Milesight

Network Camera User Manual

NDAA Series

Version: V9.4

Date: 2025-05-09

Chapter 1. Introduction.....5
1.1 Copyright Statement.....5
1.2 Safety Instruction.....5
1.3 EU Conformity Statement.....6
1.4 Revision History.....6
Chapter 2. Product Description.....7
2.1 Product Overview.....7
2.2 System Requirements.....7
Chapter 3. Configuration Flow.....8
Chapter 4. Network Connection.....10
4.1 Setting the Camera over the LAN.....10
4.1.1 Connect the Camera to the PC Directly.....10
4.1.2 Connect via a Switch or a Router.....10
4.2 Dynamic IP Connection.....10
Chapter 5. Accessing the Network Camera.....12
5.1 Assigning An IP Address.....12
5.1.1 Assigning An IP Address Using Smart Tools.....12
5.1.2 Assign An IP Address via Browser.....16
5.2 Accessing from the Web Browser.....18
5.3 Accessing from Milesight Back-end Software.....19
5.3.1 Accessing from Milesight NVR (Network Video Recorder).....19
5.3.2 Accessing from Milesight CMS (Center Management System).....19
5.3.3 Accessing from Milesight VMS Enterprise (Video Management System).....20
Chapter 6. Live View.....22
6.1 Live Video.....22
6.2 Face Detection Mode.....26
6.3 PTZ Mode.....27
6.3.1 Operations on Live View Page.....27
6.3.2 3D Positioning.....28
6.3.3 Set / Call a Preset / Patrol / Pattern.....29
Chapter 7. Playback.....36
Chapter 8. Settings.....41

8.1 Media..... 41
8.1.1 Video..... 41
8.1.2 Image..... 44
8.1.3 Audio..... 60
8.2 Network..... 62
8.2.1 Basic..... 62
8.2.2 Advanced..... 73
8.3 Storage..... 85
8.3.1 Storage Management..... 85
8.3.2 Record Settings..... 88
8.3.3 Snapshot Settings..... 90
8.3.4 Explorer..... 92
8.4 Event..... 93
8.4.1 Basic Event..... 94
8.4.2 VCA Event..... 104
8.4.3 Attribute Extraction..... 127
8.4.4 Object Counting..... 133
8.4.5 Face Detection..... 155
8.4.6 Hard Hat Detection..... 162
8.4.7 Heat Map..... 165
8.5 PTZ..... 172
8.5.1 Basic..... 172
8.5.2 Auto Home..... 175
8.5.3 PTZ Limits..... 176
8.5.4 Initial Position..... 177
8.5.5 Privacy Mask..... 178
8.5.6 Schedule Tasks..... 179
8.5.7 Auto Tracking..... 180
8.5.8 Config Clear..... 181
8.5.9 RS485..... 182
8.5.10 Wiper..... 183
8.5.11 Status..... 184

8.6 IoT (Optional)..... 184
8.7.1 Settings..... 185
8.7.2 Alarm Settings..... 193
8.7 System..... 194
8.7.1 System Setting..... 195
8.7.2 Security..... 197
8.7.3 Logs..... 203
8.7.4 Maintenance..... 204
Chapter 9. Services..... 209

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/AC 12V/24V 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
V9.0	First release	June 2022
V9.2	1. Add Intrusion Detection function 2. Add Object Counting function	April 2024
V9.3	1. Update Tamper Detection 2. Update Face Detection 3. Add LLDP protocol 4. Update P2P protocol	January 2025
V9.4	1. Add Attribute Extraction function 2. Add Pixel Counter function	April 2025

Chapter 2. Product Description

2.1 Product Overview

Milesight provides a consistent range of cost-effective and reliable network cameras to fully meet your requirements. Based on embedded Linux operating system, Milesight network cameras could be easily accessed and managed either locally or remotely with great reliability. 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 System Requirements

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

CPU: 1.66GHz or higher

RAM: 1G or higher

Graphic memory: 128MB or more

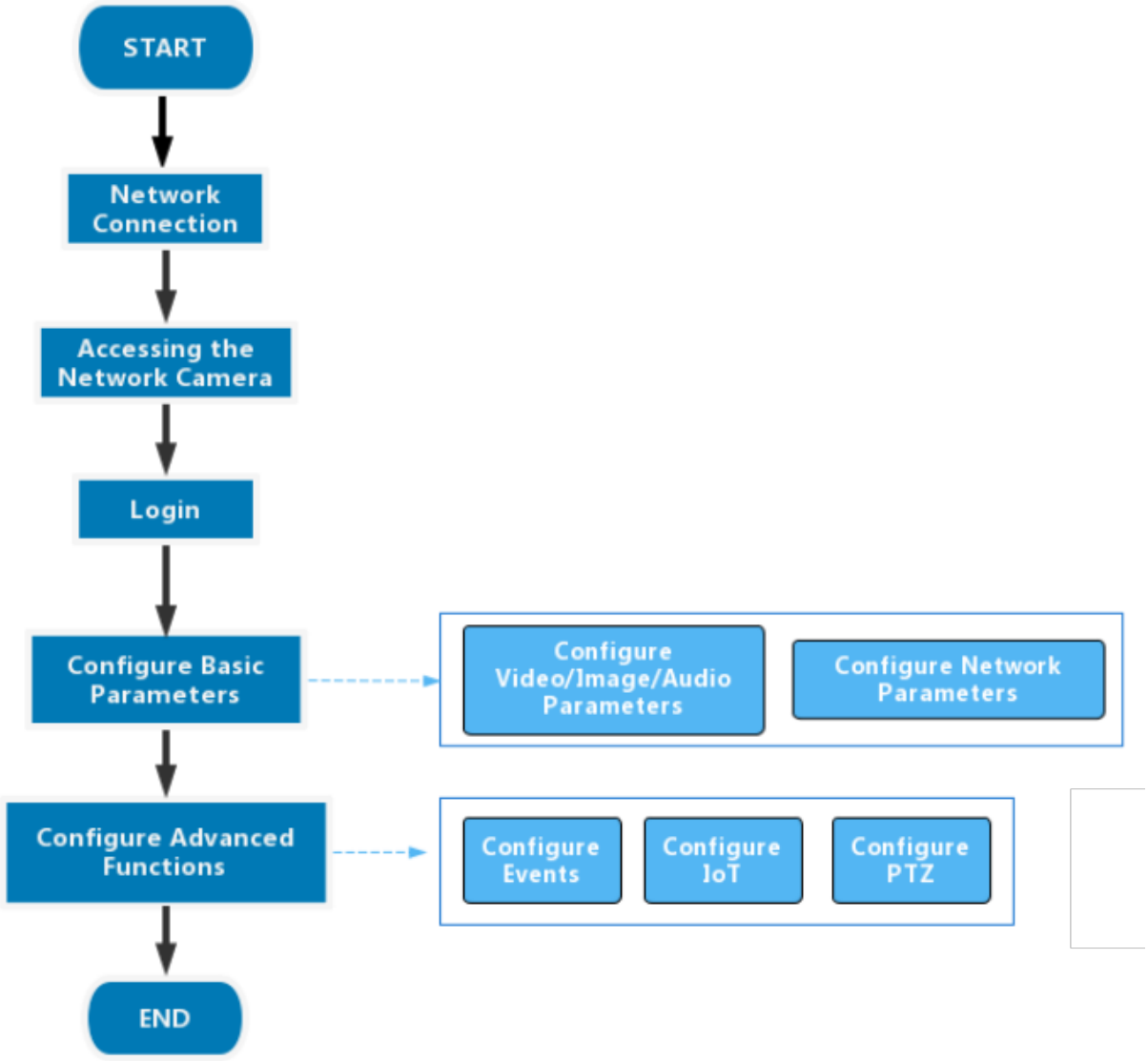
Internet protocol: TCP/IP (IPv4/IPv6)

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

Chapter 3. Configuration Flow

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

Note: 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 10)*
Accessing the Network Camera	Accessing from IP address, web browser and Milesight back-end software are available.	5.1 Assigning An IP Address *(page 12)*
Configure Basic Parameters	After login the camera, you can adjust the video/image/audio/network parameters as needed.	8.1 Media *(page 41)* 8.2 Network *(page 62)*
Configure Advanced Functions	Configure the advanced functions, such as VCA and people counting.	8.4 Event *(page 93)*

Chapter 4. Network Connection

4.1 Setting the Camera over the LAN

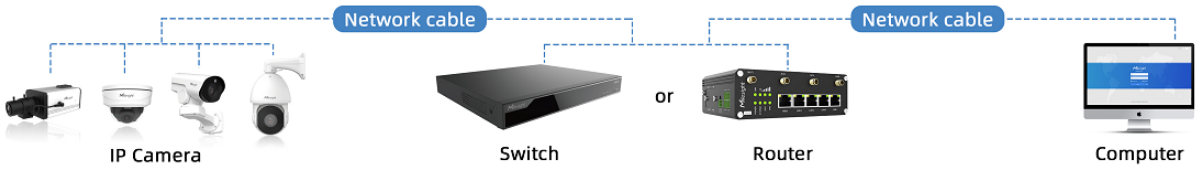
Connecting the camera to a switch or a router is the most common connection method. The camera must be assigned an IP address that is compatible with its LAN.

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.

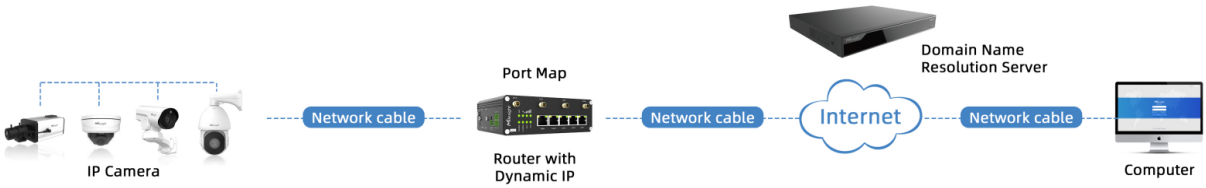
Step2: On the camera, assign a LAN IP address, the Subnet mask and the Gateway.

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.

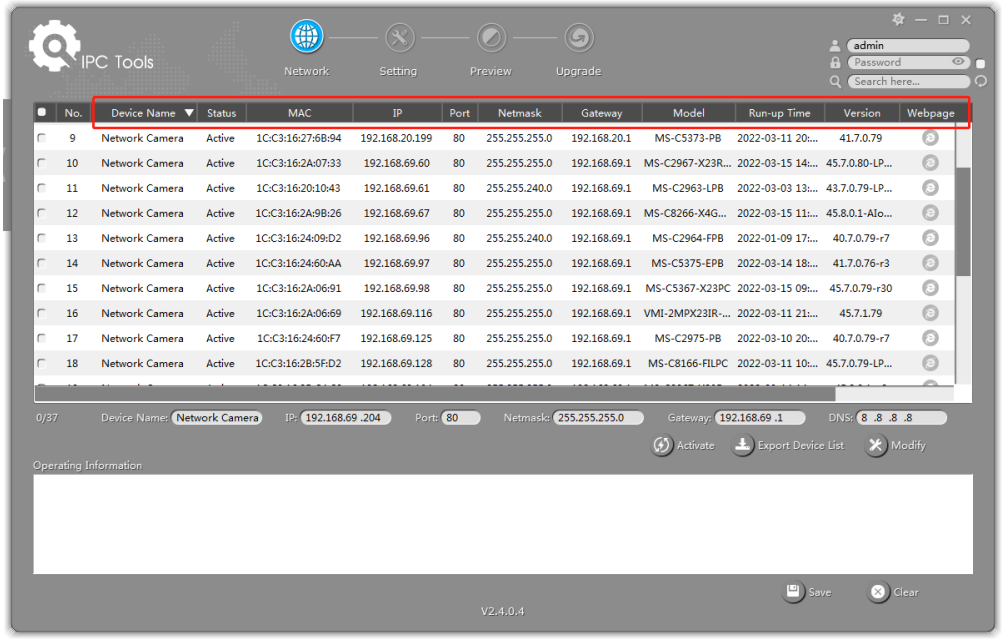
You can either change the IP address of the camera via Smart Tools or browser. Please connect the camera in the same LAN of your computer.

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.

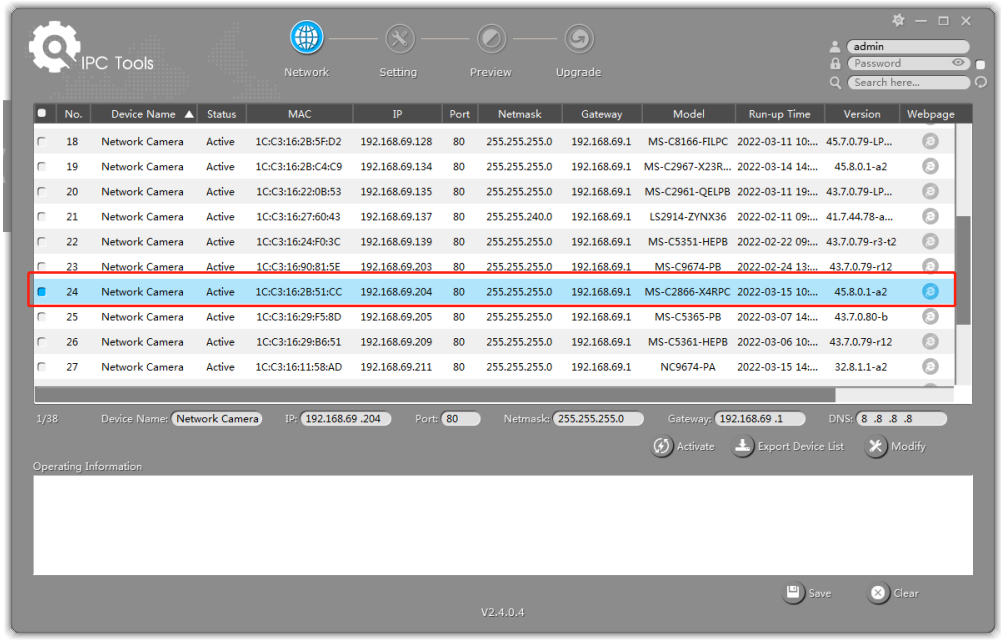
Step1: Install Smart Tools (The software could be downloaded from our website).

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.

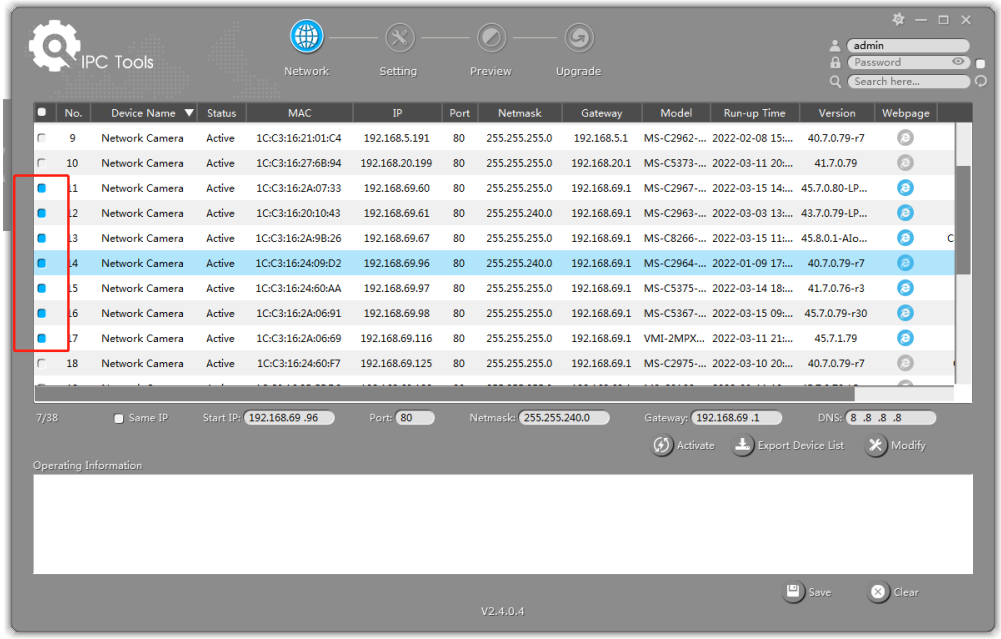


Step3: Select a camera or multiple cameras according to the MAC addresses.

Select single camera:



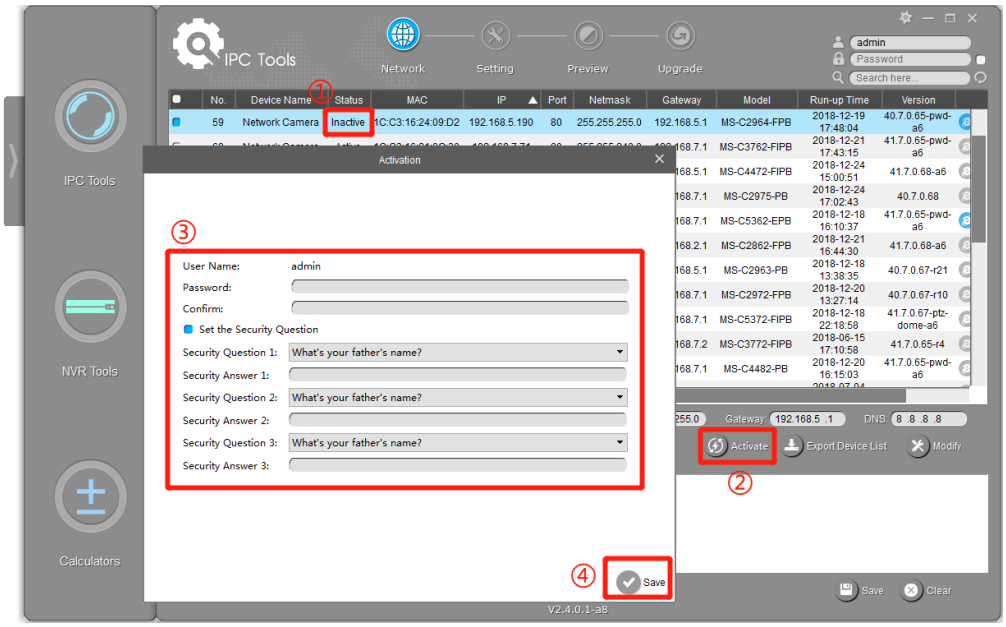
Select multiple cameras:



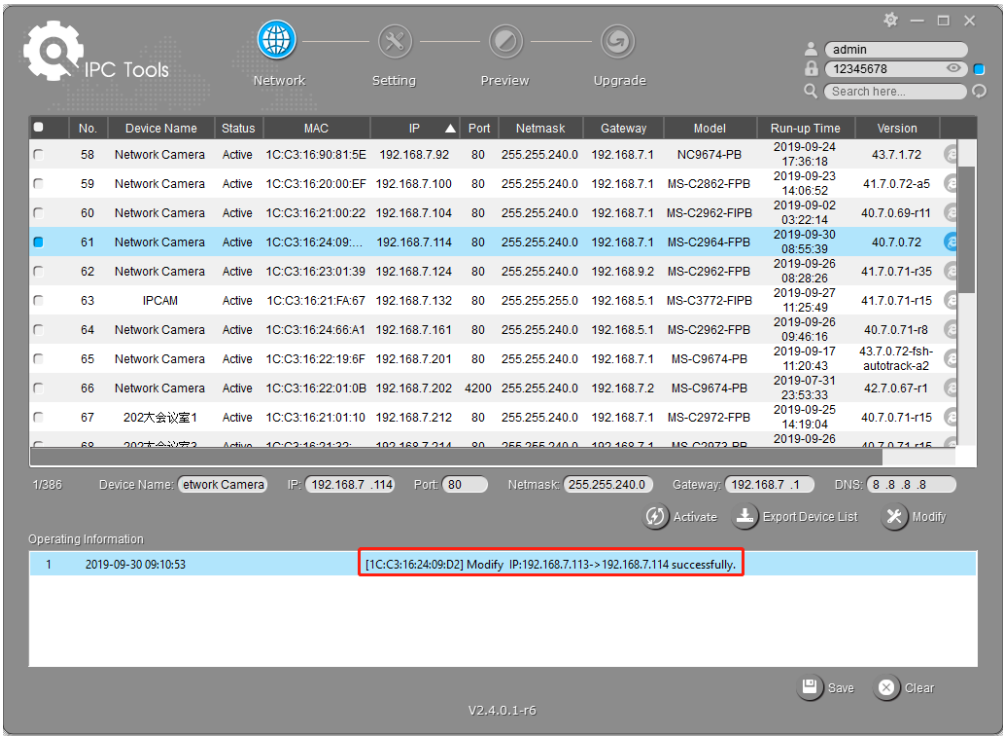
Step4: If the selected camera shows "Inactive" in the status bar, click "Activate" to set the password when using it for the first time. You can also set the security questions when activating the camera in case that you forget the password (You can reset the password by answering three security questions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

Note:

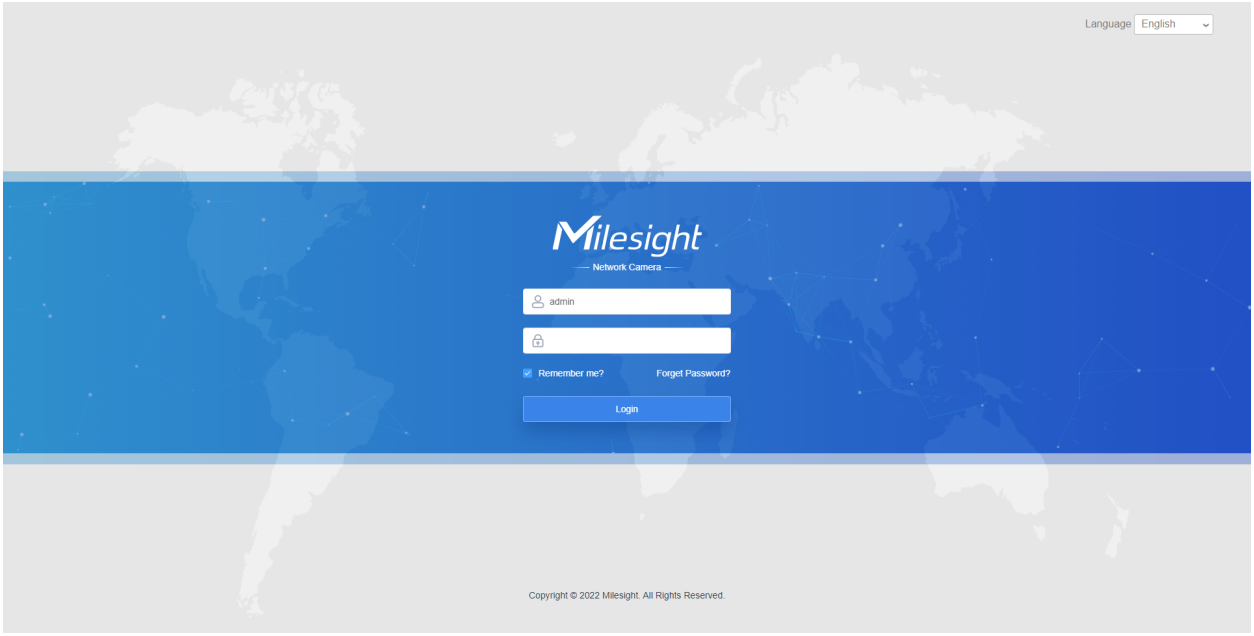
- Password must be 8 to 32 characters long, contain at least one number and one letter.
- You need to upgrade Smart Tools version to V2.4.0.1 or above to activate the camera.



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.



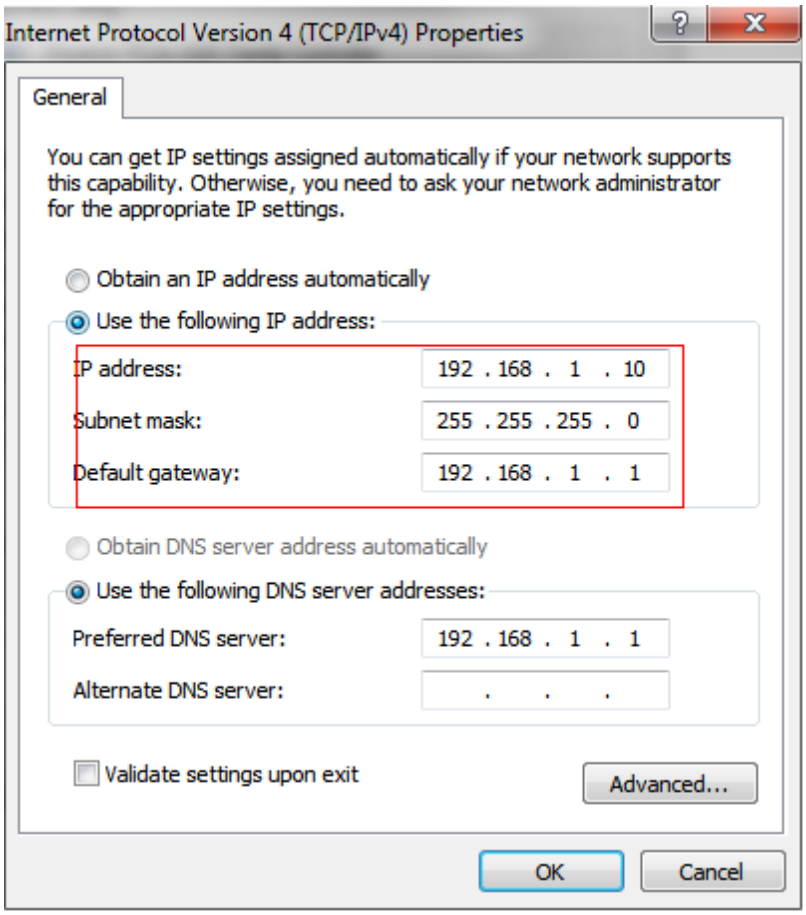
More usage of Smart Tools, please refer to the ***Smart Tools User Manual***.

5.1.2 Assign An IP Address via Browser

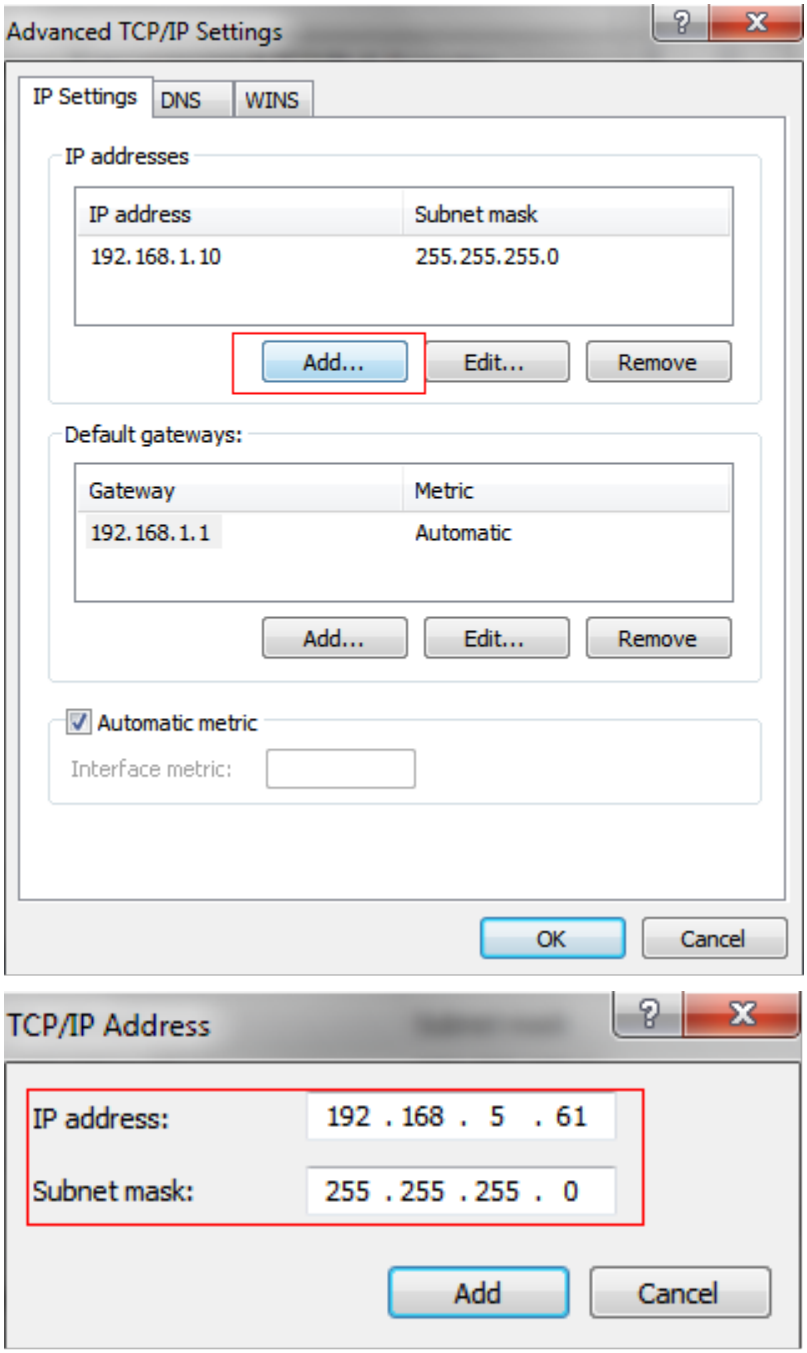
If the network segment of the computer and that of the camera are different, please follow the steps to change the IP address:

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).



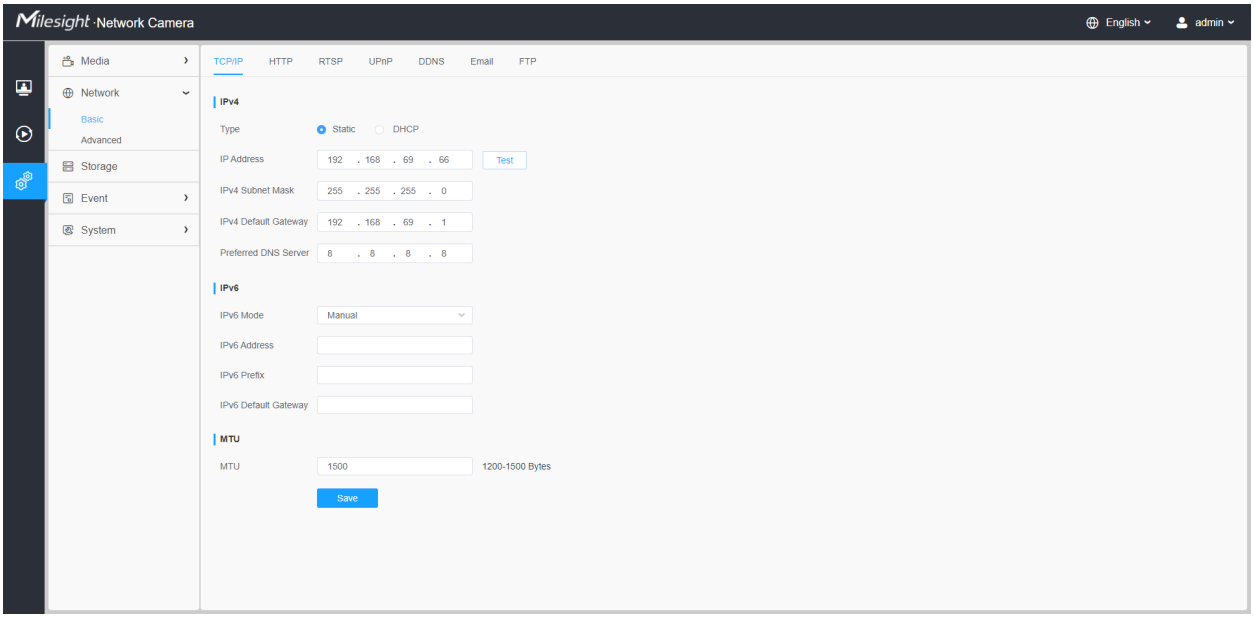
Step2: Start the browser. In the address bar, enter the default IP address of the camera:http://192.168.5.190;

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 NVR (Network Video Recorder)

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

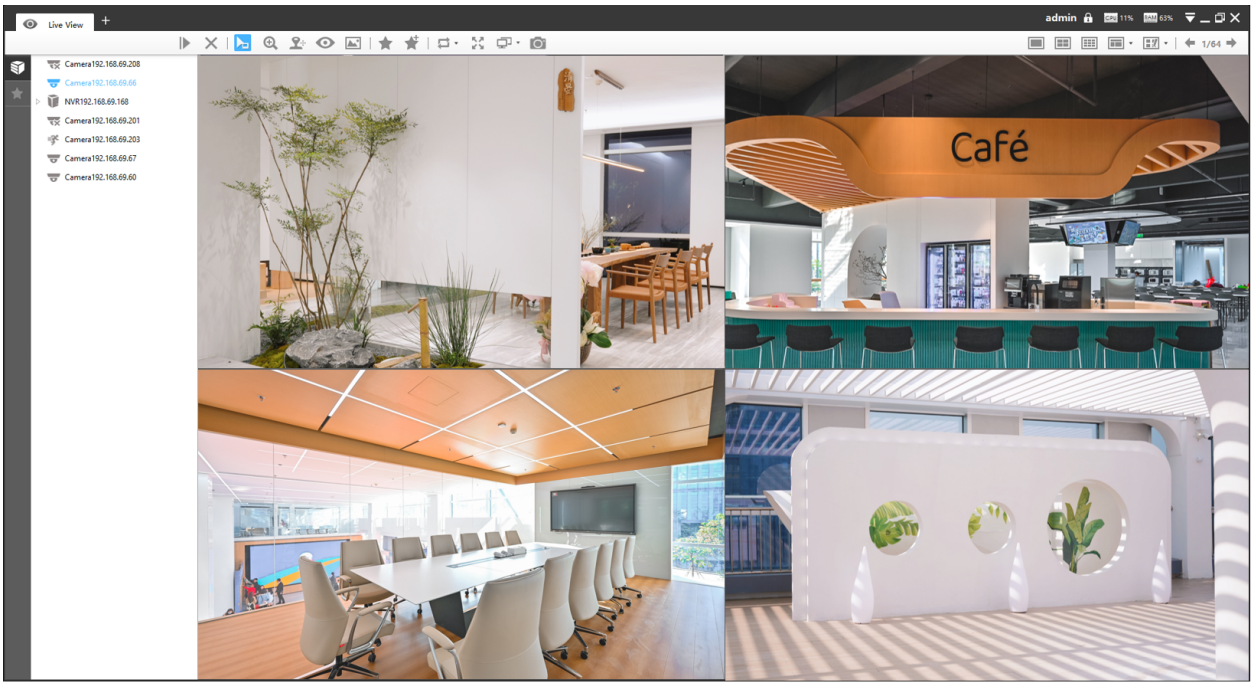
For detailed information about how to use the Milesight NVR Series, please refer to ***Milesight NVR User Manual***.

5.3.2 Accessing from Milesight CMS (Center Management System)

Milesight Central Management System (CMS) is a central management system for Milesight network cameras and Milesight NVR. It is an intelligent surveillance solution for users to control up to 256 devices, to remote preview and playback more conveniently. With

high-efficient management performance, Milesight CMS software offers users a superior administration experience in such centralized system. Featured with friendly UI design, the intelligent video management system CMS allows users of all levels to setup and deploy solutions as easy as ABC. Moreover, E-map function provides users a smarter way to show the devices spatial distribution. The software could be downloaded from our website https://www.milesight.com/.

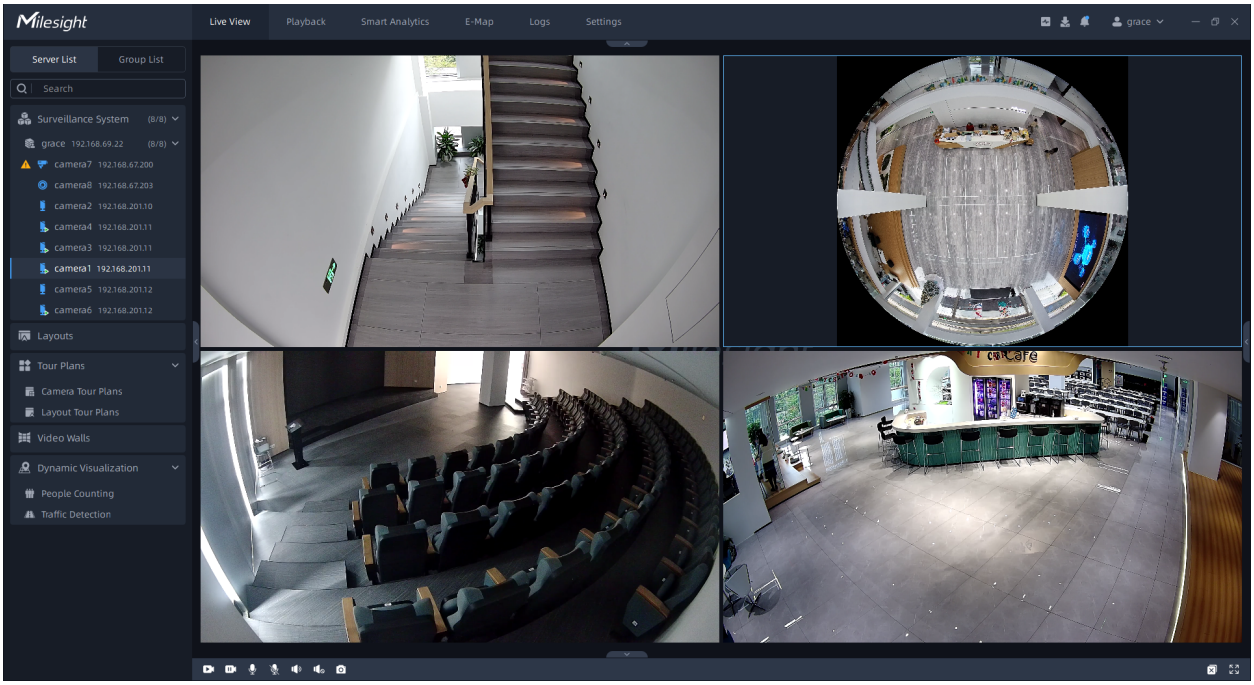
Please install Milesight CMS; then launch the program to add the camera to the channel list. For detailed information about how to use the software, please refer to ***Milesight CMS User Manual***.



5.3.3 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.***

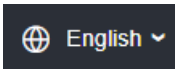

Milesight
Live View
Playback
Smart Analytics
E-Map
Logs
Settings
grace
Server List
Group List
Search
Surveillance System
grace 192.168.69.22
camera7 192.168.67.200
camera8 192.168.67.203
camera2 192.168.201.10
camera4 192.168.201.11
camera3 192.168.201.11
camera1 192.168.201.11
camera5 192.168.201.12
camera6 192.168.201.12
Layouts
Tour Plans
Camera Tour Plans
Layout Tour Plans
Video Walls
Dynamic Visualization
People Counting
Traffic Detection

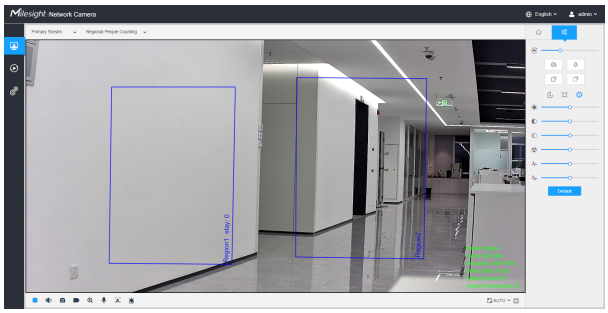
Chapter 6. Live View

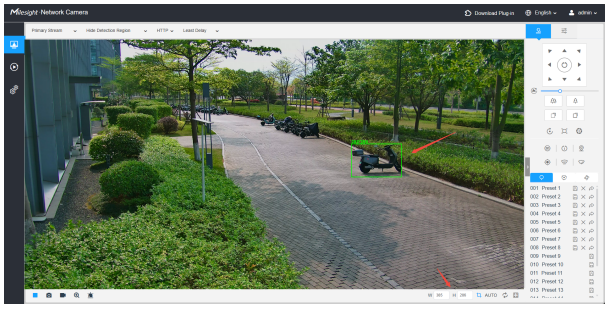
6.1 Live Video

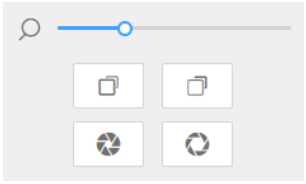
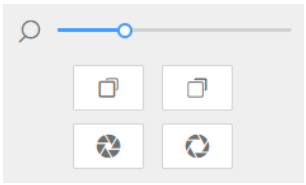
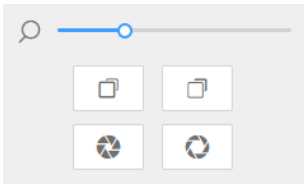
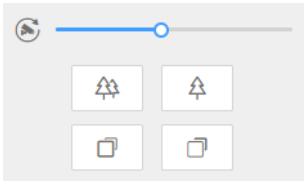
After logging in the network camera web GUI successfully, user is allowed to view live video as follows.

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.
4		Click to select system language.

No.	Parameter	Description
5	admin	Display the user name and click to logout.
6	Primary Stream	Choose the stream (**Primary/Secondary/Tertiary**) to show on the current video window.
7	Hide Detection Region	Choose the options (**Hide Detection Region/Intrusion Detection/ Region Entrance/Region Exiting/Advanced Motion/Line Crossing/Loitering//Object Left/Object Remove//Object Counting/Attribute Extraction/Motion Detection /Regional People Counting**) to hide/display detection region on the current video window. 
8	Recording	When recording, the icon appears.
9	Alarm	When an alarm of VCA event was triggered, the icon appears.
10	Alarm	When an alarm of object counting was triggered, the icon appears.
11	Alarm	When an alarm of Motion Detection was triggered, the icon appears.
12	Alarm	When an alarm of Hard Hat Detection was triggered, the icon appears.
13	Alarm	Except for the kinds of alarms above, when other alarms were triggered, the icon appears.

No.	Parameter	Description
14	/ Stop/Play	**Stop/Play** live view.
15	Snapshot	Click to capture the current image and save to the configured path. The default path is: C:VMS\+-1\ IMAGE-MANUAL.
16	/ Start/Stop Recording	Click to **Start Recording** video and save to the configured path. The default path is C:VMS\+-1\MS_Record. Click again to **Stop Recording**.
17	Digital Zoom	When enabled, you can zoom in a specific area of video image with your mouse wheel.
18	Manual Output	Manually trigger Camera Alarm Output.
	W 0 H 0	By clicking to enable the Pixel Counter function, you can either input the pixel value or draw on the live view to measure the object's size. 
20	AUTO Window Size	Click to display images at a window size.
21	Full Screen	Click to display images at full-screen.

No.	Parameter	Description
22	Face Detection	Click to enable the Face Detection Mode. **Note:** Only appears when your camera is MS-Cxxxx-xPC/PE.
		**Zoom:** Adjust the Zoom length of the lens. **Note:** Only work when your camera is equipped with motorized lens.
		**Focus-/Focus+:** Adjust focus of the lens. **Note:** Only work when your camera is equipped with motorized lens.
		**Iris-/Iris+:** Adjust Iris of the lens. **Note:** Only work when your camera is equipped with motorized lens.
		**Focus Speed:** To adjust the speed of focus. **Note:** Only work when your camera is equipped with auto focus lens.
		Zoom-/Zoom+: Click to zoom in and zoom out. **Note:** Only work when your camera is equipped with auto focus lens.
		Focus-/Focus+: Click to focus near or far of the lens. **Note:** Only work when your camera is equipped with auto focus lens.
		Lens Initialization, Auxiliary Focus and Auto Iris. **Note:** • The Auto Iris is turned on by default when your camera is equipped with auto focus lens. • The Auto Iris support turn on/off when your camera is equipped with P-Iris.

No.	Parameter	Description
		Brightness: Adjust the Brightness of the scene.
		Contrast: Adjust the color and light contrast.
		Saturation: Adjust the Saturation of the image. Higher Saturation makes colors appear more "pure" while lower one appears more “wash-out”.
		Sharpness: Adjust the Sharpness of image. Higher Sharpness sharps the pixel boundary and makes the image looks “more clear”.
		2D DNR/3D DNR: Adjust the noise reduction level.
		Default: Restore brightness, contrast and saturation to default settings.

6.2 Face Detection Mode

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

Note: Make sure your camera model is MS-Cxxxx-xPC/PE.

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

Note: Before enabling the face detection mode, ensure that the face detection function has been enabled and configured. For more details about how to configure the face detection, please refer to 8.4.5 Face Detection *(page 155)*.

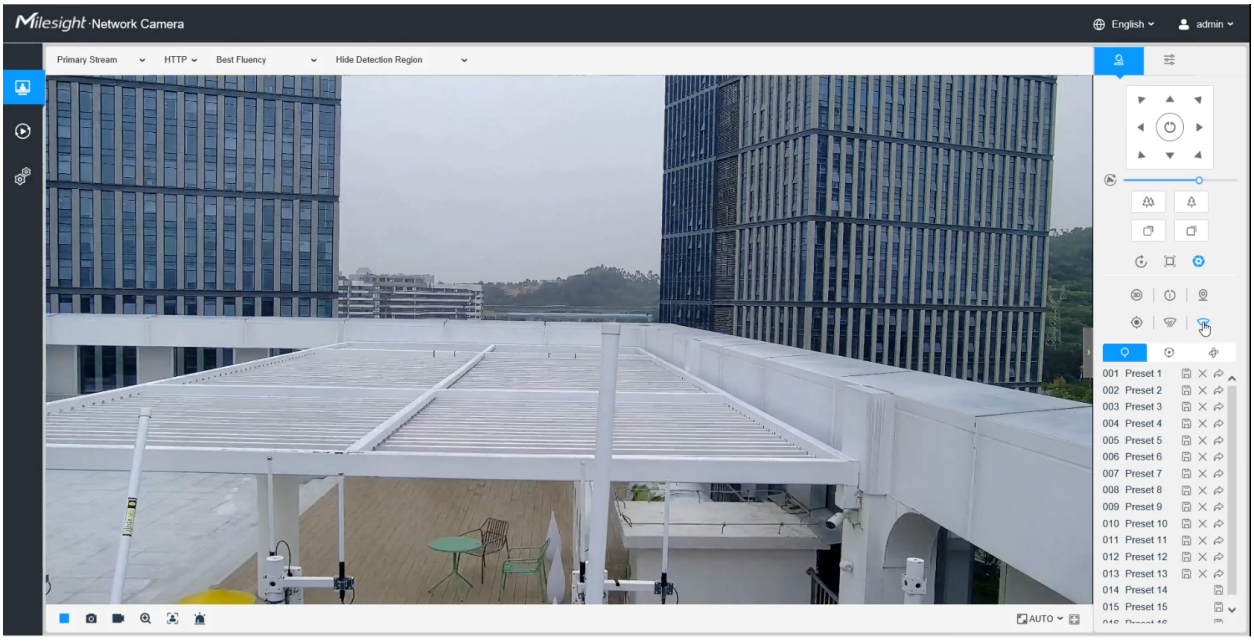
Step2: When Attribute Recognition is enabled, the attributes of detected faces will be displayed on the left side of the Live View interface.

Step3: When Face Privacy Settings is enabled, the detected faces in the face detection area will be mosaic automatically. The size of the mosaic is related to that of the detected faces, and users can customize the size of the detected faces as needed. The Face Privacy function meets the needs of users in some special scenarios, which greatly protects people's portrait rights.

Note: Face Capture/Face Detection Message Post/Attribute Recognition are not available in Face Privacy Mode.

6.3 PTZ Mode

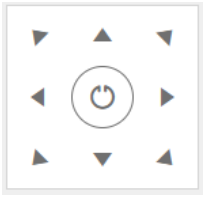
After logging in the PTZ network camera web GUI successfully, user is allowed to view live video as follows.

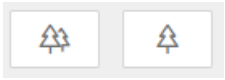


6.3.1 Operations on Live View Page

Note: For description of other buttons, you can refer to Table 1 *(page 22)*.

Table 4. Description of the buttons

No.	Parameter	Description
	 PTZ Control	Navigation key is used to control the direction. The rotation key is used for auto-rotation.

No.	Parameter	Description
	PTZ Speed	To adjust the speed of pan/tilt movements, from 1 to 10 .
	 Zoom-/Zoom+	Click to zoom in and zoom out.
	Focus-/Focus+	Click to focus near or far of the lens.
		Lens Initialization, Auxiliary Focus and Auto Iris. **Note:** The Auto Iris is turned on by default.
		Lighting For 30s: Click to open/ close the White LED for lighting 30s. **Note:** Only for PTZ Bullet.
		3D Positioning: Click to enable/ disable 3D positioning.
		One-touch Patrol: Click to carry out the patrol.
		Auto Home: Click to enable Auto Home.
		Manual Tracking: Click to track the moving objects.
		Dehumidifying: Click to enable the fan working mode.
		Manual Wiper: Click to enable the manual wiper. The wiper will perform two swipes back and forth and then stop. **Note:** Only for AI Speed Dome Camera with Smart Rain-Sensing Wiper.
		Enable to set 300 preset positions for each regional view channel.
		Enable to set 8 patrol paths for each regional view channel.
		Display the pattern.

6.3.2 3D Positioning

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

Steps:

1. Click on the toolbar of Live View interface.

2. Operate the 3D positioning function

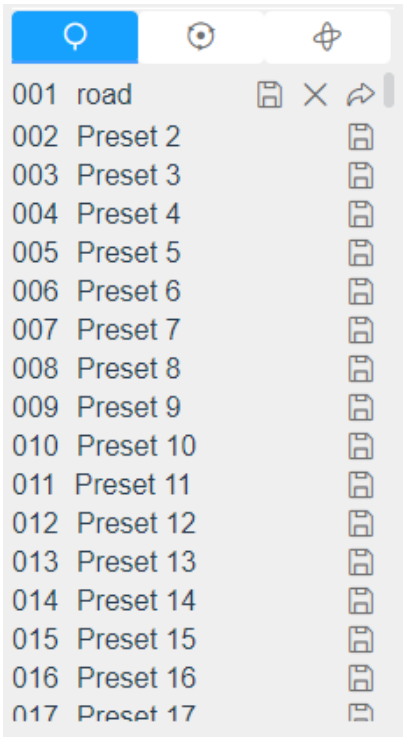
- Left click a position of the Live View, and the corresponding position will be moved to the center of the Live View.
- Hold down the left mouse button and drag the mouse to the lower right or upper right on the Live View, then you can see a blue rectangle. The corresponding position will be moved to the center of the Live View and Zoom in.
- Hold down the left mouse button and drag the mouse to the lower left or upper left on the Live View, then you can see a blue rectangle. The corresponding position will be moved to the center of the Live View and Zoom out.
- The Bigger the rectangle is, the smaller zoom in/out will be acted.

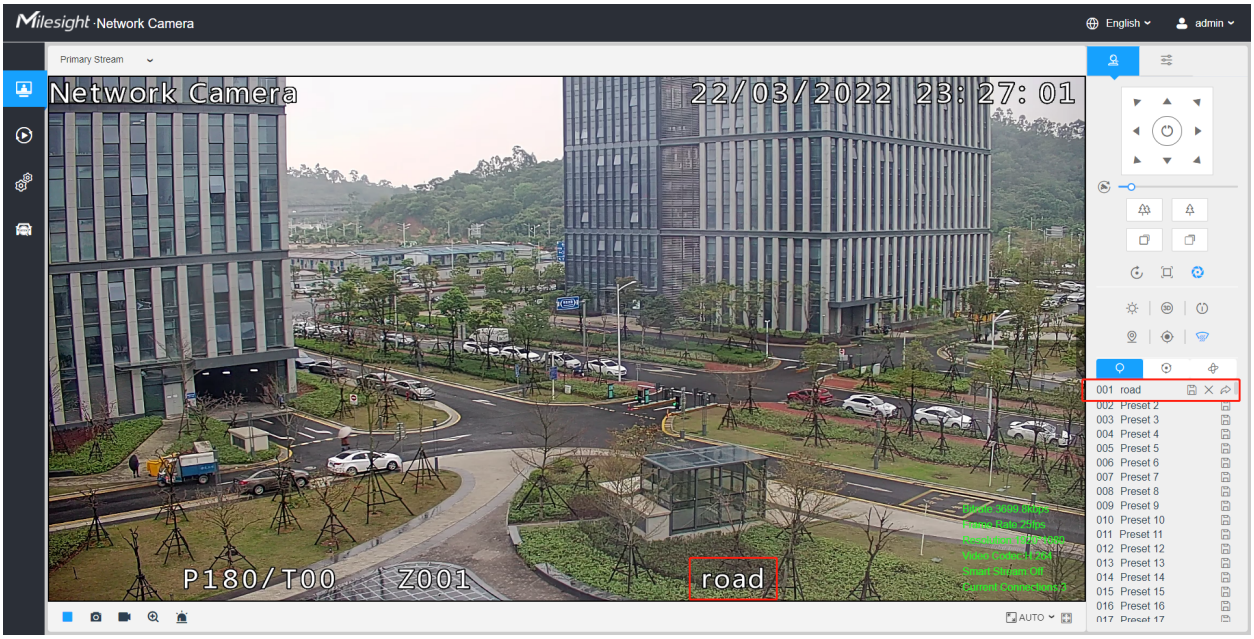
6.3.3 Set / Call a Preset / Patrol / Pattern

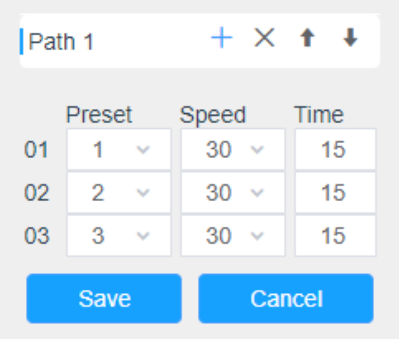
A preset is a predefined image position. You can click the call button from the preset list to quickly go to the desired image position.

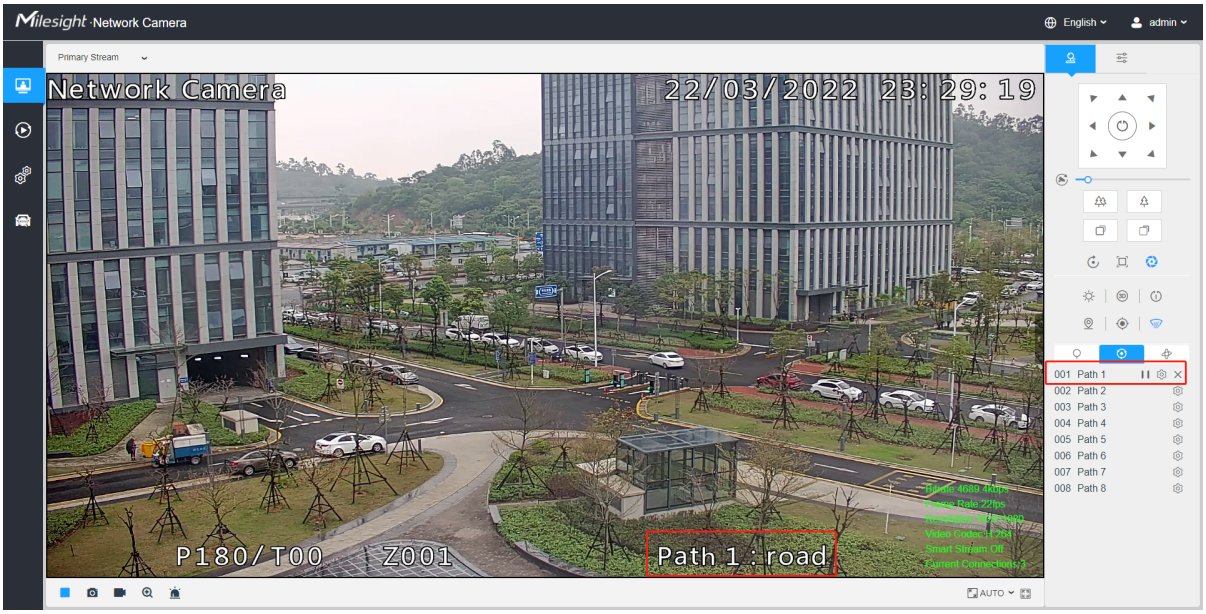
Set a preset:

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


001 road
002 Preset 2
003 Preset 3
004 Preset 4
005 Preset 5
006 Preset 6
007 Preset 7
008 Preset 8
009 Preset 9
010 Preset 10
011 Preset 11
012 Preset 12
013 Preset 13
014 Preset 14
015 Preset 15
016 Preset 16
017 Preset 17


Milesight Network Camera
English
admin
Primary Stream
Network Camera
22/03/2022 23:27:01
P180/T00 Z001
road
AUTO
001 road
002 Preset 2
003 Preset 3
004 Preset 4
005 Preset 5
006 Preset 6
007 Preset 7
008 Preset 8
009 Preset 9
010 Preset 10
011 Preset 11
012 Preset 12
013 Preset 13
014 Preset 14
015 Preset 15
016 Preset 16





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

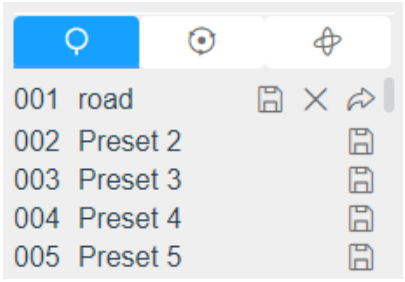
Step3: Click to save the setting of the current preset;

Step4: Click to delete the chosen preset.

Note: Up to 300 presets can be configured (18 presets are not modifiable). Up to 300 presets can be configured (for each regional view channel).

Calling a preset:

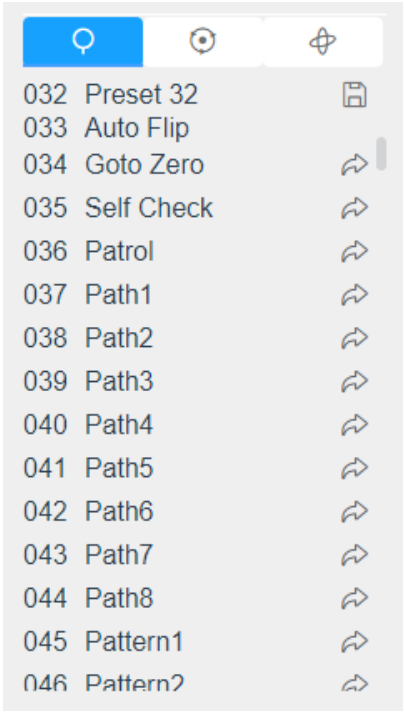
Select a defined preset from the preset list and click to call the preset.



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

Table 5. Special Presets

Special Preset	Function	Special Preset	Function
33	Auto Flip(Speed Dome only)	42	Path6
34	Go to Zero	43	Path7
35	Self Check	44	Path8
36	Patrol	45	Pattern1
37	Path1	46	Pattern2
38	Path2	47	Pattern3
39	Path3	48	Pattern4
40	Path4	49	Stop Scan
41	Path5	50	Auto Scan



Set / Call a patrol

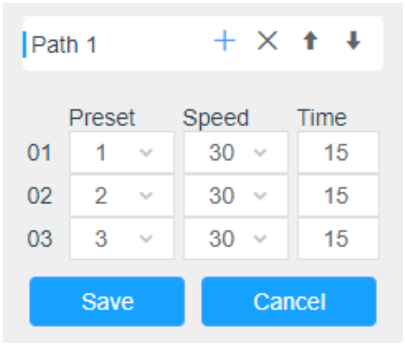
A patrol is a memorized series of preset function. It can be configured and called on the patrol setting list. You can customize up to 8 patrols and it can be configured with 48 presets. Before configuring the patrol, you should make sure that the presets you want to add to the patrol have been defined.

Set a patrol:

Step1: In the PTZ control panel, click to enter the patrol settings interface;

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

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



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

Table 6. Description of Patrol Settings

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

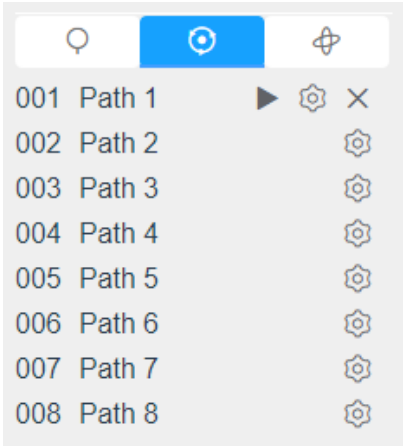
Step5: Click Save to save the patrol settings.

Note:

- Patrol Speed only works in Patrol mode.
- Patrol Time should be 15~120s for PTZ Bullet and 0~120s for Speed Dome.

Call a patrol:

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



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

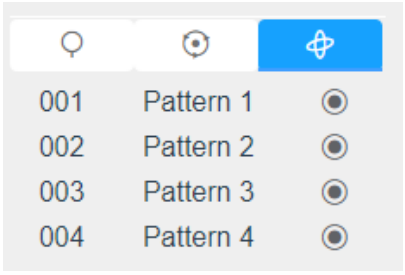
Set / Call a pattern

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

Set a pattern:

Step1: In the PTZ control panel, click to enter the pattern settings interface;

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



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

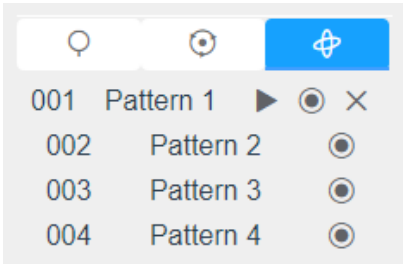
Step4: Use the PTZ controller buttons to move the lens to the interested position;

Step5: Click to save all the pattern settings.

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

Call a pattern:

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



Note:

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

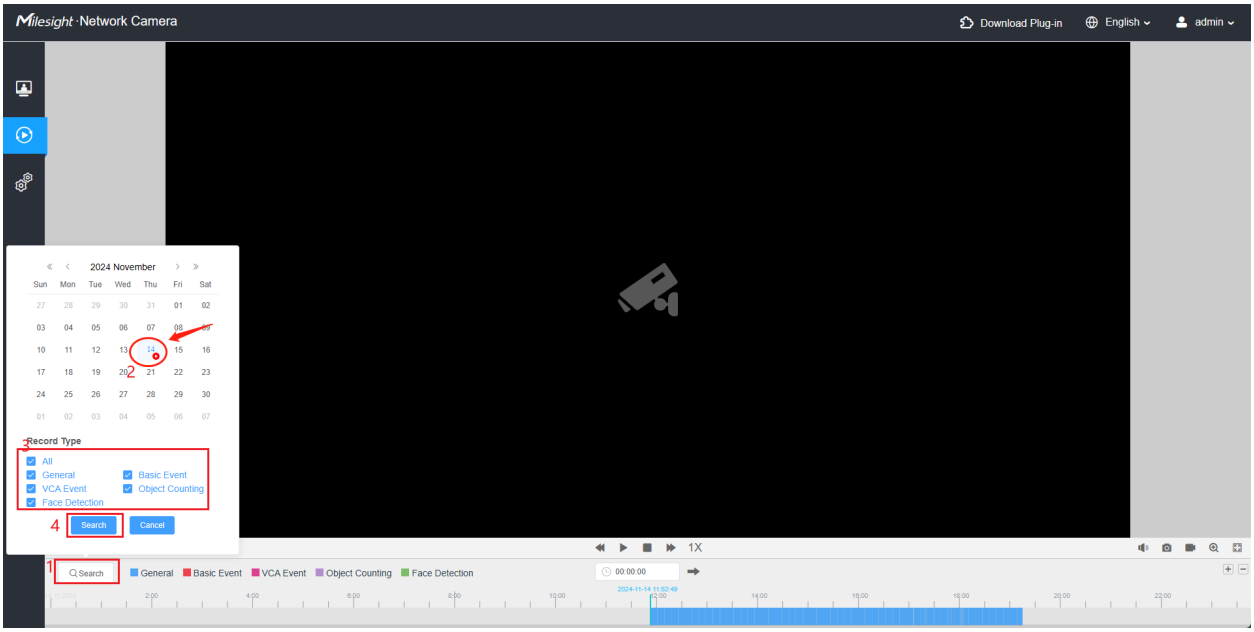
When configuring the pattern, pan and tilt are valid but the limit stops and auto flip will be invalid. Also, 3D Positioning operation is not supported.

Chapter 7. Playback

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

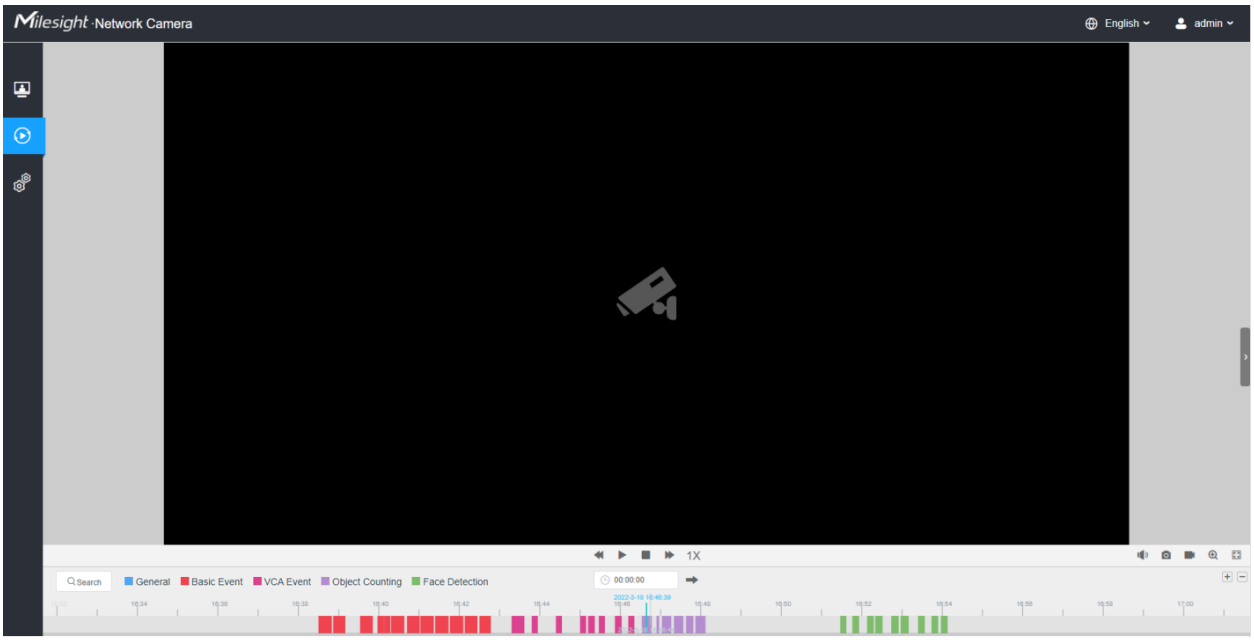
Step1: Click the "**Search**" button, choose the data and record type when the window pops up.

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



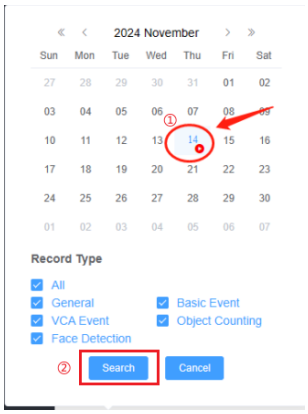
Step2: The timeline displays the video files for the day and show different colors according to selected record type. Drag the progress bar with the mouse to locate the exact playback point as needed.

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



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

Table 7. Description of the buttons

No.	Parameter	Description
Search		Choose date to search recorded videos.
		Search the recorded videos by record type (**All/General/ Basic Event/VCA Event/Object Counting/Face Detection**). The timeline will show different colors according to selected record type as below: General Basic Event VCA Event Object Counting Face Detection Search the recorded videos by record type (**All/General/ Basic Event/VCA Event/Object Counting**). The timeline will show different colors according to selected record type as below:

No.	Parameter	Description
1	Speed Down/Speed Up/Speed	Adjust the speed of video playback. **Speed Down:** Includes 0.5X and 0.25X for Play. **Speed Up:** Includes 2X and 4X for Play. **Speed:** The default playback speed is 1X
2	Play/Pause	Play/Pause the video.
3	Stop	Stop the video.
4	Search Time	Select the time that want to locate.
5	Jump	Go To.

Table 8. Description of the buttons

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

No.	Parameter	Description
6	Time Expand/Narrow	Time narrow/expand.

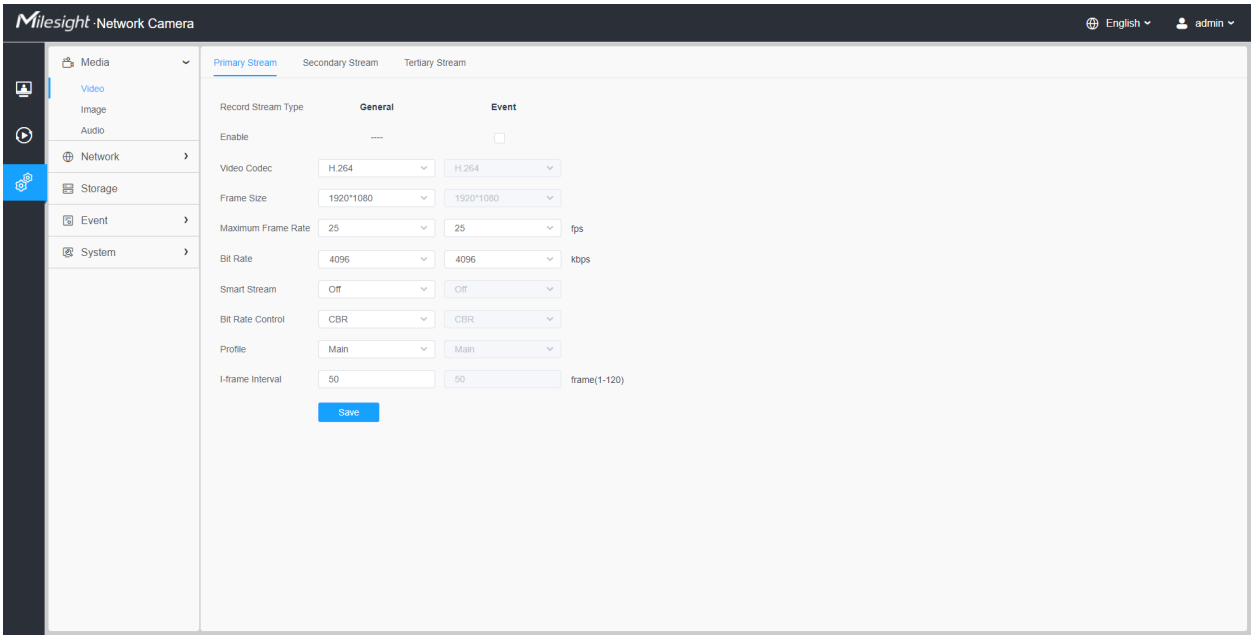
Chapter 8. Settings

8.1 Media

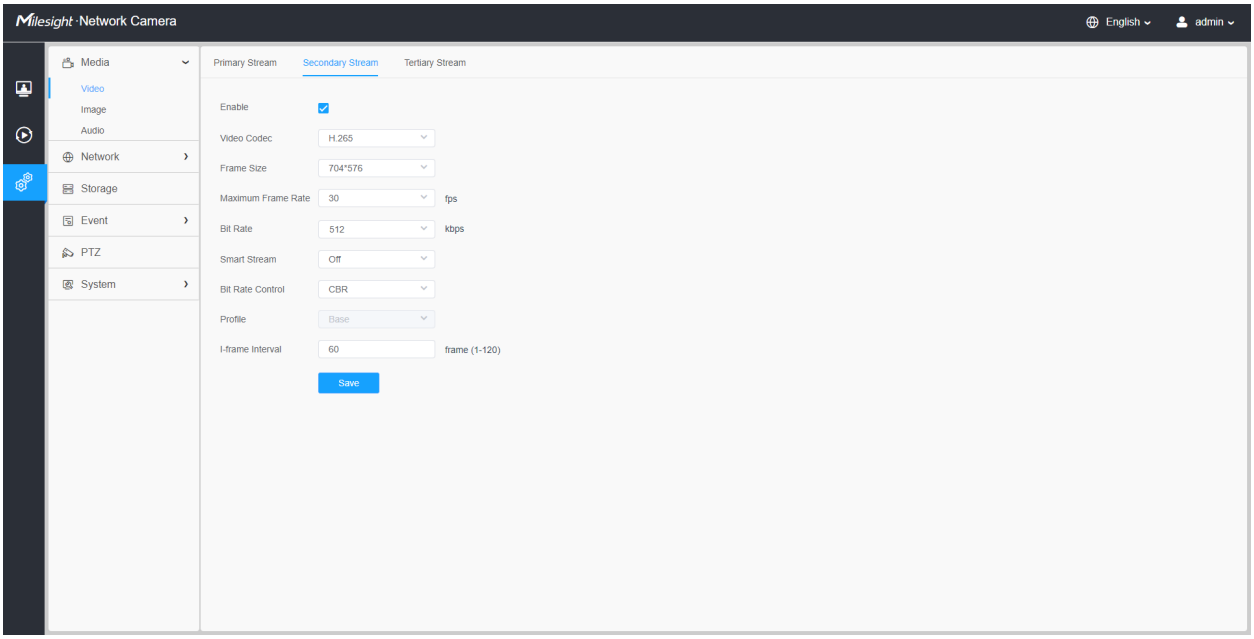
8.1.1 Video

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

Primary Stream Settings



Secondary Stream Settings



Tertiary Stream Settings

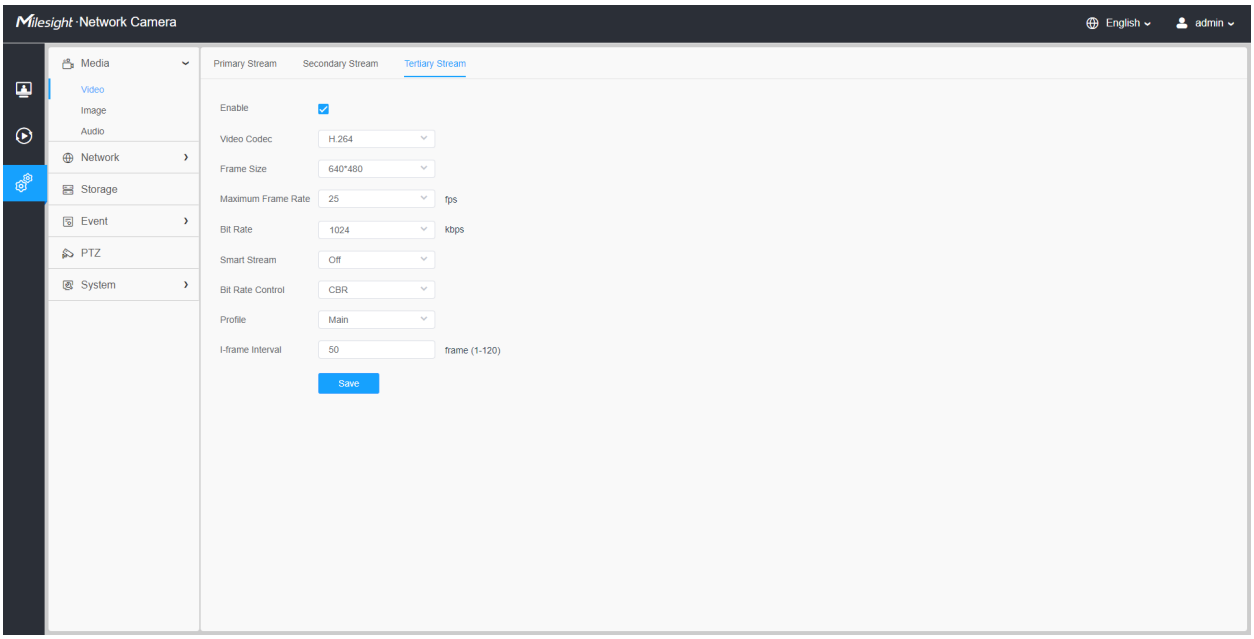


Table 9. Description of the buttons

Parameters	Function Introduction
Record Stream Type	**General** & **Event** are available only for **Primary Stream**. **General** refers to continuous record video, while **Event** includes events that can trigger alarms, such as Motion, Exception, LPR 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 8M(3840×2160), 6M(3072×2048), 5M(2592*1944), 5M(2560*1920), 5M(2560*1440), 4M(2592*1520), 3M(2304*1296), 3M(2048*1536), 1080P(1920*1080), 2M(1600 *1200), 1.3M(1280*960), 720P(1280*720), D1(704*576). For **Secondary Stream**, it includes 704*576, 640*480, 640*360, 352*288, 320*240, 320*192, 320*176. For **Tertiary Stream**, it include 1920*1080, 1280*720, 704*576, 640*480, 640*360, 352*288, 320*240, 320*192, 320*176. **Note:** The options of **Frame Size** are variable according to the model.
Maximum Frame Rate	Maximum refresh frame rate of per second and it is variable according to the mode.
Bit Rate	Transmitting bits of data per second, this item is optional only if you select the H.265/ H.264 Set the bitrate to 16~16384 Kbps. The higher value corresponds to the higher video quality, and the higher bandwidth is required as well.
Smart Stream	Optional to turn On/Off Smart Stream mode. Smart Stream mode remarkably reduces the bandwidth and the data storage requirements for network cameras while ensuring the high quality of images, and it is a 10-level adjustable codec. **Level**: Level 1~10 are available as needed.
Bit Rate Control	**CBR**: Constant Bitrate. The rate of CBR output is constant.

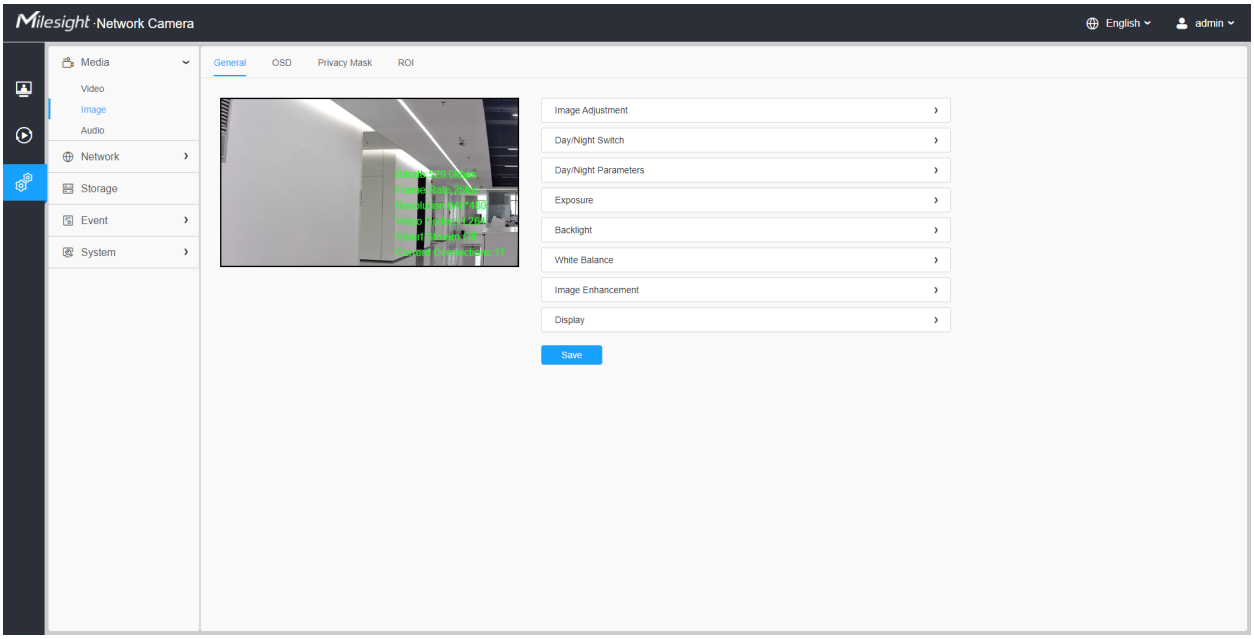
Parameters	Function Introduction
Bit Rate Control	**VBR**: Variable Bitrate. VBR files vary the amount of output data per time segment.
Image Quality	**Low/Medium/High** are available, this item is optional only if you select VBR.
Profile	The option is for H.264, Main/High/Base can be selected as needed.
I-frame Interval	Set the I-frame interval to 1~120, 50 for the default. This item is optional only if you select the H.265/H.264. The number must be a multiple of the number of frames.

8.1.2 Image

General settings of image including the image adjustment, day/night setting and image enhancement can be set in this module. OSD (On Screen Display) content, privacy mask 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.



[Image Adjustment]

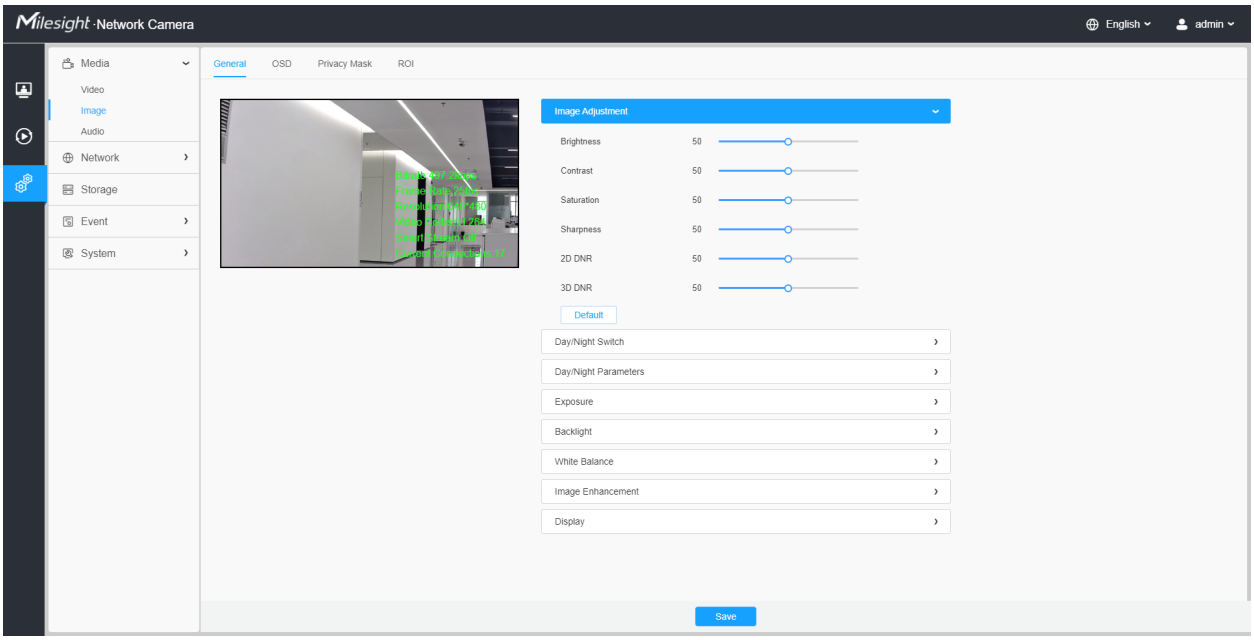
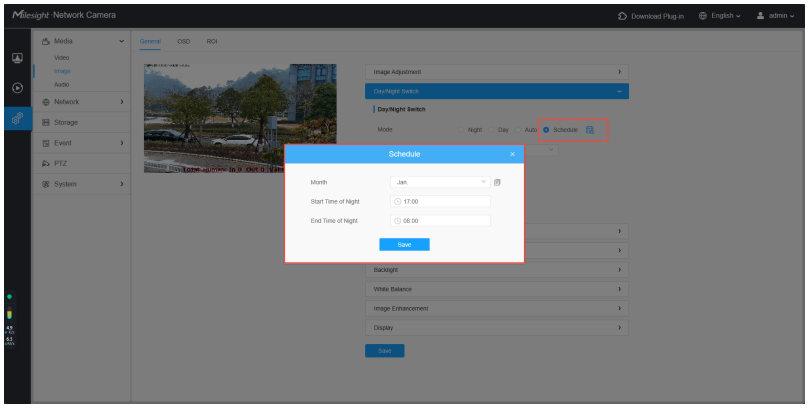
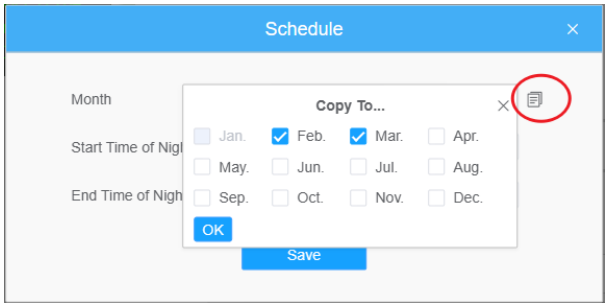


Table 10. Description of the buttons

Parameters	Function Introduction
Brightness	Adjust the Brightness of the scene.
Contrast	Adjust the color and light contrast.
Saturation	Adjust the Saturation of the image. Higher Saturation makes colors appear more "pure" while lower one appears more “wash-out”.
Sharpness	: Adjust the Sharpness of image. Higher Sharpness sharps the pixel boundary and makes the image looks “more clear”.
2D DNR	Adjust the noise reduction level.
3D DNR	Restore brightness, contrast and saturation to default settings.
Default	Reset the image adjustment parameters to their default values.

[Day/Night Switch]

Table 11. Description of the buttons

Parameters	Function Introduction
Day/Night Switch	**Night Mode:** Shown in live view based on Night Mode settings. **Day Mode:** Shown in live view based on Day Mode settings. **Auto Mode:** Shown in live view based on environment, set the sensitivity for switching Day Mode to Night Mode, or Night Mode to Day Mode. **Schedule:** The live view will display according to your configured start and end times for Night Mode based on each month. You can set the day/night switching times for each month and copy the settings from one month to another.   **Note:** The live view will display according to your configured start and end time for Night Mode, which can be set individually for each month. You can also copy these settings from one month to another.
Day/Night Switch	**Day/Night Switch Refocus:** With this option enabled, the camera will refocus when switching between day mode and night mode.

Parameters	Function Introduction
Day/Night Switch	**Day to Night Value:** 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 36. **Night to Day Value:** 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 82. **IR Light Sensor Value:** The current value of the IR light sensor. **Note:** The three buttons are optional only if you select Auto Mode.
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.
Smart IR Mode	Support to set the strength of the IR to **Auto Mode** or **Customize** to achieve the best effect. With the combination of the High Beam and Low Beam, the IR LEDs technology has been upgraded to provide better image clarity and quality regardless of the object distance. Also, the Low Beam and High Beam's brightness can be adjusted manually or automatically on the basis of the Zoom ratio. Moreover, with the IR anti-reflection panel, the infrared light transmittance is highly increased.
Smart IR Mode	**Near View IR Level:** Adjust the light strength of Low-Beams LED light level from 0 to 100. **Far View IR Level:** Adjust the light strength of High-Beams LED light level from 0 to 100. **Note:** • Near/Far View IR Level are optional only if you select Customize Mode of Smart IR. • Click Reset to reset the light strength to 50.
	IR Strength Value: The current value of Low-Beams LED and High-Beams LED light value.

[Day/Night Parameters]

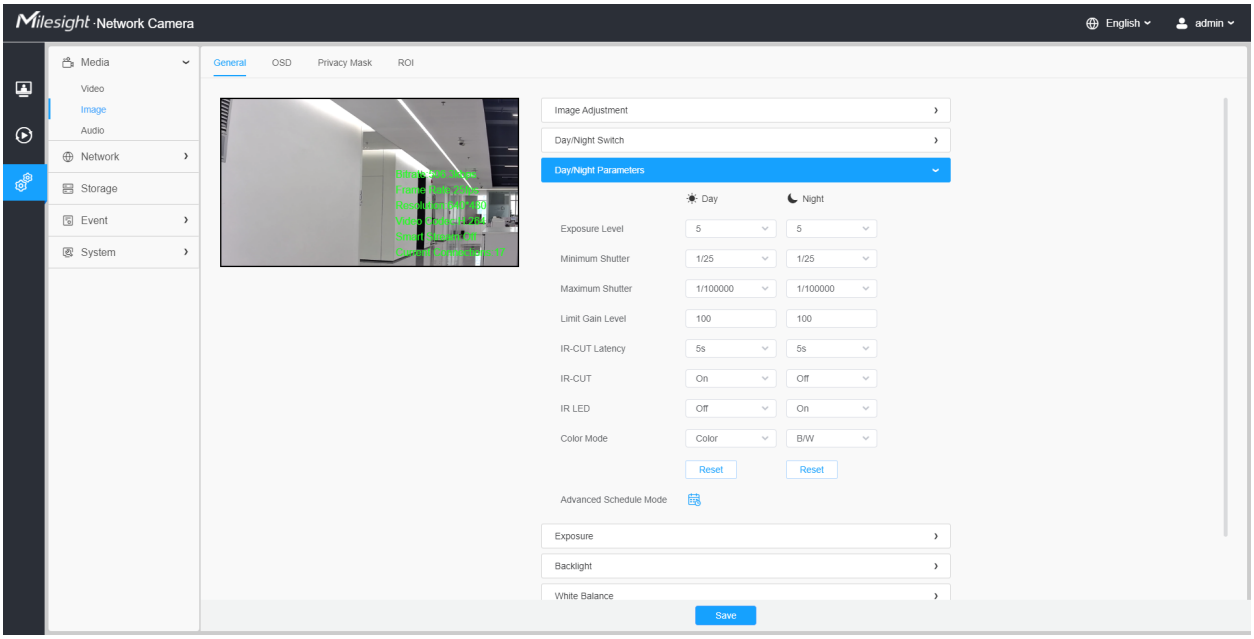
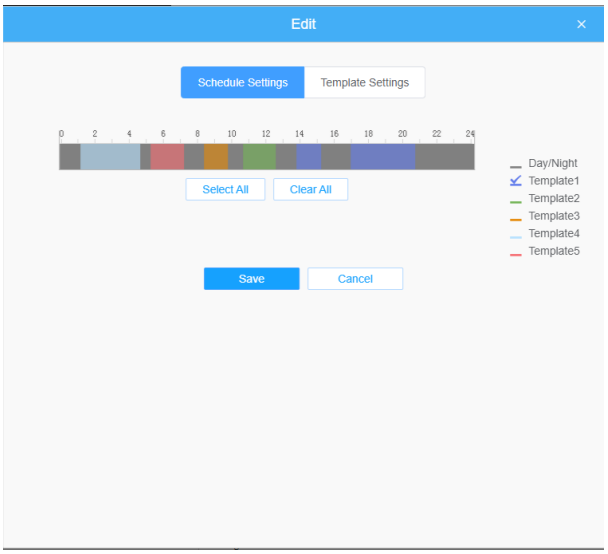


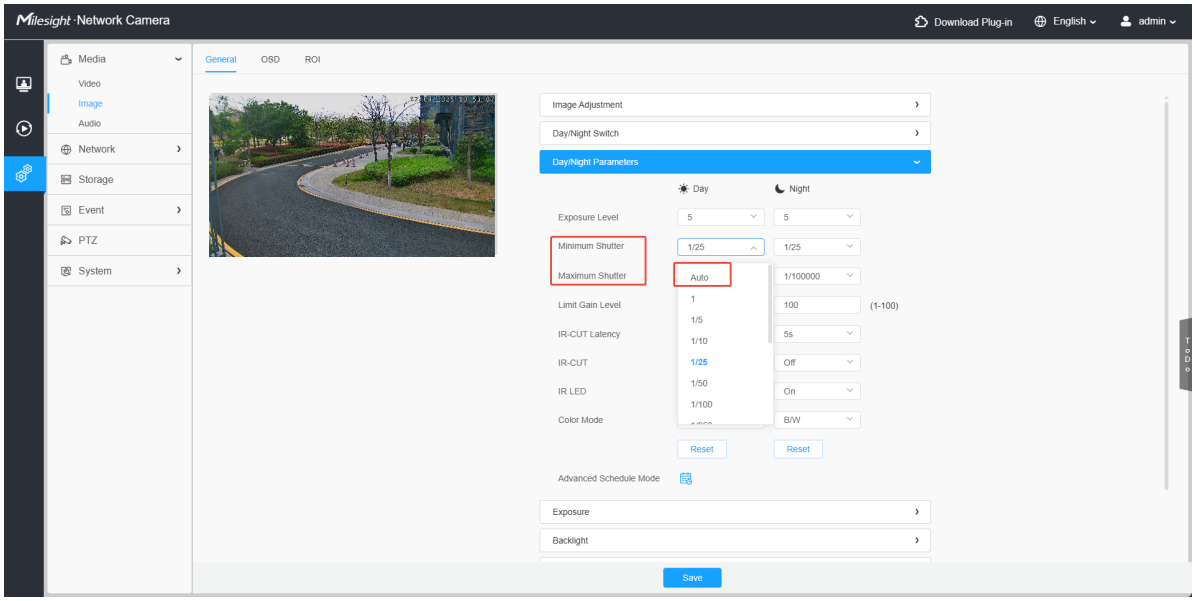
Table 12. Description of the buttons

Parameters	Function Introduction
Exposure Level	Level 0~10 are available to meet your need.
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.
IR-CUT Latency	The interval time of switching one mode to another.
Limit Gain Level	Set the Limit Gain Level to 1~100.
IR-CUT	Turn on/off IR-CUT.
IR LED	Turn on/off IR-LED.
Color Mode	Select B/W or Color mode.

Parameters	Function Introduction
Advanced Schedule Mode	Here you can customize your special demands for different time, then the Day mode and Night mode will switch automatically according to your settings. 

Note:

1. Both Minimum Shutter and Maximum Shutter have an Auto option. Enabling Auto activates Frame Rate Reduction technology, which improves static image quality in low-light environments by reducing the frame rate, extending the exposure time per frame, increasing brightness, and minimizing noise.
2. When the Shutter is set to Auto, static images will appear brighter with reduced noise, but moving objects may experience motion blur.



[Exposure]

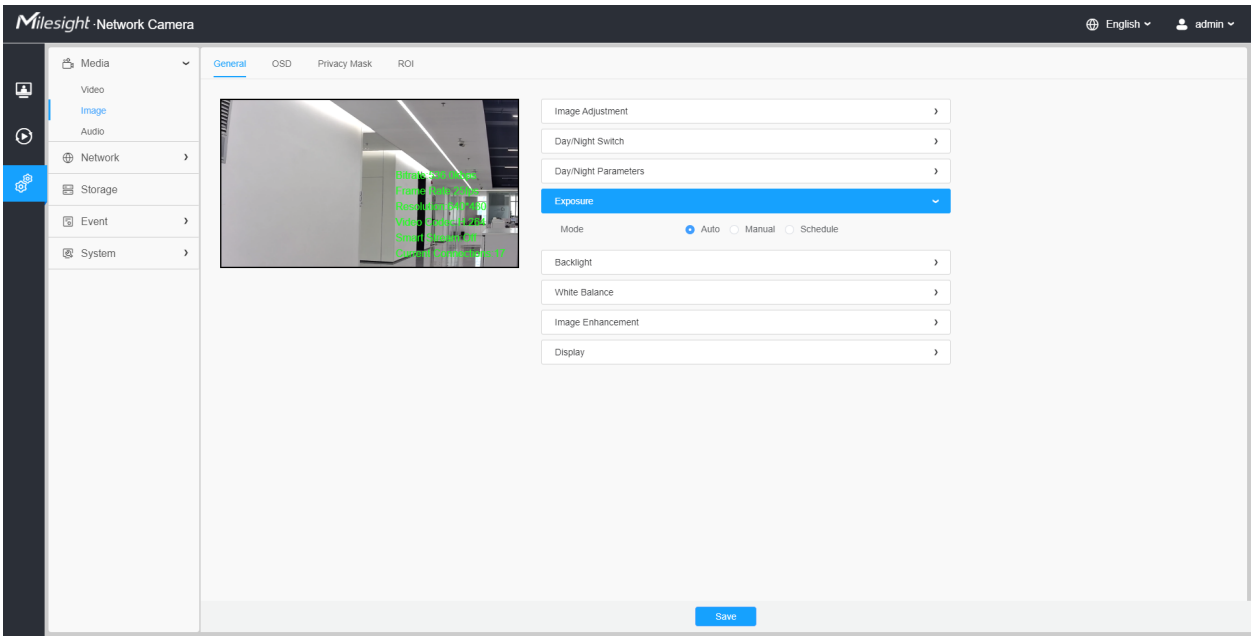
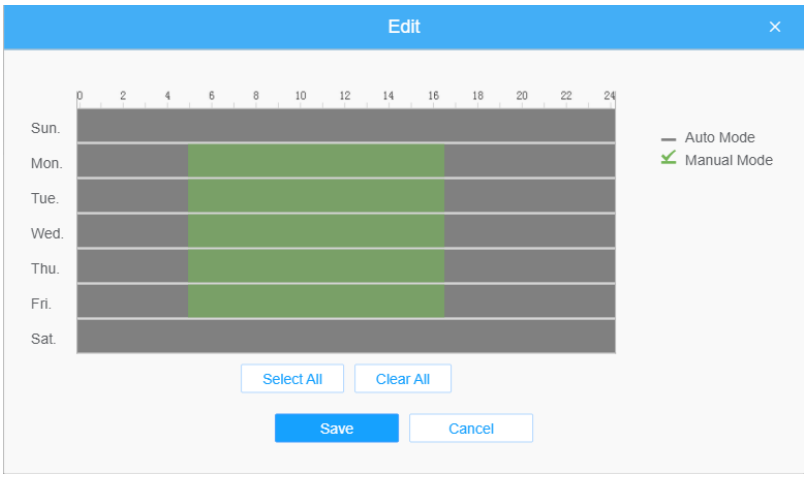


Table 13. Description of the buttons

Parameters	Function Introduction
Exposure Mode	Auto Mode, Manual Mode and Schedule 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. **Schedule Mode:** You can customize the schedule to enable/disable Auto Mode and Manual Mode. 

[Backlight]

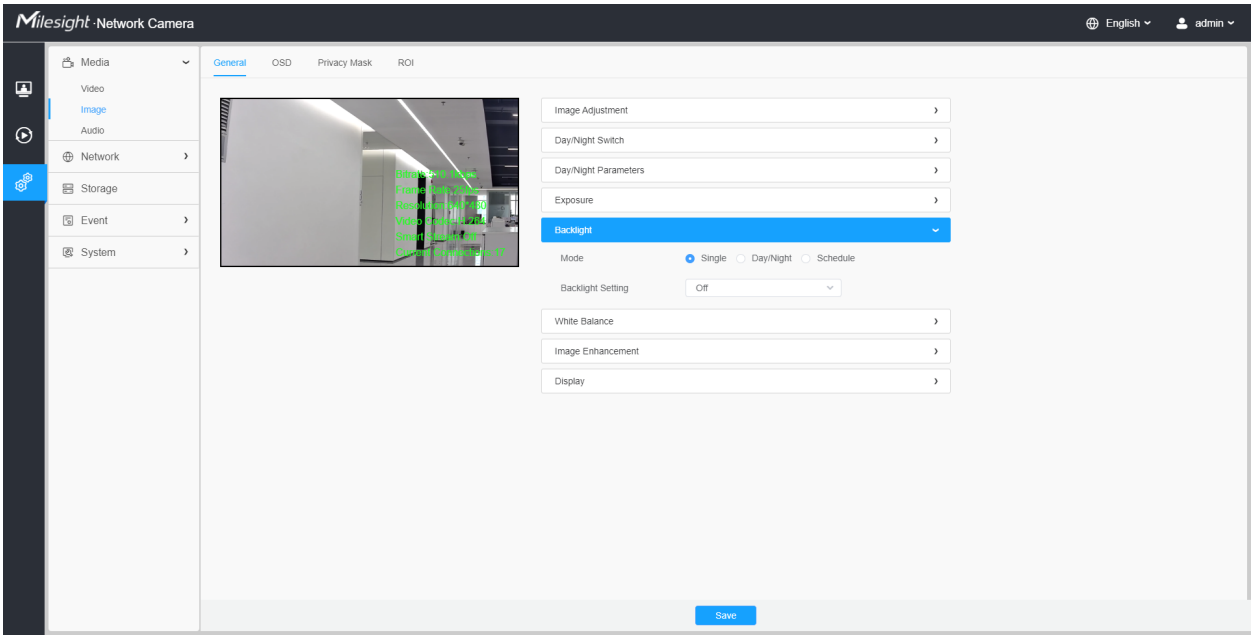
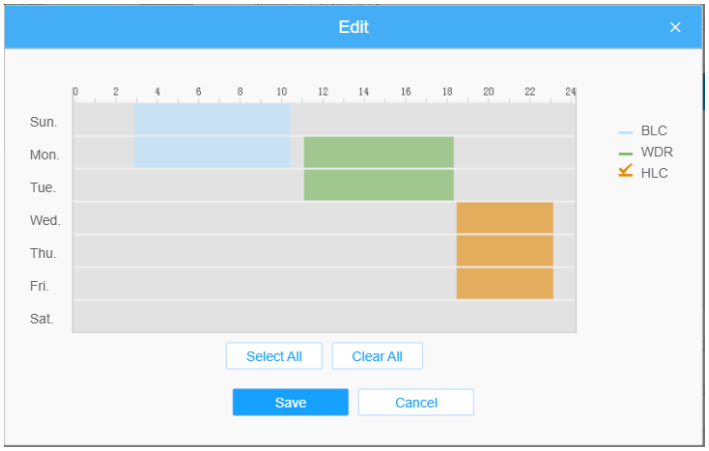


Table 14. Description of the buttons

Parameters	Function Introduction
Backlight Mode	**Single Mode:** Set single mode for BLC/WDR/HLC. **Note:** Do not support WDR and General HLC while High Frame Rate is enabled. **Day/Night Mode:** Support BLC/WDR/HLC on Day Enhancement Mode/Night Enhancement Mode separately. **Schedule Mode:** Set schedule mode for BLC/WDR/HLC. You can customize the schedule to enable/disable BLC/WDR/HLC mode. 

Note:

- For more details about **Milesight WDR on & off Video**, you can click to the YouTube:

  https://www.youtube.com/watch?v=McoOL0Pyk0w
- For more details about **Milesight Ultra Low-light Video Demo - HLC**, you can click to the YouTube:

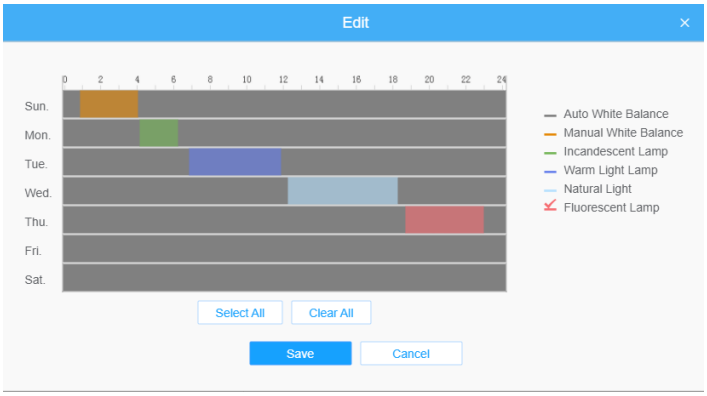
  https://www.youtube.com/watch?v=ly8uKWbii40
- For more details about **Milesight Super WDR Pro**, you can click to the YouTube:

  https://www.youtube.com/watch?v=edsPZXBJRnI
- For more details about **Milesight Super WDR Performance**, you can click to the YouTube:

  https://www.youtube.com/watch?v=BKEZ6BW-YZE

[White Balance]

Table 15. 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 Schedule are available.
White Balance	**General Mode:** Select a white balance mode as required • **Auto White Balance:**This option will automatically enable the White Balance function. • **Manual White Balance:** Set Red Gain Level and Blue Gain Level manually. • **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.
White Balance	**Schedule Mode:** Select this option that you can customize the schedule to enable/ disable above modes. 

[Image Enhancement]

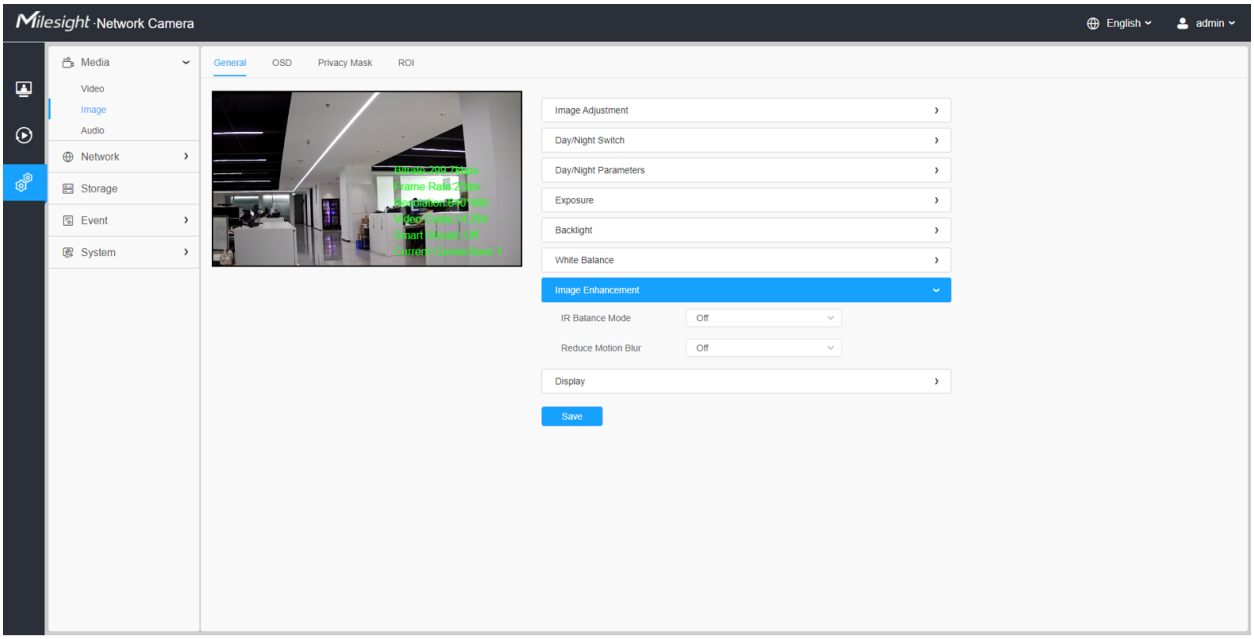


Table 16. Description of the buttons

Parameters	Function Introduction
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

[Display]

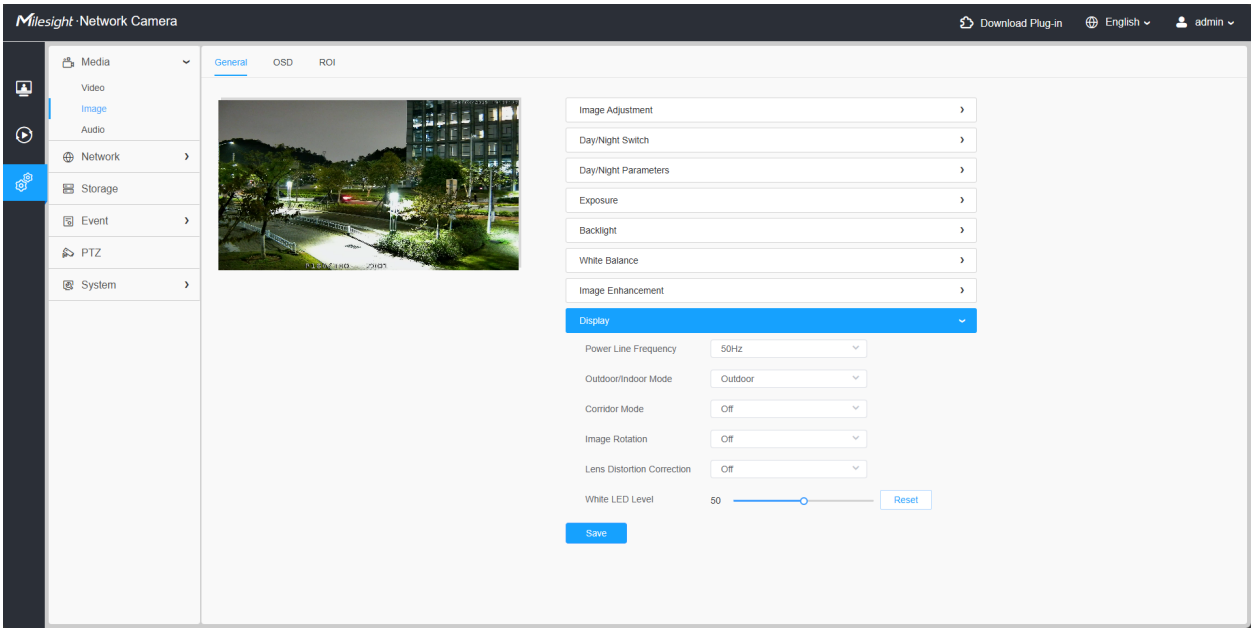


Table 17. Description of the buttons

Parameters	Function Introduction
Power Line Frequency	60Hz and 50Hz are available.
Outdoor/Indoor Mode	Select indoor or outdoor mode to meet your needs.
Corridor Mode	There are three options available, you can select one to meet your need. **Off:** Keep the image in normal direction. **Clockwise 90°:** Rotate the image by 90° clockwise. **Anticlockwise90°:** Rotate the image by 90° anticlockwise.
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.
Lens Distortion Correction	With this option enabled, the camera will reduce image distortion caused by wide-angle lenses. **Note:** This feature is only supported on specific models.
Keep Correct Aspect Ratio	With this option enabled, the camera will prevent the image from distortion when resolution ratio is changed.

Parameters	Function Introduction
Zoom Limit	Set the Zoom Limit. **Note:** Only for the PTZ Network Camera with optical zoom of 20X or above.
White LED Level	Set the White LED Level to 1~100. **Note:** Only for PTZ Bullet.
Smoked Dome Cover	This function is only for Pro Dome. If Pro Dome is equipped with a Smoked Dome Cover, enable this function to display a normal image. **Note:** Only for Pro Dome.

8.1.2.2 OSD

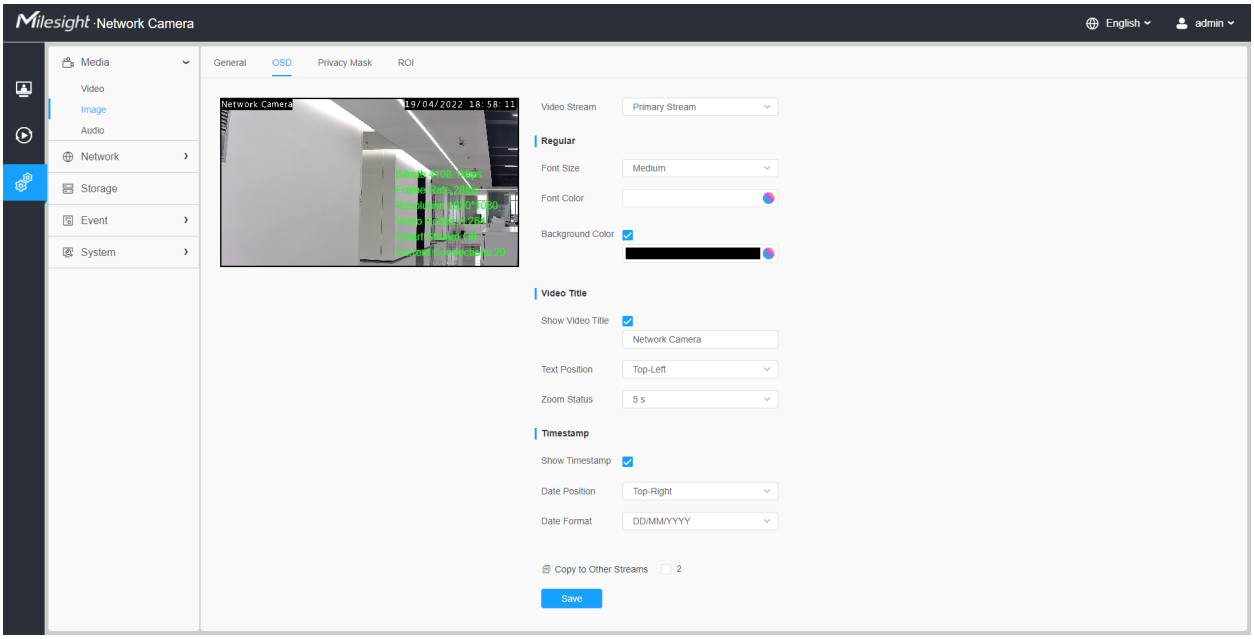
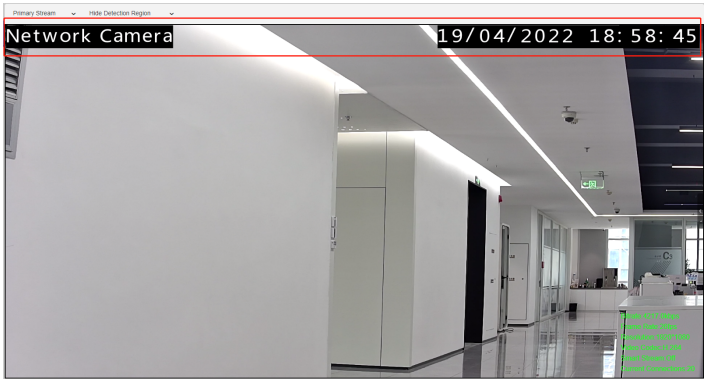


Table 18. Description of the buttons

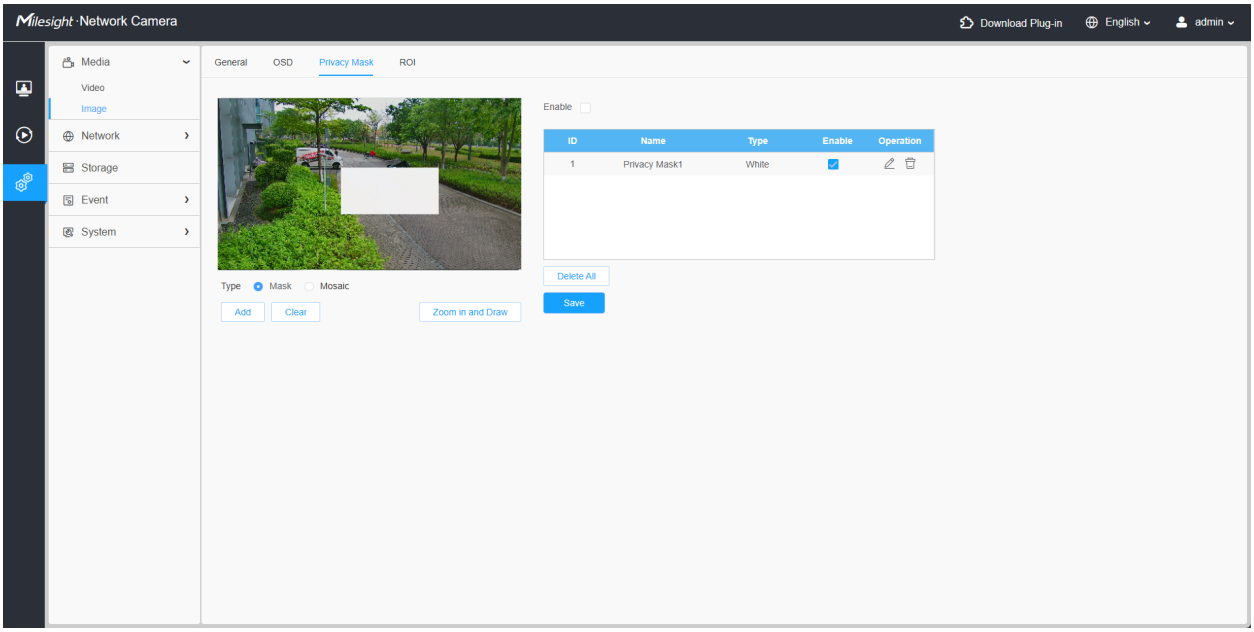
Parameters	Function Introduction
Video Stream	Enable to set OSD for primary stream and secondary stream.
Font Size	Smallest/Small/Medium/Large/Largest/Auto are available for title and date.
Font Color	Enable to set different color for title and date.

Parameters	Function Introduction
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: 
Show Video Title	Check the check box to show video title.
Video Title	Customize the OSD content.
Text Position	OSD display position on the image.
Show Timestamp	Check the checkbox to display date on the image.
Date Position	Date display position on the image.
Date Format	The format of date.
Copy to Other Streams	Copy the settings to other streams.

8.1.2.3 Privacy Mask

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

[Privacy Mask]



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

Note:

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

Table 19. Description of the buttons

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

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.

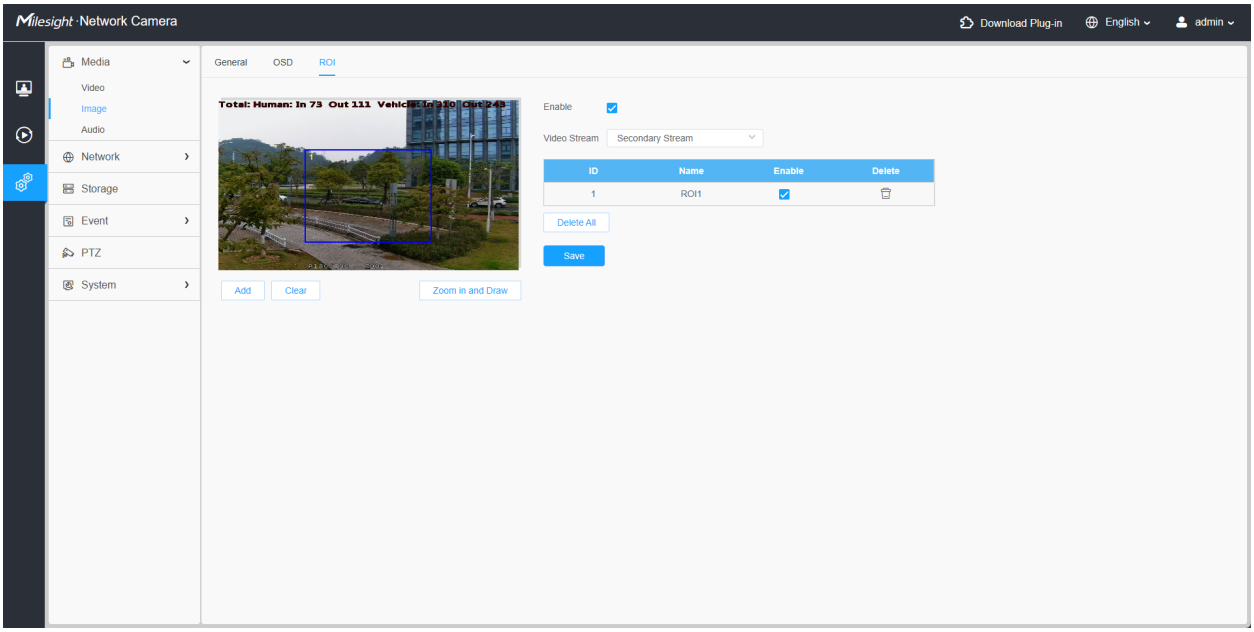
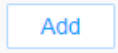
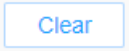
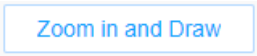
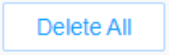


Table 20. Description of the buttons

Parameters	Function Introduction	
Enable	Check the checkbox to enable the ROI function.	
Video Stream	Choose the Video Stream.	
ROI	/	Enable/disable the selected ROI areas.

Parameters	Function Introduction	
ROI		Delete the selected ROI areas.
	Drew a ROI area on the live video as needed.	
	Clear the area you drew on the live video.	
	By clicking the **'Zoom in and Draw'** button, you can activate a full-screen pop-up window to draw more accurate detection areas.	
	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.

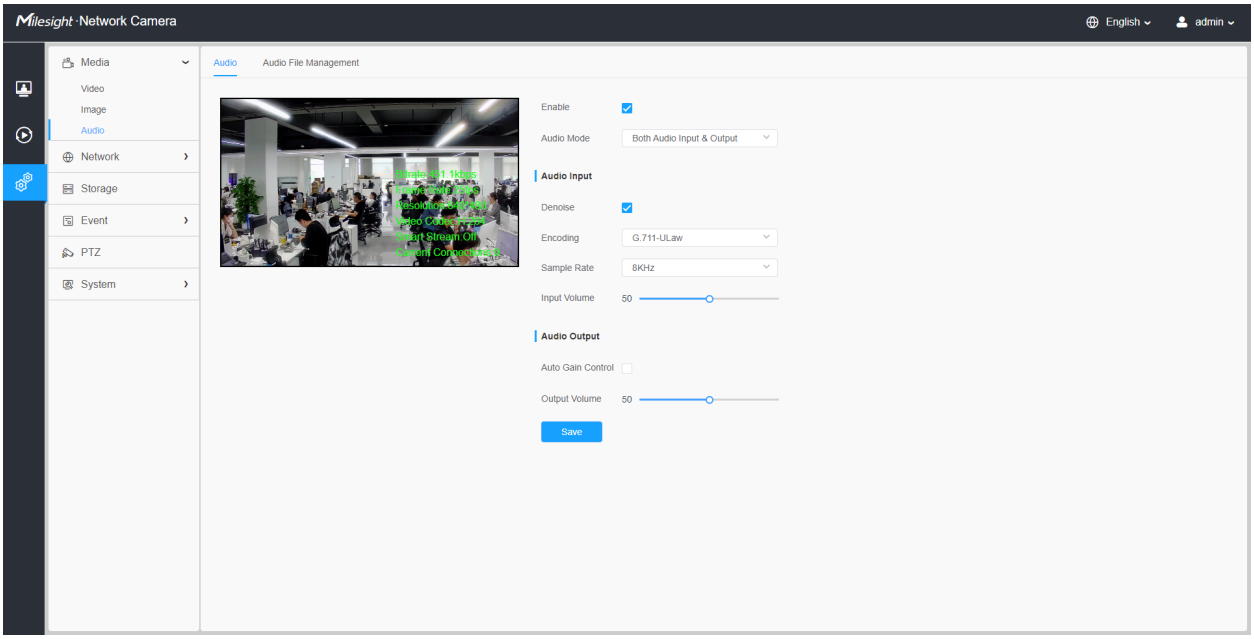
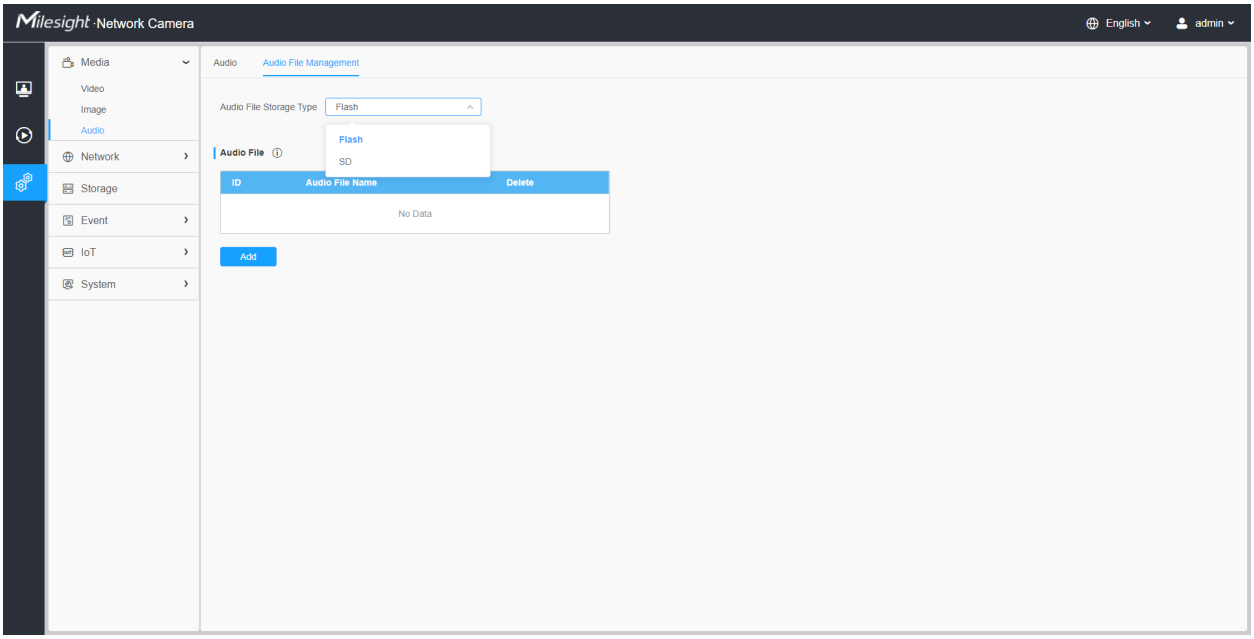


Table 21. Description of the buttons

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:** G.711-ULaw, G.711-ALaw, AAC LC, 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.



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

8.2 Network

8.2.1 Basic

8.2.1.1 TCP/IP

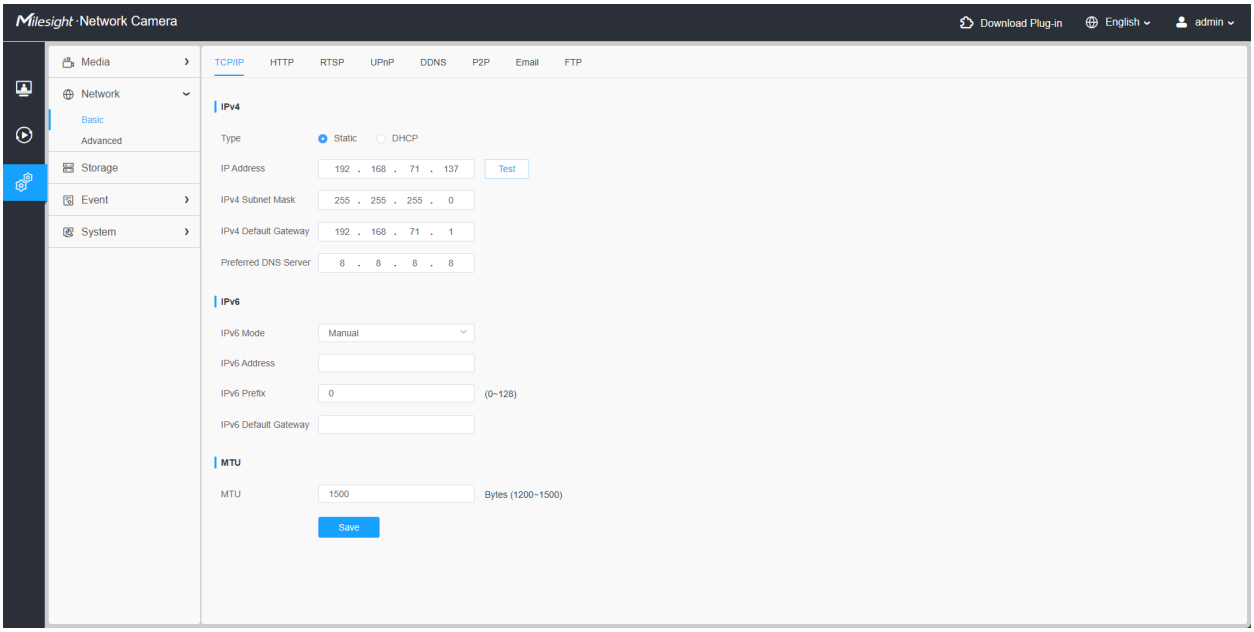


Table 22. Description of the buttons

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.
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

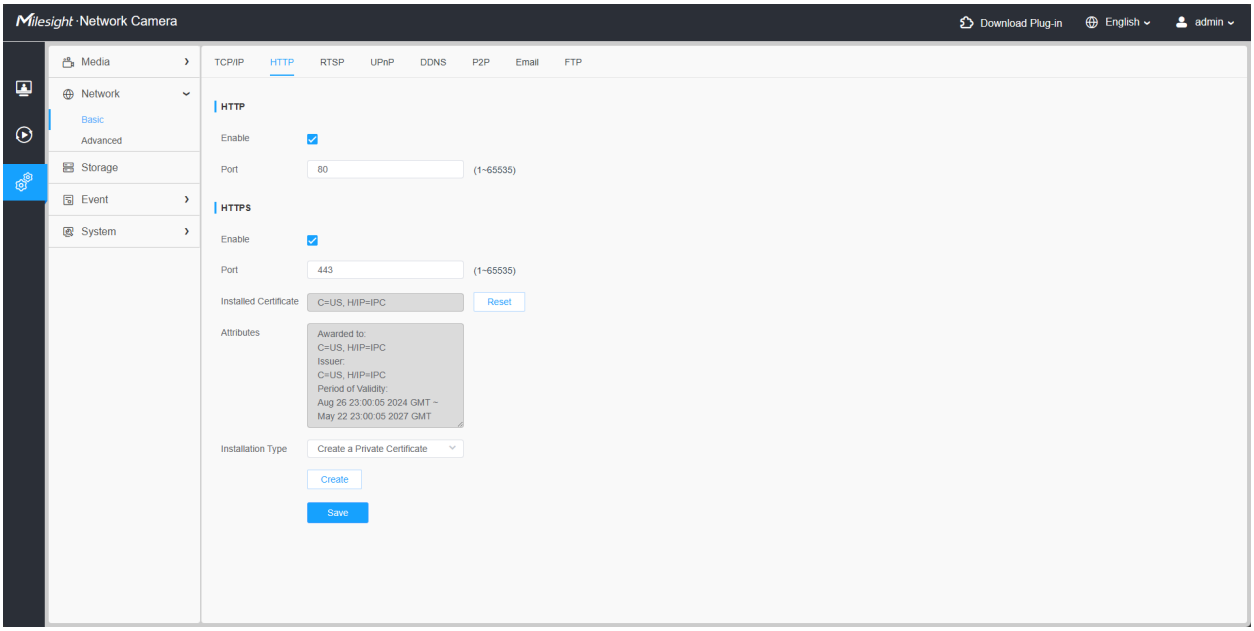


Table 23. Description of the buttons

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

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

8.2.1.3 RTSP

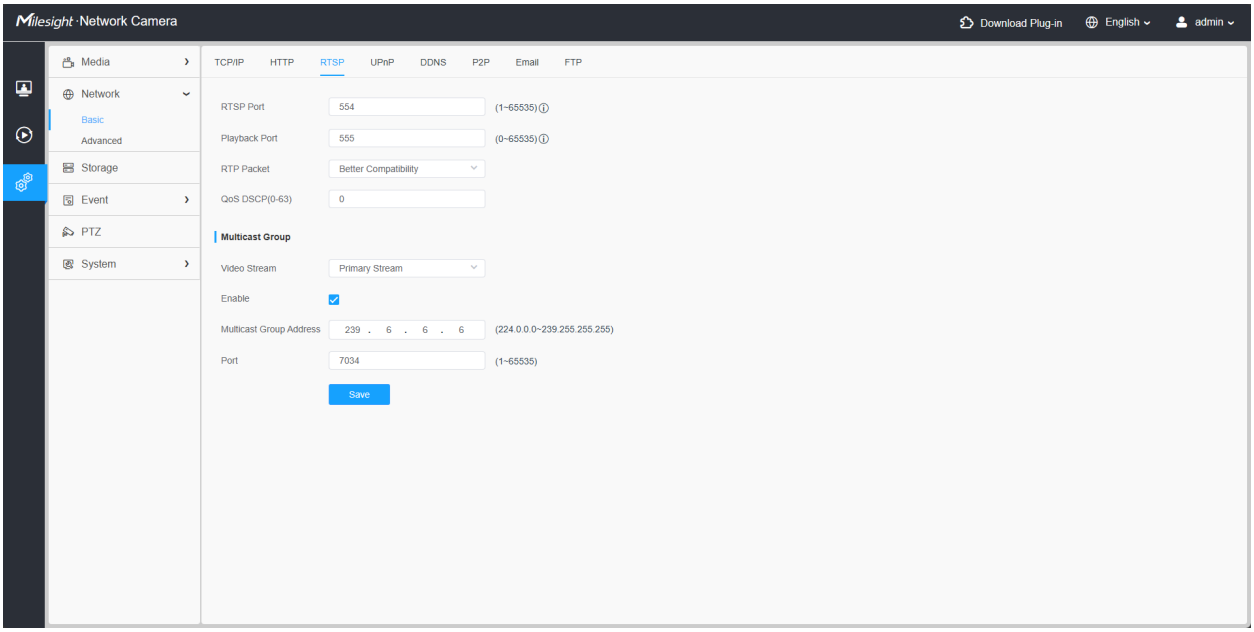


Table 25. Description of the buttons

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.

Parameters	Function Introduction	
Multicast Group	**Video Stream**	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 26. RTSP URL are as below:

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

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.

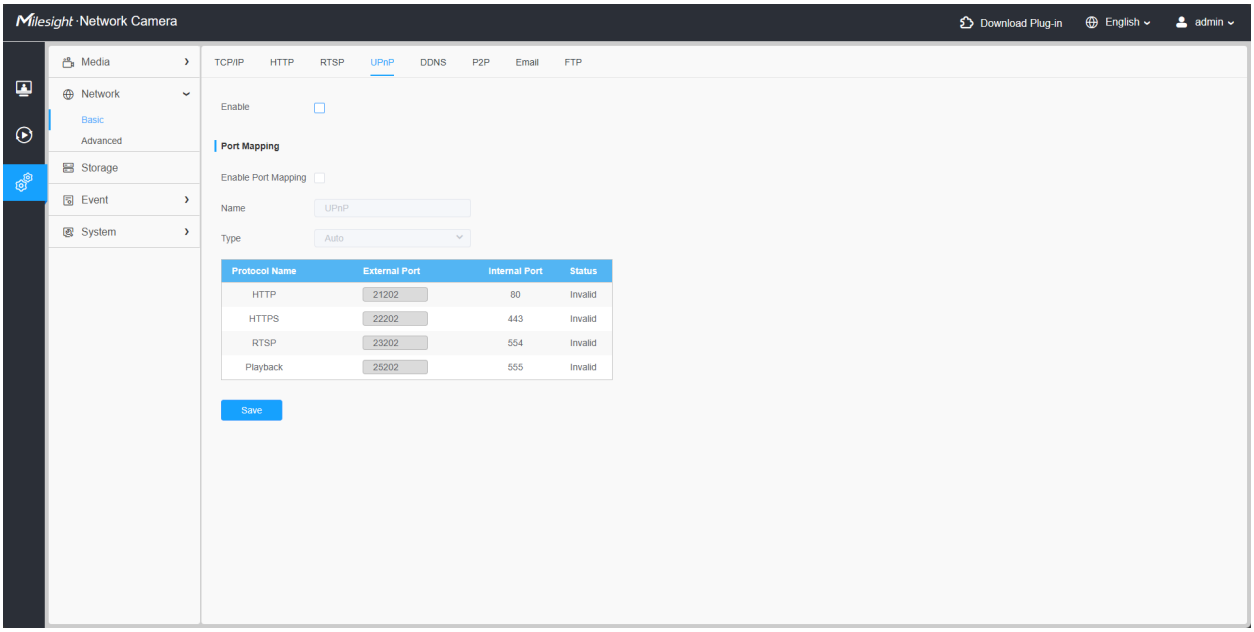


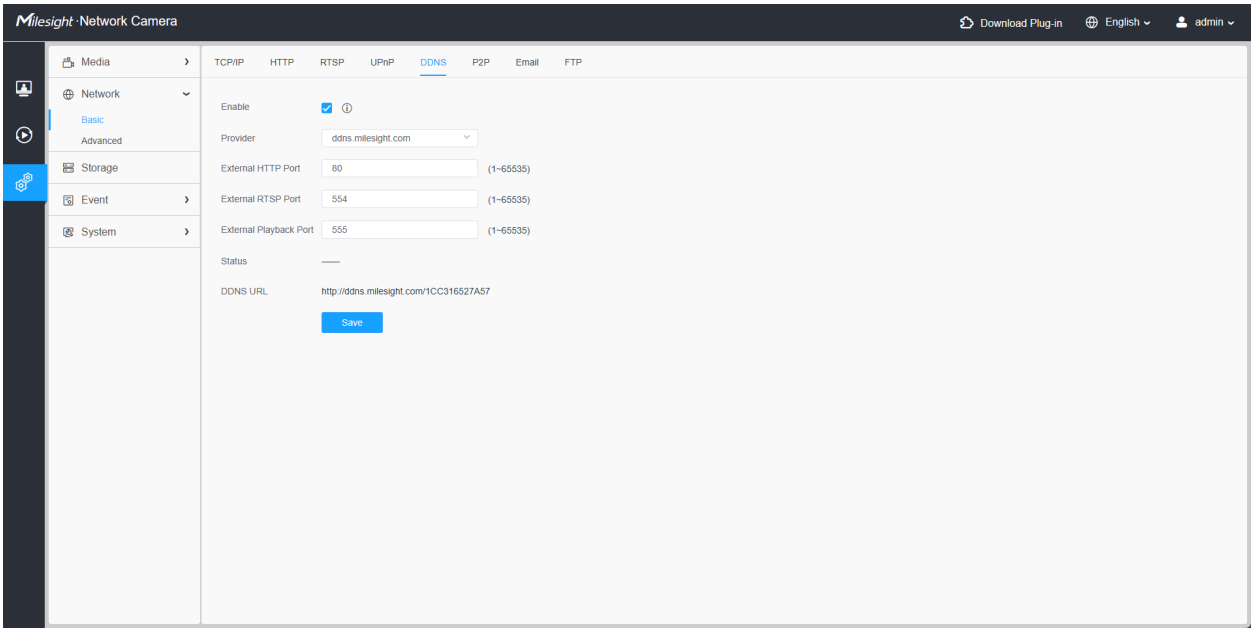
Table 27. Description of the buttons

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 28. 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.
Status	Display DDNS running status.

Parameters	Function Introduction
Save	Save the configuration.

Note:

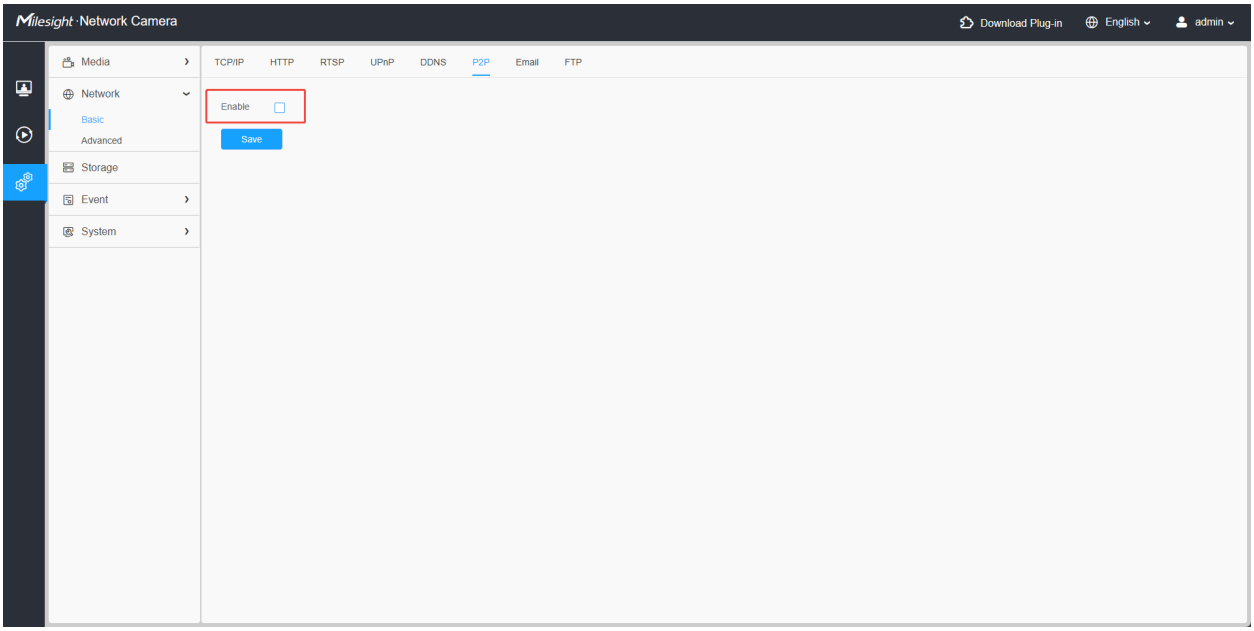
- Please do the Port Forwarding of HTTP Port and RTSP Port before you use Milesight DDNS.
- Make sure that the internal and the external port number of RTSP are the same.

8.2.1.6 P2P

Peer-to-peer (P2P) protocols are network protocols that enable direct communication between nodes (peers) in a network, without requiring a central server or intermediary. These protocols are fundamental in various applications, including file sharing, distributed computing, and decentralized networks. Milesight camera supports P2P protocol, you can enable it within the Network interface.

You can enable P2P simply by ticking the checkbox.

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



8.2.1.7 Email

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

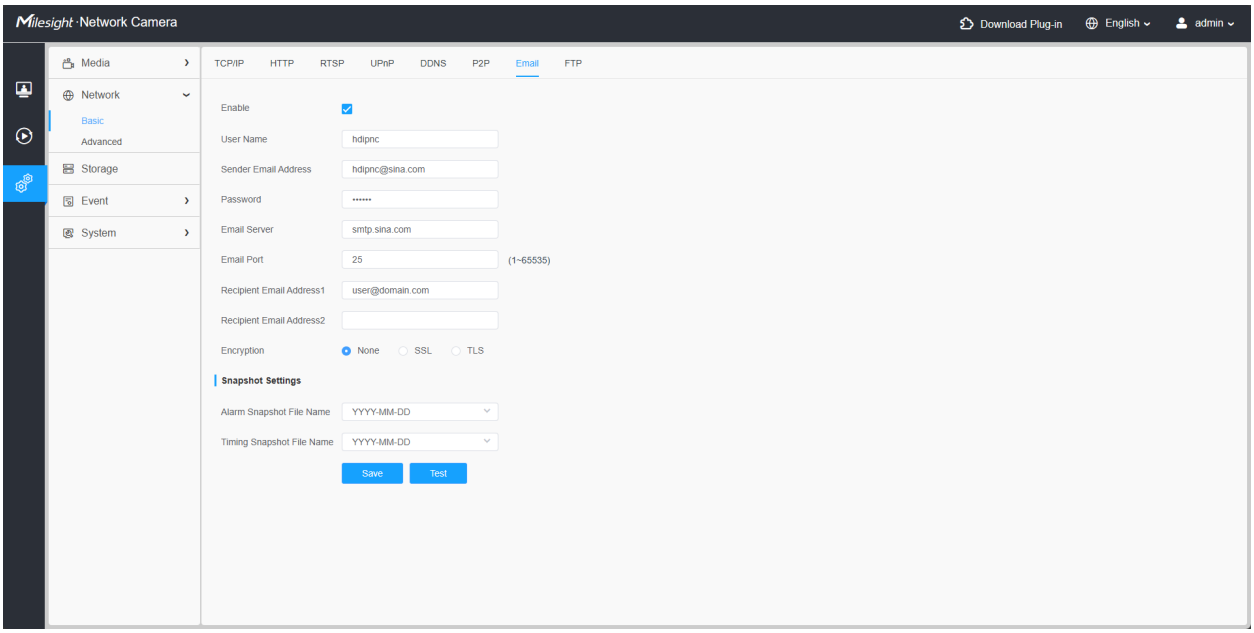


Table 29. Description of the buttons

Parameters	Function Introduction
Enable	Check the checkbox to enable Email function.
User Name	The sender's name. It is usually the same as the account name.
Sender Email Address	Email address to send video files attached emails.
Password	The password of the sender.
Email Server	The email server IP address or host name(e.g. smtp.gmail.com).
Email Port	The default TCP/IP port for SMTP is 25(not secured). For SSL/TLS port, it depends on the mail you use.
Recipient Email Address1	Email address to receive video files.
Recipient Email Address2	Email address to receive video files.

Parameters	Function Introduction
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
&& - &

8.2.1.8 FTP

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

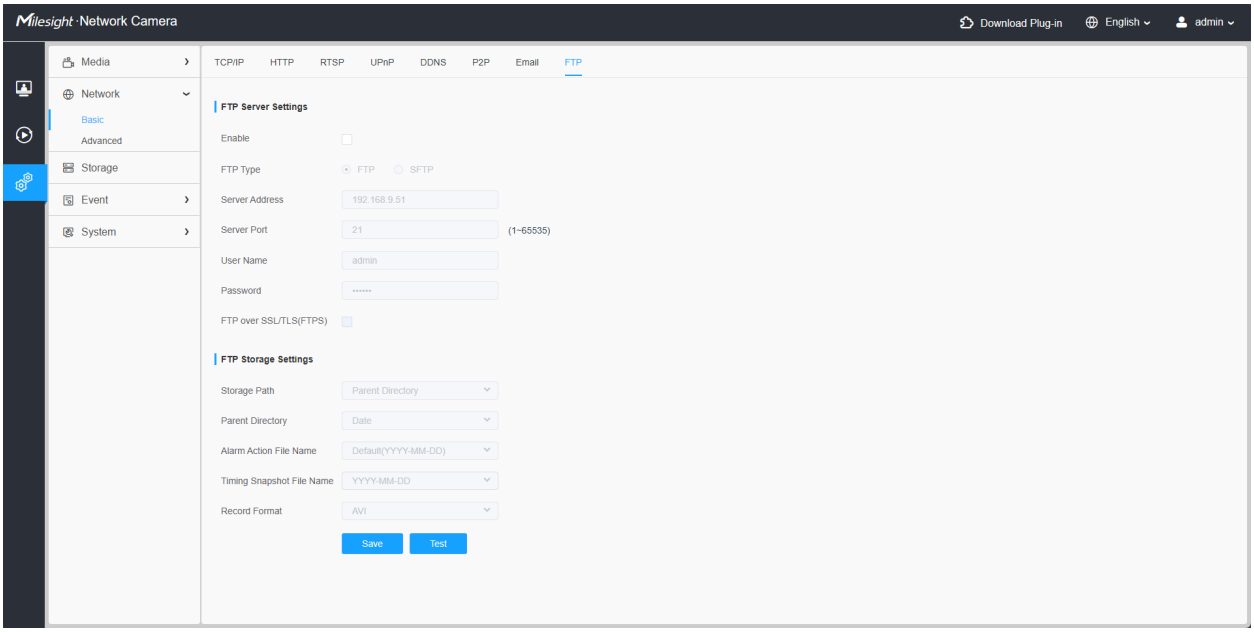


Table 30. Description of the buttons

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.
FTP Server Settings	**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 Storage Settings	**Storage Path**	Storage Path where video and image will be uploaded to the FTP server. Four FTP storage path types are available, including Root Directory, Parent Directory, Child Directory and Customize.
FTP Storage Settings	**Parent Directory**	Choose IP Address/ Device Name/ Date as the folder name of Parent Directory, or customize the folder name.
	Child Directory	Choose IP Address/ Device Name/ Date as the folder name of Child Directory, or customize the folder name.

Parameters		Function Introduction
FTP Storage Settings	**Multilevel Folder Name**	If the storage path is more than two levels, enter Multilevel FTP storage path here manually.
	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.

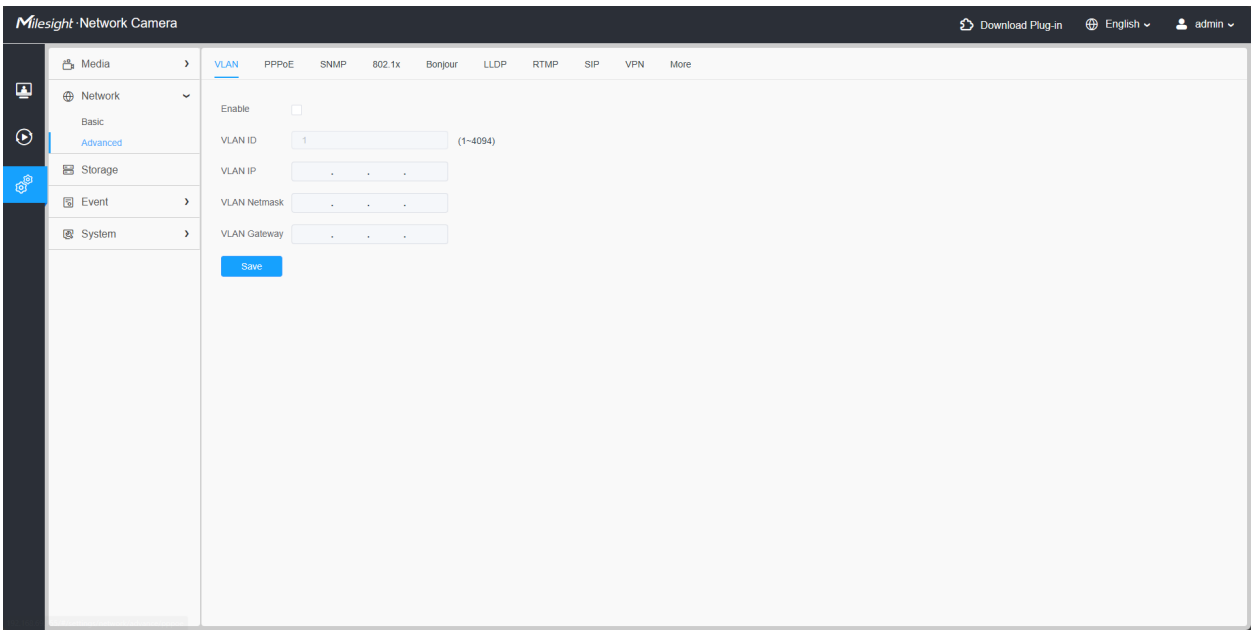
Note:

- 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.

8.2.2 Advanced

8.2.2.1 VLAN

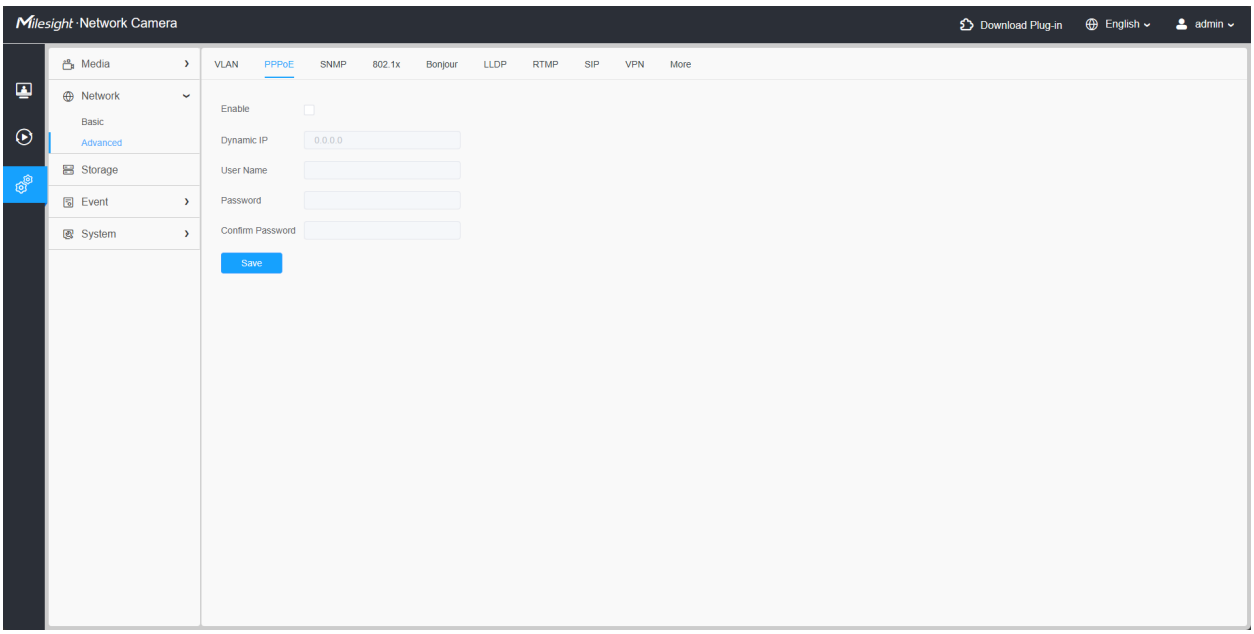
A virtual LAN (VLAN) is any broadcast domain that is partitioned and isolated in a computer network at the data link layer (OSI layer 2). LAN is an abbreviation of local area network. VLANs allow network administrators to group hosts together even if the hosts are not on the same network switch. This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

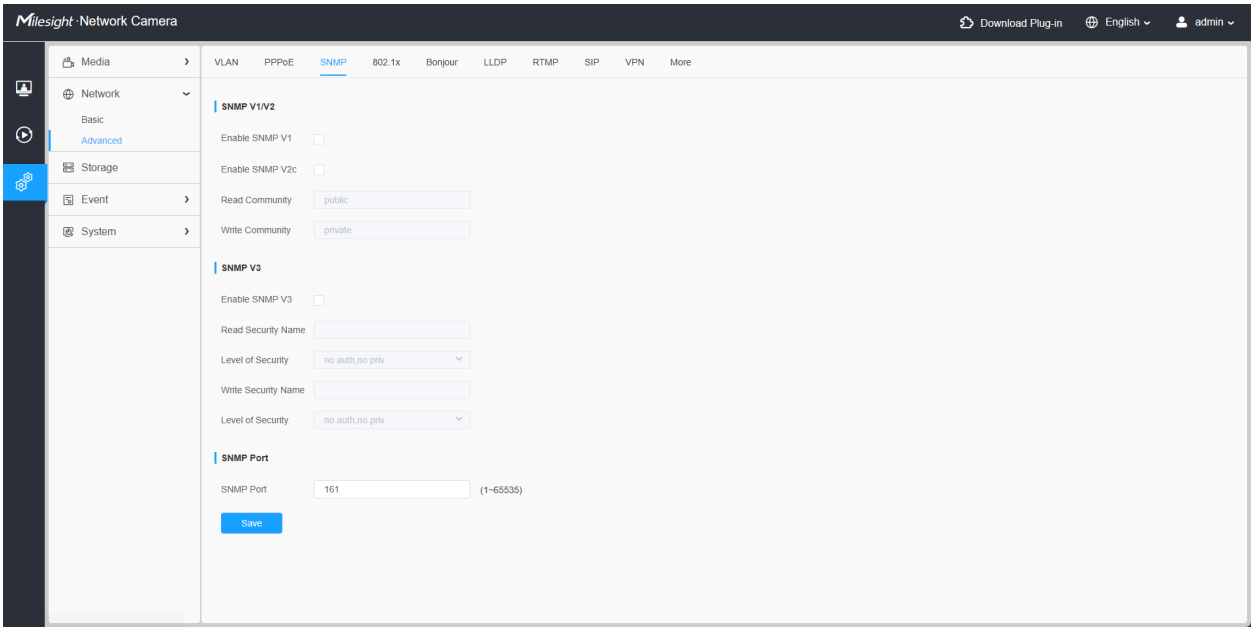


Table 31. Description of the buttons

Parameters	Function Introduction
SNMP v1/v2	The version of SNMP, please select the version of your SNMP software. **Enable SNMP v1:** Provide no security. **Enable SNMP v2:** Require password for access. **Write Community:** Input the name of Write Community. **Read Community:** Input the name of Read Community

Parameters	Function Introduction
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.

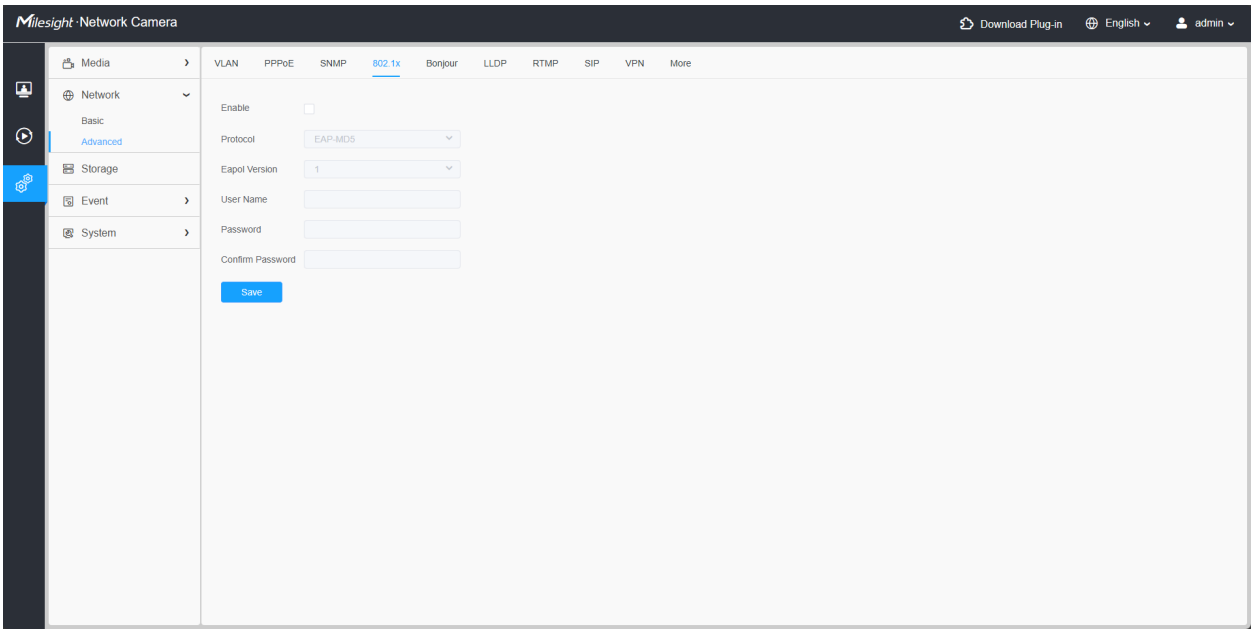


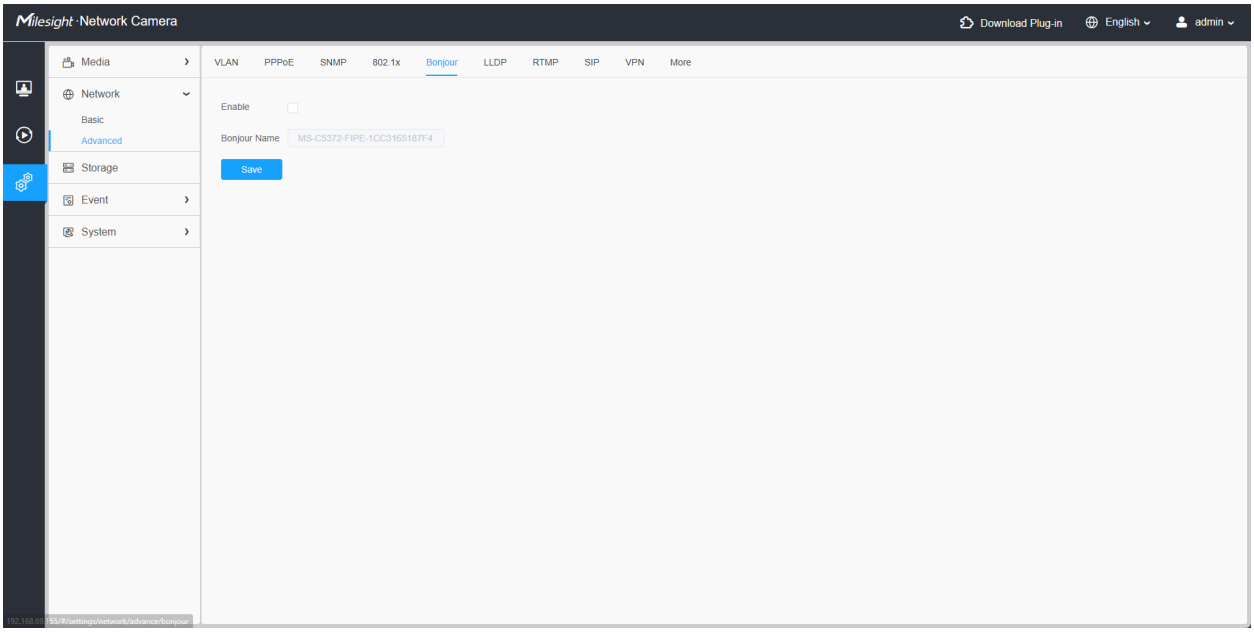
Table 32. Description the Buttons

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

8.2.2.5 Bonjour

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

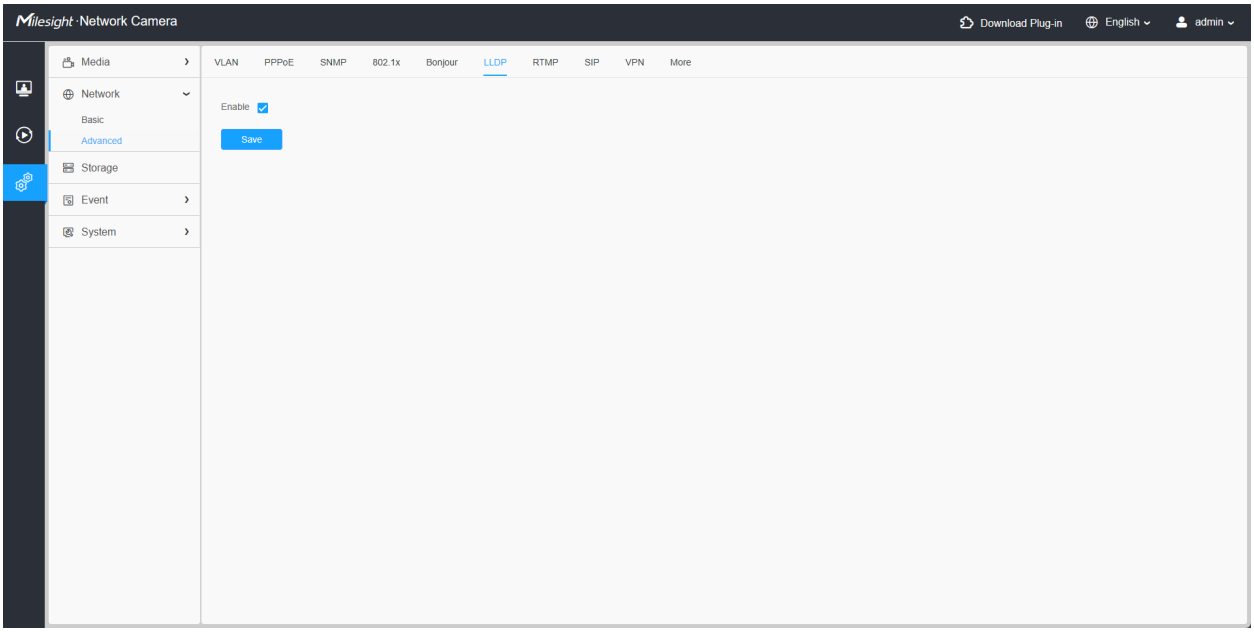
If you don't know the camera information, you can use the Bonjour service on the same LAN to search for network camera devices and then to access the devices.



8.2.2.6 LLDP

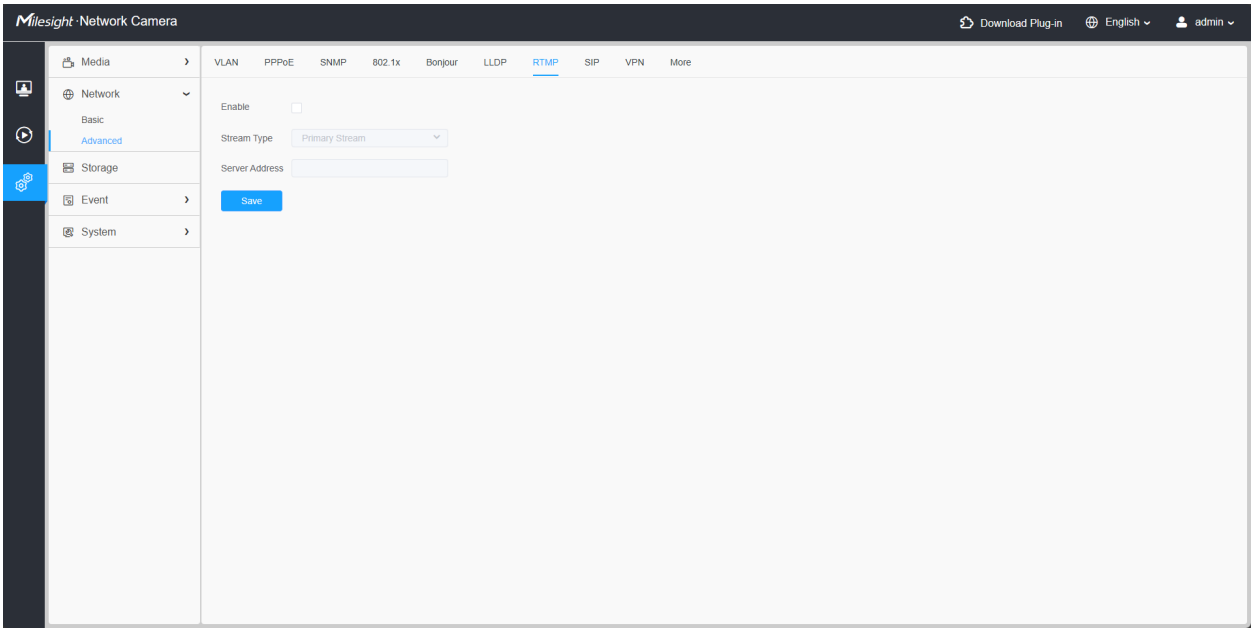
The Link Layer Discovery Protocol (LLDP) is a standardized network discovery protocol used by network devices to advertise their identity, capabilities, and neighbors on a local area network (LAN). It operates at the data link layer (Layer 2) of the OSI model. LLDP is defined by the IEEE 802.1AB standard.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

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



8.2.2.7 RTMP

Real-Time Messaging Protocol (RTMP) was initially a proprietary protocol for streaming audio, video and data over the Internet, between a Flash player and a server. RTMP is a TCP-based protocol which maintains persistent connections and allows low-latency communication. It can realize the function of live broadcast so that customers can log in to the camera wherever there is a network.



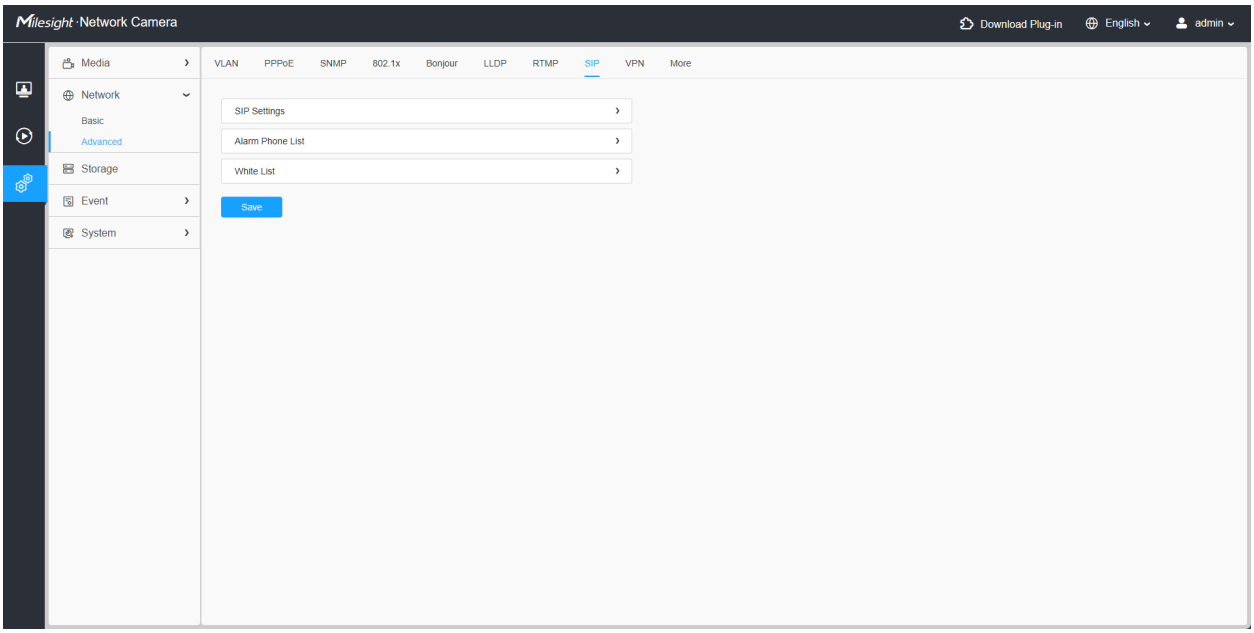
Note:

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

8.2.2.8 SIP

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

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



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

Method 1: IP Direct mode

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

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

Method2: Account registration mode

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

[SIP Settings]

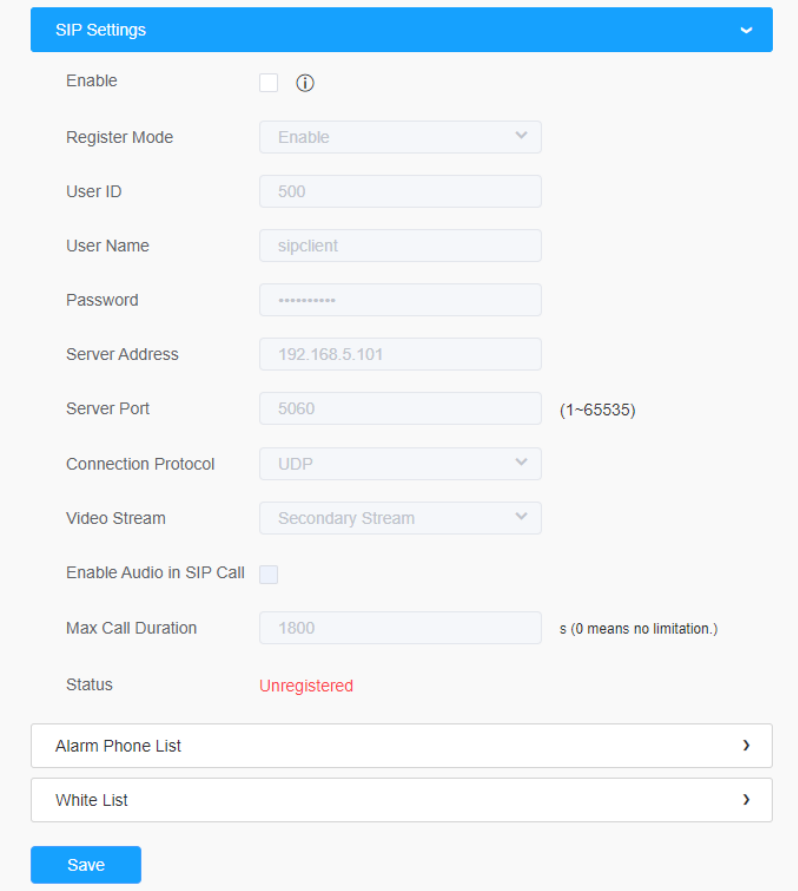


Table 33. Description of the buttons

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

[Alarm Phone List]

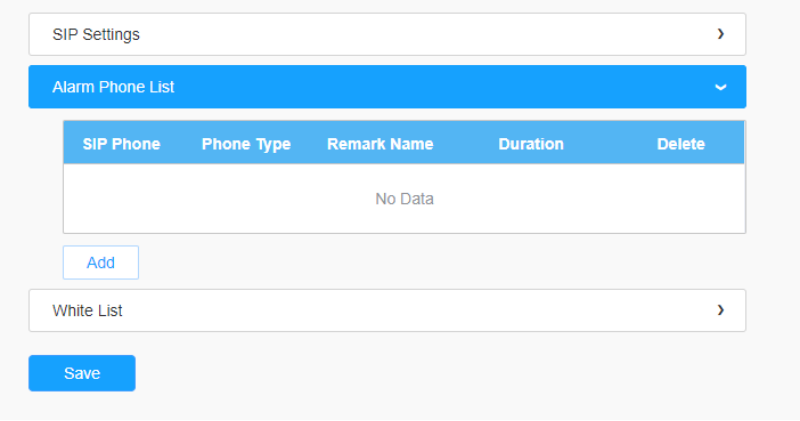


Table 34. Description of the buttons

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

[White List]

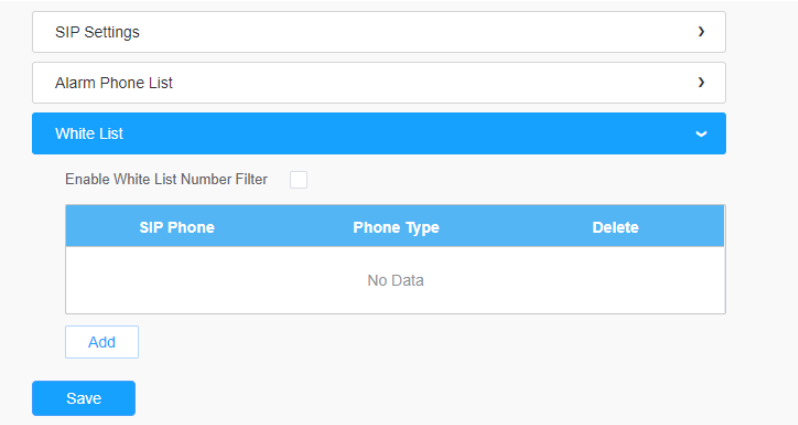


Table 35. Description of the buttons

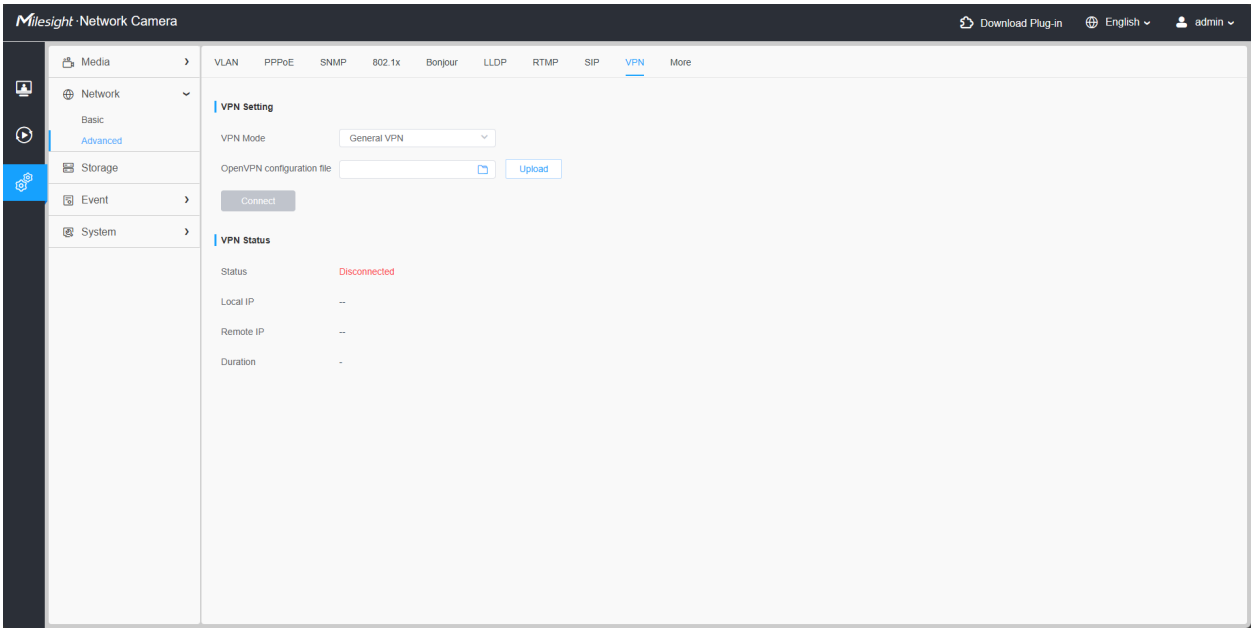
Parameters	Function Introduction
Enable White List Number Filter	When enabled, only the designated phone number or IP address can visit
Add	**Phone Type:** Phone Number(Call by phone number) & Direct IP Call. **Phone Number/IP Address:** Including the phone number or IP address on the white list.

8.2.2.8 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.



8.2.2.10 More

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

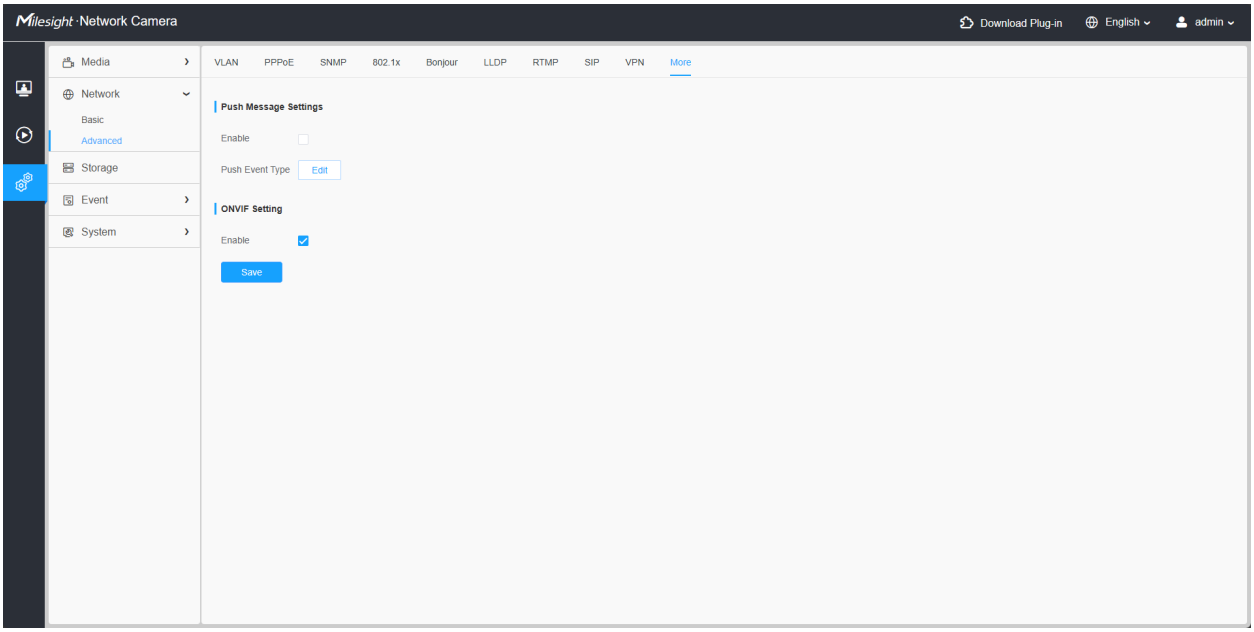
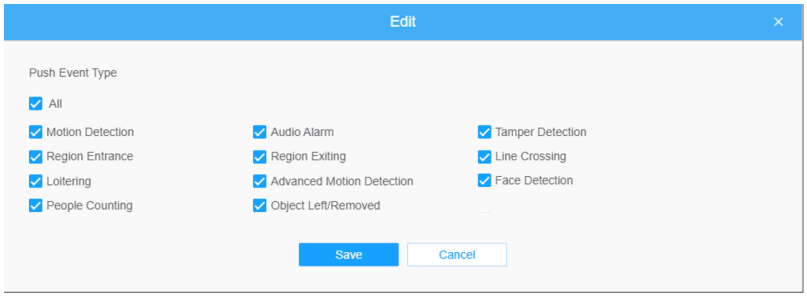
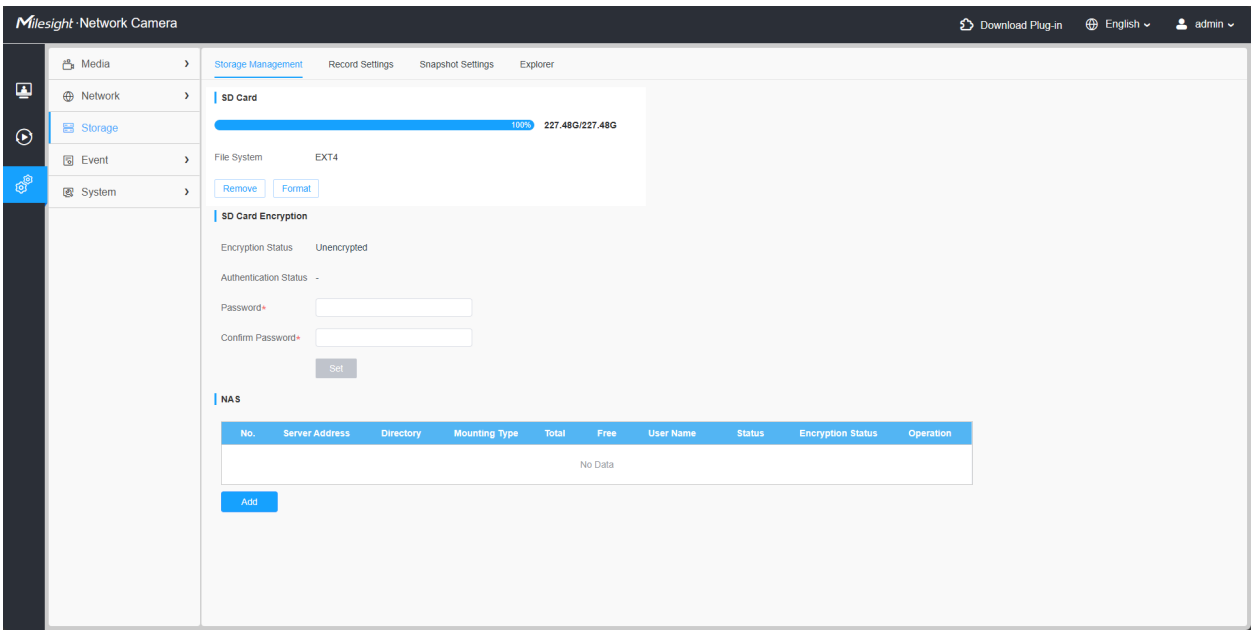


Table 36. Description of the buttons

Parameters	Function Introduction
Push Message Settings	**Enable:** Enable/disable the Push Message function **Push Event Type:** You can click Edit to choose the types of Events' message which will be pushed to M-sight Pro App as shown below: 
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



- Insert the SD card into the SD card slot of the device. After that, it will be automatically detected , and the detailed information of the SD card will be displayed on the SD Card bar.
- In the SD card bar, you can click on Remove to remove the SD card or click on Format to format the SD card and clear all files on it. It supports two file system formats including EXT4 and FAT32, and EXT4 is recommended to prevent data loss during card ejection or power failure, while FAT32 offers better compatibility for Operating systems.

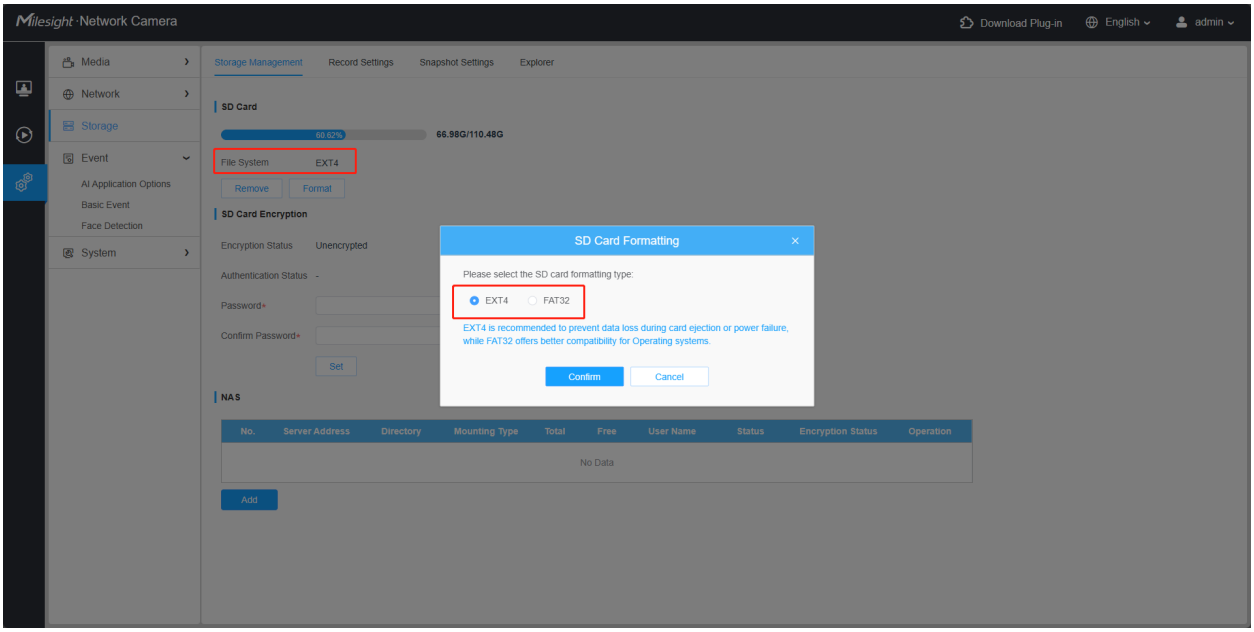
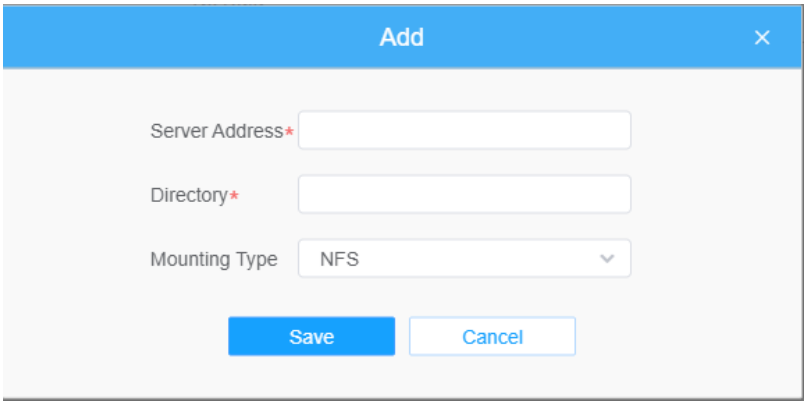


Table 37. Description of the buttons

Parameters	Function Introduction
SD Card	**Format:** Format SD card, the files in SD card will be removed. **Remove:** Remove SD card. **Encryption Status:** Show the encryption status of the SD card, including **Encrypted** and **Unencrypted**. **Authentication Status:** Display the authentication status. **Password/ Confirm Password:** Enter the password to lock you SD card.

Parameters	Function Introduction
Nas	The network disk should be available within the network and properly configured to store the recorded files, etc. NAS (Network-Attached Storage), connecting the storage devices to the existing network, provides data and files services.  **Server Address:** IP address of NAS server. **Directory:** Input the NAS directory, e.g. “\path”. **Mounting Type:** NFS and SMB/CIFS are available. And you can set the user name and password to guarantee the security if SMB/CIFS is selected. **Note:** • Up to 5 NAS disks can be connected to the camera. • For more details about how to use NAS on Milesight Network Camera, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000797902.

8.3.2 Record Settings

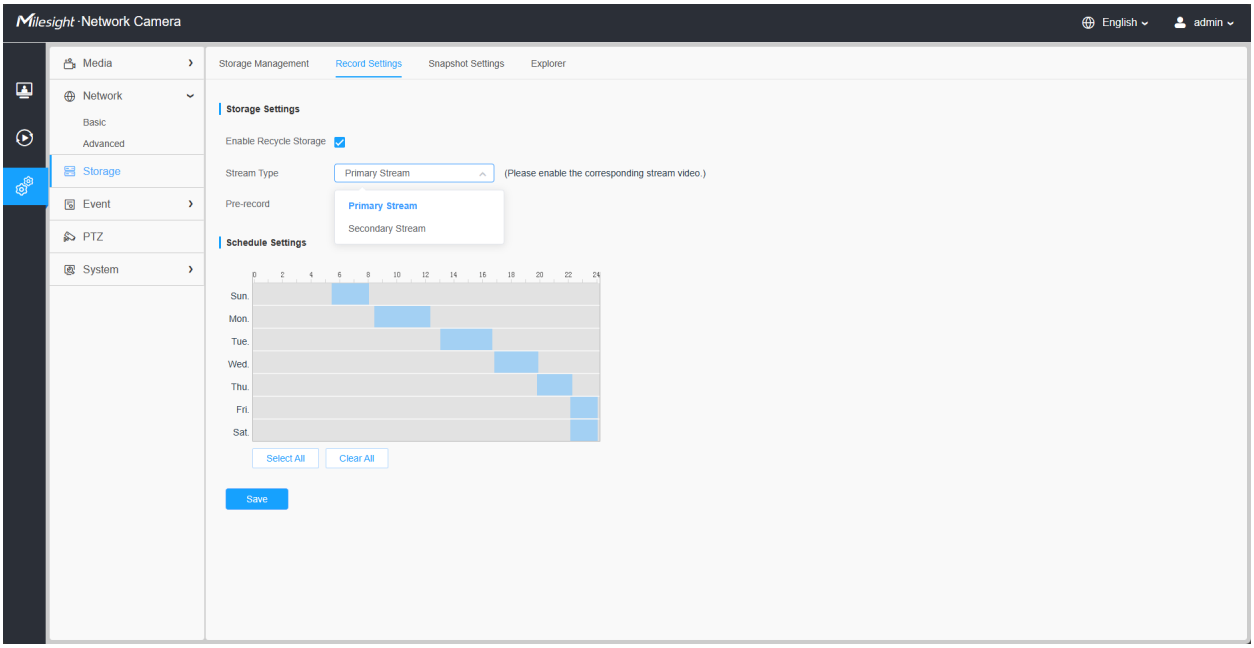
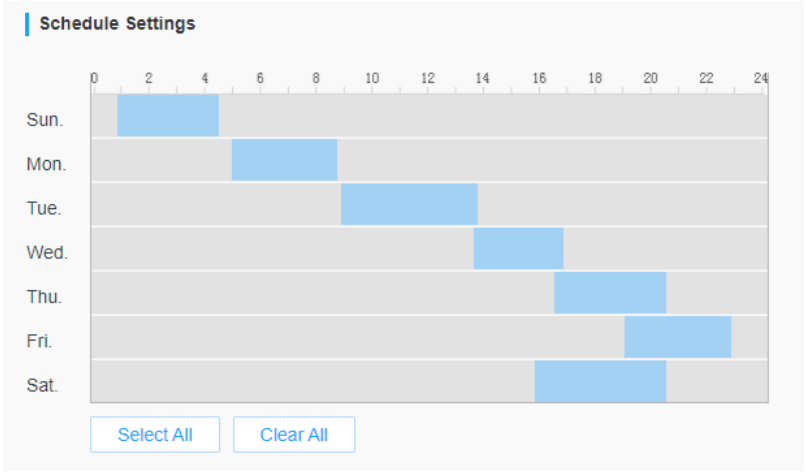
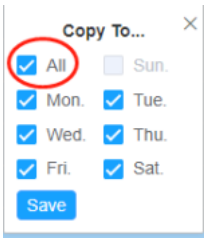
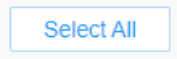
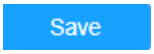


Table 38. Description of the buttons

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

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

Note: SD Card or NAS are available.

8.3.3 Snapshot Settings

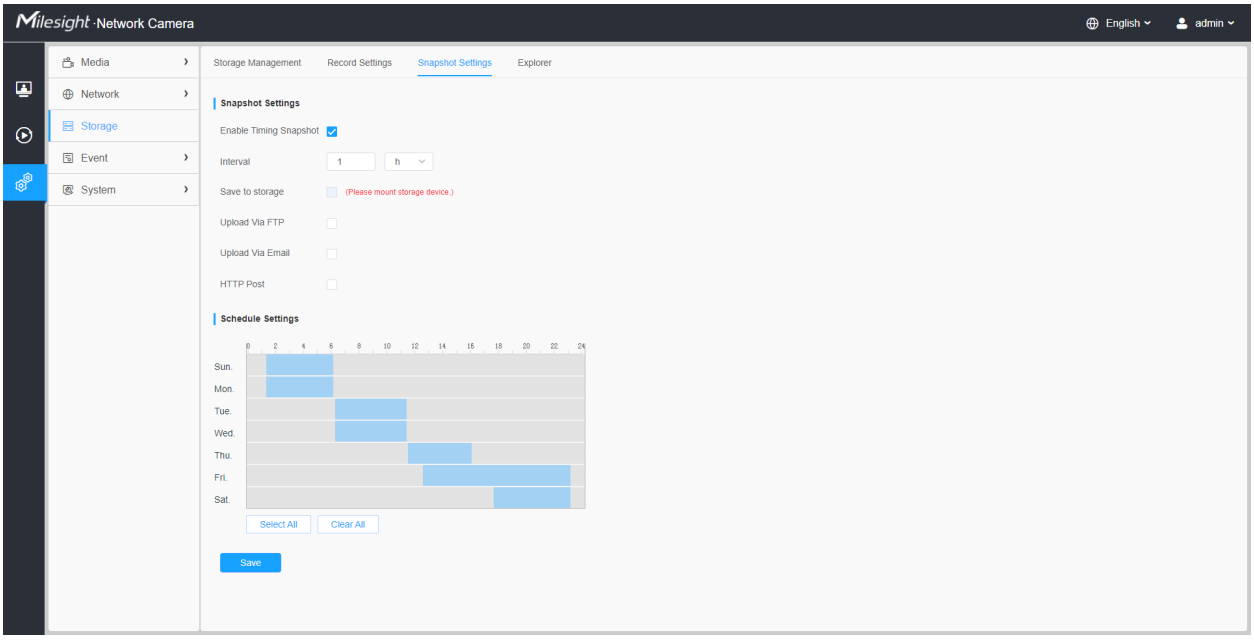


Table 39. Description of the buttons

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

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

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.

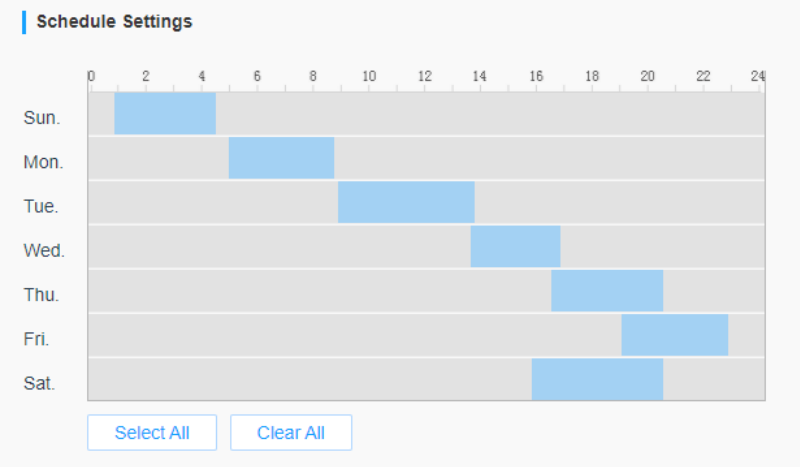
Save Into NAS: Save the snapshots into NAS, and choose the file name to add time suffix or overwrite the base file name.

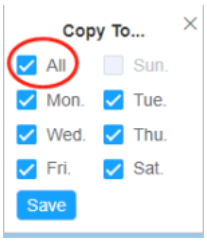
Upload Via FTP: Upload the snapshots via FTP.

Upload Via Email: Upload the snapshots via Email.

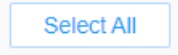
Note: If you choose to add time suffix, every snapshot picture will be saved, but if you choose to overwrite the base file name, only one latest picture will be saved. When you choose add overwrite the base file name to SD Card or NAS, it will create a file named “Snapshot” to place the snapshot.

HTTP Post: Upload the snapshots via HTTP Post. Support uploading the snapshots to specified HTTP URL.
</td></tr>
<tr><td rowspan="2">Schedule Settings</td><td>
Edit record schedule as needed. Intuitive scheduling by drawing the time bar directly.



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


</td><td>
Copy the schedule area to another date.

The "All" button is handy to copy today’s schedule to all days.
</td></tr>
<tr><td>Schedule Settings</td><td>


</td><td>Select all schedule.</td></tr>
</table>

Parameters	Function Introduction	
Schedule Settings	Clear All	Clear all schedule.
Save	Save the configuration.	

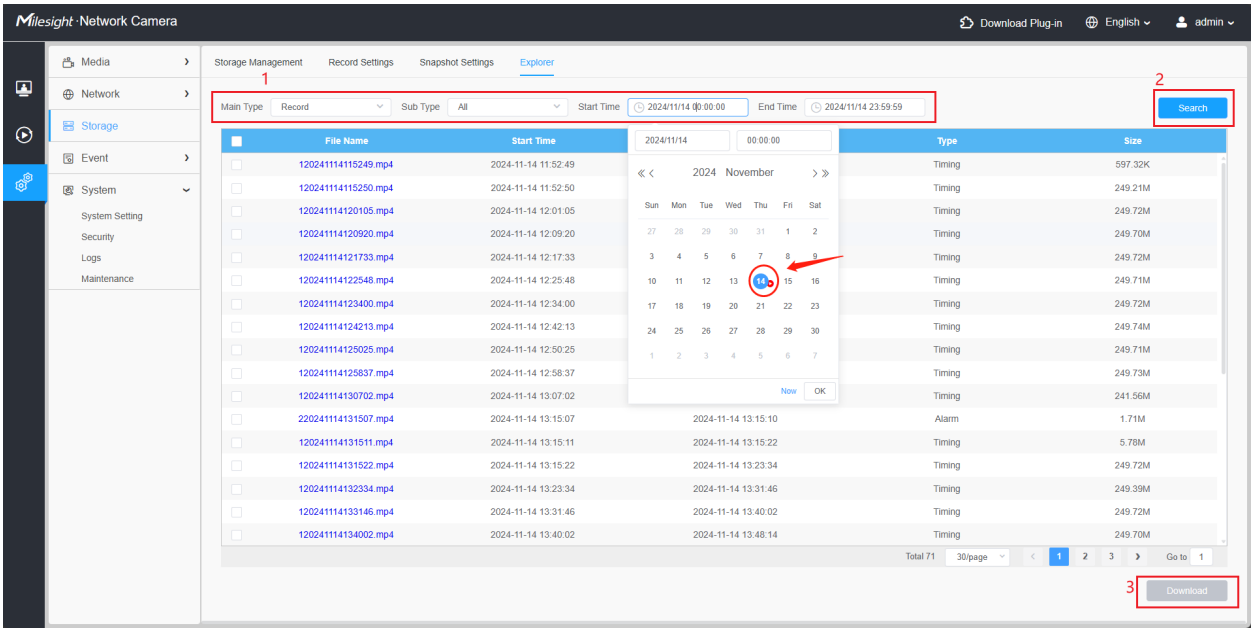
8.3.4 Explorer

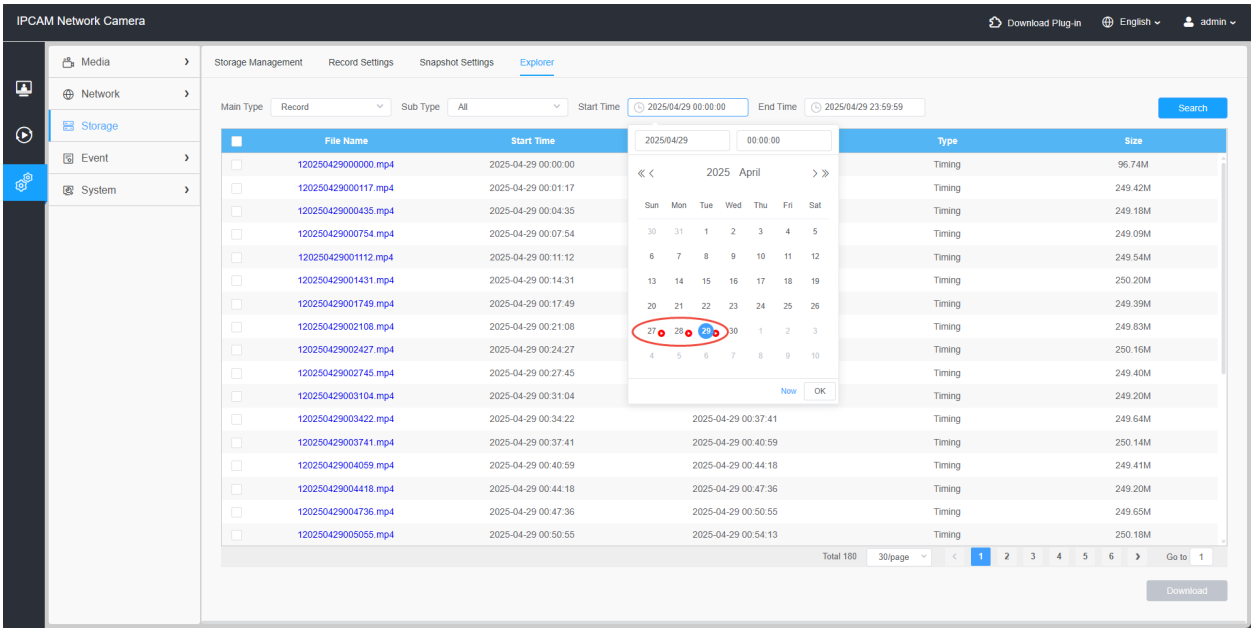
Files will be seen on this page when they are configured to save into SD card or NAS. You can set time schedule every day for recording videos and save video files to your desired location.

Note:

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

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



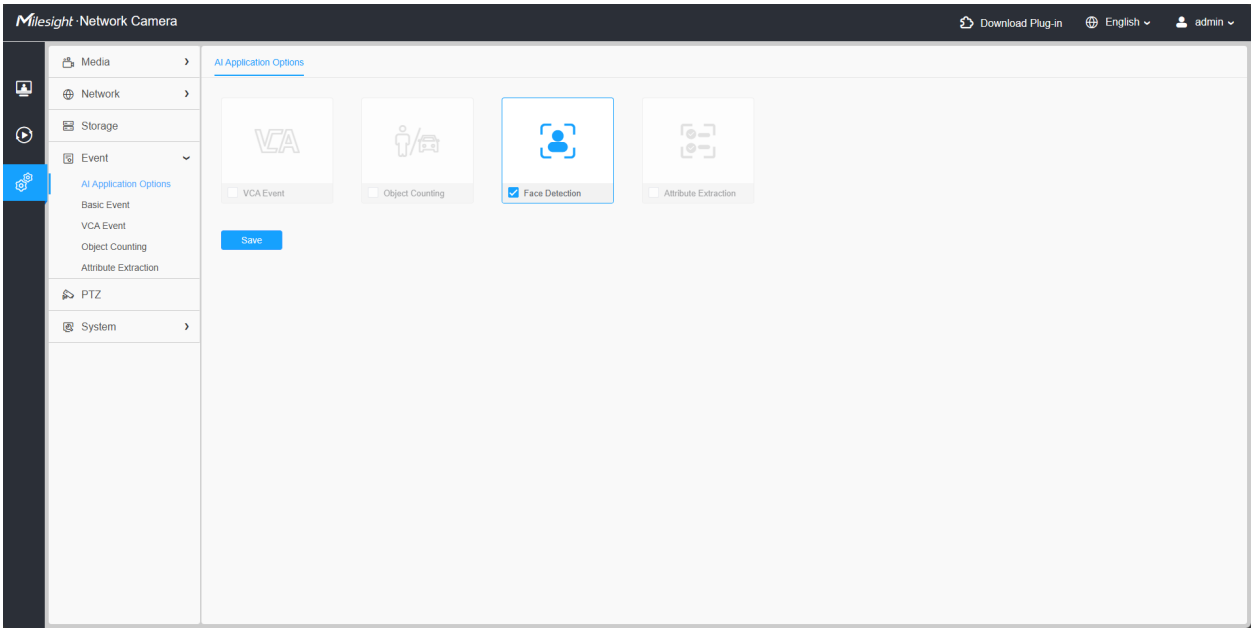


8.4 Event

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

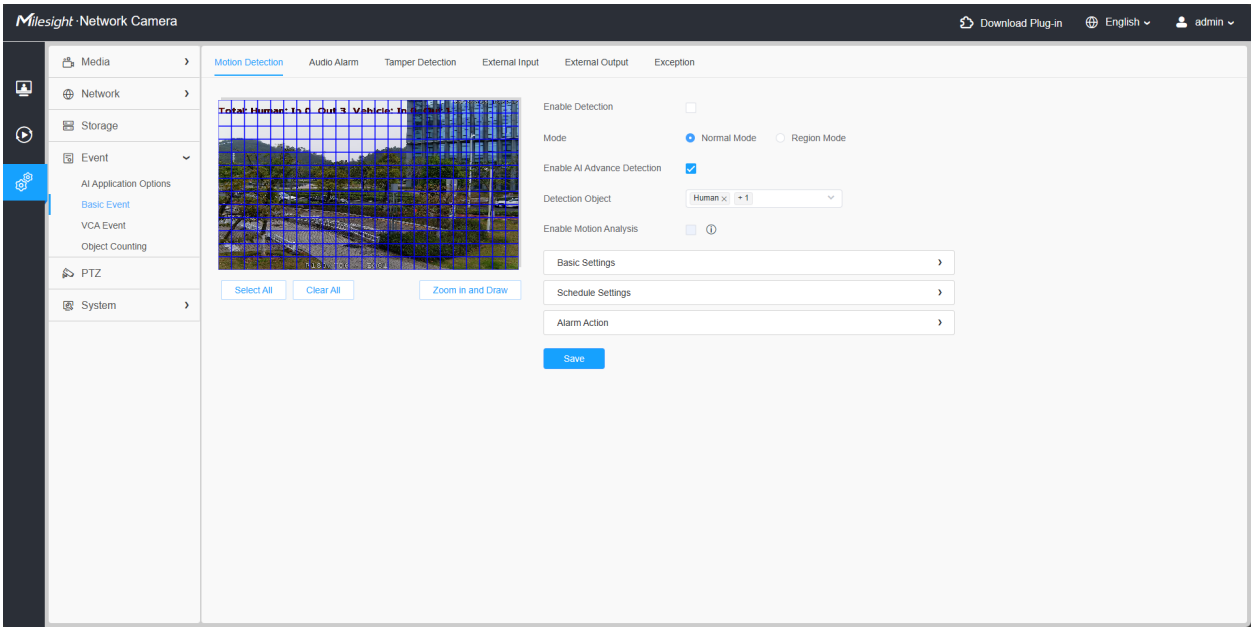
Note:

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



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: Check the check box to enable the motion detection.

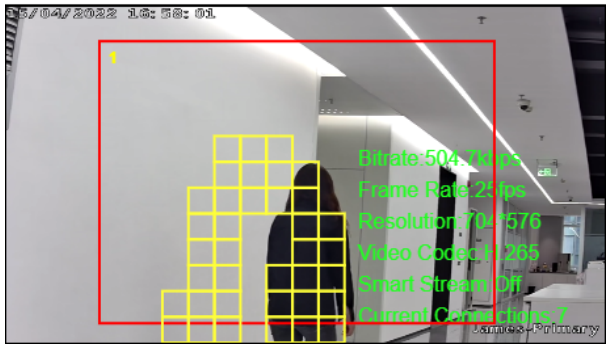
Step2: Select the detection mode. Normal and Region Mode are available.

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

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

Step4: Set motion region.

Table 40. Description of the buttons

Parameters	Function Introduction
Enable Detection	Check the checkbox to enable Motion Detection function.
Enable AI Advance Detection	Check this checkbox to enable AI-advanced detection for human or vehicle targets.
Detection Object	Select the Human or Vehicle option, the camera will trigger an alarm when it detects a person or a vehicle.
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.
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.

Parameters	Function Introduction
Clear All	Click the button, the area drawn before will be removed.
Zoom in and Draw	By clicking the **Zoom in and Draw** button, you can activate a full-screen pop-up window to draw more accurate detection region.
Save	Save the configuration.

[Basic Settings]

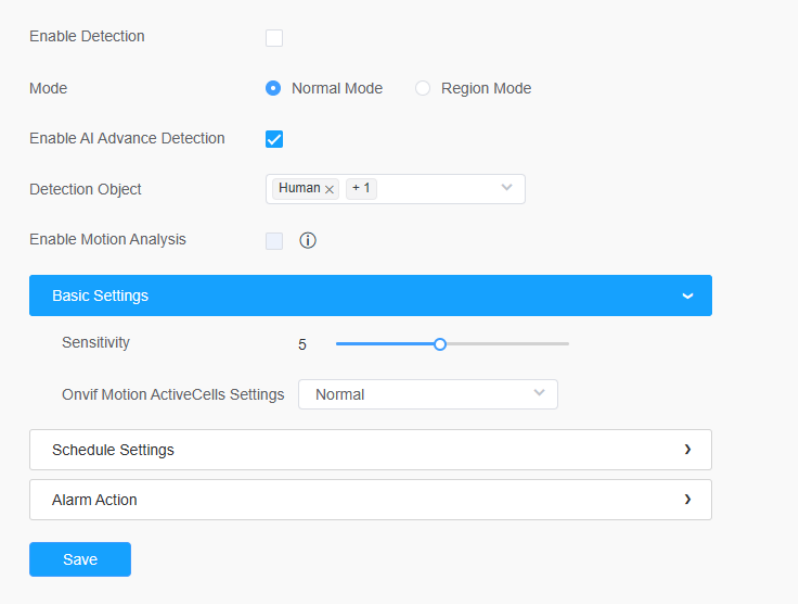


Table 41. Description of the buttons

Parameters	Function Introduction
Sensitivity	Sensitivity level, 1~10
Onvif Motion ActiveCells Settings	Normal and Compatible are available for the option. If the setting of motion region of the third-party software is different from ours, please set this option to Compatible

[Schedule Settings]

Step5: Set motion detection schedule.

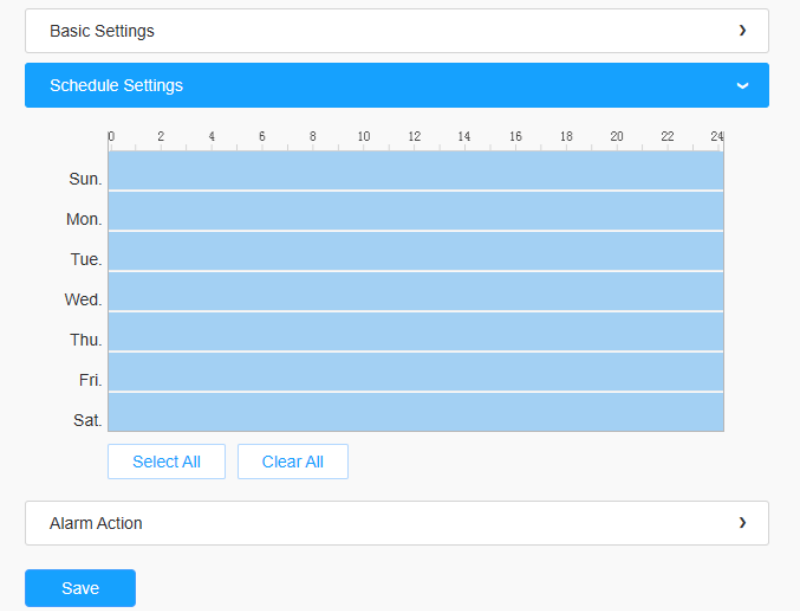
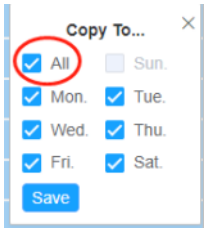
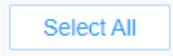
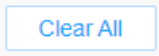


Table 42. Description of the buttons

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]

Step6: Set alarm action.

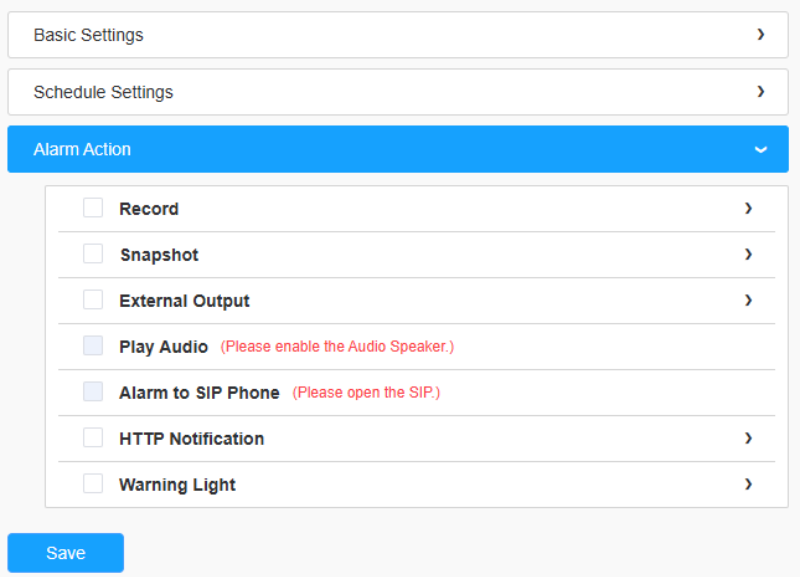


Table 43. Description of the buttons

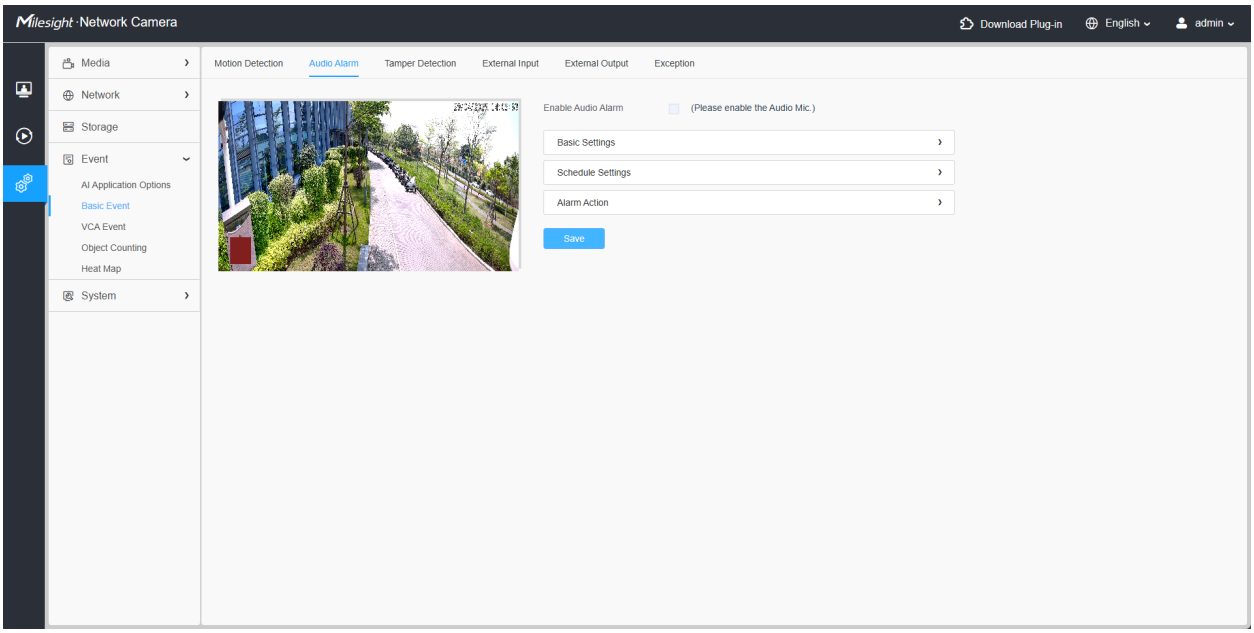
Parameters	Function Introduction
Record	**Duration:** Selected the duration time of alarm. 5s/10s/15s/20s/25s/30s are available. **Linkage:** Save alarm recording files into SD Card or NAS or Upload the recording files via FTP.
Snapshot	**Number:** The number of snapshot, 1~5 are available. **Interval:** 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.
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.
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
White LED	When the alarm triggered, White LED will turn on to warn the detected objects. **Note:** Only for PTZ Bullet.
PTZ Motion	There are five PTZ action enable to choose. **PTZ motion:** When the motion alarm is triggered, PTZ Motion enables the camera to pivot to the triggered position and zoom in. **Call Present/Call Patrol/Call Pattern:** When the alarm action is triggered, Preset, Patrol, or Pattern will be called. **PTZ Auto Tracking:** Camera will automatically track objects and trigger an alarm if objects enter the selected regions. **Note:** • Only for PTZ series. • Please enable PTZ action on the PTZ interface first.

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 44. Description of the buttons

Parameters	Function Introduction
Alarm Threshold	Audio Alarm will be triggered when the thresholds reaches to a certain value from 0 to 100.
Audio Sample Value	The current value of the audio sample.

[Schedule Settings]

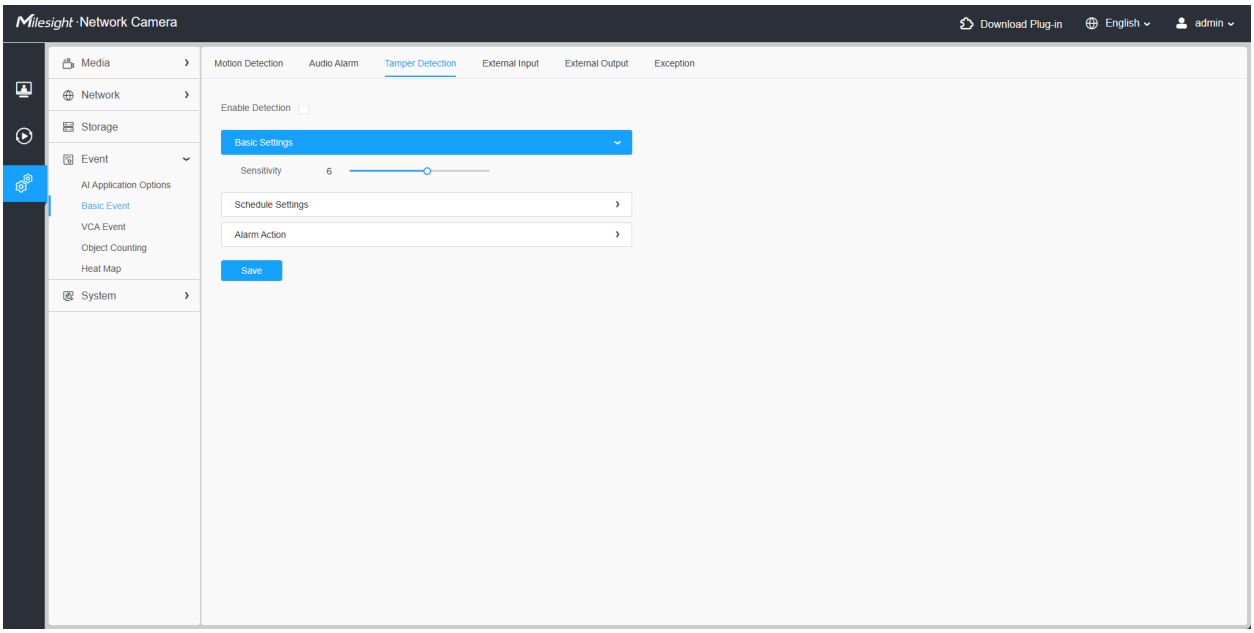
Refer to the table Table 3 *(page 97)* for the meanings of the items, here will not repeat again.

[Alarm Action]

Refer to the table Table 4 *(page 98)* for the meanings of the items, here will not repeat again.

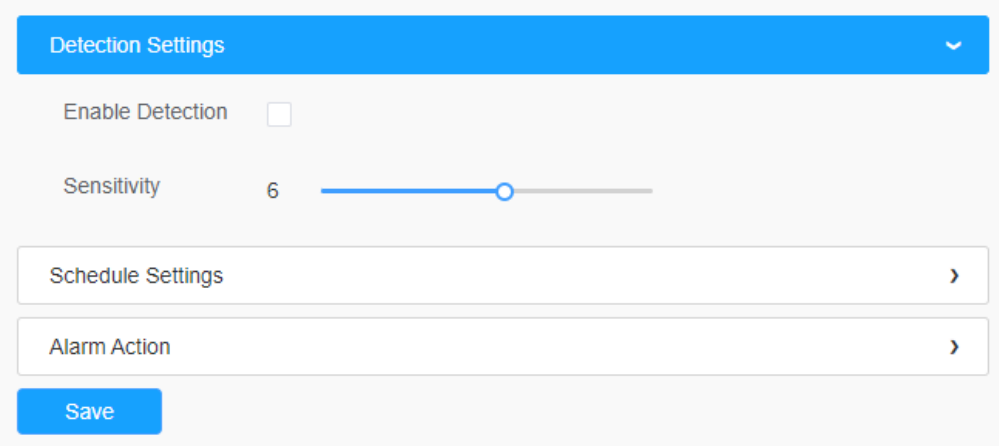
8.4.1.3 Tamper Detection

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:

Step1: Enable Tamper Detection.



[Schedule Settings]

Step2: Set detection schedule.

Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

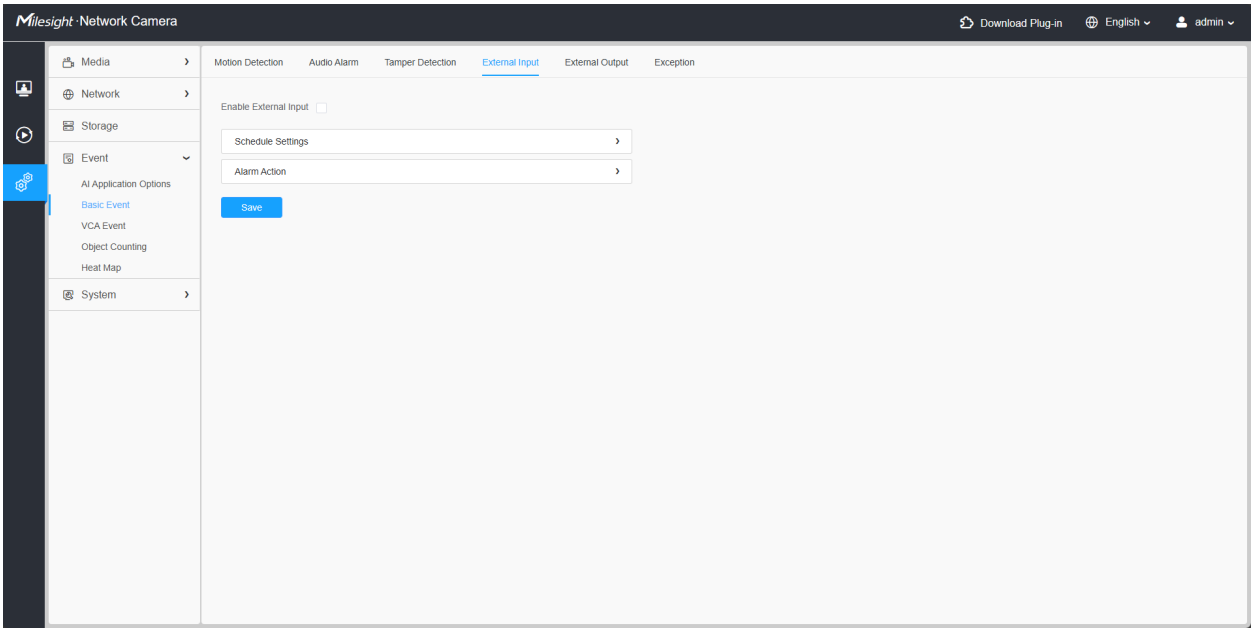
[Alarm Action]

Step3: Set alarm action.

Note:

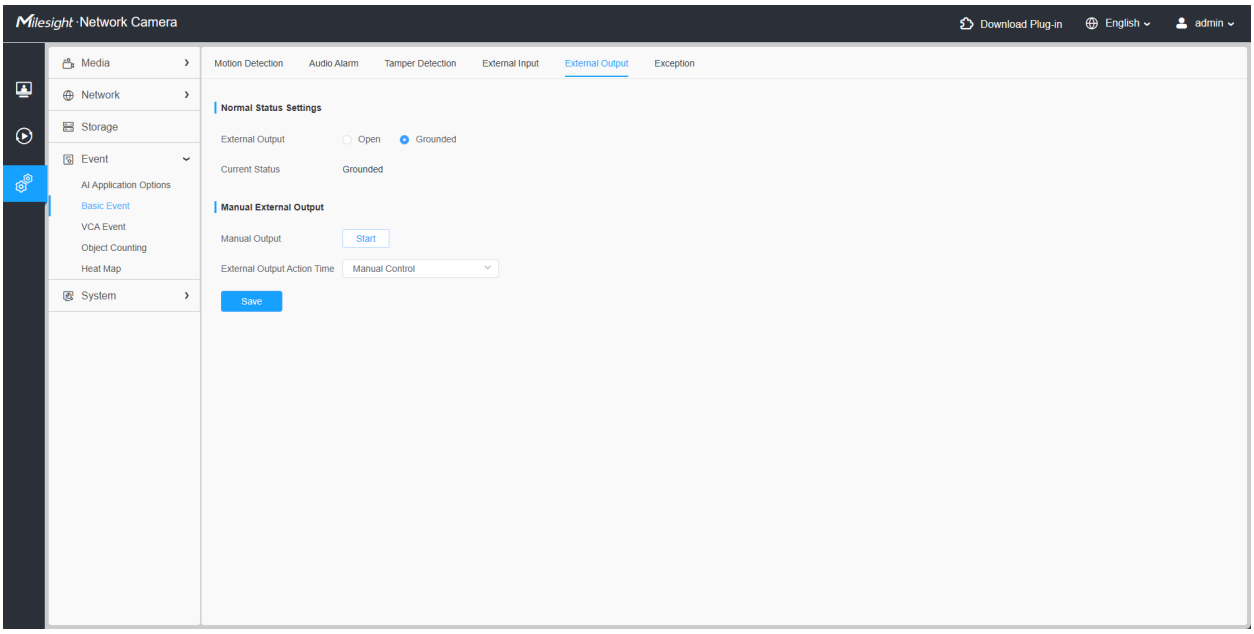
- This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 98)*.
- If you enable External Output and choose Constant External Output Action Time, when possible tampering is detected, External Output Action alarm time will be always constant till the alarm is released.
- The algorithm supports defocus detection in Tamper Detection function.

8.4.1.4 External Input



Refer to the table Table 3 *(page 97)* for the meanings of the items, here will not repeat again.

8.4.1.5 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 45. 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.

8.4.1.6 Exception

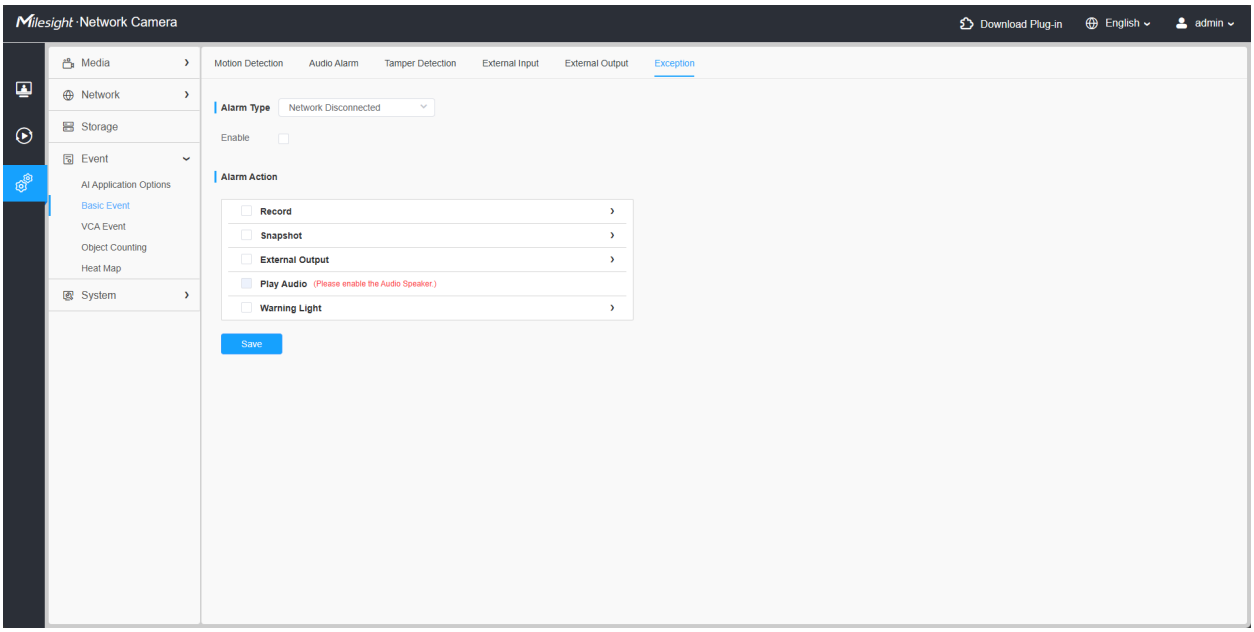


Table 46. Description of the buttons

Parameters	Function Introduction
Alarm Type	**Network Disconnected**, **IP Address Conflicted, Record Failed, SD Card Full, SD Card Uninitialized, SD Card Error** and **No SD Card** are available Check the checkbox to enable the alarm type you selected
Alarm Action	Refer to the table Table 3 *(page 97)* for the meanings of the items, here will not repeat again.

8.4.2 VCA Event

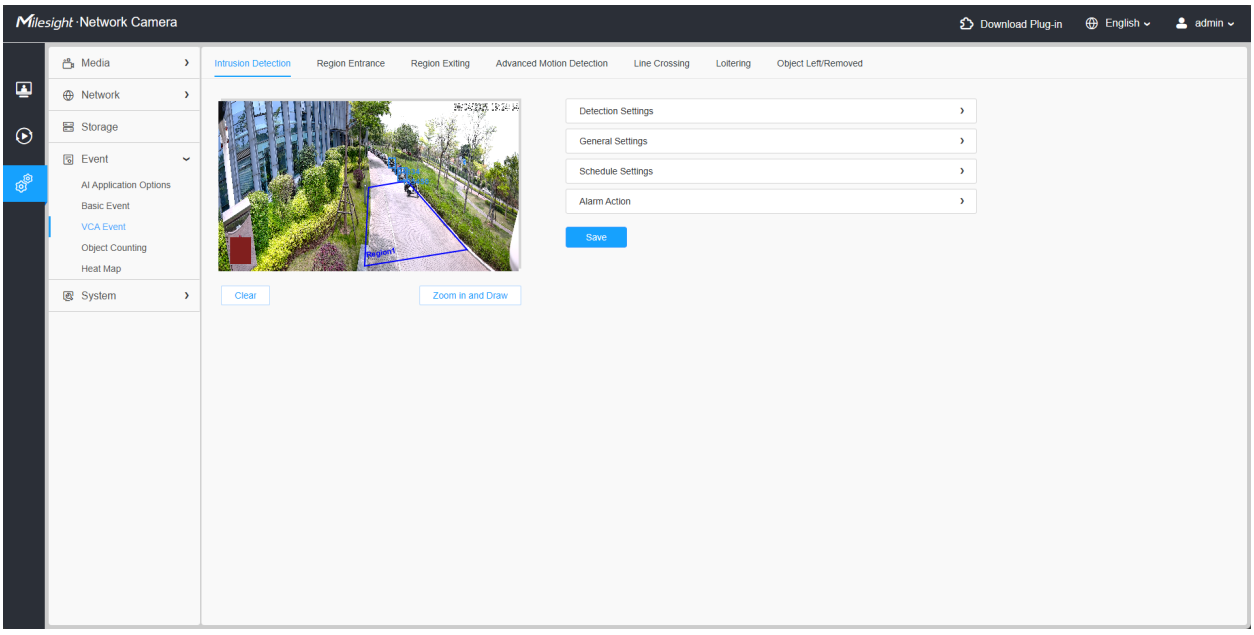
Smart Event uses VCA (Video Content Analysis) technology, which provides advanced, accurate smart video analysis for Milesight network cameras. Powered by AI chip,the new generation video analytics is capable of recognizing vast attributes of human, vehicle, and object pattern recognition models. As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

Note:

- For more details about how to use set VCA solution, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000643371.
- For more details about the Milesight AI Video Content Analysis information, please refer to https://resource.milesight.com/milesight/security/document/a-milesight-technology-moment/a-milesight-technology-moment-milesight-vca.pdf

8.4.2.1 Intrusion Detection

Intrusion detection is used to protect a specific area from potential threats of intrusion by suspicious people or other objects. Whether it is an intrusion from outside the region or a sudden appearance within the region, an alarm action will be triggered.



Settings steps are shown as follows:

[Detection Settings]

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

Step1: Selected effective region including Normal and Advanced.

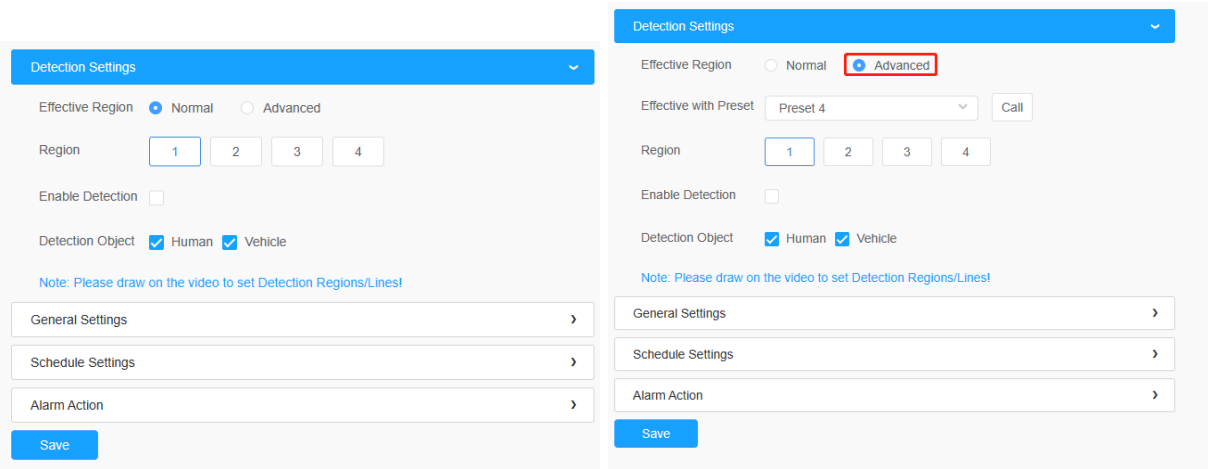
Normal mode is effective for all detection areas.

Advanced methods will work in specific fields of view and require setting a preset.

Step2: Selected detection region and enable intrusion detection.

Draw a detection area by clicking on the live view. Alternatively, you can click the **'Zoom in and Draw'** button to activate a full-screen pop-up window, allowing you to draw more accurate detection areas.

Step3: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events.



[General Settings]

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

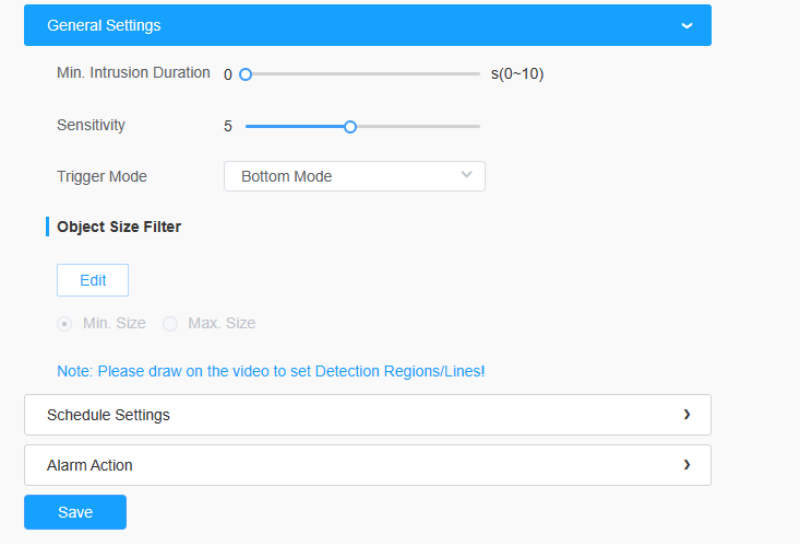
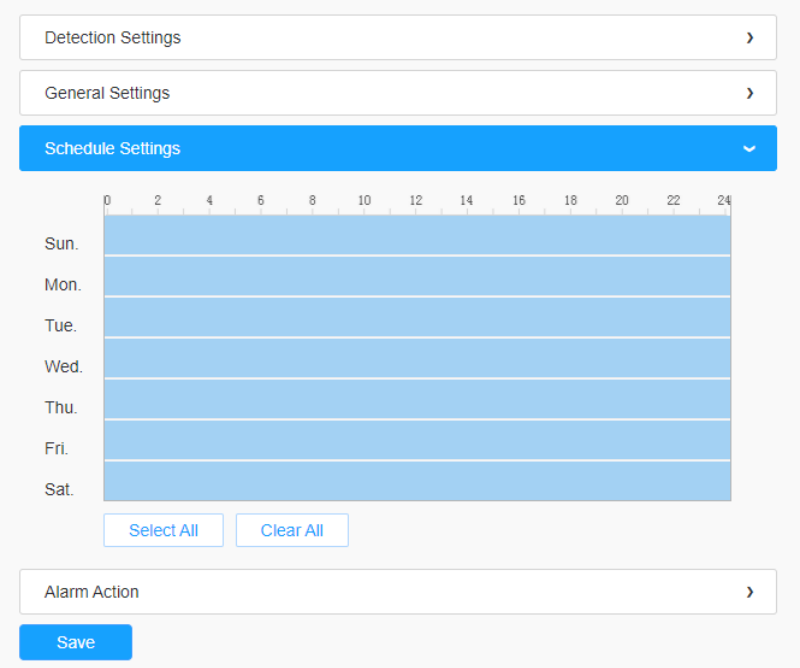


Table 47. Description of the buttons

Parameters	Function Introduction
Min.Intrusion Duration	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]

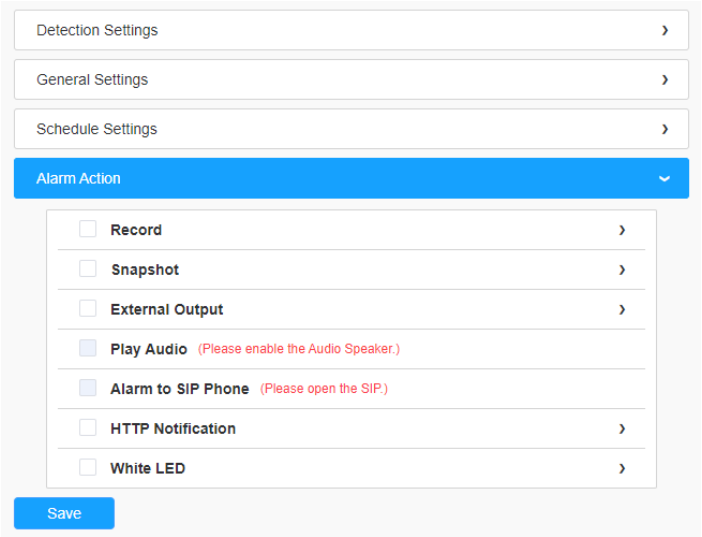
Step5: Set detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

[Alarm Action]

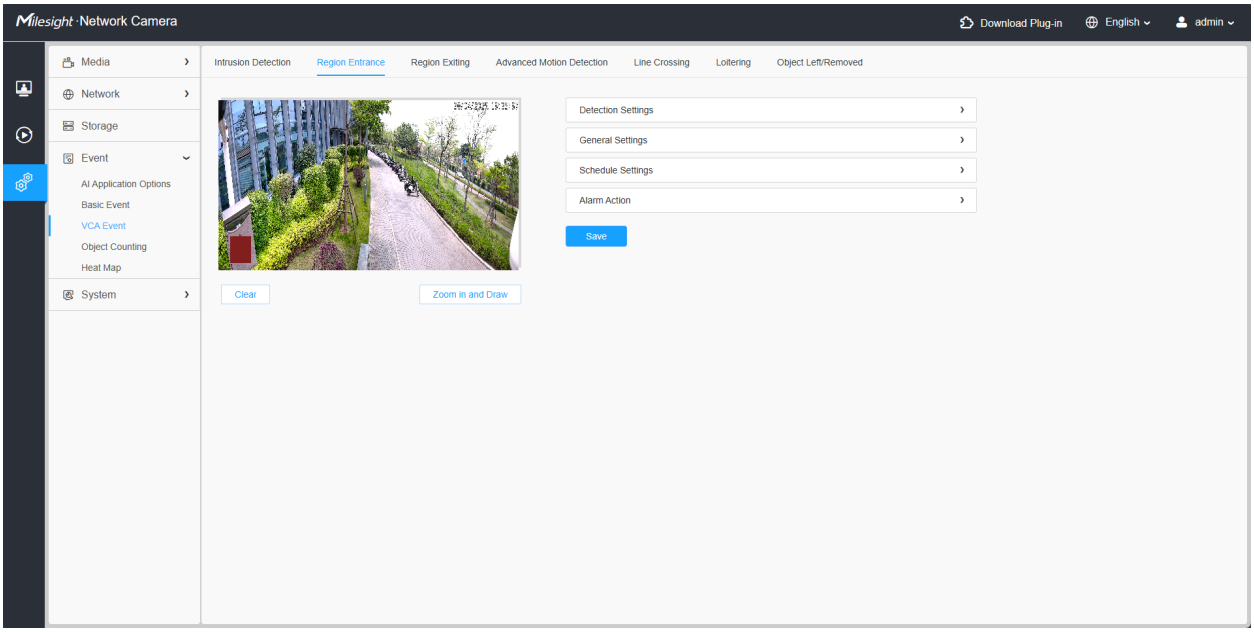
Step6: Set alarm action.



Note: This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 98)*.

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: Selected effective region including Normal and Advanced.

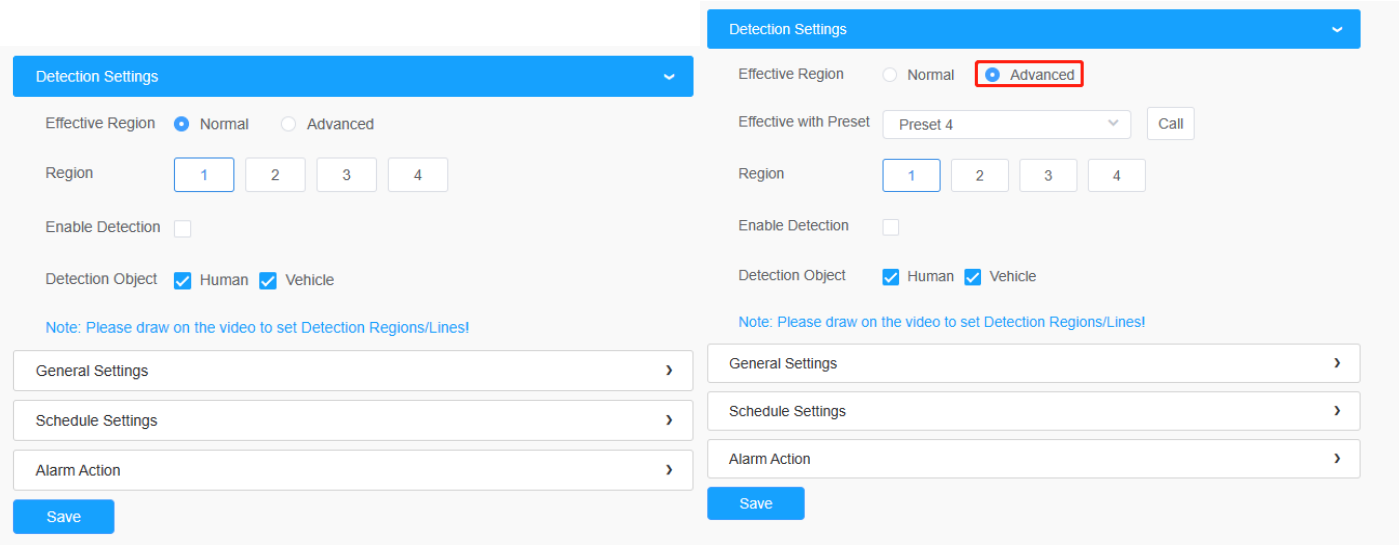
Normal mode is effective for all detection areas.

Advanced methods will work in specific fields of view and require setting a preset.

Step2: Selected detection region and enable region entrance detection.

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

Step3: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events;



[General Settings]

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

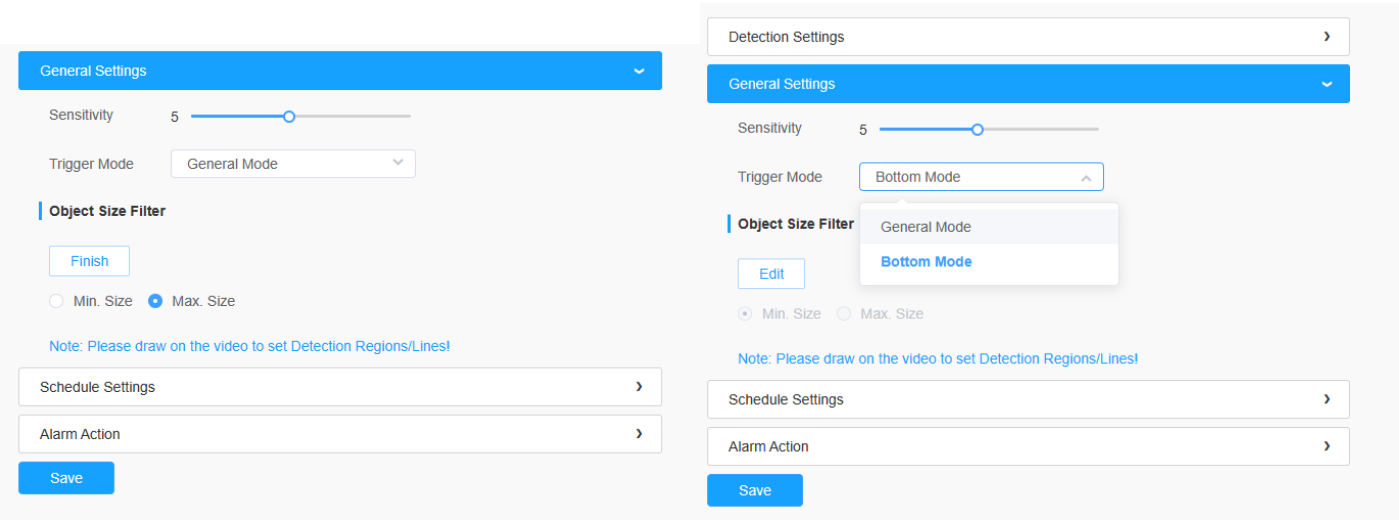


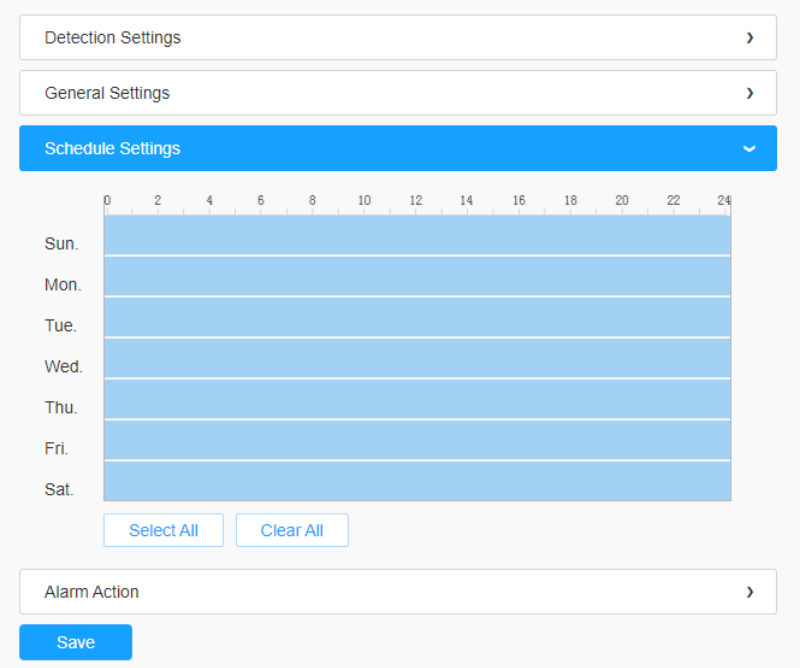
Table 48. Description of the buttons

Parameters	Function Introduction
Sensitivity	Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results.

Parameters	Function Introduction
Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. General Mode: The alarm is triggered when the object's body roughly enters the detection area. Bottom Mode: the alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/ bottom detection preference.
Min. Size	Draw on the screen to set the minimum size of the detected object. Objects smaller than this size will not be detected. The default minimum size is 3x3.
Max. Size	Draw on the screen to set the maximum size of the detected object. Objects larger than this size will not be detected. The default maximum size is 320x240.

[Schedule Settings]

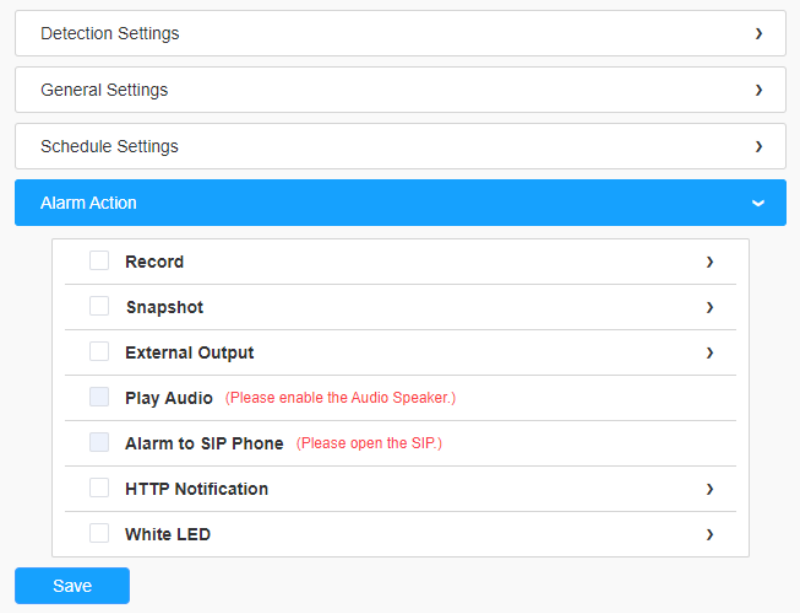
Step5: Set detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

[Alarm Action]

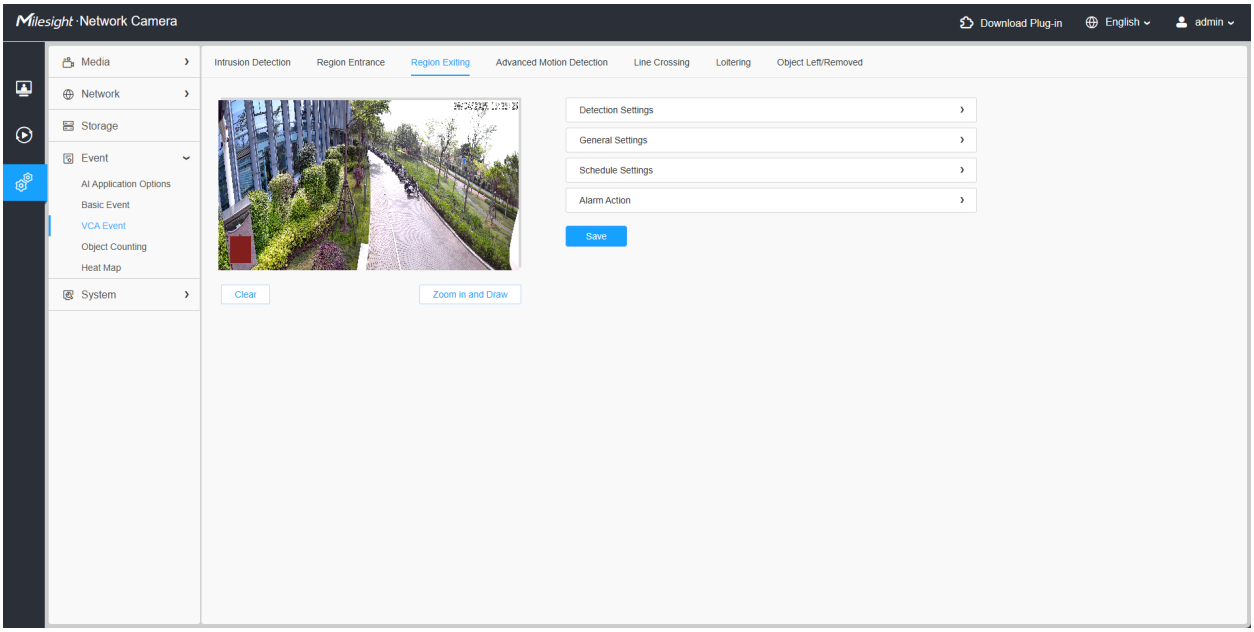
Step6: Set alarm action.



Note: This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 98)*.

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: Selected effective region including Normal and Advanced;

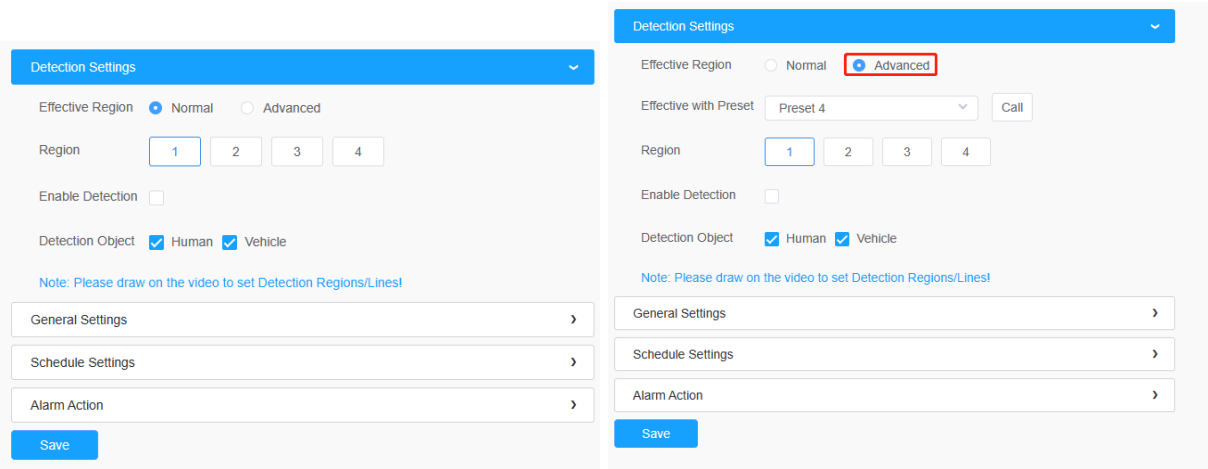
Normal mode is effective for all detection areas;

Advanced methods will work in specific fields of view and require setting a preset.

Step2: Selected detection region and enable region exiting detection.

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

Step3: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events.



[General Settings]

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

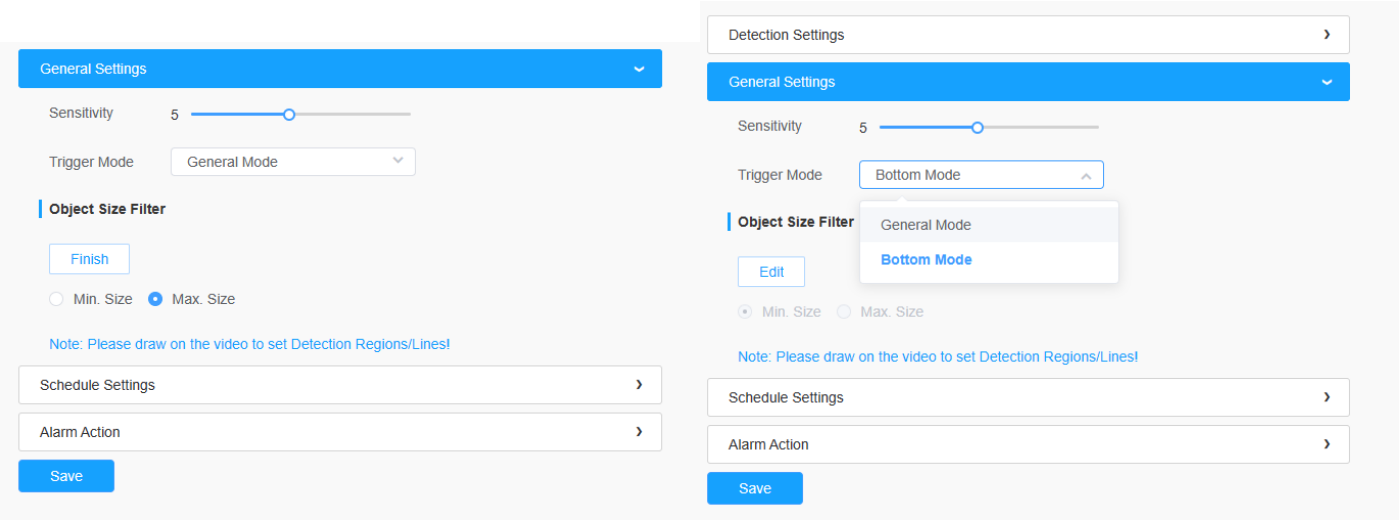
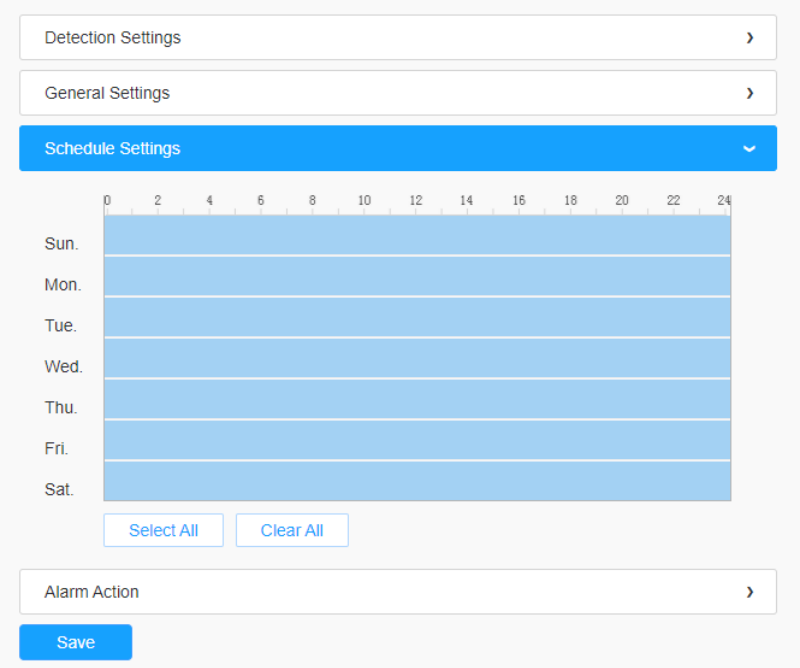


Table 49. Description of the buttons

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

[Schedule Settings]

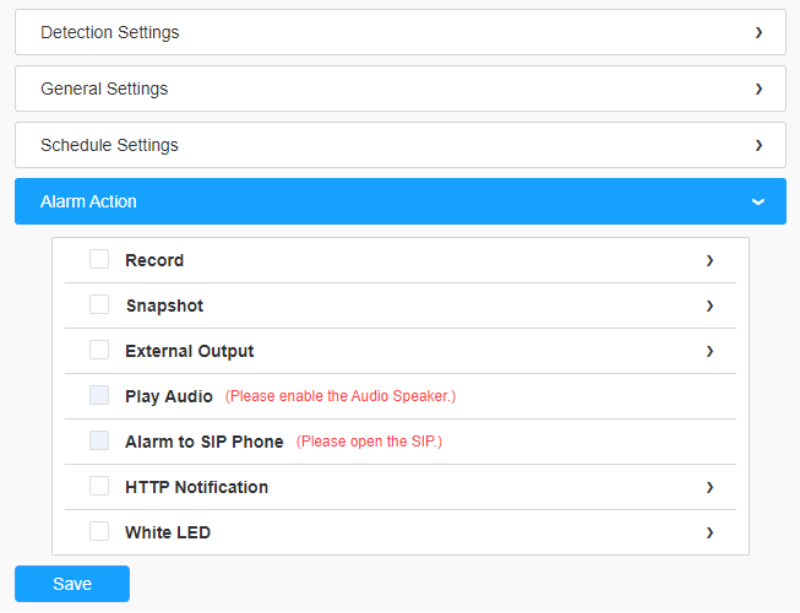
Step5: Set detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

[Alarm Action]

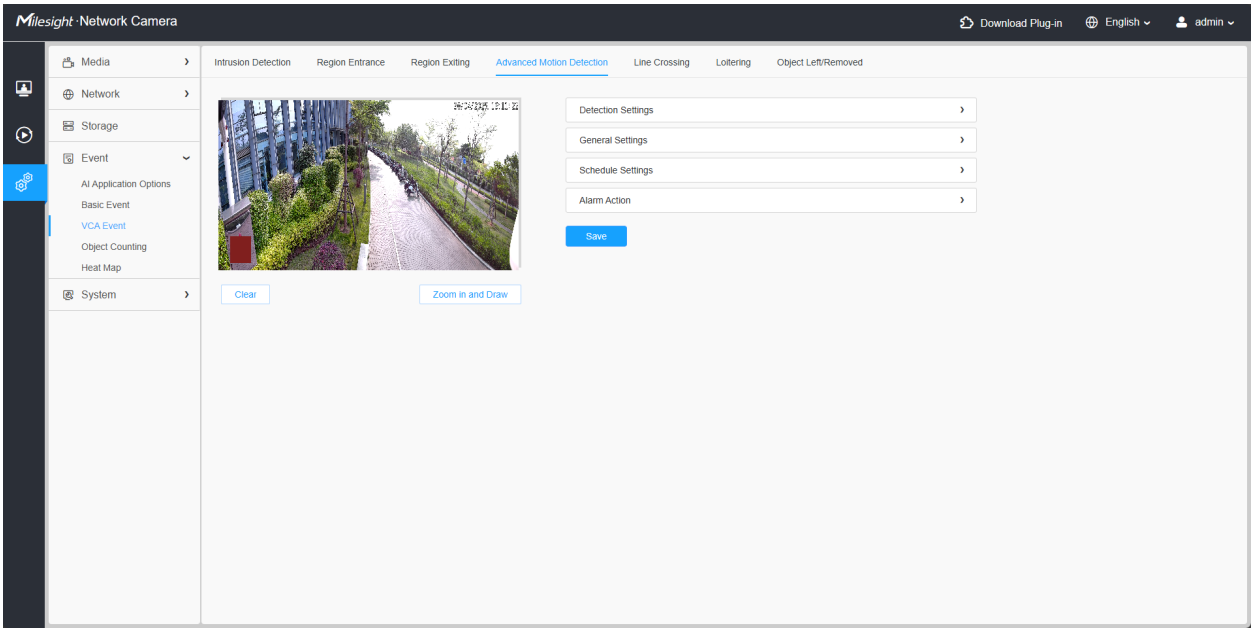
Step6: Set alarm action.



Note: This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 98)*.

8.4.2.4 Advanced Motion Detection

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



Settings steps are shown as follows:

Step1: Selected effective region including Normal and Advanced.

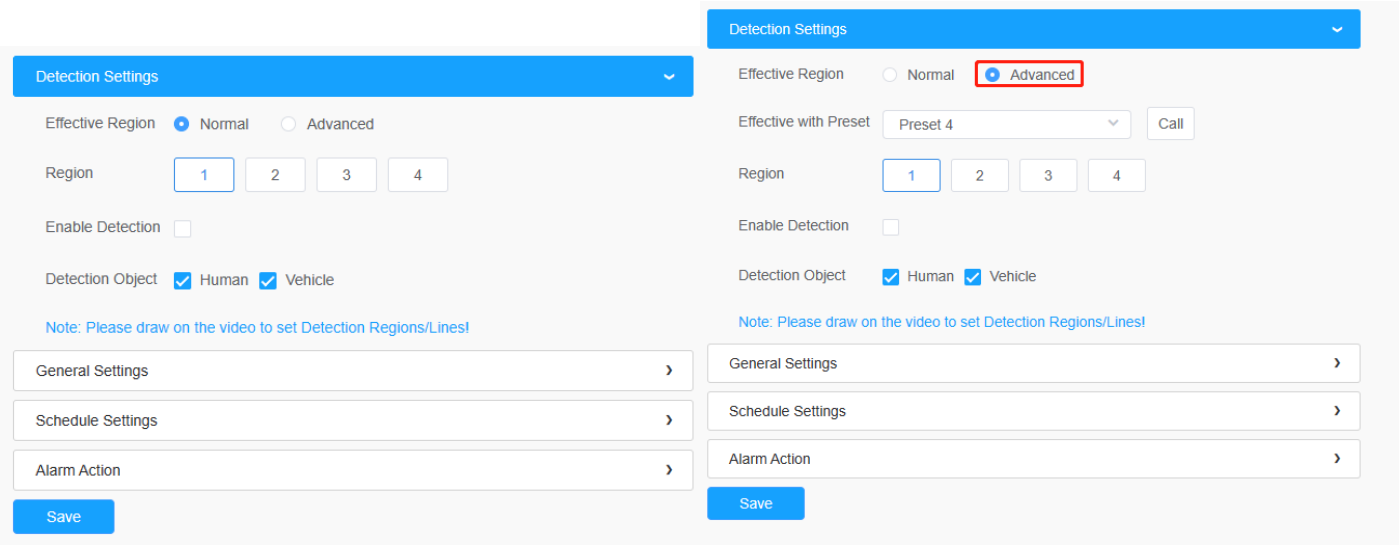
Normal mode is effective for all detection areas.

Advanced methods will work in specific fields of view and require setting a preset.

Step2: Selected Detection Region and enable advanced motion detection.

Draw a detection area by clicking on the live view. Alternatively, you can click the **'Zoom in and Draw'** button to activate a full-screen pop-up window, allowing you to draw more accurate detection areas.

Step3: Enable region entrance detection. And choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events;



[General Settings]

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

Step5: Set detecting sensitivity and object size limits.

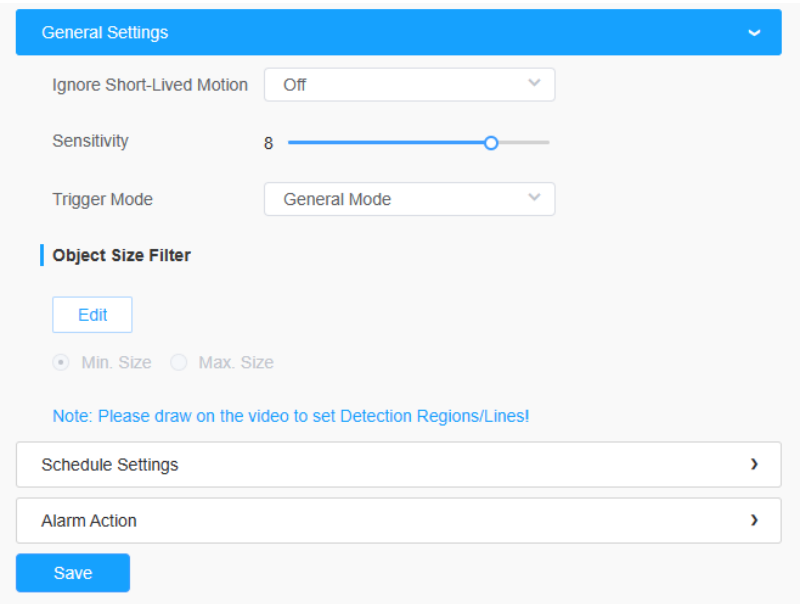


Table 50. Description of the buttons

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

[Schedule Settings]

Step6: Set detection schedule;

Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

[Alarm Action]

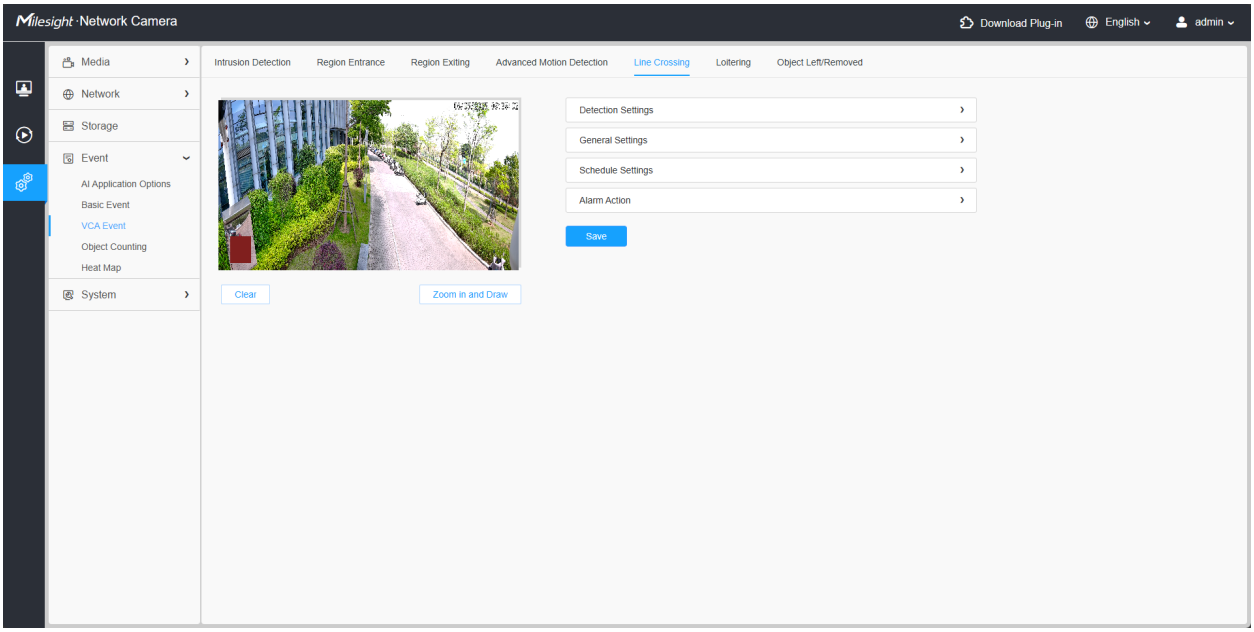
Step7: Set alarm action.

Note:

- This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 98)*.
- If you enable External Output and choose Constant External Output Action Time, when object motion time is longer than the Ignore Short-Lived Motion time which you set in the selected regions, External Output Action alarm time will be always constant till the alarm is released.

8.4.2.5 Line Crossing

Line Crossing detection is designed to work in most indoor and outdoor environment. An event will be triggered every time when the camera detects objects crossing a defined virtual line.



Settings steps are shown as follows:

[Detection Settings]

Step1: Selected effective region including Normal and Advanced.

Normal mode is effective for all detection areas.

Advanced methods will work in specific fields of view and require setting a preset.

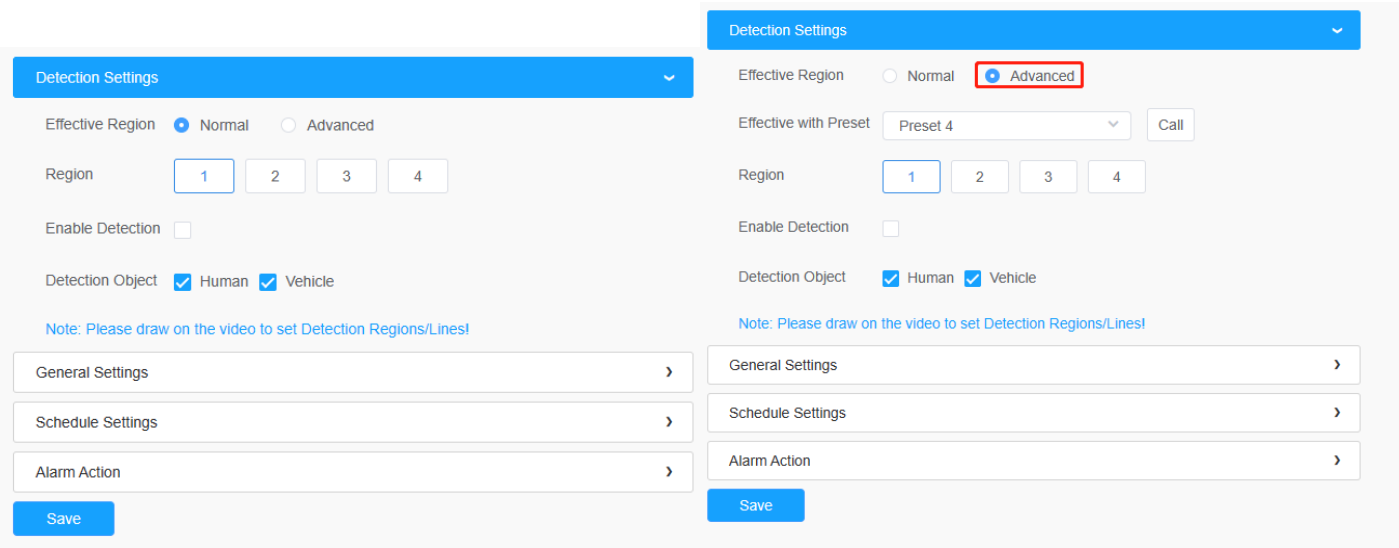
Step2: Select detection line, enable line crossing detection and define its direction.

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

Note:

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

Step3: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events.



[General Settings]

Step4: Set detecting sensitivity and object size limits.

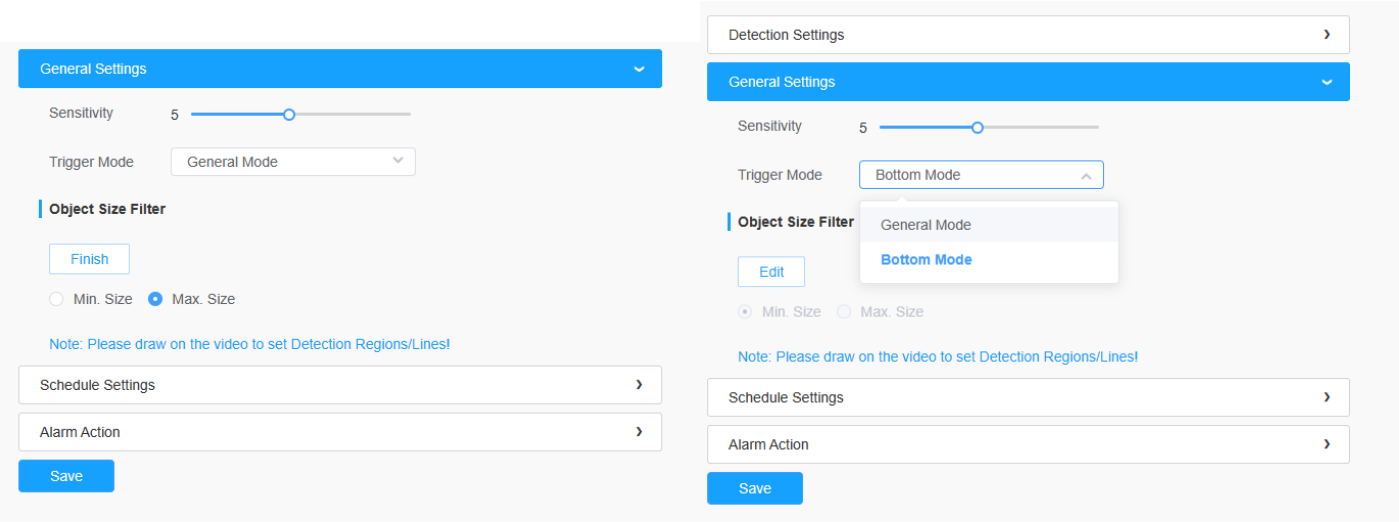


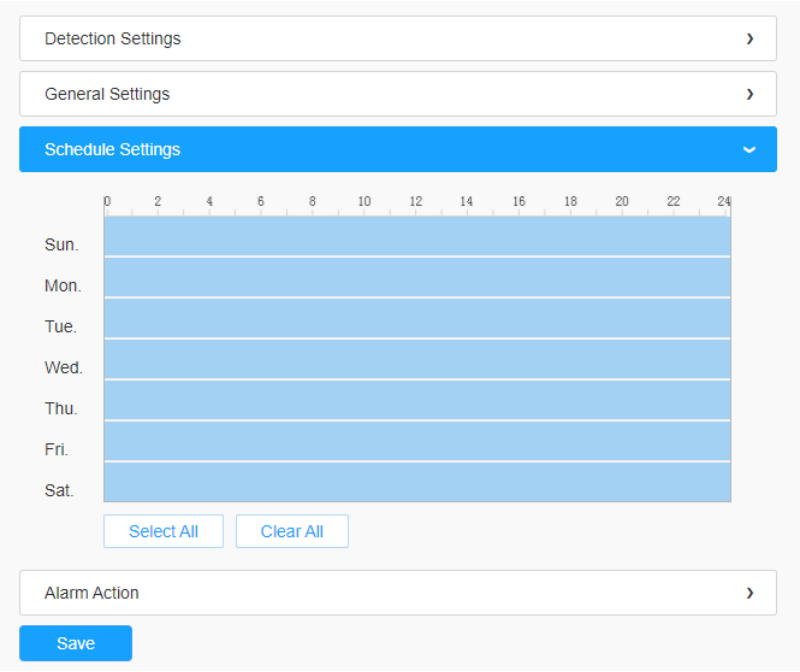
Table 51. Description of the buttons

Parameters	Function Introduction
Sensitivity	Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results.

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]

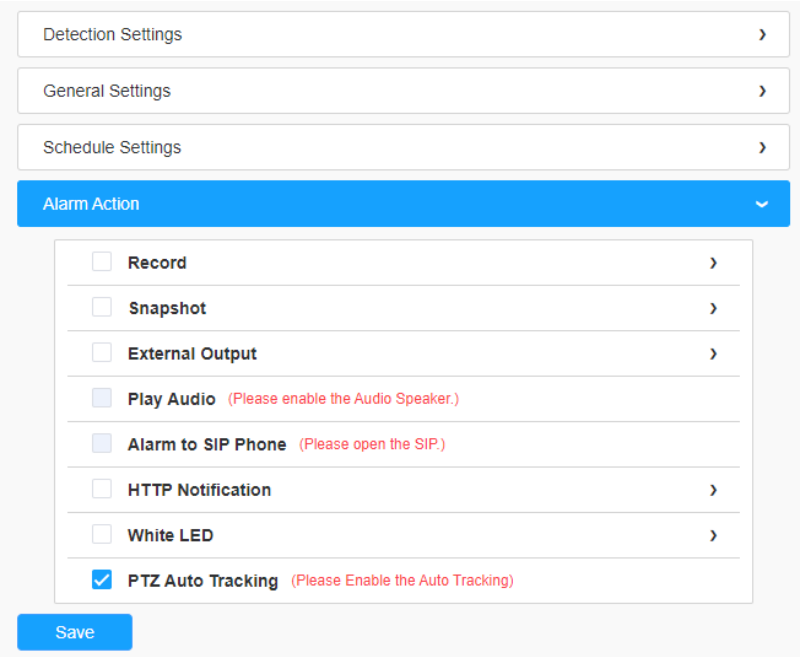
Step5: Set detection schedule.



Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

[Alarm Action]

Step6: Set alarm action.

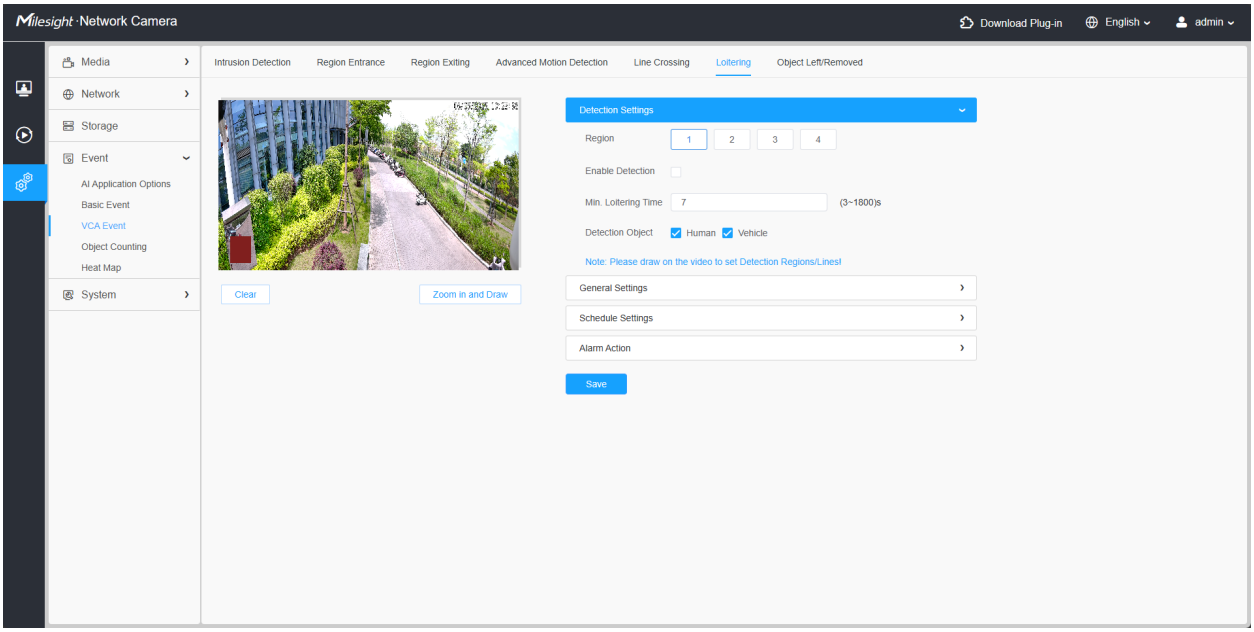


Note:

- This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 98)*.
- When enabling PTZ Auto Tracking, camera will automatically track objects and trigger an alarm if detecting objects crossing a defined virtual line
- If you enable External Output and choose Constant External Output Action Time, when objects cross a defined virtual line, External Output Action alarm time will be always constant till the alarm is released

8.4.2.6 Loitering

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



Settings steps are shown as follows:

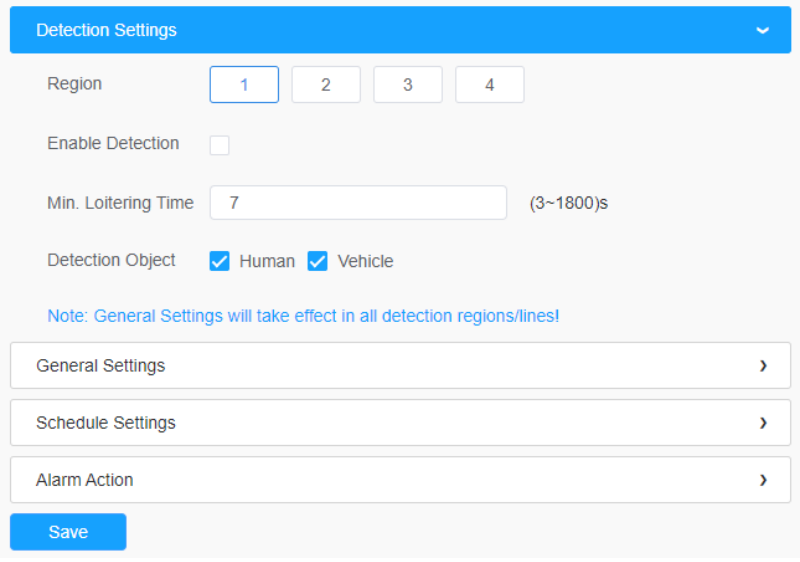
[Detection Settings]

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

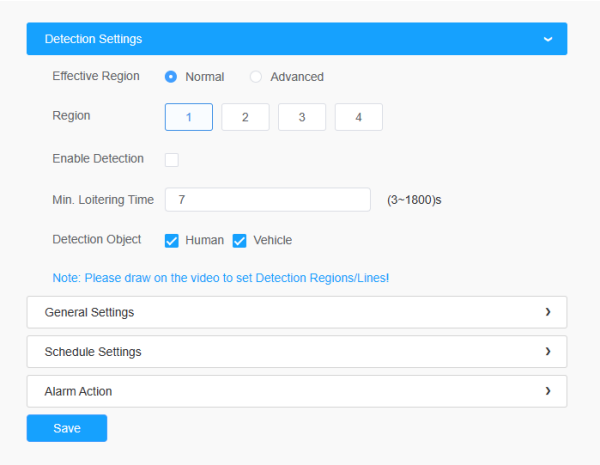
Step1: Select detection region and enable loitering detection.

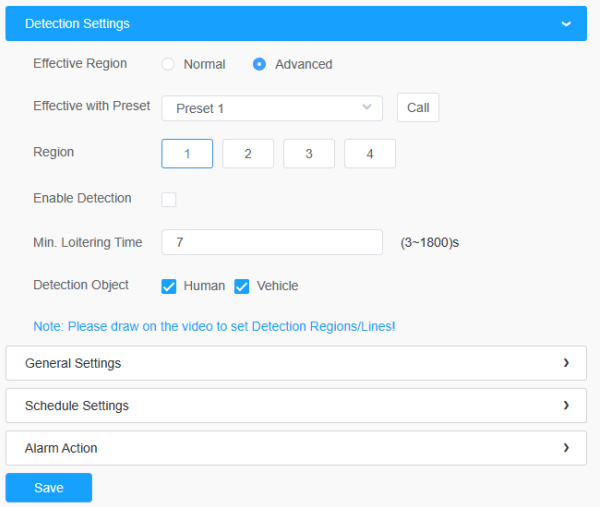
Draw a detection area by clicking on the live view. Alternatively, you can click the **'Zoom in and Draw'** button to activate a full-screen pop-up window, allowing you to draw more accurate detection areas.

Step2: 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.



Step3: Choose detection object. Check Human or Vehicle attribute, and the camera will alarm once detecting people or vehicle and triggering related events.





[General Settings]

Step4: Set object size limits.

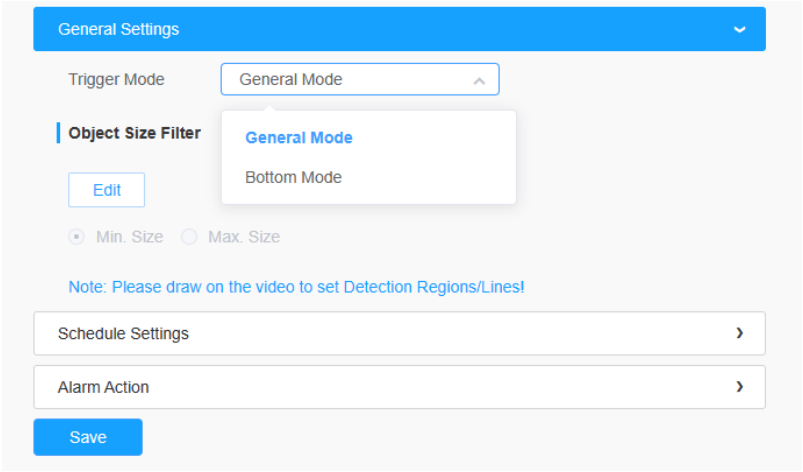


Table 52. Description of the buttons

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

Parameters	Function Introduction
Min. Size	Draw the screen to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.
Max. Size	Draw the screen to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

[Schedule Settings]

Step5: Set detection schedule.

Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

[Alarm Action]

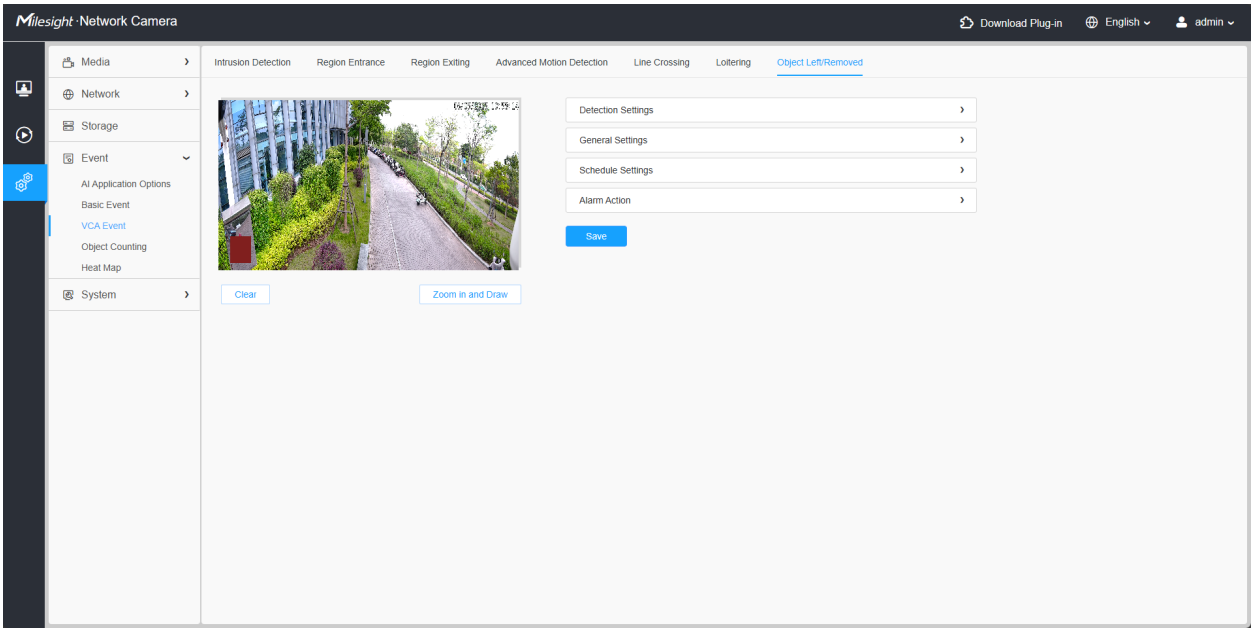
Step6: Set alarm action;

Note:

- This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 98)*.
- When enabling PTZ Auto Tracking and Loitering Detection, camera will automatically track objects and trigger an alarm if objects have been loitering in a defined area for more than the Min. Loitering Time.
- If you enable External Output and choose Constant External Output Action Time, when objects loiter in the selected regions, External Output Action alarm time will be always constant till the alarm is released.

8.4.2.7 Object Left/Removed

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



Settings steps are shown as follows:

[Detection Settings]

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

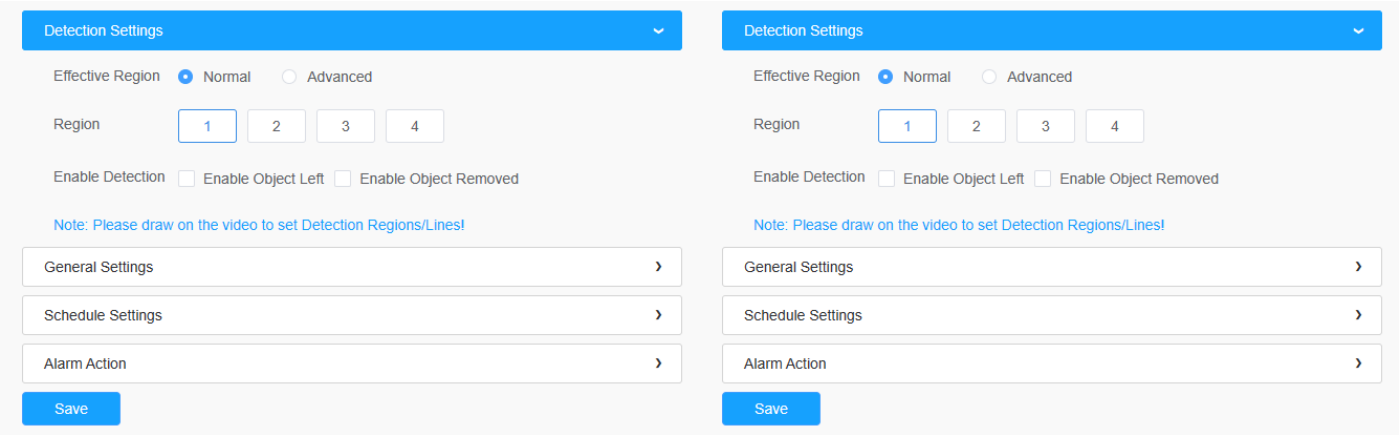
Step1: Selected effective region including Normal and Advanced.

Normal mode is effective for all detection areas.

Advanced methods will work in specific fields of view and require setting a preset.

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

Draw a detection area by clicking on the live view. Alternatively, you can click the **'Zoom in and Draw'** button to activate a full-screen pop-up window, allowing you to draw more accurate detection areas.



[General Settings]

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

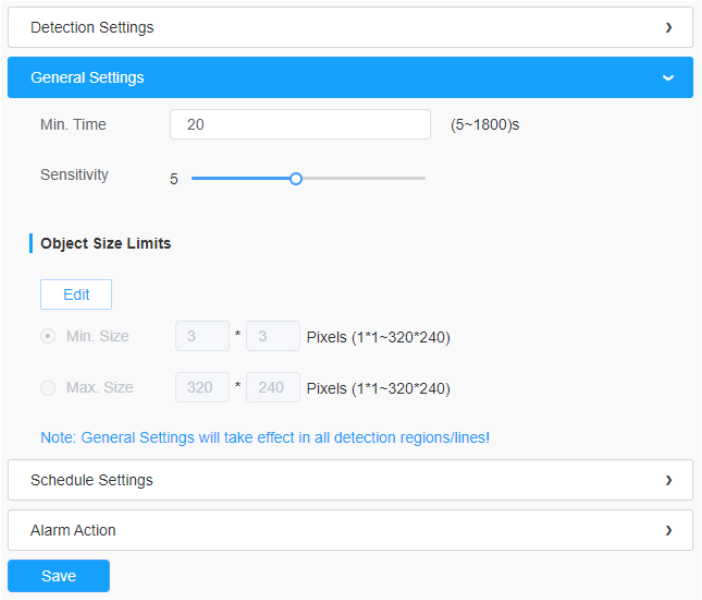


Table 53. Description of the buttons

Parameters	Function Introduction
Min. Time	After setting Min. time from 5s to 1800s, any objects are left in the selected area or removed from the selected area over the minimum time will trigger the alarm.
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
Min. Size	Draw the screen or input pixel number to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.
Max. Size	Draw the screen or input pixel number to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

[Schedule Settings]

Step4: Set detection schedule;

Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

[Alarm Action]

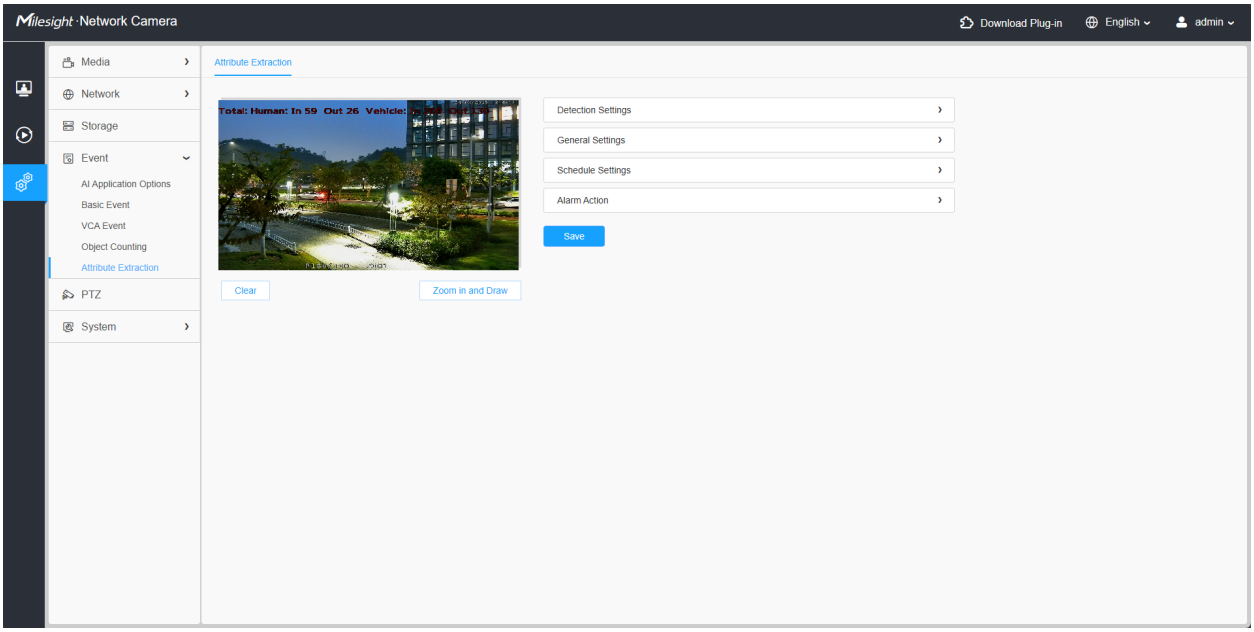
Step5: Set alarm action;

Note:

- This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 98)*.
- When enabling PTZ Auto Tracking, camera will automatically track objects and trigger an alarm if an object is left or removed in a defined area.
- If you enable External Output and choose Constant External Output Action Time, when an object is left/removed from the selected regions, External Output Action alarm time will be always constant till the alarm is released.

8.4.3 Attribute Extraction

Milesight's camera features intelligent AI-powered Attribute Recognition technology, enabling real-time and accurate differentiation between humans and vehicles. The system analyzes multiple attributes—such as upper and lower body clothing colors, hats, vehicle type, and more—to enhance target identification. This advanced recognition capability significantly improves security efficiency across a wide range of surveillance scenarios.



[Detection Settings]

Step1: Select effective region including Normal and Advanced.

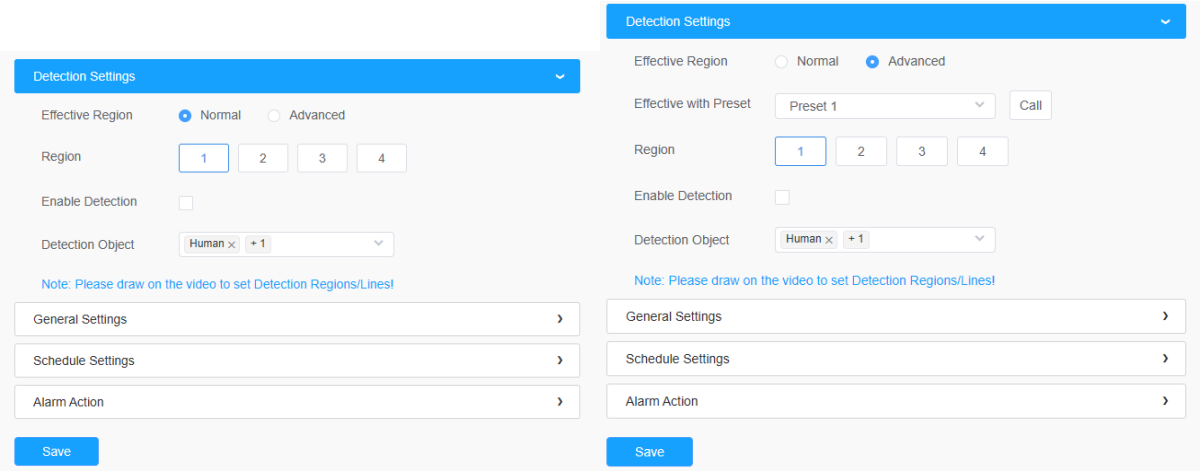
Normal mode is effective for all detection areas.

Advanced methods will work in specific fields of view and require setting a preset.

Step2: Select detection region and enable attribute extraction.

Draw a detection area by clicking on the live view. Alternatively, you can click the **'Zoom in and Draw'** button to activate a full-screen pop-up window, allowing you to draw more accurate detection areas.

Step3: Select a detection object (Human or Vehicle). The camera will trigger an alarm and related events when a person or vehicle is detected.



[General Settings]

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

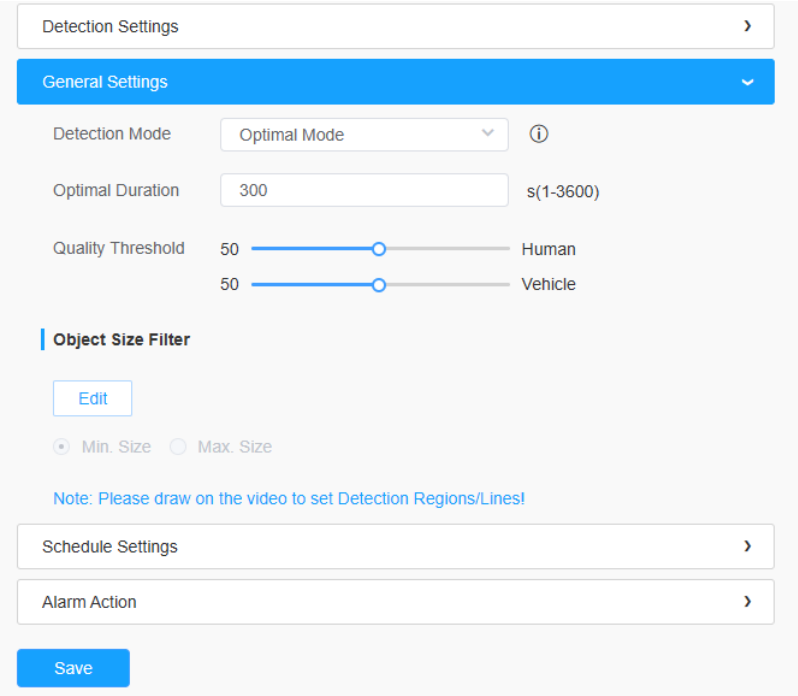


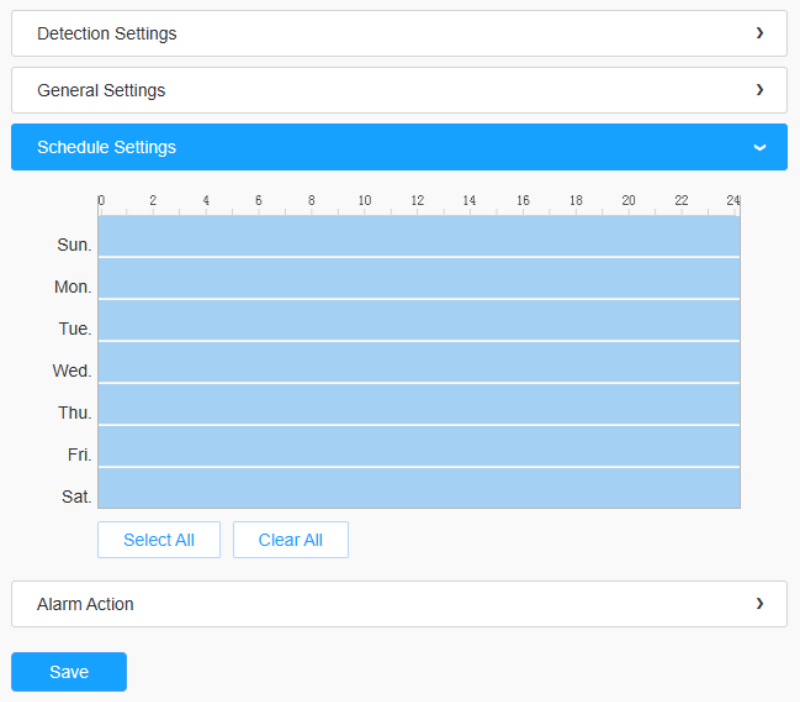
Table 54. Description of the buttons

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

[Schedule Settings]

Step5: Set detection schedule.

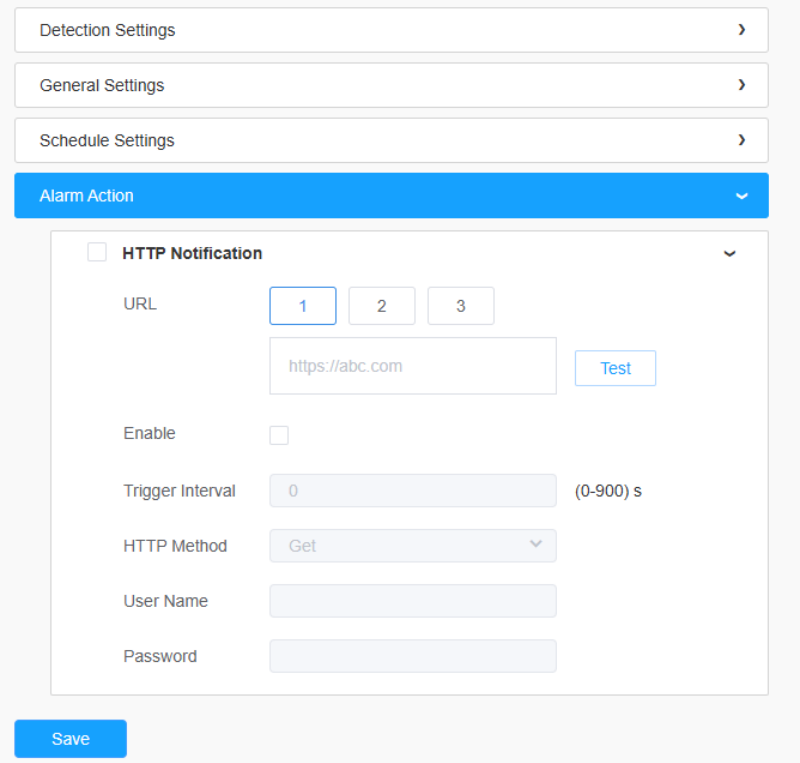
Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.



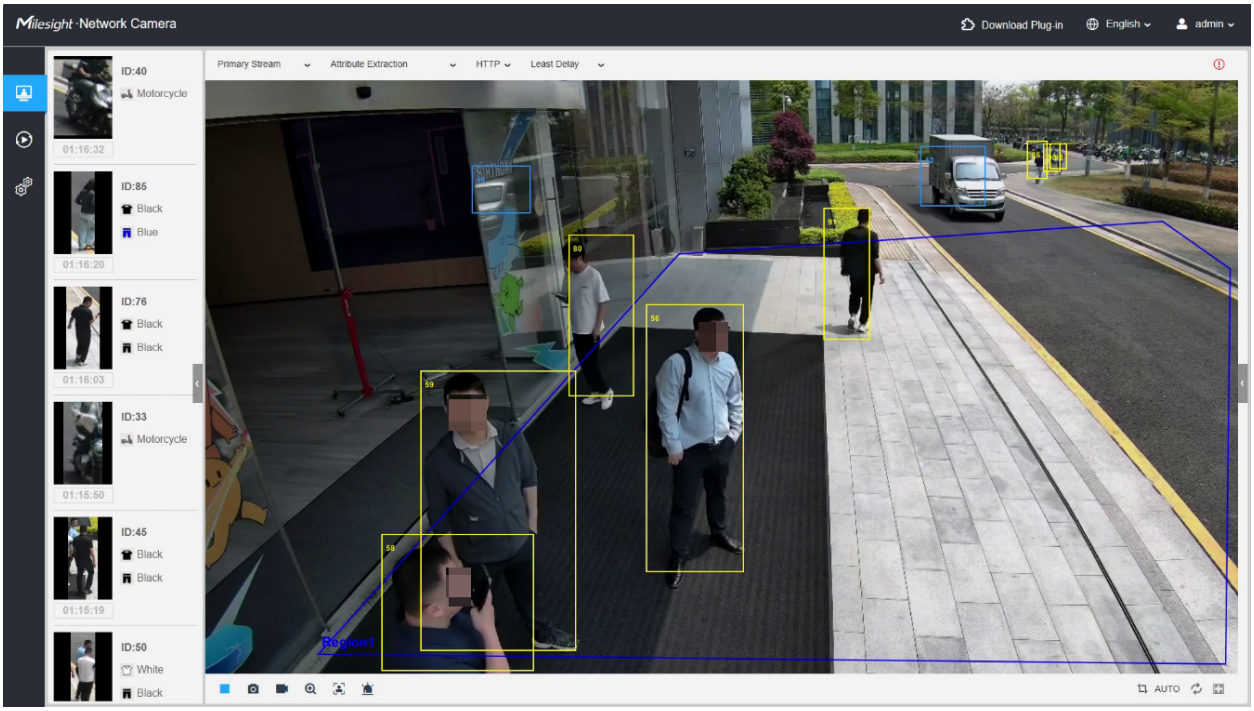
[Alarm Action]

Step6: Set alarm action.

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



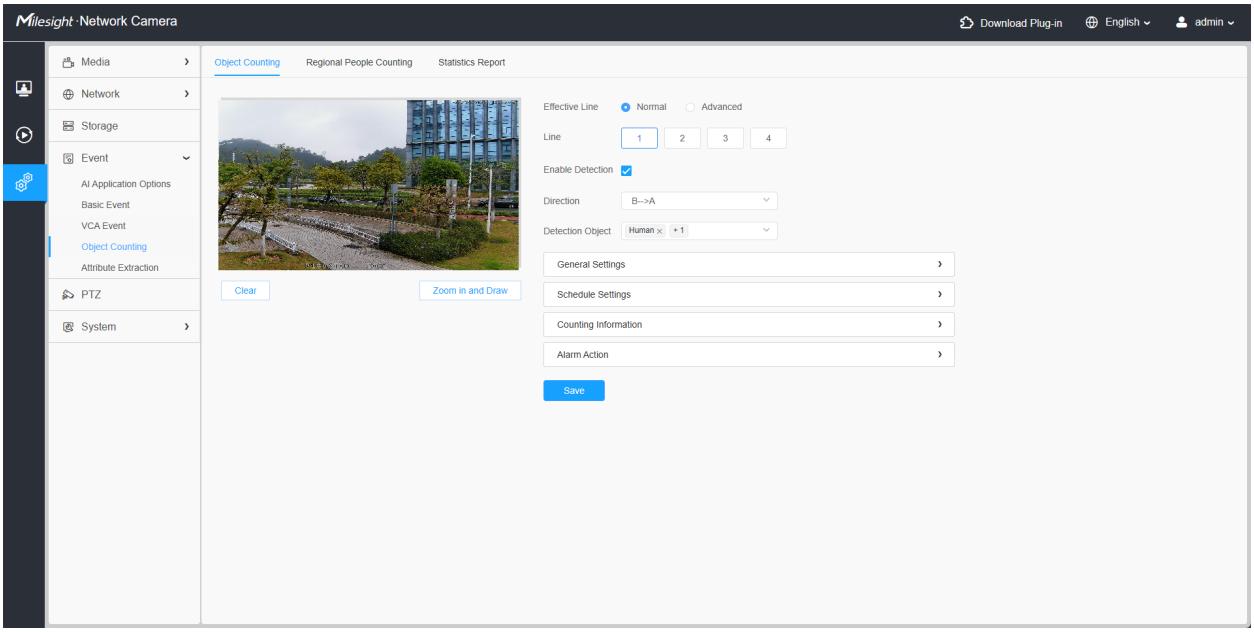
When Attribute Extraction is enabled, the attributes of detected humans or vehicles are displayed on the left side of the Live View interface. These attributes include upper and lower clothing color, presence of a hat, vehicle type, and more. This feature is particularly useful in specialized scenarios, making it easier to locate specific individuals or vehicles. The extracted data can also be seamlessly transferred to a back-end system for centralized management, significantly enhancing overall user experience and operational efficiency.



8.4.4 Object Counting

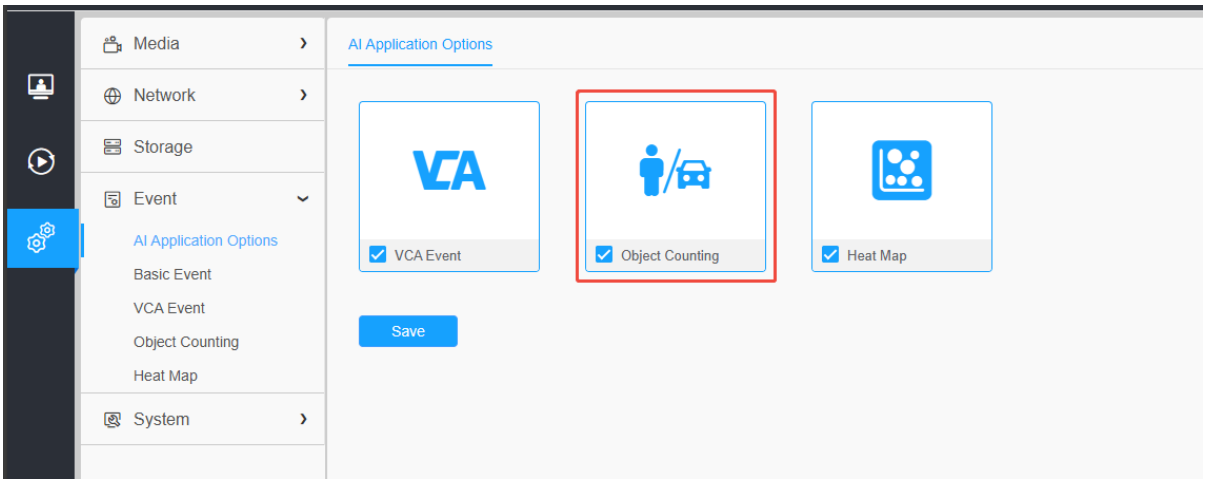
8.4.4.1 Object Counting

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



Settings steps are as shown below:

Step1: Check the object counting function box within the AI Application Options interface.



Step2: Selected effective region including Normal and Advanced.

Normal mode is effective for all detection areas.

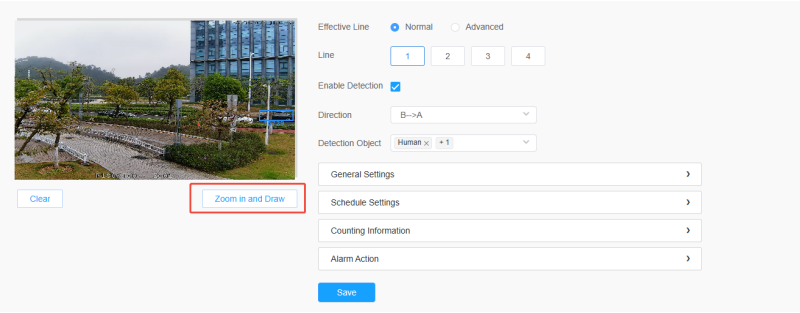
Advanced methods will work in specific fields of view and require setting a preset.

Step3: Selected detected region, up to 4 regions can be chosen.

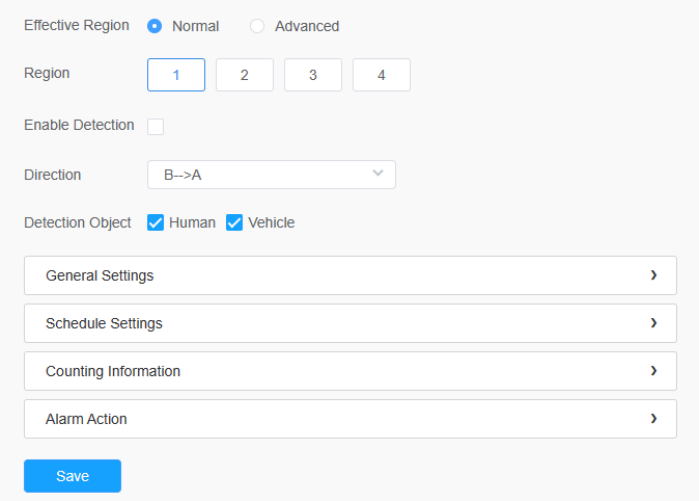
Step4: Enable Object Counting.

Step5: Set detection line and direction.

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

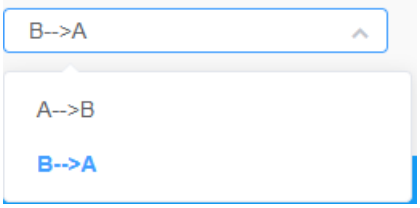


Step6: Selected detection object including human and vehicle.



Note:

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



[General Settings]

Step7: Set sensitivity and object size limits.

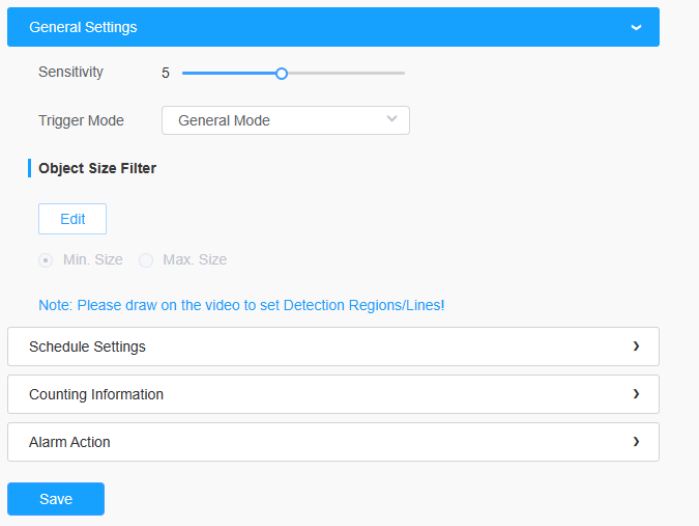


Table 55. Description of the buttons

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

[Schedule Settings]

Step8: Set detection schedule.

Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

[Counting Information]

Step9: Set counting information.

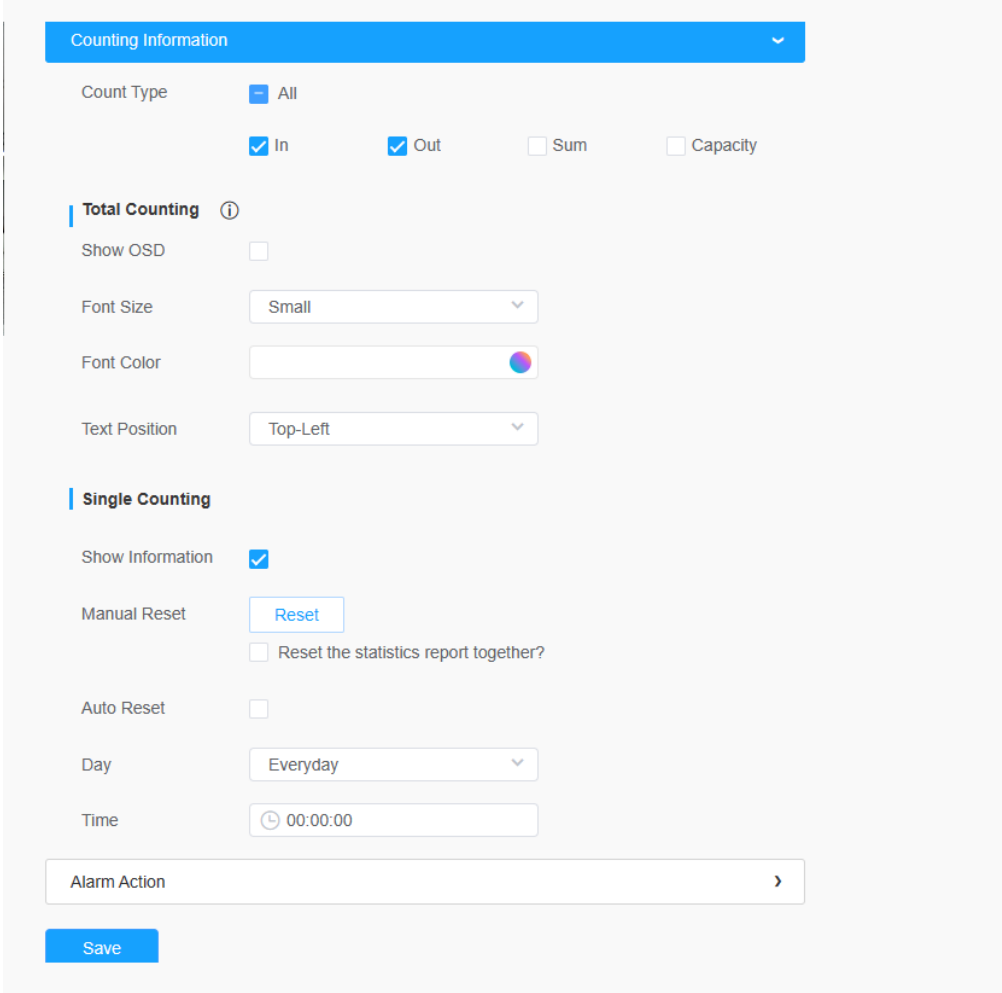
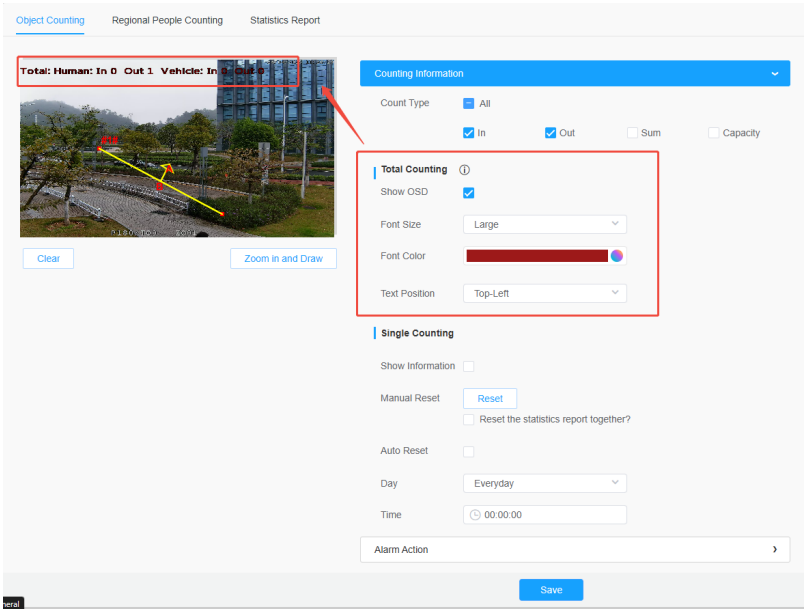
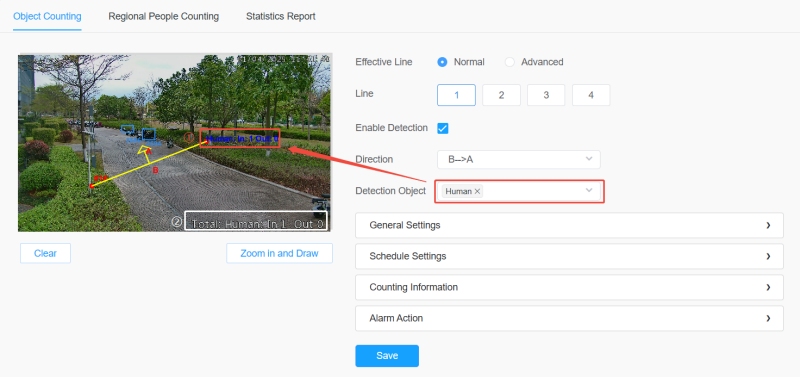


Table 56. Description of the buttons

Parameters	Function Introduction
Count Type	Users can choose the information they want to display in Live Video.

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

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

[Alarm Action]

Step10: Set alarm trigger and alarm action.

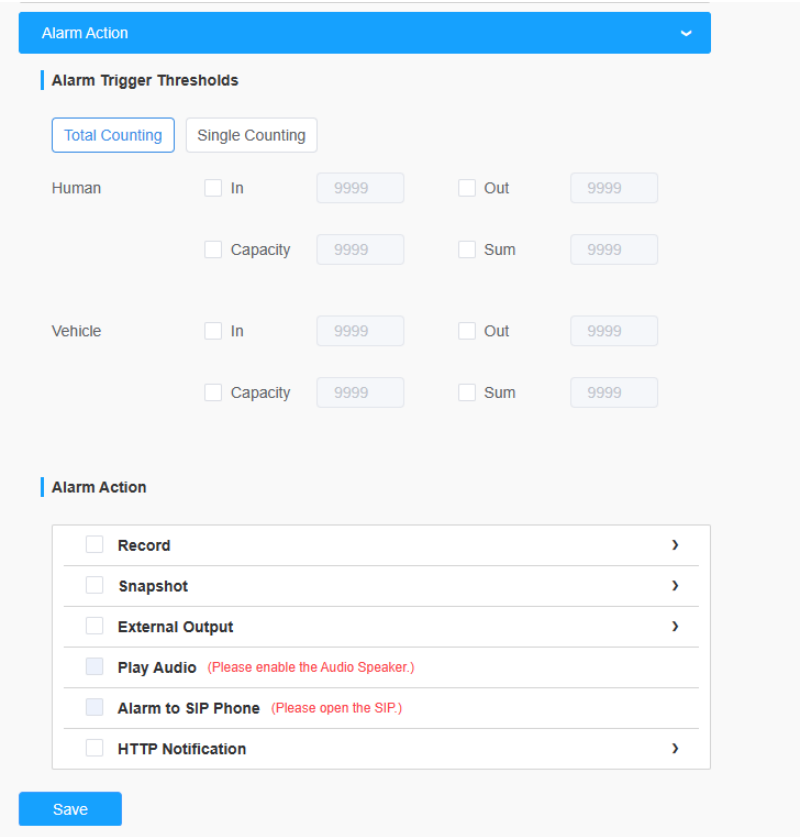


Table 57. Description of the buttons

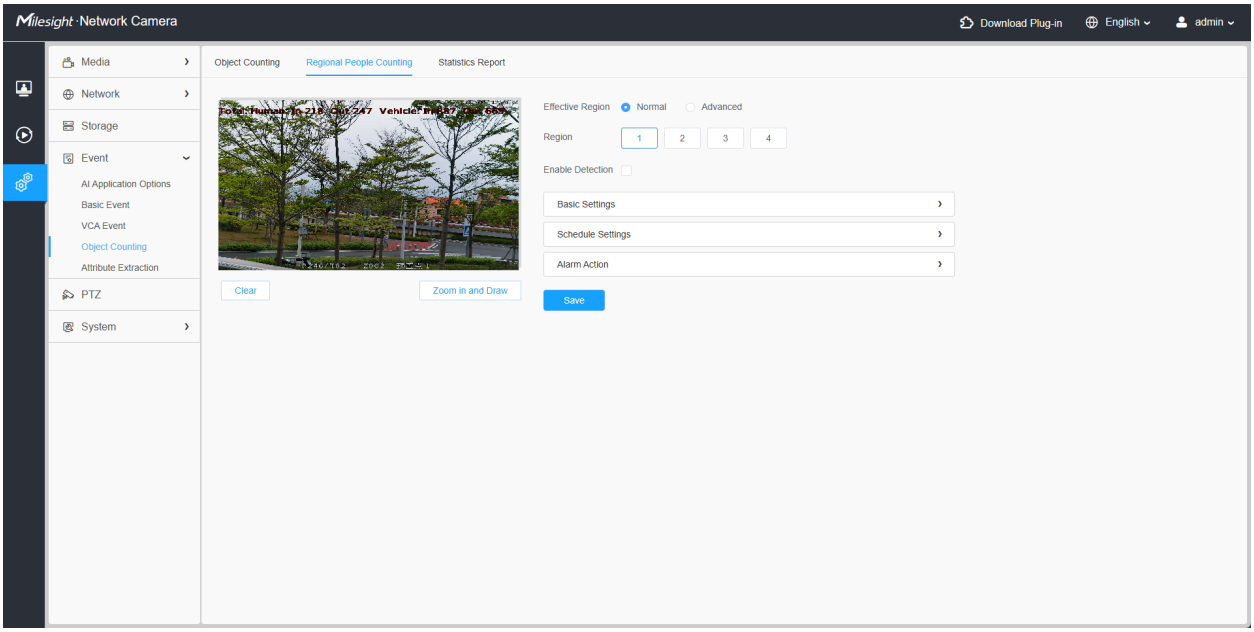
Parameters	Function Introduction
Alarm Trigger	Alarm will be triggered when the thresholds reaches to a certain value from 1 to 9999. Total Counting and Single Counting are available. You can set the Alarm Thresholds of In/Out/Capacity/Sum. **Note:** • For Total Counting, the thresholds are the sum of the total number of 4 detection lines. • For Single Counting, the threshold is for the selected detection line.
Alarm Action	This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 98)*. **Note:** • The alarm action is effective on 4 detection lines simultaneously. • If you enable External Output and choose Constant External Output Action Time, when the thresholds reach to a certain value you set, External Output Action alarm time will be always constant till the alarm is released.

8.4.4.2 Regional People Counting

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

Note:

- Make sure your camera model is MS-Cxxxx-G1/PE.
- Support up to 4 detection regions for regional people counting.
- Users can check the real-time number of people and the time of each person's stay in the detection region on Live View interface.



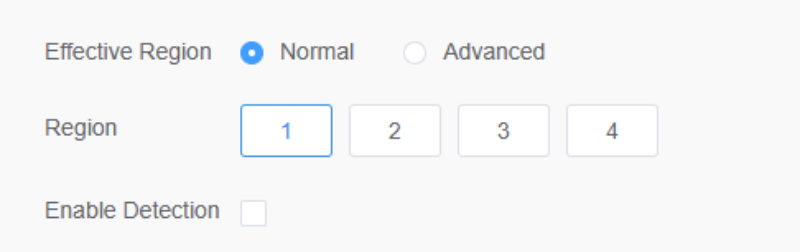
Settings steps are as shown below:

Step1: Selected effective region including Normal and Advanced.

Normal mode is effective for all detection areas;

Advanced methods will work in specific fields of view and require setting a preset.

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



Note: Support up to 4 detection regions.

[Basic Settings]

Step3: Set sensitivity and object size limits.

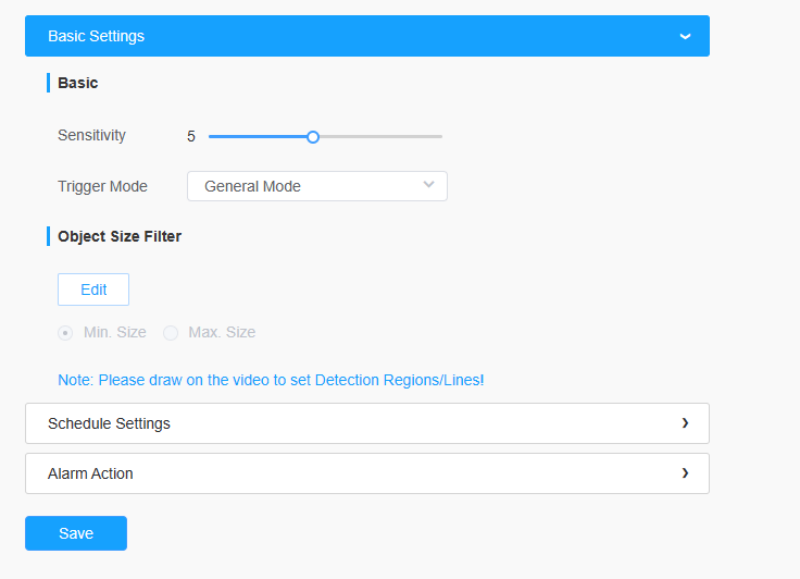


Table 58. Description of the buttons

Parameters	Function Introduction
Trigger Mode	Set the desired mode of the trigger logic including General Mode and Bottom Mode. **General Mode:** The alarm is triggered when the object's body roughly enters the detection area. **Bottom Mode:** the alarm will be triggered as soon as the bottom of the object enters the detection area. Suitable for scenarios that require sensitivity to intrusion status/bottom detection preference.
Sensitivity	Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier it is for moving objects to be recorded in the results.
Min. Size	Draw the screen 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.

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

[Schedule Settings]

Step4: Set detection schedule.

Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

[Alarm Action]

Step5: Set alarm trigger and alarm action.

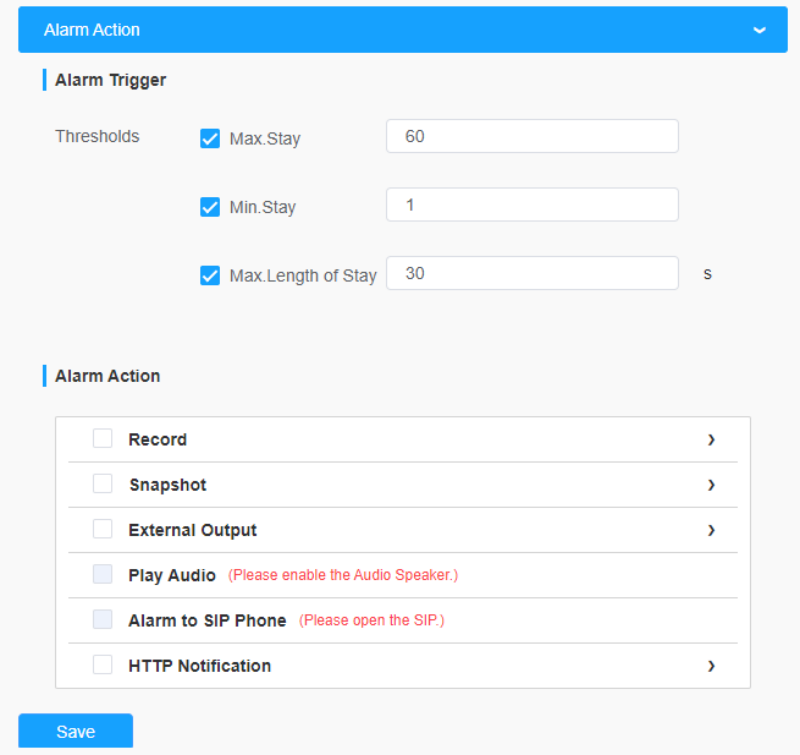


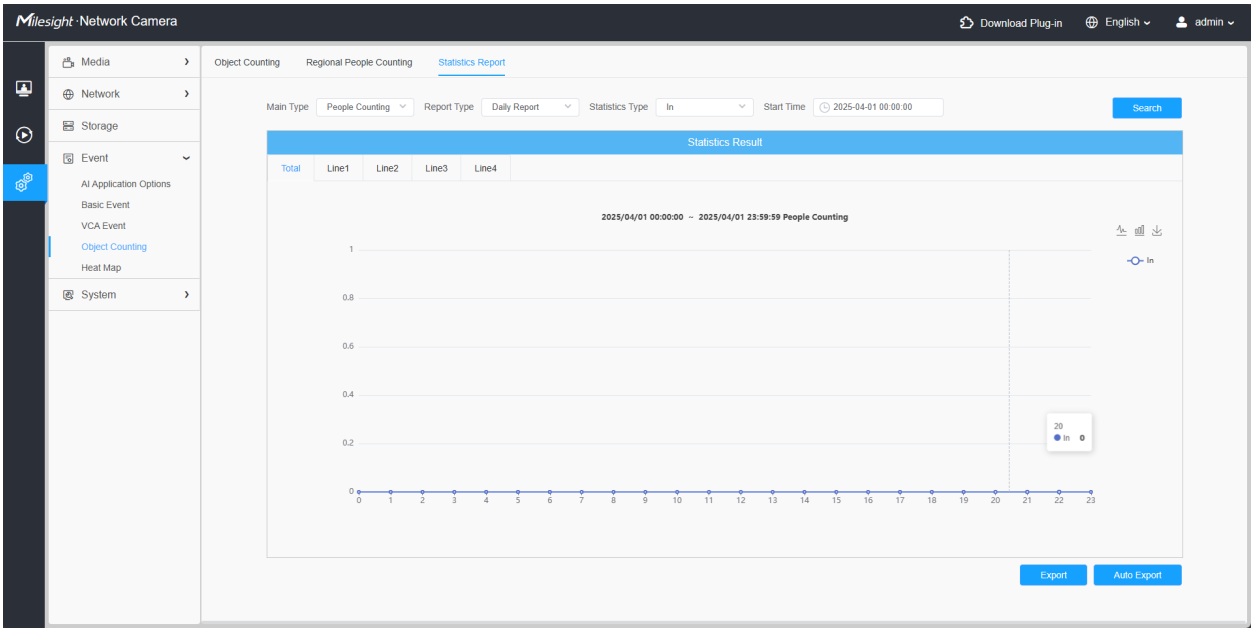
Table 59. Description of the buttons

Parameters	Function Introduction
Alarm Trigger	Alarm will be triggered when the Max./Min. Stay/Max. Length of Stay thresholds reaches to the value. **Note:** The value must be in the range of 1 to 60.

Parameters	Function Introduction
Alarm Action	This part is the same as the regular alarm settings. You can refer to Motion Detection *(page 98)*. **Note:** • The alarm action is effective on 4 detection regions simultaneously. • If you enable External Output and choose Constant External Output Action Time, when the thresholds reach to a certain value you set, External Output Action alarm time will be always constant till the alarm is released.

8.4.4.3 Statistics Report

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



Step 1: Select Main Type.

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

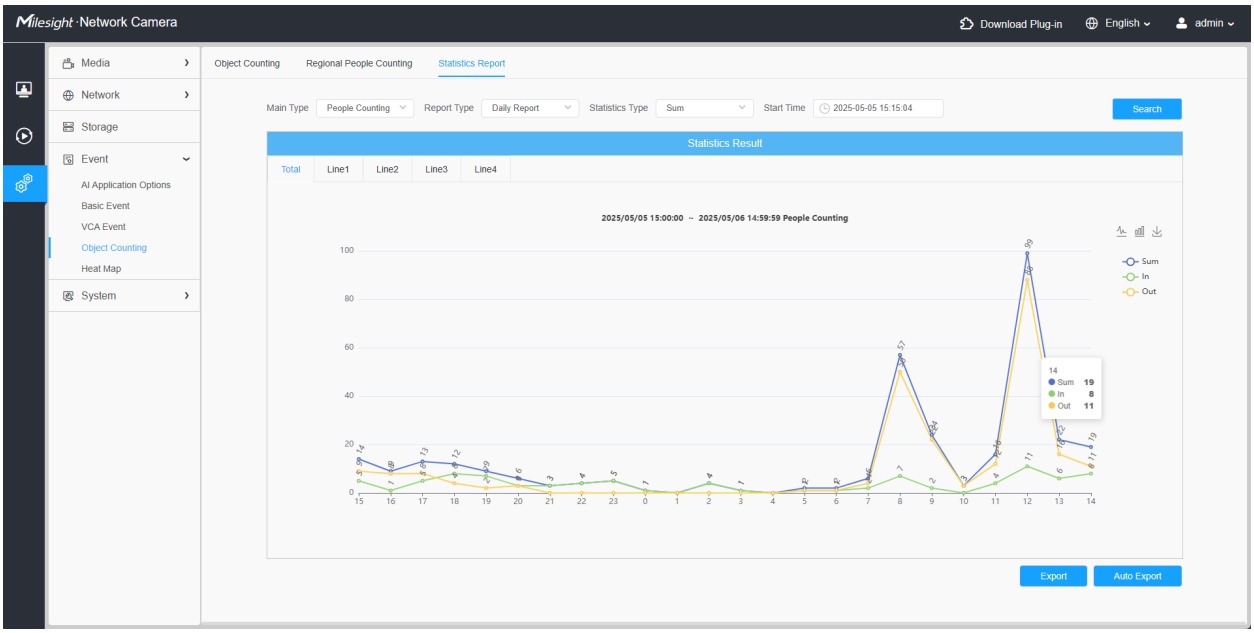
Step3: For people counting, select Statistics Type including In, Out and Sum. For regional people counting, select Length of Stay including All, More Then and Less Then and set the time of more then/less then.

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

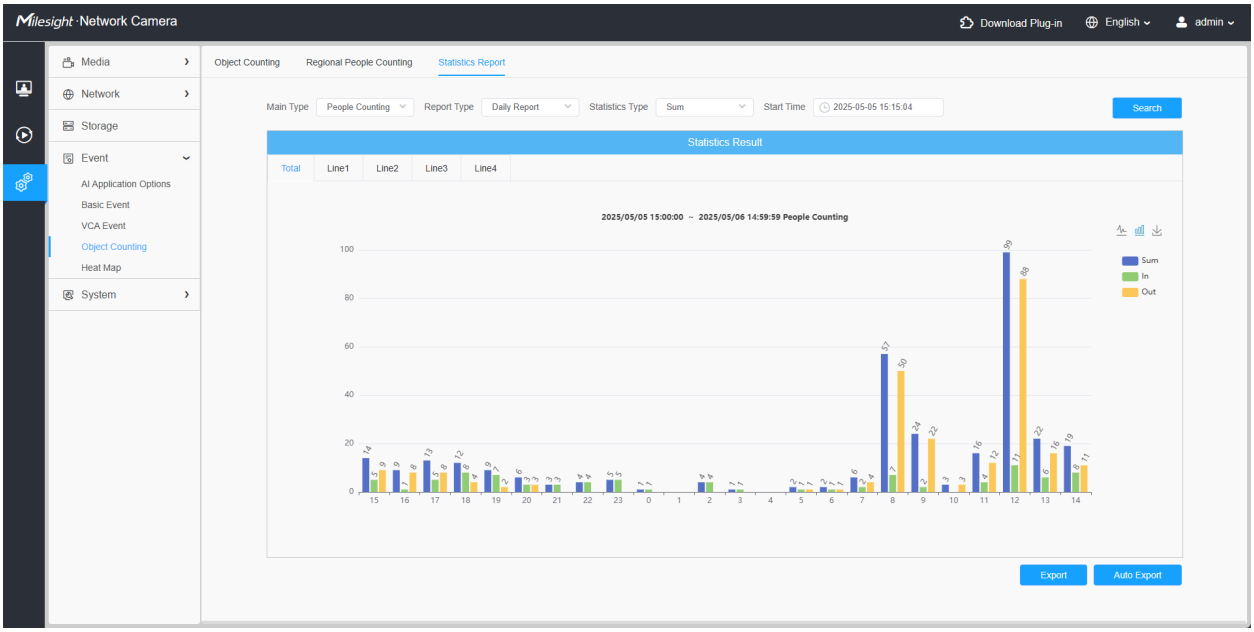
Step4: Select Start Time, then click "Search" button, the camera will automatically count the data for the day/ week/ month/ year (based on the report type selected by the user) from the start time and generate the corresponding report.

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

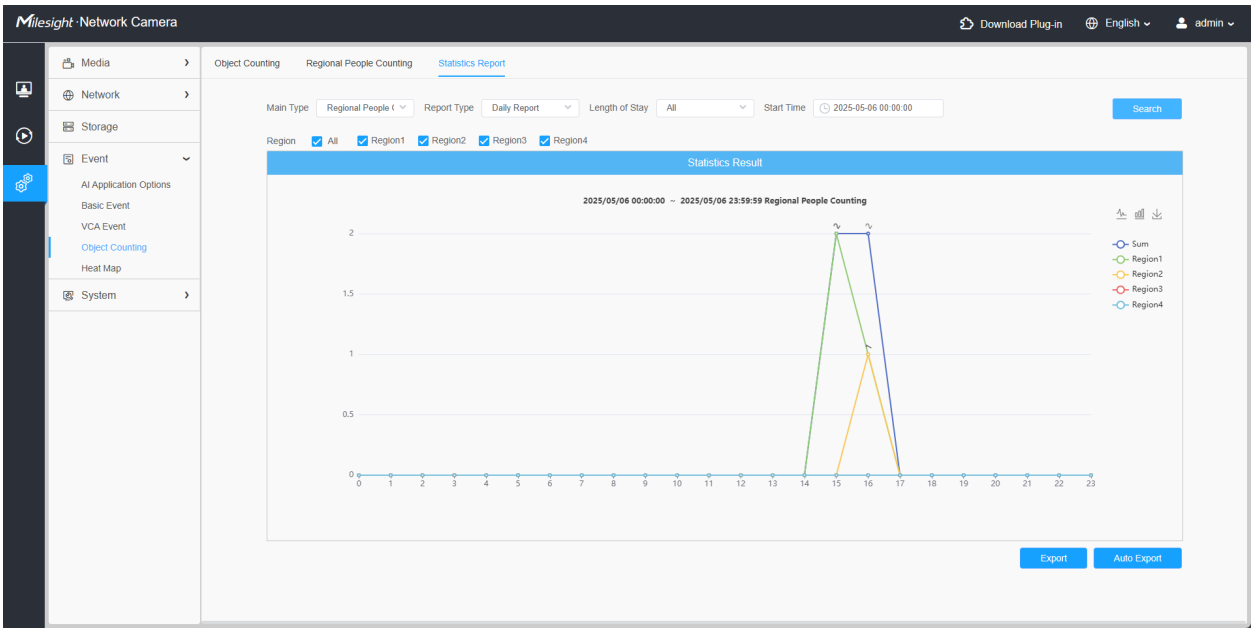
People Counting-Statistics Report (Line Chart)



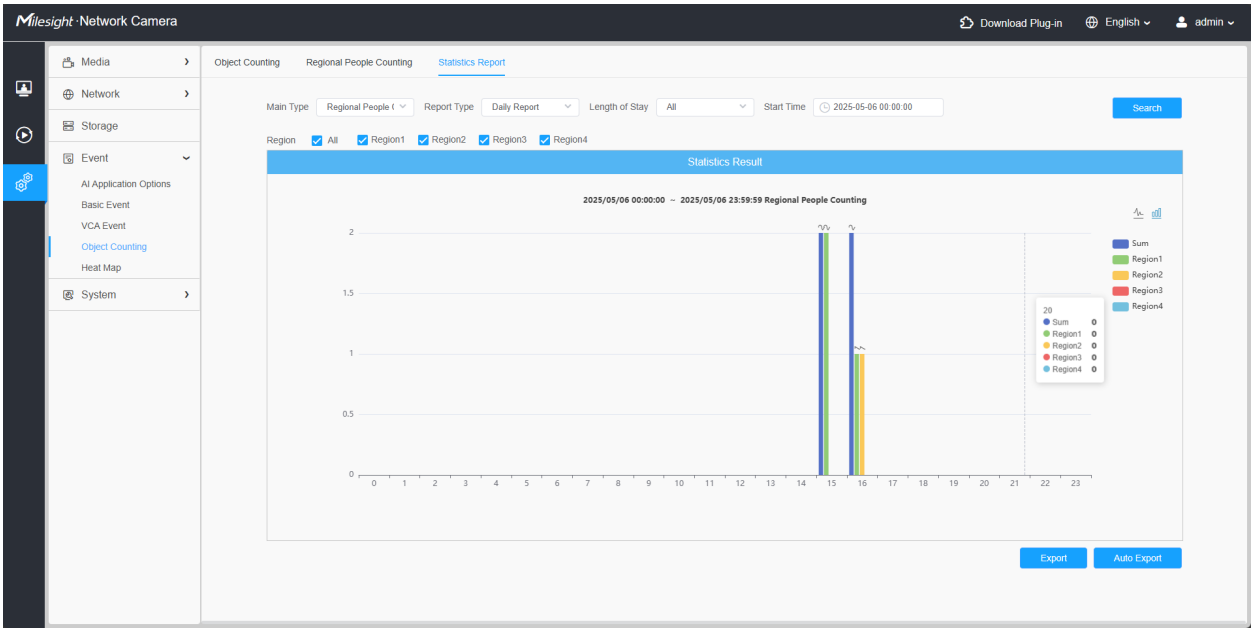
People Counting-Statistics Report (Bar Chart)



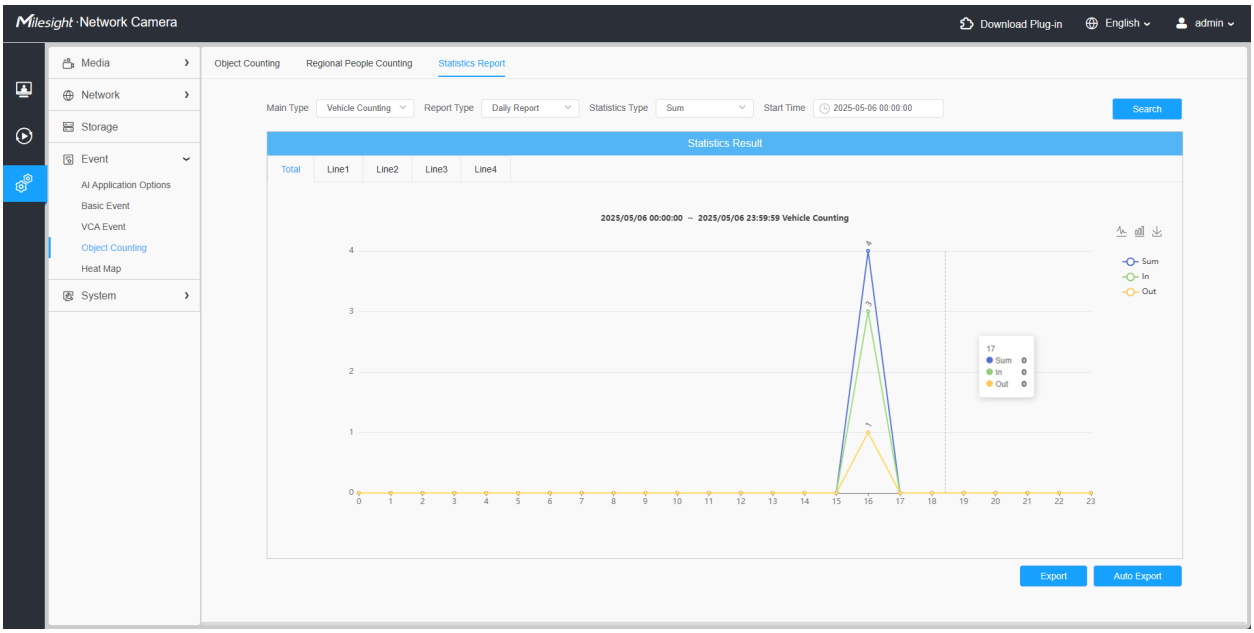
Regional People Counting-Statistics Report (Line Chart)



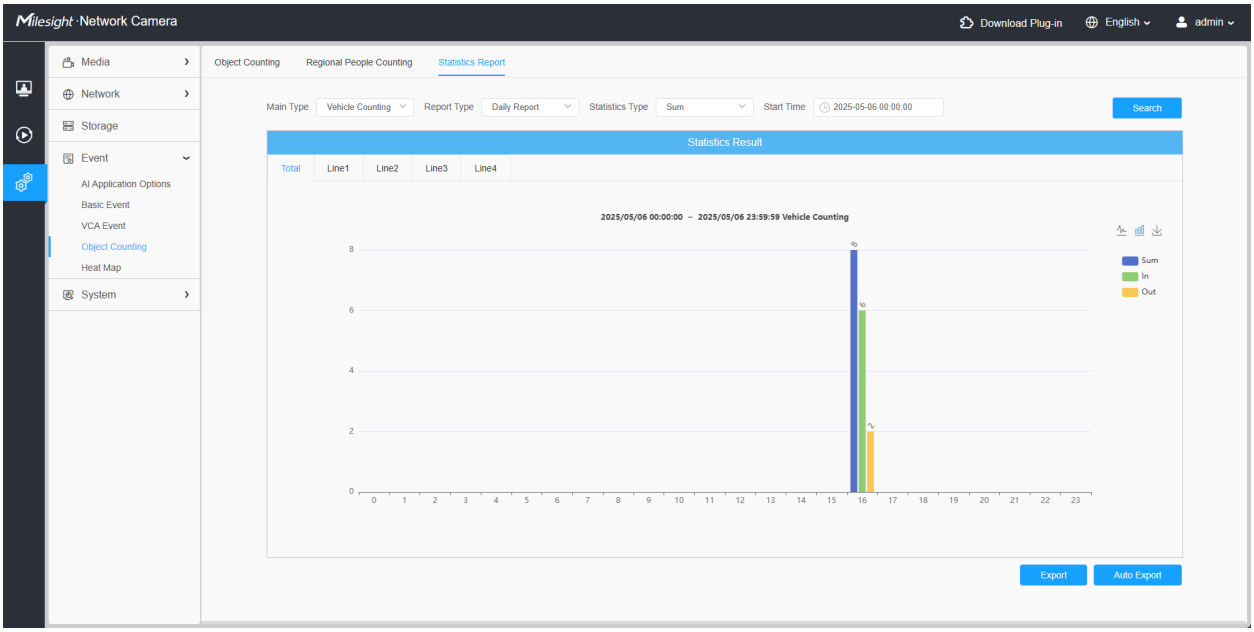
Regional People Counting-Statistics Report (Bar Chart)



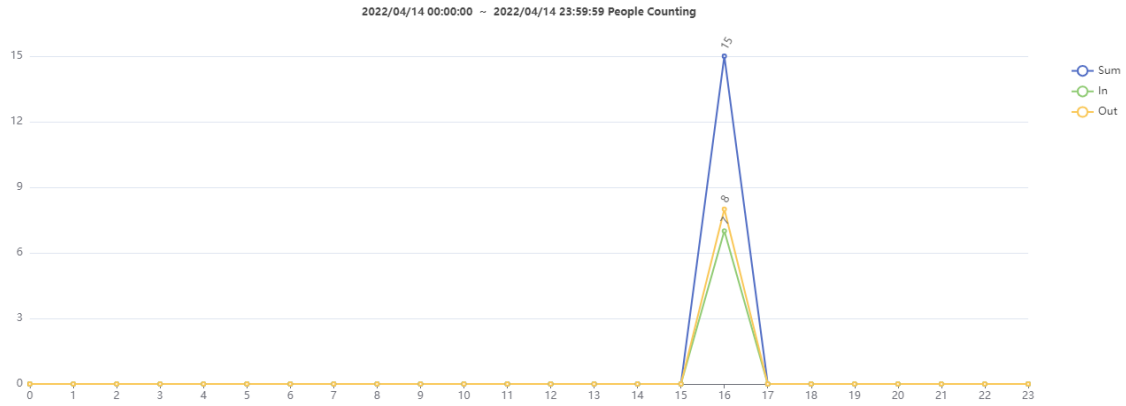
Vehicle Counting-Statistics Report (Line Char)



Vehicle Counting-Statistics Report (Bar Chart)

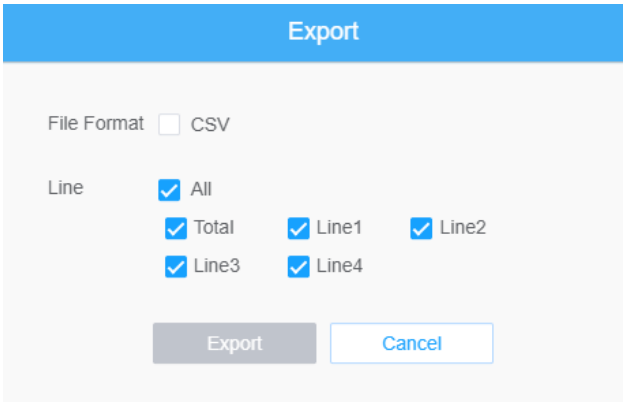


Step6: Click "Download" button to download the screenshot of the statistical report chart.

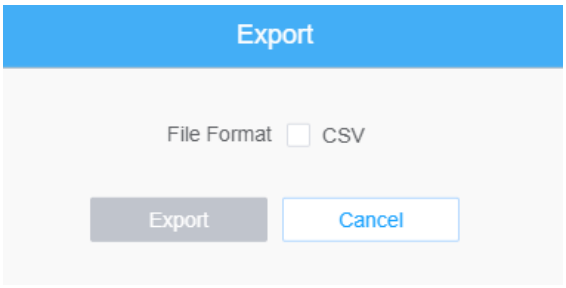


Step7: Click "Export" button to pop up the Export window as shown below, and you can choose File Format to export the report to local. For people counting Statistics Report, you can check the check box to export the report of different lines as needed.

People Counting-ExportVehicle Counting-Export

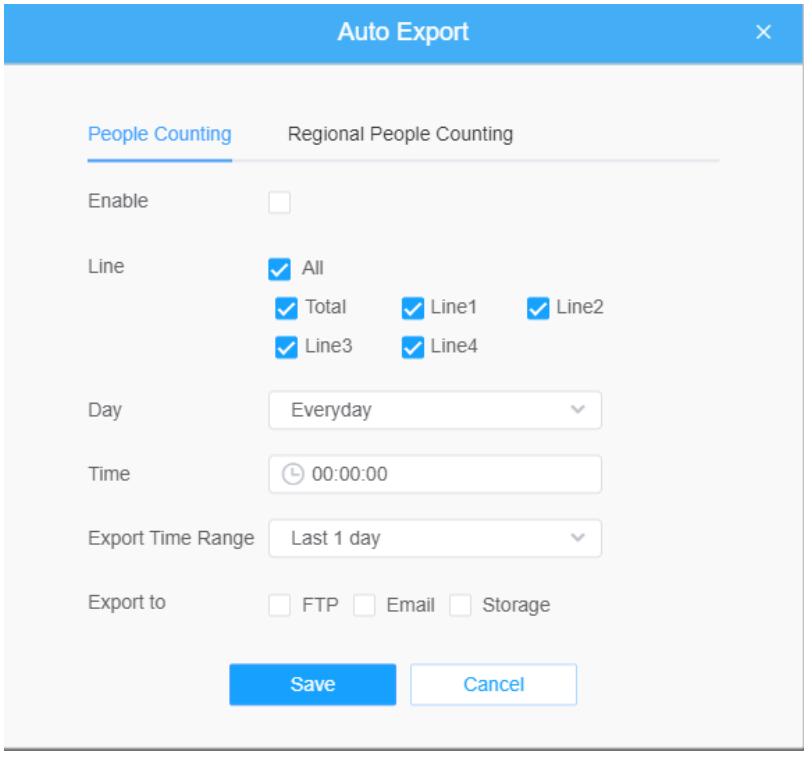


Regional People Counting-Export

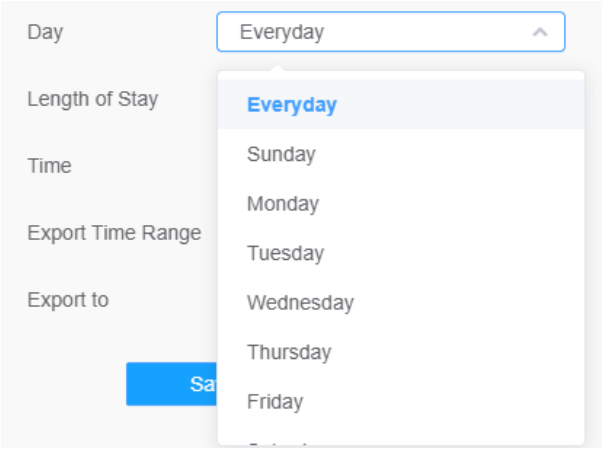


Step8: Click "Auto Export" button to pop up the Statistics Report Settings as shown below.

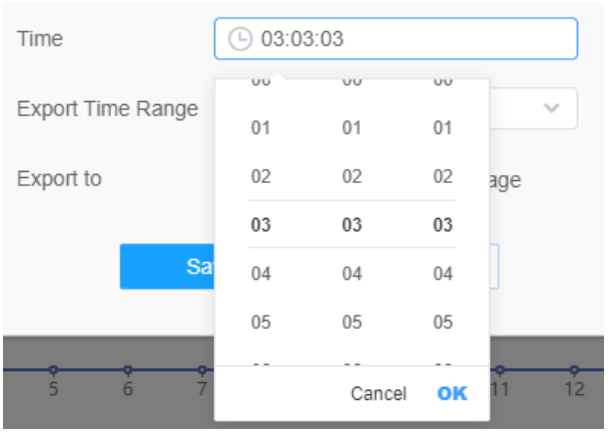
People Counting-Auto Export



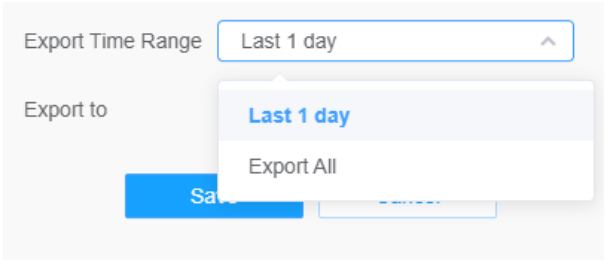
- Check the check box to enable the auto export of people counting, then select the lines as needed.
- Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the week;



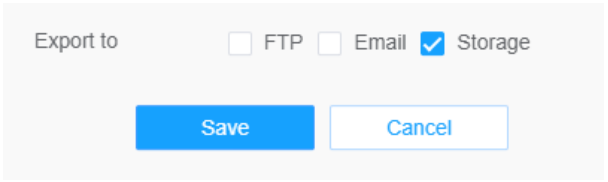
- Set Time. User can choose the time of day to export the Statistics Report automatically, click the calendar icon to pop up the following Quick Selection;



- Set Export Time Range;

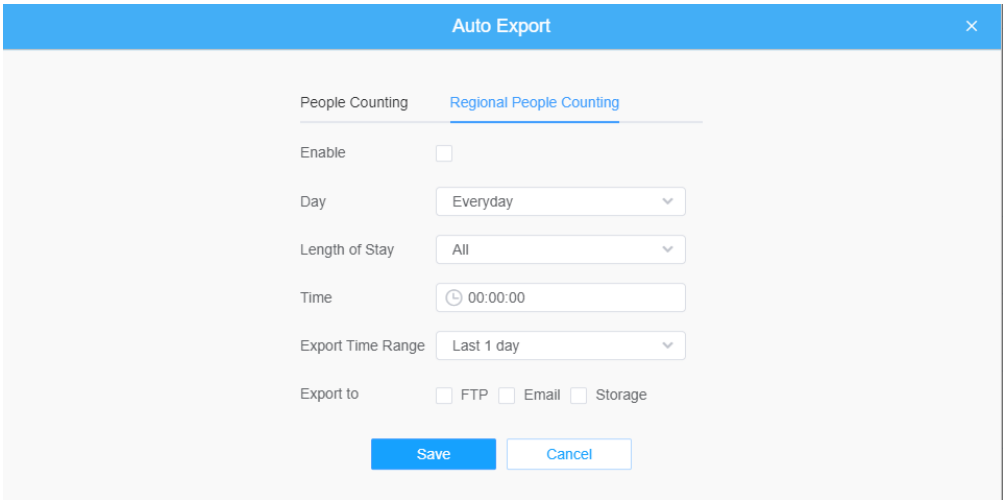


- Set the destination path of the automatically exported report. The report can be exported to FTP/Email/Storage automatically as the form of an Excel spreadsheet according to the day, time and export time range you set. Then click “Save”.

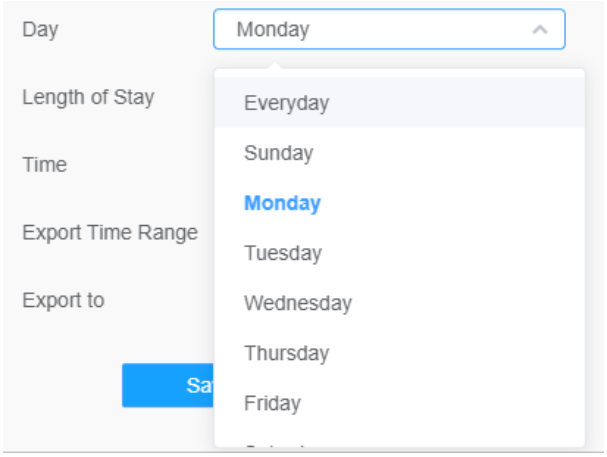


Note: If the current Statistics Report is generated, it will be saved as a csv form.

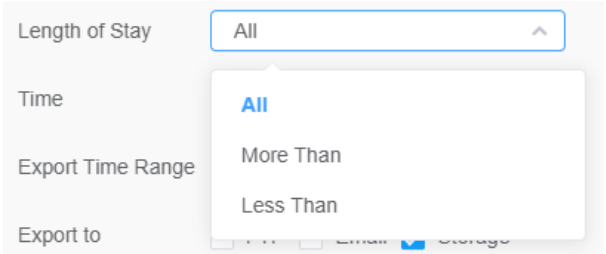
Regional People Counting-Auto Export



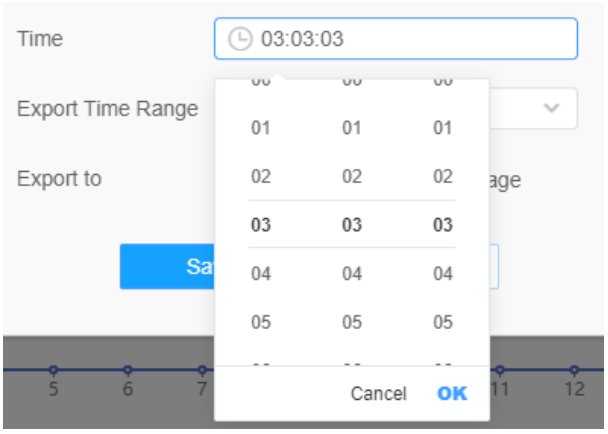
- Check the check box to enable the auto export of regional people counting.
- Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the week;



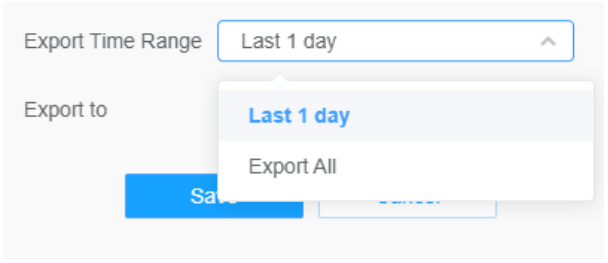
- Set Length of Stay.



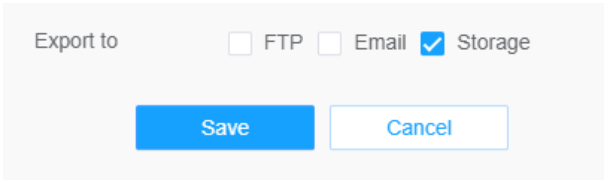
- Set Time. User can choose the time of day to export the Statistics Report automatically, click the calendar icon to pop up the following Quick Selection;



- Set Export Time Range;

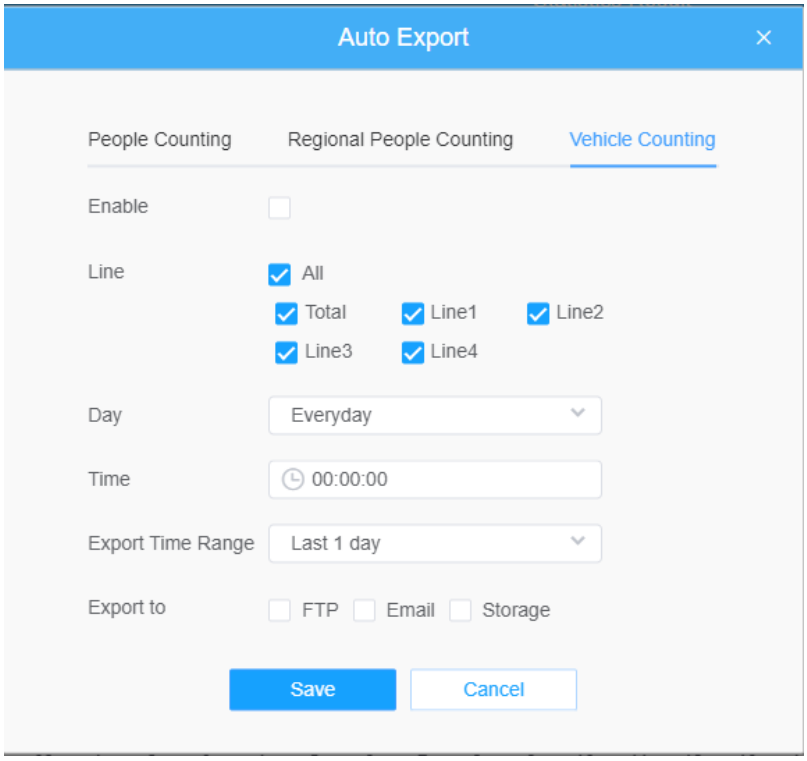


- Set the destination path of the automatically exported report. The report can be exported to FTP/Email/Storage automatically as the form of an Excel spreadsheet according to the day, time and export time range you set. Then click “Save”.

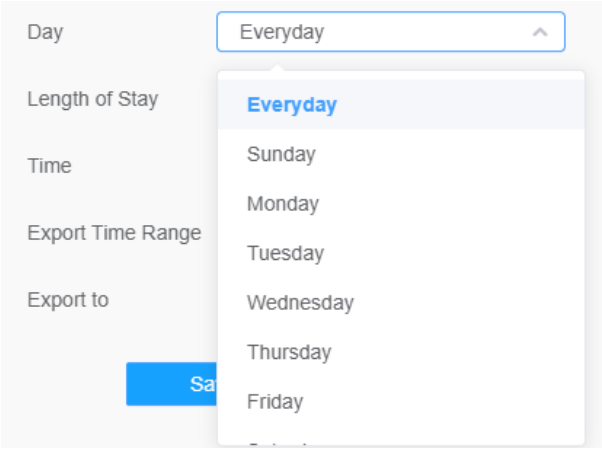


Note: If the current Statistics Report is generated, it will be saved as a csv form.

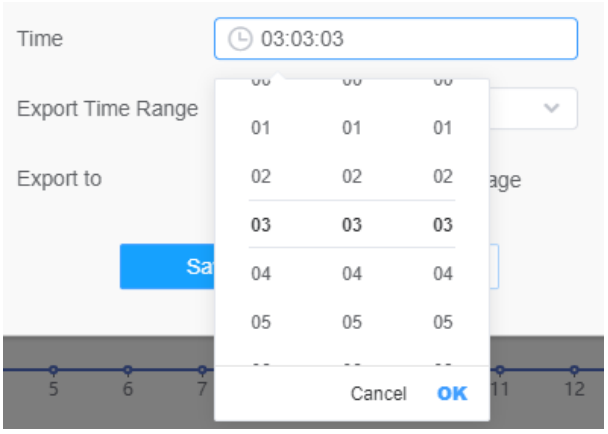
Vehicle Counting-Auto Export



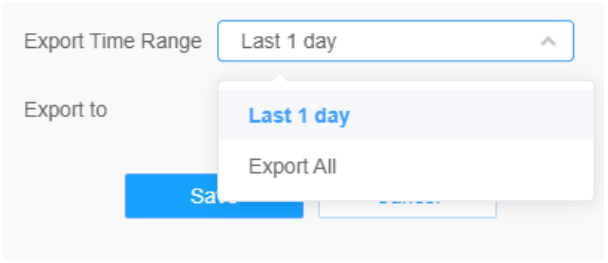
- Check the check box to enable the auto export of people counting, then select the lines as needed.
- Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the week;



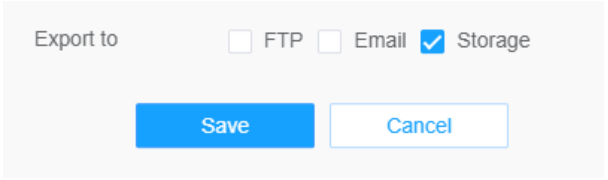
- Set Time. User can choose the time of day to export the Statistics Report automatically, click the calendar icon to pop up the following Quick Selection;



- Set Export Time Range.



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



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

8.4.5 Face Detection

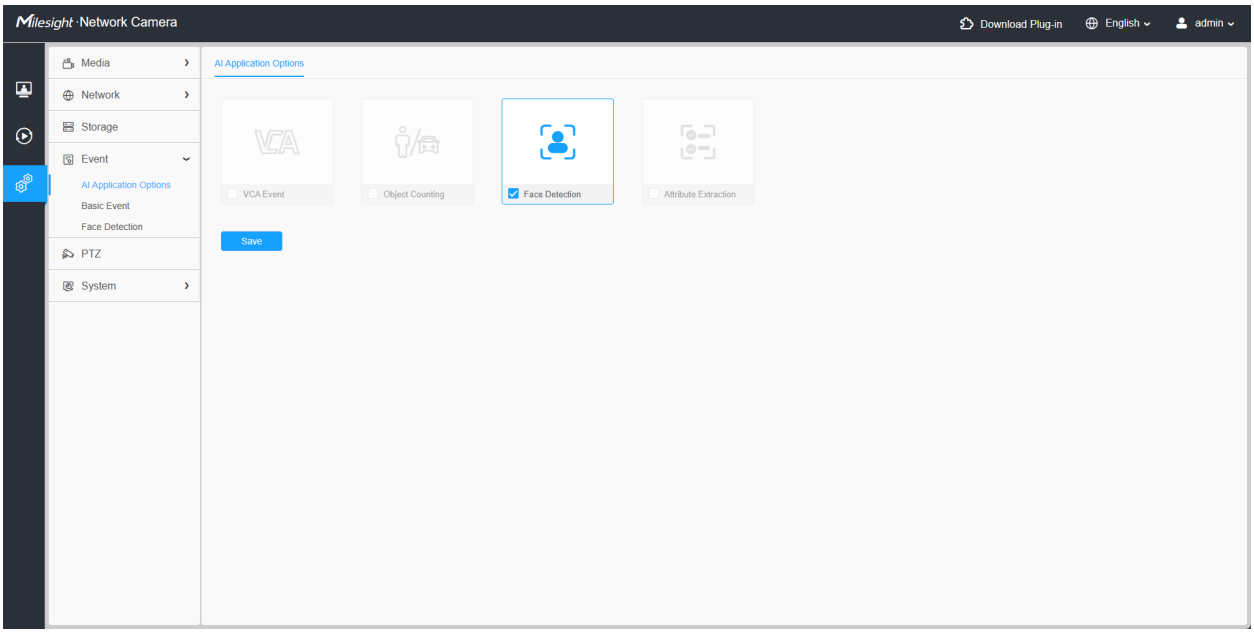
The Face Detection function can detect the face appearing in the drawn area and support saving face snapshots into Storage, upload via FTP or Email, display in Live View.

Note: Make sure your camera model is MS-Cxxxx-xPC/PE.

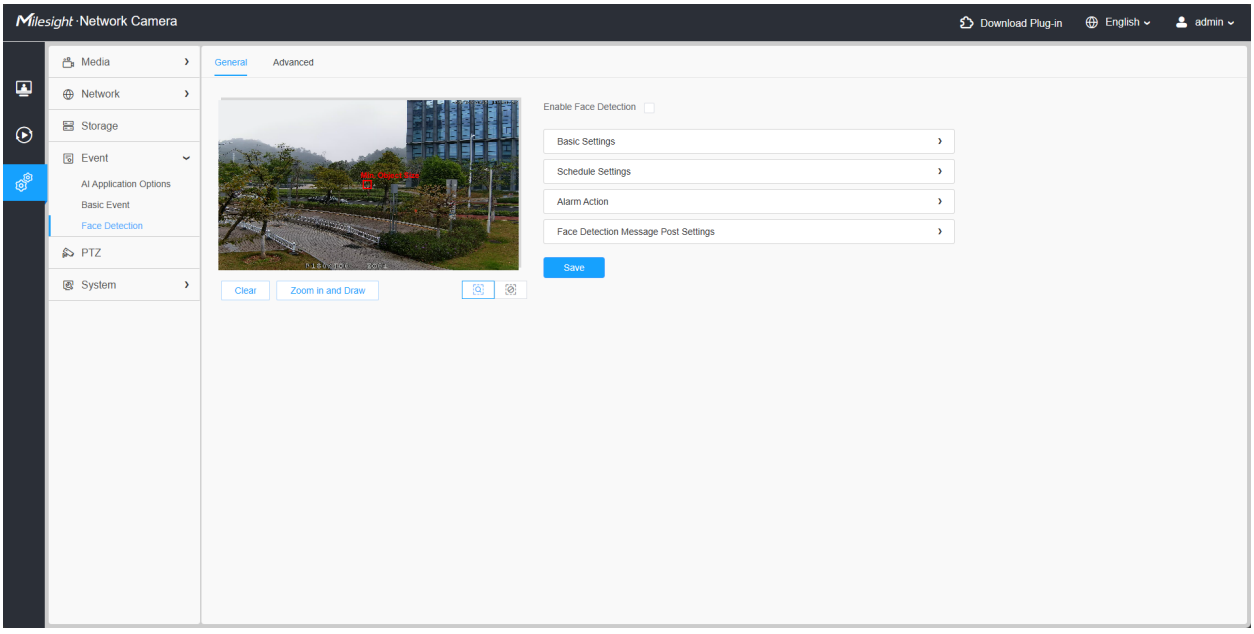
8.4.4.1 General

Settings steps are as shown below:

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



Step1: Enable Face Detection.



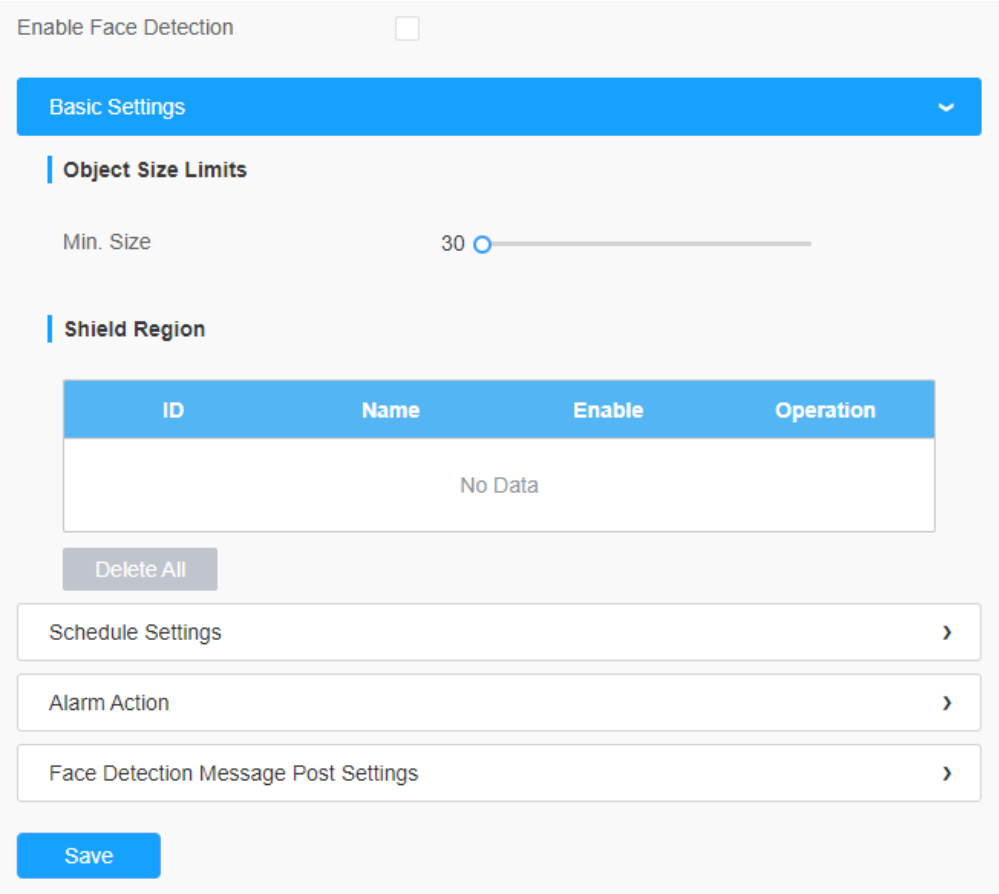
[Basic Settings]

Step2: Set Min. Object Size.

Step3: Set detection region, you can drag the detection region to adjust the size. Only faces in this region will be detected.

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

Step4: Set Shield Region to make faces in the some places of detection region be not detected. The faces can be set to be not detected in some places of detection region via setting the Shield Region. You can draw a Shield Region in the preview interface firstly, then click Add button. There are at most four Shield Region drawn available.



[Schedule Settings]

Step5: Set detection schedule.

Note: This part is the same as the regular schedule settings. You can refer to 8.4.2.2 Region Entrance *(page 108)*.

[Alarm Action]

Step6: Set alarm action.

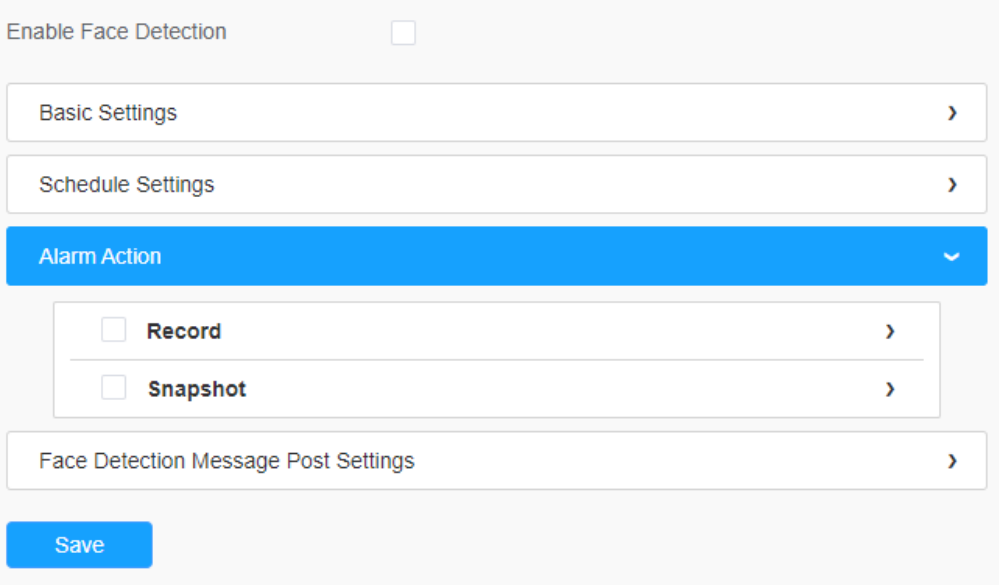


Table 60. Description of the buttons

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

[Face Detection Message Post Settings]

Step6: Enable face detection Message post.

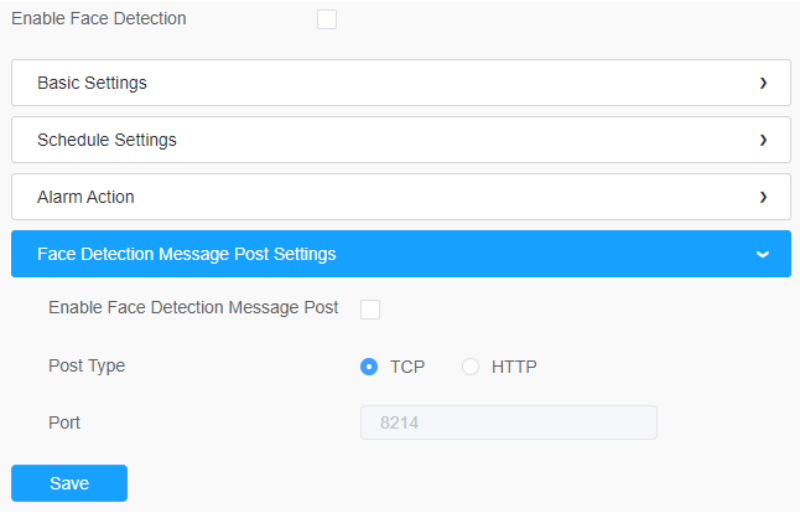
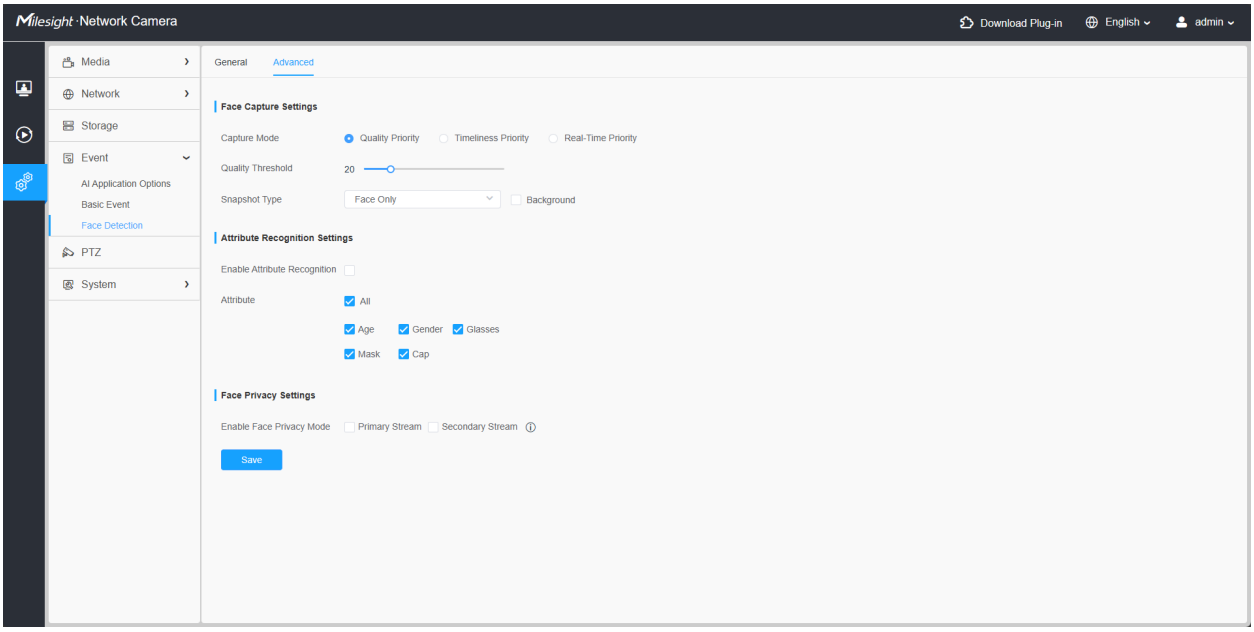


Table 61. Description of the buttons

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

8.4.4.2 Advanced



[Face Capture Settings]

Here you can make configuration for face capture snapshot.

Table 62. Description of the buttons

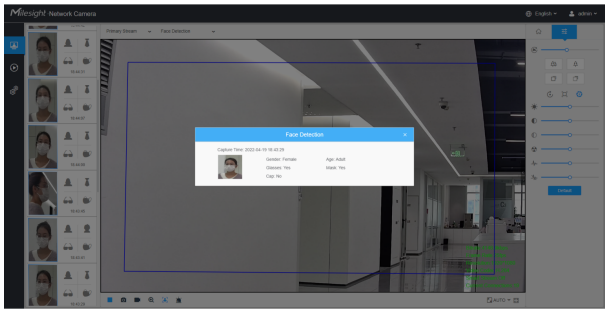
Parameters	Function Introduction
Capture Mode	**Quality Priority, Timeliness Priority, Real-Time Priority,** are available. **Quality Priority:** In this mode, it will capture the best image of a face from the moment of face appears until it disappears, provided it exceeds the set threshold. **Timeliness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

Camera will detect faces in Live View according to the region and conditions you set. If you check the "Show Tracks" option, it will display the face screenshot with the ID on the left side of Live View.

[Attribute Recognition Settings]

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

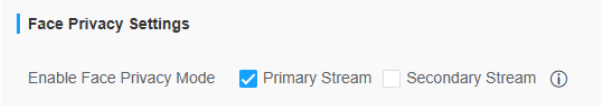
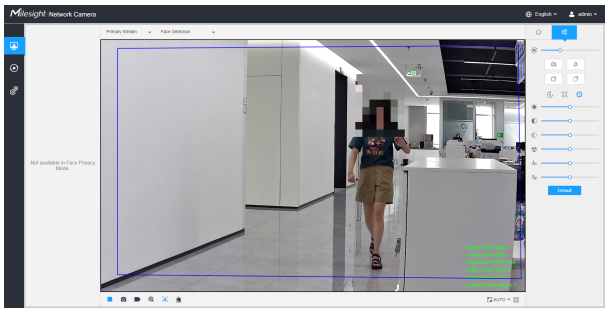
Table 63. Description of the buttons

Parameters	Function Introduction
Enable Attribute Recognition	When Attribute Recognition is enabled, the attributes of detected faces will be displayed on the left side of the Live View interface. The attributes include Age, Gender, Glasses, Mask and Cap. Attribute Recognition meets the needs of users in some special scenarios, which improves user experience.  **Note:** • Please make sure the face detection function is enabled. • Make sure the Capture Mode Option is set to Quality Priority or Real-Time Priority. • Attribute Recognition function cannot be used together with Face Privacy function.
Attribute	Users can choose the attributes as needed. **All:** Select or deselect all attributes in one click. **Age:** Recognize the age according the face, the types including Child (Age 0-17), Adult (Age 18-59), Elderly (Age more than 59). **Gender:** Recognize the gender according to the face, the types including Male and Female. **Glasses:** Recognize whether person is wearing glasses or not. **Mask:** Recognize whether person is wearing mask or not. **Cap:** Recognize whether person is wearing cap or not. **Note:** Unrecognized or abnormally recognized attributes will be displayed as "-".

[Face Privacy Settings]

Here you can enable the Face Privacy Mode for Face Detection.

Table 64. Description of the buttons

Parameters	Function Introduction
Enable Face Privacy Mode	You can adjust face privacy settings independently for each stream, including both the Primary Streams and Secondary Streams.  When Face Privacy Mode is enabled, the detected faces in the face detection area will be mosaic automatically. The size of the mosaic is related to that of the detected faces, and users can customize the size of the detected faces as needed. The Face Privacy function meets the needs of users in some special scenarios, which greatly protects people's portrait rights. 

Note:

1. Face Capture/Face Detection Message Post/Attribute Recognition are not available in Face Privacy Mode.
2. To enable Face Privacy Mode, video parameters should be:
   a. Primary Stream or Secondary Stream: If the original frame rate is higher than 25fps, it will be adjusted to 25fps, and the original frame rate will not change if it is lower than 25fps.
   b. Tertiary Stream: Disabled.
   c. The power supply frequency is adjusted to 50Hz

8.4.6 Hard Hat Detection

Hard Hat Detection can be use to ensure the safety of construction workers. After completing the corresponding settings, if a worker is detected as not wearing a hard hat, then the alarm action will be triggered, acting as a warning.

Note:

- For more details about how to use Hard Hat Detection, please refer to https://www.youtube.com/watch?v=9AYwzheLoCE

- Make sure your camera model is .
- Make sure your camera's version is xx.8.0.3 or above.
- When Hard Detection is enabled, then Object Counting, VCA Event, Face Detection and Auto Tracking of PTZ Series will be disabled.

Settings steps are as shown below:

Step1: Enable Hard Hat Detection.

Step2: Draw on the video to set detection regions.

[General Settings]

Step3: Set sensitivity and object size limits.

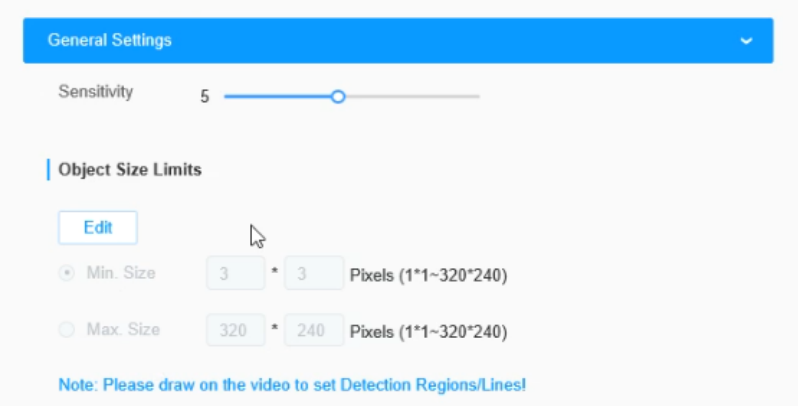


Table 65. Description of the buttons

Parameters	Function Introduction
Sensitivity	Level 1~10 are available, the default level is 5. The higher the sensitivity, the easier it is for people without hard hat to be recorded in the results.
Min. Size	Draw the screen or input pixel number to set the minimum size of the detected object. When the object is smaller than this size, it will not be detected. The default minimum size is 3*3.
Max. Size	Draw the screen or input pixel number to set the maximum size of the detected object. When the object is larger than this size, it will not be detected. The default maximum size is 320*240.

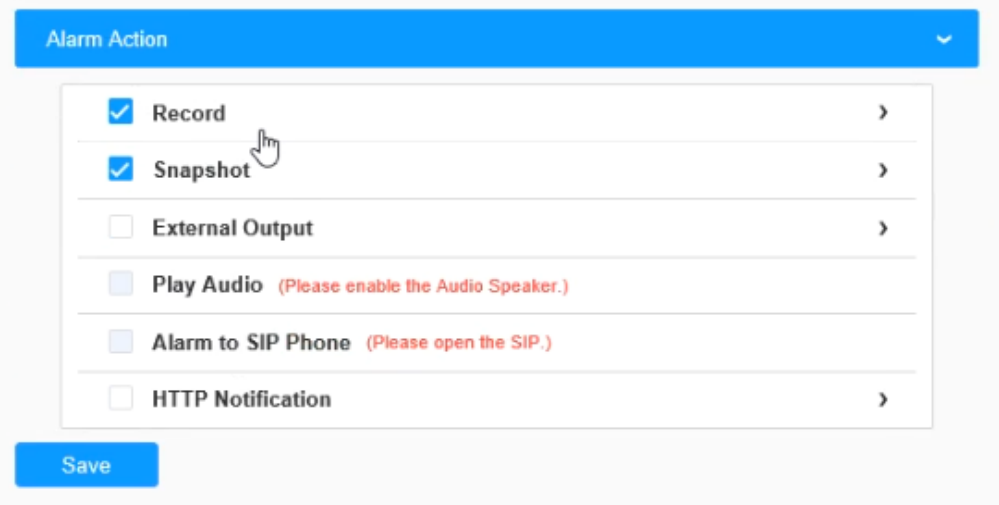
[Schedule Settings]

Step4: Set detection schedule;

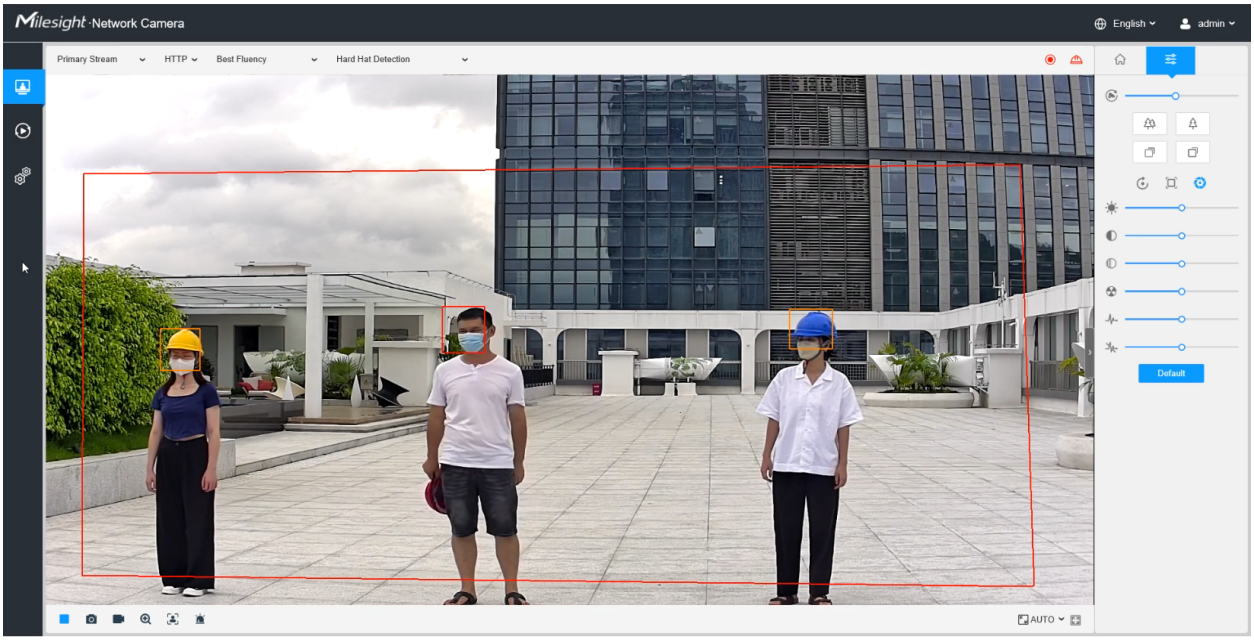
Note: This part is the same as the regular schedule settings. You can refer to 8.4.2.2 Region Entrance *(page 108)*.

[Alarm Action]

Step6: Set alarm action. This part is the same as the regular alarm settings. You can refer to 8.4.2.1 Intrusion Detection *(page)*.



Click Save button to finished the configuration. The alarm will be triggered when workers in the detection area do not properly wear the hard hat, and an alarm icon will appear and the detection box will turn red.



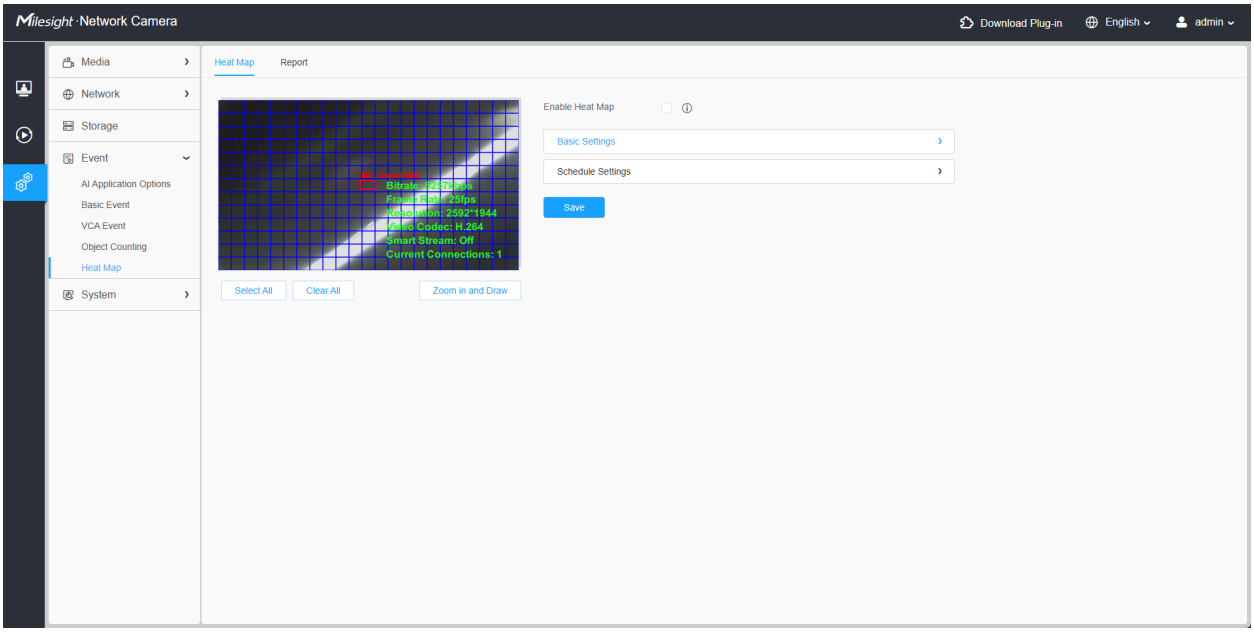
8.4.7 Heat Map

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

8.4.7.1 Heat Map

Note:

- Make sure your camera model is MS-Cxxxx-G1/PE.
- Heat Map function is supported in AI models except PTZ and Mini series (MS-Cxxxx-PD).
- Only allowed to view reports within 7 days without a SD card or NAS.
- For more details about how to set Heat Map, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000643314.



Step1: Enable Heat Map function.

[Basic Settings]

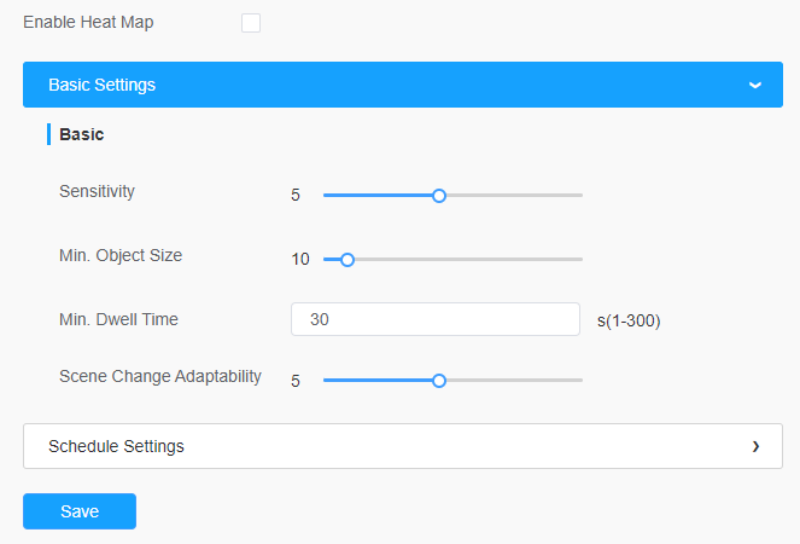
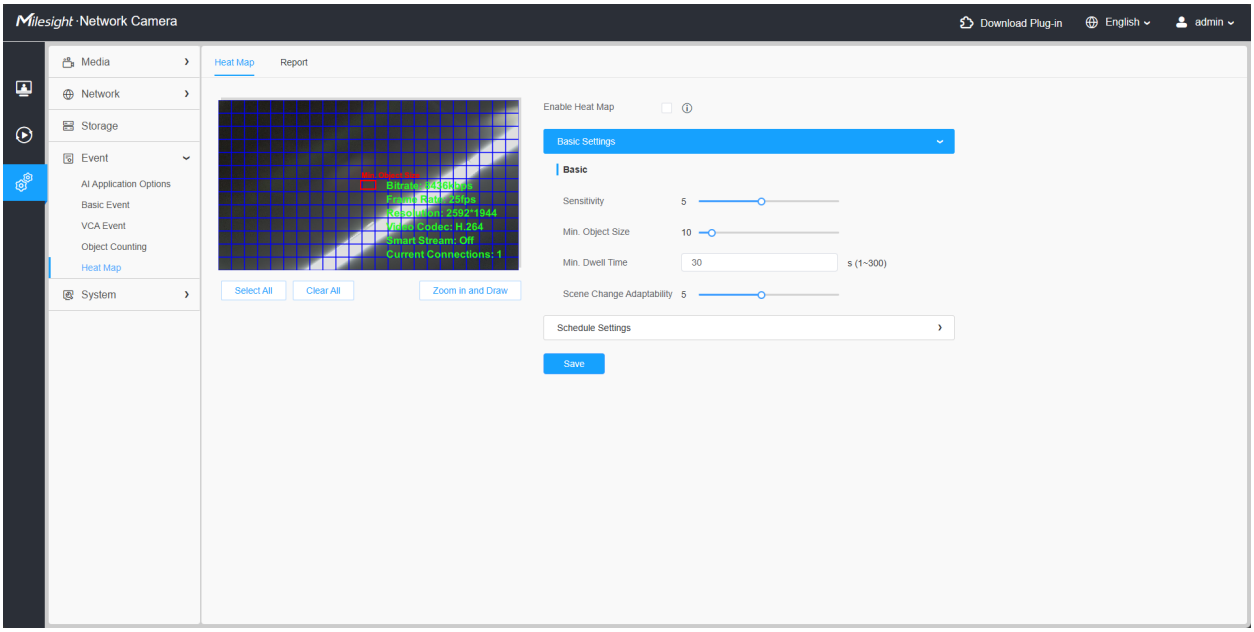


Table 66. Description of the buttons

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

Step2: Set Heat Map Region. Draw the screen to set the detection area. You can click “**Select All**” button to select all areas, or "**Clear All**" button to remove the current drawn area.

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



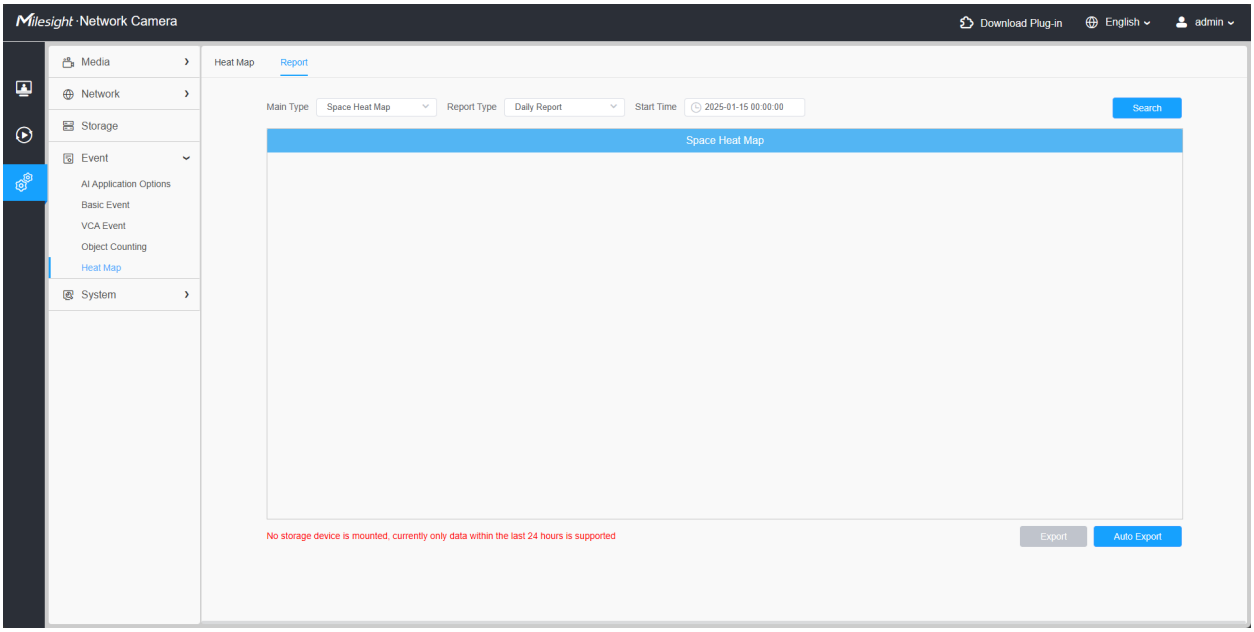
[Schedule Settings]

Step3: Schedule Settings.

Note: This part is the same as the regular schedule settings. You can refer to Motion Detection *(page 97)*.

8.4.7.2 Report

The heat map results will be displayed on this interface.



Step1: Select Main Heat Map Type.

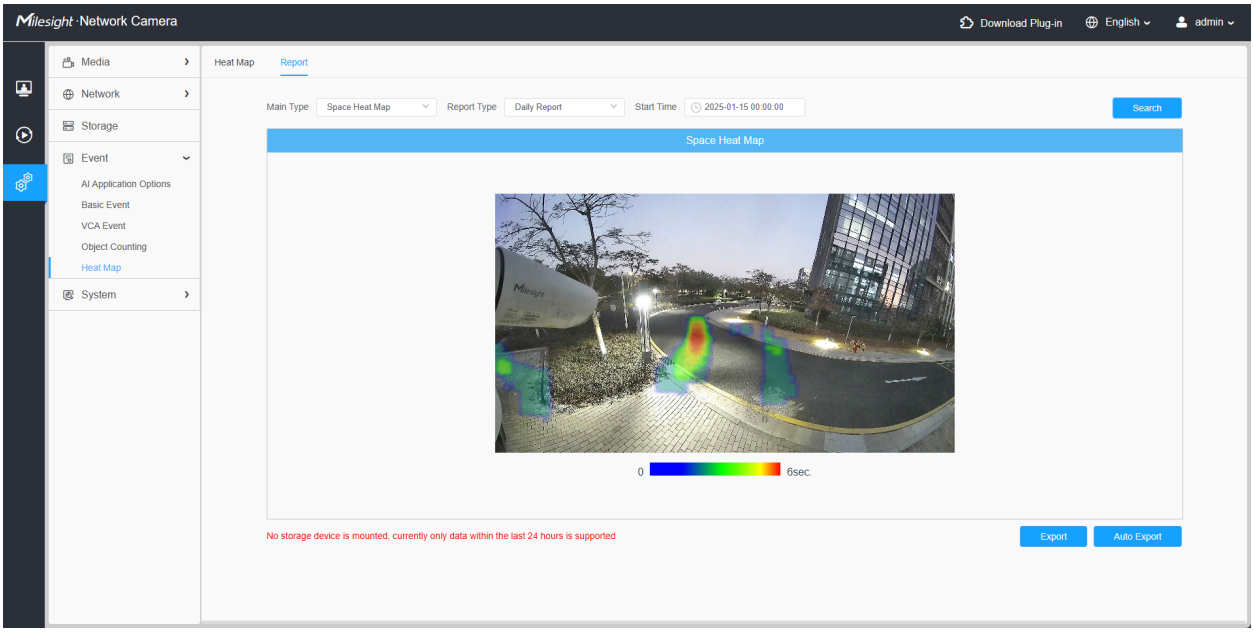
[Space Heat Map]: Space Heat Map will be presented as a picture with different colors. Different colors represent different heat values. Red represents the highest and blue represents the lowest.

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

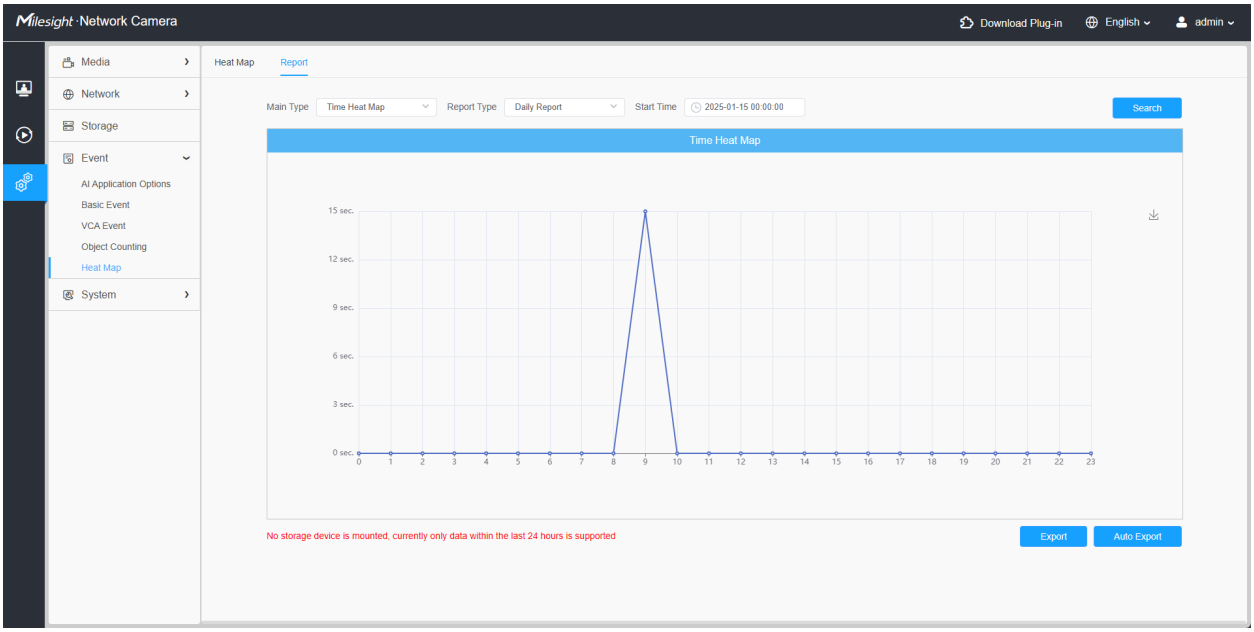
Step2: Select Report Type including Daily Report, Weekly Report, Monthly Report and Annual Report.

Step3: Select Start Time, then click the **"Search"** button, the camera will automatically count the data for the day/ week/ month/ year (based on the report type selected by the user) from the start time and generate the corresponding report as shown below.

Space Heat Map

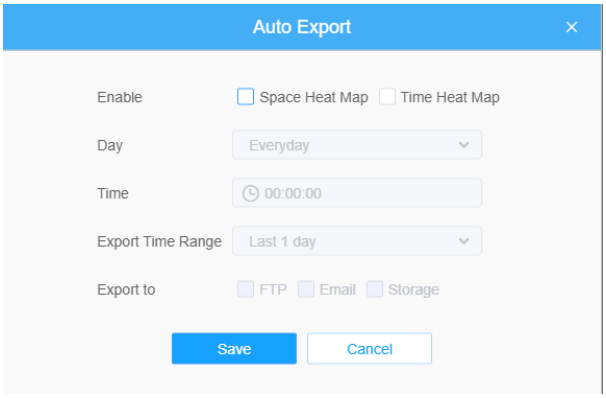


Time Heat Map

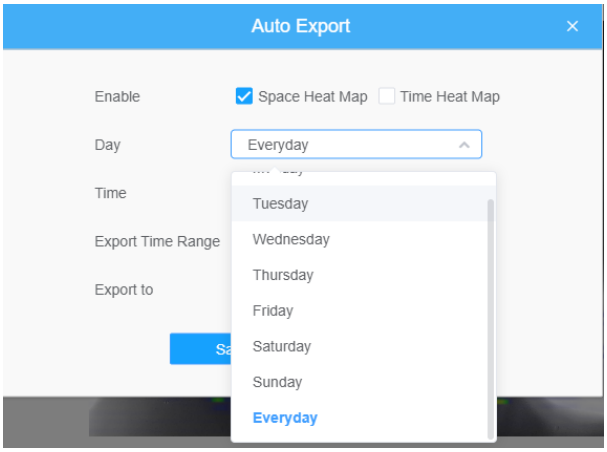


Step4: Click the "**Report Export**" button to export the report to local.

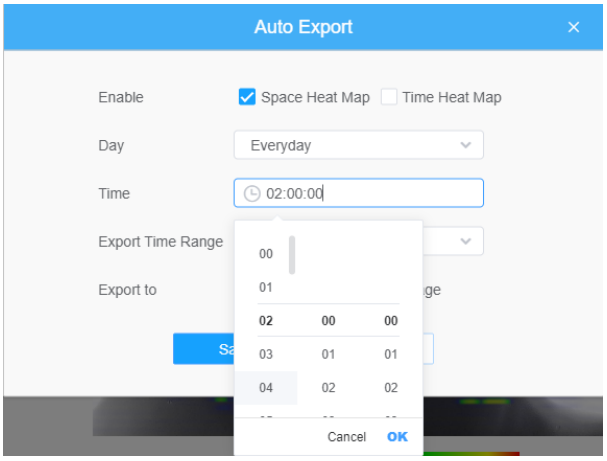
Step5: Click the **"Auto Export"** button to pop up the Heat Map Report Settings as shown below.



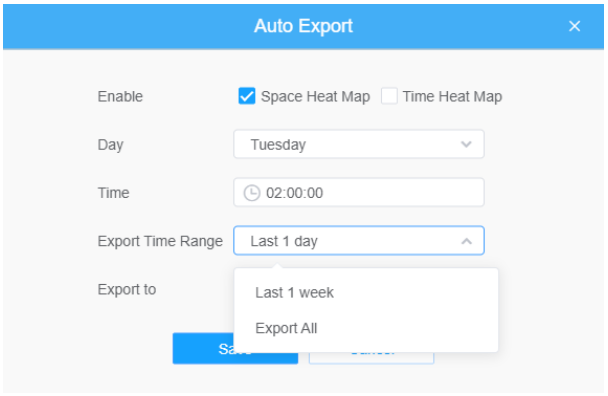
- Set Export Type. User can check Space Heat Map or Time Heat Map or both. When either Space Heat Map or Time Heat Map is checked, the gray item becomes editable as shown below;
- Set Day. User can choose Everyday to export daily reports, while choosing others to export reports on a specific day of the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



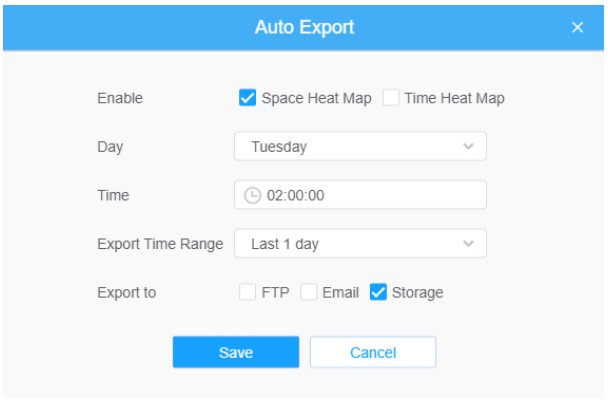
- Set Time. User can choose the time of day to export the heat map automatically, click the calendar icon to pop up the following Quick Selection;



- Set Export Time Range.



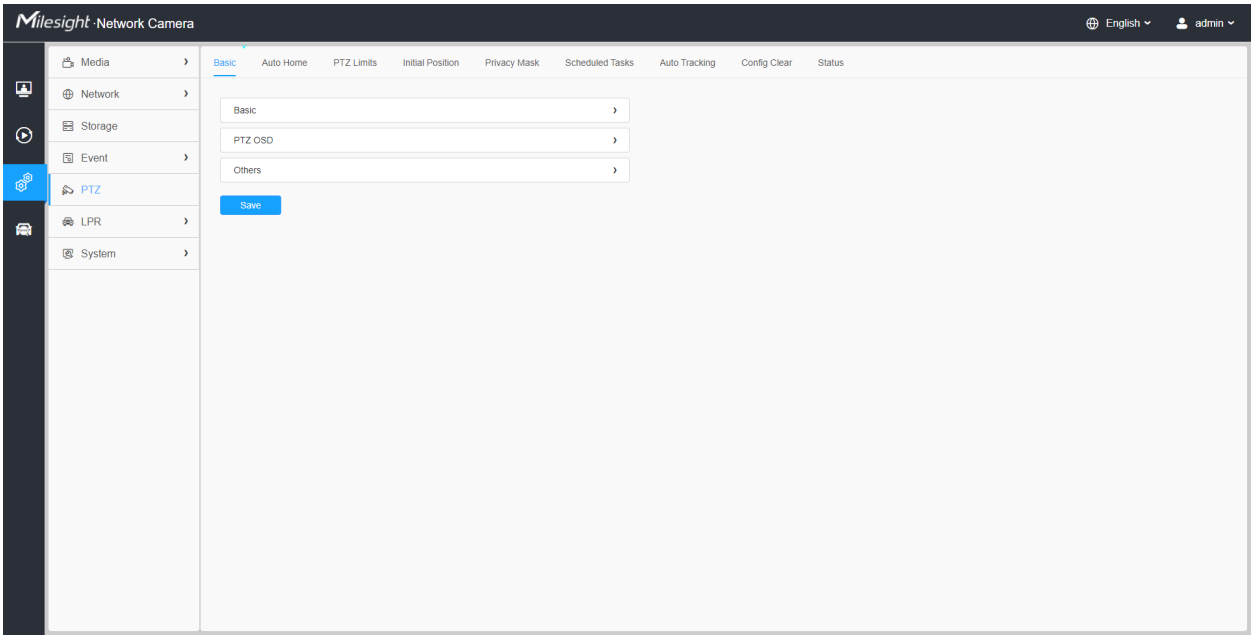
- Set the destination path of the automatically exported report. The report can be exported to FTP/Email/Storage automatically as the form of an Excel spreadsheet or a picture according to the day, time and export time range you set. Then click “Save”.



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

8.5 PTZ

8.5.1 Basic



[Basic]

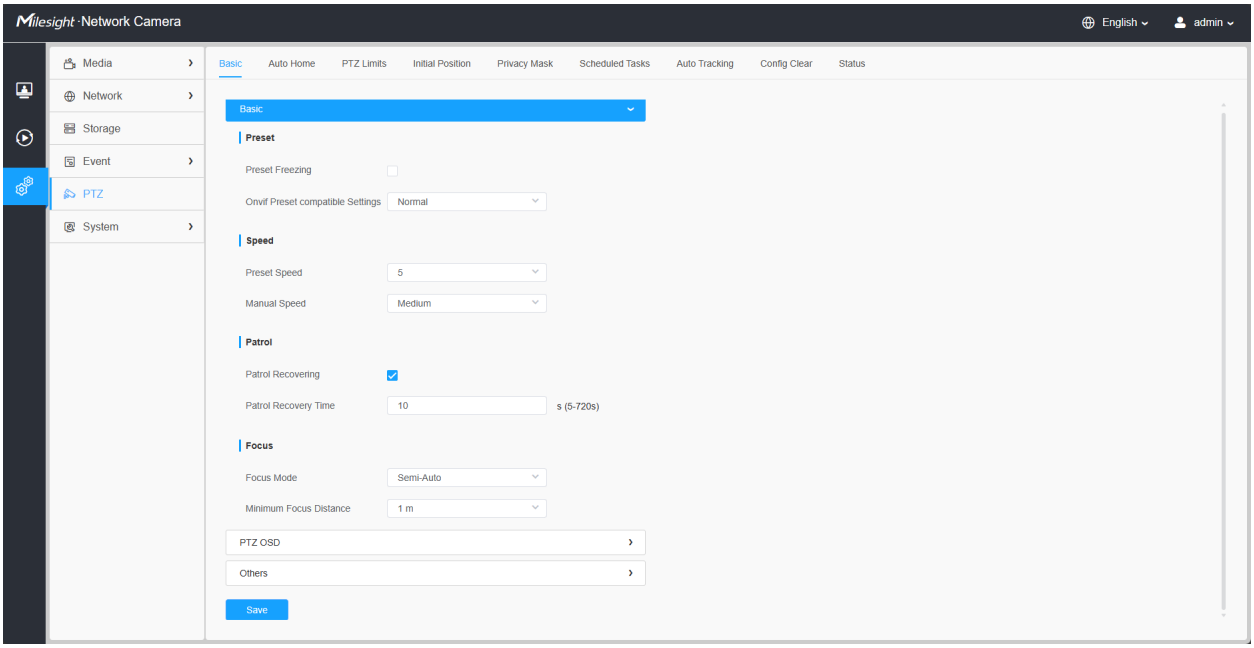


Table 67. Description of the buttons

Parameters	Function Introduction
Preset	If you enabled Preset Freezing, the live view of preset position will be showed directly instead of showing both the moving path to the position and the live view. It can also reduce the use of bandwidth in the digital network system.
Speed	**Preset Speed:** It determines the speed of calling presets. Level 1~10 are available.
	Manual Speed: It determines the PTZ speed of Manually control. **Low**/ **Medium**/ **High** are available. **Note:** Only for Speed Dome.
	Scan Speed: It determines the speed of Auto Scan. Level 1~10 are available. **Note:** Only for Speed Dome.
Patrol	**Patrol Recovering**: Click to enable Patrol Recovering.
	Patrol Recovery Time: Set time for Patrol Recovering, which is between 5 to 720 seconds.
Focus	**Focus Mode**: Three focus modes are available: Auto/ Semi-Auto/ Manual.
	Minimum Focus Distance: Set the minimum focus distance to adjust the step length of each focus. 1 meter, 1.5 meters, 3 meters, 6 meters, 10 meters and 20 meters are available. The default minimum focus distance is 1 meter.

[PTZ OSD]

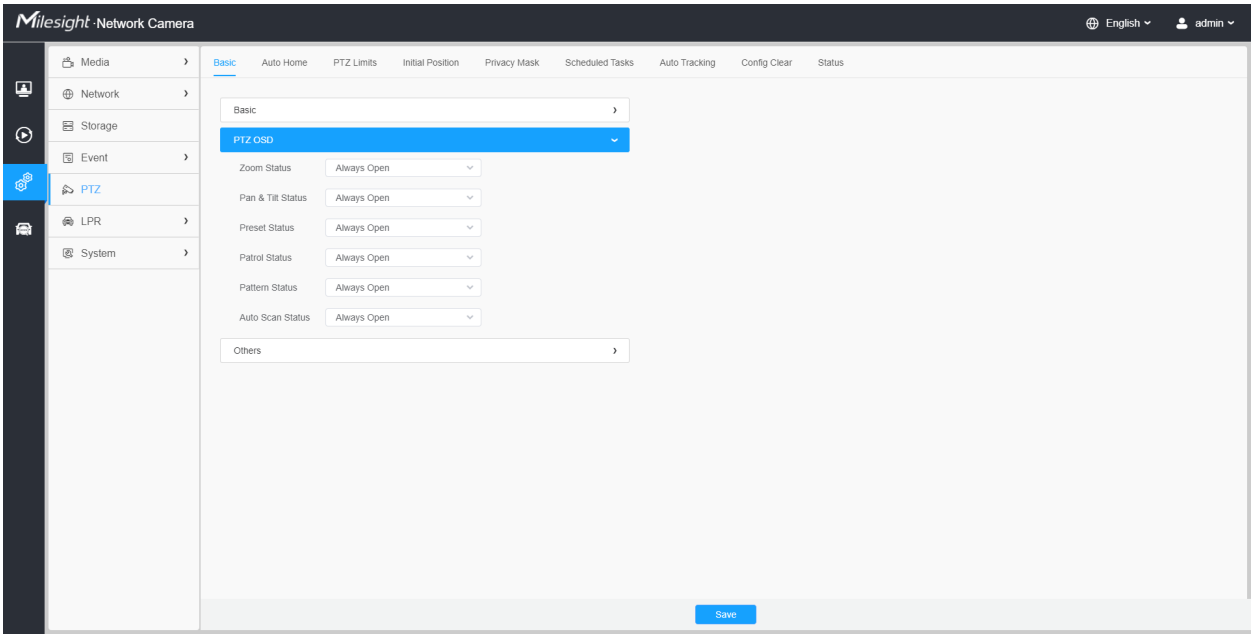


Table 68. Description of the buttons

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

[Others]

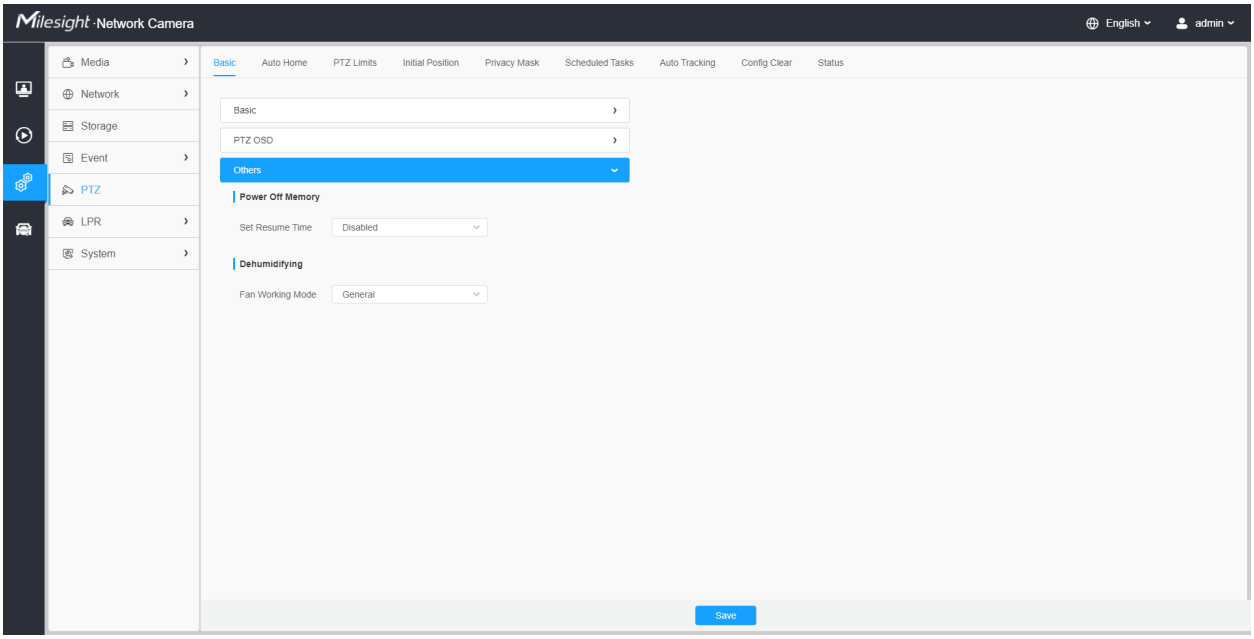
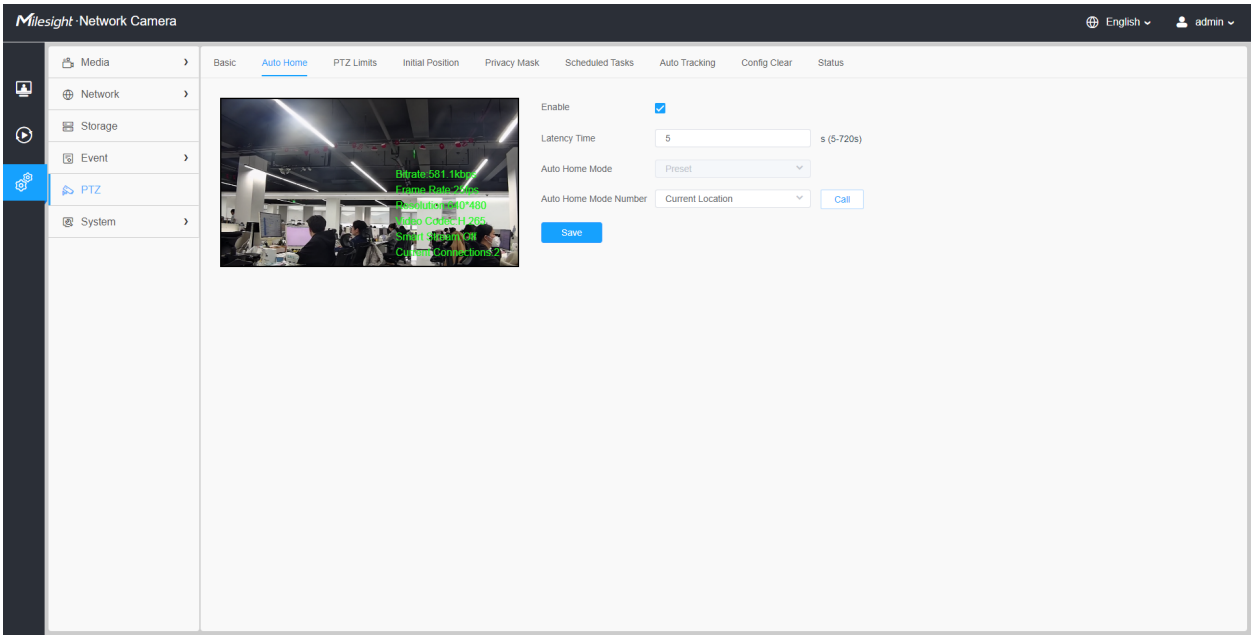


Table 69. Description of the buttons

Parameters	Function Introduction
Power Off Memory	If the camera stop working for a longer time than predefined, the position of it will be recorded. And it will resume to the position after going back to the normal work from power off. You can set the resume time to 30 seconds, 60 seconds, 300 seconds or 600 seconds to record its position.

Parameters	Function Introduction
Dehumidifying	**Fan Working Mode:** Three fan working modes are available: General/ Enhancement/ Constant. **General:** The fans are turned on from 4am to 7am and 5pm to 8pm every day. **Enhancement:** The fans are turned on from 5pm to 7am every day. **Constant:** The fans work 24 hours a day.

8.5.2 Auto Home



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

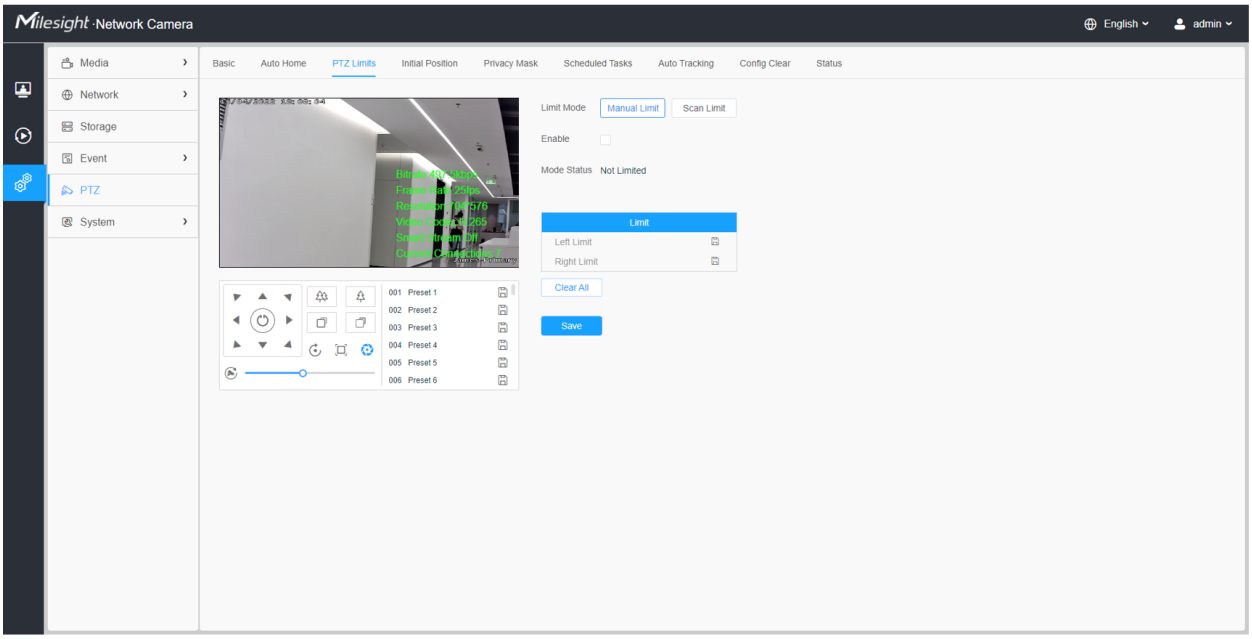
Table 70. Description of the buttons

Parameters	Function Introduction
Enable	Enable/disable the auto home function.
Latency Time	Set a latency time to trigger Auto Home mode, 5-720s.
Auto Home Mode	Preset: A preset point will take effect when triggering the Auto Home.

Parameters	Function Introduction
Auto Home Mode Number	Select a predefined preset in the list, press “Call” to check the location. Also support to select current location.

8.5.3 PTZ Limits

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



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

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

- Manual Limit:

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

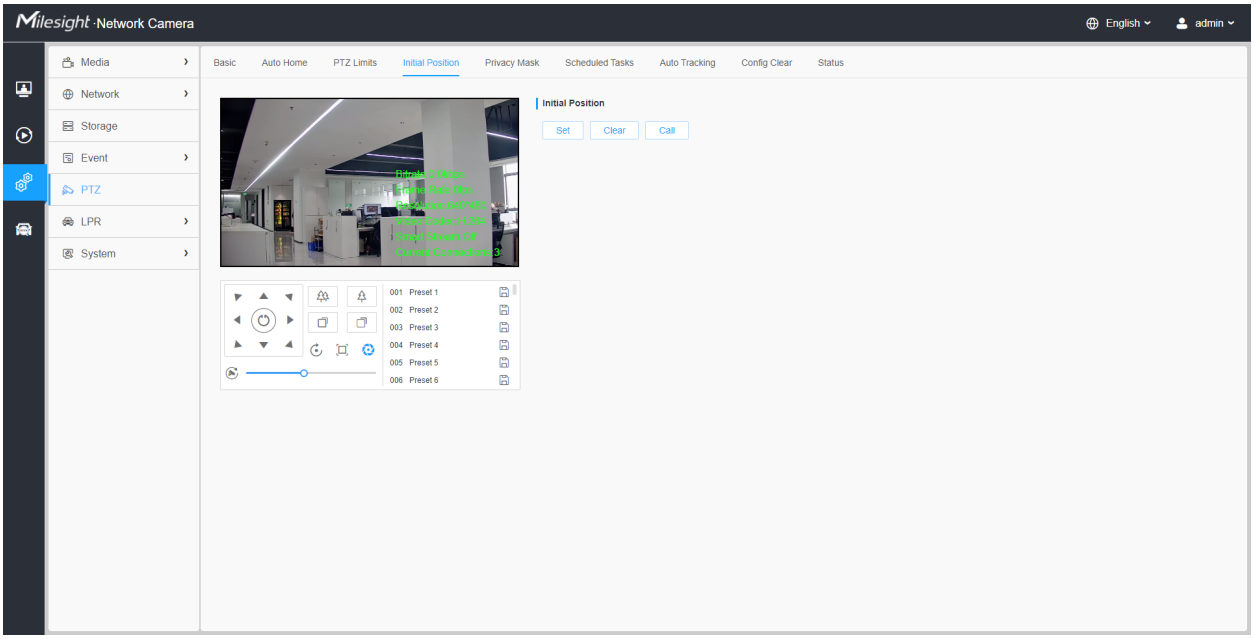
- Scan Limit:

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

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

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

8.5.4 Initial Position



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

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

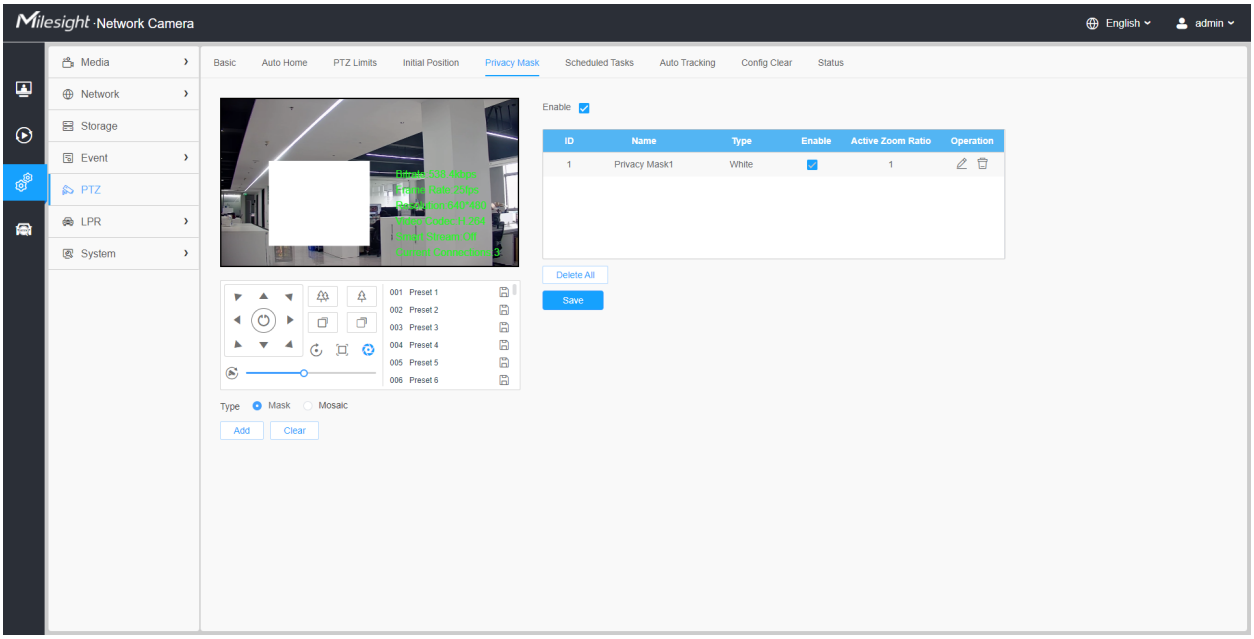
Step2: Click Set to save the position as the Initial Position.

Table 71. Description of the buttons

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

8.5.5 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. The mask area does not move as the lens moves.



[Privacy Mask]

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

Note:

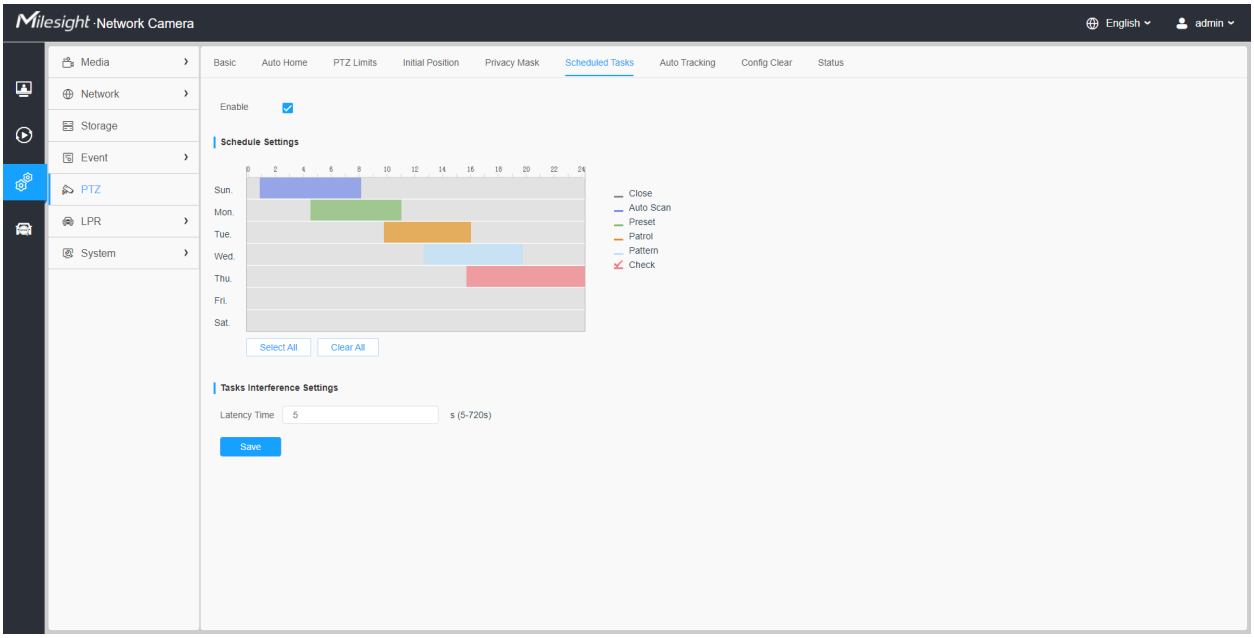
Table 72. Description of the buttons

Parameters	Function Introduction
Enable	Check the checkbox to enable the Privacy Mask function
Add	Add the current drawing area as Privacy Mask
Clear	Clear the current drawing area
Delete All	Clear all areas you drew before

Parameters	Function Introduction
Name	Support to customize the name of Privacy Mask
Type	Select the color for the privacy areas, there are eight colors available: White, Black, Blue, Yellow, Green, Brown, Red, Violet
Active Zoom Ratio	Set the value of Active Zoom Ratio according to your need, and then the mask will only appear when the zoom ratio is greater than the predefined value

8.5.6 Schedule Tasks

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



Step1: Enter the Scheduled Task Settings interface:

Step2: Check the check box to Enable Scheduled Task.

Step3: Set the schedule and task details.

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

Step5: Click Save button to save all the configurations.

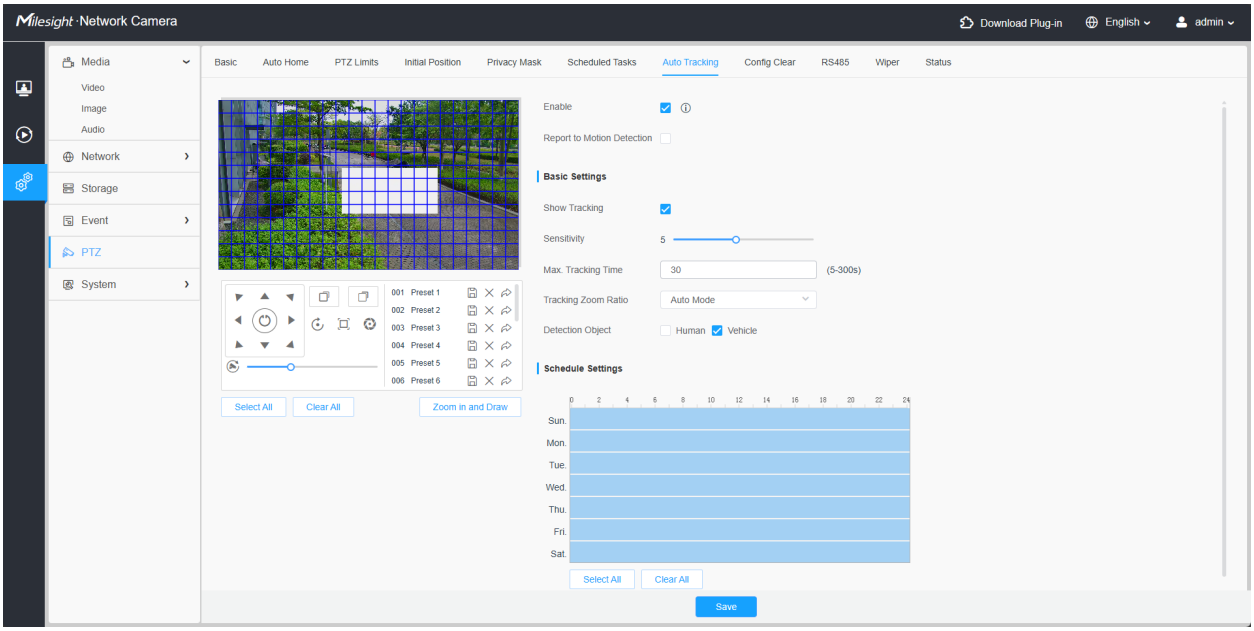
Note:

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

8.5.7 Auto Tracking

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

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



Settings steps are shown as follows:

Step1: Check the check box to enable Auto Tracking.

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

Note: Please enable motion detection first.

[Basic Settings]

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

Step4: Set detecting sensitivity.

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

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

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

[Schedule Settings]

Step8: Set Auto Tracking schedule.

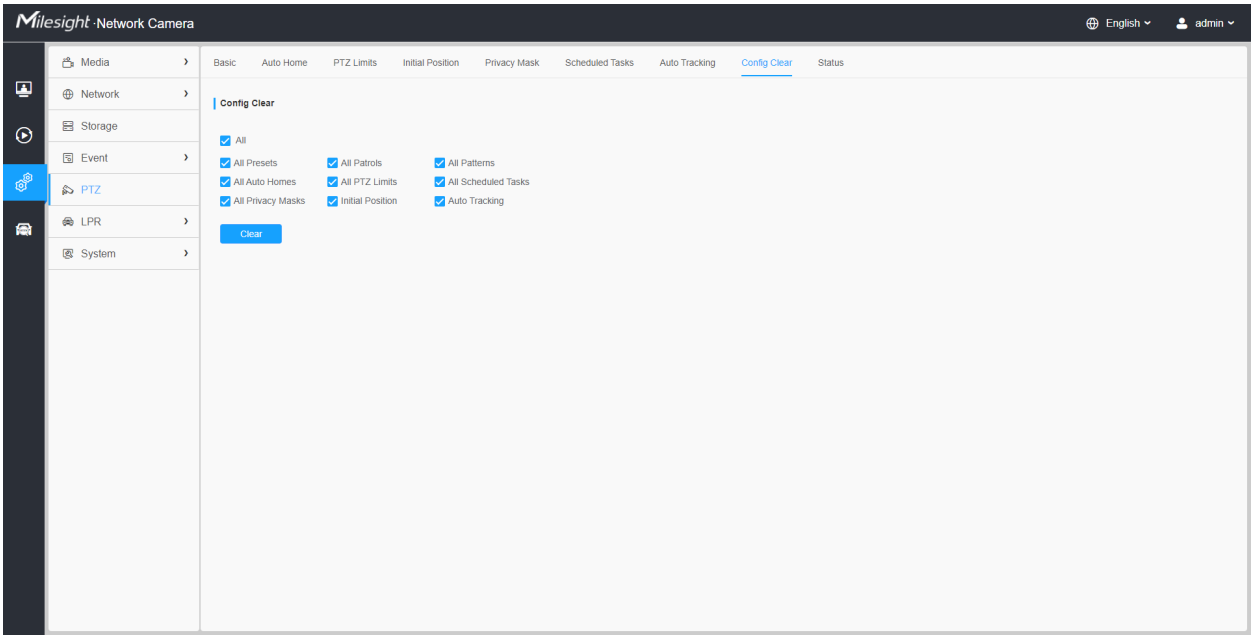
Step9: Draw the screen to set the detection region.

Step10: Click

to save the configuration.

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

8.5.8 Config Clear

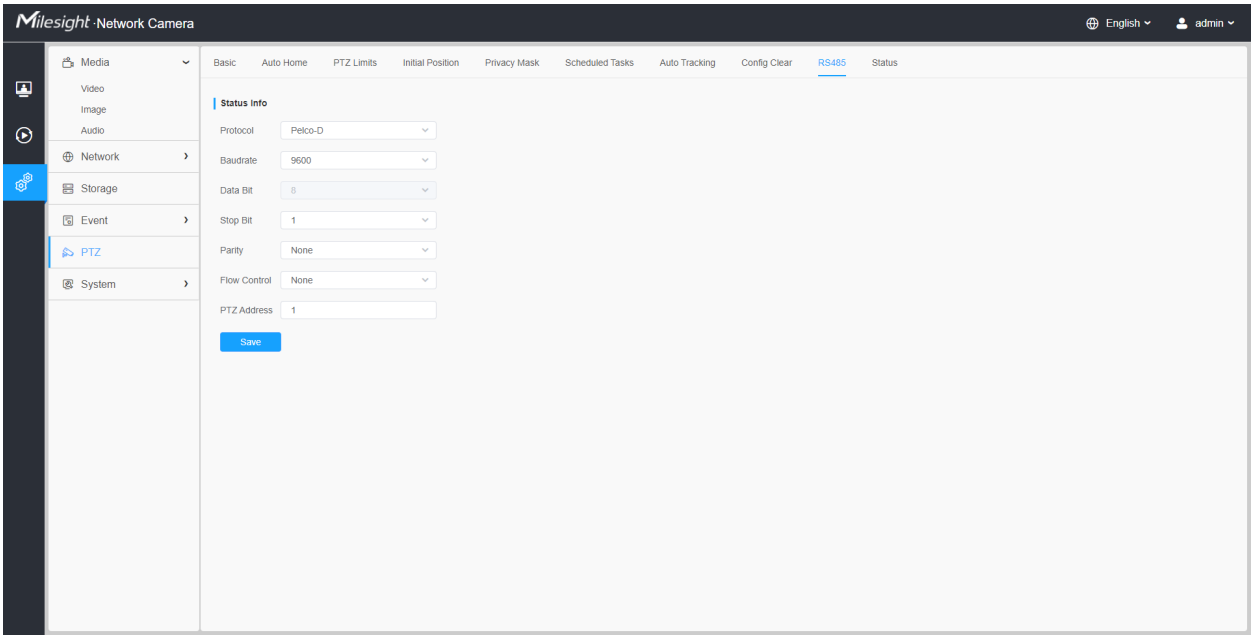


Here you can clear PTZ configurations, including all PTZ configurations, Presets, Patrols, Patterns, Auto Homes, PTZ Limits , Initial Position (PTZ Bullet), Privacy Masks and Scheduled Tasks.

8.5.9 RS485

Here you can clear configure RS485 serial port to control the PTZ of Speed Dome. Protocol, Baudrate, Data Bit, Stop Bit, Parity, Flow Control, PTZ Address should be exactly the same as those of the control device.

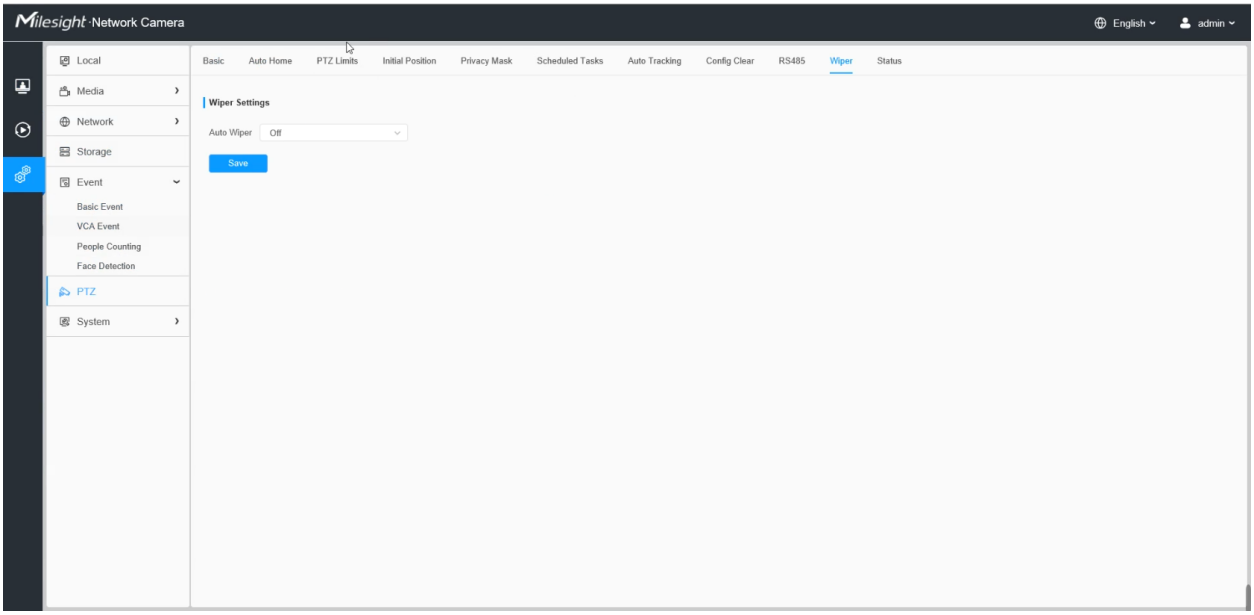
Note: This function is only for Speed Dome.



8.5.10 Wiper

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

Note: This function is only for AI Speed Dome with Smart Wiper.



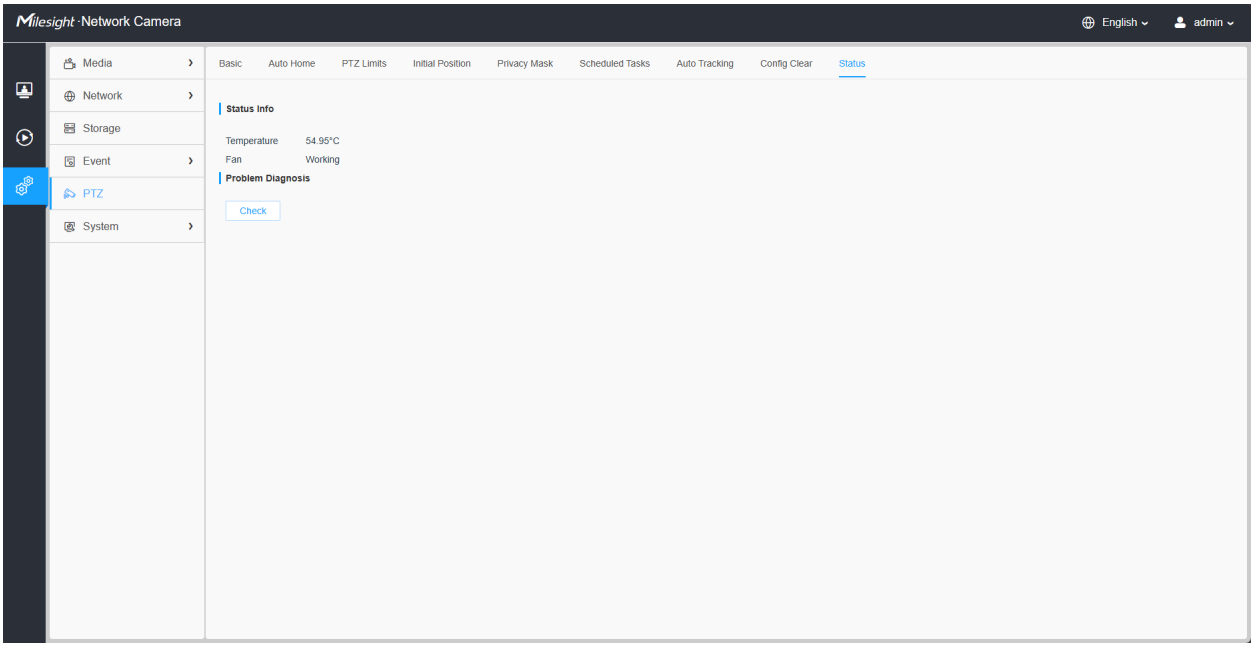
8.5.11 Status

Status Info

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

Problem Diagnosis

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



8.6 IoT (Optional)

Embedded IoT Module supports LPWAN technology to communicate wordlessly over long distance using lower power consumption.

You can manage end device and set the alarm settings here when using IoT camera.

8.7.1 Settings

8.7.1.1 Radios Settings

Currently our IoT camera supports three IoT frequency bands of **915M** (The corresponding channel plan is ***US915/AU915/KR920/AS923/AS923-2***), **868M** (The corresponding channel plan is ***IN865/EU868/RU864***) and **470M** (The corresponding channel plan is ***CN470***). Before buying the camera, you need to contact our sales to choose the frequency band that is supported in your country.

For example, here I choose the IoT camera with the frequency bands of 915M or reference document regional parameters for LoRaWAN, and it will show that the current channel plan is US915 on the page.

Note: Usually you can directly use the default settings without configuring Radio Settings. If you need to customize some radio settings, you can make further settings as shown below.

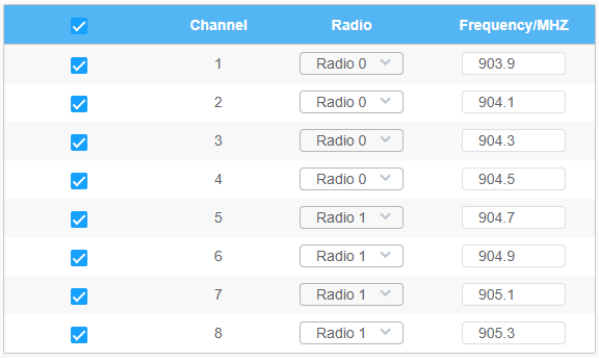
Table 73. Description of the buttons

Parameters	Function Introduction
Enable IoT	Enable/Disable the IoT function.
Cloud Mode	Enable/disable IoT Cloud management.
Channel Plan	Show the corresponding channel plan of your IoT camera.
Channel Mask	Enabled frequencies are controlled using channel mask. Leave it blank means using all the default standard usable channels specified in the LoRaWAN® regional parameters document. A bit in the Channel Mask field set to 1 means that the corresponding channel can be used for uplink transmissions if this channel allows the data rate currently used by the end-device. A bit set to 0 means the corresponding channels should be avoided.This option is optional for CN470, US915 and AU915.

[Radio Channel Settings]

Table 74. Description of the buttons

Parameters	Function Introduction
Center Frequency of Radio 0	Supports transmitting and receiving packet;

Parameters	Function Introduction
Center Frequency of Radio 1	Only supports receiving packet from nodes;
Multi-channel list	The radio and frequency corresponding to all channels will be listed here. All channels are enabled by default. You can also check the box to enable the corresponding channel. 

[Lora Channel Settings]

Table 75. Description of the buttons

Parameters	Function Introduction
Enable	Enable/Disable the LoRa Channel.
Radio	Choose Radio 0 or Radio 1 as center frequency.
Frequency	Enter the frequency of this channel. **For example:** • The frequency range formula of US915 and AU915: Center frequency ±0.55; • The frequency range formula of other regions (except US915 and AU915): Center frequency ±0.4625; For example, the center frequency is configured with 867.5, then the frequency range corresponding to each channel: 867.5-0.4625~867.5+0.4625.

Parameters	Function Introduction
Band Width	Enter the bandwidth of this channel. 125KHz, 250KHz and 500KHz are available. The default option is 250KHz; **Note:** The default option is 500KHz for AU915 and US915.
Data Rate	From SF7 to SF12, the transmission rate decreases and the transmission distance increases. In general, the range of Data Rate is SF7 ~ SF12, the default value would be SF7. Only the default value of the Channel Plan AU915 and US915 is SF8.

[FSK Channel Settings]

Table 76. Description of the buttons

Parameters	Function Introduction
Enable	Enable/Disable the FSK Channel.
Radio	Choose Radio 0 or Radio 1 as center frequency.
Frequency	Enter the frequency of this channel.
BandWidth	Enter the bandwidth of this channel. 125KHz, 250KHz and 500KHz are available. The default option is 125KHz. **Note:** The default option is 250KHz for AU915 and US915.
Data Rate	Enter the data rate. The Date Rate must be between 500~250000.

Note: The configurations here should be the same with those in End Device.

8.7.1.2 Profiles Settings

Usually you can use the default settings without configuring Profiles Settings. If you need to customize some profiles settings, you can click the Profiles Settings button to make further settings and click Apply button, it will list the Device-profiles you created.

Table 77. Description of the buttons

Parameters	Function Introduction	
Name	Customize the profile name.	
Max TXPower	Enter the maximum transmit power. The TXPower indicates power levels relative to the Max EIRP level of the end-device. 0 means using the max EIRP. EIRP refers to the Equivalent Isotropically Radiated Power. The Max TXPower must be between 0~16.	
Join Type	OTAA and ABP are optional, the default option is OTAA. • **OTAA:** Over-the-Air Activation. For over-the-air activation, end-devices must follow a join procedure prior to participating in data exchanges with the network server. An end-device has to go through a new join procedure every time as it has lost the session context information. • **ABP:** Activation by Personalization. Under certain circumstances, end-devices can be activated by personalization. Activation by personalization directly ties an end-device to a specific network by passing the join request - join accept procedure.	
Class Type	Device type is Class A by default. Users can check the box of Class B or Class C to add the class type.	
Advance Settings	**MAC Version**	Choose the version of the LoRaWAN® supported by the end-device. 1.0.0/1.0.1/1.0.2/1.1.0 are optional, the default option is 1.0.2.
	Regional Parameters Revision	Revision of the Regional Parameters document is supported by the end-device.A and B are optional, the default option is B.
	RX1 Data Rate Offset	The offset used for calculating the RX1 data-rate is based on the uplink data-rate.
	RX2 Data Rate	Enter the RX2 datarate which is used for the RX2 receive-window.
	RX2 Channel Frequency	RX2 channel frequency is used for the RX2 Frequency receive-window.

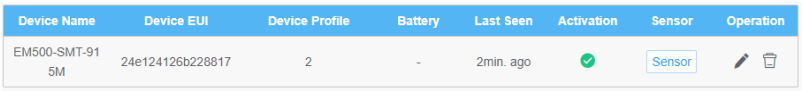
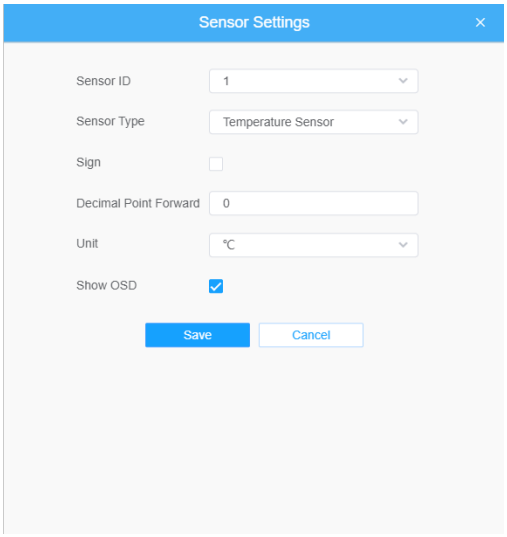
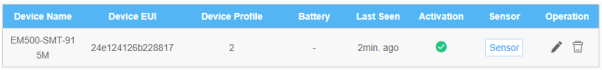
Parameters	Function Introduction	
Advance Settings	**Frequency List**	List of factory-preset frequencies. The range is based on what is specified in the LoRaWAN® regional parameters document.

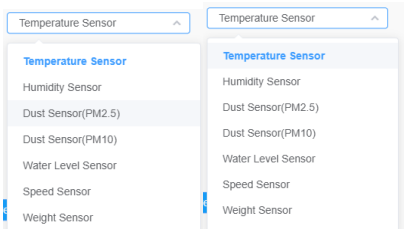
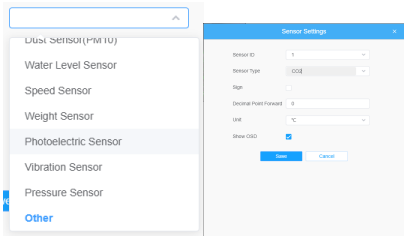
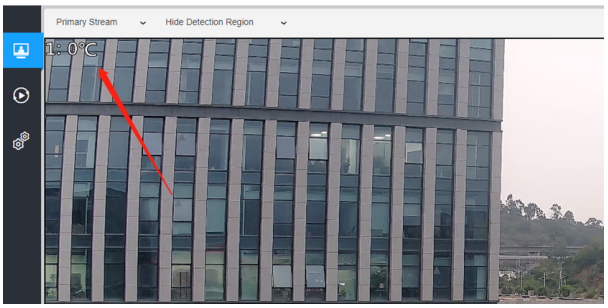
8.7.1.3 Device Management

Table 78. Description of the buttons

Parameters	Function Introduction
Device Name	Customize the device name.
Device EUI	Fill in Device EUI which can be obtained from the device label. You can also get Device EUI from Tool Box if you use Lora Sensor.
Device Profile	OTAA and ABP are optional, the default option is OTAA.
Application Key	Whenever an end-device joins a network via over-the-air activation, the application key is used for derive the Application Session key. It is mainly used to generate corresponding Device Address/Network Session Key/Application Session Key. **Note:** • The default key can be obtained from the end-device. • Sensors' default key is 5572404c696e6b4c6f52613230313823.

Parameters	Function Introduction
Device Address **/Network Session Key** **/Application Session Key**	Information is needed to access the network. If you choose ABP network access mode, you need to fill in these items. And you can obtain them from End Device. For example, you can get such information from Tool Box when you use Lora Sensor. **Device Address:** The device address identifies the end-device within the current network. **Network Session Key:** The network session key is specific for the end-device. It is used by the end-device to calculate the MIC or part of the MIC (message integrity code) of all uplink data messages to ensure data integrity. The default key of Sensor is 5572404c696e6b4c6f52613230313823. **Application Session Key:** The AppSKey is an application session key specific for the end-device. It is used by both the application server and the end-device to encrypt and decrypt the payload field of application-specific data messages. The default key of Sensor is 5572404c696e6b4c6f52613230313823.
Device Type	Select the device type according to the actual situation. Lora Sensor and Lora Sensor Node are optional. Lora Sensor is a kind of sensor that supports LoraWAN protocol, while Lora Sensor Node is a kind of device which receives data from interfaces of RS485, AI and GPIO.
OSD Font Size	Configure the OSD font color.
OSD Font Color	Configure the OSD font size.

Parameters	Function Introduction
Device List	**Step 1:** You can enter sensor configuration page by clicking Sensor After the configuration is finished, you can click Save to save your configuration or click Cancel to cancel your configuration.   **Step 2:** You can click to modify the configuration in End Device Management. **Step 3:** You can click to delete the device you added. 

Parameters	Function Introduction
Sensor Settings	**[Sensor ID]** Select the Sensor ID that you want to configure. The number of sensor IDs depends on how many kinds of data the sensor has and there is a one-to-one relationship between ID and data. **[Sensor Type]**Sensor Type configuration. We have several common used sensor types as shown below:  Or you can also customize it:  **[Sign]**The tick indicates that the value has a plus or minus sign. **[Decimal Place]** Decimal configuration. For example, when you fill in 1, you are moving the decimal point one to left, and you get a decimal. **[Unit]** Data unit configuration. We have some common units here and users can also customize it. **[Show OSD]** As the picture shown below, once you enable this function, you can see the detected data on the screen.  **Note:** • The channel ID and Sign should be consistent with those in End Device. • Decimal Place is set according to the properties of the sensor. For example, you need to set this value to 1 to get the correct temperature when using the temperature sensor.

8.7.2 Alarm Settings

Step 1: Select the alarm rule that you want to set and you can configure four kinds of rules.

Step 2: Check the check box to enable Alarm Rules.

[Thresholds Settings]

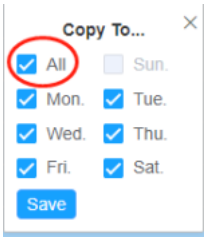
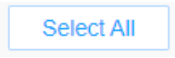
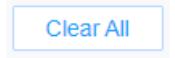
Step 3: Click to select the sensor to alarm.

Step 4: Set threshold for the selected sensor. When the data reaches the critical value, the alarms will be triggered. Both upper and lower thresholds are configurable. You can also only configure upper or lower threshold.

[Schedule Settings]

Step 5: Set the alarm schedule for IoT.

Table 79. 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]

Step 6: Set Alarm Action.

Table 80. 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.
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.
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.
OSD Blink	If the Show OSD in the page of sensor configuration is checked, the OSD will blink when alarm is triggered. **OSD Blink Time:** Support to set the blinking duration of the OSD, 1~10 are Available. For example, the alarm action is set to OSD blinking at an interval of 3 seconds, when the data reaches the critical value, the alarms will be triggered and the OSD blinking on the live view interface.

8.7 System

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

8.7.1 System Setting

Here you can check System information and Date&Time.

8.7.1.1 System Info

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

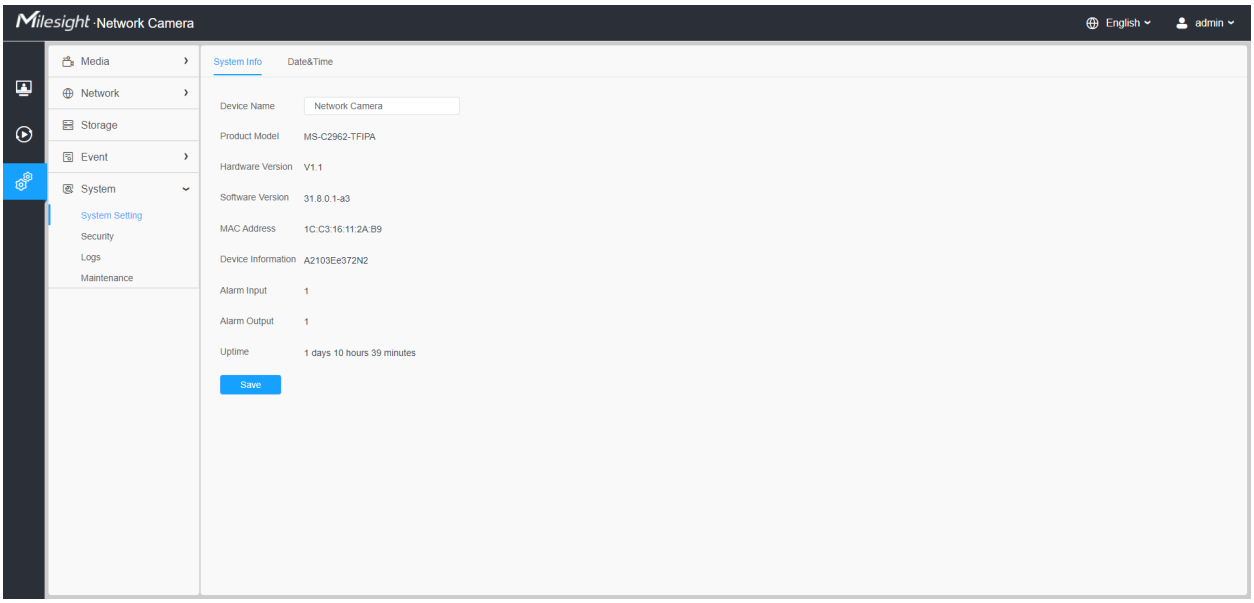


Table 81. Description of the buttons

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.

Parameters	Function Introduction
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.

8.7.1.2 Date&Time

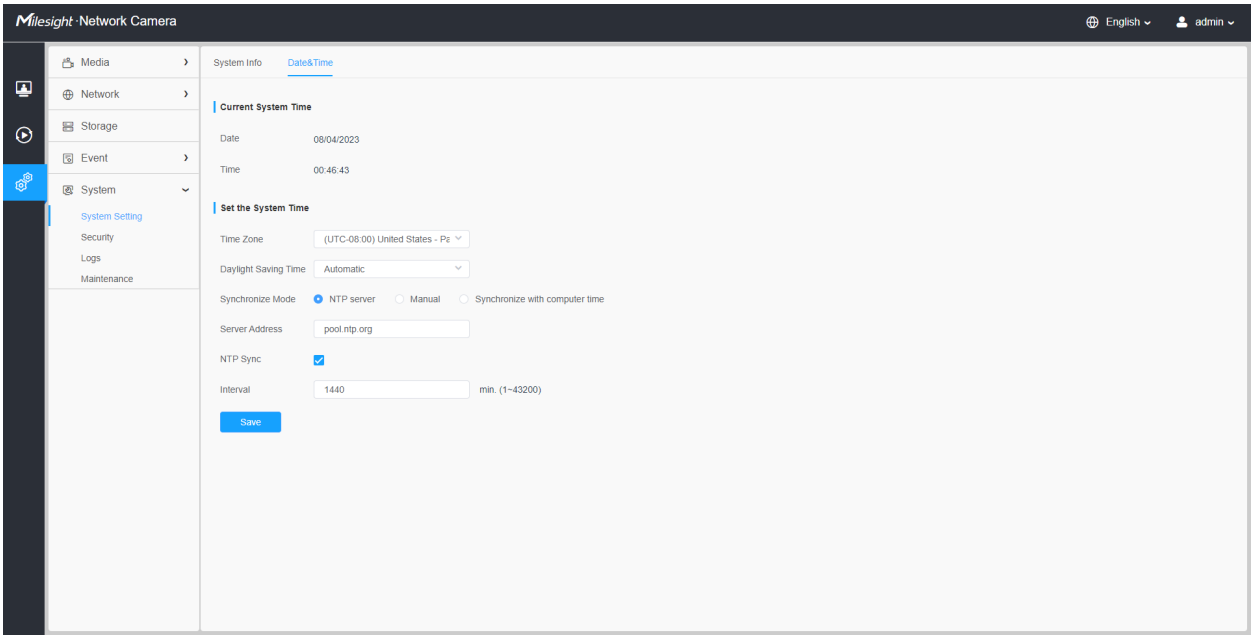


Table 82. Description of the buttons

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.

Parameters	Function Introduction
Set the System 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.

8.7.2 Security

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

8.7.2.1 User

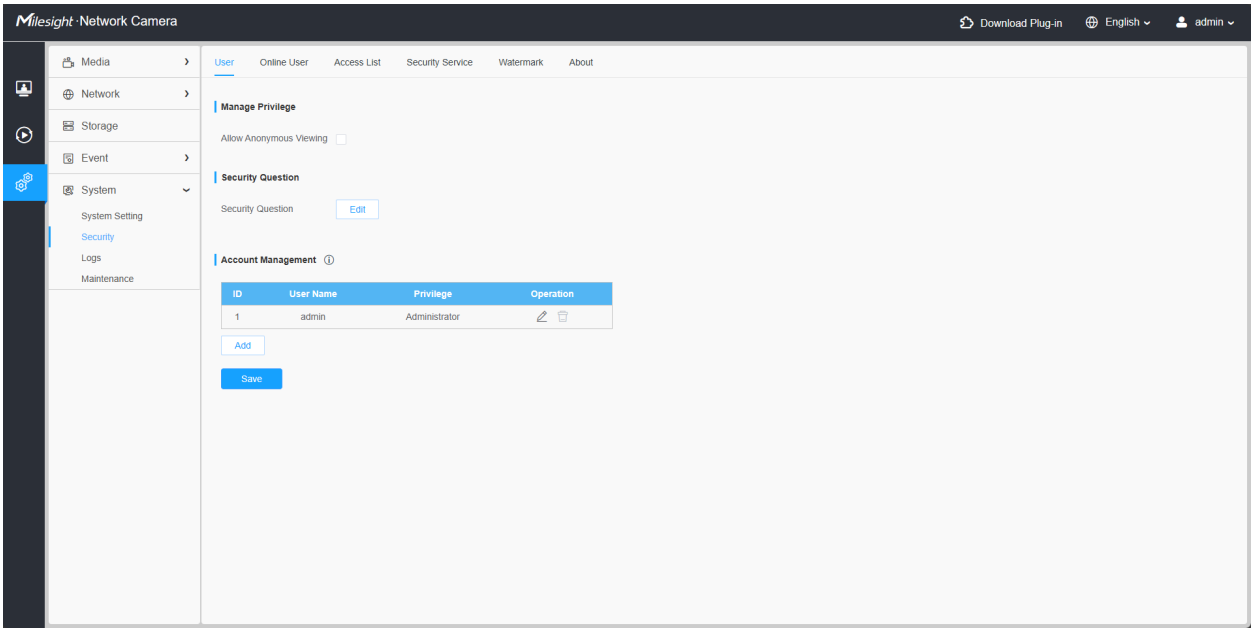
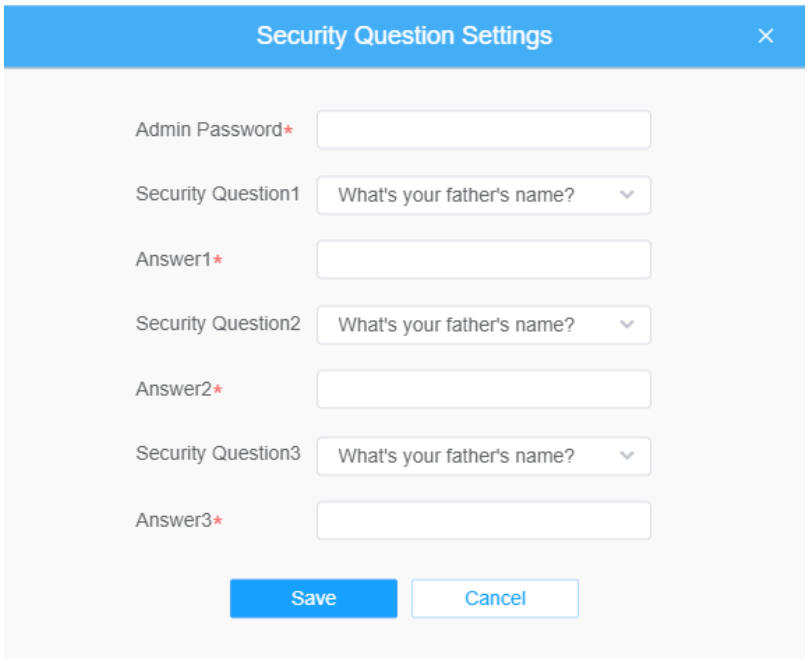
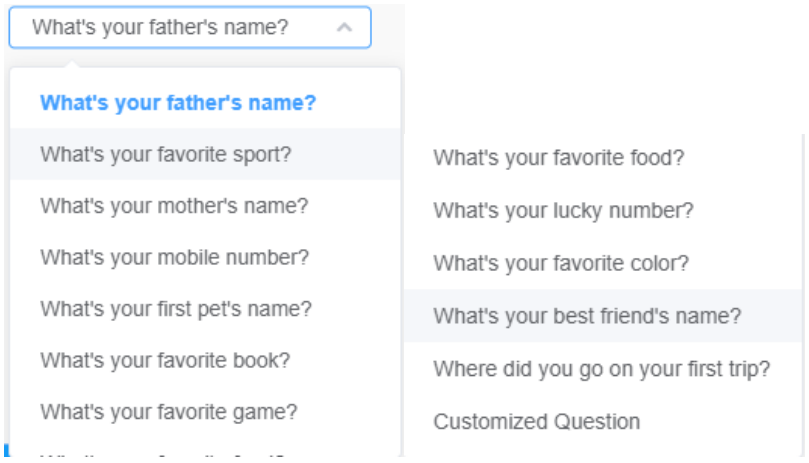
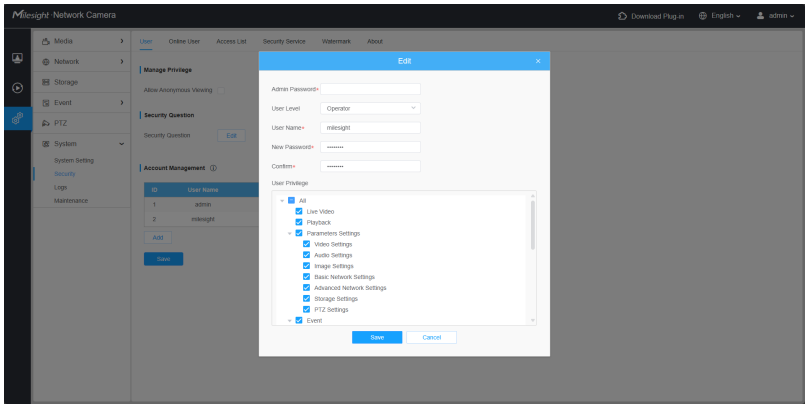


Table 83. Description of the buttons

Parameters	Function Introduction
Manage Privilege	**Allow anonymous viewing:** Check the checkbox to enable visit from whom doesn't have account of the device.

Parameters	Function Introduction
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. By clicking , you can edit the detailed information of a custom user, including user level, name, password, privileges, and more.  **Note:** • Support up to 20 users, including a default user and 19 custom added users. • The operator privilege is all checked by default.

8.7.2.2 Online User

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

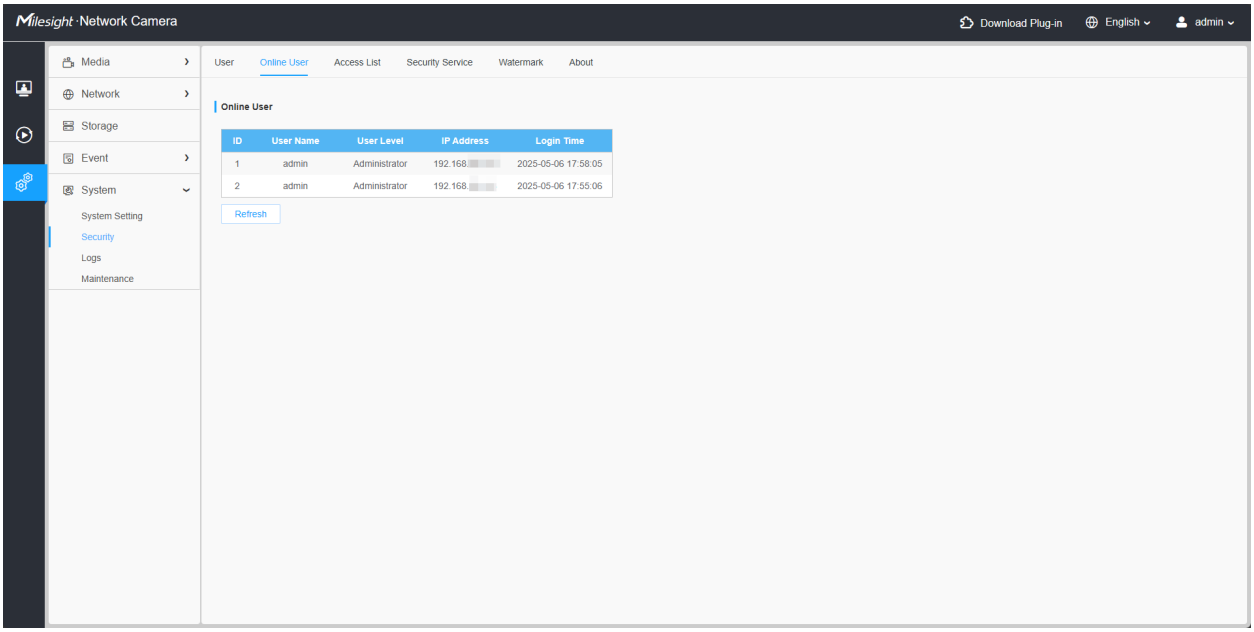


Table 84. Description of the buttons

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.

8.7.2.3 Access List

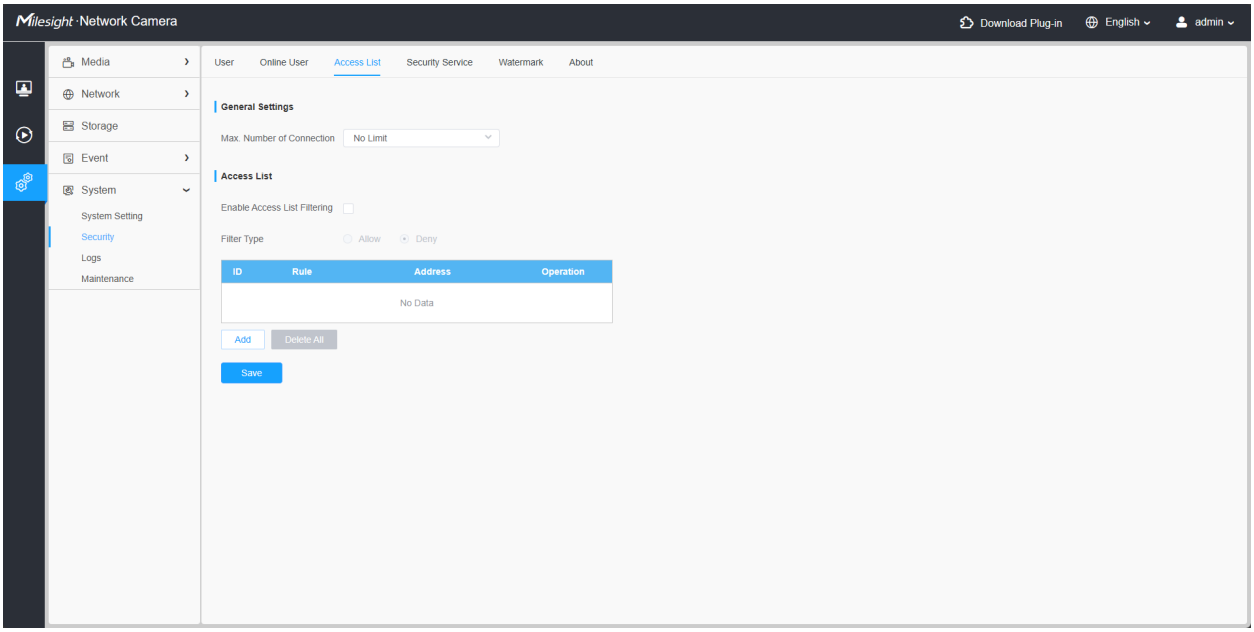


Table 85. Description of the buttons

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: Single, Network and Range** are available. **IP address:** Input the 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.	

8.7.2.4 Security Service

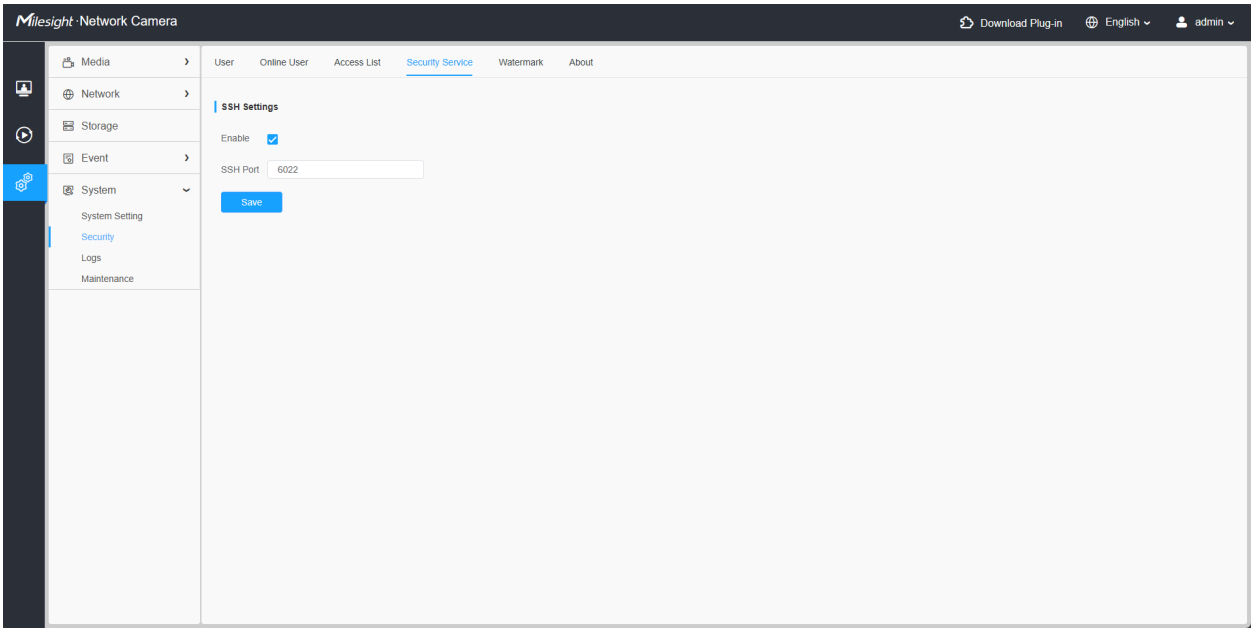
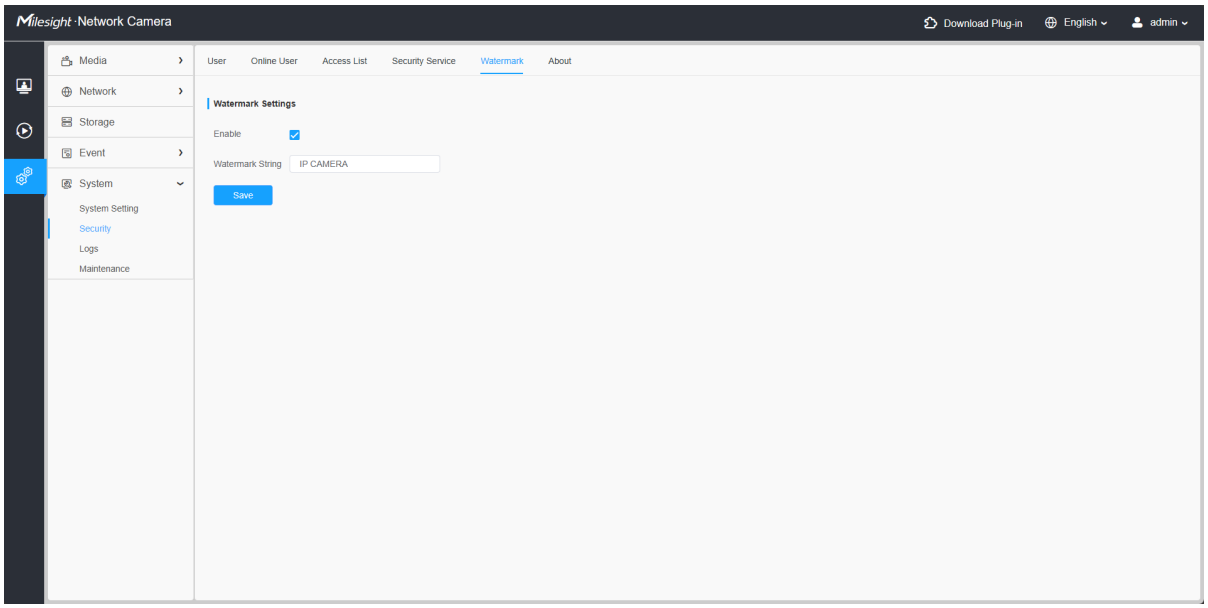


Table 86. Description of the buttons

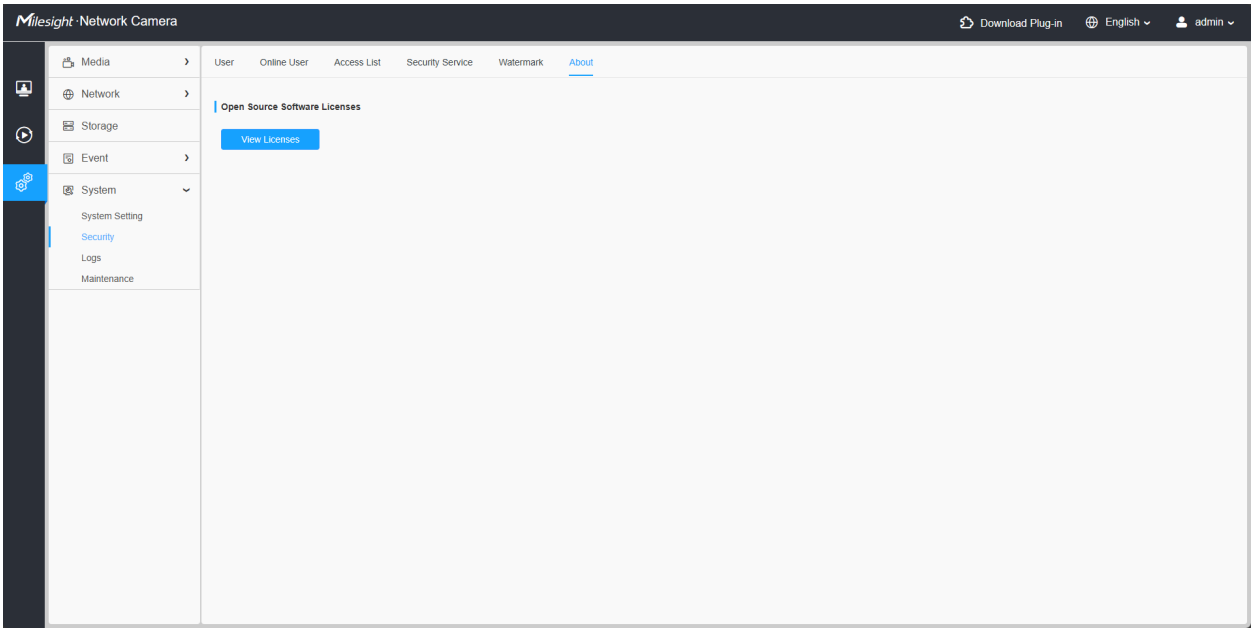
Parameters	Function Introduction
SSH Settings	Secure Shell (SSH) has many functions: it can replace Telnet and also provides a secure channel for FTP, POP, even for PPP.

8.7.2.5 Watermark



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

8.7.2.6 About



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

8.7.3 Logs

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

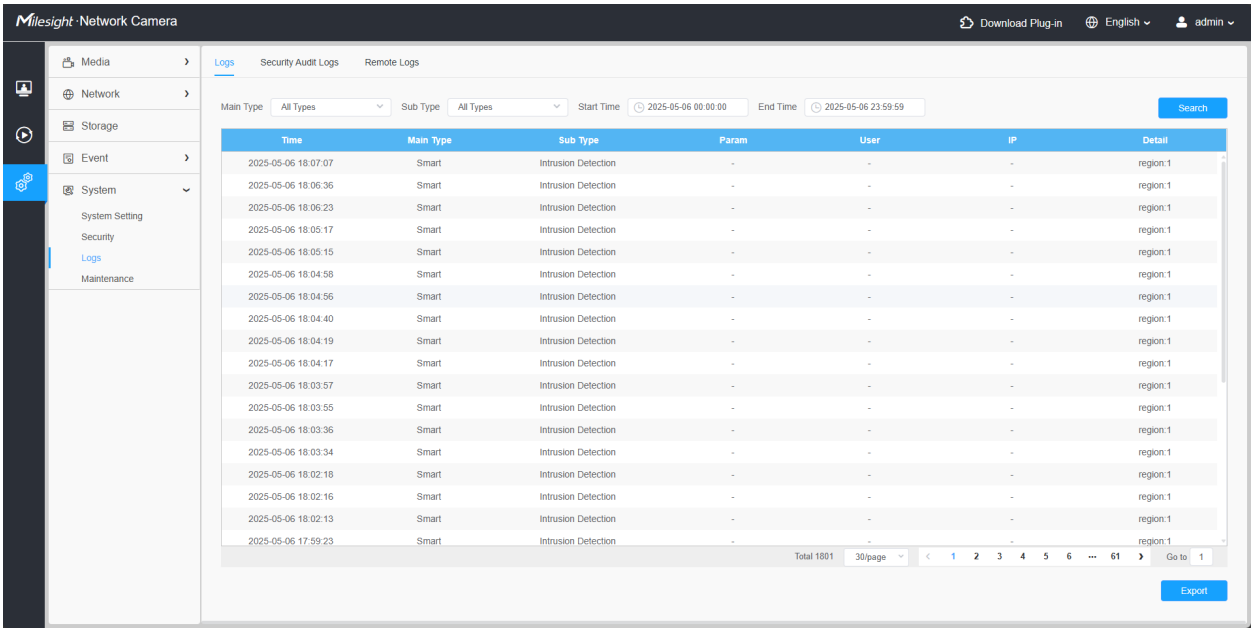


Table 87. Description of the buttons

Parameters	Function Introduction
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.

8.7.4 Maintenance

Here you can configure System Maintenance and Auto Reboot.

8.7.4.1 System Maintenance

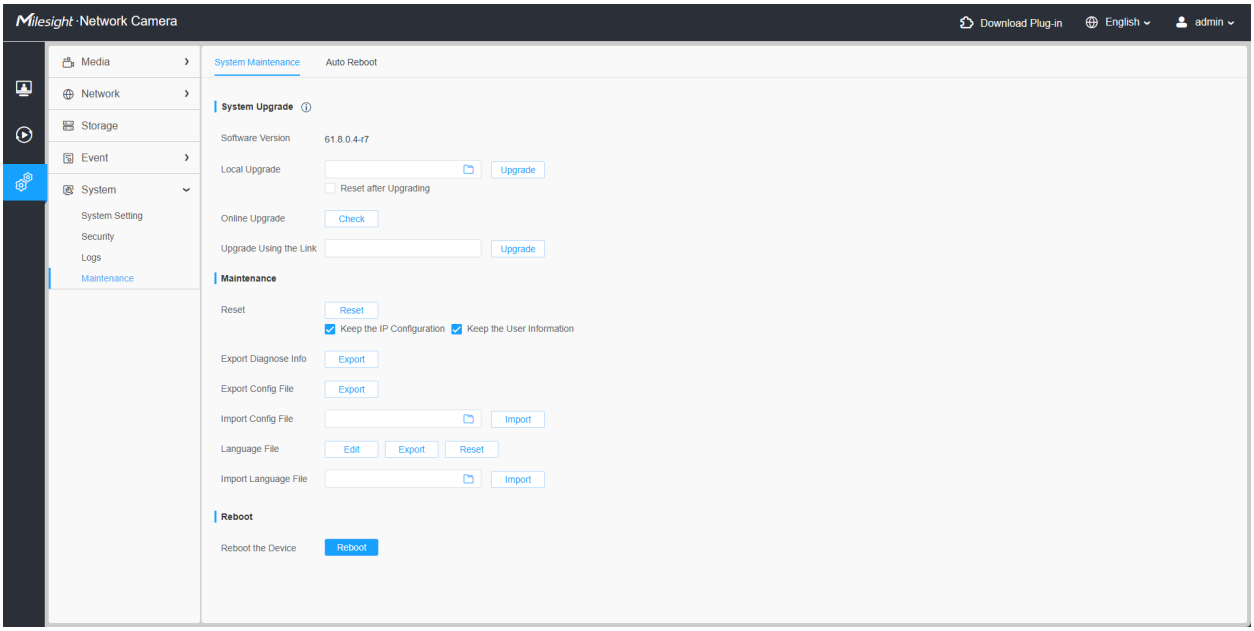
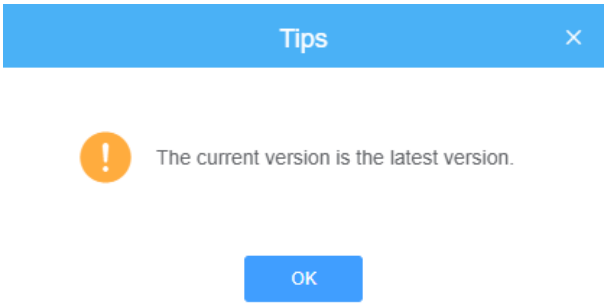
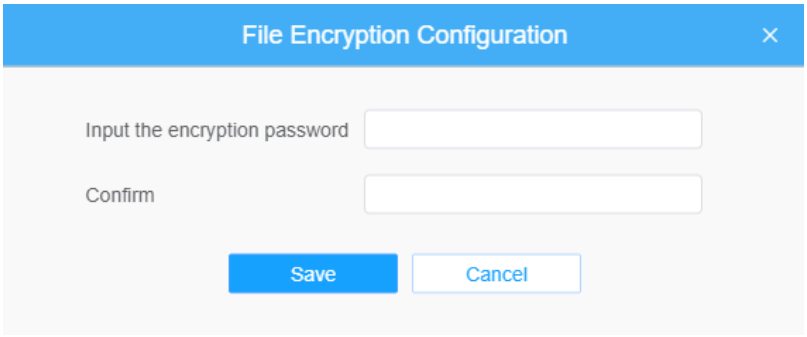
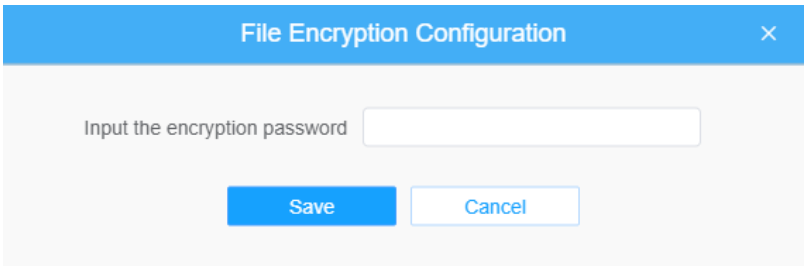


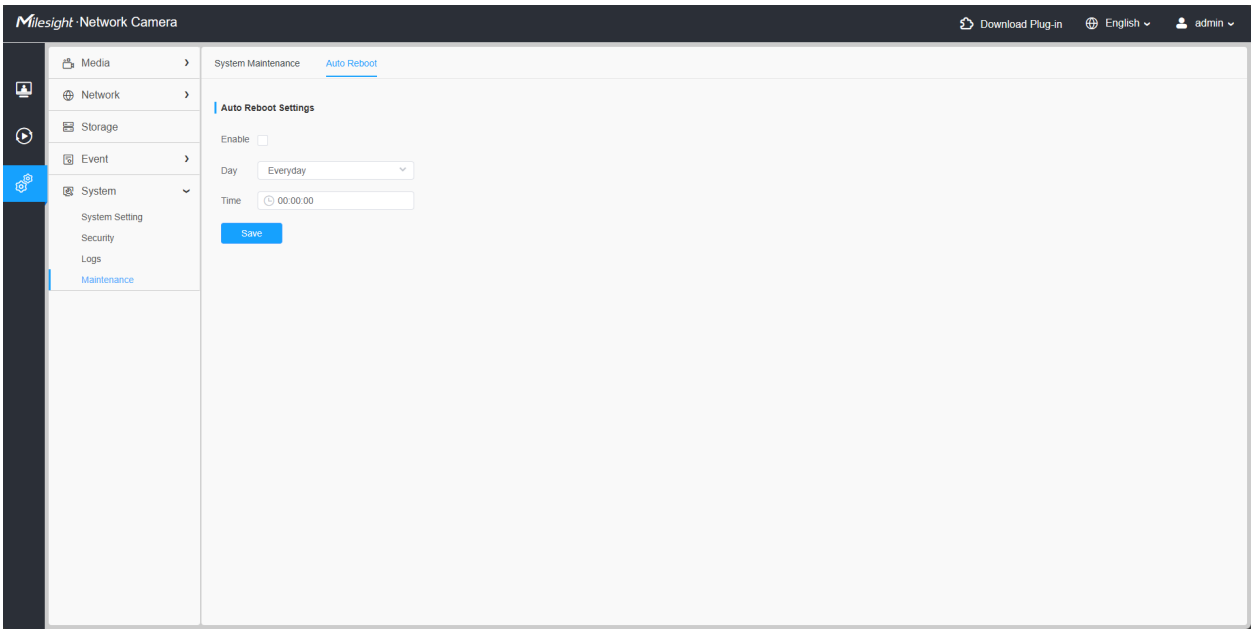
Table 88. Description of the buttons

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.

Parameters	Function Introduction
Maintenance	**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. **Language File:** Here, you can edit, export, and reset the language file. **Import Language File:** Import the language file then click the "**Import**" button, then a window will pop up and you can click "OK" to update the configuration. It allows you to modify or import predefined language translation packs, enabling you to customize the interface language based on your preferences, achieving better adaptation to various linguistic environments.

Parameters	Function Introduction
Reboot	Click “Reboot” button to restart the device immediately.

8.7.4.2 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.

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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