PTZ Camera

User Manual

Please read this instruction carefully before using the product and keep it for further reference

About This Manual

- This manual is provided for user reference only, without legal restraint.
- This manual is available for many models. Some functions introduced in the manual may be not available for some models. Please take the real models as the standard.
- This content of this manual is subject to change without prior notice, and the updates will be added into the new version of this manual.
- This manual may contain several technically incorrect places or printing errors, please feel free to let us know. We will readily improve or update the procedures described in the manual.

Notes on Safety

- Please use the specified power supply to connect.
- Do not attempt to disassemble the camera; in order to prevent electric shock, do not remove screws or covers.
- There are no user-serviceable parts inside. Please contact the nearest service center as soon as possible if there is any failure.
- Avoid from incorrect operation, shock vibration, heavy pressing which can cause damage to the product.
- Do not use corrosive detergent to clean main body of the camera. If necessary, please use soft dry cloth to wipe dirt; for hard contamination, use neutral detergent. Any cleanser for high grade furniture is applicable.
- Avoid aiming the camera directly towards extremely bright objects, such as, sun, as this may damage the image sensor.
- Please follow the instructions to install the camera. Do not reverse the camera, or the reversing image will be received.
- Do not operate it in case temperature, humidity and power supply are beyond the limited stipulations.
- Keep away from heat sources such as radiators, heat registers, stove, etc.
- Do not expose the product to the direct airflow from an air conditioner. Otherwise, it may cause moisture condensation inside the clear dome due to temperature difference between internal and external of the dome camera.

Disclaimer

■ With regard to the product with internet access, the use of product shall be wholly at your own risks. Our company shall be irresponsible for abnormal operation, privacy leakage or other damages resulting from cyber attack, hacker attack, virus inspection, or other internet security risks; however, Our company will provide timely technical support if necessary.

■ Surveillance laws vary from country to country. Check all laws in your local region before using this product for surveillance purposes. We shall not take the responsibility for any consequences resulting from illegal operations.

Regulatory Information

FCC Information

1. FCC compliance

The products have been tested and found in compliance with the council FCC rules and regulations part 15 subpart B. These limits are designed to provide reasonable protection against harmful interference. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. The user will be required to correct the interface at his own expense in case the harmful interference occurs.

2. FCC conditions:

Operation of this product is subject the following two conditions: (1) this device may not cause harmful interface, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CE Information

CE The products have been manufactured to comply with the following directives.

EMC Directive 2014/30/EU

RoHS

The products have been designed and manufactured in accordance with Directive EU RoHS Directive 2011/65/EU and its amendment Directive EU 2015/863 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

2012/19/EU (WEEE directive): The Directive on waste electrical and electronic equipment (WEEE Directive). To improve the environmental management of WEEE, the improvement of collection, treatment and recycling of electronics at the end of their life is essential. Therefore, the product marked with this symbol must be disposed of in a responsible manner.

Directive 94/62/EC: The Directive aims at the management of packaging and packaging waste and environmental protection. The packaging and packaging waste of the product in this manual refers to must be disposed of at designated collection points for proper recycling and environmental protection.

REACH(EC1907/2006): REACH concerns the Registration, Evaluation, Authorization and Restriction of Chemicals, which aims to ensure a high level of protection of human health and the environment through better and earlier identification of the intrinsic properties of chemical substances. The product in this manual refers to conforms to the rules and regulations of REACH. For more information of REACH, please refer to DG GROWTH or ECHA websites.

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1 Network Connection

System Requirement

For proper operating the product, the following requirements should be met for your computer.

Operating System: Windows 7 Home basic or higher

CPU: 2.0GHz or higher

RAM: 1G or higher

Display: 1920*1080 resolution or higher (recommended)

Web browser: IE (plug-in required)/ Firefox/Edge/Safari/Google Chrome

It is recommended to use the latest version of these web browsers.

The menu display and operation of the camera may be slightly different by using the browser with plug-in or without plug-in. Installing the applicable plug-in will display more functions of the camera.

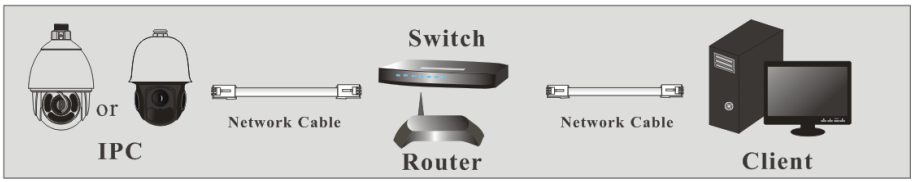
Connect IP-Cam via LAN or WAN. Here only take IE browser for example. The details are as follows:

1.1 LAN

In LAN, there are two ways to access the device: 1. access through IP-Tool; 2. direct access through IE browser.

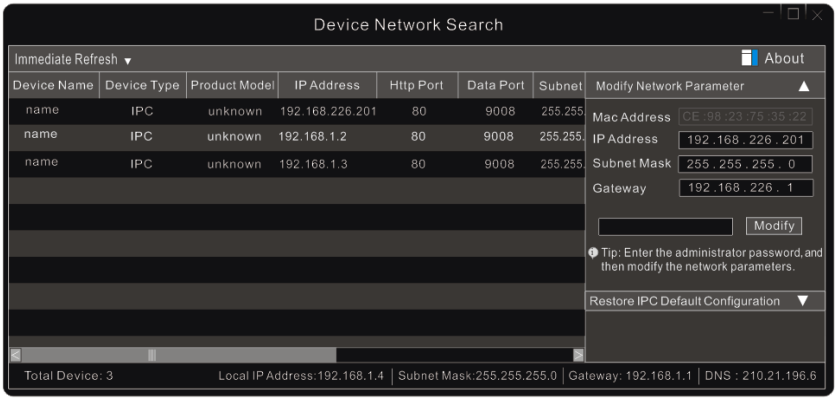
1.1.1 Access through IP-Tool

Network connection:



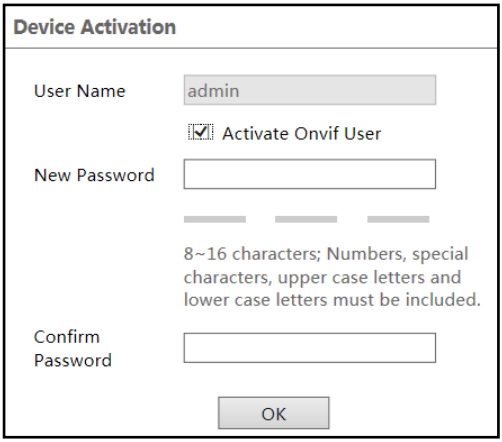
① Make sure the PC and device are connected to the LAN and the IP-Tool is installed in the PC from the CD.

② Double click the IP-Tool icon on the desktop to run this software as shown below:

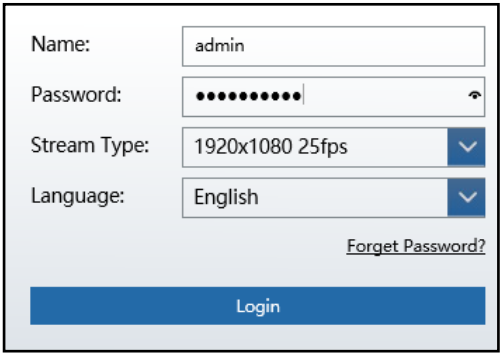


The default IP address of the camera is ***192.168.226.201*.**

③ Double click the IP address and then the system will pop up the IE browser to connect the device. After you read the privacy statement, check and click “Already Read”. Then activate the device.

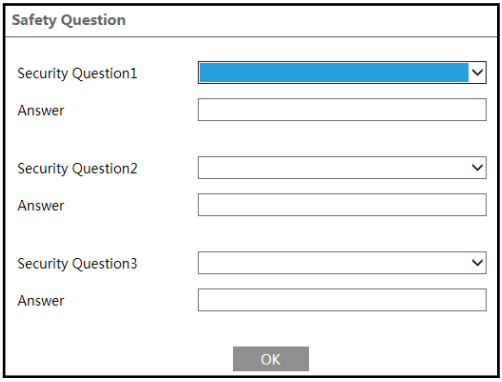


Please self-define the password of admin according to the tip.
If “Activate Onvif User” is enabled, the ONVIF user can be activated simultanously. When you connect the camera through the ONVIF protocol in the third-party platform, you can use the default username and the password set above to connect.
After that, follow directions to download, install and run the Active X control if prompted.
Re-connect your camera via IE browser and then a login box will appear.



Please enter the user name (admin) and password. Then select the stream type and language as needed.
Stream Type: The plug-in free live view only supports1080P or lower resolution.

The security questions should be set after you click “Login” button. It is very important for you to reset your password. Please remember these answers.

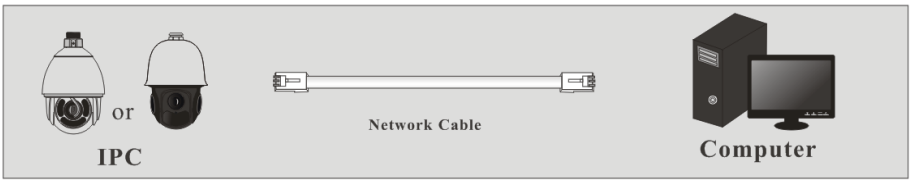


If you forget the admin password, you can reset the password by clicking **Forget Password** on the login page. Then you can reset the password by the security questions and answers you set.
You can set the account security question during the activation, or you can go to ***Config→Security→User***, click **Safety Question**, select the security questions and input your answers.

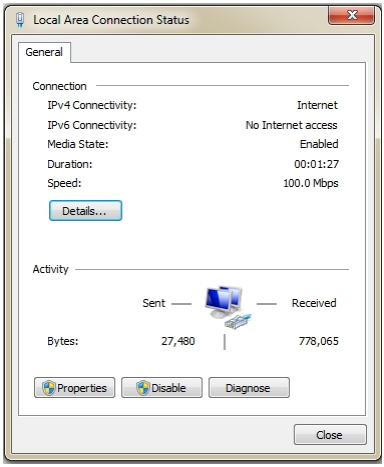
1.1.2 Directly Access through IE

The default network settings are as shown below:
IP address: **192.168.226.201**
Subnet Mask: **255.255.255.0**

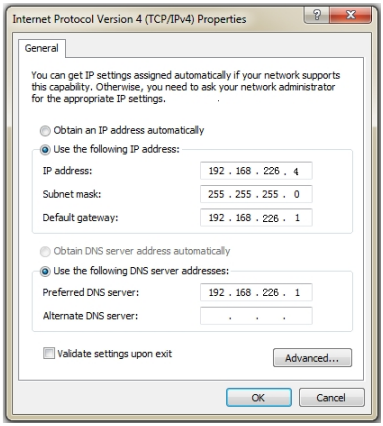
Gateway: **192.168.226.1**
HTTP: **80**
Data port: **9008**
You may use the above default settings when you log in the camera for the first time. You may directly connect the camera to the computer through network cable.



① Set the IP address of the PC and make sure the network segment should be as the same as the default settings of the IP camera. Open the network and share center. Click “Local Area Connection” to pop up the following window.



Select “Properties” and then select internet protocol according to the actual situation (for example: IPv4). Next, click “Properties” to set the network of the PC.



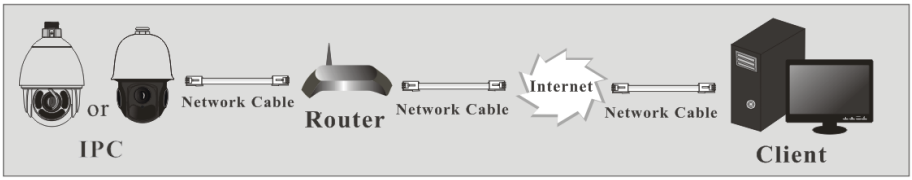
② Open the IE browser and enter the default address of IP-CAM and confirm.

③ Follow directions to download and install the plug-in.

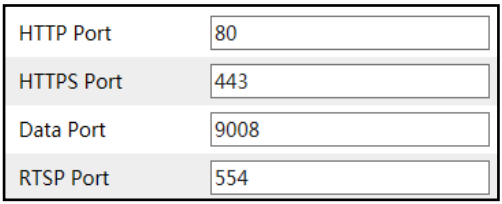
④ Enter the default username and password and then enter to view.

1.2 WAN

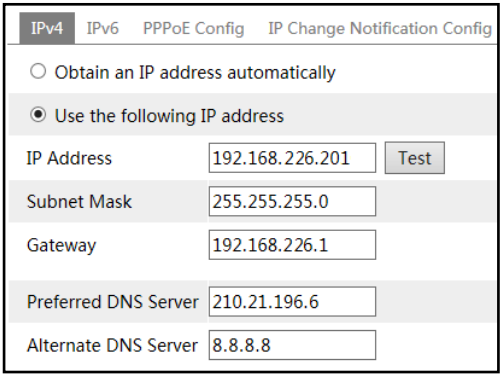
➢ **Access through the router or virtual server**



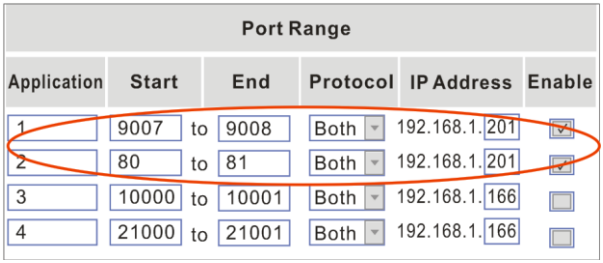
① Make sure the camera is well connected via LAN and then log in the camera via LAN and go to ***Config→Network →Port*** menu to set the port number.



② Go to ***Config →Network → TCP/IPv4*** menu to modify the IP address.



③ Go to the router's management interface through IE browser to forward the IP address and port of the camera in the "Virtual Server".

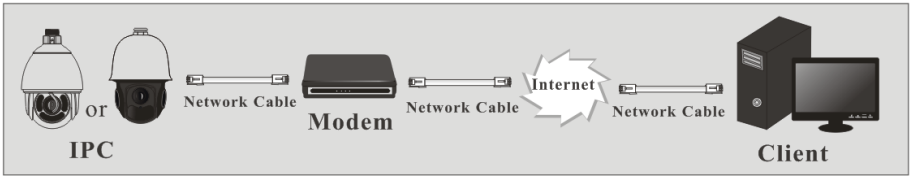


Router Setup

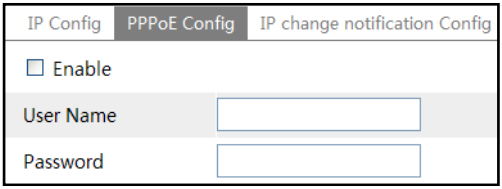
④ Open the IE browser and enter its WAN IP and http port to access.

➢ **Access through PPPoE dial-up**

Network connection



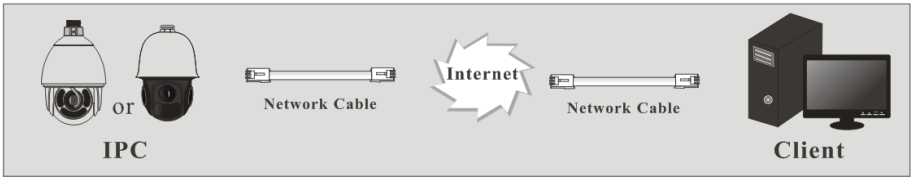
You may access the camera through PPPoE auto dial-up. The setting steps are as follow:
① Go to ***Config→Network →Port*** menu to set the port number.
② Go to ***Config →Network →TCP/IPv4*** menu. Check "PPPoE Config" and then enter the user name and password which you can get from your internet service provider.



③ Go to ***Config →Network →DDNS*** menu. Before you configure the DDNS, please apply for a domain name first. Please refer to DDNS Configuration for detail information.
④ Open the IE browser and enter the domain name and http port to access.

➢ **Access through static IP**

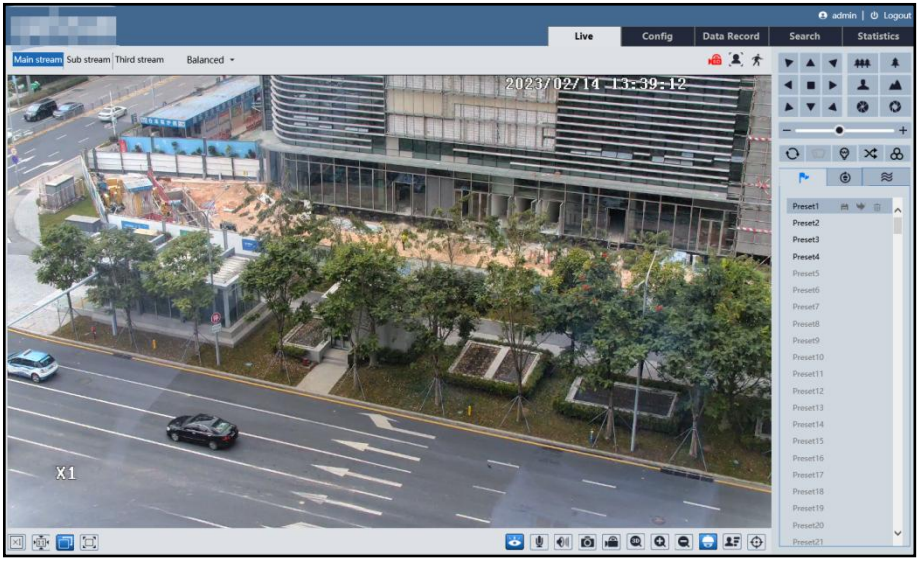
Network connection



The setting steps are as follow:
① Go to ***Config→Network →Port*** menu to set the port number.
② Go to ***Config →Network →TCP/IPv4*** menu to set the IP address. Check "Use the following IP address" and then enter the static IP address and other parameters.
③ Open the IE browser and enter its WAN IP and http port to access.

2 Live View

After you log in, you will see the following window.



Plug-in free live view: when the main stream is set over 1080P, only the sub stream or third stream tab can be displayed on the above interface by default.
The descriptions of the icon on the live view interface are as follows:

Icon	Description	Icon	Description
	Original size		Rule information display
	Fit correct scale		Color abnormal indicator
	Auto (fill the window)		Abnormal clarity indicator
	Full screen		Scene change indicator
	Start/stop live view		Line crossing indicator
	Start/stop two-way audio		Sensor alarm indicator (only some models support)
	Enable/disable audio		Intrusion indicator
	Snapshot		Motion alarm indicator
	Start/stop local recording		Region entrance indicator

Icon	Description	Icon	Description
	Zoom in		Region exiting indicator
	Zoom out		Face detection indicator
	PTZ control		Target counting indicator
	Face Detection		SD card recording indicator

: Move the cursor to view the live image in all direction after you click this button. Additionally, hold and drag the left mouse button to zoom in the live image.

- Those smart alarm indicators will flash only when the camera supports those functions and the corresponding events are enabled.
- In full screen mode, double click on the mouse or press the ESC key on the keyboard to exit.
- Plug-in free live view: two-way audio and local recording are not supported and the preview mode switch (real-time/balanced/fluent mode) is not available too.

Click to show PTZ control panel. In the live view interface, you can view the image from every direction by controlling PTZ panel.

The descriptions of the control panel are as follows:

Icon	Description	Icon	Description
	Move upper left direction		Move upper right direction
	Move up		Stop movement
	Move left		Move right
	Move lower left direction		Move lower right direction
	Move upper left direction		Speed adjustment
	Zoom out		Zoom in
	Focus -		Focus +
	Iris -		Iris +
	Auto scan		Wiper (only some models support)
	Light		Radom scan
	Group scan		Preset
	Cruise		Trace

Select preset and click to call the preset. Select and set the preset and then click to save the position of the preset. Select the set preset and click to delete it. Select cruise and click to start cruise.

3 Camera Configuration

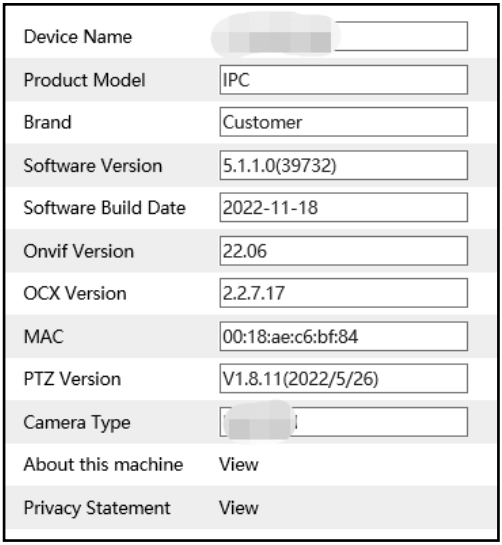
In the Webcam client, choose “Config” to go to the configuration interface.
Note: Wherever applicable, click “Save” to save the settings.

3.1 System Configuration

The “System configuration” includes four sub-menus: Basic Information, Date and Time, Local Config and SD Card.

3.1.1 Basic Information

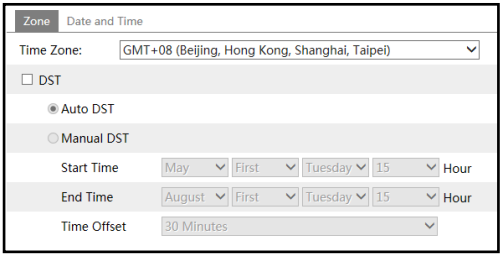
In the Basic Information interface, you can check the relative information of the device.



Some versions may support device ID and QR code. Having been enabled P2P (***Config → Network Configuration →*** ***P2P***), the network camera can be quickly added to mobile surveillance client, by scanning the QR code or entering device ID.

3.1.2 Date and Time Configuration

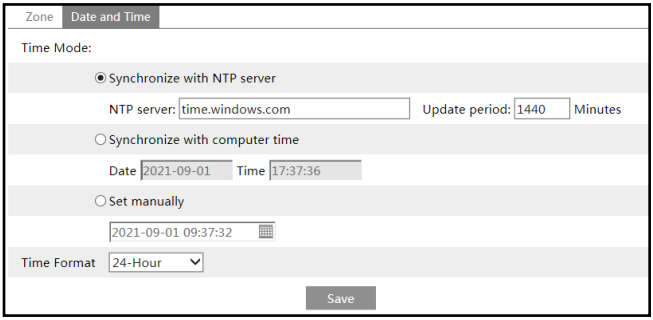
Go to ***Config→System→Date and Time***. Please refer to the following interface.



Select the time zone and DST as required.

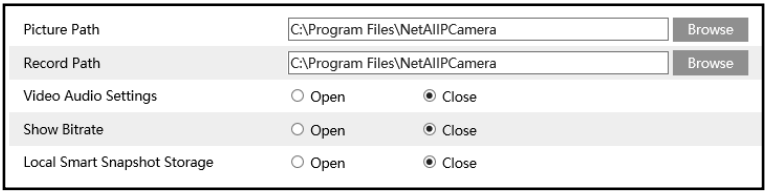
Note: The time zone of the camera and the computer must be the same. It is recommended to modify the time zone of the camera according to the time zone of the computer. If the time zone of the computer is modified, the current web client needs to be closed. Then re-open it and log in again.

Click the "Date and Time" tab to set the time mode and time format.



3.1.3 Local Config

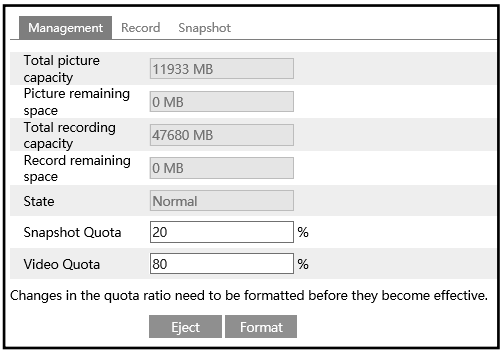
Go to ***Config→System→Local Config*** to set up the storage path of captured pictures and recorded videos on the local PC. There is also an option to enable or disable the bitrate display in the recorded files.



Additionally, "Local smart snapshot storage" can be enabled or disabled here. If enabled, the captured pictures triggered by smart events (like line crossing detection, region intrusion, etc.) will be saved to the local PC.

3.1.4 Storage

Go to ***Config →System →Storage*** to go to the interface as shown below.

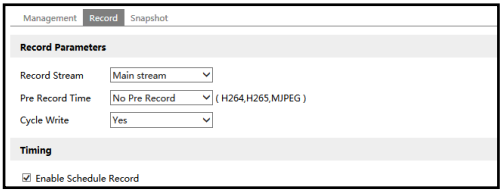


- **SD Card Management**

Click "Format" to format the SD card. All data will be cleared by clicking this button.
Click "Eject" to stop writing data to SD card. Then the SD card can be ejected safely.
Snapshot Quota: Set the capacity proportion of captured pictures on the SD card.
Video Quota: Set the capacity proportion of record files on the SD card.

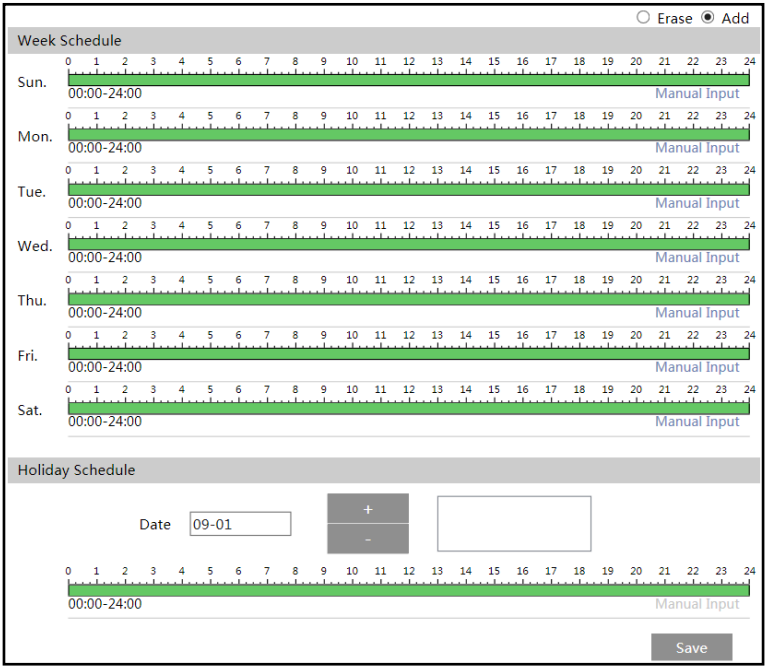
- **Schedule Recording Settings**

1. Go to ***Config →System →Storage →Record*** to go to the interface as shown below.



2. Set record stream, pre-record time, cycle writing.
Pre Record Time: Set the time to record before the actual recording begins.

3. Set schedule recording. **C**heck "Enable Schedule Record" and set the schedule.



Weekly schedule

Set the alarm time from Monday to Sunday for a single week. Each day is divided in one hour increments. Green means scheduled. Blank means unscheduled.

"Add": Add the schedule for a special day. Drag the mouse to set the time on the timeline.

"Erase": Delete the schedule. Drag the mouse to erase the time on the timeline.

Manual Input: Click it for a specific day to enter specific start and end times. This adds more granularities (minutes).

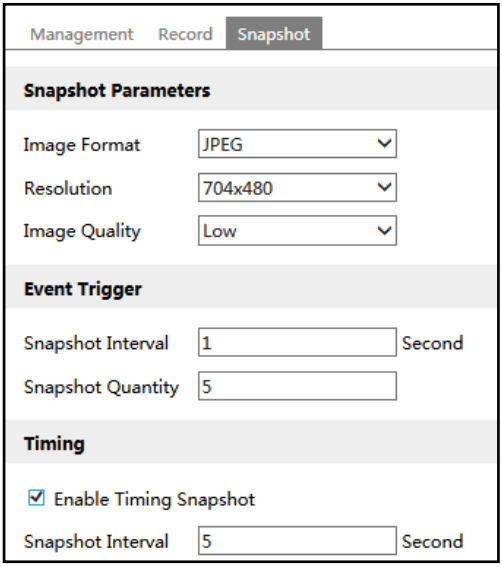
Day schedule

Set the alarm time for alarm a special day, such as a holiday.

Note: Holiday schedule takes priority over weekly schedule.

- **Snapshot Settings**

Go to ***Config →System →Storage →Snapshot*** to go to the interface as shown below.



Set the format, resolution and quality of the image saved on the SD card and the snapshot interval and quantity and the timing snapshot here.

Snapshot Quantity: The number you set here is the maximum quantity of snapshots. The actual quantity of snapshots may be less than this number. Supposing the occurrence time of an alarm event is less than the time of capturing pictures, the actual quantity of snapshots is less than the set quantity of snapshots.

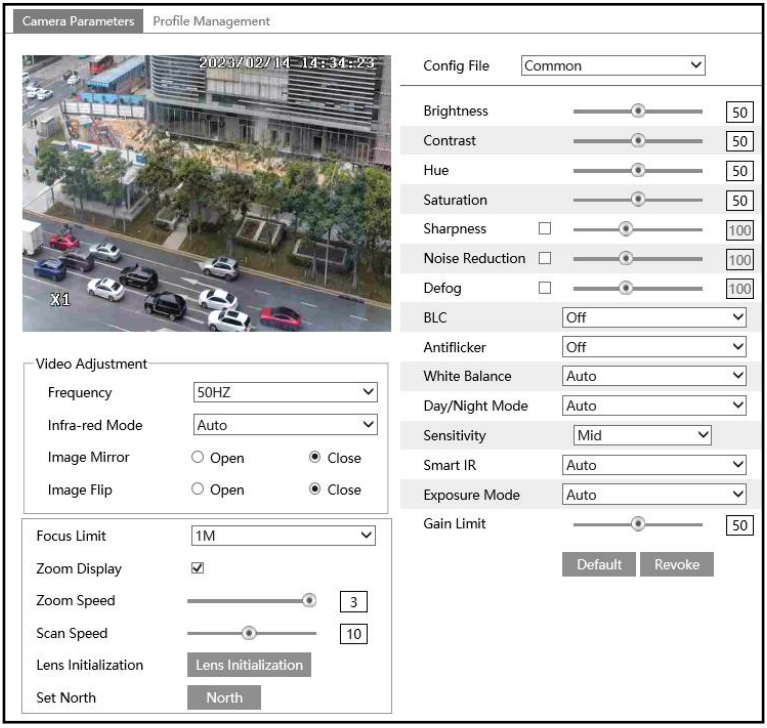
Timing Snapshot: Enable timing snapshot first and then set the snapshot interval and schedule. The setup steps of schedule are the same as the schedule recording (See Schedule Recording).

3.2 Image Configuration

3.2.1 Display Settings

Go to ***Image→Display*** interface as shown below. The image's brightness, contrast, hue and saturation and so on for common, day and night mode can be set up separately. The image effect can be quickly seen by switching the configuration file.

Note: The camera parameters of different models may be slightly different. The following picture and descriptions are for reference only.



Brightness: Set the brightness level of the camera's image.
Contrast: Set the color difference between the brightest and darkest parts.
Hue: Set the total color degree of the image.
Saturation: Set the degree of color purity. The purer the color, the brighter the image is.
Sharpness: Set the resolution level of the image plane and the sharpness level of the image edge.
Noise Reduction: Decrease the noise and make the image more thorough. Increasing the value will make the noise reduction effect better but it will reduce the image resolution.
Defog: Activating this function and setting an appropriate value as needed in foggy, dusty, smoggy, or rainy environment to get clear images.
Backlight Compensation (BLC):

- Off: disables the backlight compensation function. It is the default mode.
- HWDR: WDR can adjust the camera to provide a better image when there are both very bright and very dark areas simultaneously in the field of the view by lowering the brightness of the bright area and increasing the brightness of the dark area.

Recording will be stopped for a few seconds while the mode is changing from non-WDR to WDR mode.

- HLC: lowers the brightness of the entire image by suppressing the brightness of the image's bright area and reducing the size of the halo area.
- BLC: If enabled, the auto exposure will activate according to the scene so that the object

of the image in the darkest area will be seen clearly.

Antiflicker:

- Off: disables the anti-flicker function. This is used mostly in outdoor installations.
- 50Hz: reduces flicker in 50Hz lighting conditions.
- 60Hz: reduces flicker in 60Hz lighting conditions.

White Balance: Adjust the color temperature according to the environment automatically.

Day/Night Mode: Choose "Auto", "Day", "Night" or "Timing".

Smart IR: Choose "Auto", "Manual" or "OFF". This function can effectively avoid image overexposure so as to make the image more realistic.

Exposure Mode: Choose "Auto" or "Manual". If manual is chosen, the digital shutter speed can be adjusted.

Gain Limit: The higher the value is, the brighter the image is.

Frequency: 50Hz and 60Hz can be optional.

Infra-red Mode: Choose "Auto", "ON" or "OFF".

Image Mirror: Turn the current video image horizontally.

Image Flip: Turn the current video image vertically.

Focus Limit: Set the nearest distance of focus. Options: 1m, 1.5m, 2m, 3m, 5m and 10m.

Zoom Display: If enabled, you will see the zoom magnification in the live image.

Zoom Speed: Adjust zoom speed. The range is from 1 to 3. The larger the value is, the faster the zoom speed is.

Scan Speed: Adjust scan speed. The range is from 1 to 20.

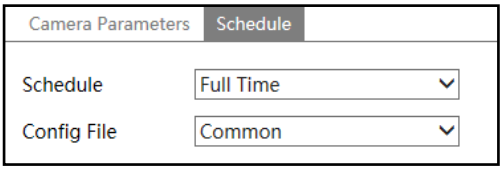
Lens Initialization: After enabling it, the camera lens will restore to the factory default settings.

Set North:

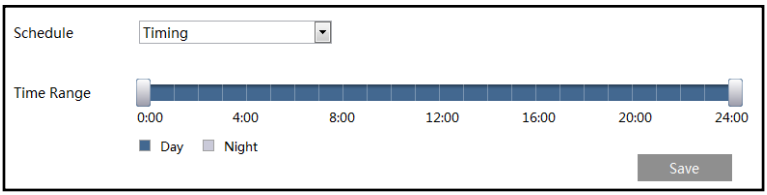
- Choose a location by clicking the direction button in the live view interface. Then click "North" to save the setting.
- The horizontal angle will treat the north position as a reference; otherwise it will treat the horizontal origin as a reference to display the clockwise rotation angle of the dome.
- The vertical PTZ will treat its highest point as a reference (when the camera is parallel with the horizontal ground) to show the included angle between the camera and the horizontal ground.

Schedule Settings of Image Parameters:

Click the "Schedule" tab as shown below.



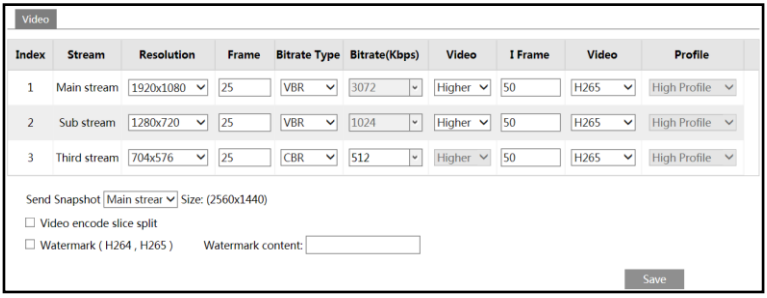
Set full time schedule for common, auto mode and specified time schedule for day and night. Choose "Timing" in the drop-down box of schedule as shown below.



Drag " " icons to set the time of day and night. Blue means day time and blank means night time. If the current mode of camera parameters is set to schedule, the image configuration mode will automatically switch between day and night according to the schedule.

3.2.2 Video / Audio Configuration

Go to ***Image→Video / Audio*** interface as shown below. In this interface, set the resolution, frame rate, bitrate type, video quality and so on subject to the actual network condition.



Three video streams can be adjustable.

Resolution: The size of image.

Frame rate: The higher the frame rate, the video is smoother.

Bitrate type: CBR and VBR are optional. Bitrate is related to image quality. CBR means that no matter how much change is seen in the video scene, the compression bitrate will be kept constant. VBR means that the compression bitrate will be adjusted according to scene changes. For example, for scenes that do not have much movement, the bitrate will be kept at a lower value. This can help optimize the network bandwidth usage.

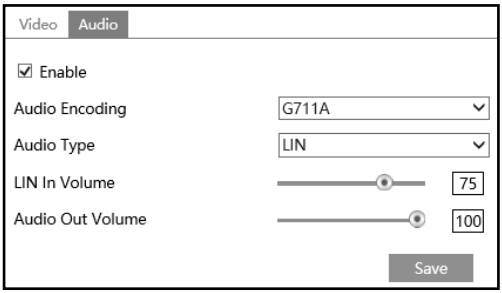
Bitrate: It can be adjusted when the mode is set to CBR. The higher the bitrate, the better the image quality will be.

Video Quality: It can be adjusted when the mode is set to VBR. The higher the image quality, the more bitrate will be required.

I Frame interval: It determines how many frames are allowed between a "group of pictures". When a new scene begins in a video, until that scene ends, the entire group of frames (or pictures) can be considered as a group of pictures. If there is not much movement in the scene, setting the value higher than the frame rate is fine, potentially resulting in less bandwidth usage. However, if the value is set too high, and there is a high frequency of movement in the video, there is a risk of frame skipping.

Video Compression: MJPEG, H264+, H264, H265 or H265+ can be optional. MJPEG is not available for main stream. If H.265/H.265+is chosen, make sure the client system is able to decode H.265/H.265+. Compared to H.265, H.265+ saves more storage space with the same maximum bitrate in most scenes. Compared to H.264, H.265 reduces the transmission bitrate under the same resolution, frame rate and image quality.
Profile: For H.264. Baseline, main and high profiles are selectable.
Send Snapshot: Set the snapshot stream.
Video encode slice split: If this function is enabled, smooth image can be gotten even though using the low-performance PC.
Watermark: When playing back the local recorded video in the search interface, the watermark can be displayed. To enable it, check the watermark box and enter the watermark text.

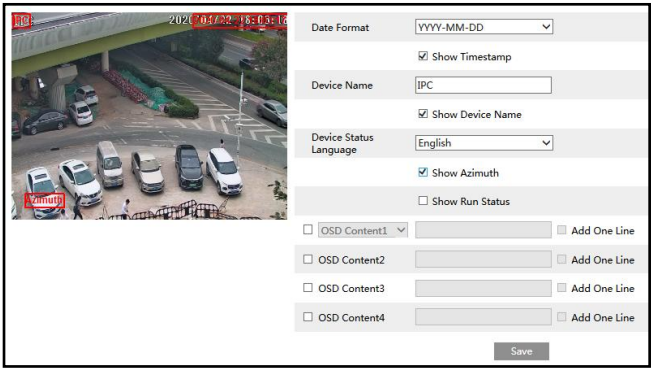
Click the "Audio" tab to go to the interface as shown below.



Audio Encoding: G711A and G711U are selectable.
Audio Type: LIN or MIC is optional.
Note: only some models support audio input/output. If your PTZ camera doesn't support this function, please skip the above-mentioned audio setup instruction.

3.2.3 OSD Configuration

Go to ***Image→OSD*** interface as shown below.



Set time stamp, device name, device status language, OSD content and picture overlap here. After enabling the corresponding display and entering the content, drag them to change their position. Then click "Save" to save the settings.

Show Azimuth: Show the PTZ moving direction on the live view interface.

Show Run Status: Show the PTZ control status on the live view interface. For example, if the preset 2 is called, "PRE:002" will be shown on the live view interface.

Picture Overlap Settings:

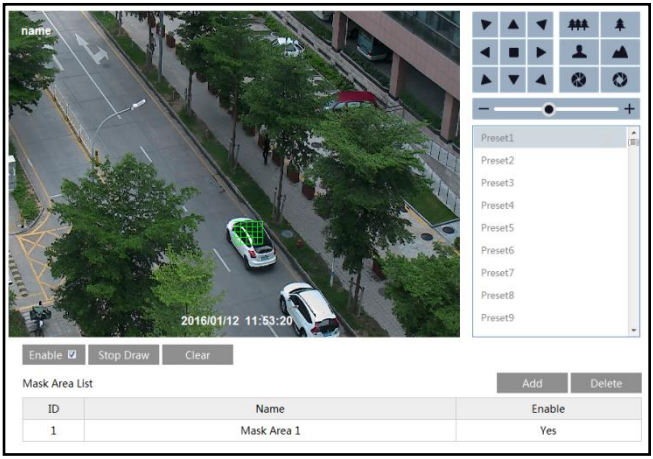
Check "OSD Content1", choose "Picture Overlay" and click "Browse" to select the overlap picture. Then click "Upload" to upload the overlap picture. The pixel of the image shall not exceed 200*200, or it cannot be uploaded.

3.2.4 Video Mask

Go to ***Image→Video Mask*** interface as shown below. A maximum of 8 zones can be set up (depending on models). Only some models support this function. If your PTZ camera doesn't support it, please skip the following instructions.

To set up video mask:

1. Enable video mask.
2. Click direction buttons to change the area you want to mask.
3. Click "Draw Area" and then drag the mouse to draw the video mask area.
4. Click "Add" to add the mask area.



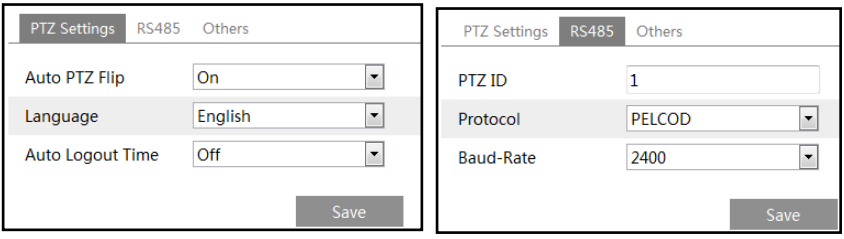
To delete mask area:
1. Select the mask area in the mask area list.
2. Click “Delete” to delete this mask area.

3.3 PTZ Configuration

3.3.1 PTZ and Password Setting

- PTZ Setting

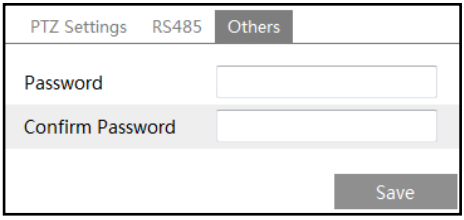
Go to ***Config→PTZ→Setting***. This will let you see the following submenu.



In this submenu, PTZ flip, PTZ flip, language, auto logout time can be set.
If your model supports RS485 interface, you may configure the communication setting for keyboard control.

- Password Setting

If the password is set, you must enter the password every time you go to the menu of the PTZ.
Go to ***Config→PTZ→Setting→Others.*** You can set the password of the PTZ menu.



3.3.2 Restore

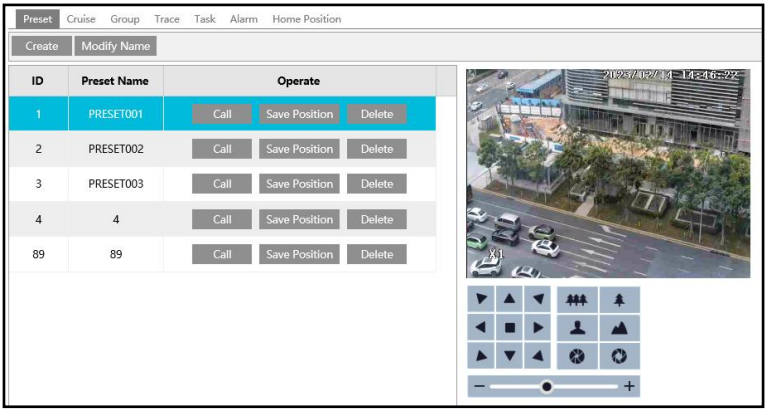
It includes the function of reset and clear.
Reset: Restore the camera state and active menu to the factory default settings but do not clear those parameters such as preset, cruise.
Clear: Restore the camera to the factory default settings.

3.3.3 PTZ Function

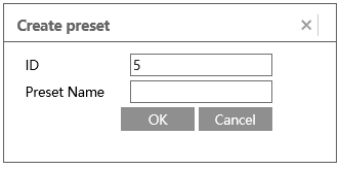
PTZ function includes preset setup, cruise setup, group setup, trace setup, task setup, alarm setup, home position setup and so on.

- **Preset Setup**

This function is used to memorize the specific position of pan, tilt, zoom and focus, giving much convenience for quick return to this position by calling preset.



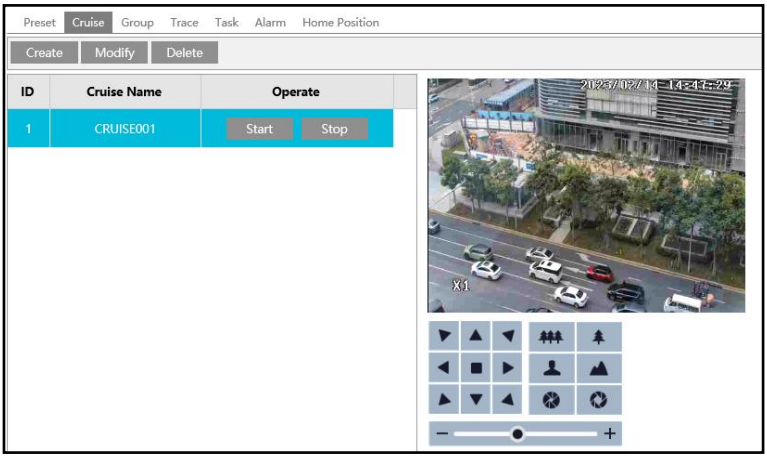
① Click “Create” to pop up a preset creation box.



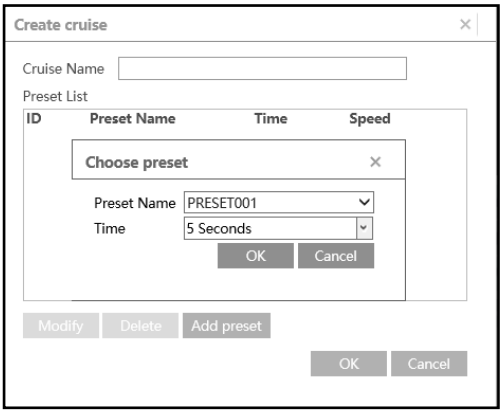
② Enter the ID and preset name as needed. Then click “OK”.
③ Set the position of the preset by clicking the direction buttons. Then click “Save Position”. After that, click “Call” to call the preset.

- **Cruise Setup**

In this interface, by programming presets in cruise list in advance, the system will keep calling those presets at the set time in sequence when executing cruise command so that non-stop monitoring between multiple important positions can be achieved.



① Click “Create” to pop up a cruise creation box.



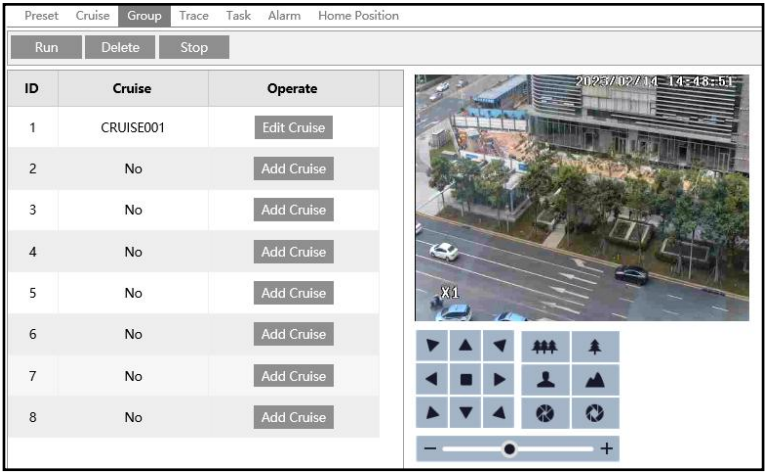
② Enter a cruise name and then click “Add preset” to add presets in sequence. This camera supports 8 cruises and 16 presets for each cruise. Set the preset and time.
③ Click “OK” to save the settings.

④ Click “Start” to run the added cruise. The camera will automatically keep running according to the cruise you set until new command is received.

⑤ Click “Stop” to stop running the cruise.

- **Group Setup**

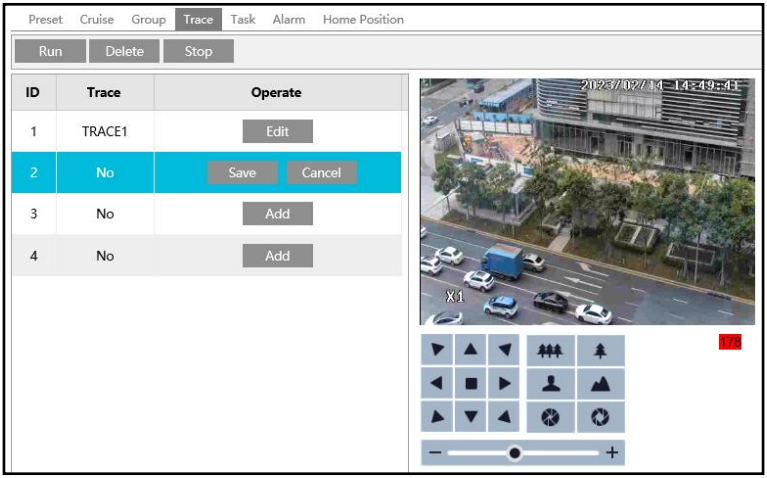
8 cruises can be set in a group.



Click “Add Cruise” to add a cruise. Click “Edit Cruise” to change a cruise. After these cruises are added, click “Run” to run the cruises in order. Click “Stop” to stop running.

- **Trace Setup**

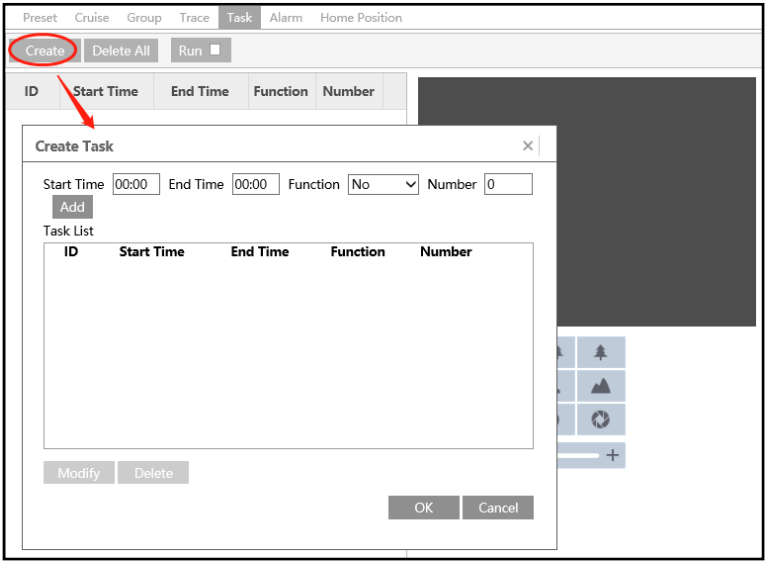
This function is used to memorize the operation to PTZ, zoom and focus so that repeating operation progress can be realized by running trace.



Click “Add” and then set the trace by clicking the direction/zoom/focus buttons. Each trace can record up to 180s. If the time exceeds 180s, the system will automatically save the operation data and return to the previous menu. In addition, 360 commands can be recorded for each trace at most. If exceeding 360 commands, the system will automatically save the first 360 commands and then exit the current menu. The recording time is related to the operating frequency. The more frequent the operation is, the shorter the memory time is.
Click “Save” to save the settings. After that, select the trace and click “Run” to play the trace.

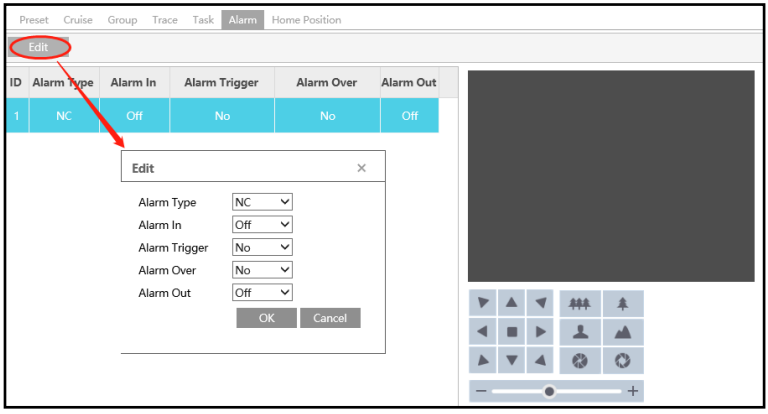
- **Task Setup**

By dividing 24 hours into several periods and appointing different commands for each period, the camera system will automatically execute the commands according to the set time if there is no operation.



① Click “Create” and then set the start time and the end time.
② Select the function and number. Then click “Add”.
③ After all tasks are added, click “OK” to save the settings.
④ The tasks will be automatically executed in chronological order by enabling “Run”.

- **Alarm Setup**



【Alarm Type】: Set the alarm enter type to be Normally Opened (N.O.) or Normally Closed (N.C.) according to the sensor type.
【Alarm In】: ON and OFF are optional.

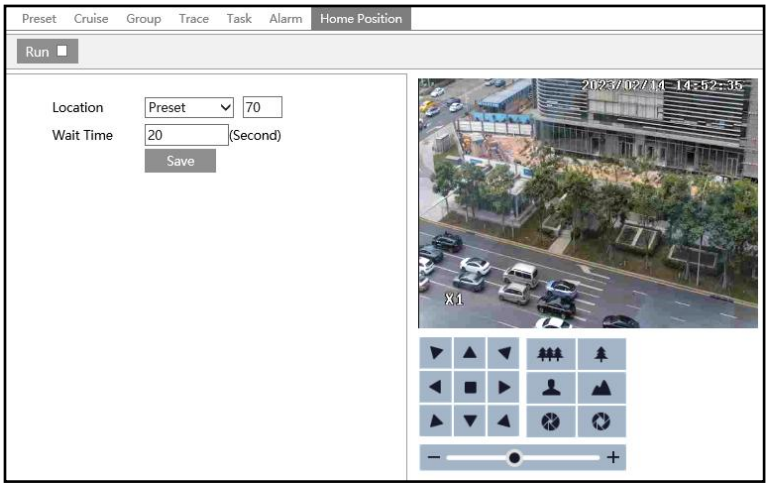
【Alarm Trigger】: Call the preset/cruise/trace/random scanning/boundary scanning you need. When the first alarm input happens, the camera will automatically switch to this preset/cruise/trace/ random scanning/boundary scanning to monitor.

【Alarm Over】:Call the preset/cruise/trace/random scanning/boundary scanning you need. When the alarm trigger is over, the camera will automatically switch to this preset/cruise/trace/random scanning/boundary scanning to monitor.

【Alarm Out】: Select it ON. When alarm input occurs, the camera will output alarm information.

Note: If the dome is on the menu state on an alarm, any command is negative.

- **Home Position**



The setup steps are as follows:

① Check “Run” and select the preset which should be set in advance.

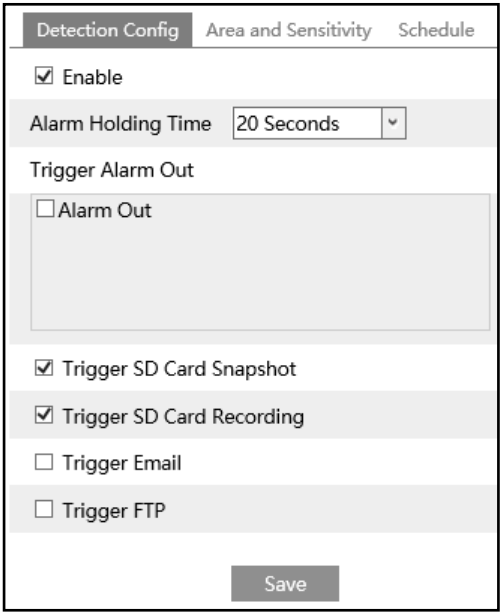
② Then select the wait time (range from 007s to 180s) and exit the menu.

When the stand-by time of the dome camera exceeds the wait time, the camera will automatically execute the command to monitor the selected preset.

3.4 Alarm Configuration

3.4.1 Motion Detection

Go to ***Alarm→Motion Detection*** to set motion detection alarm.



1. Check “Enable” check box to activate motion based alarms. If unchecked, the camera will not send out any signals to trigger motion-based recording to the NVR or CMS, even if there is motion in the video.

Alarm Holding Time: it refers to the time that the alarm extends for after an alarm ends. For instance, if the alarm holding time is set to 20 seconds, once the camera detects a motion, it will go to alarm and would not detect any other motion in 20 seconds. If there is another motion detected during this period, it will be considered as continuous movement; otherwise it will be considered as a single motion.

Alarm Out: If selected, this would trigger an external relay output that is connected to the camera on detecting a motion based alarm.

Trigger Audio Alarm: If selected, the warning voice will be uttered on detecting a motion based alarm. (Please set the warning voice first. See Audio Alarm for details).

Note: Only some models support audio alarm function. If your device doesn’t support this function, please skip the instruction of “Trigger Audio Alarm”.

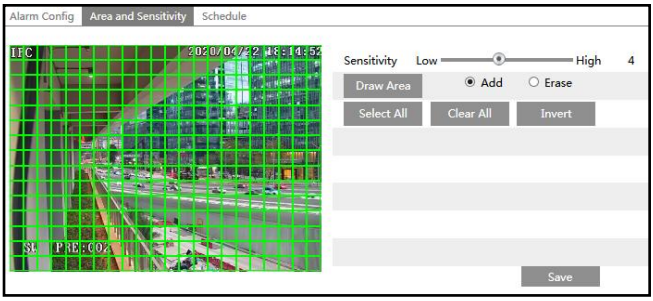
Trigger SD Card Snapshot: If selected, the system will capture images on motion detection and save the images on an SD card.

Trigger SD Card Recording: If selected, video will be recorded on an SD card on motion detection.

Trigger Email: If “Trigger Email” and “Attach Picture” are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.

Trigger FTP: If “Trigger FTP” is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.

2. Set motion detection area and sensitivity. Click the “Area and Sensitivity” tab to go to the interface as shown below.



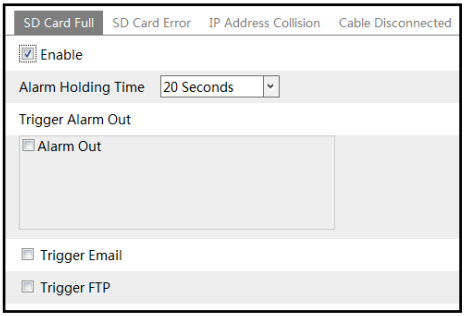
Move the “Sensitivity” scroll bar to set the sensitivity. Higher sensitivity value means that motion will be triggered more easily.
Select “Add” and click “Draw”. Drag the mouse to draw the motion detection area; Select “Erase” and drag the mouse to clear motion detection area.
After that, click the “Save” to save the settings.

3. Set the schedule for motion detection. The schedule setup steps of the motion detection are the same as the schedule recording setup (See Schedule Recording).

3.4.2 Exception Alarm

- **SD Card Full**

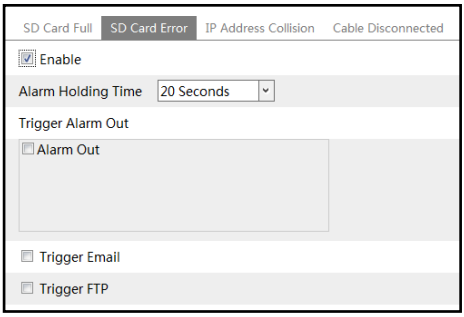
1. Go to ***Config →Alarm →Exception Alarm →SD Card Full***.



2. Click “Enable” and set the alarm holding time.
3. Set alarm trigger options. The setup steps are the same as motion detection. Please refer to motion detection chapter for details.

- **SD Card Error**

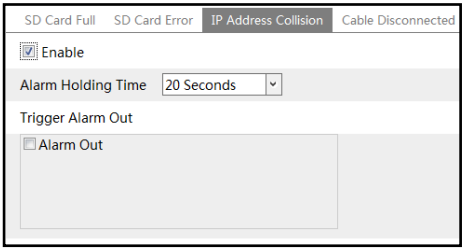
When there are some errors in writing SD card, the corresponding alarms will be triggered.
1. Go to ***Config→Alarm→ Exception Alarm →SD Card Error*** as shown below.



2. Click "Enable" and set the alarm holding time.
3. Set alarm trigger options. Trigger alarm out, Email and FTP. The setup steps are the same as motion detection. Please refer to motion detection chapter for details.

- **IP Address Conflict**

1. Go to ***Config→Alarm→ Exception Alarm →IP Address Collision*** as shown below.

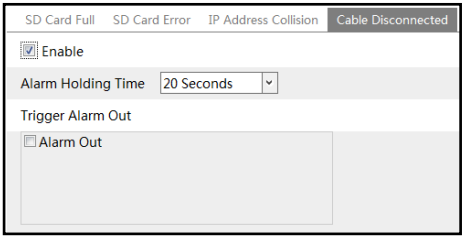


2. Click "Enable" and set the alarm holding time.
3. Trigger alarm out. When the IP address of the camera is in conflict with the IP address of other devices, the system will trigger the alarm out.

Note: This function is only available for some models.

- **Cable Disconnection**

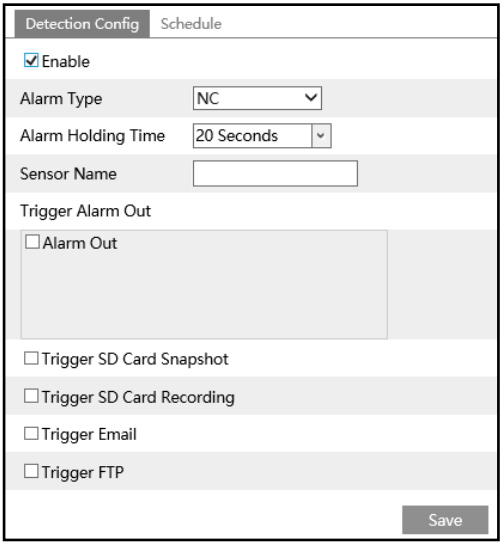
1. Go to ***Config→Alarm→ Exception Alarm →Cable Disconnected*** as shown below.



2. Click “Enable” and set the alarm holding time.
3. Trigger alarm out. When the camera is disconnected, the system will trigger the alarm out.
Note: This function is only available for some models.

3.4.3 Alarm Input

Only some models support this function. If your device doesn’t support it, please skip the following instructions.
Go to ***Config→Alarm→Alarm In*** interface as shown below.

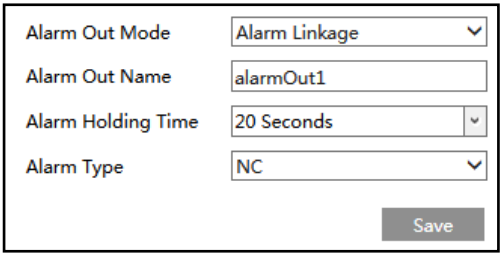


To set sensor alarm (alarm in):
1. Set Sensor ID (available for the models with two or more alarm input interfaces).
2. Click “Enable” and set the alarm type, alarm holding time and sensor name.
3. Set alarm trigger options.
Alarm Out: If selected, this would trigger an external relay output that is connected to the camera when the sensor alarm is triggered (**This function is only available for the models with Alarm Out interface).**
Trigger Audio Alarm: If selected, the warning voice will be uttered when the sensor alarm is

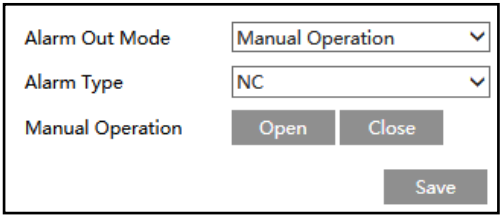
triggered. (Please set the warning voice first. See Audio Alarm for details).
Note: Only some models support audio alarm function. If your device doesn't support this function, please skip the instruction of "Trigger Audio Alarm".
Trigger Light Alarm: If selected, the light of the camera will turn on or flash when the sensor alarm is triggered. (Please set the light mode, light flashing time and frequency first. See Light Alarm for details).
Note: Only some models support light alarm function. If your device doesn't support this function, please skip the instruction of "Trigger Light Alarm".
Trigger SD Snap: If selected, the system will capture images when the sensor alarm is triggered and save the images on an SD card.
Trigger SD Recording: If selected, video will be recorded on an SD card when the sensor alarm is triggered.
Trigger Email: If "Trigger Email" and "Attach Picture" are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.
Trigger FTP: If "Trigger FTP" and "Attach Picture" are checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.
4. Apply settings to other sensors (if applicable).
5. Click "Save" to save the settings.
6. Set the schedule of the sensor alarm. The setup steps of the schedule are the same as the schedule recording setup. (See Schedule Recording).

3.4.4 Alarm Out

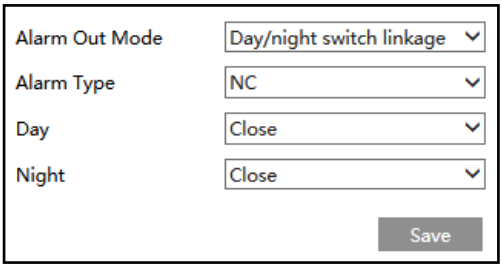
Only some models support this function. If your device doesn't support it, please skip the following instructions.
Go to ***Config→Alarm→Alarm Out***.



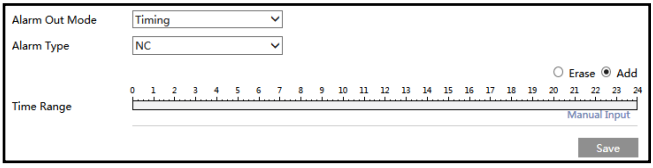
Alarm Out Mode: Alarm linkage, manual operation, day/night switch linkage and timing are optional.
Alarm Linkage: Having selected this mode, select alarm out name, alarm holding time at the "Alarm Holding Time" pull down list box and alarm type.
Manual Operation: Having selected this mode, select the alarm type and click "Open" to trigger the alarm out immediately; click "Close" to stop alarm.



Day/Night Switch Linkage: Having selected this mode, select the alarm type and then choose to open or close alarm out when the camera switches to day mode or night mode.

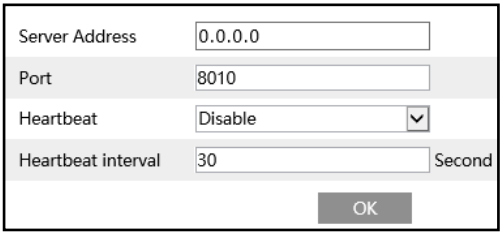


Timing: Select the alarm type. Then click "Add" and drag the mouse on the timeline to set the schedule of alarm out; click "Erase" and drag the mouse on the timeline to erase the set time schedule. After this schedule is saved, the alarm out will be triggered in the specified time.



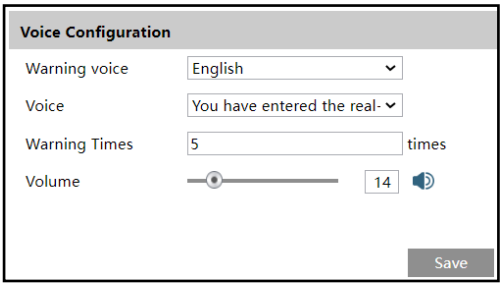
3.4.5 Alarm Server

Go to ***Alarm→Alarm Server*** interface as shown below.
Set the server address, port, heartbeat and heartbeat interval. When an alarm occurs, the camera will transfer the alarm event to the alarm server. If an alarm server is not needed, there is no need to configure this section.



3.4.6 Audio Alarm

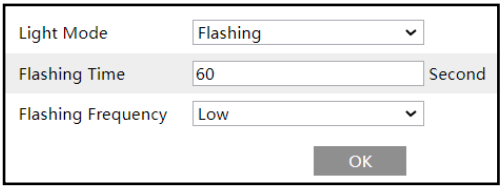
Only some models support this function. If your device doesn't support this function, please skip the following instructions.
Go to ***Alarm→Audio Alarm*** interface as shown below.



① Select the warning voice.
② Select the voice and then set the warning times and volume as needed.
Warning times: it ranges from 1 to 50.
③ Click "OK" to save the settings.

3.4.7 Light Alarm

Only some models support this function. If your device doesn't support this function, please skip the following instructions.
Go to ***Alarm→Light Alarm*** interface as shown below.
Set the light mode, flashing time and frequency of the light.

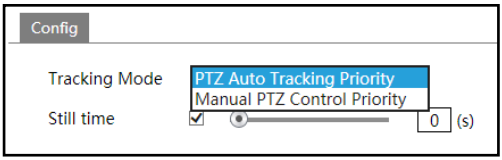


Light mode: choose "Flashing" or "Always on" as needed.
Flashing time: the flashing time ranges from 1 second to 60 seconds.
Flashing Frequency: three options- low, middle and high.

3.4.8 Smart Tracking

(Only some models support this function)
The tracking option is available for line crossing detection, region entrance and exiting and intrusion detection.
Smart Tracking: When people or vehicle cross the alarm line or intrude or exit the predefined area, the PTZ camera will automatically track them and the target image will be

automatically zoomed in and centered on the screen until the target disappears from the screen. After that, the PTZ camera will return to the tracking start position (home position).



Tracking Mode: PTZ Auto Tracking Priority or Manual PTZ Control Priority can be optional.

PTZ Tracking Priority: if this mode is selected, in smart tracking mode, you cannot control PTZ by clicking the buttons on the PTZ control panel in the live view interface.

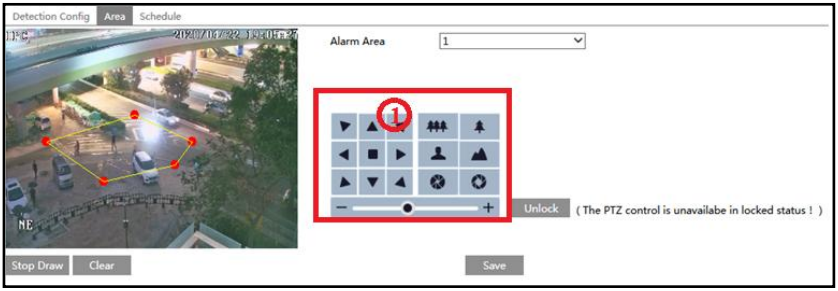
Manual PTZ Control Priority: if this mode is selected, in smart tracking mode, you can control PTZ by clicking the buttons on the PTZ control panel in the live view interface and then the camera will immediately stop the tracking action. After you finish controlling PTZ for 5 seconds, the PTZ camera will return to the start tracking position and wait for the object to appear.

Still time: If it is enabled and the time is set, when the target stops or hides behind an obstacle, or the target tracking is complete and there is no target appearing in the detection area during the set time, the PTZ camera will return to the tracking start position after the set time expires. During this time, if there are targets moving, the PTZ will continue tracking. If it is not enabled, when the target stops or there is no target appearing in the detection area for 5 seconds, the PTZ camera will return to the start tracking position.

For example: At the stoplight, if a car is waiting for the red light for 30 seconds, and the still time is set as 20 seconds, the tracking will stop following; however, if the still time is set as 40 seconds, when the red light changes to green and the car starts to move, the PTZ will continue tracking this car.

How to perform smart tracking:

1. Click ***Config→Alarm→Smart Tracking*** to go to the smart tracking interface. Select the tracking mode and set the still time as needed.
2. Click ***Config→Event***. Select the event as needed. For example intrusion, enable the intrusion detection, select detection target and then check “Trigger Track”. After that click “Save” to save the settings.
3. Set the alarm area and lock the PTZ.

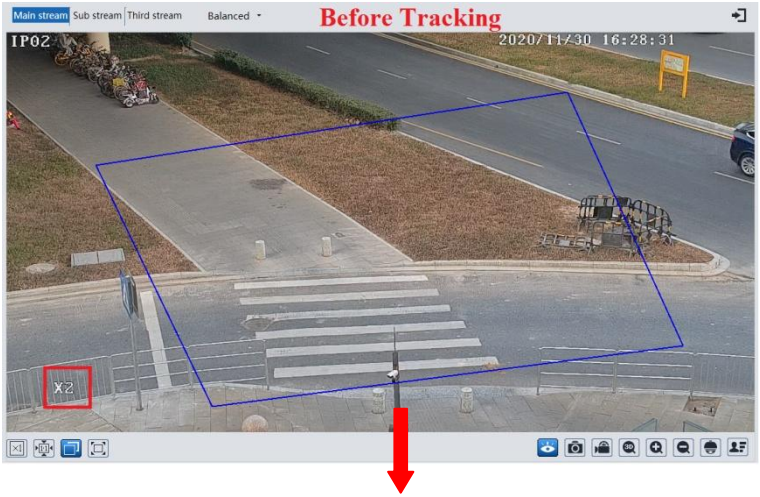


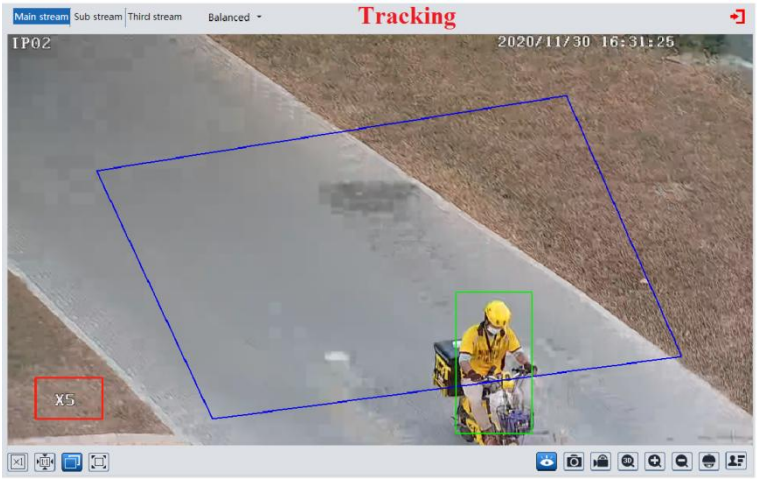
Using the PTZ control buttons (area①) sets appropriate field of view and then draw the detection area and save the setting.
After that, click the "Lock" button to save the current PTZ position as the start tracking position (home position). Now, the "Lock" button changes its function to "Unlock".

Note: **a**. Clicking the "Unlock" button suspends object tracking until you click the "Lock" button. If you want to change the start tracking position, you can click "Unlock" button to enable PTZ control. After that, please remember to lock the PTZ, or object tracking will not take effect.

b. After the smart tracking is enabled and the home position is locked, preset 89 will be generated as the smart tracking home position by default. Please DO NOT delete preset 89, or the PTZ will not go back to the home position after finishing tracking.

4. Go back to the live view interface to view smart tracking.





3.5 Event Configuration

(**Only some models support the following functions**).

For more accuracy, here are some recommendations for installation.

- Cameras should be installed on stable surfaces, as vibrations can affect the accuracy of detection.
- Avoid pointing the camera at the reflective surfaces (like shiny floors, mirrors, glass, lake surfaces and so on).
- Avoid places that are narrow or have too much shadowing.
- Avoid scenario where the object's color is similar to the background color.
- At any time of day or night, please make sure the image of the camera is clear and with adequate and even light, avoiding overexposure or too much darkness on both sides.

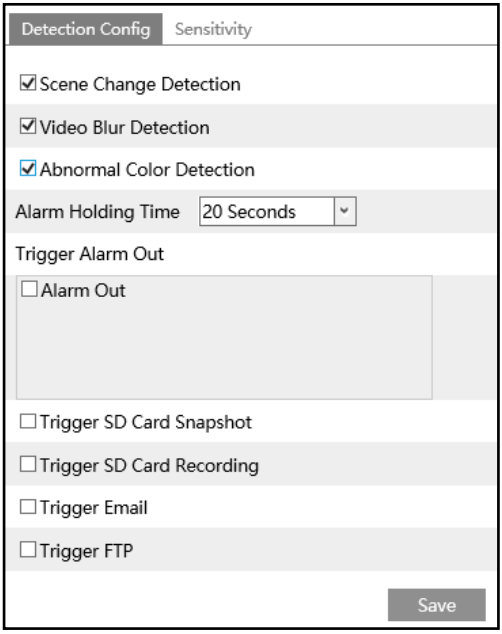
Note: The following functions are only available when the PTZ camera stops moving.

3.5.1 Video Exception

This function can detect changes in the surveillance environment affected by the external factors.

To set exception detection:

Go to ***Config→Event→Video Exception*** interface as shown below.



1. Enable the applicable detection that's desired.

Scene Change Detection: Alarms will be triggered if the scene of the monitor video has changed.

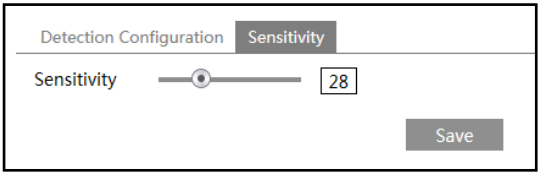
Video Blur Detection: Alarms will be triggered if the video becomes blurry.

Abnormal Color Detection: Alarms will be triggered if the image is abnormal because of color deviation.

2. Set the alarm holding time and alarm trigger options. The setup steps are the same as motion detection. Please refer to motion detection chapter for details.

3. Click "Save" button to save the settings.

4. Set the sensitivity of the exception detection. Click "Sensitivity" tab to go to the interface as shown below.



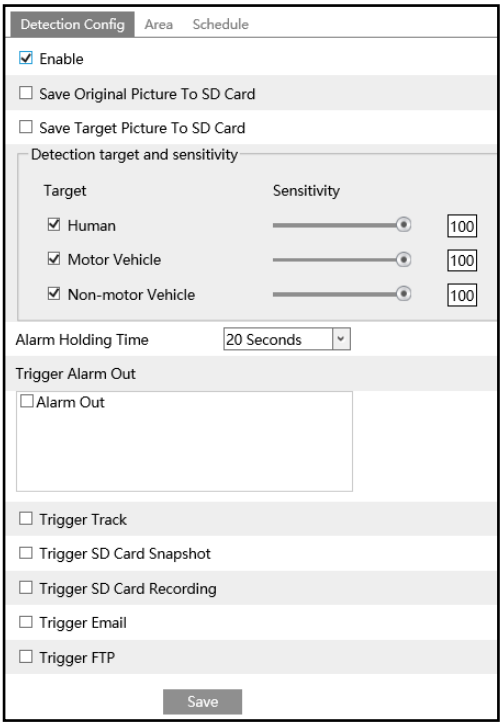
Drag the slider to set the sensitivity value or directly enter the sensitivity value in the textbox. Click "Save" button to save the settings.

The sensitivity value of Scene Change Detection: The higher the value is, the more sensitive the system responds to the amplitude of the scene change.

The sensitivity value of Video Blur Detection: The higher the value is, the more sensitive the system responds to the blurriness of the image.
The sensitivity value of Abnormal Color Detection: The higher the value is, the more sensitive the system responds to the color shift of the image.

3.5.2 Line Crossing Detection

Line Crossing: Alarms will be triggered if the target crosses the pre-defined alarm lines.
Go to ***Config→Event→Line Crossing*** interface as shown below.



- **Detection Configuration**:

1. Enable line crossing detection and select the snapshot type and the detection target.
Save Original Picture to SD Card: If it is enabled, the detected original pictures will be captured and saved to the SD card when the targets cross the alarm line.
Save Target Picture to SD Card: If it is enabled, the detected target cutout pictures will be captured and saved to the SD card when the targets cross the alarm line.
Note: To save snapshots to the local PC, please enable "Local Smart Snapshot Storage" in the local config interface first. To save snapshots to the SD card, please install an SD card first.
Detection Target:
Human: Select it and then alarms will be triggered if someone crosses the pre-defined alarm

lines.

Motor Vehicle: Select it and then alarms will be triggered if a vehicle with four or more wheels (eg. a car, bus or truck) crosses the pre-defined alarm lines.

Non-motor Vehicle: Select it and then alarms will be triggered if a vehicle with two wheels (eg. a motorcycle or bicycle) crosses the pre-defined alarm lines.

All of the three types of objects can be selected simultaneously. Please select the detection objects as needed. If no object/target is selected, alarms will not be triggered even if line crossing detection is enabled.

2. Set the alarm holding time.

3. Set alarm trigger options.

Alarm Out: If selected, this would trigger an external relay output that is connected to the camera on detecting a target crossing the alarm line.

Trigger Audio Alarm: If selected, the warning voice will be uttered when the sensor alarm is triggered. (Please set the warning voice first. See Audio Alarm for details).

Note: Only some models support audio alarm function. If your device doesn't support this function, please skip the instruction of "Trigger Audio Alarm".

Trigger Light Alarm: If selected, the light of the camera will turn on or flash when the sensor alarm is triggered. (Please set the light mode, light flashing time and frequency first. See Light Alarm for details).

Note: Only some models support light alarm function. If your device doesn't support this function, please skip the instruction of "Trigger Light Alarm".

Trigger Track: if enabled, the PTZ camera will automatically track the target that crosses the alarm line and the target's image will be automatically zoomed in and centered on the screen until the target disappears on the screen. After that, the PTZ camera will return to the pre-defined detection area.

Trigger SD Card Snapshot: If selected, the system will capture images when a target crosses the alarm line and save the images on an SD card.

Trigger SD Card Recording: If selected, video will be recorded on an SD card when a target crosses the alarm line

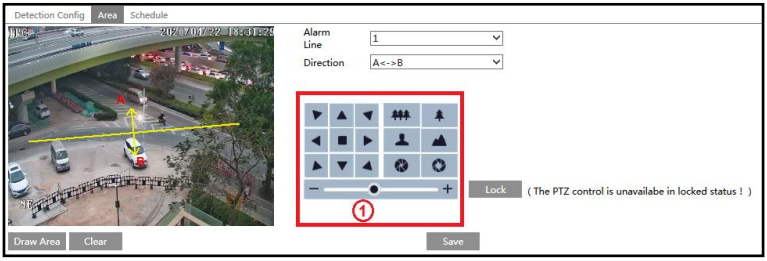
Trigger Email: If "Trigger Email" and "Attach Picture" are checked (email address must be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.

Trigger FTP: If "Trigger FTP" is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.

4. Click "Save" button to save the settings.

- **Area Configuration**

1. Click the "Area" tab to go to the interface as shown below.



2. Set the alarm line number and direction. Up to 4 lines can be added. Multiple lines cannot be added simultaneously.

Direction： A<->B, A->B and A<-B optional. This indicates the direction of someone or a vehicle crossing over the alarm line.

A<->B: Alarms will be triggered when someone or a vehicle crosses over the alarm line from B to A or from A to B.

A->B: Alarms will be triggered when someone or a vehicle crosses over the alarm line from A to B.

A<-B: Alarms will be triggered when someone or a vehicle crosses over the alarm line from B to A.

3. Set the detection area by clicking the buttons of area ① and then click "Lock" to lock the area.

Note: The PTZ will not be controlled if you click "Lock" here. Click "Unlock" and then click the buttons of area ① to move the PTZ camera. Clicking the "Unlock" button suspends object tracking until you click the "Lock" button.

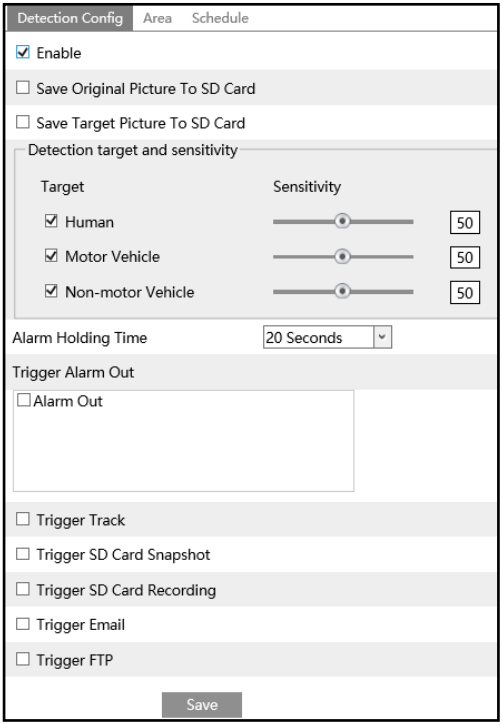
4. Click the "Draw Area" button and then drag the mouse to draw a line in the image. Click the "Stop Draw" button to stop drawing. Click the "Clear" button to delete the lines. Click the "Save" button to save the settings.

- **Schedule Configuration**

Set the schedule of the line crossing alarm. The setup steps of the schedule are the same as the schedule recording setup (See Schedule Recording).

3.5.3 Region Intrusion

Region Intrusion: Alarms will be triggered if the target intrudes into the pre-defined areas. Go to ***Config→Event→Region Intrusion*** interface as shown below.

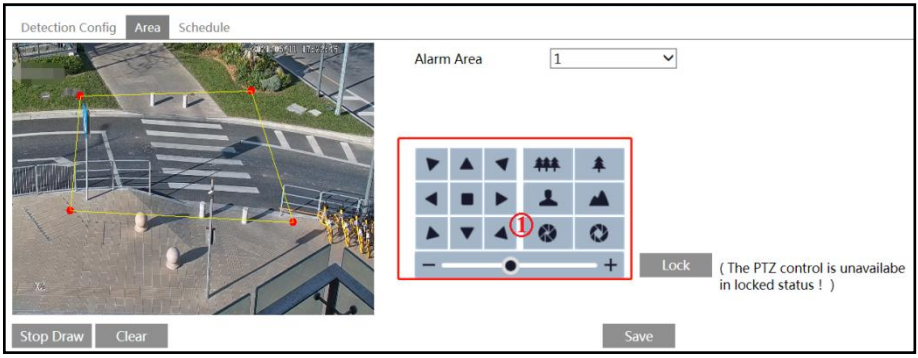


- **Detection Configuration**

Enable region intrusion detection, select the snapshot type and the detection target and set the alarm holding time and alarm trigger options. The detection setup steps are the same as line crossing detection. Please refer to the detection configuration of line crossing detection for details.

- **Area Configuration**

1. Click the “Area” tab to go to the interface as shown below.



2. Set the alarm area number on the right side. Up to 4 alarm areas can be added.
3. Set the detection area by clicking the buttons of area ① and then click "Lock" to lock the area.

Note: The PTZ will not be controlled if you click "Lock" here. Click "Unlock" and then click the buttons of area ① to move the PTZ camera. Clicking the "Unlock" button suspends object tracking until you click the "Lock" button.

4. Click the "Draw Area" button and then click around the area where you want to set as the alarm area in the image on the left side (the alarm area should be a closed area). Click the "Stop Draw" button to stop drawing. Click the "Clear" button to delete the alarm area. Click the "Save" button to save the settings.

After that, the camera will automatically return to this detection area after auto human /vehicle tracking.

- **Schedule Configuration**

Set the schedule of the intrusion detection. The setup steps of the schedule are the same as schedule recording setup (See Schedule Recording).

3.5.4 Region Entrance

Region Entrance: Alarms will be triggered if the target enters the pre-defined areas.

1. Go to ***Config→Event→Region Entrance*** interface.
2. Enable region entrance detection and select the snapshot type and the detection target.
3. Set the area of region entrance detection..
4. Set the schedule of the region entrance detection.

The setup steps of the region entrance detection are the same as the region intrusion detection setup (See Region Intrusion for details).

3.5.5 Region Exiting

Region Exiting: Alarms will be triggered if the target exits from the pre-defined areas.

1. Go to ***Config→Event→Region Exiting*** interface.
2. Enable region exiting detection and select the snapshot type and the detection target.
3. Set the area of region exiting detection.
4. Set the schedule of the region exiting detection.

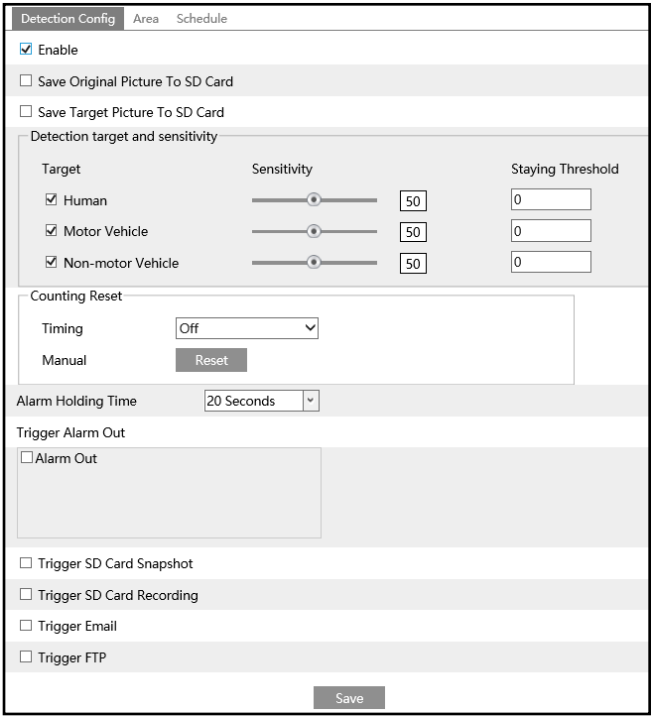
The setup steps of the region exiting detection are the same as the region intrusion detection setup (See Region Intrusion for details).

3.5.6 Target Counting

Only some models support this function.

This function is used to detect, track and count the number of people or vehicles crossing the set alarm line.

1. Go to ***Config→Event→Target Counting by Line*** as shown below.



2. Enable target counting by line and select the snapshot type and the detection target.

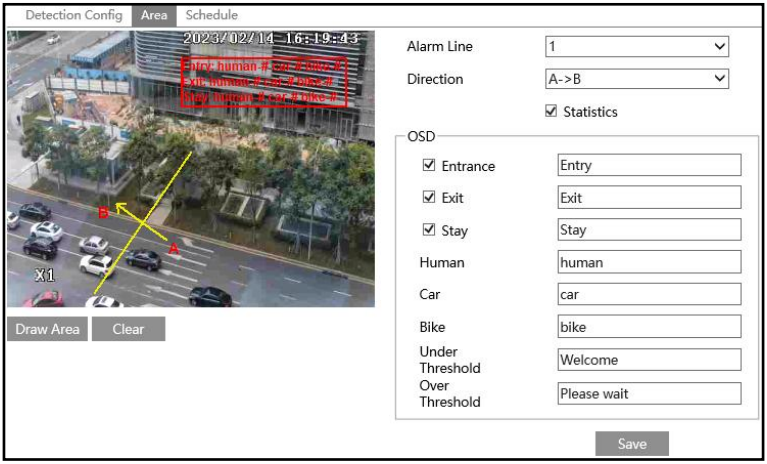
Detection Target: Select the target to calculate. Human, motor vehicle and motorcycle/bicycle can be selected.

Staying Threshold: When the targets (human/vehicle) staying in the specified area exceed the threshold, alarms will be triggered.

Counting Reset: You can choose to reset the counting daily, weekly or monthly. The current number of people/cars/bikes counted will be cleared immediately when you click the "Reset" button.

3. Set the alarm trigger options. The setup steps are the same as motion detection. Please refer to motion detection chapter for details.

4. Set the alarm line. Click the "Area" tab to go to the interface as shown below.



Set the alarm line number and direction. Only one alarm line can be added.

Direction：A->B and A<-B can be optional. The direction of the arrow is entrance.

Statistics: If enabled, you can see the statistical information in the live view interface. If disabled, the statistical information will not be displayed in the live view interface.

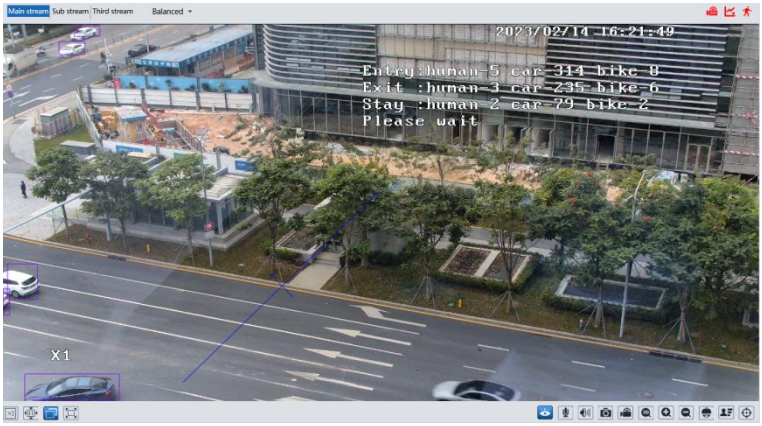
The statistical OSD information can be customized as needed.

Click the “Draw Area” button and then drag the mouse to draw a line in the image. Check “Statistics” and then move the red box to change the position of the statistical information displayed on the screen. Click the “Stop Draw” button to stop drawing. Click the “Clear” button to delete the lines.

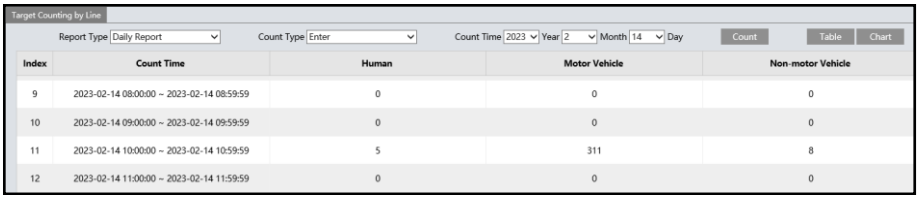
Click the “Save” button to save the settings.

5. Set the schedule of the target counting. The setup steps of the schedule are the same as schedule recording setup (See Schedule Recording).

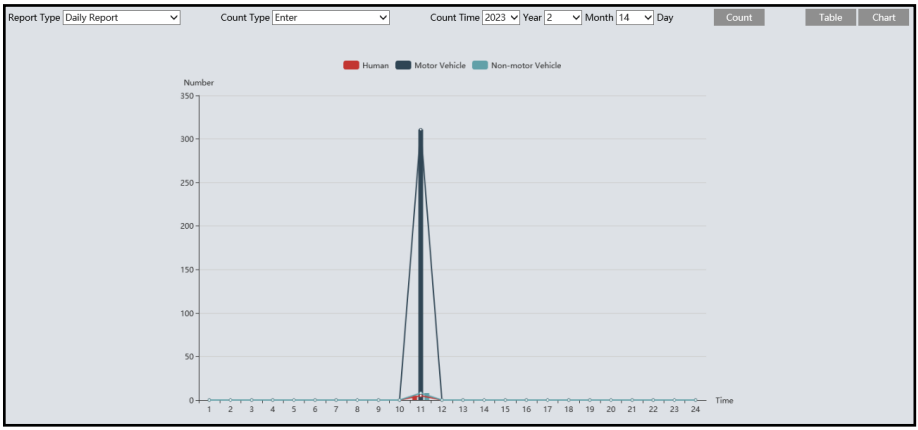
6. View the statistical information in the live view interface.



7. View the statistical information of target counting by line. Click “Statistics” to enter the following interface.

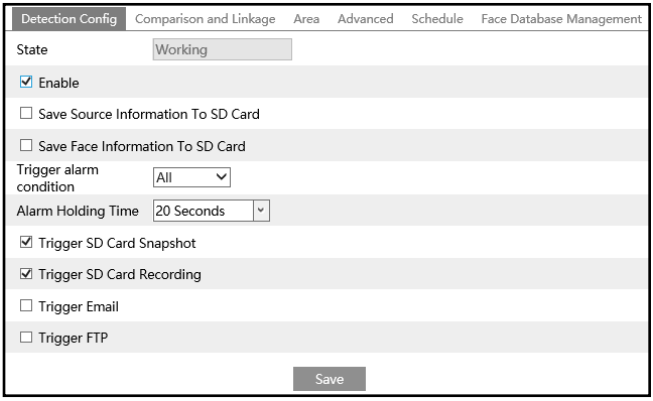


Select the report type. Daily report, weekly report, monthly report and annual report are selectable.
Select the count type. Enter or leave can be optional.
Select the start time and then click “Count”. Then the counting result will display in the statistic result area. Click Table or Chart to display the result in different way.



3.5.7 Face Comparison

Only some models support this function.
The setting steps are as follows.
1. Go to ***Config→Event→Face Comparison*** interface.



2. Enable the face detection function.

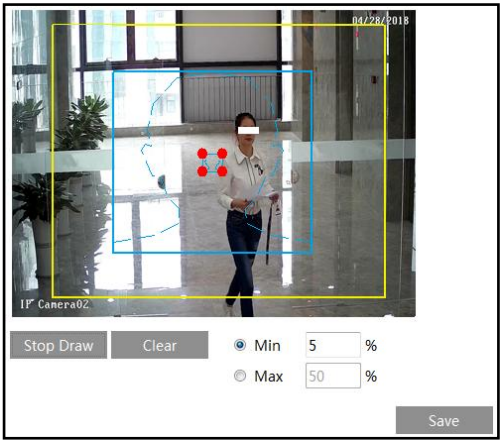
Save Source Information to SD Card: if checked, the whole picture will be saved to the local PC or SD card when detecting a face.

Save Face Information to SD Card: if checked, the captured face picture will be saved to the local PC or SD card when detecting a face.

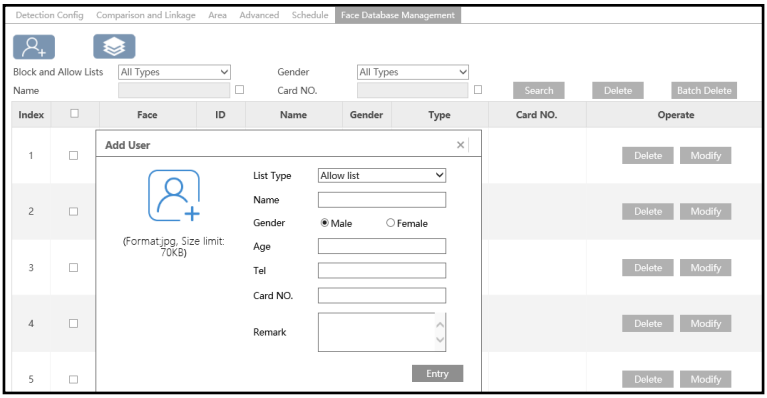
Note: To save images to the local PC, please enable the local smart snapshot storage first (***Config→System→Local Config***). To save images to the SD card, please install an SD card first.

3. Set alarm holding time and alarm trigger options.

4. Set alarm detection area. Click "Draw Area" and drag the border lines of the rectangle to modify its size. Move the rectangle to change its position. Click "Stop Draw" to stop drawing the area. Click "Clear" to clear the area. Then set the detectable face size by defining the maximum value and the minimum value (The default size range of a single face image occupies from 3% to 50% of the entire image).



5. Face database management: click “Face Database Management” tab. This will enter the following interface.



There are four ways to add face pictures.

① Adding face pictures one by one

Click to pop up an adding user box. Then click to select a face picture saved on the local PC. Please select the picture according to the specified format and size limit. After that, fill out the relevant information of the face picture and click “Entry” to add.

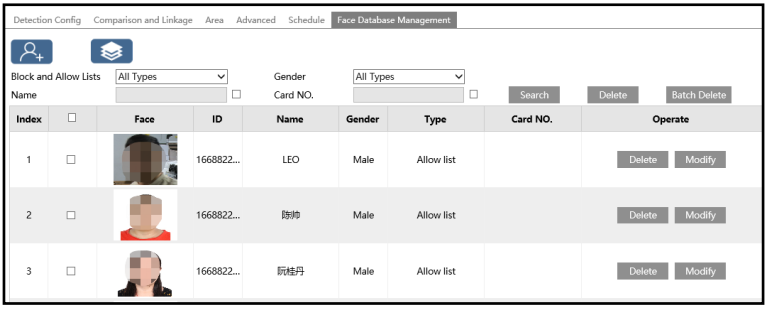
② Adding multiple face pictures at a time

Click and then add multiple face pictures once according to the prompted rules.

③ Add face pictures by using face album management tool

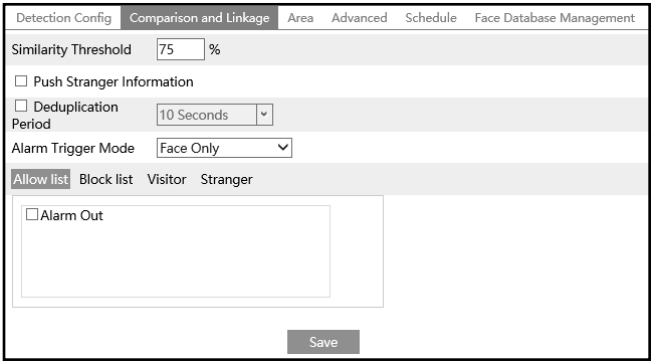
④ Add the captured picture in the live mode (See ***Add captured face pictures to the face database***).

After adding face pictures, you can search them by name, gender, ID number and so on.

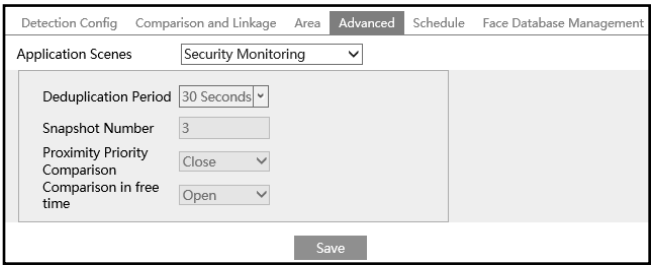


Click “Modify” to change people information and click “Delete” to delete this face picture.

6. Set face comparison trigger options. Click “Comparison and Linkage” to go to the following interface.



Similarity threshold: When the similarity of the captured face picture and the face picture added into the face database exceeds the similarity threshold, alarms will be triggered.
Push Stranger: Push the comparison alarm information of the stranger. After it is enabled, the comparison information of the stranger will be shown on the left comparison area of the live interface.
Deduplication Period: In the set period, delete the repeated comparison results.
Alarm Trigger Mode: Face only mode. When the captured face picture is matched successfully, alarms will be triggered.
Alarm Output: Select the list type and then checkmark alarm out. Then alarm output will be triggered when the captured face is matched successfully with the face image of the selected list.
7. Set the schedule of the face detection and comparison. The setup steps of the schedule are the same as schedule recording setup (See Schedule Recording).
8. Advanced configuration.

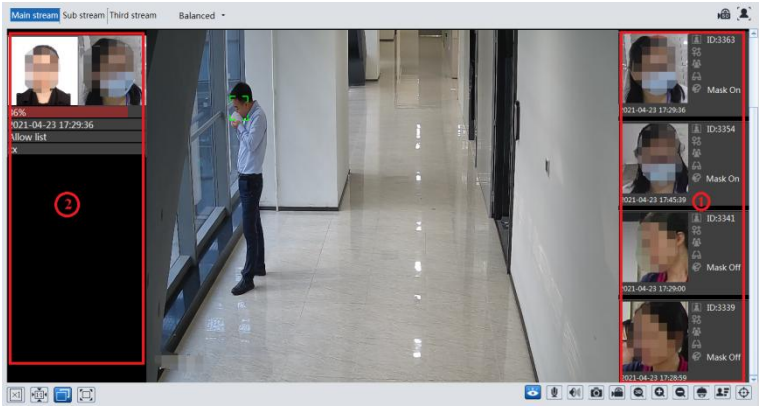


Application Scenes: "Access control", "security monitoring" or "customize" can be selected.
Snapshot Interval: If 5 seconds is selected, the camera will capture the same target once every 5 seconds during its continuous tracking period.
Snapshot Number: If the snapshot number is enabled and set (eg. 3), the camera will capture the same target once every 5 seconds and it will capture this target 3 times at most during its continuous tracking period. If the snapshot number is disabled, the camera will capture the

same target once every 5 seconds until the target disappears in the detected area.
Proximity Priority Comparison: When several persons are in the recognition area at the same time, the person closer to the camera is recognized first.
Comparison in free time: When the processor is busy, the comparison of the current detected person will not be performed immediately (for example, there is not enough time for the processor to perform all comparisons, because so many people are detected at the same time). It will continue after the processor load is reduced.

- **Face Match View**

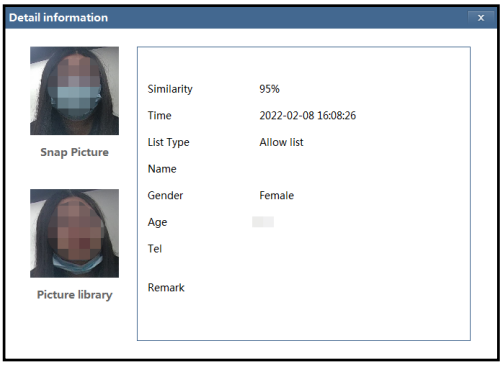
After all face comparison settings are set successfully, enter the live view interface. Click to view the captured face pictures and face comparison information.



Area ①: captured face pictures; area ②: face comparison area

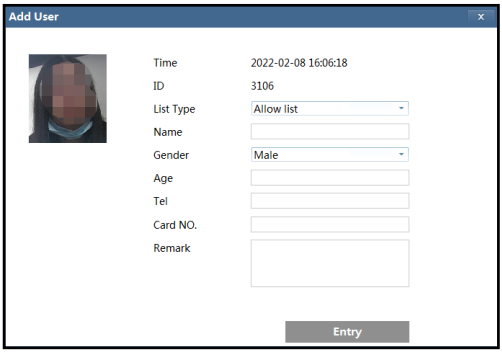
- **View the comparison details**

In area ②, click the compared face picture to bring up the following window. In this interface, you can view the detailed comparison information.



- **Add captured face pictures to the face database**

Click a captured picture in area ①. This will bring a face picture adding box.

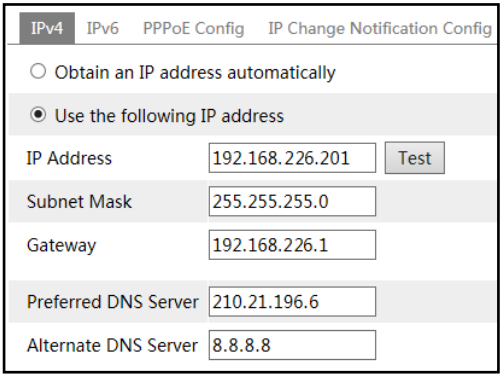


Fill out the relevant information and click "Entry" to add this face picture.

3.6 Network Configuration

3.6.1 TCP/IPv4

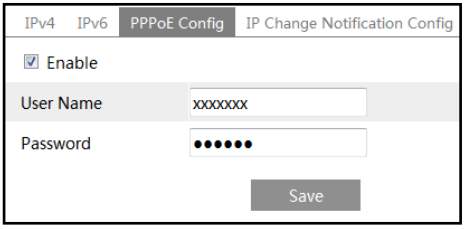
Go to Config→Network→TCP/IP interface as shown below. There are two ways for network connection.



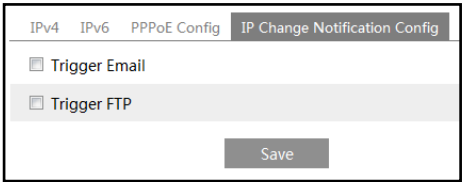
Use IP address (take IPv4 for example)-There are two options for IP setup: obtain an IP address automatically by DHCP and use the following IP address. Please choose one of the options as needed.

Test: Test the effectiveness of the IP address by clicking this button.

Use PPPoE-Click the "PPPoE Config" tab to go to the interface as shown below. Enable PPPoE and then enter the user name and password from your ISP.



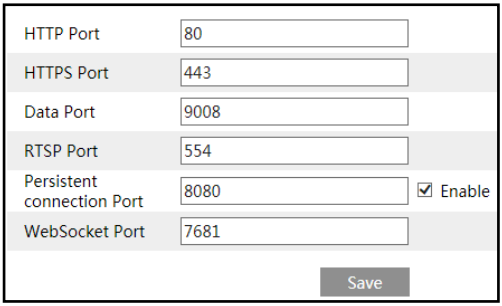
Either method of network connection can be used. If PPPoE is used to connect internet, the camera will get a dynamic WAN IP address. This IP address will change frequently. To be notified, the IP change notification function can be used.
Click "IP Change Notification Config" to go to the interface as shown below.



Trigger Email: when the IP address of the device is changed, the new IP address will be sent to the email address that has been set up.
Trigger FTP: when the IP address of the device is changed, the new IP address will be sent to FTP server that has been set up.

3.6.2 Port

Go to ***Config→Network→Port*** interface as shown below.

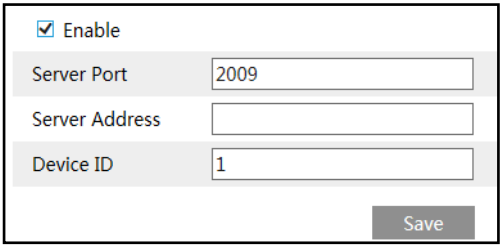


HTTP Port: The default HTTP port is 80. It can be changed to any port which is not occupied.
HTTPS Port: The default HTTPs port is 443. It can be changed to any port which is not occupied.
Data Port: The default data port is 9008. Please change it as necessary.
RTSP Port: The default port is 554. Please change it as necessary.

Persistent Connection Port: The port is used for a persistent connection of the third-party platform to push smart data, like face pictures.
WebSocket Port: Communication protocol port for plug-in free preview.

3.6.3 Server Configuration

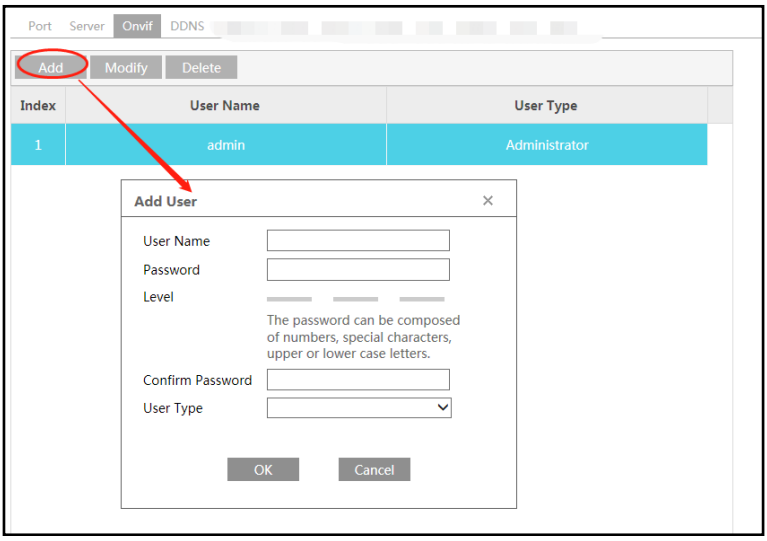
This function is mainly used for connecting network video management system.



1. Check “Enable”.
2. Check the IP address and port of the transfer media server in the /NVMS. Then enable the auto report in the NVMS when adding a new device. Next, enter the remaining information of the device in the NVMS. After that, the system will automatically allot a device ID. Please check it in the NVMS.
3. Enter the above-mentioned server address, server port and device ID in the corresponding boxes. Click “Save” to save the settings.

3.6.4 Onvif

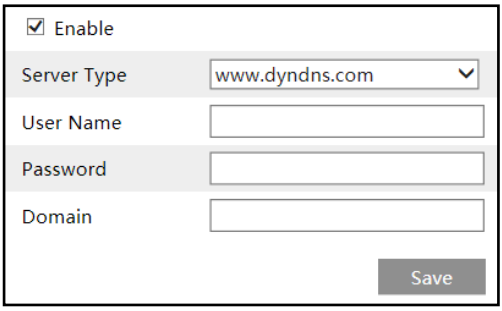
The camera can be searched and connected to the third-party platform via ONVIF/RTSP protocol.
If “Activate Onvif User” is enabled in the device activation interface, the ONVIF user can be activated simultanously. When you connect the camera through the ONVIF protocol in the third-party platform, you can use this onvif user to connect.
You can also add new users in the Onvif interface.



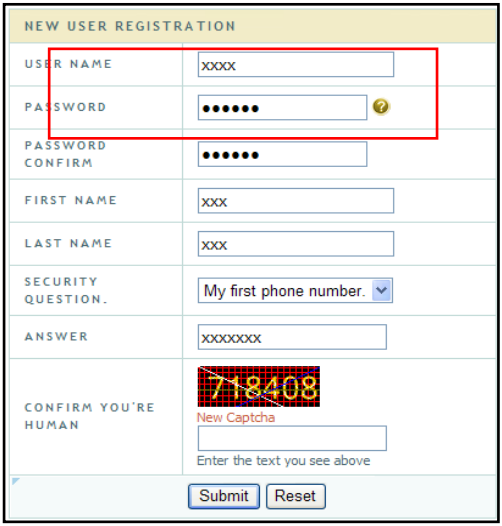
Note: when adding the device to the third-party platform with ONVIF/RTSP protocol, please use the onvif user in the above interface.

3.6.5 DDNS Configuration

If the camera is set up with a DHCP connection, DDNS should be set for the internet.
1. Go to ***Config→Network→ DDNS***.

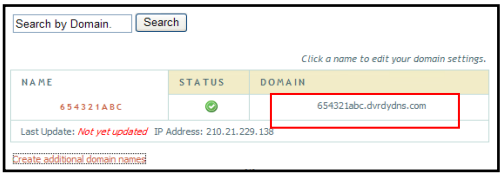


2. Apply for a domain name. Take www.dvrdyndns.com for example.
Enter www.dvrdydns.com in the IE address bar to visit its website. Then click “Registration”.



Create domain name.

After the domain name is successfully applied for, the domain name will be listed as below.

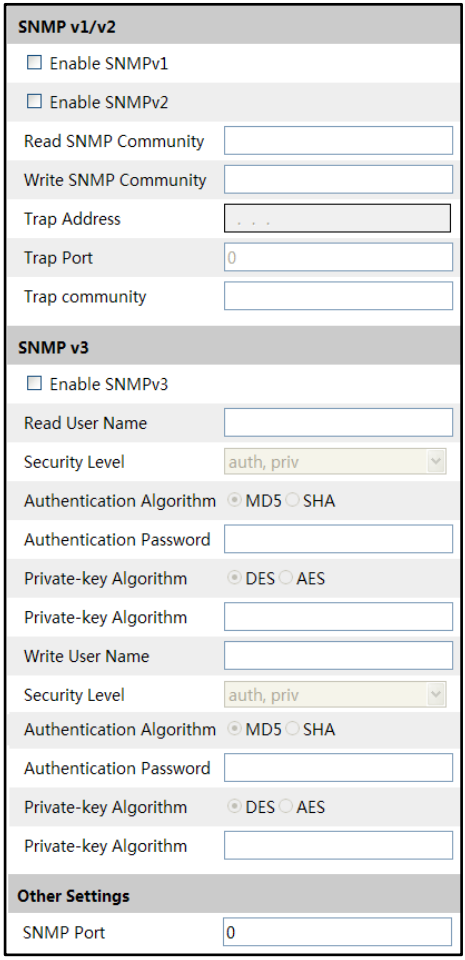


3. Enter the username, password, domain you apply for in the DDNS configuration interface.
4. Click “Save” to save the settings.

3.6.6 SNMP

To get camera status, parameters and alarm information and remotely manage the camera, the SNMP function can be used. Before using SNMP, please install an SNMP management tool and set the parameters of the SNMP, such as SNMP port, trap address.

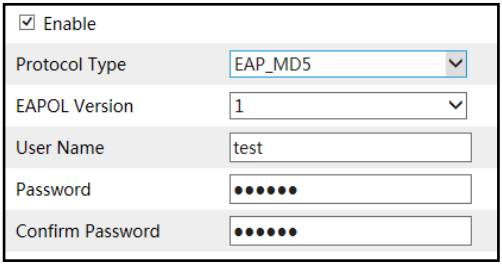
1. Go to ***Config→Network→SNMP***.



2. Check the corresponding version checkbox (Enable SNMPv1, Enable SNMPv2, Enable SNMPv3) according to the version of the SNMP software that will be used.
3. Set the values for “Read SNMP Community”, “Write SNMP Community”, “Trap Address”, “Trap Port” and so on. Please make sure the settings are the same as that of the SNMP software.
Note: Please use the different version in accordance with the security level you required. The higher the version is, the higher the level of the security is.

3.6.7 802.1X

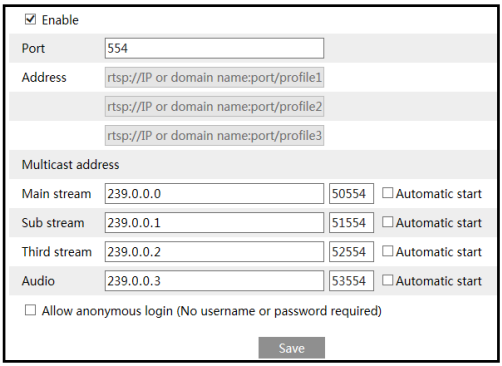
IEEE802.X which is an access control protocol manages the device in connection with the local network by authentication. The setup steps are as follows:



To use this function, the camera shall be connected to a switch supporting 802.1x protocol. The switch can be reckoned as an authentication system to identify the device in a local network. If the camera connected to the network interface of the switch has passed the authentication of the switch, it can be accessed via the local network.
Protocol type and EAPOL version: Please use the default settings.
User name and password: The user name and password must be the same with the user name and password applied for and registered in the authentication server.

3.6.8 RTSP

Go to ***Config→Network→RTSP***.



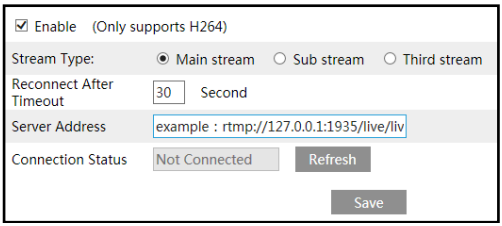
Select “Enable” to enable the RTSP function.
Port: Access port of the streaming media. The default number is 554.
RTSP Address: The RTSP address (unicast) format that can be used to play the stream in a media player.
Multicast Address
Main stream: The address format is
“rtsp://IP address: rtsp port/profile1?transportmode=mcast”.
Sub stream: The address format is
“rtsp://IP address: rtsp port/profile2?transportmode=mcast”.
Third stream: The address format is
“rtsp://IP address: rtsp port/profile3?transportmode=mcast”.

Audio: Having entered the main/sub stream in a VLC player, the video and audio will play automatically.
If "Allow anonymous login…" is checked, there is no need to enter the username and password to view the video.
If "auto start" is enabled, the multicast received data should be added into a VLC player to play the video.

Note:1. This camera support local play through a VLC player. Enter the RTSP address (unicast or multicast, eg. rtsp://192.168.226.201:554/profile1?transportmode=mcast) in a VLC player to realize the simultaneous play with the web client.
2. The IP address mentioned above cannot be the address of IPv6.
3. Avoid the use of the same multicast address in the same local network.
4. When playing the video through the multicast streams in a VLC player, please pay attention to the mode of the VLC player. If it is set to TCP mode, the video cannot be played.
5. If the coding format of the video of the main stream is MJPEG, the video may be disordered at some resolutions.

3.6.9 RTMP

You can access the third-party (like YouTube) to realize video live view through RTMP protocol.
Go to ***Config→Network→RTMP***.



Check "Enable", select stream type, set the reconnection time after timeout and server address as needed.
Server address: Enter the server address allocated by the third party server.
After that, click "Save" to save the settings. Then click "Refresh" to view the connection status.

3.6.10 UPnP

If this function is enabled, the camera can be quickly accessed through the LAN.
Go to ***Config→Network→UPnP***. Enable UPNP and then enter UPnP name.

3.6.11 E-mail

If you need to trigger Email when an alarm happens or IP address is changed, please set the Email here first.

Go to ***Config→Network →Email***.

Sender Address: sender's e-mail address.

User name and password: sender's user name and password (you don't have to enter the username and password if "Anonymous Login" is enabled).

Server Address: The SMTP IP address or host name.

Select the secure connection type at the "Secure Connection" pull-down list according to what's required.

SMTP Port: The SMTP port.

Send Interval(S): The time interval of sending email. For example, if it is set to 60 seconds and multiple motion detection alarms are triggered within 60 seconds, they will be considered as only one alarm event and only one email will be sent. If one motion alarm event is triggered and then another motion detection alarm event is triggered after 60 seconds, two emails will be sent. When different alarms are triggered at the same time, multiple emails will be sent separately.

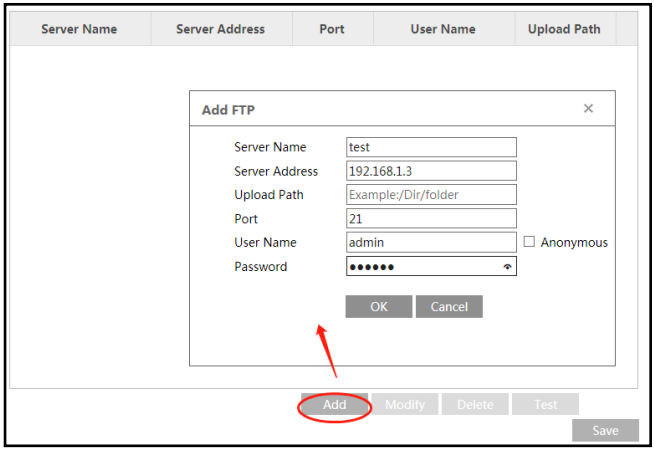
Click the "Test" button to test the connection of the account.

Recipient Address: receiver's e-mail address.

3.6.12 FTP

After an FTP server is set up, captured pictures from events will be uploaded to the FTP server.

1. Go to ***Config→Network →FTP***.



2. Click “Add” to add the information of the FTP. After that, click “Save” to save the settings.

Server Name: The name of the FTP server.

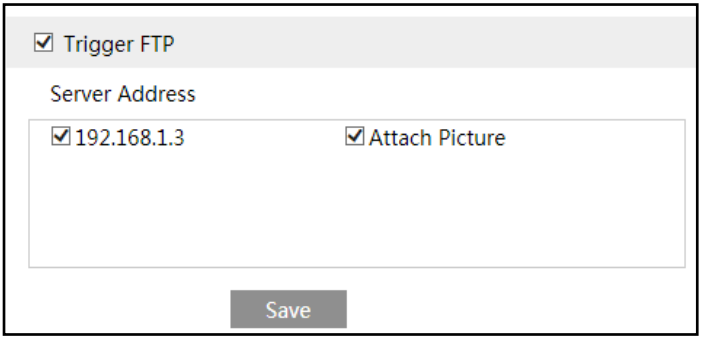
Server Address: The IP address or domain name of the FTP.

Upload Path: The directory where files will be uploaded to.

Port: The port of the FTP server.

User Name and Password: The username and password that are used to login to the FTP server.

3. In the event setting interface (like intrusion, line crossing, etc.), trigger FTP as shown below.



Rule of FTP storage path: /device MAC address/event type/date/time/

For example: a motion detection alarm occurs

FTP file path：\00-18-ae-a8-da-2a\MOTION\2021-01-09\14\

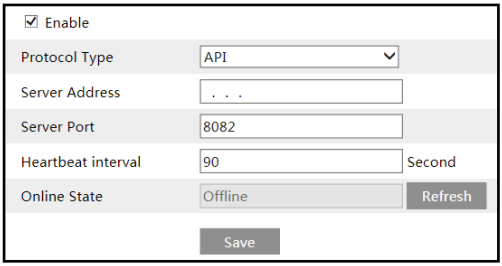
Event name table:

File Name	Event Type
IP	IP address change
MOTION	Motion Detection
SENSOR	Sensor Alarm
TRIPWIRE	Line Crossing Detection
PERIMETER	Region Intrusion Detection
AVD	Video Exception
VFD	Face Detection
AOIENTRY	Region Entrance
AOILEAVE	Region Exiting
PASSLINECOUNT	Target Counting by Line
SDFULL	SD Full
SDERROR	SD Error

TXT file content:
device name: xxx mac: device MAC address Event Type time:
For example:
device name: IPC mac: 00-18-ae-a8-da-2a MOTION time: 2021-03-16 12:20:07

3.6.13 HTTP POST

Go to ***Config→Network →HTTP POST*** interface.
Check "Enable", select protocol type and then set the server address (IP address/domain name), server port and heartbeat interval.

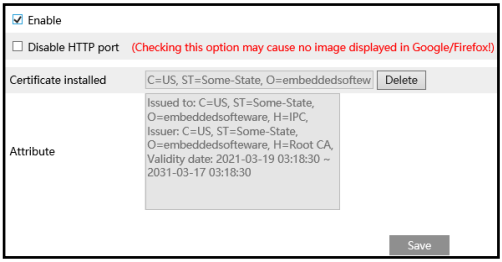


Server address: the IP address/domain name of the third-party platform.
Server port: the server port of the third-party platform.
After the above parameters are set, click "Save" to save the settings. Then the camera will automatically connect the third-party platform. The online state can be viewed in the above interface. After the camera is successfully connected, it will send the alarm information (HTTP format) to the third-party platform once the smart alarm is triggered. The alarm information

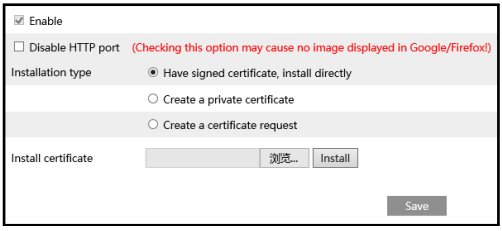
includes target tracing coordinates, target features, the captured original/target image (like the captured face picture, motor vehicle picture) and so on.

3.6.14 HTTPS

HTTPs provides authentication of the web site and protects user privacy.
Go to ***Config →Network→HTTPS*** as shown below.



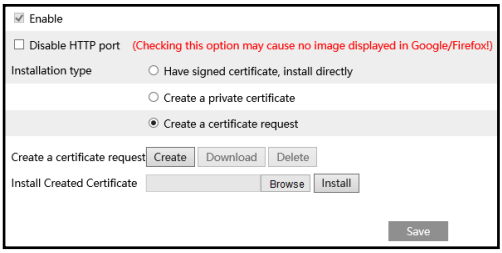
There is a certificate installed by default as shown above. Enable this function and save it. Then the camera can be accessed by entering https://IP: https port via the web browser (eg. https://192.168.226.201:443).
A private certificate can be created if users don't want to use the default one. Click "Delete" to cancel the default certificate. Then the following interface will be displayed.



* If there is a signed certificate, click "Browse" to select it and then click "Install" to install it.
* Click "Create a private certificate" to enter the following creation interface.

Click "Create" to create a private certificate. Enter the country (only two letters available), domain (camera's IP address/domain), validity date, password, province/state, region and so on.

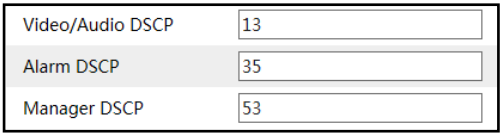
Then click “OK” to save the settings.
* Click “Create a certificate request” to enter the following interface.



Click “Create” to create the certificate request. Then download the certificate request and submit it to the trusted certificate authority for signature. After receiving the signed certificate, install the certificate to the device.

3.6.15 QoS

QoS (Quality of Service) function is used to provide different quality of services for different network applications. With the deficient bandwidth, the router or switch will sort the data streams and transfer them according to their priority to solve the network delay and network congestion by using this function.
Go to ***Config→Network→QoS***.

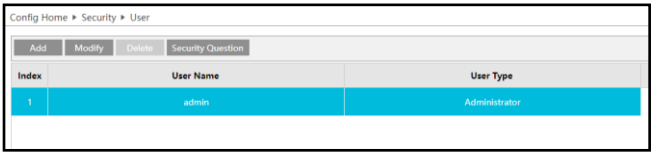


Video/Audio DSCP: The range is from 0 to 63.
Alarm DSCP: The range is from 0 to 63.
Manager DSCP: The range is from 0 to 63.
Generally speaking, the larger the number is, the higher the priority is.

3.7 Security Configuration

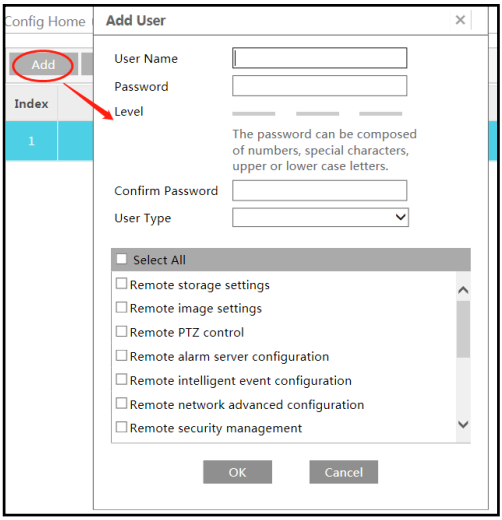
3.7.1 User Configuration

Go to ***Config→Security→User*** interface as shown below.



Add user:

1. Click the “Add” button to pop up the following textbox.



2. Enter user name in the “User Name” textbox.

3. Enter the password in the “Password” and “Confirm Password” textbox. Please set the password according to the requirement of the password security level (Go to ***Config→Security→Security Management→Password Security*** interface to set the security level).

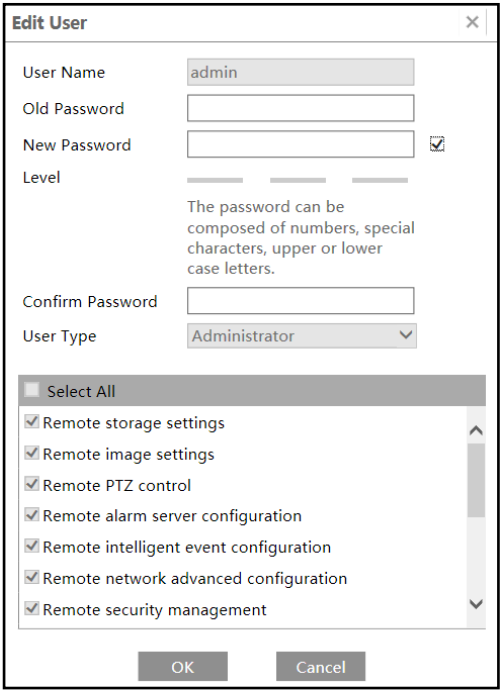
4. Choose the user type and select the desired user permissions.

5. Click the “OK” button and then the newly added user will be displayed in the user list.

Modify user:

1. Select a user to modify password if necessary in the user configuration list box.

2. The “Edit user” dialog box pops up by clicking the “Modify” button.



3. Enter the old password of the user in the “Old Password” text box.
4. Enter the new password in the “New password” and “Confirm Password” text box.
5. Select the user permissions for advanced or normal user.
6. Click the “OK” button to save the settings.

Note: When the password level is set to “Strong”, the password cannot be set the same as the previous five.

Delete user:

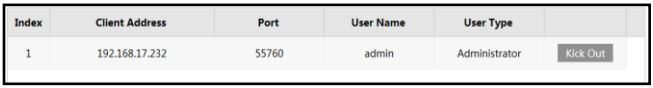
1. Select the user to be deleted in the user configuration list box.
2. Click the “Delete” button to delete the user.

Note: The default administrator account cannot be deleted.

Safety Question Settings: set the questions and answers for admin so as to reset the password after you forget the password.

3.7.2 Online Video User

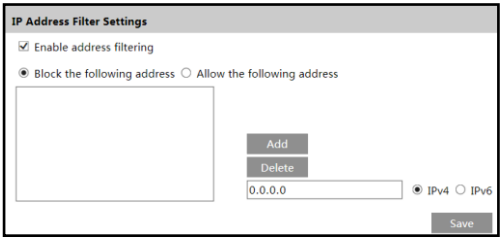
Go to ***Config→Security→Online User*** to view the user who is viewing the live video.



An administrator user can kick out all the other users (including other administrators).

3.7.3 Block and Allow Lists

Go to ***Config→Security→Block and Allow Lists*** as shown below.



The setup steps are as follows:
Check the “Enable address filtering” check box.
Select “Block/Allow the following address”, IPv4/IPv6 and then enter IP address in the address box and click the “Add” button.

3.7.4 Security Management

Go to ***Config→Security→Security Management*** as shown below.

In order to prevent against malicious password unlocking, “locking once illegal login” function can be enabled here. If this function is enabled, login failure after trying six times will make the login interface locked. The camera can be logged in again after a half hour or after the camera reboots.
Trigger Email: if enabled, e-mail will be sent when logging in/out or illegal login lock occurs.

- **Password Security**

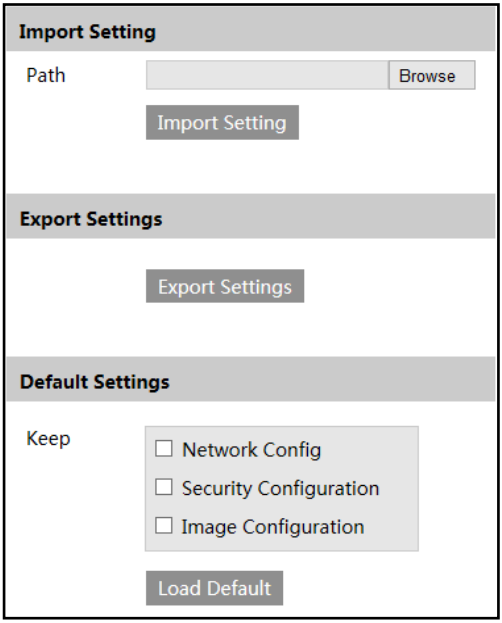
Please set the password level and expiration time as needed.
Password Level: Weak, Medium or Strong.
Weak level: Numbers, special characters, upper or lower case letters can be used. You can choose one of them or any combination of them when setting the password.
Medium Level: 8~16 characters, including at least two of the following categories: numbers, special characters, upper case letters and lower case letters.
Strong Level: 8~16 characters. Numbers, special characters, upper case letters and lower case letters must be included.
For your account security, it is recommended to set a strong password and change your password regularly.

HTTP Authentication: Basic or Token is selectable.

3.8 Maintenance

3.8.1 Backup & Restore

Go to ***Config→Maintenance→Backup & Restore***.



- **Import & Export Settings**

Configuration settings of the camera can be exported form a camera into another camera.
1. Click “Browse” to select the save path for import or export information on the PC.
2. Click the “Import Setting” or “Export Setting” button.

- **Default Settings**

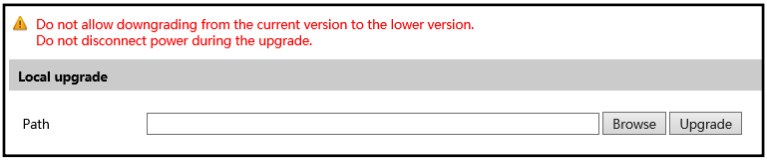
Click the “Load Default” button to restore all system settings to the default factory settings except those you want to keep.

3.8.2 Reboot Device

Go to ***Config→Maintenance→Reboot***.
Click the “Reboot” button to reboot the device.
Timed Reboot Setting:
If necessary, the camera can be set up to reboot on a time interval. Enable “Time Settings”, set the date and time and then click the “Save” button to save the settings.

3.8.3 Upgrade

Go to ***Config→Maintenance→Upgrade***. In this interface, the camera firmware can be updated.

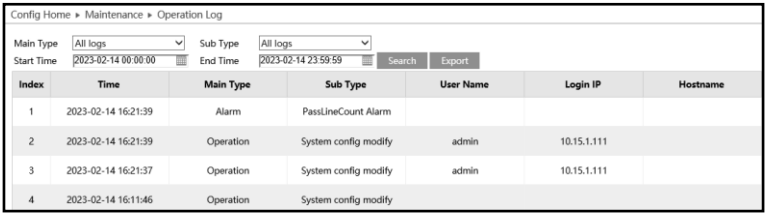


1. Click the “Browse” button to select the save path of the upgrade file.
2. Click the “Upgrade” button to start upgrading the firmware.
3. Enter the correct password and then the device will restart automatically

Caution! Do not close the browser or disconnect the camera from the network during the upgrade.

3.8.4 Log

To query and export log
1. Go to ***Config→Maintenance→Operation Log***.



2. Select the main type, sub type, start and end time.
3. Click “Query” to view the operation log.
4. Click “Export” to export the operation log.

4 Playback

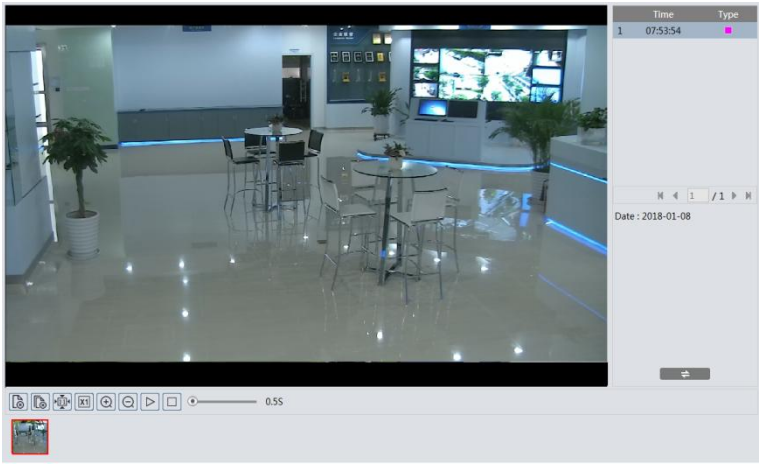
4.1 Image Search

Click Search to go to the interface as shown below. Images that are saved on the SD card can be found here.

Note: When using the plug-in free browser, the local images cannot be searched.

- **Local Image Search**

1. Choose “Picture”—“Local”.
2. Set time: Select date and choose the start and end time.
3. Click to search the images.
4. Double click a file name in the list to view the captured photos as shown above.

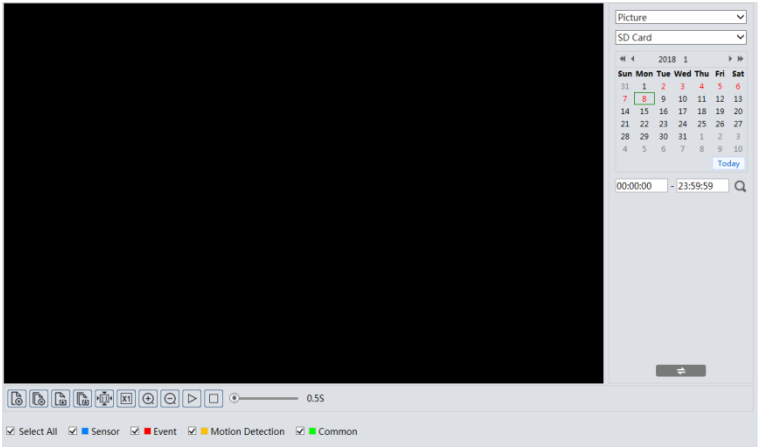


Click to return to the previous interface.

Note: When using the plug-in free browser, the local images cannot be searched.

- **SD Card Image Search**

1. Choose “Picture”—“SD Card”.



2. Set time: Select date and choose the start and end time.
3. Choose the alarm events at the bottom of the interface.
4. Click to search the images.
5. Double click a file name in the list to view the captured photos.

Click to return to the previous interface.

The descriptions of the buttons are shown as follows.

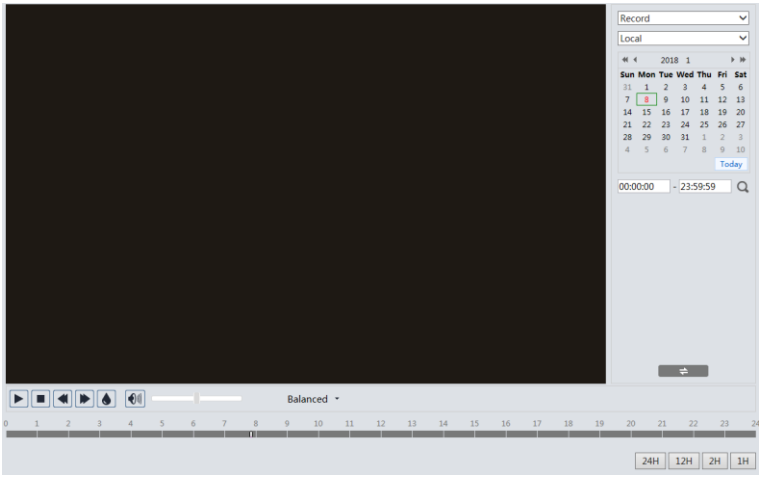
Icon	Description	Icon	Description
	Close: Select an image and click this button to close the image.		Close all: Click this button to close all images.
	Save: Click this button to select the path for saving the image on the PC.		Save all: Click this button to select the path for saving all pictures on the PC.
	Fit size: Click to fit the image on the screen.		Actual size: Click this button to display the actual size of the image.
	Zoom in: Click this button to digitally zoom in.		Zoom out: Click this button to digitally zoom out.
	Slide show play: Click this button to start the slide show mode.		Stop: Click this button to stop the slide show.
5.5S	Play speed: Play speed of the slide show.		

4.2 Video Search

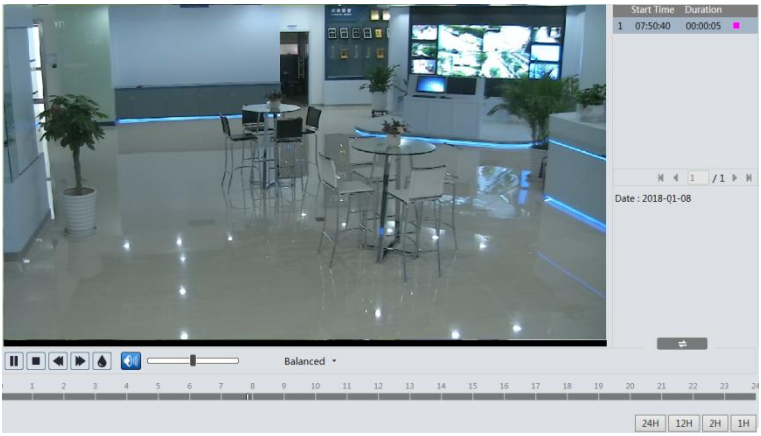
4.2.1 Local Video Search

Click Search to go to the interface as shown below. Videos were recorded locally to the PC can be played in this interface.

Note: When using the plug-in free browser, the local videos cannot be searched.



1. Choose “Record”—“Local”.
2. Set search time: Select the date and choose the start and end time.
3. Click to search the images.
4. Double click on a file name in the list to start playback.



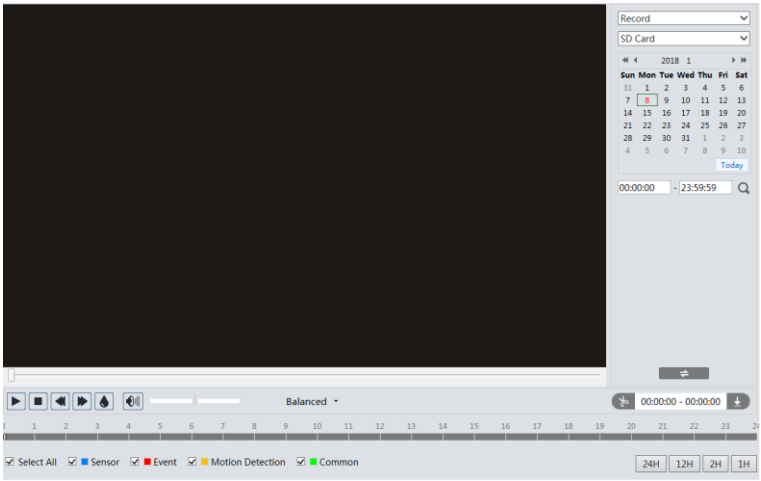
Icon	Description	Icon	Description
	Play button. After pausing the video, click this button to continue playing.		Pause button
	Stop button		Speed down
	Speed up		Watermark display
	Enable / disable audio; drag the slider to adjust the volume after enabling audio.		

Note: When using the plug-in free browser, the local videos cannot be searched.

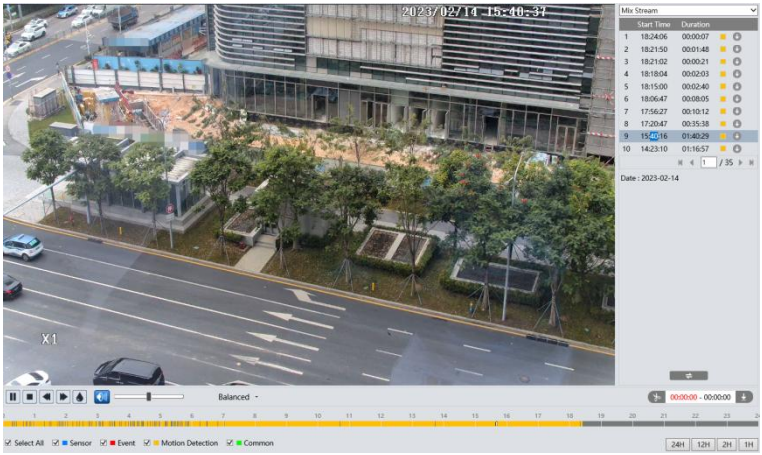
4.2.2 SD Card Video Search

Click Search to go to the interface as shown below. Videos that were recorded on the SD card can be played in this interface.

1. Choose “Record”—“SD Card”.
2. Set search time: Select the date and choose the start and end time.
3. Click to search the images.



4. Select the alarm events at the bottom of the interface.
5. Select mix stream (video and audio stream) or video stream as needed.
6. Double click on a file name in the list to start playback.

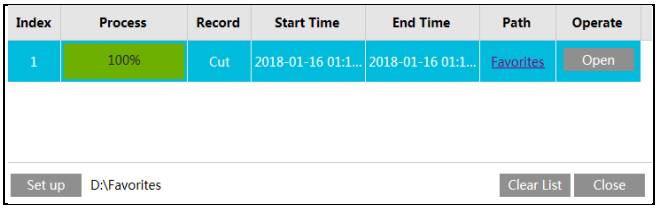


Note: and cannot be displayed in the above interface via the plug-in free browser. Additionally, for plug-in free playback, playback mode switch (balanced/real-time/fluent mode) and downloading functions are not supported too.

The time table can be shown in 24H/12H/2H/1H format by clicking the corresponding buttons.

Video clip and downloading

1. Search the video files according to the above mentioned steps.
2. Select the start time by clicking on the time table.
3. Click to set the start time and then this button turns blue ( ).
4. Select the end time by clicking on the time table. Then click to set the end time.
5. Click to download the video file in the PC.



Click “Set up” to set the storage directory of the video files.

Click “Open” to play the video.

Click “Clear List” to clear the downloading list.

Click “Close” to close the downloading window.

5 Face Match Result Search

Click “Face Log” tab to go to the face recognition result search interface.
Set the start time and end time and click “Search” to view the face recognition result.

A photo of each recognized face is marked with a colored bar.
The red color of the bar means no comparison result. Green color means there is a comparison result. White color means that the recognized face has not been compared with the face database. The most common reason for such a situation is that, the camera waits for the comparison operation when the “Comparison in free time” option is enabled. Clicking the picture marked with green color displays the following face comparison information.

6 Q & A

1. Q: I forget the password. How can I do?

Reset the system to the factory default setting or contact the dealer.
Default IP: 192.168.226.201
User name: admin
Password: 123456

2. Q: The devices can't connect through IE browser. Why?

① Network is not connected well. Please check the connection and make sure it is connected well.

② IP is not available. Reset the valid IP.

③ Web port number has been revised: contact administrator to get the correct port number.

④ Exclude the above reasons. Restore the default setting by IP-Tool.

Note: The default IP: 192.168.226.201，mask number: 255.255.255.0

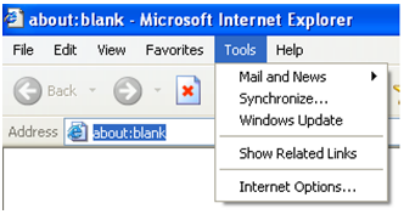
3. Q: IP tool cannot search devices. How can I do?

It may be caused by the anti-virus software in your computer. Please exit it and try to search device again.

4. Q: IE cannot download ActiveX control. How can I do?

IE browser blocks ActiveX. Please do setup following below.

① Open IE browser. Click Tools-----Internet Options….



② Select Security------Custom Level….Refer to Fig 4-1.

③ Enable all the sub options under "ActiveX controls and plug-ins". Refer to Fig 4-2.

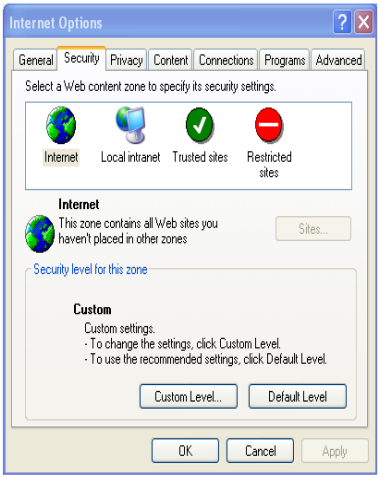


Fig 4-1

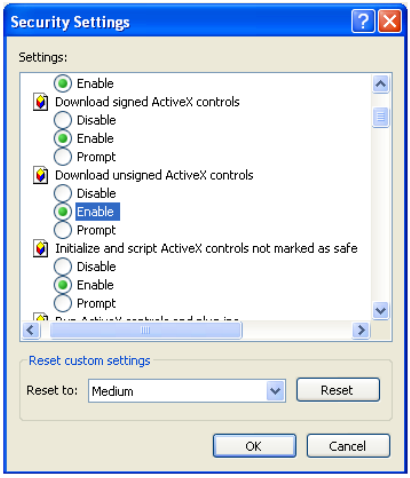


Fig 4-2

④ Then click OK to finish setup.

Other plug-ins or anti-virus blocks ActiveX. Please uninstall or close them.

5. Q: Why does the device fail to sound?

The audio input device is not connected. Please connect and try again.

The audio function is not enabled at the corresponding channel. Please check AUDIO item to enable this function.

6. Q: How to do when the device is unable to start normally when upgrading?

If the device is unable to start normally when upgrading, please rename the files suffixed with .tar as updatepack.tar and copy it to the root directory of SD card. Restart the device and then the device will upgrade automatically from the SD card. After finishing upgrading, the user can search the IP address of IP Cam in the IP Tool.

Appendix Preset Description

Call Preset	Call NO.90 Preset	Run trace 1
	Call NO.91 Preset	Run cruise 1
	Call NO.92 Preset	Run cruise 2
	Call NO.93 Preset	Run cruise 3
	Call NO.94 Preset	Run cruise 4
	Call NO.97 Preset	Enable random scan
	Call NO.99 Preset	Enable auto scan
	Call NO.100 Preset	Wiper ON
	Call No.101 Preset	Wiper OFF
Save Preset	Save NO. 91 Preset	Set random scan start point
	Save NO. 92 Preset	Set the left scan endpoint
	Save NO. 93 Preset	Set the right scan endpoint

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