Parking Management Camera User Manual

Indoor Parking Guidance Camera

Version: V1.0
Date: 2023-10-08

Chapter 1. Introduction

1.1 Copyright Statement

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1.2 Safety Instruction

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

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

- This installation must be conducted by a qualified service person and should strictly comply with the electrical safety regulations of the local region
- To avoid risk of fire and electric shock, do keep the product away from rain and moisture before installed.
- Do not touch components such as heat sinks, power regulators, and processors, which may be hot
- 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 Revision History

Table 1.

Version	Revision Content	Release Date
V1.0	First release	October 2023

Chapter 2. Product Description

2.1 Product Overview

Milesight Indoor Parking Guidance Camera, a state-of-the-art device designed to optimize parking management. It features advanced occupancy detection and indicator light guidance systems. With precise occupancy monitoring, it accurately identifies available parking spaces in real time. The integrated indicator lights provide clear visual cues, making it easier for drivers to find vacant spots quickly and efficiently. Experience improved parking efficiency and a seamless parking experience with this cutting-edge camera. Besides, excellent scene adaptability realizes 24/7 parking management surveillance to help guide parking for more efficient and intelligent parking management. Make parking easy and smart!

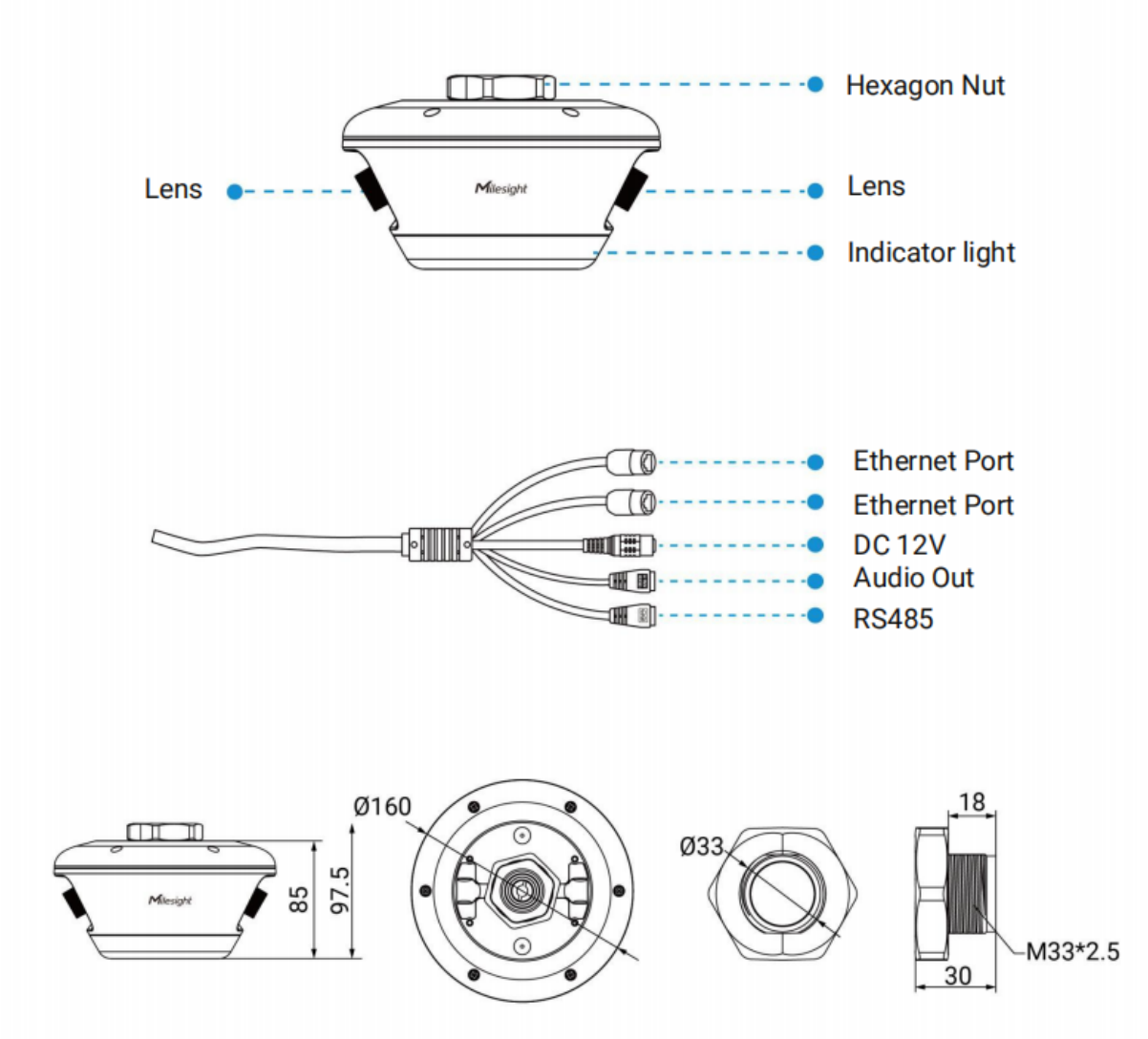
2.2 Related Product

Table 2.

Product	Name
	Indoor Parking Guidance Camera

2.3 Hardware Overview

- Indoor Parking Guidance Camera



2.4 Benefits of the Camera

- **AI Parking Space Occupancy Detection**

  Empowered by AI deep learning algorithms, the Indoor Parking Guidance Camera can accurately detect parking space occupancy with an impressive accuracy of over 99.9%. This remarkable capability significantly enhances parking management efficiency.

- **Dual Lens Covering up to 6 Spaces**

  The Indoor Parking Guidance Camera is equipped with dual lens, allowing it to efficiently monitor up to 6 parking spaces (3 on each side) using just one camera.

Moreover, the lens can be flexibly adjusted as needed to provide optimal coverage for the parking spaces.

- **Multi-color Customizable Indicator**

  The Indoor Parking Guidance Camera comes with indicator light that switches automatically based on real-time occupancy status of parking space. With customizable light colors, the device provides visual cues that make finding available parking spaces a breeze. And it also supports special parking spaces, such as handicap or VIP spot status detection and guidance for an easier and more convenient parking experience.

- **High compatibility**

  To maximize the usability and compatibility, the Indoor Parking Guidance Camera supports CGI/APIs, which allows the easy open integration with third-party platforms. The network protocol such as HTTP(s) offers a wide range of options for data processing. The parking information is transmitted to the third-party parking system to help form a complete set of solutions, guiding the driver to find the parking space quickly and realize intelligent management.

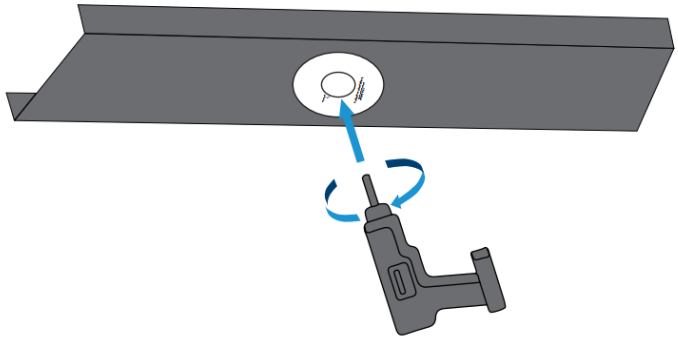
- **Unique Structure Design**

  The unique structure design of the camera enlarges the space and greatly saves efforts for installers, such as the integrated cable management bracket. And the IP65-rated weather proofing allow to protect the camera against adverse impacts to ensure the robust performance.

2.5 Installation Guide

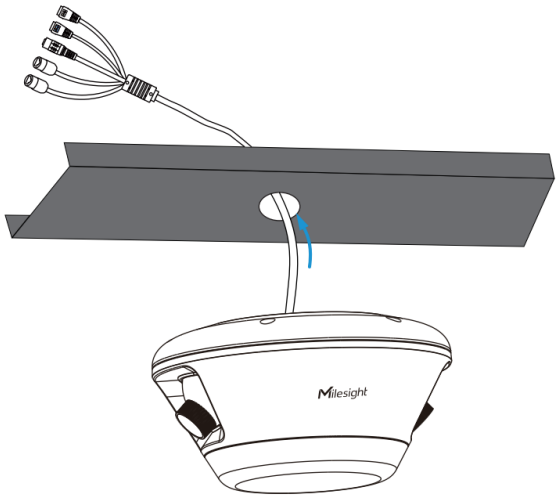
Installation Steps

Step 1: Punch a hole in the slot above the corresponding monitoring position in the indoor parking lot according to the instructions of the perforation-assisted stickers.

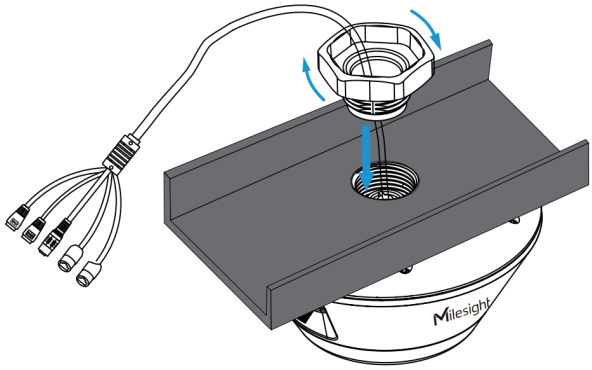


Note: The recommended hole diameter is 34mm. It is best to punch hole according to the instructions for perforation-assisted stickers.

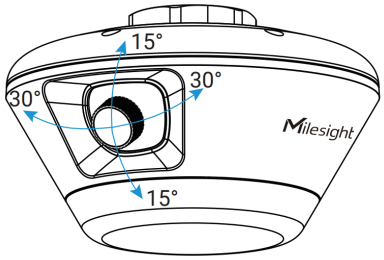
Step 2: Thread the tail cable of the device port into the punched cable slot.



Step 3: Put the hexagon nut into the camera through the tire cable wire, align it with the hexagon nut thread on the upper part of the camera and tighten it.

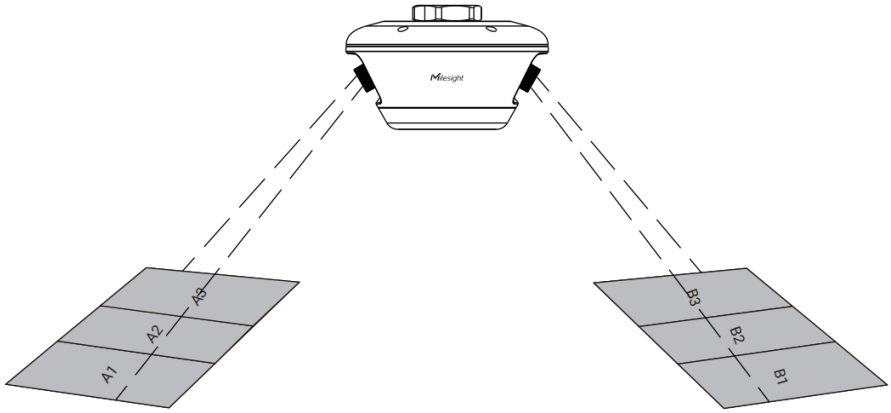


Step 4: Adjust the camera position as needed to match the monitoring of the 6 parking space.



Note: You can adjust the angle of the two lenses of the camera as needed by 15° up and 15° down, 30° left and 30° right.

Step 5: Finish the installation, and the camera can manager up to 6 parking spaces at the same time.



Note:

1. Recommended installation height: 2.5m~4m. Height range of 2.5m to 4m accommodates the majority of indoor parking scenarios.
2. It is recommended that the camera be installed in the middle of the driveway to maximize the guiding role. There is no need to worry about incomplete coverage, the camera can be adapted to most of the world's two-way lanes.

Deployment Methods

The camera has two power supply deployment methods, which can adapt to different needs.

Single-unit deployment: The first power supply deployment method is to connect the camera using a (standard) power adapter with DC 12V, and deploy it by connecting the Ethernet port with an Ethernet cable.

Note:

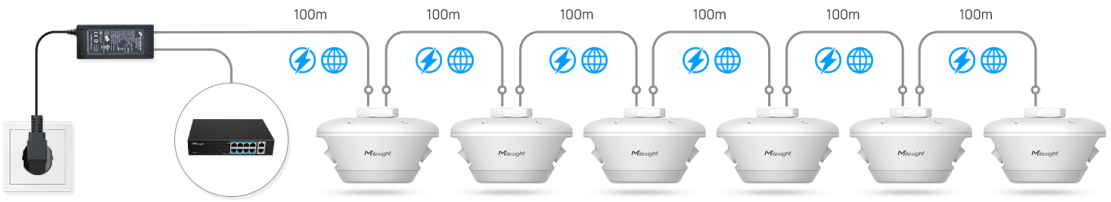
Please note that this camera does not support the PoE power supply mode when only the Ethernet port is used for network connectivity.

Multi-unit cascade deployment: The second power supply deployment method is a daisy-chain deployment.

The deployment method involves using cascading deployment adapters. One Ethernet port of the adapter connects to a switch for network connectivity, while another Ethernet port connects to the camera, providing both network connection and power supply. The camera's additional network port then connects to the next camera, enabling easy deployment of multiple cameras to form an indoor parking guidance network.

Note:

1. If using the multi-unit cascade deployment method, it is recommended to order the dedicated cascade deployment adapters together with the cameras.
2. In daisy chain deployment, it is crucial to have hardware that meets surge protection requirements. This camera is designed to withstand approximately 6kV of surge voltage, providing effective protection against overvoltage and transient current-related issues.



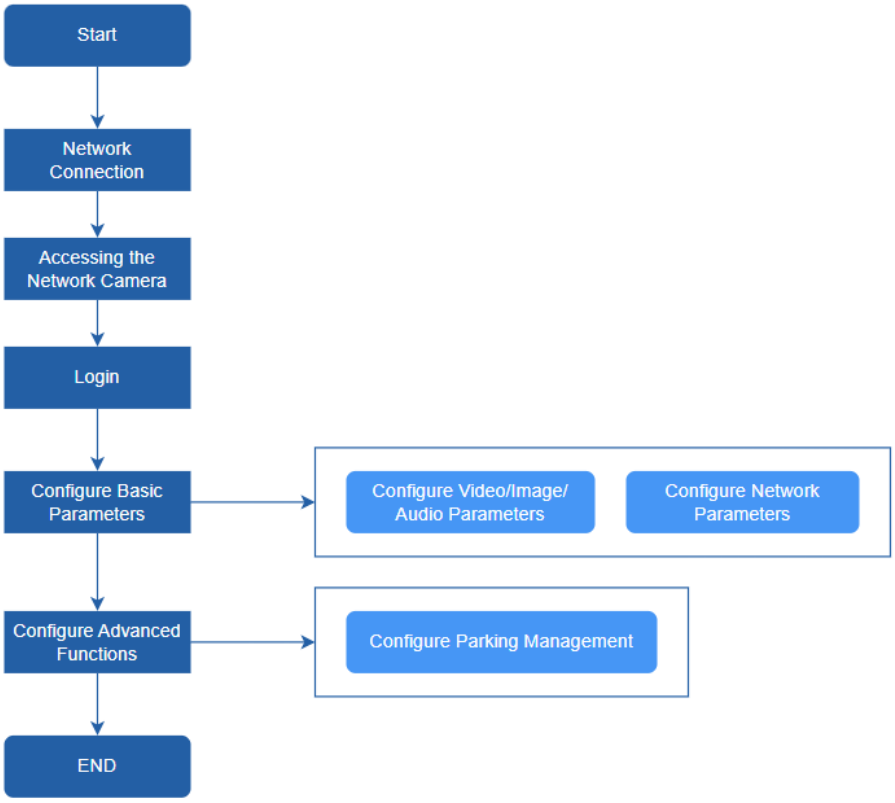
2.6 Related Documents

Table 3.

Document Type	Link
Indoor Parking Guidance Camera	
Datasheet	https://resource.milesight.com/milesight/security/document/datasheet/ipc/traffic/milesight-indoor-parking-guidance-camera-datasheet-en.pdf
Quick Start Guide	https://resource.milesight.com/milesight/security/document/user-manual/intelligent-traffic/milesight-indoor-parking-guidance-camera-quick-start-guide-en.pdf
Video	https://www.youtube.com/watch?v=mhy5967n1o8
	https://www.youtube.com/watch?v=hzF1gD7NRSA

Chapter 3. Configuration Flow

The configuration flow of Indoor Parking Guidance Camera is shown in the following figure.



More configuration details is shown in the following table.

Table 4. 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 14)*
Accessing the Network Camera	Accessing from IP address, web browser and Milesight back-end software are available.	5.1 Assigning an IP Address *(page 16)*
Configure Basic Parameters	After login the camera, you can adjust the video/image/audio/network parameters as needed.	7.1.1 Video *(page 23)* 7.1.2 Image *(page 24)*

Configuration	Description	Reference
Configure Advanced Functions	Configure the Parking Space Detection.	Parking Management *(page 40)*

Chapter 4. Network Connection

4.1 Setting the Camera over the LAN

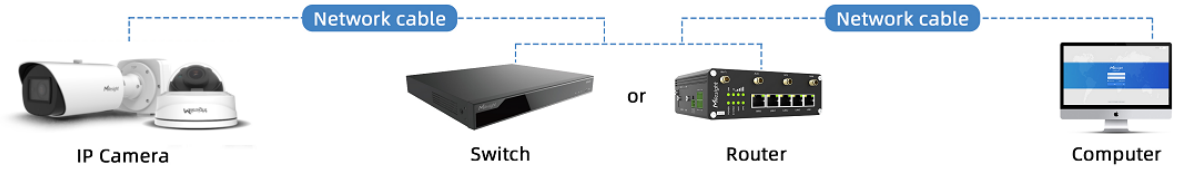
Connecting the camera to a switch or a router is the most common connection method. The camera must be assigned an IP address that is compatible with its LAN.

4.1.1 Connect the Camera to the PC Directly

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

4.1.2 Connect via a Switch or a Router

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



4.2 Dynamic IP Connection

Step1: Connect the network camera to a router;

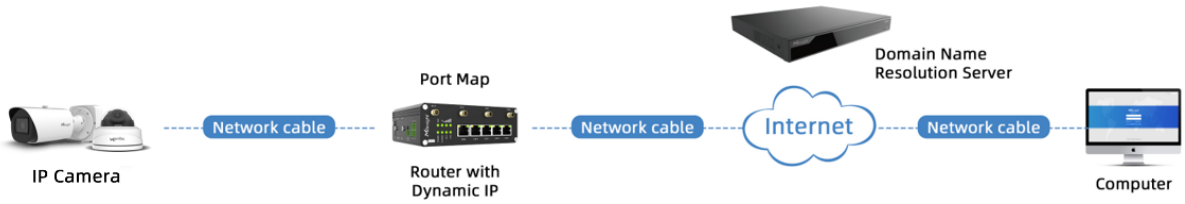
Step2: On the camera, assign a LAN IP address, the Subnet mask and the Gateway;

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

Step4: Apply a domain name from a domain name provider;

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

Step6: Visit the camera via the domain name.



Chapter 5. Accessing the Network Camera

5.1 Assigning an IP Address

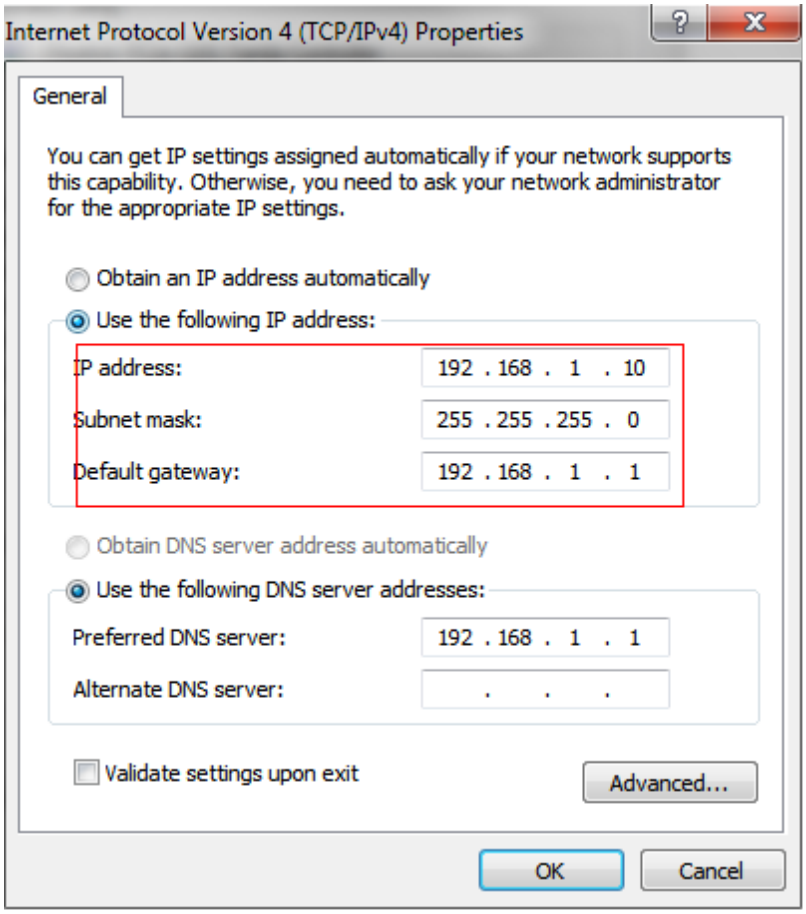
The Network Camera must be assigned an IP address to be accessible. The default IP address of Milesight network cameras is 192.168.5.190.

Assign An IP Address via Browser

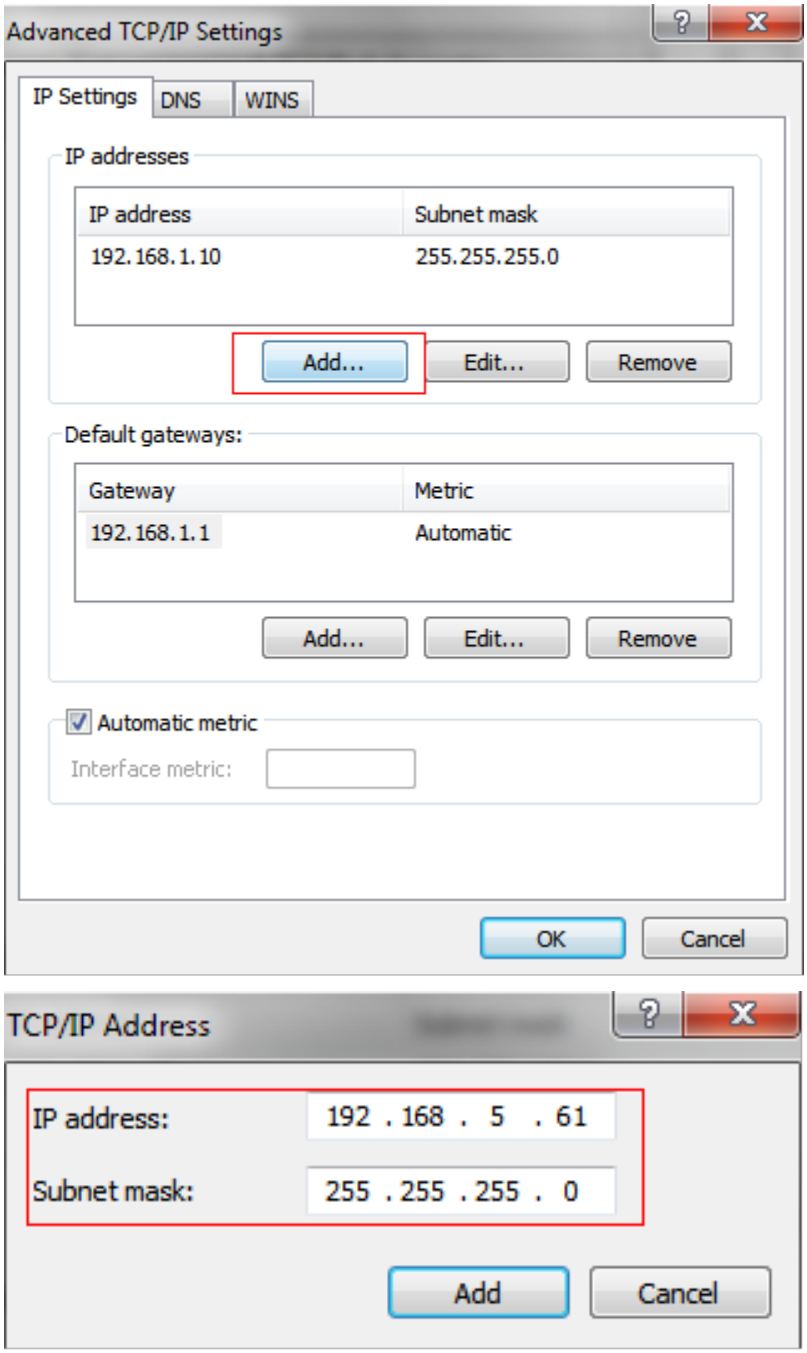
If the network segment of the computer and that of the camera are different, please follow the steps to change the IP address:

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

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



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



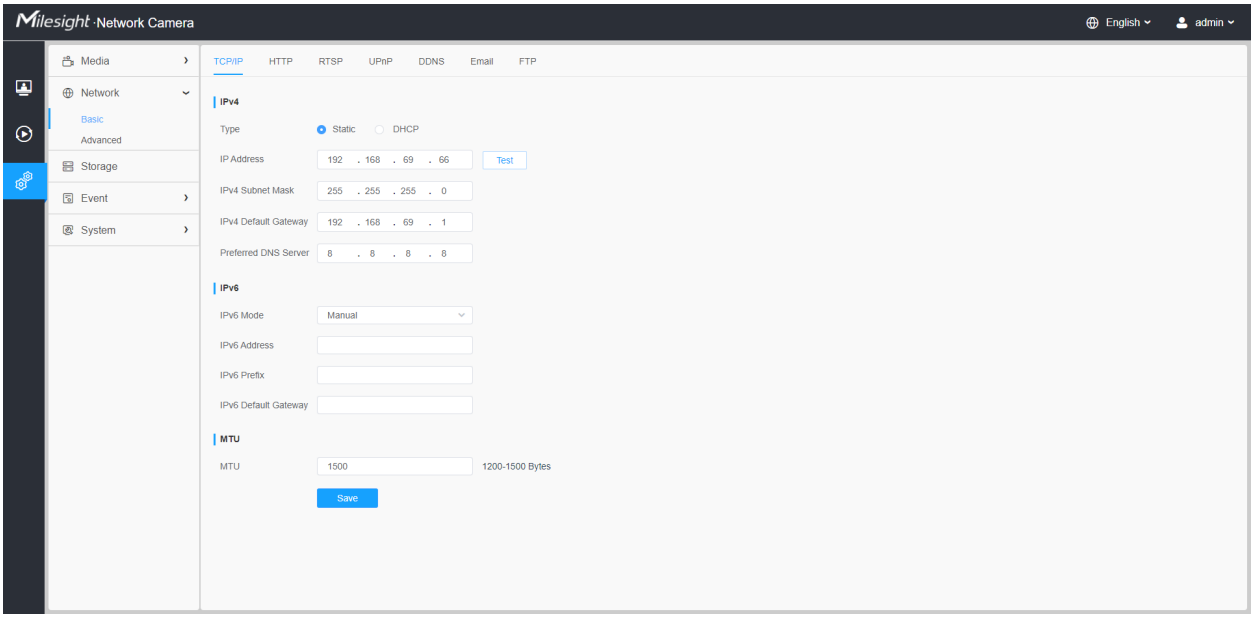
Step2: Start the browser. In the address bar, enter the default IP address of the camera:http://192.168.5.190;

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

Note:

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

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



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

Step6: The change of default IP address is completed.

5.2 Accessing from the Web Browser

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

Note:

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

Chapter 6. Live View

6.1 Live Video

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

The GUI comprises two modules; the above is the view module, the left and right sides are the two Windows of the dual-lens camera, and the following field is the parking status. You can click to view the license plate number, entry time, and other information. Before you want to Stop/Play, Snapshot, Digital Zoom, Full Screen, etc., on different video channels, click on the channel screen you want to work on.

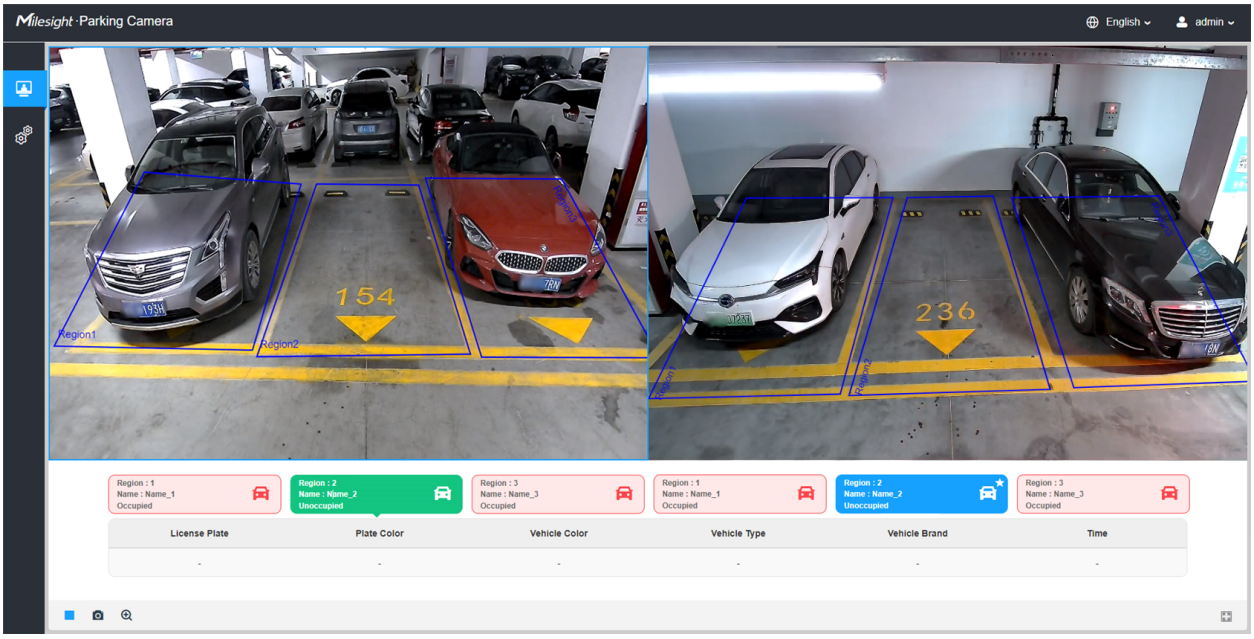
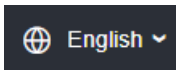
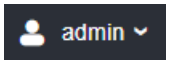
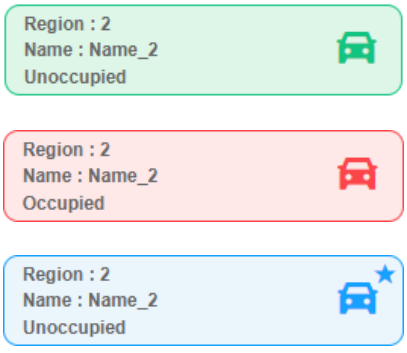


Table 5. Description of the buttons

No.	Parameter	Description
1	/ Stop/Play	**Stop/Play** live view.
2	Snapshot	Click to capture the current image and save to the configured path. The default saving path is the browser's default path.

No.	Parameter	Description
3	 Digital Zoom	When enabled, you can zoom in a specific area of video image with your mouse wheel.
4	 Full Screen	Click to display images at full-screen.

Table 6. Description of the buttons

No.	Parameter	Description	
1	 Live Video	Click to access the live video page.	
2	 Settings	Click to access the configuration page.	
3		Click to select system language.	
4		Display the user name and click to logout.	
5	 Parking Status Label	Region	Parking region number.
		Name	Customizable area names that can be used to identify parking space names.
		Status	It is divided into occupied and unoccupied, indicating the occupancy status of the parking space.
			If there is a star symbol in the top right corner of the vehicle icon, indicating that the parking space is marked as "Special".
		Background Color	When it is green, it indicates that the parking space is available for use. When it is red, it indicates that the parking space is occupied. When it is blue, it indicates that the parking space is an unoccupied Special spot.
6	License Plate	License plate number.	
7	Plate Color	The color of the license plate.	
8	Vehicle Color	The color of the vehicle.	

No.	Parameter	Description
9	Vehicle Type	The type of the vehicle.
10	Time	The time format is YYYY-MM-DD HH:MM:SS. The moment when the vehicle is parked in the parking space.

Chapter 7. Settings

7.1 Media

7.1.1 Video

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

Video Encoding

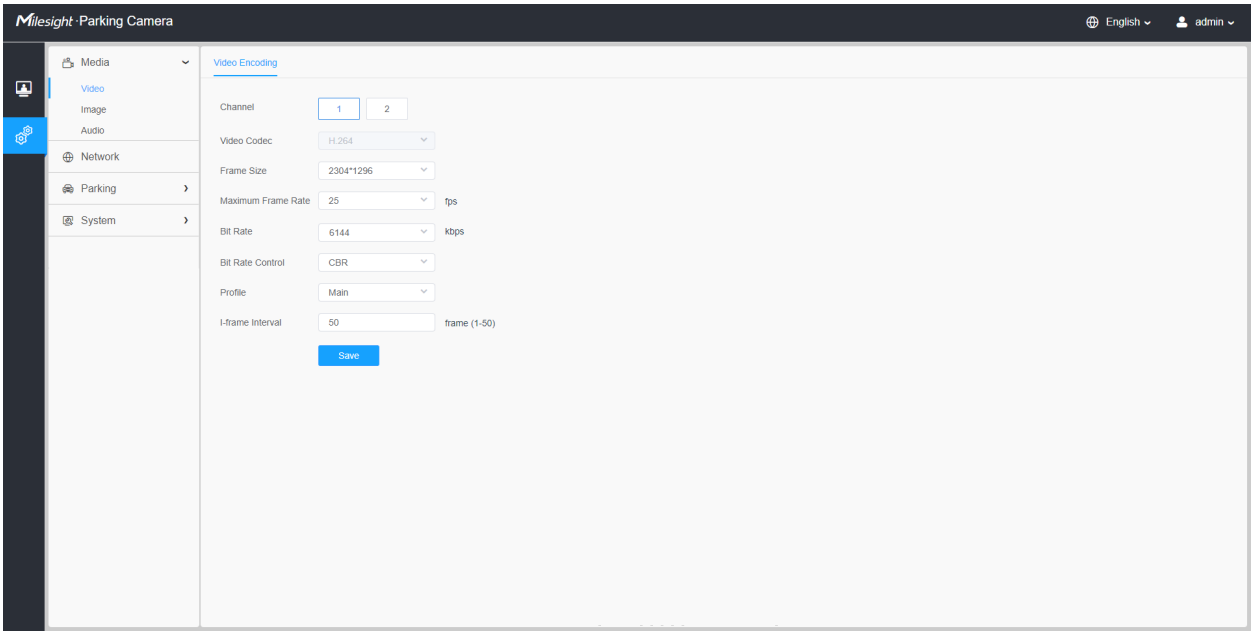


Table 7. Description of the buttons

Parameters	Function Introduction
Channel	Select the channel to configure encoding settings for Channel 1 and Channel 2.
Video Codec	H.264 are available.
Frame Size	Options include 3M(2304*1296), 1080P(1920*1080), 1.3M(1280*960), 720P(1280*720).

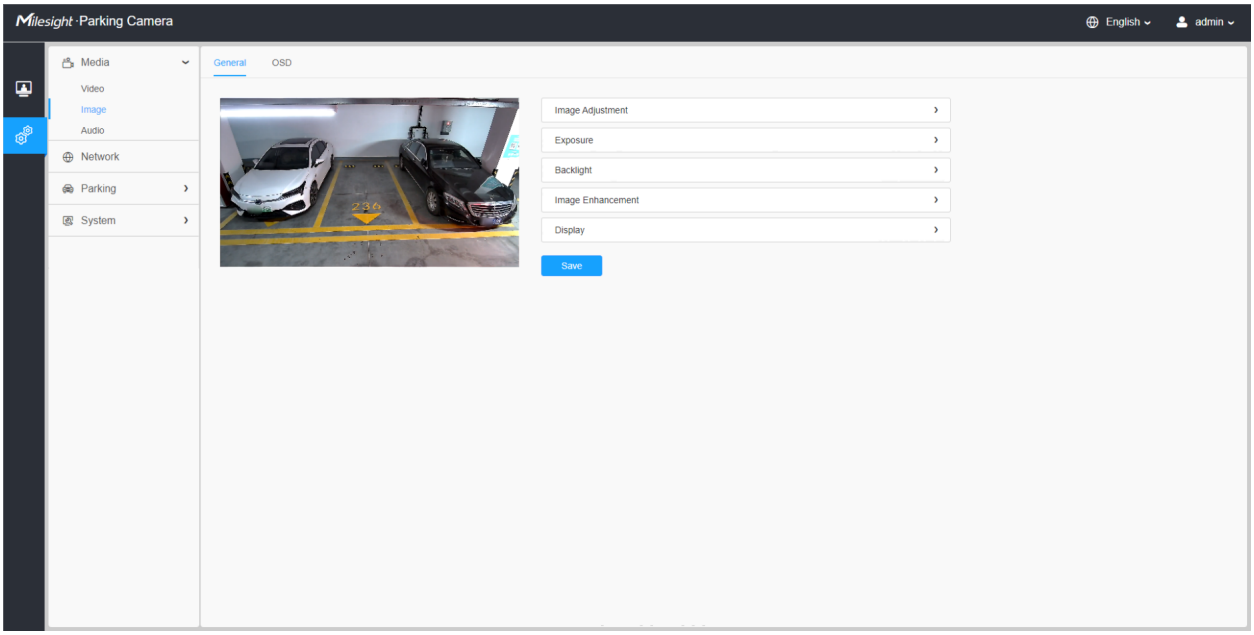
Parameters	Function Introduction
Maximum Frame Rate	Maximum refresh frame rate of per second.
Bit Rate	Set the bit rate to 16~16384 Kbps. The higher value corresponds to the higher video quality, and the higher bandwidth is required as well.
Bit Rate Control	**CBR**: Constant Bit rate. The rate of CBR output is constant.
	VBR: Variable Bit rate. VBR files vary the amount of output data per time segment.
Profile	The option is for H.264, Main/High/Base can be selected as needed.
I-frame Interval	Set the I-frame interval to 1~50, 50 for the default. The number must be a multiple of the number of frames.

7.1.2 Image

General settings of image including the image adjustment, exposure and image enhancement can be set in this module. OSD (On Screen Display) content can be displayed to rich the image information.

General

General settings of image including the Image Adjustment, Exposure, Backlight, Image Enhancement and Display can be set in this module.



[Image Adjustment]

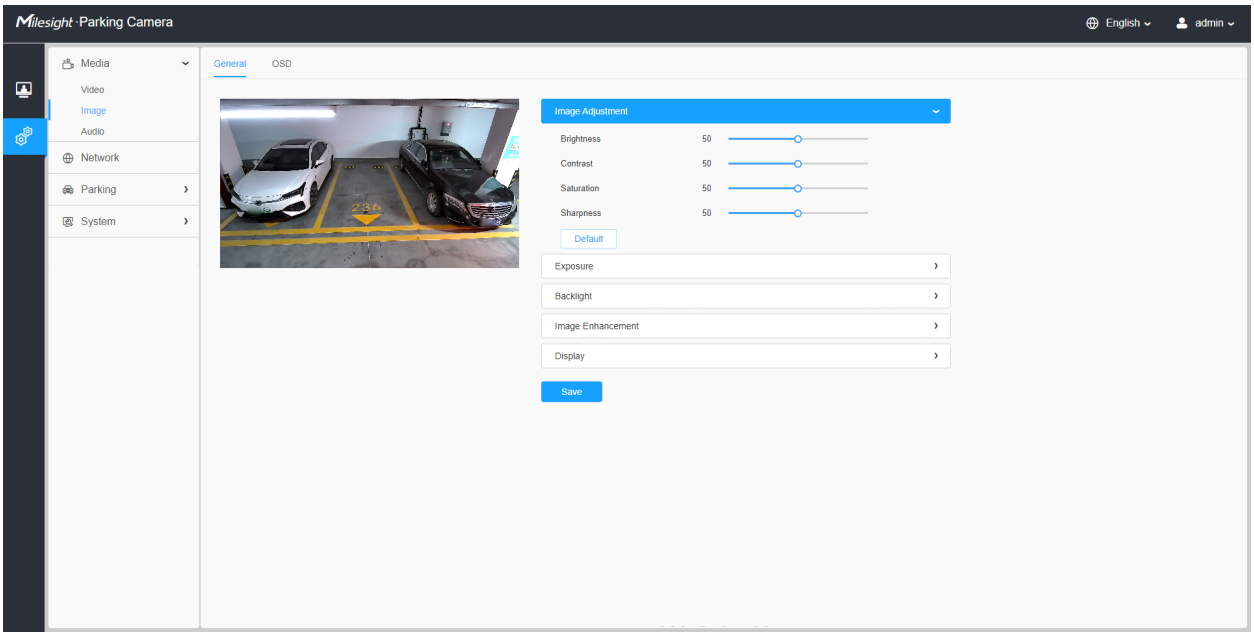


Table 8. Description of the buttons

Parameters	Function Introduction
Brightness	Adjust the Brightness of the scene.
Contrast	Adjust the color and light contrast.

Parameters	Function Introduction
Saturation	Adjust the Saturation of the image. Higher Saturation makes colors appear more "pure" while lower one appears more “wash-out”.
Sharpness	Adjust the Sharpness of image. Higher Sharpness sharps the pixel boundary and makes the image looks “more clear”.
Default	Click this button to restore to the default setting.

[Exposure]

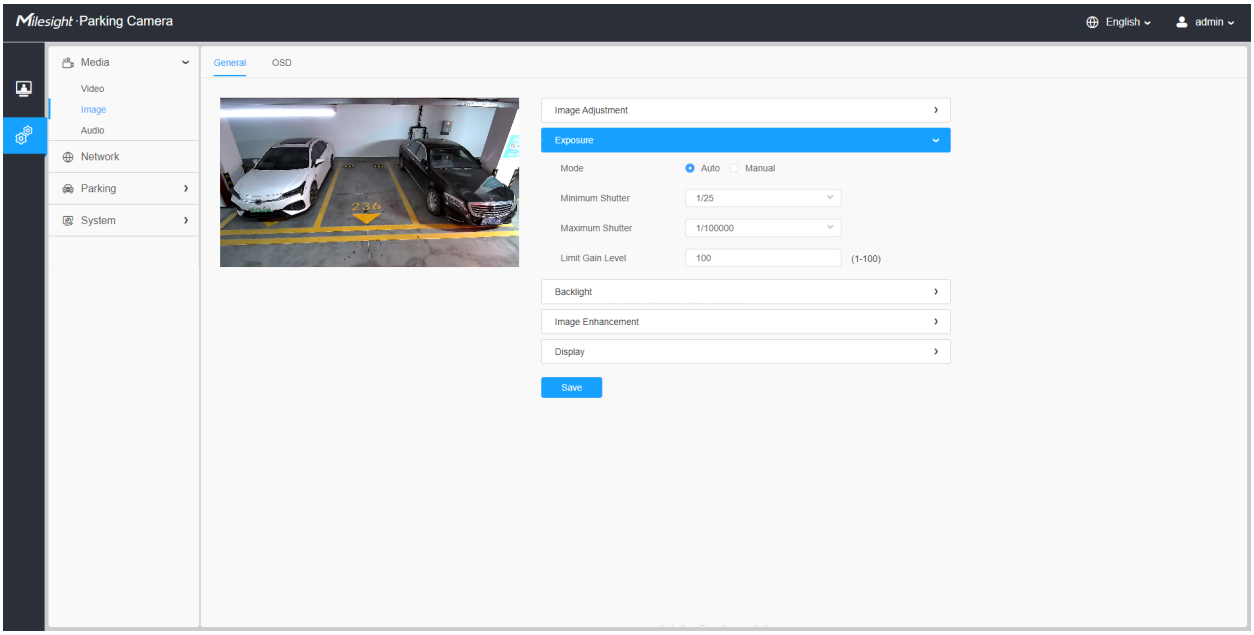


Table 9. Description of the buttons

Parameters	Function Introduction
Exposure Mode	Auto Mode, Manual Mode are available. **Auto Mode:** The camera will adjust the brightness according to the light environment automatically. **Manual Mode:** The camera will adjust the brightness according to the value you set, you can set the exposure time from 1~1/100000s, the higher the value is, the brighter the image is.

[Backlight]

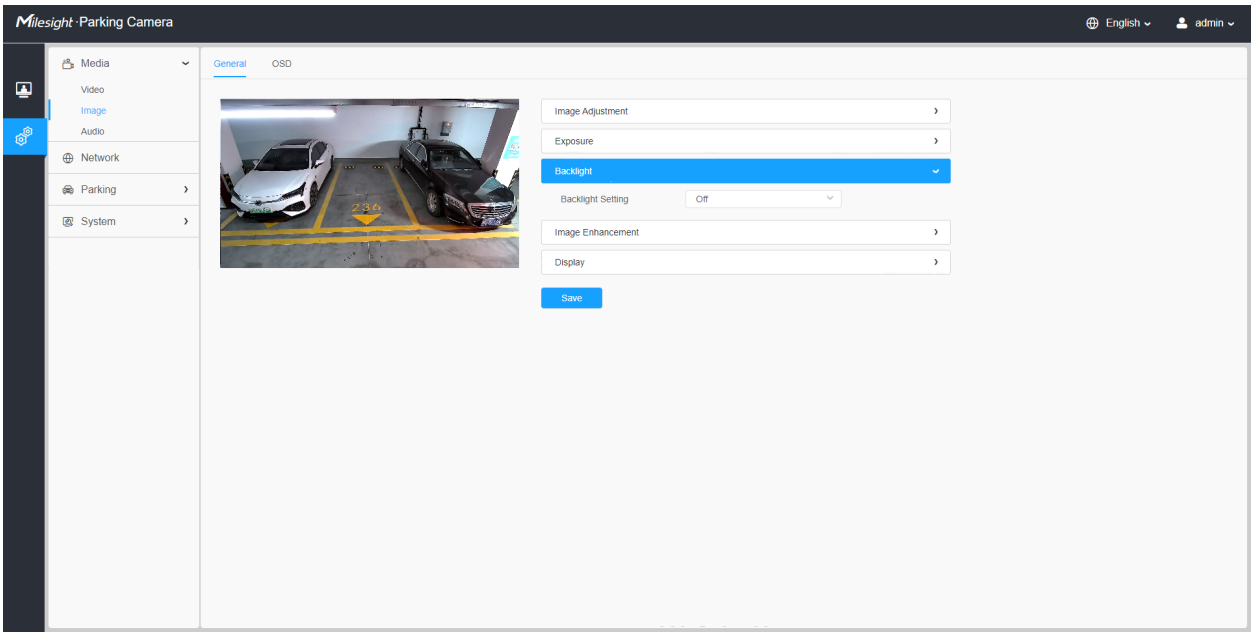


Table 10. Description of the buttons

Parameters	Function Introduction
Backlight Mode	**Backlight Setting:** Set single mode for BLC/WDR/HLC.

[Image Enhancement]

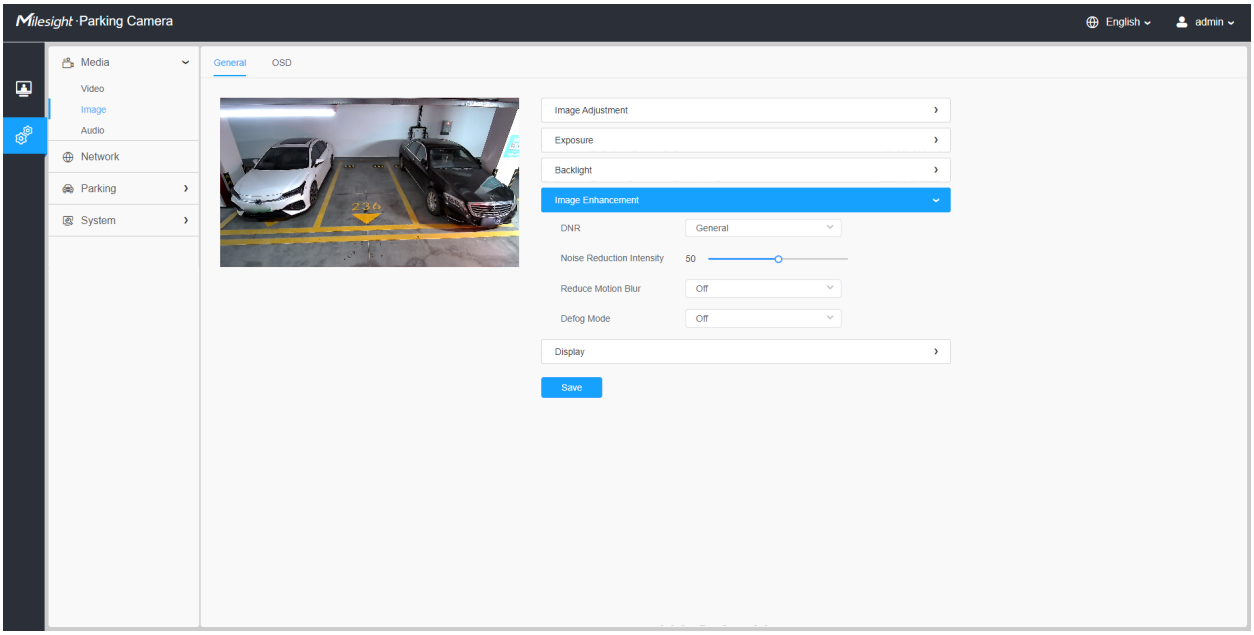


Table 11. Description of the buttons

Parameters	Function Introduction
DNR	General, Expert Mode are available. **General:** You can adjust the Noise Reduction Intensity from 1 to 100. **Expert Mode:** 2D DNR: Adjust the noise reduction level of the image using 2D DNR. 3D DNR: Adjust the noise reduction level of the image using 3D DNR.
Reduce Motion Blur	Enable this function to reduce the motion blur of objects effectively. You can adjust the deblur level from 1 to 100. **Note:** For more details about **Milesight Deblur**, you can click to the YouTube: https://www.youtube.com/watch?v=-vynrami51s
Defog Mode	Better image effect in foggy weather. **Note:** • For more details about **Milesight Defog**, you can click to the YouTube: https://www.youtube.com/watch?v=a9od7Trao4U

[Display]

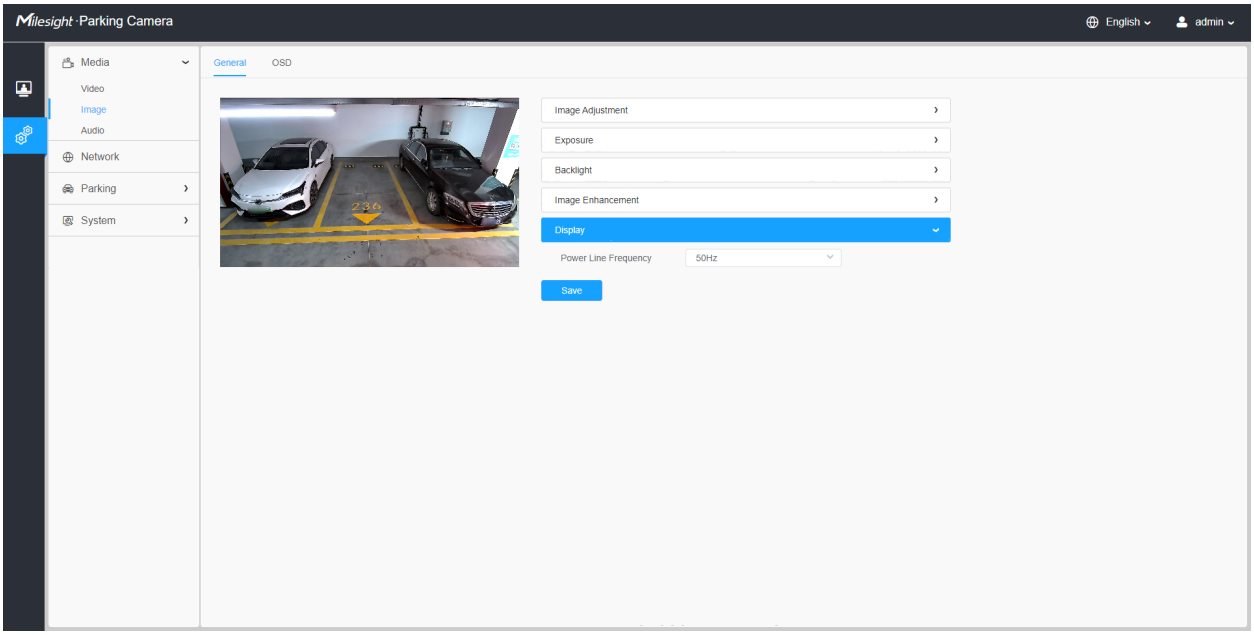


Table 12. Description of the buttons

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

OSD

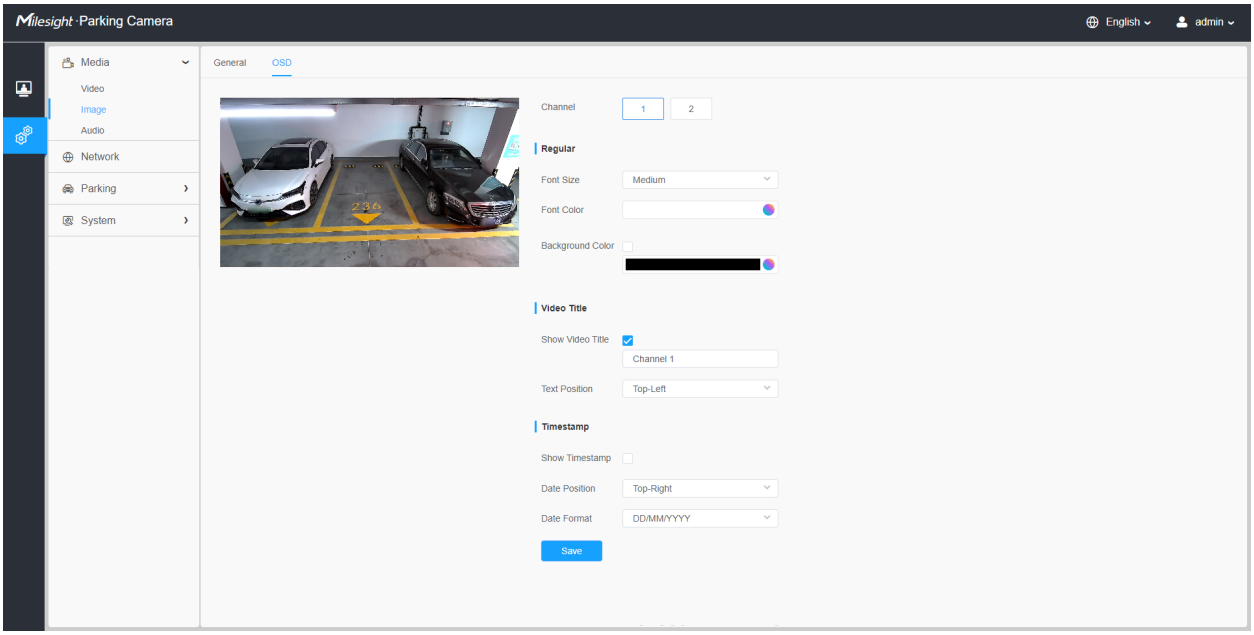
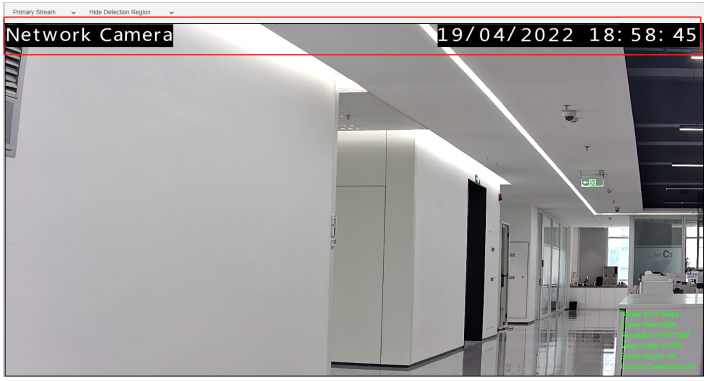


Table 13. Description of the buttons

Parameters	Function Introduction
Channel	Select the channel to set OSD for Channel 1 and Channel 2.
Font Size	Smallest/Small/Medium/Large/Largest/Auto are available for title and date.
Font Color	Enable to set different color for title and date.
Background Color	Enable to set different colors for display information background on screen. You can set different colors for font and background of image , then the image OSD will show as below: 
Show Video Title	Check the check box to show video title.
Video Title	Customize the OSD content.
Text Position	OSD display position on the image.
Show Timestamp	Check the check box to display date on the image.
Date Position	Date display position on the image.
Date Format	The format of date.

7.1.3 Audio

Audio

This audio function allows you to upload audio files and enables remote audio playback. You can play your chosen audio file when a vehicle enters or leaves.

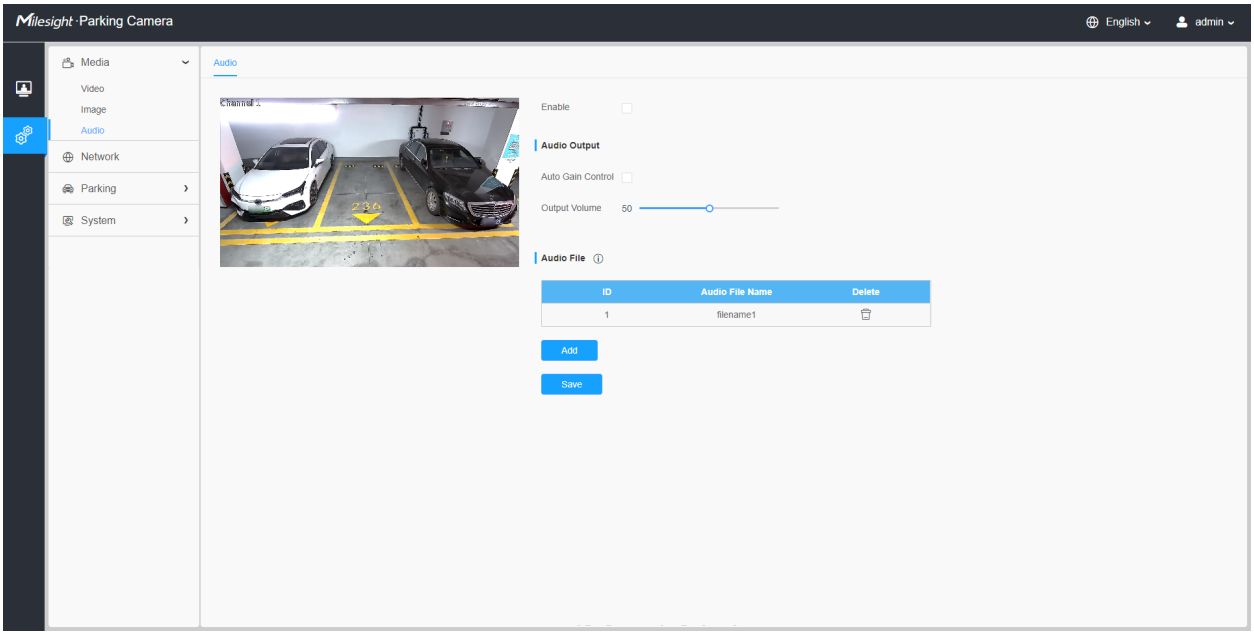
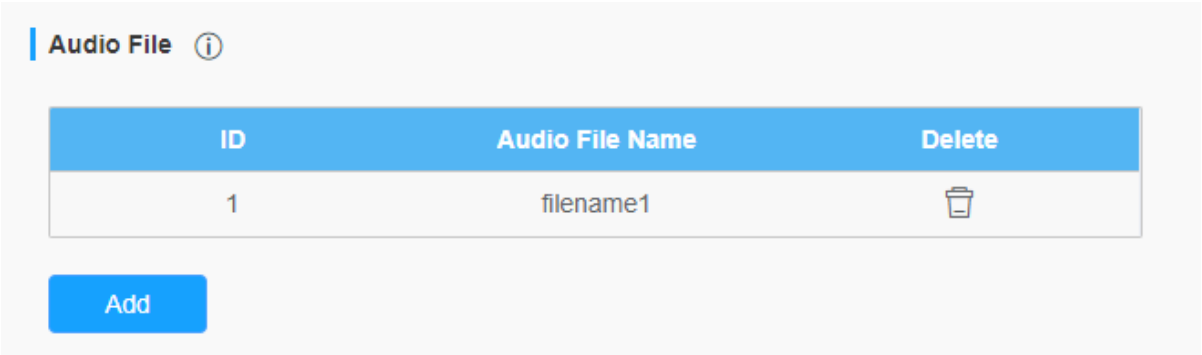


Table 14. Description of the buttons

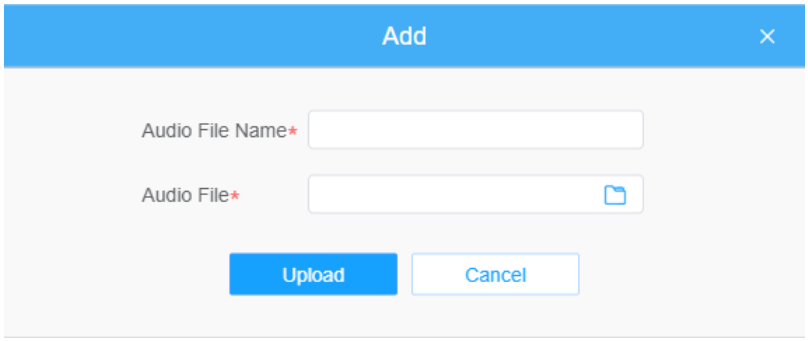
Parameters	Function Introduction
Enable	Check on the checkbox to enable audio feature.
Audio Output	**Auto Gain Control:** Check on the checkbox to improve the quality of audio. **Output Volume:** Adjust volume of output.



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

Table 15. Description of the buttons

Parameters	Function Introduction
Audio File Name	The name of the audio file can be edited during the upload process.

Parameters	Function Introduction
	Delete this audio file.
Add	Add an audio file. 

Note:

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

7.2 Network

TCP/IP

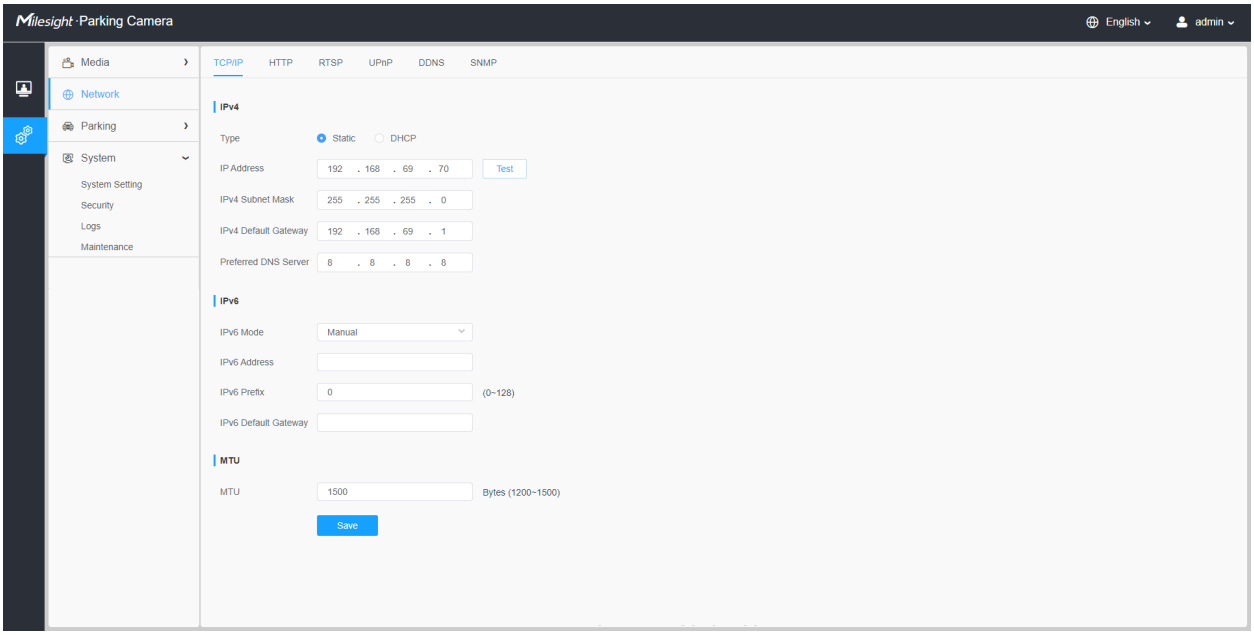


Table 16. Description of the buttons

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.

HTTP

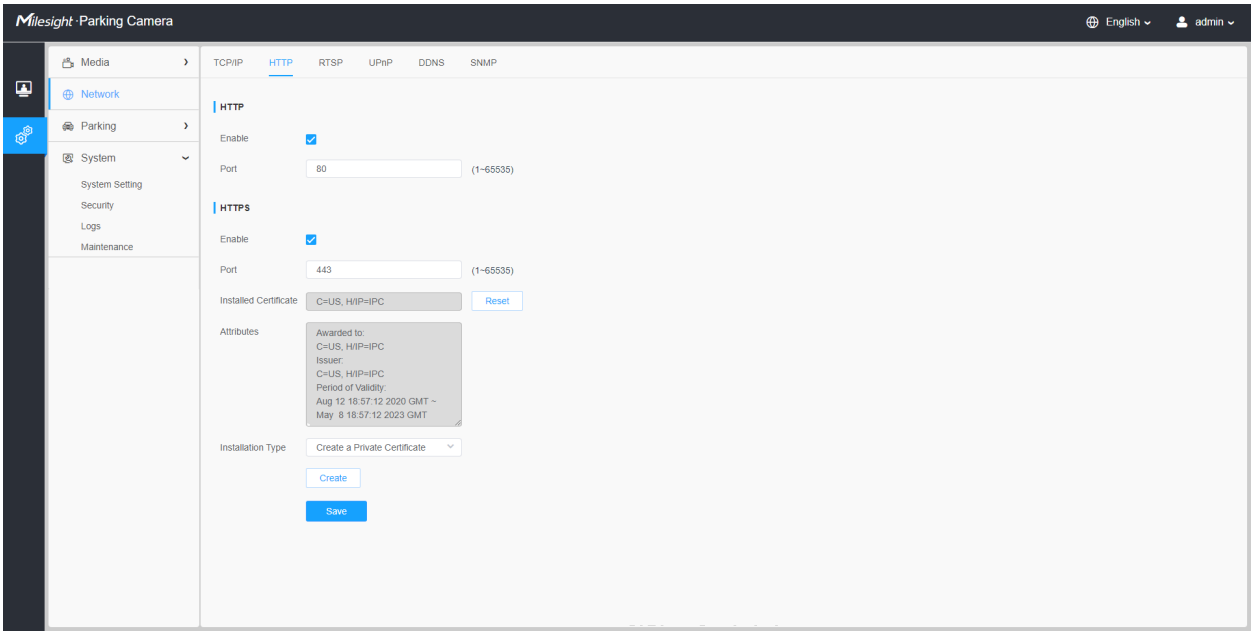


Table 17. Description of the buttons

Parameters	Function Introduction
HTTP	**Enable:** Start or stop using HTTP. **Port:** Web GUI login port, the default is 80, the same with ONVIF port.
HTTPs	**Enable:** Start or stop using HTTPs. **Port:** Web GUI login port via HTTPS, the default is 443. **Note:** For more details about how to use enable HTTPS access, please refer to https://milesight.freshdesk.com/a/solutions/articles/69000797384.
Installed Certificate	Upload and set the SSL certificate.
Attributes	
Installation Type	
Save	Save the configuration.

RTSP

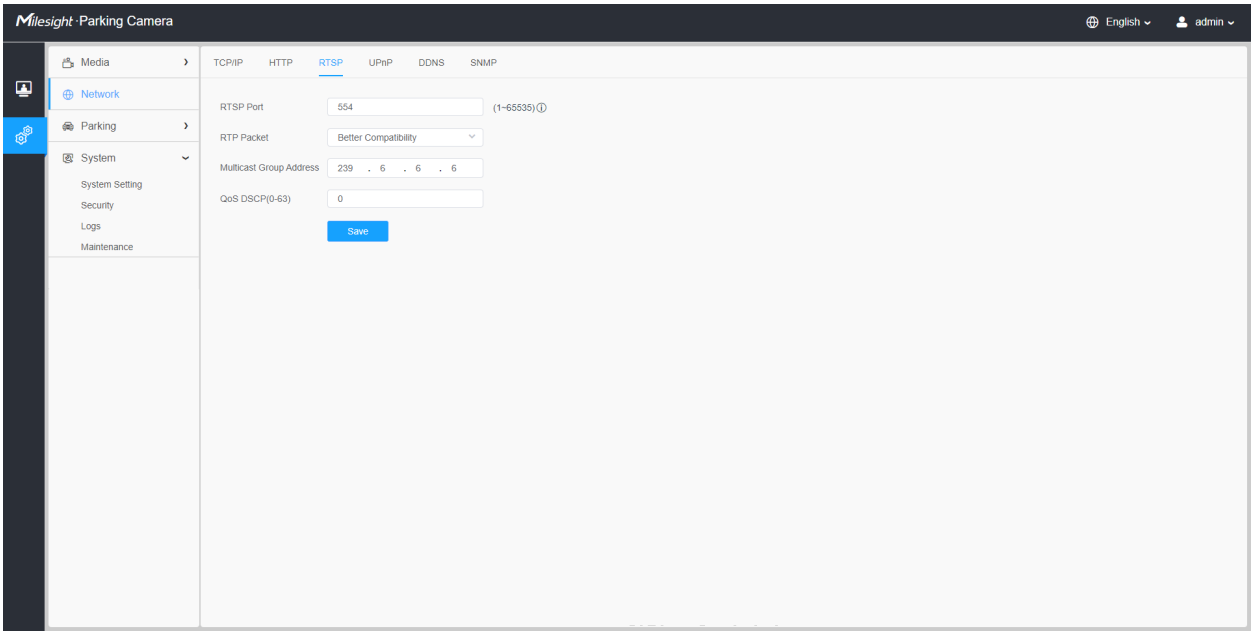


Table 18. Description of the buttons

Parameters	Function Introduction
RTSP Port	The port of RTSP, the default is 554.
Playback Port	Playback Port The port of playback, the default is 555. **Note:** Port 0 means closing playback function.
RTP Packet	There are Better Compatibility and Better Performance two options, if your camera's image mess up, please switch this option.
Multicast Group Address	Support multicast function.
QoS DSCP	The valid value range of the DSCP is 0-63.
Save	Save the configuration.

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.

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.

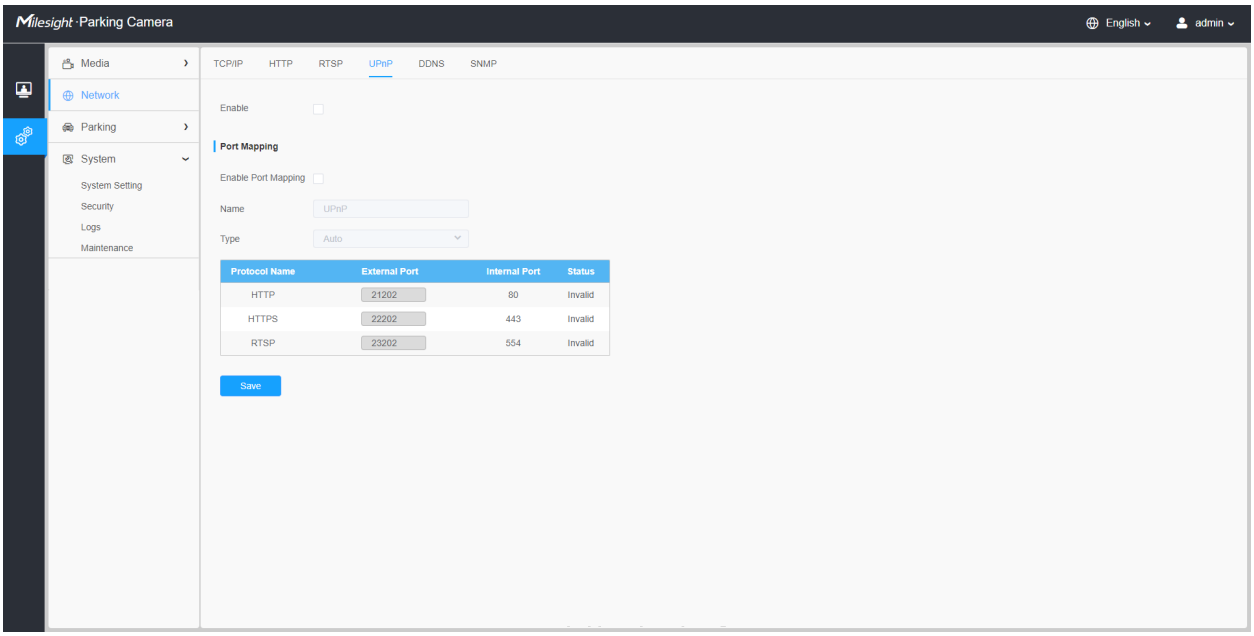


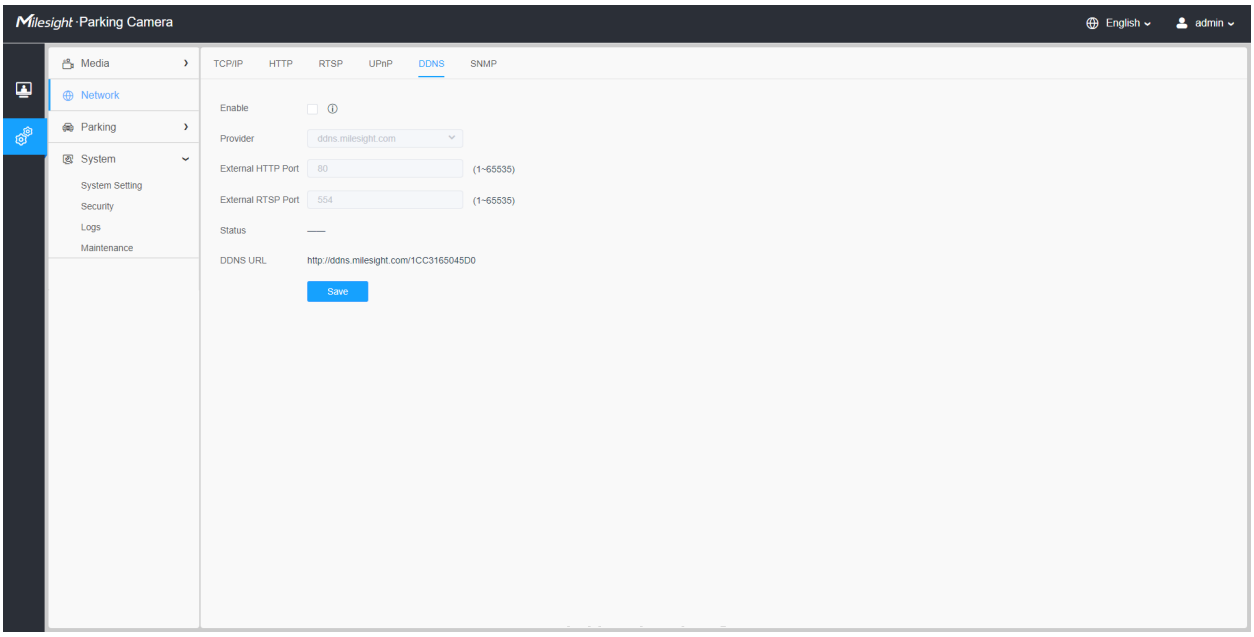
Table 19. Description of the buttons

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.

DDNS

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

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



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

Table 20. Description of the buttons

Parameters	Function Introduction
Enable DDNS	Check the checkbox to enable DDNS service. **Note:** Recommend to enable and configure UPnP ports which can be used directly in DDNS.
Provider	Get support from DDNS provider: ddns.milesight.com, freedns.afraid.org, dyndns.org, www.no-ip.com, www.zoneedit.com. You can also customize the provider for DDNS.

Parameters	Function Introduction
Hash	A string used for verifying, only for "freedns.afraid.org".
User name	Account name from the DDNS provider, unavailable for "freedns.afraid.org".
Password	Account password, unavailable for "freedns.afraid.org".
Host name	DDNS name enabled in the account.
Status	Display DDNS running status.
Save	Save the configuration.

Note:

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

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.

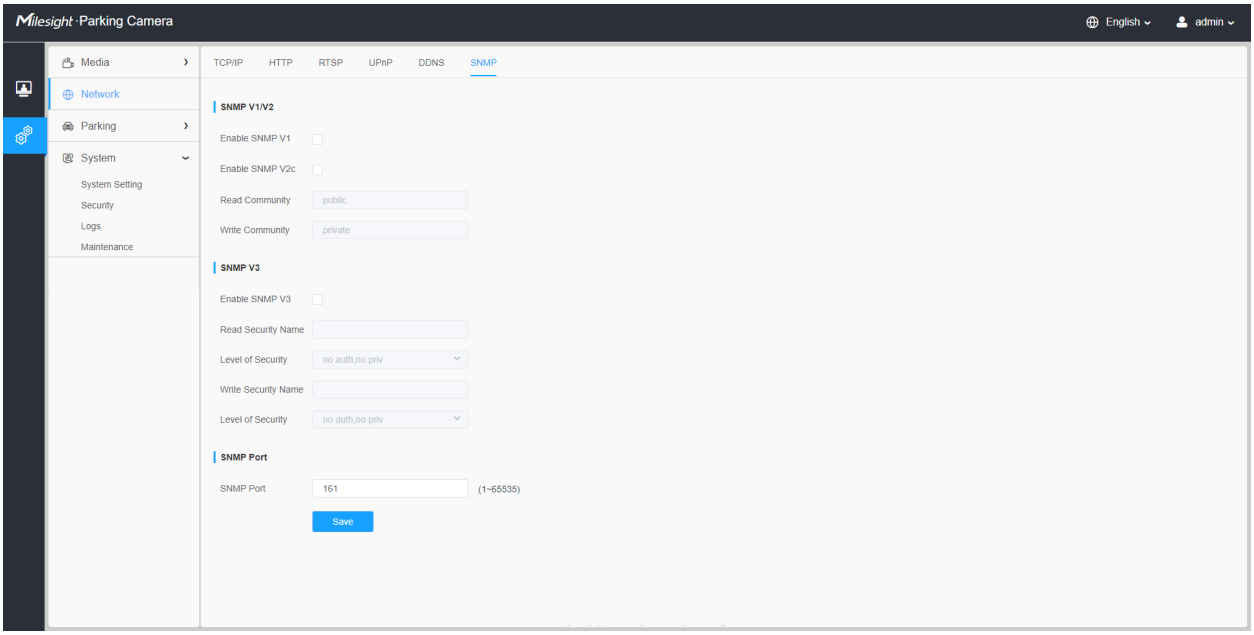


Table 21. Description of the buttons

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:

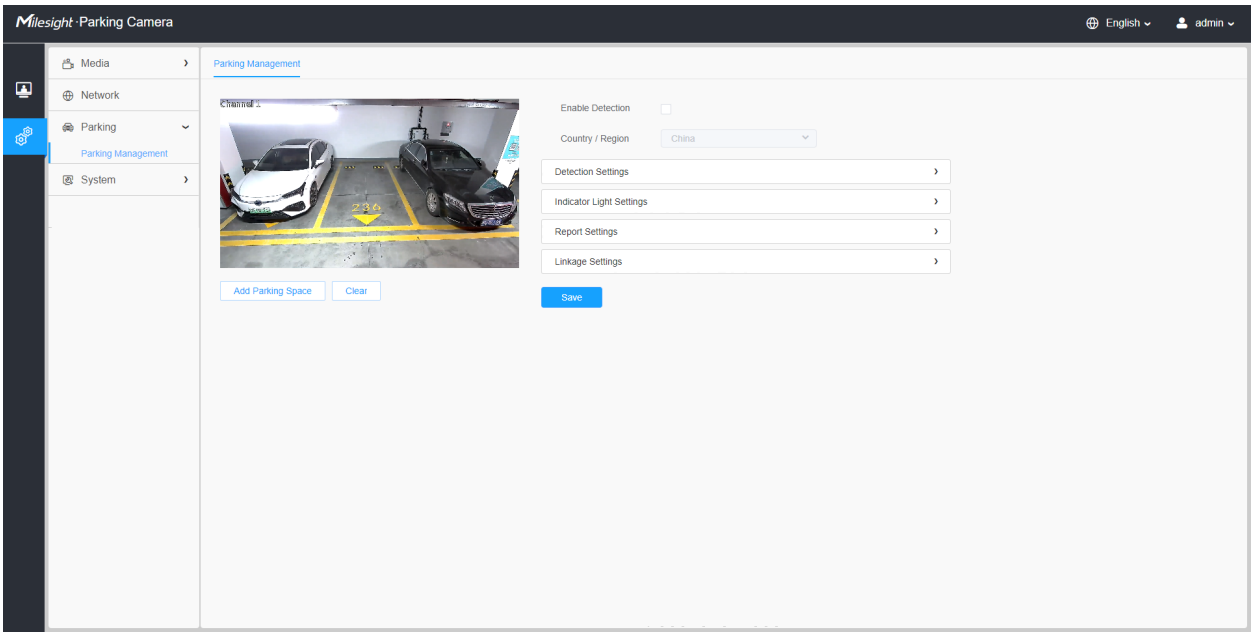
- The settings of SNMP software should be the same as the settings you configure here;

• A reboot is required for the settings to take effect.

7.3 Parking

Parking Management

In the parking module, parking related configuration can be set, such as Detection Settings, Indicator Light Settings, Report Settings, Linkage Settings.



Setting steps are as shown below:

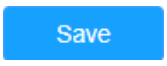
Step 1: Click the button to enable the Parking Space Detection.

Step 2: You can click on the dropdown menu to select your country/region.

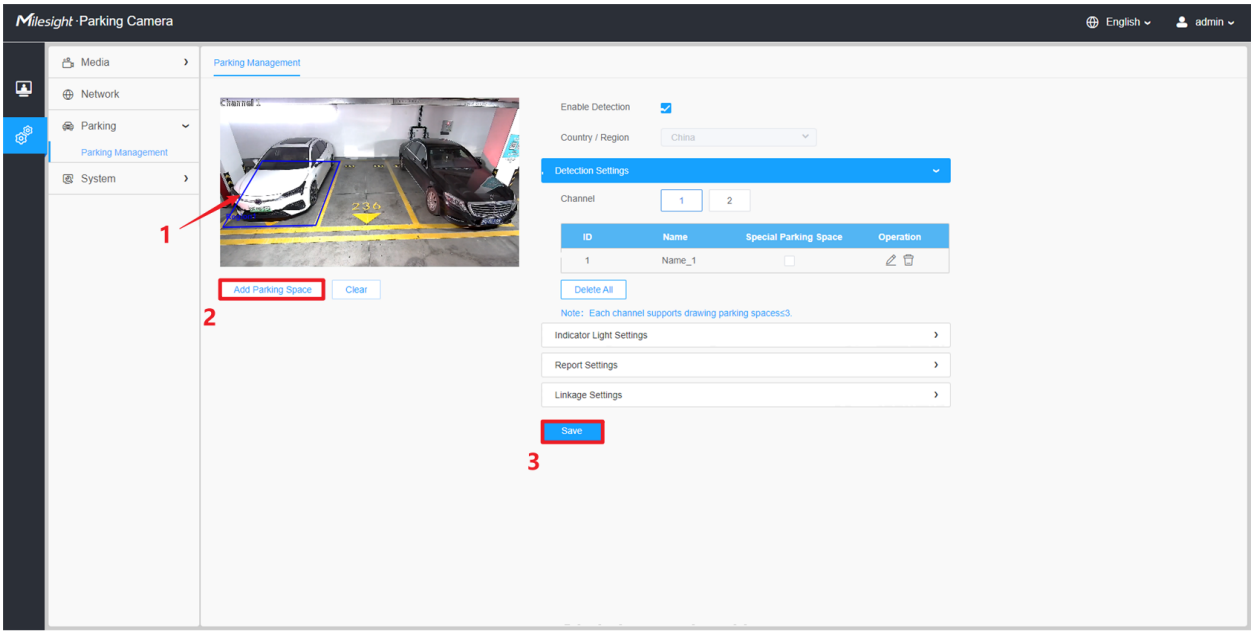
[Detection Settings]

Step 3: Select the channel you want to configure.

Step 4: Draw the detection areas based on the parking lot. Click 

button to add parking spaces that need to be monitored. Finally, click 

button to save the parking space settings.



Note:

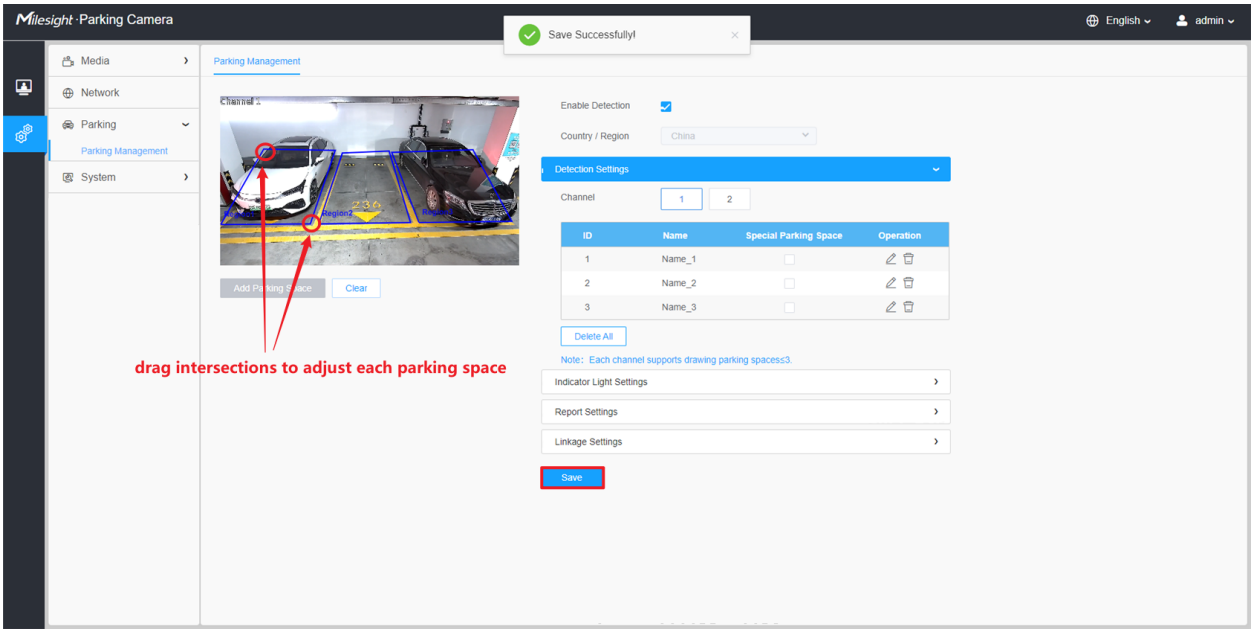
1. Each channel supports a maximum of 3 drawable parking spaces.
2. Support to draw irregular quadrilateral areas to match the shape of the parking space.

Table 22. Description of the buttons

Parameters	Function Introduction
Name	The name of the detection area can be edited. Such as A1, A2, B1, B2. **Note:** Valid content: 1~15 digits or letters!
Special Parking Space	Support defining special parking spaces to differentiate management and meet the management needs of different types of parking spaces in a parking lot. Special parking spaces can be adapted to the needs of VIP/special/private car spaces. Click on the selection box that needs to be configured as a special parking space. ID | Name | Special Parking Space | Operation 1 | Name_1 | ☑ | ✎ 🗑
✎	Edit the Area Name.
🗑	Delete the detection area.
Delete All	Delete the all added detection areas.

Step 5: You can drag the detection area to move it. And drag intersections to adjust each parking space.

Note: Please click Save button to save the configuration after the adjustment.



[Indicator Light Settings]

Step 6: You can configure the colors and flashing settings for the three states of Free/Full/ Special in the indicator light settings.

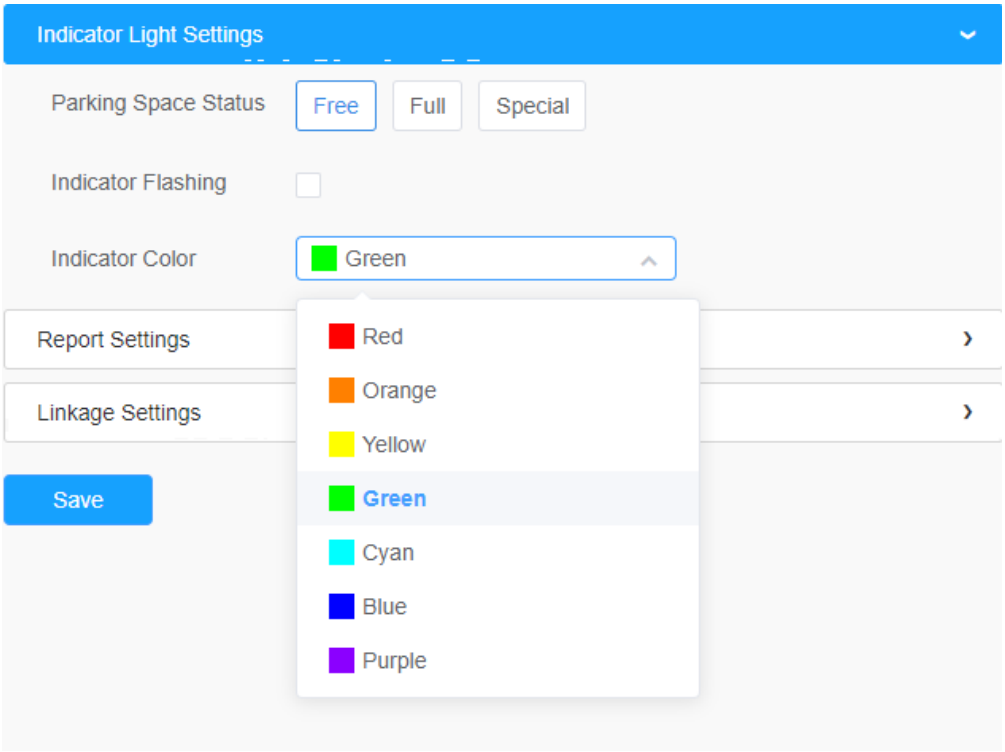


Table 23. Description of the buttons

Parameters	Function Introduction	
Parking Space Status	**Free**	There are available parking spaces. The indicator light is default to green.
	Full	All parking spaces are full. The indicator light is default to red.
	Special	Only special parking spaces are available. The indicator light is default to blue. **Note:** When the special parking space is the last available parking space, the indicator light will be set to the color designated for the special parking space.
Indicator Flashing	Enable this feature when you want the indicator light to continuously flash and remind that there are available parking spaces here.	
Indicator Color	Change the color of the indicator light.	

[Report Settings]

Step 7: The parking information can be transmitted via HTTP(s), TCP, or MQTT protocols.

Report Protocol

HTTP

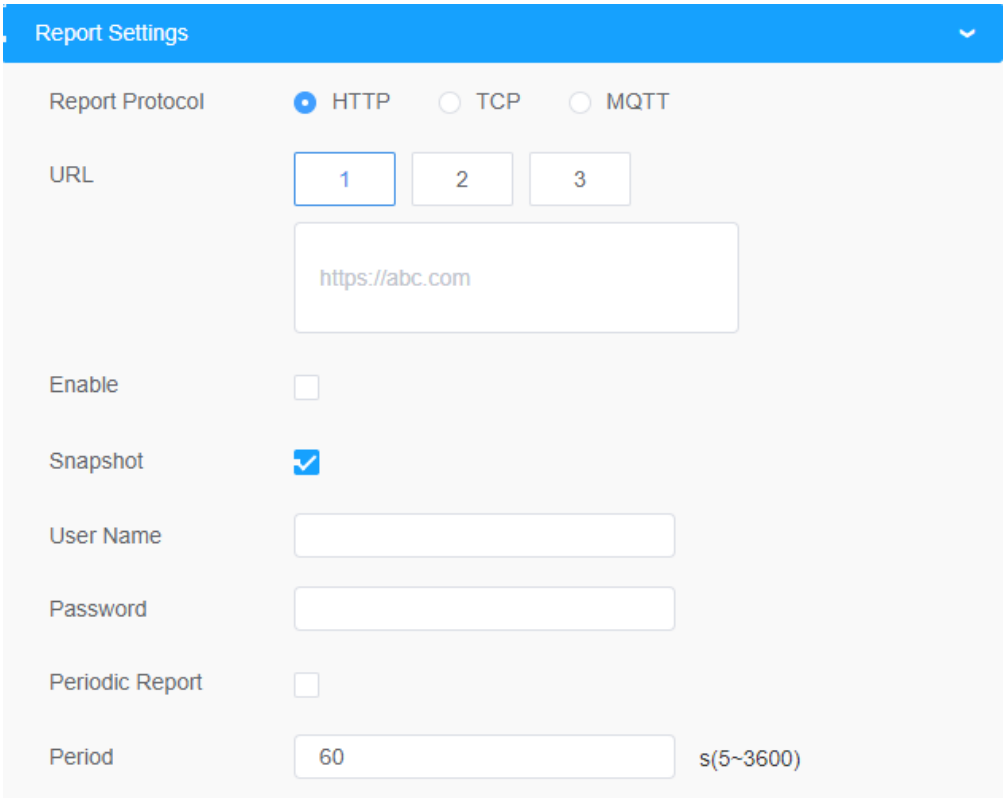


Table 24. Description of the buttons

Parameters	Function Introduction
URL	The HTTP URL format can be customized,for example: http://{ip}:{port}/api/httpEvent?xxxxxx
Enable	Start or stop using HTTP.
Snapshot	Click the button to upload the snapshots via HTTP post. **Note:** This option is available just for Post HTTP Method.
User Name	Receiver name.
Password	Receiver password.
Periodic Report	According to the configured period, the parking information is pushed via HTTP post periodically.
Period	5~3600s of period time are available.

TCP

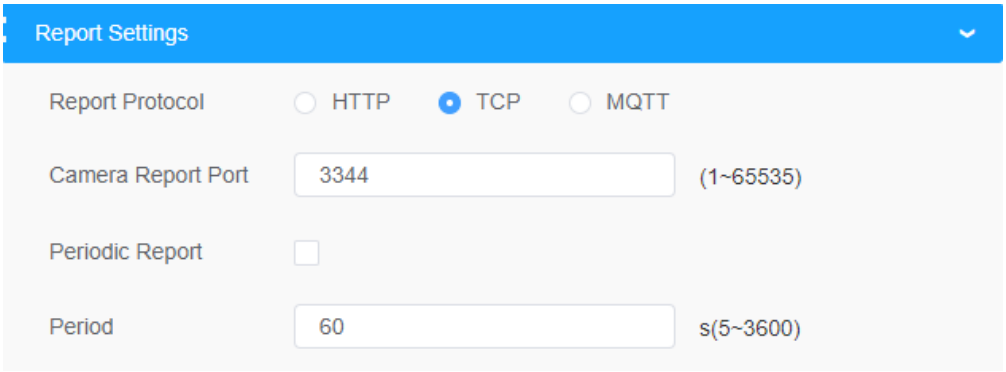


Table 25. Description of the buttons

Parameters	Function Introduction
Camera Report Port	Camera reporting ports.
Periodic Report	The parking information will be periodically pushed via TCP according to the configured interval.
Period	5~3600s of period time are available.

MQTT

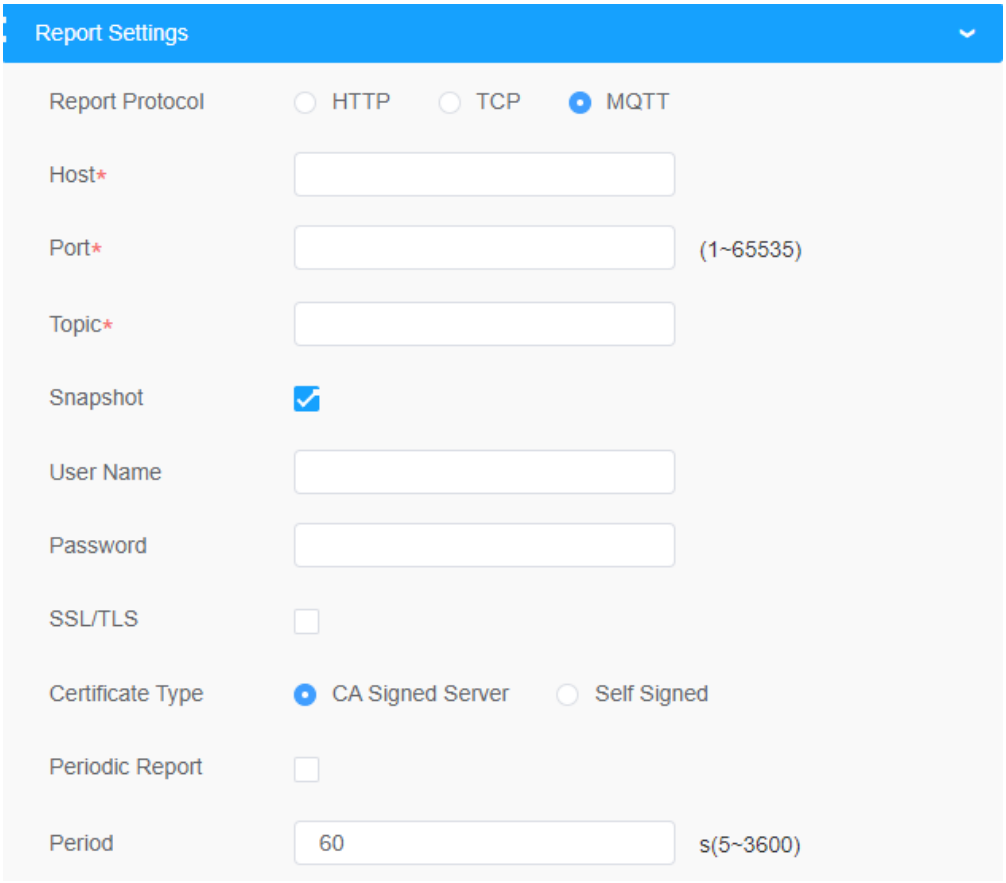


Table 26. Description of the buttons

Parameters	Function Introduction
Host	MQTT broker address to receive data.
Port	MQTT broker port to receive data.
Topic	Fill in the topic for subscription and publishing.
Snapshot	Check this checkbox to include a screenshot when making a push notification.
User Name	The username used for connecting to the MQTT broker.
Password	The password used for connecting to the MQTT broker.
SSL/TLS	Click on the checkbox to enable SSL/TLS protocol.
Certificate Type	You can choose between CA Signed Server and Self Signed certificate types. **CA Signed Server:**Verify using the root certificate of CA authentication provided by the device. **Self Signed:**Verify using the uploaded certificate and private key.  **Note:** • When choosing a self-signed certificate, it is necessary to import the corresponding root certificate (CA File). The file type must be '.crt' or '.pem'. • If you want to upload the client certificate and private key, both need to be uploaded together. The file type must be '.crt' or '.pem'.
Periodic Report	The parking information will be periodically pushed via MQTT according to the configured interval.
Period	5~3600s of period time are available.

Step 8: Click the Save button to save the Report Settings.

Step 9: Click the button to enable the Periodic Report of parking space. And set the interval period time.

[Linkage Settings]

Step 10: You can set audio files for when a vehicle enters and exits.

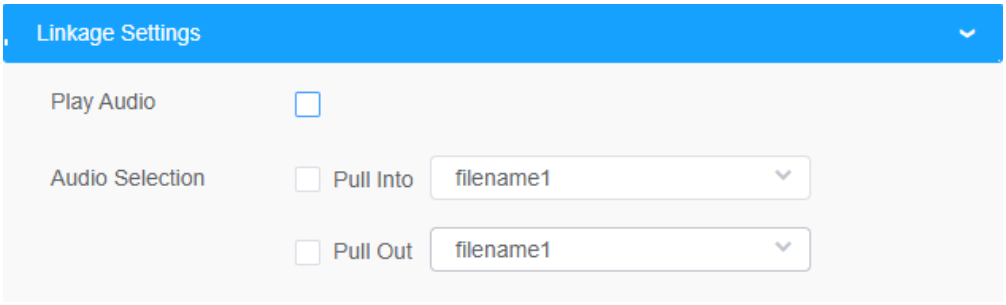


Table 27. Description of the buttons

Parameters	Function Introduction
Play Audio	Click on the checkbox to enable Play Audio. **Note:** Please enable the Audio Out first.
Audio Selection	You can freely choose whether to play audio when a vehicle enters or exits, and you can also change the corresponding audio files.

7.4 System

7.4.1 System Setting

Here you can check System information and Date&Time.

System info

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

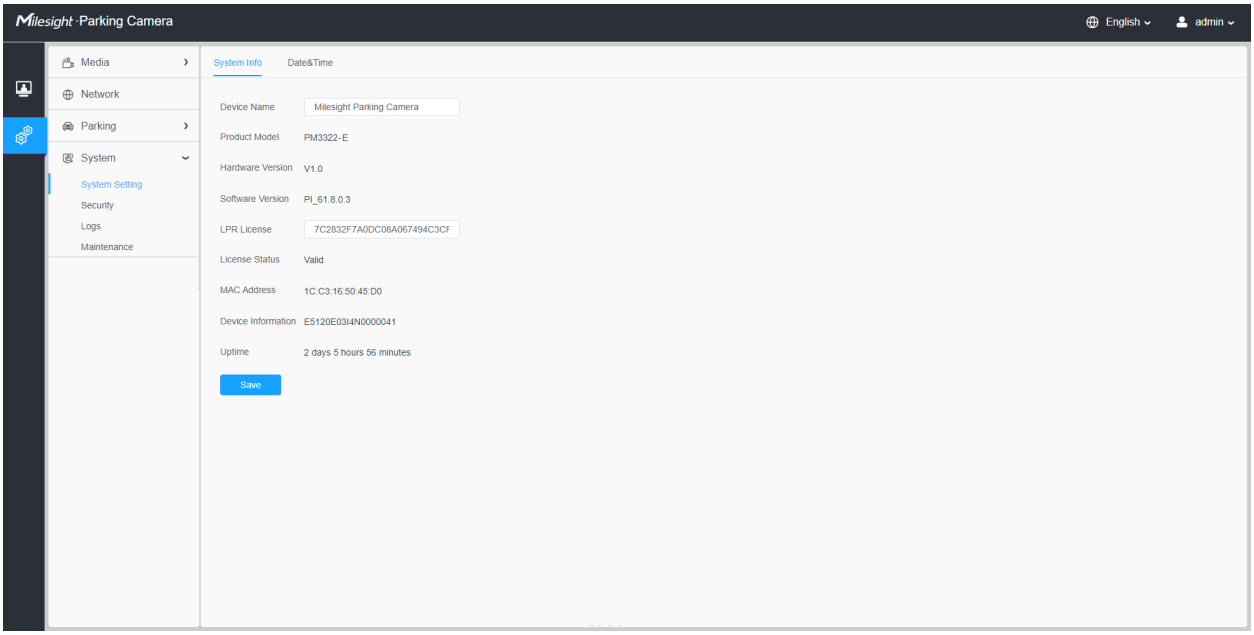


Table 28. Description of the buttons

Parameters	Function Introduction
Device Name	The device name can be customized.
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.
LPR License	Enter the LPR activation license to use the LPR (License Plate Recognition) feature.
License Status	The current status of the license.
MAC Address	Media Access Control address.
Device Information	The device information, including information about alarm I/O and clipper chip.
Uptime	The elapsed time since the last restarted of the device.
Save	Save the configuration.

Date&Time

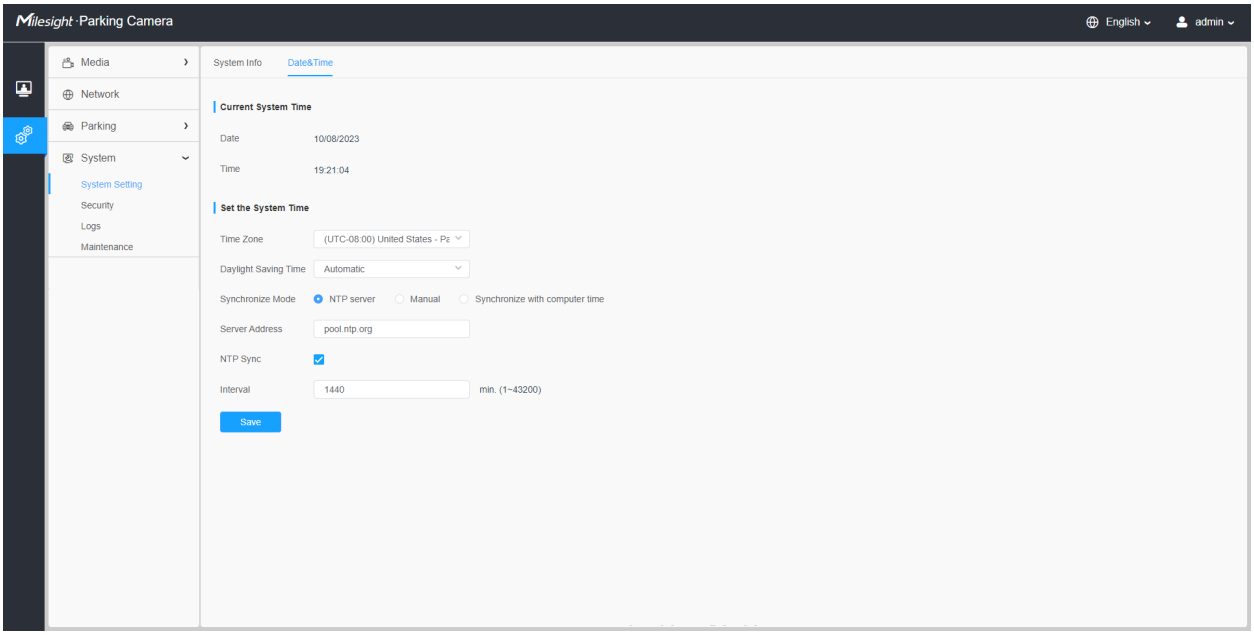


Table 29. Description of the buttons

Parameters	Function Introduction
Current System Time	Current date&time of the system.
Set the System Time	**Time Zone:** Choose a time zone for your location.
	Daylight Saving time: Enable the daylight saving time.
	Synchronize Mode: NTP server, Manual and Synchronize with computer time are optional. **NTP server:** Input the address of NTP server. **NTP Sync:** Regularly update your time according to the interval time. **Manual:** Set the system time manually. **Synchronize with computer time:** Synchronize the time with your computer.
Save	Save the configuration.

7.4.2 Security

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

User

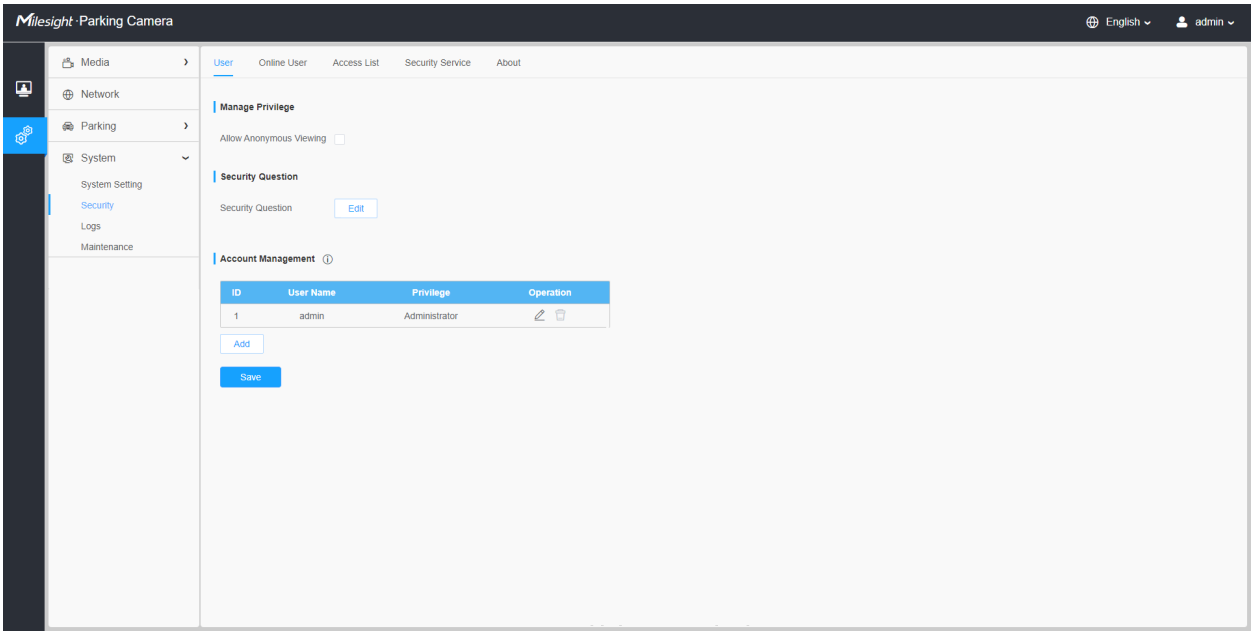
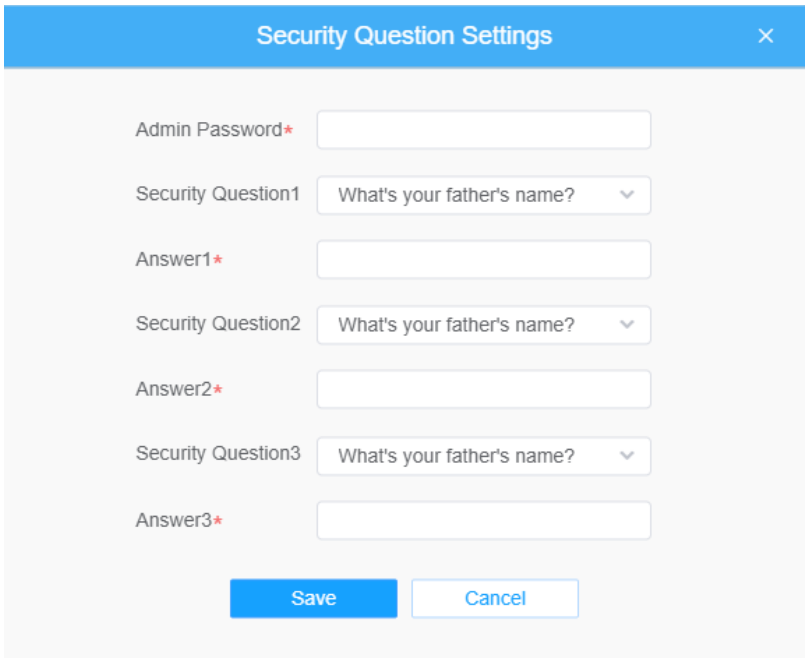
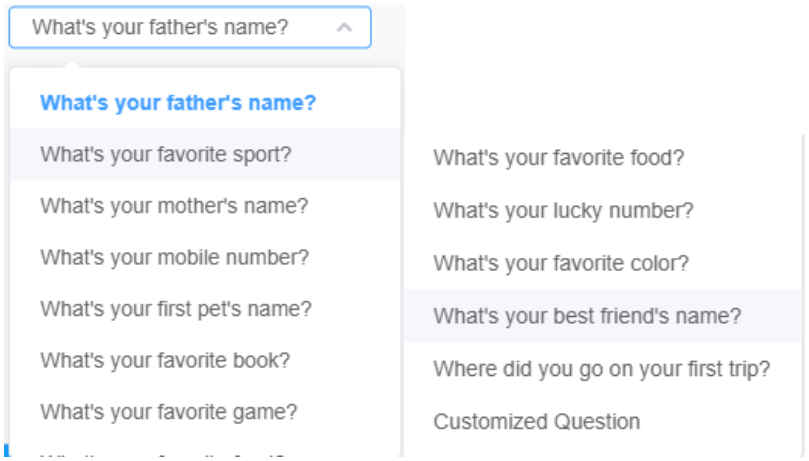


Table 30. Description of the buttons

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 Save. The added account will be displayed in the account list. **Admin Password:** You can add an account only after you enter the correct admin password. **User Level:** Set the privilege for the account. **User Name:** Input user name for creating an account. **New Password:** Input password for the account. **Confirm:** Confirm the password. You can edit and delete the account in the account list under the admin account. For the default admin account, you can only change the password, and it cannot be deleted. **Note:** • Support up to 20 users, including a default user and 19 custom added users. • The operator privilege is all checked by default.

Online User

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

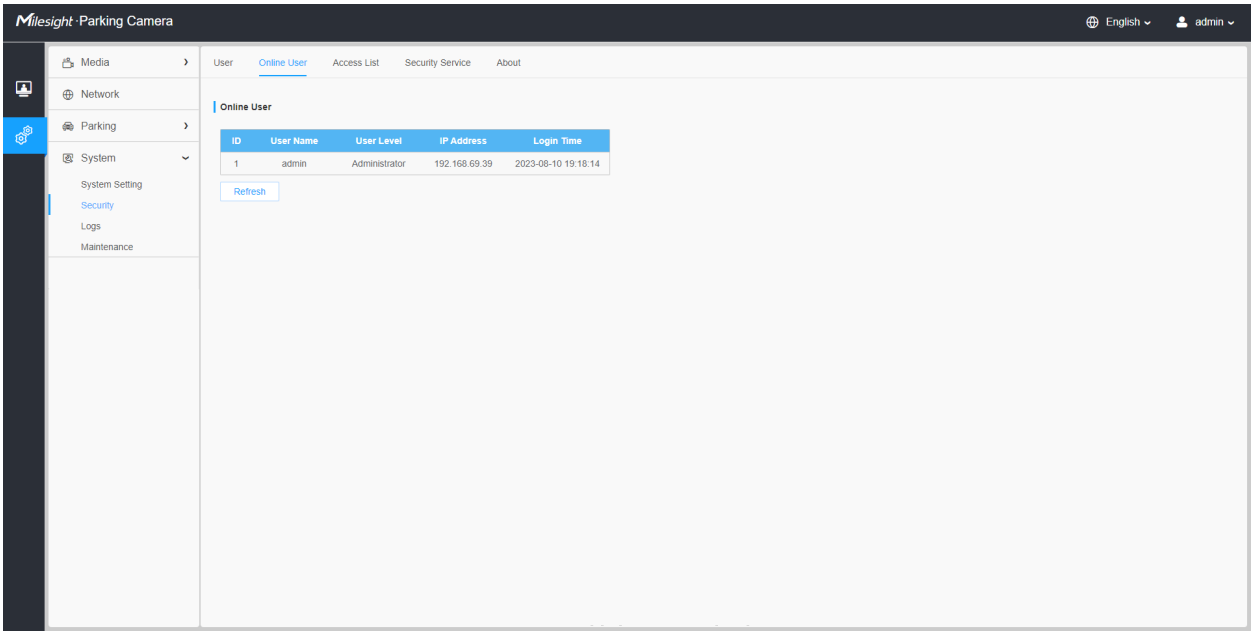


Table 31. Description of the buttons

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 logs in 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.

Access List

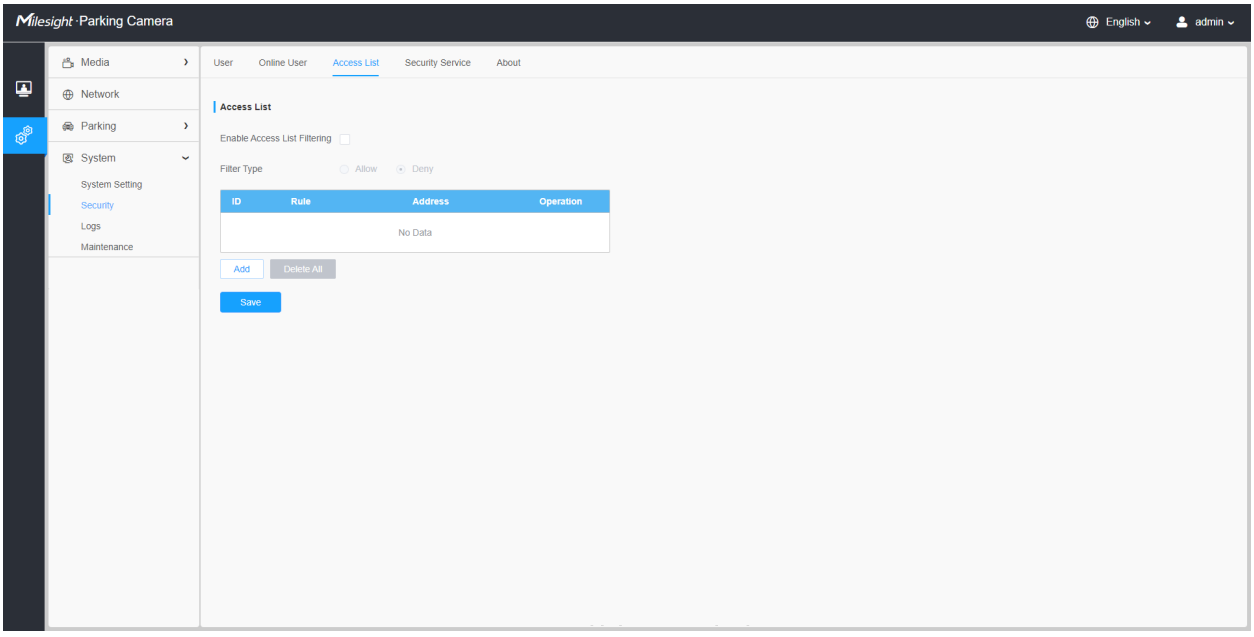
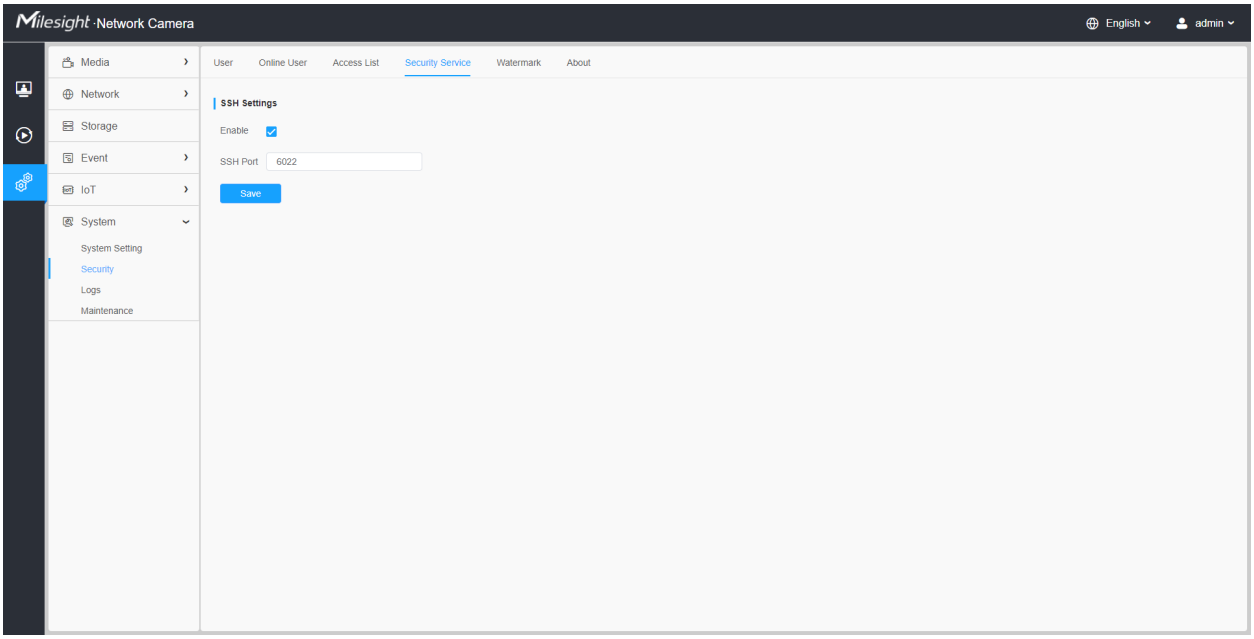


Table 32. Description of the buttons

Parameters	Function Introduction
Access List	**Enable Access List Filtering:** Able to access or restrict access for some IP address.
Access List	**Filter type:** Allow or deny access.

Parameters	Function Introduction	
	Add	**Rule: Single, Network and Range** are available. **IP address:** Input the address to get the access to the device.
	Delete All	Delete all the access list.
		Edit the selected IP on access list.
		Delete the selected IP on access list.
Save	Save the configuration.	

Security Service



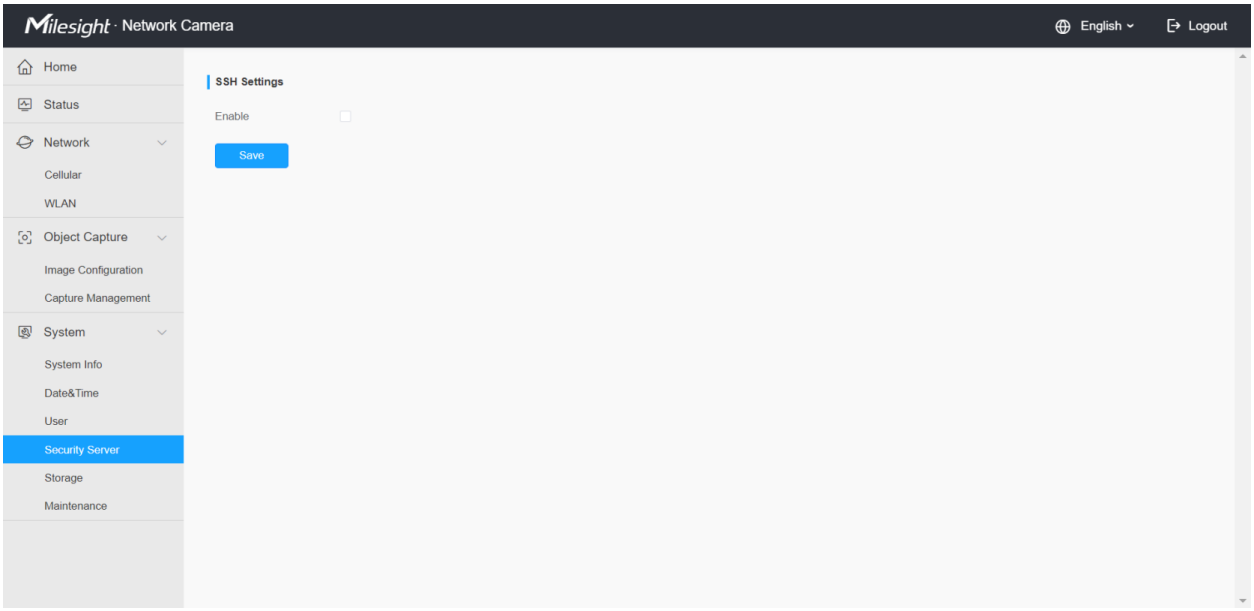
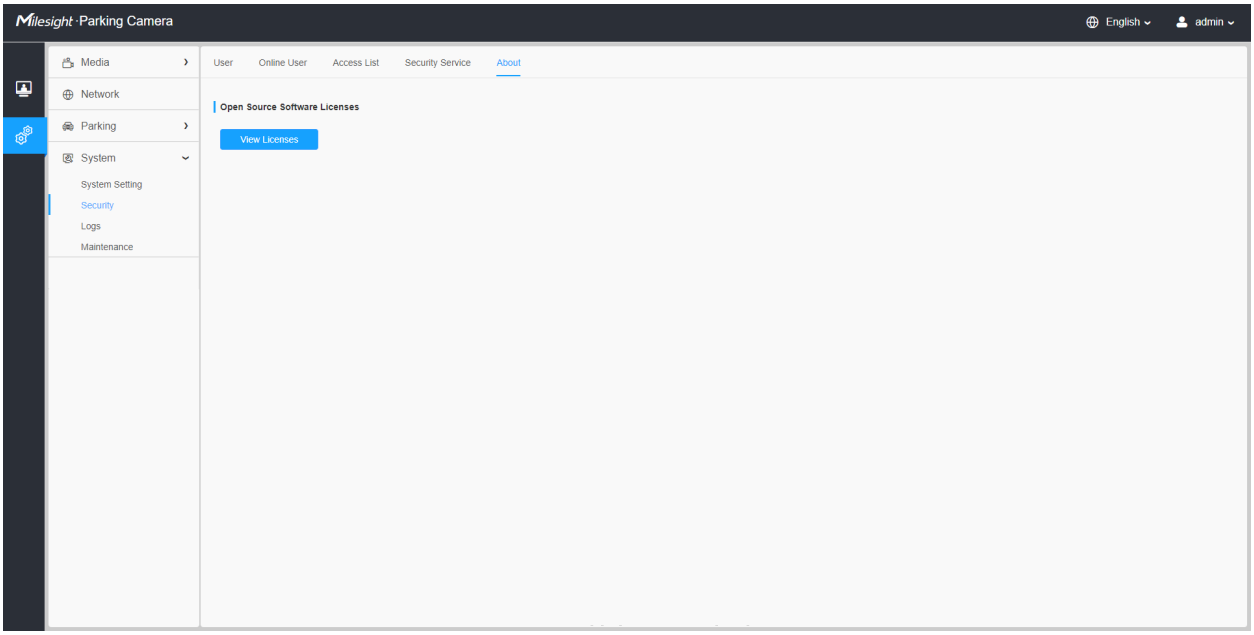


Table 33. Description of the buttons

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.

About



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

7.4.3 Logs

Here you can check logs and configure remote logs.

Logs

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

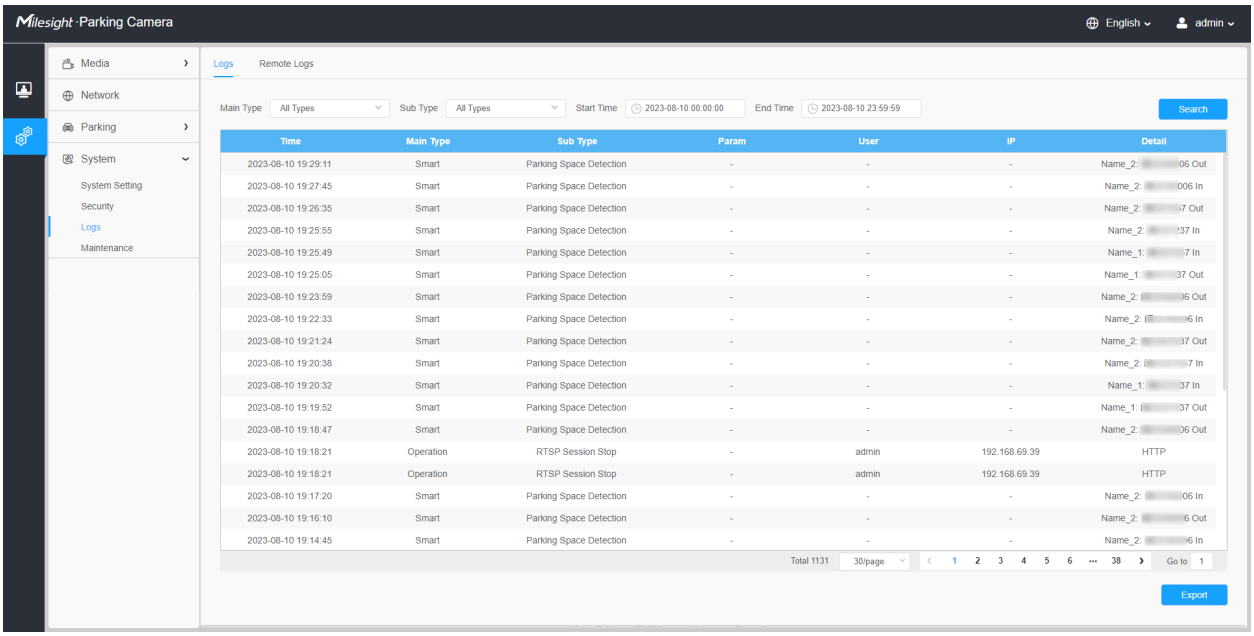


Table 34. Description of the buttons

Parameters	Function Introduction
Main Type	There are five main log types: **All Type, Operation, Information, Exception** and **Smart.**
Sub Type	On the premise that main type has been selected, select the sub type to narrow the range of logs.
Start Time	The time log starts.
End Time	The time log ends.

Parameters	Function Introduction
Search	Search the logs.
Export	Export the logs.
Go to	Input the number of logs' page.

Remote Logs

Remote Logs can send log information generated by devices to a remote location.

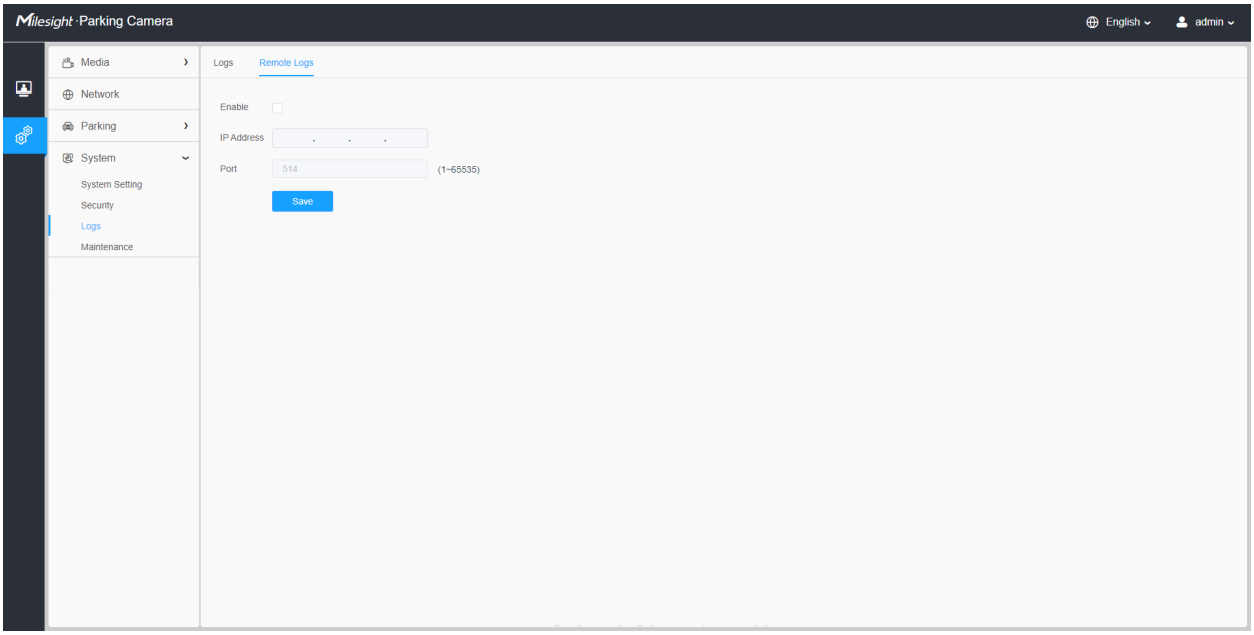


Table 35. Description of the buttons

Parameters	Function Introduction
Enable	Click on the checkbox to enable remote logs.
IP Address	Remote IP address.
Port	IP port number.
Save	Save configuration.

7.4.4 Maintenance

Here you can configure System Maintenance and Auto Reboot.

System Maintenance

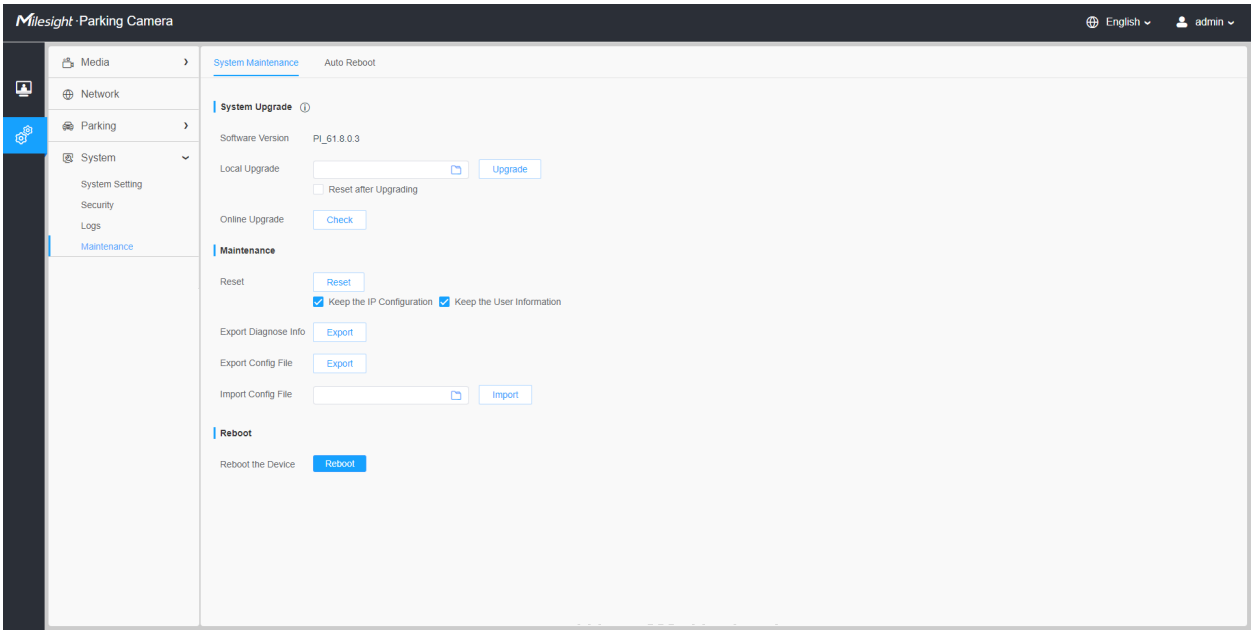
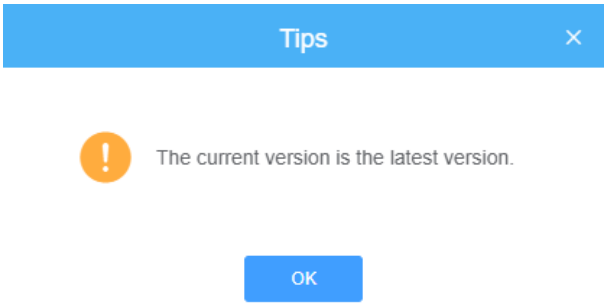
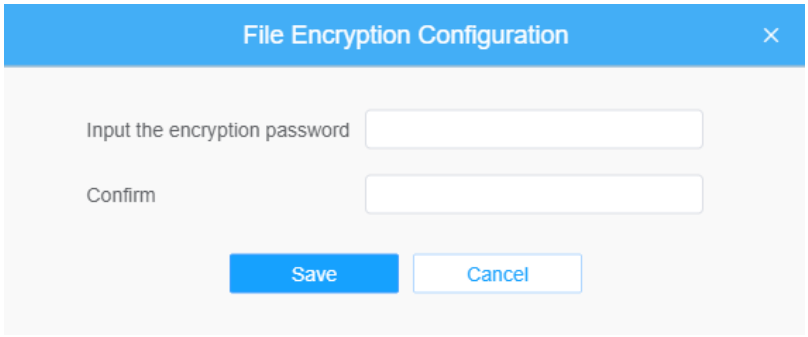
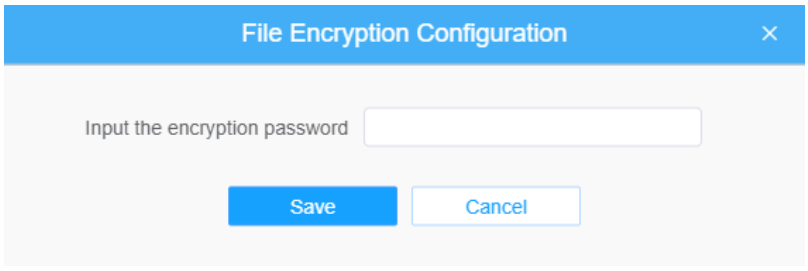
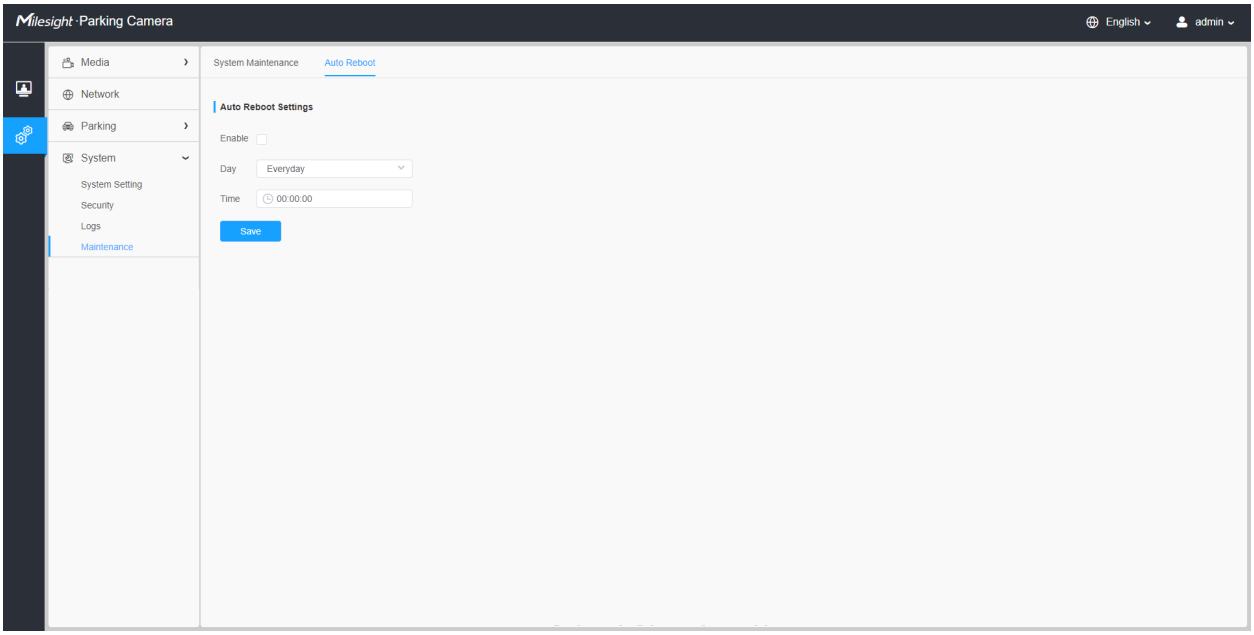


Table 36. Description of the buttons

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

Parameters	Function Introduction
Maintenance	**Reset:** Click “Reset” button to reset the camera to factory default settings. **Keep the IP Configuration:** Check this option to keep the IP configuration when resetting the camera. **Keep the User information:** Check this option to keep the user information when resetting the camera. **Export Diagnose Info:** Click this button to export logs and system information of the device operation status. **Note:** The file format is “.txt”. **Export Config File:** Click this button and a window will pop up as shown below:  You need to enter and confirm password again, then click save button to export configuration file. **Import Config File:** Click this button, then a window will pop up and you can click "OK" to update the configuration. It will pop up a window to prompt "Input the password of config file" , then enter password and click save button to import configuration file.  **Note:** Export and import the same configuration file. Password must be the same.

Auto Reboot



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

Chapter 8. Services

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

Technical Support Mailbox: support@milesight.com

Web: http://www.milesight.com

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

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