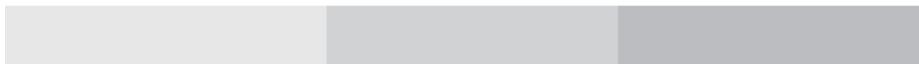


Thermal Imaging Box Network Camera User Manual



Issue **V1.0**

Date **2022-07-27**

Precautions

Precautions

Fully understand this document before using this device, and strictly observe the rules in this document when using this device. If you install this device in public places, put a sign "You have entered the area of electronic surveillance" in an eye-catching place. Failure to correctly use electrical products may cause fire and severe injuries. To prevent accidents, carefully read the following context:

Symbols

This document may contain the following symbols whose meanings are described accordingly.

Symbol	Description
 DANGER	It alerts you to fatal dangers which, if not avoided, may cause deaths or severe injuries.
 WARNING	It alerts you to moderate dangers which, if not avoided, may cause minor or moderate injuries.
 CAUTION	It alerts you to risks. Neglect of these risks may cause device damage, data loss, device performance deterioration, or unpredictable results.
 TIP	It provides a tip that may help you resolve problems or save time.
 NOTE	It provides additional information.



DANGER

To prevent electric shocks or other dangers, keep power plugs dry and clean.



WARNING

Strictly observe installation requirements when installing the device. The manufacturer shall not be responsible for device damage caused by users' operation of non-conformance.

Strictly conform to local electrical safety standards and use power adapters that are marked with the LPS standard when installing and using this device. Otherwise, this device may be damaged.

Use accessories delivered with this device. The voltage must meet input voltage requirements for this device.

If this device is installed in places with unsteady voltage, ground this device to discharge high energy such as electrical surges to prevent the power supply from burning out.

When this device is in use, ensure that no water or any liquid flows into the device. If water or liquid unexpectedly flows into the device, immediately power off the device and disconnect all cables (such as power cables and network cables) from this device.

Do not place the thermal imaging camera and unpackaged products at a radiation source with a high intensity regardless of whether the device is in the normal power-on state, for example, the sun, laser, and electric arc welder, and place the thermal imaging camera and unpackaged products against objects with a high heat source, for example, the sun. Otherwise, the accuracy of the thermal imaging camera will be affected. In addition, the detector in the thermal imaging camera may be permanently damaged.

If this device is installed in places where thunder and lightning frequently occur, ground the device nearby to discharge high energy such as thunder strikes to prevent device damage.



CAUTION

Unless otherwise specified in the user manual, do not use the thermal imaging camera in an environment with the temperature lower than -30°C (-22°F) or higher than 60°C ($+140^{\circ}\text{F}$). Otherwise, the images displayed by the thermal imaging camera are abnormal and the device may be damaged because of working beyond the temperature range for a long period.

As for the outdoor installation, avoid the morning or evening sunlight incidence to the lens of the thermal imaging camera. The sun shade must be installed and adjusted according to the angle of the sunlight illumination.

During transportation and storage, avoid damage to products caused by heavy pressure, severe vibration and soaking. The warranty does not cover any device damage that is caused during secondary packaging and transportation after the original packaging is taken apart.

This product is sensitive to static. Improper static may damage the thermal imaging camera. ESD protection measures and reliable grounding must be well prepared for device installation and uninstallation.

Protect this device from fall-down and intensive strikes, keep the device away from magnetic field interference, and do not install the device in places with shaking surfaces or under shocks.

Clean the device body with a soft and dry cloth. In case that the dirt is hard to remove, use a dry cloth dipped in a small amount of mild detergent and gently wipe the device, and then dry it again. Pay special attention to the front window of the thermal imaging camera because this is precision optics. If the front window has water spots, use a clean and soft cloth to moisten with water and wipe it. If the front window needs further cleaning, use a soft cloth dampened with isopropyl alcohol or detergent. Improper cleaning can cause damage to the device.

The lens window of the thermal imaging camera is designed to be applicable to an outdoor environment. The window is coated with durable coating material, but may require frequent cleaning. When you found lens image degradation or excessive accumulation of pollutants, you should clear up the window in a timely manner. Exercise caution when you use this device in severe sandstorm (such as deserts) or corrosive environments (such as offshore). Improper use may cause surface coating off.

Do not jam the ventilation opening. Follow the installation instructions provided in this document when installing the device.

Keep the device away from heat sources such as radiators, electric heaters, or other heat equipment.

Keep the device away from moist, dusty, extremely hot or cold places, or places with strong electric radiation.

If the device is installed outdoors, take insect- and moisture-proof measures to avoid circuit board corrosion that can affect monitoring.

Remove the power plug if the device is idle for a long time.

Before unpacking, check whether the fragile sticker is damaged. If the fragile sticker is damaged, contact customer services or sales personnel. The manufacturer shall not be held responsible for any artificial damage of the fragile sticker.

Special Announcement

All complete products sold by the manufacturer are delivered along with nameplates, operation instructions, and accessories after strict inspection. We shall not be responsible for counterfeit products.

This manual may contain misprints, technology information that is not accurate enough, or product function and operation description that is slightly inconsistent with the actual product.

The manufacturer will update this manual according to product function enhancement or changes and regularly update the software and hardware described in this manual. Updated information will be added to new versions of this manual without prior notice.

This manual is only for reference and does not ensure that the information is totally consistent with the actual product. For consistency, see the actual product.

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1 Product Overview

1.1 Thermal Imaging Principles and Advantages

Thermal Imaging Cameras offer the monitoring and temperature measurement capabilities needed to accurately detect and identify thermal issues across manufacturing and industrial processes. With multiple field-of-view choices, dual-streaming capabilities, motorized focus lens optional, these fixed cameras can be installed in the structure you need to solve the requirements of special scenes to achieve remote monitoring goals.

Thermal Network Cameras are a perfect tool for perimeter protection, offering highly performing video analytics. The cameras use thermal imaging, which allows users to detect objects and incidents 24 hours a day, seven days a week, from pitch dark areas to a sunlit parking lot. This makes it possible to acknowledge suspect activity already before intrusion, and to visually verify what is going on before taking relevant action.

The small size can be provided to other PTZ device for dual spectrum view convenience.

The pixel of detector is 640*512, users can view the scene clearer. The camera can detect the person or car to send alarm, it also can count the people across the deployment area.

1.2 Device Structure

Following figures show the rear panel of the thermal imaging box network camera. For details of the interfaces, refer to Figure 1-1.

Figure 1-1 F 15 (9) mm Appearance & Dimension

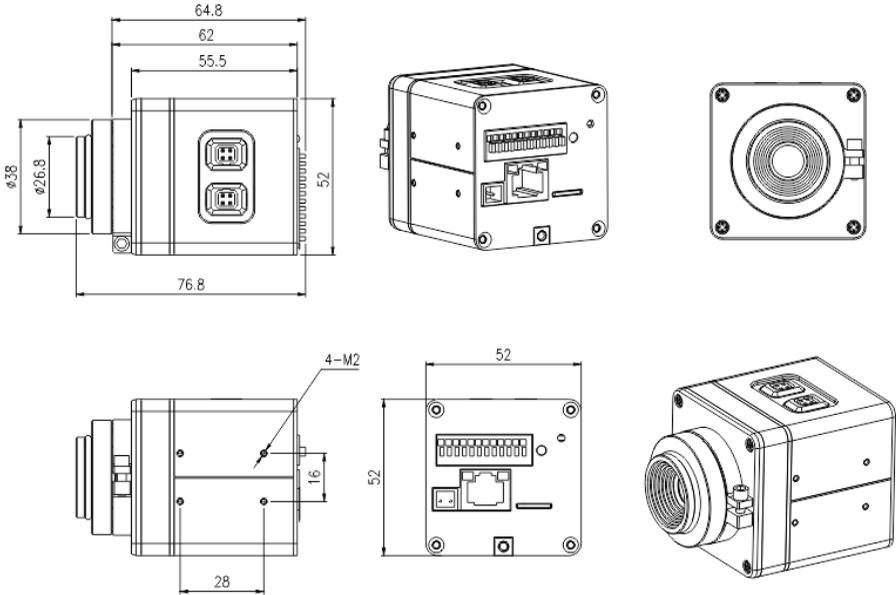


Figure 1-2 F 25mm Appearance & Dimension

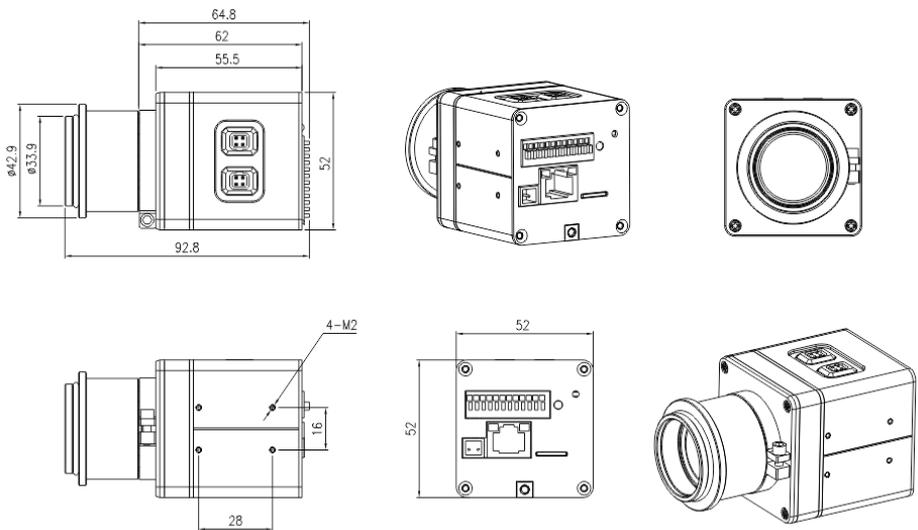


Figure 1-3 F 35mm Appearance & Dimension

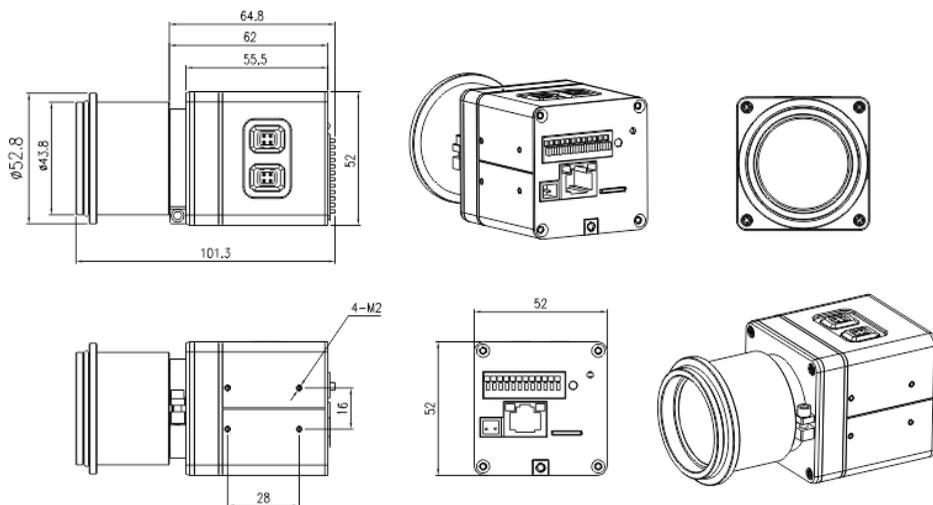


Figure 1-4 F 50mm Appearance & Dimension

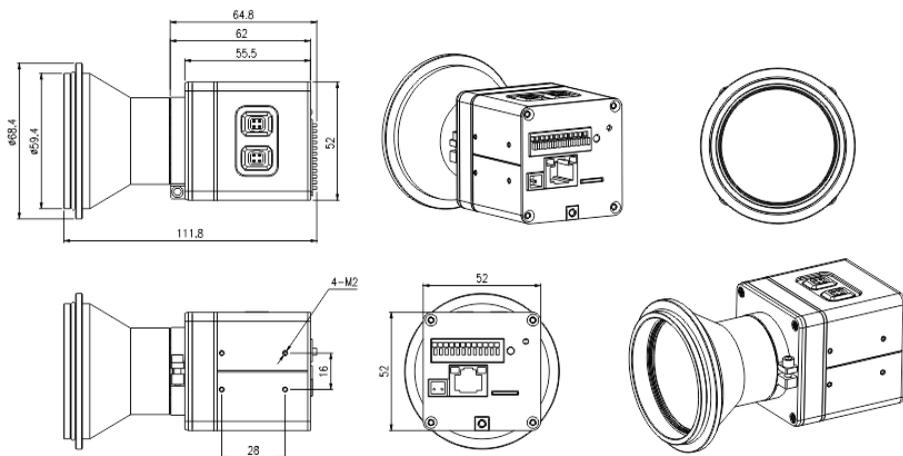


Figure 1-5 Port of Device

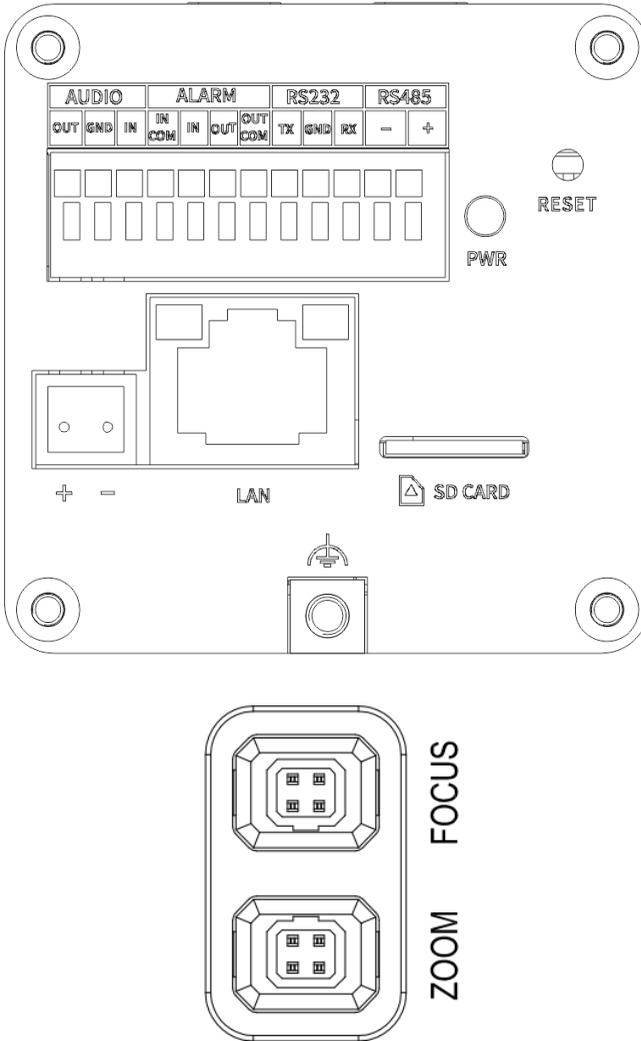


Table 1-1 Port of Device

Char	Physical Interface	Connection
Audio	Audio input / audio output	Input the audio signal and receives the analog audio signals from the sound pick-up device. Connect to the external alarm out device, such

Char	Physical Interface	Connection
		as alarm light.
GND	Ground	The com port of peripheral.
Alarm	Alarm in/ out	Connect to alarm out and alarm in devices.
RS232	RS 232 port	Connect to RS 232 peripheral.
RS485	RS 485 port	Connect to the external devices with PTZ function.
PWR	Power indicator light	When the power is normal, the red light is on.
RESET	Reset button (RESET)	The configuration resumes to the factory settings after you press the reset button for 5s. The default value of IP is 192.168.0.121.
LAN	Network interface	Connect to the standard Ethernet cable.
+ -	DC 12V Power interface	Connect to the 12 V DC power supply. + is DC 12V+, - is DC 12V-.
SD CARD	SD card slot	Insert the SD card to save the video recording.
	Ground	GND
FOCUS	Focus port	Connect to focus control cable of motorized lens.
Zoom	Zoom port	Connect to zoom control cable of motorized lens.

2 Quick Configuration

2.1 Login and Logout



CAUTION

To access the web interface through Microsoft Edge browser (IE Mode); Otherwise some functions may be unavailable.

Login system

Step 1 Open the Microsoft Edge, enter the IP address of IP camera (default value: 192.168.0.121) in the address box, and press Enter.

The login page is displayed, as shown in Figure 2-1.

Figure 2-1 Login Page

IP CAMERA

English ▾

User Name

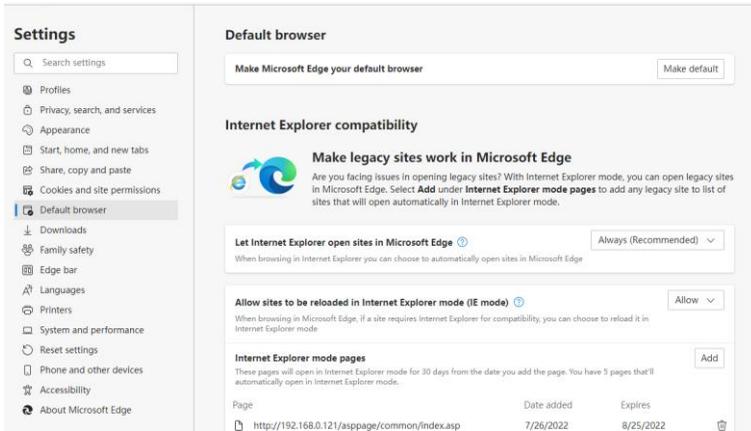
Password

Step 2 Input the User and password.

 **NOTE**

Access the web at Edge browser which the mode should switch to **Reload in Internet Explorer mode**. At browser “Setting > Default browser” page, **Let Internet Explorer open sites in Microsoft Edge** choose “Always (Recommended)”; **Allow sites to be reloaded in Internet Explorer mode (IE mode)** choose “Allow”.

Figure 2-2 Internet Explorer Compatibility



The default name and password are both admin. Modify the password when you login the system for first time to ensure system security.

After modifying password, you need to wait at least three minutes then power off to make sure modifying successfully . Or login the Web again to test the new password.

You can change the system display language on the login page.

Step 3 Click Login arrow to enter main interface.

----End

Logout

Click  in the top right to back to Web Login.

2.2 Main Page layout

On the main page, you can view live video. Parameter setting, Video control, PTZ control, PTZ Configuration, Web login and logout can be performed by PC set parameter, Video parameter, Video control, and logout of the system. The main page layout shown in Figure 2-3. For more details, please refer to Table 2-1.

Figure 2-3 Main Page Layout

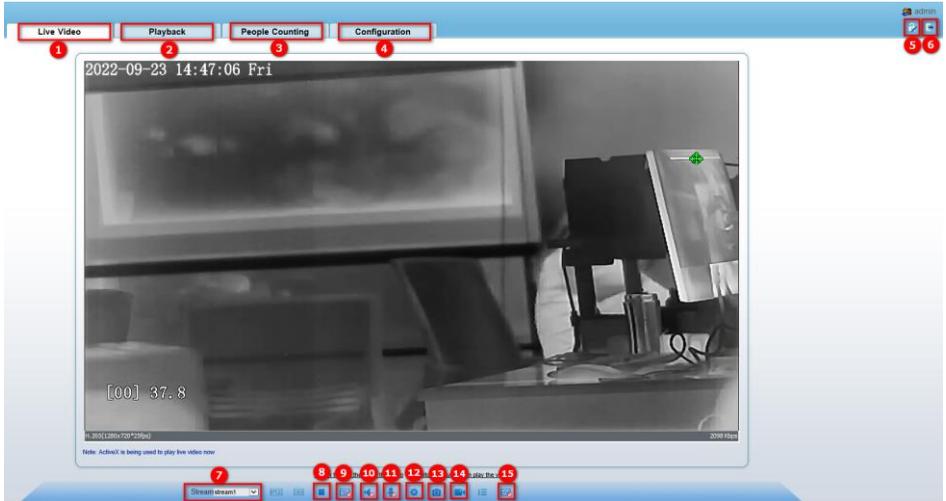


Table 2-1 Functions on the Main Page

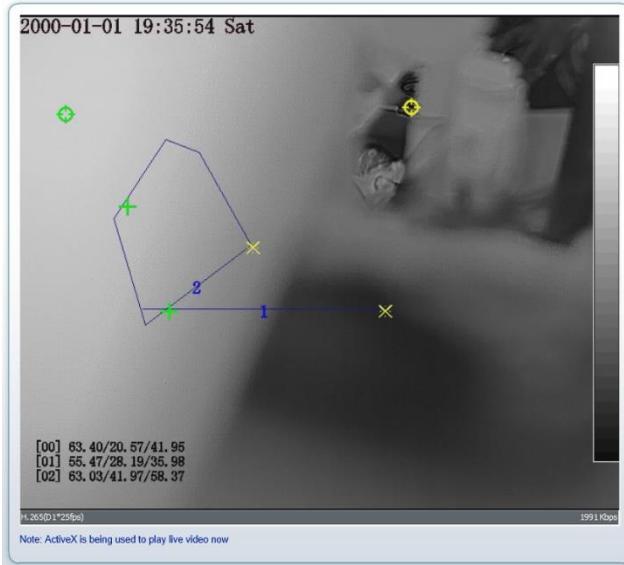
No.	Function	Description
1	Live video	Real-time videos are played in this area. You can also set sensor parameters.
2	Playback	You can query the playback videos in this area.  NOTE The playback can only be viewed when there is video in SD card.
3	People counting	Count the number of people passing through the area, the statistic can be shown by line chart, histogram and list, as shown in Figure 2-5.
4	Device configuration	You can choose a menu to set device parameters, including the device information, audio and video streams, alarm setting, and privacy mask function.
5	Change password	You can click  to change the password.
6	Sign Out	You can click  to return to the login page.
7	Stream	There are two streams. Choose one type from drop-down

No.	Function	Description
		list.
8	Pause/Start	Click to pause or play live video.
9	Live/Smooth	Switch image quality.
10	Audio	Open or close audio.
11	Interphone	Open or close interphone.
12	Image Settings	Click to set image settings, the detail information please refer to <i>Chapter 4</i> .
13	Snapshot	Click for capturing the image.
14	Local record	Click the icon, it will record video and save.
15	Intelligent analysis	Click to start intelligent analysis, action track will appear. Select stream 2 to view, it will show target information and video stream draw line.

**NOTE**

1. When the device generates an alarm, the alarm icon  is displayed. You can click  to view the alarm information. When the device accepts an alarm signal, the alarm icon will display within 10s in the web management system.
2. When the device encounters an exception, the fault icon  is displayed. You can click  to view the fault information.
3. PTZ function can only be used for connecting to pan & tilt device.

Figure 2-4 The Icon



: The lowest temperature of the full screen.



: The highest temperature of the full screen.

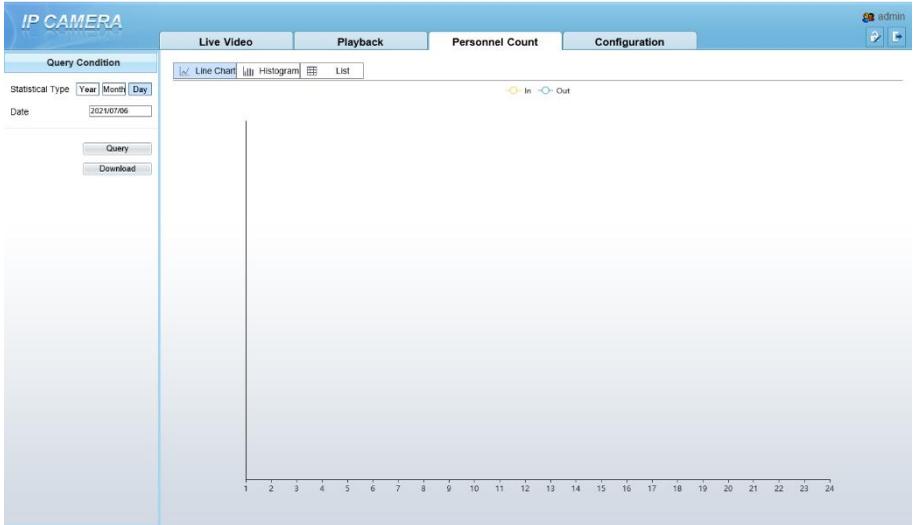


: The lowest temperature of the area.



: The highest temperature of the area.

Figure 2-5 People Counting Interface



User can choose the querying mode (year, month, day).
The data can be viewed directly, or downloaded them.
The statistic can be showed by line chart, histogram, list.
----End

----End

2.3 Change the Password

Description

You can click  to change the current login password.

Procedure

Step 1 Click  in the upper right corner of the main page.

The **Change Password** dialog box is displayed, as shown in Figure 2-6.

Figure 2-6 Change Password Dialog Box

Change Password

Old Password

New Password

Confirm

Password Advice:

1. Advice the password length of eight characters.
2. Advice the password includes numbers, capital letters, lowercase letters and special characters.
3. Advice the password can not be the same as username.

OK Cancel

**NOTE**

The change password page will be displayed if you don't change the default password when you log into the system for the first time. User need to wait at least three minutes after changing password, and then restart the device. The password incorrect more than 3 times, please login again after 5 minutes.

Step 2 Input the old password, new password, and confirmation password.

Step 3 Click **OK**.

If the message "Change own password success" is displayed, the password is successfully changed. If the password fails to be changed, the advice is displayed. (For example, the new password length couldn't be less than eight.)

Step 4 Click **OK**. Back to Web Login.

---End

2.4 Viewing Video

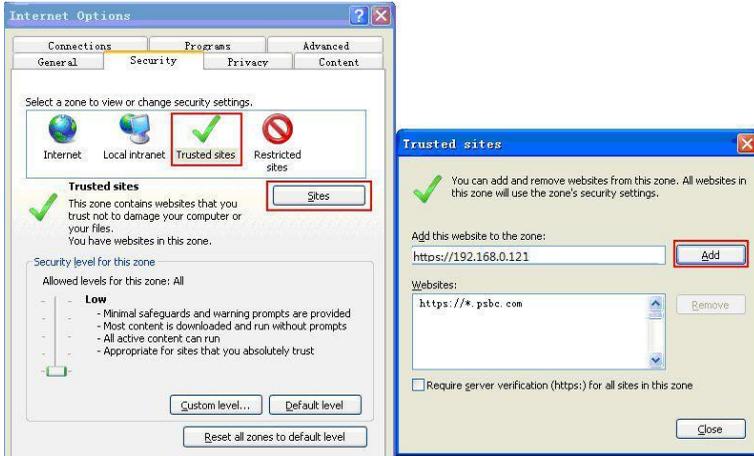
User can browse the live video in the web management system.

Preparation

To ensure the real-time video can be play properly, you must perform the following operation when you log into the web for the first time:

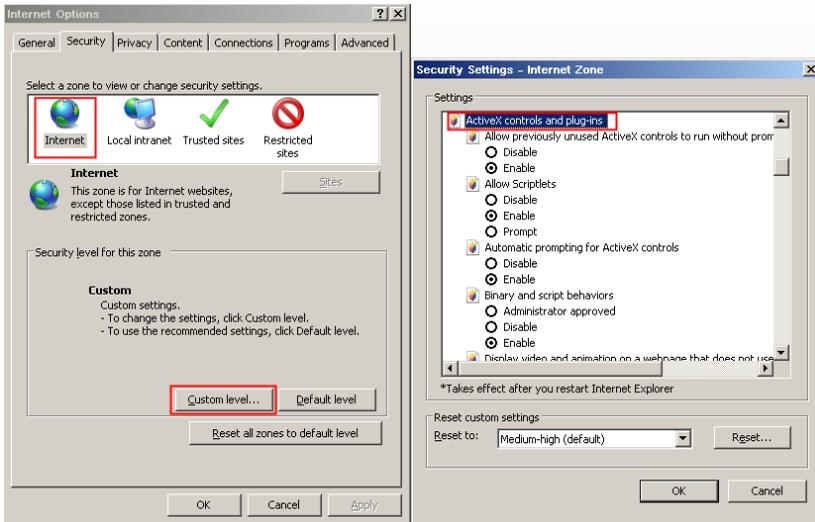
Step 1 In Microsoft Edge, Choose **Control Panel > Internet options > Security > Trusted sites > Sites**. In the display dialog box, click **Add**, as shown in Figure 2-7.

Figure 2-7 Add a Trusted Site



Step 2 In Microsoft Edge, choose Control Panel > Internet Options > Security > Custom Level, and set “Download unsigned ActiveX control” and “Initialize and script ActiveX controls not marked as safe for scripting” under “ActiveX controls and plug-ins” as “Enable” Figure 2-8.

Figure 2-8 Configuring ActiveX Control and Plug-ins



Step 3 Download and install the player control as prompted.

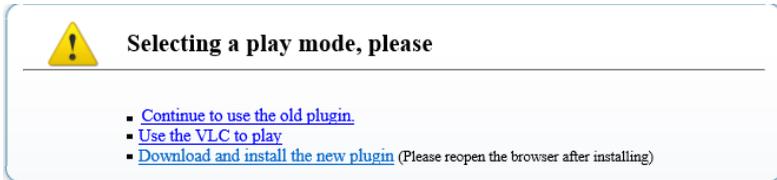
**NOTE**

The login page is displaying when the control is loaded.

2.4.1 Install Plugins

As shown in Figure 2-9, “Download and install the new plugin” pops up when you log in to the web management system for the first time.

Figure 2-9 Install Plugin



Procedure

Step 2 Click the message, download and install the plugin following the prompts.

Step 3 During installing, the browser is closed.

Step 4 Reopen the browser to log in after installation.

---End

2.5 Setting Local Network Parameters

Description

Local network parameters include:

IP protocol

IP address

Subnet mask

Default gateway

Dynamic Host Configuration Protocol (DHCP)

Preferred Domain Name System (DNS) server

Alternate DNS server

MTU

Procedure

Step 1 Choose Configuration > Device >Local Network.

The **Local Network** page is displayed, as shown in Figure 2-10.

Figure 2-10 Local Network Page

Local Network

Network Card ID: 1

IP Protocol: IPv4

DHCP: OFF

IP Address: 192.168.0.121

Subnet Mask: 255.255.0.0

Default Gateway: 192.168.0.1

Preferred DNS Server: 192.168.0.1

Alternate DNS Server: 192.168.0.2

MTU(1280-1500): 1500

Refresh Apply

Step 2 Set the parameters according to Table 2-2.

Table 2-2 Local Network Parameters

Parameter	Description	Setting
Network Card ID	For this model, the Network card ID only 1 can be chosen.	--
IP Protocol	IPv4 is the Internet Protocol which adopts a 32-bit address. IPv6 is the Internet Protocol which adopts a 128 bits address.	[Setting method] Select a value from the drop-down list box. [Default value] IPv4

Parameter	Description	Setting
DHCP	The device automatically obtains the IP address from the DHCP server.	[Setting method] Click the option button. NOTE To query the current IP address of the device, you must query it on the platform based on the device name.
DHCP IP	IP address that the DHCP server assigned to the device.	DHCP function is enabled.
IP Address	Device IP address that can be set as required.	[Setting method] Enter a value manually. [Default value] 192.168.0.121
Subnet Mask	Subnet mask of the network adapter.	[Setting method] Enter a value manually. [Default value] 255.255.255.0
Default Gateway	This parameter must be set if the client accesses the device through a gateway.	[Setting method] Enter a value manually. [Default value] 192.168.0.1
Preferred DNS Server	IP address of a DNS server.	[Setting method] Enter a value manually. [Default value] 192.168.0.1
Alternate DNS Server	IP address of a domain server. If the preferred DNS server is faulty, the device uses the alternate DNS server to resolve domain names.	[Setting method] Enter a value manually. [Default value] 192.168.0.2

Parameter	Description	Setting
MTU	Set the maximum value of network transmission data packets.	[Setting method] Enter a value manually. NOTE The MTU value is range from 1280 to 1500, the default value is 1500, Please do not change it arbitrarily.

Step 3 Click **OK**.

If the message "Apply success" is displayed, click **OK**. The system saves the settings. The message "Set network param's success, please login system again" is displayed. Use the new IP address to log in to the web management system.

If the message "Invalid IP Address", "Invalid Subnet Mask", "Invalid default gateway", "Invalid primary DNS", or "Invalid space DNS" is displayed, set the parameters correctly.

 **NOTE**

If you set only the **Subnet Mask, Default Gateway, Preferred DNS Server, and Alternate DNS Server** parameters, you do not need to login to the system again.

You can click Reset to set the parameters again if required.

----End

3 Thermal Settings

3.1 Temperature Parameters

Temperature parameters include temperature unit, ambient temperature, cavity temperature, correctional coefficient, area temperature display mode, area temperature type, measure mode, area alarm interval and so on.



NOTE

The temperature and length unit are used for all parameters which occur at the software.

The Open Temperature Measure should be enable in advance, if not there are no temperature showing on screen, and the alarms settings are invalid.

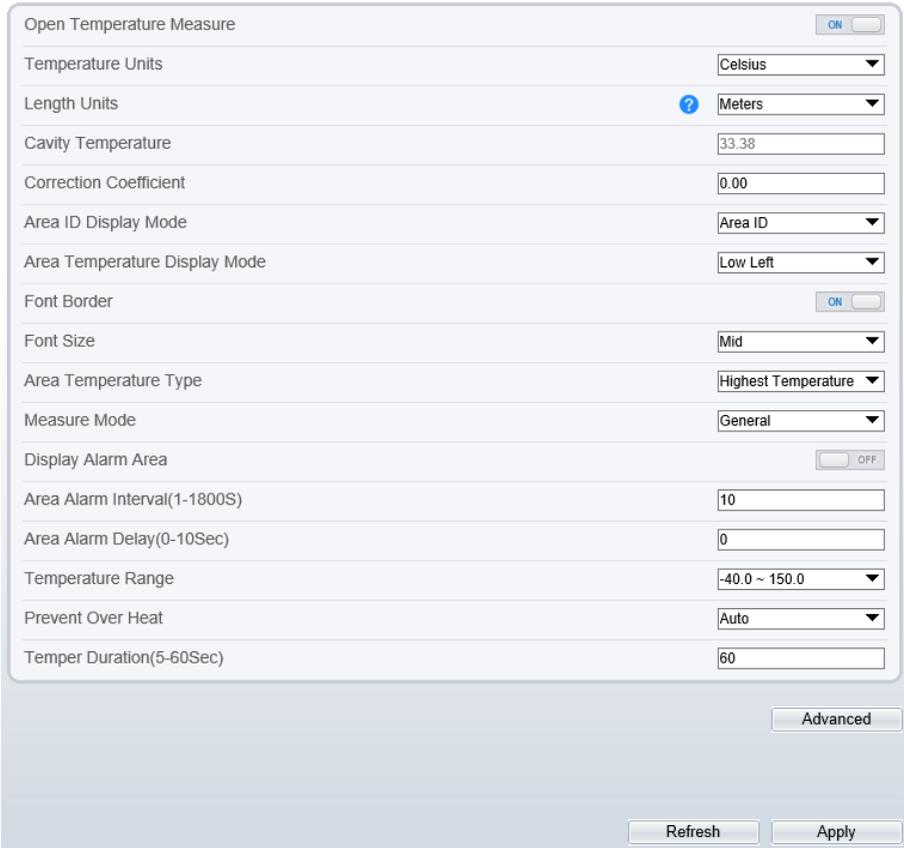
Procedure

Step 1 Choose **Configuration >Thermal >Temperature Parameters**.

The **Temperature Parameters** page is displayed, as shown in Figure 3-1.

Figure 3-1 Temperature Parameters Interface

 Temperature Parameters



The screenshot shows a configuration window titled "Temperature Parameters". It contains the following settings:

- Open Temperature Measure: ON
- Temperature Units: Celsius
- Length Units:  Meters
- Cavity Temperature: 33.38
- Correction Coefficient: 0.00
- Area ID Display Mode: Area ID
- Area Temperature Display Mode: Low Left
- Font Border: ON
- Font Size: Mid
- Area Temperature Type: Highest Temperature
- Measure Mode: General
- Display Alarm Area: OFF
- Area Alarm Interval(1-1800S): 10
- Area Alarm Delay(0-10Sec): 0
- Temperature Range: -40.0 ~ 150.0
- Prevent Over Heat: Auto
- Temper Duration(5-60Sec): 60

Buttons: Refresh, Apply, Advanced

Step 2 Set the parameters according to Table 3-1.

Table 3-1 Temperature Parameters

Parameter	Description	Setting
Open Temperature Measure	Enable to open temperature measuring.	[Default value] Enable

Parameter	Description	Setting
Temperature Unit	Celsius and Fahrenheit temperature units are available.	[Setting method] Select a value from the drop-down list box. [Default value] Celsius
Length Units	Meters and feet length units are available.	[Setting method] Select a value from the drop-down list box. [Default value] Meters
Cavity Temperature	The cavity temperature of camera.	N/A
Correction Coefficient	Correction coefficient is refer to the deviation of measured object temperature and actual temperature, is offset value. For example: 1. The measured object temperature is 36.0, and actual temperature is 36.5, so the correction coefficient should be 0.5. 2. The measured object temperature is 37.3, and actual temperature is 36.5, so the correction coefficient should be - 0.8. NOTE User should contact the technical support staff of our company at this condition to make sure to apply	[Setting method] Enter a value manually. [Default value] 0.00
Area ID Display Mode	Area ID or Area name can be chosen.	[Setting method] Select a value from the drop-down list box. [Default value] Area ID

Parameter	Description	Setting
Area Temperature Display Mode	The display position of temperature information on the live-video image.	[Setting method] Select a value from the drop-down list box. [Default value] Low left
Font Border	Enable to bold the font	[Setting method] Enable or disable [Default value] ON
Font Size	Enable to choose the size of font.	[Setting method] Enable or disable [Default value] Mid
Area Temperature Type	There are three types of area temperature.	[Setting method] Select a value from the drop-down list box. [Default value] Highest Temperature
Measure Mode	There are two types of measure modes.	[Setting method] Select a value from the drop-down list box. [Default value] General
Display Alarm Area	N/A	[Setting method] Enable or disable [Default value] Disable
Area Alarm Interval (1-1800S)	N/A	[Setting method] Enter a value manually ranges from 1 to 1800. [Default value] 10

Parameter	Description	Setting
Area Alarm Delay (1-10 s)	When the area detects alarm actions, it will delay for the setting time. The default value is 0.	[Setting method] Enter a value manually ranges from 0 to 10. [Default value] 0
Temperature range	It depends on the device. Different devices have different modes, there are two ranges, such as -20 °C -150°C, -40 °C-150°C, the thermal imaging box network camera is -40 °C-150°C.	[Setting method] Select a value from the drop-down list box.
Prevent Over Heat	Open, if temperature of the testing area is too high, you can enable prevent over heat function, there are two types, manual and auto. The auto mode is advised.	[Setting method] Select a value from the drop-down list box.
Temper Duration(5-60 S)	Prevent over heat' mode is auto, the control cover will block for duration time automatically if over heat.	[Setting method] Enter a value manually ranges from 5 to 60.
Control Cover	It is professional operation. When prevent over heat mode is manual, the users should choose the action manually, such as pick up, lay down.	[Setting method] Select a value from the drop-down list box.

Figure 3-2 Advanced Interface

The screenshot shows a light blue interface with three rows of settings, each with a label on the left and a dropdown menu on the right:

- Dimming Mode: Auto
- Raw Data Upload Interval(F/S): 1
- Mix Stream Mode: Close

At the bottom right, there are two buttons: "Refresh" and "Apply".

Table 3-2 Advanced Parameters

Parameter	Description	Setting
Dimming Mode	There are auto and manual modes. Auto Mode: Assign temperature highlight based on ambient temperature. Manual mode: Manually input the temperature range, and the temperature highlight display will be assigned according to the input range.	[Setting method] Select a value from the drop-down list box. [Default value] Auto
Raw Data Upload Interval(F/S)	Interval of Uploading the raw data.	[Setting method] Select a value from the drop-down list box. [Default value] 1
Mix Stream Mode	This function is used for thermal and visible image to mix. There are close, mode 1 and mode 2. If the device only has the thermal channel, the function will be closed.	[Default value] Close

---End

3.2 Ambient Temperature

Figure 3-3 Ambient Temperature

Ambient Temperature

Ambient Temperature
 °C

Adaptation Environment Temperature
 °C

Refresh
Apply

Table 3-3 Parameter of Ambient Temperature

Parameter	Description	Setting
Ambient Temperature	Environment temperature of camera.	[Setting method] Enter the temperature of ambient. [Default value] 25
Adaptation environment temperature	Set the ambient temperature, click “Apply” ,click “Refresh” ,the camera will get the value automatically.	---

---End

3.3 Temperature Alarm

Description

At temperature alarm interface, you can set the area to deploy, and enable the linkage alarm action. The linkage action you should to jump to set.

There are up to twenty areas can be set, every is independence, so users should configure them one by one.

Operation Procedure

Step 1 Choose **Configuration > Thermal > Temperature Alarm**.

The Temperature Alarm page is displayed, as shown in Figure 3-4.

Figure 3-4 Temperature Alarm Configuration

Alarm Configuration

Channel 1
Measure Mode General



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[00] 39.5

- + 6



[#] [Z] [O] [A] [E]

Enable	ID	Name	Type	Alarm Type	Warning Value	Alarm Value	Maximum Alarm Value	Duration(1-1)
<input checked="" type="checkbox"/>	0	Area0	Rectangle	Threshold Alarm	48.00	50.00	60.00	1.00
<input type="checkbox"/>	1	Area1	Line	Threshold Alarm	48.00	50.00	60.00	1.00
<input type="checkbox"/>	2	Area2	Polygon	Threshold Alarm	48.00	50.00	60.00	1.00
<input type="checkbox"/>	3	Area3	Point	Threshold Alarm	48.00	50.00	60.00	1.00
<input type="checkbox"/>	4	Area4	Point	Threshold Alarm	48.00	50.00	60.00	1.00
<input type="checkbox"/>	5	Area5	Point	Threshold Alarm	48.00	50.00	60.00	1.00
<input type="checkbox"/>	6	Area6	Point	Threshold Alarm	48.00	50.00	60.00	1.00
<input type="checkbox"/>	7	Area7	Point	Threshold Alarm	48.00	50.00	60.00	1.00

Refresh
Apply

Step 2 Set the parameters according to Table 3-4.

Table 3-4 Temperature Alarm Configuration

Parameter	Description	Setting
Channel	N/A	[Setting method] Select a value from the drop-down list box. [Default value] 1

Parameter	Description	Setting
Measure Mode	Set at temperature parameter interface.	N/A
Enable	Tick to enable the temperature alarm	N/A
ID	The areas ID, there are 20 IDs	N/A
Name	Name of temperature area, you can edit it yourself.	[Setting method] Enter a value manually.
Type	Type of temperature area. ID 0 is default rectangle area, which is full screen.	[Setting method] Select a value from the drop-down list box. [Default value] Rectangle/Point
Alarm Type	Threshold alarm, temperature difference alarm, section alarm, temperature rise alarm are available for alarm type. Section Alarm: if the temperature value is among the set temperature range, it will generate the alarm. Temperature rise alarm means it the rising temperature value is more than the set value, it will generate the alarm.	[Setting method] Select a value from the drop-down list box. [Default value] Threshold alarm
Warning Value	Camera will trigger warning alarm when the object temperature reaches the warning value.	[Setting method] Enter a value manually. [Default value] 48
Alarm Value	Camera will alarm when the object temperature reaches the alarm value.	[Setting method] Enter a value manually. [Default value] 50

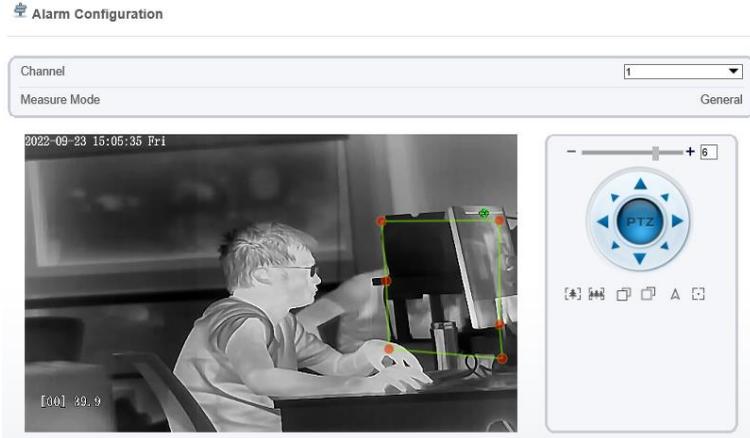
Parameter	Description	Setting
Maximum Alarm Value	At section alarm type, the device would not alarm when the temperature is higher than maximum alarm value.	[Setting method] Enter a value manually. [Default value] 60.00
Emission Rate	The emission rate is the capability of an object to emit or absorb energy. The emission rate should be set only when the target is special material. The emission rate list refers to	[Setting method] Enter a value manually. [Default value] 0.95
Distance(M)	The distance between camera and target.	[Setting method] Enter a value manually. [Default value] 15  NOTE Enter actual distance when the distance between camera and target is less than 15m. Enter 15 when the distance between camera and target is great than or equal to 15m.
Alarm	Enable or disable the alarm output and linkage of area.	[Setting method] Tick the alarm output channel .

Parameter	Description	Setting
Group ID	<p>The ID can be chosen into one of six groups, or no group. The group will be alarm following as the next rules:</p> <p>A=The highest temperature of groups (the highest temperature of N regions is the largest)</p> <p>B=Average temperature of groups (average temperature of N regions)</p> <p>WA=Warning value</p> <p>AA=Alarm value</p> <p>a. If $A-B \geq WA$, a temperature difference warning signal is generated ---> (the one with the largest difference between the N areas and the average temperature is the alarm area flashing)</p> <p>b. If $A-B \geq AA$, a temperature difference alarm signal is generated ---> (the one with the largest difference between the N areas and the average temperature is the alarm area flashing)</p> <p>c. If the warning and alarm conditions are met at the same time, the alarm signal will be generated first.</p>	<p>[Setting method]</p> <p>Select a value from the drop-down list box.</p>

Step 3 Set temperature area.

1. Tick an area ID.
2. Press and hold the left mouse button, and drag in the video area to draw a temperature area, as shown in Figure 3-5. Right-click to finish the area selected.

Figure 3-5 Temperature Alarm Area Interface



3. Click **Apply**, the message “Apply success” is displayed, the temperature area is set successfully.

 **NOTE**

ID 0 is the full screen; The area cannot be changed.

Delete a temperature area:

1. Select an area ID.
2. Click the temperature area and right-click.
3. Remove the tick of area ID.
4. Click **Apply**, the message “Apply success” is displayed, the temperature area is deleted successfully.

Step 4 Click **Apply**.

Step 5 The message "Apply success" is displayed, the system saves the settings.

---End

3.4 Privacy Zone Masking

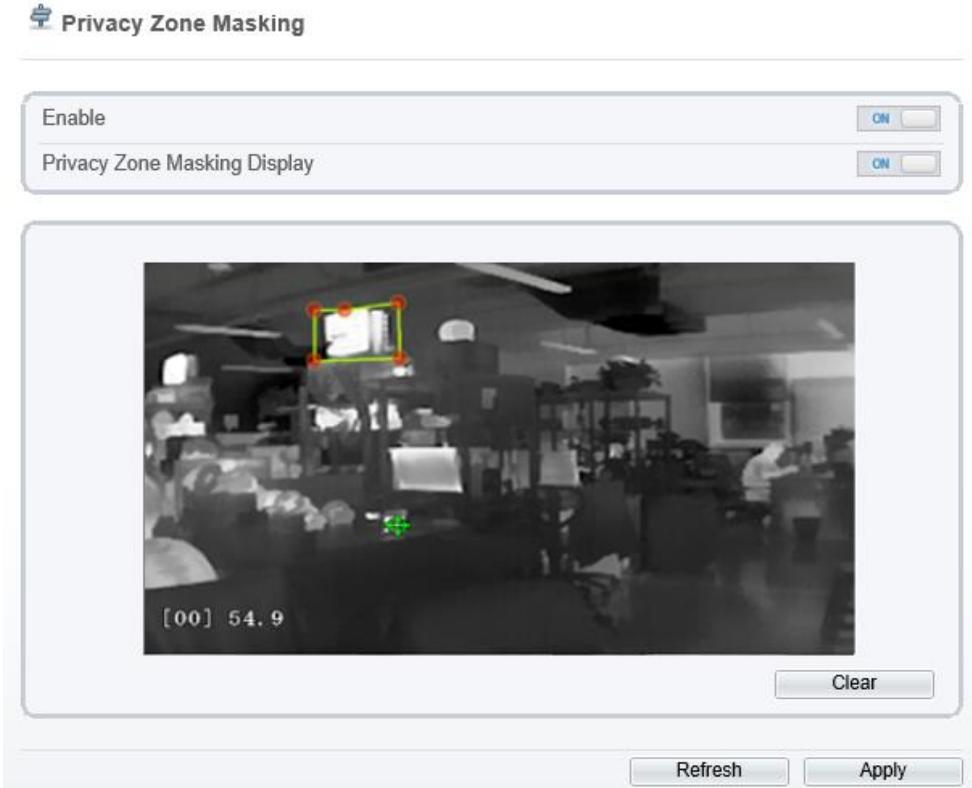
Description

Privacy zone masking is meaning that the camera will do not detect the temperature of that area. The shield areas can be set up to four areas.

Operation Procedure

Step 1 Choose Configuration > Thermal > Privacy Zone Masking.

Figure 3-6 Privacy Zone Masking



Step 2 Enable the Privacy Zone Masking.

Step 3 Enable **Show Privacy Zone Masking**, then the setting shield will show on live video.

Step 4 Left click to Select polygon area, right click to save.

Step 5 Click **Apply** to save the settings.

Step 6 Click **Clear** to clear the shield area.

----End

3.5 Schedule Linkage

Description

The schedule linkages include threshold alarm, threshold warning, temperature difference alarm, temperature difference warning, temperature section alarm, temperature rise alarm and temperature rise warning.

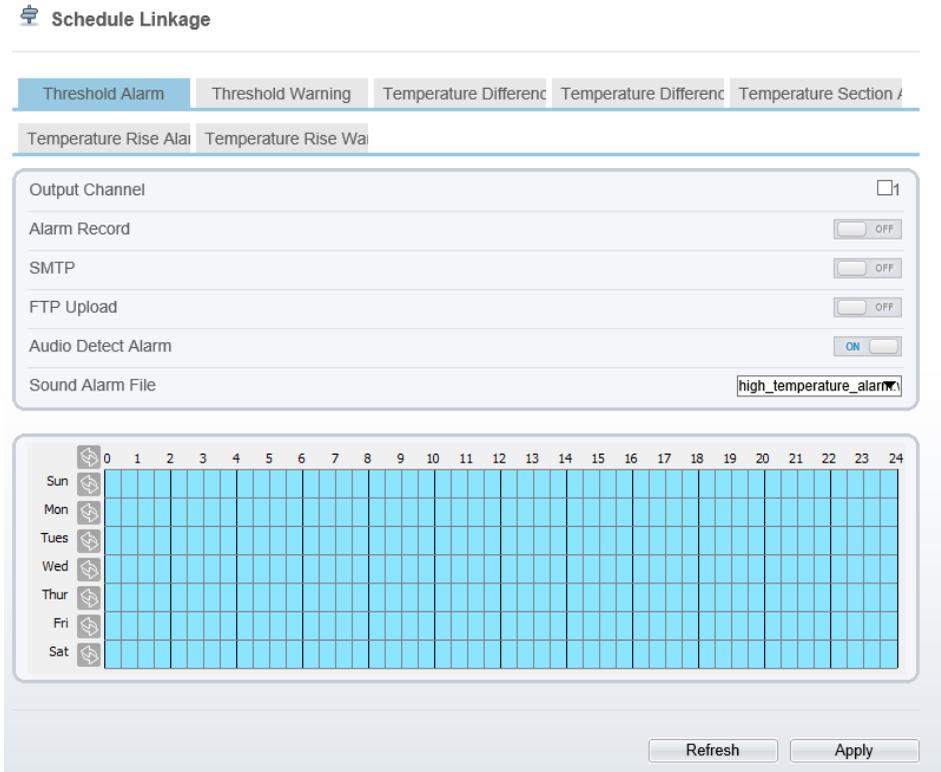
The linkage actions include output channel, alarm record, SMTP, FTP upload and audio detect alarm.

Operation Procedure

Step 1 Choose Configuration > Thermal > Schedule Linkage.

The **Schedule Linkage** page is displayed, as shown in Figure 3-7. Tick the output channel if user connects the external alarm device. It can also enable alarm record, SMTP, FTP upload and audio alarm.

Figure 3-7 Schedule Linkage



Step 2 Tick the output channel. Enable alarm record, SMTP, FTP upload, and audible alarm.

Step 3 Set schedule linkage.

Method 1: Click left mouse button to select any time point within 0:00-24:00 from Monday to Sunday as shown in Figure 3-7.

Method 2: Hold down the left mouse button, drag and release mouse to select the alarm time within 0:00-24:00 from Monday to Sunday.

NOTE

When you select time by dragging the cursor, the cursor cannot be moved out of the time area. Otherwise, no time can be selected.

Method 3: Click  in the alarm time page to select the whole day or whole week.

Deleting alarm time: Click  again or inverse selection to delete the selected alarm time.

Step 4 Click **Apply**.

Step 5 The message "Apply success" is displayed, the system saves the settings.

Step 6 There are four types schedule linkage to set, like threshold alarm, threshold warning, temperature difference alarm and temperature difference warning.

NOTE

Alarm output: Users should connect the external alarm device (such as siren) to alarm output cables. The parameter can be set at “ Configuration > Alarm > Alarm Output” interface, as shown in Figure 3-8.

Figure 3-8 Alarm Output

 Alarm Output

Alarm Output	1
Name	
Valid Signal	Close
Alarm Output Mode	Switch Mode
Alarm Time(ms)(0: Continuous)	0

Timing Alarm Output OFF

Manual control

Table 3-5 Alarm Output Parameters

Parameter	Description	Setting
Alarm Output	ID of the alarm output channel. NOTE The number of alarm output channels depends on the device model.	[Setting method] Select a value from the drop-down list box. [Default value] 1
Name	Alarm output channel name.	[Value range] 0 to 32 bytes
Valid Signal	The options are as follows: Close: An alarm is generated when an external alarm signal is received. Open: An alarm is generated when no external alarm signal is received.	[Setting method] Select a value from the drop-down list box. [Default value] Close
Alarm Output Mode	When the device receives I/O alarm signals, the device sends the alarm information to an external alarm device in the mode specified by this parameter. The options include the switch mode and pulse mode. NOTE If the switch mode is used, the alarm frequency of the device must be the same as that of the external alarm device. If the pulse mode is used, the alarm frequency of the external alarm device can be configured.	[Setting method] Select a value from the drop-down list box. [Default value] Switch Mode
Alarm Time (ms) (0: Continuous)	Alarm output duration. The value 0 indicates that the alarm remains valid.	[Setting method] Enter a value manually. [Default value] 0 [Value range] 0 to 86400 seconds

Parameter	Description	Setting
Timing Alarm Output	Enable timing alarm output, set the schedule to time alarm.	[Setting method] Enable [Default value] OFF
Manual Control	Control the alarm output.	N/A

Alarm Record: Users insert the SD card in camera. The recording time is set at “**Configuration > Device Record > Record Policy**” interface.

SMTP: At “**Configuration > Network > SMTP**” interface, users should set the parameters of SMTP in advance, as shown in Figure 3-9.

Figure 3-9 SMTP

SMTP

The screenshot shows the SMTP configuration interface with the following fields and controls:

- SMTP Server Address: Text input field with a red asterisk.
- SMTP Server Port: Text input field with a red asterisk, containing the value "25".
- User Name: Text input field with a red asterisk.
- Password: Text input field with a red asterisk.
- Send anonymously: Check box, currently unchecked.
- Sender E-mail Address: Text input field with a red asterisk.
- Recipient_E-mail_Address1: Text input field with a red asterisk.
- Recipient_E-mail_Address2: Text input field.
- Recipient_E-mail_Address3: Text input field.
- Recipient_E-mail_Address4: Text input field.
- Recipient_E-mail_Address5: Text input field.
- Transport Mode: Dropdown menu with "No Encrypt" selected.
- Send Interval(0-60S): Text input field with the value "0".
- Email Test: Button.
- Refresh: Button.
- Apply: Button.

Table 3-6 SMTP Parameters

Parameter	Description	Setting
SMTP Server Address	IP address of the SMTP server.	[Setting method] Enter a value manually.

Parameter	Description	Setting
SMTP Server Port	Port number of the SMTP server.	[Setting method] Enter a value manually. [Default value] 25
User Name	User name of the mailbox for sending emails.	[Setting method] Enter a value manually.
Password	Password of the mailbox for sending emails.	[Setting method] Enter a value manually.
Sender E-mail Address	Mailbox for sending emails.	[Setting method] Enter a value manually.
Recipient_E-mail_Address 1	(Mandatory) Email address of recipient 1.	[Setting method] Enter a value manually.
Recipient_E-mail_Address 2	(Optional) Email address of recipient 2.	
Recipient_E-mail_Address 3	(Optional) Email address of recipient 3.	
Recipient_E-mail_Address 4	(Optional) Email address of recipient 4.	
Recipient_E-mail_Address 5	(Optional) Email address of recipient 5.	
Attachment Image Quality	A higher-quality image means more storage space. Set this parameter based on the site requirement.	

Parameter	Description	Setting
Transport Mode	Email encryption mode. Set this parameter based on the encryption modes supported by the SMTP server.	[Setting method] Select a value from the drop-down list box. [Default value] No Encrypted

FTP Upload: At “ **Configuration > Network > FTP Upload**” interface, users should set the parameters of FTP upload in advance, as shown in Figure 3-10.

Figure 3-10 FTP Upload

Table 3-7 FTP Upload Parameters

Parameter	Description	Setting
FTP Upload	Indicates whether to enable the FTP service.	[Setting method] Click the button on. [Default value] OFF
FTP Address	IP address of FTP server.	[Setting method] Enter a value annually.

Parameter	Description	Setting
FTP Port	Port of FTP server.	[Setting method] N/A [Default value] 21
Account	FTP server account.	[Setting method] Enter a value annually.
Password	FTP server Password.	[Setting method] Enter a value annually.
FTP Path	FTP Path to save the JPG image.	[Setting method] Enter a value annually.
Media type	The media type of sending to FTP, snapshot or video clip.	[Setting method] Select a value from the drop-down list box. [Default value] Snapshot

Audible alarm: At “ **Configuration > Alarm > Audible Alarm Output** ” interface, users should set the parameters of Audible Alarm output in advance, as shown in Figure 3-11 .

Figure 3-11 Audible Alarm

 Audible Alarm Output

ID	FileName	Cycle Number	Listen Test	Operate
0	high_temperature_alarm.wav	1		
1	normal_temperature.wav	1		
2	low_temperature_alarm.wav	1		
3	hello_welcome.wav	1		
4	verification_success.wav	1		
5	verification_failed.wav	1		
6	temperature_rise_warning.wav	1		
7	temperature_rise_alarm.wav	1		
8	temperature_range_alarm.wav	1		
9	temperature_diff_alarm.wav	1		
10	temperature_diff_warning.wav	1		
11	high_temperature_warning.wav	1		

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Sun																									
Mon																									
Tues																									
Wed																									
Thur																									
Fri																									
Sat																									

User can set the audio file manually. Click  to upload the audio file(The type should be WAV, size must be less than 250 Kb, the bit rate should be 128 kbps.), as shown in Figure 3-12.

Figure 3-12 Upload Audio file

Upload Audio File
✕

Please select audio file 

----End

3.6 Defect Pixel Correction

Description

The points that can't move when the environment or scenario change is defect pixel. You can correct the these points manually.

Operation Procedure

Step 1 Choose Configuration > Thermal > Defect Pixel Correction.

The Defect Pixel Correction page is displayed, as shown in Figure 3-13.

Figure 3-13 Defect Pixel Correction



Step 2 Click the white points one by one at image, click **Apply** to recover the bad point, as shown in Figure 3-14.

Figure 3-14 Recover Defect Pixel



Step 3 Click **Reset** to return the previous settings.

Step 4 Click **Apply**. The message "Apply success" is displayed, the system saves the settings.

----**End**

3.7 Version Information

Choose **Configuration > Thermal > Version Information**. Users can view the version information as shown in Figure 3-15.

Figure 3-15 Version Information



----End

4 Image Settings

4.1 Image Settings Interface

Operation Procedure

Step 1 On the Microsoft Edge IE mode interface or the client software interface, select and right-click the surveillance image to set, as shown in Figure 4-1.

Figure 4-1 Right-click Configuration

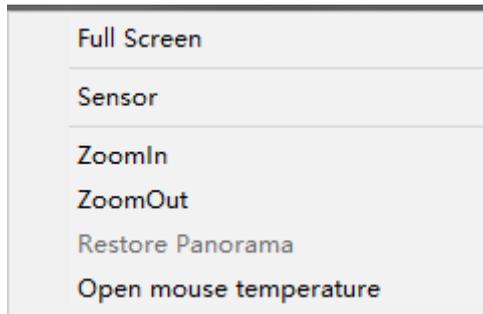
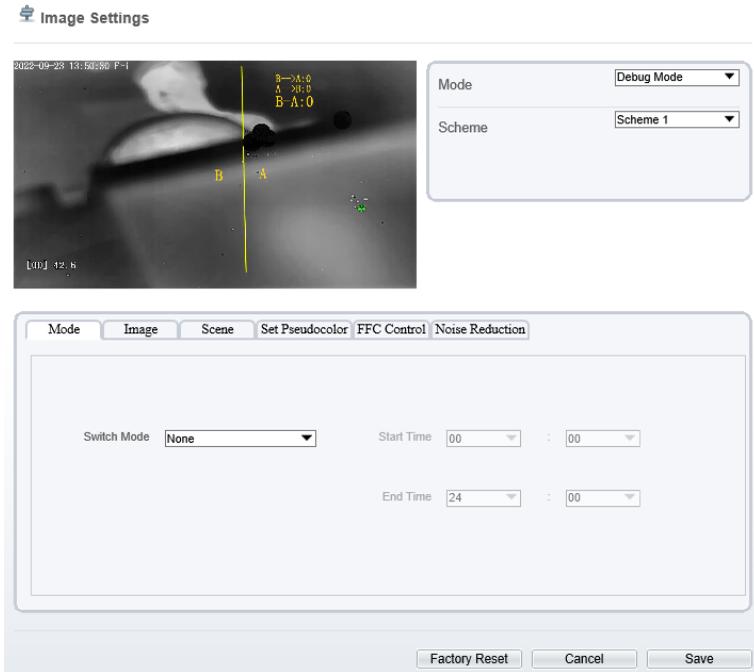


Table 4-1 Parameters of Right-click

parameters	Description
Full screen	Click to display live video full screen.
Image Settings	Enter to adjust image configuration.
Zoom in / zoom out	Click to zoom in or zoom out the image, and the middle mouse button is used to quickly zoom image.
Open mouse temperature	Turn on, the temperature of mouse's location shows on screen.

Or enter “**Configuration > Image Settings**” interface to set, as shown in Figure 4-2.

Figure 4-2 Thermal Channel Image Settings



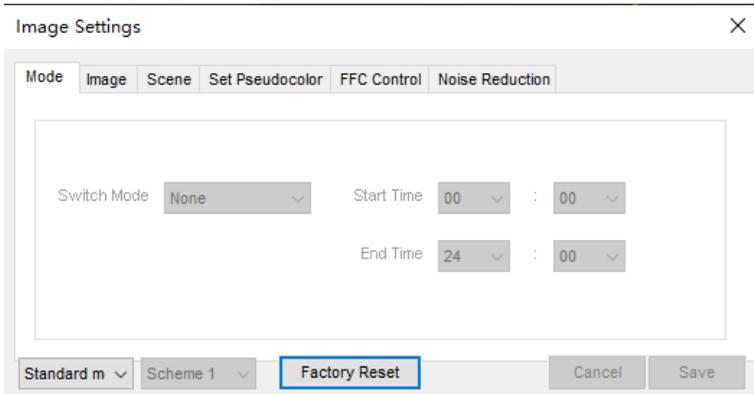
Step 2 Choose **Image Settings**. The dialog box is displayed, as shown in Figure 4-3.

----End

4.2 Mode

Figure 4-3 shows the **Mode** interface.

Figure 4-3 Mode Interface



Operation Procedure

- Step 1 Click **Standard** in the lower left corner of Image Settings, and choose **Debug Mode**.
- Step 2 Choose switch mode form drop-down list.
- Step 3 Set the Start Time.
- Step 4 Set the **End Time**.
- Step 5 Click **Save**, the message "Save succeed" is displayed, the system saves the settings.

----End

4.3 Images

Figure 4-4 shows the **Image** interface.

Figure 4-4 Image Interface



Step 1 Click **Standard** in the lower left corner of Image Settings, and choose **Debug Mode**.

Step 2 Drag the slider to adjust parameter of image.

Brightness: It indicates the total brightness of an image. As the value increases, the image becomes brighter. It ranges from 0 to 100.

Contrast: It indicates the contrast between the bright part and the dark part of an image. As the value increases, the contrast increases. It ranges from 0 to 100.

Sharpness: It indicates the contrast between definition and edge sharpness. The higher value, the higher definition and greater distortion. It ranges from 0 to 100.

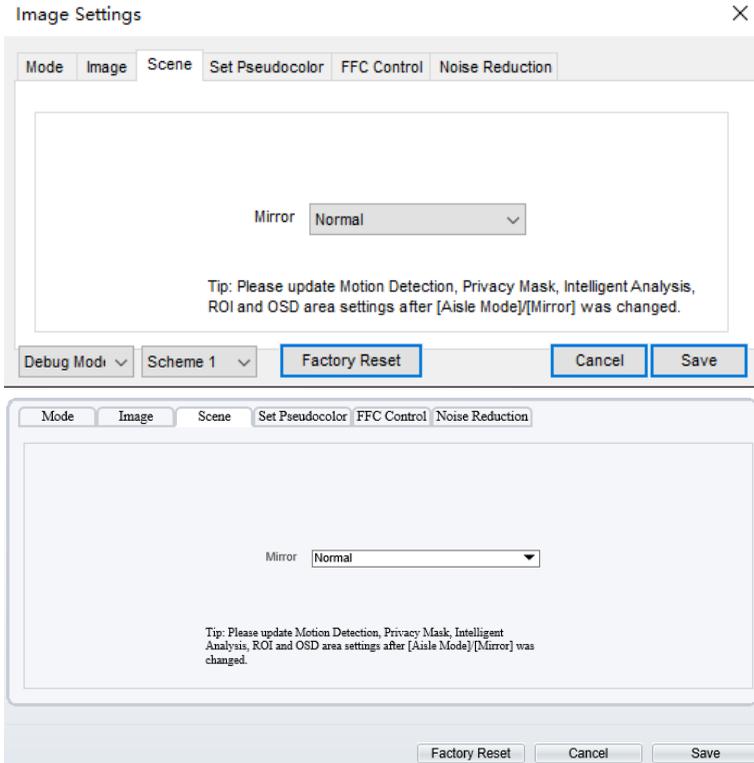
Step 3 Click **Save**, the message "Save succeed" is displayed, the system saves the settings.

---End

4.4 Scene

Figure 4-5 shows the **Scene** interface.

Figure 4-5 Scene Interface



Step 1 Click **Standard** in the lower left corner of Image Settings, and choose Scene

Step 2 Choose mirror mode from drop-list.

Step 3 Click Save, the message "Save succeed" is displayed, the system saves the settings.



NOTE

Mirror providing the selection of image pixel locations.

Normal: the image is not flipped.

Horizontal: the image is flipped left and right.

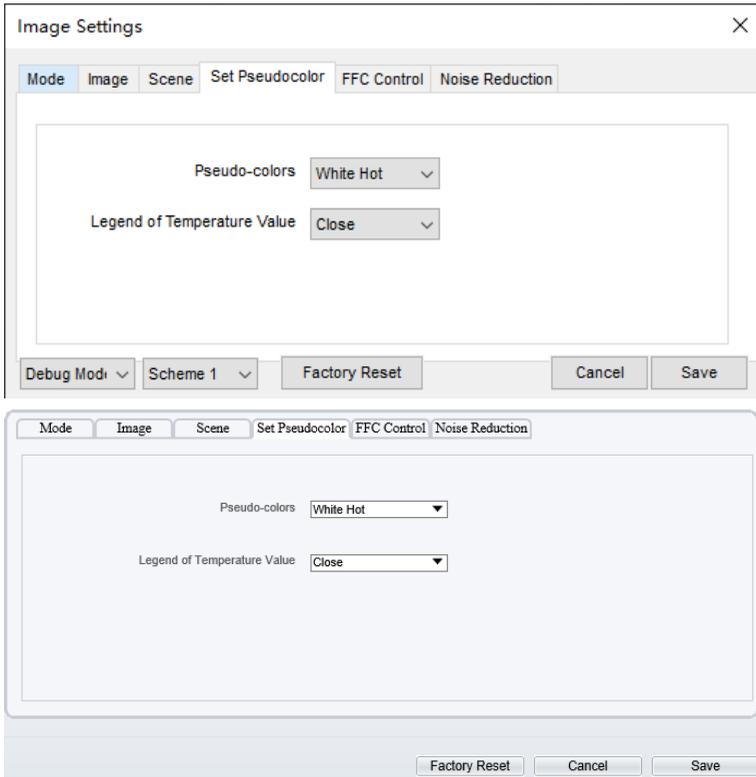
Vertical: the image is flipped up and down.

----End

4.5 Set Pseudocolor

Figure 4-6 shows the **Set Pseudocolor** interface.

Figure 4-6 Pseudocolor Interface



Step 1 Click **Standard** in the lower left corner of Image Settings, and choose **Set Pseudocolor**

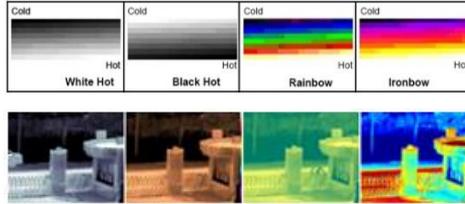
Step 2 Choose Pseudo-colors modes from the drop-down list.

Step 3 Enable or disable the Legend of Temperature Value.

Step 4 Click **Save**, the message "Save succeed" is displayed, the system saves the settings.

 **NOTE**

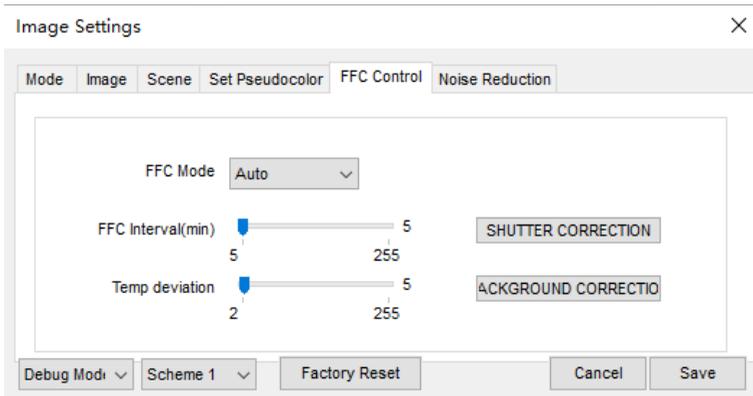
The temperatures of the temperature fields detected by the thermal imaging camera are separately mapped to values ranging from 0 to 255 by the algorithm. In the black/white display mode, this range is converted to the gray scale tones. For example, 0 indicates completely black, and 255 indicates completely white. The temperature field of the scene is converted to images by using the grayscale ranging from 0 to 255. Different polarity modes can be converted to different display images. The most common setting is white hot (a hotter object is displayed brighter than a colder object) or black hot (a hotter object is displayed darker than a colder object). The difference between two modes lies in that the temperatures corresponding to the darker one and the lighter one is reversed. Other modes include rainbow, ironbow, HSV, autumn, bone and so on.



4.6 FFC Control

Figure 4-7 shows the **FFC Control** interface.

Figure 4-7 FFC Control Interface



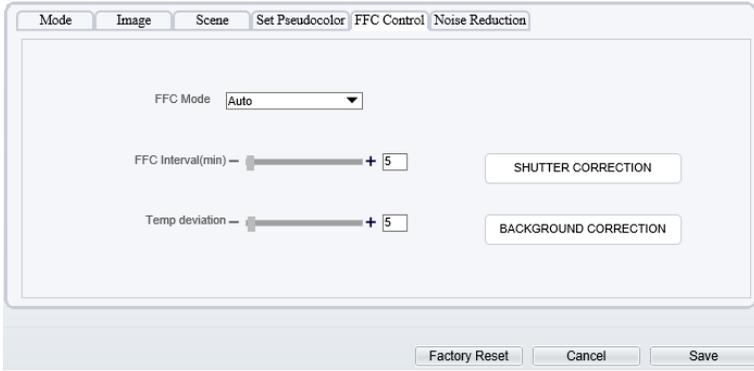


Table 4-2 lists the parameters on the FFC control interface.

Table 4-2 Parameters of FFC Control

Parameter	Description	Setting
FFC Mode	<p>The internal of the thermal imaging camera may comprise the mechanical action correction mechanism that can periodically improve the image quality. This component is called flat field correction (FFC). When controlling the FFC, the FFC shields the sensor array, so that each portion of the sensor can collect uniform temperature fields (flat field). By means of FFC, the camera can update the correction coefficients to output more uniform images. Throughout the FFC process, the video image is frozen for two seconds and a static-frame image is displayed. After the FFC is complete, the image is automatically recovered. Repeated FFC operations can prevent the grainy and image degradation problems. The FFC is especially important when the temperature of the camera changes. For example, after the camera is powered on or the ambient temperature is changed, you should immediately perform the FFC.</p> <p>Auto: In the Automatic FFC mode, the camera performs FFC whenever its temperature changes by a specified amount or at the end of a specified period of time (whichever comes first). When this mode is selected, the FFC interval (minutes) ranges from 5 to 255 minutes. The temperature change of the camera is based on the temperatures</p>	<p>[How to set] Select from the drop-down list box. [Default value] Auto</p>

Parameter	Description	Setting
	<p>collected by the internal temperature probe. The temperature of the camera sharply changes when the camera is powered on. The FFC is relatively frequent, which is normal.</p> <p>Manual: In the manual FFC mode, the camera does not automatically perform the FFC based on the temperature change or the specified period. You can press the Do FFC button to select the manual FFC mode. When you feel that the image is obviously degraded but the automatic FFC is not performed, you can use the manual FFC function to check whether the image quality can be improved.</p>	
FFC interval (min)	In the automatic FFC mode, the FFC interval ranges from 5 to 255 minutes. When the time reach to setting value, the camera does shutter adjust operation automatically.	<p>[How to set] Select by dragging the slider. [Default value] 5</p>
Temp deviation	In the automatic FFC mode, the temp deviation value ranges from 0.2 to 25.5 degree centigrade. When the time reach to setting value, the camera does background adjust operation automatically.	<p>[How to set] Select by dragging the slider. [Default value] 5</p>
SHUTTER CORRECTION	Click the icon and the camera performs the action.	Manually
BACKGROUND CORRECTION	Click the icon and the camera performs the action.	Manually

---End

4.7 Noise Reduction

Figure 4-8 shows the **Noise Reduction** interface.

Figure 4-8 Noise Reduction Interface

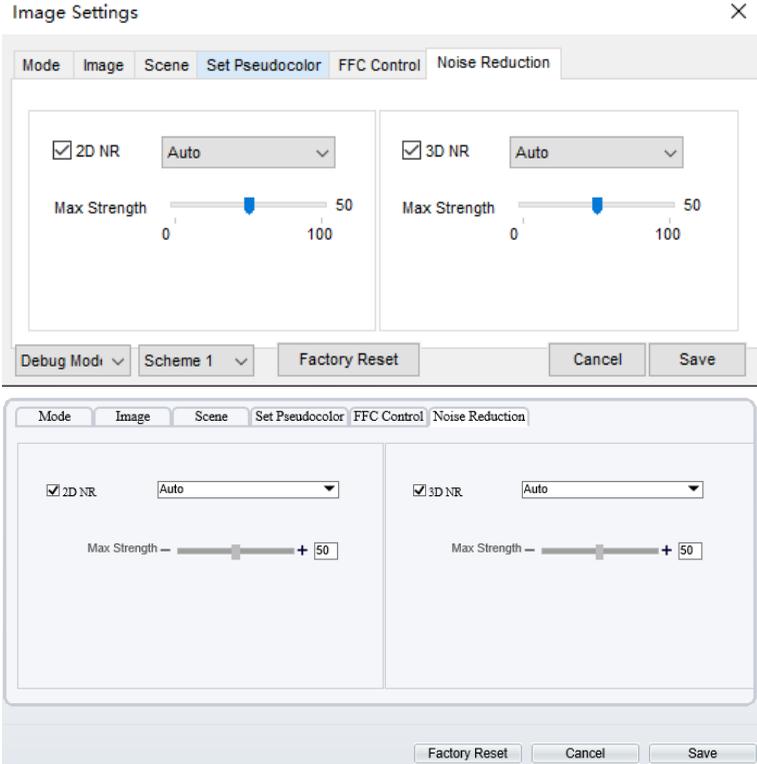


Table 4-3 lists the Noise reduction parameters.

Table 4-3 Parameters of Noise Reduction Interface

Parameter	Description	Setting
2DNR	Decrease the image noise.	[How to set] Select from the drop-down list box. [Default value] Close
3DNR	Decrease the image noise.	[How to set] Select from the drop-down list box. [Default value] Close

----End

5 Intelligent Analysis

5.1 Intrusion

The Intrusion function refers to that an alarm is generated when the targets of specified types (such as person, car, and both person and car) enter the deployment area.

Procedure

Step 1 Select **Intelligent Analysis** > **Intrusion** to access the **Intrusion** interface, as shown in Figure 5-1.

Figure 5-1 Intrusion Setting Interface

The screenshot displays the 'Intrusion' configuration page. At the top left, there is a camera icon and the title 'Intrusion'. The main area is divided into three sections:

- Video Feed:** A live thermal image showing a person in profile. A green rectangular bounding box is drawn around the person. The video timestamp is '2022-09-28 14:31:19 F-1'. A 'Clear' button is located below the video.
- Settings Panel:** A vertical list of configuration options on the right side:
 - Enable:** ON (checked)
 - Sensitivity:** 5 (dropdown menu)
 - Limit Type:** OFF (toggle)
 - Output Channel:** 1 2
 - Audible Alarm:** OFF (toggle)
 - Alarm Record:** OFF (toggle)
 - SMTP:** OFF (toggle)
 - FTP Upload:** OFF (toggle)
- Calendar:** A grid for scheduling intrusion detection. The columns represent hours from 0 to 24, and the rows represent days of the week (Sun, Mon, Tues, Wed, Thur, Fri, Sat). Each cell in the grid contains a camera icon, indicating that intrusion detection is enabled for that specific day and time slot.

At the bottom right of the interface, there are 'Refresh' and 'Apply' buttons.

Step 2 Set all parameters for Intrusion. Table 5-1 describes the specific parameters.

Table 5-1 Parameter of Intrusion

Parameter	Description	Setting
Enable	Enable the button to enable the alarm.	[How to set] Click Enable to enable. [Default value] OFF
Sensitivity	The sensitivity of detecting the target, when the value is high, the target can be detected easily, but the accuracy will be lower.	[How to set] Choose from the drop-down list [Default value] 5
Limit Target Type	Effective alarms are set based on target type, with options of Person or Car, person, car. When the device is used indoors, because of small space and large targets, alarms are triggered by person sometimes even if car is selected, leading to false alarms. It is recommended to set the target type as person for indoor use.	[How to set] Click to enable Limit Target Type. [Default value] OFF
Output Channel	If you check to set the Output Channel and the device is connected to an external alarm indicator, the alarm indicator signals when an alarm is triggered.	[How to set] Click to select an ID.
Audible alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the audible alarm file (set at the “ Configuration > Alarm > Audible Alarm Output ”).	[How to set] Click to enable Audio Detection Alarm [Default value] OFF
Alarm Record	Enable the button to enable the alarm record.	[How to set] Click to enable Alarm Record. [Default value] OFF

Parameter	Description	Setting
SMTP	Enable the button to enable SMTP sever. The parameters of SMTP can be set at Configuration > Network Service > SMTP interface.	[How to set] Click to enable SMTP. [Default value] OFF
FTP Upload	Enable the button to enable File Transfer Protocol. The parameters of FTP can be set at Configuration > Network Service > FTP interface.	[How to set] Click to enable FTP Upload. [Default value] OFF
Video Stream Draw Line	Enable, the deployment frame will show on the live video.	[How to set] Click to enable Video Stream Draw Line. [Default value] OFF

Step 3 Set a deployment area

Move the cursor to the drawing interface and click to generate a point, move the cursor to draw a line, and then click to generate another point. This is how a line is generated. In this way, continue to draw lines to form any shape, and right-click to finish line drawing.



NOTE

A drawn line cannot cross another one, or the line drawing fails.

Any shape with 8 sides at most can be drawn.

The quantity of deployment areas is not limited yet and will be described in future when a limit is applied.

Step 4 Set deployment time

Method 1: Click left mouse button to select any time point within 0:00-24:00 from Monday to Sunday as shown in Figure 5-2.

Method 2: Hold down the left mouse button, drag and release mouse to select the deployment time within 0:00-24:00 from Monday to Sunday.



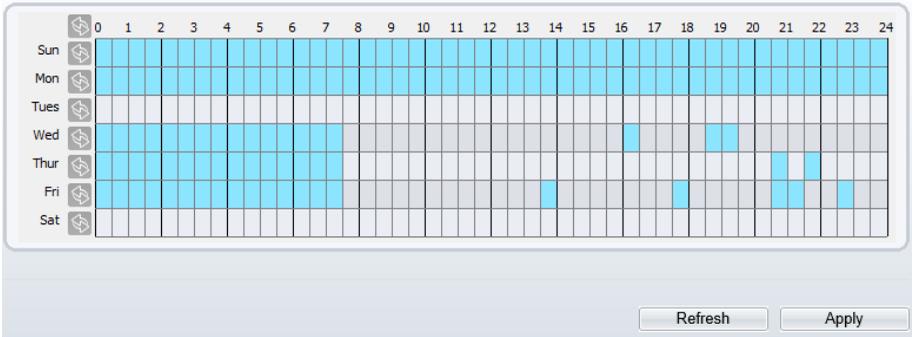
NOTE

When you select time by dragging the cursor, the cursor cannot be moved out of the time area. Otherwise, no time can be selected.

Method 3: Click  in the deployment time page to select the whole day or whole week.

Deleting deployment time: Click  again or inverse selection to delete the selected deployment time.

Figure 5-2 Deployment Time Setting Interface



----End

5.2 Single Line Crossing

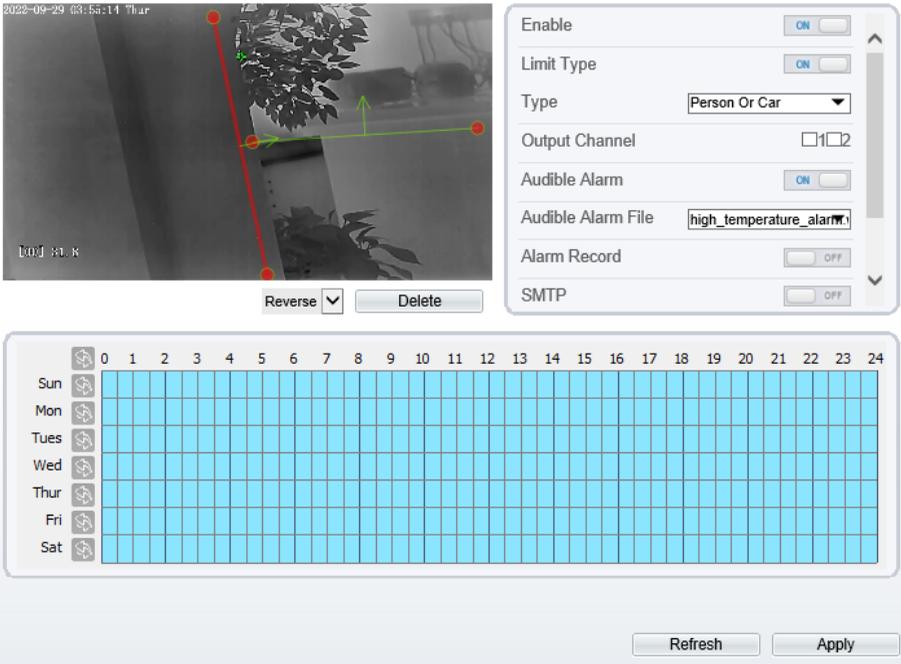
A single line crossing is a line that is set at a concerned position within the monitored field of view and specifies the forbidden travel direction, an alarm is generated when the targets of specified types (such as person or car) cross this line.

Procedure

Step 1 Select **Intelligent Analysis** > **Single Line Crossing** to access the **Single Line Crossing** setting interface, as shown in Figure 5-3.

Figure 5-3 Single Line Crossing Setting Interface

Single Line Crossing



Step 2 Set all parameters for the single line crossing. Table 5-2 describes the specific parameters.

Table 5-2 Parameters of Single Line Crossing

Parameter	Description	Setting
Enable	Enable the button to enable the alarm.	[How to set] Click Enable to enable . [Default value] OFF
Limit Target Type	Effective alarms are set based on target type, with options of Person or Car, person, car. When the device is used indoors, because of small space and large targets, alarms are triggered by person sometimes even if car is selected, leading to false alarms. It is recommended to set the	[How to set] Click to enable Limit Target Type. [Default value] OFF

Parameter	Description	Setting
	target type as person for indoor use.	
Output Channel	If you check to set the Output Channel and the device is connected to an external alarm indicator, the alarm indicator signals when an alarm is triggered.	[How to set] Click to select an ID.
Audible alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the audible alarm file (set at the “ Configuration > Alarm > Audible Alarm Output ”).	[How to set] Click to enable Audio Detection Alarm [Default value] OFF
Alarm Record	Enable the button to enable the alarm record.	[How to set] Click to enable Alarm Record. [Default value] OFF
SMTP	Enable the button to enable SMTP sever. The parameters of SMTP can be set at Configuration > Network Service > SMTP interface.	[How to set] Click to enable SMTP. [Default value] OFF
FTP Upload	Enable the button to enable File Transfer Protocol. The parameters of FTP can be set at Configuration > Network Service > FTP interface.	[How to set] Click to enable FTP. [Default value] OFF
Video Stream Draw Line	Enable, the deployment frame will show on the live video.	[How to set] Click to enable Video Stream Draw Line. [Default value] OFF

Step 3 Set a deployment area

Drawing a line: move the cursor to the drawing interface, hold down the left mouse button, and move the cursor to draw a line. When you release the left mouse button, a Single Line Crossing is generated.

Setting a single line crossing: click a line (and the trip line turns red) to select the Single Line Crossing and set its direction as **positive**, **reverse** or **bidirectional**, or **delete the selected** line. You can also press and hold left mouse button at the endpoint of a Single Line Crossing and move the mouse to modify the position and length of this single virtual fence. You can right-click to delete the single virtual fence.

**NOTE**

A single line crossing is not within any deployment area, therefore, when an alarm is generated, the trace always exists. Only when the target object moves out of the field of view, the trace disappears.

Try to draw the single line crossing in the middle, because the recognition of a target takes time after target appearance on the screen and an alarm is generated only when the object is recognized to have crossed the single virtual fence.

The single line crossing which detects person foot as the recognition target cannot be too short, because a short single line crossing tends to miss targets.

Step 4 Set deployment time.

For more details please refer to *5.1 Step 4*.

----End

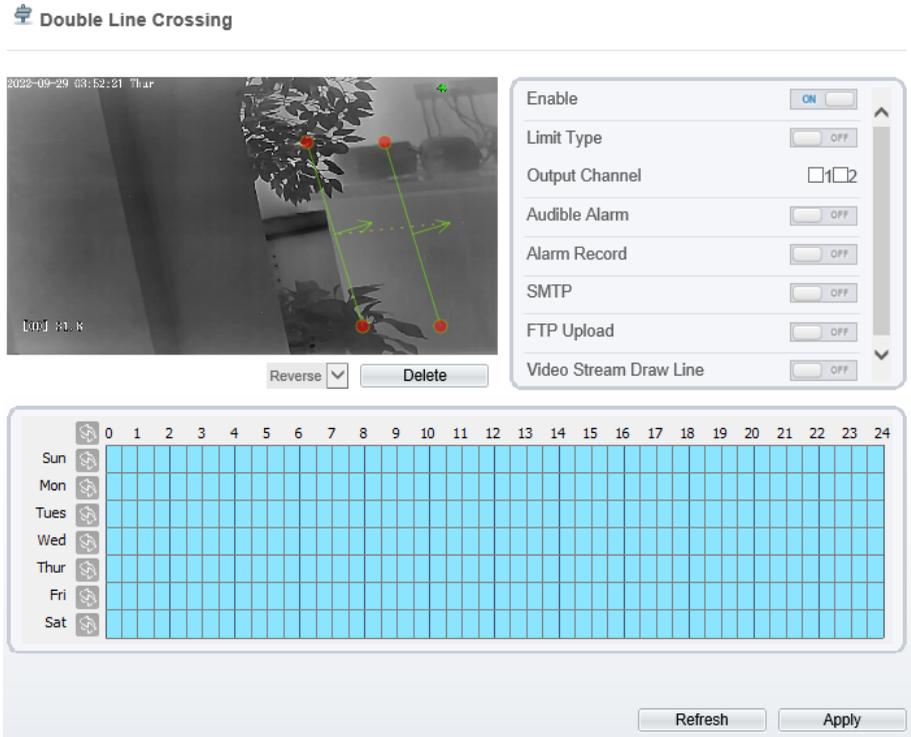
5.3 Double Line Crossing

Double Line Crossing refer to two lines that are set at a concerned special position within the field of view and specify the forbidden travel direction. When the targets of specified types (such as person or car) move along the set travel direction and cross these lines in a certain order (line 1 followed by line 2) in pass max time, an alarm is generated.

Procedure

Step 1 Select **Intelligent Analysis > Double Line Crossing** to access the **Double Line Crossing** setting interface, as shown in Figure 5-4.

Figure 5-4 Double Line Crossing Setting Interface



Step 2 Set all parameters for the double line crossing. Table 5-3 describes the specific parameters.

Table 5-3 Parameters of Double Line Crossing

Parameter	Description	Setting
Enable	Enable the button to enable the alarm.	[How to set] Click to enable. [Default value] OFF

Parameter	Description	Setting
Limit Target Type	Effective alarms are set based on target type, with options of Person or Car, person, car. When the device is used indoors, because of small space and large targets, alarms are triggered by person sometimes even if car is selected, leading to false alarms. It is recommended to set the target type as person for indoor use.	[How to set] Click to enable Limit Target Type. [Default value] OFF
Output Channel	If you check to set the Output Channel and the device is connected to an external alarm indicator, the alarm indicator signals when an alarm is triggered.	[How to set] Click to select an ID.
Audible alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the audible alarm file (set at the “ Configuration > Alarm > Audible Alarm Output ”).	[How to set] Click to enable Audio Detection Alarm [Default value] OFF
Alarm Record	Enable the button to enable the alarm record.	[How to set] Click to enable Alarm Record. [Default value] OFF
SMTP	Enable the button to enable SMTP sever. The parameters of SMTP can be set at Configuration > Network Service > SMTP interface.	[How to set] Click to enable SMTP. [Default value] OFF
FTP Upload	Enable the button to enable File Transfer Protocol. The parameters of FTP can be set at Configuration > Network Service > FTP interface.	[How to set] Click to enable FTP. [Default value] OFF

Parameter	Description	Setting
Video Stream Draw Line	Enable, the deployment frame will show on the live video.	[How to set] Click to enable Video Stream Draw Line. [Default value] OFF

Step 3 Set a deployment area

Drawing a line: Move the cursor to the drawing interface, hold down the left mouse button, and move the cursor to draw two lines. When you release the left mouse button, two numbered virtual fences are generated. Choose either of the double line crossing to set the direction to Positive or Reverse.

Setting double line crossing: Click one of the double line crossing (and the virtual fence turns red) to select this virtual fence and set the direction to **Positive** or **Reverse**, or delete the selected line. You can also press and hold left mouse button at the endpoint of a virtual fence and move the mouse to modify the position and length of this virtual fence. You can right-click to delete the double line crossing.



NOTE

The double line crossing are in sequential order. An alarm is generated only when a target crosses virtual fence 1 and then virtual fence 2 within the set maximum passing time.

The double line crossing are not within any deployment area, therefore, when an alarm is generated, the trace always exists. Only when the target object moves out of the field of view, the trace disappears.

Try to draw double line crossing in the middle, because the recognition of a target takes time after target appearance on the screen and an alarm is generated only when the object is recognized to have crossed the double virtual fences.

The double line crossing which detect person foot as the recognition target cannot be too short, because short Double Line Crossing tend to miss targets.

Step 4 Set deployment time.

For more details please refer to *5.1 Step 4*.

----End

5.4 Multi-Loitering

Multi-loitering allows setting the shortest loitering time for multiple targets of specified type (such as person or car) within the deployment area in the field of view. When the loitering time of the multiple targets within this area meets the set shortest loitering time, an alarm is generated.

Procedure

Step 1 Select **Intelligent Analysis** > **Multi-Loitering** to access the **Multi-Loitering** setting interface, as shown in Figure 5-5.

Figure 5-5 Multi-Loitering Setting Interface

 **Multi-Loitering**



Enable

Limit Numbers

Minimum Number

Maximum Number

The Shortest Time(5-60s)

Output Channel 12

Audible Alarm OFF

Alarm Record OFF

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Sun																									
Mon																									
Tues																									
Wed																									
Thur																									
Fri																									
Sat																									

Step 2 Set all parameters for multiple loitering. Table 5-4 describes the specific parameters.

Table 5-4 Parameters of Multi-Loitering

Parameter	Description	Setting
Enable	Enable the button to enable the alarm.	[How to set] Click Enable to enable. [Default value] OFF
Limit Target Size	The target size for triggering an effective alarm is set based on the actual target size. The minimum size is 1000 square centimeters and the maximum size is 100000 square centimeters. When setting the target size, you need to well set “Real size in scene” in advanced parameters, otherwise no alarms may be generated.	[How to set] Click to enable Limit Target Size. [Default configuration] OFF
Limit Numbers	When Limit Numbers is set to OFF, an alarm is generated no matter how many people loiter. When Limit Numbers is set to ON, if the minimum number is set to 2 and the maximum number is set to 3, an alarm is generated for 2-3 people loitering. Other settings are the same as loitering.	[How to set] Click to enable Limit Numbers.
The Shortest Time (Sec)	The time that the target person wanders in the area must not be less than the minimum time. Settable range: 5-60s	[How to set] Input a value in the area box. [Default value] 10s
Output Channel	If you check to set the Output Channel and the device is connected to an external alarm indicator, the alarm indicator signals when an alarm is triggered.	[How to set] Click to select an ID.
Audible alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the audible alarm file (set at the “ Configuration > Alarm > Audible Alarm Output ”).	[How to set] Click to enable Audio Detection Alarm [Default value] OFF

Parameter	Description	Setting
Alarm Record	Enable the button to enable the alarm record.	[How to set] Click to enable Alarm Record. [Default value] OFF
SMTP	Enable the button to enable SMTP sever. The parameters of SMTP can be set at Configuration > Network Service > SMTP interface.	[How to set] Click to enable SMTP. [Default value] OFF
FTP Upload	Enable the button to enable File Transfer Protocol. The parameters of FTP can be set at Configuration > Network Service > FTP interface.	[How to set] Click to enable FTP Upload. [Default value] OFF
Video Stream Draw Line	Enable, the deployment frame will show on the live video.	[How to set] Click to enable Video Stream Draw Line. [Default value] OFF

Step 3 Set a deployment area.

Move the cursor to the drawing interface and click to generate a point, move the cursor to draw a line, and then click to generate another point. This is how a line is generated. In this way, continue to draw lines to form any shape, and right-click to finish line drawing.



NOTE

A drawn line cannot cross another one, or the line drawing fails.

Any shape with 8 sides at most can be drawn .

The quantity of deployment areas is not limited yet and will be described in future when a limit is applied.

Step 4 Set deployment time

Details please refer to *5.1Step 4*

----**End**

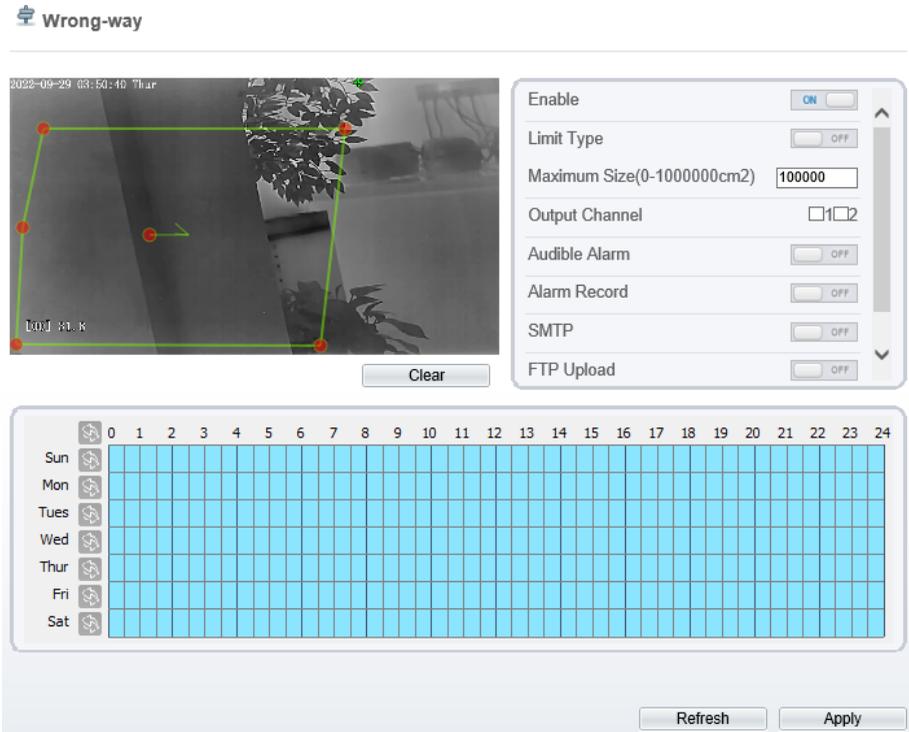
5.5 Wrong-way

Wrong-way allows setting the travel direction criteria for a target within an area on the video screen. When a target of specified type (such as people or car) within this area moves in the set travel direction, an alarm is generated.

Procedure

Step 1 Select **Intelligent Analysis > Wrong-way** to access the **Wrong-way** setting interface, as shown in Figure 5-6.

Figure 5-6 Wrong-way Setting Interface



Step 2 Set all parameters for Wrong-way. Table 5-5 describes the specific parameters.

Table 5-5 Parameter of Wrong-way

Parameter	Description	Setting
Enable	Enable the button to enable the alarm.	[How to set] Click Enable to enable. [Default value] OFF
Limit Target Type	Effective alarms are set based on target type, with options of Person or Car, person, car. When the device is used indoors, because of small space and large targets, alarms are triggered by person sometimes even if car is selected, leading to false alarms. It is recommended to set the target type to person for indoor use.	[How to set] Click to enable Limit Target Type. [Default value] OFF
Output Channel	If you check to set the Output Channel and the device is connected to an external alarm indicator, the alarm indicator signals when an alarm is triggered.	[How to set] Click to select an ID.
Audible alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the audible alarm file (set at the “ Configuration > Alarm > Audible Alarm Output ”).	[How to set] Click to enable Audio Detection Alarm [Default value] OFF
Alarm Record	Enable the button to enable the alarm record.	[How to set] Click to enable Alarm Record. [Default value] OFF
SMTP	Enable the button to enable SMTP sever. The parameters of SMTP can be set at Configuration > Network Service > SMTP interface.	[How to set] Click to enable SMTP. [Default value] OFF

Parameter	Description	Setting
FTP Upload	Enable the button to enable File Transfer Protocol. The parameters of FTP can be set at Configuration > Network Service > FTP interface.	[How to set] Click to enable FTP Upload. [Default value] OFF
Video Stream Draw Line	Enable, the deployment frame will show on the live video.	[How to set] Click to enable Video Stream Draw Line. [Default value] OFF

Step 3 Set a deployment area

Move the cursor to the drawing interface and click to generate a point, move the cursor to draw a line, and then click to generate another point. This is how a line is generated. In this way, continue to draw lines to form any shape, and right-click to finish line drawing, move the arrow in the field can set the direction of wrong-way.



NOTE

A drawn line cannot cross another one, or the line drawing fails.

Any shape with 8 sides at most can be drawn .

The quantity of deployment areas is not limited yet and will be described in future when a limit is applied.

Step 4 Set deployment time

Details please refer to *5.1 Step 4*.

----End

5.6 People Counting

Draw a line in the designated area to count, you can count the number of people passing through the area, set the corresponding alarm linkage.

Procedure

Step 1 Select **Intelligent Analysis > People Counting** to access the **People Counting** setting interface, as shown in Figure 5-7.

Figure 5-7 People Counting

People Counting

2022-09-28 17:17:18 F-1

Clear

Enable ON

OSD Enable OFF

Counting Clear Interval 1Day

Clear Counting

Area Type Line

A->B Out

B->A In

Set Correction Value OFF

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Sun																									
Mon																									
Tues																									
Wed																									
Thur																									
Fri																									
Sat																									

Refresh Apply

Set Correction Value ON

Count Correction Value

Over People Number Alarm ON

Alarm Threshold

Output Channel 1 2

Alarm Record OFF

SMTP OFF

FTP Upload OFF

Step 2 Set all parameters for illegal parking. Table 5-6 describes the specific parameters.

Table 5-6 Parameters of People Counting

Parameter	Description	Setting
Enable	Enable the button to enable the alarm.	[How to set] Click Enable to enable. [Default value] OFF
OSD Enable	Enable the OSD, the count data will show on live video screen.	[How to set] Click Enable to enable. [Default value] OFF
Counting Clear Interval	The camera will clear counting data at the setting interval. Click the “Clear Counting”, clearing the data immediately.	[How to set] Choose from drop-down list. [Default value] 12 hours
Area Type	Draw a line on live video screen. The label of A and B indicate out and in.	[How to set] Choose from drop-down list. [Default value] Line
Set Correction Value	Enable, set the count correction value, it can be positive or negative. For example, if there are 30 people enter the area before counting, input 30 to correct. If 30 people go out the area, input -30.	[How to set] Enable /Input a value in the area box. [Default value] 0
Over People Number Alarm	Enable, When the counting number reaches the threshold value, an alarm is triggered.	[How to set] Click Enable to enable. [Default value] OFF

Parameter	Description	Setting
Alarm Threshold	There is an alarm when the number reaches or exceeds this value.	[How to set] Enable /Input a value in the area box. [Default value] 1000
Output Channel	If you check to set the Output Channel and the device is connected to an external alarm indicator, the alarm indicator signals when an alarm is triggered.	[How to set] Click to select an ID.
Audible alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the audible alarm file (set at the “ Configuration > Alarm > Audible Alarm Output ”).	[How to set] Click to enable Audio Detection Alarm [Default value] OFF
Alarm Record	Enable the button to enable the alarm record.	[How to set] Click to enable Alarm Record. [Default value] OFF
SMTP	Enable the button to enable SMTP sever. The parameters of SMTP can be set at Configuration > Network Service > SMTP interface.	[How to set] Click to enable SMTP. [Default value] OFF
FTP Upload	Enable the button to enable File Transfer Protocol. The parameters of FTP can be set at Configuration > Network Service > FTP interface.	[How to set] Click to enable FTP Upload. [Default value] OFF

Step 3 Set a deployment area

Move the cursor to the drawing interface and click to generate a point, move the cursor to draw a line, and then click to generate another point. This is how a line is generated. In this way, continue to draw lines to form any shape, and right-click to finish line drawing.

Step 4 Set deployment time

For more details please refer to 5.1Step 4.

----End

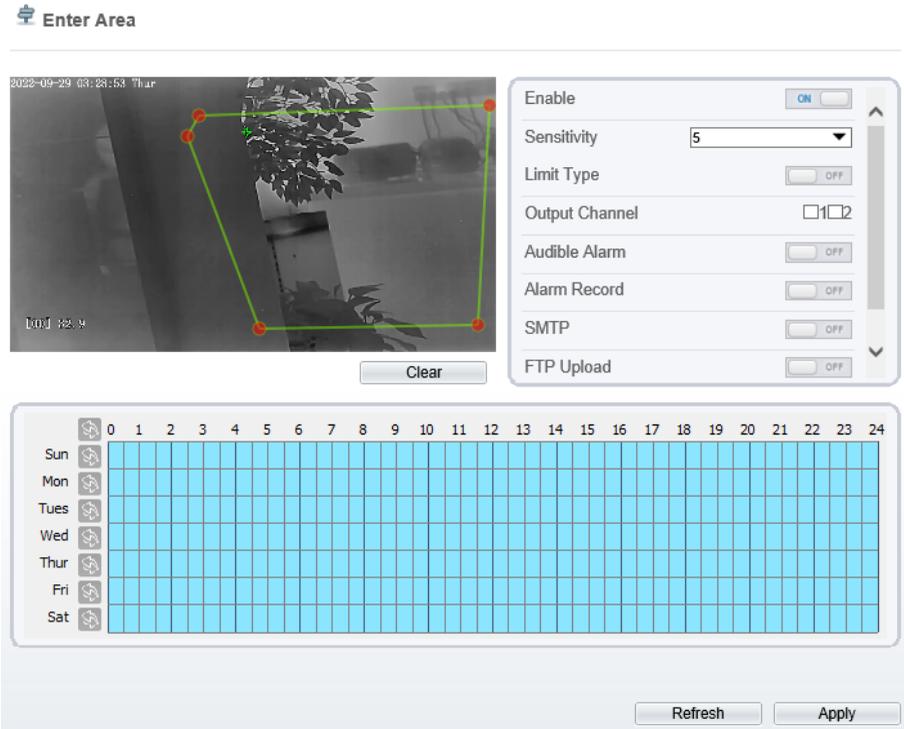
5.7 Enter Area

Set the area, when the targets enter the area, it will alarm.

Procedure

Step 1 Select **Intelligent Analysis > Enter Area** to access the **Enter Area** setting interface, as shown in Figure 5-8.

Figure 5-8 Enter Area



Step 2 Set all parameters for illegal parking. Table 5-7describes the specific parameters.

Table 5-7 Description of Parameters for Enter Area

Parameter	Description	Setting
Enable	Enable the button to enable the enter area alarm.	[How to set] Click Enable to enable. [Default value] OFF
Sensitivity	The sensitivity of detecting the target, when the value is high, the target can be detected easily, but the accuracy will be lower.	[How to set] Choose from the drop-down list [Default value] 5
Limit Target Type	Effective alarms are set based on target type, with options of Person or Car, person, car. When the device is used indoors, because of small space and large targets, alarms are triggered by person sometimes even if car is selected, leading to false alarms. It is recommended to set the target type to person for indoor use.	[How to set] Click to enable Limit Target Type. [Default value] OFF
Output Channel	If you check to set the Output Channel and the device is connected to an external alarm indicator, the alarm indicator signals when an alarm is triggered.	[How to set] Click to select an ID.
Audible alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the audible alarm file (set at the “ Configuration > Alarm > Audible Alarm Output ”).	[How to set] Click to enable Audio Detection Alarm [Default value] OFF
Alarm Record	Enable the button to enable the alarm record.	[How to set] Click to enable Alarm Record. [Default value] OFF

Parameter	Description	Setting
SMTP	Enable the button to enable SMTP sever. The parameters of SMTP can be set at Configuration > Network Service > SMTP interface.	[How to set] Click to enable SMTP. [Default value] OFF
FTP Upload	Enable the button to enable File Transfer Protocol. The parameters of FTP can be set at Configuration > Network Service > FTP interface.	[How to set] Click to enable FTP Upload. [Default value] OFF
Video Stream Draw Line	Enable, the deployment frame will show on the live video.	[How to set] Click to enable Video Stream Draw Line. [Default value] OFF

Step 3 Set a deployment area

Move the cursor to the drawing interface and click to generate a point, move the cursor to draw a line, and then click to generate another point. This is how a line is generated. In this way, continue to draw lines to form any shape, and right-click to finish line drawing.

Step 4 Set deployment time

For more details please refer to *5.1Step 4*.

----End

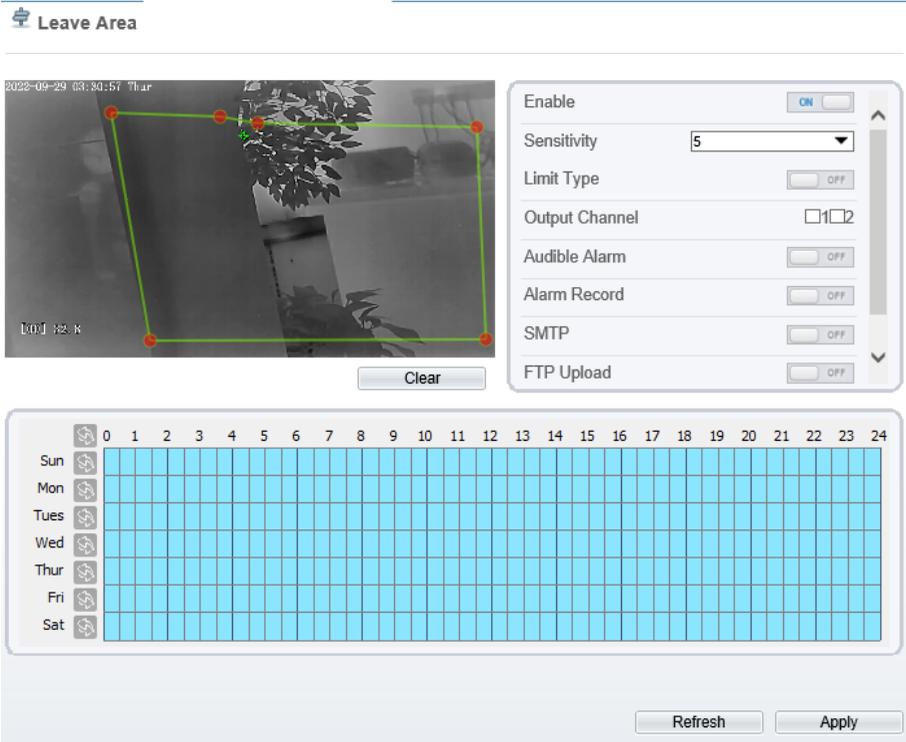
5.8 Leave Area

When the targets leave the setting area, it will be alarm.

Procedure

Step 1 Select **Intelligent Analysis > Leave Area** to access the **Leave Area** setting interface, as shown in Figure 5-9.

Figure 5-9 Leave Area



Step 2 Set all parameters for illegal parking. Table 5-8 describes the specific parameters.

Table 5-8 Parameters of Leave Area

Parameter	Description	Setting
Enable	Enable the button to enable the leave area alarm.	[How to set] Click Enable to enable. [Default value] OFF
Sensitivity	The sensitivity of detecting the target, when the value is high, the target can be detected easily, but the accuracy will be lower.	[How to set] Choose from the drop-down list [Default value] 5

Parameter	Description	Setting
Limit Target Type	Effective alarms are set based on target type, with options of Person or Car, person, car. When the device is used indoors, because of small space and large targets, alarms are triggered by person sometimes even if car is selected, leading to false alarms. It is recommended to set the target type to person for indoor use.	[How to set] Click to enable Limit Target Type. [Default value] OFF
Output Channel	If you check to set the Output Channel and the device is connected to an external alarm indicator, the alarm indicator signals when an alarm is triggered.	[How to set] Click to select an ID.
Audible alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the audible alarm file (set at the “ Configuration > Alarm > Audible Alarm Output ”).	[How to set] Click to enable Audio Detection Alarm [Default value] OFF
Alarm Record	Enable the button to enable the alarm record.	[How to set] Click to enable Alarm Record. [Default value] OFF
SMTP	Enable the button to enable SMTP sever. The parameters of SMTP can be set at Configuration > Network Service > SMTP interface.	[How to set] Click to enable SMTP. [Default value] OFF
FTP Upload	Enable the button to enable File Transfer Protocol. The parameters of FTP can be set at Configuration > Network Service > FTP interface.	[How to set] Click to enable FTP Upload. [Default value] OFF

Parameter	Description	Setting
Video Stream Draw Line	Enable, the deployment frame will show on the live video.	[How to set] Click to enable Video Stream Draw Line. [Default value] OFF

Step 3 Set a deployment area

Move the cursor to the drawing interface and click to generate a point, move the cursor to draw a line, and then click to generate another point. This is how a line is generated. In this way, continue to draw lines to form any shape, and right-click to finish line drawing.

Step 4 Set deployment time.

Details please refer to *5.1 Step 4*.

---**End**

6 Advanced Intelligent Analysis

At advanced intelligent analysis interface, users can set the parameters of smoker detection, fire spot detection. Enable the linkage actions, the alarm information can be sent to user by the linkage.

The advanced intelligent analysis can be used for detecting the smoking, if someone smoke in the indoor where is forbidden smoking.

Fire Spot Detection can be used for finding the catching fire to quickly operate to extinguish.

6.1 Smoker Detection

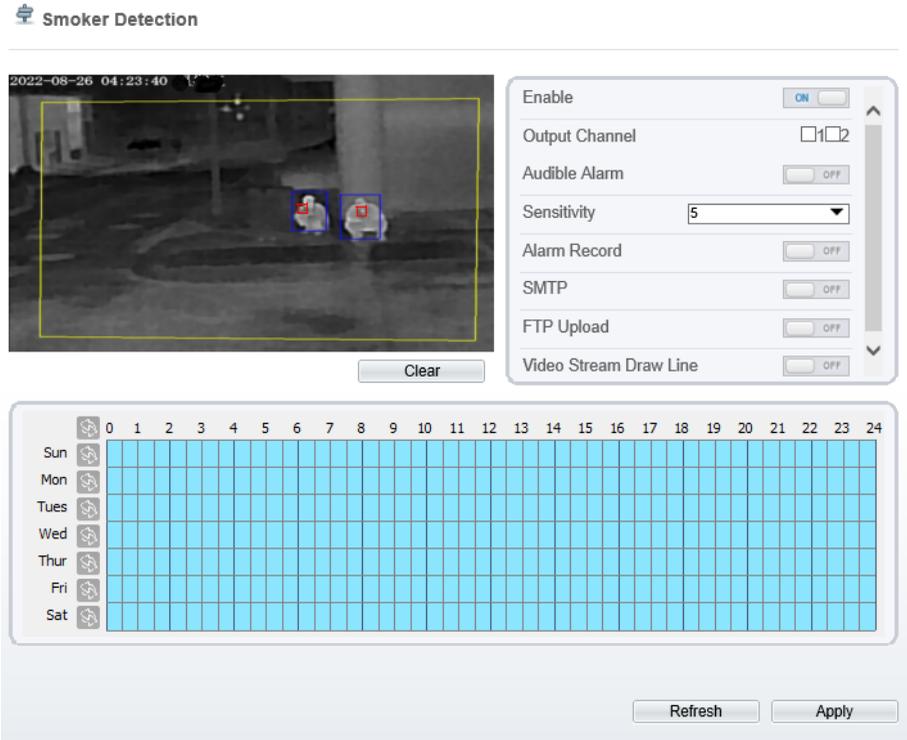
Description

The smoker detection function refers to that an alarm is generated when someone is smoking or generating spark at the deployment area.

Procedure

Step 1 Select **Configuration > Advanced Intelligent Analysis > Smoker Detection** to access the **Smoker Detection** interface, as shown in Figure 6-1.

Figure 6-1 Smoker Detection Interface



Step 2 Set all parameters for perimeter. Table 6-1 describes the specific parameters.

Table 6-1 Parameters of Smoker Detection

Parameter	Description	Setting
Enable	At thermal channel, Enable the button to enable the alarm.	[How to set] Click Enable to enable. [Default value] OFF
Output Channel	If you check to set the Output Channel and the device is connected to an external alarm indicator, the alarm indicator signals when an alarm is triggered.	[How to set] Click to select an ID.

Parameter	Description	Setting
Audible alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the audible alarm file (set at the “ Configuration > Alarm > Audible Alarm Output ”).	[How to set] Click to enable Audio Detection Alarm [Default value] OFF
Sensitivity	The sensitivity of detecting smoker, when the value is high, the alarm can be triggered easily, but the accuracy will be lower.	[How to set] Choose from the drop-down list [Default value] 5
Alarm Record	If you install SD card, enable this function, the device will record the alarm video.	[How to set] Click to enable Alarm Record. [Default value] OFF
SMTP	Enable the button to enable SMTP serve.	[How to set] Click to enable SMTP. [Default value] OFF
FTP Upload	Enable the button to enable File Transfer Protocol.	[How to set] Click to enable FTP Upload. [Default value] OFF
Video Stream Draw Line	Enable the button to enable Video Stream Draw Line, the setting area frame will show on live video.	[How to set] Click to enable Video Stream Draw Line. [Default value] OFF

Step 3 Set a deployment area. Move the cursor to the drawing interface and click to generate a point, move the cursor to draw a line, and then click to generate another point. This is how a line is generated. In this way, continue to draw lines to form any shape, and right-click to finish line drawing.

**NOTE**

A drawn line cannot cross another one, or the line drawing fails.

Any shape with 32 sides at most can be drawn.

The quantity of deployment areas is not limited yet and will be described in future when a limit is applied.

Step 4 Set deployment time.

Method 1: Click left mouse button to select any time point within 0:00-24:00 from Monday to Sunday.

Method 2: Hold down the left mouse button, drag and release mouse to select the deployment time within 0:00-24:00 from Monday to Sunday.

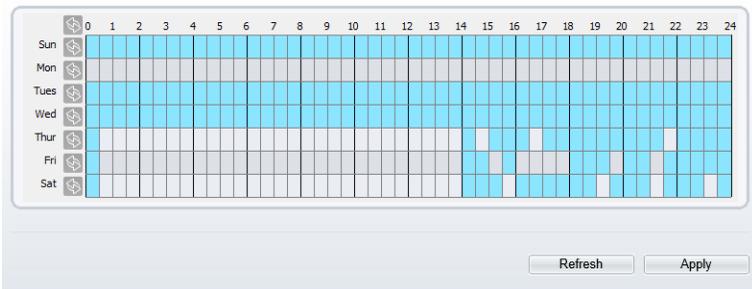
Method 3: Click  in the deployment time page to select the whole day or whole week.

**NOTE**

When you select time by dragging the cursor, the cursor cannot be moved out of the time area. Otherwise, no time can be selected.

Deleting deployment time: Click  again or inverse selection to delete the selected deployment time.

Figure 6-2 Deployment Time Setting Interface



----End

6.2 Fire Spot Detection

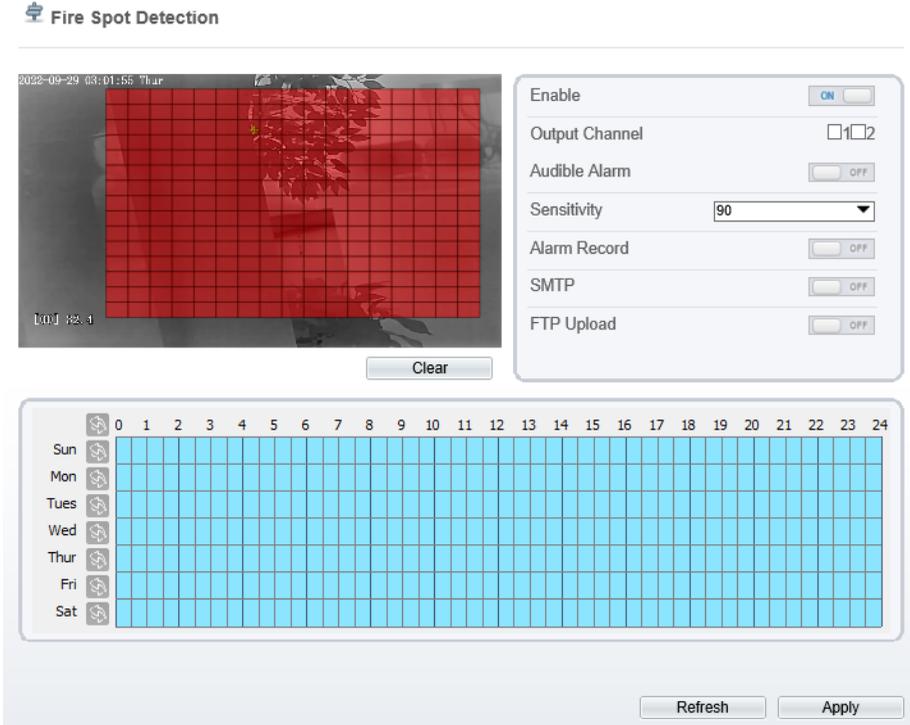
Description

The fire spot detection function refers to that an alarm is generated when something is fire at the deployment area.

Procedure

Step 1 Select **Configuration > Advanced Intelligent Analysis > Fire Spot Detection** to access the **Fire Spot Detection** interface, as shown in Figure 6-3

Figure 6-3 Fire Spot Detection Interface



Step 2 Set all parameters for perimeter. Table 6-2 describes the specific parameters.

Table 6-2 Parameters of Fire Spot Detection

Parameter	Description	Setting
Enable	At thermal channel, Enable the button to enable the alarm.	[How to set] Click Enable to enable. [Default value] OFF

Parameter	Description	Setting
Output Channel	If you check to set the Output Channel and the device is connected to an external alarm indicator, the alarm indicator signals when an alarm is triggered.	[How to set] Click to select an ID.
Audible alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the audible alarm file (set at the “ Configuration > Alarm > Audible Alarm Output ”).	[How to set] Click to enable Audio Detection Alarm [Default value] OFF
Alarm Record	If you install SD card, enable this function, the device will record the alarm video.	[How to set] Click to enable Alarm Record. [Default value] OFF
SMTP	Enable the button to enable SMTP serve.	[How to set] Click to enable SMTP. [Default value] OFF
FTP Upload	Enable the button to enable File Transfer Protocol.	[How to set] Click to enable FTP Upload. [Default value] OFF
Video Stream Draw Line	Enable the button to enable Video Stream Draw Line, the setting area frame will show on live video.	[How to set] Click to enable Video Stream Draw Line. [Default value] OFF

Step 3 Set a deployment area.

Use mouse to draw rectangular area, you can set several area to deploy, as shown in Figure 6-4.

Figure 6-4 Set deployment area



 **NOTE**

A drawn line cannot cross another one, or the line drawing fails.

Any shape with 32 sides at most can be drawn.

The quantity of deployment areas is not limited yet and will be described in future when a limit is applied.

Step 4 Set deployment time.

Method 1: Click left mouse button to select any time point within 0:00-24:00 from Monday to Sunday.

Method 2: Hold down the left mouse button, drag and release mouse to select the deployment time within 0:00-24:00 from Monday to Sunday.

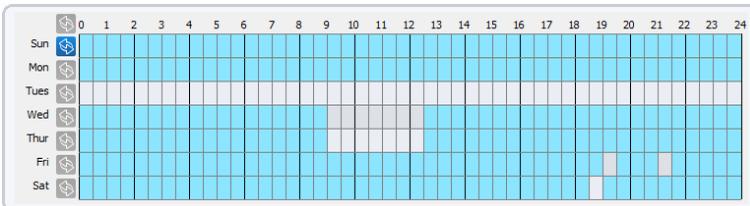
Method 3: Click  in the deployment time page to select the whole day or whole week.

 **NOTE**

When you select time by dragging the cursor, the cursor cannot be moved out of the time area. Otherwise, no time can be selected.

Deleting deployment time: Click  again or inverse selection to delete the selected deployment time.

Figure 6-5 Deployment Time Setting Interface



---End

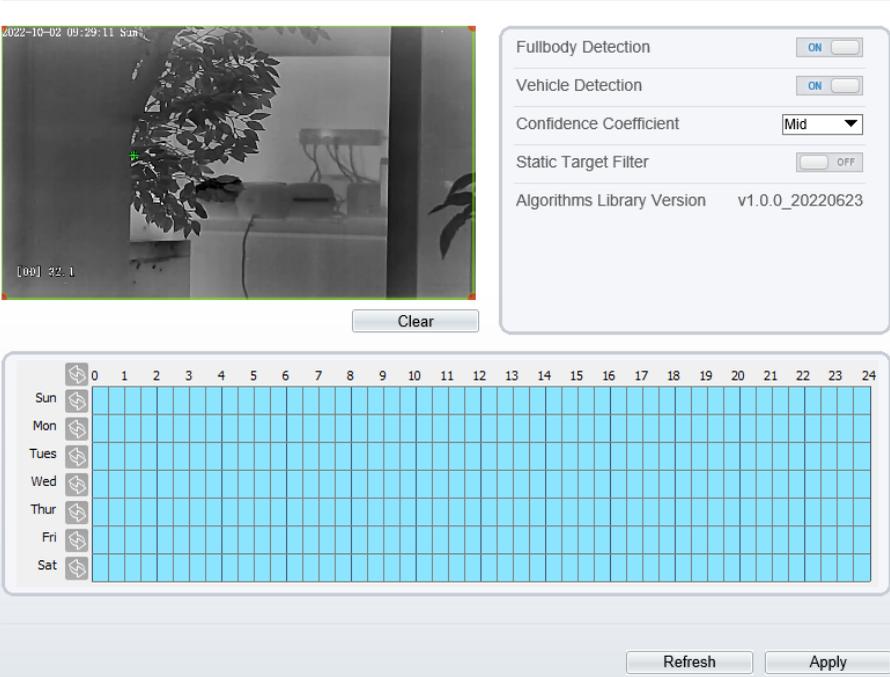
7 AI Multiobject

7.1 Parameters of AI Multiobject

To enable full body detection and vehicle detection, when the device detects the object, it will be triggered alarm.

Figure 7-1 AI Multiobject

 AI Multiobject



2022-10-02 09:29:11 Sun

[00] 32.1

Clear

Fullbody Detection ON

Vehicle Detection ON

Confidence Coefficient

Static Target Filter OFF

Algorithms Library Version v1.0.0_20220623

Refresh Apply

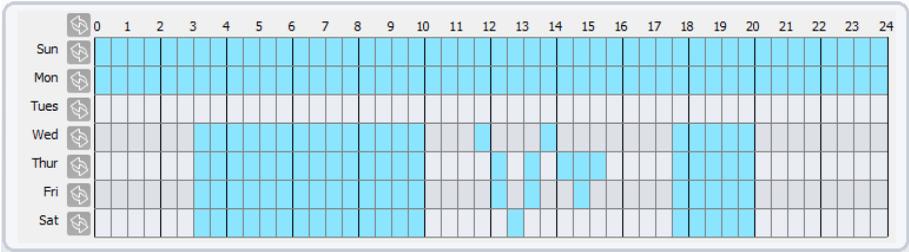
Table 7-1 Parameters of AI Multiobject

Parameter	Description	How to set
Full body Detection	The camera will snap the whole body when someone appears in live video.	Enable
Vehicle	The camera will snap the vehicle when the	Enable

Parameter	Description	How to set
Detection	vehicles appears in live video.	
Confidence Coefficient	The range of detecting object, there are three type, such as high, mid and low. The higher confidence, the better the detecting quality.	Choose from drop list.
Static Target Filter	If the target is static, the device will filter this target. For example, if a car stop for long time, the device will be filtered.	Enable

Schedule: Drag the mouse to select the time to enable alarming, or click  to choose all day or all week to enable alarming.

Figure 7-2 Schedule



A Troubleshooting

Common Trouble	Possible Cause	Solution
Unable to access the web	Network is not connected.	Connect the network cable of the camera to the PC to check whether the network cable is in good contact. Run the ping command to check the network connection and whether the device works normally.
	IP address is occupied.	Directly connect the camera to the PC, and reset the IP address of the camera.
	The IP addresses of the PC and the device are in different networks.	Check the IP address, subnet mask and gateway setting of the camera.
PTZ or high speed dome is out of control.	The protocol, bit-rate, or address setting of the PTZ is incorrect.	Modify the address of the PTZ on the web.
	The signal cable is unconnected or not connected correctly.	Check the signal strength, and reconnect the signal cable.
The measured temperature is not accurate.	The device is just powered on, and the temperature of the cavity is unstable.	The temperature of the cavity is stable within 15 to 30 minutes after the device is powered on.
	The FFC mode is incorrect.	The FFC default mode is automatic. If the mode is set to manual, it will be no block calibration, which may lead to fuzzy pictures and inaccurate temperature.
	The target configuration is incorrect.	Check whether the emission rate and distance of the target are configured correctly.

Common Trouble	Possible Cause	Solution
An error occurs in accessing the web of the device after the upgrade.	The data in the cache of browser is not updated in time.	Delete the cache of the Microsoft Edge. The steps are as follow: Press Ctrl + Shift + Delete , the pop-up window shows the Delete Browsing History dialog box appears. Select all check boxes. Click Delete . Relogin the web page of the camera.
Upgrade failed.	No network cable is connected. The network setting is incorrect.	Ensure the upgrade network is connected. Check whether the network setting is correct.
	The upgrade package is incorrect.	Perform the correct upgrade package again.

B Common Emission Rate

The emission rate is the capability of an object to emit or absorb energy. An ideal transmitter provides an emission rate of emitting 100% of intake energy. An object with an emission rate of 0.8 can absorb 80% of intake energy, and reflect the remaining 20%. The emission rate is the ratio of the energy emitted by an object at a specific temperature to that emitted by an ideal radiator at the same temperature. The range of emission rate value is 0.0 to 1.0 generally.

Materials	Temperature (°C/°F)	Emissivity
Gold (High-purity)	227/440	0.02
Aluminum foil	27/81	0.04
Aluminum sheet	27/81	0.18
Aluminum used for families (flat)	23/73	0.01
Aluminum plate (98.3% purity)	227/440	0.04
	577/107	0.06
Aluminum plate (rough)	26/78	0.06
Aluminum (oxidized @ 599°C)	199/390	0.11
	599/1110	0.19
Polished aluminum	38/100	0.22
Tin (light tinned Iron sheet)	25/77	0.04
Nickel wire	187/368	0.1
Lead (99.9% purity, No oxidized)	127/260	0.06
Copper	199/90	0.18
Cobalt	599/111	0.19

Steel	199/390	0.52
	599/1110	0.57
Tinned iron sheet (Light)	28/82	0.23
Brass (High-polish)	247/476	0.03
Brass (Tough rolled, polished metal wire)	21/70	0.04
Tinned Iron (Light)	-	0.13
Iron plate (Rust eaten)	20/68	0.69
Rolled steel sheet	21/71	0.66
Ferric oxide	100/212	0.74
Wrought-iron	21/70	0.94
Fused iron	1299-1399/3270-2550	0.29
Copper (Polished)	21-117/70-242	0.02
Copper (Polished, not reflected)	22/72	0.07
Copper (Heavy oxide Board)	25/77	0.78
Enamel (Fuse on iron)	19/66	0.9
Formica Plate	27/81	0.94
Frozen soil	-	0.93
Brick (Red, rough)	21/70	0.93
Brick (Unglazed, rough)	1000/1832	0.8
Carbon (T - carbon 0.9% ash)	127/260	0.81
Concrete	-	0.94

Glass (Glossy)	22/72	0.94
Granite (Surfaced)	21/70	0.85
Ice	0/32	0.97
Marble (I Polished, grey)	22/72	0.93
Asbestos board	23/74	0.96
Asbestos paper	38/100	0.93
	371/700	0.95
Asphalt (Paving the road)	4/39	0.97
Paper (Black tar)	-	0.93
Paper (White)	-	0.95
Plastic (White)	-	0.91

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