User Manual

E-LPRC500

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English

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For further details, please visit our Company's website www.zkteco.com.

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If there is any issue related to the product, please contact us.

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About the Company

ZKTeco is one of the world's largest manufacturer of RFID and Biometric (Fingerprint, Facial, Finger-vein) readers. Product offerings include Access Control readers and panels, Near & Far-range Facial Recognition Cameras, Elevator/floor access controllers, Turnstiles, License Plate Recognition (LPR) gate controllers and Consumer products including battery-operated fingerprint and face-reader Door Locks. Our security solutions are multi-lingual and localized in over 18 different languages. At the ZKTeco state-of-the-art 700,000 square foot ISO9001-certified manufacturing facility, we control manufacturing, product design, component assembly, and logistics/shipping, all under one roof.

The founders of ZKTeco have been determined for independent research and development of biometric verification procedures and the productization of biometric verification SDK, which was initially widely applied in PC security and identity authentication fields. With the continuous enhancement of the development and plenty of market applications, the team has gradually constructed an identity authentication ecosystem and smart security ecosystem, which are based on biometric verification techniques. With years of experience in the industrialization of biometric verifications, ZKTeco was officially established in 2007 and now has been one of the globally leading enterprises in the biometric verification industry owning various patents and being selected as the National High-tech Enterprise for 6 consecutive years. Its products are protected by intellectual property rights.

About the Manual

This manual introduces the operations of **E-LPRC500**.

All figures displayed are for illustration purposes only. Figures in this manual may not be exactly consistent with the actual products.

Document Conventions

Conventions used in this manual are listed below:

GUI Conventions

For Software	
Convention	**Description**
Bold font	Used to identify software interface template names e.g. **OK**, **Confirm**, **Cancel**.
>	Multi-level menus are separated by these brackets. For example, File > Create > Folder.
For Device	
Convention	**Description**
< >	Button or key names for devices. For example, press <OK>.
[ ]	Window names, menu items, data table, and field names are inside square brackets. For example, pop up the [New User] window.
/	Multi-level menus are separated by forwarding slashes. For example, File/Create/Folder.

Symbols

Convention	Description
	This represents a note that needs to pay more attention to.
	The general information which helps in performing the operations faster.
	The information which is significant.
	Care taken to avoid danger or mistakes.
	The statement or event that warns of something or that serves as a cautionary example.

Table of Contents

Safety Precautions

Electrical safety

- Complete the grounding properly and set up surge protection before connecting an external cable to the device; otherwise, static electricity can damage the Mainboard.
- Make sure to use the standard voltage applicable in your country or region (the rated voltage of the device is 220V). Power mismatch may cause a short circuit or damage the device.

Operational safety

- Transportation and other issues may damage the device's hardware. Check if the device has significant damage before installation. If the device has major defects, contact your dealer as soon as possible.
- Do not connect or disconnect cables to/from the device when it is working.
- Do not keep the device in an unstable place. Handle the device with care. Do not place heavy objects on top of the device.
- Do not use rosin, alcohol, benzene, pesticides, and other volatile substances to clean the device, because they may damage the device enclosure. Clean the enclosure with a piece of soft cloth or a small amount of cleaning agent.
- Unauthorized persons are not allowed to open the unit. For any queries regarding the usage of the product, contact an authorized technician.

1 Overview

The E-LPRC500 camera is designed to meet the needs of traffic management, law enforcement, security, parking, tolling, and Intelligent Transport Systems (ITS).

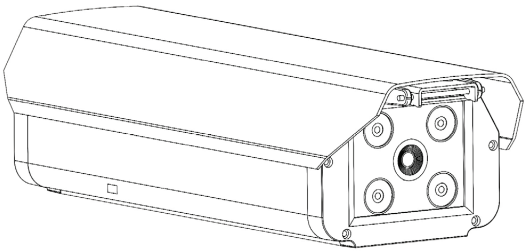
With advanced algorithms, high-resolution imaging, and robust adaptability, the E-LPRC500 delivers unparalleled performance in vehicle and license plate recognition.

It is an intelligent imaging device with integrated front-end capture and recognition specifically designed for mid-to-high-end parking entrance and exit scenarios. To deal with "unattended" and "contactless payment" in the scenario, this series not only provides 5MP HD imaging solution with exceptional adaptability to challenging lighting conditions, diverse license plate/vehicle information recognition, surveillance video recording, intelligent light compensation, and front-end storage, but also supports features such as trigger for unlicensed vehicles, license plate anti-counterfeiting, and offline ad hoc networking. It can recognize events such as vehicle detention, vehicle return, and vehicle following, and greatly reducing after-sales maintenance costs.

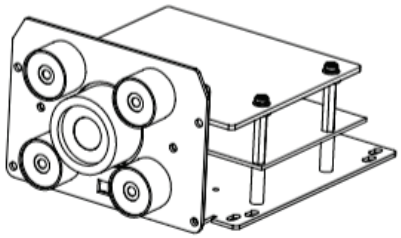
1.1 Features

- **5MP HD Camera**
- **Advanced license plate/vehicle recognition algorithm**
  - High-precision vehicle and license plate recognition algorithm
  - 7 types of vehicle identification, and more than 2100 specific vehicle types
  - To prevent misidentification and filter out fake license plates
  - Vehicle event recognition: vehicle retention, returns, and tailgating, enhancing operational efficiency and security.
  - Web-configurable global license plate recognition algorithm
- **Peripheral device linkage management at entrances and exits**
  - One-click binding of primary and secondary devices
  - Easy connection
  - Offline identification
- **All-round development connection support, easy for users to develop secondary functions**

1.2 Appearance



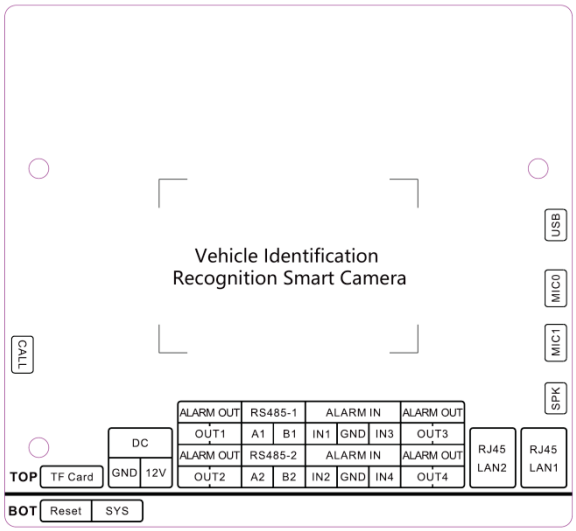
Standard Set



Module Set

1.3 Port Definition

Wiring Diagram



Port Description

Function	Pin	Description
Power(DC)	GND/12V	Support 9-15V DC, recommended 12V/2A If connect an external speaker, please use 12V 3A Power.
Network	LAN1/LAN2	1 x 10/100/1000Mbps adaptive RJ45 port(LAN1) 1 x 10/100Mbps adaptive RJ45port(LAN2)
IO Output (ALARM OUT)	OUT1/OUT2/OUT3/OUT4/GND	Can be used for raising the barrier gate lever
IO Input (ALARM IN)	IN1/IN2/IN3/IN4/GND	Groundable inductive coil for external signal triggering capture

Serial(RS485-1)	A1/B1	Connect to the host computer and output the recognition result
Serial(RS485-2)	A2/B2	Connect to the host computer and output the recognition result
TF Card	TF-Card	TF-Card, support max to 256GB
System Light	SYS	It will long light when the power on beginning, and will flash when the device runtime normally
Reset Button	Reset	Long press the button 5~10sec when the power on, then the device will recovery to the factory
CALL	CALL	Trigger the voice call
Speaker	SPK	Speaker output, output power max to 4Ω 12W
Mic 0	MIC0	Input for microphone
Mic 1	MIC1	Input for microphone
USB	USB	Connect external module

2 System Configuration

2.1 Software Environment

- **CPU:** Intel Dual-core CPU A7@900MHz 0.5 TOPS
- **RAM:** 1GB or above
- **Network Port:** 100M Ethernet port
- **Operating System:** 32-bit or 64-bit operating system, such as Windows 7, Windows 8, Windows 10
- **Internet Explorer:** Microsoft Internet Explorer 11.0 or later, Microsoft Edge, Google Chrome and Firefox.

2.2 Network and IP Address Configuration

Set the IP address of the camera such that it remains in the same network segment as the PC.

Note: In the same LAN environment, the IP address cannot be the same. Otherwise, IP address conflict can lead to device malfunction.

2.2.1 Default Parameter Settings

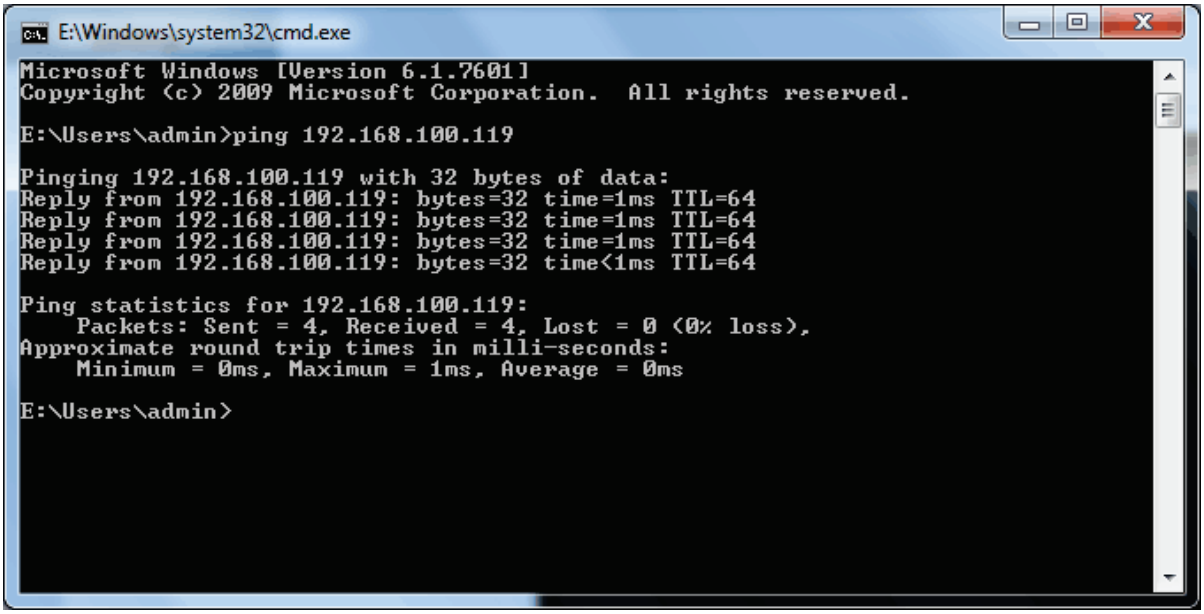
Before using the camera, set the IP address, Gateway address, and other information of the camera without any fault. The user can modify the default parameter settings according to requirements.

LAN1:	**LAN2:**
IP Address: 192.168.1.100	**IP Address:** 10.10.1.100
Subnet Mask: 255.255.255.0	**Subnet Mask:** 255.255.128.0
Gateway: 192.168.1.1	**Gateway:** 10.10.1.1

Under normal circumstances, please prioritize using the LAN1 network port.

2.2.2 Connectivity Test

Open the **Start** menu on the PC and type **cmd** in the search box once the camera IP Address is set. In the command prompt window, type ping and the camera IP Address (e.g., Ping 192.168.0.18) to test the connectivity between the PC and camera.



If the message is **"Request timed out"** or **"Destination host unreachable"**, it means the PC and the camera are not connected properly. Perform the following steps:

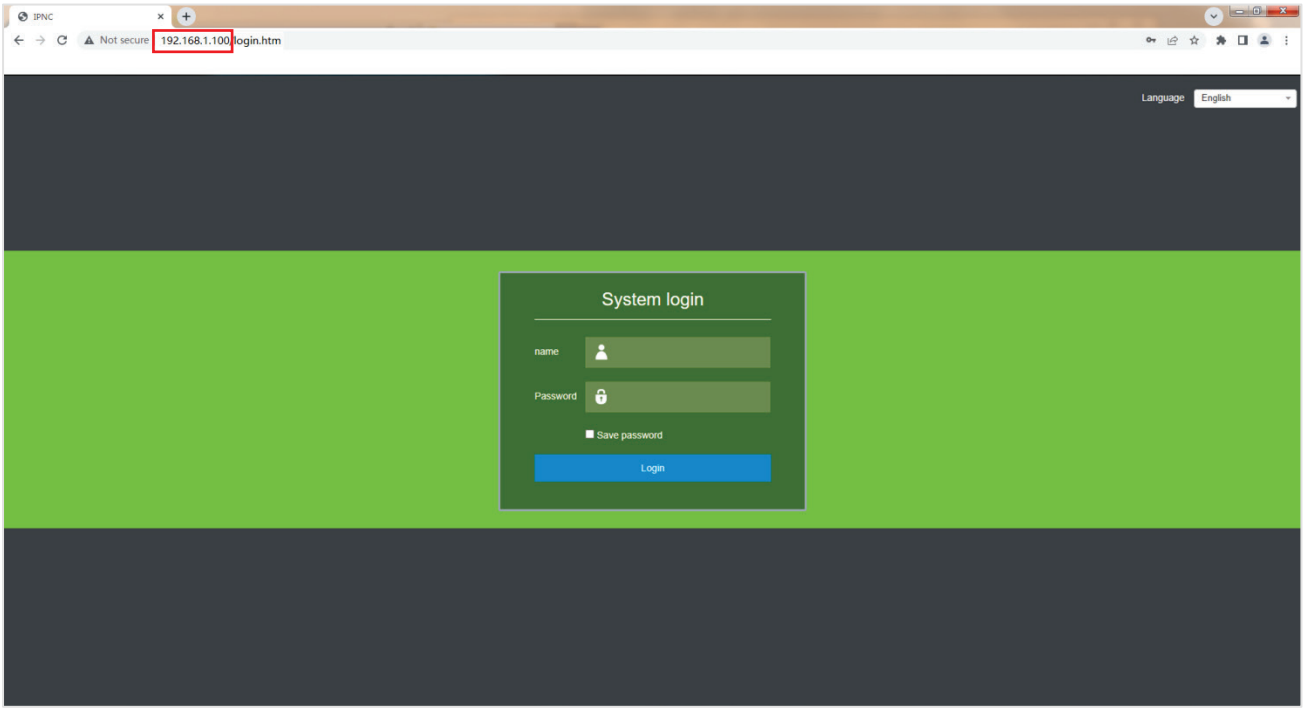
- Check whether the hardware connection is correct.
- Check whether the TCP/IP Addresses of the PC and the camera are in the same network segment.
- Check whether the ping command is disabled.

3 Camera Access over a Web Browser

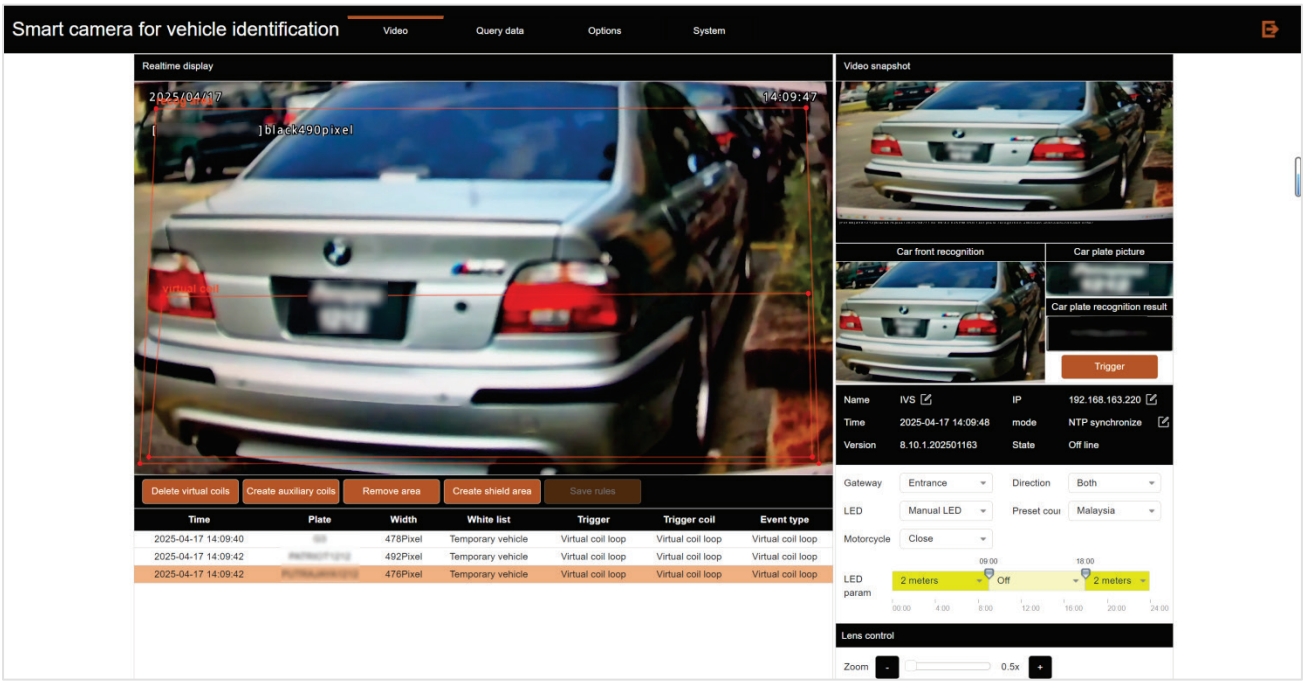
3.1 Login

1. Type the IP Address (default: 192.168.1.100) of the camera in the address bar of a web browser. Then enter the name (default: admin) and password (default: admin) and click **[Login]**, as displayed in the below figure.

Note: If the user is accessing the camera by IE browser for the first time, the user needs to install the control. If the user logins with other browsers, the user doesn't need to install the control.

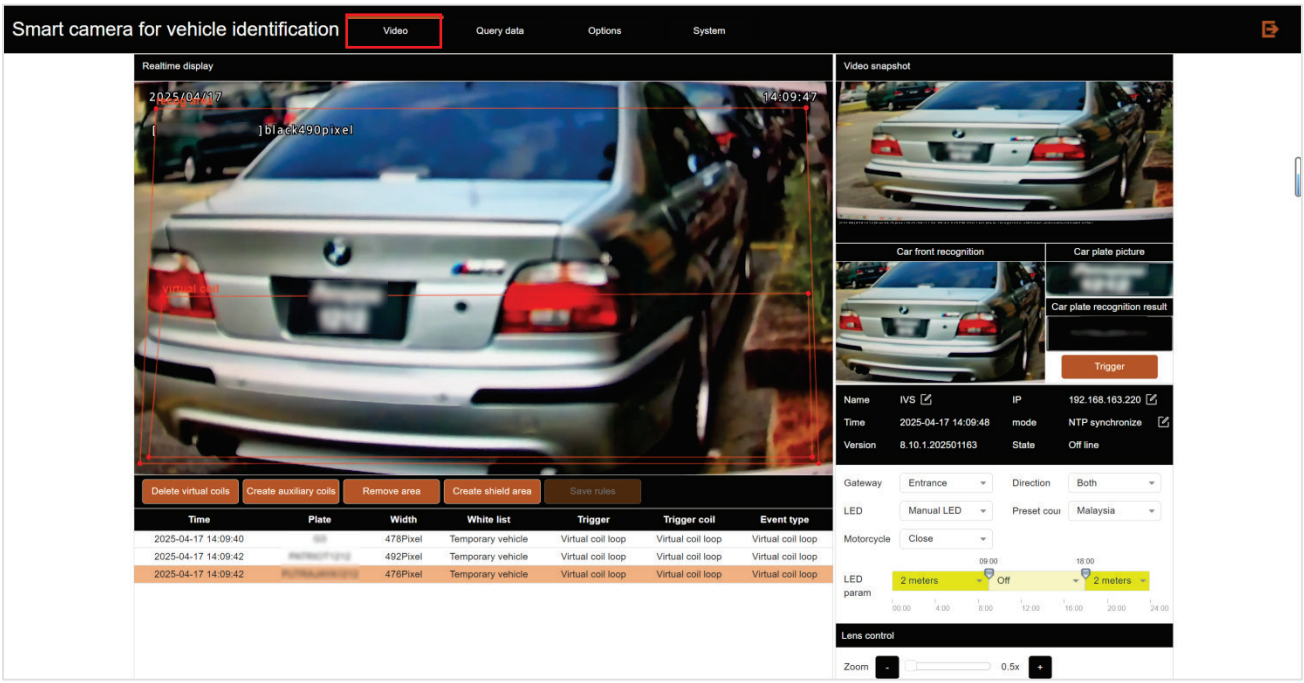


2. After login successfully, the user can preview the video, as displayed in the figure below:



3.2 Video

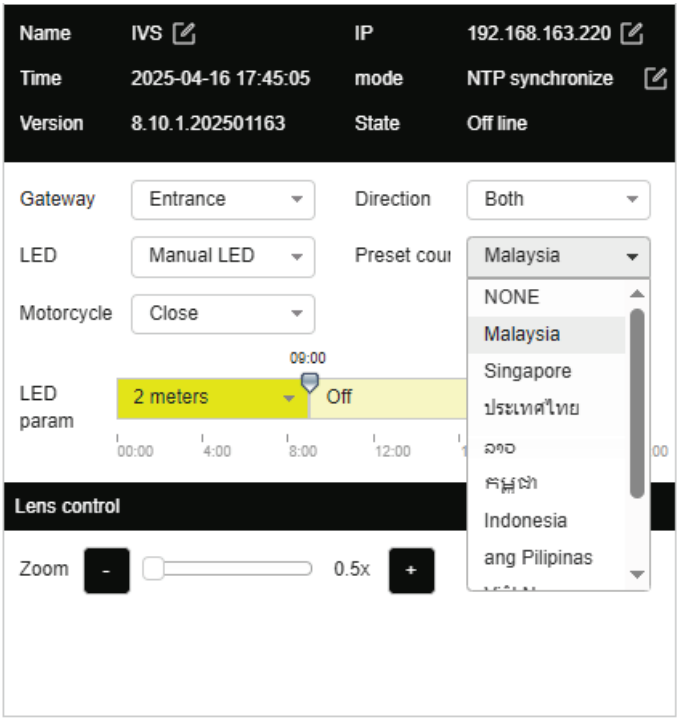
Click **[Video]** to access the video preview page. The user can see the output screen and auxiliary wireframe of the camera on the following interface. When the license plate appears on the screen, the license plate number information recognized by the system will be displayed on the right side of the screen, and the snapshot history will be recorded below. At the same time, the system provides basic settings at the bottom right of the main interface. Click the button in the upper right corner of the interface to log out of the system.



- **Full Screen:** Double-click the video real-time display interface to display the video image in full screen.
- **Adjustment of virtual coil and recognition area:** The user can use the mouse to drag the vertices on the wireframe to adjust the recognition area/virtual coil, or double-click the mouse on the wireframe of the recognition area to create a new marker for adjustment. When the wireframe adjustment is complete, you can click the **Save rules** button on the lower left to save the wireframe. At the same time, there are **Delete virtual coils** and **Remove area** buttons on the lower left side of the real-time display interface, which can delete the virtual coil / recognition area in the real-time screen, and can also create the corresponding wireframe when the virtual coil/ recognition area does not exist in the real-time screen (default state).
- **Create auxiliary coils:** The function is the same as that of a virtual coil.
- **Create shield area:** When a shield area is set, license plate recognition will not be triggered when the vehicle is in that area.
- **Trigger:** Click the button on the right side of the page to manually capture an image. It will automatically display the car front, car plate picture and car plate recognition result in the captured image on the right.
- **Snapshot history:** There is a snapshot history record at the bottom of the real-time display interface. It includes recognition time, license plate number, license plate width, allow list, trigger type, trigger coil and event type.

Time	Plate	Width	White list	Trigger	Trigger coil	Event type
2025-04-17 14:09:40		478Pixel	Temporary vehicle	Virtual coil loop	Virtual coil loop	Virtual coil loop
2025-04-17 14:09:42		492Pixel	Temporary vehicle	Virtual coil loop	Virtual coil loop	Virtual coil loop
2025-04-17 14:09:42		476Pixel	Temporary vehicle	Virtual coil loop	Virtual coil loop	Virtual coil loop

- **Basic Settings:** There is a basic setting interface at the bottom right of the real-time display interface, as shown in the following figure.



- **Name:** Click the edit button to change the camera name.
- **IP:** Set the camera IP accordingly.
- **NTP synchronize mode:** Click the edit button to jump to the time configuration page.
- **Gateway:** Set the current installation position of the camera, Entrance or Exit.
- **Direction:** Set the traffic direction of the camera installation lane.

  Up to down: It means that the license plate is recognized when the car approaches the camera.

  Down to up: It means that the license plate is recognized when the car drives away from the camera.

  Both: It means that the license plate is recognized regardless of whether the car approaches or drives away from the camera.
- **LED:** Set the working status of the camera's fill light.

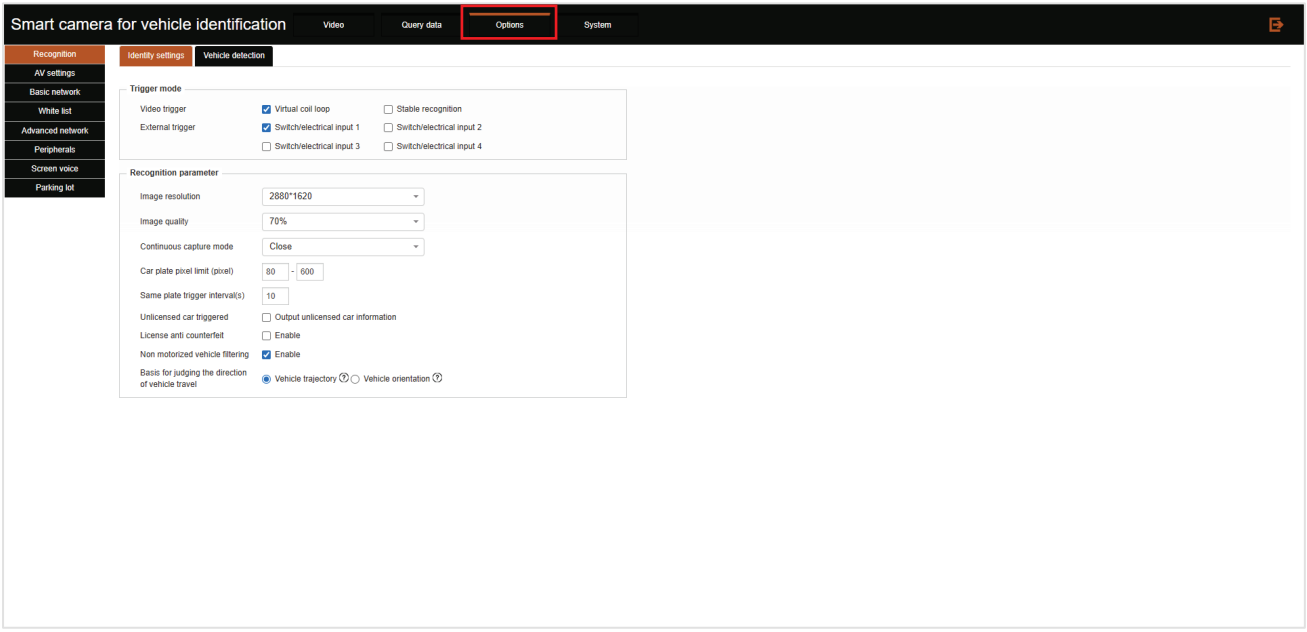
  Manual LED: Turn on or off according to the set time.

  Smart LED: isp algorithm automatically detects the environmental light source, turn on or off.

  Close LED: Turn off the fill light panel.
- **Preset country:** Set the corresponding country algorithm as needed, and the camera will support recognizing license plates from whichever country is selected.
- **Motorcycle:** Open or close the function of recognizing motorcycles. Currently only supports Indonesia.
- **LED param:** Set the time period for the camera to turn on fill light.
- **Lens control:** Zoom in and out of the display interface.

3.3 Options

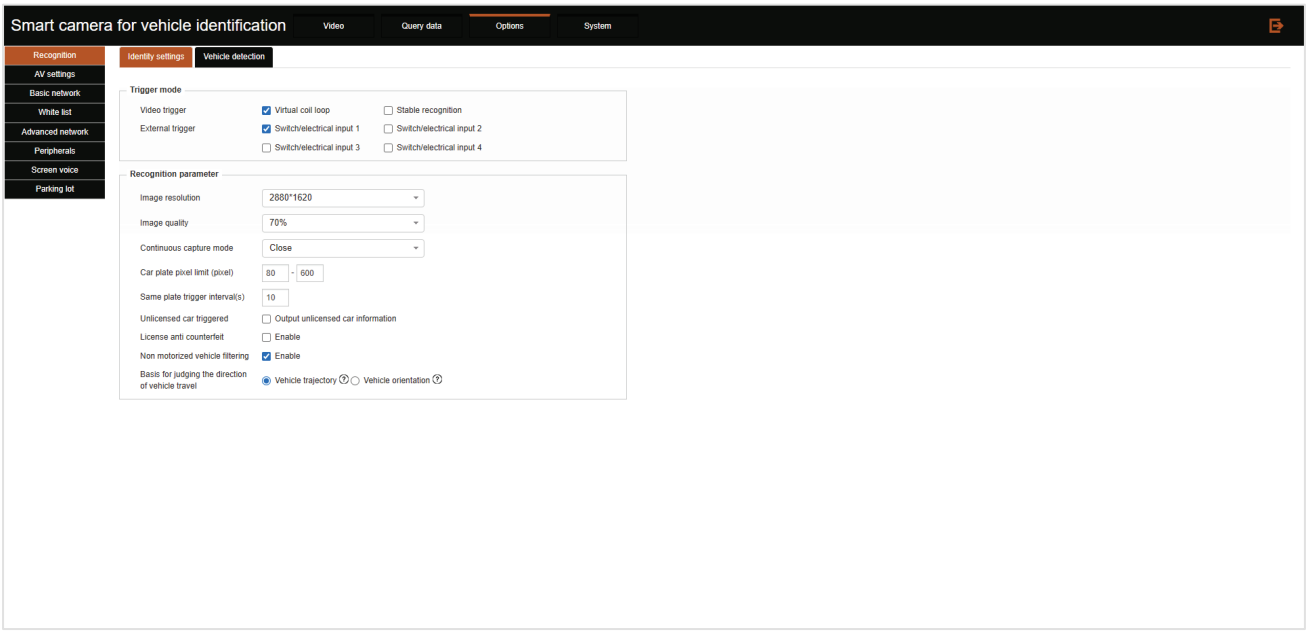
Click [**Options**] to enter the advanced settings interface, as shown below:



3.3.1 Recognition

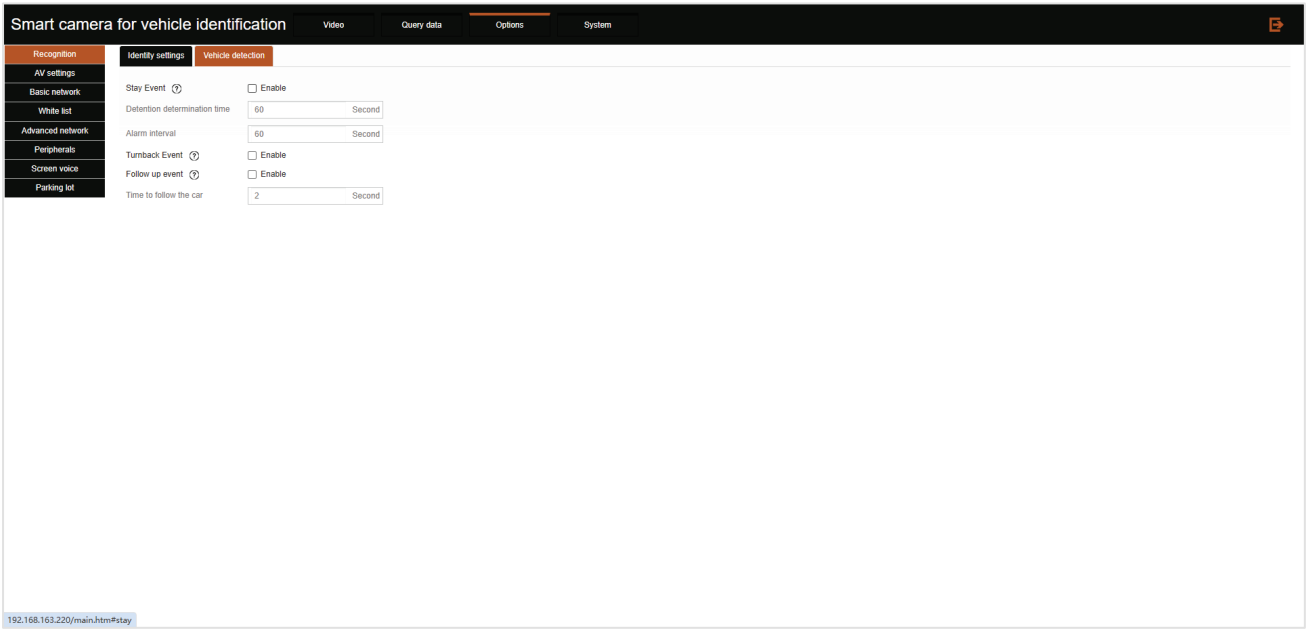
Click the **Recognition** tab to enter the recognition settings interface.

➢ **Identity settings:**



- **Trigger mode:** The type of trigger recognition can be checked.
  Video trigger: Virtual coil loop: The recognition result is triggered when the license plate touches the virtual coil; **Stable recognition:** The car stays within the virtual coil and outputs the recognition results at regular intervals. The interval output duration is configured based on the "Same plate trigger interval". Don't check if it is not necessary.
  External trigger: The camera has hardware interfaces for alarm in 1 or alarm in 2 to connect to external signals. When an external signal is received, it can immediately trigger license plate recognition; Ground sensing coils need to be laid during construction. Vehicles passing over the ground sensing coils will trigger signals to be transmitted to the camera input port, triggering the system to perform capture operations.
- **Recognition parameter:** The image quality, image resolution, continuous capture mode, same plate trigger interval, car plate pixel limit, unlicensed car triggered, license anti-counterfeit, non motorized vehicle filtering, basis for judging the direction of vehicle travel can be set, and assist the system to accurately identify vehicle information.

➢ **Vehicle detection:**

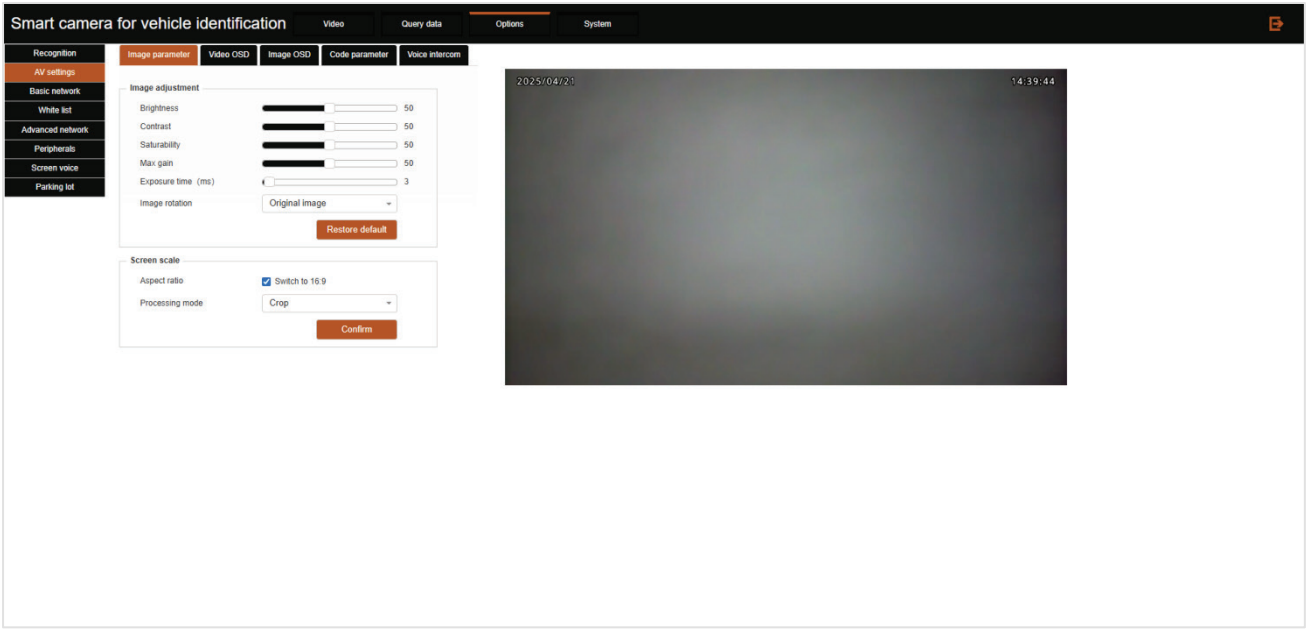


- **Stay Event:** After enabled, when the car stays in the camera recognition area for a period of time, the camera will trigger a dwell time warning.
- **Detention determination time:** It refers to how long the vehicle stays before triggering a warning.
- **Alarm interval:** It refers how often do warnings occur.
- **Turnback Event:** Refers to a situation where a vehicle that has passed through a virtual coil but has not left the virtual coil will be identified as a turn back.
- **Follow up event:** Determine whether the rear vehicle follows the front vehicle into the area.
- **Time to follow the car:** Time determined to be a follow up event.

3.3.2 AV Settings

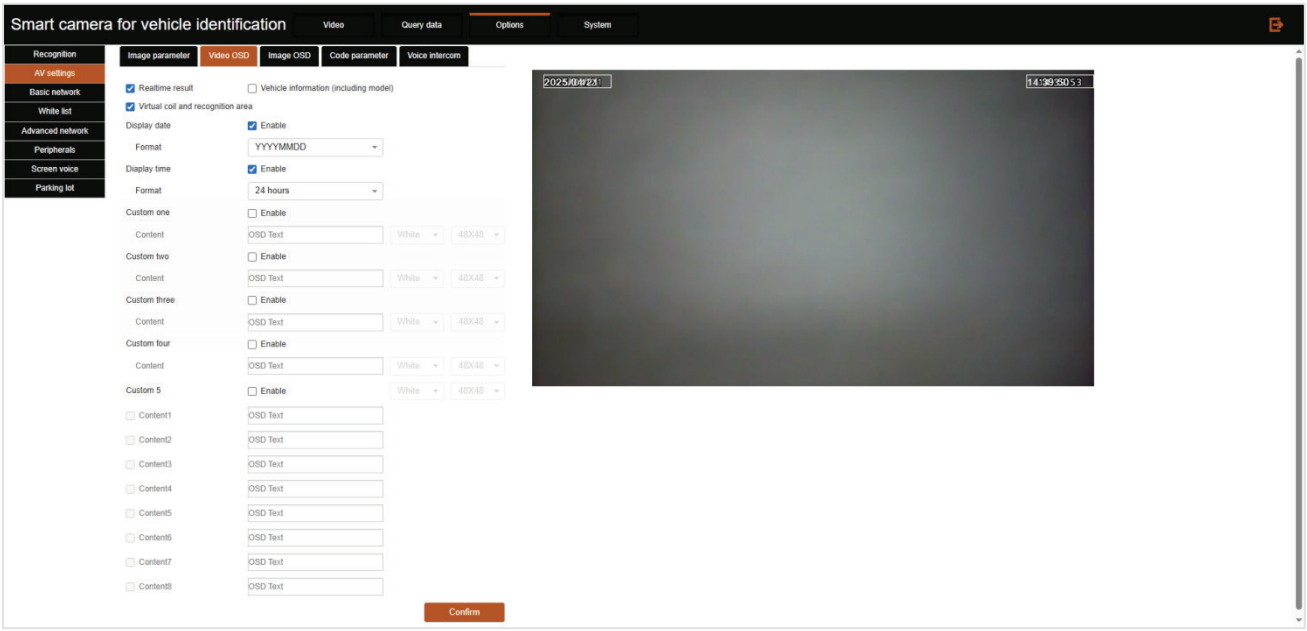
Click the **AV settings** tab to enter the AV Settings page.

➢ **Image parameter**



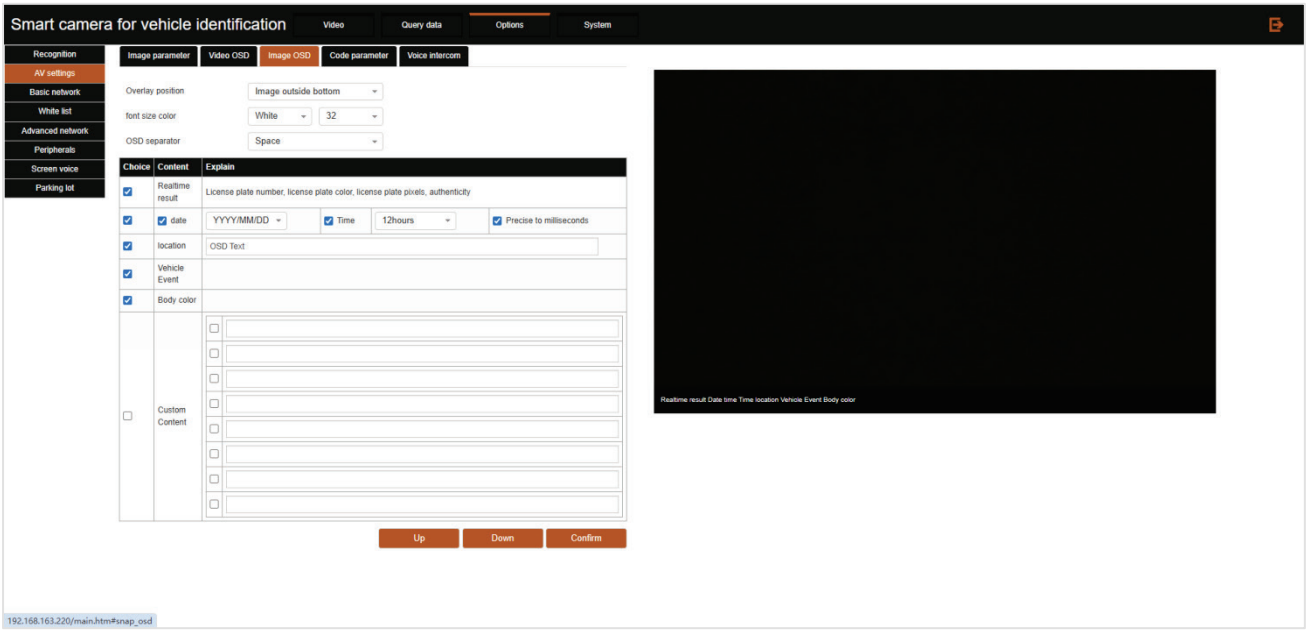
- Image parameter settings can be displayed in real time on the right side of the setup interface for easy adjustment of contrast.
- **Brightness:** Dragging the brightness progress bar can configure the brightness of the image.
- **Contrast:** Drag the contrast progress bar to configure the contrast of the image.
- **Saturability:** Drag the Saturation progress bar to configure the color saturation of the image, when the value is configured to 0, the image is configured as a black and white image.
- **Max gain:** Drag the Maximum Gain progress bar to configure the maximum gain value for the camera to automatically adjust the exposure parameters. The user decides the value of the maximum gain according to the actual application scenario.
- **Exposure time:** In ms, the exposure time is the opening time of the electronic shutter of the CMOS image sensor. Different exposure time can be configured according to different application scenarios. The time set here is the maximum exposure time, and the camera will automatically adjust the exposure time according to the brightness of the scene.
- **Image rotation:** Users can choose the flip angle of the image according to the direction of the actual installation of the camera.
- Click the **Restore default** button to set all image parameters to default parameters.
- **Aspect ratio:** The normal real-time display interface ratio is 4:3, which can be set to 16:9 through the Screen scale.
- **Processing mode:** Can be selected as Crop or Fill Border.

➢ Video OSD



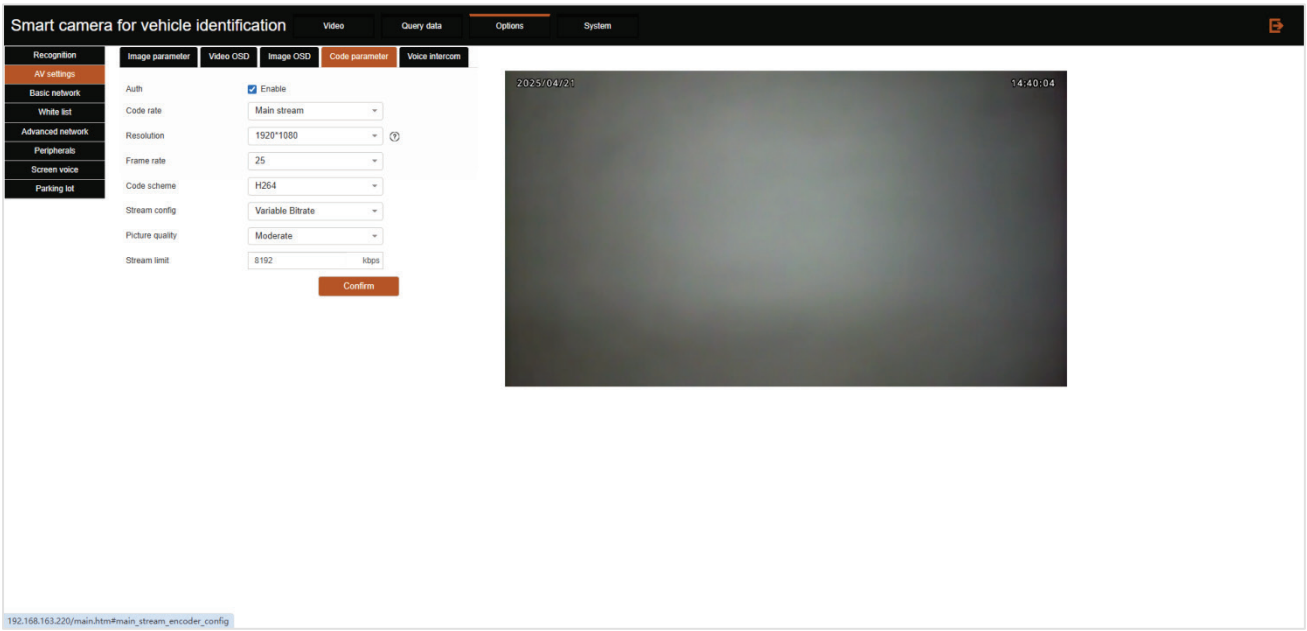
- **Realtime result:** Display the real-time license plate recognition result as text on the top left of the real-time screen.
- **Vehicle information:** Display the real-time recognized license plate and other information on the top left of the real-time screen.
- **Virtual coil and recognition area:** Enable/disable the virtual coil and recognition area.
- **Display date:** When enabled, you can configure the date format, and you can drag the text to change the position in the real-time screen.
- **Display time:** You can configure the time format after enabling, and you can drag the text to change the position in the real-time screen.
- **Custom one/two/three/four/5:** If enabled, you can configure the text content, support multiple customized text configurations, in the real-time screen, you can drag the text to change the position.

➢ Image OSD



After the camera recognizes the license plate, it will capture a photo and generate some relevant information in the captured image. Here is the location for setting this information.

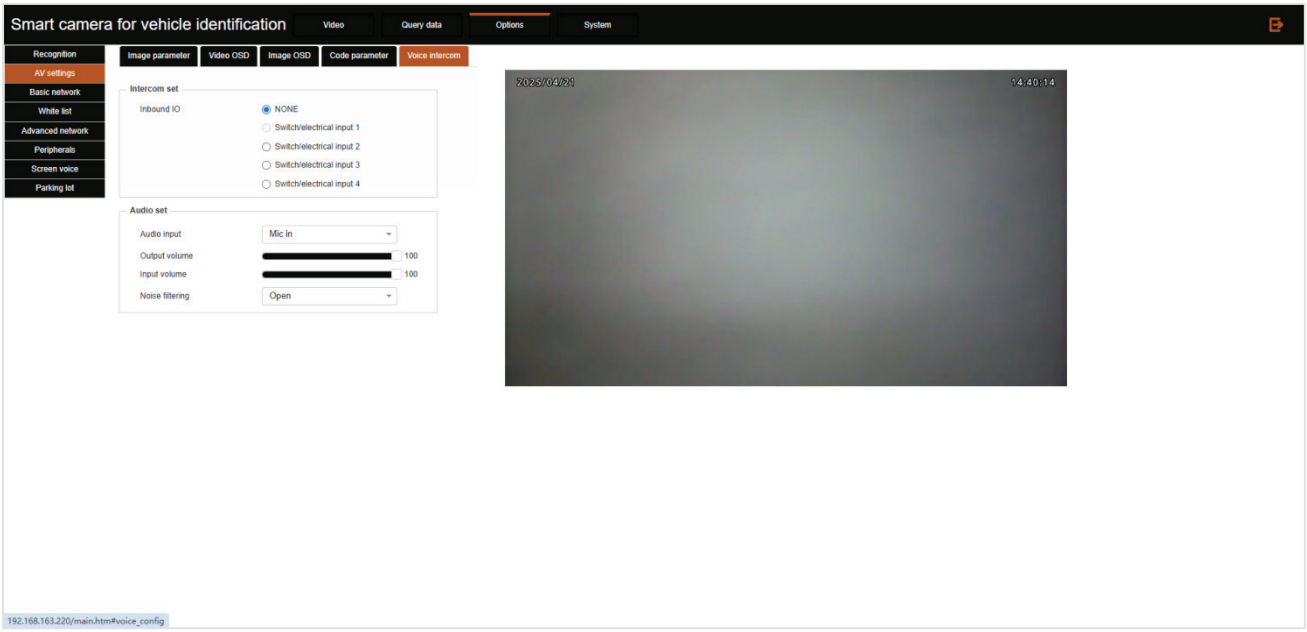
➢ Code parameter



- **Code rate:** The camera can output two streams, this option is used to toggle whether the following configuration item configures the main stream or a sub-stream.
- **Resolution:** Configure the video stream resolution.

- **Frame rate:** Configure the frame rate of the video stream, you can configure 1~25 frames per second.
- **Code scheme:** Encoding method of video stream, optional H.264, H.265 (MJPEG is supported on cell phone).
- **Stream config:** Switch video stream bit rate control mode, fixed code stream is static bit rate control (CBR), variable code stream is dynamic bit rate control (VBR).
- **Picture quality:** Configure the image quality of the video stream, the clearer the video stream consumes more network bandwidth.
- **Stream limit:** The code stream cap of dynamic stream. The range is 1~5000kbps.

➢ **Voice intercom**

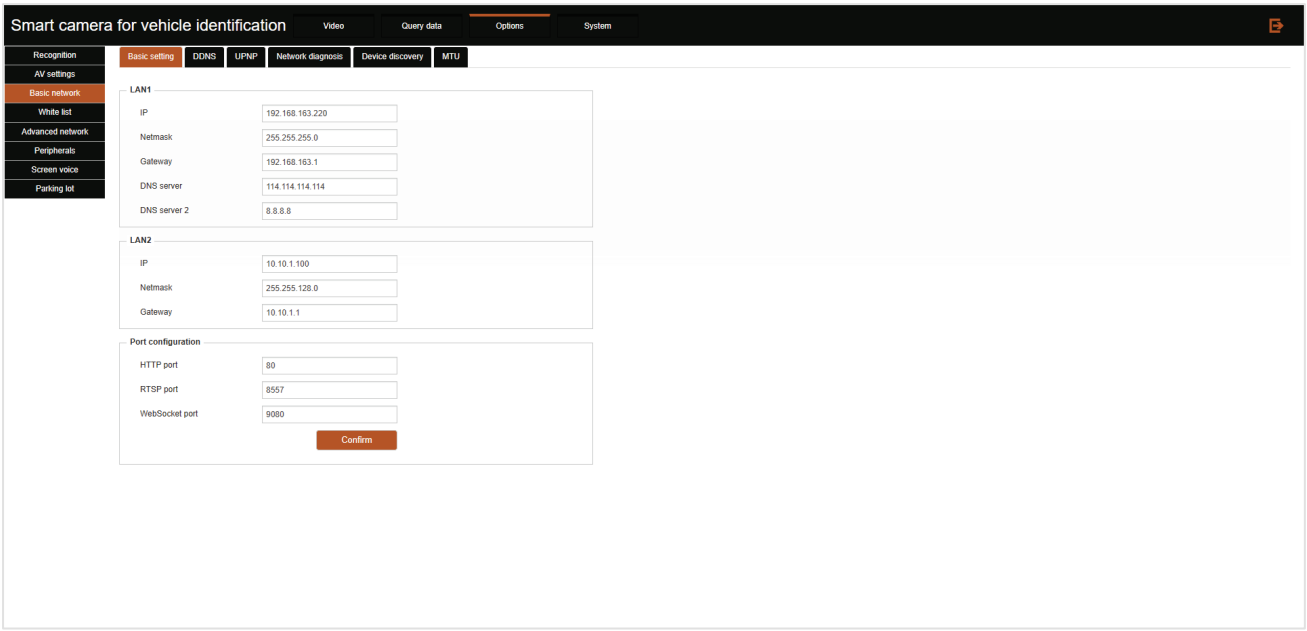


- **Intercom set:** Set the intercom IO access/no access to the system, if access, select the access port.
- **Audio input:** Set the audio input source.
- **Output volume:** Set the audio volume output from this camera.
- **Input volume:** Set the audio volume of the input device.
- **Noise filtering:** Turn on to perform noise reduction on the pickup sound of the unit.

3.3.3 Basic Network

Click the **Basic network** tab to enter the Basic network settings page.

➢ Basic setting



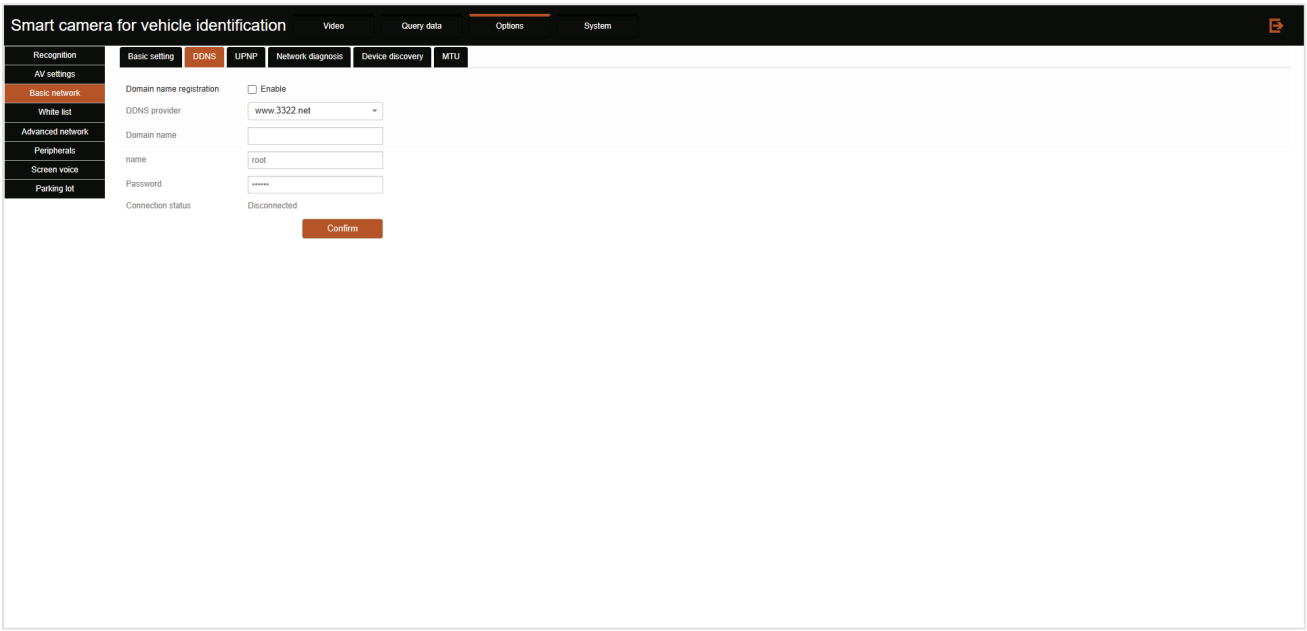
- **IP:** Set the network IP address of LAN1/LAN2.
- **Netmask:** Set the subnet mask of LAN1/LAN2.
- **Gateway:** Set the default gateway of LAN1/LAN2, which should be in the same network segment as the IP address.
- **DNS server:** Set the DNS server of the network. After setting the network parameters, click **Confirm** to take effect.
- **DNS server 2:** Set an alternate DNS server, and automatically switch to this server when the connection to the default DNS server fails.
- **HTTP port:** Set the port number of the HTTP protocol, the default is 80, click **Confirm** to take effect.
- **RTSP port:** Set the port number for RTSP transmission video stream, the default is 8557, click **Confirm** to take effect.
- **WebSocket port:** Set the port number of the WebSocket protocol, the default is 9080, click **Confirm** to take effect.

Note:

1) After modifying the IP address, the webserver address of the camera is also modified accordingly. The user needs to type the new IP Address of the camera in the address bar of a web browser to login again.
2) The modified IP address must be the same as the PC network segment.

➢ DDNS

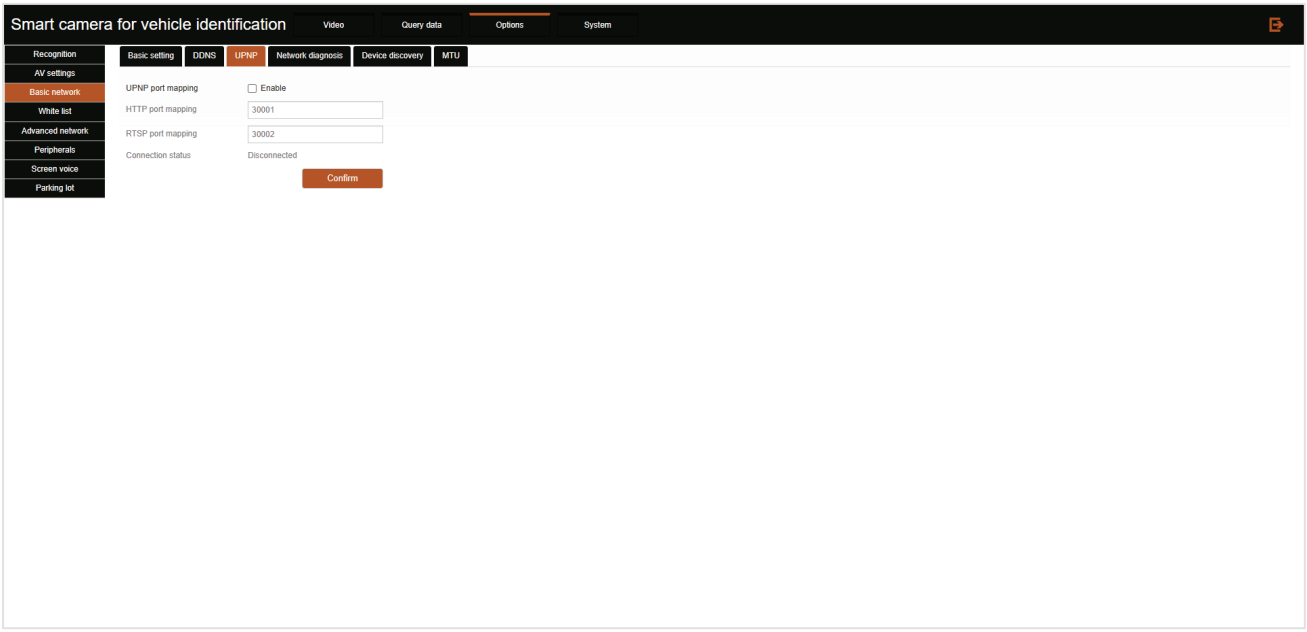
DDNS (Dynamic Domain Name) is to map the user's dynamic IP address to a fixed domain name resolution service, each time the user connects to the network the client program will be through the information transfer of the host's dynamic IP address to the server program located on the service provider's host, the server program is responsible for the provision of DNS services and the implementation of dynamic domain name resolution. This allows direct access to the device via the domain name without the need to record an IP address that is subject to change.



- **Domain name registration:** Check this checkbox to enable DDNS function.
- **DDNS provider:** The name of the DDNS server provider.
- **Domain name:** The domain name that the user registered with the DDNS service provider.
- **Name:** The user name that the user registered with the DDNS service provider.
- **Password:** The user's password when registering with the DDNS service provider. After the configuration is complete, click **Confirm** to take effect.

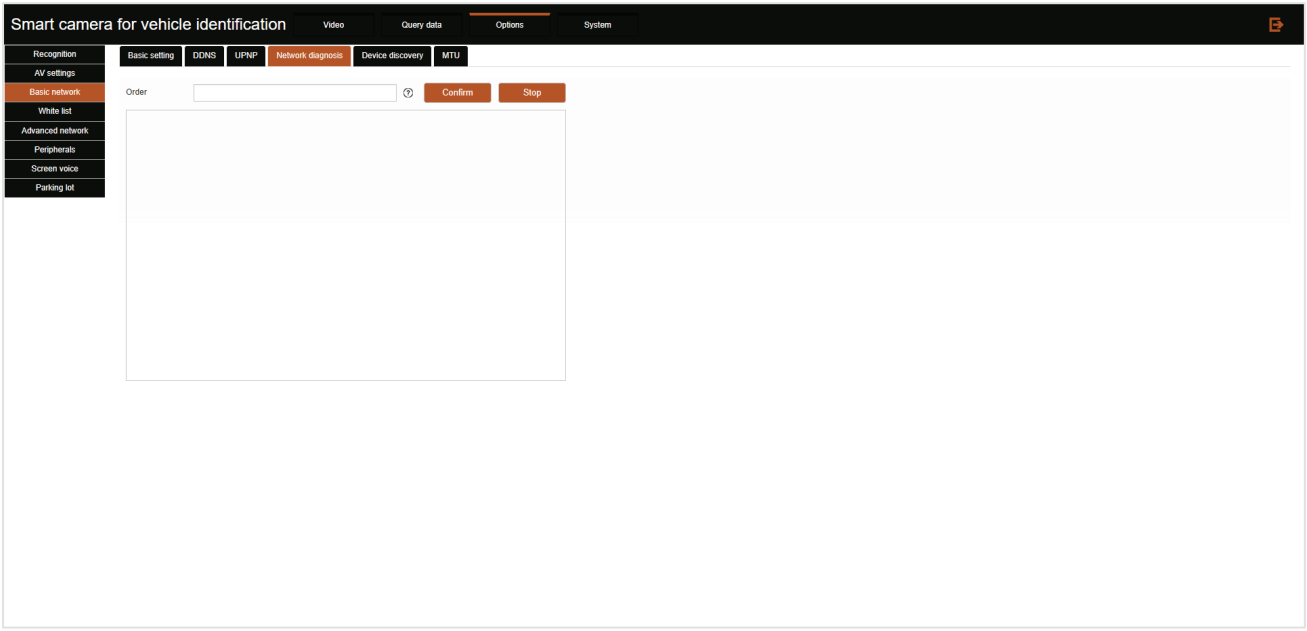
➢ UPNP

The UPNP (Universal Plug and Play) protocol can establish a port mapping relationship between the router's intranet and extranet, so that users on the extranet can directly access devices on the intranet through the extranet IP address.



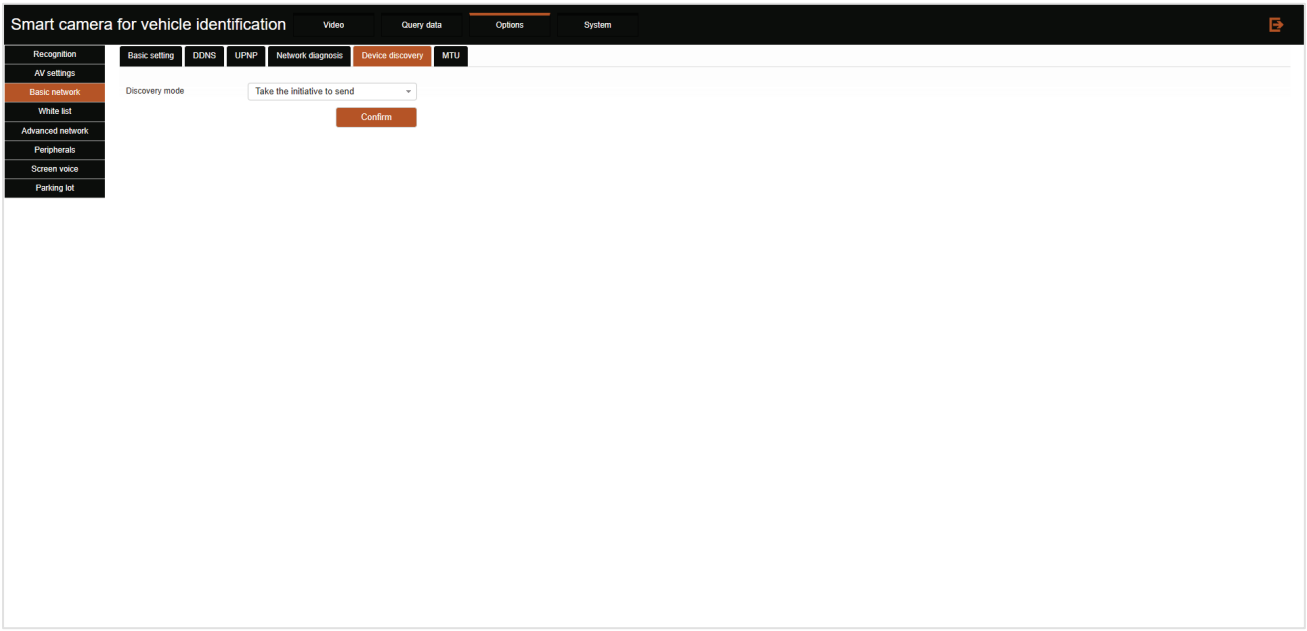
- **UPNP port mapping:** Check this checkbox to enable UPnP port mapping function.
- **HTTP port mapping:** Configure the external port number for HTTP protocol.
- **RTSP port mapping:** Configure the external port number for RTSP protocol video streaming transmission. Click **Confirm** to take effect after the modification is completed.

➢ **Network diagnosis**



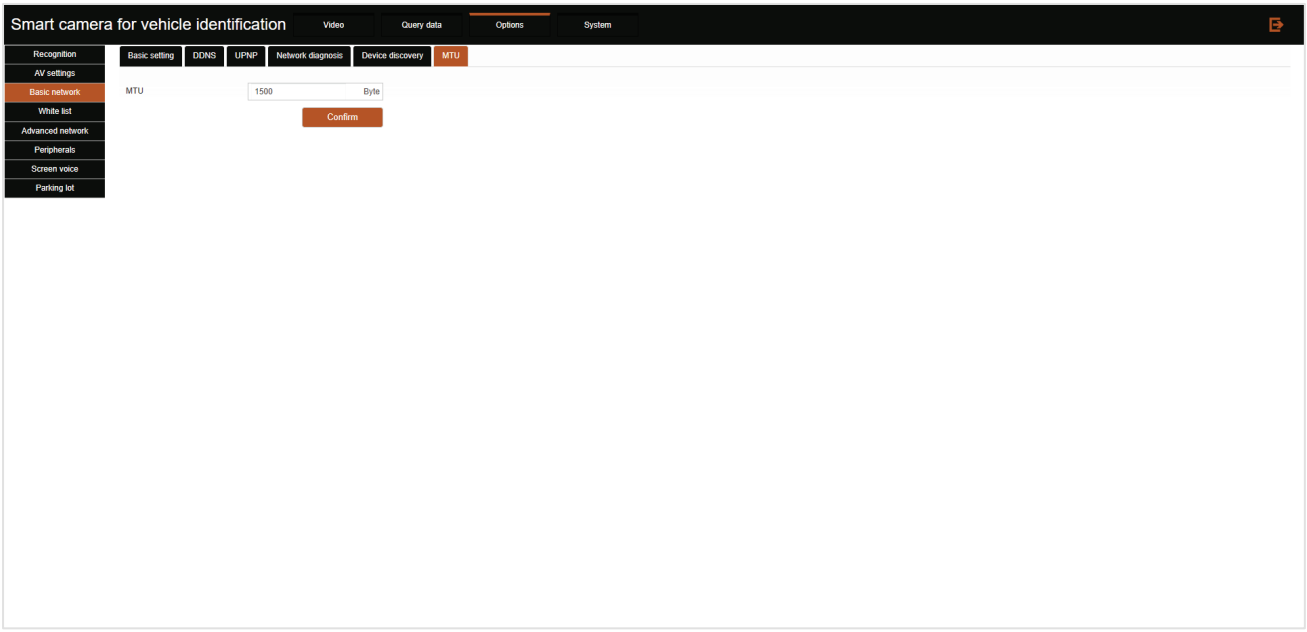
In the input box, you can enter the corresponding network test commands, click **Confirm** to start execution, the execution status will be displayed in the blank area below, click **Stop** to terminate the execution of the current command.

➢ Device discovery



- **Discovery mode:** Can be selected as Take the initiative to send or Passive receiving.
  Take the initiative: The client initiates a connection proactively, knowing the server's IP address and port, and initiates a TCP connection based on this information.
  Passive receiving: The server passively listens to the port and waits for the client to initiate a connection. After receiving the connection request from the client, the server accepts the connection and exchanges data.

➢ MTU

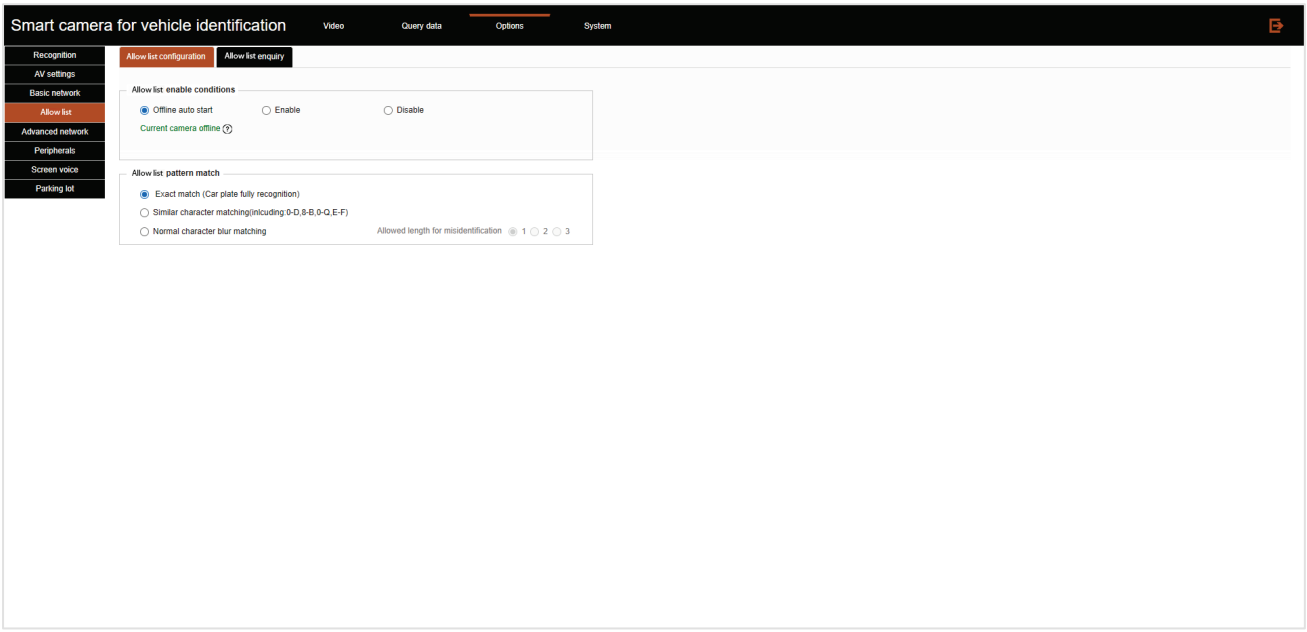


- **MTU:** The maximum packet size that can be transmitted in a network, measured in bytes.

3.3.4 Allow List

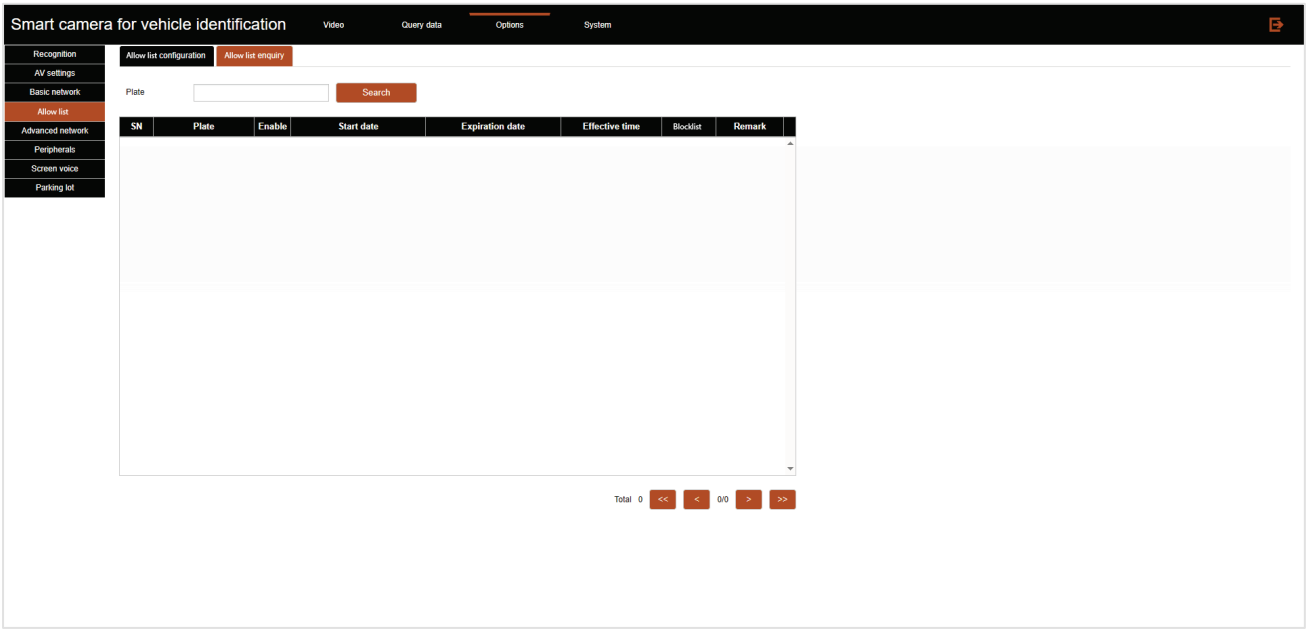
Click the **Allow list** tab to enter the allow list settings page.

➢ **Allow list configuration**



- **Allow list enable conditions:** You can set Allow list enable status/enable trigger condition.
- **Allow list pattern match:** Can set the query mode of allow list fuzzy matching, users can choose the appropriate fuzzy query mode according to the actual scene requirements, as well as choose the corresponding allowable misidentification length according to the scene fault tolerance requirements.

➢ **Allow list enquiry**



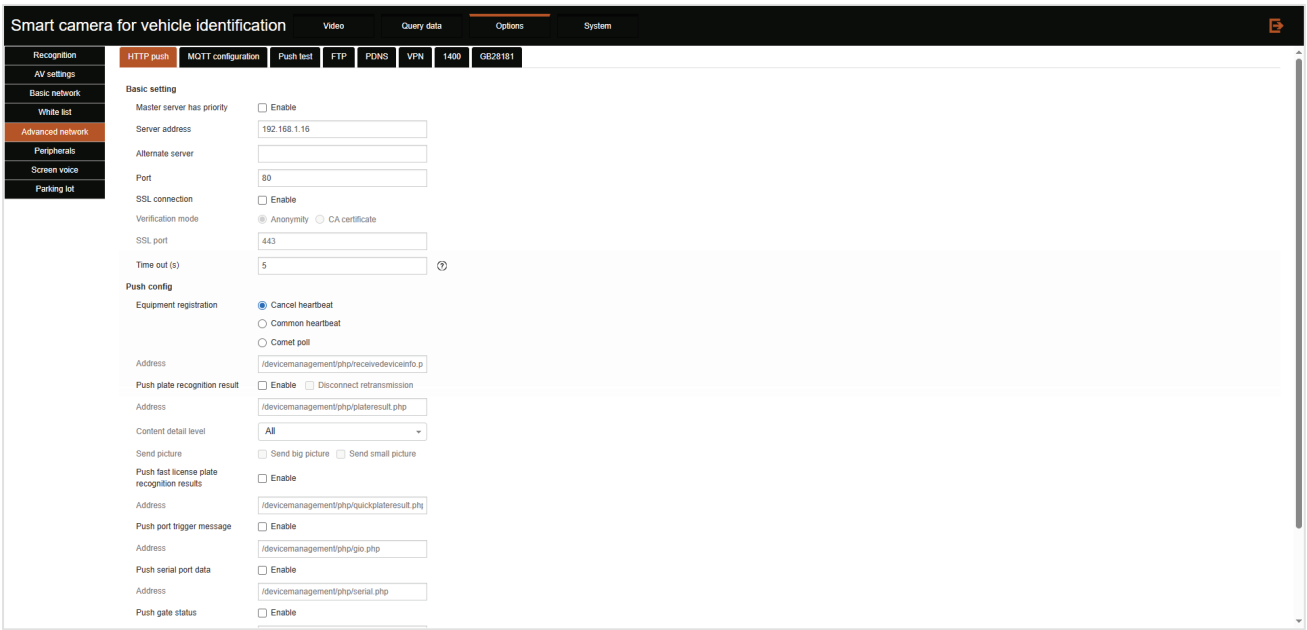
Details of the license plate in the allow list can be checked by entering the license plate number.

3.3.5 Advanced Network

Click the **Advanced network** tab to enter the advanced network settings page.

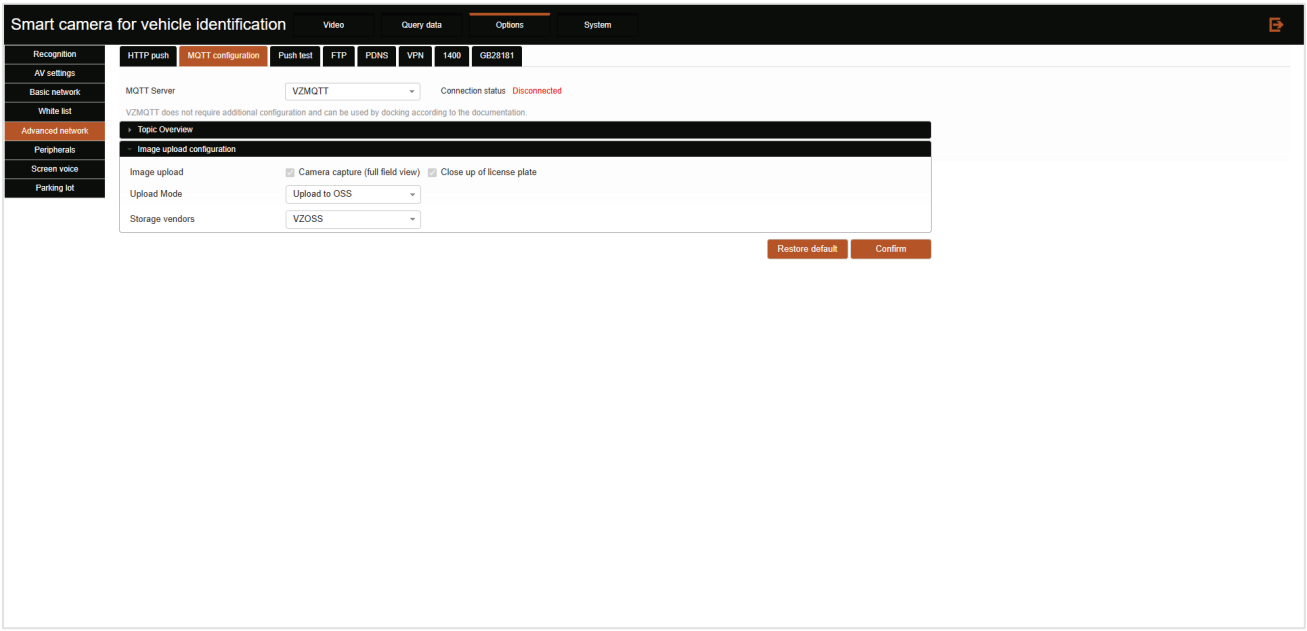
➢ **HTTP push**

Push configuration is used to configure the back-end to receive image data for license plate capture.



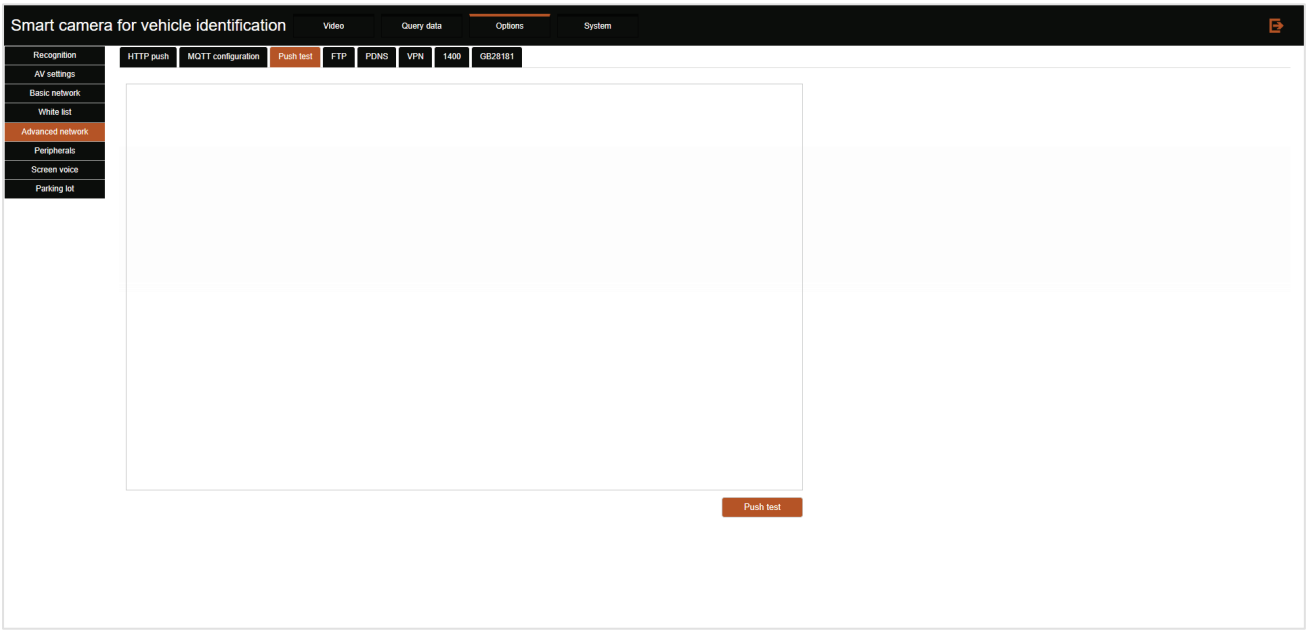
- **Master server has priority:** Enable to prioritize the master server for push.
- **Server address:** Configure the primary server address to receive uploaded images.
- **Alternate server:** Configure the alternative server address to receive uploaded images, can be multiple addresses, separated by ';'.
- **Port:** The port number for HTTP/HTTPS upload, default 80.
- **SSL connection:** Checking this checkbox is to enable SSL during data transfer.
- **Verification mode:** SSL authentication method.
  Anonymity: Use anonymous SSL authentication.
  CA certificate: Use CA certificate for SSL authentication, check the box and upload CA certificate.
- **SSL port:** Configure the port number for SSL authentication.
- **Time out:** Configure the connection timeout time for data push.
- **Equipment registration:** By which to judge the connection between the device and the server.
  Cancel heartbeat: Do not judge the connection, send data directly.
  Common heartbeat: The client sends heartbeat messages to the server at regular intervals, and judges the connection between the device and the server by whether the server returns the message within the specified time.
  Comet poll: Based on HTTP long connection, the client sends query request to the server, when there is no data, the server does not respond immediately, but wait for data. Only when new data is generated, it responds to the browser, and an HTTP connection ends.
- **Address:** The push URL address of the equipment registration.
- **Push plate recognition result:** Check this checkbox to push plate capture results via HTTP protocol.
- **Address:** The push URL address of the plate capture result. UTF8 encoding and then base64 encoding.
- **Content detail level:** Select the content to push for the plate capture result.
- **Send picture:** Push captured license plate images, choose to send big picture or small picture.
- **Push fast license plate recognition result:** After enabled, only push a small portion of key data and quickly push the results to achieve the goal of quickly opening the gate.
- **Address:** The push URL address of the fast plate capture result.
- **Push port trigger message:** Check this checkbox to enable port trigger push content.
- **Address:** the URL address of the port-triggered push. UTF8 encoding followed by base64 encoding.
- **Push serial port data:** Check this checkbox to enable serial port data push.
- **Address:** Serial port triggered push URL address, UTF8 encoded then base64 encoded.
- **Push gate status:** After enabled, when the barrier gate status of the device connection changes, it will actively push the barrier gate status to the server address.
- **Address:** The push URL address of the gate status.
- **HTTP offline check:** Whether to enable HTTP offline check.
- **Retransmission times:** Configure the number of HTTP push retransmissions.
- Click **Confirm** to save changes.

➢ MQTT configuration



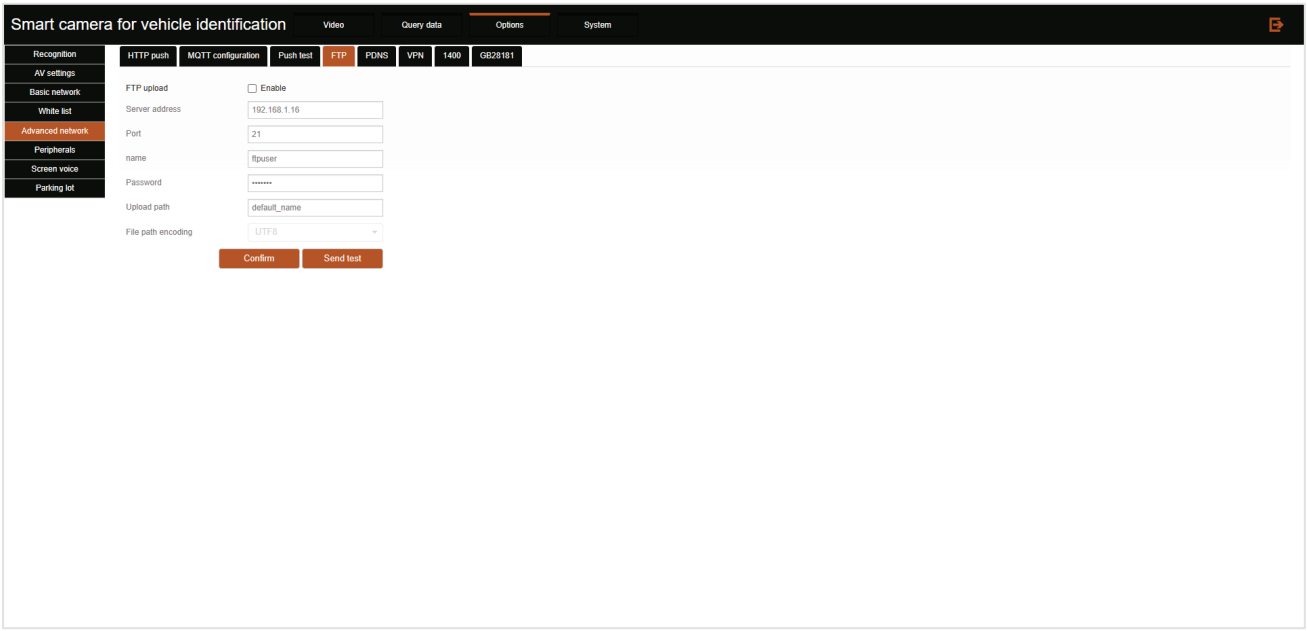
MQTT is a message queue that supports publishing and subscribing. Devices can push system information to the MQTT server, and customers can then subscribe to the information published by the device from the MQTT server.

➢ Push test



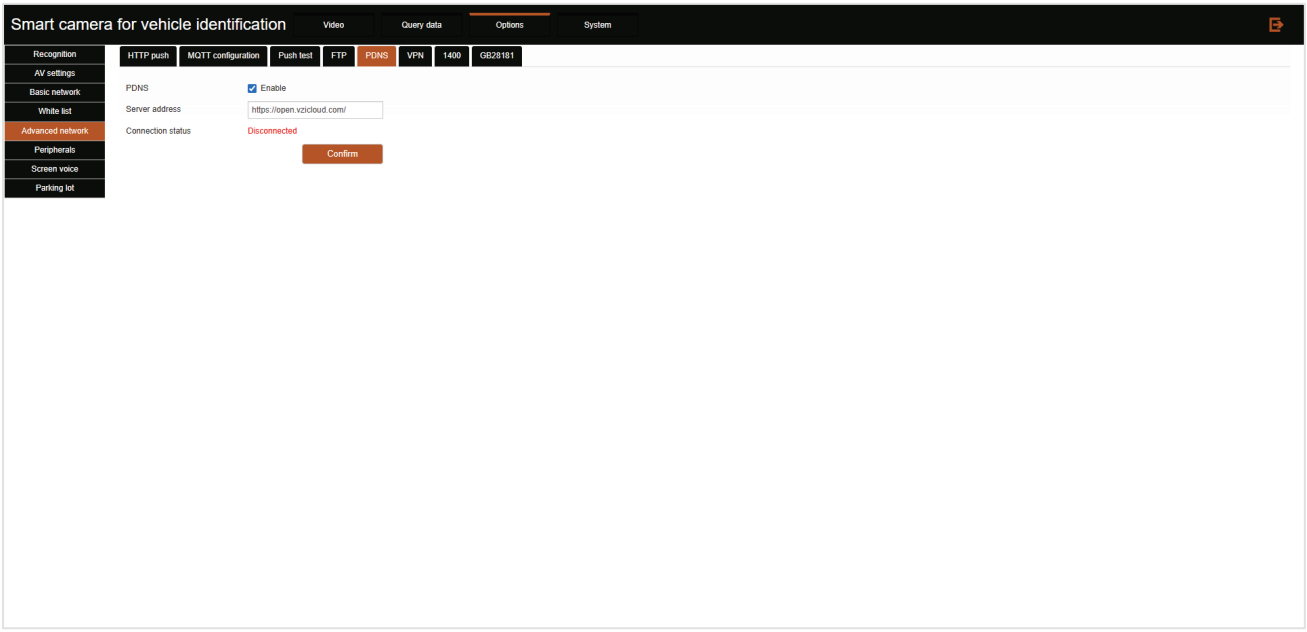
Push test can be performed by clicking the **Push test** button in the lower right corner, and the test details will be displayed in the blank area of the interface.

➢ FTP



- **FTP upload:** Check this option to enable FTP upload function.
- **Server address:** Configure the FTP server address for uploading.
- **Port:** Configure the port number of FTP upload service.
- **Name:** Configure the user name used to log in to the FTP server.
- **Password:** Configure the password used to log in to the FTP server.
- **Upload path:** Configure the data path of the uploaded FTP server.
- **File path encoding:** Can be selected as UTF8 or GBK.

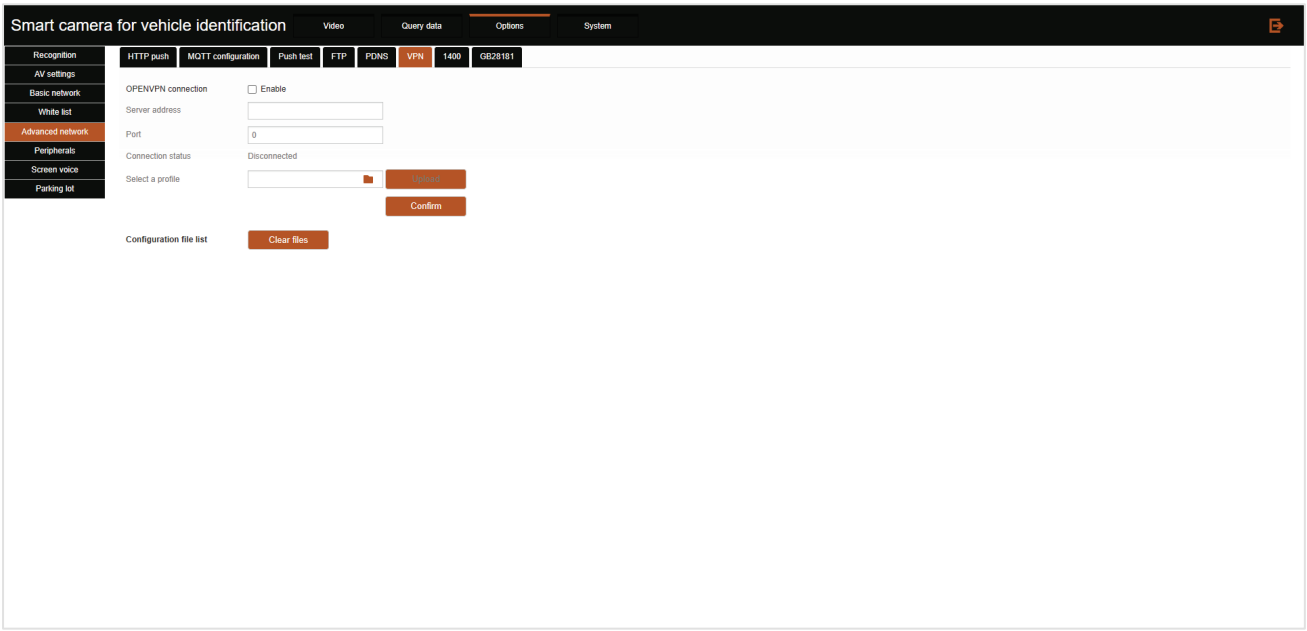
➢ PDNS



- **PDNS:** Check this checkbox to start the PDNS connection function.
- **Server address:** You can configure the PDNS address.
- Click the **Confirm** button to save the configuration.

➢ **VPN**

A VPN is a virtual transport channel that provides a secure and reliable network transport channel for remote access to devices.

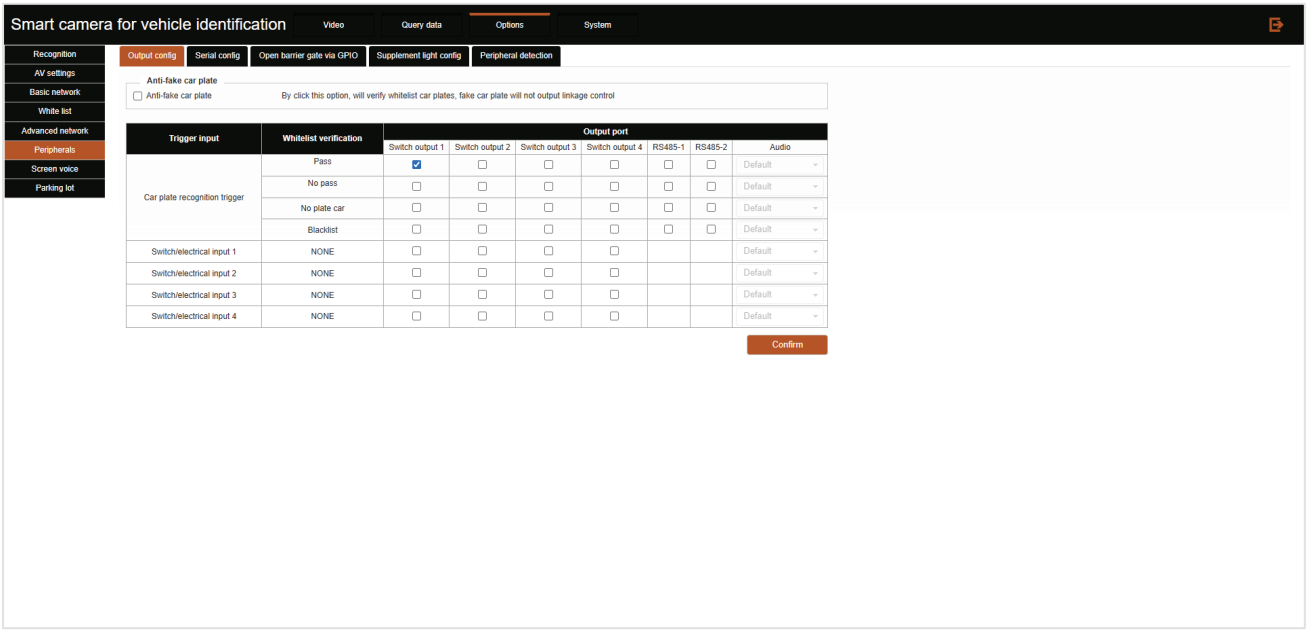


- **OPENVPN connection:** Check this checkbox to enable the Open VPN function.
- **Server address:** You can configure the VPN server address.
- **Port:** Configure the port number of VPN service.
- **Select a profile:** Select the security certificate of Open VPN and click **Upload**. Click **Confirm** after all configurations are completed to take effect.

3.3.6 Peripherals

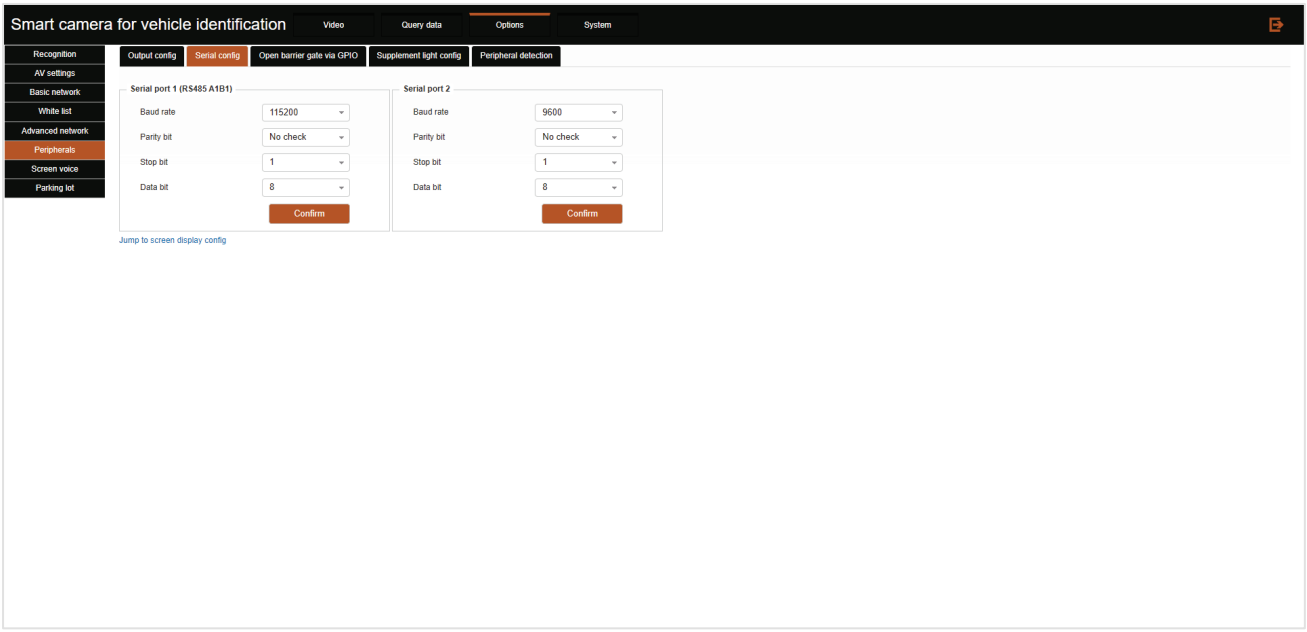
Click the **Peripherals** tab to enter the peripherals settings page.

➢ Output config



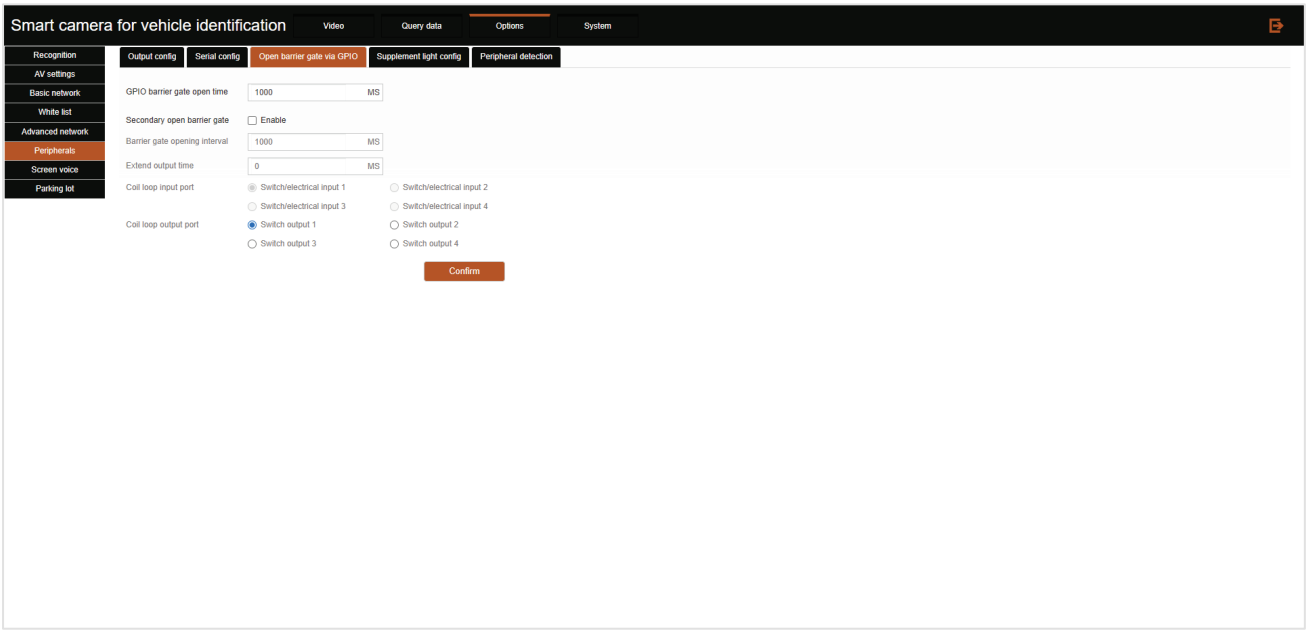
- **Anti-fake car plate:** When turn on the function, the fake license plate will not trigger the output linkage control.
- User can configure the system to choose to output signals at multiple ports according to the white list verification when the license plate recognition is triggered.
- User can configure the system to trigger multiple (only some output ports are supported) output port signals when getting input port signals.

➢ Serial config



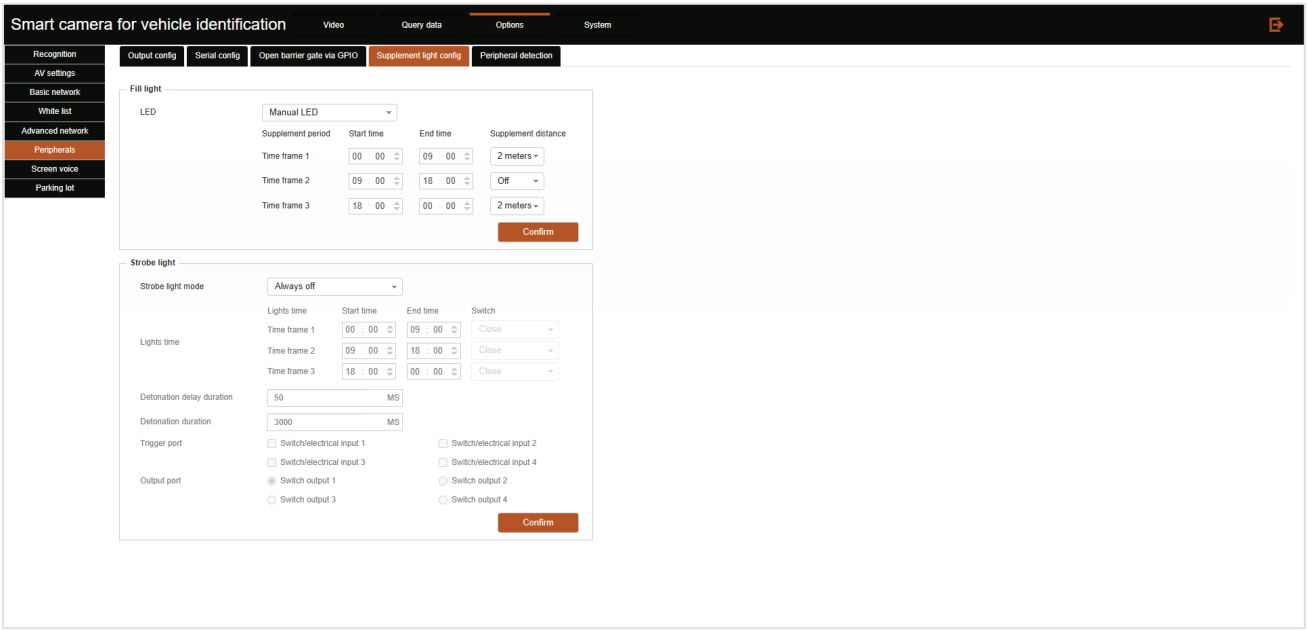
- **Baud rate:** Configure the serial port baud rate.
- **Parity bit:** Configure the serial port checksum bit.
- **Stop bit:** Configure the serial port stop bit.
- **Data bit:** Configure the serial port data bit.

➢ **Open barrier gate via GPIO**



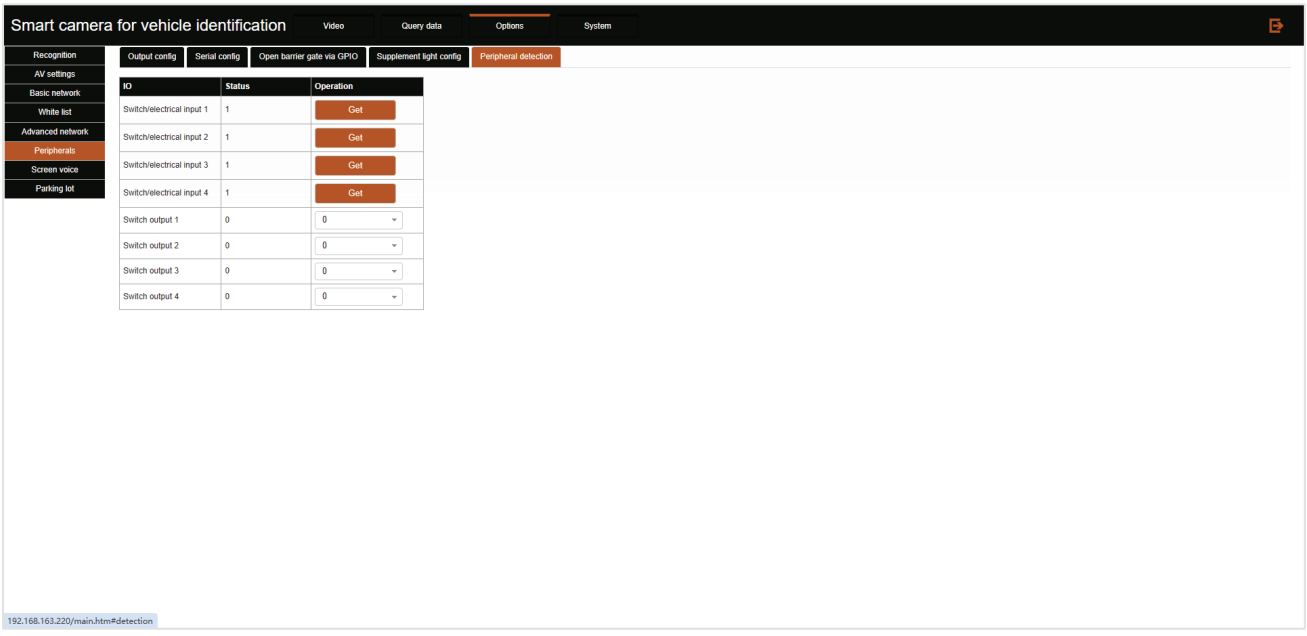
- **GPIO barrier gate open time:** Sets the length of time a single gate will remain open.
- **Secondary open barrier gate:** Enable to trigger gate opening for vehicles not recognized by the camera through the ground sensing coil.
- **Barrier gate opening interval:** Set the minimum interval time between two gate openings, only when the front vehicle passes and the gate drops, the gate can be opened for the rear vehicle after the interval time has elapsed.
- **Extend output time:** Sets the extension time for the ground sensing coil to respond to the output signal after the vehicle sensing has disappeared.
- **Coil loop input port:** Sets the interface to receive the signal from the ground sensing coil.
- **Coil loop output port:** Set the interface to output the signal of ground sense coil.

➢ Supplement light config



- **LED:** Select the fill light working status.
- Fill light configuration can be set for different time periods by distinguishing time periods.

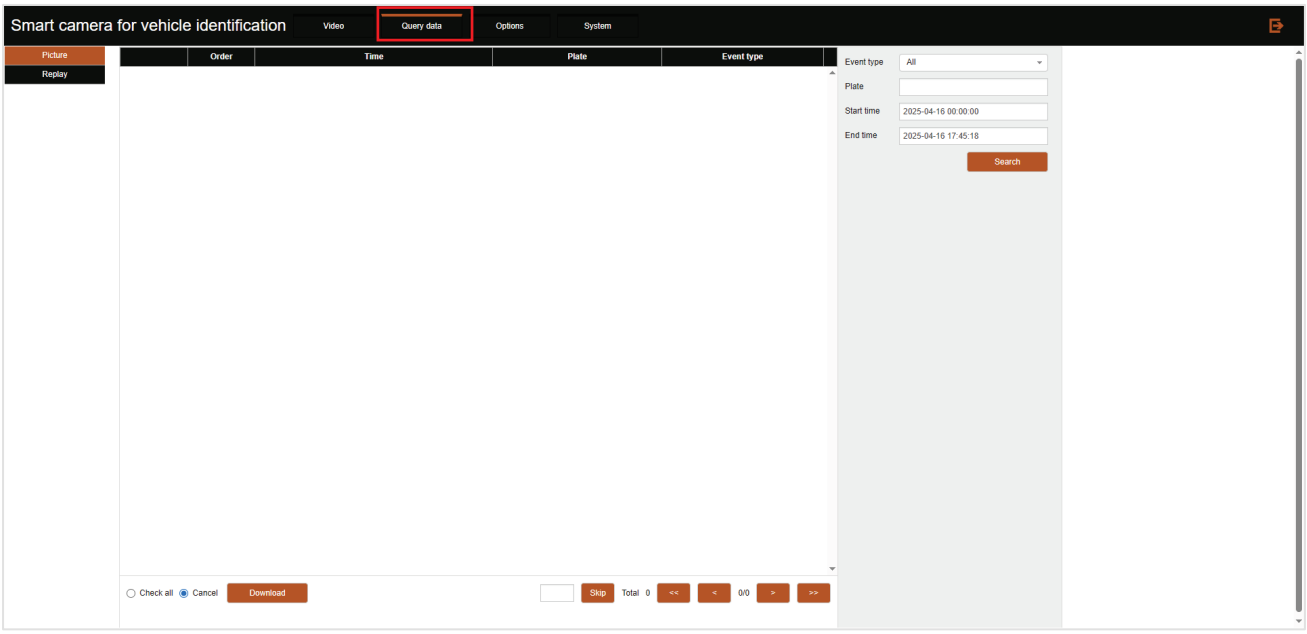
➢ Peripheral detection



- In the input port row, you can click the **Get** button to get the current port connectivity status.
- In the Output Port row, you can set the status of the current port to connected/disconnected.

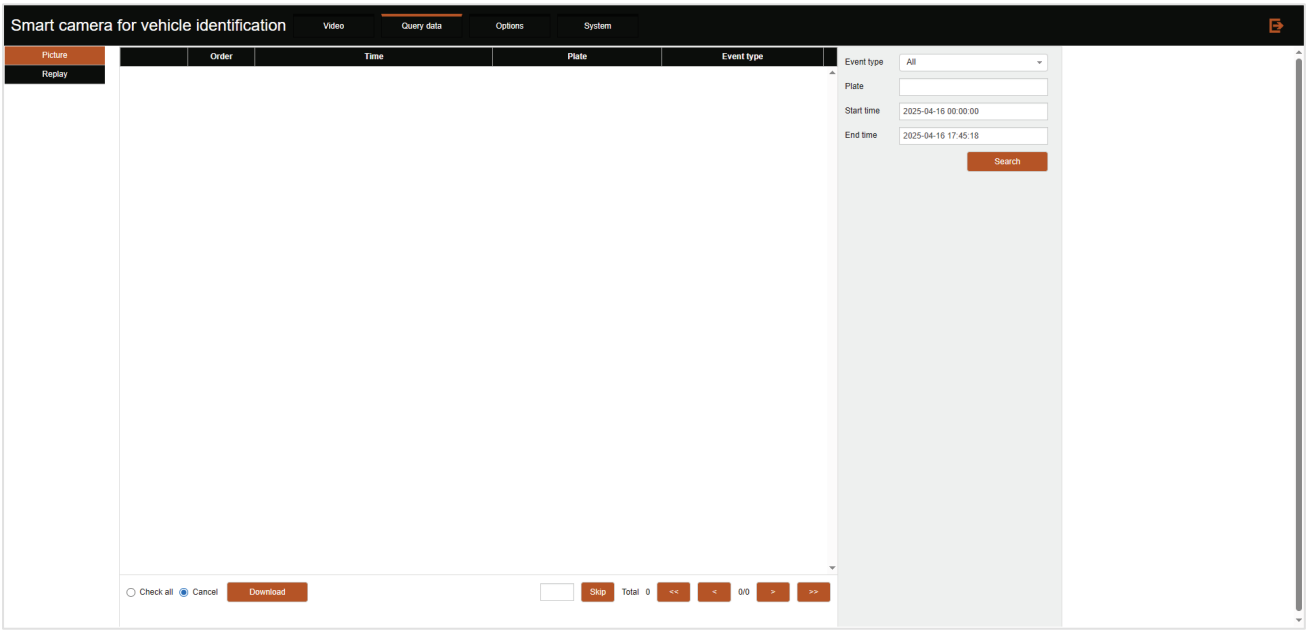
3.4 Query Data

Click [**Query data**] to enter the data query interface (currently only supports image data query), as shown below.



3.4.1 Picture

Click **Picture** to enter the picture preview interface, as shown below.



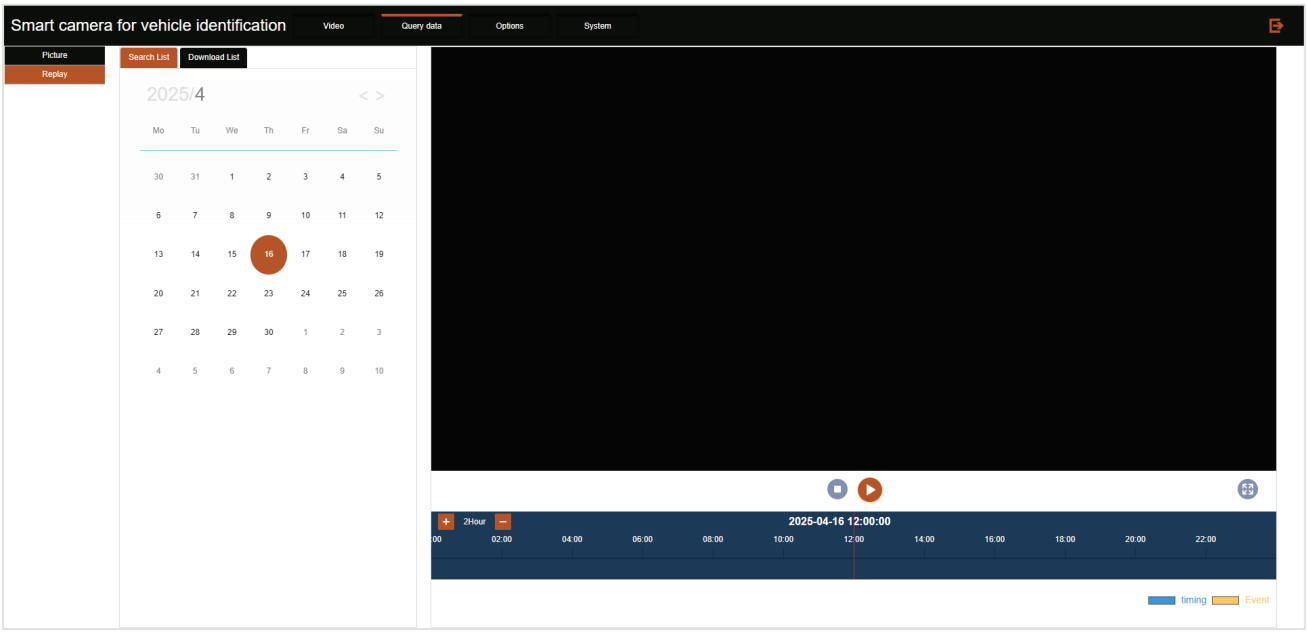
You can input the license plate number/time period at the top right of the interface and click the **Search** button, the captured images that meet the query criteria will be displayed in the query result column in days (categorized as folders).

- Select the image on the right side of the interface to preview the image.
- Click the **Download** button at the left bottom of the interface to compress and download the current preview image.

3.4.2 Replay

Click **Replay** to enter the Video Playback interface, as shown below. Note, please use IE browser to open.

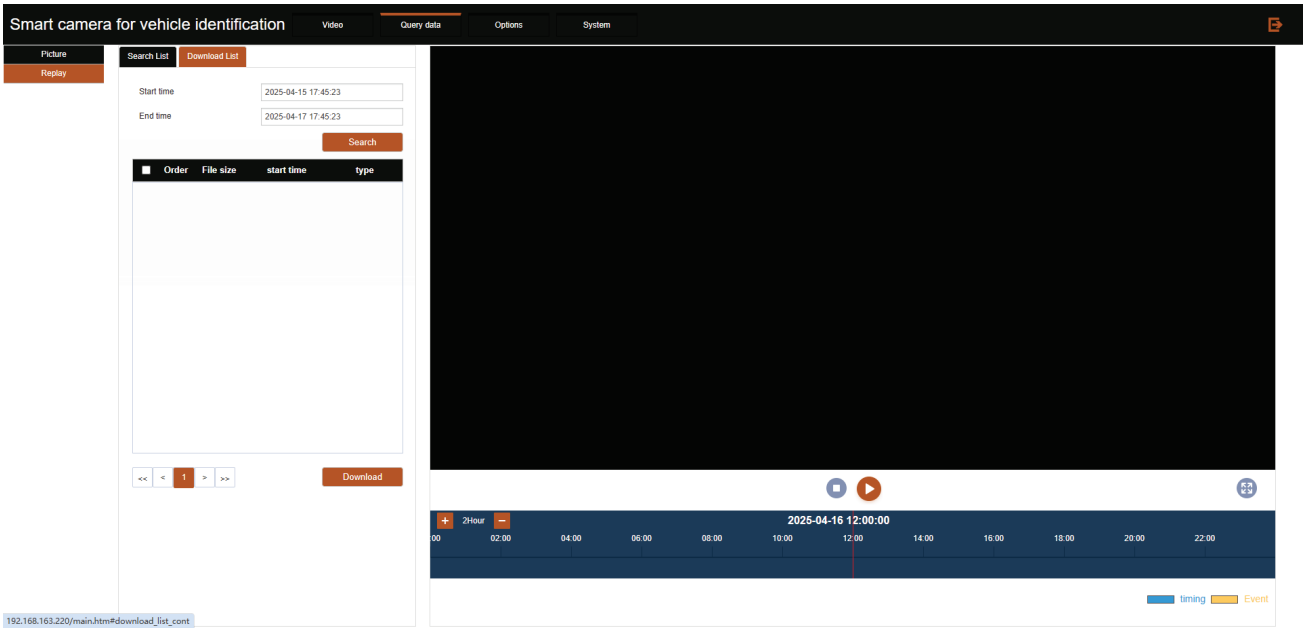
➢ **Search List**



- On the left side of the video playback page, select the date you want to view the video, and click "View", then the recorded video in the right video area will be displayed. Note that you need to enable the video plan in "System--Storage management--Video program" to view the corresponding video.
- Video playback supports stop, slow playback, fast playback, pause, single frame playback, screenshot, and video cutting.

➢ **Download List**

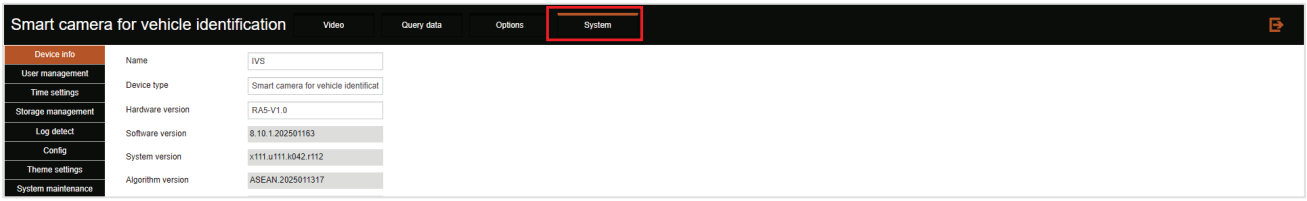
Click the "**Download List**" tab, the following video query interface will be displayed.



- Set the time you want to download the video, click "**Search**", it will search all the videos in that time.
- Check the selected videos, click "**Download**" in the lower left corner of the interface to start downloading the selected videos.

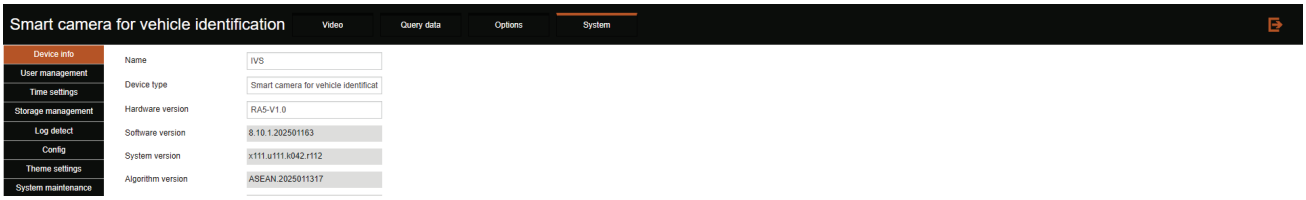
3.5 System

Click [**System**] to enter the device maintenance interface, as shown below:



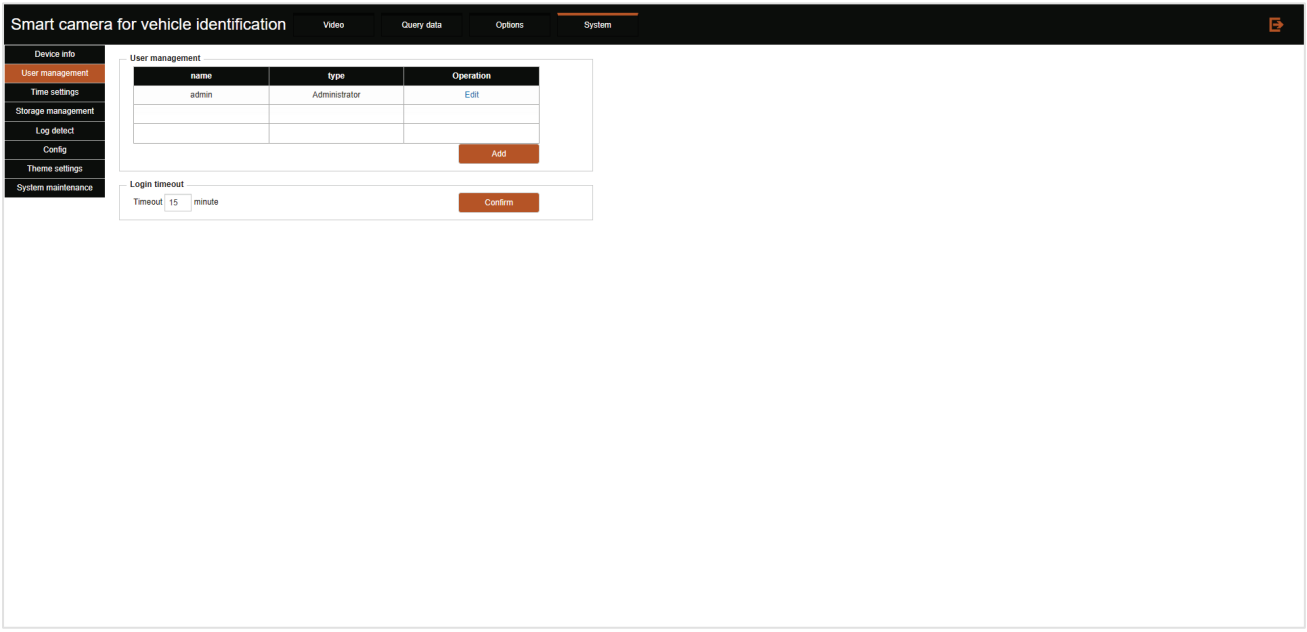
3.5.1 Device Information

Click **Device info** to enter the device information display interface.



3.5.2 User Management

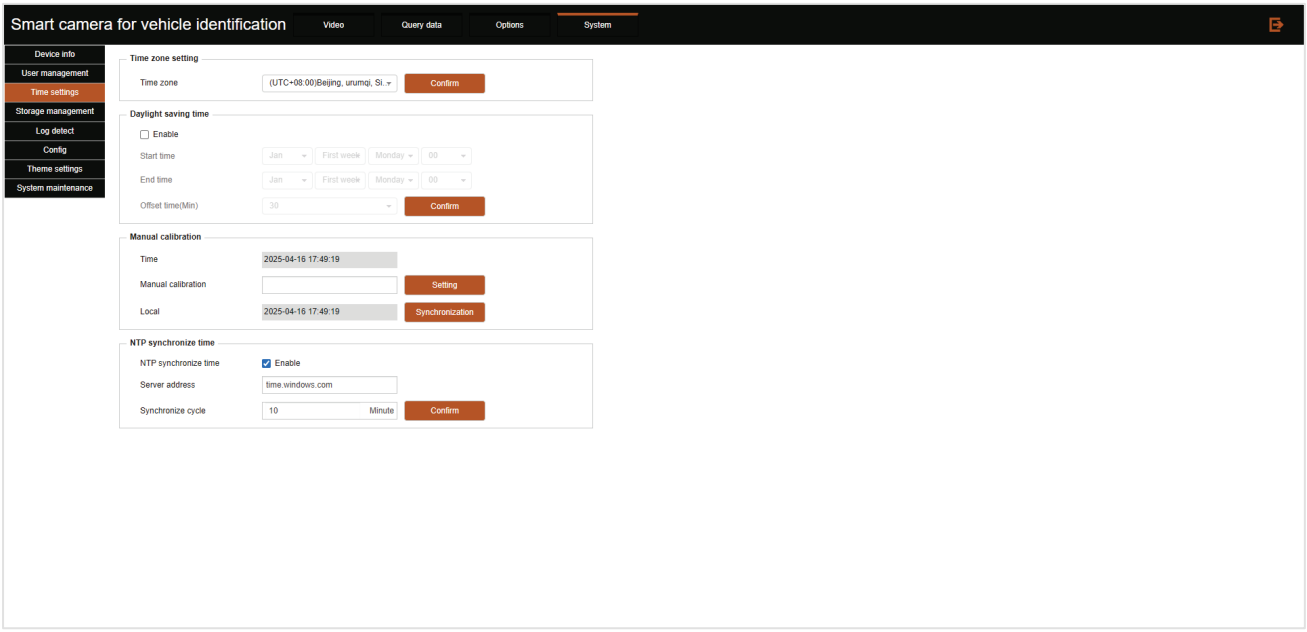
Click **User management** to enter the user management interface.



- To add a user, enter the user name, password, confirm the password, select the type (permission setting), and click the **Confirm** button to add the user.
- Click **Edit** in the list of specified user name, enter the password, confirm the password and click OK to change the user password.
- **Login timeout:** You can set the time to exit the system automatically without operation.

3.5.3 Time Settings

Click **Time settings** to enter the time settings interface.



- **Time zone setting:** Configure the time zone in which the current device is located.
- **Daylight saving time:** Select to enable the daylight saving time and set the start and end time.
- **Manual calibration**

  Time: This text box shows the current date and time.

  Manual calibration: You can directly enter the current date and time.

  Local: Select to get the local time to synchronize the device.
- **NTP synchronize time**

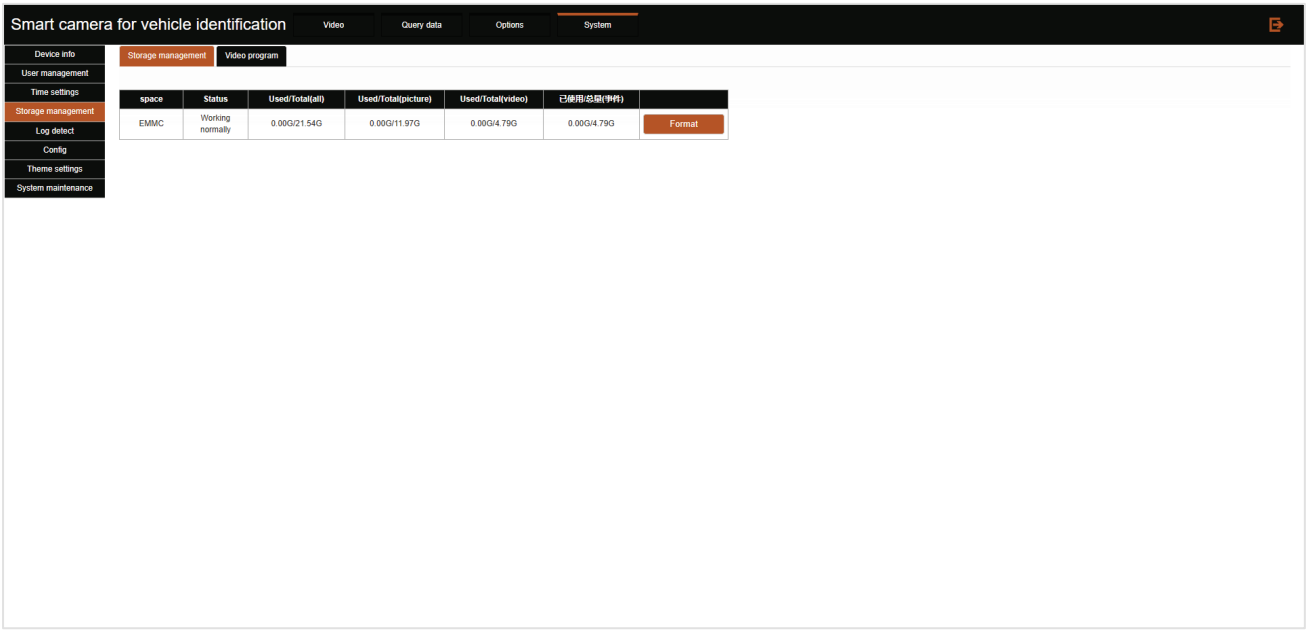
  Enable: Check the check box to enable NTP time synchronization service.

  Server address: Configure the address of NTP server.

  Synchronize cycle: Configure the frequency of synchronizing time from NTP server.

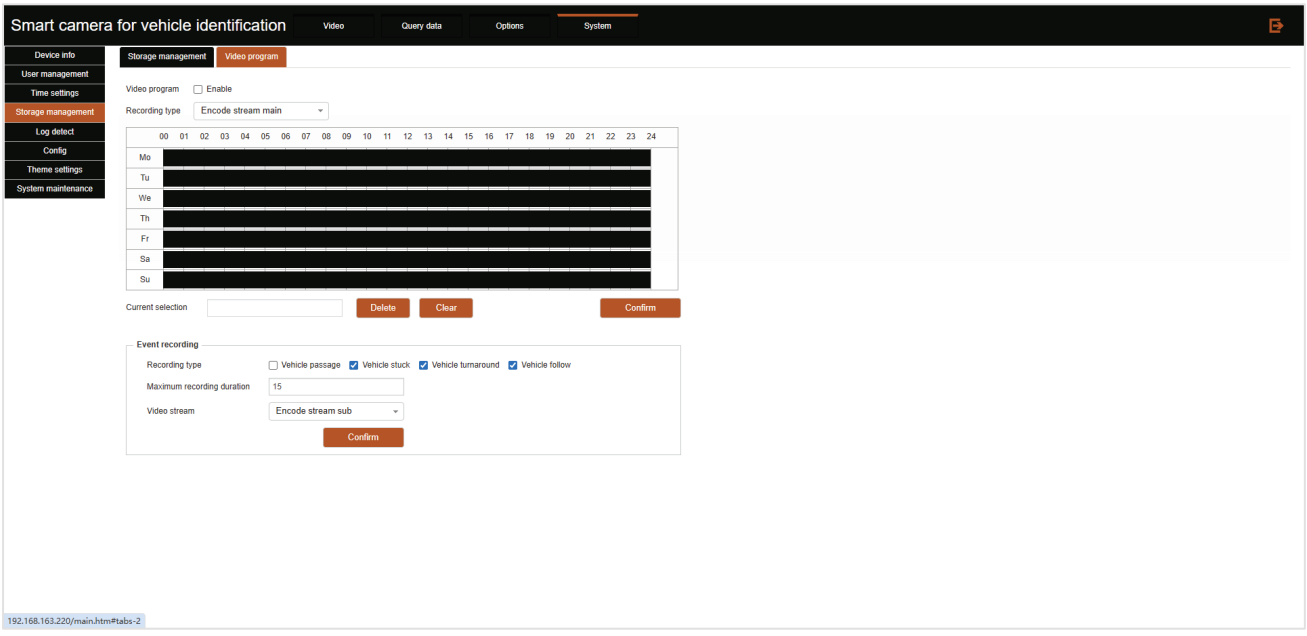
3.5.4 Storage Management

Click **Storage management** to enter the storage management interface.



- If there are storage devices, the status and capacity information of each storage device will be displayed in the above figure.
- The SD card can be formatted by clicking the **Format** button on the right.

Click **Video program** in the storage management interface, you can enter the following video plan interface, as shown in the following figure.

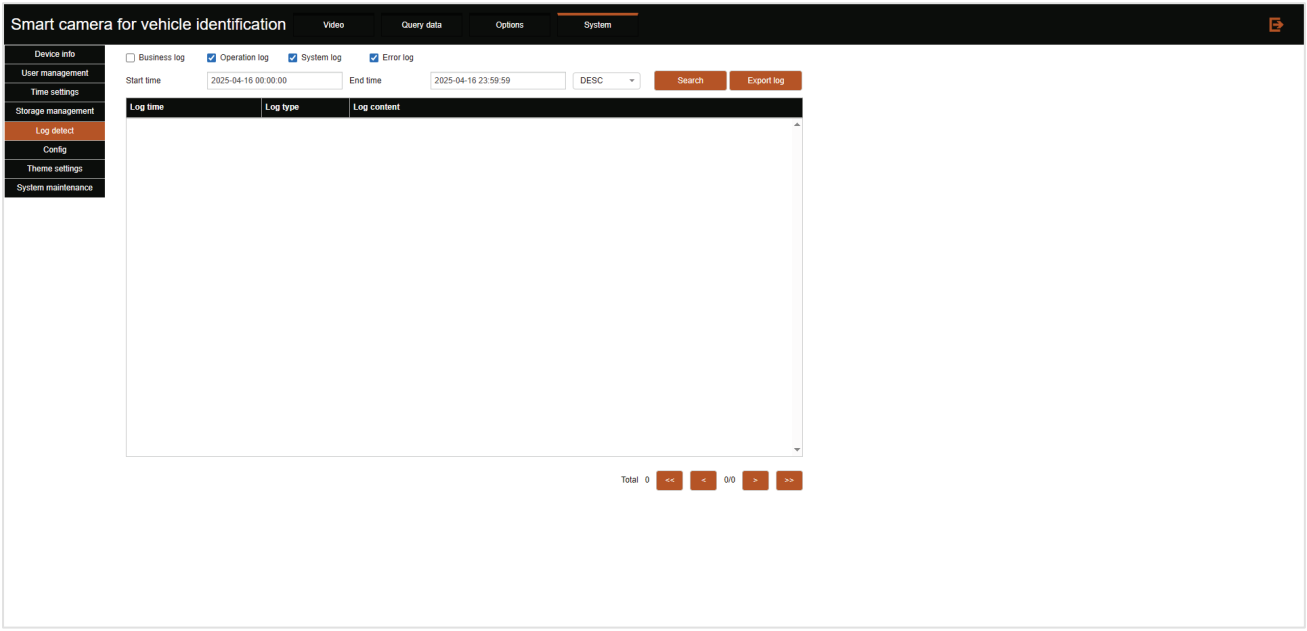


- Click **Enable** to enable the recording schedule.
- **Recording type:** Can be selected as Encode stream main or Encode stream sub.
- Manually set the time for video recording to be enabled, and click **Confirm** after completing the setting to take effect.

- Select the event type that the camera automatically record, and set the maximum recording duration.

3.5.5 Log Detect

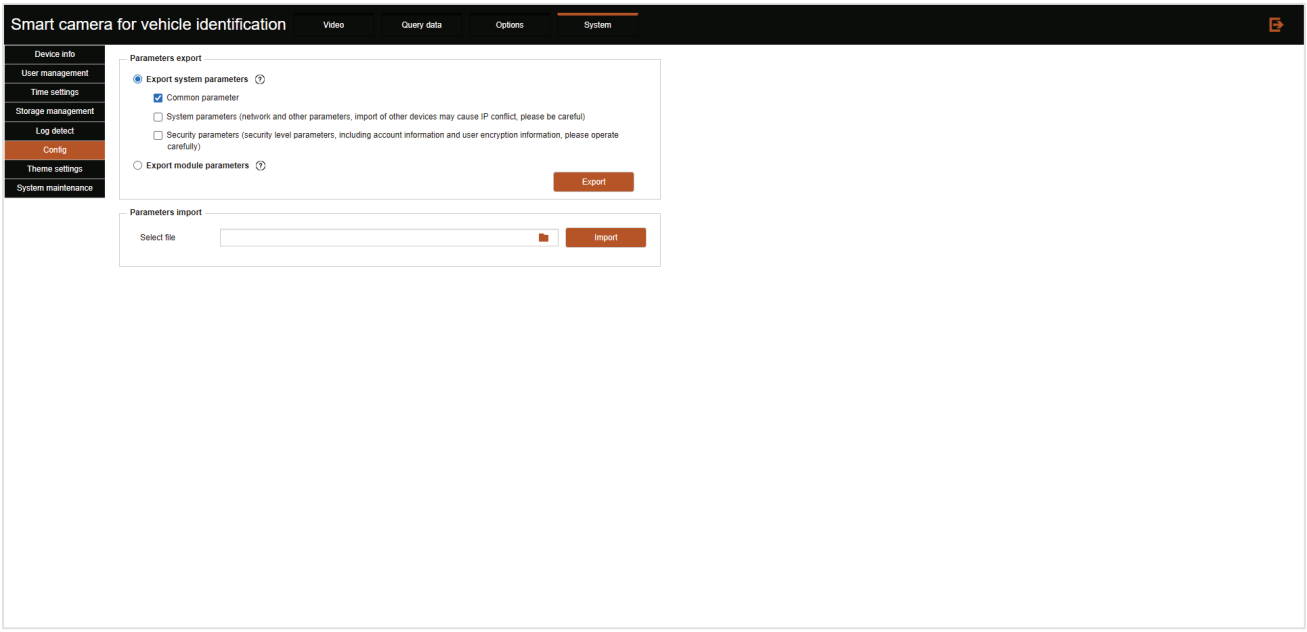
Click **Log detect** to enter the log detect interface.



- Check the corresponding log type, you can open the corresponding log service.
- Log query and export: Enter the start and end time of the log you want to query, perform log query, and at the same time, you can export the queried log content.

3.5.6 Configuration

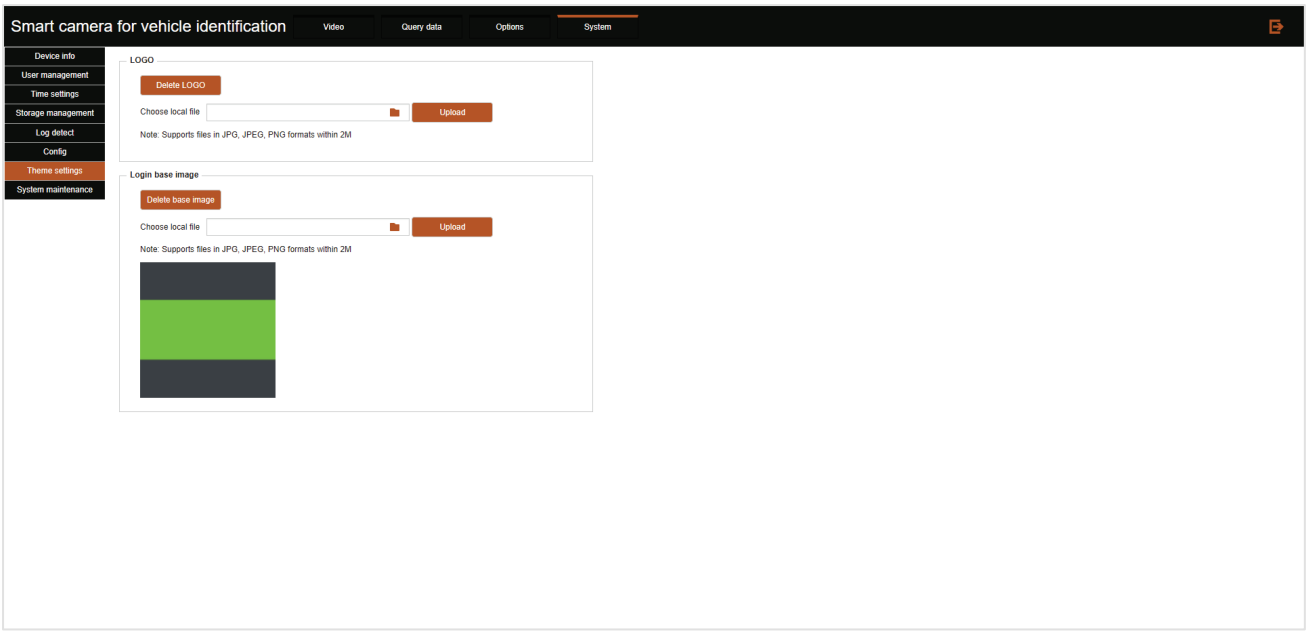
Click **Config** to enter the configuration interface.



The import and export of camera parameters can export camera related parameter data directly to other cameras without the need for repeated settings.

3.5.7 Theme Settings

Click **Theme settings** to enter the theme settings interface.



- **LOGO**

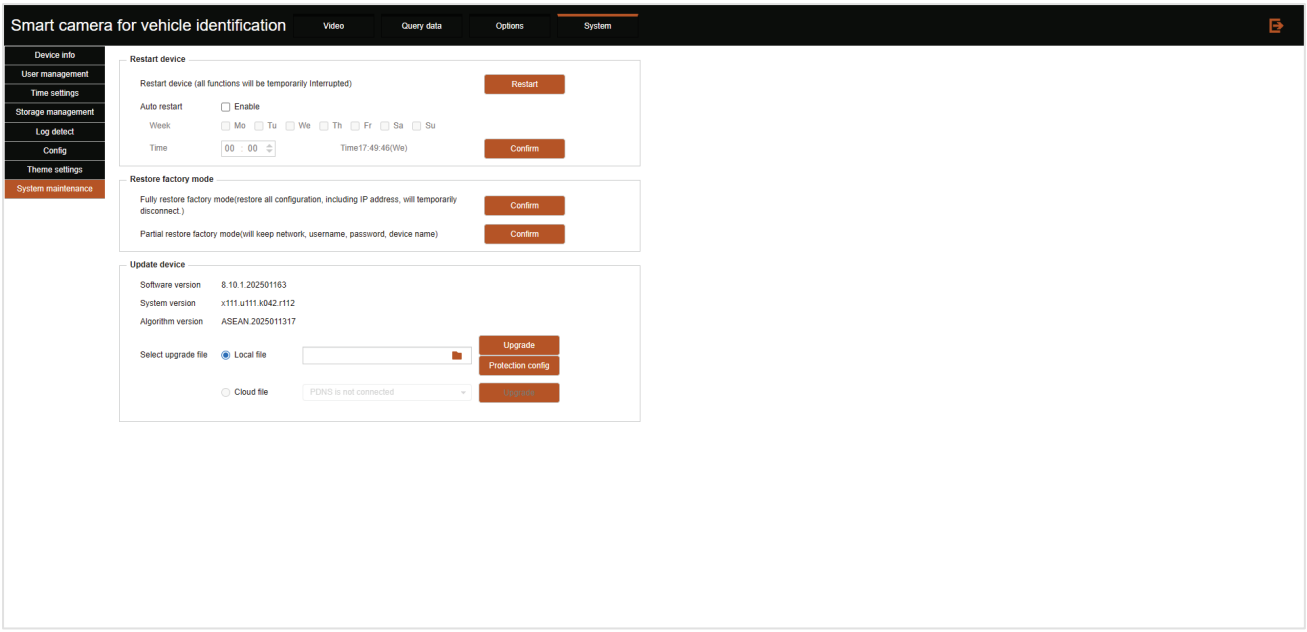
  Upload: After selecting and uploading the corresponding image format LOGO locally, you can add the corresponding LOGO in the login interface, which will be displayed as shown in the figure below.

  Delete LOGO: Click the **Delete LOGO** button to clear the logo display on the login screen.
- **Login base image**

  The background image of the login interface can be uploaded and changed by yourself.

3.5.8 System Maintenance

Click **System maintenance** to enter the system maintenance interface.



- **Restart device: Restart** button can restart the device immediately, or enable automatic restart to restart the device at a specific time.
- **Restore factory mode**

  Fully restore factory mode: Restore all settings, click **Confirm** to restore.

  Partial restore factory mode: Except that the settings in the prompt are not restored, restore all other settings, click **Confirm** to restore.
- **Update device:** Select the upgrade file (.bin) and click **Upgrade** to remotely update the device system.

Q&A

Q: Why the device video cannot be displayed normally?

A: There are several reasons for abnormal display, including:

1. The device is not powered on properly;

2. The network cable is not properly connected or has poor contact;

3. The IP address of the device and the IP address of the PC are not in the same address segment;

4. The network between the device and the client is not connected;

5. The lens cocoon was not removed, or the camera image was obstructed.

When the device cannot display normally, please investigate the above situations one by one.

Q: Remote device setup, but mistakenly set up another device.

A: The possible reason is that the IP addresses of multiple devices within the same local area network conflict. When multiple devices are used simultaneously, please ensure that there are no IP address conflicts.

Q: How to do if forget the IP address or username/password?

A: If you forget your IP address, you can use the IP search tool provided with the device to search for it. If you forget your password, you need to contact our technical support for remote resolution.

Q: Manual capture/recording failed to save locally?

A: Check if the browser is running with administrator privileges. If not, exit and right-click on the browser to run as administrator.

Q: What are the common problems with web login?

A: 1. After logging into the device, the login interface does not display properly.

Please ensure that the IE version is IE8.0 or above.

2. When logging in through IE browser, there is no video playback in the real-time video interface.

Solution: Refresh the webpage again, and a prompt will pop up to install the control. Once the installation is complete, you can see the real-time video.

3. Control installation failed.

Go to Features “Control Panel”-“Programs and Features”, uninstall the WebCtrl control, and reinstall it.

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