.1 User

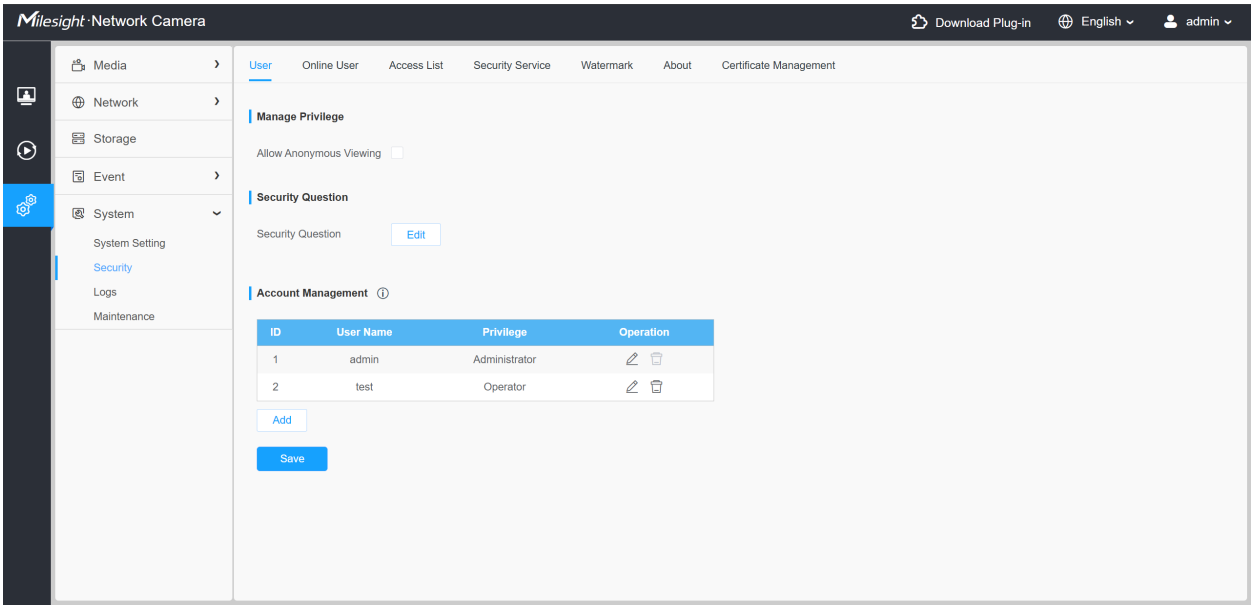
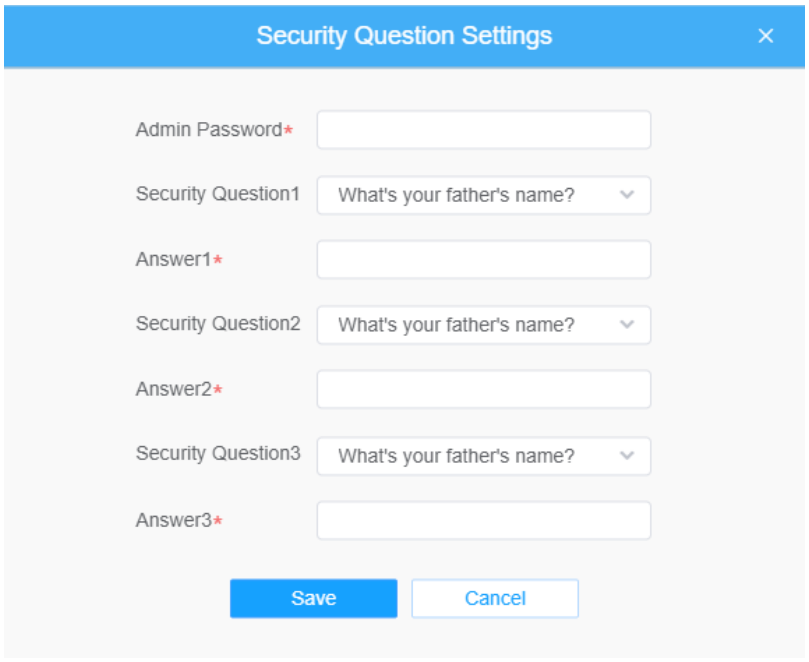
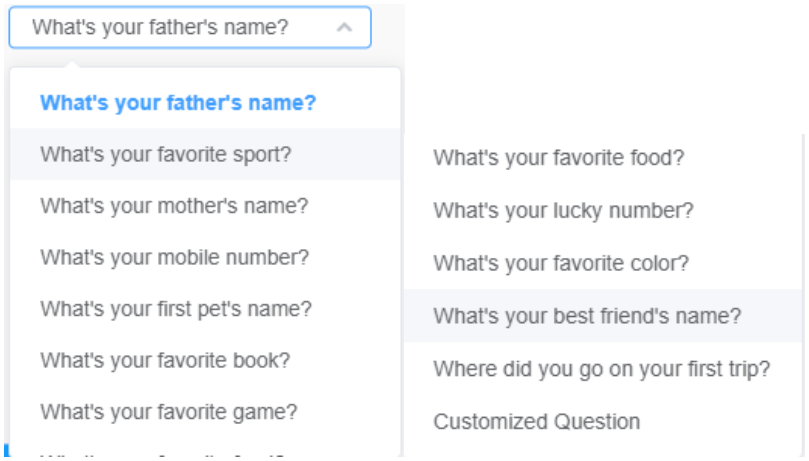


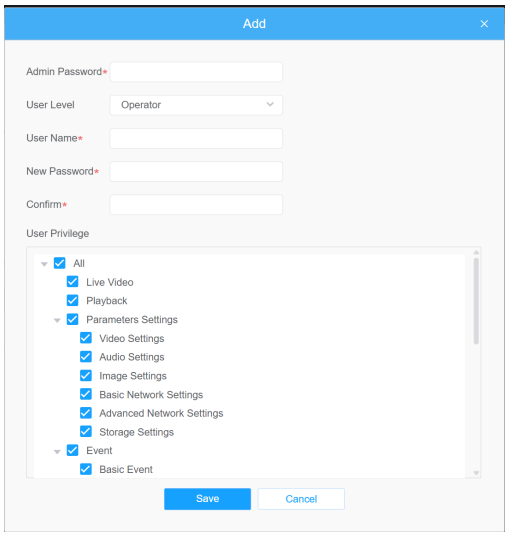
Table 74. Description of the buttons

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.

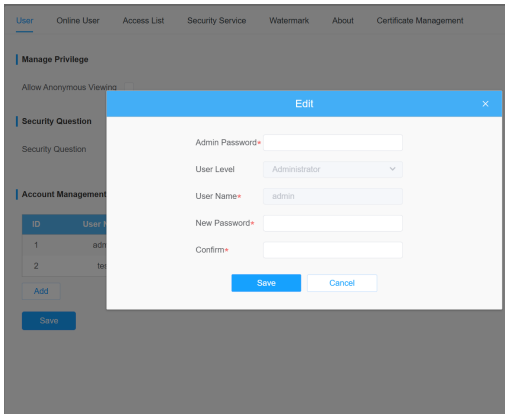
Parameters	Function Introduction
Security Question	Click the **Edit** button to set three security questions for your camera. In case that you forget the password, you can click “Forget Password” button on login page to reset the password by answering three security questions correctly.  There are twelve default questions below, you can also customize the security questions. 

Parameters	Function Introduction
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.

<table>
<tr><th>Parameters</th><th>Function Introduction</th></tr>
<tr><td rowspan="2">Account Management</td><td>
User Privilege: Grant permissions to the user.



You can edit and delete the account in the account list under the admin account. For the default admin account, you can only change the password, and it cannot be deleted.

By clicking  , you can edit the detailed information of a custom user, including user level, name, password, and more.


</td></tr>
<tr><td>
Note:

• Support up to 20 users, including a default user and 19 custom added users.
• The operator privilege is all checked by default.
</td></tr>
</table>

8.5.2.2 Online User

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

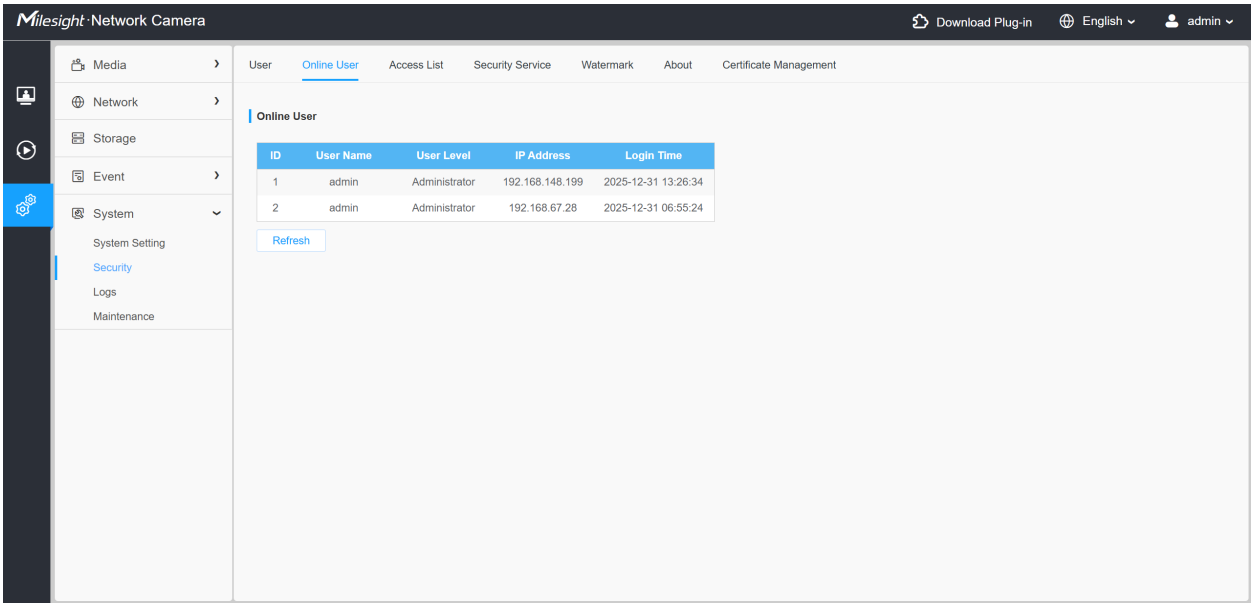


Table 75. Description of the buttons

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.

8.5.2.3 Access List

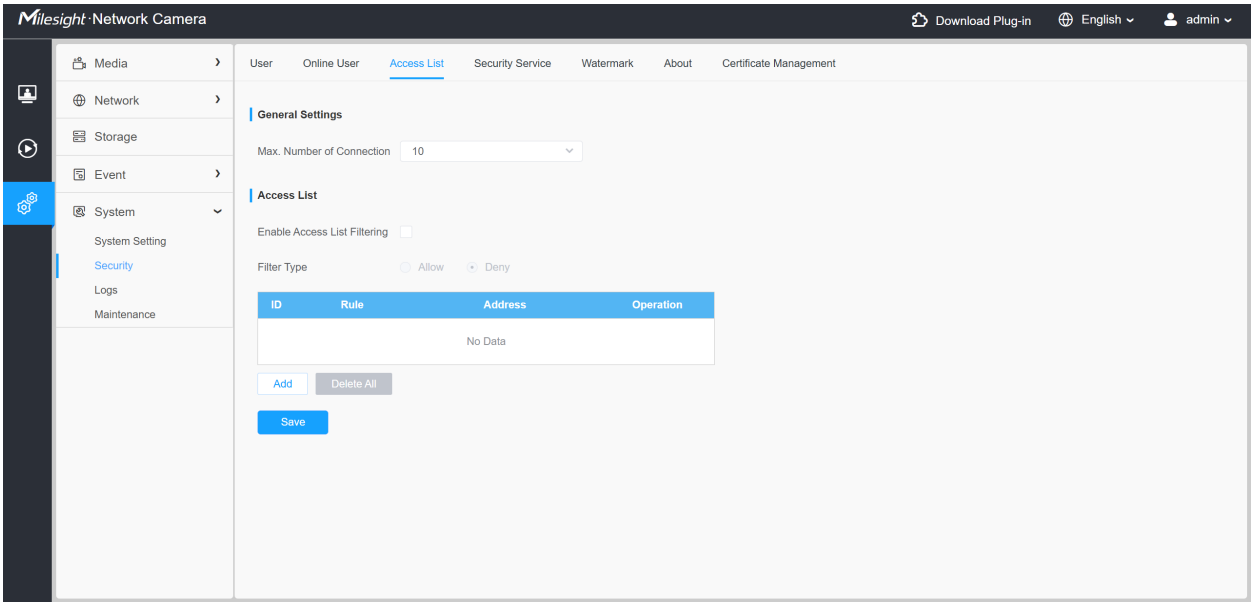


Table 76. Description of the buttons

Parameters	Function Introduction	
General Settings	**Max. Number of Connection:** Select the maximum number of concurrent streaming. 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.

Parameters	Function Introduction	
Access List		Edit the selected IP on access list.
		Delete the selected IP on access list.
Save	Save the configurations.	

8.5.2.4 Security Service

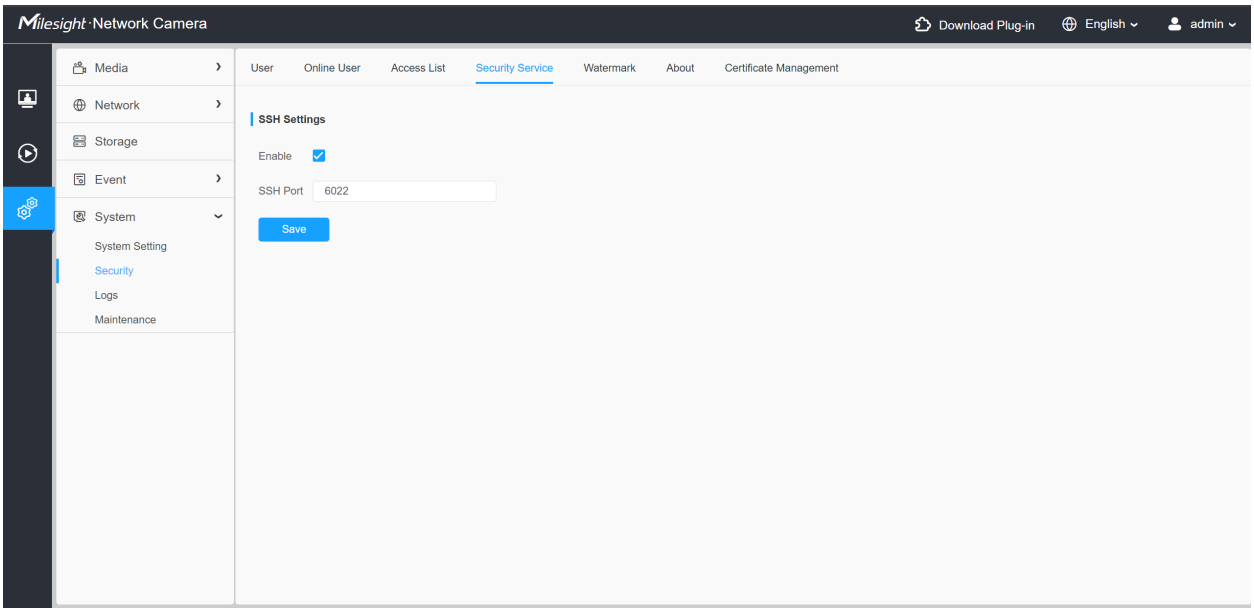
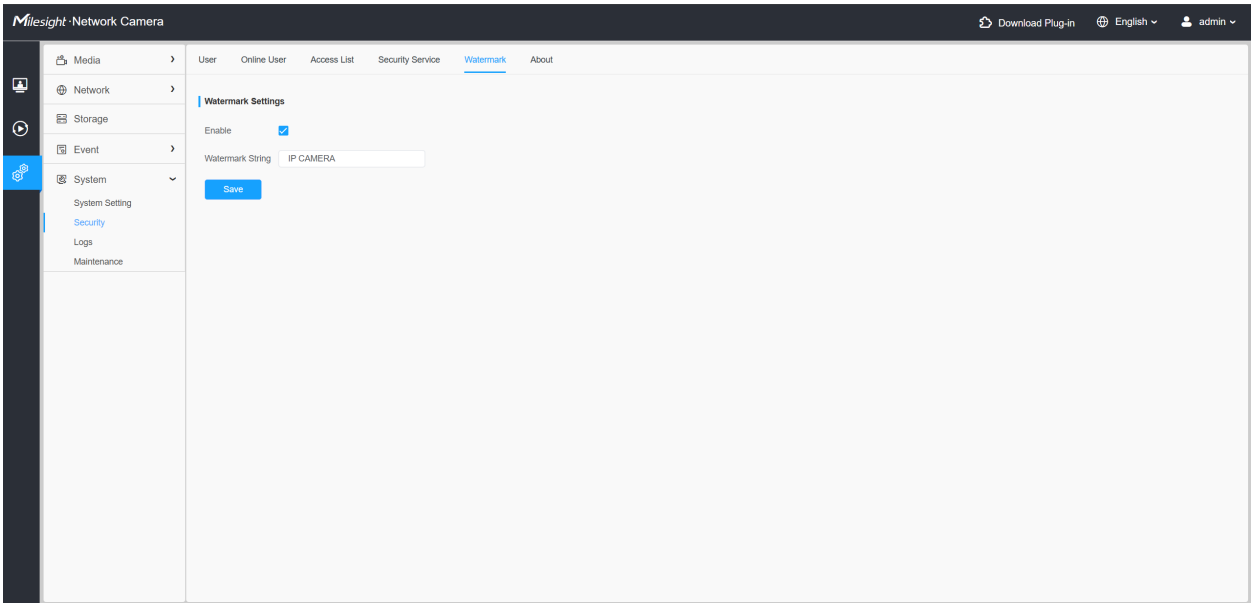


Table 77. Description of the buttons

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. Enable ☑ SSH Port 6022 **Note:** Enabling this feature poses security risks!

Parameters	Function Introduction
Save	Save the configurations.

8.5.2.5 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.

8.5.2.6 About

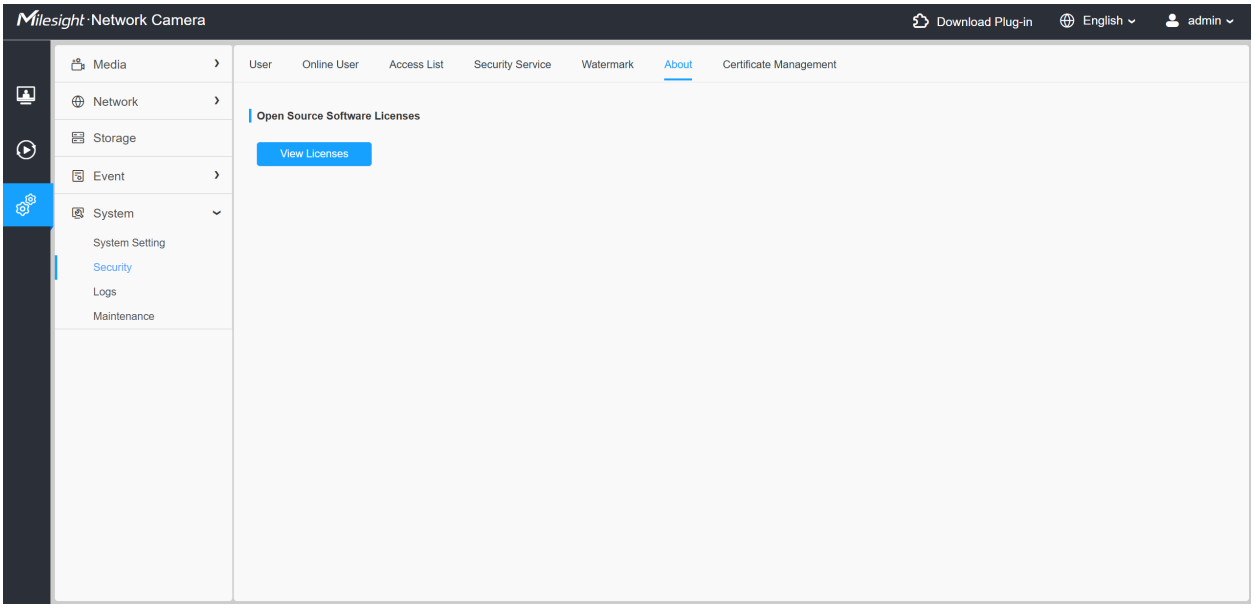


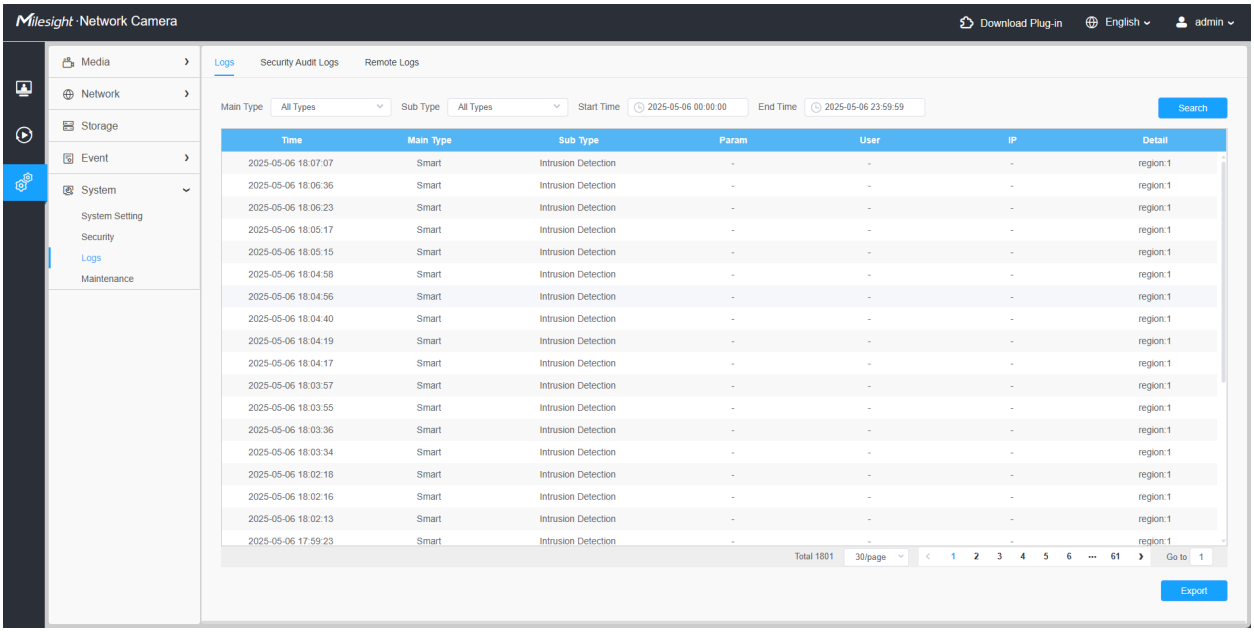
Table 78. Parameter Description

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

8.5.3 Logs

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

8.5.3.1 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.

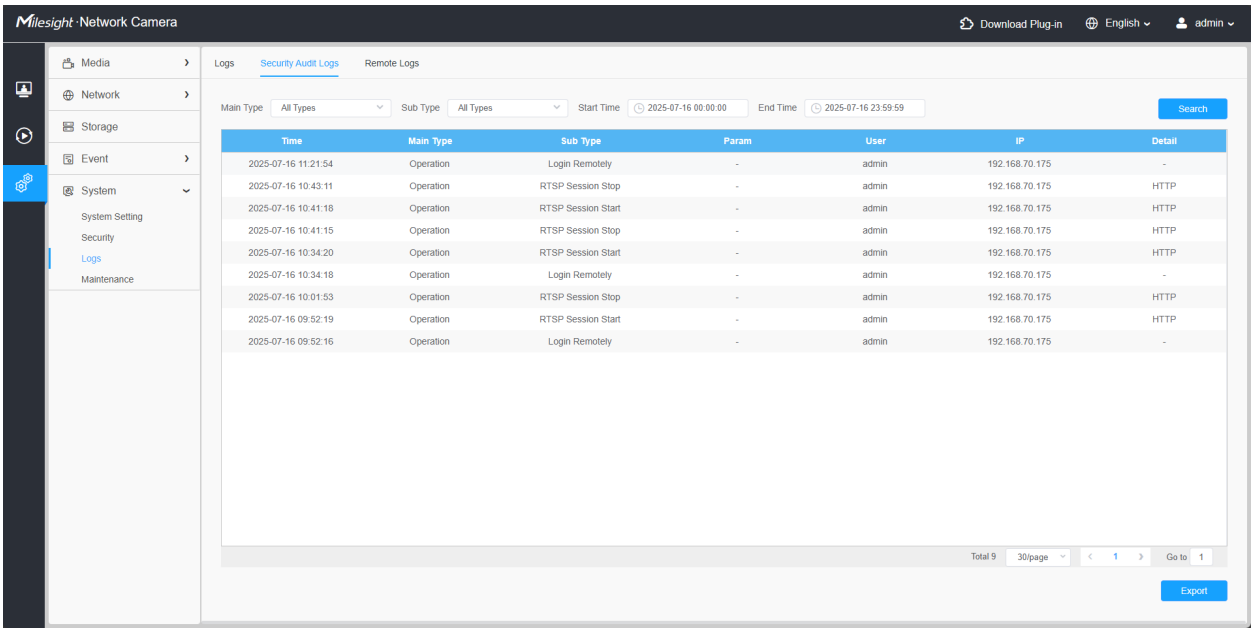
Logs can only be stored on the SD card or NAS.

Table 79. 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.

Parameters	Function Introduction
Go to	Enter the log page number to navigate to the target page.

8.5.3.2 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 80. Description of the buttons

Parameters	Function Introduction
Main Type	Five main types are supported: **All Types**, **Event**, **Operation**, **Information**, **Exception**, and **Smart.**

Parameters	Function Introduction
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.

8.5.3.3 Remote Logs

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

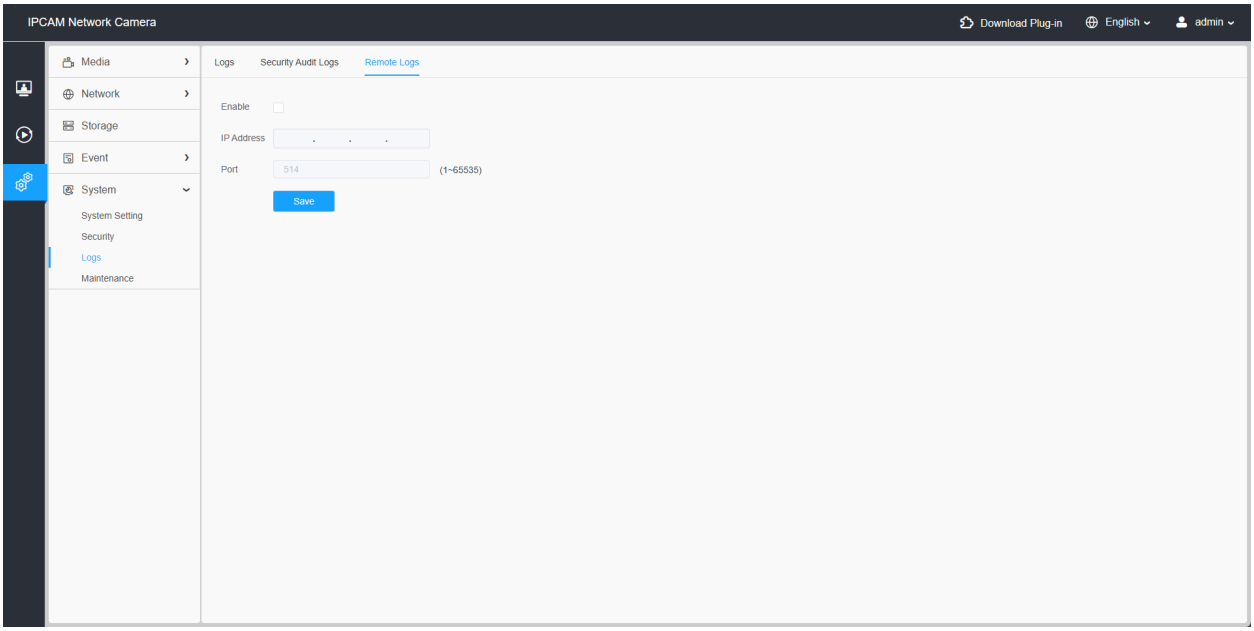


Table 81. Parameter Description

Parameter	Function Introduction
Enable	Turn on this option to activate log forwarding.

Parameter	Function Introduction
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.

8.5.4 Maintenance

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

8.5.4.1 System Maintenance

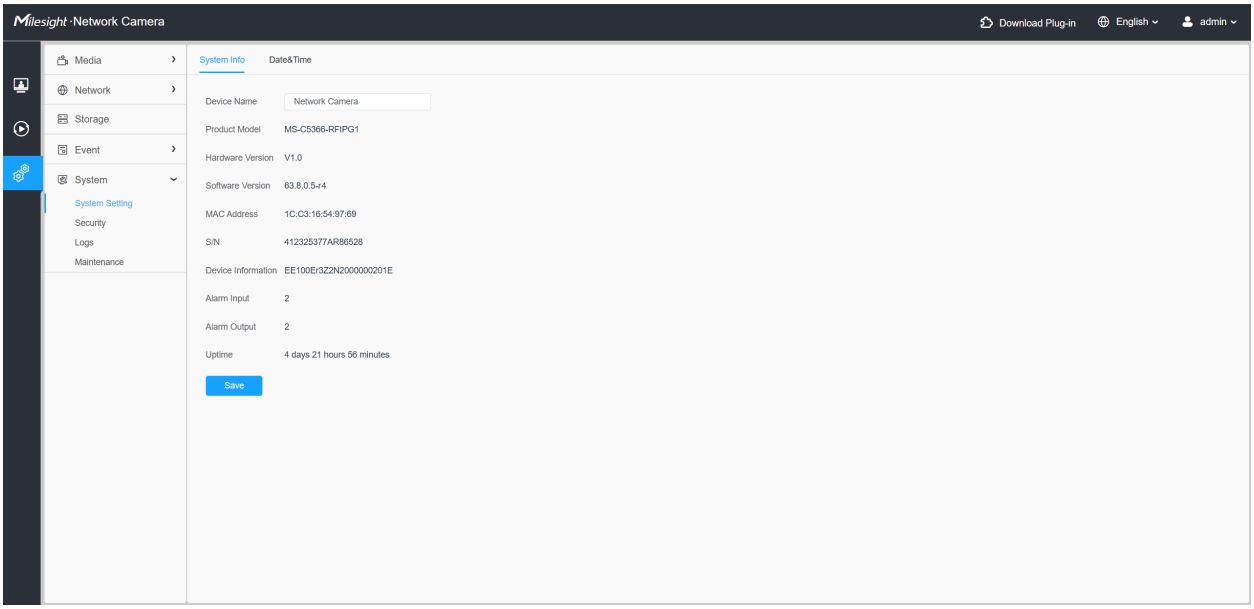
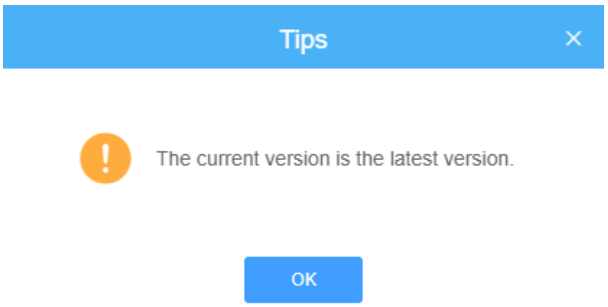
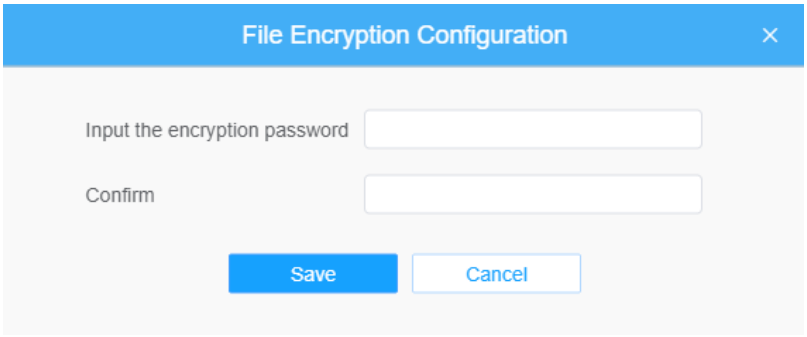
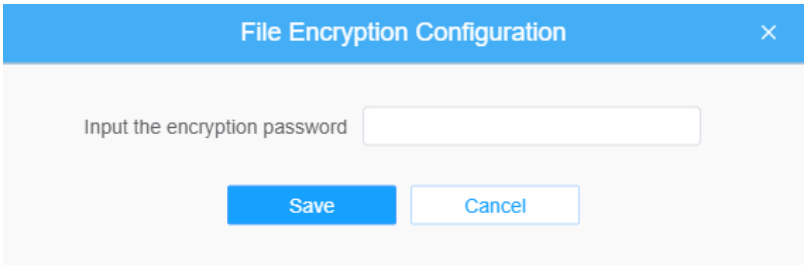


Table 82. Description of the buttons

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.

Parameters	Function Introduction
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.

Parameters	Function Introduction
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.

8.5.4.2 Auto Reboot

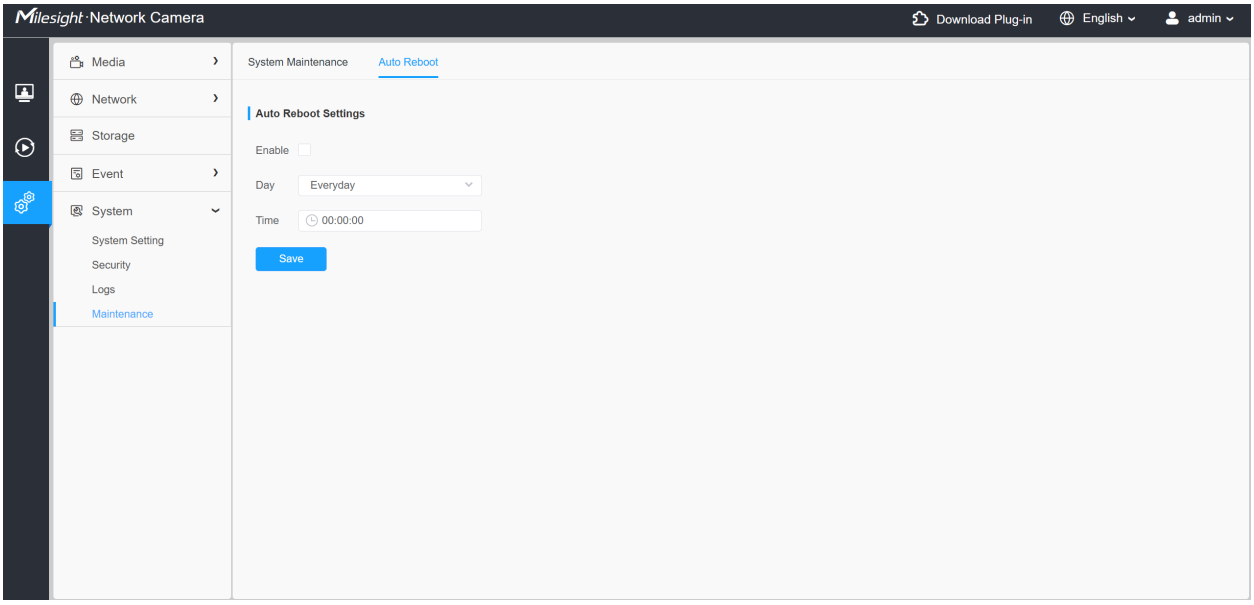


Table 83. Parameter Description

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.

8.5.4.3 Deicing

This function is a heating and deicing system designed specifically for surveillance cameras operating in low-temperature, high-humidity, rainy, or snowy environments.

Note: Only supported on MS-Cxx72-xG1.

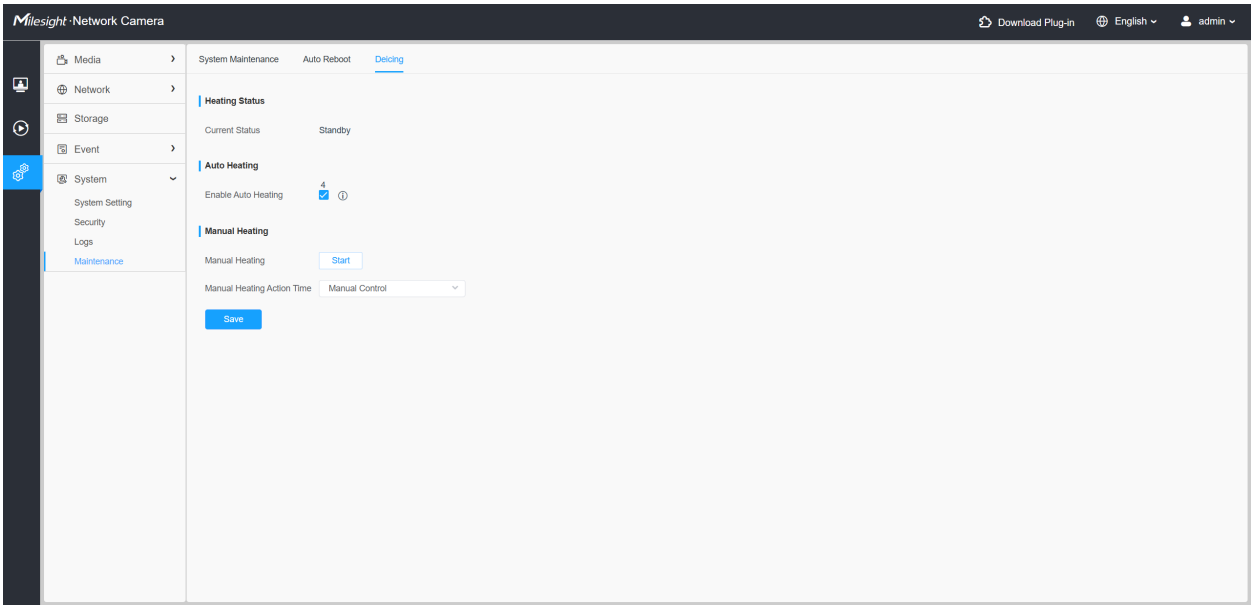


Table 84. Parameter Description

Parameter	Function Description
Heating Status	The current heating status of the camera. You can check the **Current Status** here.
Auto Heating	The function heats your camera automatically according to the ambient temperature. **Note:** The heater works according to the ambient temperature.
Manual Heating	This function helps you heating your camera manually. It allows you to set the run time of the manual heating function. Click Start to start the heating function. 1h, 2h, 5h, and 10h are available. You can also select **Manual Control** to control the action time or select **Customize** to customize the action time from 1 to 24 hours.

Chapter 9. Services

9.1 Services

Milesight provides you 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/security

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

MILESIGHT CHINA

TEL: +86-592-5922772

Add: Building C09, Software Park Phase III, Xiamen 361024, Fujian, China