Milesight

Network Camera User Manual

AI Multi-directional Network Camera

Version: V1.0

Date: 2025-01-17

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 http://www.milesight.com

1.2 Safety Instruction

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

Warnings: Serious injury or death may be caused if any of these warnings 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
- Source with DC 12V or PoE
- Please make sure the plug is firmly inserted into the power socket
- When the product is installed on a wall or ceiling, 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.

- Make sure that the power supply voltage is correct before using the camera
- Do not store or install the device in extremely hot or cold temperatures, dusty or damp locations, and do not expose it to high electromagnetic radiation
- Only use components and parts recommended by 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.

Version	Revision Content	Release Date
V1.0	First release	Dec. 2024

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. With built-in high-performance DSP video processing modules, the cameras pride on low power consumption and high stability. They support state-of-the-art H.265/ H.264/ MJPEG video compression algorithm and industry-leading HD dual-stream technology to achieve the highest level of video image quality under the limited network resources. It is fully functional, supporting 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 Key Feature

System

- Built-in WEB server, support Micro Edge/ Google Chrome/ Safari/ Mozilla Firefox Browser
- Based on Linux OS with high reliability
- Support activation and set-up of the security questions for cameras
- Support ONVIF Profile G & M & S & T
- Three-privilege levels of users for flexible management
- Support 2* Micro SD/SDHC/SDXC card local storage , expand the edge storage

Image

- Color: 0.005Lux@F1.6 B/W: 0Lux with IR on
- Smart IR II technology
- 4*5MP Video Viewing Experience
- Support WDR/HLC/BLC
- ICR filter with auto switch, true day/night
- Corridor Mode

Video

- H.265/ H.264/ MJPEG video compression capability
- 70% ~80% bandwidth saved by 10-level adjustable H.265+
- Support Primary Stream/ Secondary Stream/ Bundle Stream
- Support Smart Stream
- Real-time video electronic amplification

Audio

- G.711/ AAC/ G.722/ G.726 audio compression capability
- Support Audio I/O

Network

- UPnP protocol for the easy management of camera
- Support Milesight DDNS
- FTP upload, SMTP upload, SD card record and SIP phone
- Support VPN

Advanced Function

- Motion Detection, Privacy Masking, Network Fault Detection and ROI
- Support AI Video Content Analysis
- Support E-scooter Detection

Hardware

- Support PoE for power supply
- Support Alarm I/O, Audio I/O
- IK10-rated vandal-proof metal cover, and IP66-rated weather-proof housing

2.3 System Requirements

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

CPU: 1.66GHz or higher

RAM: 1G or higher

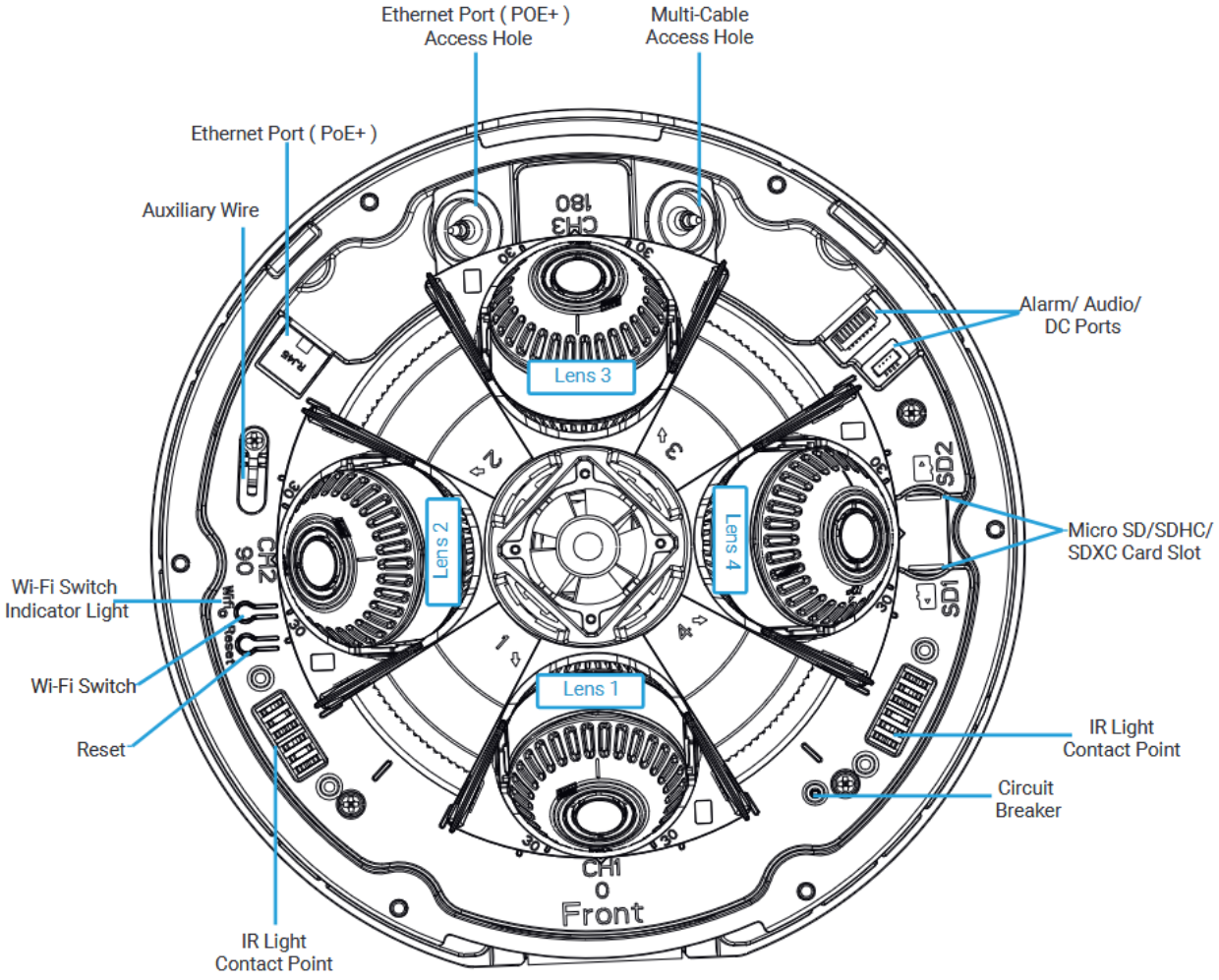
Graphic memory: 256MB or more

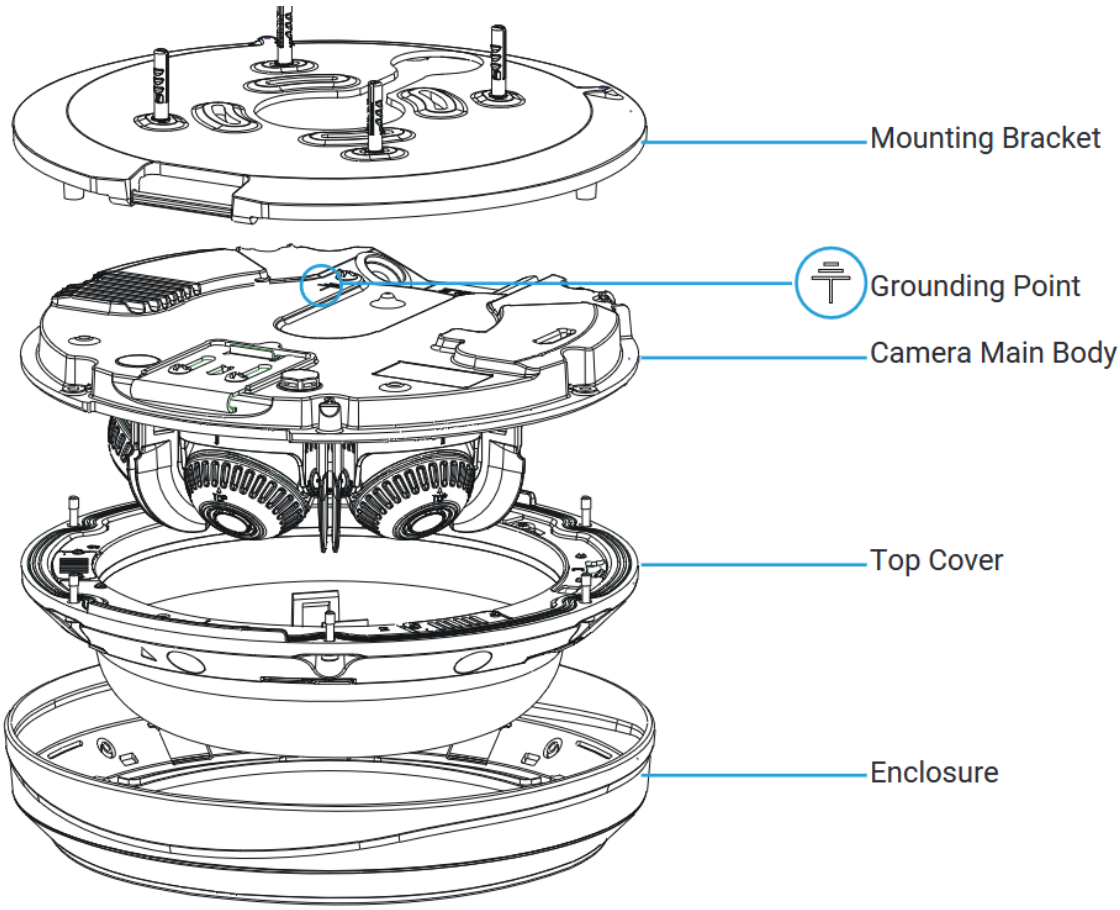
Internet protocol: TCP/IP (IPv4/IPv6)

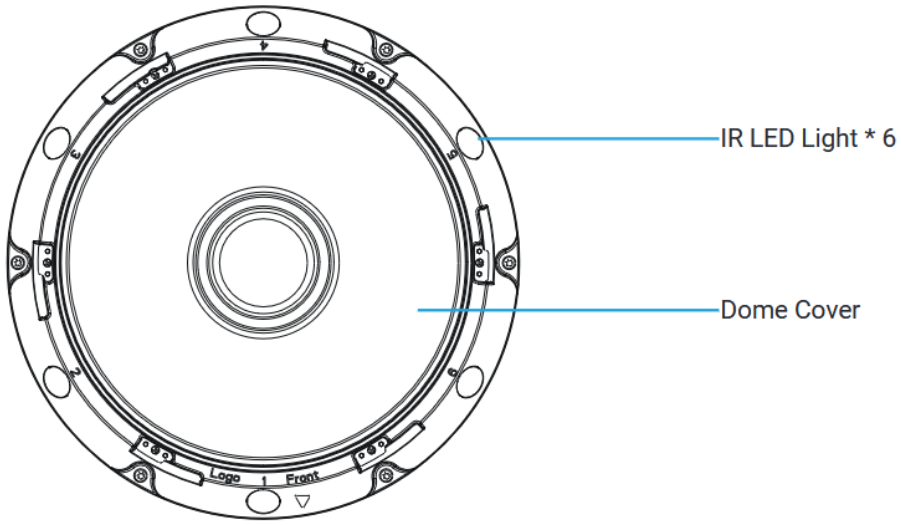
Web Browsers: Support Micro Edge/ Google Chrome/ Safari/ Mozilla Firefox Browser

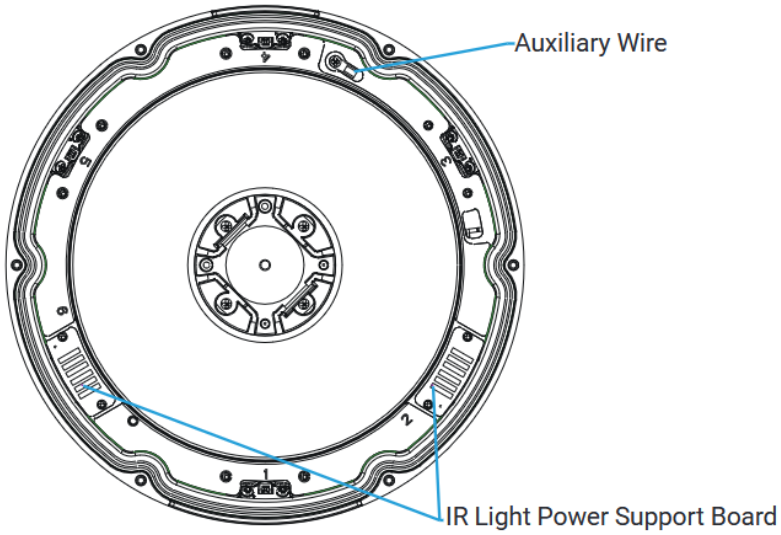
2.4 Hardware Overview

- **AI Multi-directional Network Camera**




Mounting Bracket
Grounding Point
Camera Main Body
Top Cover
Enclosure


IR LED Light * 6
Dome Cover
Logo
Front

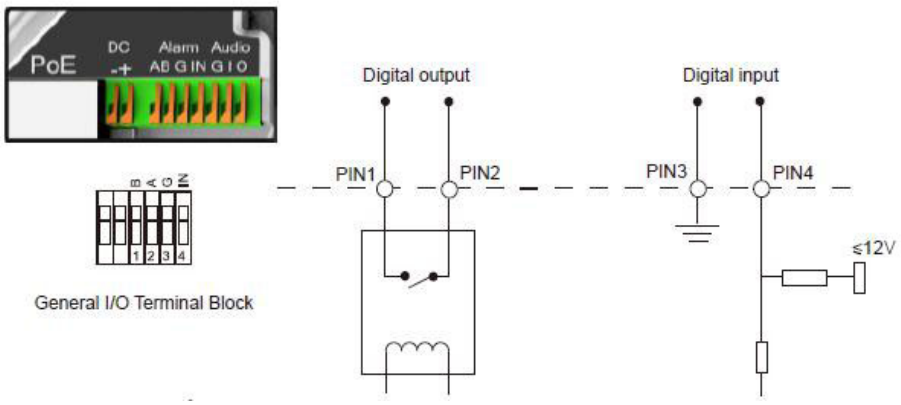


Note:

- DC 12V and POE are available for power supply.
- Built-in SD card slot can be seen after rotating open the enclosure, removing 6 screws and open the top cover.
- For detailed installation information, please refer to the **Quick Start Guide** or **Installation & Configuration Guide** video.

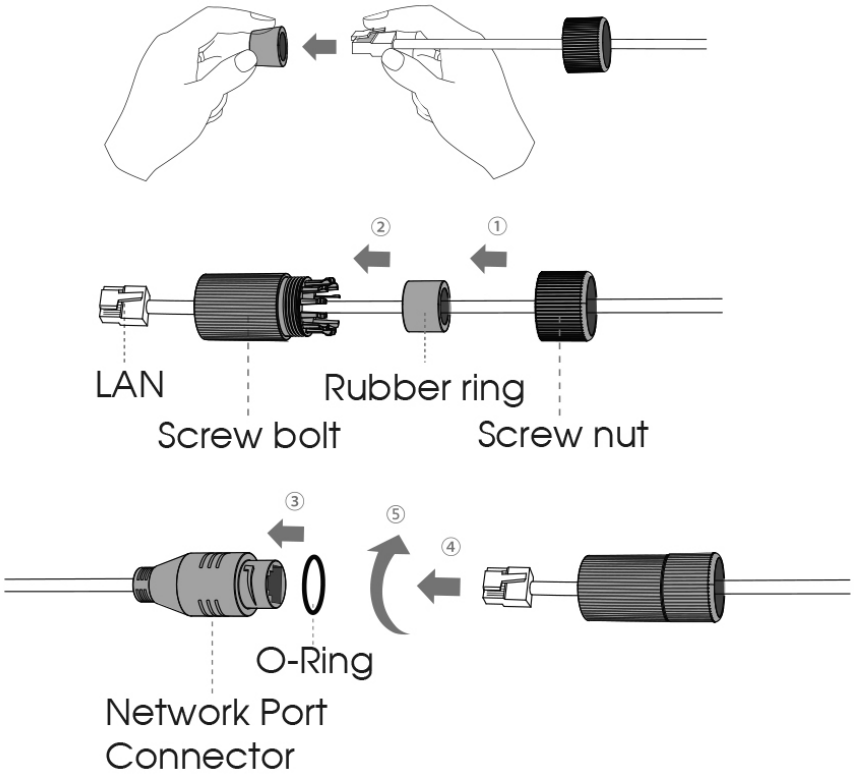
2.5 How to Connect to Alarm Interface

External interface of camera is as the following, you can refer to the picture to install the external alarm device.



- PIN1: Alarm Output NC/NO 24V DC 1A
- PIN2: Alarm Output NC/NO 24V DC 1A
- PIN3: Alarm Input NC/NO <= 12V
- PIN4: Alarm Input NC/NO <=12V

2.6 How to Connect the Water-proof Connector



Step1: Get the network cable through the screw nut, rubber ring and the screw bolt.

Step2: Insert the rubber ring into the screw bolt.

Step3: Connect the screw nut to the screw bolt.

Step4: Place the O-Ring on the network port connector.

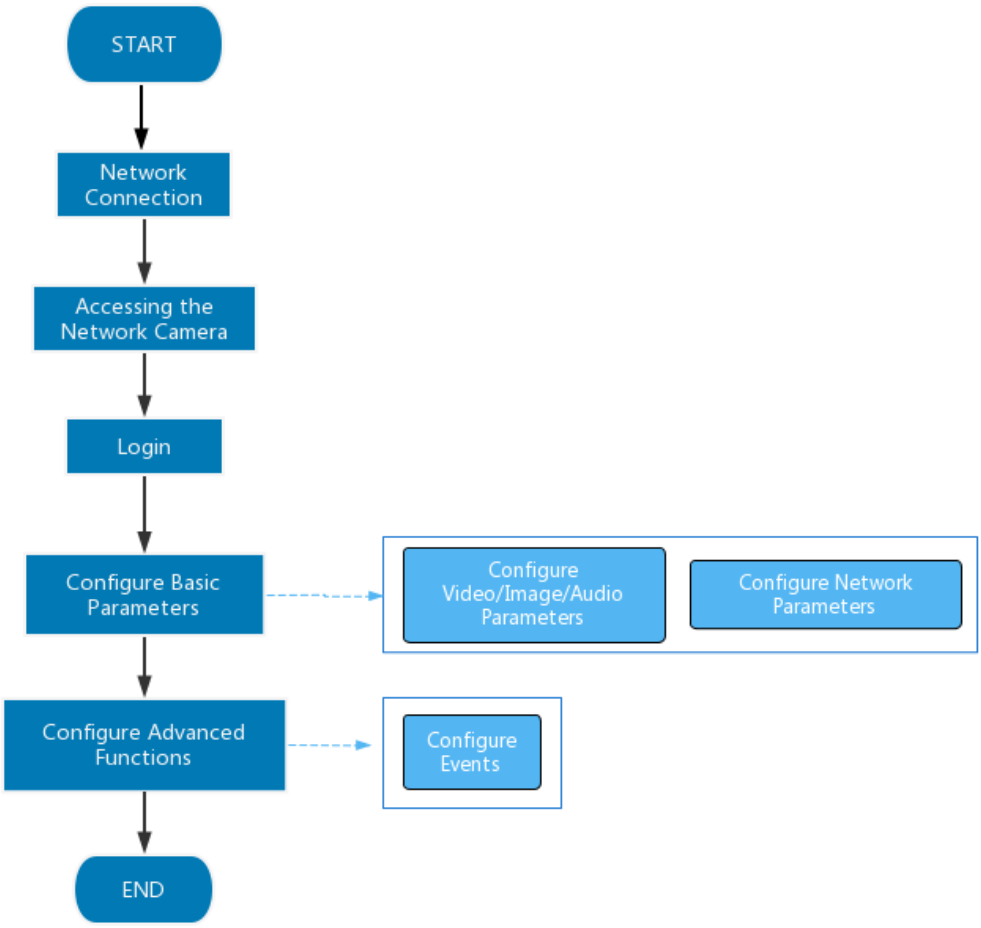
Step5: Connect the RJ45 to the network port connector, and tighten the screw bolt and the connector.

📝 **Note:** Please tightly wrapped all cable-out interface with adhesive tape at last to prevent them from water.

Chapter 3. Configuration Flow

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

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



More configuration details is shown in the following table.

Table 2. Description of flow

Configuration	Description	Reference
Network Connection	Connect the network camera. You can set the camera over the LAN or dynamic IP connection.	4.1 Setting the Camera over the LAN *(page 15)*

Configuration	Description	Reference
Accessing the Network Camera	Accessing from IP address, web browser and Milesight back-end software are available.	5.1 Assigning An IP Address *(page 17)*
Configure Basic Parameters	After login the camera, you can adjust the video/image/audio/network parameters as needed.	8.1 Media *(page 40)* 8.2 Network *(page 63)*
Configure Advanced Functions	Configure the advanced functions, such as VCA and Scooter Detection.	8.4 Event *(page 98)*

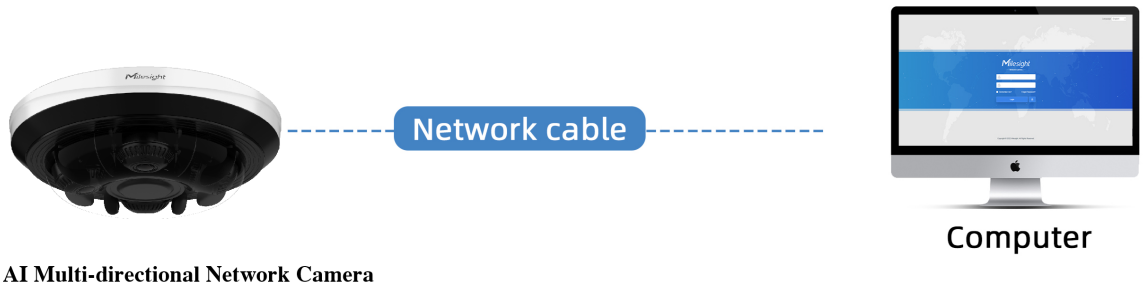
Chapter 4. Network Connection

4.1 Setting the Camera over the LAN

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

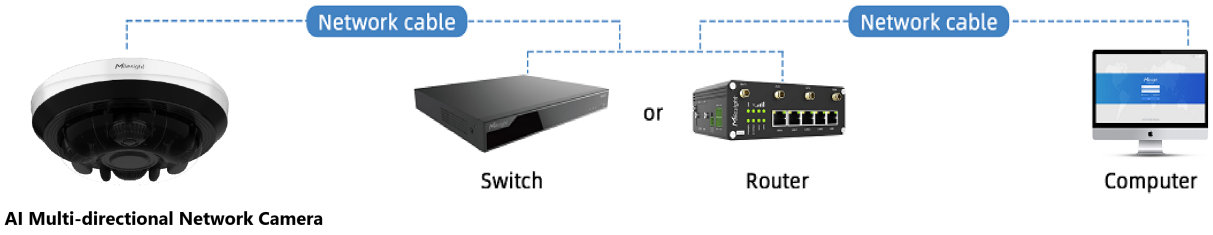
4.1.1 Connect the Camera to the PC Directly

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



4.1.2 Connect via a Switch or a Router

Refer to the following figure 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;

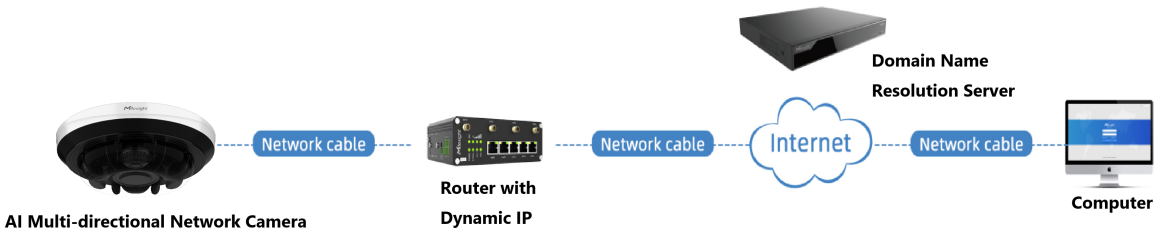
Step2: On the camera, assign a LAN IP address, the Subnet mask and the Gateway;

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.

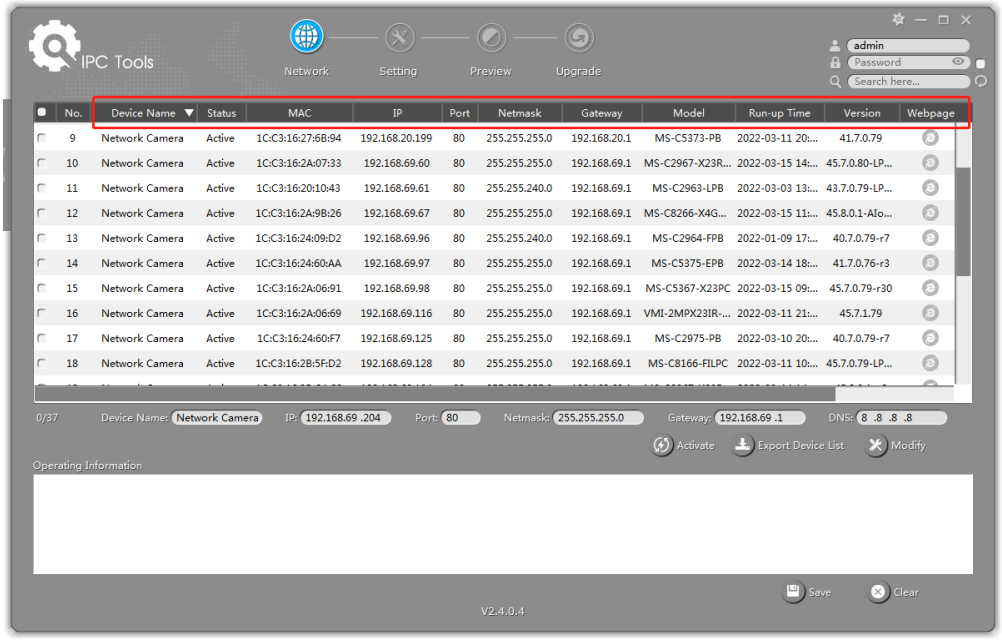
You can either change the IP address of the camera via Smart Tools or browser. Please connect the camera in the same LAN of your computer.

5.1.1 Assigning An IP Address Using 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.

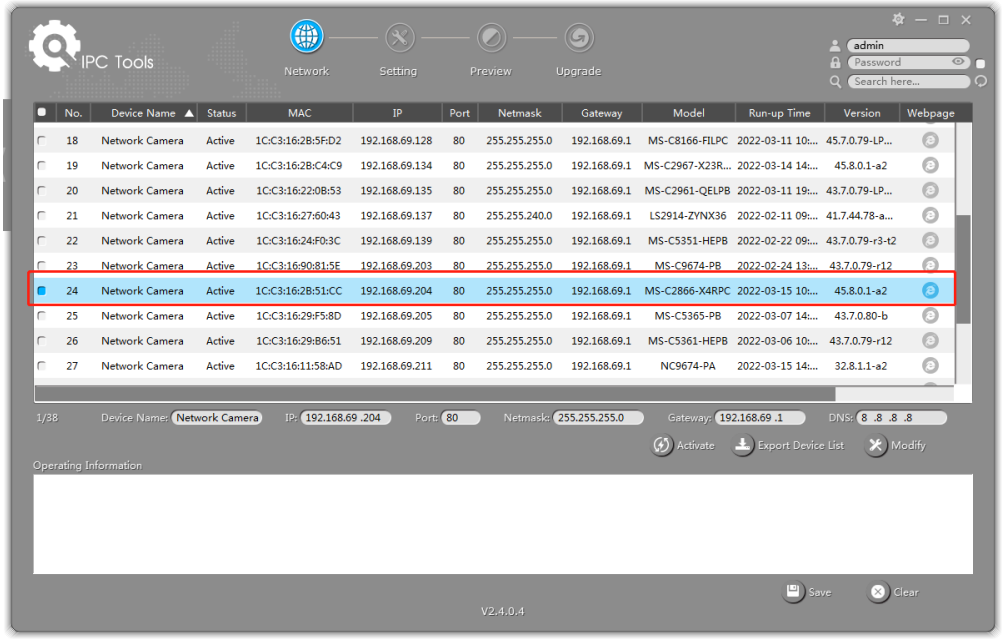
Step1: Install Smart Tools (The software could be downloaded from our website);

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

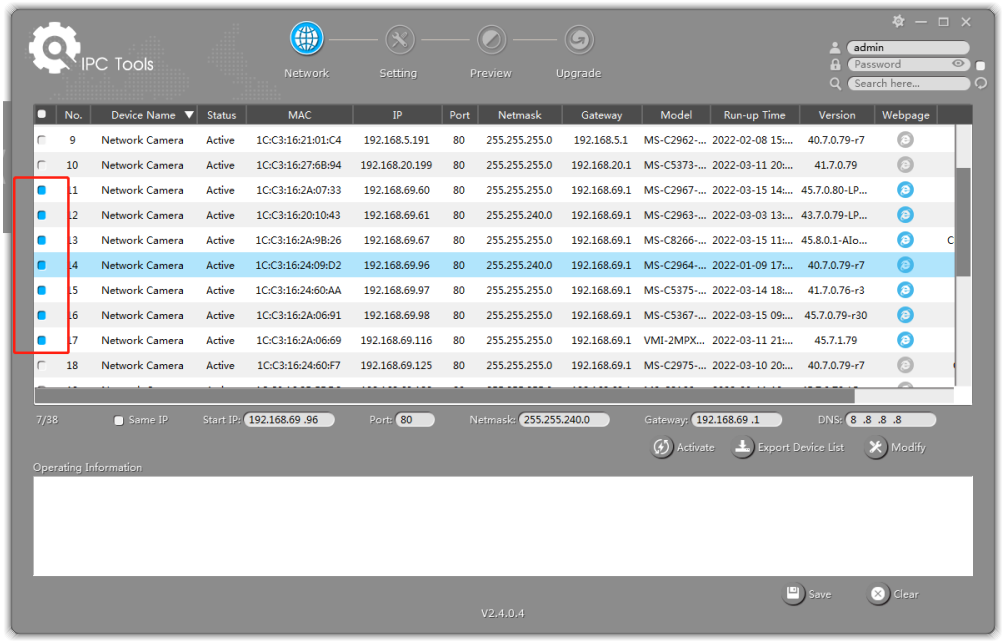


Step3: Select a camera or multiple cameras according to the MAC addresses;

Select single camera:



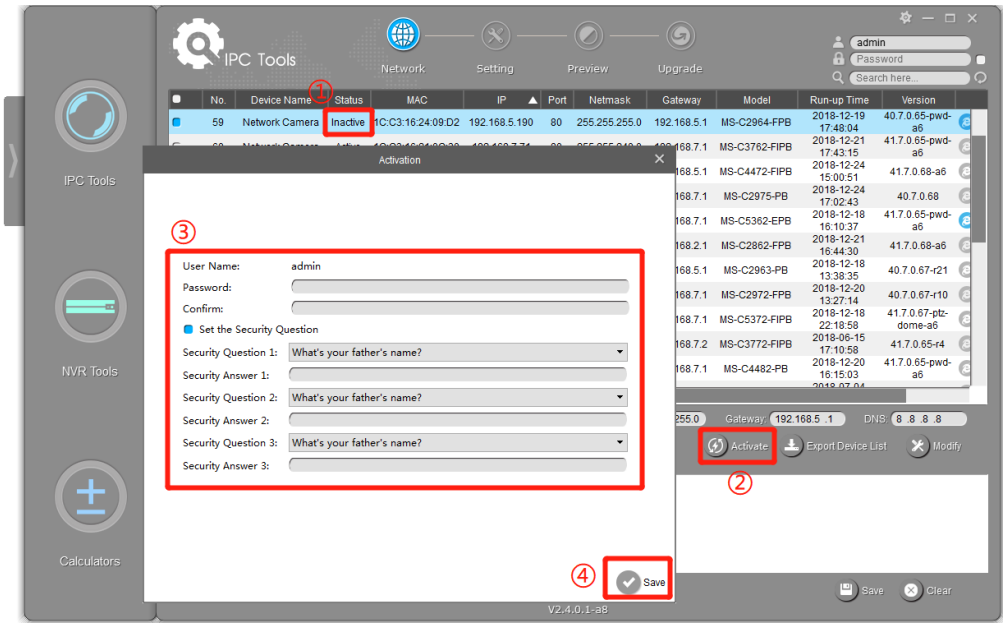
Select multiple cameras:



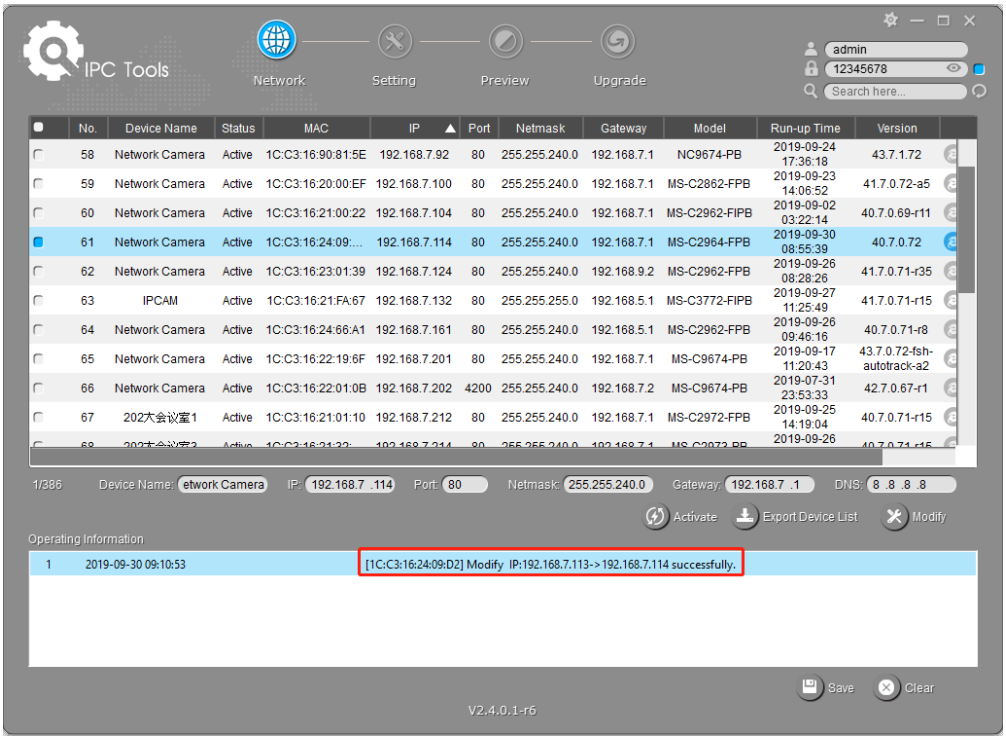
Step4: If the selected camera shows "Inactive" in the status bar, click "Activate" to set the password when using it for the first time. You can also set the security questions when activating the camera in case that you forget the password (You can reset the password by answering three security questions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

Note:

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

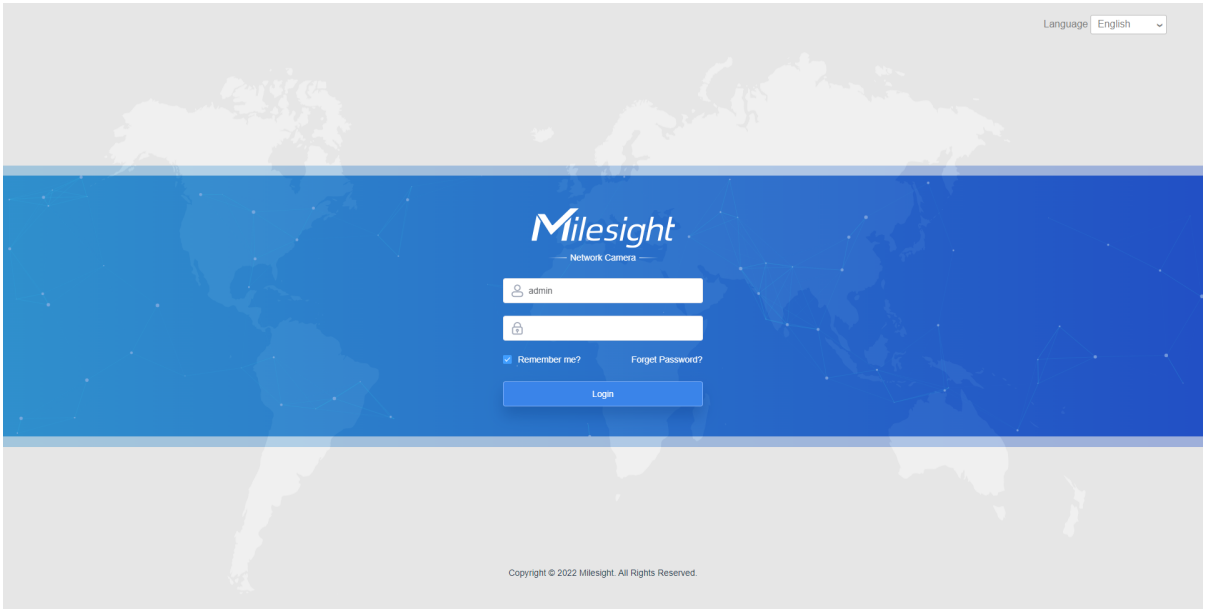


Step5: After activation, you can change the IP address or other network values, and then click “Modify” button.



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

More usage of Smart Tools, please refer to the ***Smart Tools User Manual***.

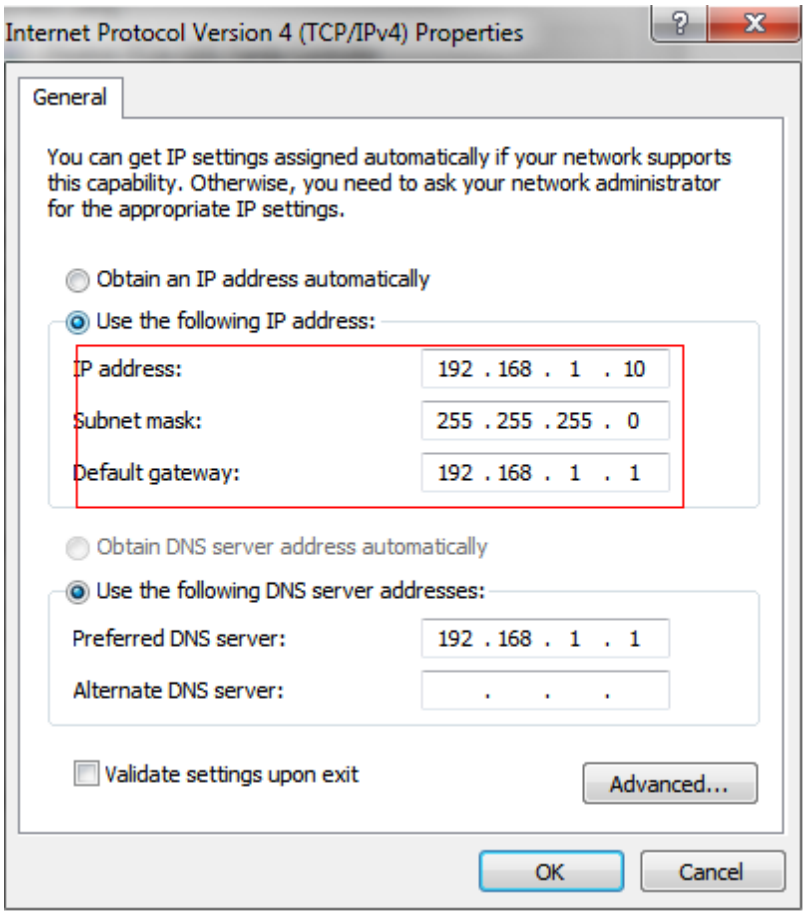


5.1.2 Assign An IP Address via Browser

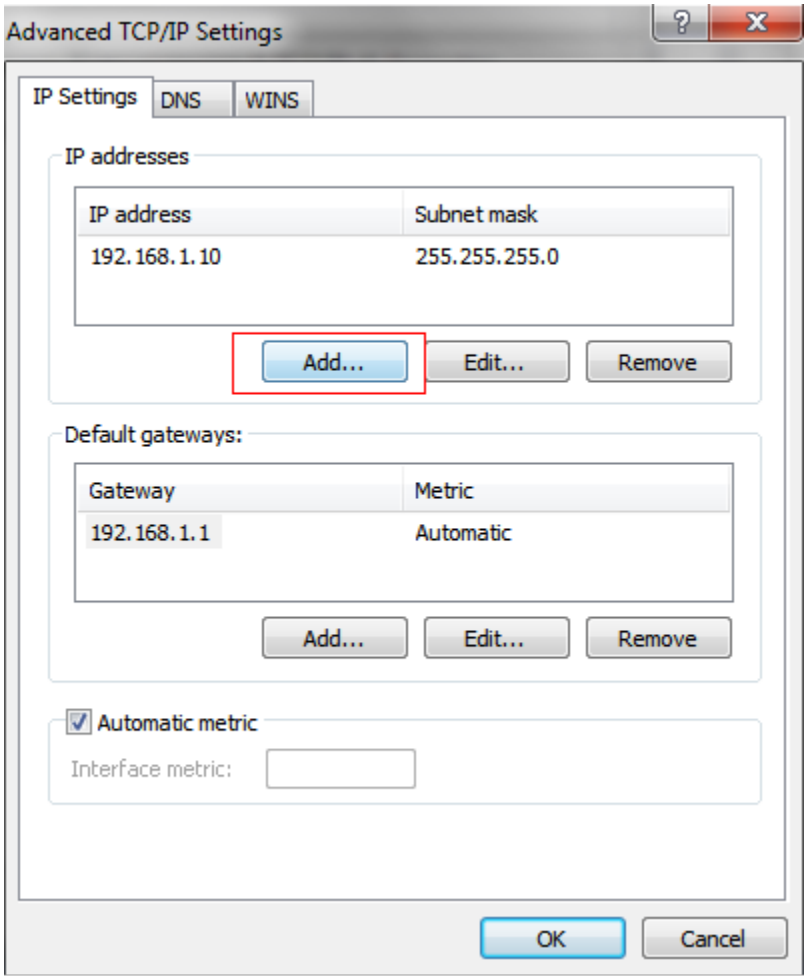
If the network segment of the computer and that of the camera are different, please follow the steps to change the IP address:

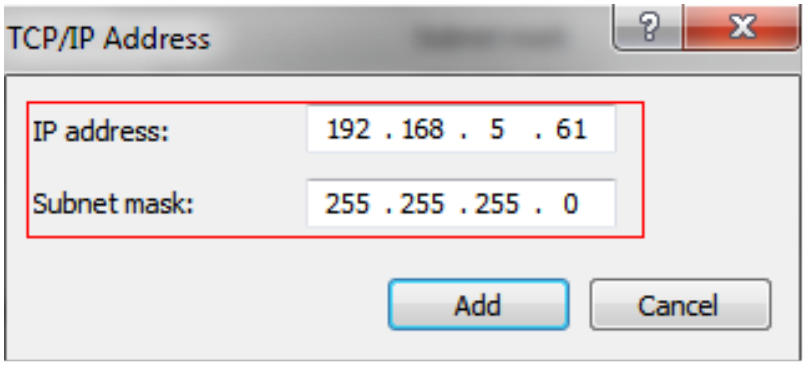
Step1: Change the IP address of computer to 192.168.5.0 segment, here are two ways as below:

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



b. Click “Advanced”, and then click “IP settings”--> “IP address”-->“Add”. In the pop-up window, enter an IP address that 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);





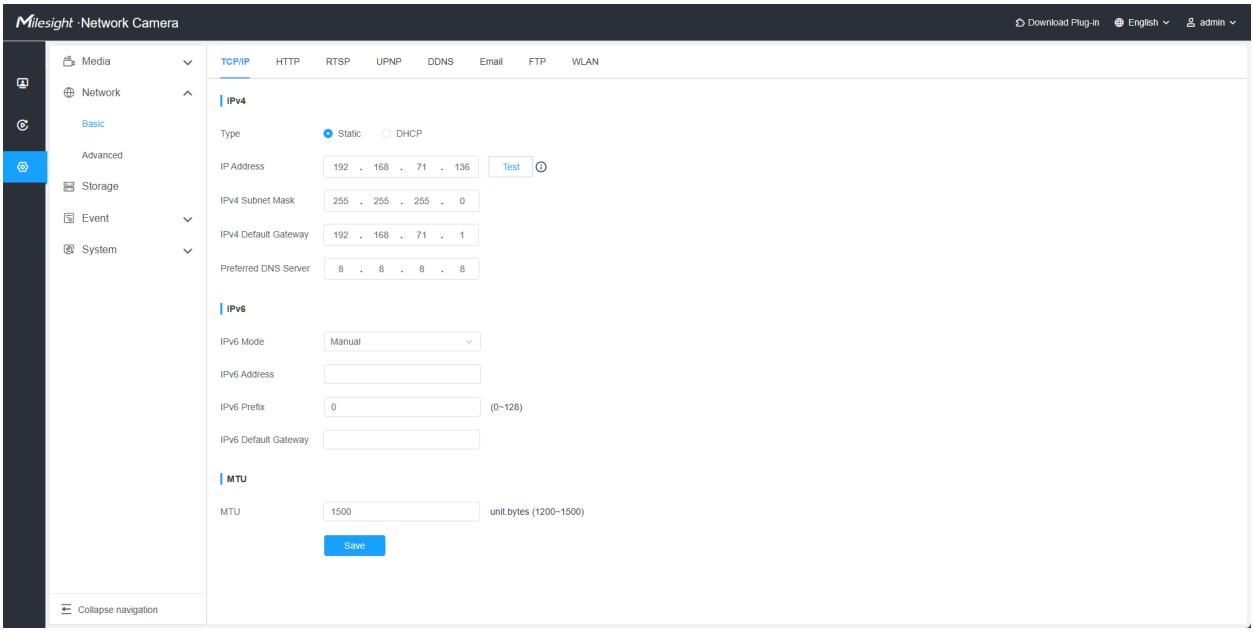
Step2: Start the browser. In the address bar, enter the default IP address of the camera:http://192.168.5.190;

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

Note:

- Password must be 8 to 32 characters long, contain at least one number and one letter.
- You can click the “forget password” in login page to reset the password by answering three security questions when you forget the password, if you set the security questions in advance.

Step4: After login, please select “Settings” --> “Network” --> “Basic” --> “TCP/IP”. The Network Settings page appears (Shown as below Figure);



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

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. And the camera was upgraded to support Plugin-Free Mode. In Plugin-Free Mode, you can preview the video on the browser without plugin. Currently Plugin-Free Mode is supported in Firefox & Google Chrome & Safari & 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 set plugin-free mode of Milesight camera, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000643388.

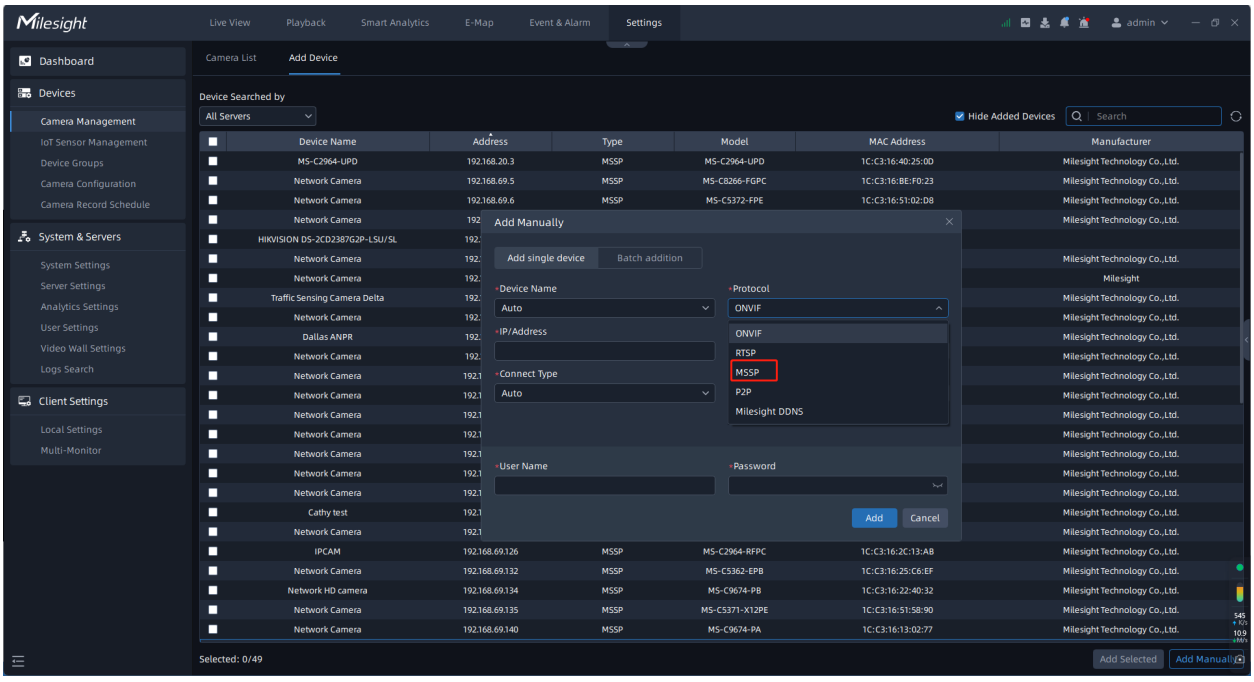
5.3 Accessing from Milesight Back-end Software

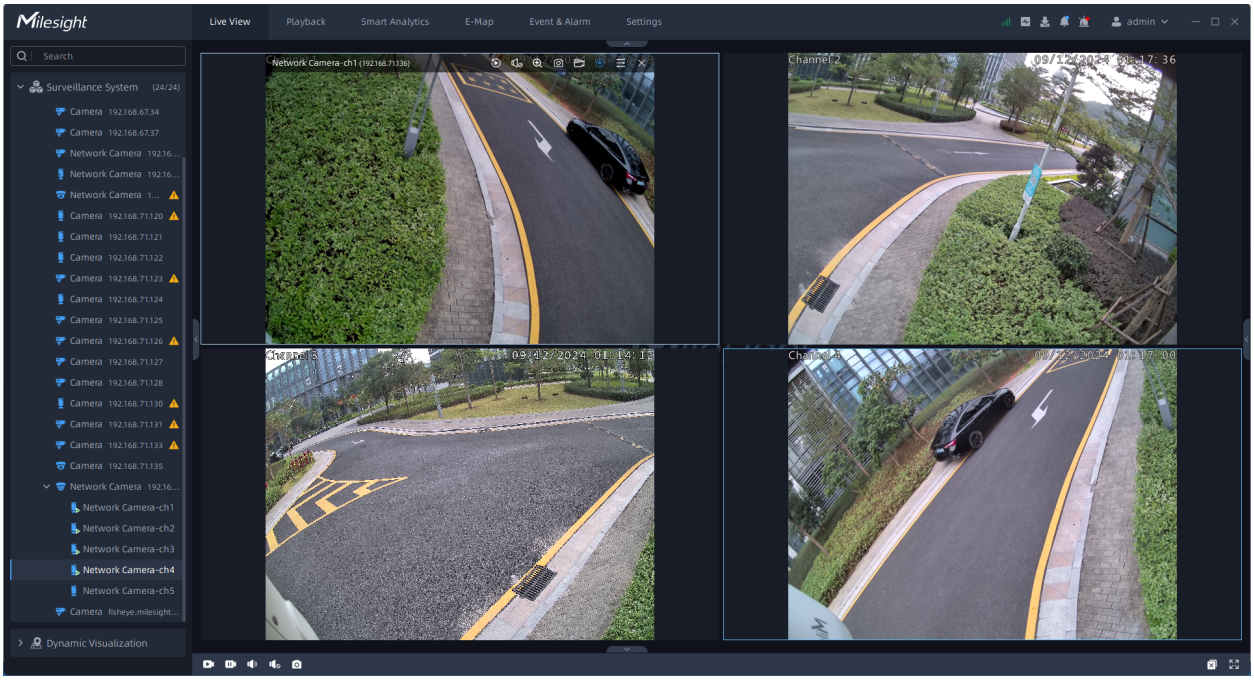
5.3.1 Accessing from Milesight VMS Enterprise (Video Management System)

Milesight VMS Enterprise is a professional and intelligent video management software for businesses. Together with our cameras, it can simplify and freshen up your video surveillance. With advanced C/S architecture, it fulfills your demands and expectations, with rich core functions including live view, record, E-Map, event alarm and smart analysis etc. The software could be downloaded from our website https://www.milesight.com/.

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

Note: Please use the MSSP protocol to add the AI Multi-Directional Network Camera.




Milesight
Live View
Playback
Smart Analytics
E-Map
Event & Alarm
Settings
admin
Search
Surveillance System (24/24)
Network Camera-ch1
Network Camera-ch2
Network Camera-ch3
Network Camera-ch4
Network Camera-ch5
Dynamic Visualization
Channel 2

Chapter 6. Live View

6.1 Live Video

After logging in the network camera web GUI successfully, user is allowed to view live video as follows.

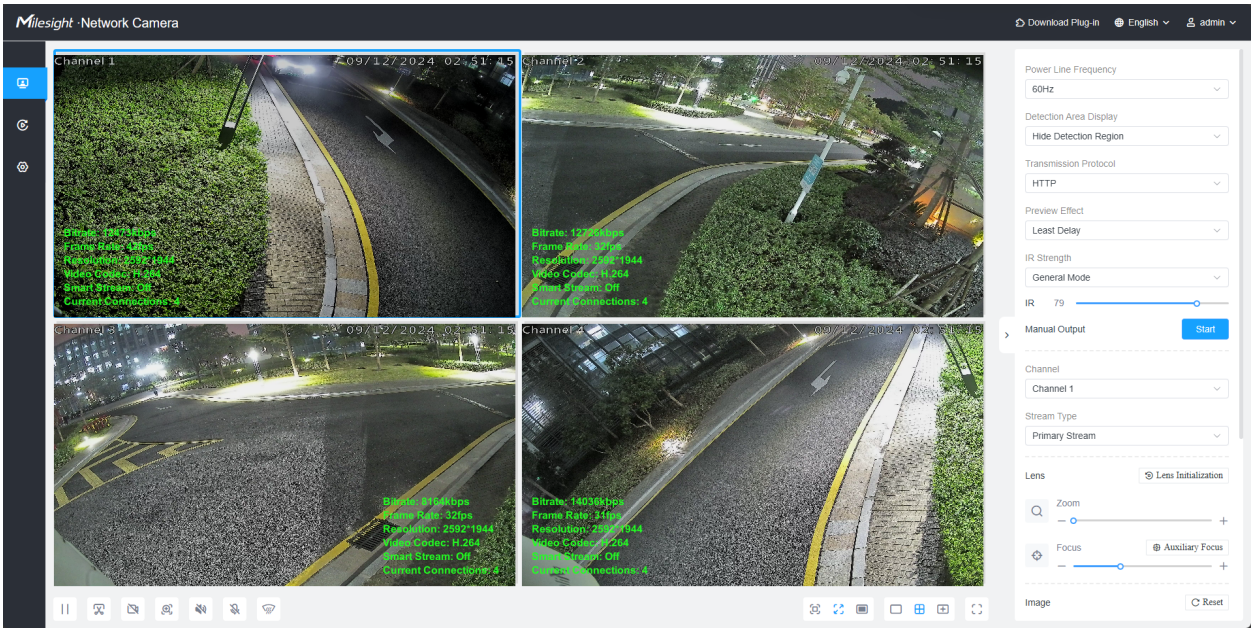
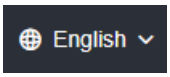
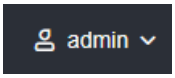
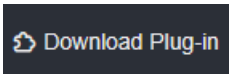
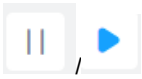
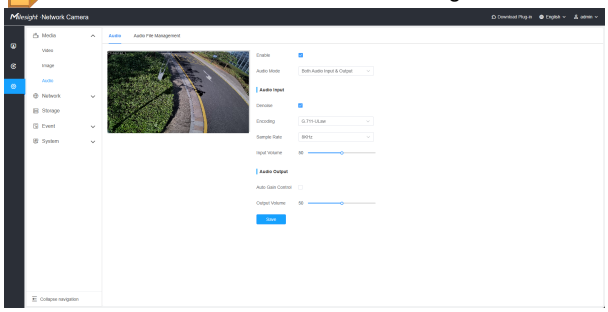
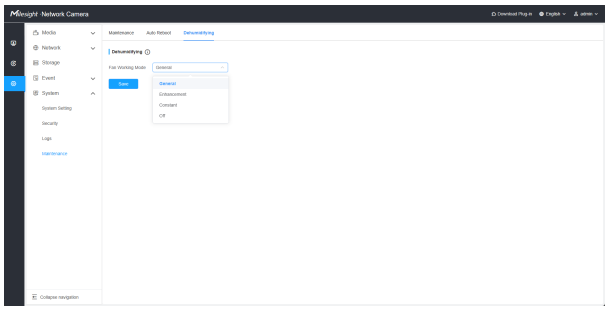


Table 3. Description of the buttons

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.

No.	Parameter	Description
4		Click to select system language.
5		Display the user name and click to logout.
6		Click to download the plugin for a better view of the real-time stream.
7	 **Recording**	When recording, the icon appears.
8	 **Alarm**	When an alarm of VCA event was triggered, the icon appears.
9	 **Alarm**	When an alarm of Motion Detection was triggered, the icon appears.
10	 **Alarm**	Except for the kinds of alarms above, when other alarms were triggered, the icon appears.
11	 **Stop/Play**	**Stop/Play** live view.
12	 **Snapshot**	Click to capture the current image and save to the configured path. The default path is: C:\ProgramData\MPlayer.
13	 **Start/Stop Recording**	Click to **Start Recording** video and save to the configured path. The default path is C:\ProgramData\MPlayer. Click again to **Stop Recording**.
14	 **Digital Zoom**	When enabled, you can obtain a clearer image by zooming in using your mouse.

No.	Parameter	Description
15	**Mute On/Off**	Click to control the device's audio input. you can choose to enable sound(Mute Off) or disable sound(Mute Off). **Note:** Please enable the Audio Input first.
16	**Start Talking**	Click to start and stop two-way audio. **Note:** Please use HTTPS for accessing and enable the Audio Output first. 
17	**Dehumidifying**	To activate the dehumidifying function, click to enable it with the general fan mode. For further details on the fan mode, you can access the Dehumidifying function interface. **Fan Working Scheduling :** **Off:** Closed **General Mode:** 4:00-7:00 and 17:00-20:00 **Enhancement Mode:** 0:00-7:00 and 17:00-23:59 **Constant Mode:** 0:00-24:00 
18	**Auto-Original-Ratio**	Click to view the image in its original size.

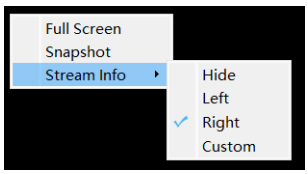
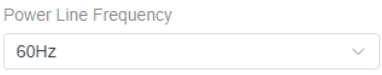
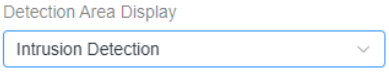
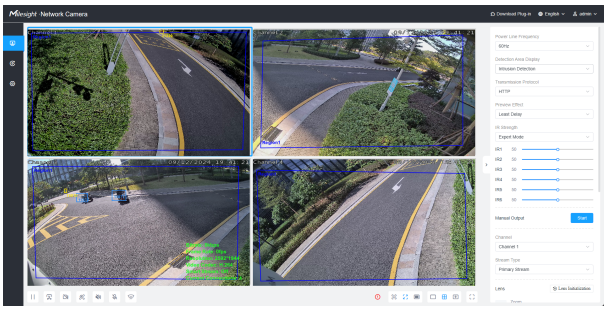
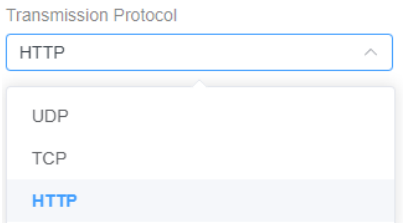
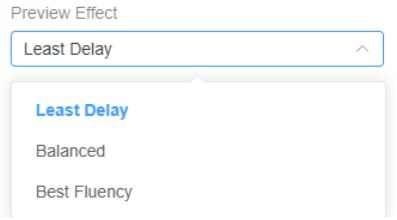
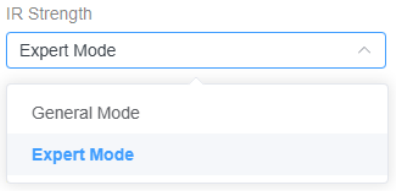
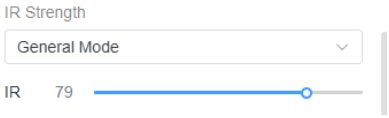
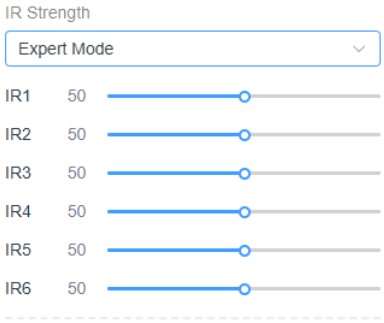
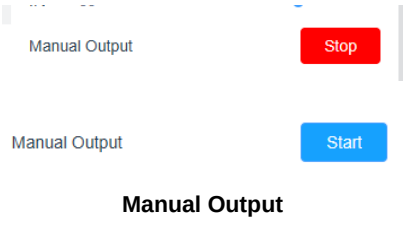
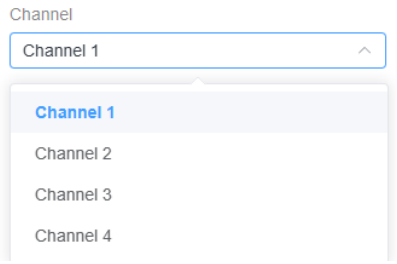
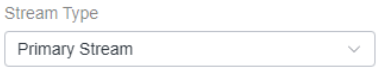
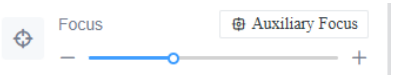
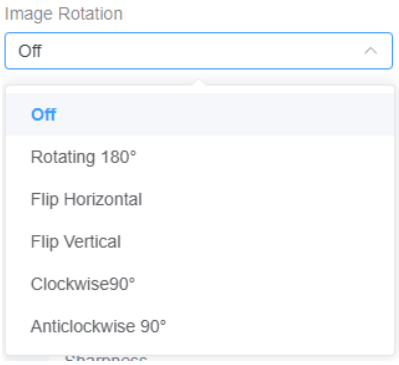
No.	Parameter	Description
19	**Auto-Resize-Horizontally**	Click to enable automatic horizontal resizing of the image allowing it to cover the entire window.
20	**100%**	Click to zoom in on the image at 100% to view more detailed information.
21	**Single View**	Click to display the stream of a single channel in the window.
22	**Quad View**	Click to display the stream from four channels in the window.
23	**Bundled Stream View**	Click to display the bundled stream in the window. The bundled stream is created by merging four separate channels.
24	**Full Screen**	Click to display images at full-screen.
25	**Fold the Menu**	Click here to hide the menu.
26	**Unfold the Menu**	Click here to display the menu.
27	 **Right-Click**	By right-clicking you can access various functions, including Full Screen, Snapshot, and Stream info. **Full Stream:** you can enter full-screen mode by right-clicking the button or by double-clicking the image. **Snapshot:** This feature allows you to take a screenshot of the specific channel that you've right-clicked on. **Stream Info.:** This information is displayed by default in the bottom-right of each channel. you can choose to show it in other locations for the channel you right-click or hide it.

Table 4. Description of the buttons

No.	Parameter	Description
1	 **Power Line Frequency**	60Hz and 50Hz are available.
2	 **Detection Area Display**	Choose the options (**Hide Detection Region/ Intrusion Detection/ Region Entrance/ Region Exiting/ Advanced Motion Detection/ Line Crossing/ Loitering/ Object Left/ Object Remove**) to hide/display detection region on the current video window.  **Note:** The option to display and hide the detection area is unavailable in bundled mode. 
3	 **Transmission Protocol**	**UDP:** More instantaneous connection, but if you cannot get the live view successfully, please turn into TCP connection. **TCP:** More reliable connection; **HTTP:** Faster and safer connection especially in Internet environment.

No.	Parameter	Description
4	 **Preview Effect**	**Least Delay:** The most instantaneous mode in the three modes; **Balanced:** A balanced mode between Least Delay and Best Fluency, maintains the fluency while keeps an acceptable delay; **Best Fluency:** The most fluent mode in the three modes.
5	 **IR Strength**	You can adjust the strength of the camera's IR light. **General Mode:** By default, the IR strength mode is **general**, which control six IR lights simultaneously. the value can be set between 0 and 100, with values closer to 100 resulting in a brighter IR light.  **Expert Mode:** Allow for brightness adjustment for each IR light, the default value is 50. The higher the value, the brighter the IR light will be. 
6	 **Manual Output**	Manually trigger/stop Camera Alarm Output.

No.	Parameter	Description
7	 **Channel**	By selecting the desired channel, you can adjust the lens, configure image settings, choose the stream type, and set the image rotation for that channel.
8	 **Stream Type**	Choose the stream (**Primary/Secondary**) to show on the current video window for corresponding channel.
9	 **Lens**	Lens Initialization, refocus, and zoom in/out to the initial status.
10	 Zoom	**Zoom:** Adjust the Zoom length of the lens. **Zoom-/Zoom+:** Click "+" and "-" to zoom in and zoom out.
11	 **Focus**	**Auxiliary Focus:** Automatically focus and adjust the image for optimal clarity. **Focus-/Focus+:** Click to focus near or far of the lens.
12	 **Image Rotation**	During the installation process, you adjust the image angle based on the installation situation. The options include **Off, Clockwise 90°,Anticlockwise 90°, Rotating 180°, Flip Horizontal, Flip Vertical.** **Off** is the default.

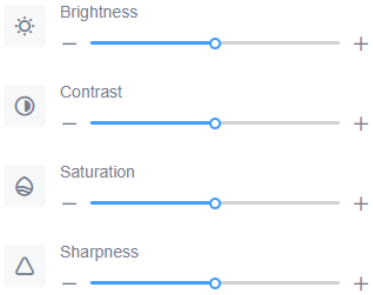
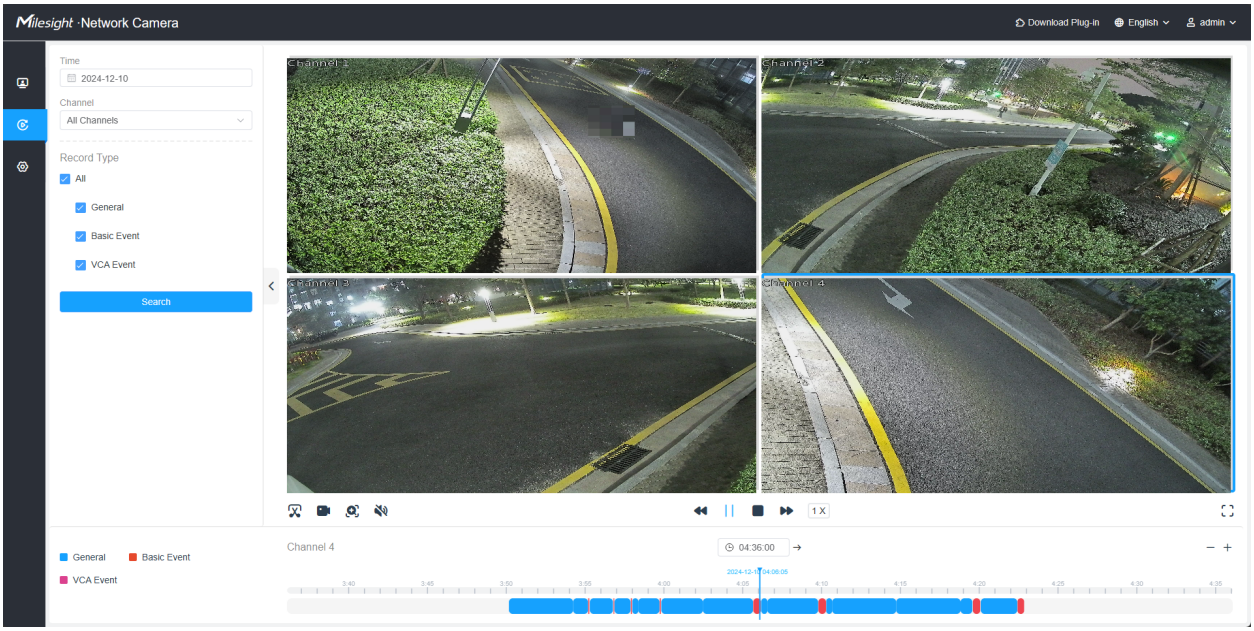
<table>
<tr><th>No.</th><th>Parameter</th><th>Description</th></tr>
<tr><td rowspan="5">13</td><td rowspan="5"> 

Image Parameter</td><td>Brightness: Adjust the Brightness of the scene.</td></tr>
<tr><td>Contrast: Adjust the color and light contrast.</td></tr>
<tr><td>Saturation: Adjust the Saturation of the image. Higher Saturation makes colors appear more "pure" while lower one appears more "wash-out".</td></tr>
<tr><td>Sharpness: Adjust the Sharpness of image. Higher Sharpness sharps the pixel boundary and makes the image looks "more clear".</td></tr>
<tr><td> 

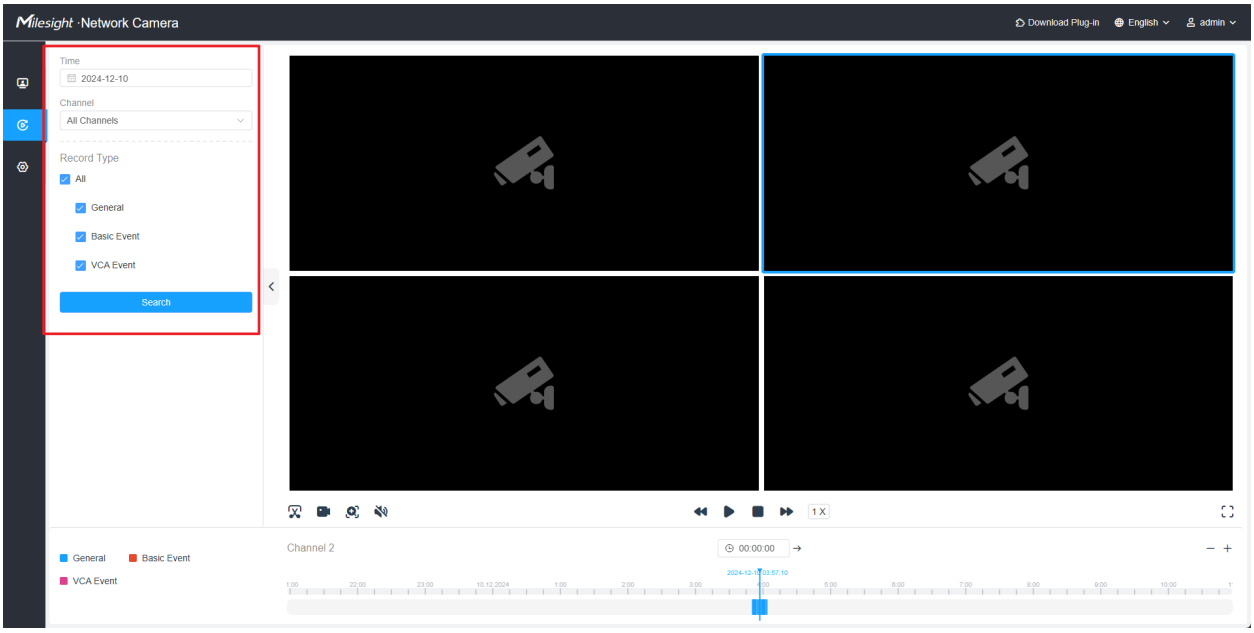
Reset: Restore brightness, contrast and saturation to default settings.</td></tr>
</table>

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:

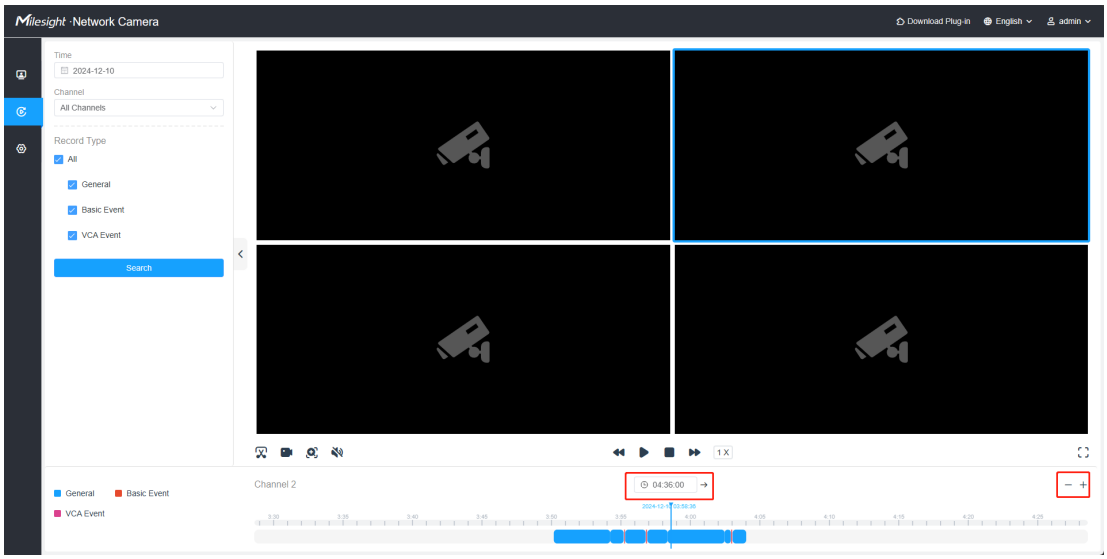


Step1: Choose the date, channel and record type, then click the "**Search**" bottom.

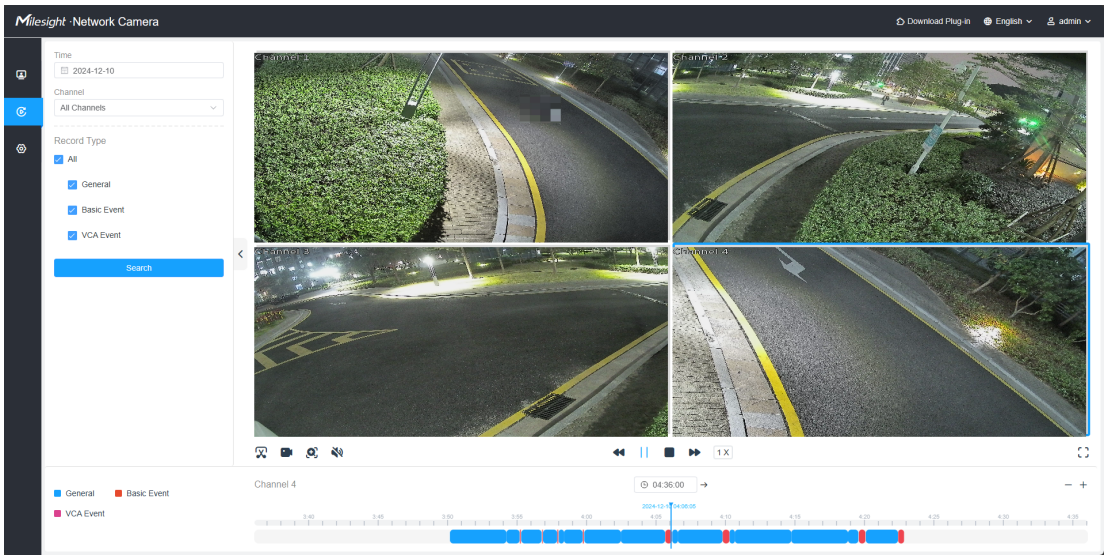


Step2: The timeline displays the video files for the day and show different colors according to selected record type. Drag the progress bar with the mouse to locate the exact playback point as needed.

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: Select the appropriate channel and click ▶ to play the video files found on this date. The toolbar on the playback interface allows you to control the playback progress of the selected channel.



Step4: Click on the stream of the corresponding channel to perform detailed operations on that code stream.

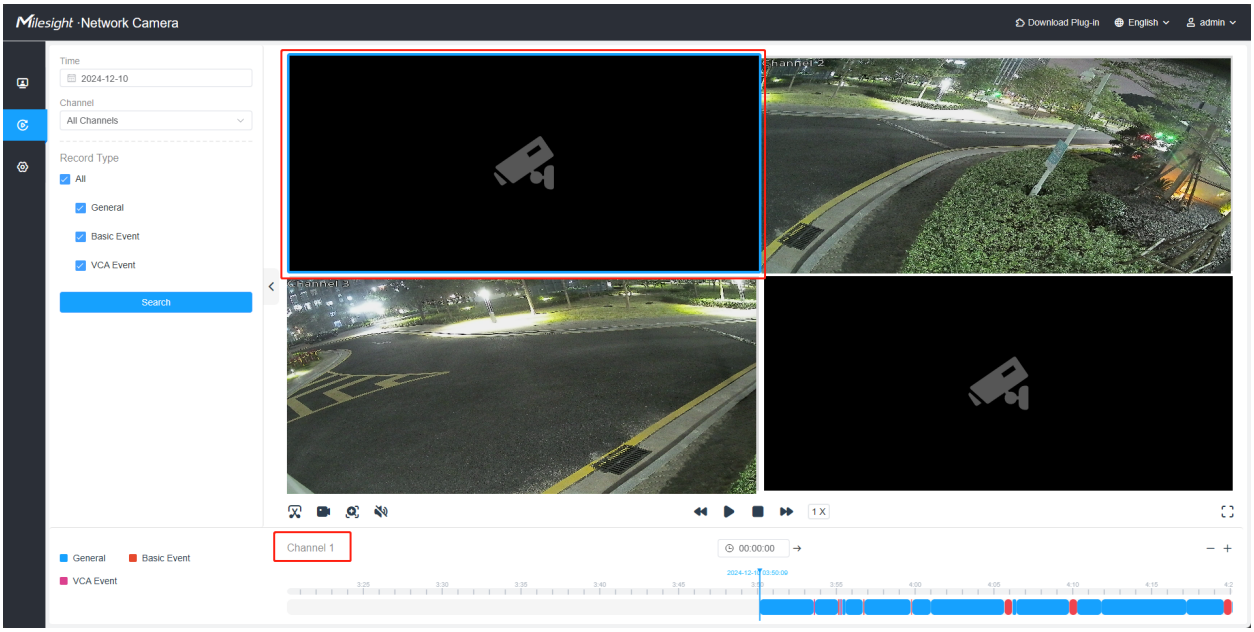
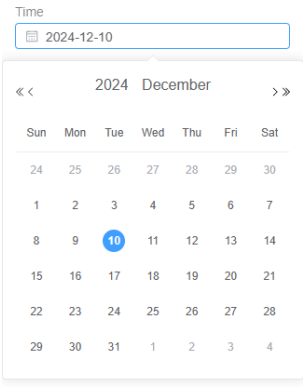
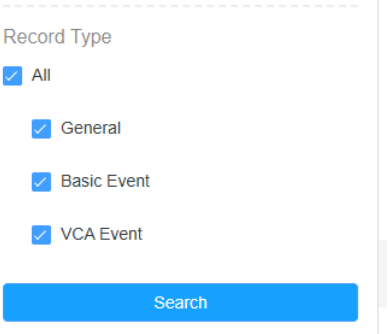


Table 5. Description of the buttons

No.	Parameter	Description
1		Choose date to search recorded videos. The date icon will appear blue if there is a recording file for that specific date.
		Search the recorded videos by record type (**All/ General/ Basic Event/ VCA Event**). The timeline will show different colors according to selected record type as below: 

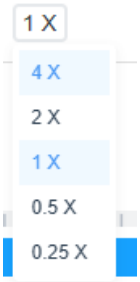
No.	Parameter	Description
2	/ **Slow Forward/ Fast Forward**	Adjust the timeline location of video playback. **Slow Forward :** Return to the previous timeline. **Fast Forward :**Move the timeline forward.
3	 **Speed**	**Speed:** The default playback speed is 1X . Including 0.25X, 0.5X, 1X, 2X and 0.25X for play.
4	/ **Play/Pause**	Play/Pause the video.
5	**Stop**	Stop the video.
6	 **Search Time**	Select the time that want to locate.
7	**Jump**	Go To.

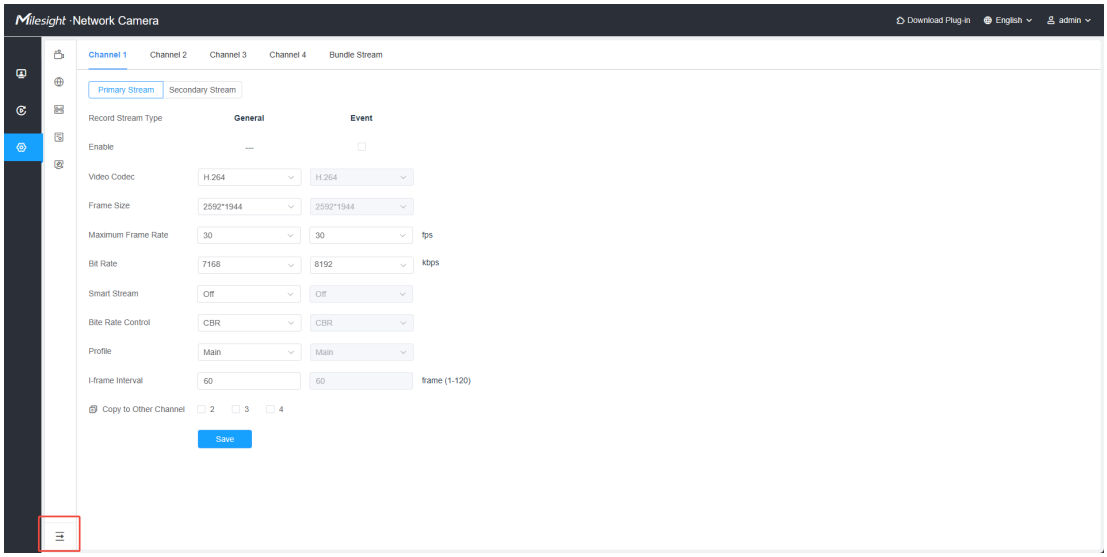
Table 6. Description of the buttons

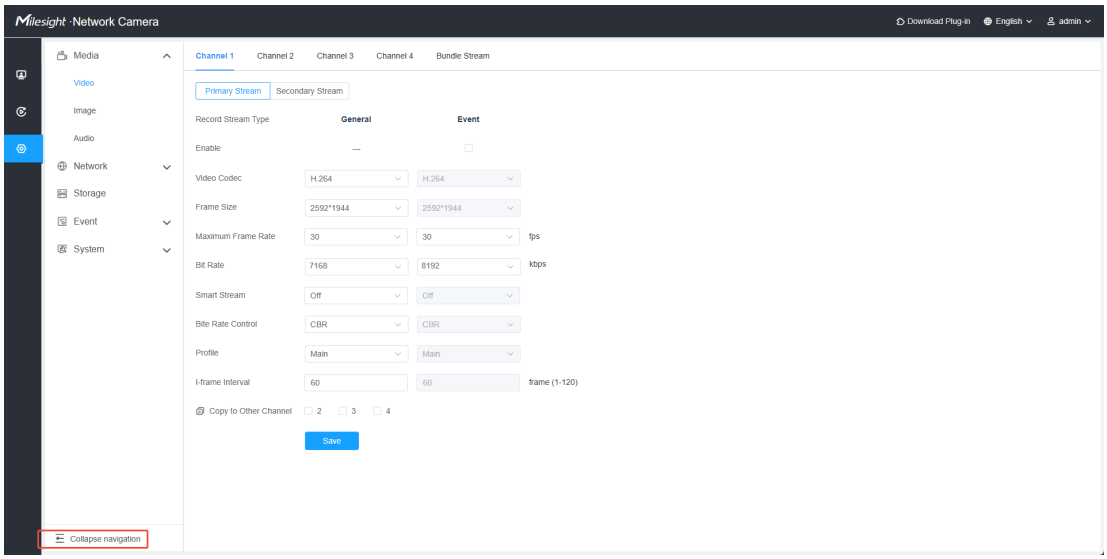
No.	Parameter	Description
1	/ **Mute On/Off**	Click to enable or disable the audio.

No.	Parameter	Description
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

You can set the display method for the interface. Click the ⇉ to expand the settings bar and click ⇇ Collapse navigation to collapse the settings menu bar.





8.1 Media

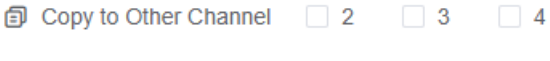
8.1.1 Video

Stream parameters can be set in this module, adapting to different network environments and demands. **You can configure the video parameters for each channel individually.**

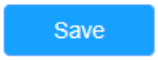
Step1: Select  **> Media>Video>Channel 1/2/3/4 or Bundle Stream.**

Step2: Select the **Primary Stream** or **Secondary Stream**, then configure the parameters.

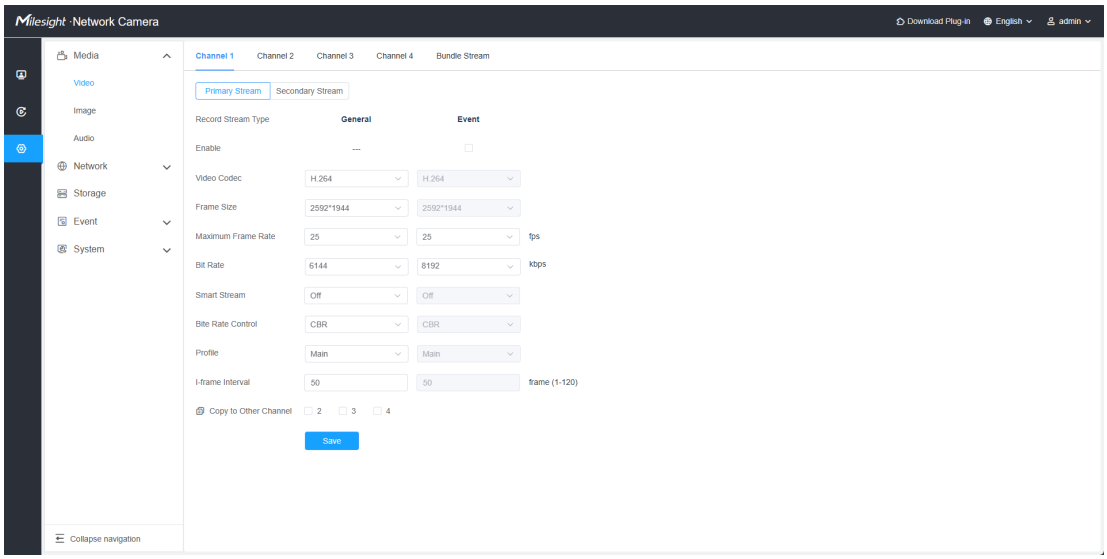
Step3: Configure the stream parameters for each channel.

Step4: To apply the same parameters to another channel, simply select the checkbox 

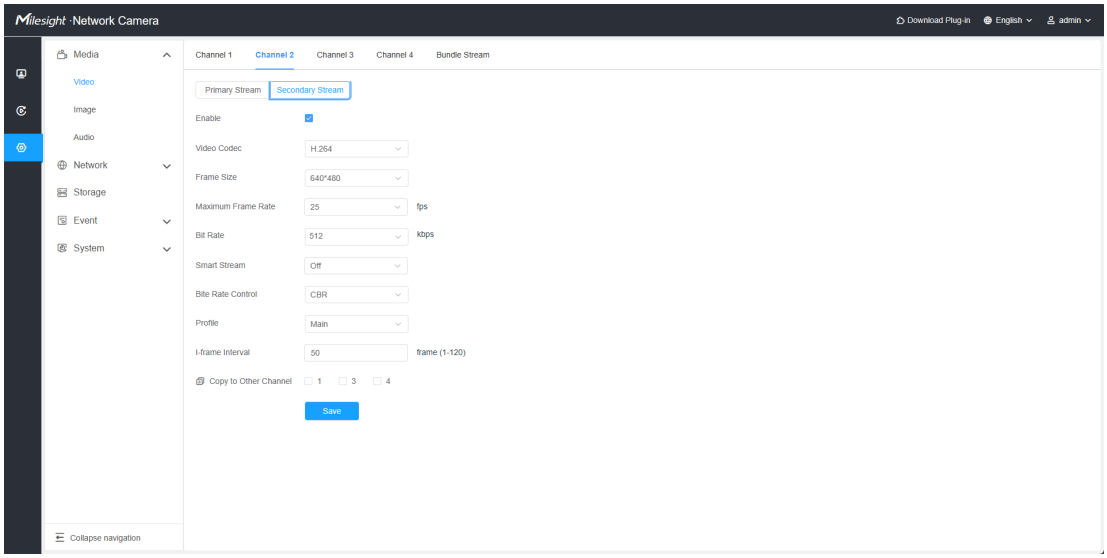
.

Setp5: Click  to apply the changes.

Channel 1/2/3/4 >Primary Stream Settings



Channel 1/2/3/4 > Secondary Stream Settings



Bundle Stream Settings

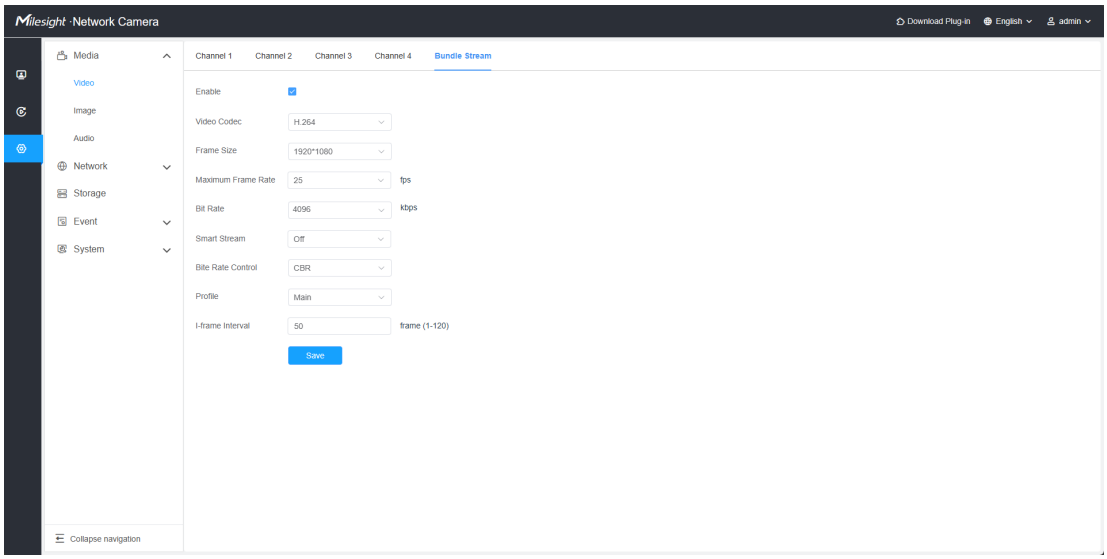
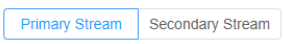
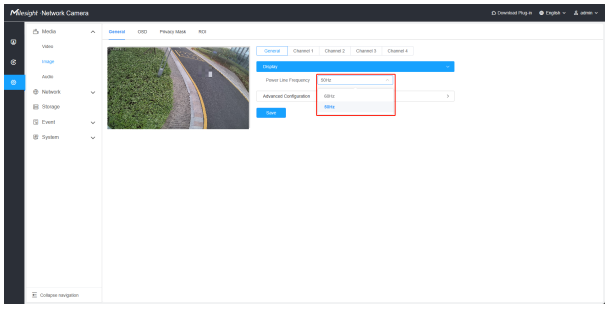
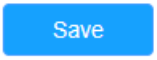


Table 7. Description of the buttons

Parameters	Function Introduction
Channel Type	Channel 1/Channel 2/ Channel 3/ Channel 4/ Bundle Stream are available. You can access the corresponding channel interface to configure the video parameters in detail.
 **Stream Type**	Primary Stream/Secondary Stream are available.

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, Alarm Input, Exception and so on. This item can separately set different bit rate and frame rate for different Recording Stream Types. If user chooses **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	H.265/H.264/MJPEG are available. **Note:** For more details about **Milesight-H.264 VS H.265+**. You can click to the YouTube: https://www.youtube.com/watch?v=Wkom8HQ00jI.
Frame Size	For **Primary Stream**, Options include 5M(5M(2592×1944), 5M(2592×1520), 3M(2048×1536), 1080P(1920×1080), 1.3M(1280×960), 720P(1280×720). For **Secondary Stream**, it includes (1280×720), (704×576), (640×480), (640×360), (352×288), (320×240). For **For Bundle Stream**, it include (1920×1080), (1280×960), (1280×720). **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. **Note:** When the Power Line Frequency is 60Hz, the maximum frame rate is up to 30 fps. When the Power Line Lrequency is 50Hz, the Maximum Frame Rate is up to 25 fps. 

Parameters	Function Introduction
Bit Rate	Transmitting bits of data per second, this item is optional only if you select the H.265/H.264. Set the bit rate 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. **Level**: Level 1~10 are available as needed.
Bit Rate Control	**CBR**: Constant Bit Rate. The rate of CBR output is constant. **VBR**: Variable Bit Rate. VBR files vary the amount of output data per time segment.
VBR > 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.
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.
Copy to Other Chanel	To apply the same parameters to another channel, simply select the checkbox  .
Save	Click  to apply the changes.

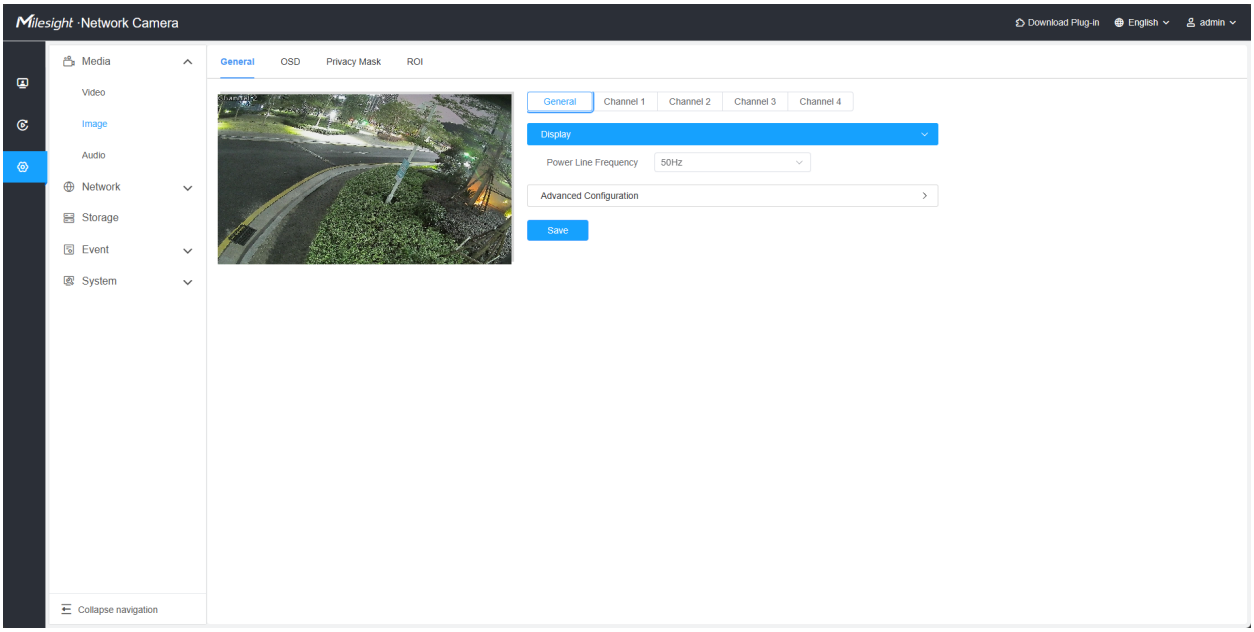
8.1.2 Image

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 and video time can be displayed to rich the image information.

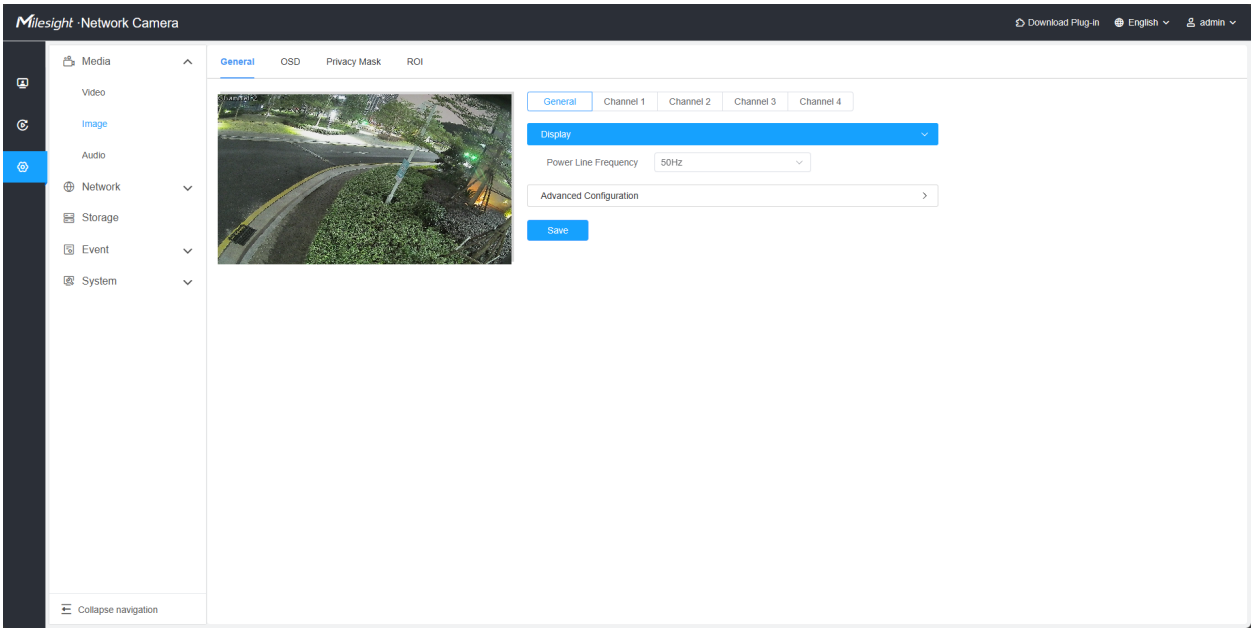
8.1.2.1 General

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. Supports independent configuration of image parameters for each channel.



[Display]



[Advanced Configuration]

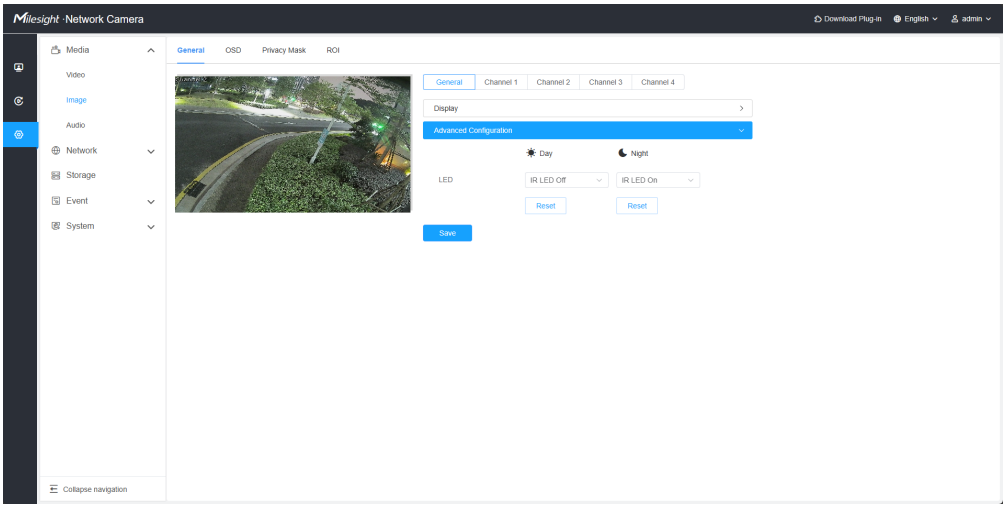


Table 8. Description of the buttons

Parameters	Function Introduction
General	Select "**General**" to set the Power Line Frequency and toggle the camera's LED light.
Channel 1/2/3/4	Choose the "**Channel ***" option to configure the image settings for the selected channel.
Power Line Frequency	60Hz and 50Hz are available.
LED	Turn on/ off IR-LED.

[General > Channel 1/2/3/4]

The configuration shown here uses **Channel 1** as an example, the configuration details for other channels are similar.

[Scene Settings]

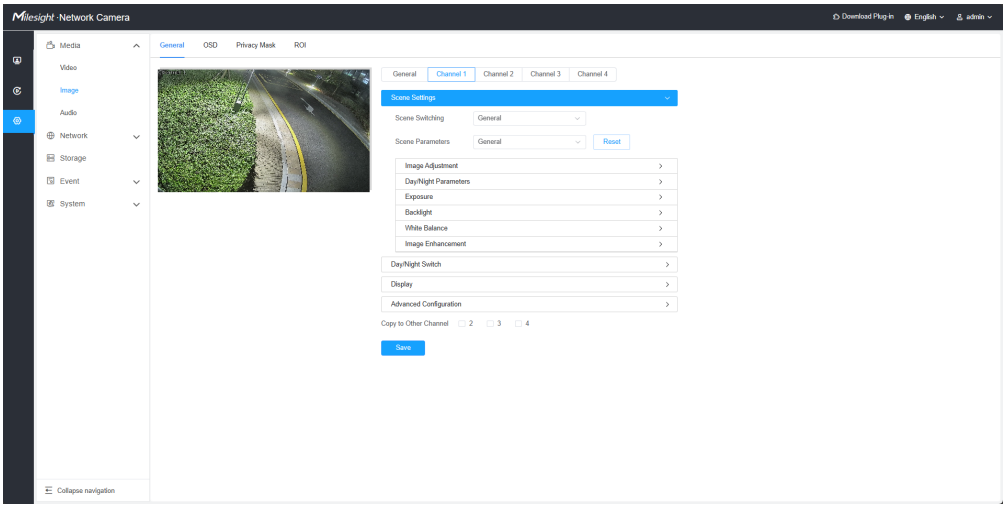


Table 9. Description of the buttons

Parameters	Function Introduction
Scene Switching	Once the parameters for each scenario have been set, employ this option to switch between the parameters in use for the current scenario.
Scene Parameter	This function allows you to configure a set of bespoke parameters for each distinct scenario.
Reset	You can reset the image parameter of the selected scene, by clicking "reset".

Step 1: After selecting a scene parameter, you will see multiple scene options, including **General, Front Light, Low Light, Back Light, Customize 1, and Customize 2**.

Step 2: Adjust the detailed parameters using functions such as **Image Adjustment and Day/Night Parameter**.

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]

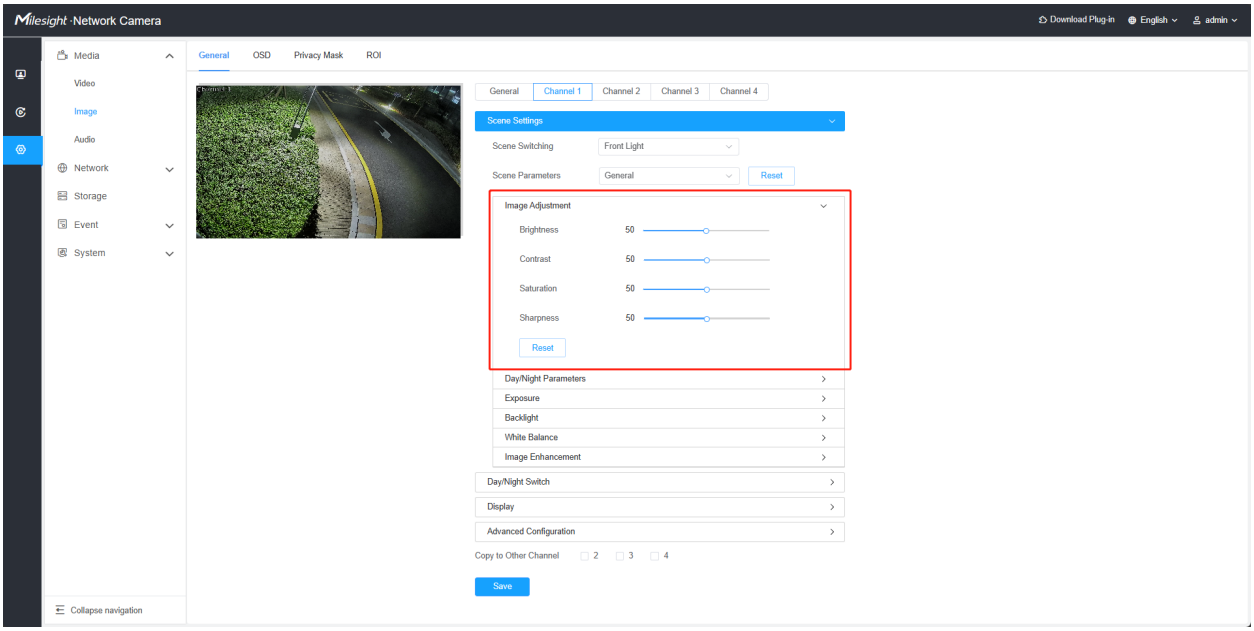


Table 10. Description of the buttons

Parameters	Function Introduction
Brightness	Adjust the Brightness of the scene.

Parameters	Function Introduction
Contrast	Adjust the color and light contrast.
Saturation	Adjust the Saturation of the image. Higher Saturation makes colors appear more "pure" while lower one appears more “wash-out”.
Sharpness	Adjust the Sharpness of image. Higher Sharpness sharps the pixel boundary and makes the image looks “more clear”.
Reset	Reset image sharpness, brightness, etc.

[Scene Settings > Day/Night Parameter]

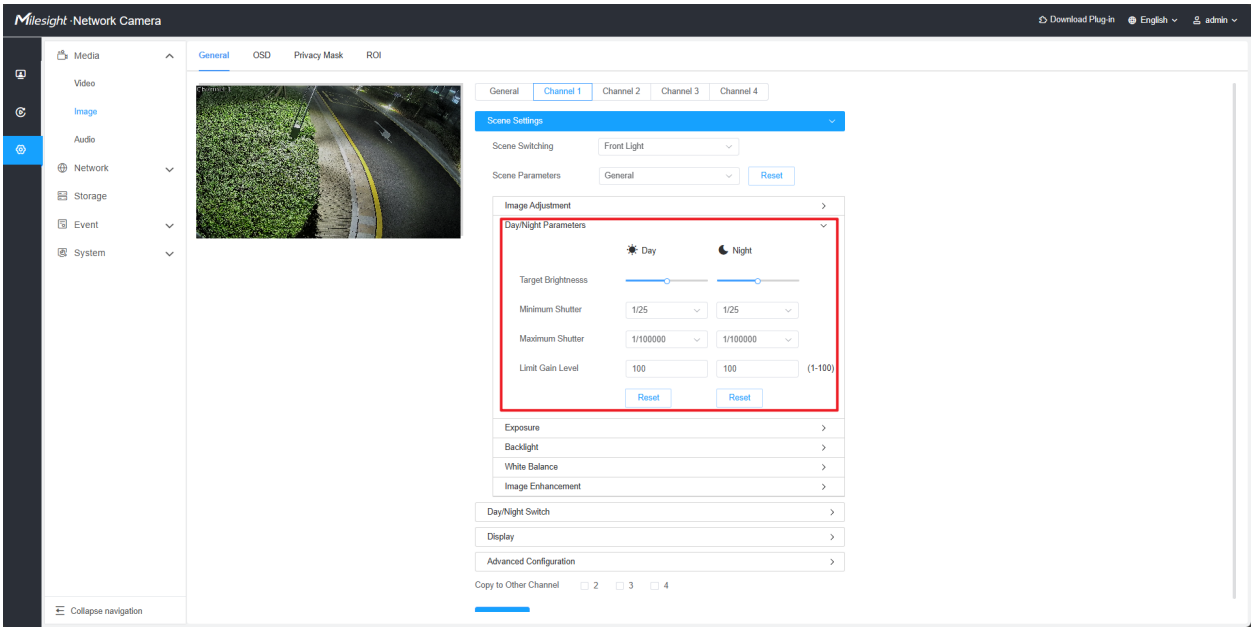


Table 11. Description of the buttons

Parameters	Function Introduction
Target Brightnesss	You can adjust the brightness of the target by dragging the slider. The available values including -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5. Negative values decrease the brightness, while positive values increase it. The default setting is 0.
Minimum Shutter	Minimum Shutter is the same as Maximum Exposure Time. Set the minimum Shutter to 1~1/100000s.
Maximum Shutter	Maximum Shutter is the same as Minimum Exposure Time. Set the maximum Shutter to 1~1/100000s.
Limit Gain Level	Set the Limit Gain Level to 1~100.

[Scene Settings > Exposure]

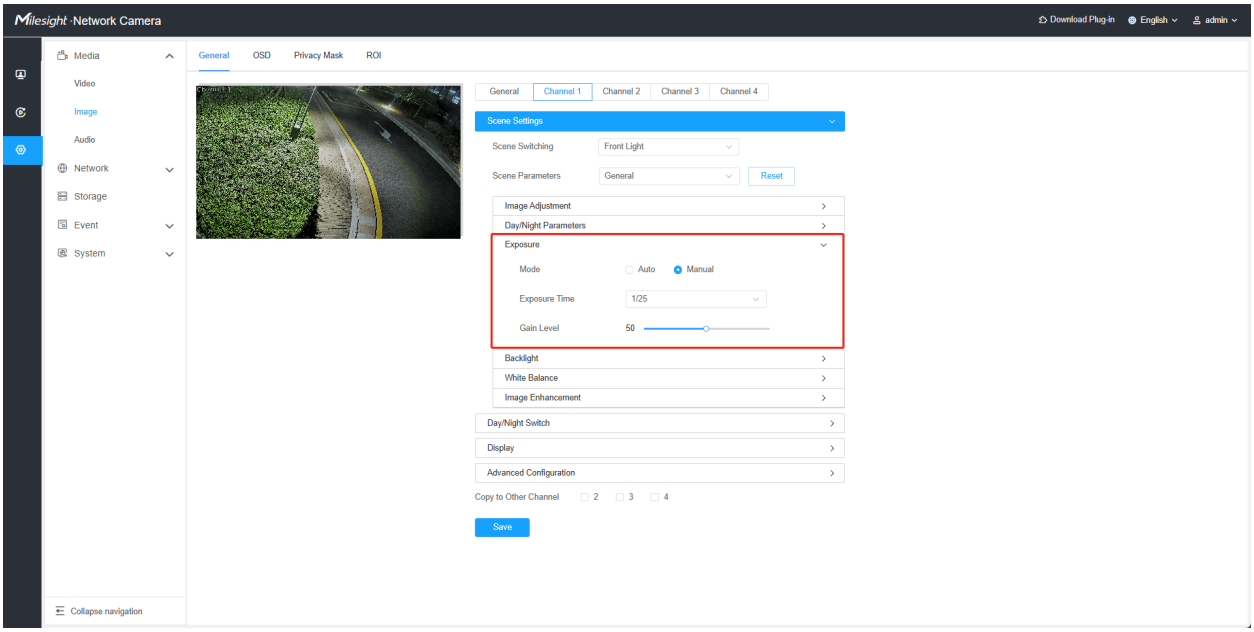


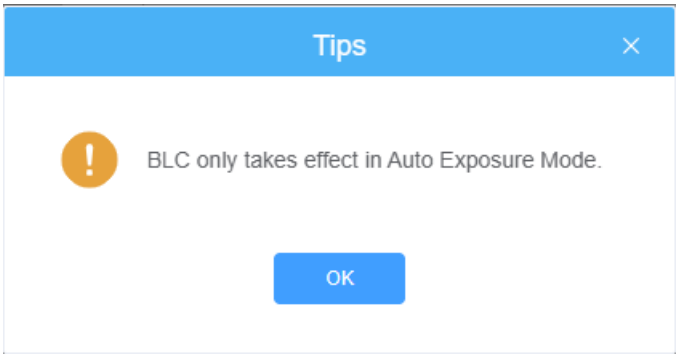
Table 12. Description of the buttons

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 set the exposure time from 1~1/100000s, the higher the value is, the brighter the image is. **Gain Level:** It can be adjusted from 1 to 100, with a default value of 50. A higher gain results in a brighter image.

[Scene Settings > Backlight]

Table 13. Description of the buttons

Parameters	Function Introduction
Backlight Mode	**Backlight Setting:** BLC, WDR, and HLC are available for detailed configuration. The default setting is "Off.". **BLC > BLC Region:** Customize and Center are available, when you select Customize, you must draw on the screen to define the BLC region. **Type:** You can choose between "**Inclusive**" or "**Exclusive**" options. "**Inclusive**" is selected by default.

Parameters	Function Introduction
Backlight Mode	**WDR > Wide Dynamic Level:** This setting allows you to choose the Wide Dynamic Range (WDR) level. **Low:** Selecting this option enhances the compensation of bright areas, resulting in clearer image details in those regions. **Auto:** This setting automatically adjusts the exposure for bright and dark areas according to the scene. **High:** Choosing this option brightens the overall image, allowing for better detail to be captured in darker areas. **HLC > HLC Level:** When HLC is enabled, the HLC Level can be configured from 0 to 100. A higher HLC Level results in a stronger light compensation effect. **Note:** To enable WDR, BLC, and HLC, you must set the exposure to **Auto** mode. 

[Scene Settings > White Balance]

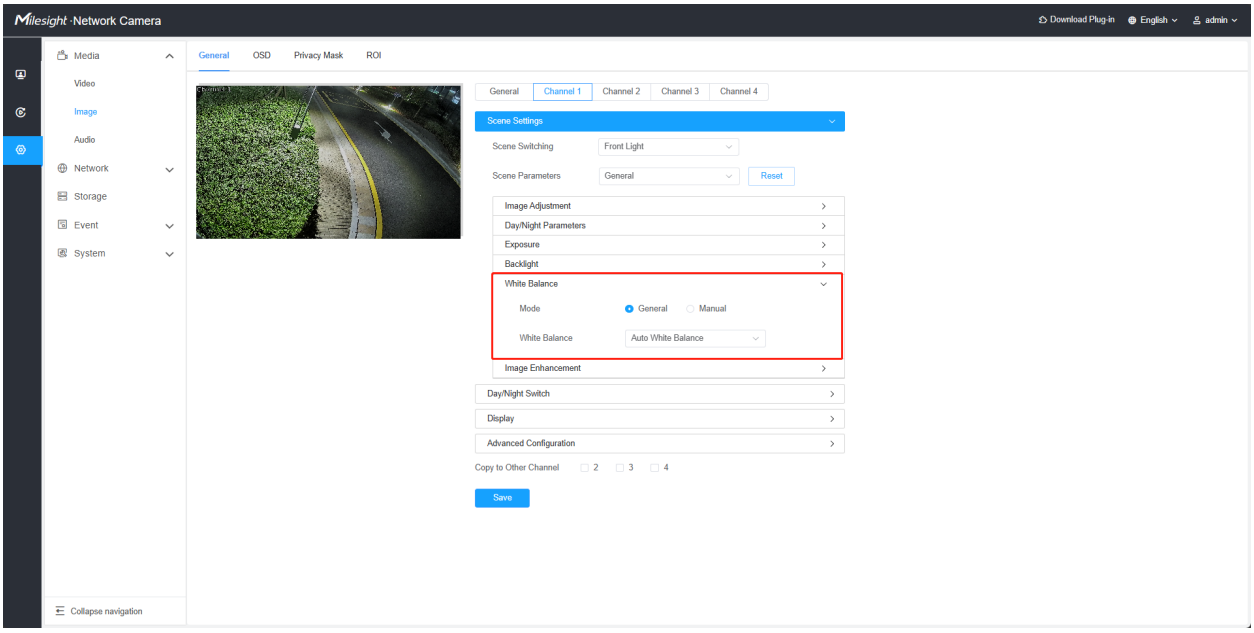
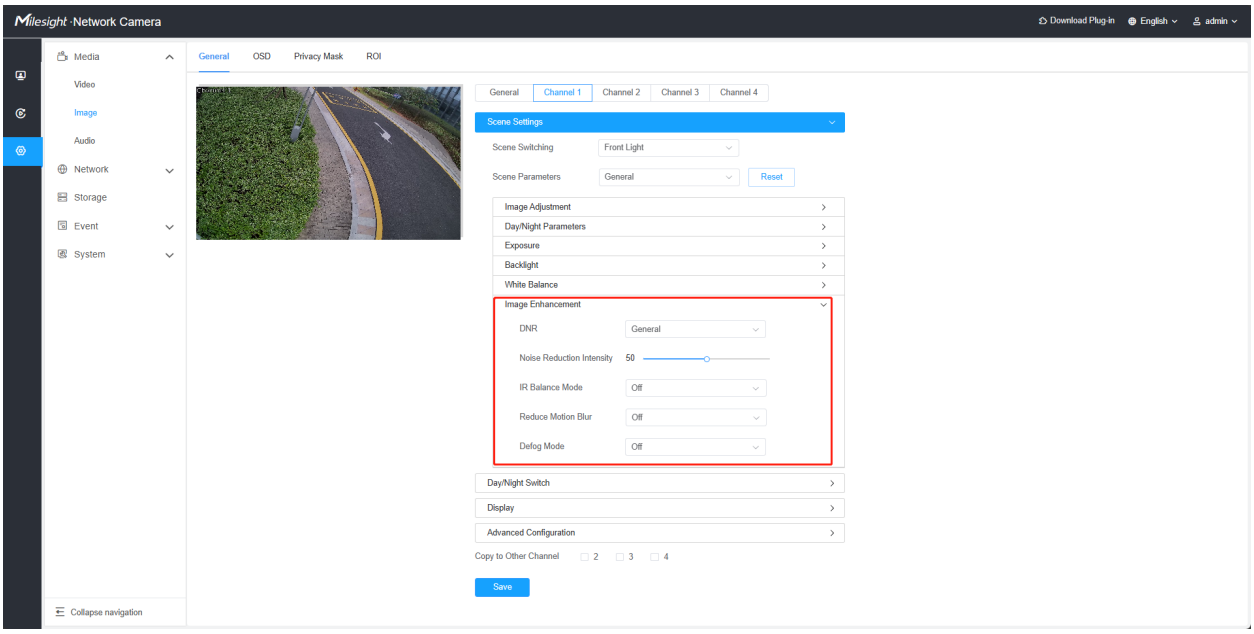


Table 14. Description of the buttons

Parameters	Function Introduction
White Balance	To restore white objects, removed 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]

[DNR > General]



[DNR > Expert Mode]

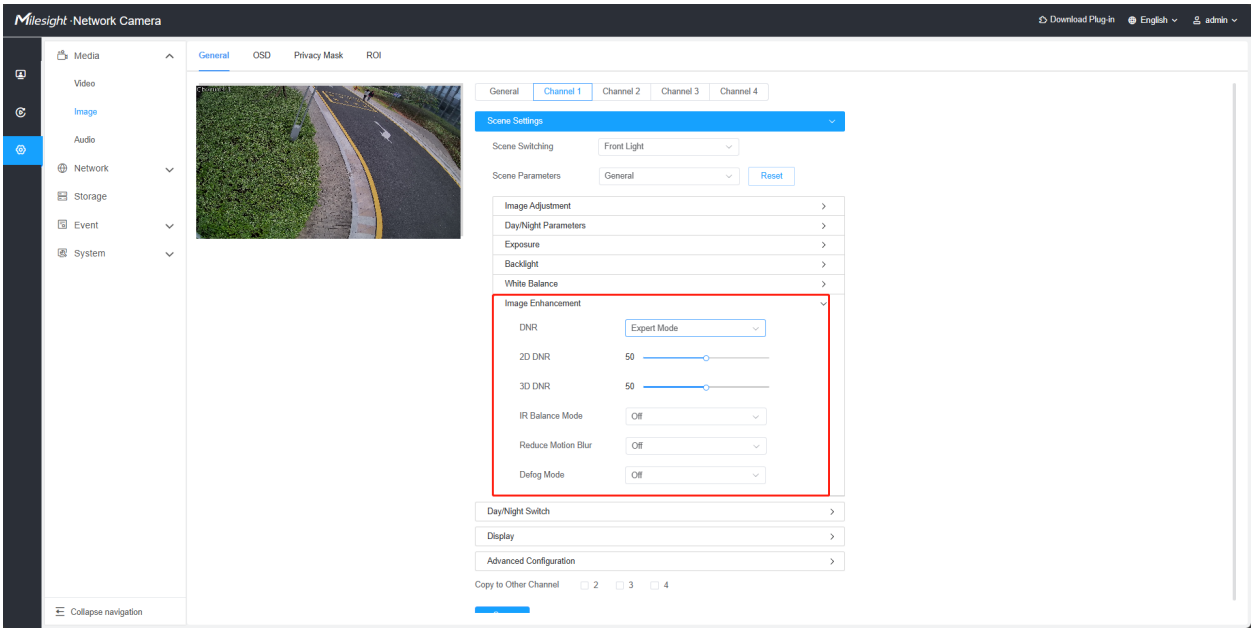


Table 15. Description of the buttons

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.
2D DNR/ 3D DNR	Adjust the noise reduction level.
IR Balance Mode	There is an option to turn On/Off the IR LED. 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:** 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 50. **Note:** • For more details about **Milesight Defog**, you can click to the YouTube: https://www.youtube.com/watch?v=a9od7Trao4U

[Day/Night Switch]

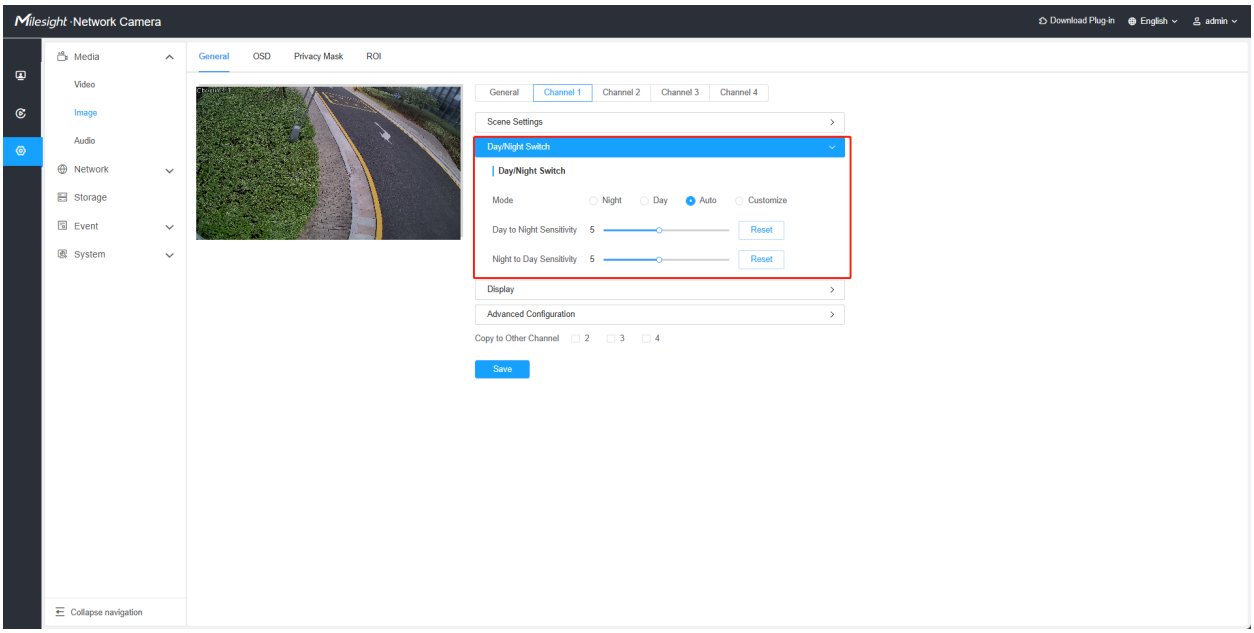
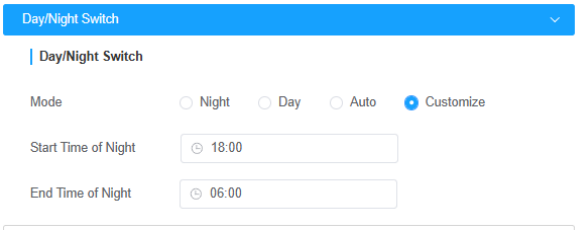


Table 16. Description of the buttons

Parameters	Function Introduction
Mode	**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. **Customize:** Shown in live view based on your own settings' time to start/end Night Mode. **Note:** There are several parameters such as Exposure Level, Maximum Exposure Time and IR-CUT Interval, etc, associated with the modes.
Day/Night Switch	**Day to Night Sensitivity:** You can set the sensitivity for switching Day Mode to Night Mode. When IR Light Sensor Current Value is lower than this value, it will switch 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. When IR Light Sensor Current Value is higher than this value, it will switch 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.

Parameters	Function Introduction
Day/Night Switch	**Start Time of Night:** You can set the time for start the Night Mode. **End Time of Night:** You can set the time for start the Day Mode.  **Note:** Start/End Time of Night are optional only if you select Customize Mode.

[Display]

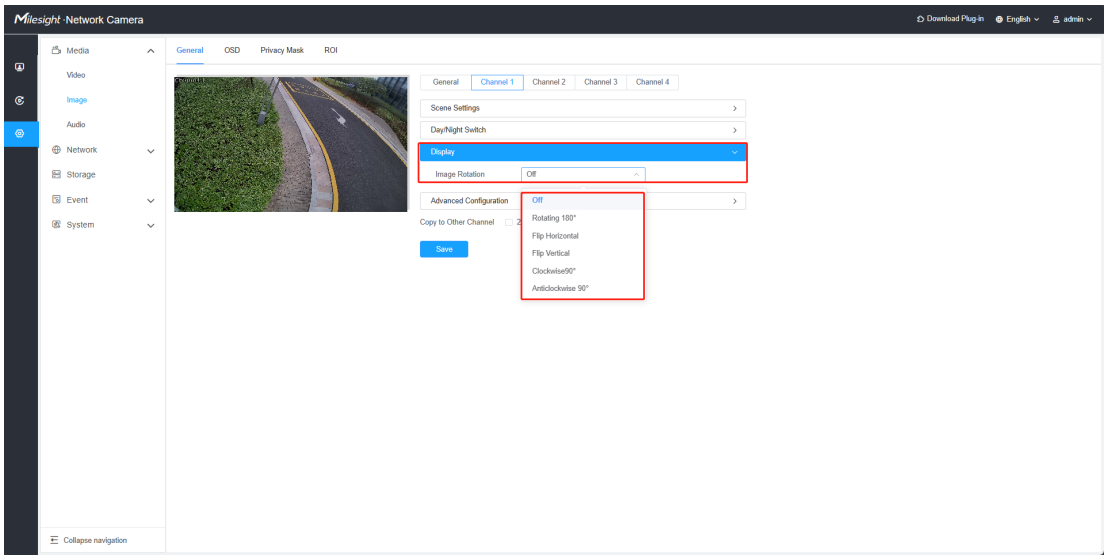


Table 17. Description of the buttons

Parameters	Function Introduction
Image Rotation	There are four options available, you can select one to meet your need. **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 by 90° clockwise. **Anticlockwise90°:** Rotate the image by 90° anticlockwise.

[Advanced Configuration]

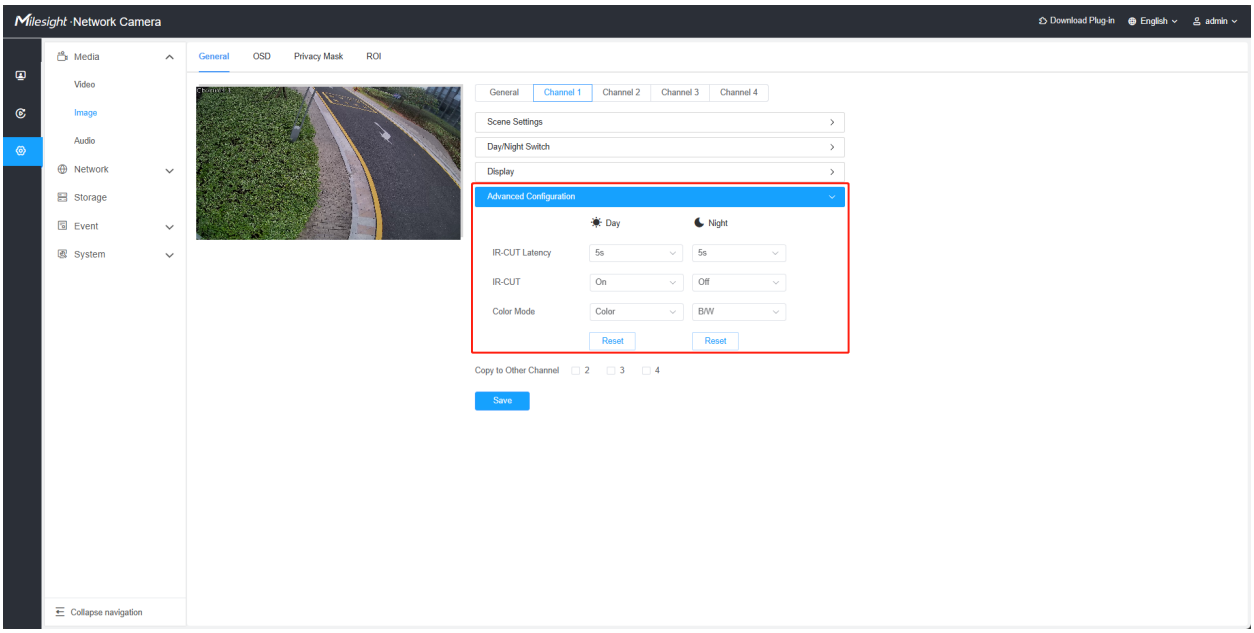


Table 18. Description of the buttons

Parameters	Function Introduction
IR-CUT Latency	The interval time of switching one mode to another.
IR-CUT	Turn on/off IR-CUT.
Color Mode	Select B/W or Color mode.
Reset	Restore the IR-CUT Latency, IR-CUT, and Color to the default parameter.

Upon completing all settings, you can copy them to the other channel and click " Save " to apply them.

Table 19. Description of the buttons

Parameters	Function Introduction
Copy to Other Channel 2 3 4	Copy all settings to the other channel.
Save	Save all settings to apply in the live view image.

8.1.2.2 OSD

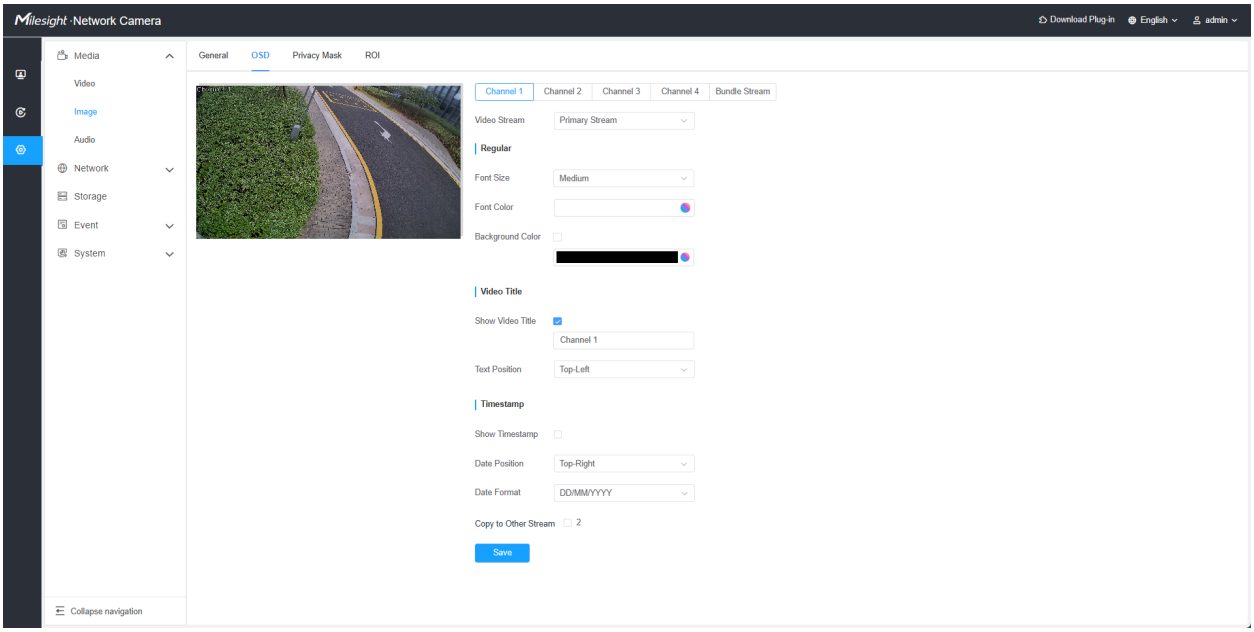
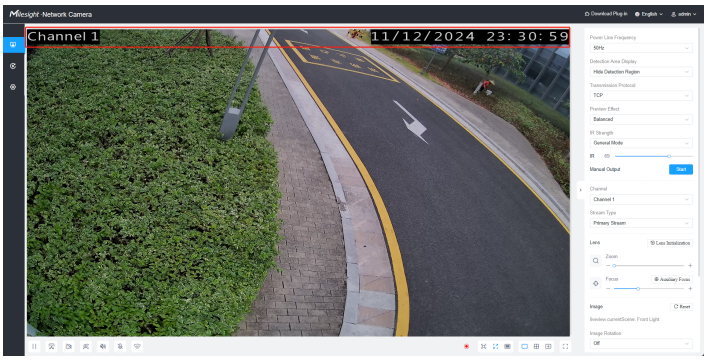


Table 20. Description of the buttons

Parameters	Function Introduction
Channel 1/2/3/4	Choose the "**Channel ***" option to configure the OSD settings for the selected channel.
Video Stream	Enable to set OSD for primary stream and secondary 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: 
Video Title	Customize the OSD content.
Show Video Title	Check the check box to show video title.
Text Position	OSD display position on the image.

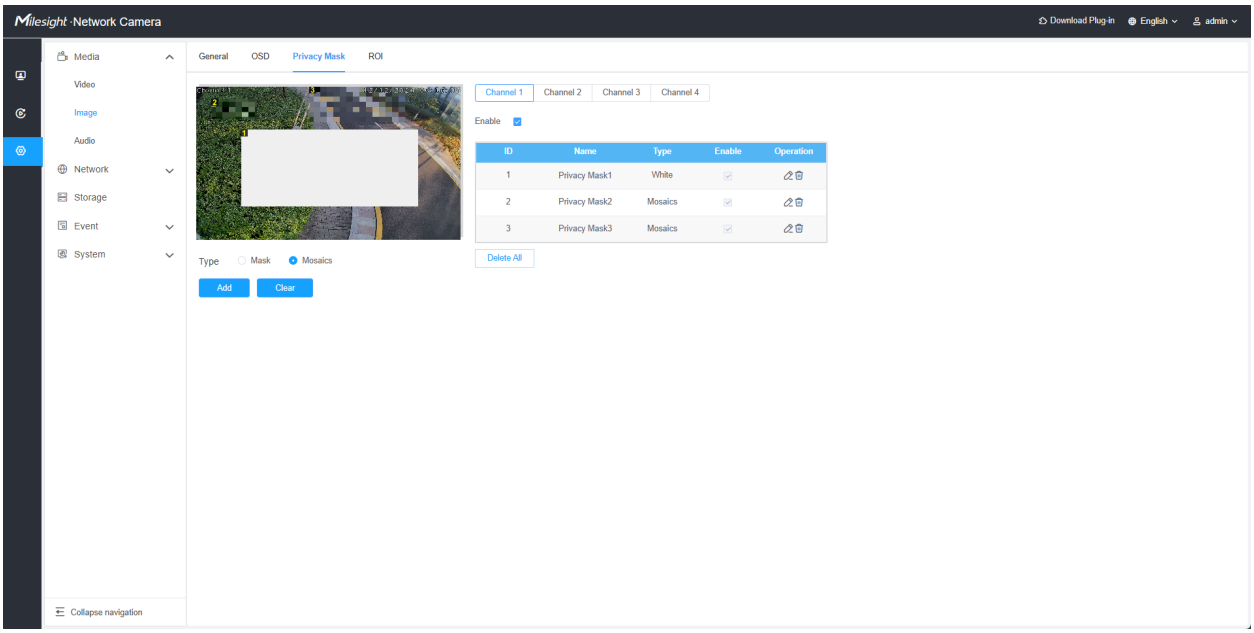
Parameters	Function Introduction
Show Timestamp	Check the checkbox to display date on the image.
Date Position	Date display position on the image.
Date Format	The format of date.
Copy to Other Streams	Copy the settings to other streams.

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



The configuration shown here uses **Channel 1** as an example, the configuration details for other channels are similar.

Step1: Click the checkbox to enable or disable the Privacy Mask feature

Step2: Select the type of the privacy area. Mask and Mosaics are available.

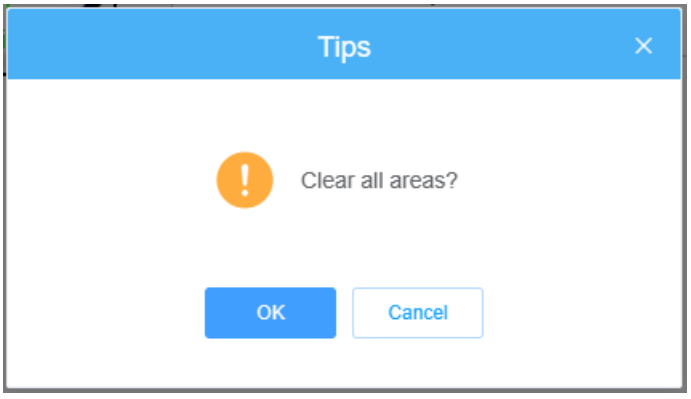
Step3: Use your mouse to draw an area on the live view image that you want to hide . You also can draw multiple privacy areas.

Step4: You can select the color to use for the cover certain areas on the live video.

Note:

- For the MS-C5321-FPE model, up to 8 areas(mask + mosaic) are supported for each channel.

Table 21. Description of the buttons

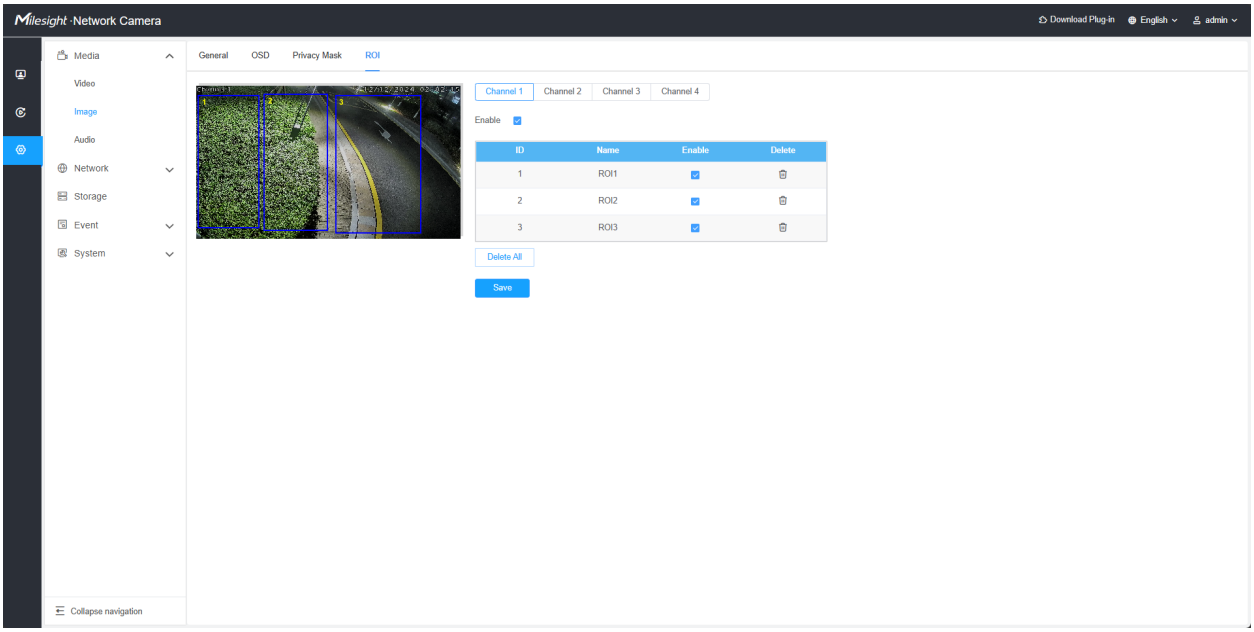
Parameters	Function Introduction	
Channel 1/2/3/4	Choose the "**Channel ***" option to configure the OSD settings for the selected channel.	
Enable	Check the check box to enable the Privacy Mask function.	
Type	Select the type to use for the privacy areas, there are two types available: Mask and Mosaic.	
Type-Color	Select the color to use for the privacy areas, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red and Purple.	
Add	Drew a privacy area on the live video as needed.	
Clear	Clear the area you drew on the live video.	
Delete All	Clear all areas you drew before.	
Operation	/	Enable/ disable the selected ROI areas.
		Delete the selected privacy area. 
		Change the color of area, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red and Purple

8.1.2.4 ROI

Region of interest (often abbreviate 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.



The configuration shown here uses **Channel 1** as an example, the configuration details for other channels are similar.

Step1: Choose the channel where you want to set the ROI feature.

Step2: Click the checkbox to enable or disable the ROI feature

Step3: Draw an area to create ROI.

Step4: Click Save to apply the settings.

Step5: You can click to delete the ROI.

Table 22. Description of the buttons

Parameters	Function Introduction	
Channel 1/2/3/4	Choose the "**Channel ***" option to configure the OSD settings for the selected channel.	
Enable	Check the checkbox to enable the ROI function.	
ROI		Enable/disable the selected ROI areas.
ROI		Delete the selected ROI 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.

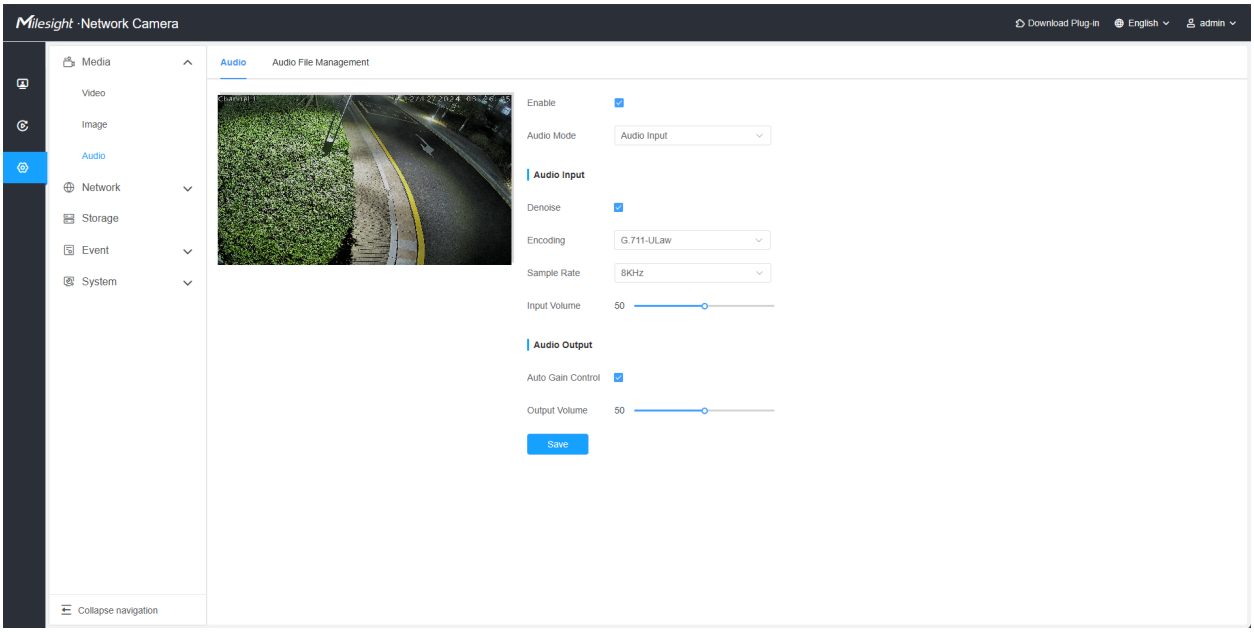


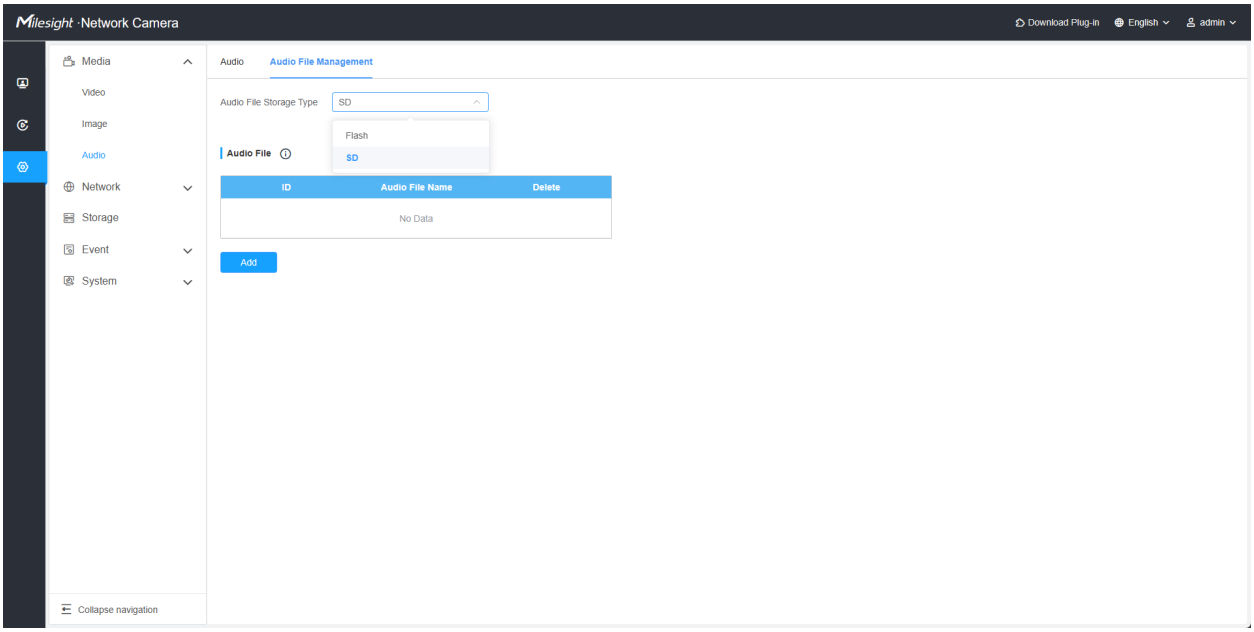
Table 23. Description of the buttons

Parameters	Function Introduction
Enable	Check on the checkbox to enable audio feature.
Audio Mode	**Audio Input/Audio Output/Both Audio Input & Output** are optional.
Audio Input	**Denoise:** Set it as On/Off. When you set the function on, the noise detected can be filtered. **Encoding:** AAC LC, G.711-ULaw, G.711-ALaw, G.722 and G.726 are available **Audio Bit Rate:** The function is available only for AAC LC, and supports up to 256kbps. **Sample Rate:** 8KHz, 16KHz, 32KHz, 44.1KHz, and 48KHz are available. **Input Gain:** Input audio gain level, 0-100.
Audio Output	**Auto Gain Control:** This function is only for H.265 series, improve the quality of audio **Output Volume:** Adjust volume of output

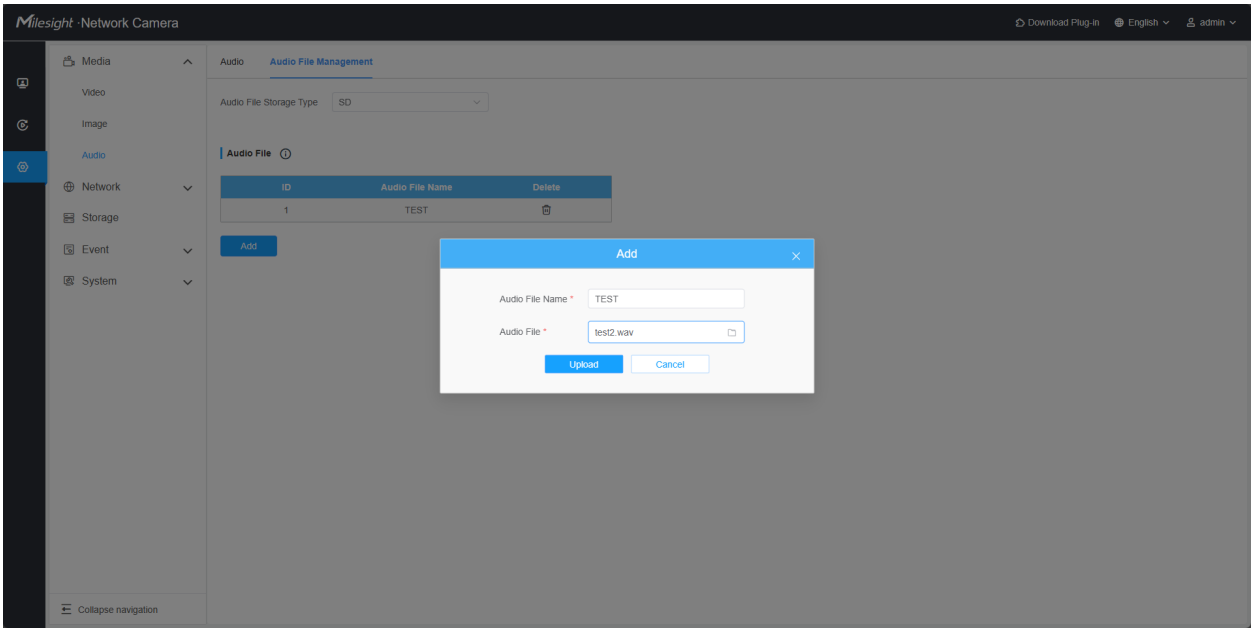
8.1.3.2 Auto File Management

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.

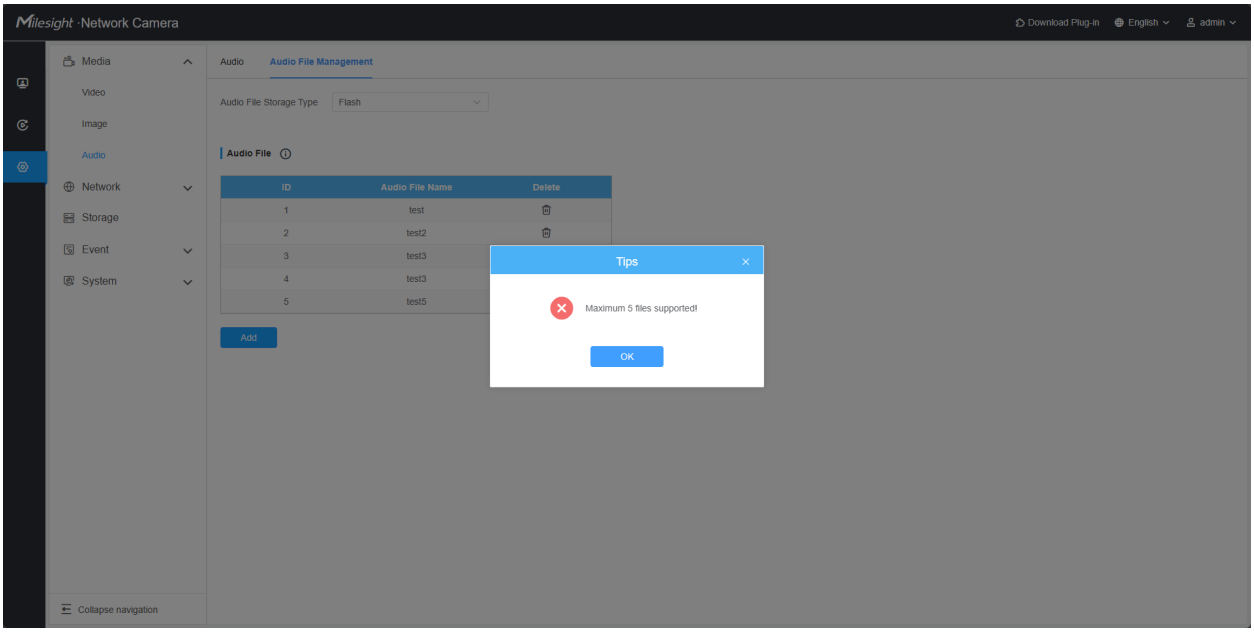
Step1: Select the type of audio file storage to define its location. Flash and SD cards are both available.



Step2: Click Add , enter the audio file name , select the file and click Upload or Cancel .

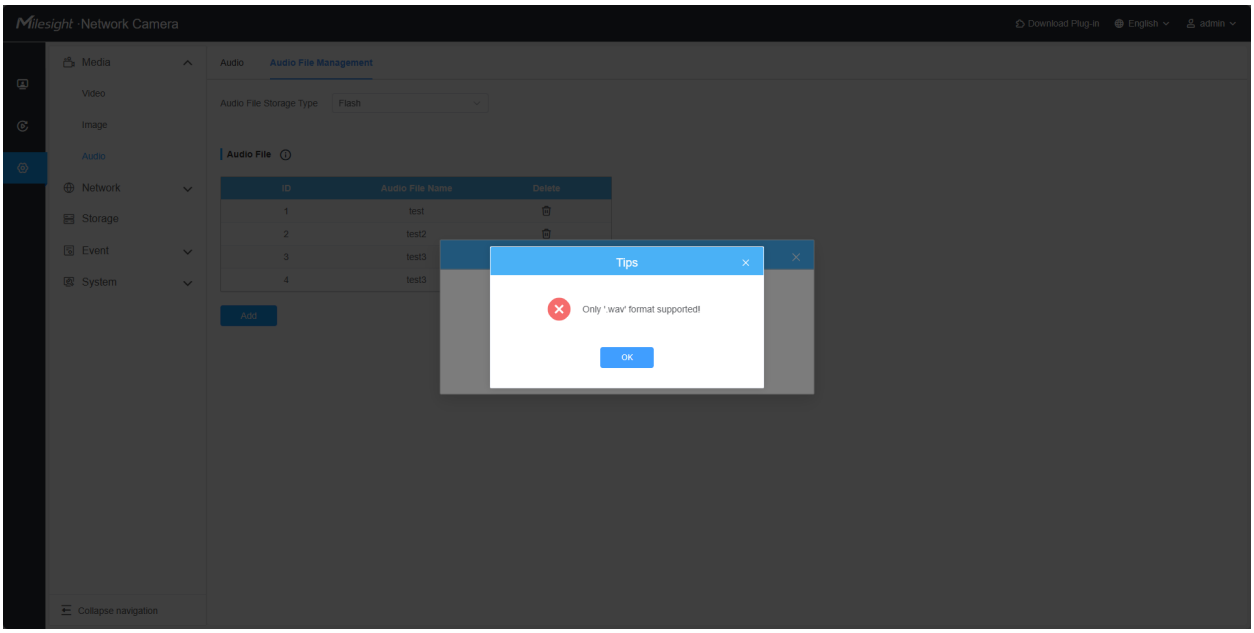


Step3: To delete the audio file, simply click on the " " button.



Note:

- The Audio mode and Audio Output are only for certain modules.
- Only support '.wav' audio files with codec type PCM/PCMU/PCMA, 64kbps or 128 kbps and no more than 500k.



8.2 Network

8.2.1 Basic

8.2.1.1 TCP/IP

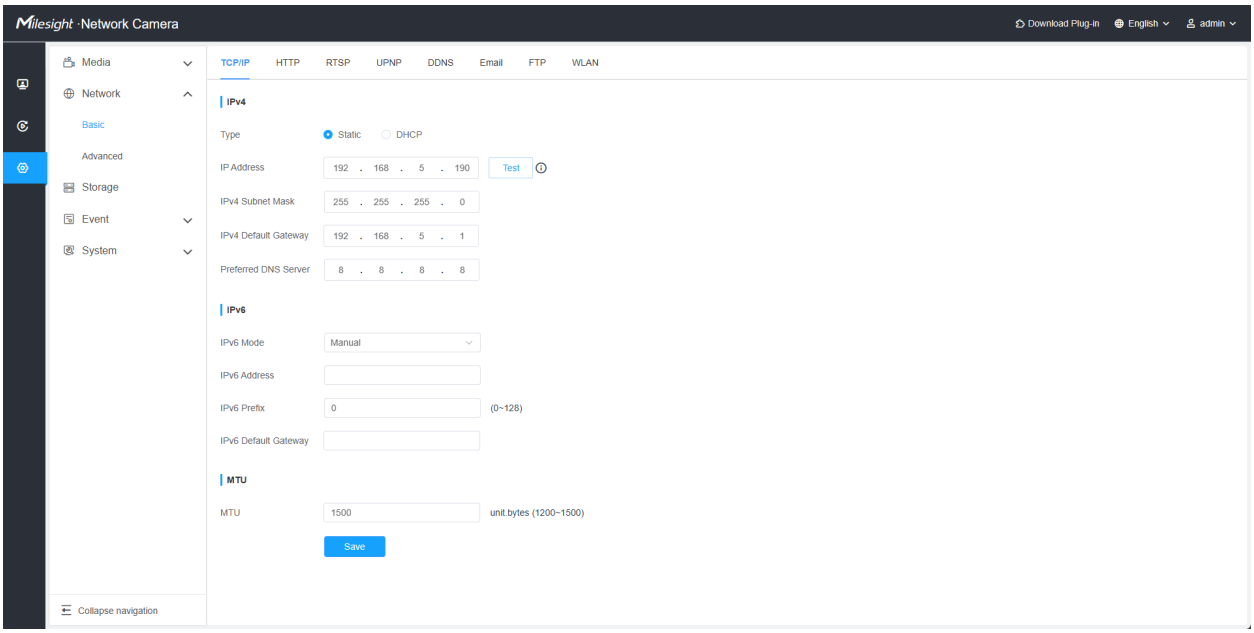


Table 24. Description of the buttons

Parameters	Function Introduction
IPv4	**Type:** Static Type and DHCP Type are optional for user to get IPv4 address automatically or use fixed IP address. **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.

Parameters	Function Introduction
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 **IPv6 Default Gateway:** The default router IPv6 address
MTU	Maximum Transmission Unit. The default value is 1500. You can customize the value from 1200 to 1500 as needed.
Save	Save the configuration.

8.2.1.2 HTTP

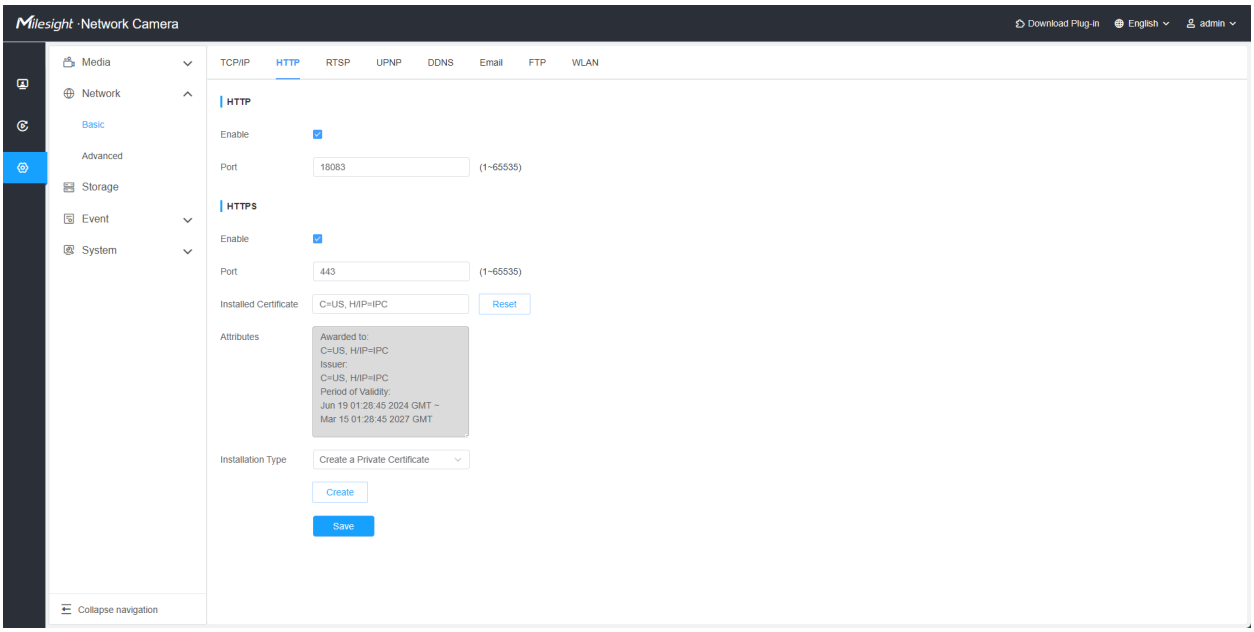


Table 25. Description of the buttons

Parameters	Function Introduction
HTTP	**Enable:** Start or stop using HTTP. **Port:** Web GUI login port, the default is 80, the same with ONVIF port.

Parameters	Function Introduction
HTTPs	**Enable:** Start or stop using HTTPs. **Port:** Web GUI login port via HTTPS, the default is 443. **Note:** For more details about how to use enable HTTPS access, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000797384.
Installed Certificate	Upload and set the SSL certificate.
Attributes	
Installation Type	
Save	Save the configuration.

Table 26. HTTP URL are as below:

Stream	URL
Channel 1	**Primary Stream:** http://IP:Port/ipcam/httpstream.cgi?sensor=1&stream=0 (mainStream) **Secondary Stream:** http://IP:Port/ipcam/httpstream.cgi?sensor=1&stream=1 (subStream)
Channel 2	**Primary Stream:** http://IP:Port/ipcam/httpstream.cgi?sensor=2&stream=0 (mainStream) **Secondary Stream:** http://IP:Port/ipcam/httpstream.cgi?sensor=2&stream=1 (subStream)
Channel 3	**Primary Stream:** http://IP:Port/ipcam/httpstream.cgi?sensor=3&stream=0 (mainStream) **Secondary Stream:** http://IP:Port/ipcam/httpstream.cgi?sensor=3&stream=1 (subStream)
Channel 4	**Primary Stream:** http://IP:Port/ipcam/httpstream.cgi?sensor=4&stream=0 (mainStream) **Secondary Stream:** http://IP:Port/ipcam/httpstream.cgi?sensor=4&stream=1(subStream)
Bundle Stream	http://IP:Port/ipcam/httpstream.cgi?bundle

8.2.1.3 RTSP

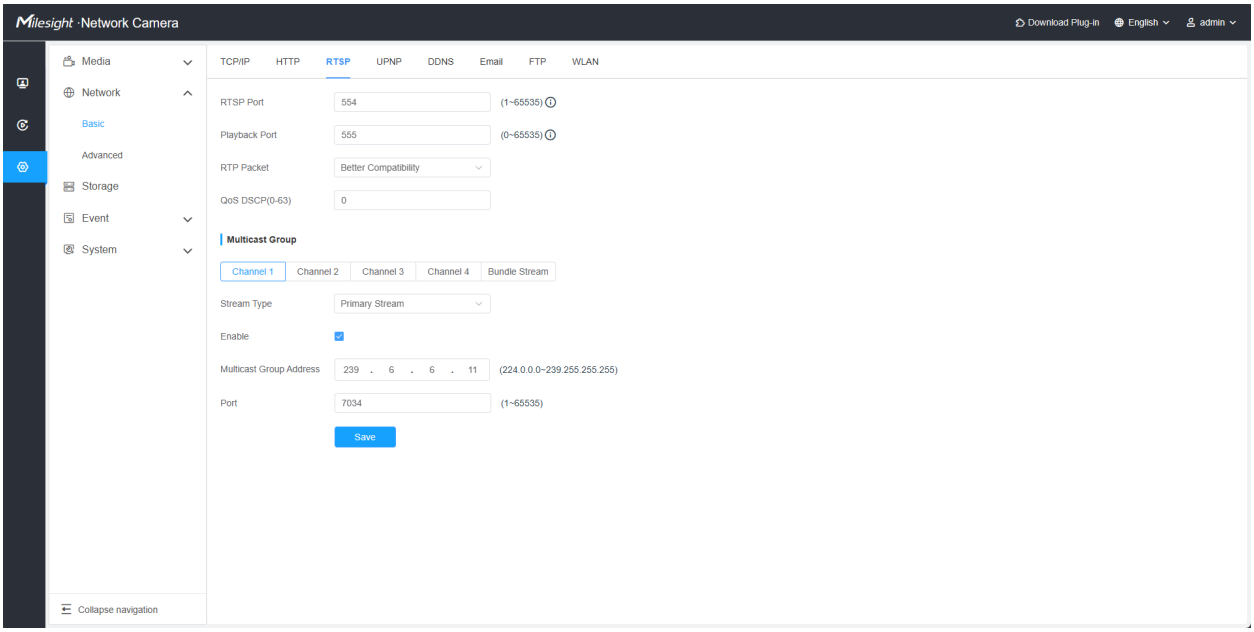


Table 27. Description of the buttons

Parameters	Function Introduction	
RTSP Port	The port of RTSP, the default is 554.	
Playback Port	Playback Port The port of playback, 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	**Channel 1/2/3/4 and Bundle Stream**	Set the multicast group for the corresponding channel.
	Stream Type	Primary Stream or Secondary Stream are optional.
	Enable	Enable or disable the Multicast Group feature.
	Multicast Group Address	Support multicast function.
	Port	The port of multicast group, the default is 7034. The valid value range of the port is 1-65535.
Save	Save the configuration.	

Table 28. RTSP URL are as below:

Stream	URL
Channel 1	**Primary Stream:** rtsp://IP:RTSP Port/sensor1/main **Secondary Stream:** rtsp://IP:RTSP Port/sensor1/sub
Channel 2	**Primary Stream:** rtsp://IP:RTSP Port/sensor2/main **Secondary Stream:** rtsp://IP:RTSP Port/sensor2/sub
Channel 3	**Primary Stream:** rtsp://IP:RTSP Port/sensor3/main **Secondary Stream:** rtsp://IP:RTSP Port/sensor3/sub
Channel 4	**Primary Stream:** rtsp://IP:RTSP Port/sensor4/main **Secondary Stream:** rtsp://IP:RTSP Port/sensor4/sub
Bundle Stream	**Primary Stream:** rtsp://IP:RTSP Port/bundle/main

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.

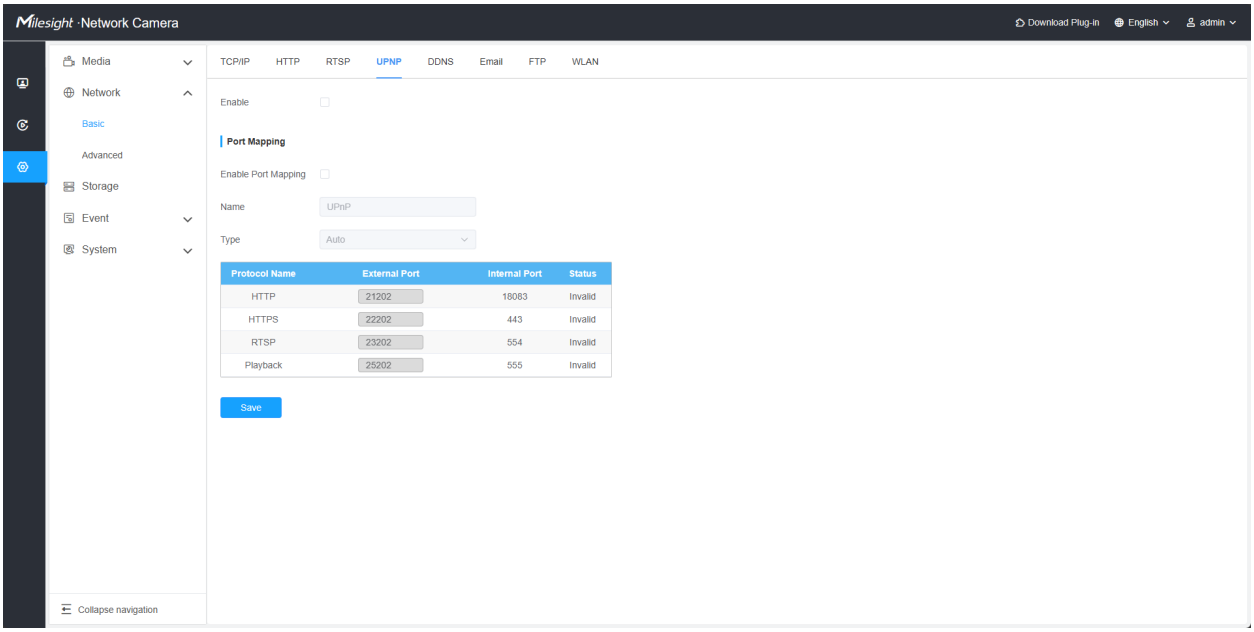


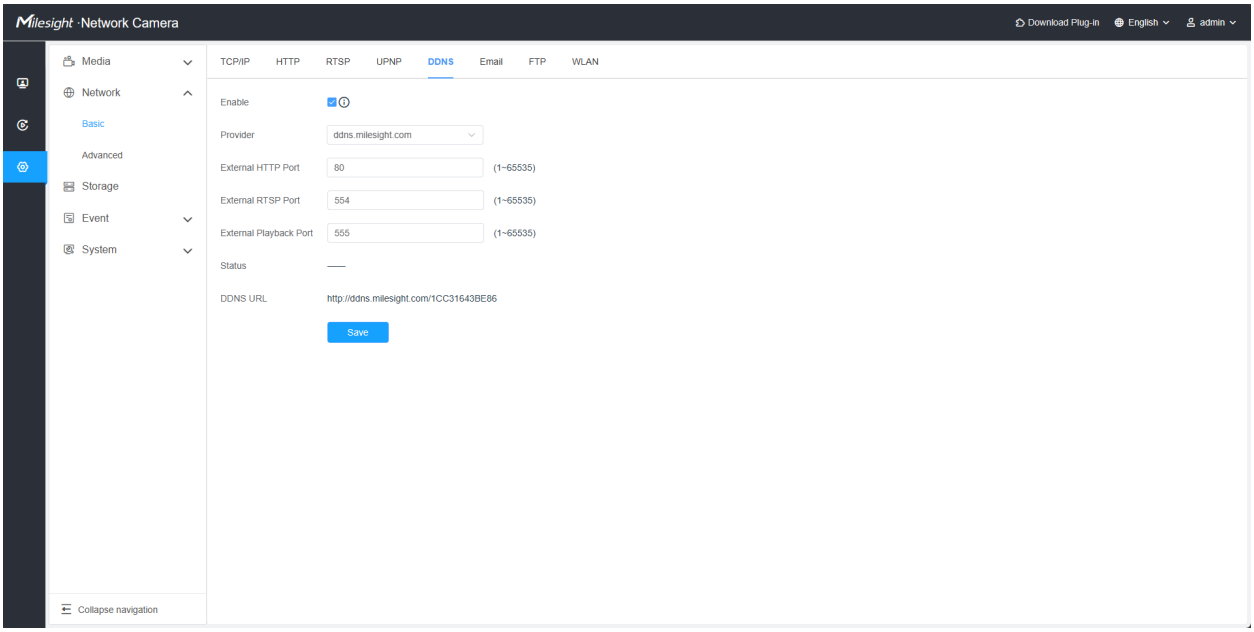
Table 29. Description of the buttons

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 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 configuration.

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 30. Description of the buttons

Parameters	Function Introduction
Enable DDNS	Check the checkbox to enable DDNS service. **Note:** Recommend to enable and configure UPnP ports which can be used directly in DDNS.
Provider	Get support from DDNS provider: ddns.milesight.com, freedns.afraid.org, dyndns.org, www.no-ip.com, www.zoneedit.com. You can also customize the provider for DDNS.
Hash	A string used for verifying, only for "freedns.afraid.org".
User name	Account name from the DDNS provider, unavailable for "freedns.afraid.org".
Password	Account password, unavailable for "freedns.afraid.org".
Host name	DDNS name enabled in the account.
Host IP	DDNS IP enabled in the account.
Status	Display DDNS running status.

Parameters	Function Introduction
Save	Save the configuration.

Note:

- Please do the Port Forwarding of HTTP Port and RTSP Port before you use Milesight DDNS.
- Make sure that the internal and the external port number of RTSP are the same.

8.2.1.6 Email

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

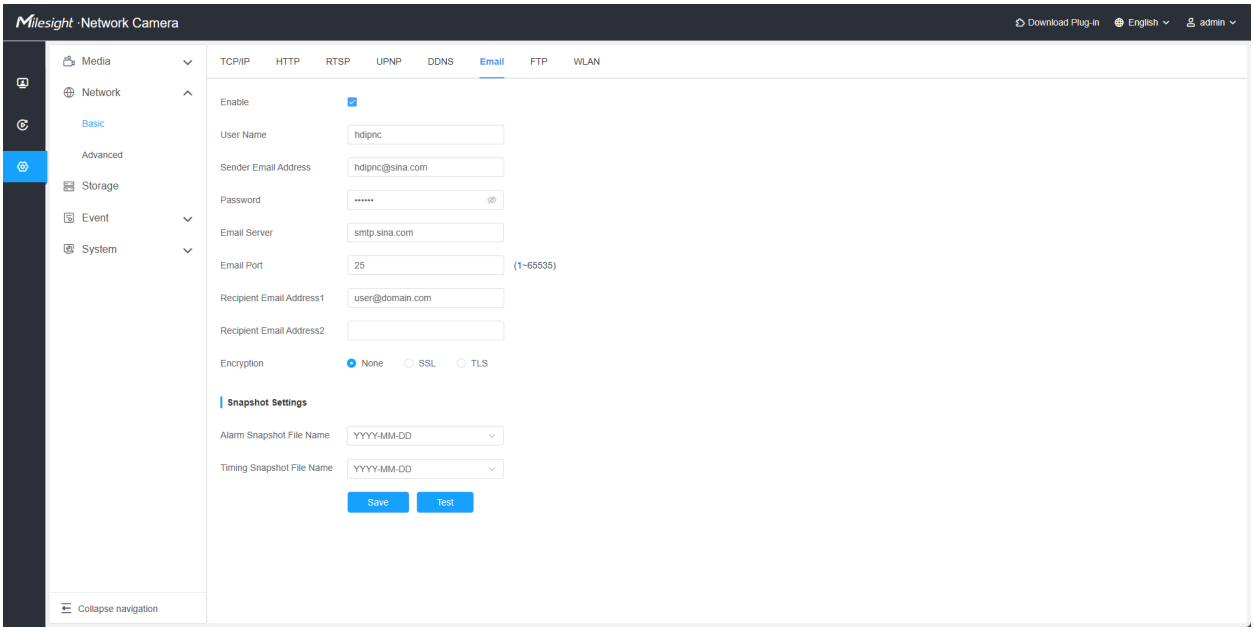


Table 31. Description of the buttons

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.

Parameters	Function Introduction
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. you can customize the value from 1 to 65535 as needed.
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.
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 configuration is 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
&& - &

8.2.1.7 FTP

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

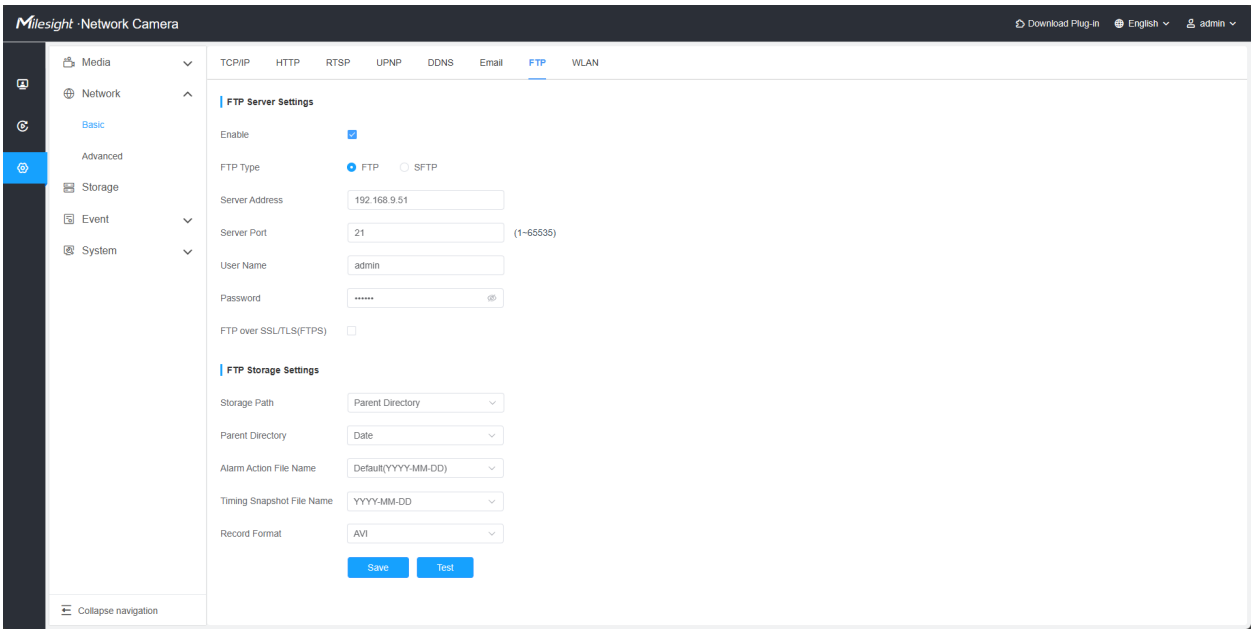


Table 32. Description of the buttons

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)	Click the checkbox to enable SSL and TLS encryption. It adds SSL or TLS on the basis of the FTP to make it more security.

Parameters		Function Introduction
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.
	Parent Directory	Choose IP Address/ Device Name/ Date as the folder name of Parent Directory, or customize the folder name.
	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.
	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 configuration, 0s ~ 10s are optional.
Test		Test whether the configuration is 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.

8.2.1.8 WLAN

The AI Multi-directional Network Camera offers a novel and refreshing experience with its VLAN functionality. Wireless Local Area Network (WLAN) represents a highly efficient wireless communication technology that enables the establishment of computer networks within a confined area. By means of wireless access points (APs or Access Points), a diverse range of wireless client devices, including laptops, smartphones, and tablets, can not only interact with one another but also establish connections to wired networks. This, in turn, facilitates access to the Internet and the sharing of local resources.

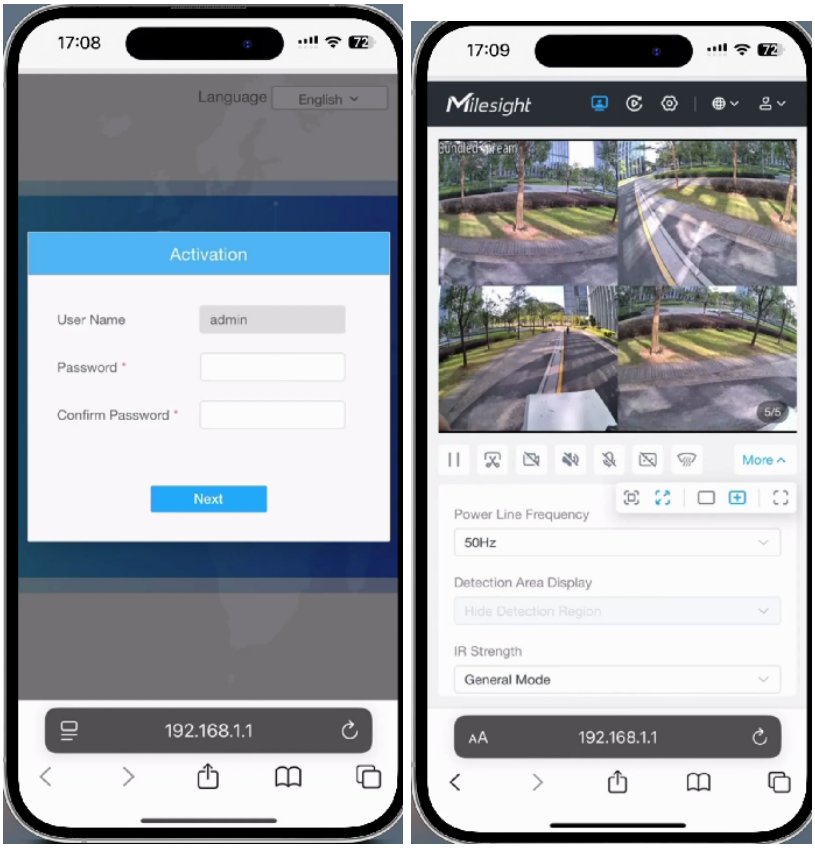
Access with WIFI

Setp1: Power on the camera by using POE or DC 12V, and when it's successfully powered, the light on the RJ45 interface will blink orange.

Setp2: The Wi-Fi of device is automatically enabled when the device is powered on, you can toggle the Wi-Fi function using the Wi-Fi switch.

Step3: Use the mobile devices or laptop to connect the device’s Wi-Fi. MS-C5321-FPE_XXXXXX is the Wi-Fi default name.

Step4: Enter the default IP address192.168.1.1 in the browser to login to the web page of the camera and complete the camera activation.



Note:

- When the Wi-Fi is being powered on, the Wi-Fi switch indicator light in front of the device will illuminate green.
- And When the Wi-Fi is turned off, the Wi-Fi switch indicator light will not be illuminated.
- The Wi-Fi name is MS-C5321-FPE_XXXXXX (XXXXXX is the last six bits of the MAC address).

On the WLAN interface, you can obtain more detailed information about the WLAN and adjust its parameters.

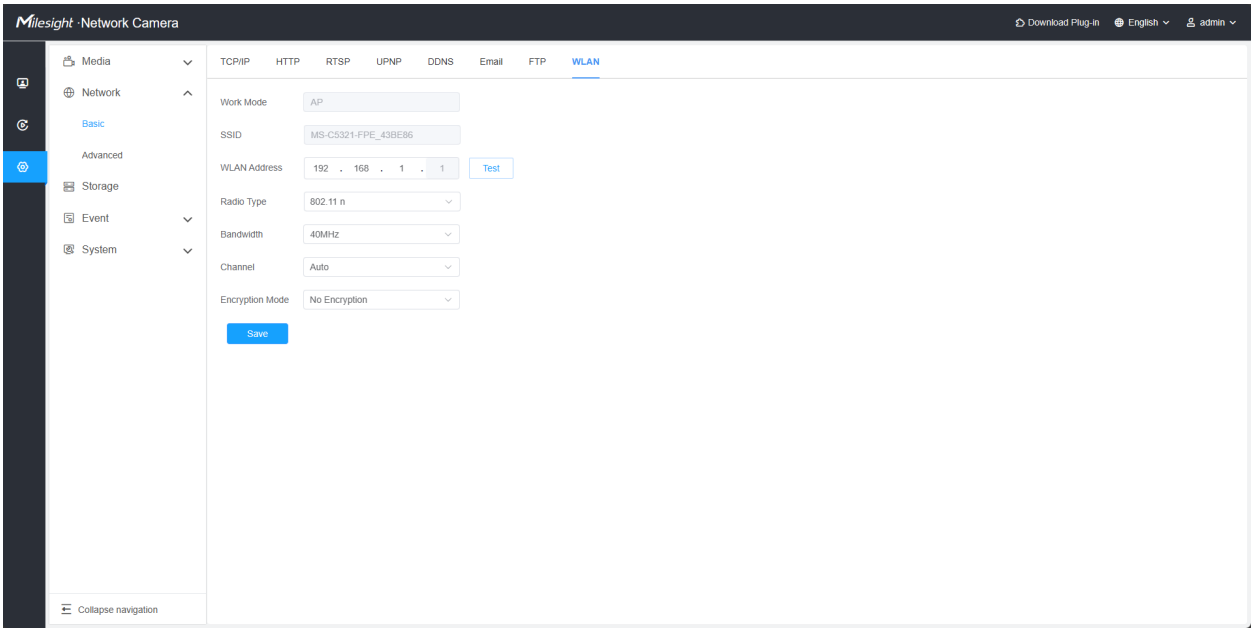


Table 33. description of the buttons

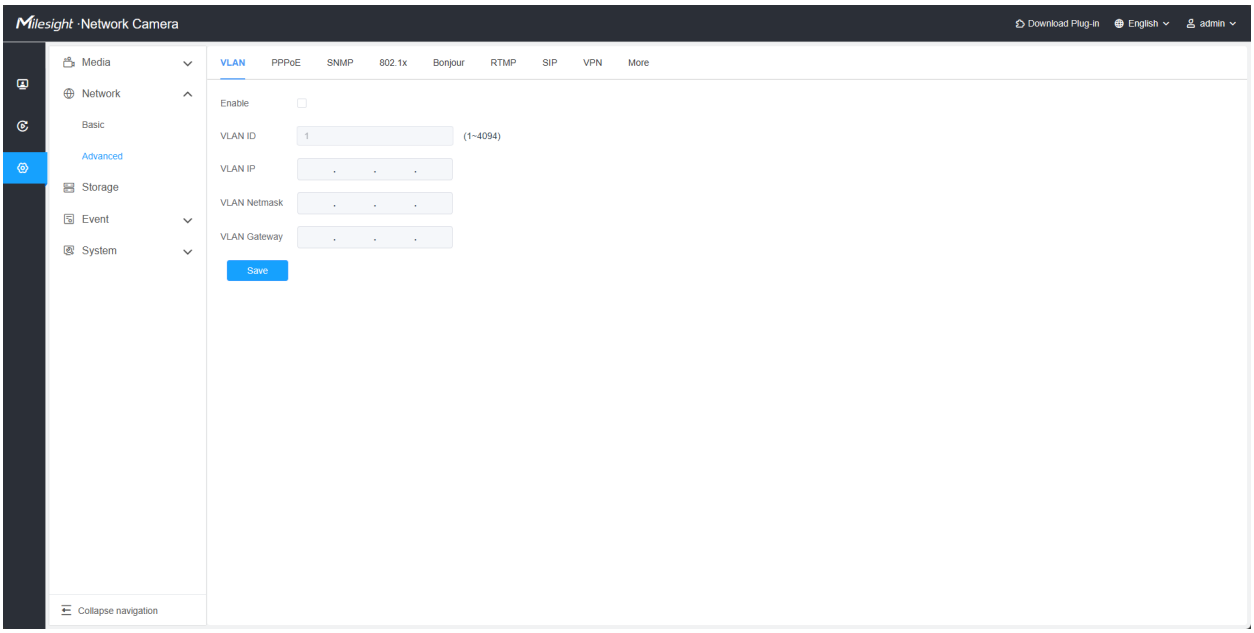
Parameters	Function Instruction
Work Mode	it can't bet manually set, the AP is the default means the camera is be a AP(Access Point). The device in AP mode is equivalent to a wireless base station and serves as a wireless access point. Its main function is to create a wireless network, allowing other wireless client devices to connect to it and then access the wired network or the Internet. and your computer and mobile phone is the client.
SSID	It the name of the wireless network which will be displayed when connecting to the Wi-Fi. The default is MS-C5321-FPE_XXXXXX.
WLAN Address	You can customize the WLAN network segment and click "Test" to check for any conflicts within the network environment.
Radio Type	Set the radio type, which supports adjusting the standard of wireless network, 802.11n, and 802.11g are available. **IEEE 802.11n** is more suitable for scenarios where higher requirements are placed on network speed and stability and there are a relatively large number of devices. **IEEE 802.11g** is applicable to scenarios where the requirement for network speed is not particularly high and the number of devices is relatively small.
Bandwidth	Set the transmitted bandwidth. When IEEE 802.11n is selected, the Bandwidth field supports the 40MHz and 20MHz options. When IEEE 802.11g is selected, the Bandwidth field only supports the 20MHz option.
Channel	Set the channel of the wireless network to avoid interference from other network.

Parameters	Function Instruction
Encryption Mode	Set the encryption mode for the wireless network, options include A-PSK, A2-PSK, WPA-PSK/WPA2-PSK, and the default setting is No Encryption.
Cipher	Set the encryption type for the wireless network,including AES, TKIP, AES/TKIP.
Key	Set the Wi-Fi password using to the client connect camera Wi-Fi.
Save	Save the configuration.

8.2.2 Advanced

8.2.2.1 VLAN

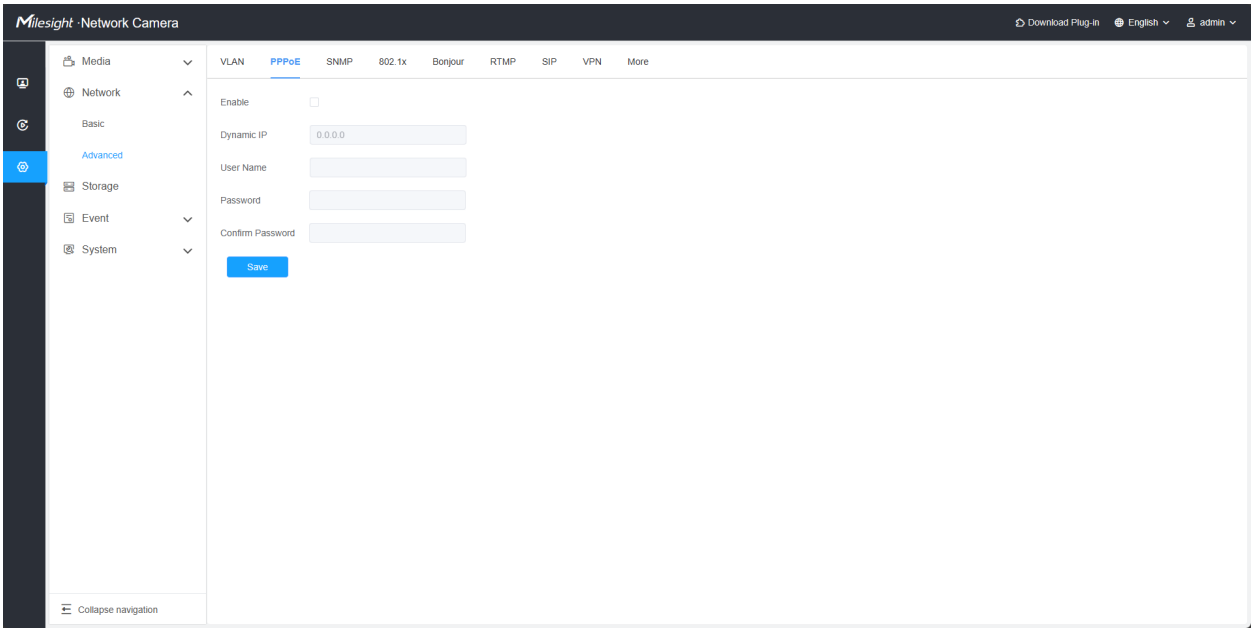
A virtual LAN (VLAN) is any broadcast domain that is partitioned and isolated in a computer network at the data link layer (OSI layer 2). LAN is an abbreviation of local area network. VLANs allow network administrators to group hosts together even if the hosts are not on the same network switch. This 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.



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.

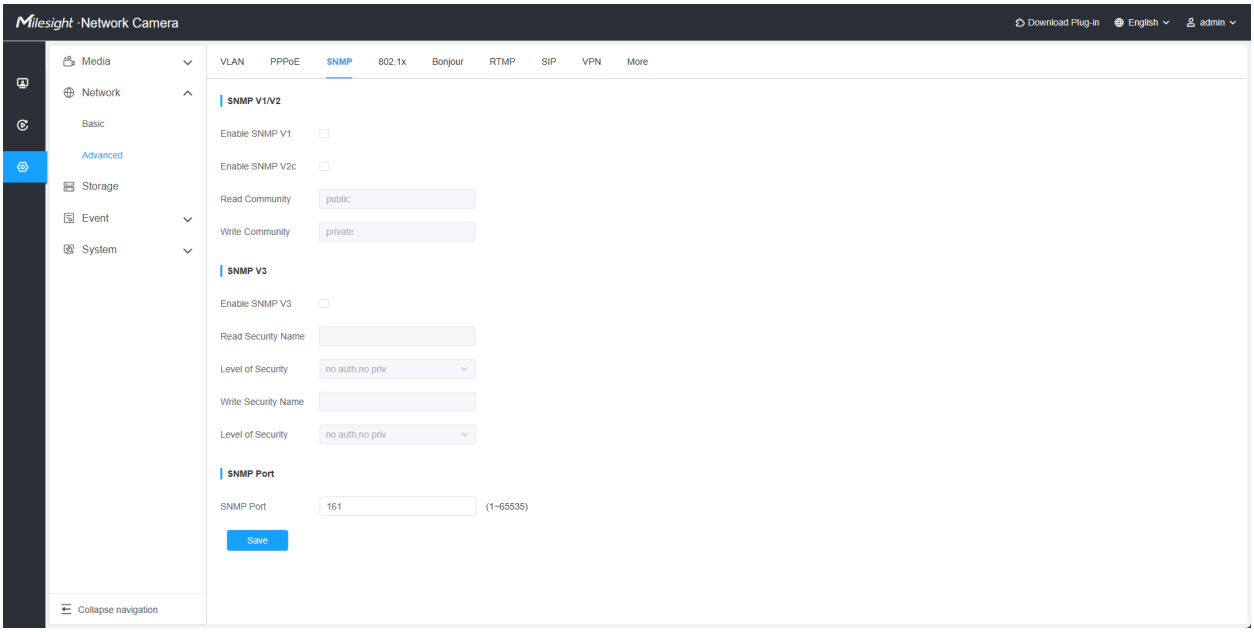


Table 34. Description of the buttons

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	The port of SNMP, the default is 161.
Save	Save the configuration.

Note:

- The settings of SNMP software should be the same as the settings you configure 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.

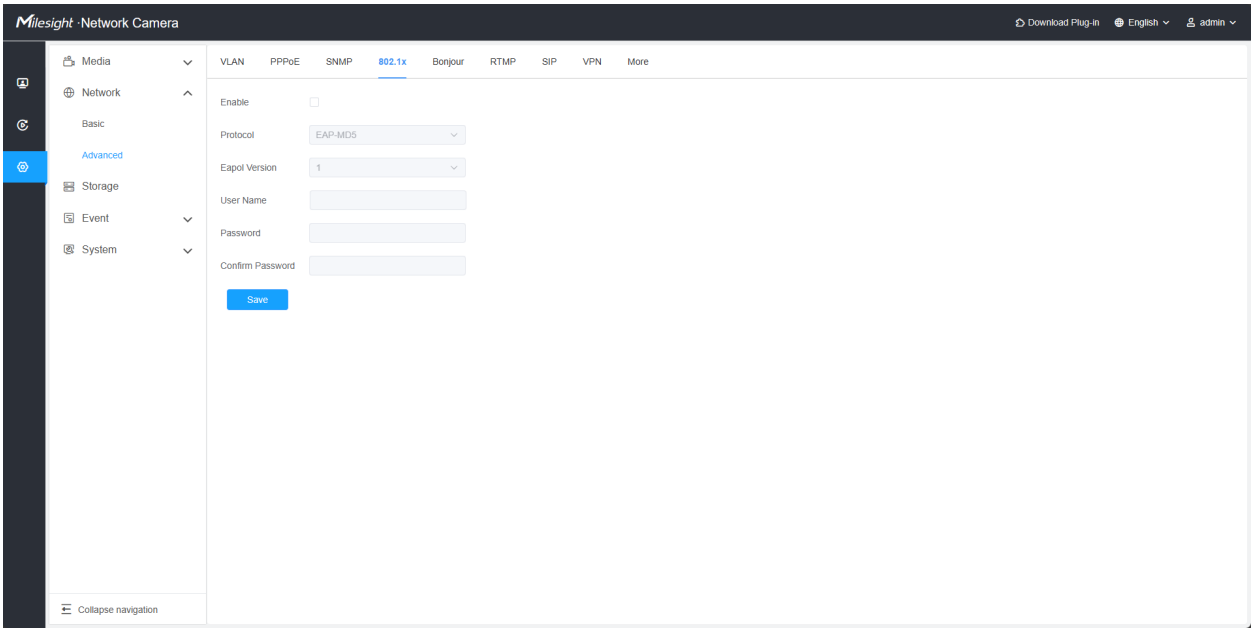


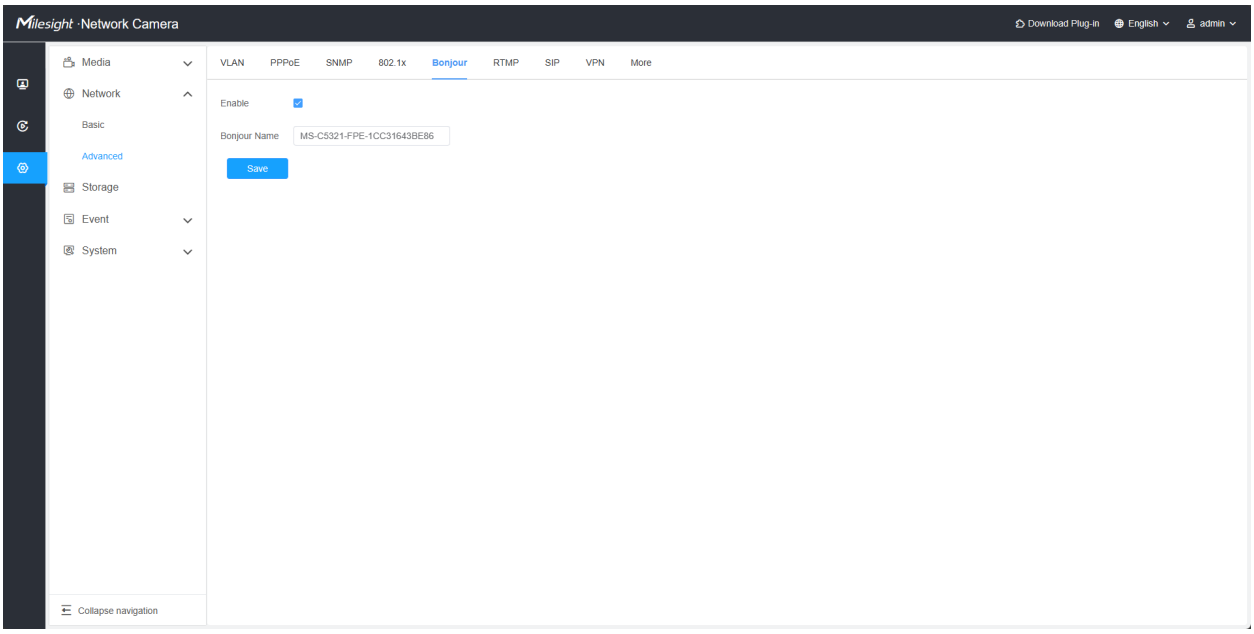
Table 35. Description the Buttons

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 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.

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 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.

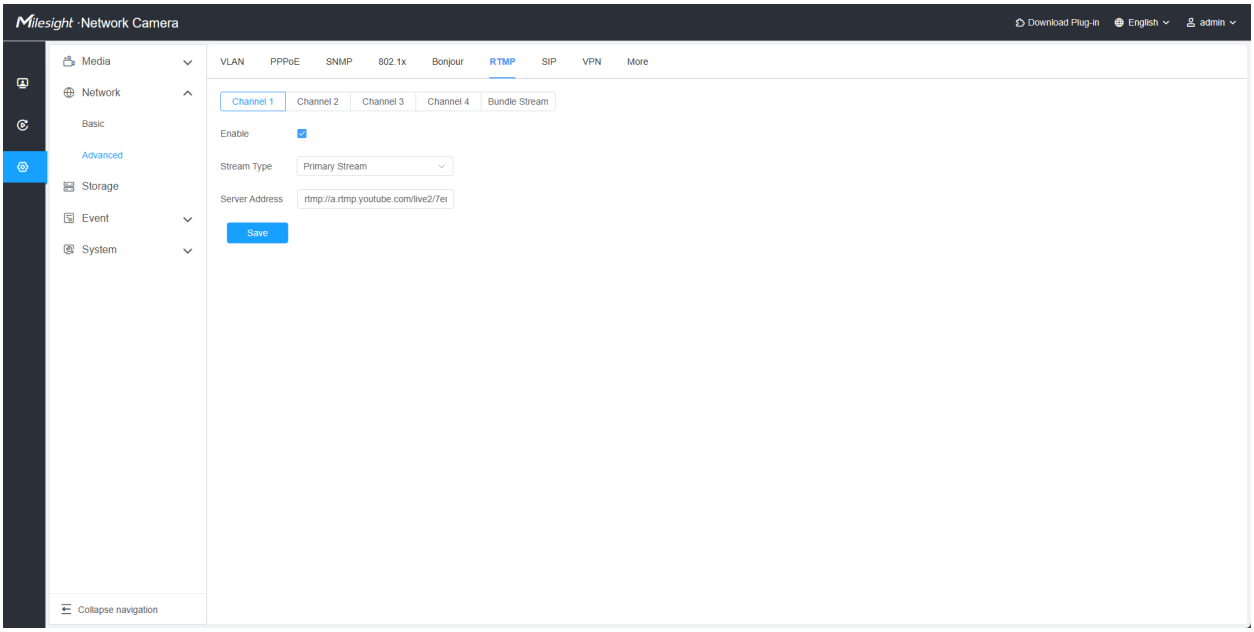


Table 36. Description of the buttons

Parameters	Function Introduction
Channel	Choose the corresponding stream to set RTMP. Channel 1 is selected default.
Enable	Click the checkbox to enable of disable the RTMP feature.
Stream Type	Primary Stream or Secondary Stream are optional.
Server Address	The server address is the network location identifier of the server that is used to receive and process RTMP video streams.
Save	Save the configuration.

Note:

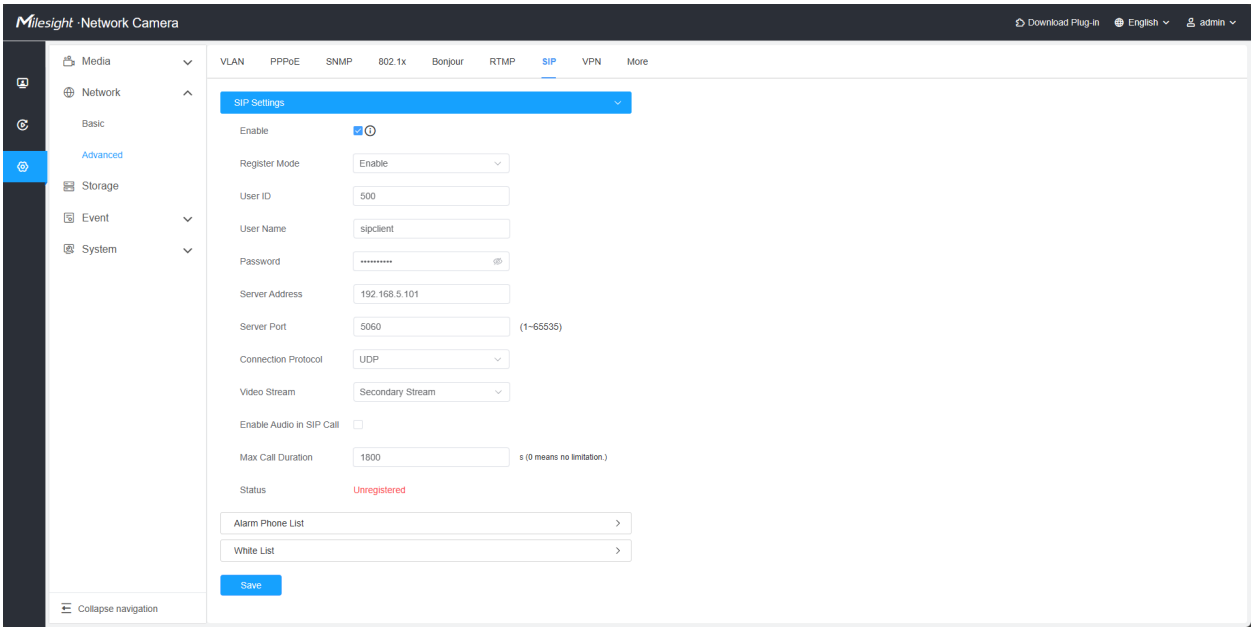
- For YouTube live broadcast, if you use a newly created account to live broadcast, you need to wait for 24hrs to activate the account for using live function.
- For RTMP, since G.711 is not available for YouTube, so you can only play video from Milesight Network Camera with H.264 video coding and AAC 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.

8.2.2.7 SIP

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

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



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

Method 1: IP Direct mode

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

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

Method2: Account registration mode

- Before using the SIP, you need to register an account for the camera from the SIP server;

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

[SIP Settings]

Table 37. Description of the buttons

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

[Alarm Phone List]

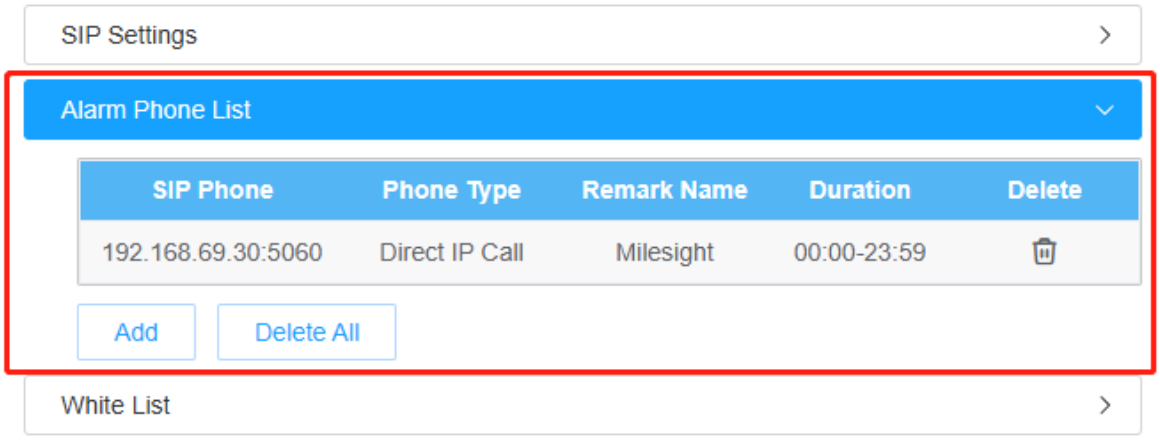


Table 38. Description of the buttons

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

[White List]

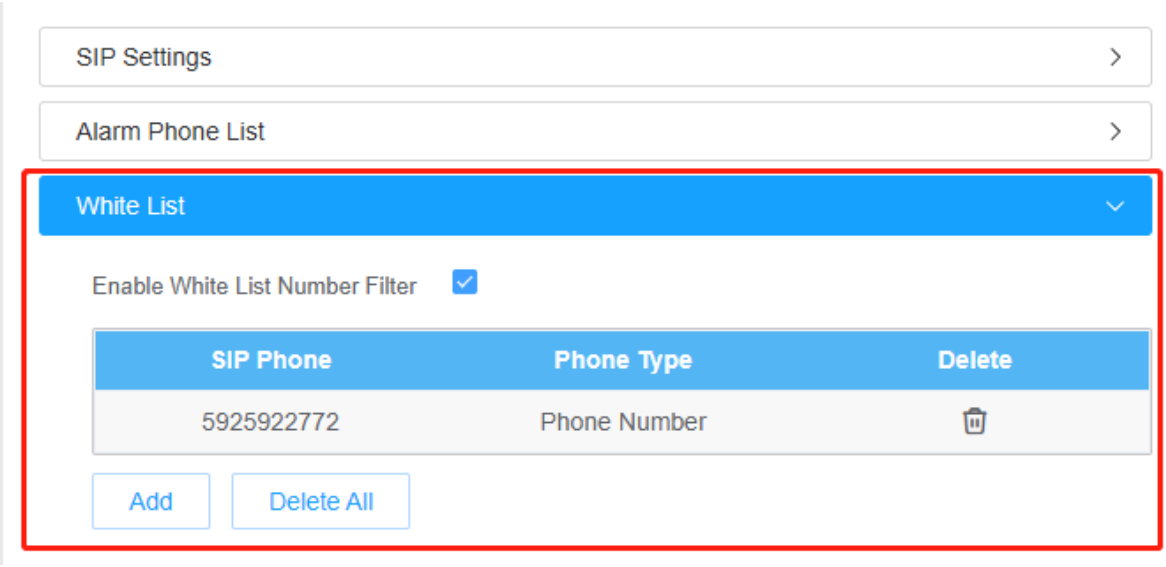


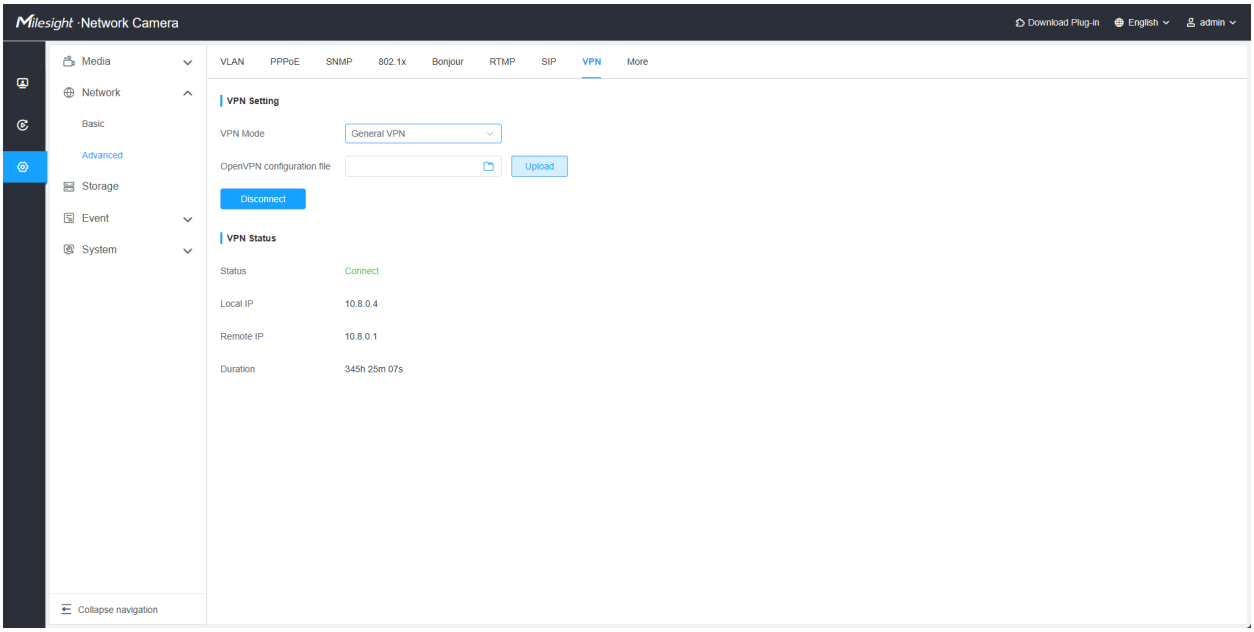
Table 39. Description of the buttons

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

8.2.2.8 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.



8.2.2.9 More

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

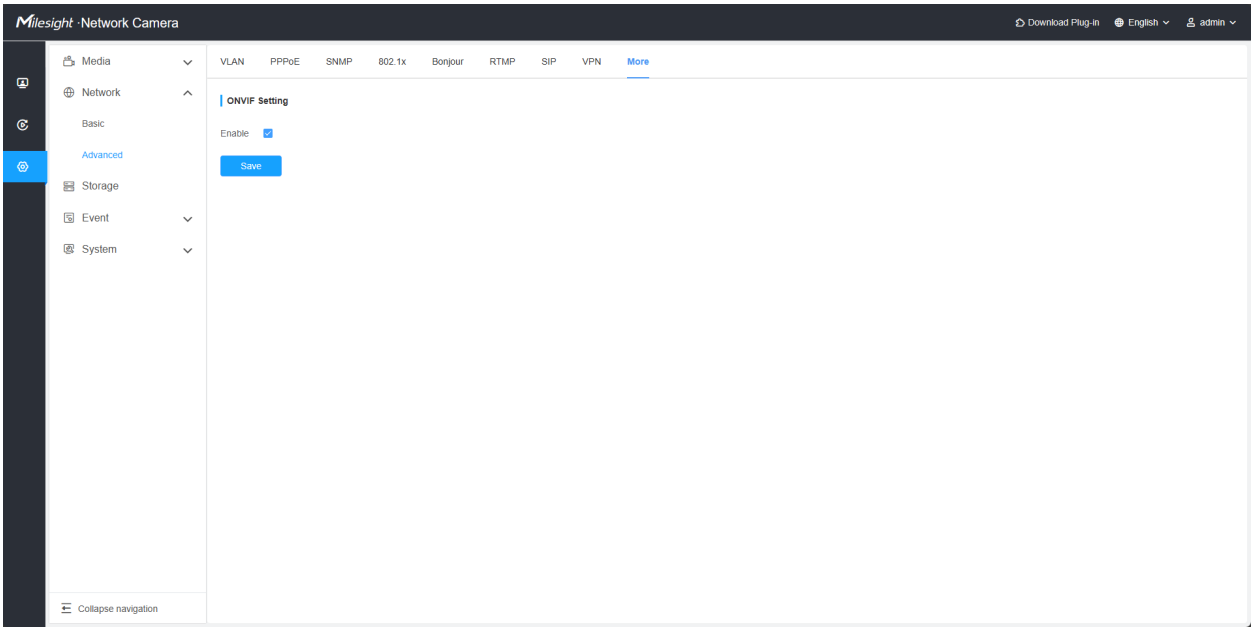


Table 40. Description of the buttons

Parameters	Function Introduction
ONVIF Setting	Here you can choose whether to enable or disable camera ONVIF function. If camera ONVIF function is enabled, it can be searched out, added and connected by third-party software through ONVIF protocols. Generally, the default status of ONVIF function is enabled.

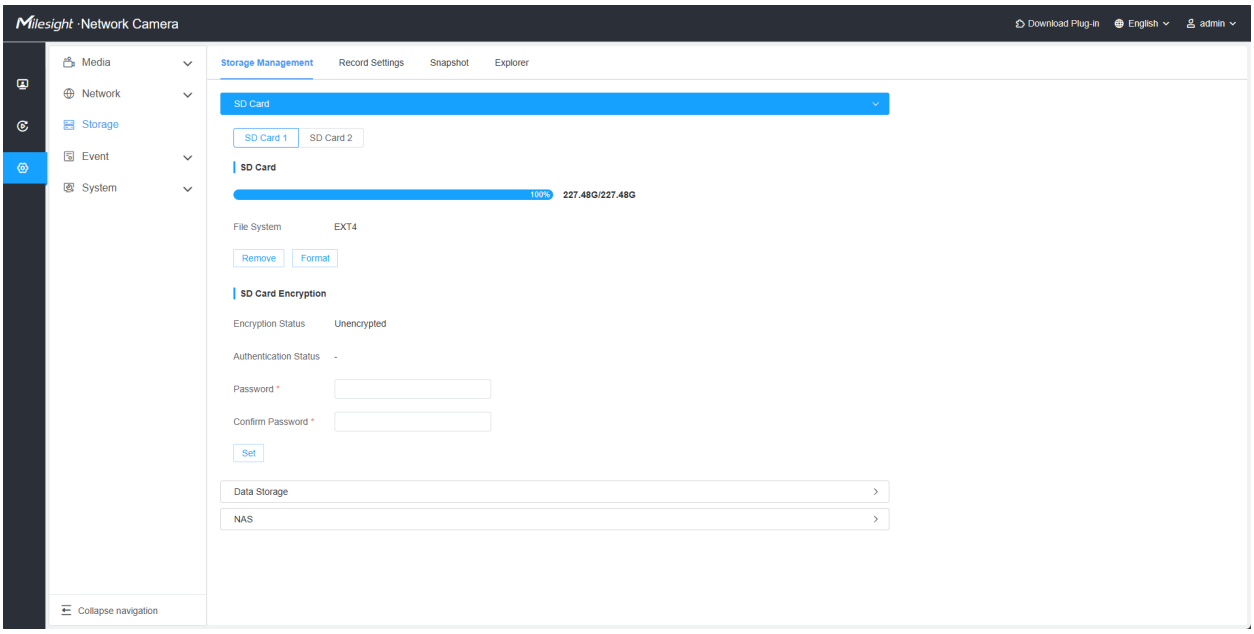
8.3 Storage

8.3.1 Storage Management

The Storage Management interface can display various connected storage devices, such as local SD cards and network-attached storage (NAS), etc. It also intuitively presents the data storage status, showing the proportion of used and available space, the number of files and folders, and so on. Users can conveniently perform operations such as adding, deleting and downloading files here. It is mainly used for efficiently managing storage devices and data.

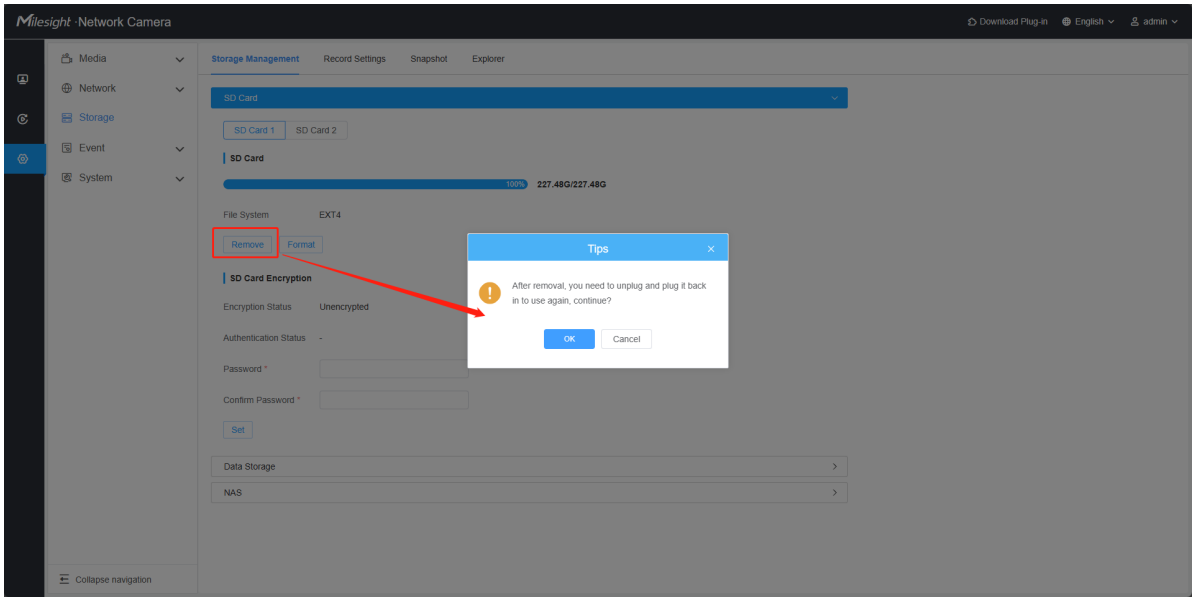
- **Note:** Support storage with ultra-large external microSD/SDHC/SDXC cards up to 2*1TB.

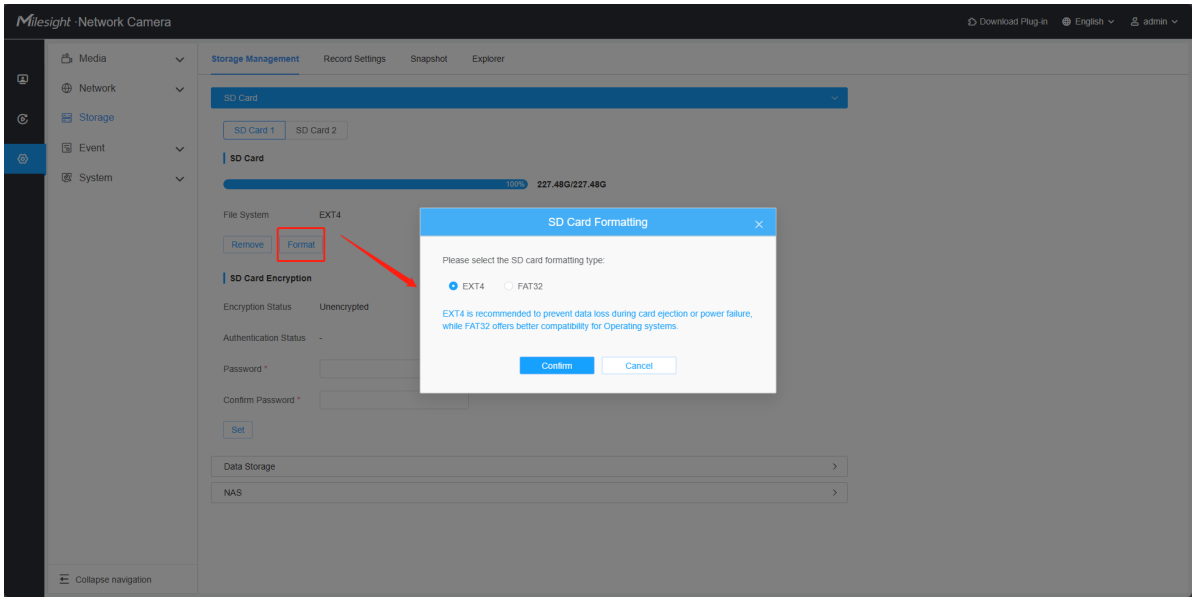
  Once the password was set, the SD Card may become unusable on other devices.



- 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

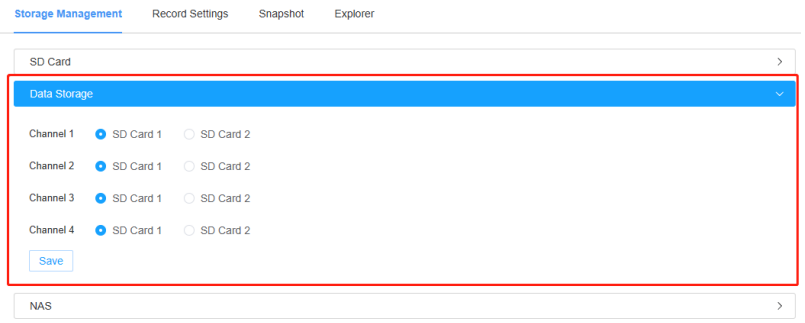
formats including EXT4 and FAT32, and EXT4 is recommended to prevent data loss during card ejection or power failure, while FAT32 offers better compatibility for Operating systems.

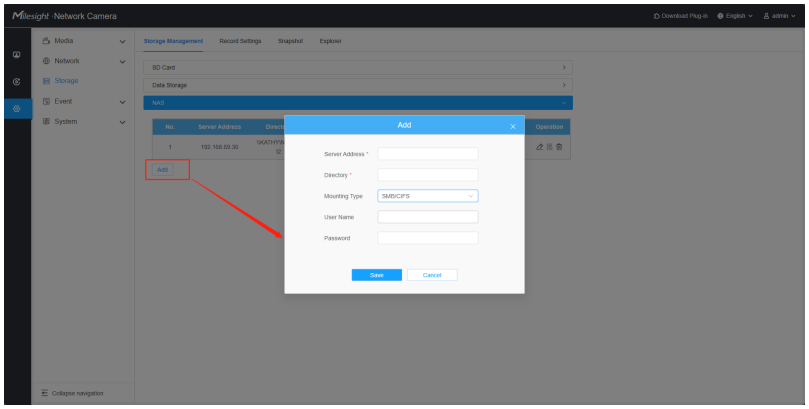




- You can enable the encryption of the SD card by entering the password and click Set.

Table 41. Description of the buttons

Parameters	Function Introduction
SD Card	**SD Card 1/SD Card 2:** Select the corresponding SD card showing the information **Remove:** Remove the SD card by clicking the button. **Format:** Format the SD card, the files in SD card will be removed. **Encryption Status:** Show the encryption status of the SD card, including **Encrypted** and **Unencrypted**. **Authentication Status:** Display the authentication status. **Password/ Confirm Password:** Enter the password to lock you SD card.
Data Storage	Here you can choose the storage location for each channel. Click "**Save**" to apply the settings. 

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

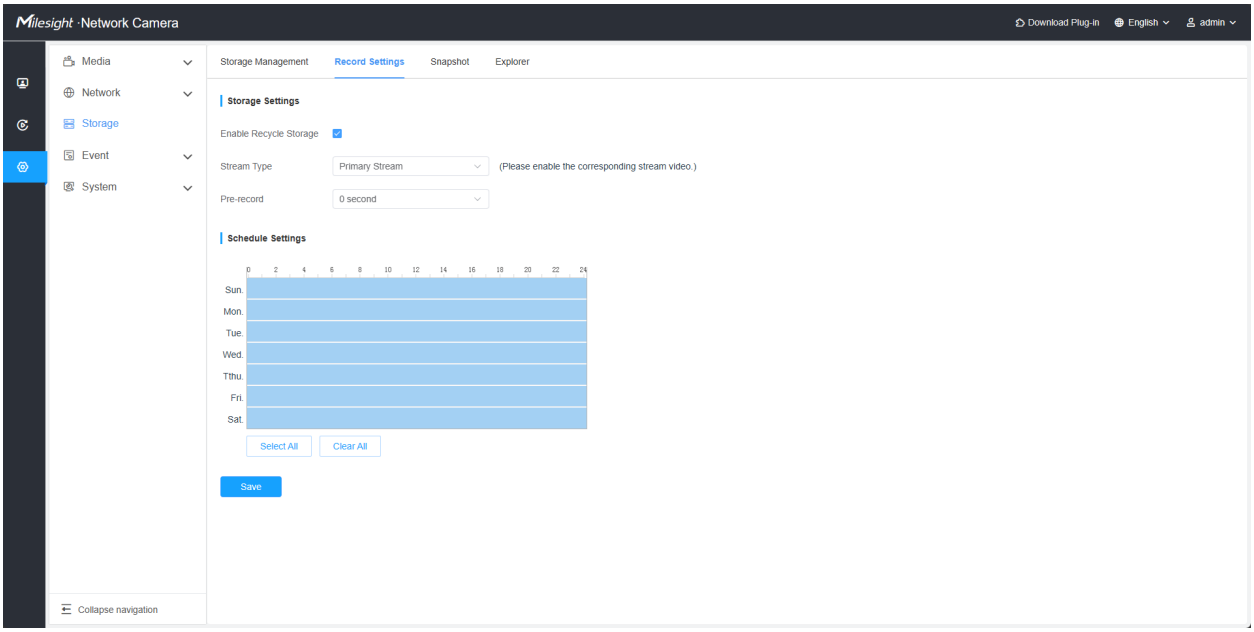
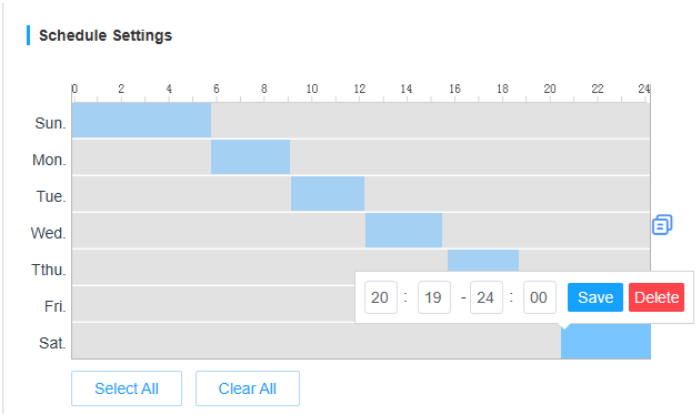
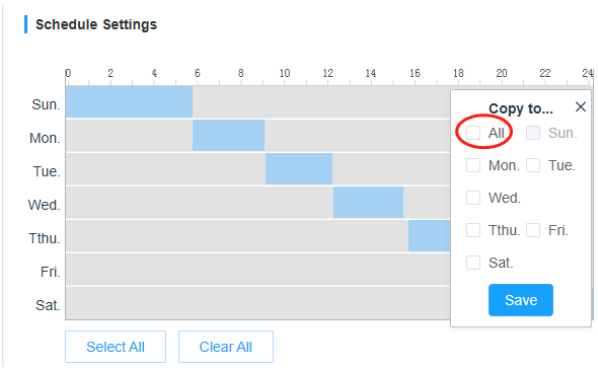
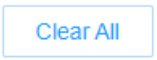
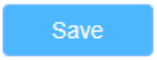


Table 42. Description of the buttons

Parameters	Function Introduction
Enable Recycle Storage	Enable/Disable Recycle Storage, if you enable this option, it will delete the files when the free disk space reaches a certain value.
Stream Type	Select the Stream type, including Primary Stream 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. 

<table>
<tr><th>Parameters</th><th colspan="2">Function Introduction</th></tr>
<tr><td rowspan="3">Schedule Settings</td><td colspan="2">Copy the schedule area to another date.
The "All" button is handy to copy today’s schedule to all days.
 
</td></tr>
<tr><td> 
</td><td>Select all schedule.</td></tr>
<tr><td> 
</td><td>Clear all schedule.</td></tr>
<tr><td> 
</td><td colspan="2">Save the configuration.</td></tr>
</table>

Note: SD Card or NAS are available.

8.3.3 Snapshot Settings

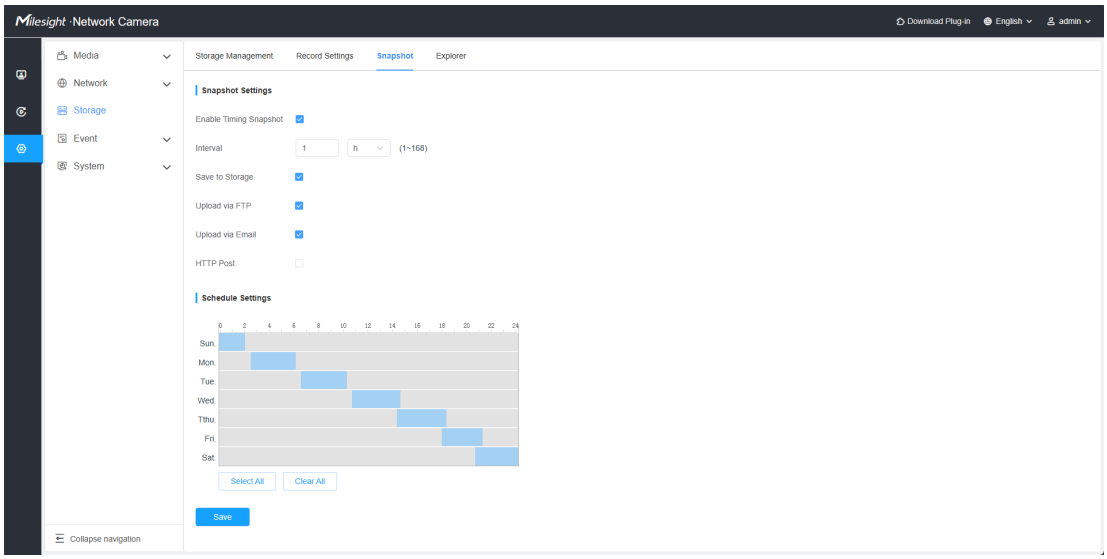
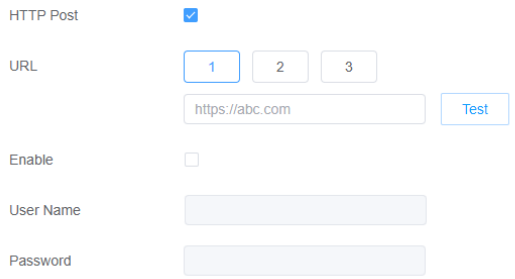
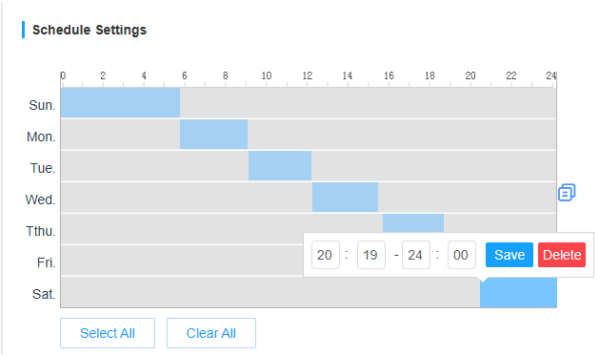
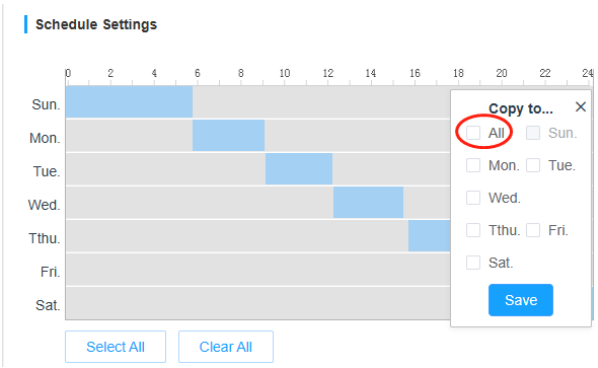


Table 43. Description of the buttons

Parameters	Function Introduction
Snapshot Settings	**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 Into Storage:** Save the snapshots into SD card or NAS, and choose the file name to add time suffix or overwrite the base file name. **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.
Snapshot Settings	**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. Before utilizing this feature, please complete the filling in of the notification information. 
Schedule Settings	Edit snapshot schedule as needed. Intuitive scheduling by drawing the time bar directly. 

<table>
<tr><th>Parameters</th><th colspan="2">Function Introduction</th></tr>
<tr><td>Schedule Settings</td><td colspan="2">Copy the schedule area to another date.

The "All" button is handy to copy today’s schedule to all days.

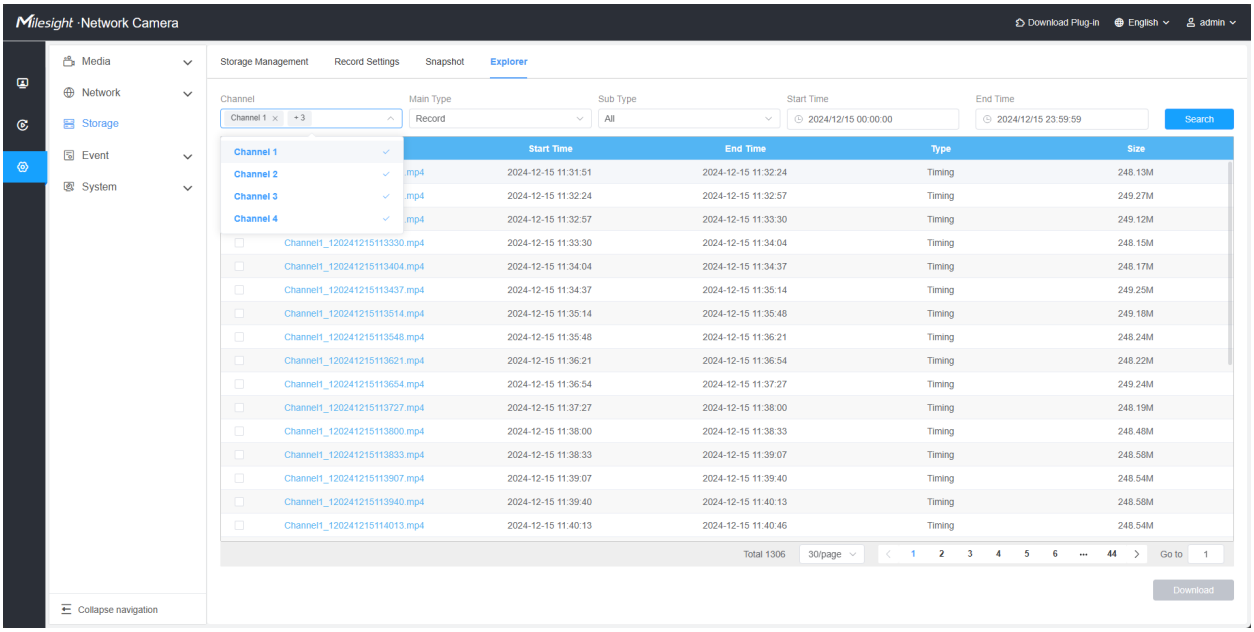
 
</td></tr>
<tr><td rowspan="2">Schedule Settings</td><td>Select All</td><td>Select all schedule.</td></tr>
<tr><td>Clear All</td><td>Clear all schedule.</td></tr>
<tr><td>Save</td><td colspan="2">Save the configuration.</td></tr>
</table>

8.3.4 Explorer

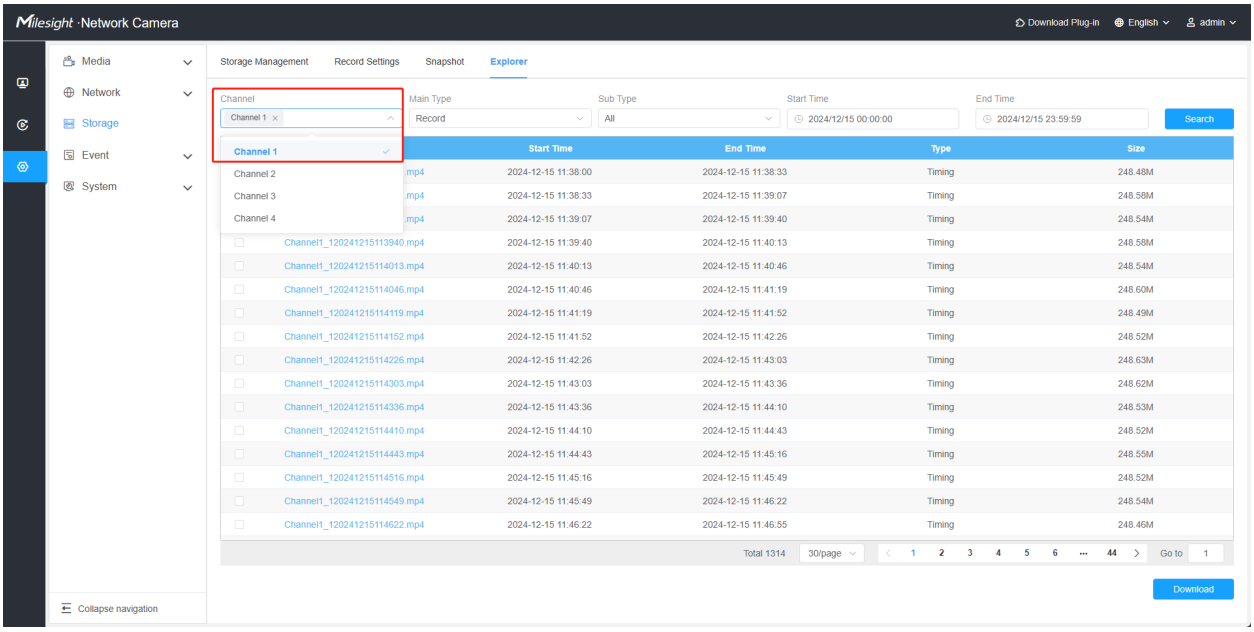
Files will be seen on this page when they are configured to save into SD card or NAS. You can set time schedule every day for recording videos and save video files to your desired location.

Note: Files are visible once SD card is inserted. Don’t insert or pull out SD card when power on

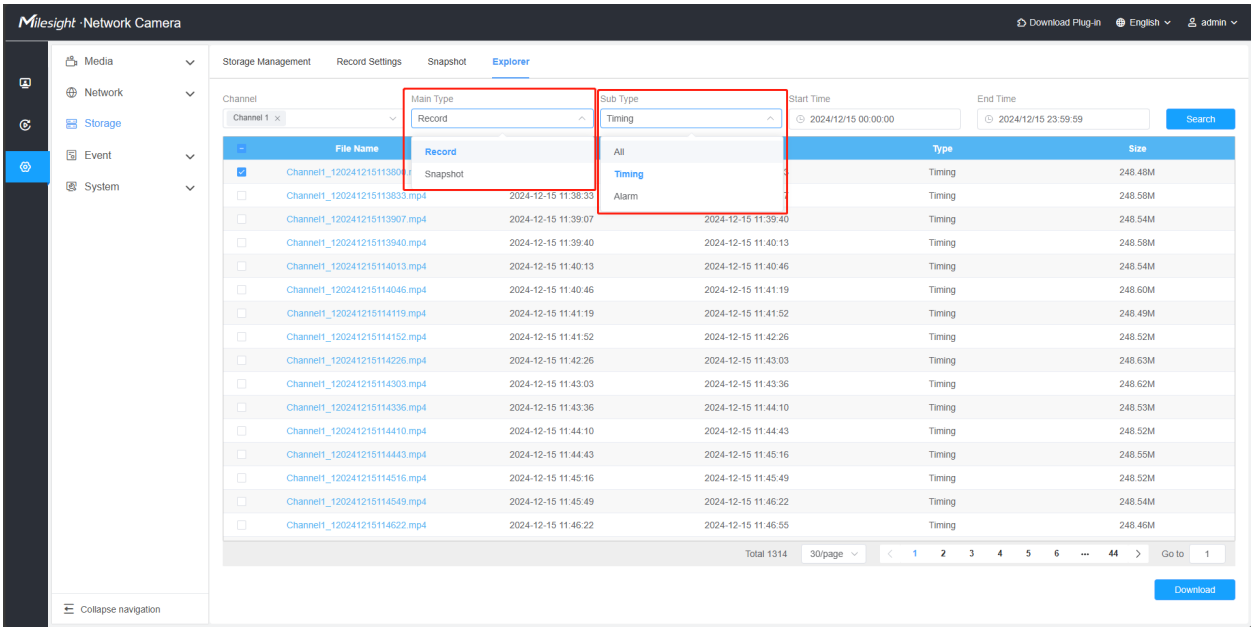
Video files are arranged by date. Set channel type, file type and start/end time to search out files. Each day files will be displayed under the corresponding date, from here you can copy and delete files etc. You can visit the files in SD card by ftp, for example, ftp://username:password@192.168.5.190(user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



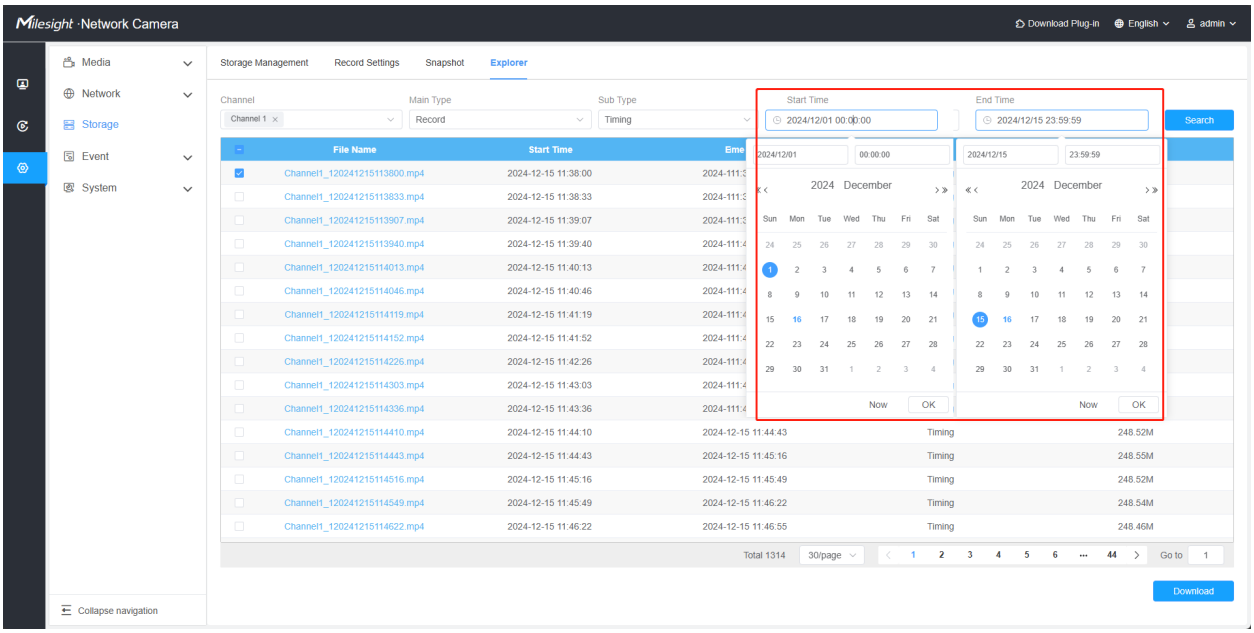
Step1: Choose the channel type, you can individually choose a channel to search for the recording or snapshot of the channel.



Step2: Select the Main Type which includes Record and Snapshot, you are able to make a selection based on your actual needs, Subsequently, Choose the Sub Type, which consists of Timing and Alarm. The files recorded by "Timing" are schedule files, while the files recorded by "Alarm" are those triggered by events.



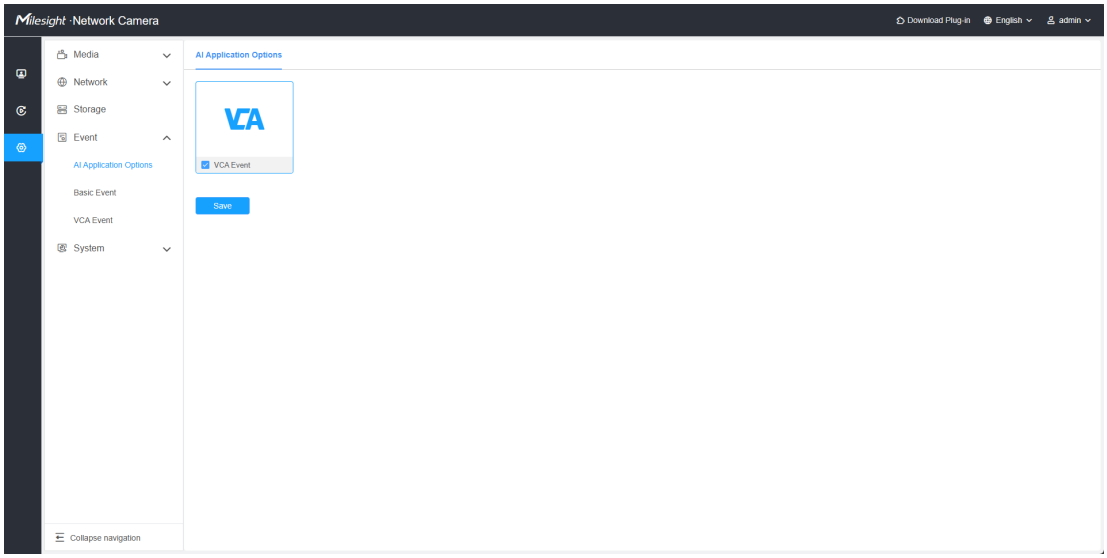
Step3: Select start/end time to search out files.



Step4: Click Search to reveal the corresponding file, once you have selected the file you wish to download, click Download to initiate the file download.

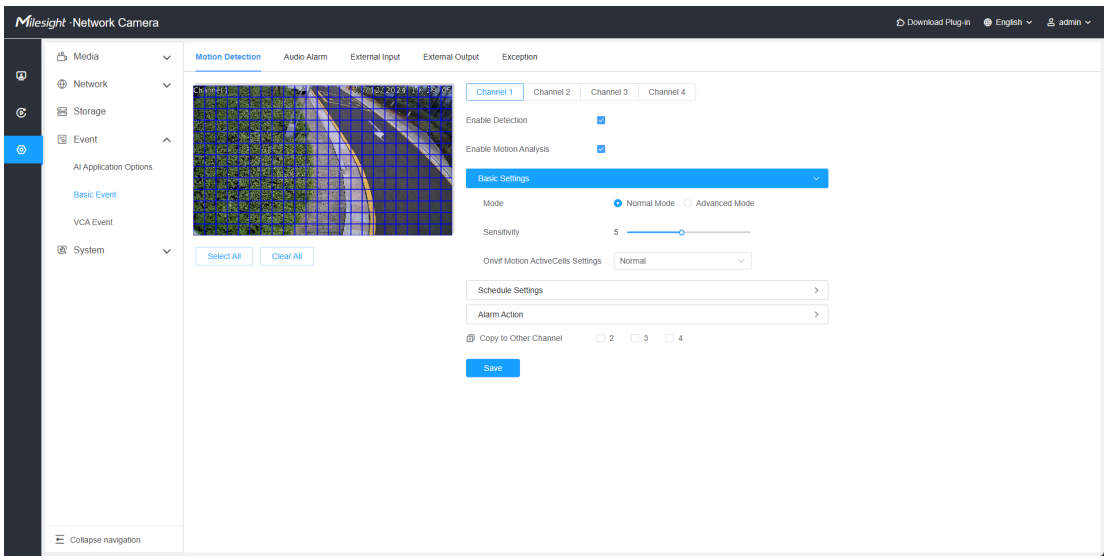
8.4 Event

Milesight event provides advanced, accurate smart video analytics for Milesight network cameras. It enhances the performance of network cameras through basic events and 9 detection events, enabling a comprehensive surveillance system and quicker response of cameras to different monitoring scenes.



8.4.1 Basic Event

8.4.1.1 Motion Detection



Note: For more details about how to set motion detection, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000643423.

Settings steps are shown as follows:

Step1: Select the "**Channel ***" option to configure the Motion Detection settings for the selected channel.

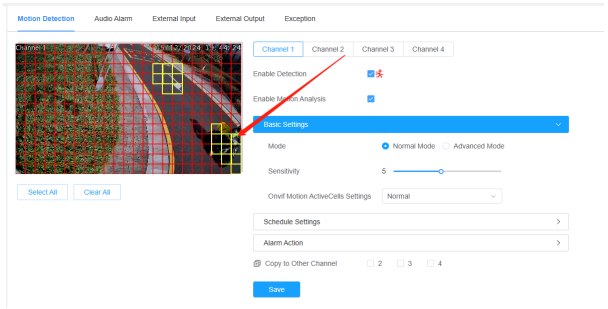
Step2: Check the check box to enable the motion detection.

Step3: Check the check box to enable the motion analysis.

Step4: Select the detection mode;

Step5: Set motion region;

Table 44. Description of the buttons

Parameters	Function Introduction
Enable Detection	Check the checkbox to enable Motion Detection function.
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 the button, the motion in the area will be detected.
Clear All	Click the button, the area drawn before will be removed.
Save	Save the configuration.

[Basic Settings]

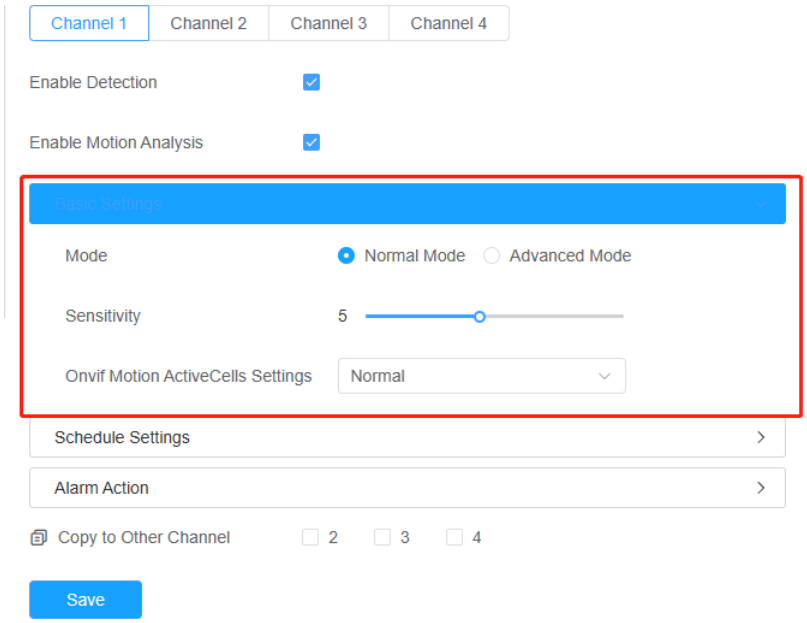
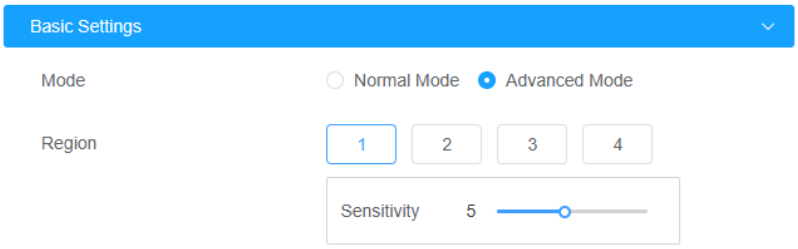


Table 45. Description of the buttons

Parameters	Function Introduction
Detection Mode	Normal Mode and Advanced Mode are available for the option. When Advanced Mode is selected, users can configure up to 4 detection regions and sensitivity for each detection region. 
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, please set this option to Compatible.

[Schedule Settings]

Step6: Set motion detection schedule.

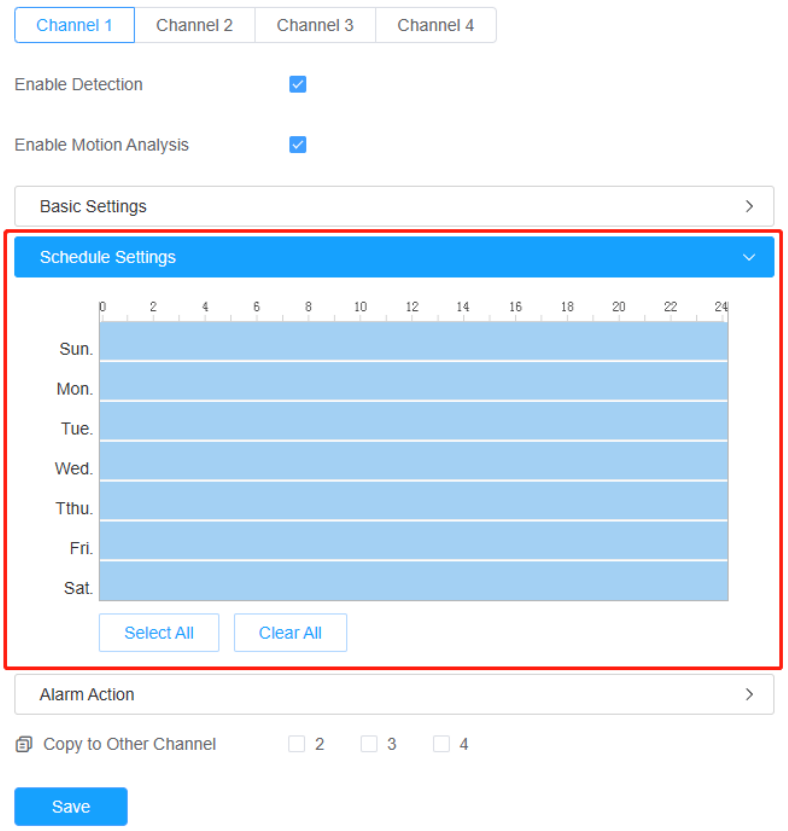
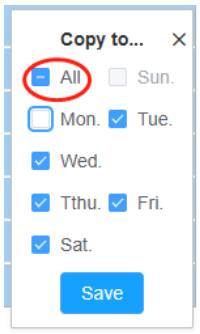
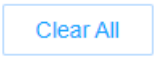


Table 46. Description of the buttons

Parameters	Function Introduction
	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.

[Alarm Action]

Step7: Set alarm action.

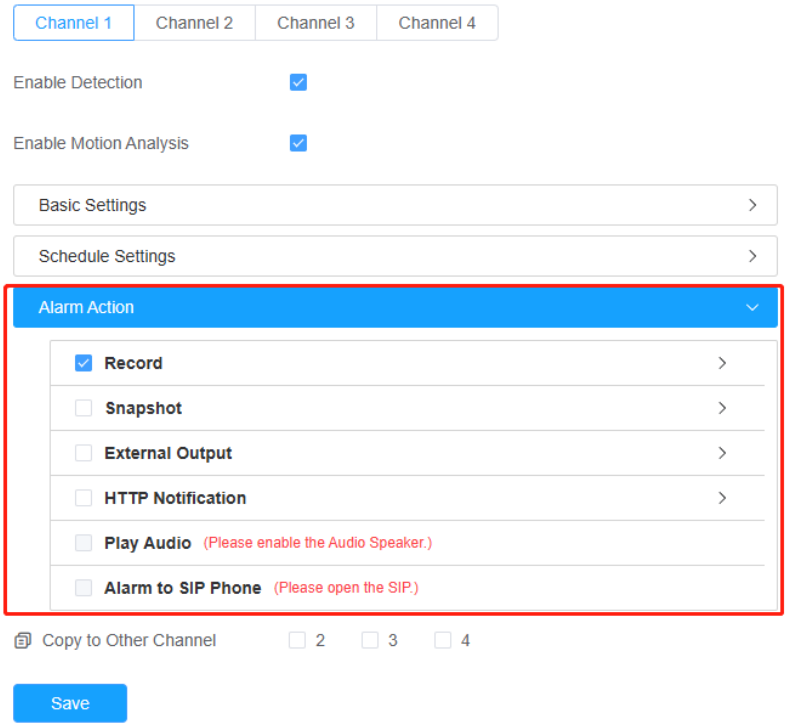


Table 47. Description of the buttons

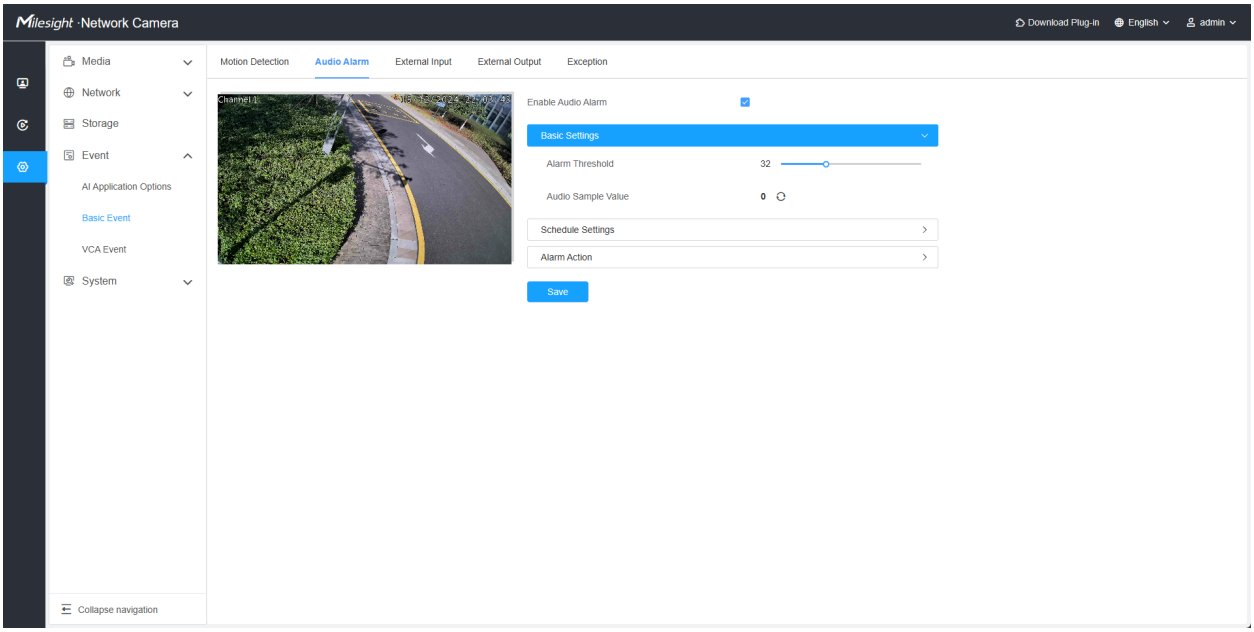
Parameters	Function Introduction
Record	**Duration:** Selected the duration time of alarm. 5s/10s/15s/20s/25s/30s are available. **Linkage:** Save alarm recording files into SD Card or NAS or Upload the recording files via FTP.
Snapshot	**Number:** The number of snapshot, 1~5 are available. **Interval:** 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.
External Output	If the camera equips with External Output, you can enable the action after configuring the trigger duration. **Action Time:** Customize/10 seconds/30 seconds/1 minute/5 minutes/Constant are available.
HTTP Notification	Support to pop up 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

Parameters	Function Introduction
Play Audio	Auto/10 seconds/30 seconds/1 minute/5 minutes/10 minutes are available. **Note:** Please enable the Audio Speaker.
Alarm to SIP Phone	Support to call the SIP phone after enable the SIP function.
Copy to Other Channel 2 3 4	Copy all setting to other channel. **Note:** Only the parameter information can be copied, and the drawn detection areas are not within the scope of copying. After completing the copying of parameters for other channels, be sure to draw the detection areas on the corresponding channels.
Save	Save all settings to apply to the corresponding channel.

8.4.1.2 Audio Alarm

Check the check box to enable the Audio Alarm function.

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



[Basic Settings]

Table 48. Description of the buttons

Parameters	Function Introduction
Enable	Click the checkbox to enable Audio Alarm function.

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.

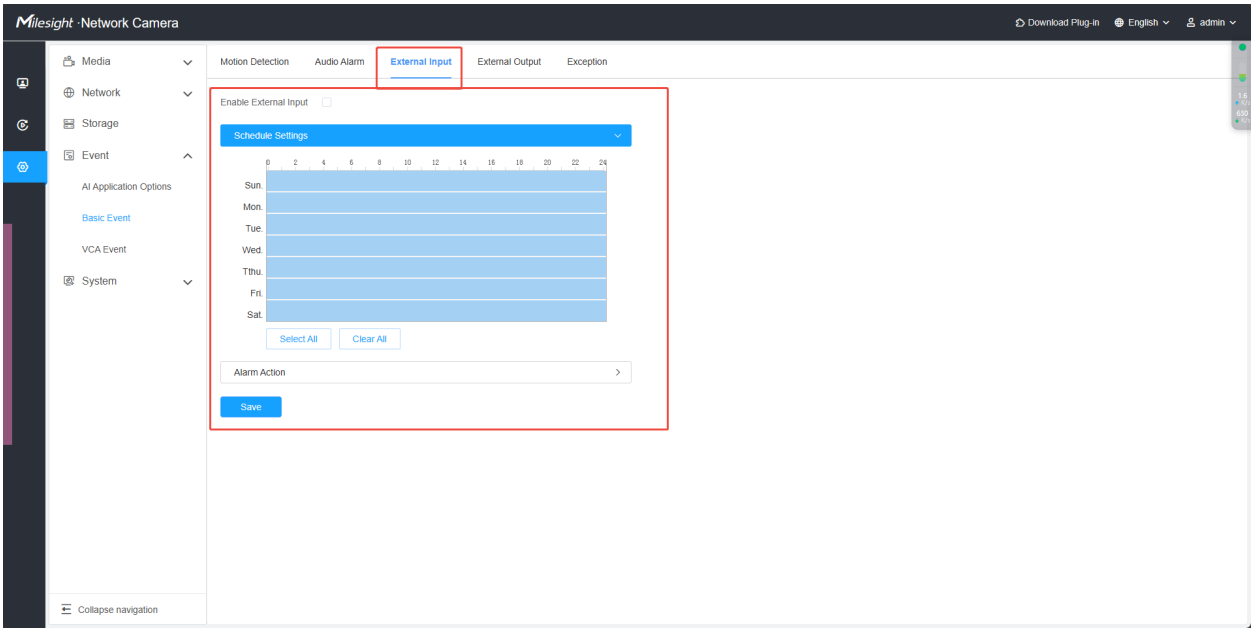
[Schedule Settings]

Refer to the table Table 3 *(page 101)* for the meanings of the items, here will not repeat again.

[Alarm Action]

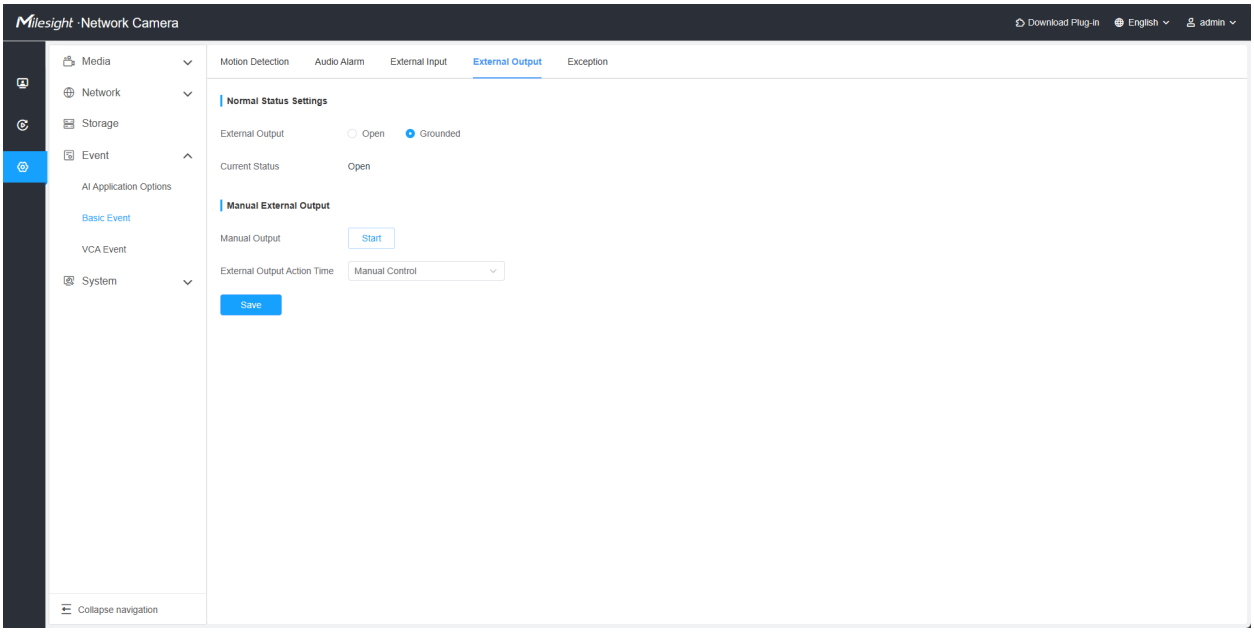
Refer to the table Table 4 *(page 102)* for the meanings of the items, here will not repeat again.

8.4.1.3 External Input



Refer to the table Table 3 *(page 101)* for the meanings of the items, here will not repeat again.

8.4.1.4 External Output



[Normal Status Settings]

Please set the **Normal Status** firstly, when the **Current Status** is different with **Normal Status**, it will lead to the alarm.

[Manual External Output]

You can set the manual external output.

Table 49. Description of the buttons

Parameters	Function Introduction
Manual Output	Click to Start/Stop manual external output.
External Output Action Time	Manual Control/Customize/10 s/1 min./5 min./10 min. are available.

8.4.1.5 Exception

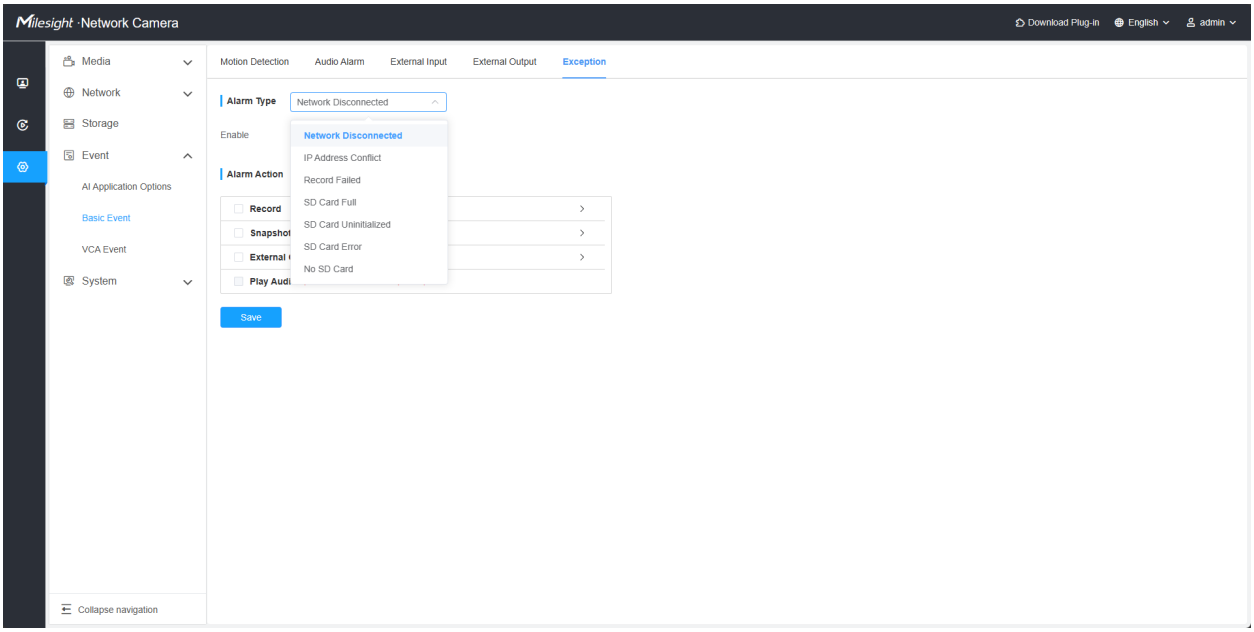


Table 50. Description of the buttons

Parameters	Function Introduction
Alarm Type	**Network Disconnected, IP Address Conflicted, Record Failed, SD Card Full, SD Card Uninitialized, SD Card Error and No SD Card** are available
Enable	Check the checkbox to enable the alarm type you selected
Alarm Action	Refer to the table Table 3 *(page 101)* for the meanings of the items, here will not repeat again.

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, Motor vehicle (Car, Motorcycle, Bus, Truck), Non-motor vehicle(Scooter) and object pattern recognition models. As vehicle and human related events are is very important in security monitoring, the filtering is supported to better optimize the efficiency. AI Multi-directional Network Camera offers independent AI analysis for each of the channels, and supports 4*9 VCA events, allowing for customized monitoring across different areas.

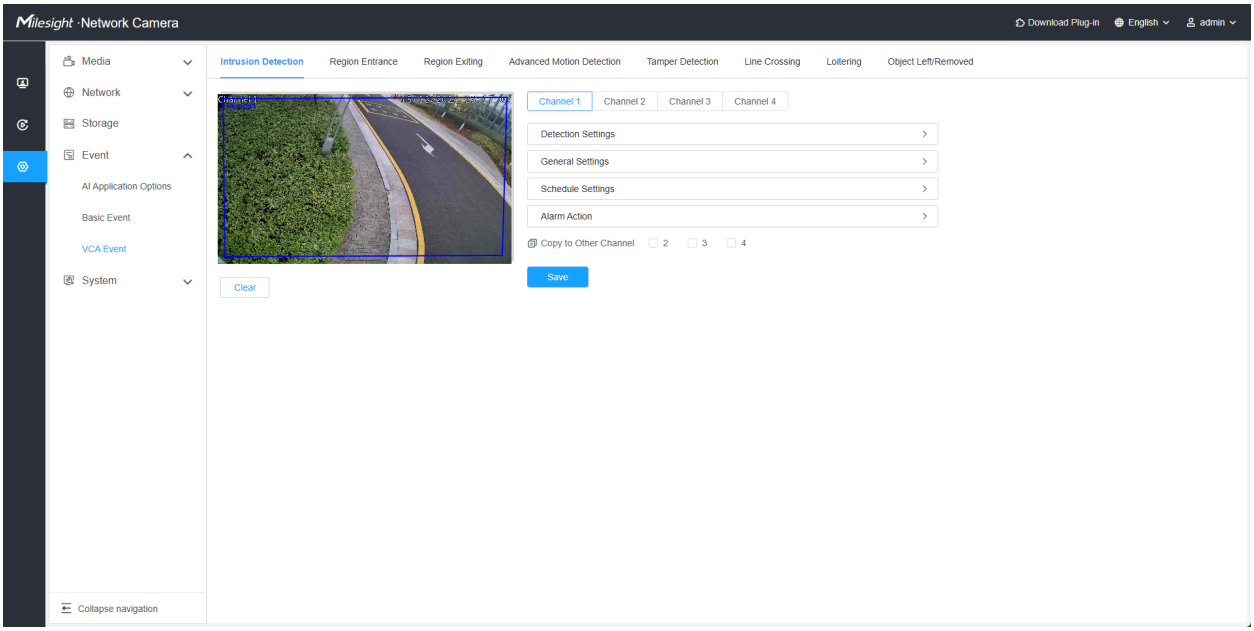
Note:

- 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:

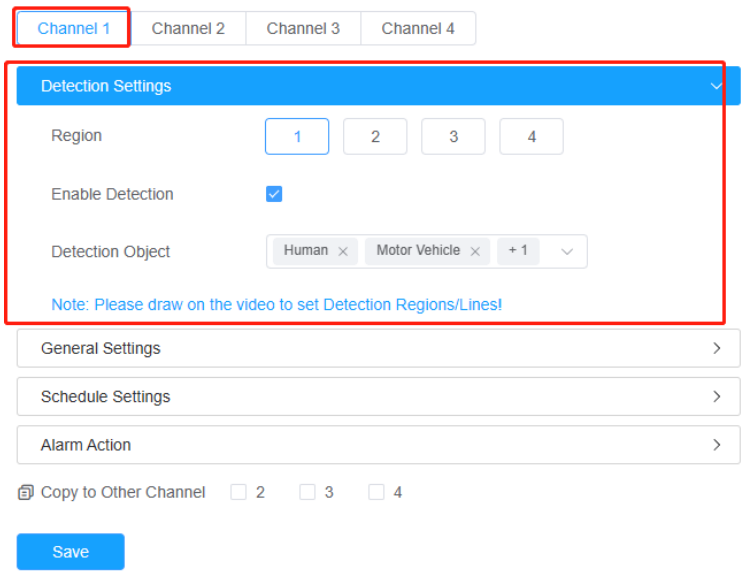
[Detection Settings]

Step1: Select the channel to configure the intrusion detection setting for the selected channel.

Step2: Selected detection region and enable intrusion detection.

Step3: Choose detection object. Check Human , Motor Vehicle or Non-motor Vehicle(Scooter) attribute, and the camera will alarm once detecting human or vehicle and triggering related events.

Step4: Draw on the video to set detection regions/lines.



[General Settings]

Step5: Set detecting Mini.Intrusion duration, sensitivity and object size limits, and set the trigger mode with General Mode or Bottom Mode.

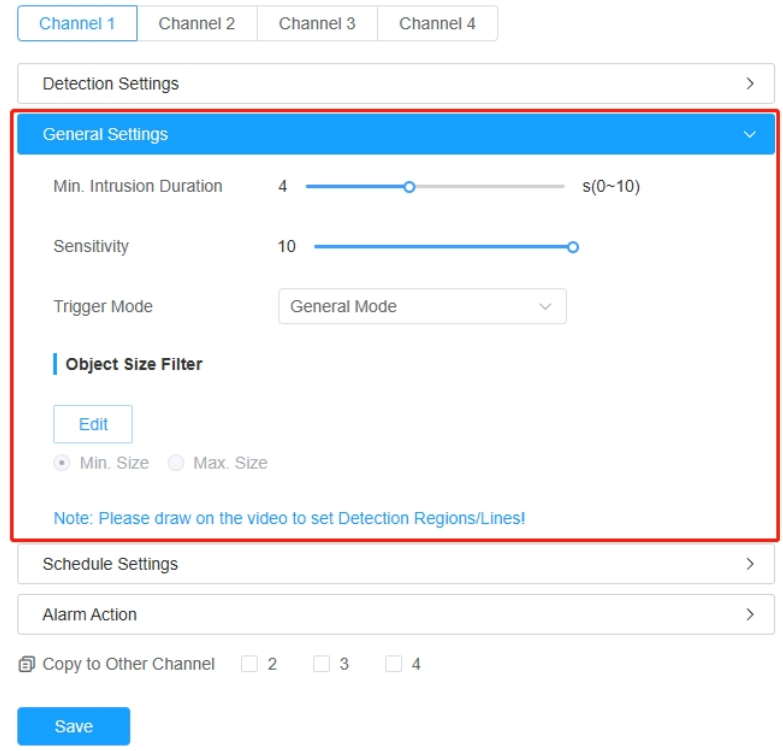


Table 51. Description of the buttons

Parameters	Function Introduction
Min.Intrusion Duration	Set the 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.
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]

Step6: Set detection schedule.

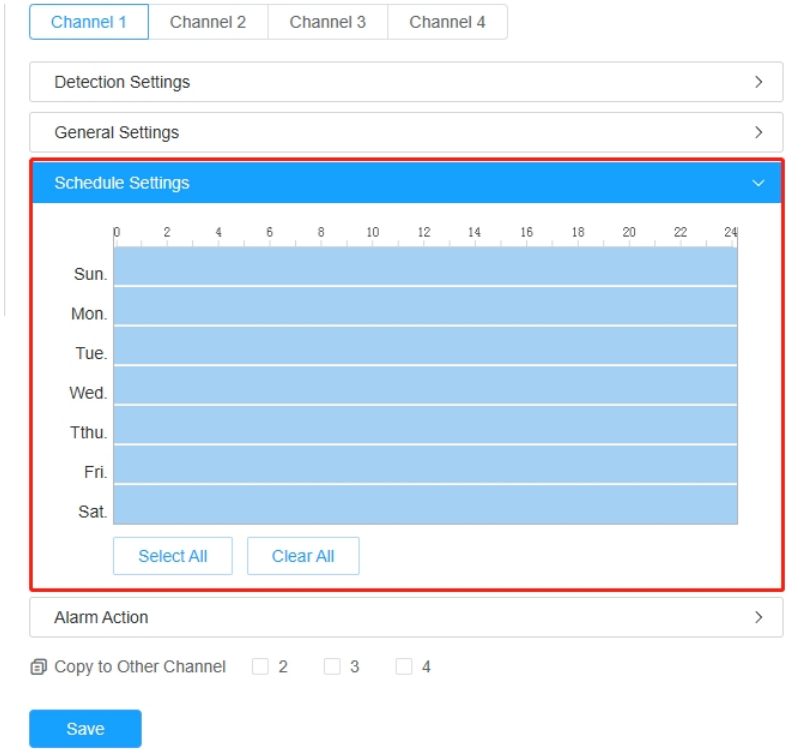
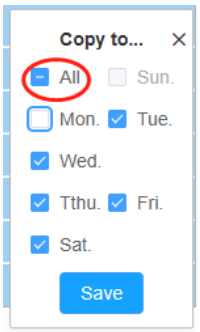
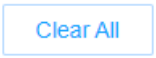


Table 52. Description of the buttons

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

[Alarm Action]

Step7: Set alarm action.

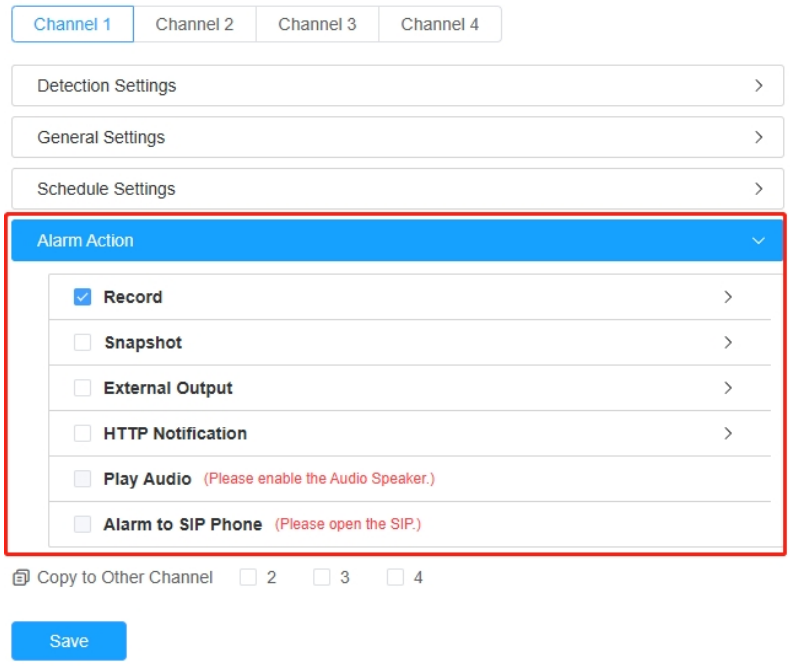
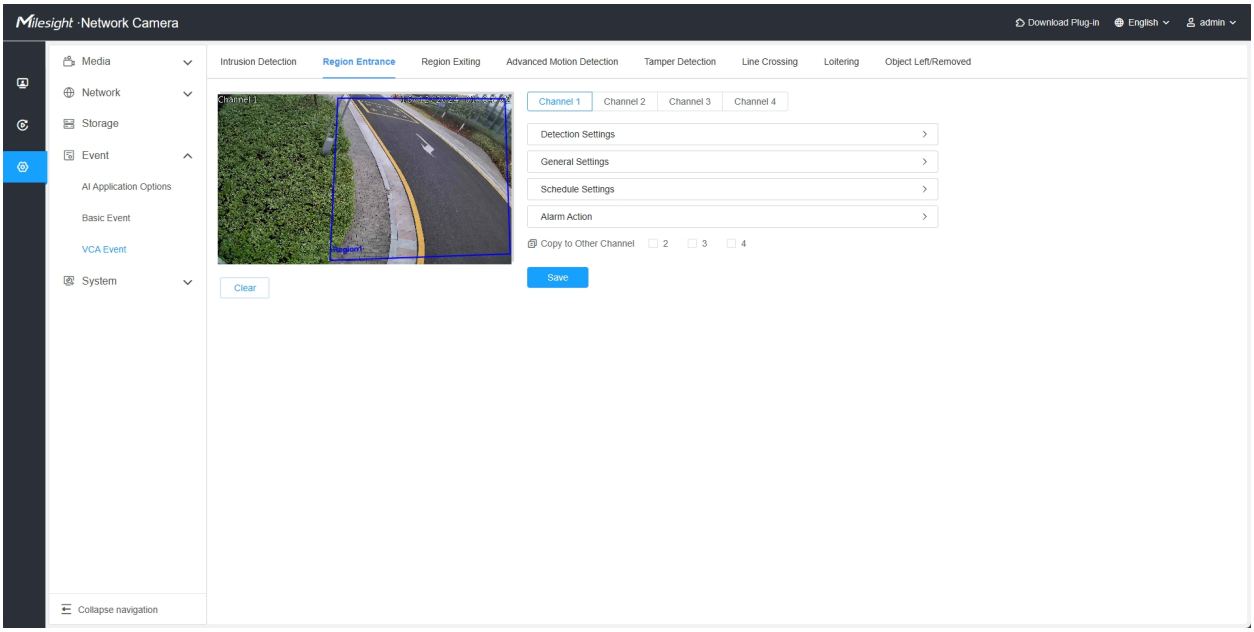


Table 53. Description of the buttons

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.
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.
External Output	If the camera equips with External Output, you can enable the action after configuring the trigger duration. Action Time:Customize/10 seconds/30 seconds/1minute/5 minutes/Constant are available.
HTTP Notification	Support to pop up the alarm news to specified HTTP URL. After filling in the basic information, you can click the test button to test the HTTP connectivity.
Play Audio	Auto/10 seconds/30 seconds/1 minute/5 minutes/10 minutes are available. **Note:** Please enable the Audio Speaker.
Alarm to SIP Phone	Support to call the SIP phone after enabling the SIP function. **Note:** Please open the SIP.
	Copy all setting to other channel. **Note:** Only the parameter information can be copied, and the drawn detection areas are not within the scope of copying. After completing the copying of parameters for other channels, be sure to draw the detection areas on the corresponding channels.
	Save all settings to apply to the corresponding channel.

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:

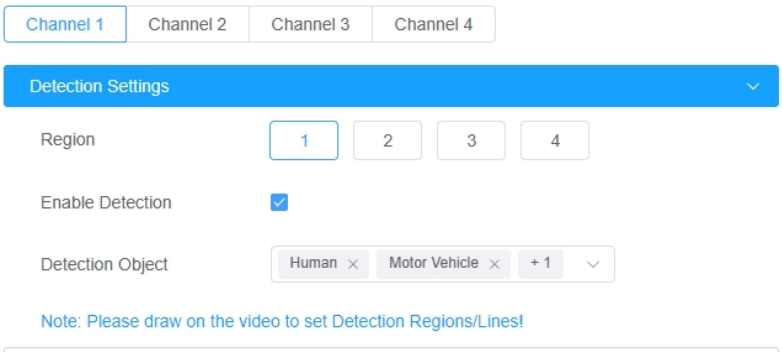
[Detection Settings]

Step1: Select the channel to configure the region entrance detection setting for the selected channel.

Step2: Selected detection region and enable region entrance detection.

Step3: Choose detection object. Check Human , Motor Vehicle or Non-motor Vehicle(Scooter) attribute, and the camera will alarm once detecting human or vehicle and triggering related events.

Step4: Draw on the video to set detection regions/lines.



[General Settings]

Step5: Set detecting sensitivity,trigger mode and object size limits.

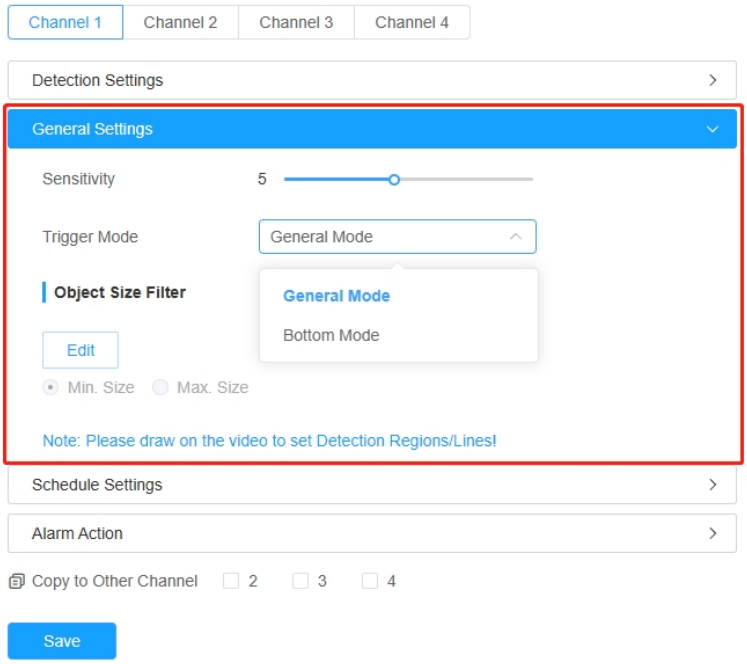
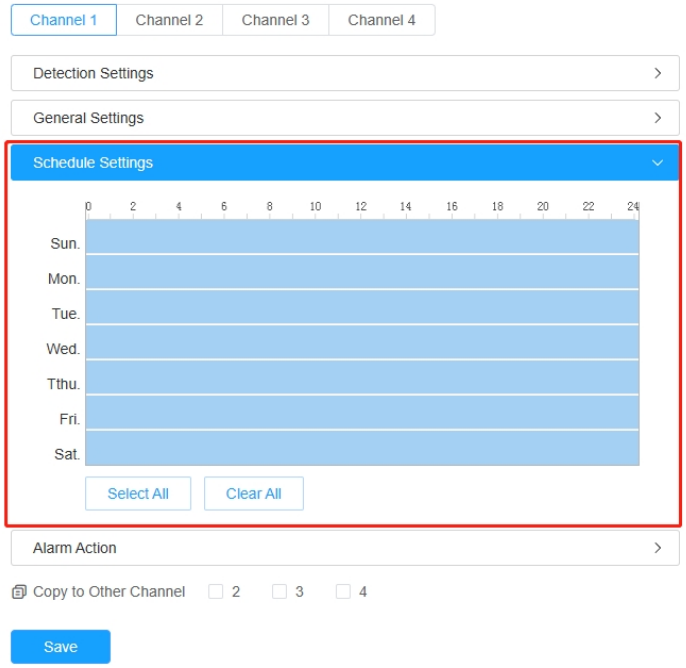


Table 54. Description of the buttons

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]

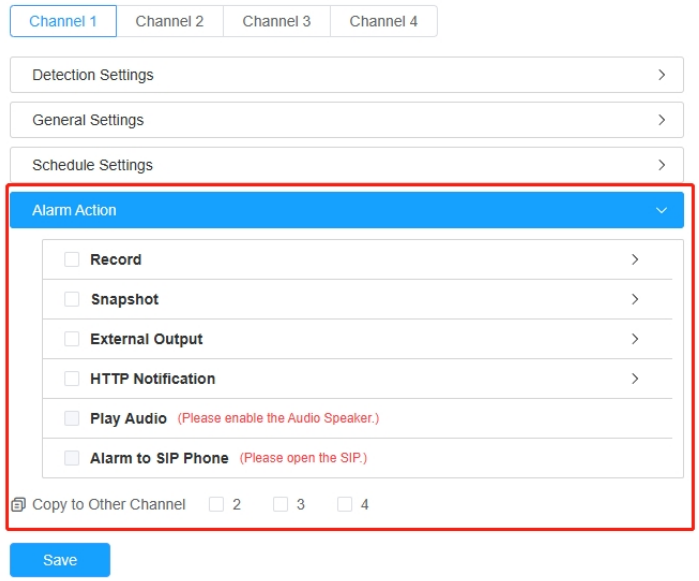
Step6: Set detection schedule;



Note: This part is the same as the regular schedule settings. You can refer to 8.4.2.1 Intrusion Detection. *(page 110)*

[Alarm Action]

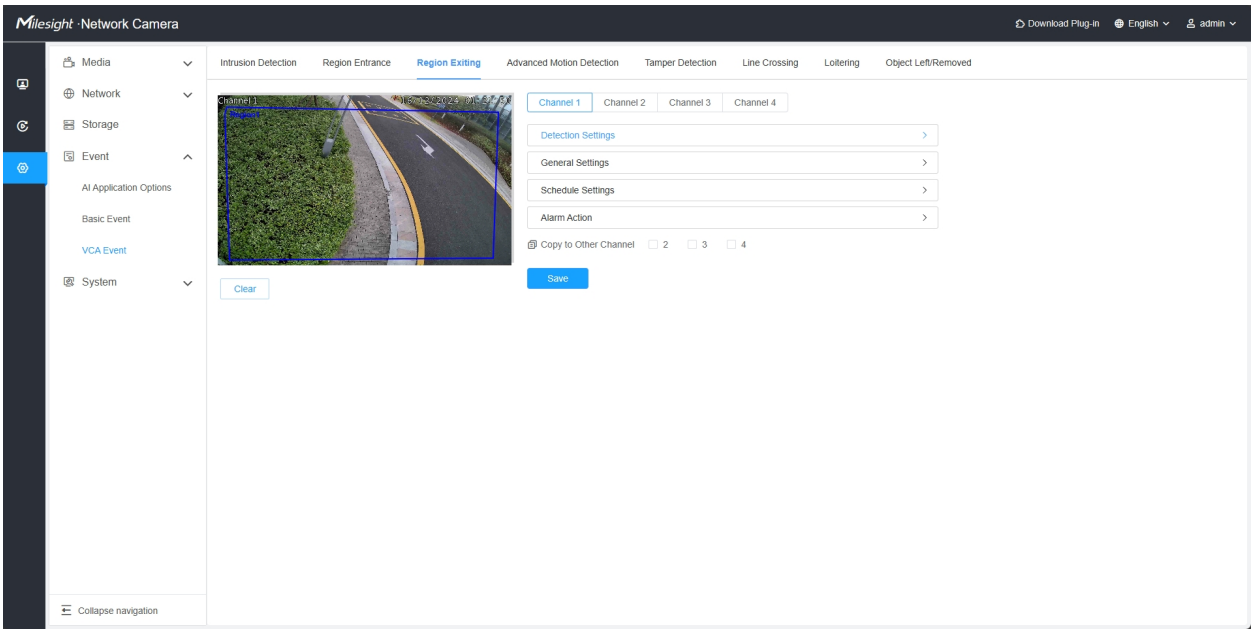
Step7: Set alarm action;



Note: This part is the same as the regular alarm settings. You can refer to 8.4.2.1 Intrusion Detection *(page 111)*.

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:

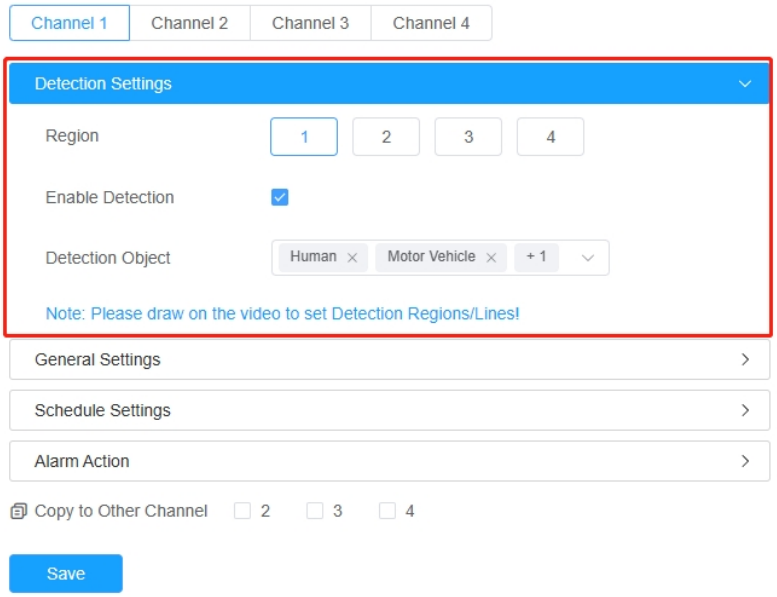
[Detection Settings]

Step1: Select the channel to configure the region exiting detection for the selected channel.

Step2: Selected detection region and enable region exiting detection.

Step3: Choose detection object. Check Human , Motor Vehicle or Non-motor Vehicle(Scooter) attribute, and the camera will alarm once detecting human or vehicle and triggering related events.

Step4: Draw on the video to set detection regions/lines.



[General Settings]

Step5: Set detecting sensitivity, trigger mode and object size limits.

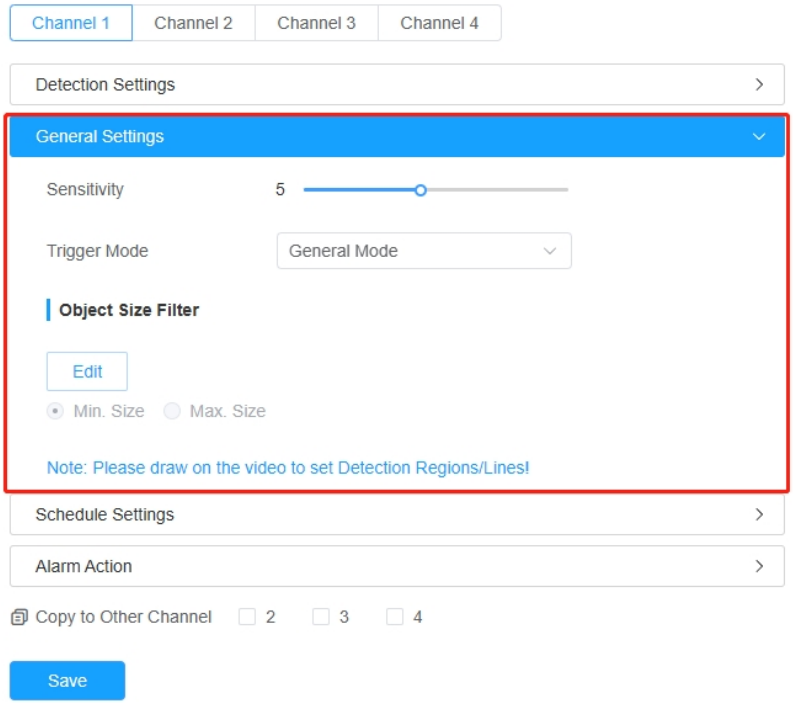
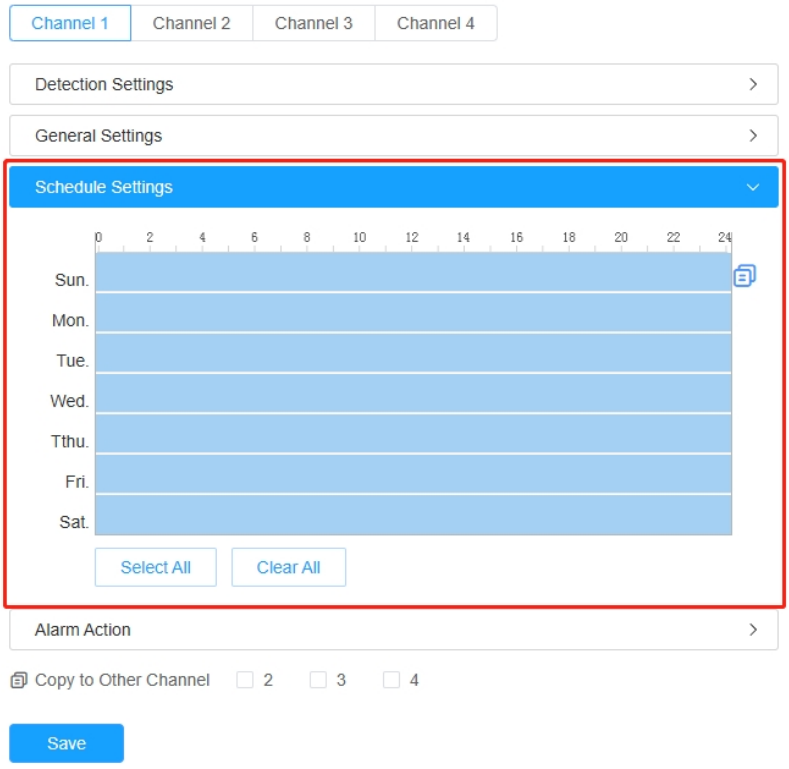


Table 55. Description of the buttons

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

[Schedule Settings]

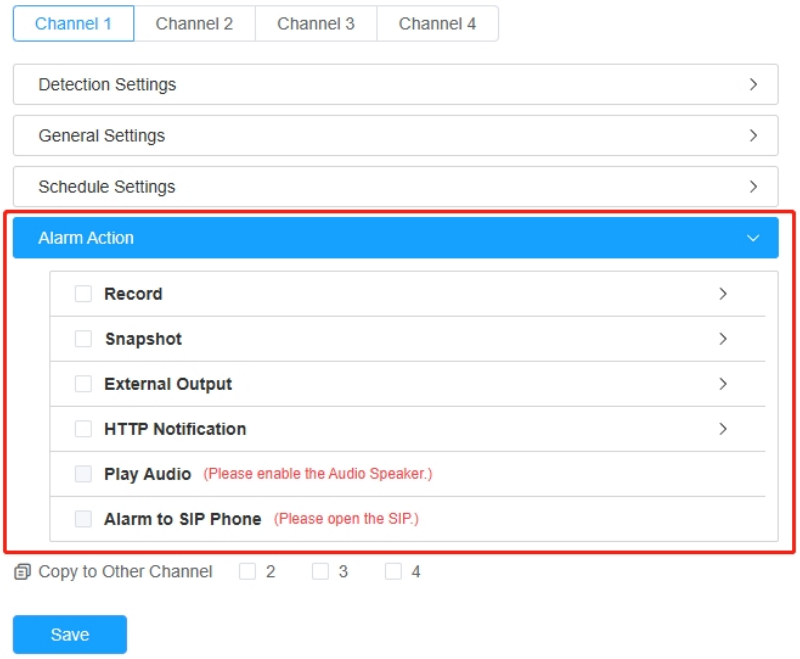
Step6: Set detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.2.1 Intrusion Detection. *(page 110)*

[Alarm Action]

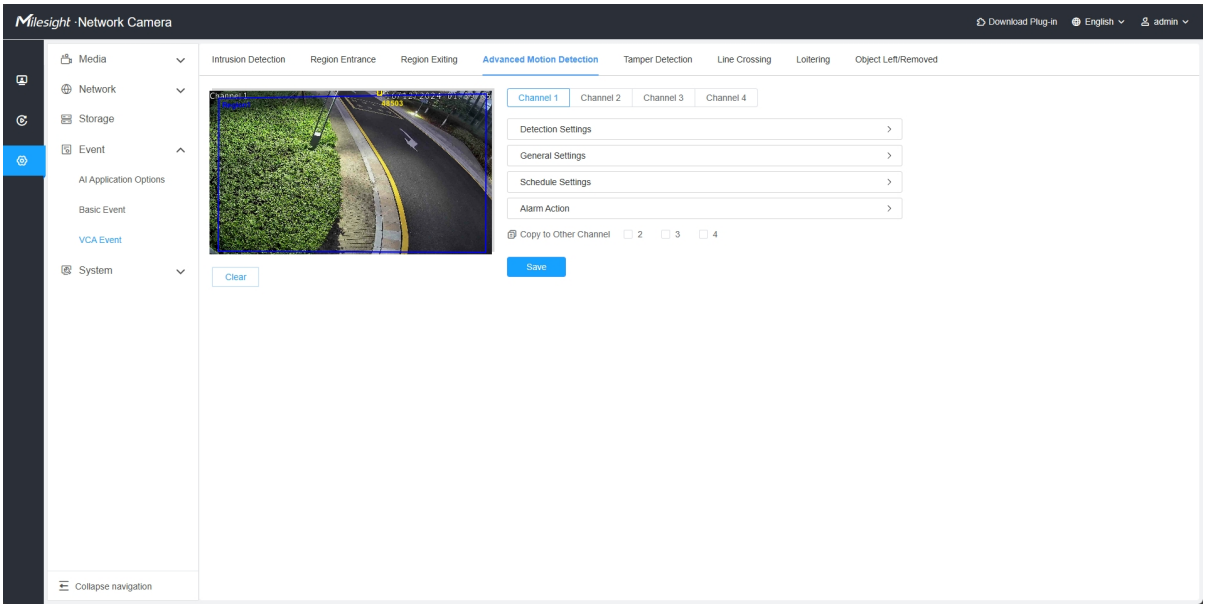
Step7: Set alarm action.



Note: This part is the same as the regular alarm settings. You can refer to 8.4.2.1 Intrusion Detection *(page 111)*.

8.4.2.4 Advanced Motion Detection

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



Settings steps are shown as follows:

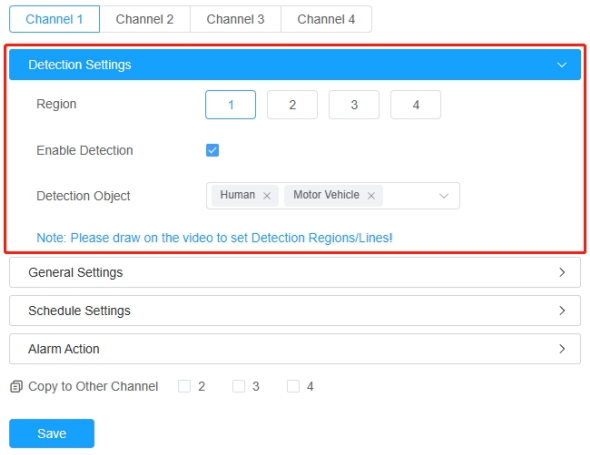
[Detection Settings]

Step1: Select the channel to configure the advanced motion detection for the selected channel.

Step2: Selected detection region and enable advanced motion detection.

Step3: Choose detection object. Check Human , Motor Vehicle or Non-motor Vehicle(Scooter) attribute, and the camera will alarm once detecting human or vehicle and triggering related events.

Step4: Draw on the video to set Detection Regions/Lines!



[General Settings]

Step5: 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.

Step6: Set detecting sensitivity, trigger mode and object size limits.

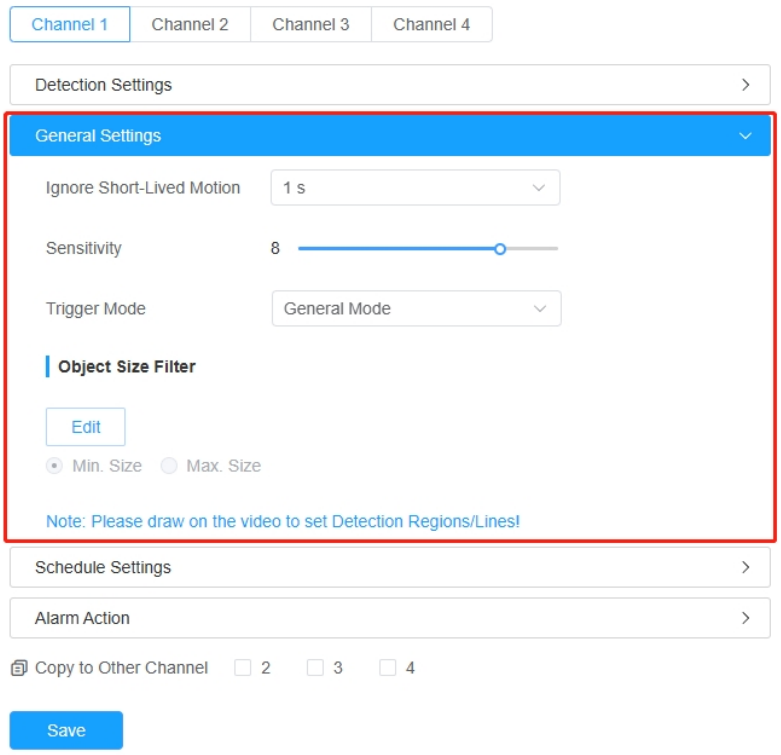


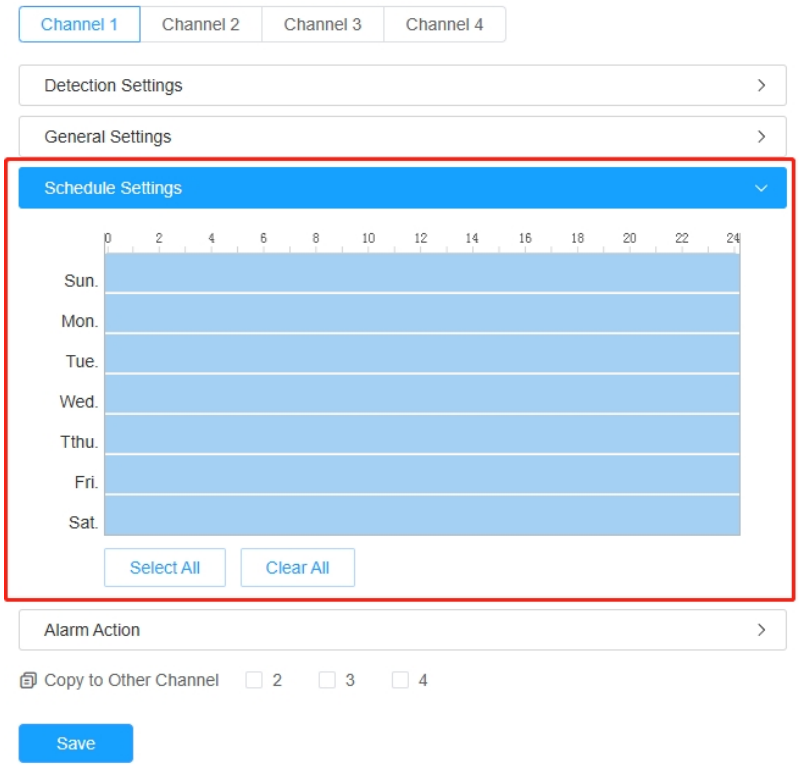
Table 56. Description of the buttons

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.

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 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]

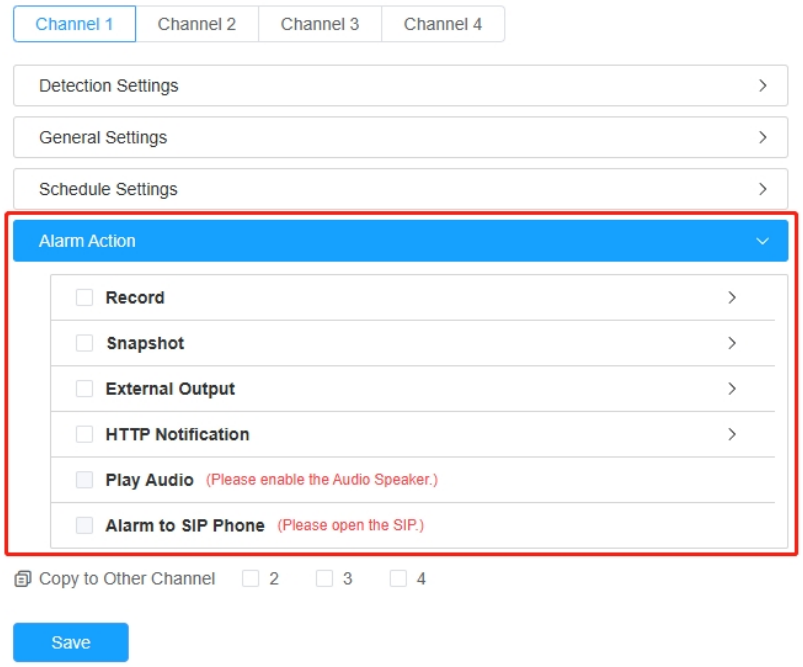
Step7: Set detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.2.1 Intrusion Detection. *(page 110)*

[Alarm Action]

Step8: Set alarm action.

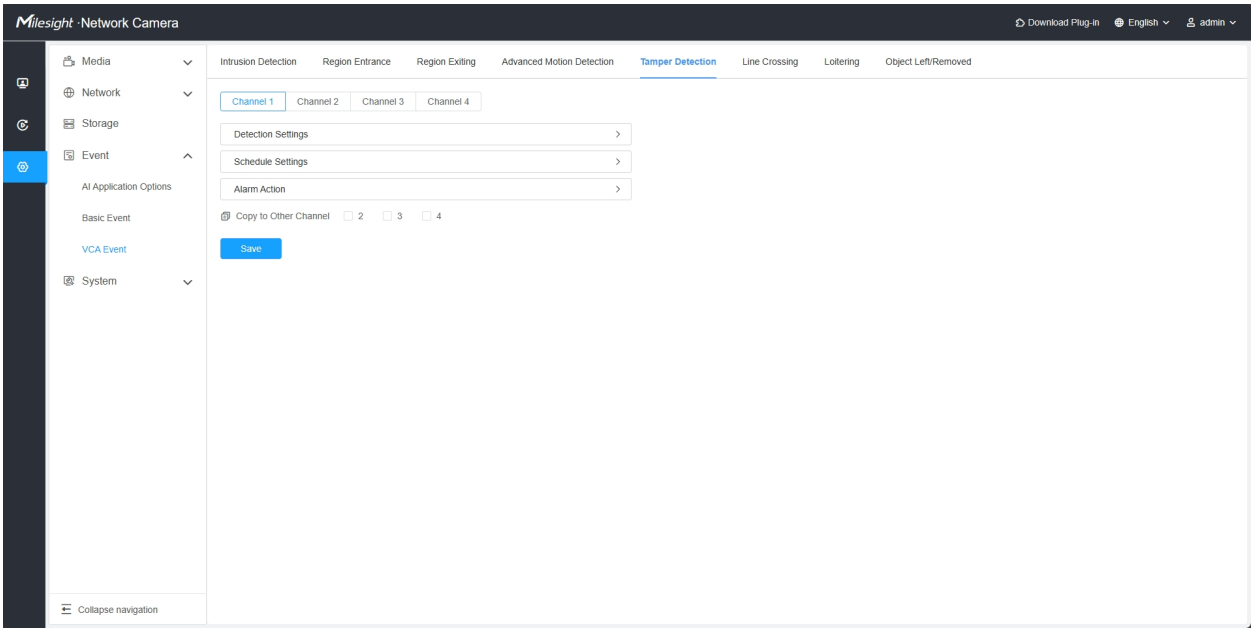


Note:

- This part is the same as the regular alarm settings. You can refer to 8.4.2.1 Intrusion Detection *(page 111)*.
- 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 Tamper Detection

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

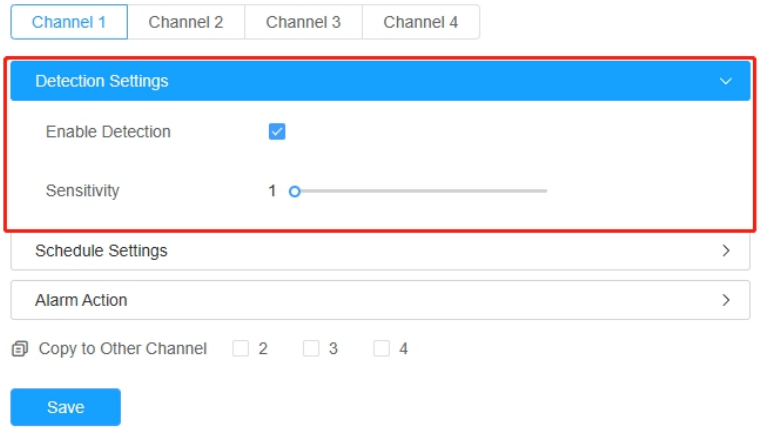


Settings steps are shown as follows:

[Detection Settings]

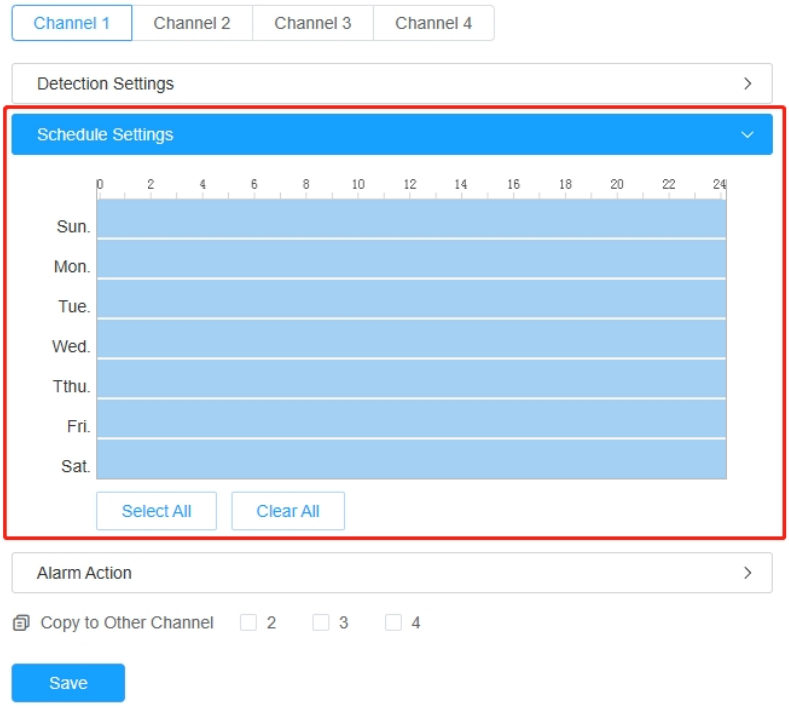
Step1: Select the channel to configure the temper detection settings for the selected channel.

Step2: Enable Tamper Detection and set detecting sensitivity.



[Schedule Settings]

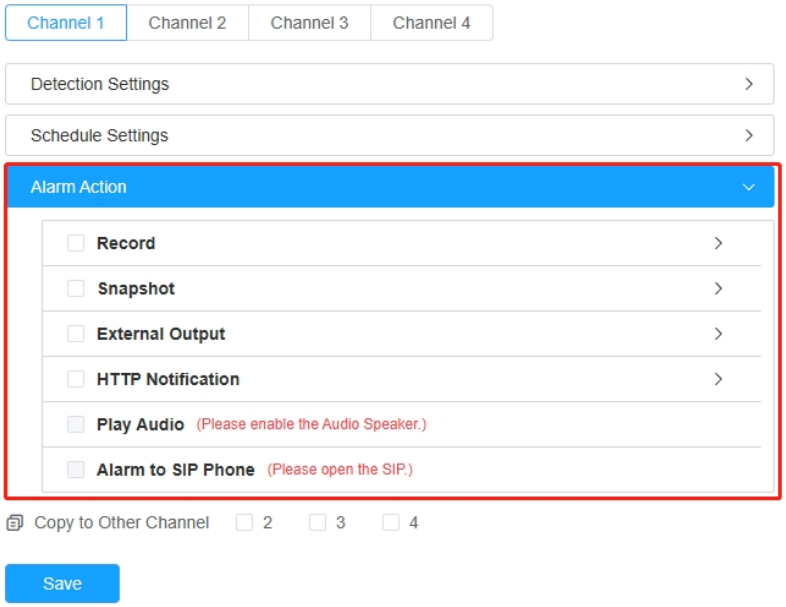
Step3: Set detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.2.1 Intrusion Detection. *(page 110)*

[Alarm Action]

Step4: Set alarm action.

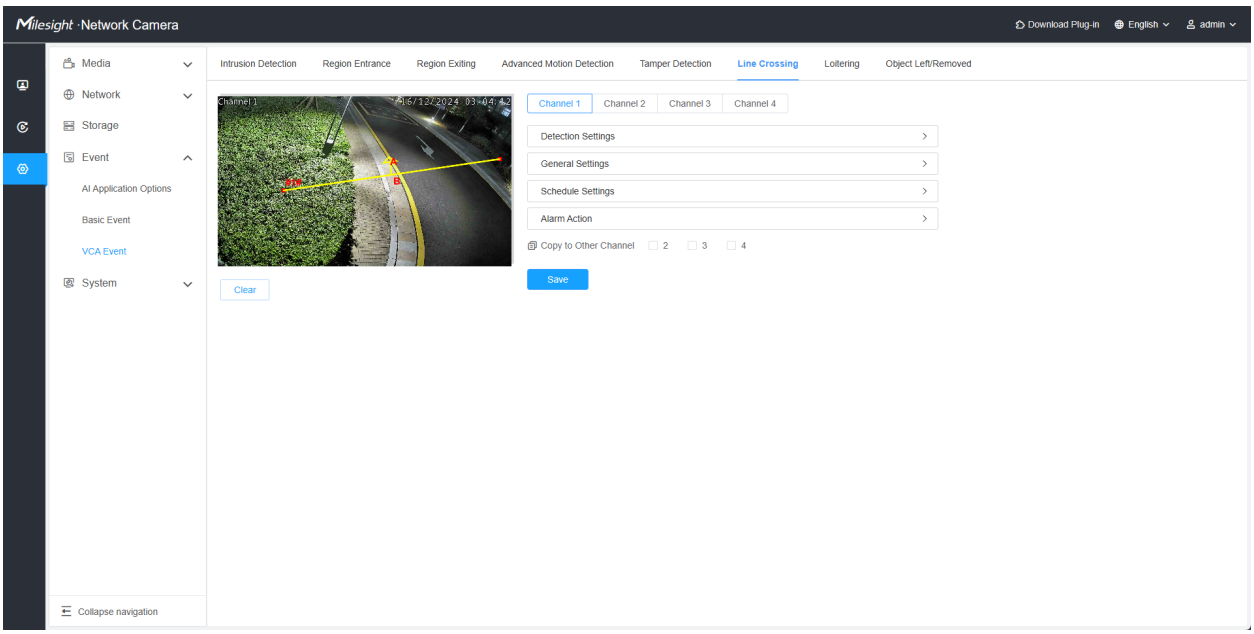


Note:

- This part is the same as the regular alarm settings. You can refer to 8.4.2.1 Intrusion Detection *(page 111)*.
- If you enable External Output and choose Constant External Output Action Time, when possible tampering is detected, External Output Action alarm time will be always constant till the alarm is released.
- The algorithm supports defocus detection in Tamper Detection function.

8.4.2.6 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: Select the channel to configure the line detection settings for the selected channel.

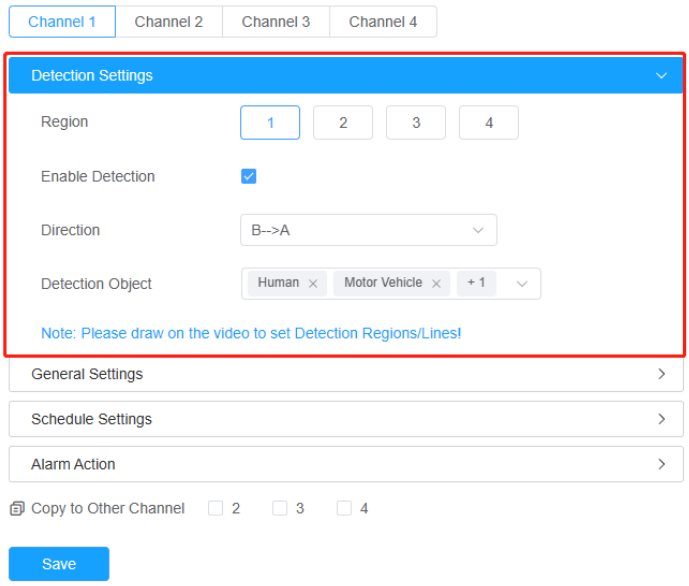
Step2: Select detection line, enable line crossing detection and define its direction.

Step3: Choose detection object. Check Human , Motor Vehicle or Non-motor Vehicle(Scooter) attribute, and the camera will alarm once detecting human or vehicle and triggering related events.

Step4: Draw on the video to set detection regions/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.



[General Settings]

Step5: Set detecting sensitivity,trigger mode and object size limits.

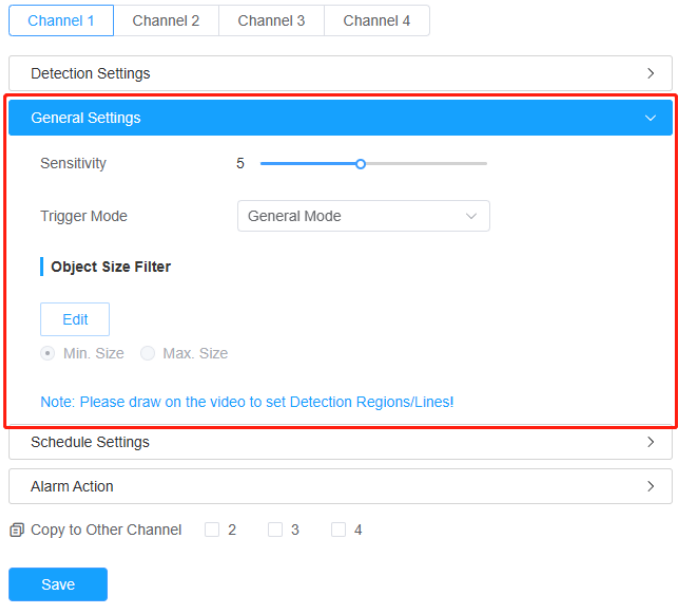
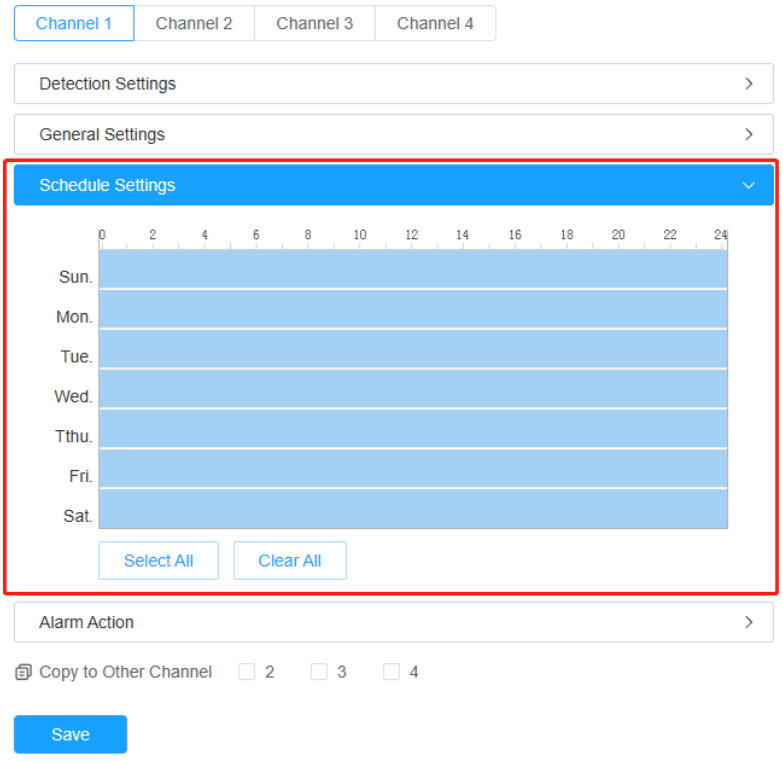


Table 57. Description of the buttons

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]

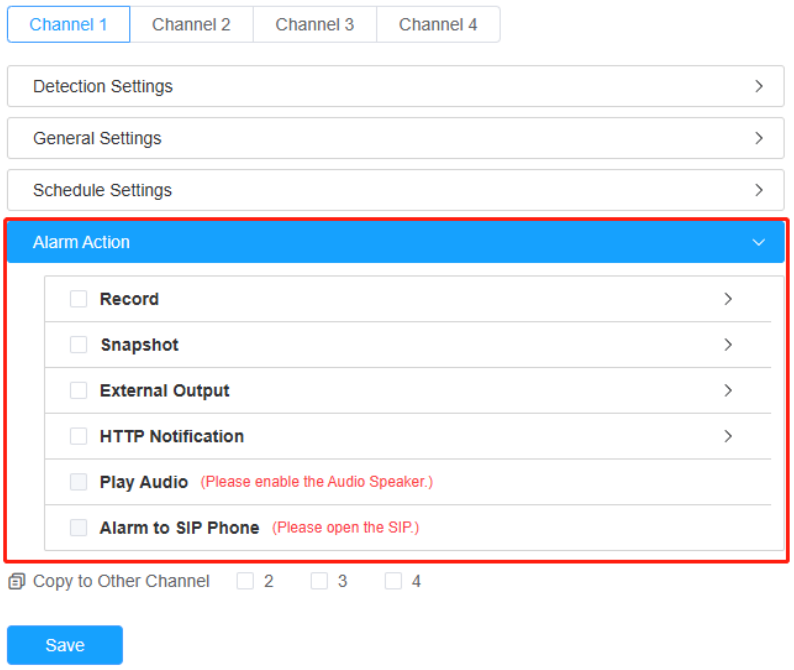
Step6: Set detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.2.1 Intrusion Detection. *(page 110)*

[Alarm Action]

Step7: Set alarm action.

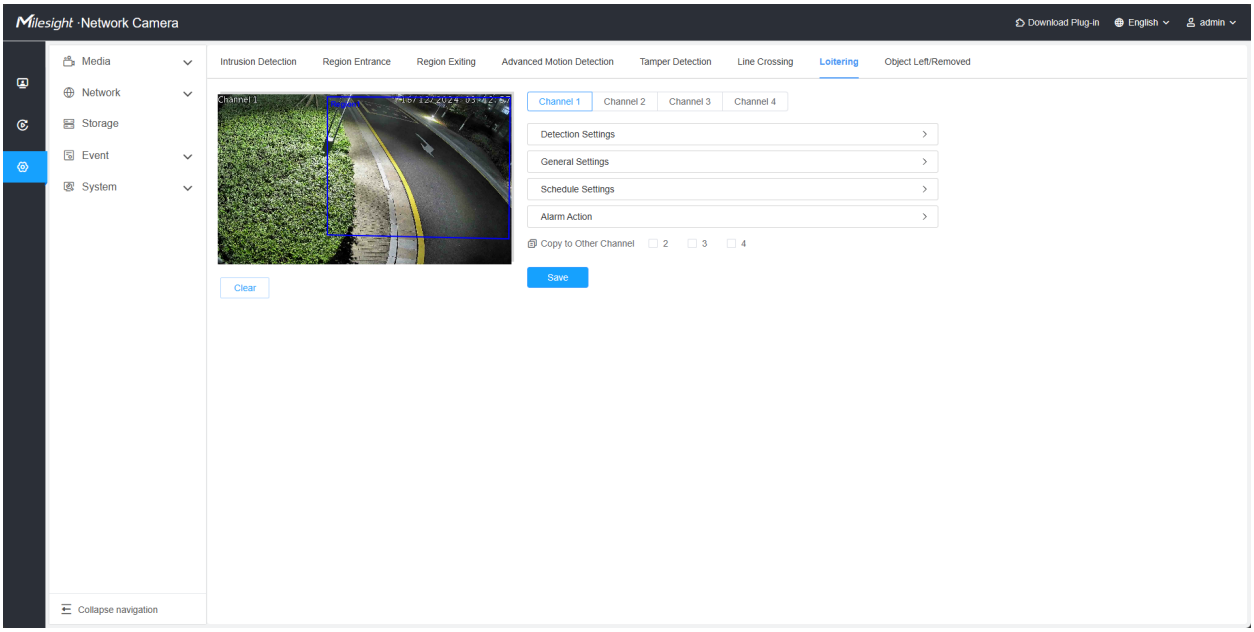


Note:

- This part is the same as the regular alarm settings. You can refer to 8.4.2.1 Intrusion Detection *(page 111)*.
- 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

8.4.2.7 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]

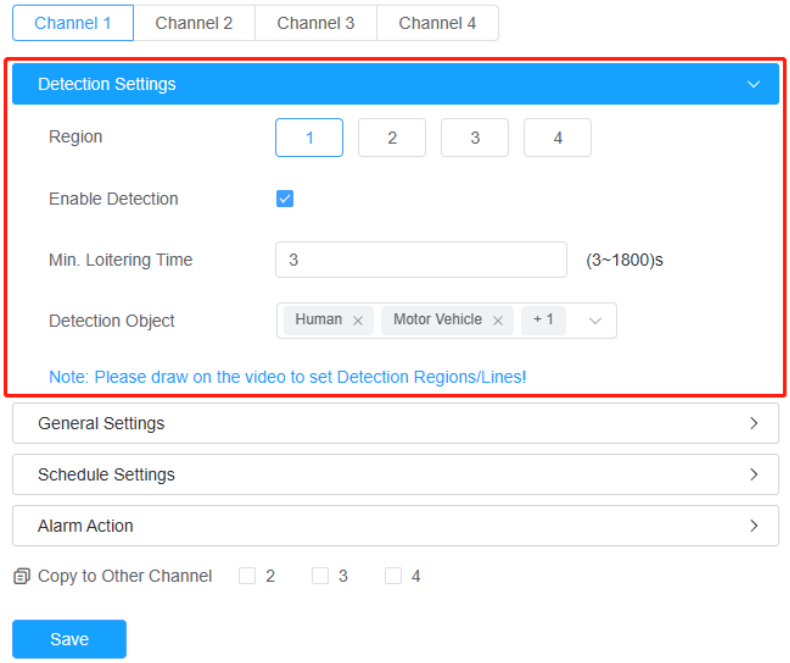
Step1: Select the channel to configure the loitering detection settings for the selected channel.

Step2: Select detection region and enable loitering detection.

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 detection object. Check Human , Motor Vehicle or Non-motor Vehicle(Scooter) attribute, and the camera will alarm once detecting human or vehicle and triggering related events.

Step5: Draw on the video to set detection regions/lines.



[General Settings]

Step6: Set detecting trigger mode and object size limits.

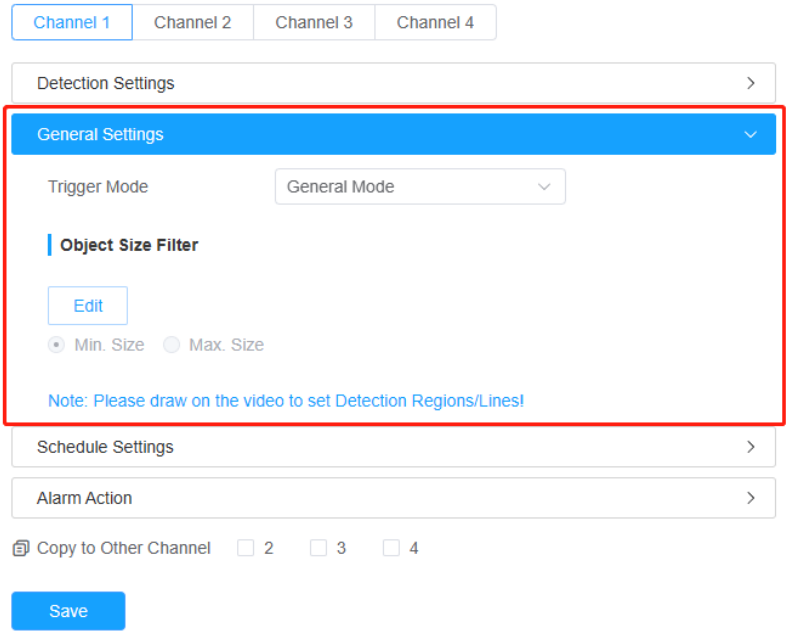
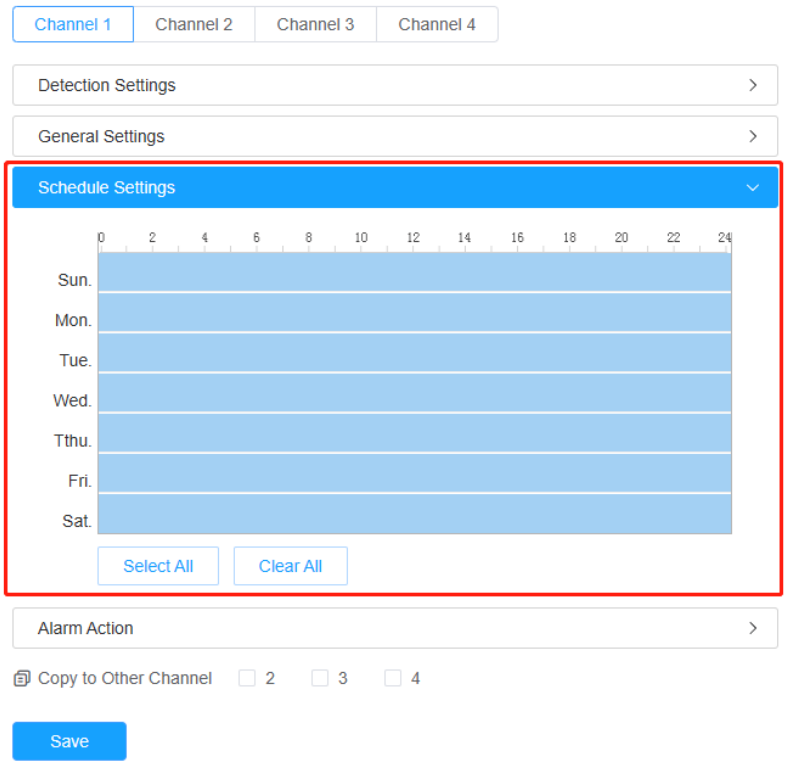


Table 58. Description of the buttons

Parameters	Function Introduction
Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. **General Mode:** The alarm is triggered when the object's body roughly enters the detection area. **Bottom Mode:** The alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/bottom detection preference.
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]

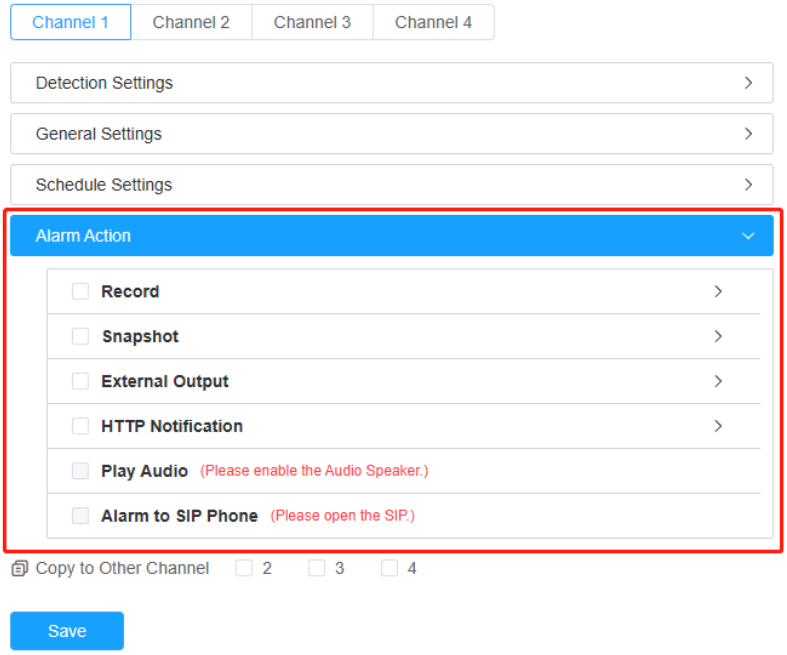
Step7: Set detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.2.1 Intrusion Detection. *(page 110)*

[Alarm Action]

Step8: Set alarm action.

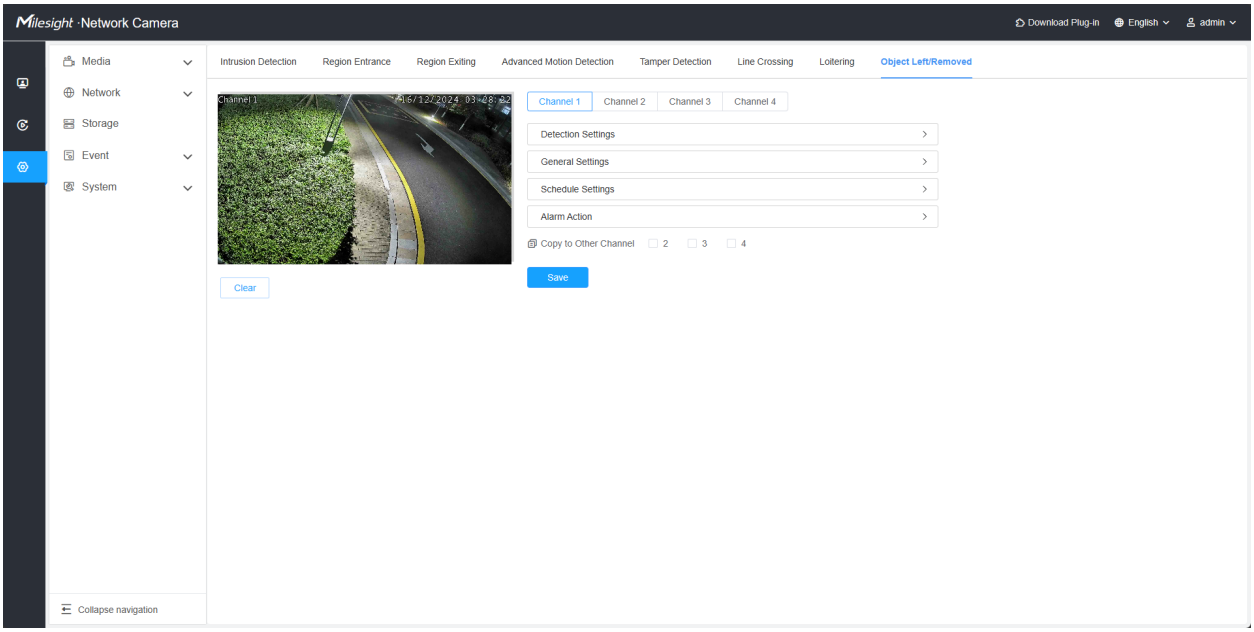


Note:

- This part is the same as the regular alarm settings. You can refer to 8.4.2.1 Intrusion Detection *(page 111)*.
- 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.

8.4.2.8 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.



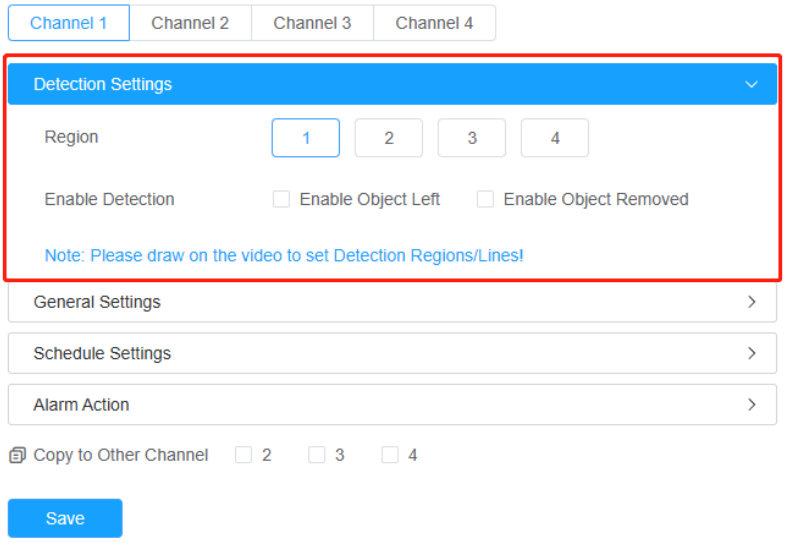
Settings steps are shown as follows:

[Detection Settings]

Step1: Select the channel to configure the object left/removed detection settings for the selected channel.

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

Step3: Drawn on the video to set detection region/lines.



[General Settings]

Step4: Set Min. time, detecting sensitivity and object size limits.

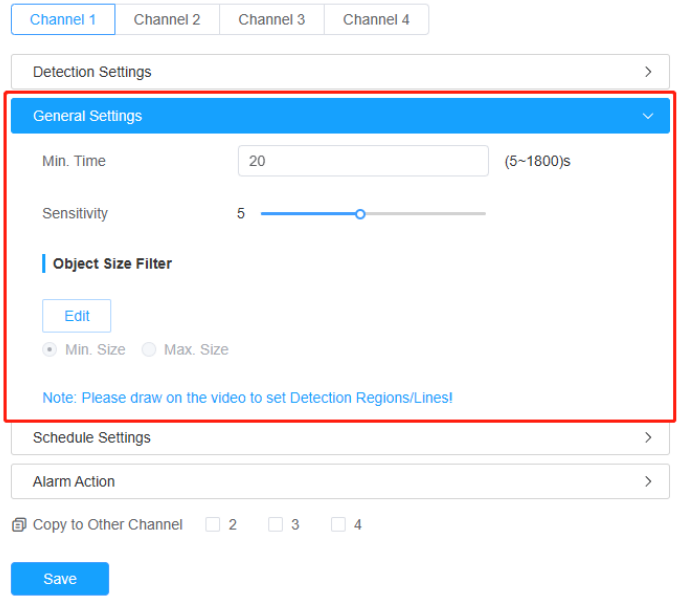
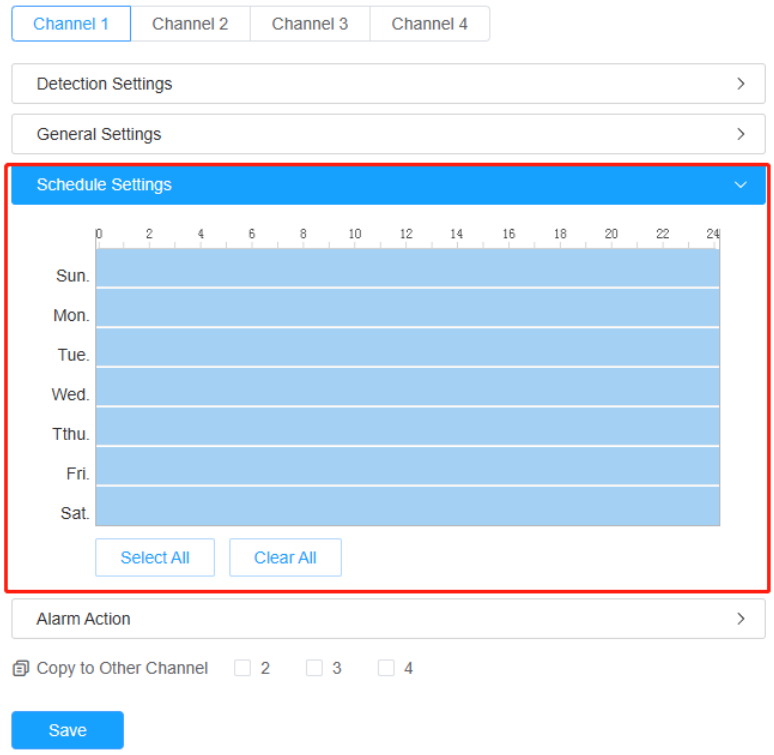


Table 59. Description of the buttons

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

[Schedule Settings]

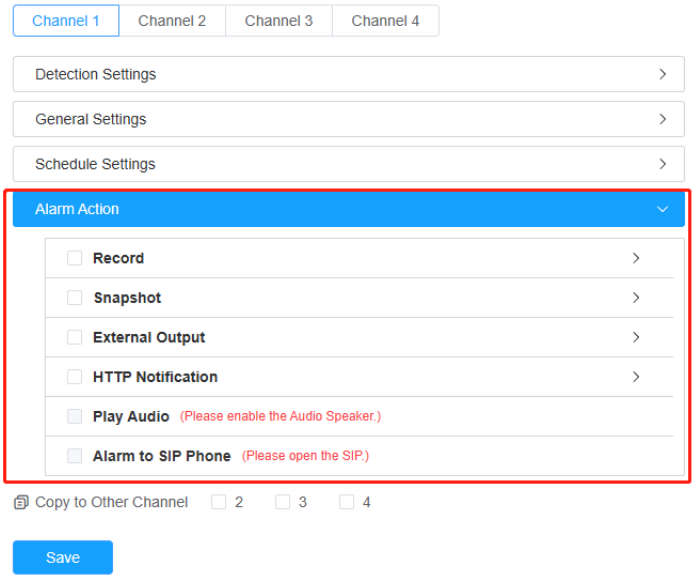
Step5: Set detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to 8.4.2.1 Intrusion Detection. *(page 110)*

[Alarm Action]

Step6: Set alarm action.



Note:

- This part is the same as the regular alarm settings. You can refer to 8.4.2.1 Intrusion Detection *(page 111)*.
- 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.

8.5 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

All information about the hardware and software of the camera can be checked on this page.

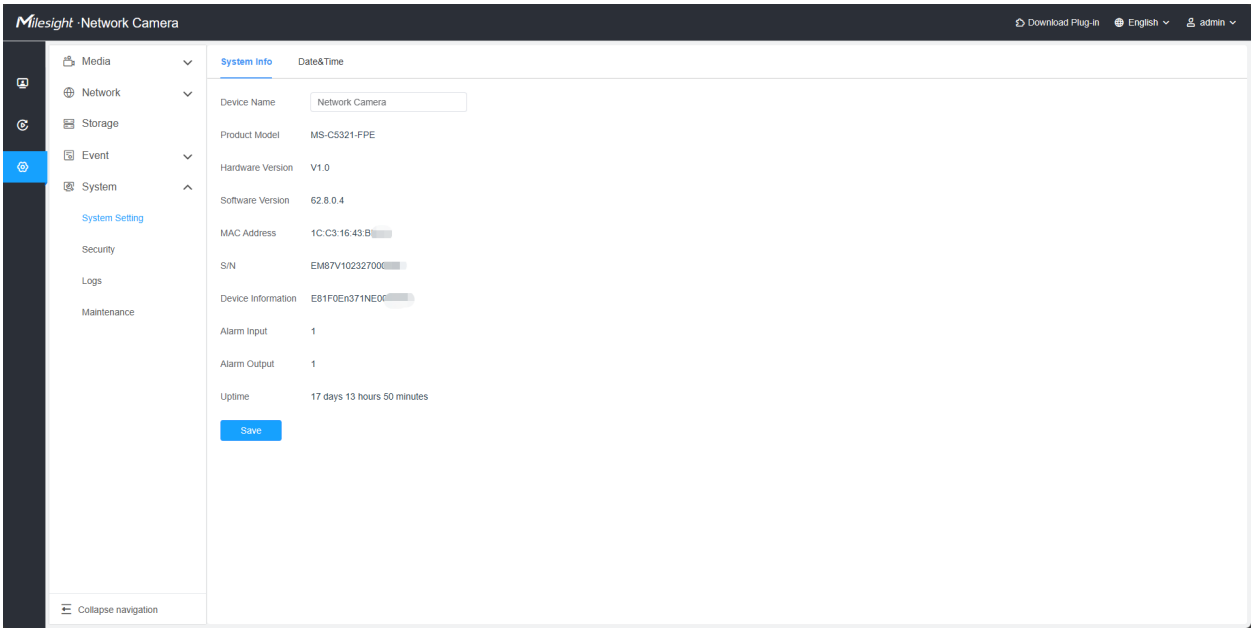


Table 60. Description of the buttons

Parameters	Function Introduction
Device Name	The device name can be customized. It will be seen 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 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 configuration.

8.5.1.2 Date&Time

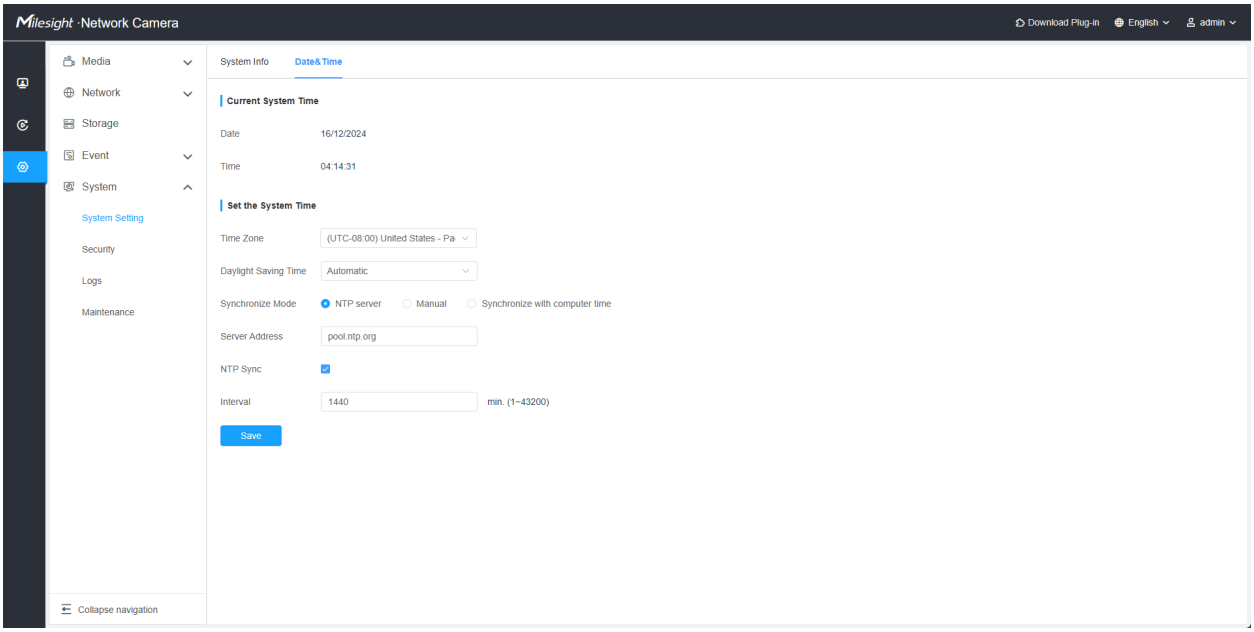


Table 61. Description of the buttons

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: Enable the daylight saving time.
	Synchronize Mode: NTP server, Manual and Synchronize with computer time are optional. **NTP server:** Input the address of NTP server. **NTP Sync:** Regularly update your time according to the interval time. **Manual:** Set the system time manually. **Synchronize with computer time:** Synchronize the time with your computer.
Save	Save the configuration.

8.5.2 Security

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

8.5.2.1 User

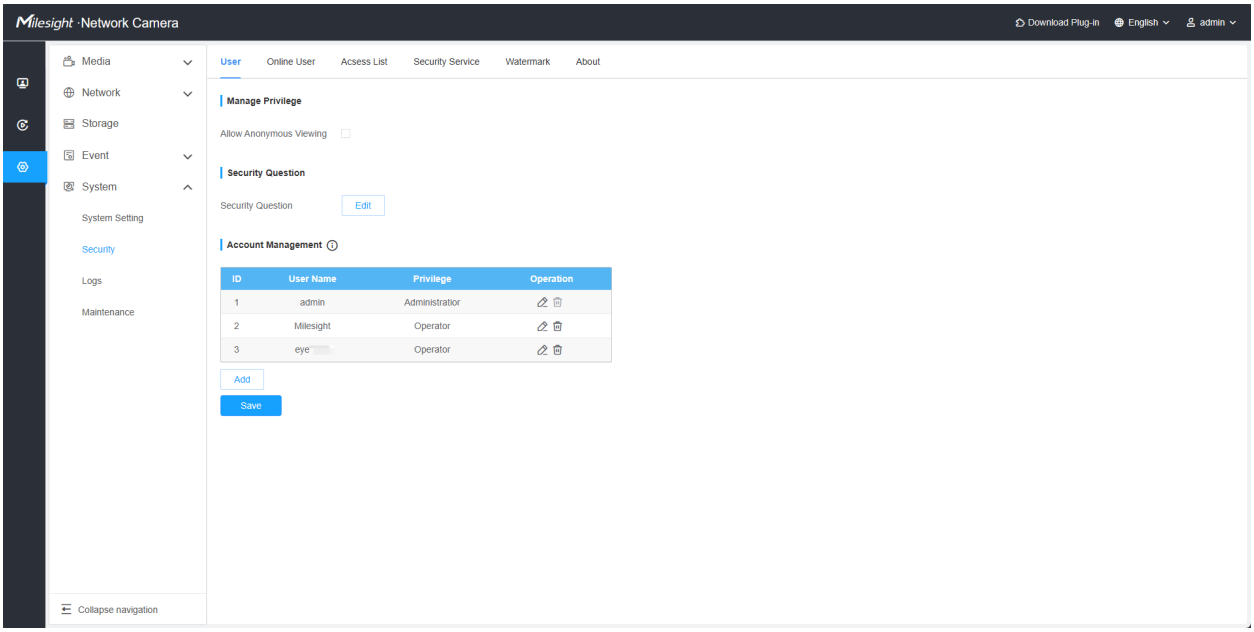
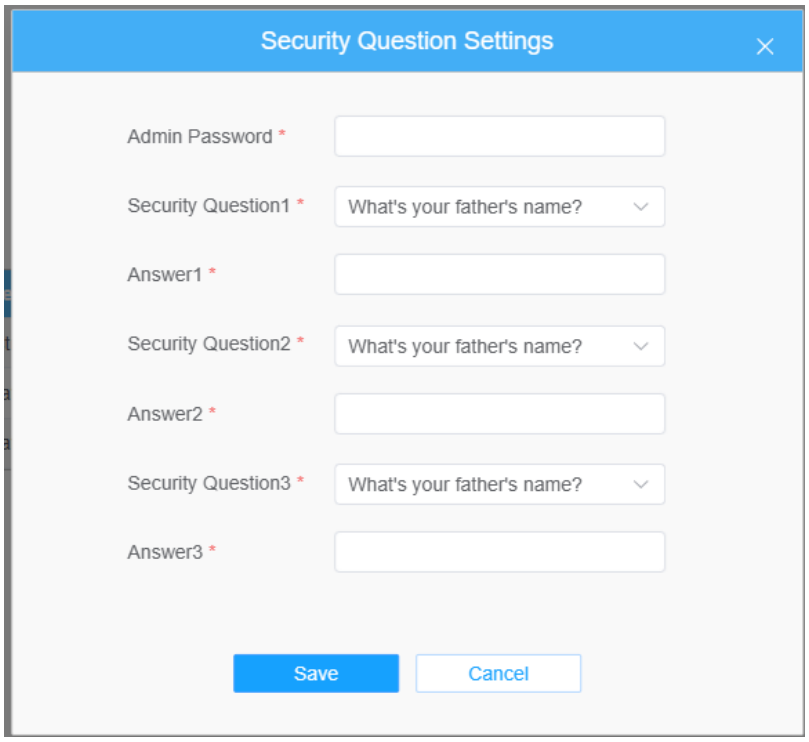
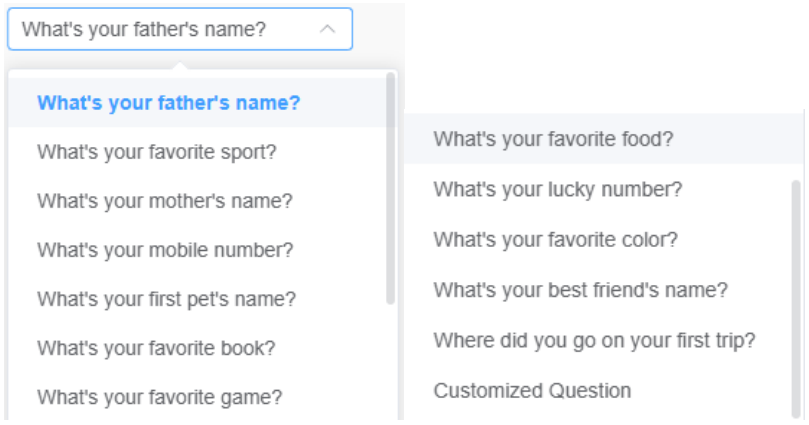
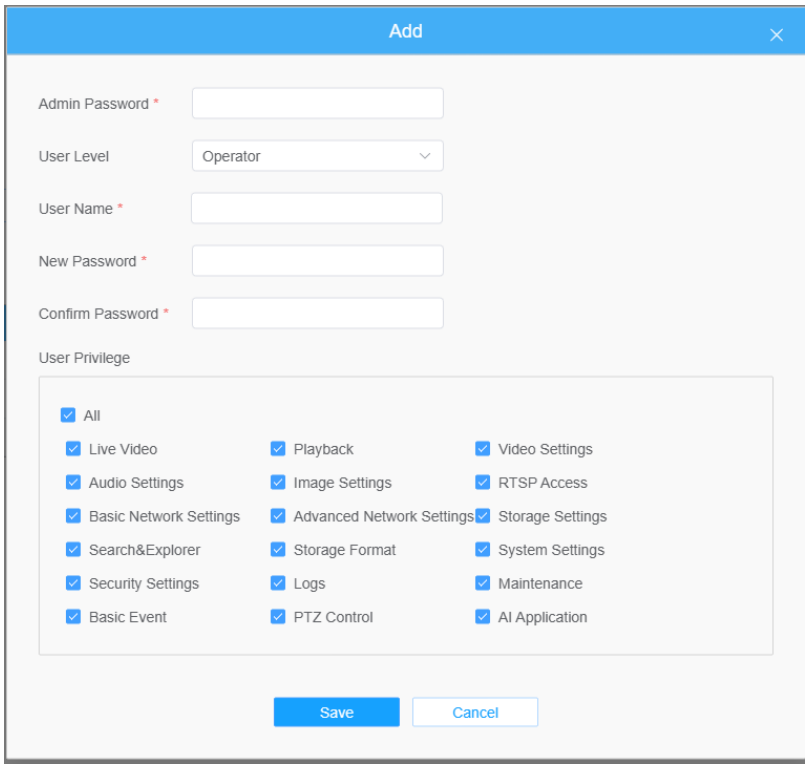


Table 62. Description of the buttons

Parameters	Function Introduction
Manage Privilege	**Allow anonymous viewing:** Check the checkbox to enable visit from whom doesn't have account of the device.
Security Question	Click "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 “**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. 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. **Note:** • Support up to 20 users, including a default user and 19 custom added users. • The operator privilege is all checked by default. 

8.5.2.2 Online User

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

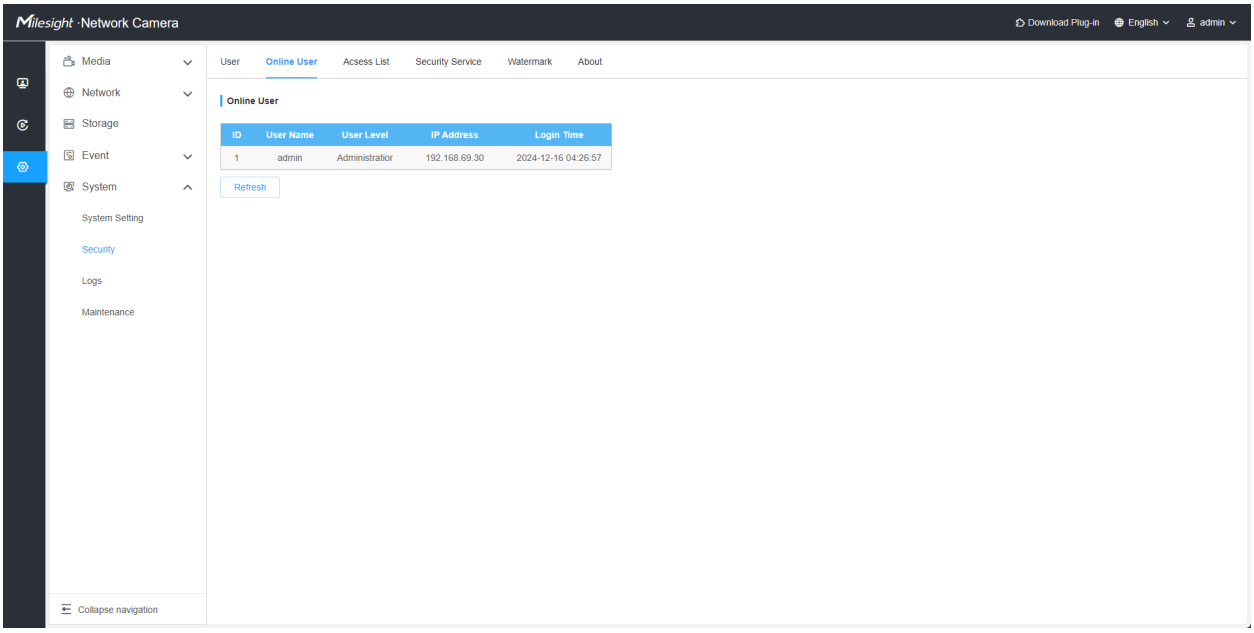


Table 63. Description of the buttons

Parameters	Function Introduction
Refresh	Click to get 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

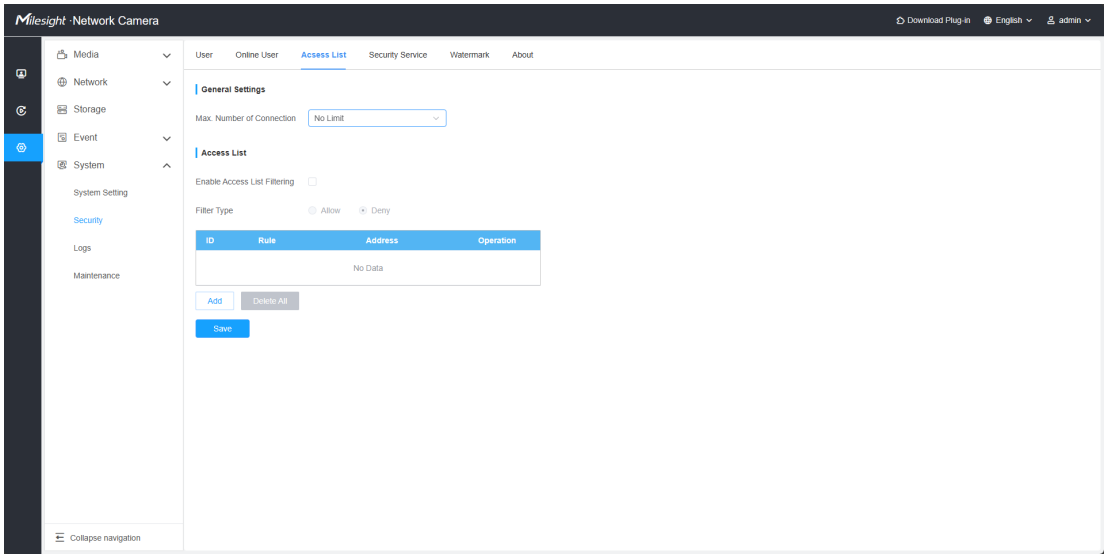


Table 64. Description of the buttons

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.	
	Add	**Rule: IP Address, Network Address, IP Range, and Mac Address** are available. **IP address:** Input the IP address to get the access to the device. **Address:** Input the network address to get the access network segment. **Mask:** It is used to identify the subnet where the network camera is located. **IP Rage:** Input the start IP address and end IP address to get the access range list. **MAC Address:** Input the MAC address to get the access to the device.
	Delete All	Delete all the access list.
		Edit the selected IP on access list.
		Delete the selected IP on access list.
Save	Save the configuration.	

8.5.2.4 Security Service

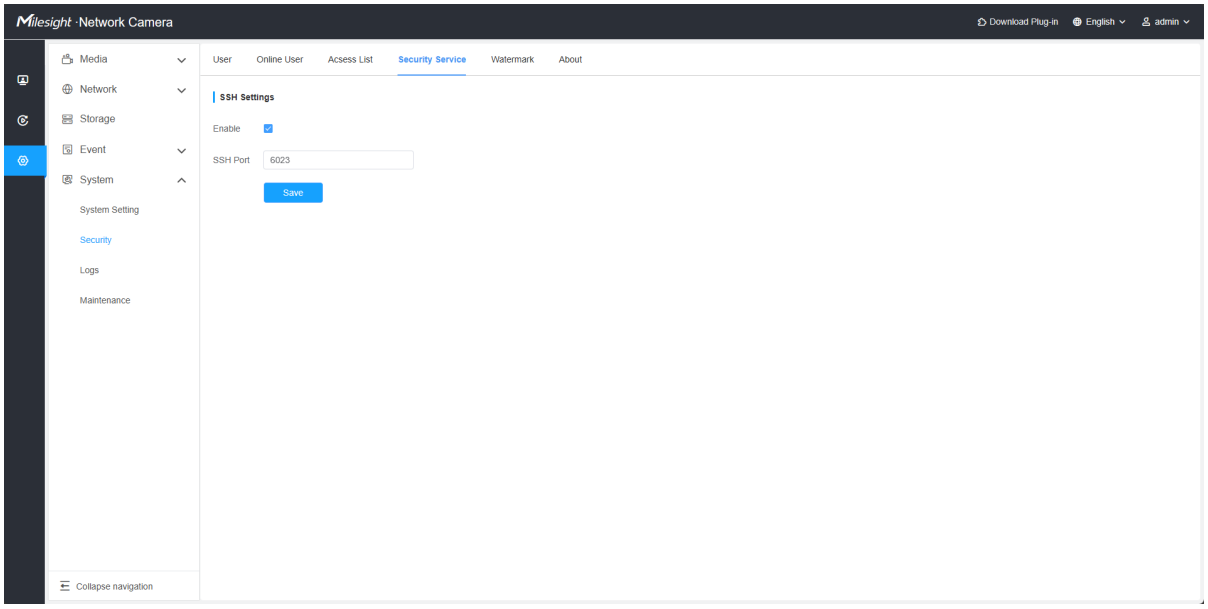
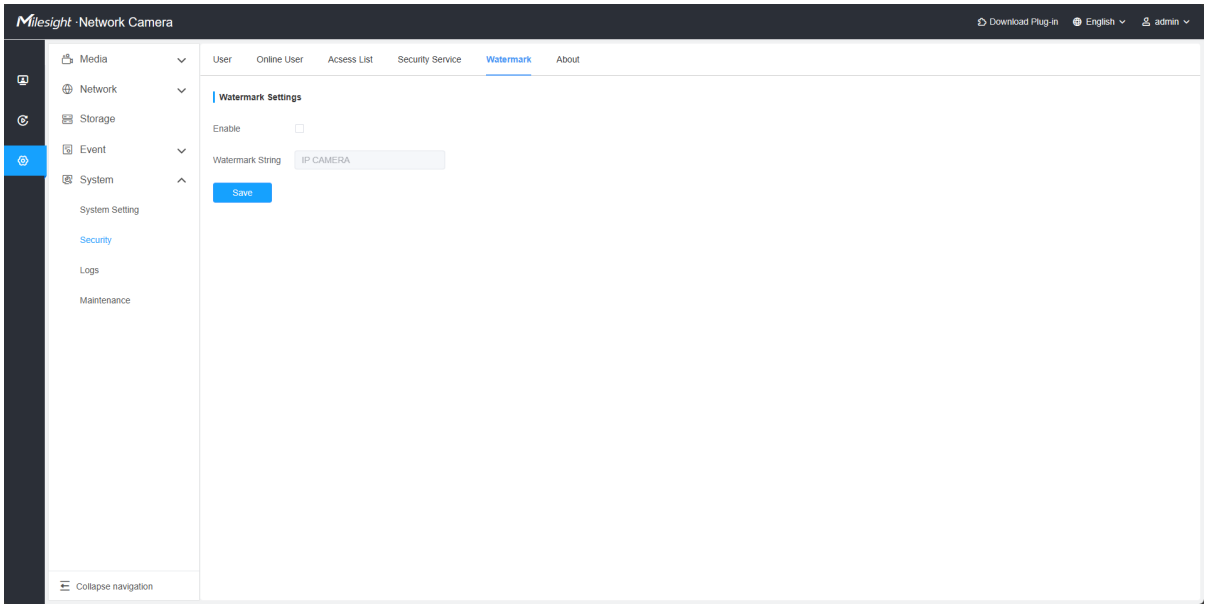


Table 65. Description of the buttons

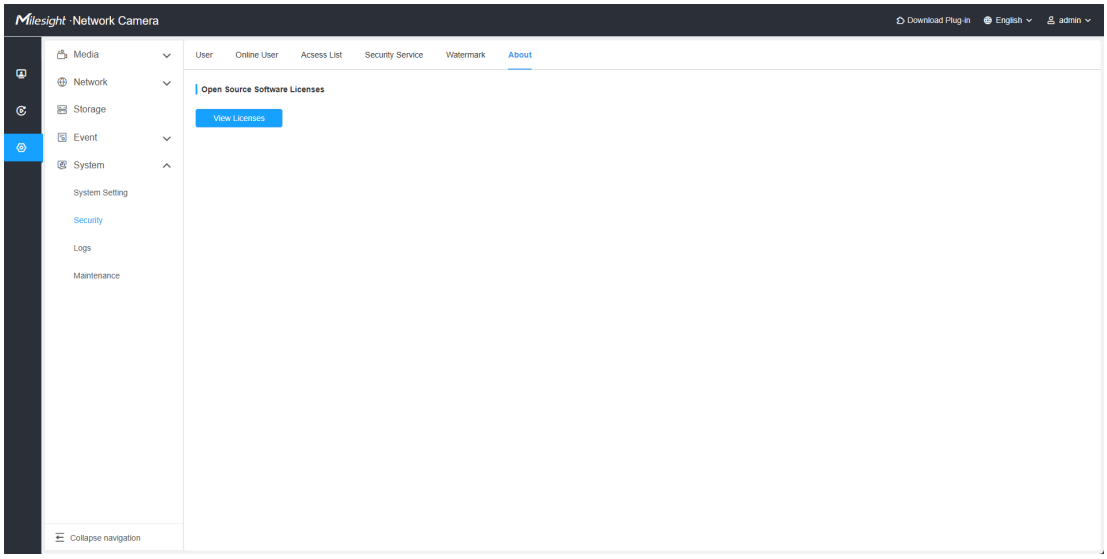
Parameters	Function Introduction
SSH Settings	Secure Shell (SSH) has many functions: it can replace Telnet and also provides a secure channel for FTP, POP, even for PPP.

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



User can view some open source software licenses about the camera by clicking the View Licenses button.

8.5.3 Logs

The logs contain the information about the time and IP that has accessed the camera through web.

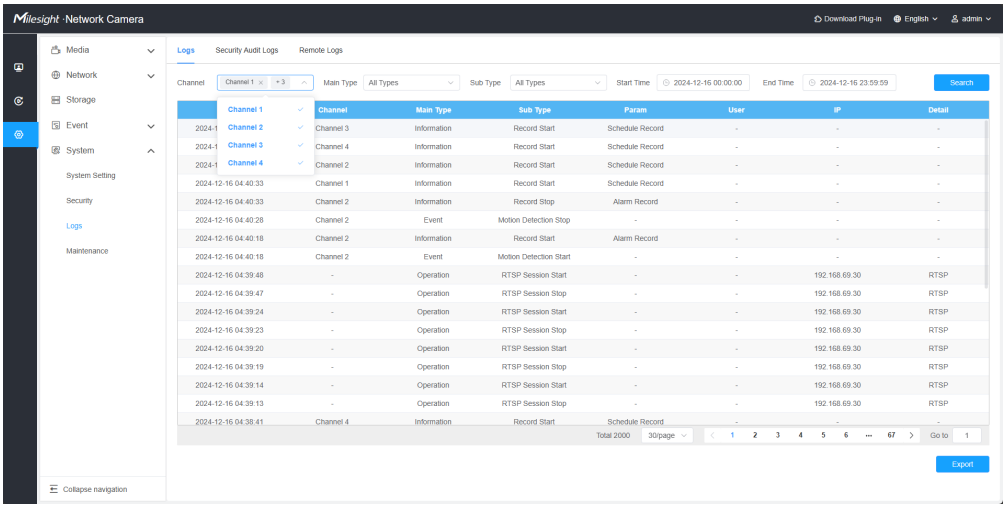


Table 66. Description of the buttons

Parameters	Function Introduction
Channel	Choose the channel type, you can individually choose a channel to search for the logs of the channel.
Main Type	There are five main log types: **All Type, Event, Operation, Information, Exception** and **Smart.**
Sub Type	On the premise that main type has been selected, select the sub type to narrow the range of logs.
Start Time	The time log starts.
End Time	The time log ends.
Search	Search the logs.
Export	Export the logs.
Go to	Input the number of logs' page.

8.5.4 Maintenance

Here you can configure System Maintenance and Auto Reboot.

8.5.4.1 System Maintenance

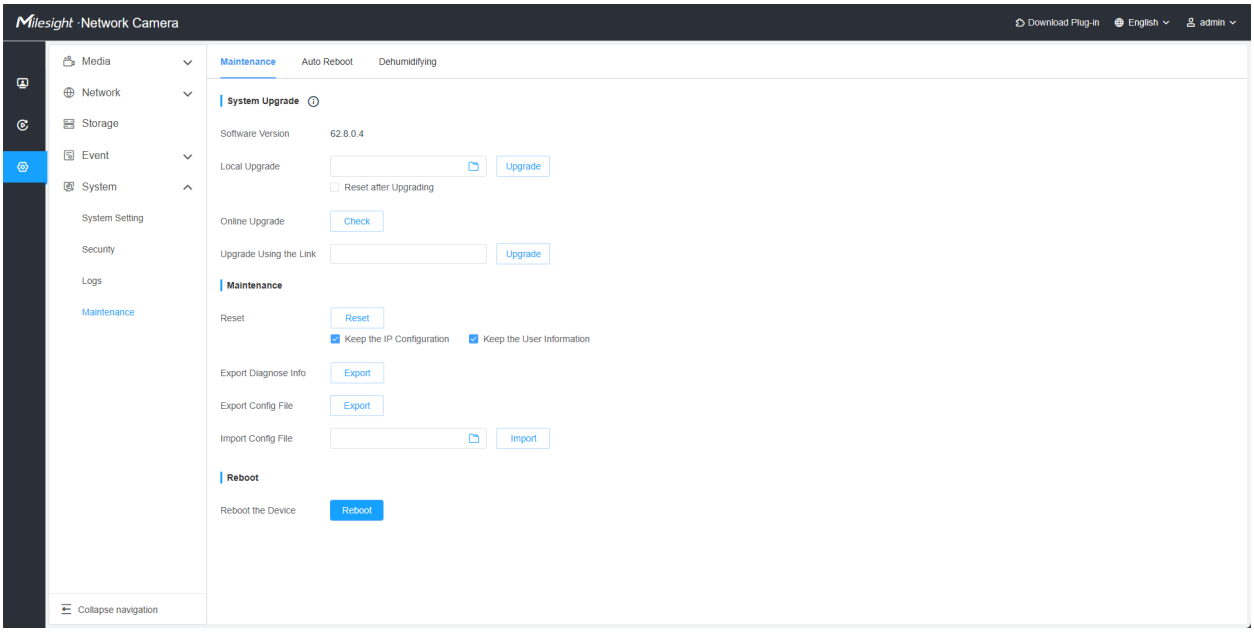
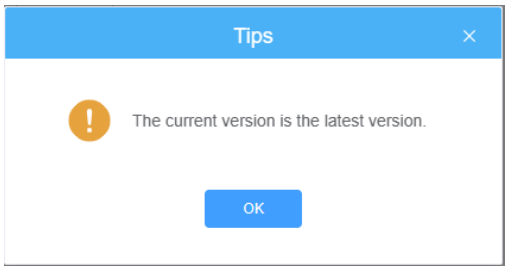


Table 67. Description of the buttons

Parameters	Function Introduction
System Upgrade	**Software Version:** The software version of the camera. **Local Upgrade:** Click the “Browse” button and select the upgrading file, then click the “Upgrade” button to upgrade. 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 the "Check" button to check the current latest firmware version on our website, and then click "OK" to upgrade to this version. It will prompt "The current version is the latest version" if your camera is already the latest version.  **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 the “Upgrade” button to upgrade. **Note:** Do not disconnect the power of the device during the update. The device will be restarted to complete the upgrading.

<table>
<tr><th>Parameters</th><th>Function Introduction</th></tr>
<tr><td>Maintenance</td><td>
Reset: Click “Reset” button to reset the camera to factory default settings.

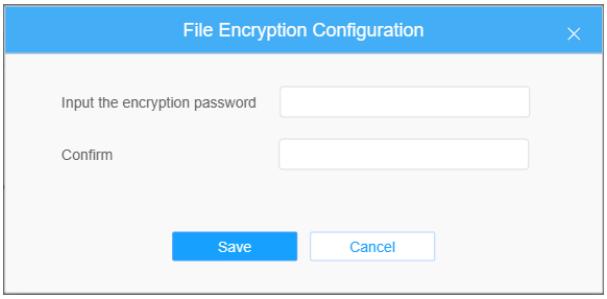
Keep the IP Configuration: Check this option to keep the IP configuration when resetting the camera.

Keep the User information: Check this option to keep the user information when resetting the camera.

Export Diagnose Info: Click this button to export logs and system information of the device operation status.

Note: The file format is “.txt”.

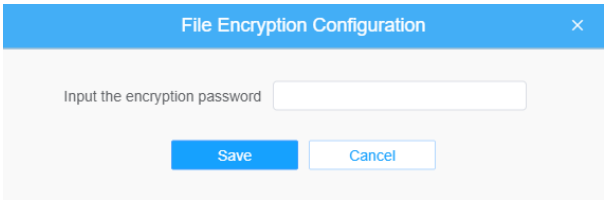
Export Config File: Click this button and a window will pop up as shown below:



You need to enter and confirm password again, then click save button to export configuration file.

Import Config File: Click this button, then a window will pop up and you can click "OK" to update the configuration.

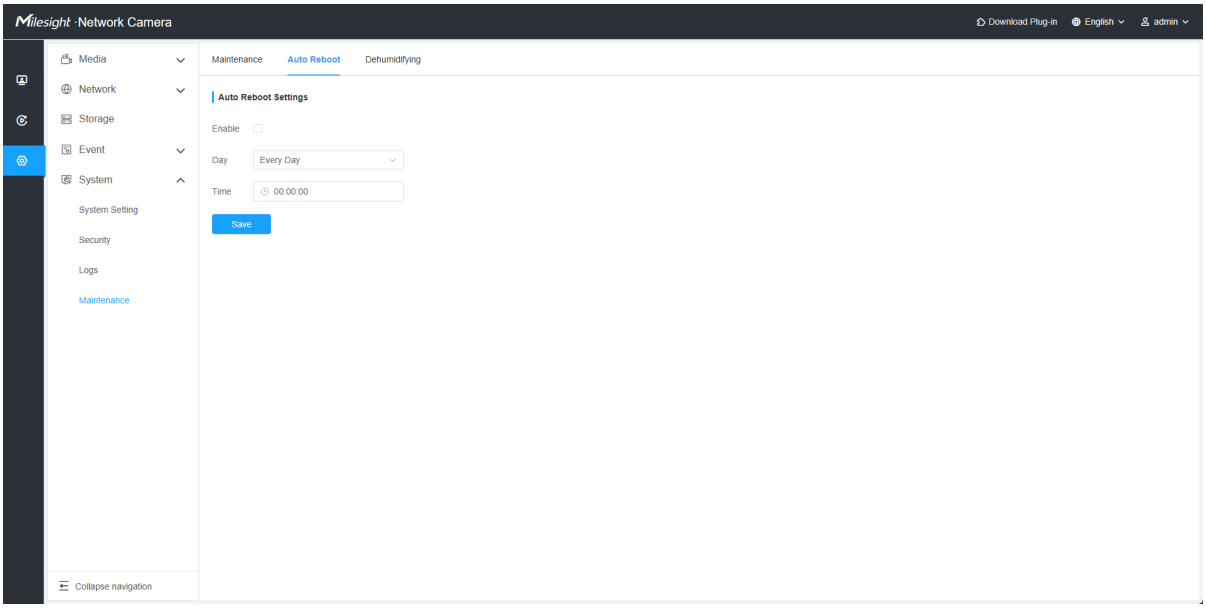
It will pop up a window to prompt "Input the password of config file" , then enter password and click save button to import configuration file.



Note:

Export and import the same configuration file. Password must be the same.
</td></tr>
<tr><td>Reboot</td><td>Click “Reboot” button to restart the device immediately.</td></tr>
</table>

8.5.4.2 Auto Reboot

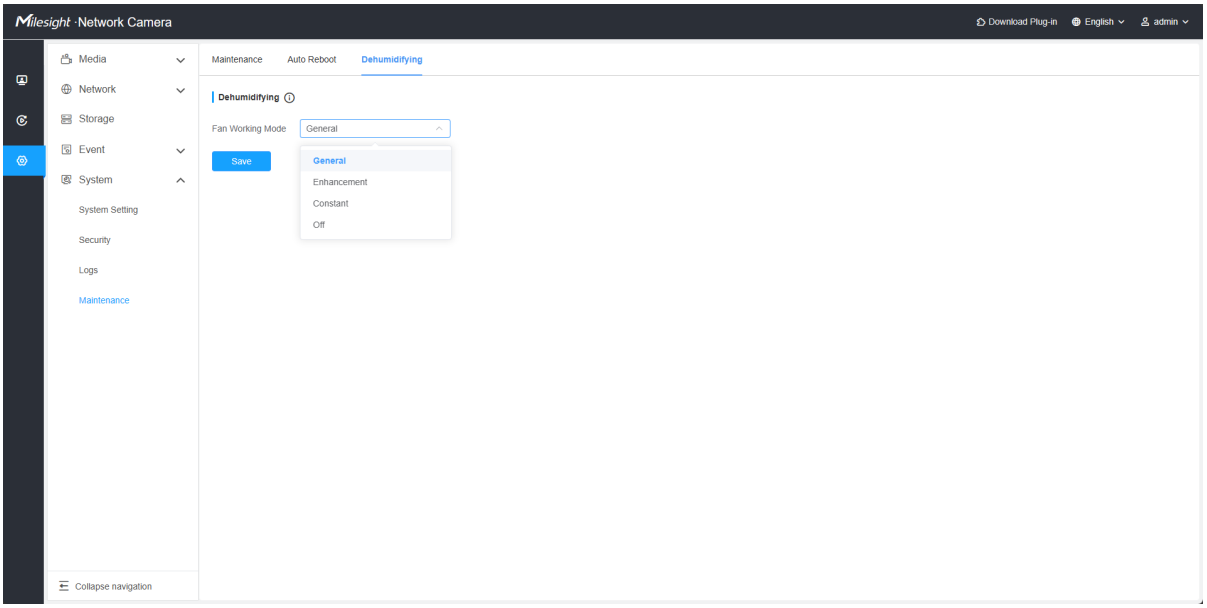


Set the date and time to enable Auto Reboot function, the camera will reboot automatically according to the customized time in case that camera overload after running a long time.

8.5.4.3 Dehumidifying

In order to prevent fogging, the camera hardware is equipped with a fan. Thanks to the fan, its switch can be controlled under the dehumidifying function, thus preventing the fogging problem which is caused by the temperature difference between the inside of the camera and the external environment.

To activate the dehumidifying function, Select the corresponding schedule to enable fan.



Fan Working Scheduling :

Off: Closed

General Mode: 4:00-7:00 and 17:00-20:00

Enhancement Mode: 0:00-7:00 and 17:00-23:59

Constant Mode: 0:00-24:00

Chapter 9. Services

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

Technical Support Mailbox: support@milesight.com

Web: http://www.milesight.com

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

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