

Configuration Guide to Starlight License Plate Recognition Bullet Camera (ANPR B1105) Outside China V2.10.0

Revision History

Date	Version	CR ID	Chapter	Description	Revised By
2022-05-31	V1.1.0		Whole document	Released the first version.	Zhao xuan (employee ID: 09747)
2022-06-13	V1.1.0		Whole document	Change Whitelist to Allowlist Change Blocklist to BLocklist	Zhang Hongna (employee ID: 05773)
2022-08-18	V1.1.2		3.4.2	Modify the Photo Server	Zhang Hongna (employee ID: 05773)
2023-08-29	V2.7.0		Whole document	See details in the Revision History	Qi chen(employee ID: 05888)
2023-12-13	V2.8.0		Whole document	See details in the Revision History	Zhao Xuan(employee ID: 09747)
2024-03-06	V2.10.0		Whole document	See details in the Revision History	Qi chen(employee ID: 05888)

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1 Revision History

1. Updated the description based on changes. See [Setup Wizard](#).
2. Modified the Gain and Near-illumination & Far- illumination Level. See [Image](#).

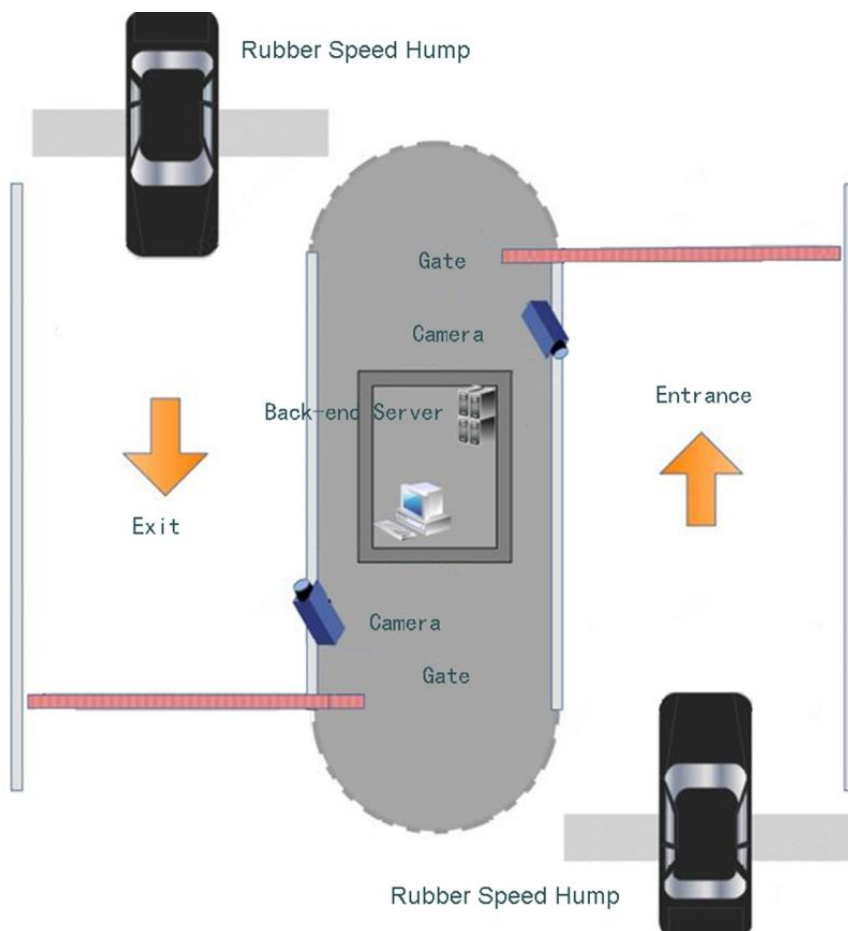
2 Introduction

2.1 Applicable products

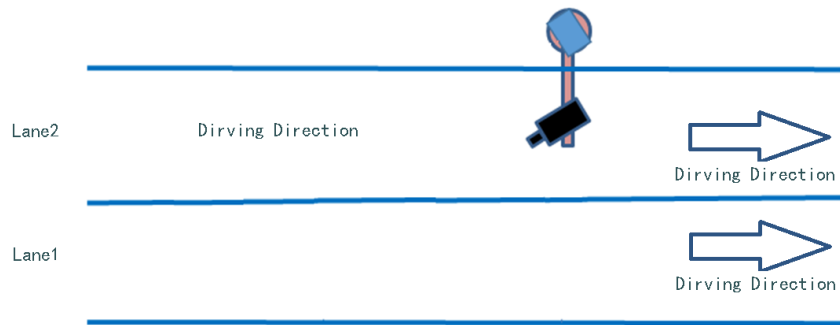
- 2MP white light camera: HC121@TS8C-Z/HC121@TS8C-Z-NB
- 2MP IR camera: HC121@TS8CR-Z/ HC121@TS8CR-Z-NB
- 3MP white light camera: PKC2630@Z28-P/ PKC2630@Z28-P-NB
- 3MP IR camera: PKC2630@Z28-IR-P/ PKC2630@Z28-IR-P-NB
- 4MP white light camera: PKC2640@Z28-P/ PKC2640@Z28-P-NB (short-focus)
PKC2640@Z80-P / PKC2640@Z80-P-NB (long-focus)
- 4MP IR camera: PKC2640@Z28-IR-P/ PKC2640@Z28-IR-P-NB (short-focus)
PKC2640@Z80-IR-P / PKC2640@Z80-IR-P-NB (long-focus)

2.2 System Networking Diagram

2.2.1 Campus Scenes



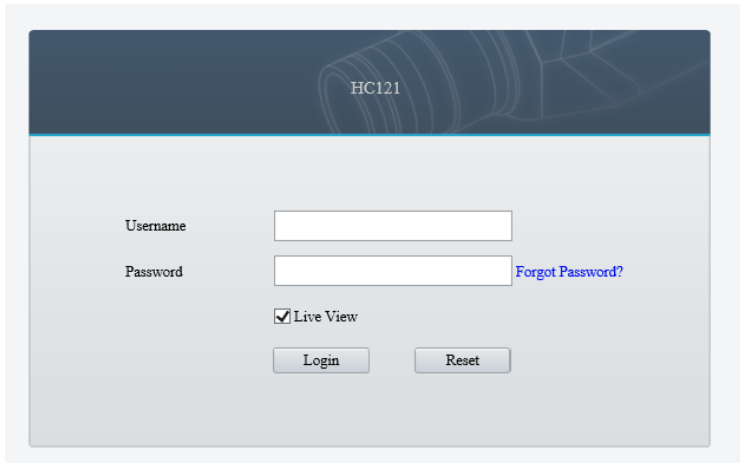
2.2.2 Road Scenes



3 Common Configuration


3.1 Login

Step 1 Log on to the Web interface of the camera, and enter the username and password (admin and 123456 respectively by default) on the login page. **Live View** is selected by default. If you clear **Live View**, live view is not displayed after you log in to the camera.



Step 2 If you forgot your password, click **Forgot Password** and then follow the on-screen instructions to retrieve password.

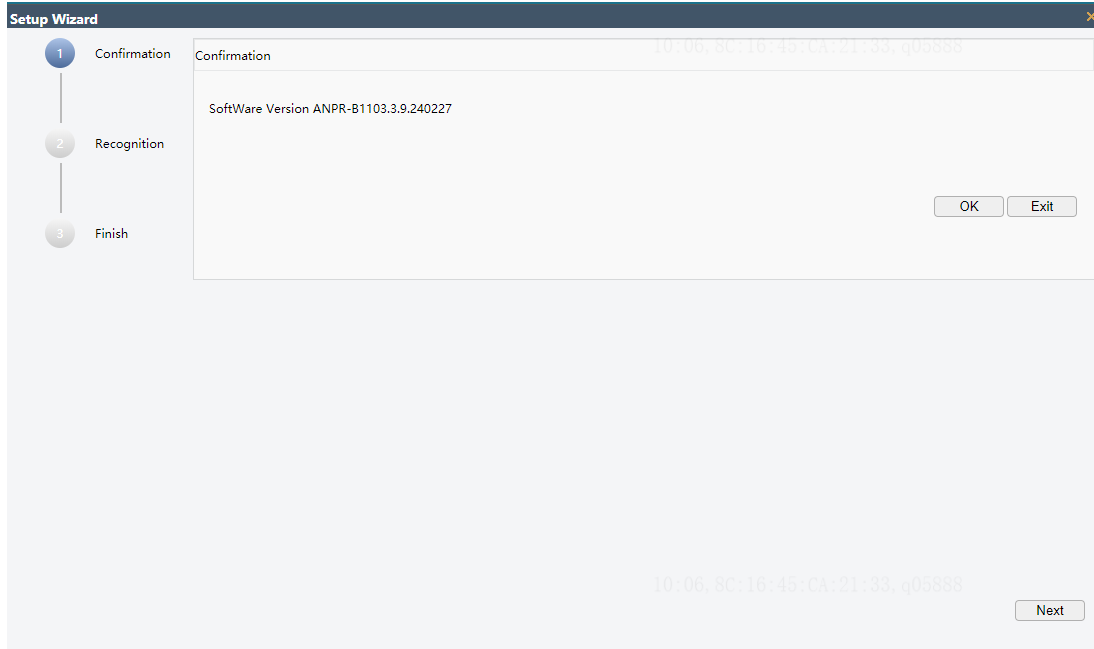
- (1) If **Guard Live** or **Guard EZView** is not installed, scan the QR code to download and install it.
- (2) If you have submitted an email address, scan the QR code using **Guard Live** or **Guard EZView** and then click **OK**. The security code will be automatically sent to your mailbox. Enter the security code in the camera's Web interface to reset the login password.
- (3) If you have not submitted an email address, please call customer service for help.



3.2 Setup Wizard

After you complete the camera installation according to site survey requirements, log in to the camera and then follow the setup wizard to complete commissioning.

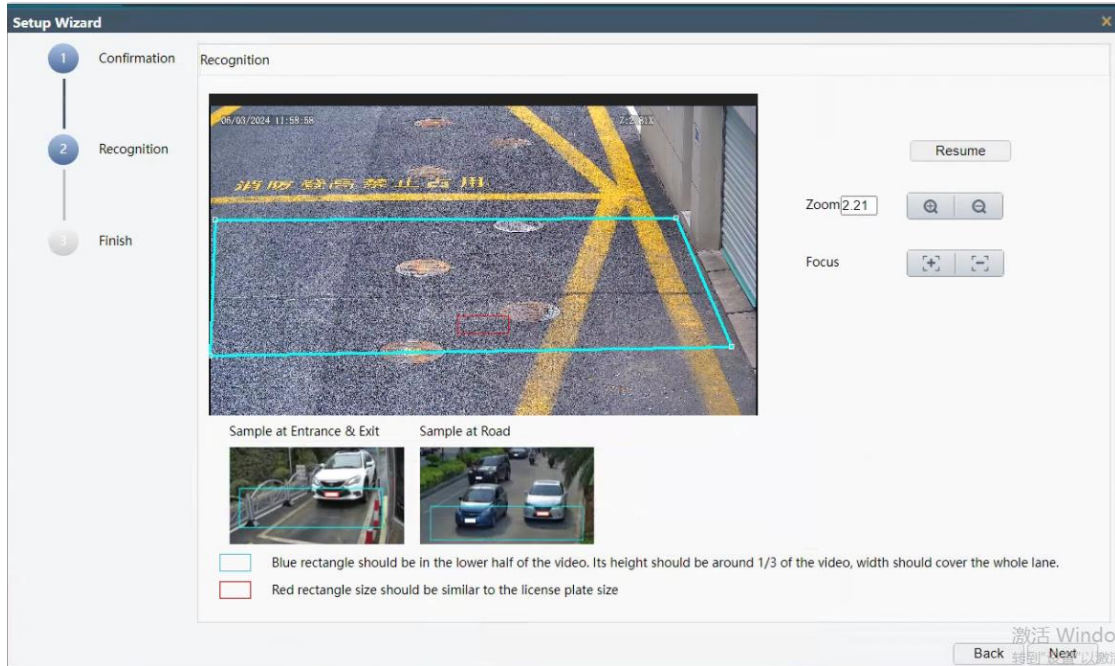
Step 1 Confirmation: [Confirm the version information.](#) click **OK** or **Next** to proceed.







Step 2 Recognition

- 1) Click zoom+/- or input a zoom ratio to adjust the monitoring area. Make sure the monitoring area covers the entire lane.
- 2) Park a vehicle in the detection area, and then click **Focus+/-** till the plate is clear.
- 3) Drag the four corners of the detection area to adjust its shape and size; drag a border of the detection area to relocate its position. **After adjustment, compare with the example diagram, close to the example diagram effect.** Click **Save** after you complete.
- 4) The red border represents the standard plate frame. Place the mouse on the border of the standard plate frame and then move it to where the actual plate is located. Ensure that the size (pixels) of the license plate is basically the same as that of the standard plate frame. **See the example diagram for details.**
- 5) After you complete confirmation, click **Next**. The “Are blue rectangle and red rectangle, just like the sample pictures, both at the right position?” message appears. Click **OK**. The commissioning is completed.

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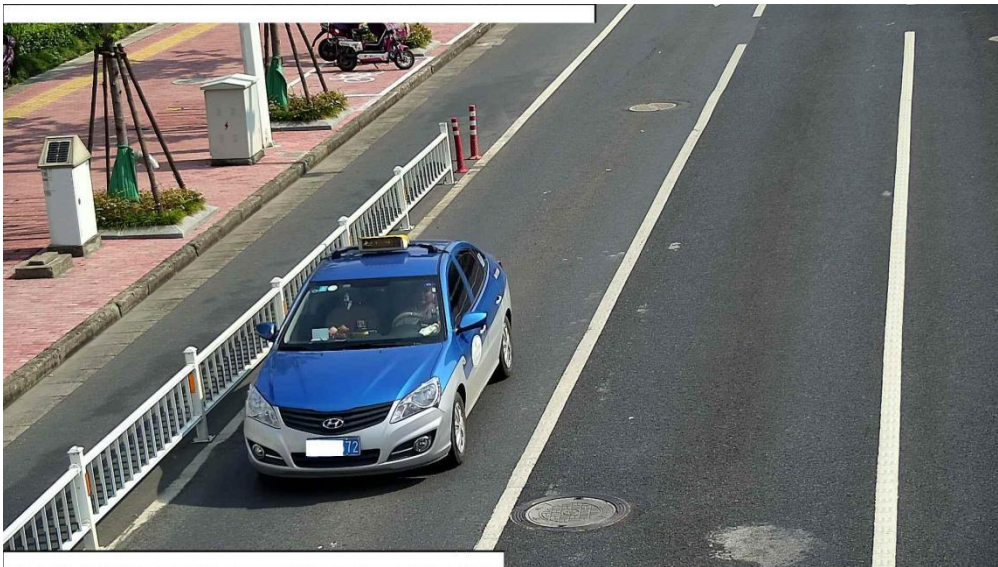


No.	Parameter	Description
1	Resume	Restores the size and position of detection box and standard plate box in the recognition area to the default settings.
2	Zoom	Zooms to obtain different fields of view and video images of different sizes. PKC2630@Z28/PKC2640@Z28:The default vaule is 2 HC121/PKC2640@Z80: The default vaule is 1  : Zoom+  : Zoom- HC121: You can also enter an integer from 1 to 10 in the Zoom field to change the zoom. PKC2630@Z28/PKC2640@Z28/PKC2640@Z80:You can also enter an integer from 1 to 4 in the Zoom field to change the zoom.
3	Focus	Changes the image distance and obtains clear images.  : Focus+  : Focus-
4	Sample at Entrance or Exit/ Sample at Road	Entrance, Exit and Road installation scenarios, See sample at Entrance or Exit and road. After the installation is complete, you can adjust the capture screen by referring to the example picture effect. Blue rectangle should be in the lower half of the video. Its height should be around 1/3 of the video, width should cover the whole lane. Red rectangle size should be similar to the license plate size.

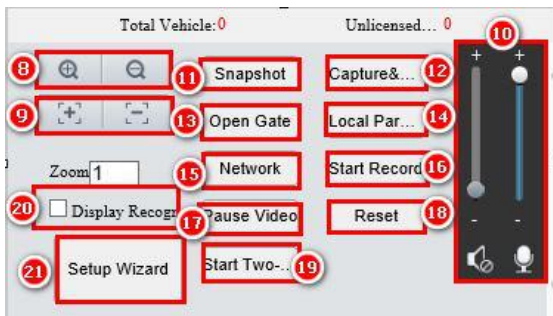
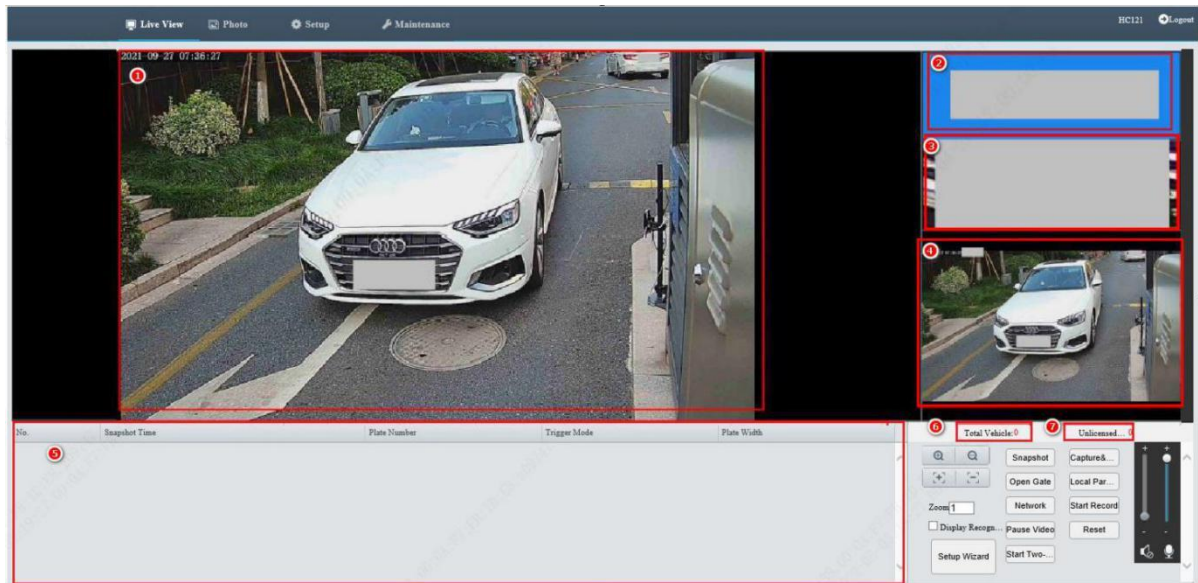
Campus Scenes



Road Scenes












3.3 Live View



No.	Parameter	Description
1	Display area of vehicle snapshots	Displays the live view in real time.
2	Display area of the real-time vehicle license plate recognition result	Displays the vehicle license plate recognition result in real time.
3	License plate snapshot display area	Displays the license plate snapshot when you select Generate Color Photo of Small Photo of Plate .
4	Live view area	Displays vehicle snapshots.
5	Display area of real-time passing vehicle records	Displays passing vehicle records in real time, containing No. , Snapshot Time , and Plate Number .
6	Total Vehicle	Displays the number of passing vehicles in real time. The number is reset to 0 when you switch back to live view or click Reset .
7	Unlicensed Vehicle Passing	Displays the number of unlicensed vehicles passing in real time. The number is reset to 0 when you switch back to live view or click Reset .

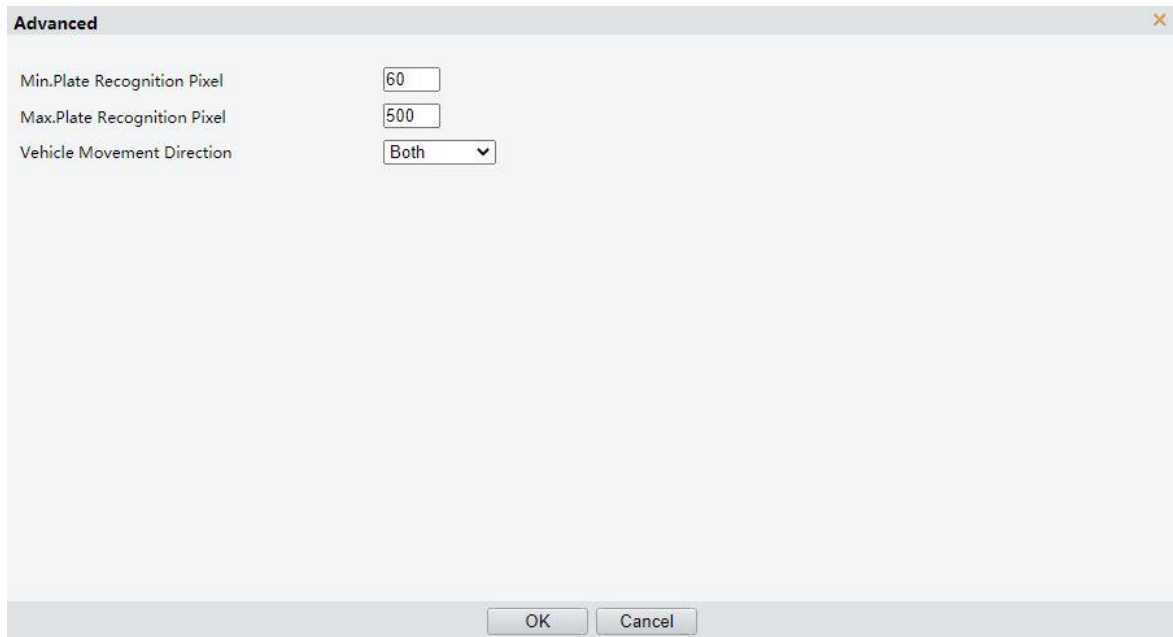
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8	Zoom	<p>Zooms to obtain different fields of view and video images of different sizes.</p> <p>PKC2630@Z28/PKC2640@Z28:The default vaule is 2</p> <p>HC121/PKC2640@Z80: The default vaule is 1</p> <p> : Zoom+</p> <p> : Zoom-</p> <p>HC121: You can also enter an integer from 1 to 10 in the Zoom field to change the zoom.</p> <p>PKC2630@Z28/PKC2640@Z28/PKC2640@Z80:You can also enter an integer from 1 to 4 in the Zoom field to change the zoom.</p>
9	Focus	<p>Changes the image distance and obtains clear images.</p> <p> : Focus+</p> <p> : Focus-</p>
10	Audio input/output	<p> /  : Turns speaker off/on. When the speaker is off, no sound is produced. When the speaker is on, you can adjust the volume.</p> <p> : Adjusts the speaker volume.</p> <p> : Turns microphone off/on. When the microphone is off, no sound is transmitted. When the microphone is on, you can adjust the volume.</p> <p> : Adjusts the microphone volume.</p>
11	Snapshot	<p>Takes a snapshot of the current live view and saves the snapshot locally. The default path is</p>
12	Capture&Recognize	<p>Manual snapshot button.</p>
13	Open Gate	<p>Opens the gate manually.</p>
14	Local Parameters	<p>Accesses the Local Parameters page. See Local Parameters.</p>
15	Network	<p>Set Network. See Network.</p>
16	Start Recording/Stop Recording	<p>Starts/Stops local recording and saves the video locally. The default path is C:\Program Files (x86)\WebPlugin IPC NB.</p>
17	Pause Video/Start Video	<p>Stops/Plays live view</p>

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18	Reset	Clears snapshot records on the Web page. After you click Reset , only snapshot records on the Web page are cleared. Locally stored images will not be deleted.
19	Advanced	See Advanced .
20	Start Two-way Audio	Turns speaker off/on. When the speaker is off, no sound is produced. When the speaker is on, you can adjust the volume.
21	Display Recognition Area	Display Recognition Area
22	Setup Wizard	See Setup Wizard .

3.3.1 Advanced



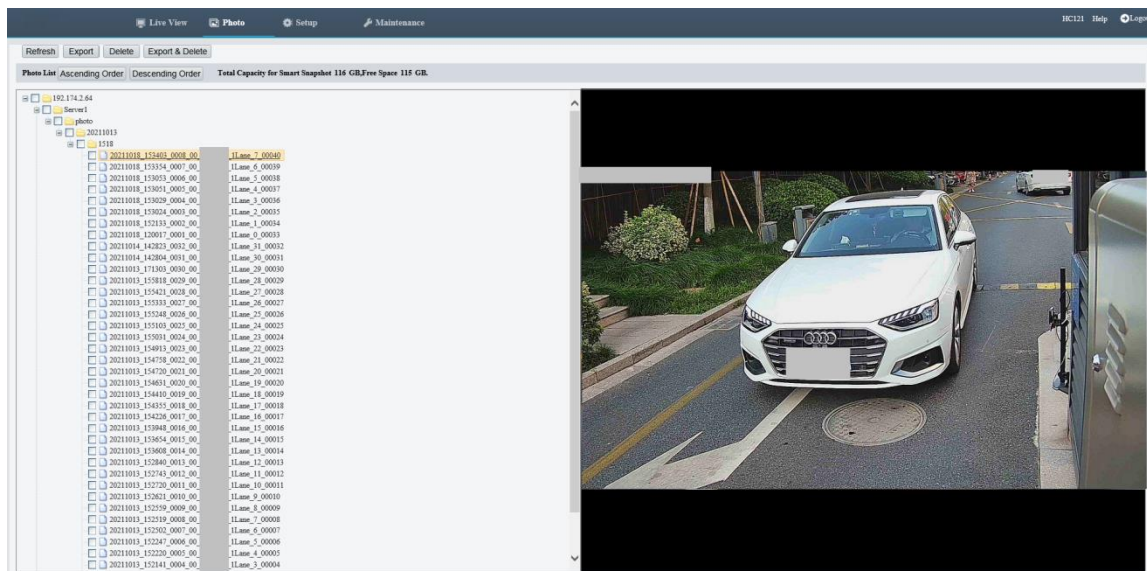
No.	Parameter	Description
1	Min. Plate Recognition Pixel	The default value is 60. A valid value ranges from 50 to 120. When the pixel of the license plate is smaller than the set value, the camera will not capture the license plate.
2	Max. Plate Recognition Pixel	The default value is 500. A valid value ranges from 120 to 500. When the pixel of the license plate is greater than the set value, the camera will not capture the license plate.

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3	Vehicle Movement Direction	<p>The default is Both. You can choose Downward and Upward according to the actual requirements at the site.</p> <p>Both: Capture both the front and rear of the vehicle.</p> <p>Downward: Capture only the rear of the vehicle. The front of the vehicle is not captured.</p> <p>Upward: Capture only the front of the vehicle. The rear of the vehicle is not captured.</p>
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3.4 Photo

With an SD card installed, you can view, export and delete passing vehicle images in the **Photo** page.



No.	Parameter	Description
1	Refresh	Refreshes the photo list.
2	Export	Exports all selected images when you select <input type="checkbox"/> in front of folders or images and click Export . Note: If you log in to the camera without installing the plug-in, you cannot select the path of exported images, and the files are exported to the default download path of the browser. If you log in to the camera using Internet Explorer, a dialog box will be displayed after you click Export , and you can select the export path.
3	Delete	Deletes all selected files or images when you select <input type="checkbox"/> in front of folders or images and click Delete .
4	Export & Delete	Exports all selected files or images and deletes the exported files when you select <input type="checkbox"/> in front of folders or images and click Export & Delete . Note: This button is unavailable if you log in to the camera without installing the plug-in.

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5	Sorting	<p>Ascending Order: Lists images in ascending order of the time.</p> <p>Descending Order: Lists images in descending order of the time.</p>
6	Photo List	<p>Lists images with six directory levels.</p> <p>Level 1: folder named the IP address of the camera</p> <p>Level 2: folder named after the photo server, including server 1 and server 2</p> <p>Level 3: photo folder</p> <p>Level 4: folder named after the date, in the format of YYYYMMDD</p> <p>Level 5: folder named after the time, in the format of HHMM</p> <p>Level 6: image file named in the format of YYYYMMDD_HHMMSS_Record ID_Plate Color ID_License Plate No._Lane ID_Image No._Count</p>
7	Image display area	Displays the selected image.
8	File selection statuses	<p><input type="checkbox"/>: Indicates the default unselected status.</p> <p><input checked="" type="checkbox"/>: Indicates that all files of the passing vehicle record or in the folder are selected, and the selected files can be exported and deleted.</p> <p><input checked="" type="checkbox"/>: Indicates that some folders or passing vehicle records in the folder are selected, and the selected files can be exported and deleted.</p>

3.5 Setup

3.5.1 Local Parameters



NOTE!

This page is unavailable if you log in to the camera without installing the plug-in.

Parameter description

No.	Parameter	Description
1	Processing Mode	The values include Min.Delay , Balanced , Fluent , and Custom . You can configure this parameter to adjust the live view display effect during focusing.
2	Protocol	The value is TCP by default and can be set to UDP . You can select a protocol based on actual requirements to capture packets and locate live view display problems. (The protocol indicates the media stream transmission mode between the PC and the camera.)
3	Recording	The default value is Subsection By Time , and the section duration is 30 minutes. The other optional value is Subsection by Size , and the section size is 100MB. If video data in a long period of time needs to be stored, you are advised to select Subsection By Time with Subsection Time (min) set to 60 .
4	When Storage Full	The values are as follows: Overwrite Recording: If the size of the generated video files exceeds the configured total capacity, video files generated at the earliest time will be overwritten. Stop Recording: If the size of the generated video files exceeds the configured total capacity, recording stops.
5	Total Capacity(GB)	This parameter specifies the local storage space allocated to video files. The value is 10 by default and can be customized to 1–1024.
6	Local Recording	Support TS and MP4. When set to TS, the local recording is a .ts file. When set to MP4, the local recording is a .mp4 file.

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7	Files Folder	<p>By default, the plug-in installation path is selected. You can also configure a file storage path. Local videos, vehicle snapshots, and live view snapshots are stored in the path.</p> <p>Vehicle snapshots are stored in the JPEG folder. Local videos are stored in the Record folder. Live view snapshots are stored in the Snap folder.</p>
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3.5.2 System

1. Device Info

Device Info	Time	DST	Photo Server	Storage	Log
Device Name	<input style="width: 100%;" type="text" value="1"/>				
Device ID	<input style="width: 100%;" type="text" value="1"/>				
Intersection Info	<input style="width: 100%;" type="text" value="road"/>				
Intersection ID	<input style="width: 100%;" type="text"/>				
<input type="button" value="Save"/>					

No.	Parameter	Description
1	Device Name	<p>The value is 1 by default and can be customized.</p> <p>Rule: 0–32 characters, including upper case letters (A-Z), lower case letters (a-z), digits (0-9), underscores (_), hyphens (-), dots (.), and plus signs (+).</p>
2	Device ID	<p>The value is 1 by default and can be customized.</p> <p>Rule: 0–32 characters, including upper case letters (A-Z), lower case letters (a-z), digits (0-9), underscores (_), hyphens (-), dots (.), and plus signs (+).</p>
3	Intersection Info	<p>The value is road by default and can be customized.</p> <p>Rule: 1–33 characters</p>
4	Intersection ID	<p>The value is null by default and can be customized.</p> <p>Rule: 0–32 characters, including upper case letters (A-Z), lower case letters (a-z), digits (0-9), underscores (_), hyphens (-), dots (.), and plus signs (+).</p>

2. Time

No.	Parameter	Description
1	Sync Mode	<p>The default value is Sync with Latest Server Time. Available values include:</p> <p>Sync with System Configuration: The camera uses the configured system time or synchronizes the computer time.</p> <p>Sync with Photo Server: If the camera connects to a photo server that can synchronize the system time, the photo server time is used. If the camera does not connect to a photo server or the connected photo server cannot synchronize the system time, the time cannot be synchronized.</p> <p>Sync with NTP Server: If the camera connects to an NTP server that can synchronize time, the NTP server time is used. If the camera does not connect to an NTP server, the time cannot be synchronized.</p> <p>Sync with Latest Server Time: The time is synchronized with the time of all servers, and the latest synchronized server time prevails. For example, server 1 and server 2 are registered. Server 1 synchronizes the time with the camera first, and then server 2 synchronizes the time. The camera finally synchronizes the time with server 2.</p> <p>Sync with Cloud Server: If the camera is online on EZCloud, it will synchronize time with EZCloud.</p>
2	Time Zone	The default time zone is (UTC+00:00) London, Dublin, Lisbon .
3	System Time	Current running time of the camera
4	Set Time	<p>You can manually configure the system time or select Sync with Computer Time.</p> <p>When Sync Mode is set to Sync with Photo Server or Sync with NTP Server, Set Time is grayed out.</p>

NOTE!

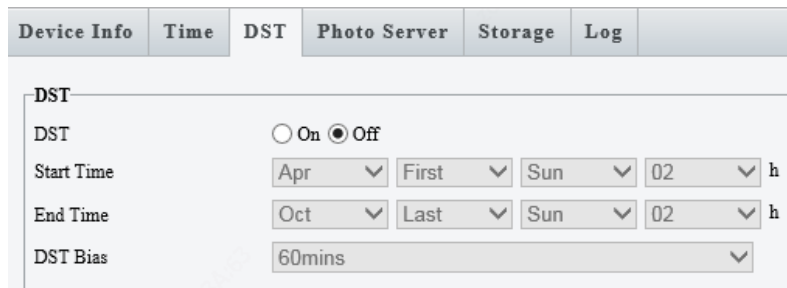
NTP Server is available when **Sync Mode** is set to **Sync with NTP Server**. If the NTP service is disabled:

1. When the camera runs independently, the camera maintains the system time.
2. When the camera registers with a platform, the platform delivers the time to the camera.

When an independent NTP server is deployed, **Sync Mode** is set to **Sync with NTP Server**, and the correct NTP server IP address and port number are configured, the camera synchronizes time with the NTP server 3s after the configuration.

No.	Parameter	Description
1	NTP Server Address	Indicates the IP address of the accessed NTP server. The default value is 0.0.0.0 .
2	Port	The default value is 123 .
3	Update Interval(s)	Indicates the interval for the camera to synchronize time with the NTP server. It is available only when Sync Mode is set to Sync with NTP Server .

3. DST



No.	Parameter	Description
1	DST	By default, Off is selected. If you select On , you can configure Start Time , End Time , and DST Bias . DST Bias indicates the offset between the display time and the actual time.

4. Photo Server

Two photo servers are supported and can be configured at the same time. **Photo server 2** is disabled by default and should be enabled before it can be used. **Photo server 1** supports **FTP**, **HTTP**, **Video & Image Database** and **maxima** communication types, while server 2 supports **Video & Image Database** and **FTP**.

1) Camera Registration on NVR

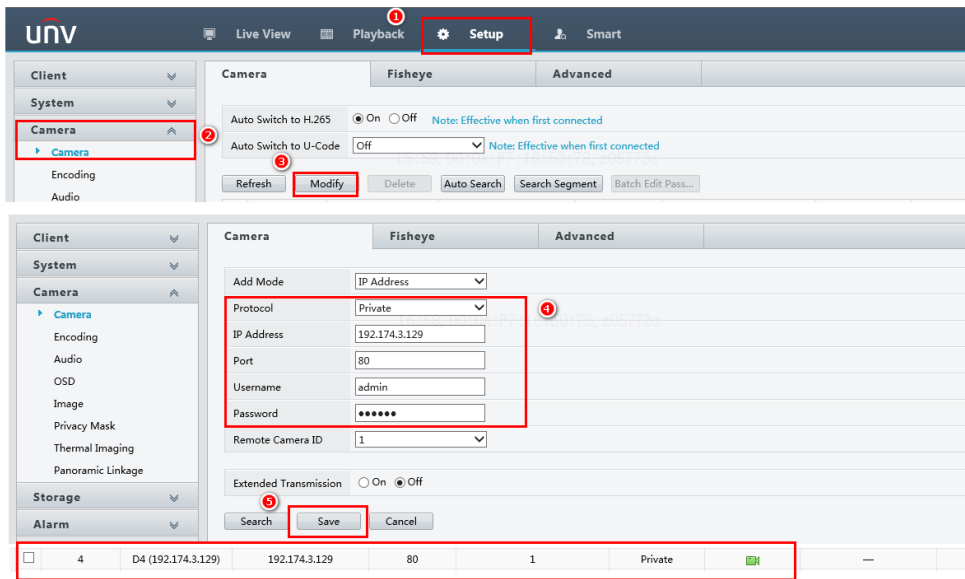
Scheme 1: By default, the camera can be directly connected to the NVR via a network cable, without extra configuration on the IPC and NVR required.

Scheme 2: Connect the camera to the NVR through a network switch. Make sure the IP addresses of the camera and the NVR are within the same network segment. No additional configuration is needed for the camera. Follow the steps below for configuring the server.

Step 1 Add the camera on the NVR's web interface

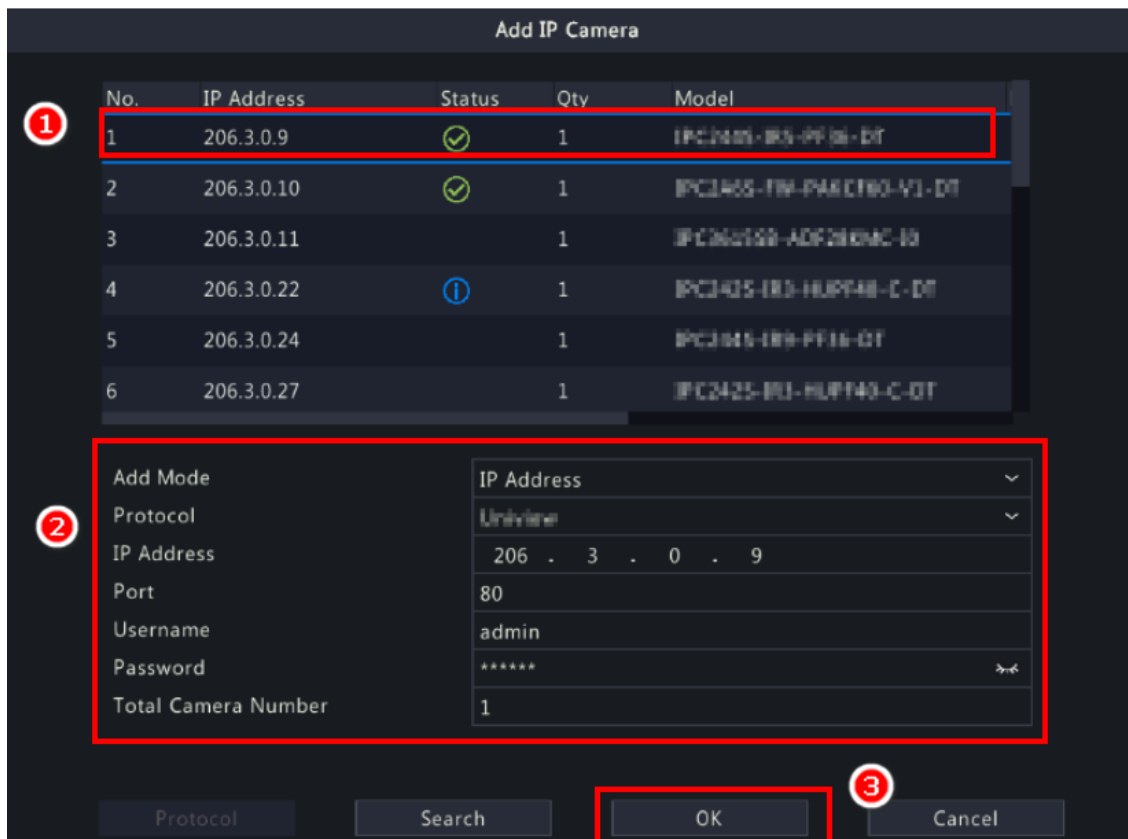
Log in to the NVR's web interface, go to **Setup > Camera > Camera**. Choose a channel, click **Modify**, and then set **Add Modes to IP Address**, set **Protocol** to **Private**, and set the camera's IP address, port number, username, and password according to the actual configuration of the camera.

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Step 2 Add the camera on the NVR's local interface

Log in to the NVR's local interface, go to **Setup > Camera > Camera**. Click **Custom Add**, choose the camera to add, enter the correct password of the camera, choose **Private** as the protocol, and then click **OK**. The camera is added. Check the icon under **Status**. A green icon means the camera is online. A gray icon means the camera is offline.



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Camera	Address	Status	Protocol	Model	Add/Del	Cam Config	Configure	IPC Password	Details
<input type="checkbox"/> D1(01)	206.3.0.11		Uniview	IPC181558-ADP18MC-30				admin123.	
<input type="checkbox"/> D2(222)	206.3.0.9		Uniview	IPC1445-05-PF18-01				Admin123	
<input type="checkbox"/> D3(03)	206.3.0.10		Uniview	IPC1465-F8-PA0CF8...				admin123.	
<input type="checkbox"/> D4(04)	206.3.0.13		Uniview	IPC1450-FW-ADP18CF28...				admin123.	
<input type="checkbox"/> D5(05)	206.3.0.22		Uniview				-	-	
<input type="checkbox"/> D6(06)	206.3.0.106		Uniview	IPC9112-F8-AF28-204				admin123.	
<input type="checkbox"/> D7(07)	206.3.0.106		Uniview	IPC1122FW-AF18-204				admin123.	
<input type="checkbox"/> D8(08)	206.3.0.24		Uniview				-	-	
<input type="checkbox"/> D9(09)	206.3.0.28		Uniview				-	-	

2) Video&Image Database

No.	Parameter	Description
1	Enable	When selected, the camera can register with the photo server. When not selected, the camera cannot register with the photo server.
2	Server IP	This parameter indicates the IP address of the MD server when the Video & Image Database protocol is used.
3	Server Port	The default value is 5073 .
4	LPR ID	The default value is EZIPC0 . This function is unavailable and can be ignored.
5	Device ID	The default value is 001 .The Device ID is a 20-digit number with 121 for digits 11-13. The device ID must be unique on the LAN

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6	Username	This parameter is available only when the Video & Image Database protocol is used. It indicates the username to the MD server.
7	Password, Confirm	It indicates the password to the MD server.
8	Coordinate Mode	Options include percentage mode, pixel coordinates, and normalized coordinates.
9	Connection Mode	Options include short connection and standard mode.
10	Report Data Type	Options include motor vehicles, non-motor vehicles, persons, and faces.

3)FTP

No.	Parameter	Description
1	Enable	When selected, the camera can register with the photo server. When not selected, the camera cannot register with the photo server.
1	Server IP	This parameter indicates the IP address of the FTP server to which the camera uploads images.
2	Port No.	The value is 21 by default and can be configured as required.
3	Username/Password	These are the username and password created on the FTP tool.
4	Confirm	Confirm password

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5	Plate Separator	You can configure it as required.
6	Upload Images	Set whether to upload images. This function is enabled by default.
7	Test	Test for successful connection to the FTP server.
8	Custom Naming Rules	If you select it, you need to configure Naming Element and Naming Rule .
8	Convert Path into UTF8 Format	If you select it, the encoding format is converted to UTF-8. If you do not select it, the default GBK encoding format is used.
9	File Path	You can configure the FTP storage path here.
10	File Name	You can configure the names of files to be uploaded to the FTP server.

4) HTTP

No.	Parameter	Description
1	Enable	When selected, the camera can register with the photo server. When not selected, the camera cannot register with the photo server.
2	Server IP	IP address of the server for registration.
3	Server Port	Port number of the server for registration.
4	Parking Lot ID	The default value is park1
5	Camera No.	The default value is Product Config

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6	AES Encryption	The value is Off by default, and you can set it to On .
7	Quick Report of Vehicle Passing Records	Disabled by default. When enabled, the recognition result will be pushed directly. Image encoding is unnecessary, and no image will be carried.
8	Keep-Alive Interval(s)	The value ranges from 1 to 3600, and the default value is 30 .
9	Image Filling Mode	The default is BASE64 Encoding . Other options include No Filling , Alibaba OSS . Choose according to actual requirements. Use the default configuration if there are no specific requirements. After you choose Alibaba OSS as the image transmission mode, Alibaba OSS parameters are displayed. Configure the parameters based on the actual situation.
10	Heartbeat Keepalive Path	The default is /api/upark/keepalive , which needs no modification unless there are specific requirements.
11	Alarm Report Path	The default is /api/upark/commonalarm , which needs no modification unless there are specific requirements.
12	Basic Data Path	The default is /api/upark/basicinfo , which needs no modification unless there are specific requirements.
13	Passing Vehicle Snapshot Path	The default is /api/upark/capture , which needs no modification unless there are specific requirements.
14	Quick Report Path of Vehicle Passing Records(no image)	The default is /api/upark/quickcapture , which needs no modification unless there are specific requirements.
15	Transparent Channel Path	The default is /api/upark/transchannel , which needs no modification unless there are specific requirements.
16	Manual Snapshot Results Report Path(MQTT)	The default is /api/upark/notifyresult/manualcapture/common , which needs no modification unless there are specific requirements.

5) maxima

No.	Parameter	Description
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1	Enable	When selected, the camera can register with the photo server. When not selected, the camera cannot register with the photo server.
2	Server IP	maxima Server IP
3	Server Port	maxima Server port
4	Quick Report of Vehicle Passing Records	Disabled by default. When enabled, the recognition result will be pushed directly. Image encoding is not needed, and no image will be carried.

6) MQTT Server

Enable MQTT Server

mq Server Address:

Username:

Password:

Confirm:

Request Topic:

Response Topic:

No.	Parameter	Description
1	mq Server Address	MQ Server IP, The default value is tcp://0.0.0.0:9999 .
2	Username/Password	These are the username and password created on the MQ Server
3	Confirm	Confirm password
4	Request Topic	The value is request_park1 by default and can be customized. Rule: 0 - 32 characters, including upper case letters (A-Z), lower case letters (a-z), digits (0-9), underscores (_).
5	Reponse Topic	The value is null by default and can be customized. Rule: 0 - 32 characters, including upper case letters (A-Z), lower case letters (a-z), digits (0-9), underscores (_).

5. Storage

The camera does not ship with an SD card. When no SD card is installed, the storage parameters cannot be configured. An SD card of up to 128GB is supported.

Device Info	Time	DST	Photo Server	Storage	Log
Storage Medium <input type="text" value="Memory Card"/> <input type="button" value="Format"/>					
Storage Medium Status: No card					
Total Capacity 0 GB, Free Space 0 GB.					
Allocate Capacity					
Video(GB) <input type="text" value="0"/> (The remaining capacity is used for image storage.)					
Video Storage Info					
Storage Policy <input type="radio"/> Manual and Alarm Recording <input checked="" type="radio"/> Alarm Recording Only					
When Storage Full <input checked="" type="radio"/> Overwrite <input type="radio"/> Stop					
Image Storage Info					
Image Storage Mode <input checked="" type="radio"/> Store When Disconnected <input type="radio"/> Real-time Store <input type="radio"/> Not Store					
<input type="button" value="Save"/>					

The following shows the interface after a 32GB SD card is installed.

Device Info	Time	DST	Photo Server	Storage	Log
Storage Medium <input type="text" value="Memory Card"/> <input type="button" value="Format"/>					
Storage Medium Status: Normal					
Total Capacity 29 GB, Free Space 29 GB.					
Allocate Capacity					
Video(GB) <input type="text" value="0"/> (The remaining capacity is used for image storage.)					
Video Storage Info					
Storage Policy <input type="radio"/> Manual and Alarm Recording <input checked="" type="radio"/> Alarm Recording Only					
When Storage Full <input checked="" type="radio"/> Overwrite <input type="radio"/> Stop					
Image Storage Info					
Image Storage Mode <input checked="" type="radio"/> Store When Disconnected <input type="radio"/> Real-time Store <input type="radio"/> Not Store					
<input type="button" value="Save"/>					

No.	Parameter	Description
1	Storage Medium	The default and only value is Memory Card . You can click Format to format the

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		memory card.
2	Storage Medium Status	Displays the SD card status, No card or Normal .
3	Allocate Capacity	Video(GB) :When manual recording is enabled for Storage Policy , you need to allocate the video storage capacity.
4	Video Storage Info	<p>The default value of Storage Policy is Manual and Alarm Recording. The values include:</p> <p>Manual and Alarm Recording: When you select this option, videos are stored in the memory card. You can log in to the camera through SSH to export the video data, and play exported videos only in .uvrd format.</p> <p>Alarm Recording Only: This is the default option. If the option is not selected, and the camera is not allocated with a storage capacity, the memory card does not store video data, and Stream cannot be configured. If the camera is allocated with a storage capacity and connected to a platform, the memory card stores the live view stream after the camera is disconnected from the network, and Stream can be configured in this case.</p> <p>When Manual and Alarm Recording is selected for Storage Policy, you can configure Stream as Main Stream or Sub Stream (if Sub Stream is enabled under Setup > Video & Audio > Video Encoding).</p> <p>In the video storage policy, the default value of When Storage Full is Overwrite. Available values include:</p> <p>Overwrite: When the storage space is full, video files generated at the earliest time will be deleted, and new video files will be stored.</p> <p>Stop: When the storage space is full, recording will stop.</p>
5	Image Storage Mode	<p>The default value of Store When Disconnected is selected by default. Available values include:</p> <p>Store When Disconnected: Before a platform is configured, the camera stores the images on the SD card. After a platform is configured, images on the SD card are transmitted to the TMS and deleted from the SD card. After the camera registers with a platform, real-time images are uploaded to the platform only and are not stored on the SD card.</p> <p>Real-time Store: After a platform is configured, images are stored in real time on both the platform and the SD card. Images generated before the platform configuration are not uploaded to the platform.</p> <p>Not Store: If a TMS is not configured and Not Store is selected, snapshot images are stored on the SD card. After a TMS is configured, images on the SD card are transmitted to the TMS and persist on the SD card, and images generated afterwards are uploaded to the platform only and are not stored on the SD card.</p> <p>Note:</p> <p>Photo server 1 supports all the three values, while photo server 2 supports Store</p>

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		When Disconnected only.
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6. Log

View camera operation logs.

Device Info
Time
DST
Photo Server
Storage
Log

Time: ~

Main Type: Sub Type:

Operation:

No.	Type	Sub Type	Date	Time	Username	IP	Result
1	Storage	Result of Formatting Edge Storage	2023-08-30	11:38:37	-	-	Succeeded.
2	Storage	Format Edge Storage	2023-08-30	11:38:21	admin	192.174.2.16	Succeeded.
3	Smart	Smart	2023-08-30	10:21:55	admin	192.174.2.16	Succeeded.
4	Smart	Smart	2023-08-30	10:16:33	admin	192.174.2.16	Succeeded.
5	Smart	Smart	2023-08-30	10:00:53	admin	192.174.2.16	Succeeded.
6	Smart	Smart	2023-08-30	09:56:06	admin	192.174.2.16	Succeeded.
7	Operator	Login	2023-08-30	09:55:43	admin	192.174.2.16	Succeeded.

Total 7 . << 1 /1 >>

No.	Parameter	Description
1	Time	Set query time period (default: 00:00:00 to 23:59:59).
2	Main Type	Select a log type to query from the drop-down list which includes Login, Restart, Alarm, Network, Video & Audio, PTZ, Image Setting, Smart and Config Management. All is set by default.
3	Sub Type	After choosing a main type, you can choose a subtype of the main type for searching.
4	Operation	Query or export logs.
5	Table	<p>A table of camera operation logs, including Type, Date, Time, Username, IP, Description and Result.</p> <p>Type: Show the log type queried, including Login, Restart, Alarm, Network, Video & Audio, PTZ, Image Setting, Smart and Config Management.</p> <p>Sub Type: The corresponding subtype for the current action.</p> <p>Time: Show the execution time of operation.</p> <p>Username: Show who performed the operation.</p> <p>IP: Show the login IP address.</p> <p>Description: Show a description of the operation.</p> <p>Result: Succeeded/Failed.</p>

3.5.3 Network

1. Wired Network

Wired Network	Network Protocol	Network Port	ONVIF	WebSocket	P2P	Camera Communication
IPv4						
Obtain IP Address	Static ▼					
IP Address	192.174.3.130					
Subnet Mask	255.255.255.0					
Default Gateway	192.174.3.1					
IPv6						
Mode	DHCP ▼					
Basic						
MTU	1500					
Port Type	FE Port ▼					
Operating Mode	Auto-negotiation ▼					
Save						

No.	Parameter	Description
1	Obtain IP Address	Static IP address configuration and IP address obtaining using DHCP are supported. To obtain IP addresses using DHCP, connect the camera to a DHCP server. A PPPoE server is required for PPPoE.
2	IP Address	If Obtain IP Address is set to Static , you need to manually configure the IP address. The camera has two initial IP addresses: 192.168.0.13 and 192.168.1.13.
3	Subnet Mask	If Obtain IP Address is set to Static , you need to manually configure the subnet mask of the LAN to which the camera accesses. The default value is 255.255.255.0 .
4	Default Gateway	If Obtain IP Address is set to Static , you need to manually configure the gateway of the LAN to which the camera accesses. The default value is 192.168.0.1 .
5	IPv6 Mode	The default IPv6 mode is DHCP . Manual is supported. IPv6 is added to the network settings of the camera. After you configure an IPv6 address and use the IPv6 address to log in to the camera, the firmware converts the IPv6 address to an IPv4 address and switches to the camera login page. Note: When you set an IPv6 address to access the camera, the computer IP address also needs to be converted to an IPv6 address and must be in the same network segment as that of the camera. The setting method is the same as that of an IPv4 address.
6	IPv6 Address	You can manually configure an IPv6 address.
7	Prefix Length	You can configure the length of the IPv6 address prefix to 1–127.
8	Default Gateway	You can configure the IPv6 gateway.

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9	MTU	The value is 1500 by default and ranges from 576 to 1500. When the network condition is poor, you can reduce the MTU value.
10	Port Type	The value is FE-Port and cannot be changed.
11	Operating Mode	<p>The default value is Auto-negotiation. When the network condition is poor, you can select 10M Half Duplex or another value to ensure real-time streams. (When the network condition is poor, you need to reduce the uplink interface load of the access switch or optical transceiver.)</p> <p>Note: You are advised to retain the default value in applications because the following risks may occur if another value is selected:</p> <ol style="list-style-type: none"> 1. As various switch types exist, network port negotiation with the switch may fail. 2. As the network port rate is limited, images cannot be uploaded in real time, especially at intersections with heavy traffic.

2. Network Protocol

The screenshot shows the 'Network Protocol' configuration page. It includes the following sections:

- UNP Service:** Radio buttons for 'On' and 'Off'. 'On' is selected. Below are fields for Port Type (Ethernet), UNP Mode (UNP1.0), UNP Server IP (0.0.0.0), Server Port (1701), and Authentication (Enable/Disable). There are also fields for Username, Password, and Confirm.
- 802.1x:** Radio buttons for 'On' and 'Off'. 'On' is selected. Below are fields for Protocol (EAP-MD5), EAPOL Version (1), Username (admin), Password, and Confirm.
- DDNS:** Radio buttons for 'On' and 'Off'. 'On' is selected. Below are fields for DDNS Service (DynDNS), DDNS Type, Server Address (www.dyndns.com), Domain Name (0.0.0.0), Username, Password, and Confirm.
- SNMP:** Radio buttons for 'On' and 'Off'. 'On' is selected. Below are fields for SNMP Type (SNMPv3), Username (admin), Authentication Mode (MD5), Password, Confirm, Encryption Mode (DES), Password, Confirm, Trap Community Name (private), Trap Server Address (0.0.0.0), Trap Port (162), and SNMP Port (161).
- DNS:** Fields for Preferred DNS Server (8.8.8.8) and Alternate DNS Server (8.8.4.4).

A 'Save' button is located at the bottom left of the configuration area.

UNP Service, 802.1X, DDNS, SNMP and DNS are supported.

No.	Protocol	Description
1	UNP	The Universal Network Passport (UNP) protocol is used for login from a private network to a public network and security protection. It needs to cooperate with UNV platform.
2	802.1X	<p>802.1X, an access control and authentication protocol based on the client/server mode, is used to authenticate cameras that access a network in scenarios with high security requirements. Only authenticated cameras can access the network for communication.</p> <p>This function is used with the switch. The 802.1X protocol authentication function also needs to be enabled for the port of the switch connected to the camera. When a user's login password configured on the camera is the same as that configured on the port of the switch, the authentication server determines that the user is valid and sends an authentication success message and port enable command to the switch to allow service streams of the user to access the network over the port. If the two passwords are different, the authentication server returns an authentication failure message to the switch. The port on the switch is disabled and transmits only authentication data and rejects service data. The user cannot ping the camera through a PC.</p>

3	SNMP	<p>The value is Off by default, and you can set it to On.</p> <p>The value of SNMP Type is SNMPv3. SNMPv3 supports authentication and ciphertext transmission.</p> <p>The value can also be set to SNMPv2.</p> <p>Note: You are advised to set SNMP Type to SNMPv2 when packets are captured on site to locate problems.</p>
4	DDNS	<p>The DDNS service is provided for cameras that do not have fixed IP addresses but want to have fixed domain names. After you configure DDNS parameters, you can directly access a camera using the domain name.</p> <p>DDNS Type: The values include NO-IP, EZDDNS, and DynDNS. The default value is DynDNS.</p> <p>When DynDNS or NO-IP is selected, you can configure parameters, such as Domain Name, Username, and Password, and use the domain name to access the camera.</p> <p>When EZDDNS is selected, you need to configure Domain Name and use the server IP address or domain name to access the camera after you pass the test.</p>
5	DNS	<p>After you enter the IP addresses of the preferred and alternate DNS servers, the camera uses the IP address of the preferred DNS server as the IP address of the DNS server. If the preferred DNS server is invalid, the alternate DNS server is enabled.</p>

3. Network Port

Wired Network	Network Protocol	Network Port	ONVIF	WebSocket	P2P	Camera Communication
<p>Port</p> <p>HTTP Port <input type="text" value="80"/></p> <p>HTTPS Port <input type="text" value="443"/></p> <p>RTSP Port <input type="text" value="554"/></p> <p>Note: Modifying the RTSP port number will cause the device to restart.</p> <p>Port Mapping</p> <p>Port Mapping <input type="radio"/> On <input checked="" type="radio"/> Off</p> <p><input type="button" value="Save"/></p>						

No.	Parameter	Description
1	HTTP Port	The value is 80 by default and can be changed. After the change, you need to enter "http://camera IP address:HTTP Port" in the address box of a browser to access the camera.
2	HTTPS Port	The value is 443 by default and can be changed. HTTPS is a securer access mode than HTTP. After the change, you need to enter "https://camera IP address:HTTPS Port" in the address box of a browser to access the camera.

3	RTSP Port	<p>The value is 554 by default and can be changed. After the change, you need to restart the camera.</p> <p>The RTSP port of UNV cameras is used to view live views on the Web page, play back videos stored on the Web page, and request live view streams using VLC. If authentication is not set for the RTSP port, you do not need to enter the username and password when requesting live view streams using VLC. If authentication is enabled for the RTSP port, you need to enter the username and password when requesting live view streams using VLC.</p>
4	Port Mapping	<p>To access a camera on a LAN from a device on the public network, you need to set Port Mapping to On. The default value is Off.</p>

4. ONVIF

Complete the configuration according to the actual requirements.

5. WebSocket

6. P2P

The LPR camera supports P2P connection. The operation steps are as follows.

- Step 1** On the camera's web interface, enable P2P by selecting **On**.
- Step 2** Add the camera to P2P.
- Step 3** Check the device status. To log out, click **Logout**.

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7. Camera Communication

No.	Parameter	Description
1	Trigger Snapshot	Select Enable if necessary. For the configuration, refer to the <i>Configuration Guide to Dual-Camera Trigger Snapshot</i> .
2	Local IP/Listener Port	These parameters indicate the IP address and port number of the operating camera. When the operating camera needs to receive signals from a remote camera, its port number needs to be the same as the remote port number configured on the remote camera.
3	Transport Mode	The value is TCP by default and can be set to UDP . Note: When the network condition is poor, you are not advised to use UDP.
4	Remote IP/Remote Port	These parameters indicate the IP address and port number of the camera that needs to receive signals from the operating camera. Remote Port must be the same as Listener Port of the receiving camera.
5	Transparent Message Transmission	This function is unavailable and can be ignored.

6	Entry and Exit Mix	This function is off by default, and you can enable it as required. The function is used when a channel is used for both entrance and exit, and is not required when a channel is used for entrance and another one is used for exit. To enable the function, you need to establish camera communication first.
7	Match Time for Entry and Exit Mix(s)	The default value is 300 . After enabling Entry and Exit Mix , you can configure Match Time for Entry and Exit Mix . If a vehicle passes two cameras within the time range, snapshot is triggered and the gate is opened only once.
8	Entrance & Exit Dual Camera	This function is used together with a dual-camera solution, and two cameras are used for snapshot. The default value is Off . Secondary Camera: If you select Secondary Camera for the local camera, the peer camera is Primary Camera . Primary Camera: If you select Primary Camera for the local camera, the peer camera is Secondary Camera .
9	Dual Camera Snapshot Interval(ms)	If Entrance & Exit Dual Camera is Off , the snapshot interval between the primary and secondary cameras is 1000ms by default. When Primary Camera is selected, you can set the value. After dual-camera communication is configured, snapshot images of the primary and secondary cameras within the snapshot interval are regarded as for the same objective.

For detailed configuration, refer to the *Deployment Guide to 2MP Starlight License Plate Recognition Bullet Camera Outside China V2.8.0*.



NOTE!:

- Configure two LPR cameras: IPC1 and IPC2. The software versions of IPC1 and IPC2 cameras need to be consistent.

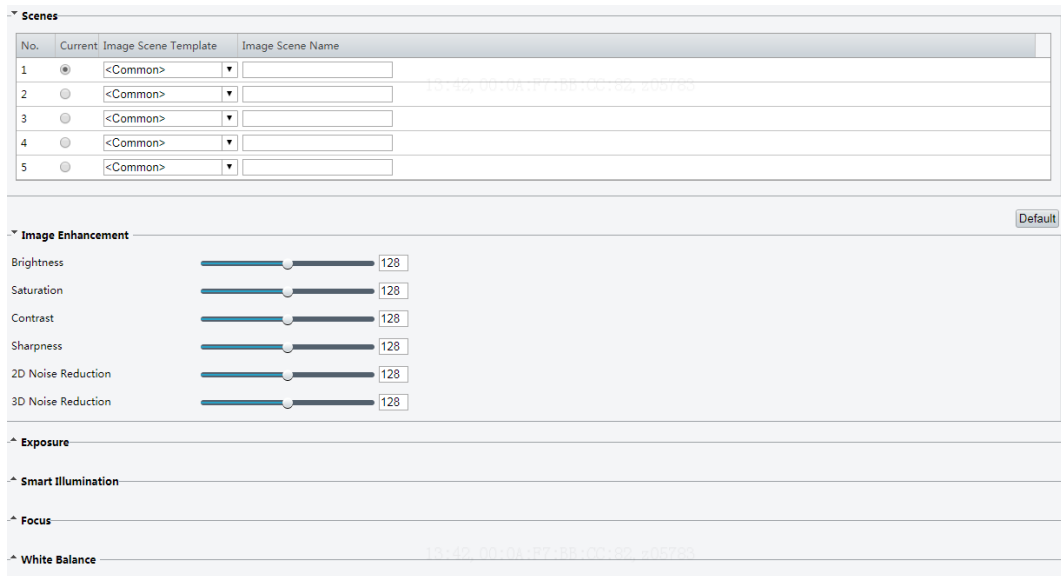
3.5.4 Video & Audio

1. Image

1) Scenes

This page is used to configure strong front light and back light scenes.

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No.	Parameter	Description
1	Image Scene Template	The values include Custom , Common , Test , and Indoor . The default value is Common . Values Test and Indoor can be ignored. In strong front light and back light scenes, you can set the value to Custom , and adjust the exposure compensation value.
2	Image Scene Name	The image scene name can be set as 1, 2, 3, 4, 5, which are used in conjunction with the image scene switching function. Within the planned time, the camera will adjust the image parameters according to the corresponding scene name.
3	Default	You can click Default to restore configuration on this page to factory settings.

2) Image Enhancement



No.	Parameter	Description
1	Image Enhancement	You can use the default values for the parameters. (2D Noise Reduction indicates noise reduction within a frame. A larger value indicates stronger noise reduction and more blur images. 3D Noise Reduction indicates that non-repeated information is filtered out through adjacent frame image comparison to display pure and refined images. However, motion blur or ghosting may occur.)

3) Exposure

The screenshot displays the 'Exposure' configuration panel. It includes the following settings:

- Exposure Mode:** Custom (dropdown)
- Shutter(s):** 1/100000 ~ 1/500 (range dropdown)
- Gain:** 0 ~ 25 (range dropdown)
- Iris:** F9.6 ~ F1.6 (range dropdown)
- Slow Shutter:** On Off
- Slowest Shutter:** 1/12 (dropdown)
- Compensation:** 0 (slider)
- Metering Control:** Vehicle Metering (dropdown)
- Day/Night Mode:** Automatic Day Night
- Day/Night Sensitivity:** Medium (dropdown)
- Day/Night Switching(s):** 3 (input field)
- WDR:** Off (dropdown)
- WDR Level:** 5 (slider)

No.	Parameter	Description
1	Exposure Mode	The default value is Custom . Available values include Automatic, Custom, Shutter Priority, Iris Priority, Indoor 50Hz, Indoor 60Hz, Manual, and Low Motion Blur . You can keep the default setting. PKC2630@Z28-P (-NB) 、 PKC2630@Z28-IR-P (-NB) 、 PKC2640@Z28-P (-NB) 、 PKC2640@Z28-IR-P (-NB) , is none Iris Priority, Low Motion Blur; PKC2640@Z80-P (-NB) 、 PKC2640@Z80-IR-P (-NB) , is none Low Motion Blur;
2	Shutter(s)	When Exposure Mode is set to Custom , HC121/PKC2640@Z80 , the default range is 1/100000 to 1/500 . PKC2630@Z28/PKC2640@Z28 , the default range is 1/100000 to 1/200 . A too great value causes ghosting while a too small value produces dark images.
3	Gain	When Exposure Mode is set to Custom , the default range for HC121 is 0 to 25 . The default range for PKC2630@Z28-P(-NB) is 0 to 50 . The default range for PKC2630@Z28-IR(NB) 、 PKC2640@Z28-IP-P(-NB) & PKC2640@Z80-IR-P(-NB) is 0 to 20 . The default range for PKC2640@Z28-P(-NB) & PKC2640@Z80-P(-NB) is 0 to 40 . You can adjust the value properly under night conditions. A greater gain increases the brightness but introduces noises, while a smaller gain decreases the image brightness.

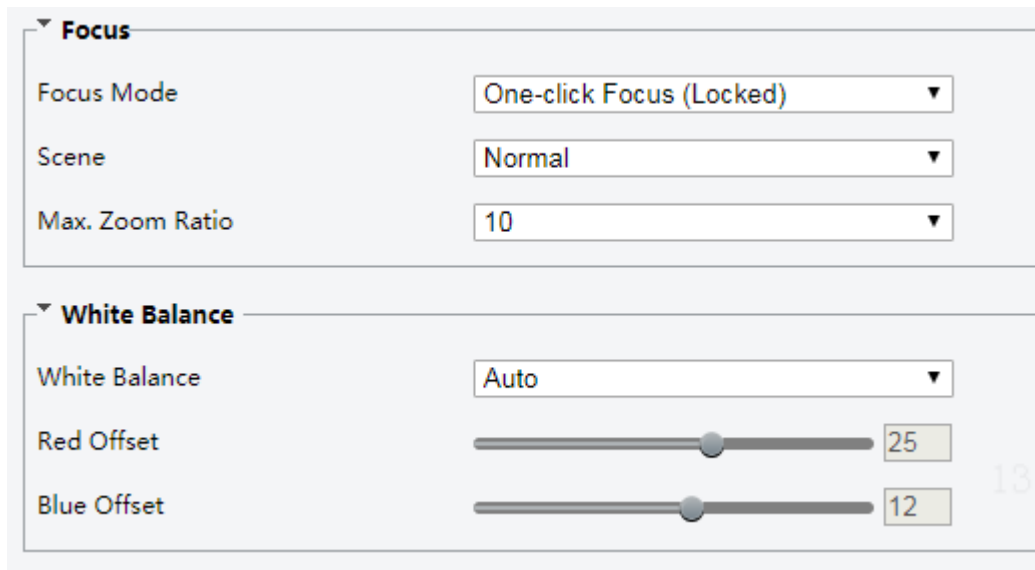
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4	Iris	<p>The default value is F9.6~F1.6. Available values include F1.6, F2.0, F2.4, F2.8, F3.4, F4.0, F4.8, F5.6, F6.8, F8.0 and F9.6. You can keep the default setting.</p> <p>Iris can be configured only for PKC2640@Z80-IR-P (-NB) & PKC2640@Z80-P (-NB) & HC121 .</p>
5	Slow Shutter/Slowest Shutter	<p>The default vaule for PKC2630 & PKC2640 is 1/25. The default vaule for HC121 is 1/12.</p> <p>You can enable Slow Shutter and adjust the value of Slowest Shutter. However, a slow shutter increases the image brightness while reducing the frame rate, and can cause motion blur or ghosting. You are advised to use the default setting.</p>
6	Compensation	<p>The default value is 0, and you can retain the default value. If the application environment of the camera has serious front or back light, adjust the compensation value to improve the image effect. In a back light environment, increase the compensation value. In a front light environment, reduce the compensation value.</p>
7	Metering Control	<p>The default value is Center-Weighted Average Metering, and you can retain the default value. If the brightness difference in different areas of an image is large, set the value to Evaluative Metering (BLC). Evaluative Metering (BLC) is implemented by adjusting the brightness weight in different areas. Center-Weighted Average Metering focuses on the center of an image, and the weight of the surroundings is smaller.</p>
8	Day/Night Mode	<p>The value is Automatic by default, and can be changed to Day or Night. Automatic indicates that the camera switches between the day and night modes based on the preset threshold. Day indicates that the camera always uses the day mode. Night indicates that the camera always uses the night mode. The day/night switch function mainly affects the LED light supplement lamp and parameters like White Balance.</p>
9	Day/Night Sensitivity	<p>The default value is Medium, and other options include Ultra-low, Low, and High. A higher sensitivity indicates easier switchover between the day and night modes.</p>
10	Day/Night Switching(s)	<p>The default value is 3, indicating that the camera switches between the day and night modes after the switching conditions are met for 3s.</p>
11	WDR	<p>The default value for HC121 is Off. The default value for PKC2630 & PKC2640 is ON,which takes effect on the whole day.</p>
12	WDR Level	<p>You are advised to keep the default value of 5. A much high WDR level may result in blurred image or noise. A much low WDR level may result in insufficient brightness of the image.</p>

4) Smart Illumination

No.	Parameter	Description
1	Smart Illumination	The default value is On . You can disable the function if required.
2	Illumination Mode	HC121@TS8CR-Z、PKC2640@Z28-IR-P、PKC2630@Z28-IR-P、PKC2640@Z80-IR-P: The default and only value is Infrared . HC121@TS8C-Z、PKC2640@Z28-P、PKC2630@Z28-P、PKC2640@Z80-P: The default and only value is White Light .
3	Control Mode	The values include: Global Mode : This default value indicates that the camera turns on the light supplement lamp in the daytime and turns off the lamp at night. Overexposure Restrain : Exposure is enhanced. (Only IR camera support to configuration) Custom Level : In this mode, the light supplement lamp is turned on throughout the day. This parameter is valid only when Smart Illumination is set to On. Custom Level (Always on) : When Smart Illumination is enabled, the camera illuminator remains on; when Smart Illumination is disabled, the camera illuminator remains off.
4	Near-illumination Level/Far-illumination Level	The values can be configured when Control Mode is set to Custom Level . Near-illumination Level and Far-illumination Level ranges from 0 to 1000 . 1)The default value of Near-illumination Level for HC121@TS8CR-Z(-NB) is 10. The default value of Far-illumination Level is 0. 2)The default value of Near-illumination Level for HC121@TS8C-Z(-NB) is 100. The default value of Far-illumination Level is 0. 3)The default value of Near-illumination Level & Far-illumination Level for PKC2630@Z28-P(-NB) is 1000. 4)The default value of Near-illumination Level for PKC2640@Z80-P(-NB) & PKC2640@Z28-P(-NB) is 1000. The default value of Far-illumination Level is 0. 5) The default value of Near-illumination Level for PKC2630@Z28-IR-P(-NB) & PKC2640@Z28-IR-P(-NB) is 300. The default value of Far-illumination Level is 0. 6)The default value of Near-illumination Level & Far-illumination Level for PKC2640@Z80-IR-P(-NB) is 500.

5) Focus & White Balance



No.	Parameter	Description
1	Focus Mode	<p>The default value is One-Click Focus (Locked). Only HC121 & PKC2640@Z80 support to configuration.</p> <p>The values include:</p> <p>One-Click Focus: In this mode, the camera determines whether the scene changes, and automatically triggers focusing if the scene changes, which easily causes false triggering.</p> <p>Manual Focus: In this mode, focusing is triggered only when you click Focus+ or Focus- on the live view, and is not triggered by scene change.</p> <p>One-Click Focus (Locked): In this mode, the determined focal length is locked, and only manual adjustment will trigger focusing.</p> <p>Auto Focus: In this mode, the camera Auto Focus.</p> <p>One-Click Focus (IR): The infrared focusing curve is used for focus adjustment. Only available to HC121@ TS8CR-Z model.</p>
2	Scene	The default value is Normal . Only HC121 & PKC2640@Z80 support to configuration.
3	Max. Zoom Ratio	<p>The default vaule for 2MP IR & white light camera is 10. You can set Max. Zoom Ratio based on actual requirements. Max. Zoom Ratio can be set to 10, 20, 40, 80 or 160.</p> <p>The default vaule for PKC2630 & PKC2640 is 4. Max. Zoom Ratio can be set to 4, 8, 16, 32 or 64</p>
3	White Balance	The default value is Auto . Available values include Auto, Outdoor, Fine Tune, Sodium Lamp, Locked , and Auto2 . You can use the default setting.
4	Red Offset	A smaller value turns the live view screen to bluish green, while a greater value turns the live view screen to reddish. The value can be configured only when White Balance is set to Fine Tune .

5	Blue Offset	A smaller value turns the live view screen to yellowish, while a greater value turns the live view screen to bluish. The value can be configured only when White Balance is set to Fine Tune .
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2. Image Scene Switch

Set up a schedule so the camera will display image effects according to the scenes configured for the scheduled time.

No.	Parameter	Description
1	Enable Auto Switch	When selected, the camera will switch image scenes at the scheduled time. When not selected, the camera will not switch scenes.
2	Switch Mode	Currently only Timed Switch is available.
3	Default Scene	When Auto Switching is enabled, the default scene takes effect during non-scheduled time.
4	Auto Switching	Select Auto Switching . The camera displays image effects according to the scene specified for the scheduled time.
5	Schedule	Set the time when a specific scene will take effect.
6	Image Scene Name	You can select 1, 2, 3, 4, and 5. The options correspond to the image scene names set on the Image page.

3. Video Encoding

No.	Parameter	Description
1	Capture Mode	<p>This parameter controls the resolution and frame rate of collected images. The default value for HC121 is 1920x1080P@25, and other values include 1920x1080P@30, 1920x1080P@50, and 1920x1080P@60.</p> <p>The default value for PKC2630 is 2304x1296@30, and other values include 2304x1296@25 and 2304x1296@30.</p> <p>The default value for PKC2640 is 2688x1520@30, and other values include 2688x1520@25 and 2688x1520@30.</p>
2	Main Stream/Sub Stream/Third Stream	By default, only the main stream is enabled, and you can view the main stream on the Live View page. After you enable the sub stream and third stream, you can switch among the main, sub, and third streams on the Live View page.
3	Video Compression	The values include H.264 and H.265 .
4	Resolution	These three parameters control the stream display effect on the Live View page.
5	Frame Rate(fps)	
6	Bit Rate(Kbps)	<p>Note:</p> <ol style="list-style-type: none"> When the network bandwidth is sufficient, you can increase the values of Bit Rate and I Frame Interval and set Smoothing to Clear to improve the live view effect. The default bit rate is 2048Kbps. If the network condition is poor, you can set Smoothing to Smooth or reduce the bit rate to ensure smooth streams.
7	Image Quality	You can select Bit Rate or Quality based on actual requirements.
8	I Frame Interval	The value is an integer from 5 to 250.
9	GOP	The value is IP by default and cannot be changed.

10	U-Code	The default value is Off . This parameter indicates a video encoding mode that reduces the bit rate while maintaining high image quality. It can be set to Basic Mode or Advanced Mode .
----	--------	---

4. Image Encoding

No.	Parameter	Description
1	Resolution	This parameter sets the resolution of a single snapshot image. The default value for HC121 is 1920×1080(1080P) , and other values include 1280×720(720P) and 720×576(D1) . The default value for PKC2630 is 2304×1296 , and other values include 1280×720(720P) , 1920×1080(1080P) , and 720×576(D1) . The default value for PKC2640 is 2688×1520 , and other values include 1280×720(720P) , 1920×1080(1080P) , and 720×576(D1) .
2	Photo Size(KB)	This parameter sets the size of a single snapshot image. The default value is 300 .
3	Clarity	This parameter sets the image clarity. A greater value indicates clearer image. The default value is 80 .

5. ROI

By default, Region of Interest (ROI) is disabled. If the live view is unclear due to poor network conditions, you can enable ROI to improve the resolution in a specific area.

Note: If you draw a too large area for ROI, the camera performance is affected. In most cases, you are not advised to enable ROI.



6. Media Stream

Stream Profile	Protocol	Destination IP	Destination ...	Persistent	Status	
Main Stream	TCP	192.174.3.204	10020	Disable	Streaming	+

- 1) When the multicast function is enabled, you can add media streams on the page. A maximum of eight media streams can be added. When the camera interworks with the platform or NVR, two media streams need to be reserved.
- 2) The maximum bandwidth is 32Mbit/s. If the bandwidth exceeds the maximum value, a video stream channel cannot be established.
- 3) When adding a media stream, select **Enable** or **Disable** for **Persistent**. If you select **Enable**, the media stream is automatically created after the camera restarts. If you select **Disable**, the media stream is not automatically created after the camera restarts.

7. RTSP Multicast Address

Image	Image Scene Switch	Video Encoding	Image Encoding	ROI	Media Stream	RTSP Multicast Address	Audio
Main Stream							
Multicast Address		<input type="text" value="0.0.0.0"/>					
Port		<input type="text" value="0"/>					

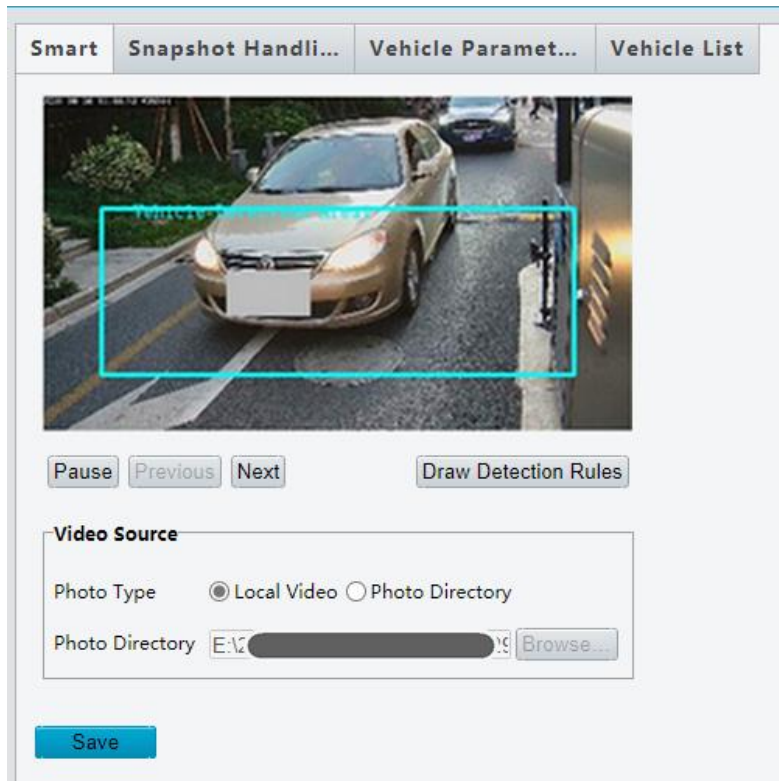
- 1) You can directly configure multicast on the front end and obtain media streams using RTSP.
- 2) For the main stream, the multicast IP address ranges from 224.0.1.0 to 239.255.255.255 and the port number ranges from 0 to 65535.
- 3) After correctly configuring multicast on the front end, you can use a third-party player VLC to play the live view.
- 4) In the **Media Stream** area, the multicast address and port number are the same as those configured before.

8. Audio

No.	Parameter	Description
1	Audio Input	The value is On by default, and you can set it to Off to receive voice.
2	Access Mode	Only Line/Mic is allowed.
3	Input Volume	The value ranges from 0 to 100, and the default value is 50 .
4	Audio Compression	The value is G.711U by default, and can be changed to G.711A .
5	Sampling Rate(KHz)	The default value is 8 , and other values 16.
6	Noise Suppression	The value is On by default and can be set to Off .
7	Channel 1	The default and only value is Line . You can select the Enable check box to enable the channel or clear the check box to disable the channel.
8	Audio Output	The default and only value is Line .
9	Output Volume	The value ranges from 0 to 100, and the default value is 95 .

3.5.5 Smart

1. Smart



No.	Parameter	Description
1	Draw Detection Rules	When you click this button, the Snapshot Area interface is displayed.
2	Photo Type	Local Video is selected by default. The other available value is Photo Directory .
3	Photo Directory	The value indicates the image storage path. You can configure it only when Photo Type is set to Photo Directory .

4	Draw Detection Area	<p>1. It is recommended that the rectangular detection area be located in the lower part of the image, and the upper edge of the detection area align with the snapshot point.</p> <p>2. It is recommended that the left and right edges of the detection area overlap the actual lane lines.</p> <p>3. The height of the detection area is recommended to be between 1/4 and 1/3 of the image height.</p> <p>Note:</p> <p>1. If the video triggering scene is not upright (the camera is installed at a side), the detection area can be moved upwards so that the optimal position for license plate recognition is in the middle and lower part of the detection area.</p> <p>2. During debugging, ensure that the license plate is horizontal. If the camera adopts algorithm A, the vehicle body needs to be upright (the lower edge of the windshield needs to be horizontal) for license plate recognition, and the license plate can slant a bit. If the tilt angle of the license plate exceeds 30°, make adjustment with the consideration of both the vehicle body and license plate.</p>
5	Reset All	<p>You can click this button to restore the vehicle detection area and license plate frame to the default settings.</p>

2. Snapshot Handling

No.	Parameter	Description
1	Generate Passing Record	<p>Generate Passing Record is selected by default.</p> <p>That is, passing records are generated for unidentified vehicles.</p> <p>If you clear the check box, passing records are not generated for unidentified vehicles.</p>
2	Small Photo of Plate	<p>Generate Color Photo is selected by default.</p> <p>That is, small color photos will be generated for identified vehicle license plates in the photo directory of the memory card.</p> <p>If you select Generate Binary Photo, binary photos will be generated for identified vehicle license plates in the photo directory of the memory card.</p> <p>(Note: Binary license plate photos need to be viewed by using an image viewer.)</p>

3	Identified Vehicle	<p>Report All: The camera captures all vehicles whose license plates are identified and reports the records to the server. The configuration of allowlists and blocklists is not involved.</p> <p>Report Allowlist Vehicle: The camera captures only allowlisted vehicles whose license plates are identified and reports the records to the server. Entrance & Exit Allowlist must be selected.</p> <p>Report Non-Blocklist Vehicle: The camera captures only vehicles whose license plates are identified and that are not in the blocklist, and reports the records to the server.</p>
4	Unidentified Vehicle	<p>Report: The camera captures vehicles without license plates and reports the records to the server.</p> <p>Not Report: The camera does not capture or report vehicles without license plates.</p>

3. Vehicle Parameters

1) License Plate

No.	Parameter	Description
1	Country	The default and only value is Common . You can select the Russia、Hungary、Colombia、Czech Republic、Croatia、Romania、Slovenia、Bulgaria、Serbia、Egypt、Iraq、United States of America.
2	Vehicle Characteristics Parameters	Disabled by default. When enabled, the camera can recognize vehicle features (Vehicle Model&Logo、Vehicle Logo、Vehicle Color、vehicle types.) .

4. Vehicle List

1) Let Through Policy

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Let Through Policy

Identified Vehicle Let Through All Let Through Allowlist Vehicle Let Through Non-Blocklist Vehicle

Unidentified Vehicle Let Through Not Let Through

Allowlist Matching Mode ▼

Blocklist Matching Mode ▼

Let Through Delay(s)

No.	Parameter	Description
1	Identified Vehicle	<p>Let Through All: All vehicles whose license plates are identified are allowed to pass through.</p> <p>Let Through Allowlist Vehicle: Only allowlisted vehicles whose license plates are identified are allowed to pass through.</p> <p>Let Through Non-Blocklist Vehicle: Among vehicles whose license plates are identified, only vehicles not in the blocklist are allowed to pass through.</p>
2	Unidentified Vehicle	<p>Let Through: Vehicles without license plates are allowed to pass through.</p> <p>Not Let Through: Vehicles without license plates are not allowed to pass through.</p>
3	Allowlist/Blocklist Matching Mode	<p>The default value is Exact Matching. You can select Exact Matching or Matching based on actual requirements.</p> <p>Exact Matching: A vehicle is allowed to pass through only if the letters and digits contained in the license plate are correct.</p> <p>Matching: Chinese characters can be ignored, and the number of allowable unmatched characters can be set based on actual requirements.</p> <p>Allow Unmatched Character(s): indicates the number of unmatched characters (Chinese characters excluded) allowed in a license plate. If the value is within the threshold, a vehicle is allowed to pass through even though the license plate is not identified. The values include 0, 1, and 2.</p> <p>Note: If Allow Unmatched Character(s) is set to 1 or 2, vehicles with different license plates may be identified as the same vehicle in a short period of time. Therefore, you are advised to set Allow Unmatched Character(s) to 0.</p>
4	Let Through Delay(s)	<p>The value is 0 by default and ranges from 0 to 600. When the camera captures a vehicle, the camera determines whether to open the barrier gate according to the let-through policies after this configured duration. Currently, this function takes effect only when Control Mode is set to Camera Control Mode and Auto Snapshot is enabled.</p>

2) Allowlist & Blocklist

3.5.6 External Device

Configuration is not required.

Serial Port

RS485_1

Port Mode	<input type="text" value="Trans-Channel"/>
Baud Rate	<input type="text" value="9600"/>
Data Bits	<input type="text" value="8"/>
Stop Bits	<input type="text" value="1"/>
Parity	<input type="text" value="None"/>
Flow Control	<input type="text" value="None"/>

Enable Trans-Channel

Destination IP	<input type="text" value="192.168.0.30"/>
Destination Port	<input type="text" value="17081"/>
Source IP	<input type="text" value="192.174.2.177"/>
Source Port	<input type="text" value="1025"/>
Transport Mode	<input type="text" value="UDP"/>

3.5.7 Events


1. Motion Detection

1) Rule Settings

Motion Detection
Tampering Alarm
Alarm Input
Alarm Output

Rule Settings
Trigger Actions
Plan

Detection Mode	<input type="text" value="Area"/>
----------------	-----------------------------------



+
Detection Rule

Rule

Sensitivity	<input type="range" value="Low"/> High <input type="text" value="1"/>
Object Size	<input type="range" value="Small"/> Large <input type="text" value="1"/>

Alarm Parameters

Suppress Alarm(s)	<input type="text" value="15"/>
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No.	Parameter	Description
1	Detection Mode	Includes area detection and grid detection. After choosing Area , you can add motion detection areas (up to four areas allowed). After choosing Grid , you can draw grids on the image. The areas covered by grids

		are detection areas.
2	Rule X	<p>Sensitivity: Motion detection sensitivity. The valid range is 1-100. The default is 98. The greater the value, the higher the sensitivity.</p> <p>Object Size: The valid range is 1 to 100. The default is 4. Only objects greater than the specified size will be detected. This parameter is valid only when the detection mode is set to Area.</p>
3	Alarm Parameters	<p>Suppress Alarm(s): The default is 15. If the interval between the currently detected motion and the previously detected motion is less than the set value, then the currently detected motion will not be reported.</p>

2) Trigger Actions

The screenshot shows a configuration window with tabs for 'Motion Detection', 'Tampering Alarm', 'Alarm Input', and 'Alarm Output'. Under 'Alarm Output', there are sub-tabs for 'Rule Settings', 'Trigger Actions', and 'Plan'. The 'Trigger Actions' sub-tab is active, showing a table with two columns: 'Alarm Output' and 'Storage'. In the 'Alarm Output' column, the option 'A → 1' is selected with a checked checkbox. In the 'Storage' column, 'Recording Edge Storage' and 'Image Edge Storage' are both unselected with unchecked checkboxes. A blue 'Save' button is located at the bottom left of the configuration area.

No.	Parameter	Description
1	Alarm Output	With A→1 selected, the camera will trigger an alarm output when motion is detected.
2	Storage	<p>With Recording Edge Storage selected, the camera will trigger video recording when motion is detected.</p> <p>With Image Edge Storage selected, the camera will trigger a snapshot when motion is detected.(Not supported yet)</p>

3) Plan

The screenshot shows the 'Motion Detection' configuration page with the 'Plan' tab selected. Under 'Enable Plan', the checkbox is checked. There are 'Armed' and 'Unarmed' buttons, and an 'Edit' button. Below is a grid for setting arming periods for each day of the week (Mon-Sun) across 24 hours (0-23). The grid is currently empty, indicating no arming periods are set. A 'Save' button is located at the bottom left of the configuration area.

No.	Parameter	Description
1	Enable Plan	With Enable Plan selected, the camera will perform motion detection during the arming period. With Enable Plan not selected, the camera will disable motion detection.
2	Armed	After clicking Armed , you can drag on the table to set arming period. The camera performs motion detection during the arming period.
3	Unarmed	After clicking Unarmed , you can drag on the table to cancel arming period.
4	Edit	You can click the Edit button to set the start time and end time of an arming period for each day of the week. Up to four time periods are allowed per day. Copy to: You can copy the arming period configured for a day to another day.

Edit

Mon	Tue	Wed	Thu	Fri	Sat	Sun
------------	-----	-----	-----	-----	------------	------------

No.	Start Time	End Time
1	00:00:00 <input type="button" value="L"/>	23:59:59 <input type="button" value="L"/>
2	<input type="text"/> <input type="button" value="L"/>	<input type="text"/> <input type="button" value="L"/>
3	<input type="text"/> <input type="button" value="L"/>	<input type="text"/> <input type="button" value="L"/>
4	<input type="text"/> <input type="button" value="L"/>	<input type="text"/> <input type="button" value="L"/>

Copy To Select All

Mon Tue Wed Thu Fri Sat Sun

2. Tampering Alarm

1) Rule Settings

Motion Detection	Tampering Alarm	Alarm Input	Alarm Output
------------------	------------------------	-------------	--------------

Enable Tampering Alarm

Rule Settings	Trigger Actions	Plan
---------------	------------------------	------

Sensitivity

Duration(s)

No.	Parameter	Description
1	Enable Tampering Alarm	With Enable Plan selected, the camera will perform tampering detection during the arming period. With Enable Plan not selected, the camera will disable tampering detection.
2	Sensitivity	The valid range is 1-100. The default is 50 . The greater the value, the higher the sensitivity.
3	Duration(s)	The valid range is integers from 1 to 10. The default is 1 . The camera performs tampering detection if the duration of tampering exceeds the set value.

2) Trigger Actions

Motion Detection
Tampering Alarm
Alarm Input
Alarm Output

Enable Tampering Alarm

Rule Settings
Trigger Actions
Plan

Alarm Output	Storage
<input type="checkbox"/> A → 1	<input type="checkbox"/> Recording Edge Storage <input type="checkbox"/> Image Edge Storage

Save

No.	Parameter	Description
1	Alarm Output	With A→1 selected, the camera will trigger an alarm when tampering is detected.
2	Storage	With Recording Edge Storage selected, the camera will trigger video recording when tampering is detected. With Image Edge Storage selected, the camera will trigger a snapshot when tampering is detected.(Not supported yet)

3) Plan

The screenshot shows the 'Tampering Alarm' configuration page. At the top, there are tabs for 'Motion Detection', 'Tampering Alarm', 'Alarm Input', and 'Alarm Output'. Below these, there is a checkbox for 'Enable Tampering Alarm'. Underneath, there are three sub-tabs: 'Rule Settings', 'Trigger Actions', and 'Plan'. The 'Plan' tab is active, showing a checkbox for 'Enable Plan' which is checked. Below this are two buttons: 'Armed' (with a blue square) and 'Unarmed' (with a white square). To the right is an 'Edit' button. The main part of the interface is a 7x24 grid representing the days of the week (Mon-Sun) and hours (0-24). The grid cells are currently all blue, indicating the camera is armed for the entire duration. At the bottom left of the configuration area is a 'Save' button.

No	Parameter	Description
1	Enable Plan	With Enable Plan selected, the camera will perform tampering detection during the arming period. With Enable Plan not selected, the camera will disable tampering detection.
2	Armed	After clicking Armed , you can drag on the table to set arming period. The camera performs tampering detection during the arming period.
3	Unarmed	After clicking Unarmed , you can drag on the table to cancel arming period.
4	Edit	You can click the Edit button to set the start time and end time of an arming period for each day of the week. Up to four time periods are allowed per day. Copy to: You can copy the arming period configured for a day to another day.

Edit

No.	Start Time	End Time
1	00:00:00	23:59:59
2		
3		
4		

Copy To Select All
 Mon Tue Wed Thu Fri Sat Sun

Copy

OK Cancel

3. Alarm Input

Motion Detection Tampering Alarm **Alarm Input** Alarm Output

Select Alarm

Rule Settings

Alarm Name

Alarm Type

Alarm Input On Off

Save

No.	Parameter	Description
1	Select Alarm	The default value is Alarm Input 1 . When Alarm Input 1 is selected, the rule is configured for alarm input 1. When Alarm Input 2 is selected, the rule is configured for alarm input 2. Then, select the rule based on the customer requirements. When Alarm Input 1 is selected, alarms are processed according to the rule of alarm input 1. When Alarm Input 2 is selected, alarms are processed according to the rule of alarm input 2.

No.	Parameter	Description
2	Alarm Name	This parameter can be customized and must be specified. The value is a string of up to 20 characters. The default value is A1 .
3	Alarm Type	The value is N.O. by default and can be set to N.C. The value must be the same as that of the alarm input peripheral.
4	Alarm Input	By default, Off is selected. You can select On to enable alarm input.

4. Alarm Output

No.	Parameter	Description
1	Select Alarm	The function is used with the SDK platform or whitelist. When a vehicle matches the whitelist, the camera sends the Boolean signal to open the barrier gate. The default value is Alarm Input 1 .
2	Alarm Name	This parameter can be customized and must be specified. The value is a string of up to 20 characters. The default value is A1 .
3	Alarm Type	The value is N.O. by default and can be set to N.C. The value must be the same as that of the alarm input peripheral.
4	Delay(ms)	This parameter sets the delay of the camera for sending the Boolean signal. The default value is 500 . The value is an integer from 100 to 10000.
5	Relay Mode	The value is Monostable . This parameter applies to special scenarios and can be ignored.

3.5.8 OSD

1. Live View

You can set On Screen Display (OSD) of live views. A maximum of eight areas can be added.

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The screenshot shows a configuration window with a 'Live View' tab and a 'Photo' tab. The live view shows a white car on a scale. The settings panel includes a table for OSD content and a 'Display Style' section.

Enable	No.	Overlay OSD Content	X-Axis	Y-Axis
<input checked="" type="checkbox"/>	1	<Date & Time>	2	3
<input type="checkbox"/>	2		75	3
<input type="checkbox"/>	3		2	75
<input type="checkbox"/>	4		0	0
<input type="checkbox"/>	5		0	0
<input type="checkbox"/>	6		0	0
<input type="checkbox"/>	7		0	0
<input type="checkbox"/>	8		0	0

Display Style

Effect: Background
 Font Size: Medium
 Font Color: #0000-1
 Min. Margin: None
 Date Format: dd/MM/yyyy
 Time Format: HH.mm.ss

dd=Day; dddd=Day of the week; M=Month; y=Year
 h/H=12/24 Hour; tt=A.M. or P.M.; mm=Minute; ss=Second

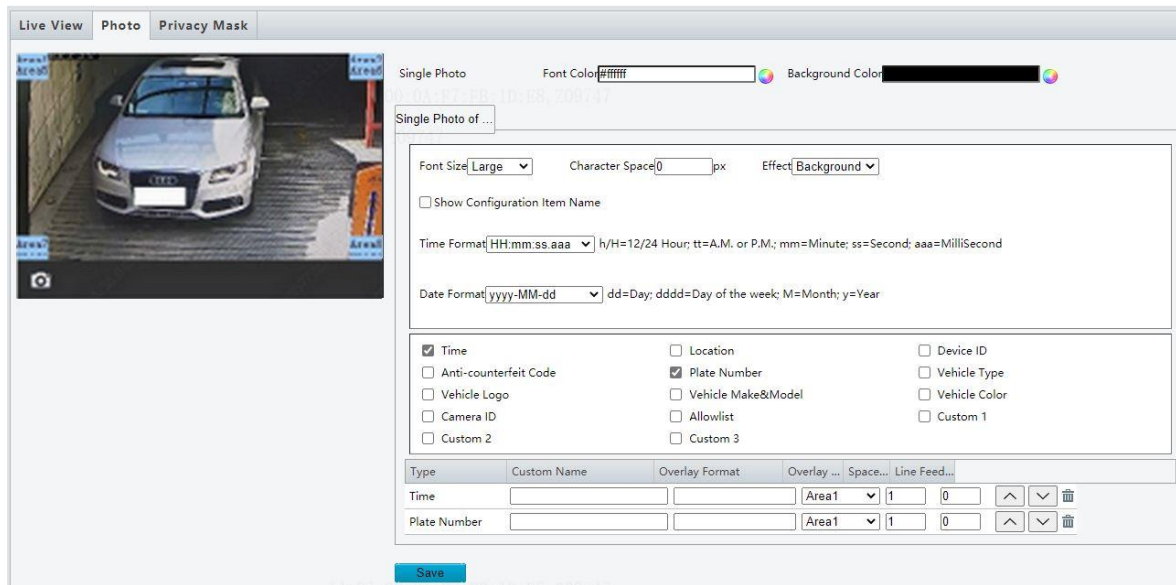
No.	Parameter	Description
1	Overlay OSD Content	The values include Custom , Date & Time , Time , Zoom and Date . The default value is Date & Time .
2	X-Axis/Y-Axis	You can set the values to adjust the position of the overlay area. Alternatively, you can drag the overlay area in the live view.
3	Effect	The default value is Background . Available values include Background , Stroke , Hollow , Normal , and Inverse .
4	Font Size	The default value is Medium . Available values include X-large , Large , Medium , and Small .
5	Font Color	The default value is #0000-1 . You can click  to select a color. Then, the Font Color text box displays the hexadecimal code of the selected color, and the OSD overlay font color turns to the selected color.
6	Min. Margin	The default value is None . Other values include Single and Double .
7	Date Format	The default value is dd/MM/yyyy . Other values include: MM/dd/yyyy dd MM,yyyy MM dd,yyyy dddd,dd MM,yyyy dddd,MM dd,yyyy yyyy/MM/dd yyyy,MM dd dddd,yyyy,MM dd Note: dd indicates the date, dddd indicates the day in the week, MM indicates the month, and yyyy indicates the year.



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8	Time Format	The value is HH:mm:ss by default, and can be changed to hh:mm:ss tt . Note: hh indicates the hour in 12-hour system, HH indicates the hour in 24-hour system, tt indicates A.M. or P.M., mm indicates minute, and ss indicates second.
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2. Photo

Font Color, Background Color, Font Size, Character Space, Time Format, and Date Format can be configured based on actual requirements.



No.	Parameter	Description
1	Font Color	The default value is #ffffff , indicating white. You can click  to select a color. Then, the Font Color text box displays the hexadecimal code of the selected color, and the OSD overlay font color turns to the selected color.
2	Background Color	The default value is #000000 , indicating black. You can click  to select a color. Then, the Background Color text box displays the hexadecimal code of the selected color, and the background of the OSD overlay content turns to the selected color.
3	Font Size	The default value is Medium . Available values include X-large, Large, Medium, and Small .
4	Character Space	The value is an integer from 0 to 10, indicating the number of pixels of the space between characters.
5	Effect	The default value is Background . Available values include Background, Normal .
6	Show Configuration Item Name	By default, it is not selected. If it is selected, the configuration item name is displayed on the image. You can set OSD on passing record photos based on actual requirements. After you select the OSD items, you can configure Custom Name, Overlay Format, Overlay Position, Space Count, and Line Feed Count .

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7	Time Format	<p>The default value is HH:mm:ss. Other values include: hh:mm:ss tt, HH:mm:ss.aaa, and hh:mm:ss.aaa tt.</p> <p>Note: hh indicates the hour in 12-hour system, HH indicates the hour in 24-hour system, tt indicates A.M. or P.M., mm indicates minute, ss indicates second, and aaa indicates millisecond.</p>
8	Date Format	<p>The default value is yyyy-MM-dd. Other values include:</p> <p>MM/dd/yyyy dd MM,yyyy MM dd,yyyy yyyy/MM/dd MM dd yyyy dddd</p> <p>Note: dd indicates the date, dddd indicates the day in the week, MM indicates the month, and yyyy indicates the year.</p>
9	Overlay Area1	<p>You can set the values to adjust the position of the overlay area. Alternatively, you can drag the overlay area in the live view.</p> <p>The value is an integer from 0 to 99.</p>
10	Overlay Format	<p>The overlay content instead of the configuration item name is configured. The overlay format is <total length of (padding characters)>. The length is 1 to 20 characters. If the overlay padding character string is null, 0 is added. If the length of overlay information is longer than the allowed total character length, overlay information is properly displayed, and information that exceeds the allowed total character length will not be cut.</p>
11	Type	<p>Available values include Time, Location, Device ID, Anti-counterfeit Code, Plate Number, Vehicle Type, Vehicle Logo, Vehicle Mark&Model, Vehicle Color, Camera ID, Allowlist, Custom 1, Custom 2, and Custom 3.</p>
12	Custom Name	<p>You can customize configuration item names. If Configuration Item Name is selected, configuration item names and values are displayed on the screen. If the names are customized, customized names are displayed.</p>
13	Overlay Format	<p>Valid format: <total length of (padding characters)></p>
14	Overlay Position	<p>A maximum of eight areas, areas 1–8, can be added.</p>
15	Line Feed Count	<p>The values 0, 1, 2, and 3 indicate no line feed, line feed, one blank line, and two blank lines, respectively. The line feed effect varies depending on the font size. If a small font is used, a maximum of two blank lines are allowed. If a large font is used, line feed is not allowed.</p>
16	Space Count	<p>The value is an integer from 0 to 10.</p>
17	Order adjustment buttons	<p>: Click this button to adjust the order forward.</p> <p>: Click this button to adjust the order backward.</p> <p>The OSD overlay sequence can be adjusted by clicking the up and down arrows based on sense habits of people and standard requirements of the project.</p>

18	Deleting	 : Click this button to delete the overlay content.
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3. Privacy Mask

Privacy masking is used to cover the invisible areas that need to be hidden. It supports up to 4 masking areas, and is generally used to cover some sensitive fixed objects or parts in the monitoring interface, such as some sensitive words, symbols and special areas.



序号	参数	说明
1	Add	Click the Add button to add a privacy mask. Select the mask with the mouse and drag to move it. Click the four corners of the mask to reduce the privacy mask.
2	Delete	Select the privacy mask and click the Delete button to delete it.

3.6 Maintenance

3.6.1 Maintenance

1. Maintenance

Software Upgrade

Local Upgrade Upgrade Boot Program

Cloud Upgrade

Note: The upgrade will take a while. Please do not disconnect power.

Config Management

Restore all settings to defaults without keeping current network and user settings.

Importing

Exporting

Diagnosis Info

Export Diagnosis Info

Collect Image Debugging Info

Device Restart

Restart device

Enable Auto Restart

Note:1. Software upgrade, device restart, restoration to defaults or configuration import will restart the device.
2. Restarting the device will interrupt the connection to the device.

1) Software Upgrade- Local Upgrade

In this pane, you can upgrade or roll back the camera firmware version. The operation steps are as follows:

- Step 1** Store the upgrade package to a local path, such as D:\update.
- Step 2** Click **Browse...** and select the upgrade package so that the text box shows the path, such as D:\update*Upgrade package name*.
- Step 3** Click **Upgrade**. Then, a progress bar is displayed during the upgrade.
- Step 4** After the upgrade, log in to the camera again.

2) Software Upgrade- Cloud Upgrade

This function is currently not available.

3) Config Management

On this page, you can maintain the camera, such as restoring the default configuration, restarting the camera, and importing and exporting the camera configuration. The operation steps are as follows:

- Step 1** Click **Default** to restore the default configuration. After the restoration, the camera restarts, and configurations except network settings and user configuration are restored to the default values. If you select **Restore all settings to defaults without keeping current network and user settings**, the IP address and user configuration are all restored to the initial state.

Step 2 Store a configuration file of the camera model to a local path, click **Browse...**, select the file, and click **Import** to import the configuration. After successful import, the camera restarts, and the camera configuration is updated.

Step 3 Click **Browse...**, select a local path, and click **Export** to export the camera configuration, which can be imported to other cameras of the same model.

4) Diagnosis Info

You can export camera diagnosis information to a specific directory or directly open the camera diagnosis information file to locate problems. The operations are as follows:

Click **Browse...**, select a local path, and click **Export** to export the camera diagnosis information for problem locating.

5) Device Restart

You can manually restart the camera or configure a camera restart rule to enable automatic restart. Perform the following operations:

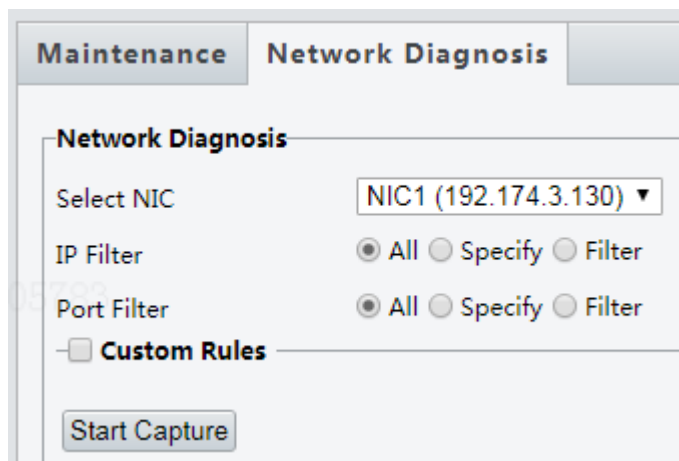
Step 1 Click **Restart** to manually restart the camera.

Step 2 Select **Enable Auto Restart** and configure the restart cycle and restart time. The restart cycle can be **Each Day, Each Monday, Each Tuesday, Each Wednesday, Each Thursday, Each Friday, Each Saturday,** and **Each Sunday**. The restart time can be customized, but the default value **02:00:00** is recommended.

Note: During site deployment, it is recommended that cameras be restarted at different time to prevent overload of the platform due to a large number of online and offline cameras.

2. Network Diagnosis

1) Network Diagnosis



No.	Parameter	Description
1	Select NIC	NIC1 (default) or NIC2 .
2	IP Filter	All is selected by default. All : No IP filtering. Specify : Capture packets from or to the specified IP address(es). Filter : Capture packets except those from or to the specified IP address(es).

3	Port Filter	<p>All is selected by default.</p> <p>All: No port filtering.</p> <p>Specify: Capture packets from or to the specified port(s).</p> <p>Filter: Capture packets except those from or to the specified port(s).</p>
4	Custom Rules	<p>This function is disabled by default.</p> <p>When enabled, you can customize the filtering rules. The rules must meet pcap syntax, otherwise, a message “Setting the parameter(s) failed” appears after you click Start Capture.</p>
5	Start Capture	<p>Click to start packet capture, click again to stop capture and save the packet file to the PC. Each packet file allows up to 100M.</p>

2) Network Delay and Packet Loss Test

No.	Parameter	Description
1	Test Address	Enter the address you want to test.
2	Packet Size (Bytes)	The default is 64 bytes . Change the size as needed.
3	Test	Click Test to start network test. The test results will be returned after the test is completed, including the average latency and packet loss rate.

3.6.2 Device Status

1. Device Status

This page displays camera-related information, including the model, version information, and running time.

Device Status

Basic Info

Model	HC121
Product Config	TS8CR-Z
IPv4 Network Info	192.17. [redacted] 2.1
MAC Address	6c: [redacted] :ef

Version Info

Firmware Version	ANPR-B1105 [redacted]
Hardware Version	A
Boot Version	V2.2
Serial No.	21C [redacted]

Status

System Time	2023/9/1 00:30:16
Operation Time	0 Day(s) 0 Hour(s) 25 Minute(s)

Refresh

3.6.3 Security

1. User

On this page, you can add, delete, or modify ordinary users of the camera, and change the password of the admin user.

User | HTTPS | Authentication | Registration Info | ARP Protection | Watermark | IP Address Filtering | Access Policy | Certificate Management

Add Edit Delete

No.	Username	User Type
1	admin	Admin

16:39, 00:0A:P7:BB:00:1

Step 1 To add a user, click **Add**, configure the **username**, password and **Confirm**, and save the configuration.

Add dialog box (Common User):

Username: [text field]
 User Type: Common User (dropdown)
 Password: [text field]
 Confirm: [text field]
 Select Permission
 Live View Playback

Add dialog box (Operator):

Username: [text field]
 User Type: Operator (dropdown)
 Password: [text field]
 Confirm: [text field]
 Select Permission
 Parameter... Live View Playback Snapshot Two-way A...
 PTZ Control Event Subs... Log Maintenance Upgrade

No.	Parameter	Description
1	Username	The value is null by default and can be customized.

		Rule: 0 - 32 characters, including upper case letters (A-Z), lower case letters (a-z), digits (0-9), underscores (_), hyphens (-), dots (.), and plus signs (+).
2	User Type	The value is Common User by default, and other options is Operator .
3	Password	The value is null by default and can be customized. Rule: 0 - 32 characters, including upper case letters (A-Z), lower case letters (a-z), digits (0-9), underscores (_), hyphens (-), dots (.), and plus signs (+).
4	Confirm	Confirm password
5	Select Permission	User Type is Common User , The value is Live View by default, and other options is PlayBack . User Type is Operator , The value is Live View,Playback,Snapshot,Two-way audio,PTZ Cotrol and Log by default,and other options include Parameter Confi,Live View,Playback,Snapshot,Two-way audio,PTZ Cotrol,Event Subscription,Log,Maintenance and Upgrade . Notes: PlayBack、Two-way audio、PTZ Cotrol and Event Subscription is not required.

Step 2 To add a user, click **Add**, configure the username and password, and save the configuration.

Step 3 To edit a user, select the desired user, click **Edit**, change the password, and save the setting.

Step 4 To delete a user, select the desired user and click **Delete**.



NOTE!

1. If the camera successfully registers with a platform, the username and password modified on the front end will be overwritten by the username and password on the platform after the camera is restarted. If you want to change the password used to log in to the camera after the camera successfully registers with a platform, change the password on the platform. On the platform, only the password can be changed, and the username cannot be modified.

2. A non-admin user cannot configure camera parameters and can only access the **Live View**, **Photo**, and **Maintenance** pages to view live views and photos, manually capture snapshots, and delete or export images.

2. HTTPS



The HTTPS function is used for encryption to prevent network attacks. The HTTPS port is set under **Setup > Network > Port**. An SSL certificate is required to enable HTTPS.

No.	Parameter	Description
1	HTTPS	HTTPS is turned off by default.
2	Server Certificate	仅支持 default.

3. Authentication

No.	Parameter	Description
1	RTSP Authentication	The values include None , Basic , Digest MD5 , and Digest SHA256 .The default value is Digest MD5 . RTSP is an application layer protocol and used to transmit and control real-time media streams, such as audio and video streams. The RTSP port is set under Setup > Network > Port .
2	HTTP Authentication	The values include None , Digest MD5 , and Digest SHA256 .The default value is Digest MD5 . The HTTP port is set under Setup > Network > Port .

4. Registration Info

By default, **Off** is selected. In this case, the camera vendor information is hidden when the camera interworks with the server using ONVIF.

5. ARP Protection

If a device on a LAN forges the IP address of the gateway, communication data between the camera and the gateway will be sent to the forged device. After ARP protection is enabled, the camera sends data to the device whose MAC address corresponds to the gateway IP address.

6. Watermark

The function is used to prevent videos from being tampered. If a video is recorded on the camera or platform after you enable watermark and add the watermark content, the EZPlayer detects the watermark to check whether the video data matches with the watermark.

7. IP Address Filtering

The IP address filtering function is used to allow or reject the access to the camera through a certain IP address. If an IP address is rejected to access the camera, the IP address can be pinged on the PC. However, the IP address cannot be used to log in to the Web interface of the camera.

Description

No.	Parameter	Description
1	IP Address Filtering	By default, Off is selected. You can select On as required.
2	Filtering Mode	The default value is Allowlist . After an IP address is configured in this mode, only the configured IP address is allowed to access the camera. If you change the value to Deny Access and an IP address is configured, the configured IP address is rejected to access the camera.
3	IP Address	This sets the IP address that is allowed or rejected to access the camera.

8. Access Policy

No.	Parameter	Description
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1	MAC Authentication	<p>By default, On is selected. After MAC authentication is enabled, login authentication is required for users who log in to the camera through an SDK interface. Web portal login is not affected by the authentication.</p> <p>Note: A third-party customer must use SDK 3.0 or later to interwork with the camera. If SDK interworking fails after a camera upgrade, MAC authentication needs to be disabled.</p>
2	Illegal Login Lock	<p>By default, On is selected. When enabled, the camera will be locked for a specified period of time after specified number of failed login attempts.</p> <p>The default illegal login limit is 5, you can set it in the range of 2 to 10.</p> <p>The default lock time is 5 minutes, you can modify it as needed.</p>
3	Session Timeout	<p>By default, Off is selected. When enabled, if you do not perform any operation in the camera's Web interface during a specified interval, you will be logged out and need to log in again.</p> <p>The default timeout is 5 minutes, you can set it in the range of 1 to 120.</p>

9. Certificate Management

You can create, import, export, delete certificates, and view the properties of a certificate.

The screenshot displays the 'Certificate Management' interface. At the top, a navigation bar includes 'User', 'HTTPS', 'Authentication', 'Registration Info', 'ARP Protection', 'Watermark', 'IP Address Filtering', 'Access Policy', and 'Certificate Management'. Below this, the 'Certificate' section features buttons for 'Create Self-Signed Certificate', 'Create Certificate', 'Import Certificate', 'Export Certificate', 'Delete Certificate', and 'Certificate Properties'. A table lists certificates with columns for 'Certificate Name', 'Valid From', 'Valid To', 'Certificate Status', and 'Function'. One certificate is listed: 'default' with a valid period from 2023-05-08 06:57:12 to 2024-05-08 06:57:12, a status of 'Normal', and a function of 'HTTPS'. Below this is the 'CA Certificate' section, which has buttons for 'Import Certificate', 'Delete Certificate', and 'Certificate Properties', and an empty table with the same column headers.