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Network Camera User Manual

HM-AI-LPR Series

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Chapter 1. Introduction

1.1 Copyright Statement

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

Hypermicron reserves the right to change this manual and the specifications without prior notice. The latest specifications and user documentation for all Hypermicron products are available on our official website www.hypermicronsg.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 an 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

Chapter 2. Product Description

2.1 Product Overview

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

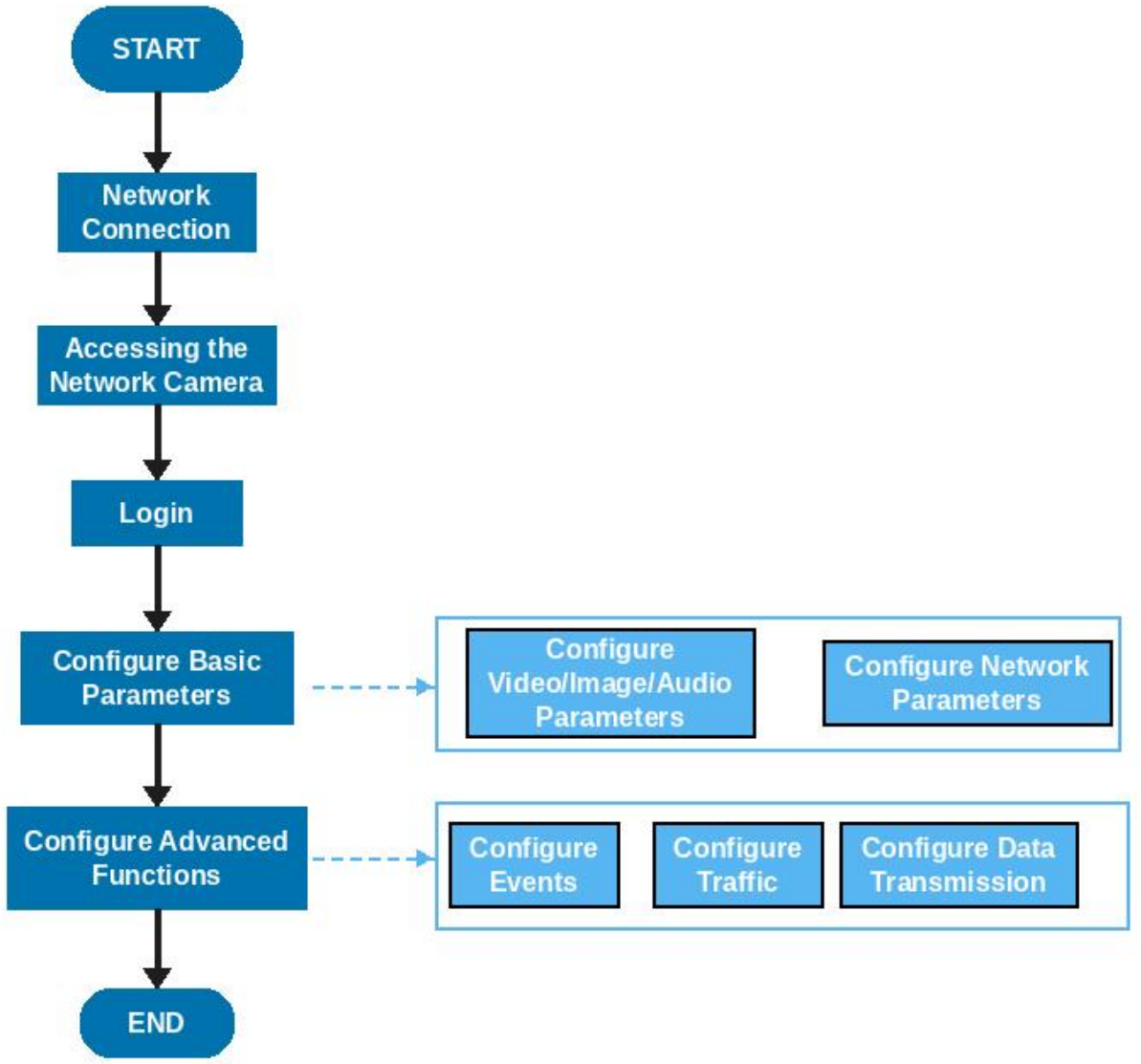
Internet protocol: TCP/IP (IPv4/IPv6)

Web Browsers: Support Microsoft 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 8)*
Accessing the Network Camera	Accessing from IP address, web browser and Hypermicron back-end software are available.	5.1 Assigning An IP Address *(page 10)*

Configure Basic Parameters	After login the camera, you can adjust the video/image/audio/network parameters as needed.	8.1 Media *(page 19)* 8.2 Network *(page 29)*
Configure Advanced Functions	Configure the advanced functions, such as events, LPR, vehicle counting and data transmission.	8.4 Event *(page 49)* 8.5 Traffic (page 56) 8.6 Data Transmission (page 69)

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.

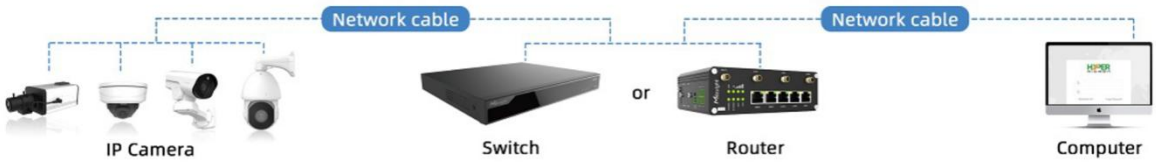


4.1.1 Connect the Camera to the PC Directly

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.

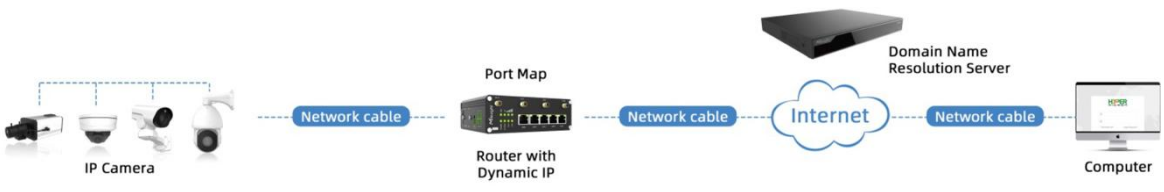
Step2: On the camera, assign a LAN IP address, the Subnet mask and the Gateway.

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

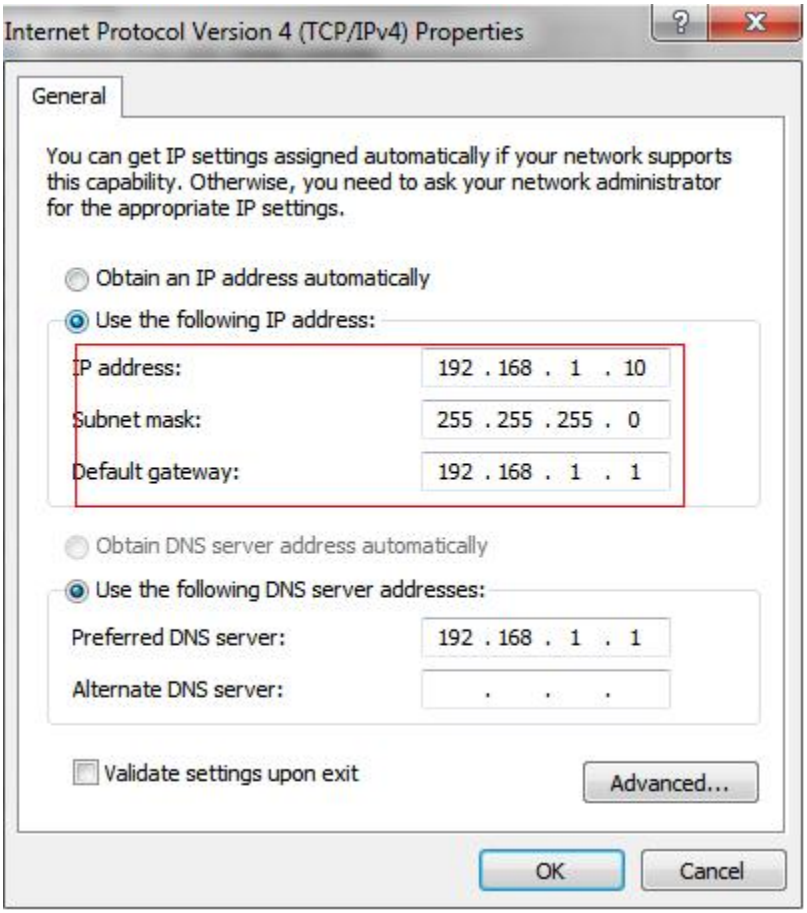
The Network Camera must be assigned an IP address to be accessible. The default IP address of Hypermicron network cameras is 192.168.5.190.

Please connect the camera in the same LAN of your computer.

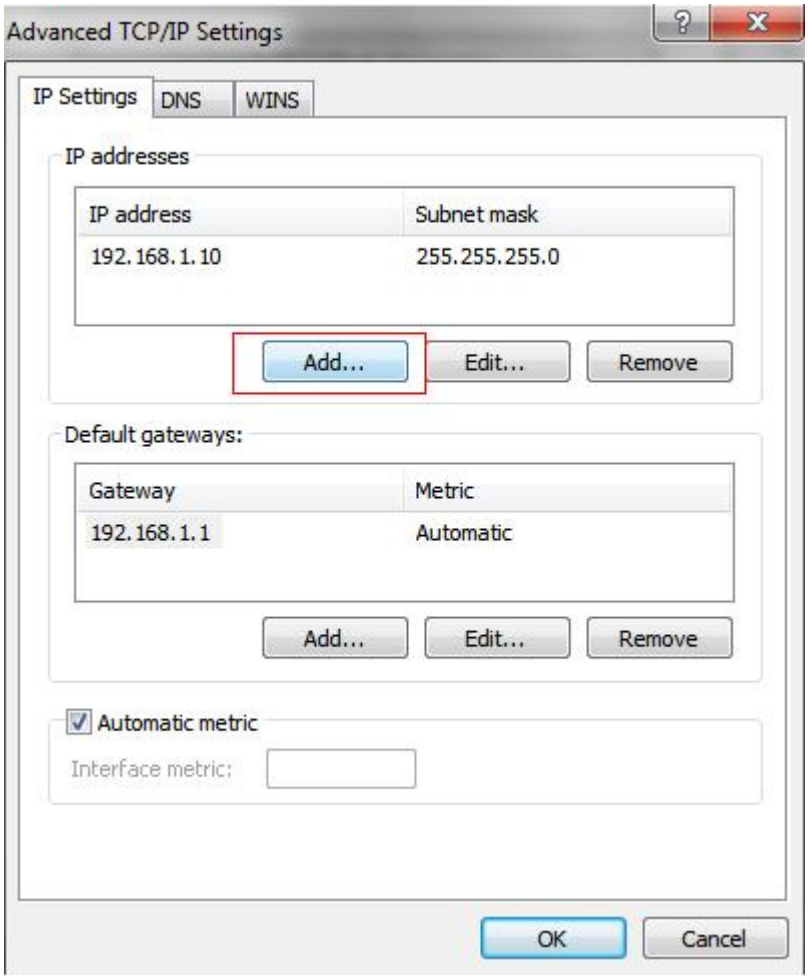
If the network segment of the computer and that of the camera are different, please follow the steps to change the IP address:

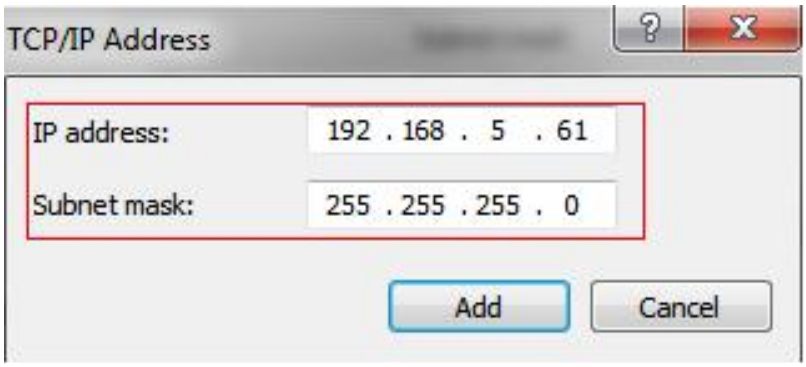
Step 1: Change the IP address of computer to 192.168.5.0 segment, here are two ways as below:

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

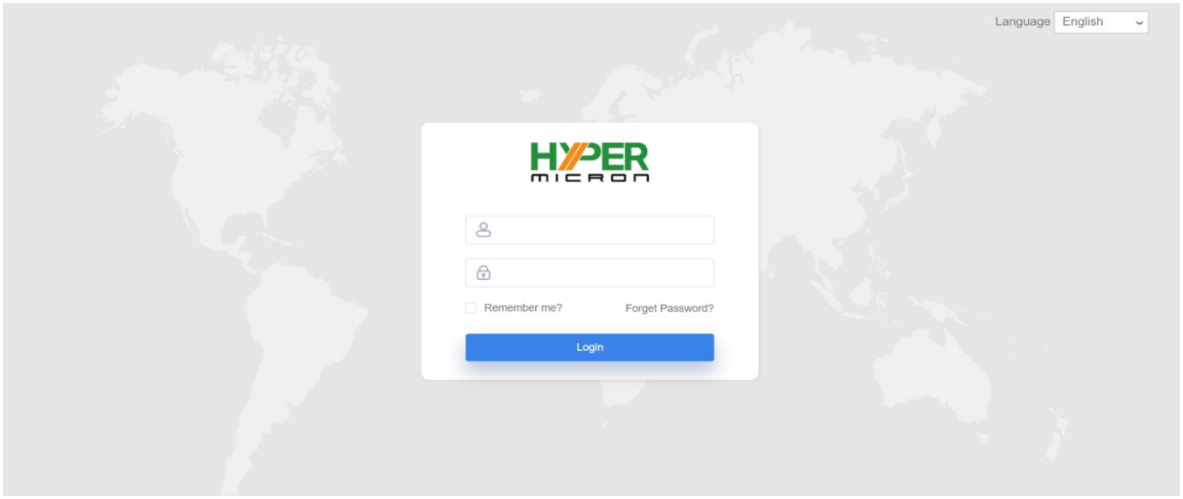


b. Click “Advanced”, and then click “IP settings”--> “IP address”--> “Add”. In the pop-up window, enter an IP address that in the same segment with Hypermicron network camera (e.g. 192.168.5.61, but please note that this IP address shall not conflict with the IP address on the existing network).





Step 2: Start the browser. In the address bar, enter the default IP address of the camera: http://192.168.5.190.

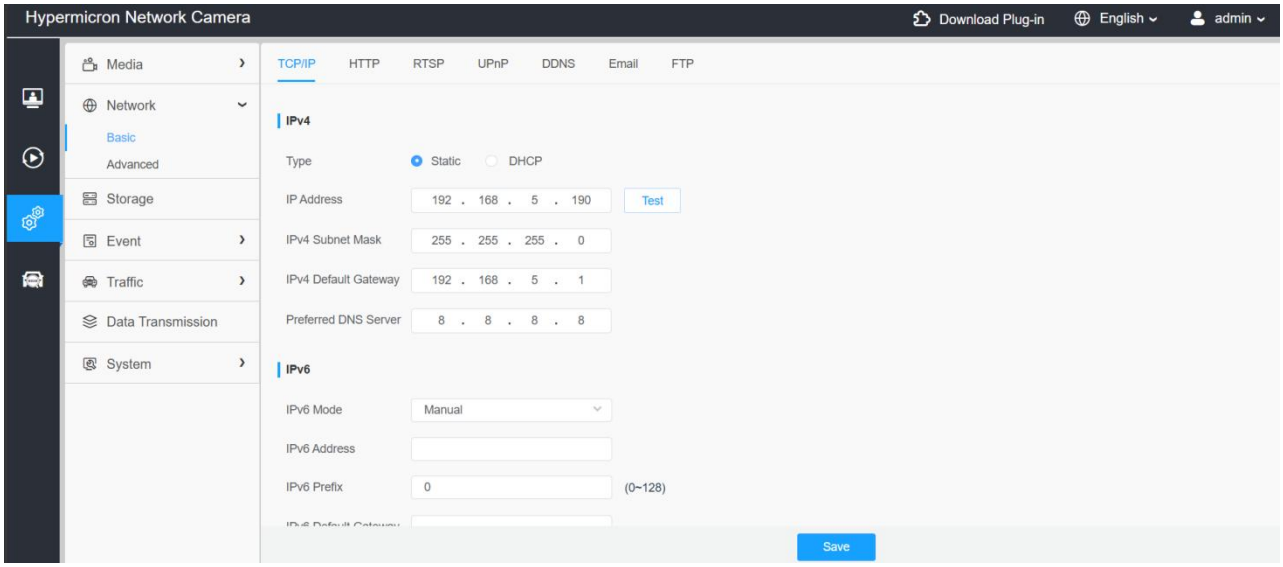


Step 3: You need to set the password first when using it for the first time. And you can also set three security questions for your device after activation. Then you can log in to the camera with the user name (admin) and a custom password.

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.

Step 4: After login, please select “Settings” --> “Network” --> “Basic” --> “TCP/IP”. The Network Settings page appears (Shown as below Figure).



Step 5: Change the IP address or other network values. Then click “Save” button.

Step 6: 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 Hypermicron camera, please refer to www.hypermicronsg.com.

Chapter 6. Live View

6.1 Live Video

After logging in the network camera web GUI successfully, the live view page is shown as follows. The stream information (Bitrate, Frame Rate, Resolution, Video Codec, Smart Stream and Current Connections) is displayed on the video.

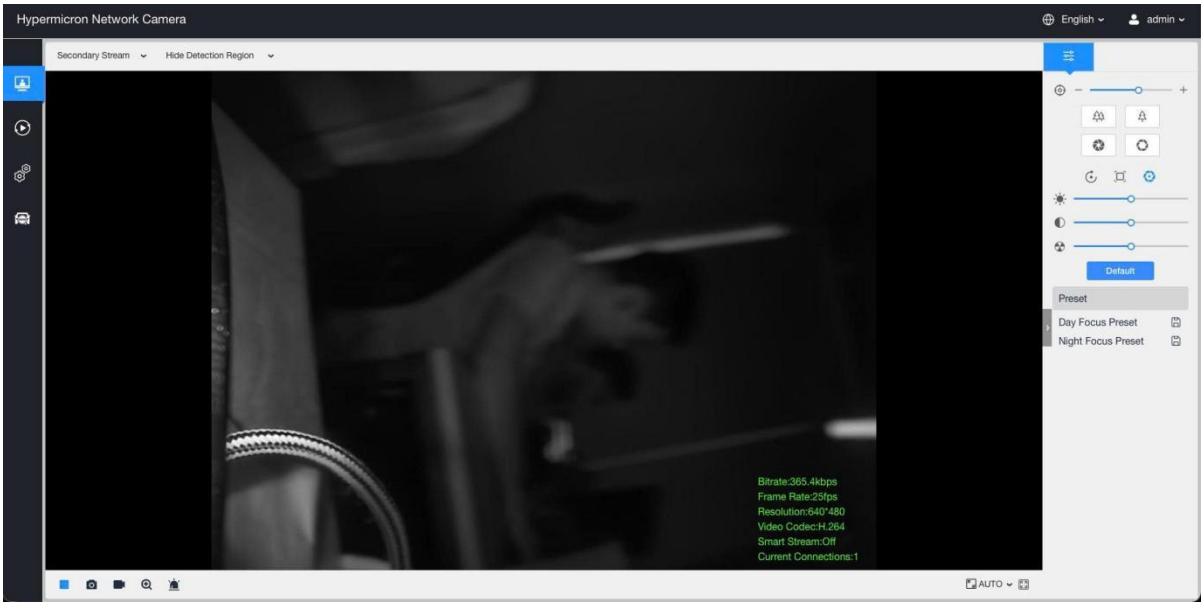


Table 3. Description of the buttons

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	**Traffic**	Click to access the LPR live view page, which shows the license plate recognition results (see 6.2 LPR Live View).
5	**Language**	Click to select the system language.
6	**admin**	Display the user name; click to log out.
7	**Stream**	Choose the stream (Primary Stream/Secondary Stream) to show on the current video window.
8	**Hide Detection Region**	Choose the options (Hide Detection Region/LPR/Violation Management/Vehicle Counting) to hide/display the detection region on the current video window.
9	**Stop/Play**	Stop/Play live view.
10	**Snapshot**	Click to capture the current image and save it to the configured path.
11	**Start/Stop Recording**	Click to start recording video and save it to the configured path. Click again to stop recording.
12	**Digital Zoom**	When enabled, you can zoom in a specific area of the video image with your mouse wheel.
13	**Manual Output**	Manually trigger the camera alarm output.

No.	Parameter	Description
14	**Window Size (AUTO)**	Click to select the display ratio of the video window.
15	**Full Screen**	Click to display images at full-screen.
16	**Zoom**	Adjust the zoom of the lens with the slider (-/+). Note: Only works when your camera is equipped with a motorized lens.
17	**Focus Near/Far**	Adjust the focus of the lens. Note: Only works when your camera is equipped with a motorized lens.
18	**Iris -/Iris +**	Adjust the iris of the lens. Note: Only works when your camera is equipped with a motorized lens.
19	**Lens Initialization / Auxiliary Focus / Auto Iris**	Lens Initialization, Auxiliary Focus and Auto Iris. Note: Auto Iris is turned on by default when your camera is equipped with an auto focus lens.
20	**Brightness**	Adjust the brightness of the scene.
21	**Contrast**	Adjust the color and light contrast.
22	**Saturation**	Adjust the saturation of the image. Higher saturation makes colors appear more "pure" while lower one appears more "wash-out".
23	**Default**	Restore brightness, contrast and saturation to default settings.
24	**Preset**	Day Focus Preset / Night Focus Preset: click the preset name to call the saved focus position, or click the save icon next to it to save the current focus position as the preset.

6.2 LPR Live View

Click the Traffic icon on the left side to enter the LPR live view page. Besides the live video, the page shows the recognition result of the latest vehicle and the list of the recognition events.

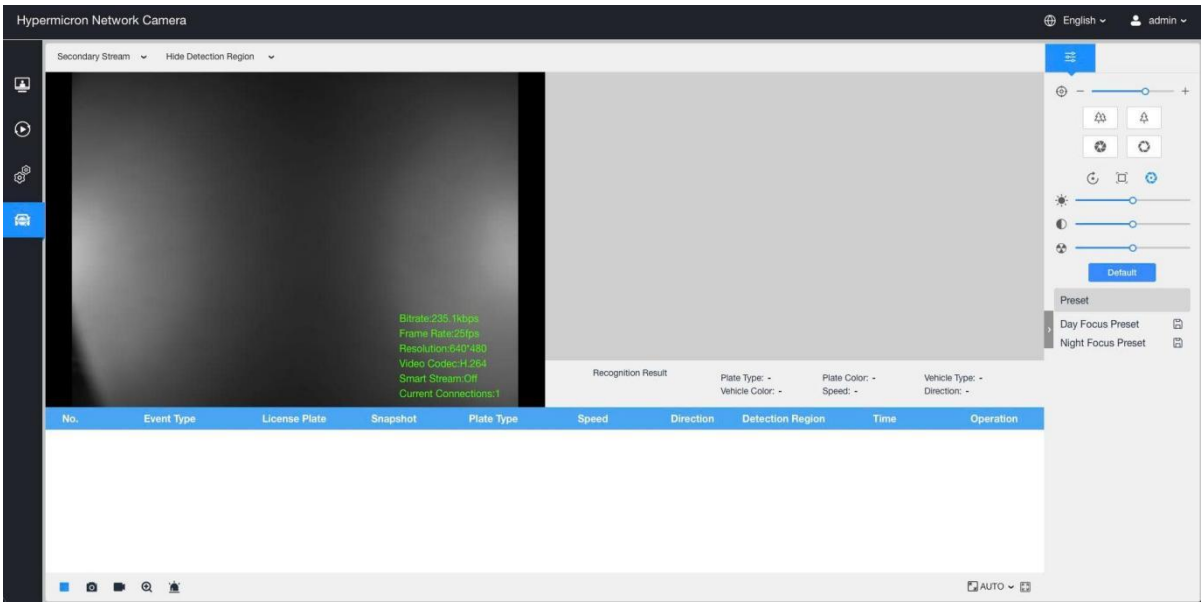
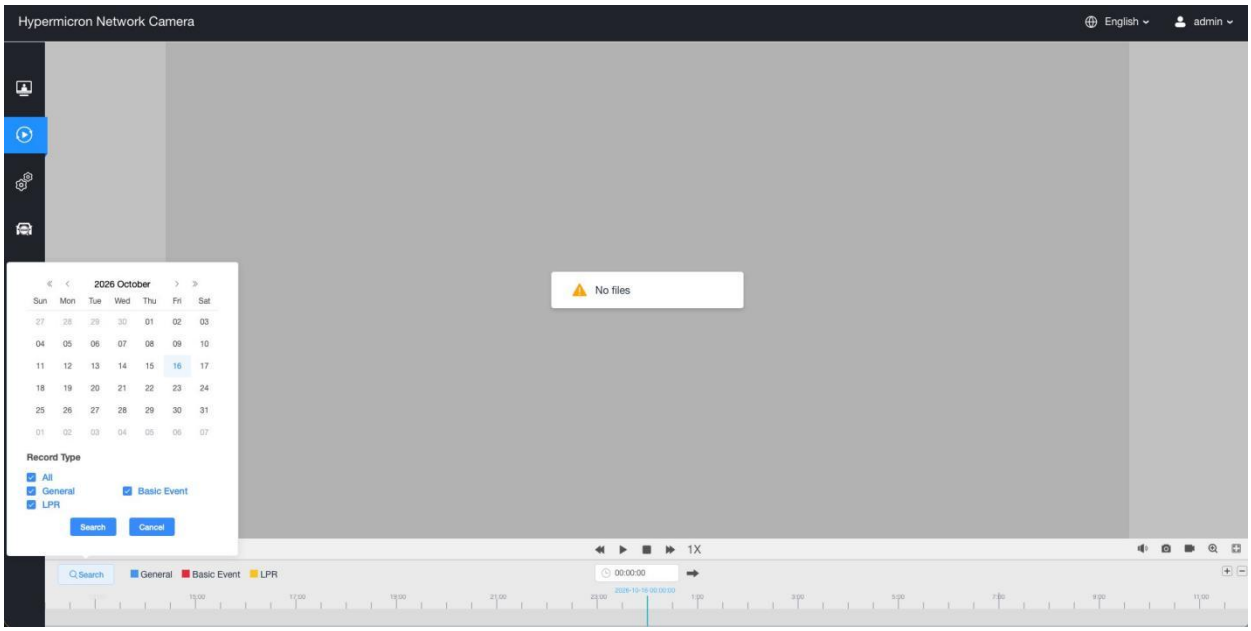


Table 4. Description of the LPR live view

Parameters	Function Introduction
Stream / Hide Detection Region	Choose the stream and the detection region to be displayed on the video window, the same as the Live View page.
Recognition Result	Display the Plate Type, Plate Color, Vehicle Type, Vehicle Color, Speed and Direction of the selected license plate, together with the plate image.
Event List	No.: The serial number of the event. Event Type: The type of the event, e.g. LPR, Attributes Event, No Plates, Reverse Driving. License Plate: The recognized license plate number. Snapshot: The snapshot of the event. Plate Type, Speed, Direction, Detection Region, Time: The related information of the event. Operation: Operate on the event record.
Toolbar and right panel	The bottom toolbar and the lens/image control panel (Zoom, Focus, Iris, Brightness, Contrast, Saturation, Default and Preset) work in the same way as in 6.1 Live Video.

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:

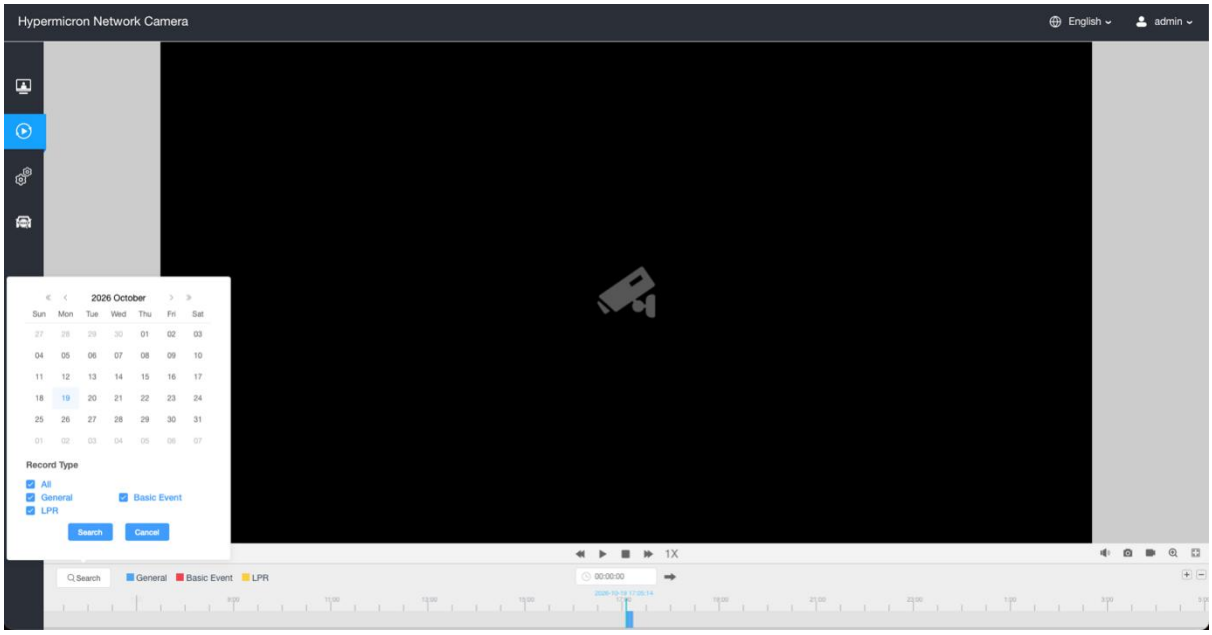


Step1: Click the "**Search**" button, choose the data and record type when the window pops up.

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.

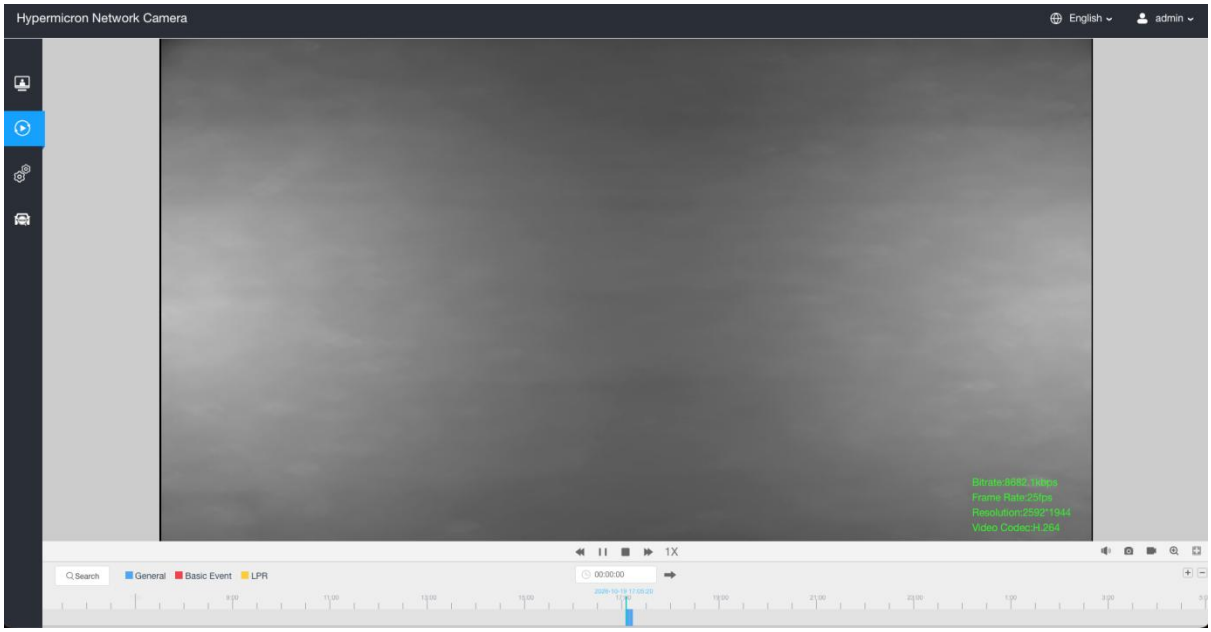


Table 5. Description of the buttons

No.	Parameter	Description
Search	« ‹ 2026 October › »	Choose date to search recorded videos.

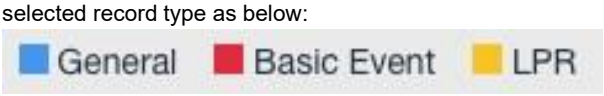
No.	Parameter	Description
		Search the recorded videos by record type (All/General/Basic Event/LPR). The timeline will show different colors according to selected record type as below: 
1	 Speed Down/Speed Up/Speed	Adjust the speed of video playback. **Speed Down:** Includes 0.5X and 0.25X for Play. **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 6. 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.
6	 Time Expand/Narrow	Time narrow/expand.

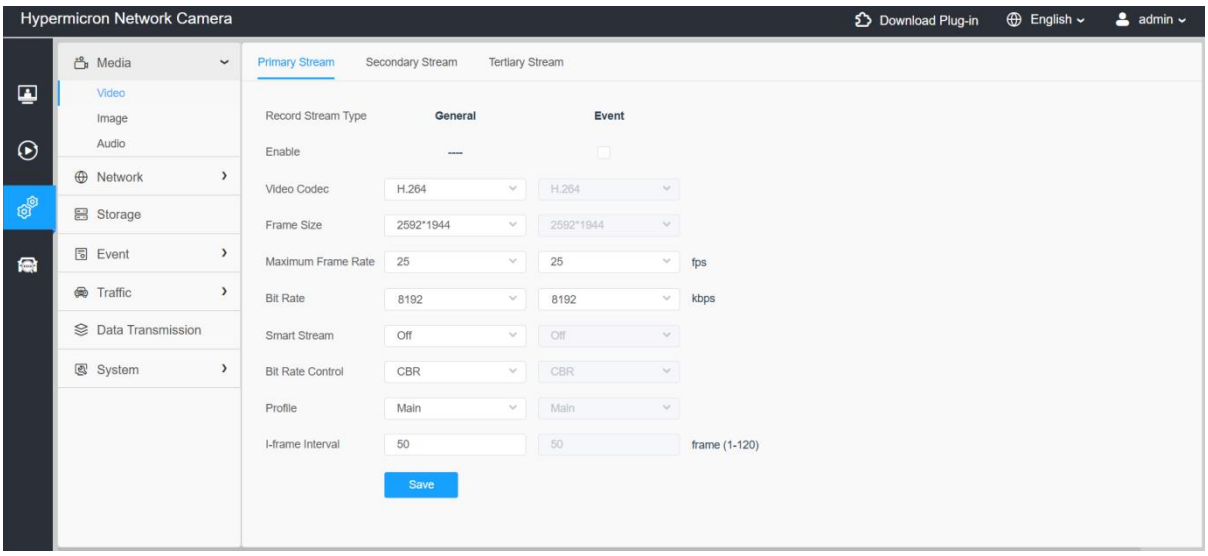
Chapter 8. Settings

8.1 Media

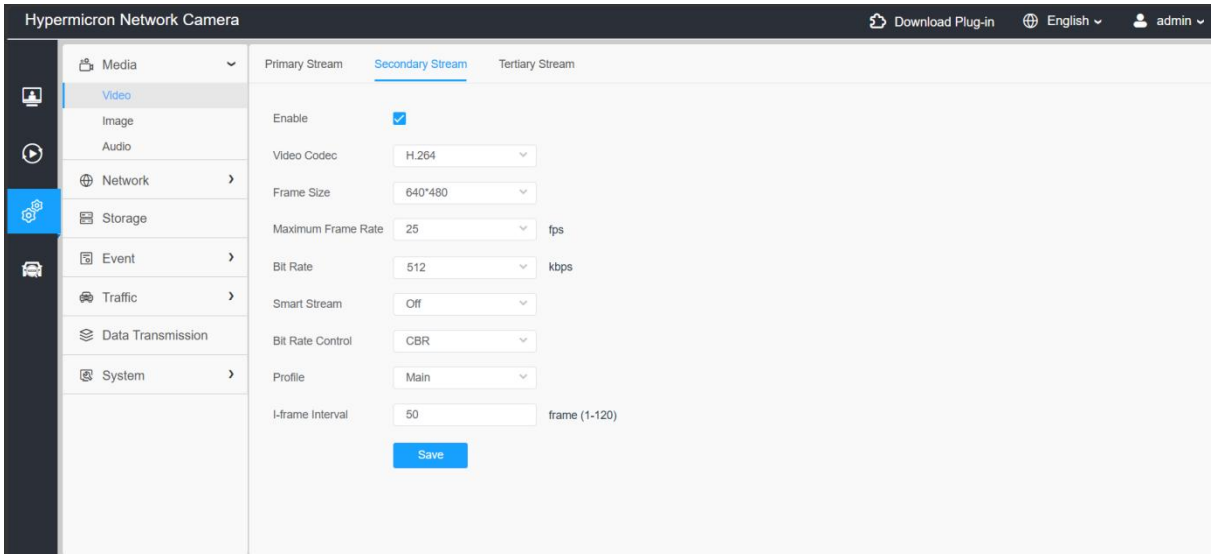
8.1.1 Video

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

Primary Stream Settings



Secondary Stream Settings



Tertiary Stream Settings

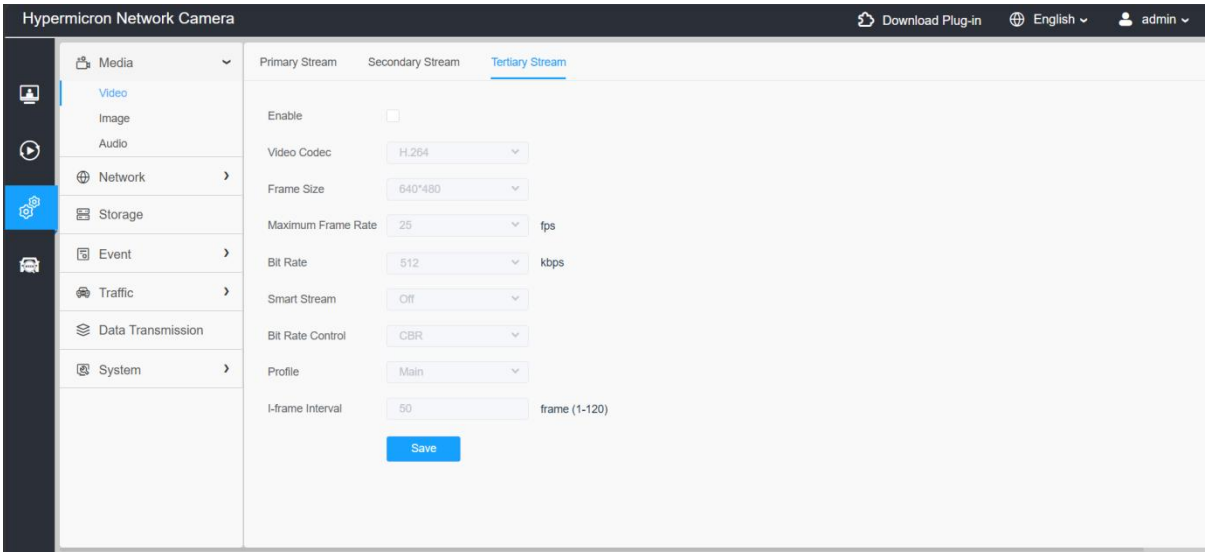


Table 7. Description of the buttons

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	This item is optional only if you selected the Event.
Video Codec	H.265/H.264/MJPEG are available.
Frame Size	Select the resolution of the stream. The Primary Stream supports up to 5M (2592*1944), the Secondary Stream defaults to 640*480. The options of Frame Size are variable according to the stream.
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.
	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 mode, day/night setting and supplement light 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 Day/Night Switch, Day/Night Parameters, Supplement Light Parameters, Focus Configuration and Display can be set in this module.

[Image Mode]

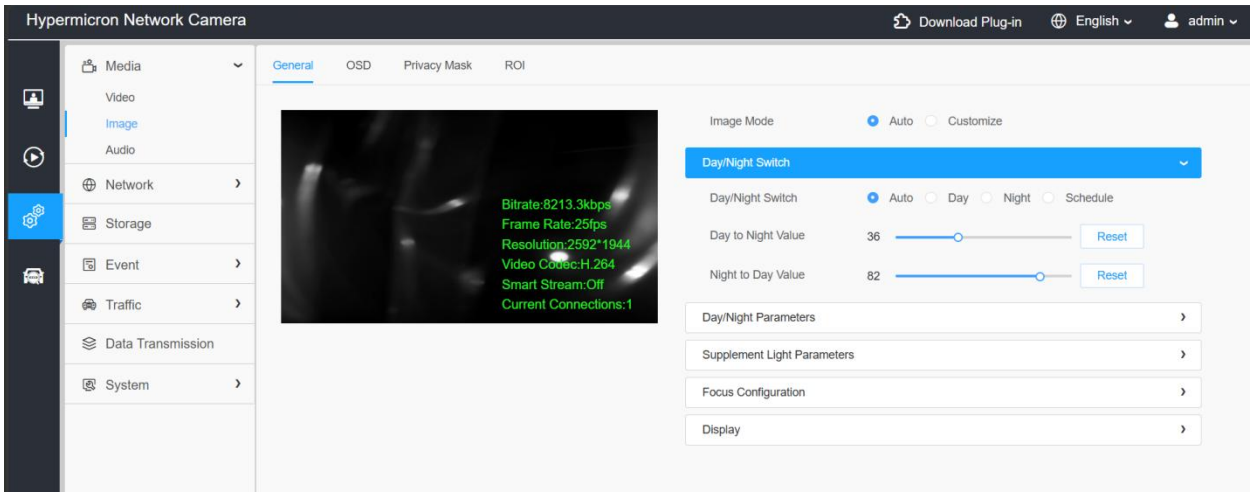
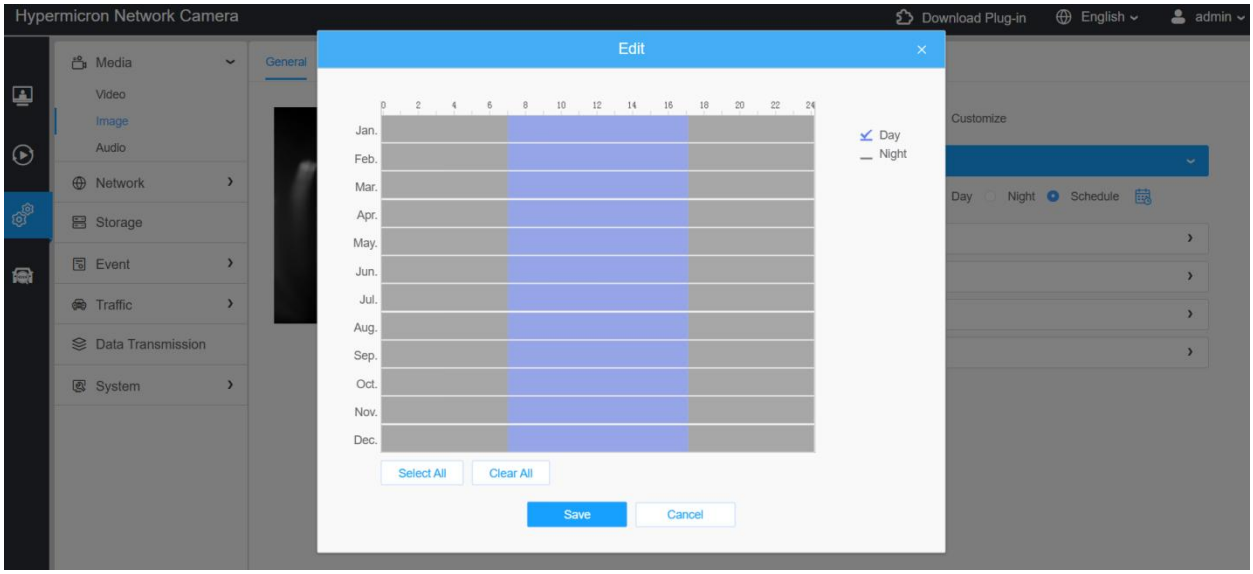


Image Mode: Select Auto or Customize.

[Day/Night Switch]

Table 8. Description of the buttons

Parameters	Function Introduction
Day/Night Switch	**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. **Day Mode:** Shown in live view based on Day Mode settings. **Night Mode:** Shown in live view based on Night Mode settings. **Schedule:** Click the schedule icon to open the Edit window. In the grid, each row is a month and the horizontal axis is the 24 hours of the day; the blue area is Day and the grey area is Night. Select the time range for Day, use Select All / Clear All to fill or clear the grid, then click Save.
	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. **Note:** These two options are available only when Auto Mode is selected.



[Day/Night Parameters]

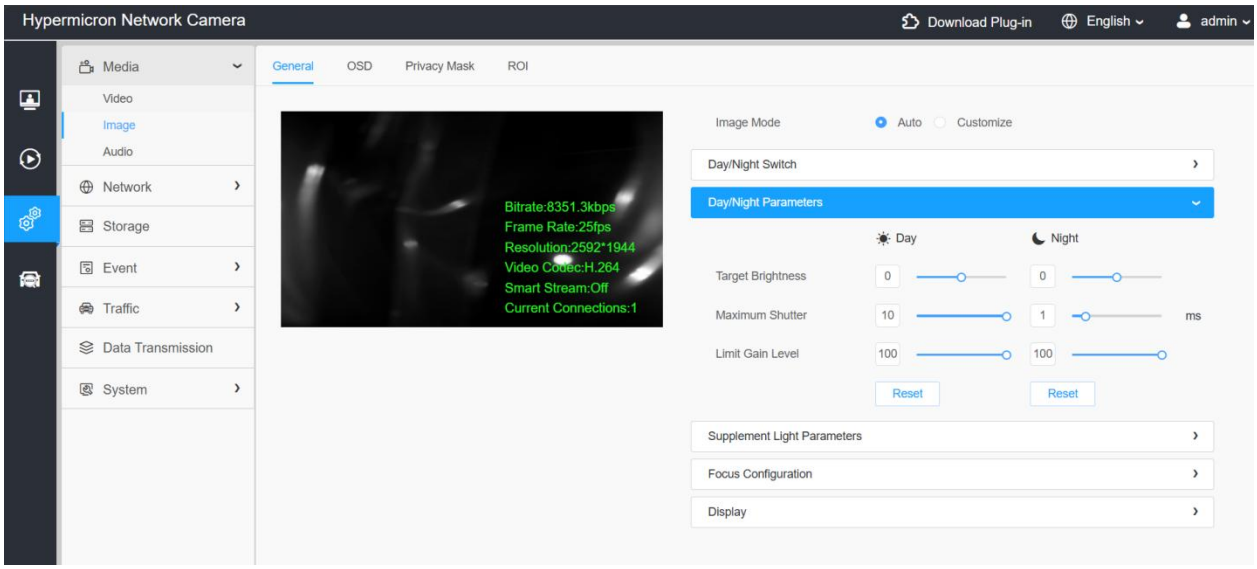


Table 9. Description of the buttons

Parameters	Function Introduction
Target Brightness	Set separately for Day and Night. Level 0~10 are available to meet your need.
Maximum Shutter	Maximum Shutter is the longest exposure time (in ms) the camera can use. It can be set separately for Day and Night.
Limit Gain Level	Set the Limit Gain Level to 1~100 separately for Day and Night.

[Supplement Light Parameters]

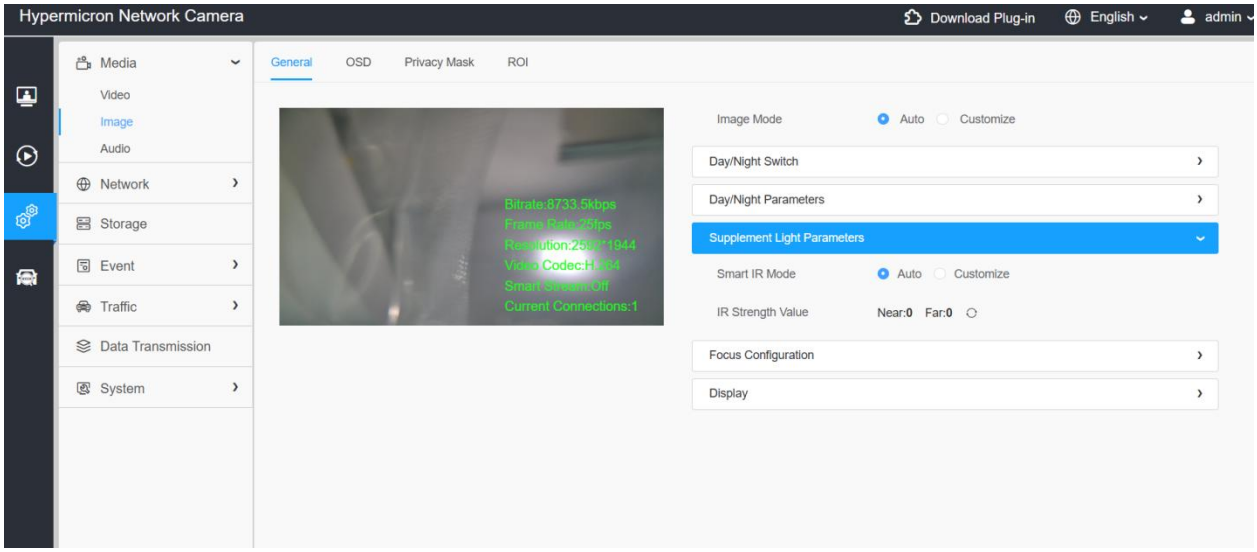


Table 10. Description of the buttons

Parameters	Function Introduction
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.
	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.

[Focus Configuration]

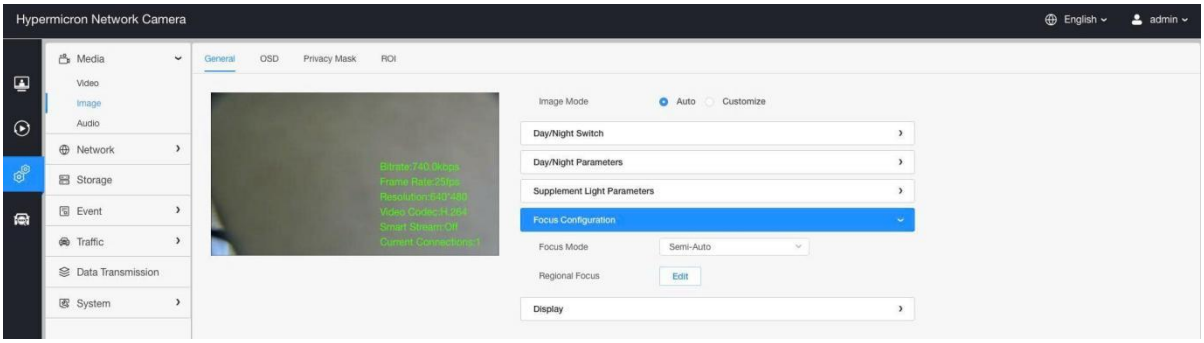


Table 11. Description of the buttons

Parameters	Function Introduction
Focus Mode	Select the focus mode of the lens. Semi-Auto is the default mode.
Regional Focus	Click “Edit” to select the area of the image on which the camera focuses.

[Display]

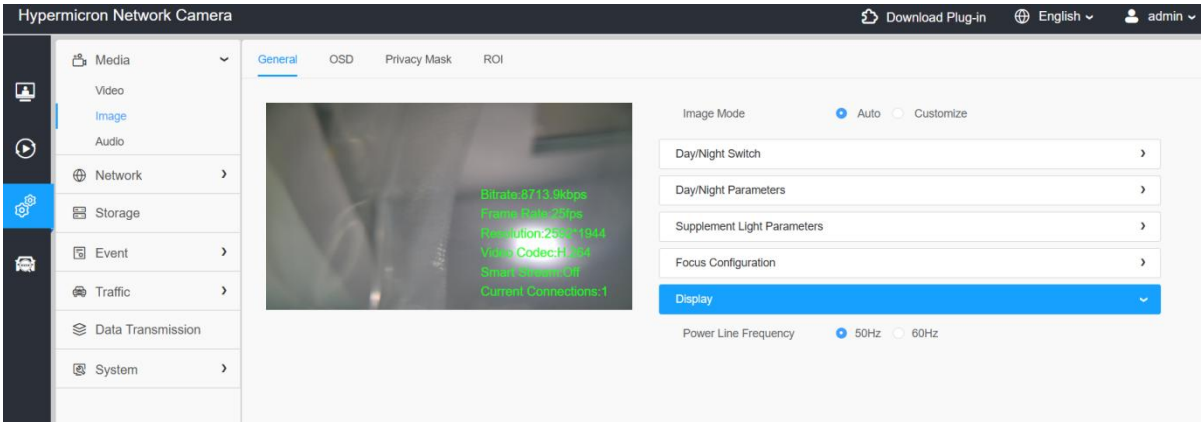


Table 12. Description of the buttons

Parameters	Function Introduction
Power Line Frequency	60Hz and 50Hz are available.

8.1.2.2 OSD

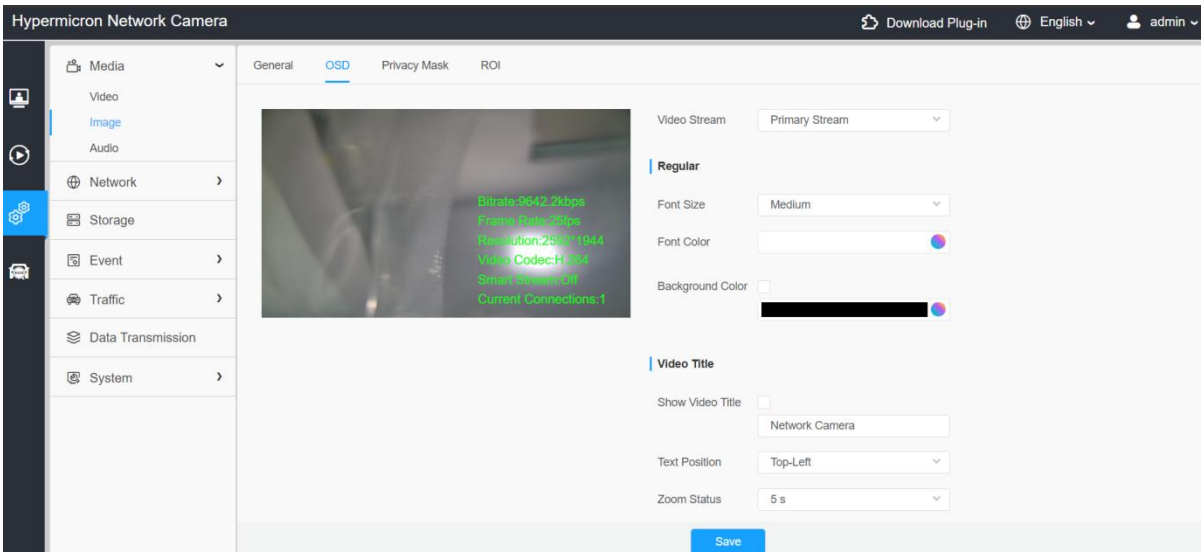
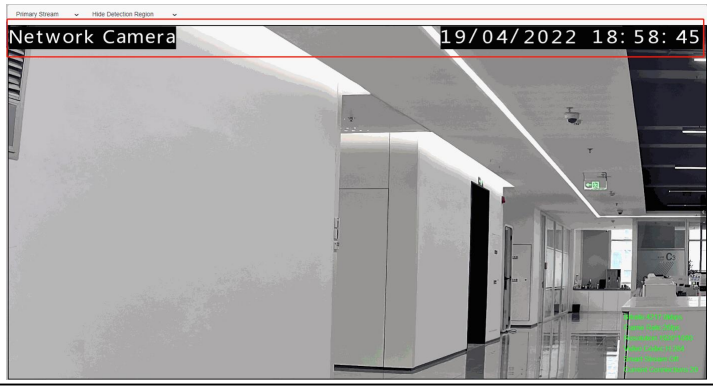


Table 13. Description of the buttons

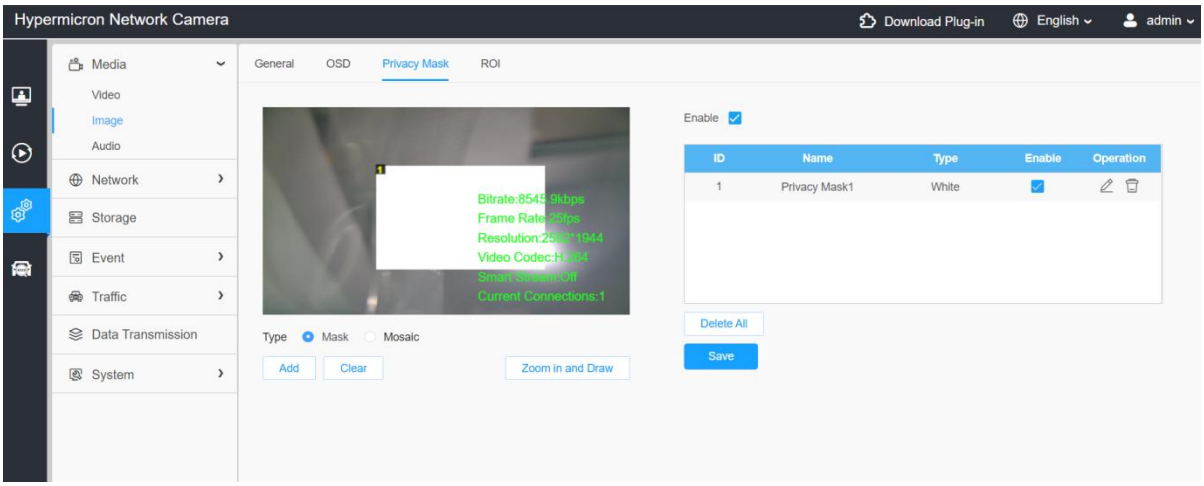
Parameters	Function Introduction
Video Stream	Enable to set OSD for primary stream and secondary stream.
Font Size	Smallest/Small/Medium/Large/Largest/Auto are available for title and date.
Font Color	Enable to set different color for title and date.

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.
Zoom Status	Choose how long the zoom status is displayed on the video: 2s/5s/10s/Always Open/Always Close.
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 HM-AI-LPR model, Up to 8 areas (mask + mosaic) are supported for each channel.

Table 14. Description of the buttons

Parameters	Function Introduction
Enable	Check the check box to enable the Privacy Mask function.
Type	Select Mask or Mosaic as the privacy type. Mask covers the privacy areas with a solid block, Mosaic blurs them.
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 Hypermicron 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 www.hypermicronsg.com

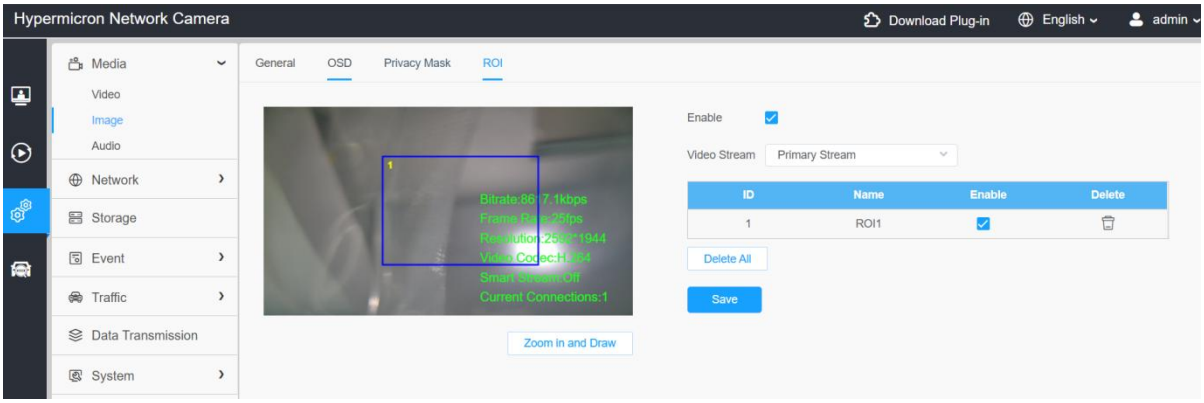


Table 15. Description of the buttons

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

Note:

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

8.1.3 Audio

8.1.3.1 Audio

This audio function allows you to hear the sound from the camera or transmit your sound to the camera side. A two-way communication is also possible to be achieved with this feature.

Alarm can be triggered when the audio input is above a certain alarm level you set, and configured audio can be played when an alarm occurs.

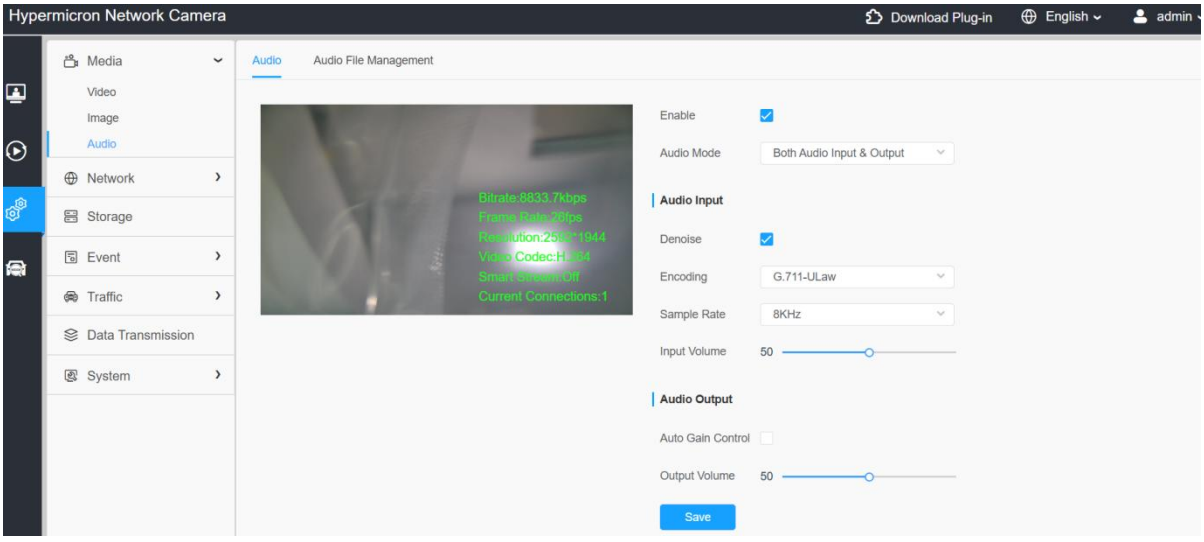


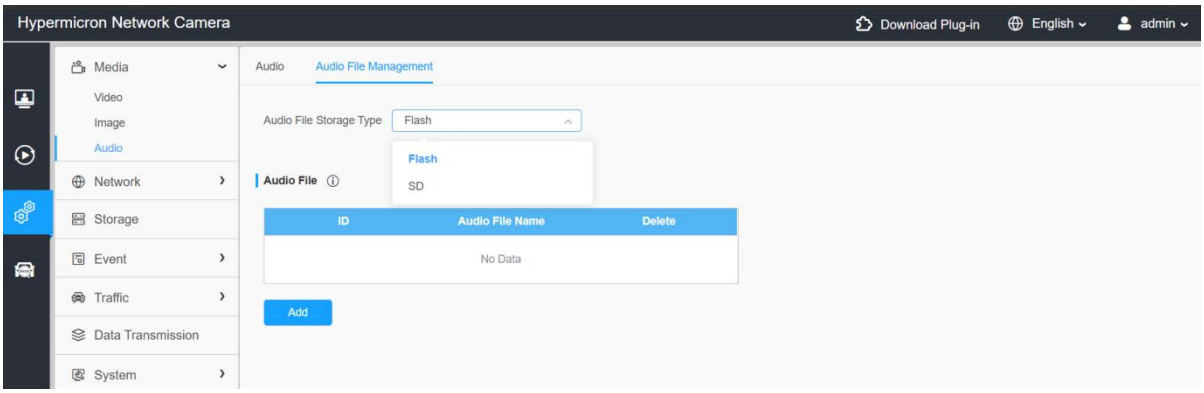
Table 16. Description of the buttons

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

Parameters	Function Introduction
Audio Input	**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 Audio 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

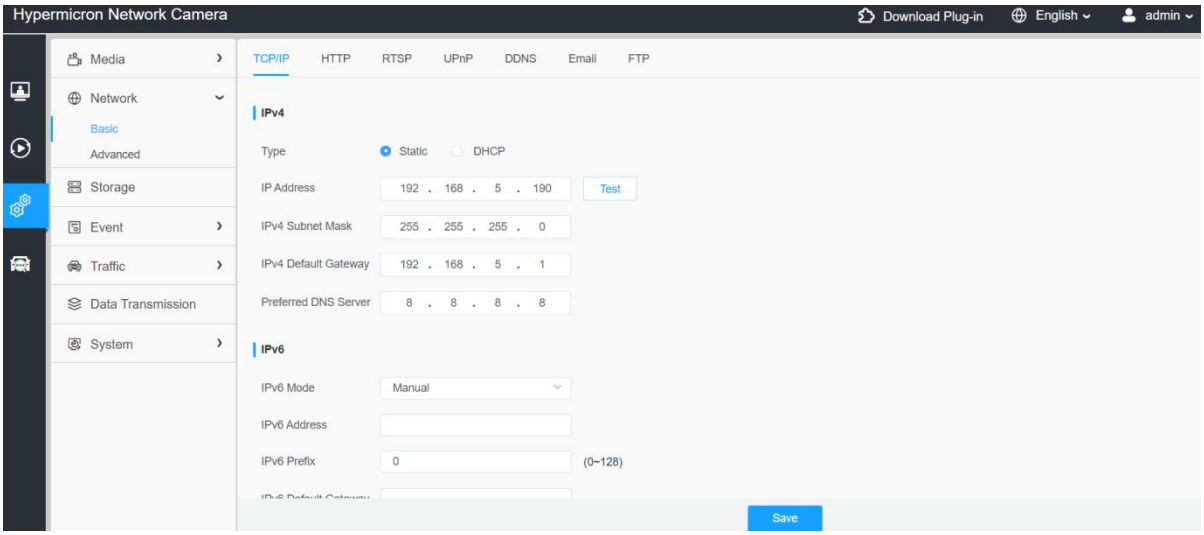


Table 17. Description of the buttons

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

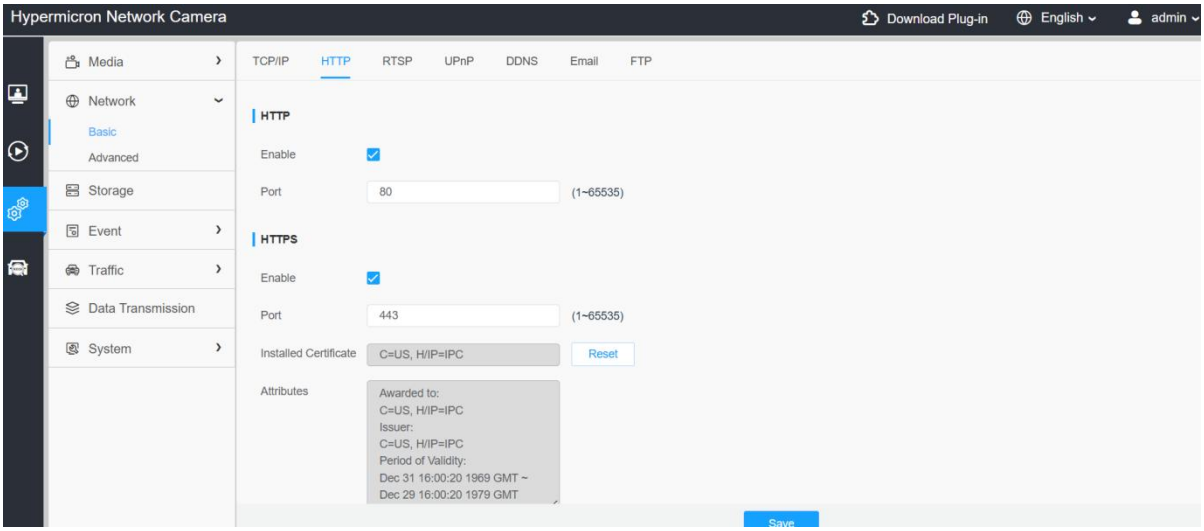


Table 18. Description of the buttons

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 www.hypermicronsg.com
Installed Certificate	Upload and set the SSL certificate.
Attributes	Display the attributes of the installed certificate.
Installation Type	Select the installation type (e.g. Create a Private Certificate) and click “Create” to generate the certificate.
Save	Save the configuration.

Table 19. 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

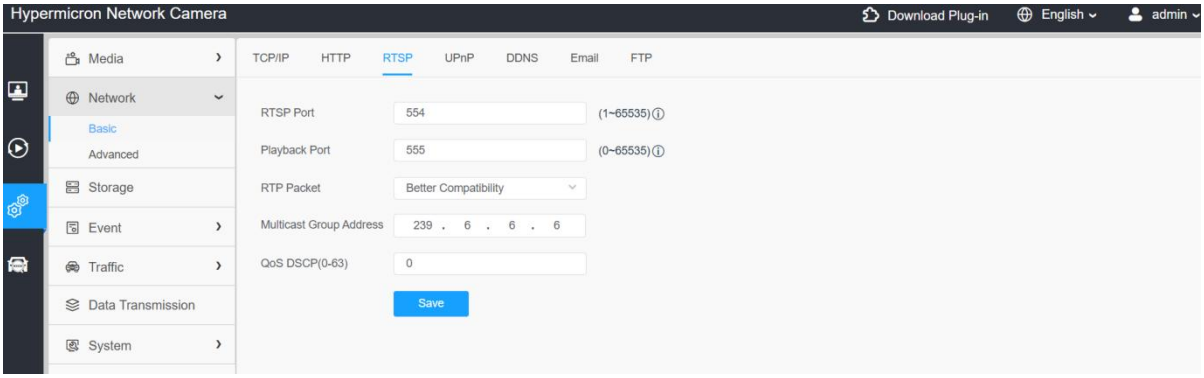


Table 20. Description of the buttons

Parameters	Function Introduction
RTSP Port	The port of RTSP, the default is 554. The valid value range is 1~65535.
Playback Port	The port of playback, the default is 555. The valid value range is 0~65535. 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.
Multicast Group Address	Support multicast function. The default address is 239.6.6.6.
QoS DSCP	The valid value range of the DSCP is 0-63.
Save	Save the configuration.

Table 21. 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.

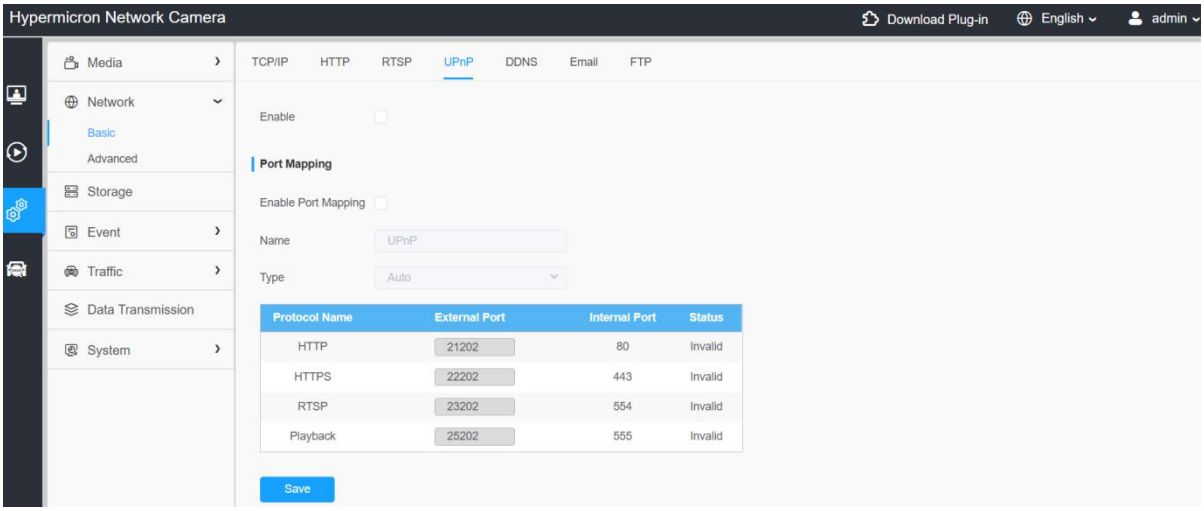


Table 22. Description of the buttons

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 www.hypermicronsg.com

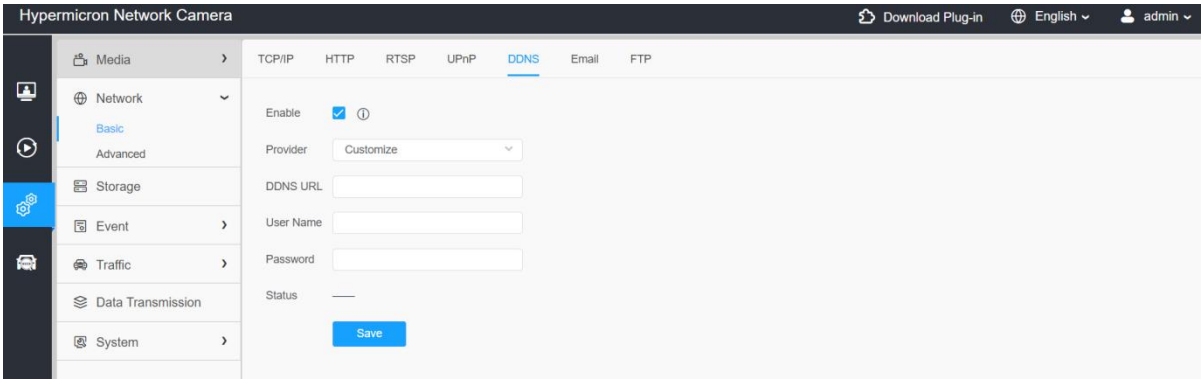


Table 23. Description of the buttons

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 the DDNS provider. freedns.afraid.org is selected by default.
Hash	A string used for verifying, only for "freedns.afraid.org".
Host Name	DDNS name enabled in the account.
Status	Display DDNS running status.
Save	Save the configuration.

Note:

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

8.2.1.6 Email

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

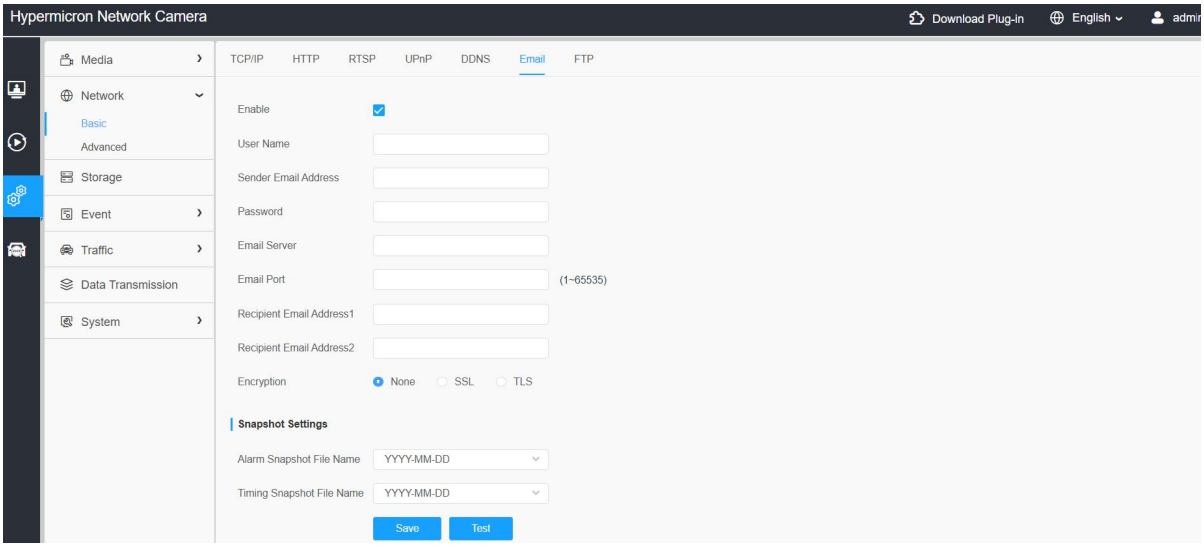


Table 24. Description of the buttons

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.

Parameters	Function Introduction
Recipient Email Address1	Email address to receive video files.
Recipient Email Address2	Email address to receive video files.
Encryption	Check the checkbox to enable SSL or TLS if it is required by the SMTP server.
Snapshot Settings	**Alarm Snapshot File Name:** Default(YYYY-MM-DD) /MM-DD-YYYY/ DD-MM-YYYY/ Add prefix/ Overwrite with the base file name/ Customize are available. **Timing Snapshot File Name:** Default(YYYY-MM-DD) /MM-DD-YYYY/ DD-MM-YYYY/ Add prefix/ Overwrite with the base file name/ Customize are available.
Save	Save the configuration.
Test	Test whether the configuration is successful.

Note:

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

8.2.1.7 FTP

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

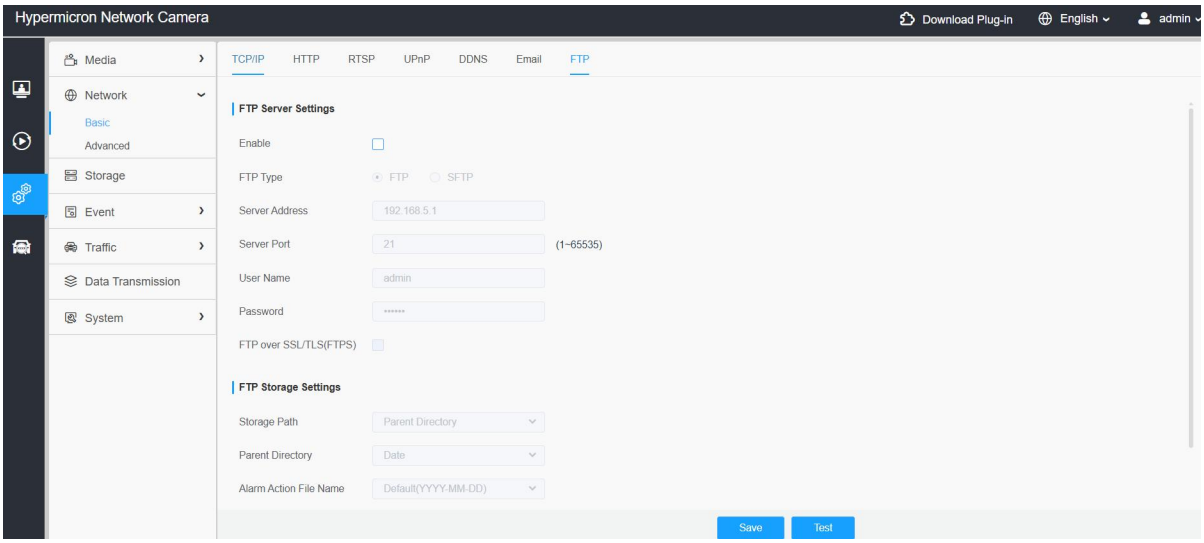


Table 25. Description of the buttons

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.
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-record	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.

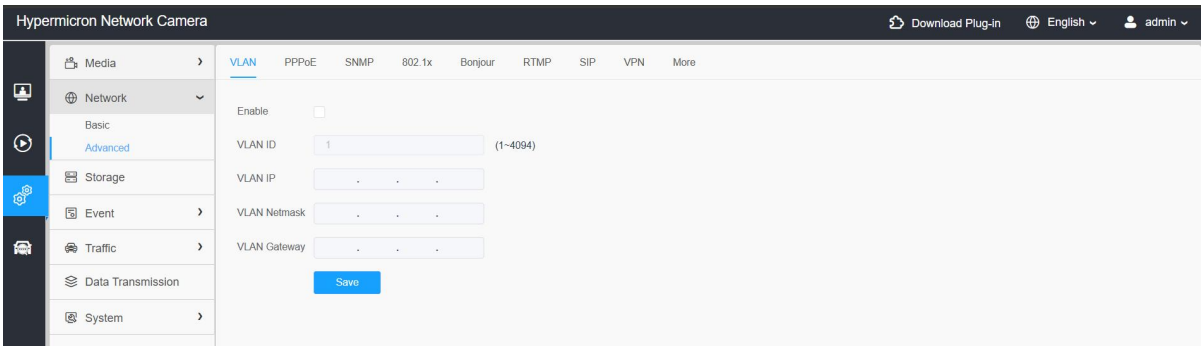
• You can refer to the following file name tip to customize the file name.

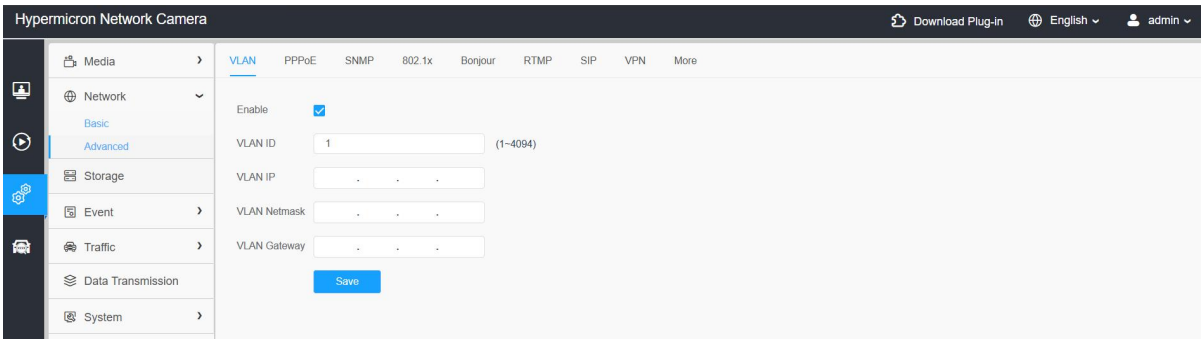
8.2.2 Advanced

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.

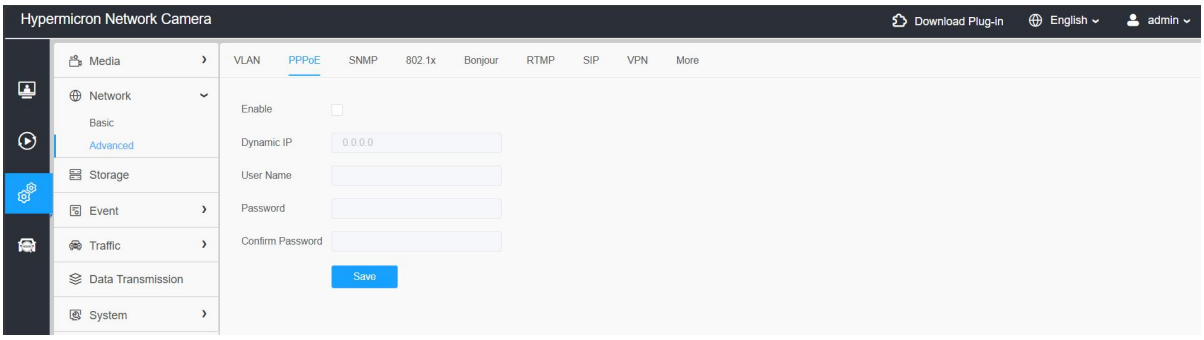




Note: About how to set up VLAN in switches, please refers to your switches user manual.

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.

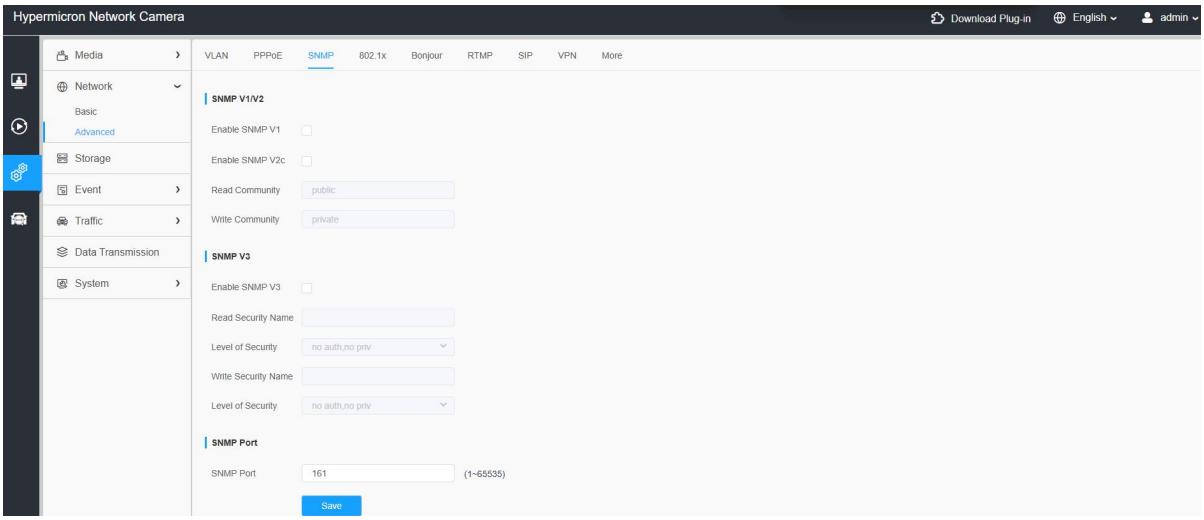


Table 26. Description of the buttons

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

Note:

- The settings of SNMP software should be the same as the settings you configure here.
- A reboot is required for the settings to take effect.

8.2.2.4 802.1x

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

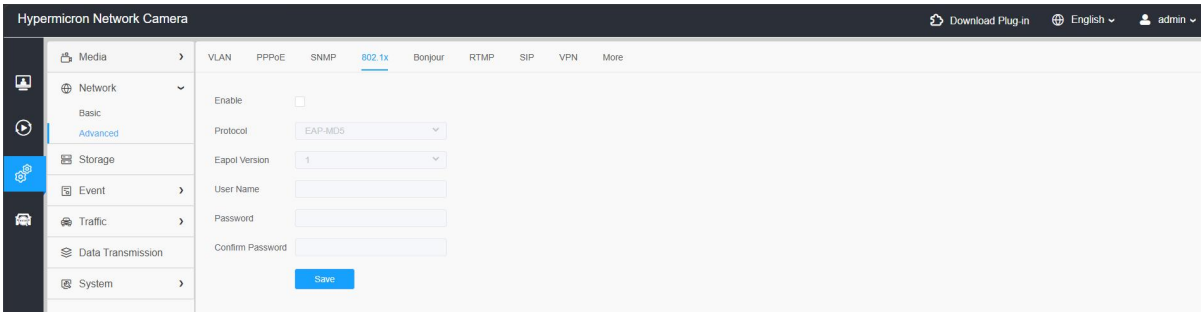


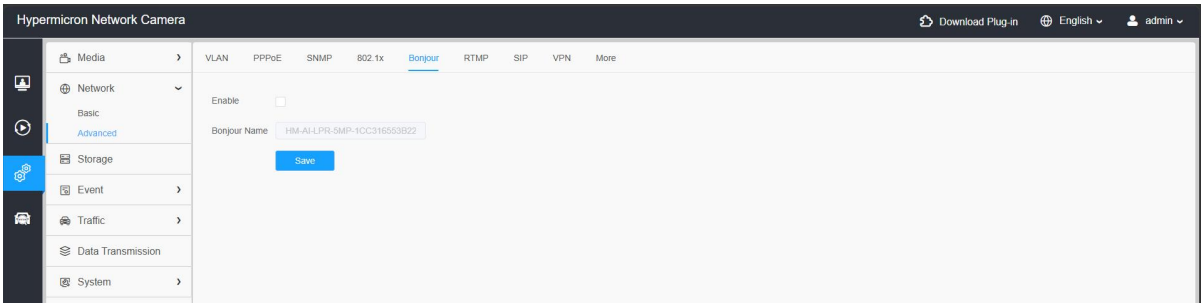
Table 27. Description the Buttons

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

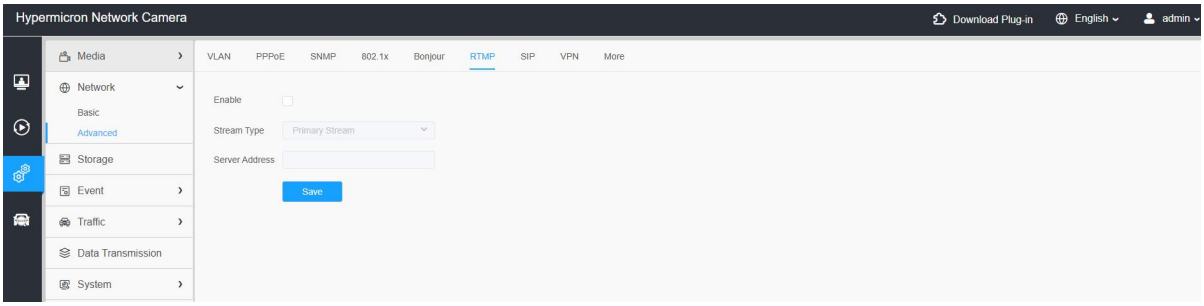
Bonjour is based on Apple's multicast DNS service. Bonjour devices can automatically broadcast their service information and listen to the service information of other devices.

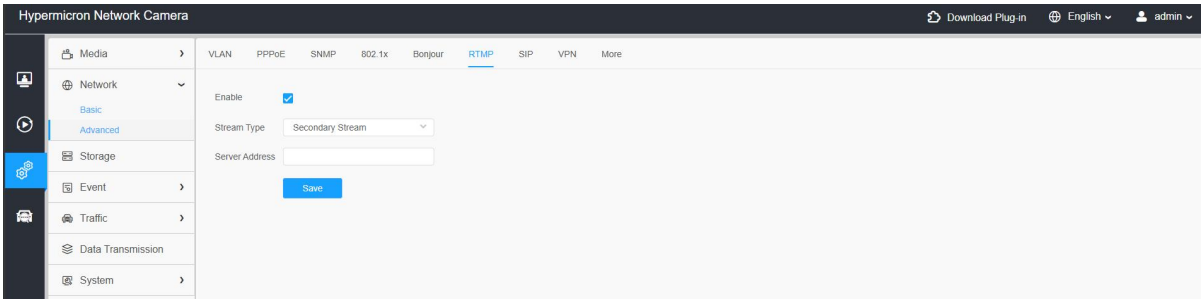
If you don't know the camera information, you can use the Bonjour service on the same LAN to search for network camera devices and then to access the devices.



8.2.2.6 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.





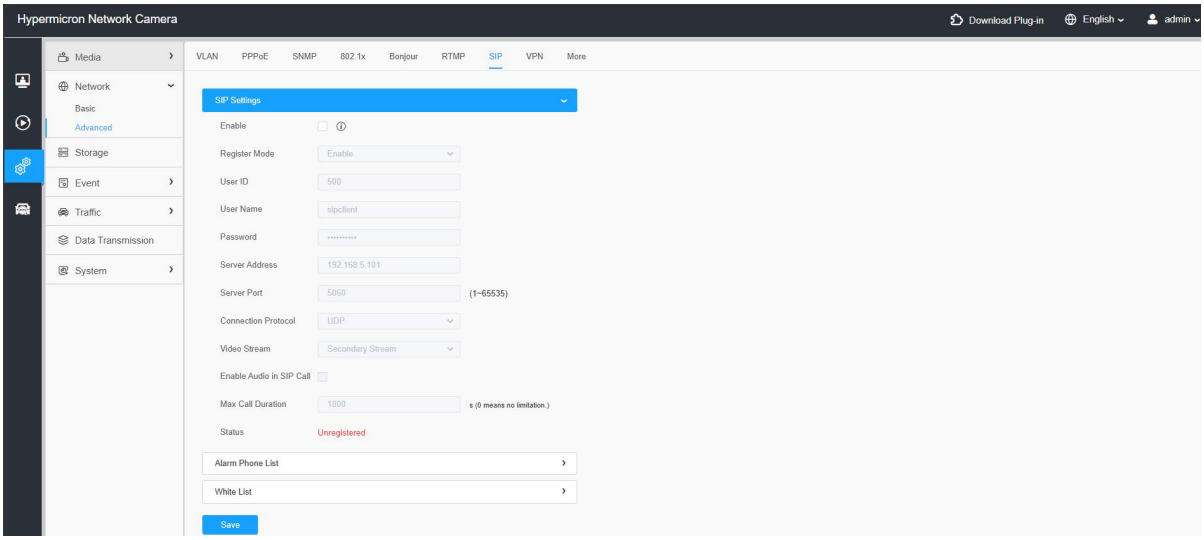
Note:

- 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 Hypermicron Network Camera with H.264 video coding and AAC audio coding on YouTube.
- Server Address in Network Camera RTMP interface needs to be filled with the format: rtmp://< Server URL >/< Stream key >, remember it needs '/'to connect between < Server URL > and < Stream key >.
- For more details about how to use RTMP for live broadcast, please refer to www.hypermicronsg.com

8.2.2.7 SIP

The Session Initiation Protocol(SIP) is a signaling communications protocol, widely used for controlling multimedia communication sessions such as voice and video calls over Internet Protocol (IP) networks. This page allows user to configure SIP related parameters. Hypermicron 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 www.hypermicronsg.com



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]

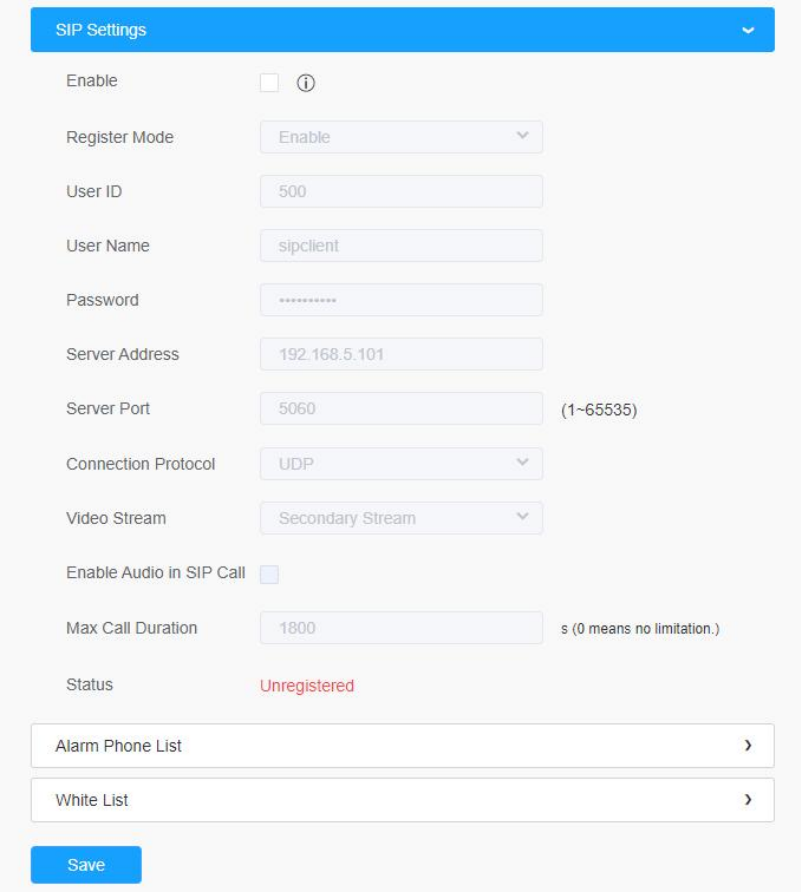


Table 28. Description of the buttons

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]

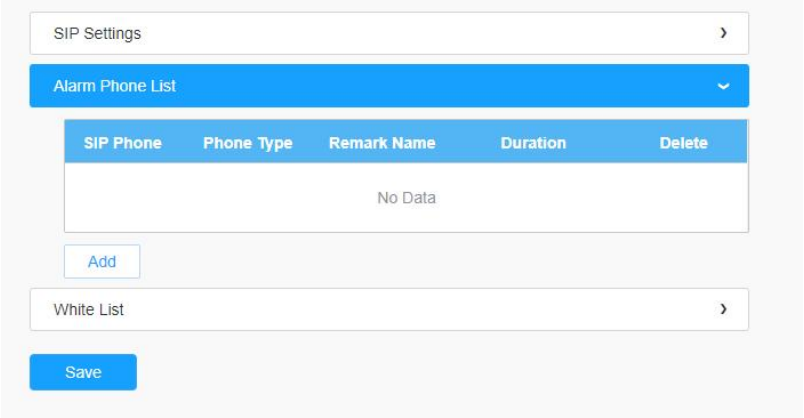


Table 29. Description of the buttons

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]

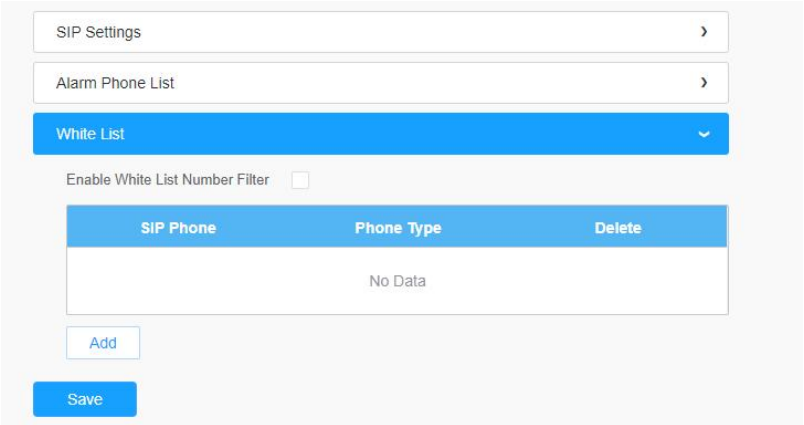


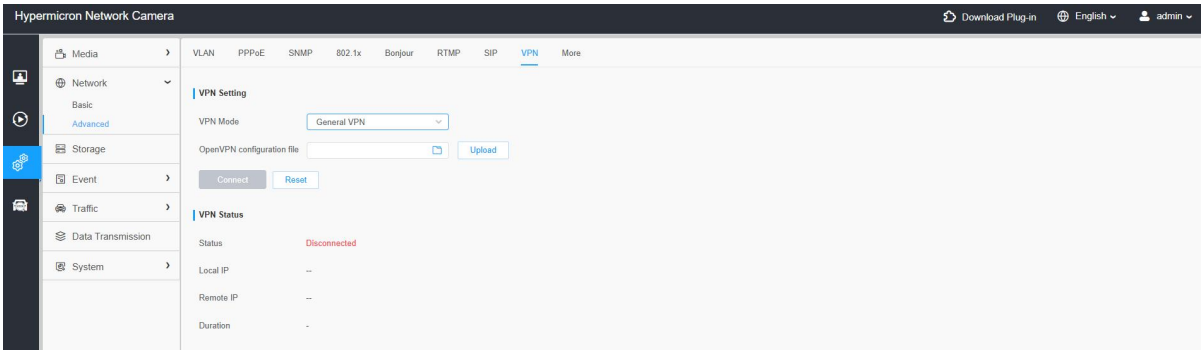
Table 30. Description of the buttons

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 Hypermicron 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 Hypermicron Camera**, please refer to www.hypermicronsg.com



8.2.2.9 More

Here you can set more functions, like Push Message Settings, ONVIF Settings and Third-Party VMS Compatibility Settings.

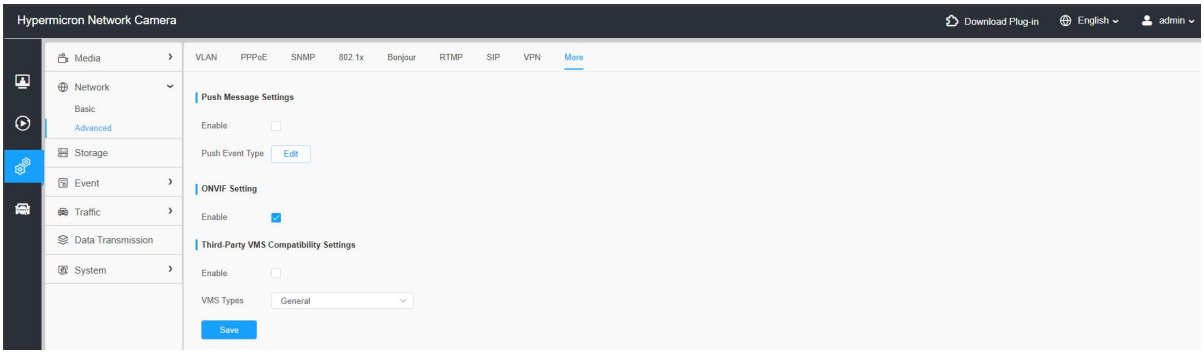
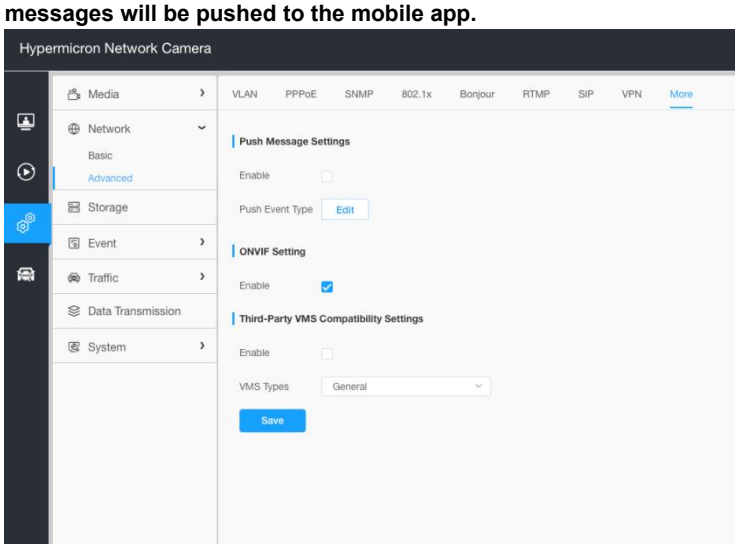


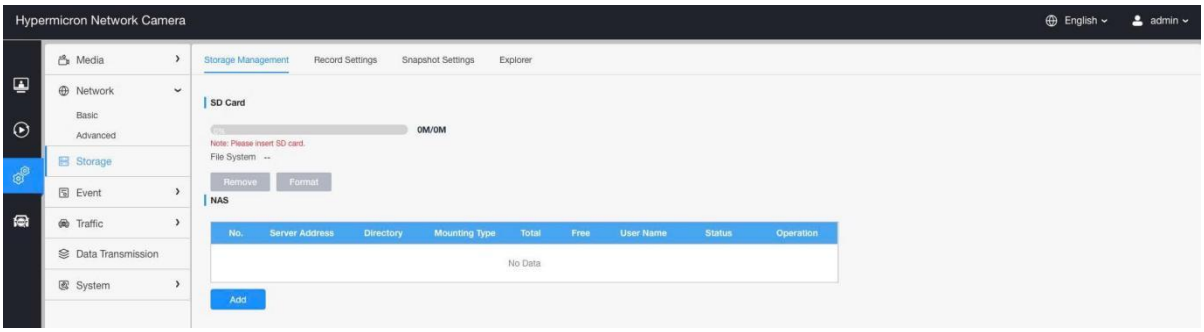
Table 31. Description of the buttons

Parameters	Function Introduction

Parameters	Function Introduction
Push Message Settings	**Enable: Enable/disable the Push Message function.** **Push Event Type: Click "Edit" to choose the types of events whose messages will be pushed to the mobile app.** 
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.
Third-Party VMS Compatibility Settings	Enable: Enable/disable the compatibility mode for third-party VMS. VMS Types: Select the type of the third-party VMS that the camera is connected to. General, 3dEYE, Arteco, Camcloud, Genetec - Security Center, Milestone, Nx and Zatpark are available.

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.

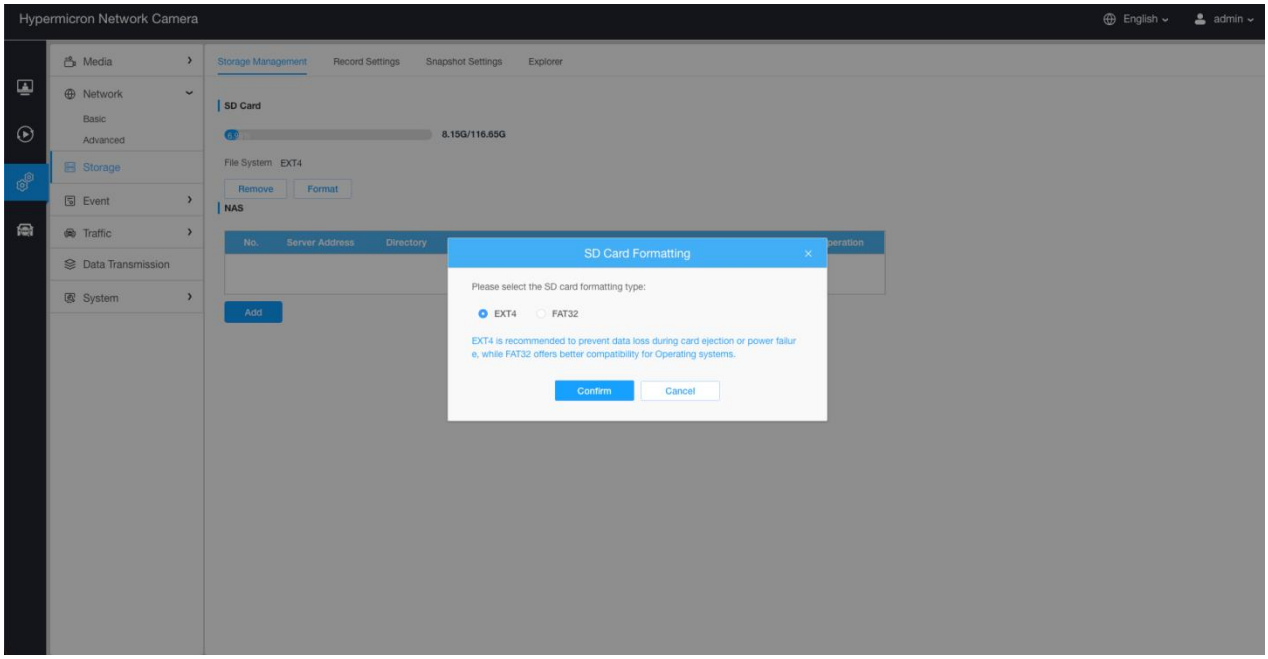
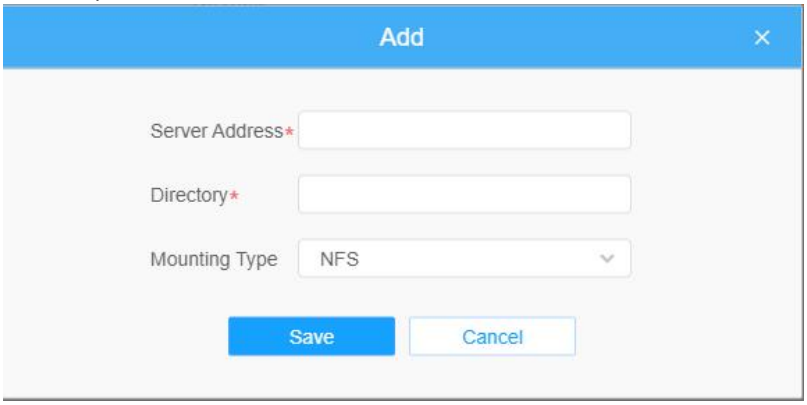


Table 32. Description of the buttons

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 Hypermicron Network Camera, please refer to www.hypermicronsg.com

8.3.2 Record Settings

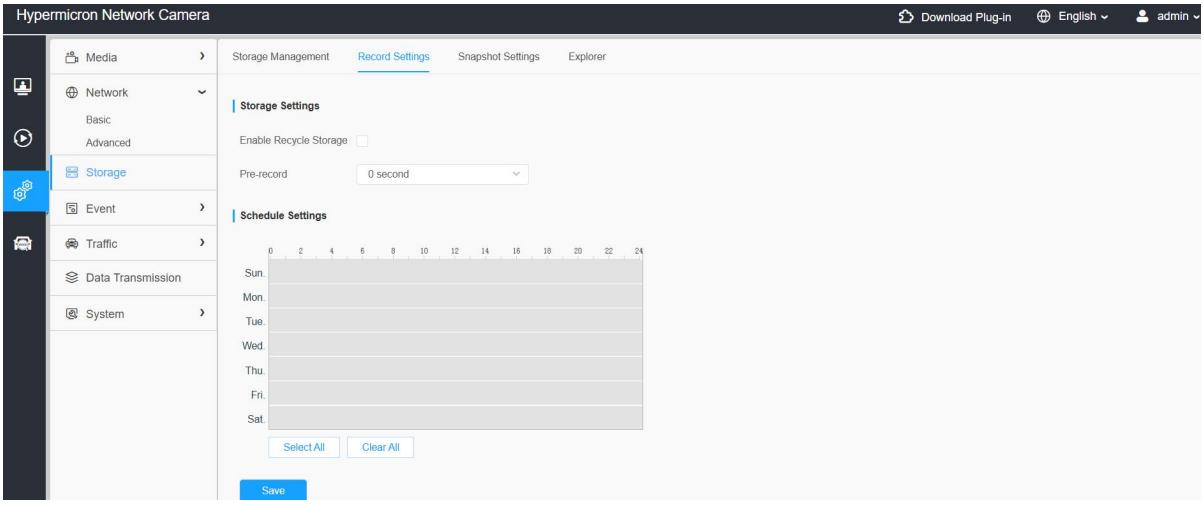


Table 33. Description of the buttons

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.
Pre-record	Reserve the record time before alarm, 0~10 sec.

Parameters	Function Introduction
Schedule Settings	Edit record schedule as needed. Intuitive scheduling by drawing the time bar directly. Copy: Copy the schedule area to another date. The "All" button is handy to copy today's schedule to all days. Select All: Select all schedule. Clear All: Clear all schedule.
Save	Save the configuration.

8.3.3 Snapshot Settings

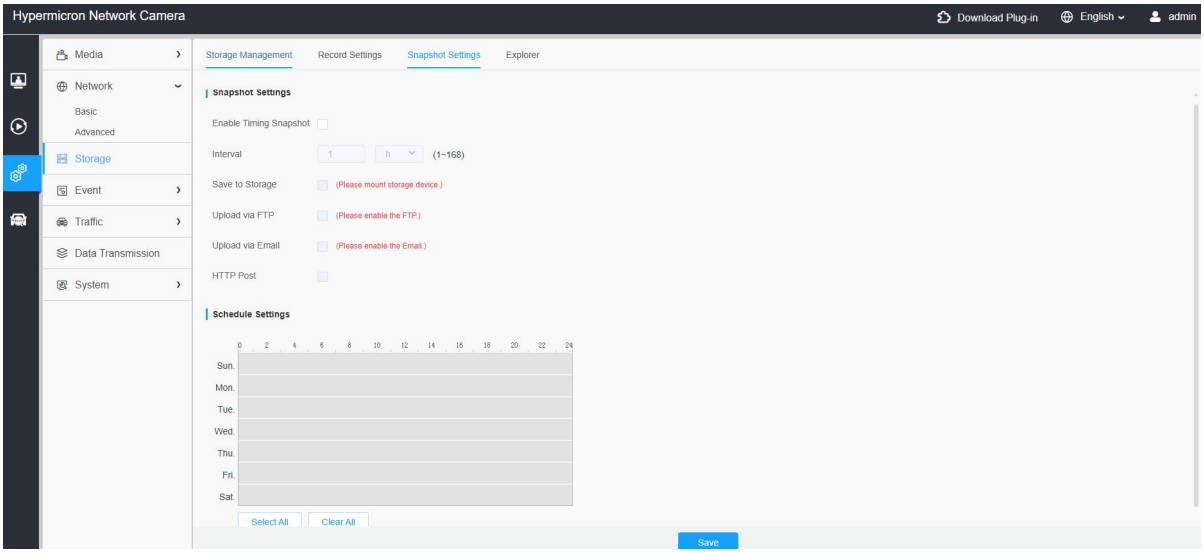
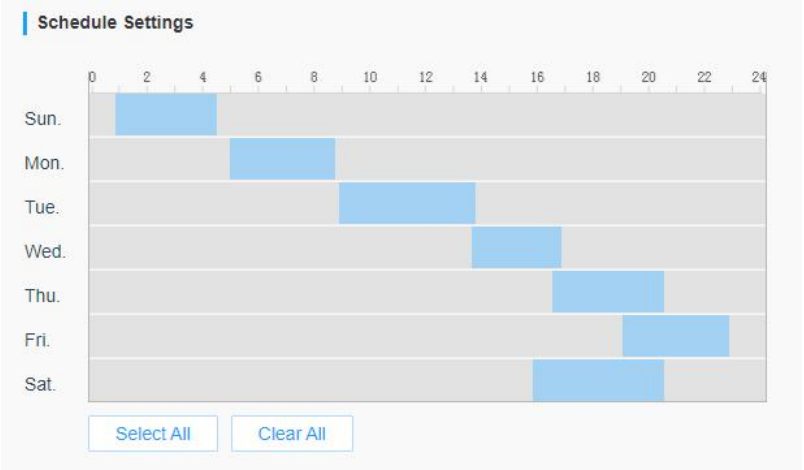
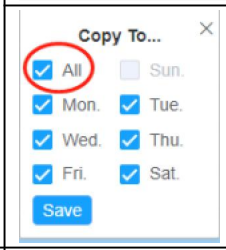


Table 34. Description of the buttons

Parameters	Function Introduction
Snapshot Settings	Enable Timing Snapshot: Check the checkbox to enable the Timing Snapshot function. Interval: Set the snapshot interval, input the number (1~168 for hours) and choose the unit. Save to Storage: Save the snapshots into SD card or NAS. Upload via FTP: Upload the snapshots via FTP. Upload via Email: Upload the snapshots via Email. HTTP Post: Upload the snapshots via HTTP Post. Support uploading the snapshots to specified HTTP URL. 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.

<table>
<tr><th>Parameters</th><th>Function Introduction</th></tr>
<tr><td rowspan="2">Schedule Settings</td><td colspan="2">Edit record schedule as needed. Intuitive scheduling by drawing the time bar directly.

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

8.3.4 Explorer

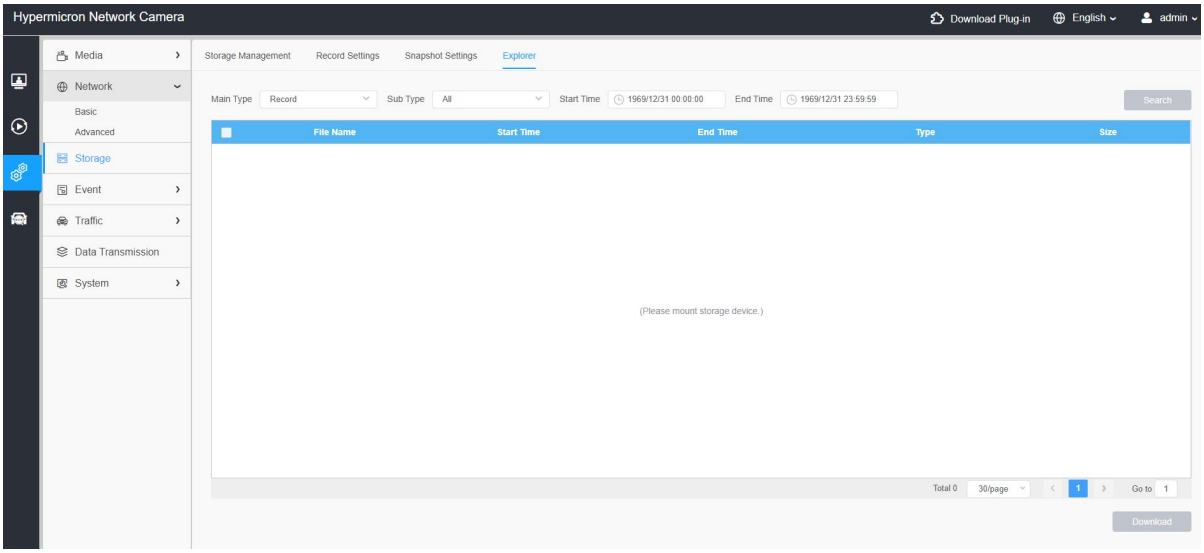
Files will be seen on this page when they are configured to save into SD card or NAS. You can set time schedule every day for recording videos and save video files to your desired location.

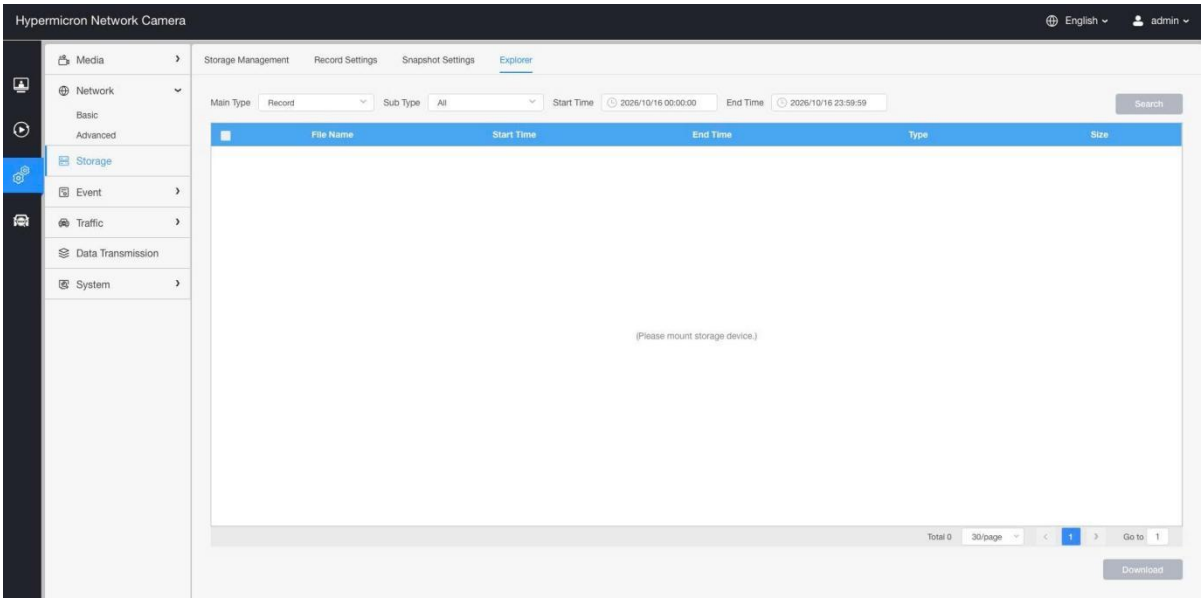
Note:

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.

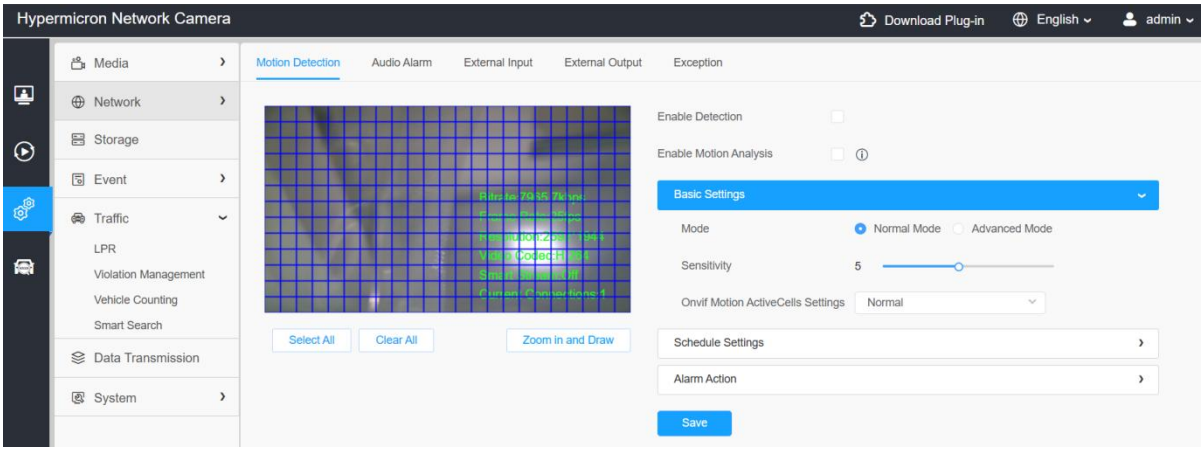
Each day files will be displayed under the corresponding date, from here you can copy and delete files etc. You can visit the files in SD card by ftp, for example, ftp://username:password@192.168.5.190(user name and password are the same as the camera account and the IP followed is the IP of your device.).





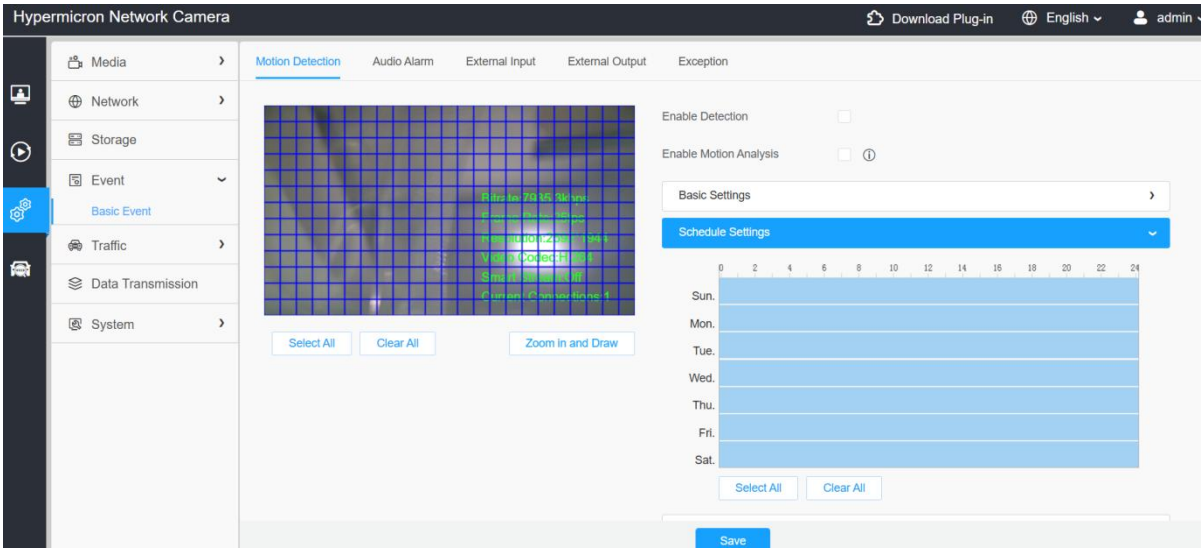
8.4 Event

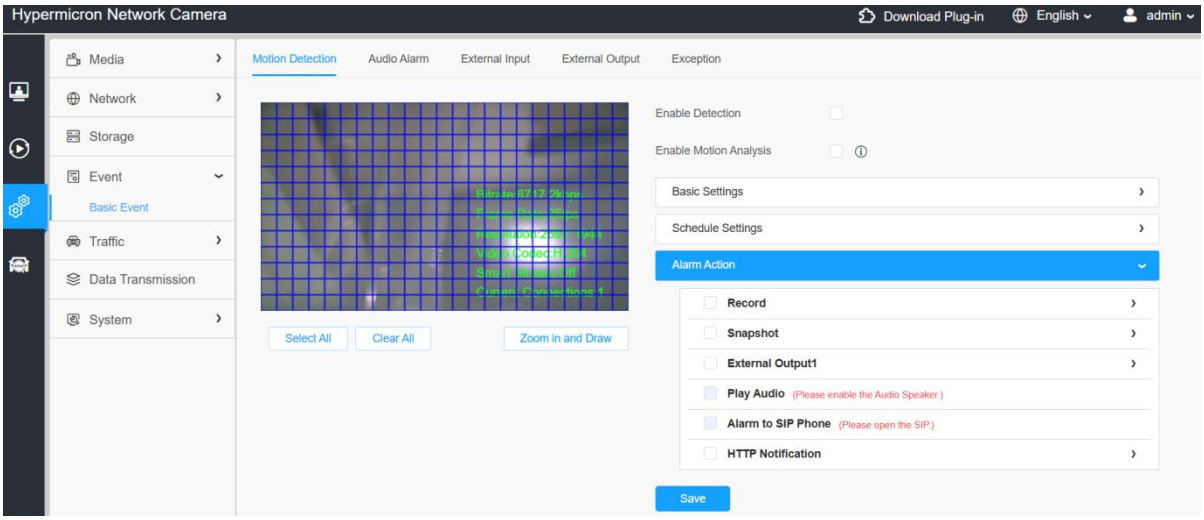
The event provides advanced, accurate smart video analytics for Hypermicron network cameras. It enhances the performance of network cameras through basic events, enabling a comprehensive surveillance system and quicker response of cameras to different monitoring scenes.



8.4.1 Basic Event

8.4.1.1 Motion Detection





Note: For more details about how to set motion detection, please refer to www.hypermicronsg.com

Settings steps are shown as follows:

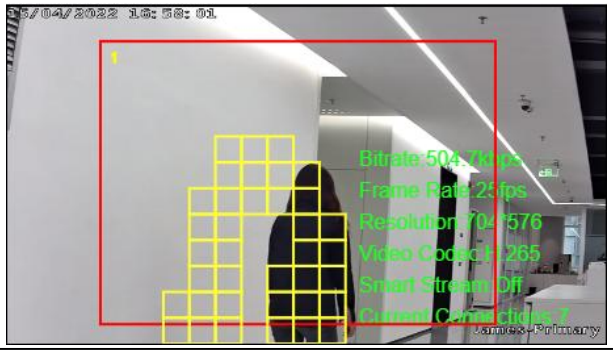
Step1: Check the check box to enable the motion detection.

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

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

Step4: Set motion region.

Table 35. Description of the buttons

Parameters	Function Introduction
Enable Detection	Check the checkbox to enable Motion Detection function.
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.
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]

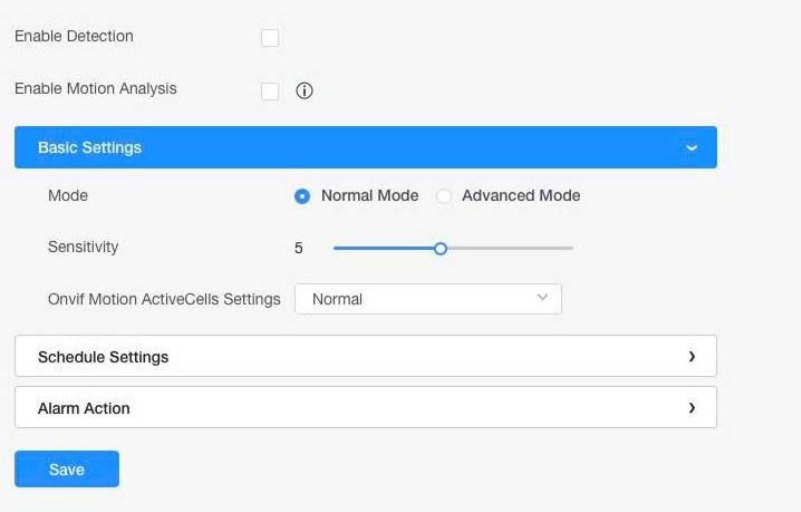


Table 36. Description of the buttons

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.

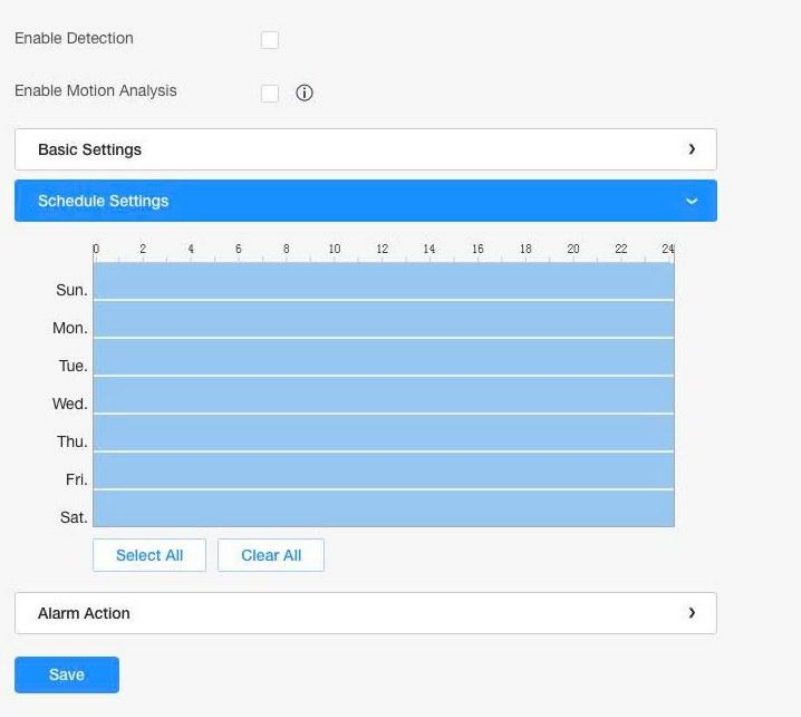
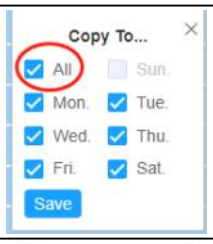


Table 37. Description of the buttons

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.

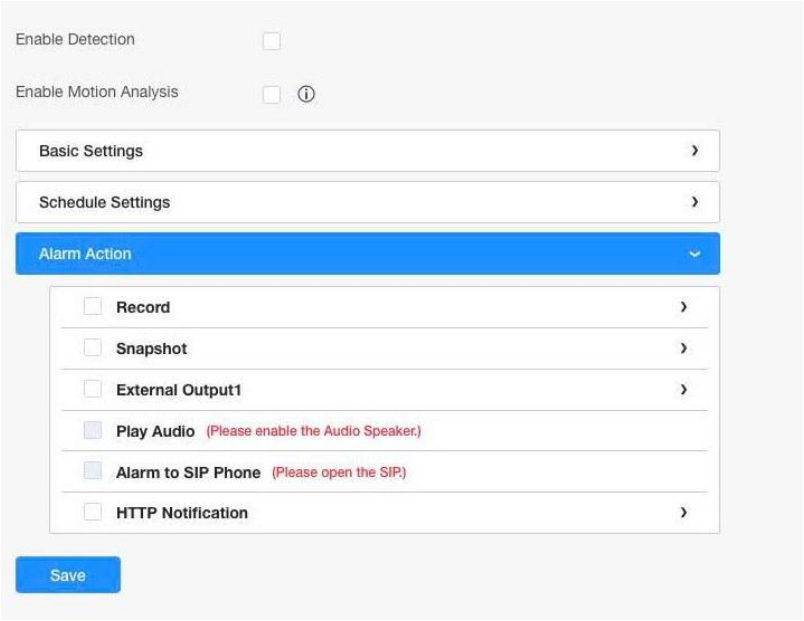


Table 38. Description of the buttons

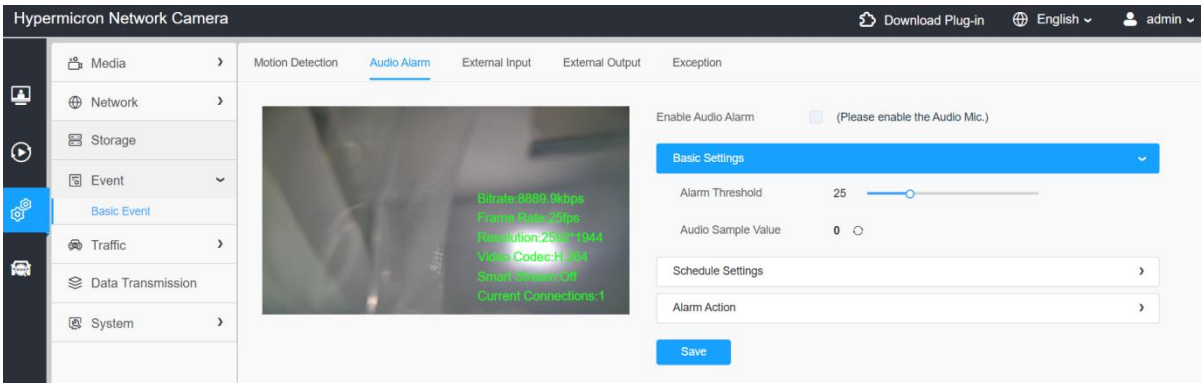
Parameters	Function Introduction
Record	**Duration:** Selected the duration time of alarm. 5s/10s/15s/20s/25s/30s are available. **Linkage:** Save alarm recording files into SD Card or NAS or Upload the recording files via FTP.
Snapshot	**Number:** The number of snapshot, 1~5 are available. **Interval:** 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 s/30 s/1 min./5 min./10 min. are available.

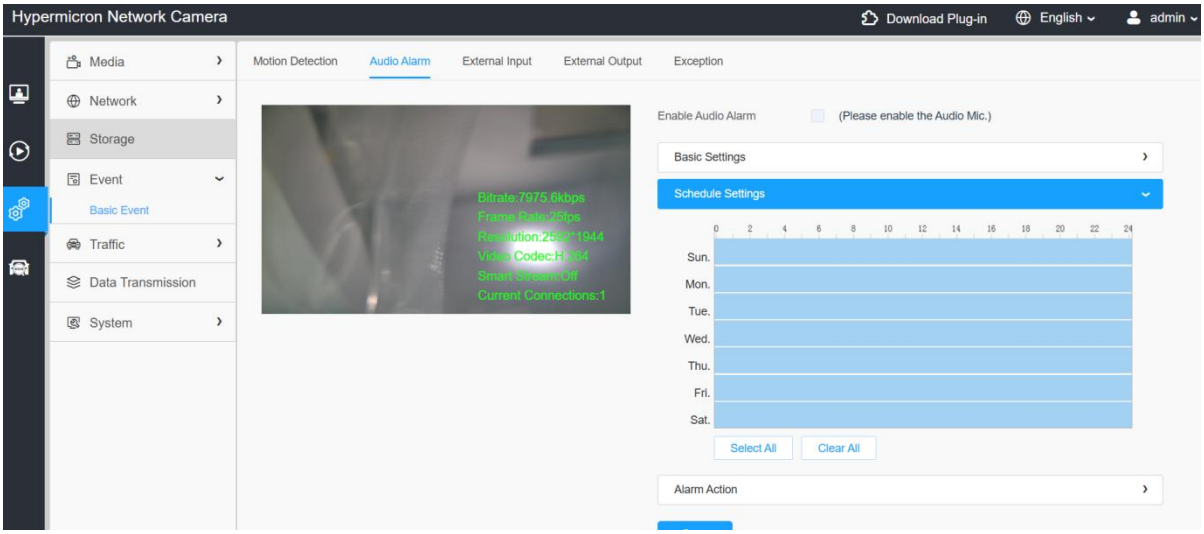
Parameters	Function Introduction
Play Audio	Play the configured audio when the alarm is triggered. Note: Please enable the Audio Speaker.
Alarm to SIP Phone	Support to call the SIP phone after enabling the SIP function.
HTTP Notification	Support to pop up the alarm news to specified HTTP URL. **Note:** • Three HTTP notifications at most can be added to the same event. • HTTP Notification supports Basic & Digest authentication.

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 39. 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.

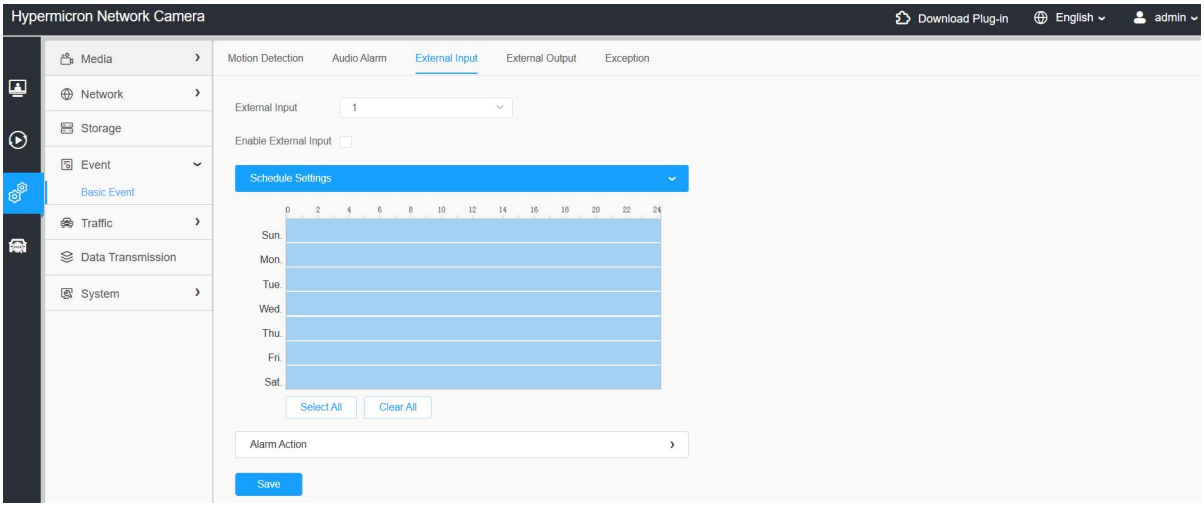
[Schedule Settings]

Refer to Table 37 (page 53) for the meanings of the items, here will not repeat again.

[Alarm Action]

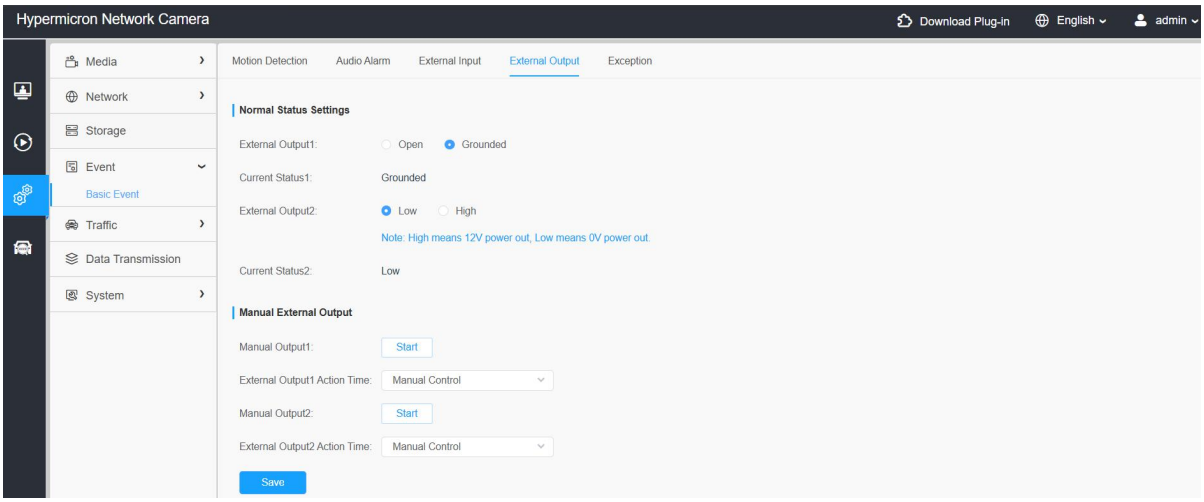
Refer to Table 38 (page 53) for the meanings of the items, here will not repeat again.

8.4.1.3 External Input



Refer to Table 37 (page 53) for the meanings of the items, here will not repeat again.

8.4.1.4 External Output



[Normal Status Settings] Please set the **Normal Status** firstly, when the **Current Status** is different with **Normal Status**, it will lead to the alarm. External Output1: select Open or Grounded as the normal status. External Output2: select Low or High as the normal status (High means 12V power out, Low means 0V power out).

[Manual External Output]

You can set the manual external output.

Table 40. Description of the buttons

Parameters	Function Introduction
Manual Output1/2	Click “Start” to start the manual external output of External Output1/External Output2. Click again to stop it.
External Output1/2 Action Time	Manual Control/Customize/10 s/1 min./5 min./10 min. are available.

8.4.1.5 Exception

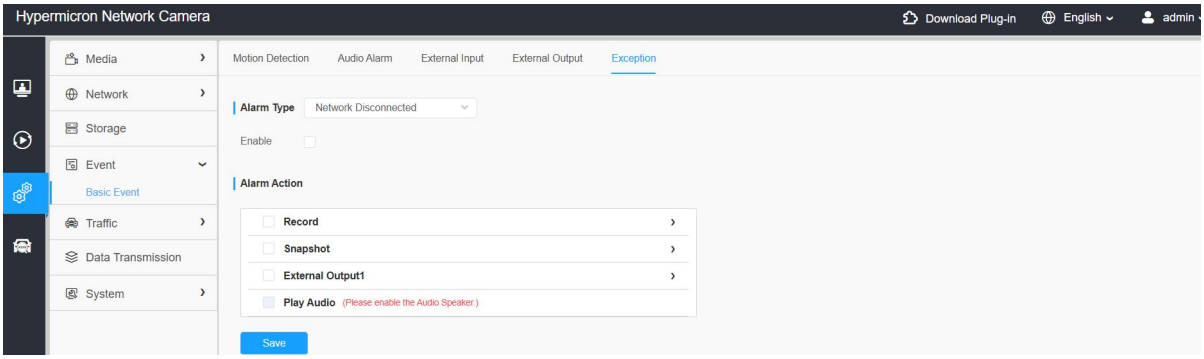


Table 41. Description of the buttons

Parameters	Function Introduction
Alarm Type	Network Disconnected, IP Address Conflict, 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	Record, Snapshot, External Output and Play Audio are available. Refer to Table 38 (page 53) for the meanings of the items, here will not repeat again.

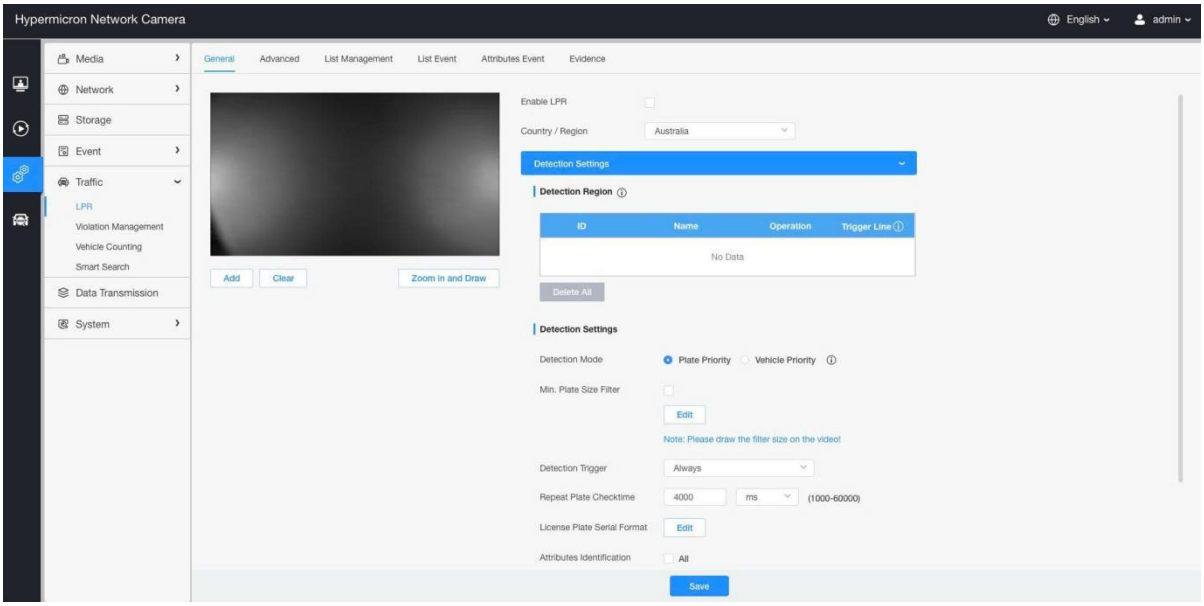
8.5 Traffic

The traffic function of the camera includes LPR (License Plate Recognition), Violation Management, Vehicle Counting and Smart Search. The detection results can be searched on the camera, displayed on the LPR live view page and posted to a third-party platform (see 8.6 Data Transmission).

8.5.1 LPR

LPR recognizes the license plates and the attributes (plate color, vehicle type, vehicle color, vehicle brand, direction, speed, etc.) of the vehicles passing through the detection region. LPR settings include General, Advanced, List Management, List Event, Attributes Event and Evidence.

8.5.1.1 General

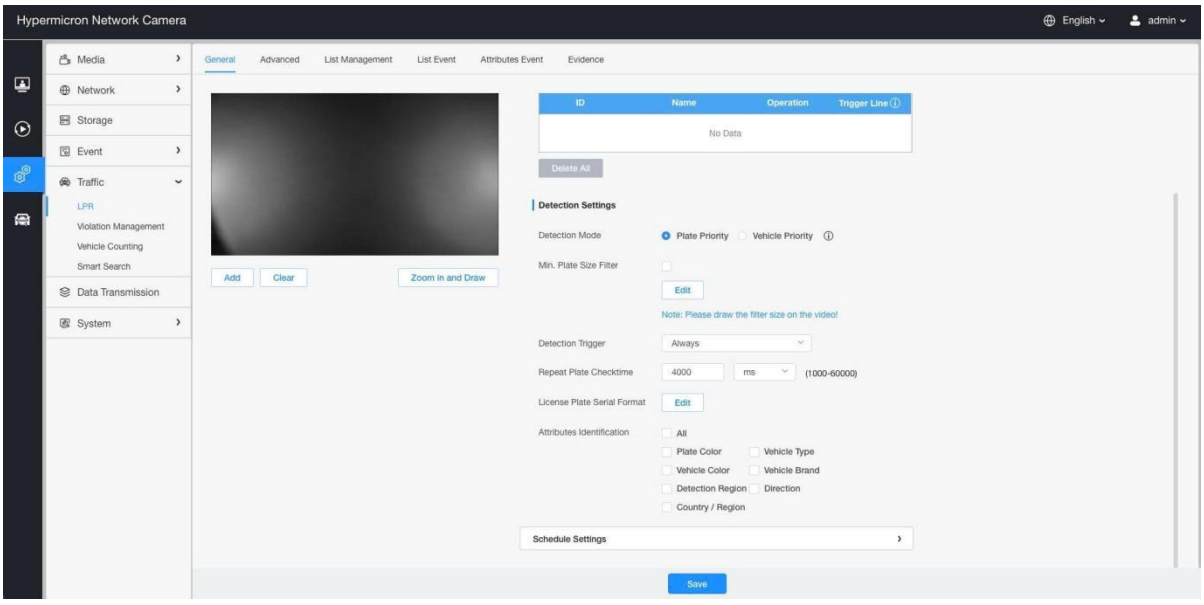


Step1: Go to Settings → Traffic → LPR → General.

Step2: Check “Enable LPR” and select the Country / Region of the license plates.

Step3: In Detection Settings, click “Add” and draw the detection region on the video. You can click “Zoom in and Draw” to draw in a full-screen pop-up window.

Step4: Set the Detection Mode, Min. Plate Size Filter, Detection Trigger, Repeat Plate Checktime, License Plate Serial Format and Attributes Identification.



Step5: Set the schedule of LPR in Schedule Settings, then click “Save”.

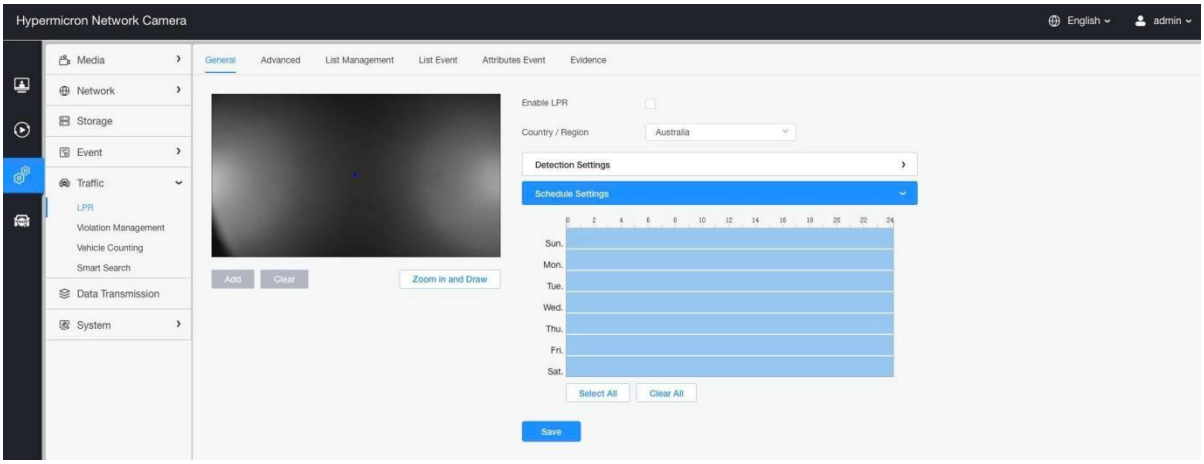
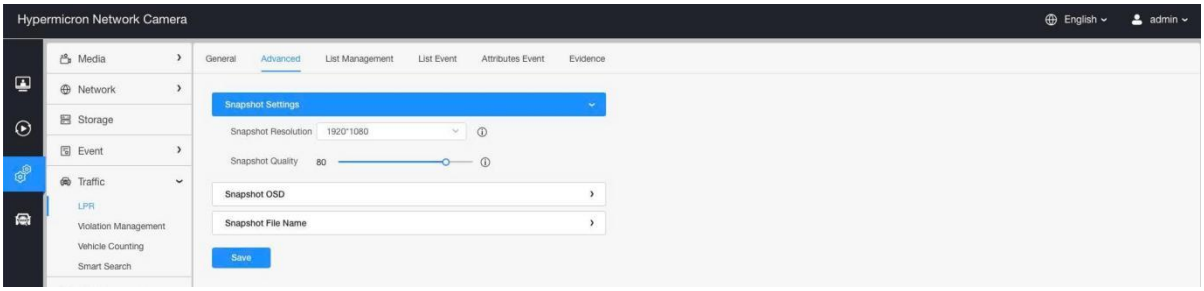


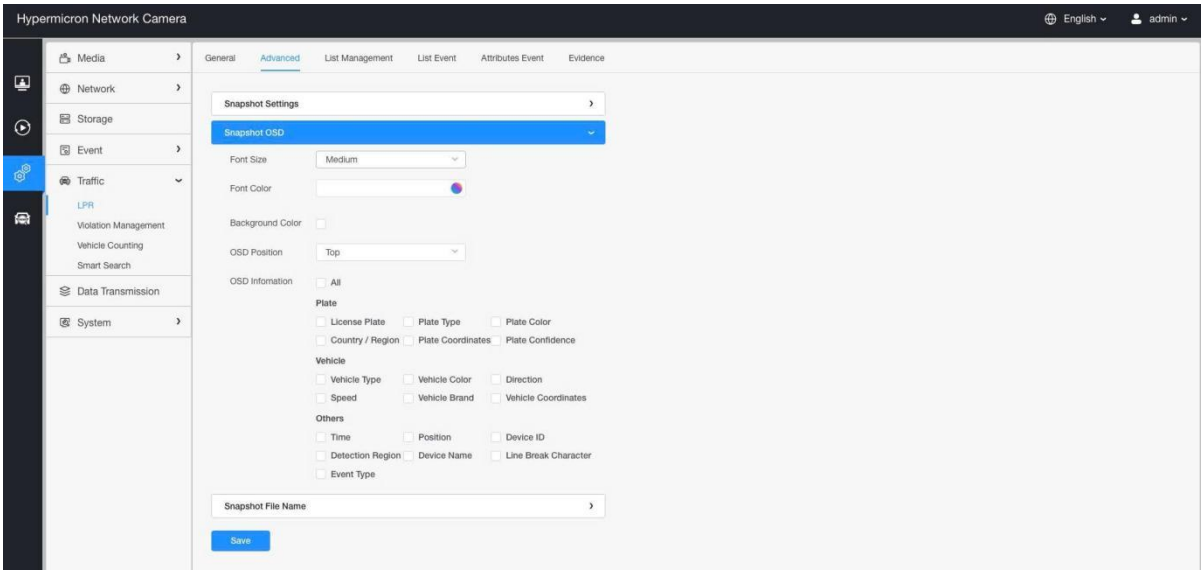
Table 42. Description of the buttons

Parameters	Function Introduction
Enable LPR	Check the checkbox to enable the LPR function.
Country / Region	Select the country/region of the license plates to be recognized, e.g. Australia, New Zealand, Philippines, SG&MY&TH, Singapore, South Korea, Thailand and Vietnam.
Add / Clear / Zoom in and Draw	Add: Draw a detection region on the live video. Clear: Clear the area you drew on the live video. Zoom in and Draw: Activate a full-screen pop-up window to draw more accurate detection regions.
Detection Region	The added detection regions are listed with ID, Name, Operation and Trigger Line. Click “Delete All” to delete all the detection regions.
Detection Mode	Plate Priority: Prefer the accuracy of plate recognition. Vehicle Priority: Prefer the detection of the vehicle.
Min. Plate Size Filter	Check the checkbox and click “Edit” to draw the minimum plate size on the video. Plates smaller than this size will be filtered. Note: Please draw the filter size on the video.
Detection Trigger	Always: Detect all the time. Alarm Input: Detect when the alarm input is triggered.
Repeat Plate Checktime	The same license plate will be reported only once within this time. The valid range is 1000-60000 ms (ms or min. can be selected as the unit).
License Plate Serial Format	Click “Edit” to set the format of the license plate serial number.
Attributes Identification	Check the attributes to be recognized: All, Plate Color, Vehicle Type, Vehicle Color, Vehicle Brand, Detection Region, Direction and Country / Region.
Schedule Settings	Set the time schedule of LPR by drawing the time bar directly. “Select All” selects the whole week and “Clear All” clears all the schedule.
Save	Save the configuration.

8.5.1.2 Advanced

Set the snapshot parameters, the snapshot OSD and the snapshot file name of the LPR events.





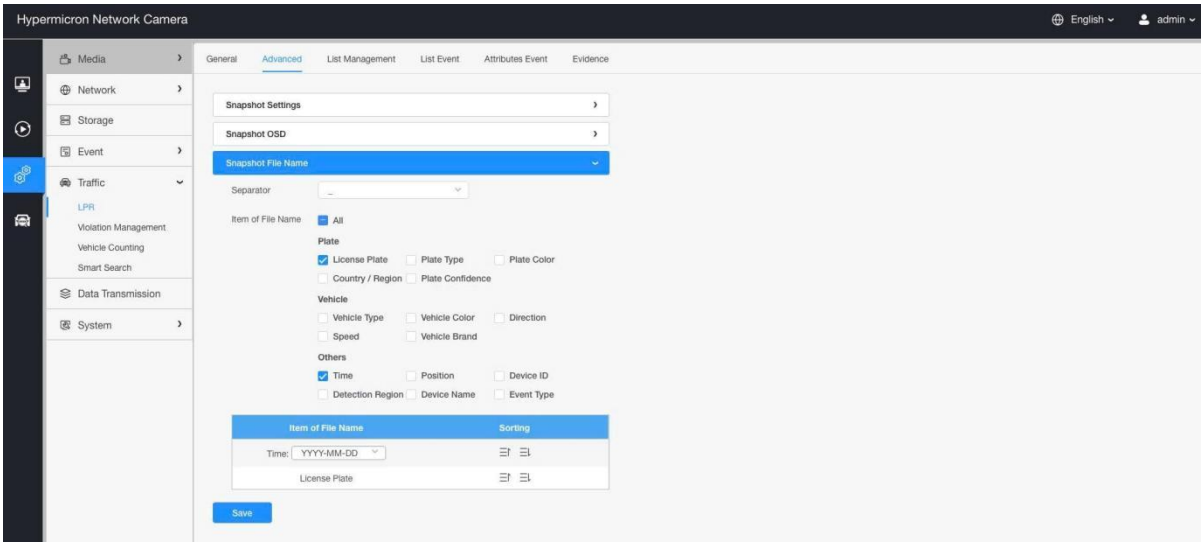


Table 43. Description of the buttons

Parameters	Function Introduction
Snapshot Settings	Snapshot Resolution: 2592*1944, 2592*1520, 2048*1536, 1920*1080, 1280*960 and 1280*720 are available. Snapshot Quality: Drag the slider to set the quality of the snapshot (default 80).

Parameters	Function Introduction
Snapshot OSD	Font Size: Smallest/Small/Medium/Large/Largest/Auto are available. Font Color: Select the font color of the snapshot OSD. Background Color: Check the checkbox to set the background color of the OSD. OSD Position: Top/Bottom/Top outside the picture/Bottom outside the picture. OSD Information: Check the information to be displayed on the snapshot. All, Plate (License Plate, Plate Type, Plate Color, Country / Region, Plate Coordinates, Plate Confidence), Vehicle (Vehicle Type, Vehicle Color, Direction, Speed, Vehicle Brand, Vehicle Coordinates) and Others (Time, Position, Device ID, Detection Region, Device Name, Line Break Character, Event Type) are available.
Snapshot File Name	Separator: Select the separator between the items of the file name. Item of File Name: Check the items (e.g. License Plate, Time, Plate Type, Vehicle Type) to compose the file name. The selected items are listed with Item of File Name and Sorting, you can adjust their order with the sorting arrows. The format of Time can be selected (e.g. YYYY-MM-DD).
Save	Save the configuration.

8.5.1.3 List Management

Manage the black list, white list and schedule mode list of license plates.

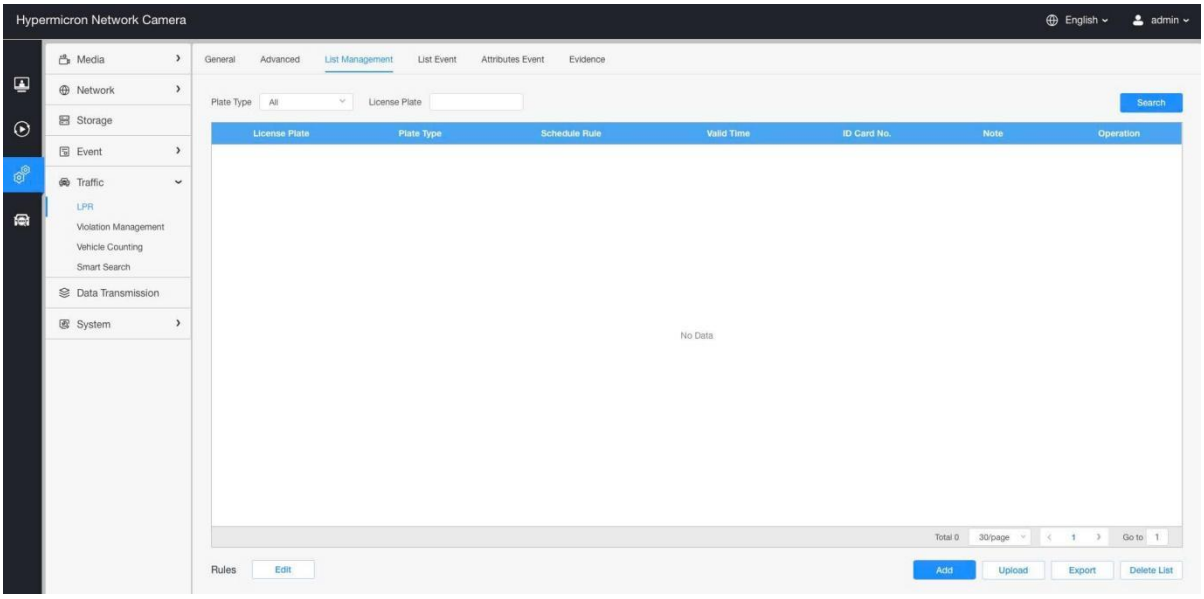


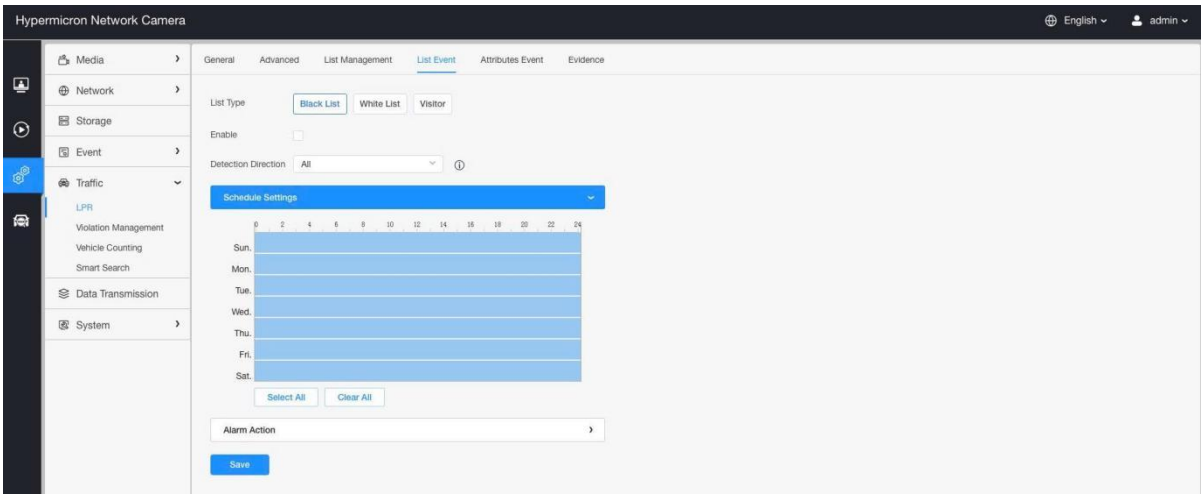
Table 44. Description of the buttons

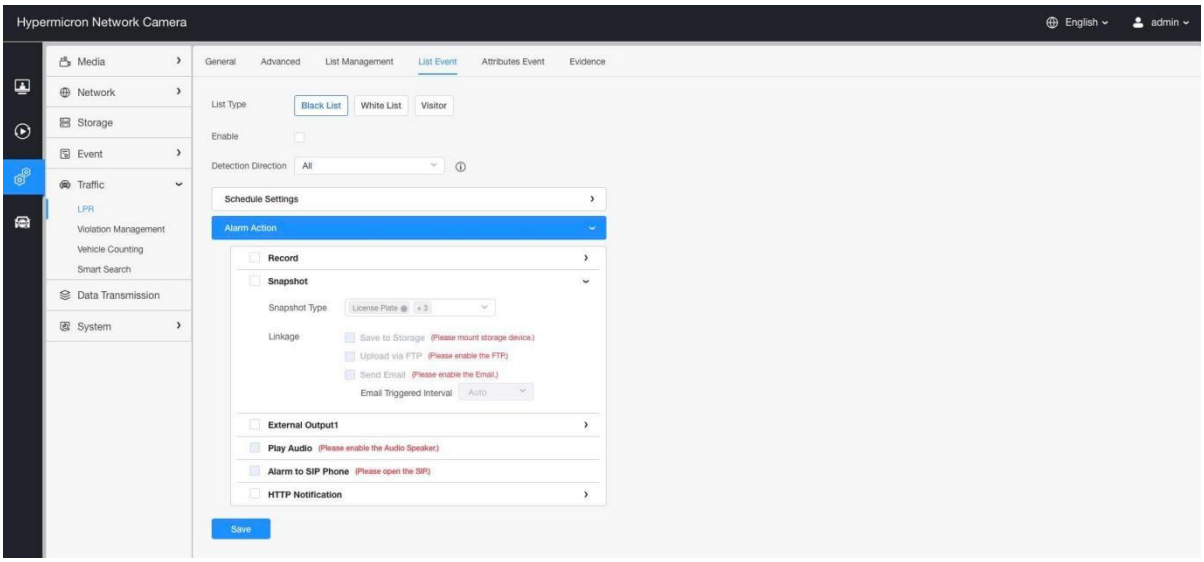
Parameters	Function Introduction
Plate Type	Filter the list by All/Black List/White List/Schedule Mode.
License Plate / Search	Input the license plate number and click “Search” to search the list.
List	The list shows the License Plate, Plate Type, Schedule Rule, Valid Time, ID Card No., Note and Operation of each record. The total number of records and the number of records per page are shown at the bottom, you can input the page number in “Go to”.

Parameters	Function Introduction
Rules	Click “Edit” to edit the rules of the list.
Add	Add a license plate to the list manually.
Upload	Import a list file to add license plates in batches.
Export	Export the list.
Delete List	Delete the records of the list.

8.5.1.4 List Event

The camera can trigger alarm actions when a license plate of the Black List, White List or Visitor is recognized.





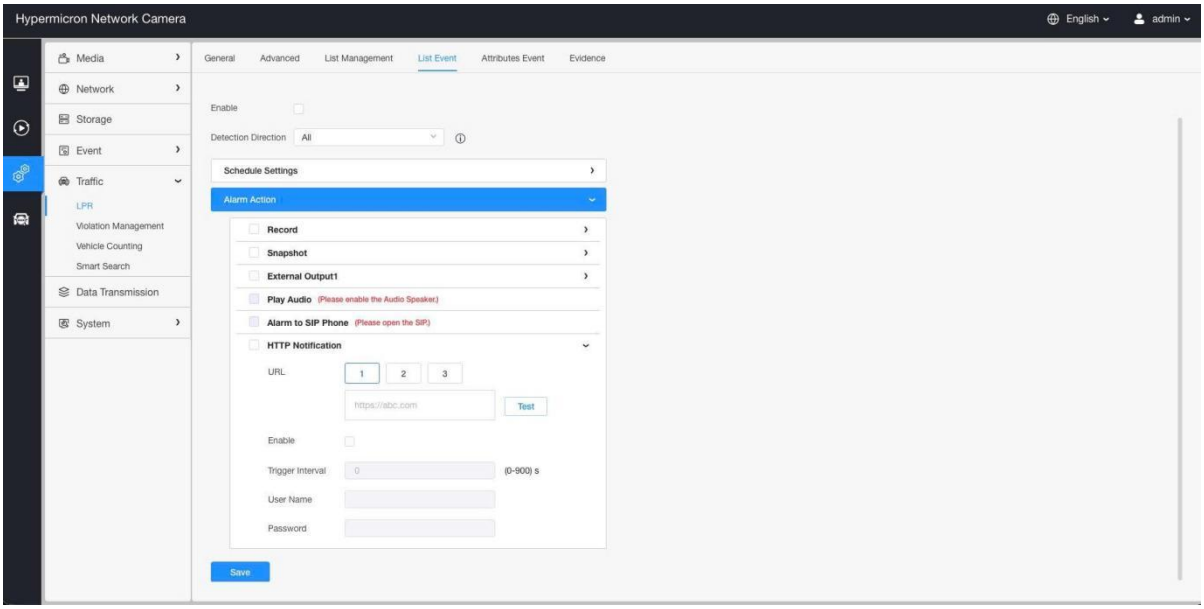
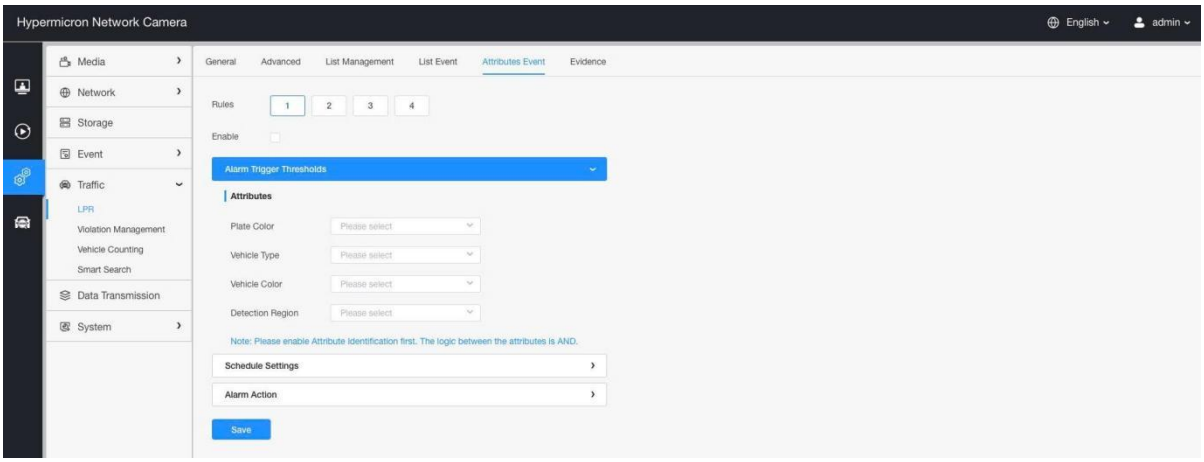


Table 45. Description of the buttons

Parameters	Function Introduction
List Type	Select Black List, White List or Visitor, the event of each list type is configured separately.
Enable	Check the checkbox to enable the event of the selected list type.
Detection Direction	Select the direction of the vehicles to be detected, All by default.
Schedule Settings	Set the schedule by drawing the time bar directly. This part is the same as the regular schedule settings, you can refer to Motion Detection (page 50)
Alarm Action: Record	Duration: Select the duration time of the alarm recording. 5 s/10 s/15 s/20 s/25 s/30 s are available. Linkage: Save the alarm recording files into SD Card or NAS (Save to Storage) or upload them via FTP (Upload via FTP).
Alarm Action: Snapshot	Snapshot Type: Select the snapshot types to be captured (e.g. License Plate). Multiple types can be selected. Linkage: Save the snapshots into SD Card or NAS (Save to Storage), upload them via FTP (Upload via FTP) or send them by email (Send Email). Email Triggered Interval: Set the interval of the alarm emails.
Alarm Action: External Output	If the camera equips with External Output, check External Output1/External Output2 to enable the action. Action Time: Customize/10 s/30 s/1 min./5 min./10 min. are available.
Alarm Action: Play Audio	Play the configured audio when the alarm is triggered. Note: Please enable the Audio Speaker.
Alarm Action: Alarm to SIP Phone	Support to call the SIP phone after enabling the SIP function.
Alarm Action: HTTP Notification	Support to pop up the alarm news to the specified HTTP URL. URL: Up to three URLs (1/2/3) can be set. Click “Test” to test the URL. Enable: Enable the URL. Trigger Interval: 0-900 s. User Name/Password: The account of the HTTP server. Note: HTTP Notification supports Basic & Digest authentication.

8.5.1.5 Attributes Event

The camera can trigger alarm actions when the attributes of a vehicle match the preset conditions. Up to 4 rules can be set.



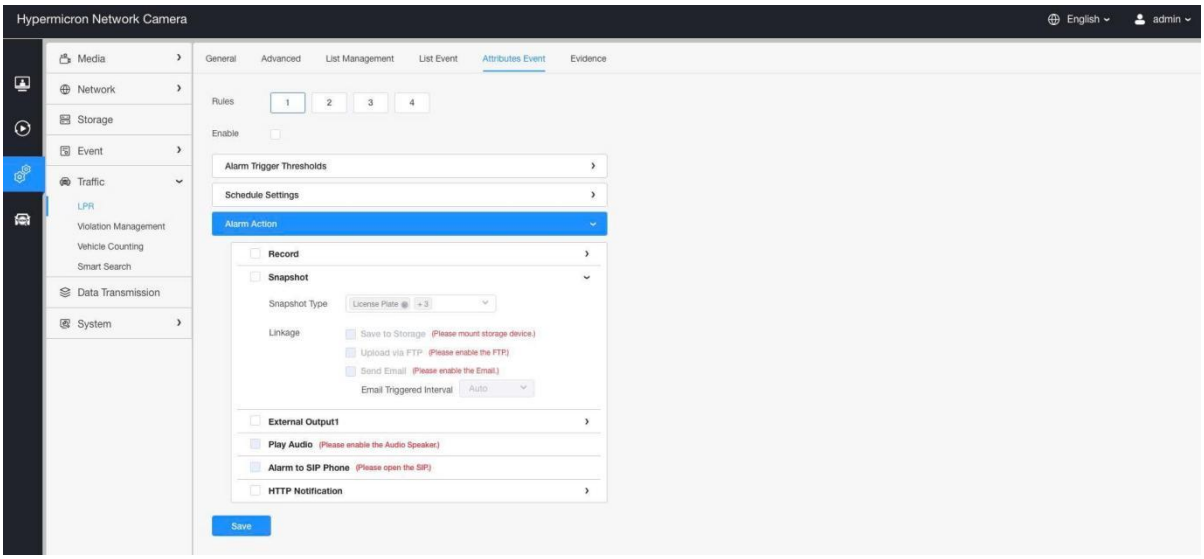
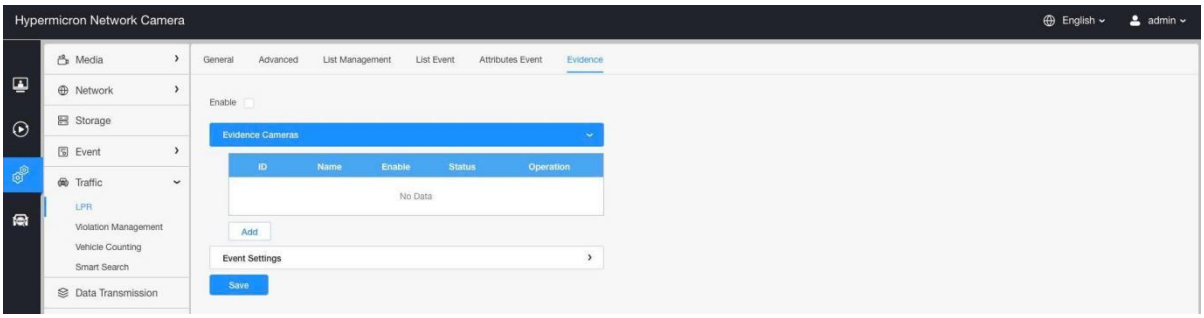


Table 46. Description of the buttons

Parameters	Function Introduction
Rules	Select Rule 1~4. Each rule is configured separately.
Enable	Check the checkbox to enable the selected rule.
Alarm Trigger Thresholds	Plate Color: All/Black/White/Red/Yellow/Green/Blue. Vehicle Type: All/Car/SUV/Van/Bus/Truck/Fire engine/Ambulance/Motorbike, etc. Vehicle Color: All/White/Gray/Red/Yellow/Green/Blue/Purple/Brown, etc. Detection Region: All/1/2/3/4. Note: Please enable Attributes Identification in LPR → General first. The logic between the attributes is AND.
Schedule Settings	Refer to Motion Detection (page 50) for the schedule settings.
Alarm Action	The same as the Alarm Action of List Event (Record, Snapshot, External Output, Play Audio, Alarm to SIP Phone and HTTP Notification).

8.5.1.6 Evidence

Evidence cameras can be added to capture additional evidence images when an LPR event occurs.



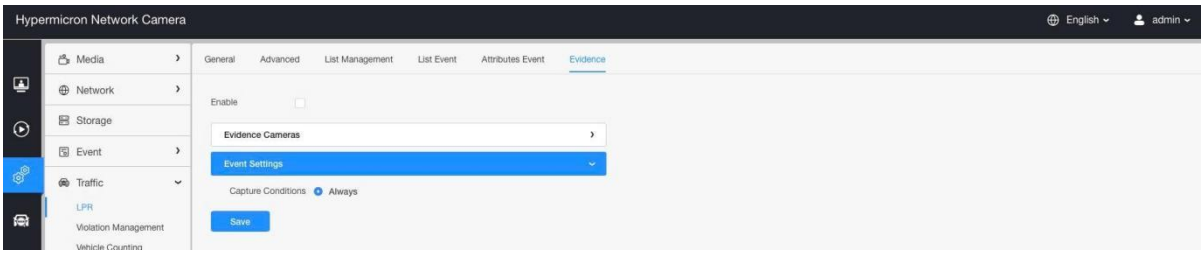
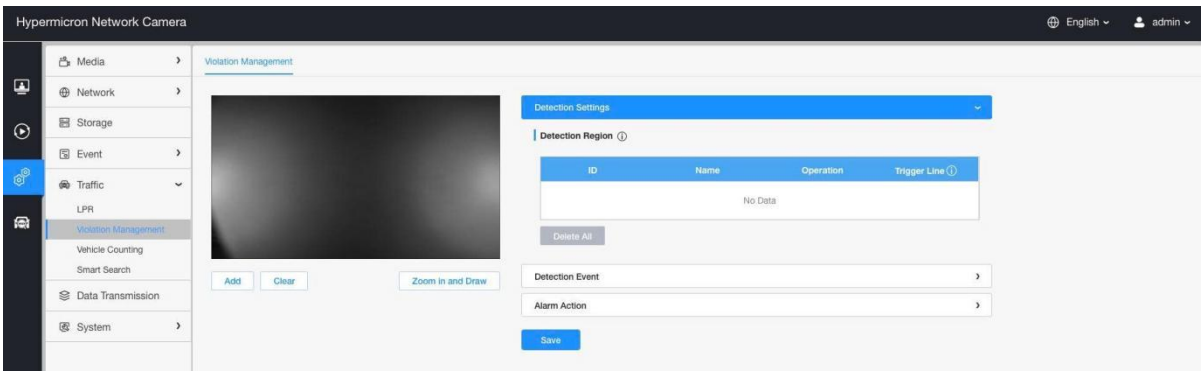


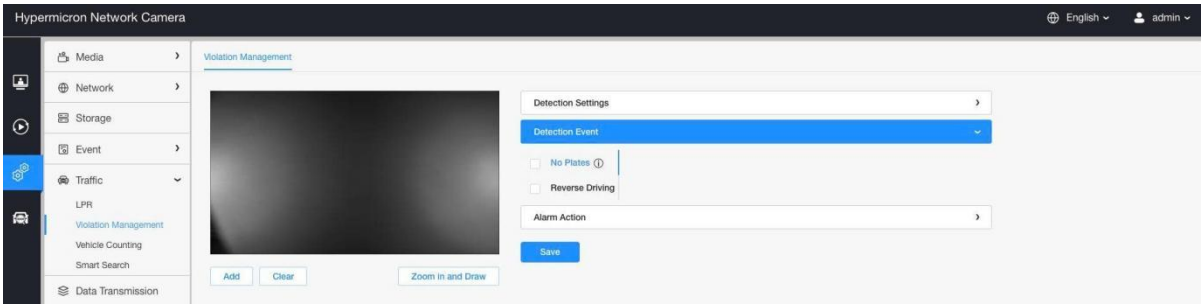
Table 47. Description of the buttons

Parameters	Function Introduction
Enable	Check the checkbox to enable the evidence function.
Evidence Cameras	The added evidence cameras are listed with ID, Name, Enable, Status and Operation. Click “Add” to add an evidence camera.
Event Settings	Capture Conditions: Always. The evidence is captured whenever an LPR event occurs.
Save	Save the configuration.

8.5.2 Violation Management

Violation Management detects the violations in the detection region, such as vehicles without license plates and vehicles driving in the wrong direction.





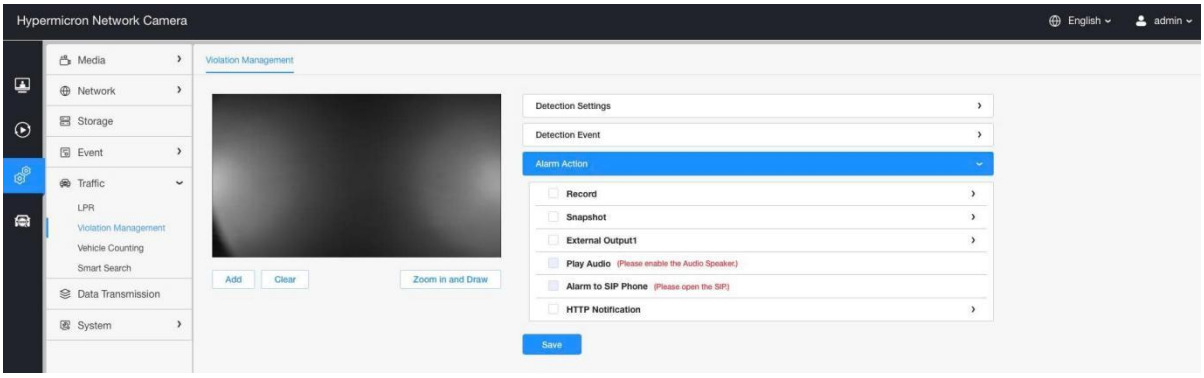


Table 48. Description of the buttons

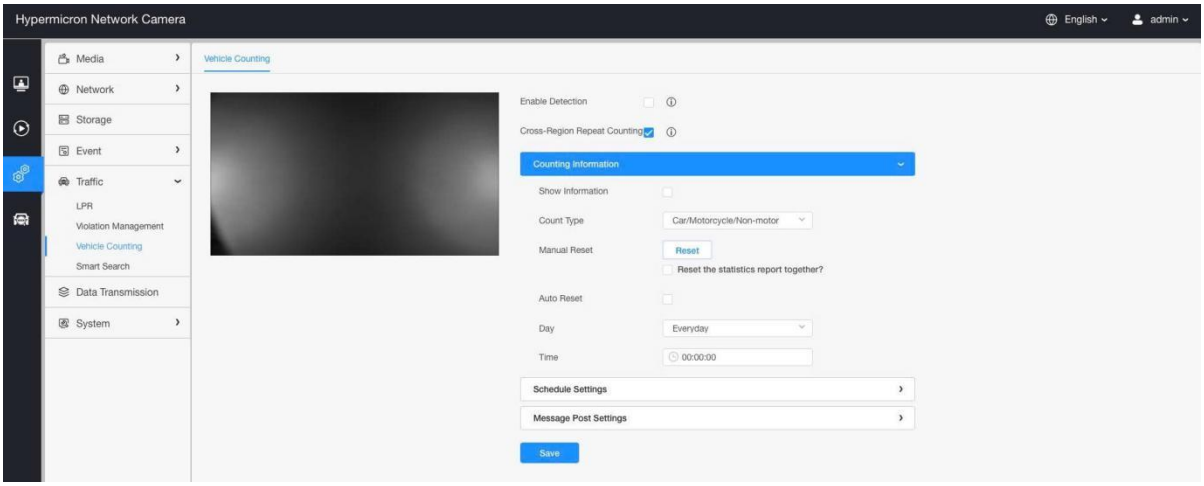
Parameters	Function Introduction
Detection Settings	Add/Clear/Zoom in and Draw: Draw the detection region on the video. The added regions are listed with ID, Name, Operation and Trigger Line, and "Delete All" deletes all of them.
Detection Event	No Plates: Trigger the event when a vehicle without a license plate is detected. Reverse Driving: Trigger the event when a vehicle driving in the wrong direction is detected.
Alarm Action	The same as the Alarm Action of LPR → List Event (Record, Snapshot, External Output, Play Audio, Alarm to SIP Phone and HTTP Notification).
Save	Save the configuration.

8.5.3 Vehicle Counting

Vehicle counting is able to count how many vehicles pass during the setting period and to classify them by vehicle type.

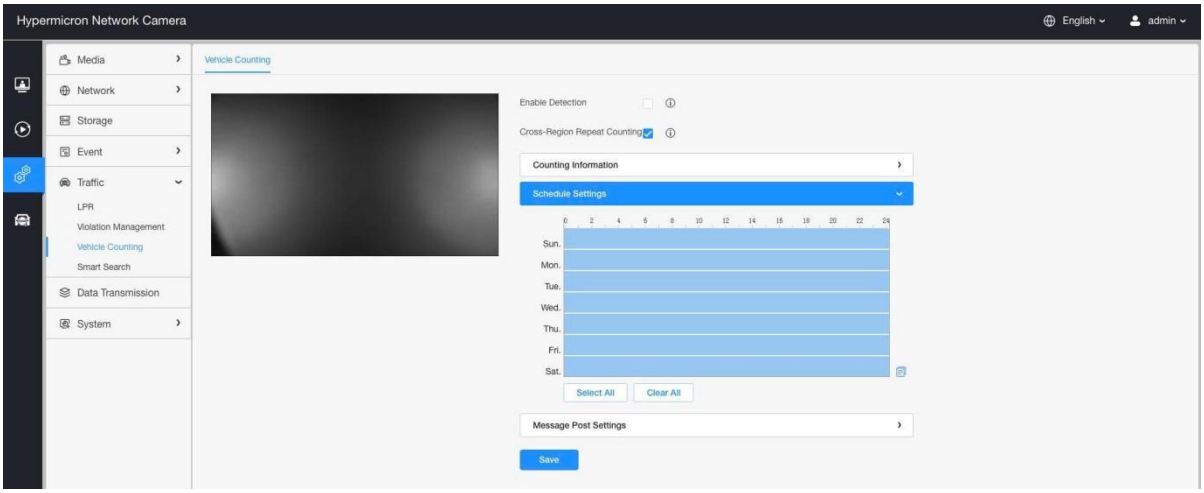
Step1: Go to Settings → Traffic → Vehicle Counting.

Step2: Check "Enable Detection". You can check "Cross-Region Repeat Counting" as needed (click the information icon next to the option for details).



Step3: In Counting Information, set Show Information, Count Type, Manual Reset and Auto Reset.

Step4: Set the working schedule in Schedule Settings.



Step5: In Message Post Settings, set the way of posting the counting results, then click “Save”.

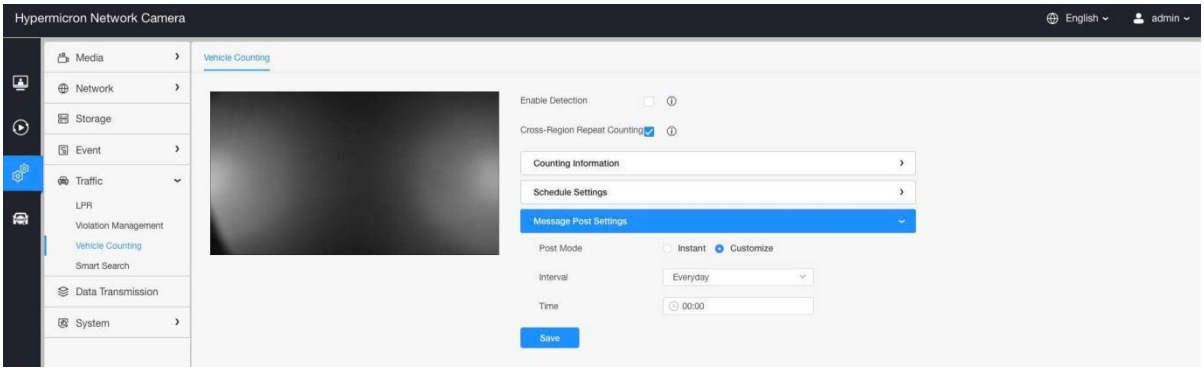


Table 49. Description of the buttons

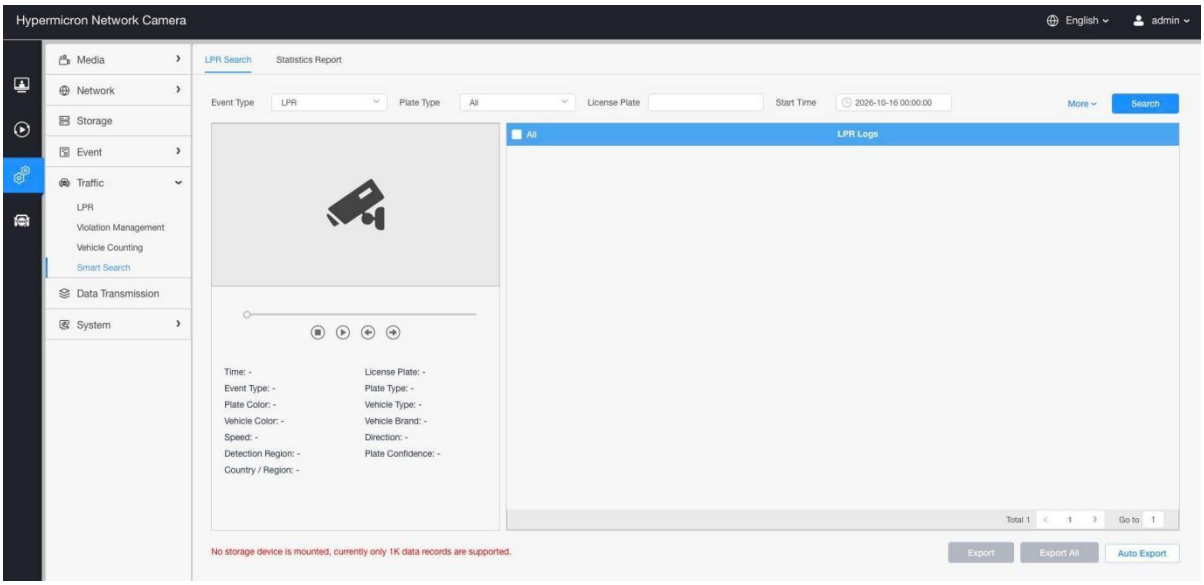
Parameters	Function Introduction
Enable Detection	Check the checkbox to enable the vehicle counting function.
Cross-Region Repeat Counting	Check the checkbox to enable counting across regions.

Parameters	Function Introduction
Show Information	Check the checkbox to display the counting information on the live video.
Count Type	Car/Motorcycle/Non-motor or Small/Medium/Large Vehicle are available.
Manual Reset	Click “Reset” to reset the counting. Check “Reset the statistics report together?” to clear the statistics report at the same time.
Auto Reset	Check the checkbox to reset the counting automatically. Day: Everyday/Sunday~Saturday. Time: The time of the reset.
Schedule Settings	Set the schedule of vehicle counting by drawing the time bar. Refer to Motion Detection (page 50) for the schedule settings.
Message Post Settings	Post Mode: Instant posts every counting result immediately; Customize posts the results periodically. Interval: Everyday/Every Hour (only for Customize). Time: The time of posting (only for Customize).
Save	Save the configuration.

8.5.4 Smart Search

Search the LPR events and view the statistics report of vehicle counting. Smart Search includes LPR Search and Statistics Report.

8.5.4.1 LPR Search



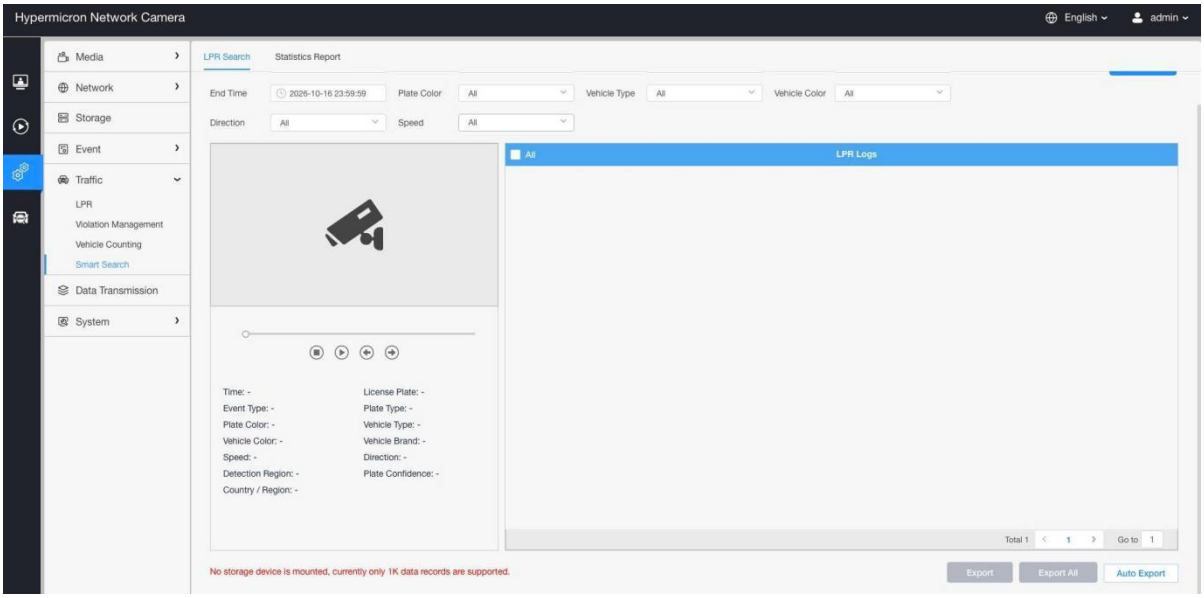


Table 50. Description of the buttons

Parameters	Function Introduction
Event Type	LPR, Attributes Event, No Plates and Reverse Driving are available.
Plate Type	All/Black List/White List/Visitor/No Plates are available.
License Plate	Input the license plate number to be searched.
Start Time / End Time	Select the start and end time of the search. Click “More” to show all the search conditions or “Fold” to fold them.
Plate Color / Vehicle Type / Vehicle Color	Filter the events by plate color, vehicle type or vehicle color (All by default).
Direction	All/Approach/Away are available.
Speed	All/More Than/Less Than are available.
Search	Click to search the events that meet the conditions.
LPR Logs	The search results are listed on the right side, click a record to view its snapshot and the detail information (Time, Event Type, Plate Color, Vehicle Color, Speed, Detection Region, Country / Region, License Plate, Plate Type, Vehicle Type, Vehicle Brand, Direction and Plate Confidence) on the left side. The buttons below the picture play, stop and switch the records.
Export / Export All / Auto Export	Export: Export the selected records. Export All: Export all the records. Auto Export: Set the automatic export of the records. Note: When no storage device is mounted, only 1K data records are supported.

8.5.4.2 Statistics Report

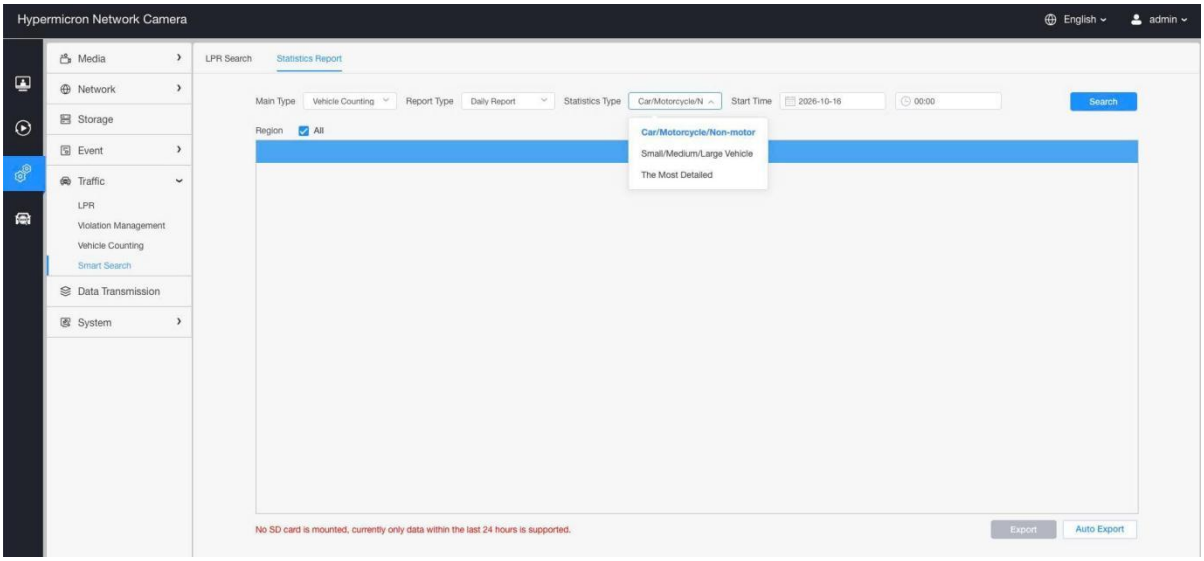


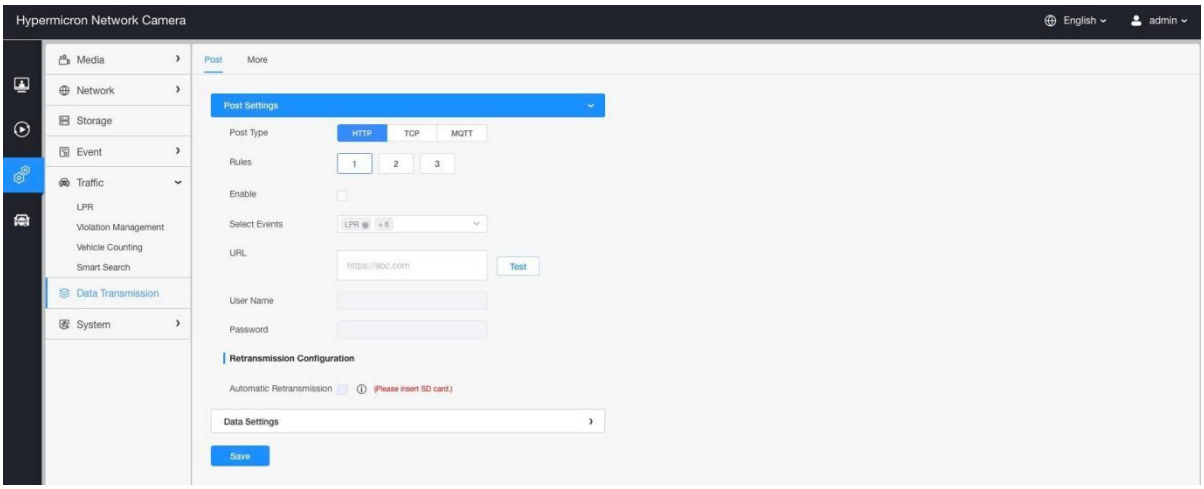
Table 51. Description of the buttons

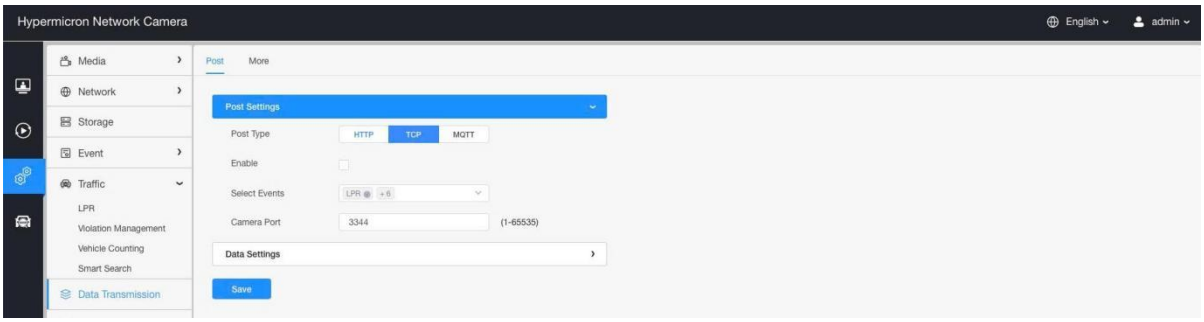
Parameters	Function Introduction
Main Type	Vehicle Counting.
Report Type	Select the report type, e.g. Daily Report.
Statistics Type	Car/Motorcycle/Non-motor, Small/Medium/Large Vehicle and The Most Detailed are available.
Start Time	Select the date and time of the report.
Region	Check the regions to be counted. All is selected by default.
Search	Click to search and display the statistics result.
Export / Auto Export	Export the statistics result, or set the automatic export. Note: When no SD card is mounted, only the data within the last 24 hours is supported.

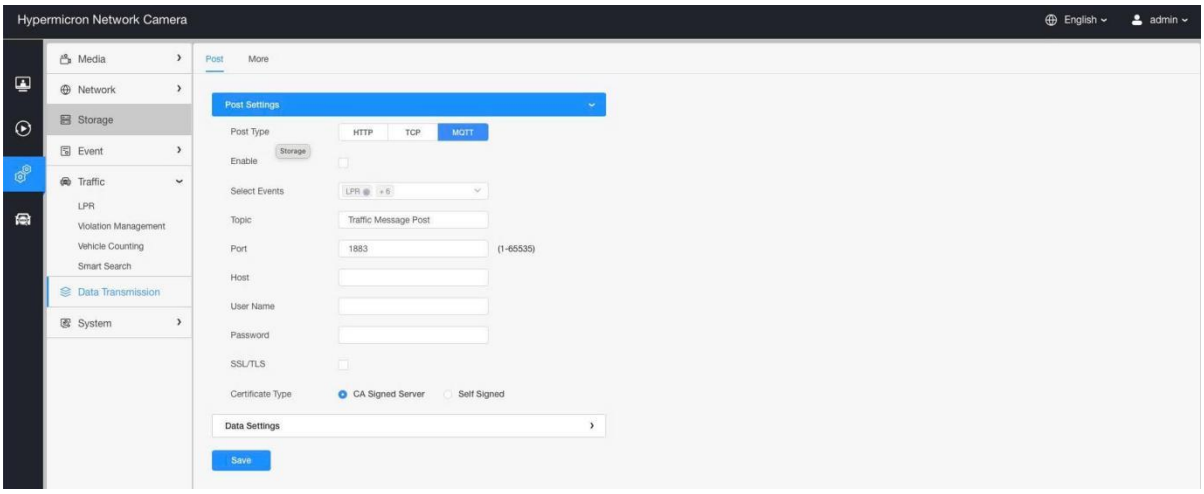
8.6 Data Transmission

The camera can post the LPR and vehicle counting data to a third-party platform through HTTP, TCP or MQTT.

8.6.1 Post


Hypermicron Network Camera
English
admin
Media
Network
Storage
Event
Traffic
LPR
Violation Management
Vehicle Counting
Smart Search
Data Transmission
System
Post
More
Post Settings
Post Type
HTTP
TCP
MQTT
Rules
1
2
3
Enable
Select Events
URL
https://abc.com
Test
User Name
Password
Retransmission Configuration
Automatic Retransmission
(Please insert SD card.)
Data Settings
Save


Hypermicron Network Camera
English
admin
Media
Network
Storage
Event
Traffic
LPR
Violation Management
Vehicle Counting
Smart Search
Data Transmission
Post
More
Post Settings
Post Type
HTTP
TCP
MQTT
Enable
Select Events
Camera Port
3344
(1-65535)
Data Settings
Save


Hypermicron Network Camera
English
admin
Media
Network
Storage
Event
Traffic
LPR
Violation Management
Vehicle Counting
Smart Search
Data Transmission
System
Post
More
Post Settings
Post Type
HTTP
TCP
MQTT
Enable
Storage
Select Events
Topic
Traffic Message Post
Port
1883
(1-65535)
Host
User Name
Password
SSL/TLS
Certificate Type
CA Signed Server
Self Signed
Data Settings
Save

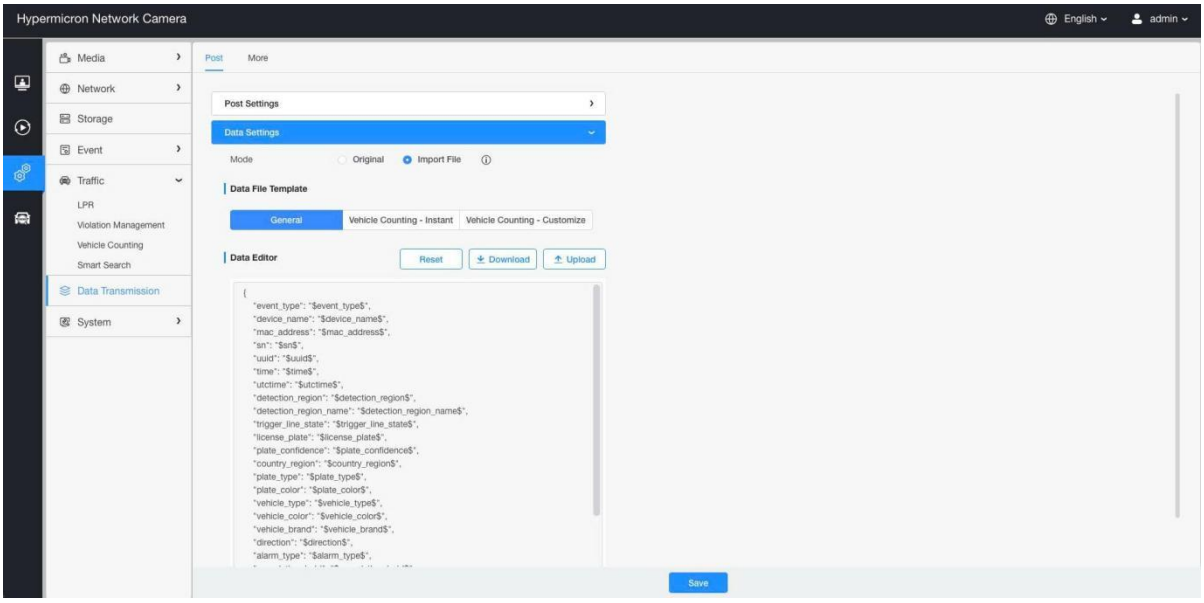


Table 52. Description of the buttons

Parameters	Function Introduction
Post Type	HTTP, TCP and MQTT are available.
Rules (HTTP)	Up to 3 HTTP rules (1/2/3) can be set. Each rule is configured separately.
Enable	Check the checkbox to enable the selected post.
Select Events	Select the events to be posted, e.g. LPR and other traffic events.
URL (HTTP)	Input the URL of the HTTP server (e.g. https://abc.com), click “Test” to test the connection.
User Name / Password (HTTP)	The account of the HTTP server.
Automatic Retransmission (HTTP)	When enabled, the data that failed to be posted will be retransmitted automatically. Note: Please insert an SD card.
Camera Port (TCP)	The port of the camera used by the TCP connection, the default is 3344 (1-65535).
MQTT	Topic: The topic of the message (default “Traffic Message Post”). Port: The port of the MQTT server, the default is 1883 (1-65535). Host: The address of the MQTT server. User Name / Password: The account of the MQTT server. SSL/TLS: Check to enable encrypted communication. Certificate Type: CA Signed Server or Self Signed.
Data Settings	Mode: Original posts the original data format; Import File posts the data according to the imported template. Data File Template: General, Vehicle Counting - Instant and Vehicle Counting - Customize are available. Data Editor: Edit the data template. The variables in the form of $variable$ will be replaced with the actual values when posting. Click “Reset” to restore the default template, “Download” to download the template and “Upload” to import a template.
Save	Save the configuration.

8.6.2 More

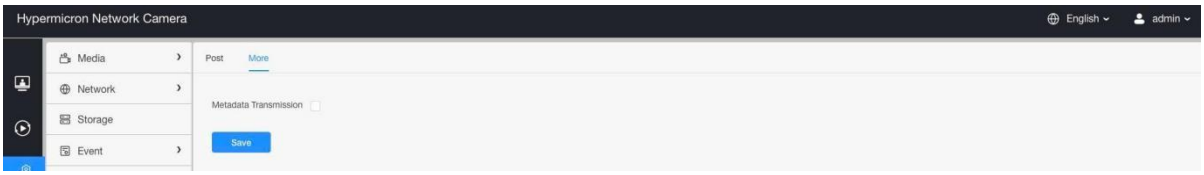


Table 53. Description of the buttons

Parameters	Function Introduction
Metadata Transmission	Check the checkbox to enable the transmission of the metadata.
Save	Save the configuration.

8.7 System

Here you can configure System Setting, Interfaces, 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.

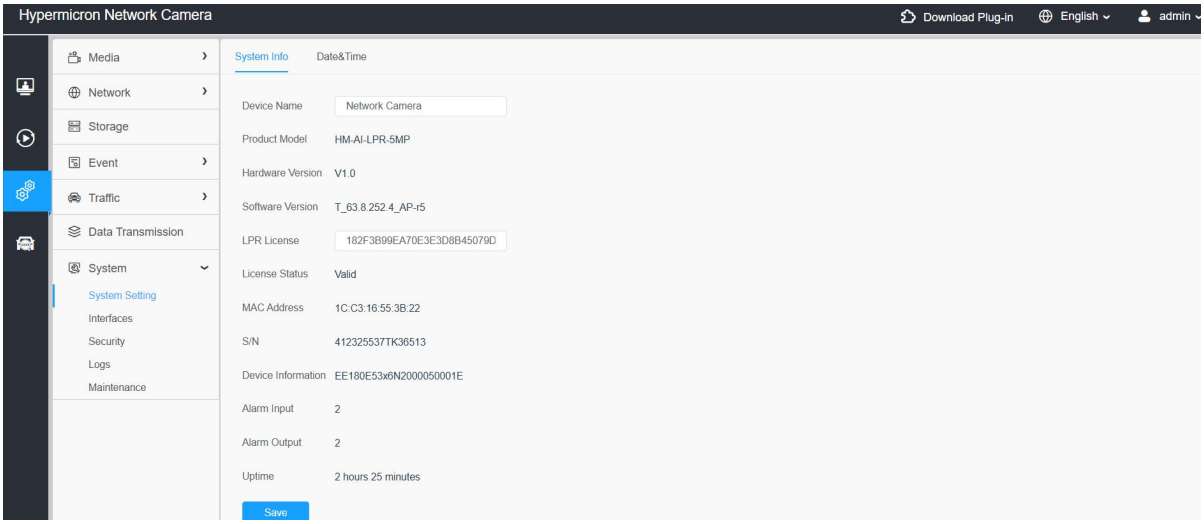


Table 54. Description of the buttons

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.

Parameters	Function Introduction
LPR License	The license information of the LPR function.
License Status	The status of the LPR license, e.g. whether the license is valid.
MAC Address	Media Access Control address.
S/N	Stock Number.
Device Information	The device information, including information about alarm I/O and clipper chip.
Alarm Input	The number of Alarm Input interface. **Note:** The Alarm Input will appear only when the camera have alarm input/ output interface.
Alarm Output	The number of Alarm Output interface. **Note:** The Alarm Output will appear only when the camera have alarm input/ output interface.
Uptime	The elapsed time since the last restarted of the device.
Save	Save the configuration.

8.7.1.2 Date&Time

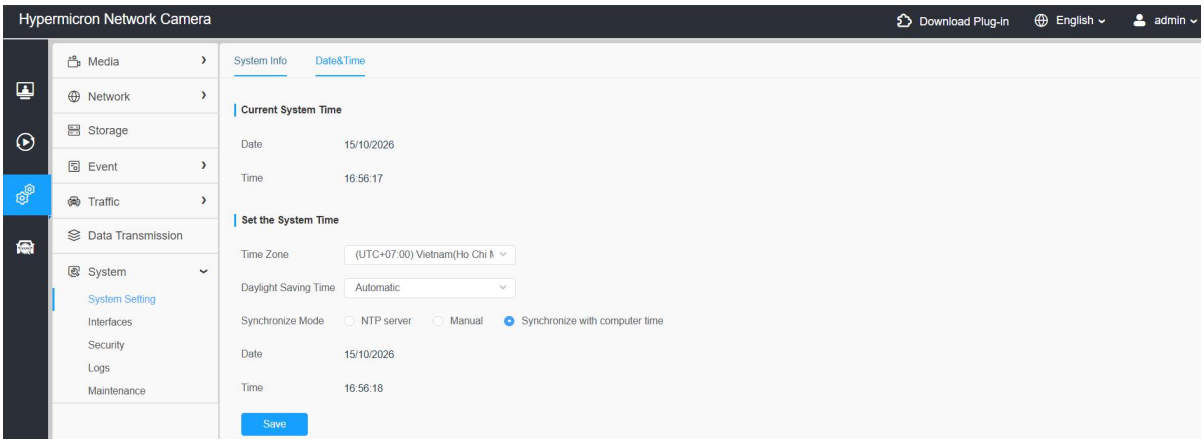


Table 55. Description of the buttons

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: Disabled/Automatic. Select Automatic to adjust the time automatically according to the daylight saving time of the selected time zone.
Set the System Time	**Synchronize Mode: NTP server, Manual and Synchronize with computer time are optional.** **NTP server: Input the address of NTP server (default pool.ntp.org).** **NTP Sync: Check the checkbox to regularly update your time according to the interval time. The Interval is 1~43200 min. (default 1440 min.).** **Manual: Set the system time manually.** **Synchronize with computer time: Synchronize the time with your computer.**
Save	Save the configuration.

8.7.2 Interfaces

Here you can configure the RS485 and Wiegand interfaces of the camera.

8.7.2.1 RS485

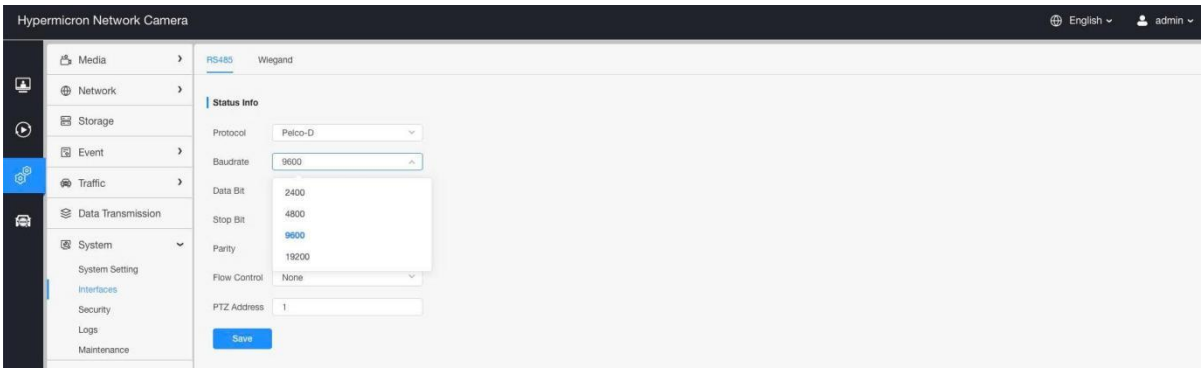


Table 56. Description of the buttons

Parameters	Function Introduction
Protocol	Pelco-D.
Baudrate	2400/4800/9600/19200 are available.
Data Bit	8 (fixed).
Stop Bit	1/2 are available.
Parity	None/Odd Parity/Even Parity are available.
Flow Control	None/Hard/Soft are available.
PTZ Address	The address of the connected RS485 device, the default is 1.
Save	Save the configuration.

8.7.2.2 Wiegand

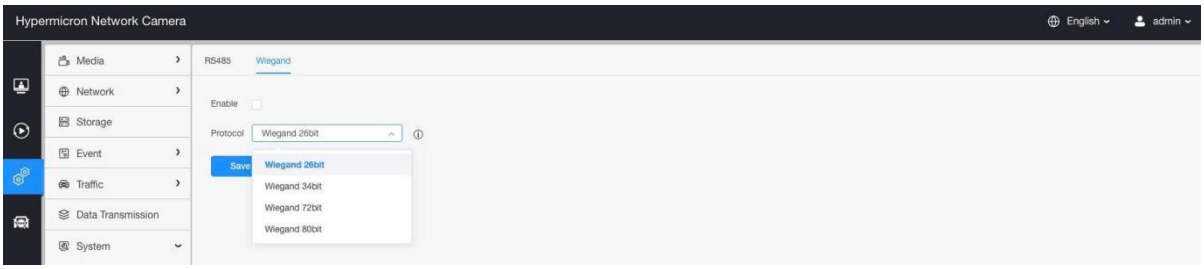


Table 57. Description of the buttons

Parameters	Function Introduction
Enable	Check the checkbox to enable the Wiegand interface.
Protocol	Wiegand 26bit/34bit/72bit/80bit are available.
Save	Save the configuration.

8.7.3 Security

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

8.7.3.1 User

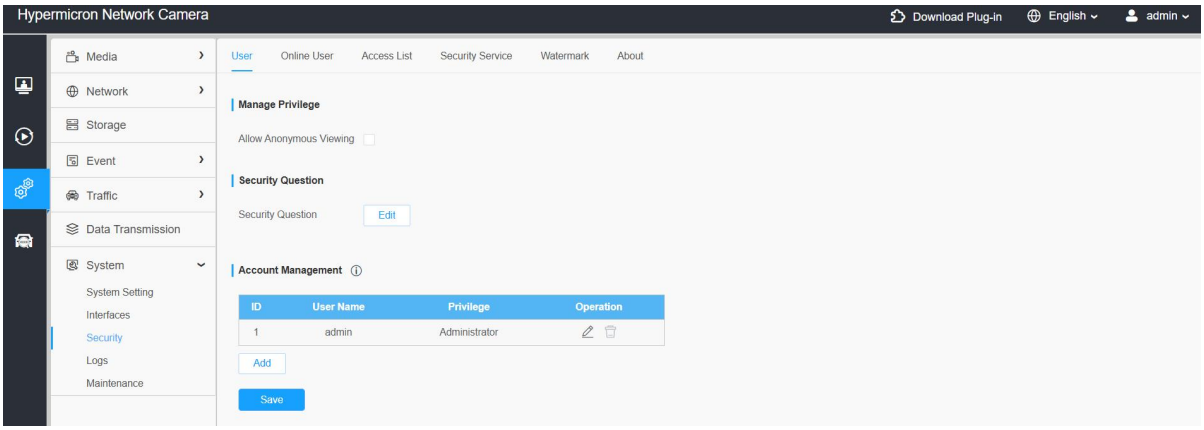
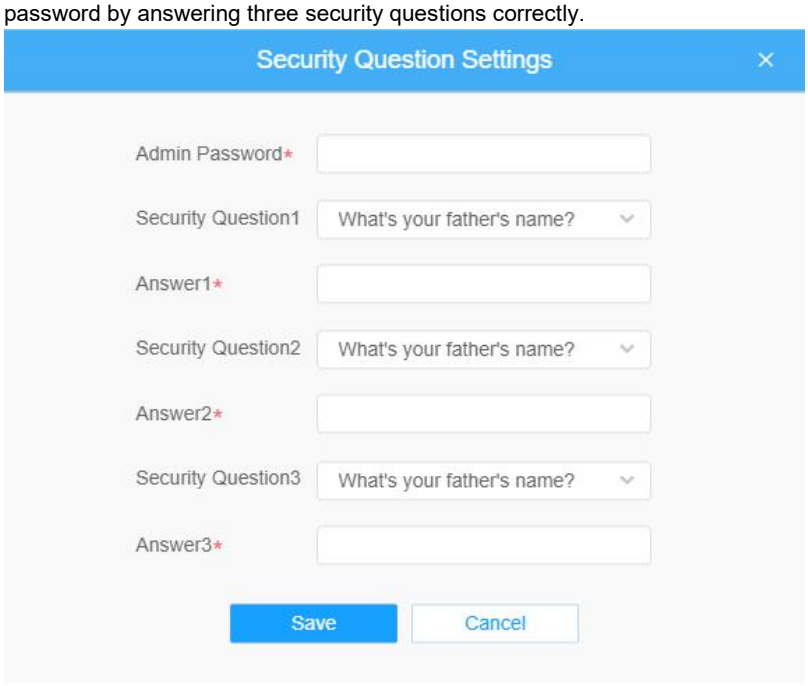
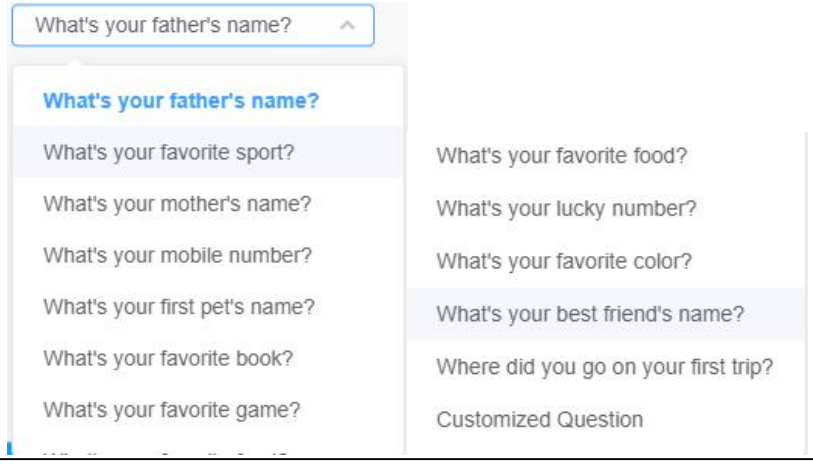
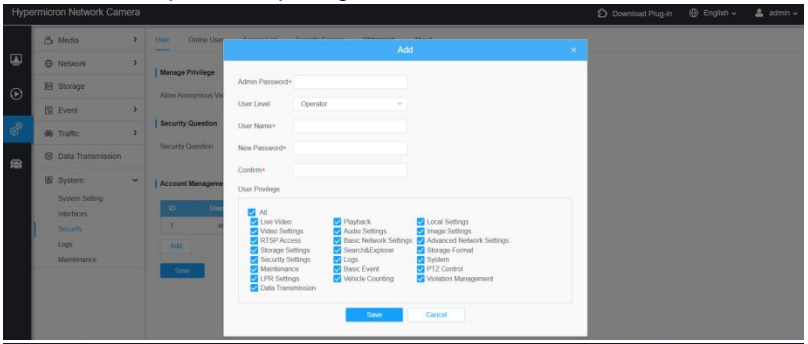
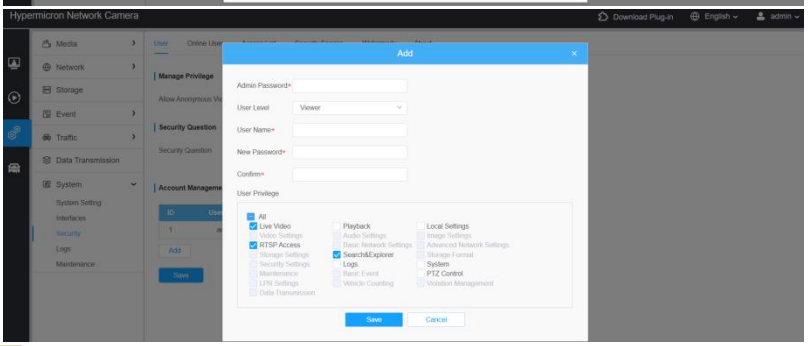


Table 58. Description of the buttons

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.

8.7.3.2 Online User

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

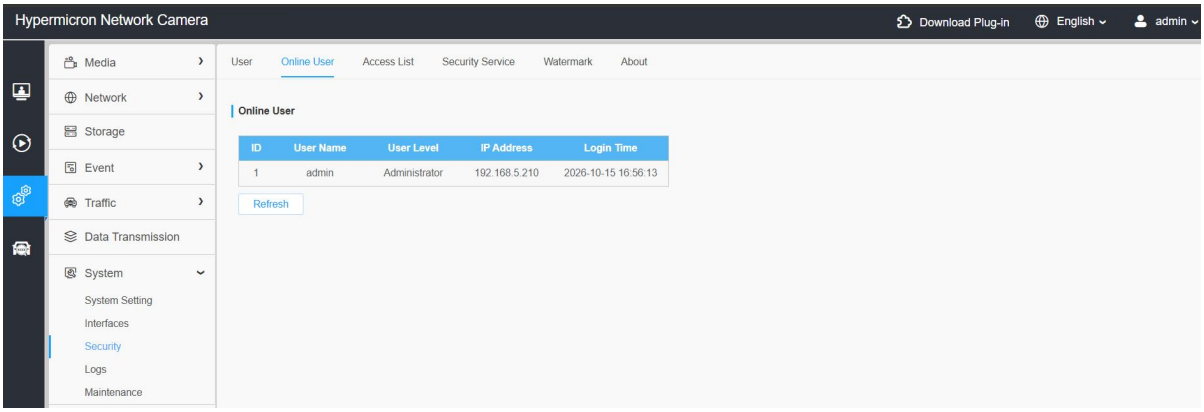


Table 59. Description of the buttons

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.

8.7.3.3 Access List

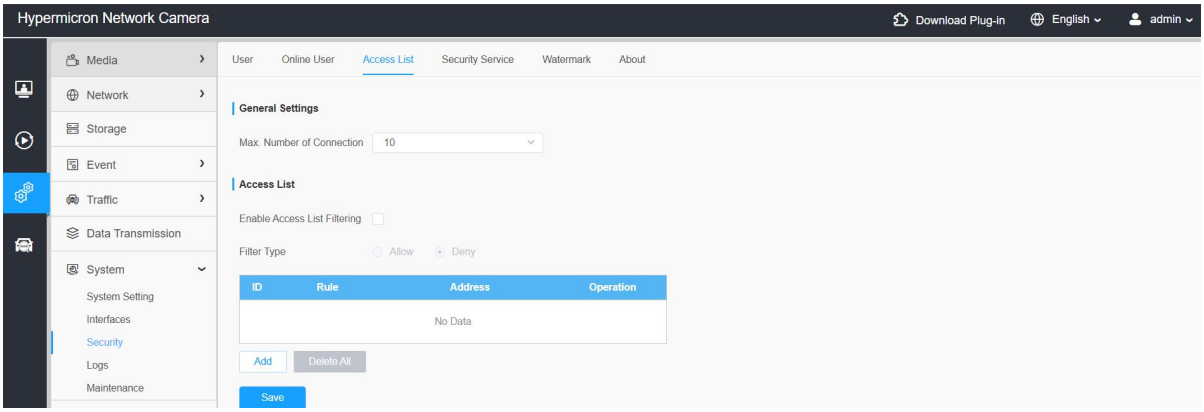


Table 60. Description of the buttons

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

Parameters	Function Introduction	
	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.	

8.7.3.4 Security Service

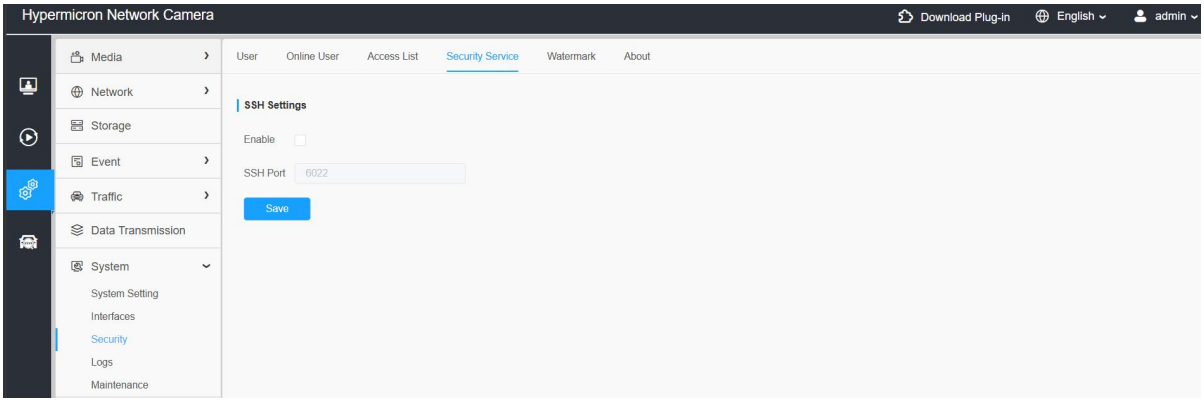
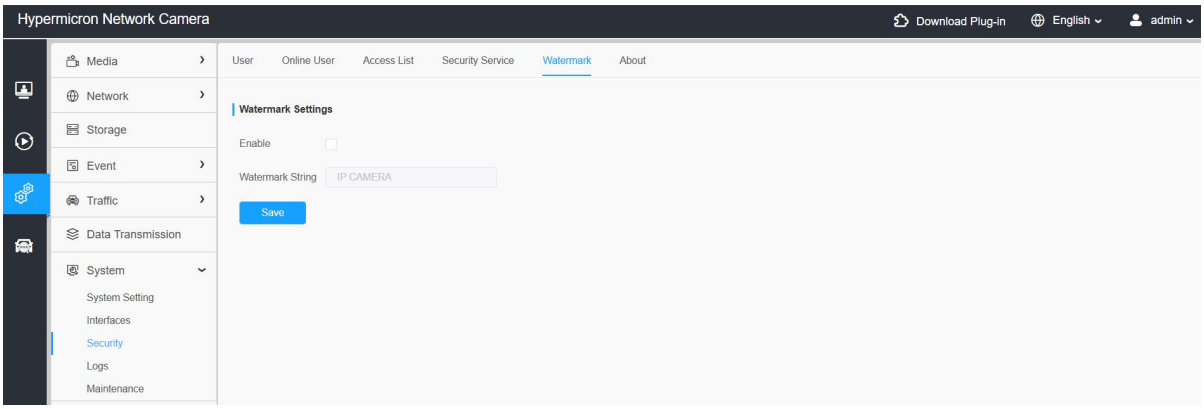


Table 61. Description of the buttons

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. Enable: Check the checkbox to enable the SSH service. SSH Port: The port of the SSH service, the default is 6022.

8.7.3.5 Watermark

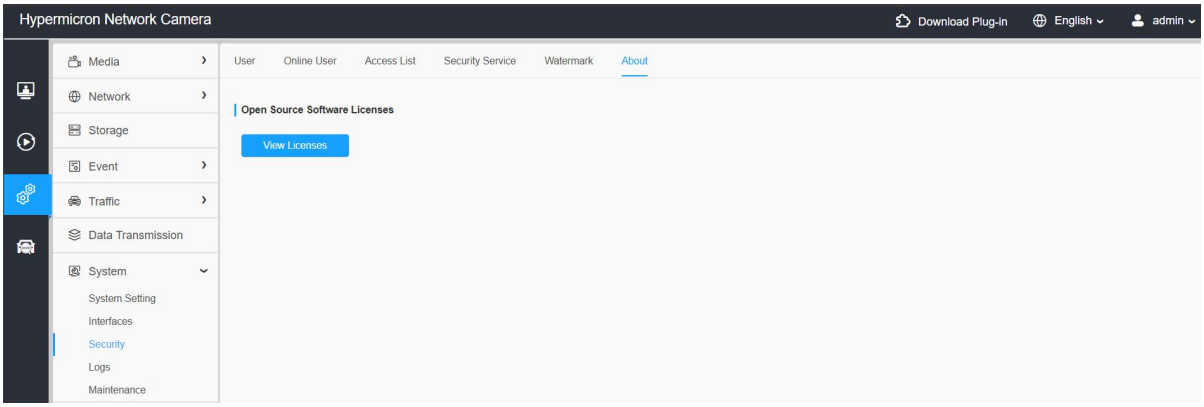


Watermarking is an effective method to protect information security, realizing anti-counterfeiting traceability and copyright protection. Hypermicron supports Watermark function to ensure information security.

Enable: Check the checkbox to enable the watermark function.

Watermark String: Input the watermark text displayed on the video (default “IP CAMERA”).

8.7.3.6 About



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

8.7.4 Logs

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

8.7.4.1 Logs

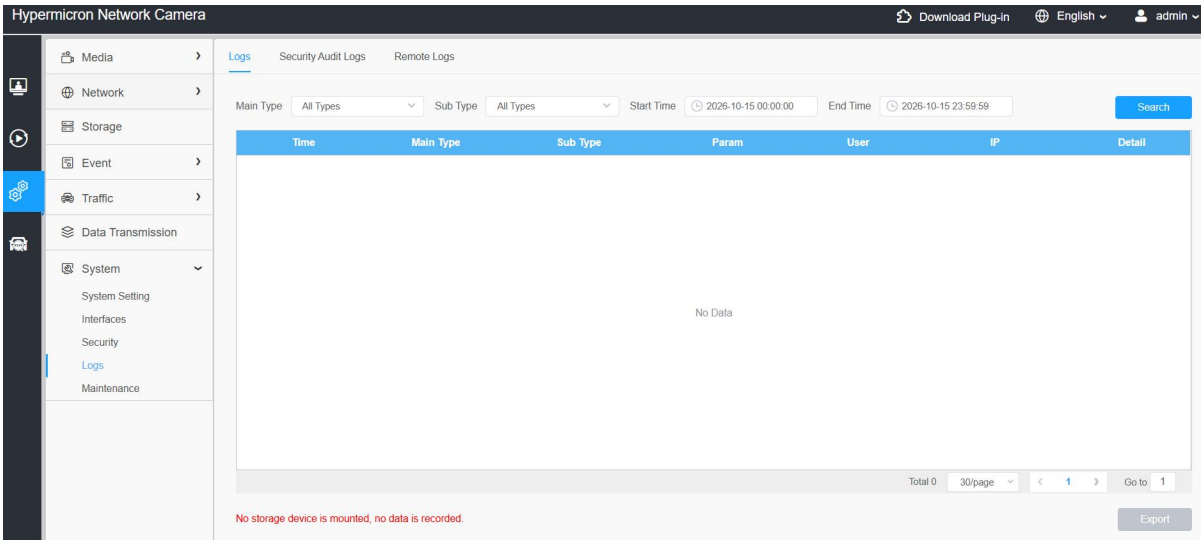


Table 62. Description of the buttons

Parameters	Function Introduction
Main Type	There are the following main log types: All Types, 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.

Parameters	Function Introduction
End Time	The time log ends.
Search	Search the logs.
Export	Export the logs.
Go to	Input the number of logs' page.

Note: If no storage device is mounted, no log data is available.

8.7.4.2 Security Audit Logs

The security audit logs record the security-related operations of the camera, such as user login and permission changes. They can be searched by type and time and exported in the same way as the Logs.

8.7.4.3 Remote Logs

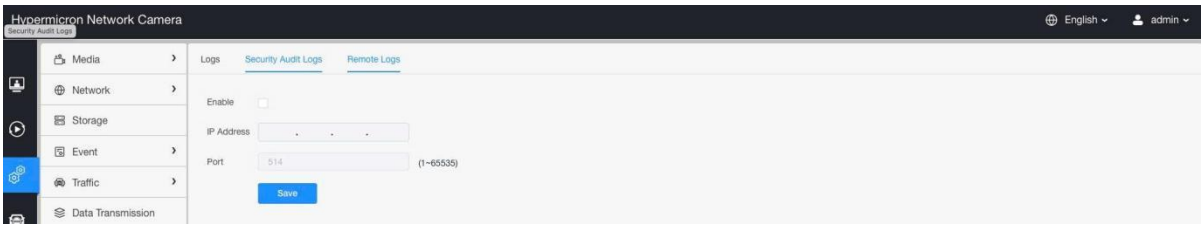


Table 63. Description of the buttons

Parameters	Function Introduction
Enable	Check the checkbox to send the logs to a remote log server.
IP Address	The IP address of the remote log server.
Port	The port of the remote log server, the default is 514 (1~65535).
Save	Save the configuration.

8.7.5 Maintenance

Here you can configure System Maintenance, Auto Reboot and Deicing.

8.7.5.1 System Maintenance

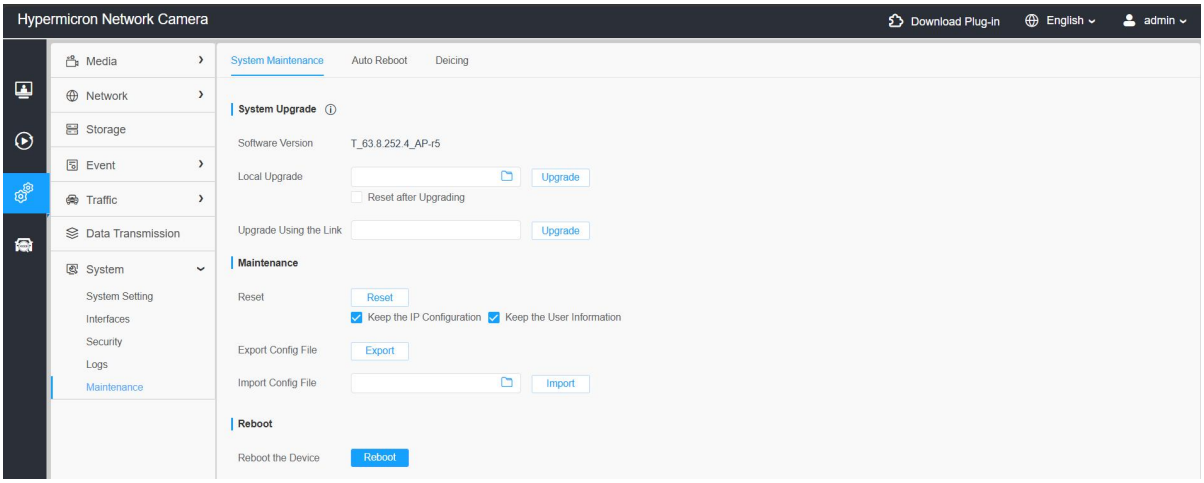
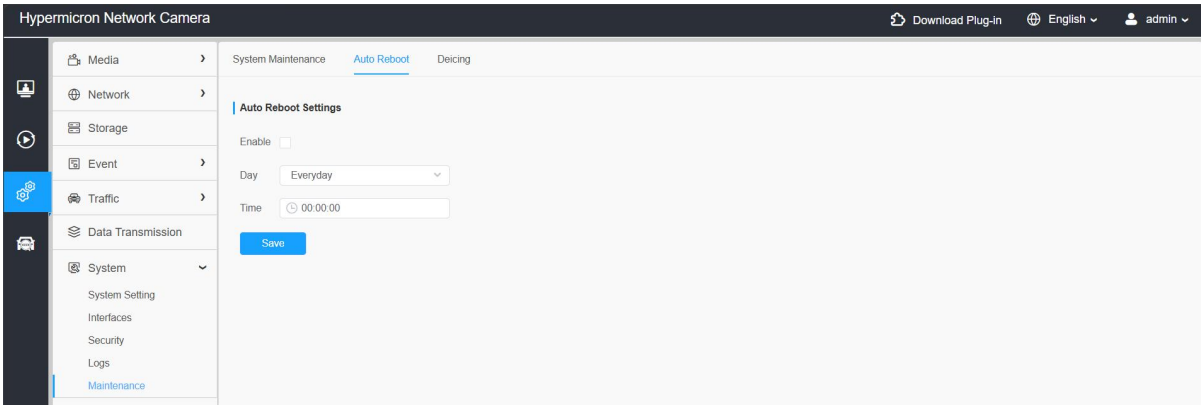


Table 64. Description of the buttons

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. Upgrade Using the Link: When you have uploaded the upgrading file to the cloud, like Google Drive, 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.
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 Config File: Click this button, enter and confirm the password, then click the save button to export the configuration file. Import Config File: Click this button, select the configuration file, then input the password of the config file and click the save button to import it. Note: Export and import the same configuration file. Password must be the same.

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

8.7.5.2 Auto Reboot



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

8.7.5.3 Deicing

The deicing function heats the camera to remove ice and frost from the lens window.

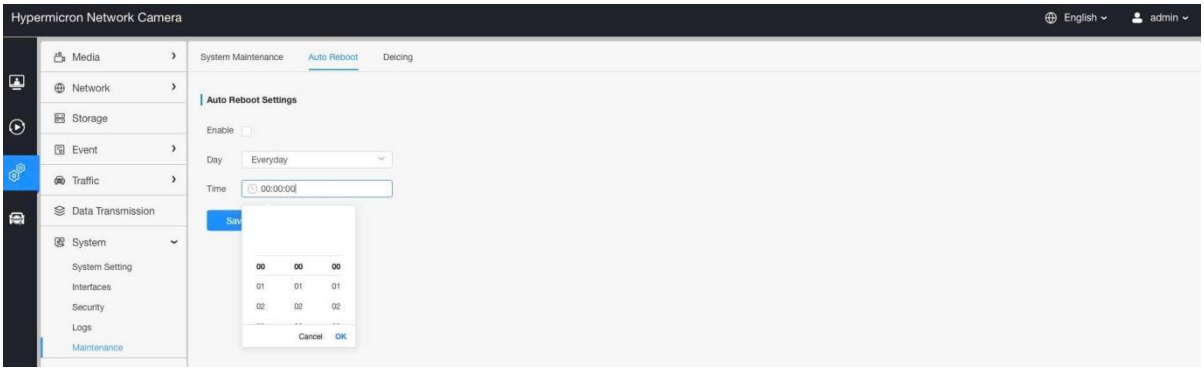


Table 65. Description of the buttons

Parameters	Function Introduction
Heating Status	Current Status: Displays the current heating status, e.g. Standby.
Auto Heating	Check “Enable Auto Heating” to let the camera heat automatically when needed.
Manual Heating	Start: Click to start the manual heating. Manual Heating Action Time: Manual Control/Customize/1 h/2 h/5 h/10 h are available.
Save	Save the configuration.

Chapter 9. Services

Hypermicron 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 Hypermicron for technical support.

Technical Support Mailbox: admin@hypermicronsg.com
Web: www.hypermicronsg.com
Online Problem Submission System: www.hypermicronsg.com

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