Thermal Imaging Integrated IP Camera

User Manual

ISSUE	**V 1.3**
DATE	**2023-01-16**

Thermal Imaging Integrated Network Camera

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Precautions

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Fully understand this document before using this device, and strictly observe 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' non-conformance to these requirements.

- Strictly conform to local electrical safety standards and use power adapters which 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 the device to discharge high energy such as electrical surges in order 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 in order 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 -40°C (-40 F) or higher than 60°C (+140 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 device 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 moistened 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.

The manual may contain inaccurate information of function and operation, misprints. 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.

Pictures for reference only, subject to our available products.

Contents

1 Product Overview

1.1 Thermal Imaging Principles and Advantages

For any object, as long as its temperature is above the absolute zero (-273.15° C), although the object does not give out light, it can radiate infrared. The infrared is also known as thermal radiation. A temperature change occurs when the infrared radiated by objects at different temperatures is absorbed by the infrared thermal detector, and thereby generating an electrical effect. An electrical signal is amplified and processed to obtain a thermal image corresponding to the distribution of heat on the surface of the object, that is, infrared thermal imaging.

- Applicable to any light environment

  Traditional cameras rely on the natural or ambient light for imaging. However, the infrared thermal imaging camera can clearly image the object with the infrared heat radiation of the object without relying on any light. The infrared thermal camera is applicable to any light environment and is free from glare impact. It can clearly detect and find the target as well as identify the camouflaged and hidden target in both day and night. Therefore, it achieves real 24-hour surveillance.

- Monitoring the temperature field of the target heat distribution

  The infrared thermal camera can display the temperature field of the object and change the surface temperature distribution of the object that cannot be directly seen by human eyes to the thermal image representing the surface temperature distribution of the object. By monitoring the temperature field, you can immediately identify the temperature abnormality, thereby preventing potential risks caused by the temperature, such as fire.

- Providing the cloud penetration capability

  Atmosphere, dust, and clouds can absorb visible light and near-infrared, but are clear to the thermal infrared for 3 to 5 microns (medium wave infrared region) and 8 to 14 microns (long wave infrared). Therefore, it is difficult for the conventional cameras to capture clear images under dense clouds, while the thermal imaging camera is able to effectively penetrate the atmosphere and clouds to capture clear images.

1.2 Device Structure

Figure 1-1 shows the rear panel of the thermal imaging integrated network camera. For details of the interfaces, see Table 1-1.

Figure 1-1 Appearance and interfaces of the thermal imaging integrated network camera

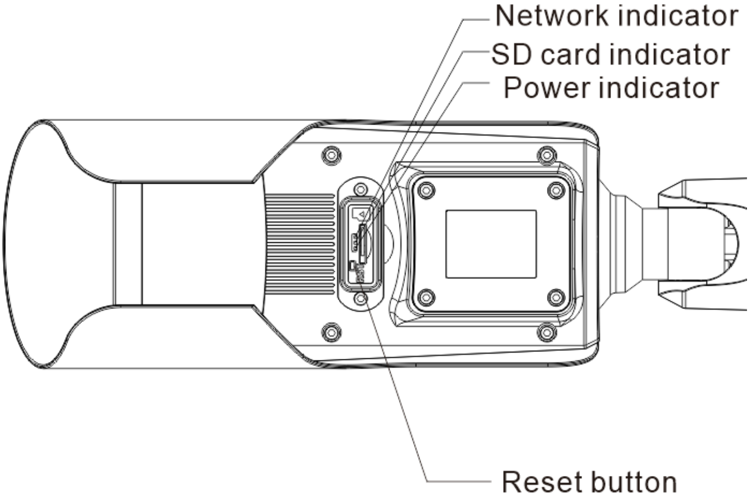


Table 1-1 Interfaces

No.	Physical Interface	Connection
1	Network indicator	The network is working normally, the light is on; When it is transferring data, the light is splash.
2	SD card indicator	The SD indicator has the following states: ● OFF: The SD card is not inserted. ON: The SD card is inserted.
3	Power indicator	The power supply is plugged and works normally, the red light is on.
4	Reset button (RESET)	The configuration resumes to the factory settings after you press the reset button for 5s. DHCP is on by default.
5	SD card slot	It places the SD card. Note: • When you install the SD card, ensure that the SD card is not in the write-protection state and then insert the SD card in the SD card slot. • When you remove the SD card, ensure that the SD card is not in the write-protection state. Otherwise, the data may be lost or the SD card may be damaged. • When hot plugging the SD card, stop

No.	Physical Interface	Connection
		recording and then perform the corresponding operation.

1.3 Out Wire Connection

There are two ways to connect the thermal imaging integrated network camera, the multi-connector cables and the integrated cable management bracket. Users can choose the corresponding method and installation method according to their bracket.

1.3.1 The Multi-connector Cable

Figure 1-2 the multi-connector cable of the thermal imaging integrated network camera. For details of the multi-connector combination cable, please refer to Table 1-2.

Figure 1-2 Multi-connector combination cable

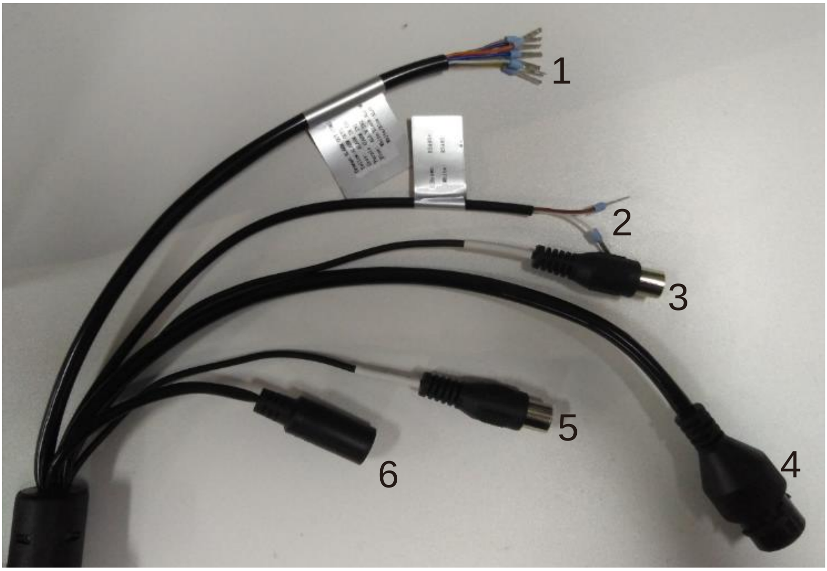


Table 1-2 Multi-connector combination cable

ID	Core of Cable	Functions	Connection
1	Orange	Alarm out com 1	Connect to the alarm output device.
	White/black	Alarm out com 2	
	Yellow	Alarm out 1	

ID	Core of Cable	Functions	Connection
	White / blue	Alarm out 2	
	gray	Alarm in com	Connect to the alarm input device.
	Purple	Alarm in 1	
	Blue	Alarm in 2	
2	Brown	RS485RS+	RS485 interface, connect to the pan & tilt.
	White	RS485RS-	
3	-	Audio input port (cable input)	Inputs the audio signal and receives the analog audio signals from the sound pick-up device.
4	-	Network interface	Connects to the standard Ethernet cable.
5	-	Audio output	Connects to the external audio device such as the voice box.
6	-	DC12V /AC 24V	Power interface, connects to the 12 V DC (AC 24V) power supply.

1.3.2 Integrated Cable Management Bracket

Figure 1-3 Integrated Cable Management bracket Port

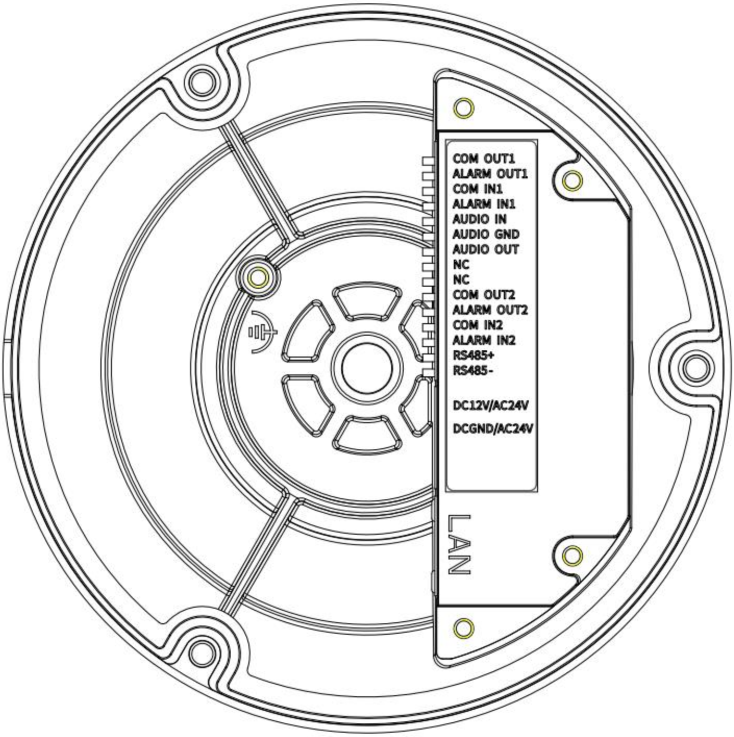


Table 1-3 Integrated Cable Management Bracket Port

Port Name	Description	Remark
COM OUT 1	Alarm out com 1	
ALARM OUT1	Alarm out 1	
COM IN 1	Alarm in 1 com	
ALARM IN1	Alarm in 1	
AUDIO IN	input port (cable input)	Applied for audio devices.
AUDIO GND	Audio port GND	
AUDIO OUT	Audio output	
COM OUT2	Alarm out com 2	

ALARM OUT2	Alarm out 2	
COM IN2	Alarm OUT com 2	
ALARM IN2	Alarm in 2	
RS485+	RS485+	Applied for connecting to external PTZ
RS485-	RS485-	
DC IN/AC24	DC 12 V +	Support AC 24V
DC GND/AC24	DC 12V -	
LAN	Network port, connect to internet. Support PoE supply.	

1.4 Functions and Features

- Using the uncooled infrared focal plane sensor
- Detecting the infrared wavelength ranging from 8 um to 14 ums
- 400*300 pixels
- High thermal sensitivity, reaching 50 mKs
- Supporting dedicated lens for 8/15/25/35/50 mm focal distance (optional)
- Supporting 17 pseudo color modes such as black hot, white hot, rainbow, iron bow and so on
- Supporting the DVE image enhancement
- Supporting noise reduction and mirroring
- Supporting three coding algorithms, that is H.265, H.264 and MJPEG, with high compatibility
- Settings of temperature measurement points and area, temperature detection and display: point temperature measurement, regional temperature measuring, full screen, temperature measurement.
- Over temperature warning and over temperature alarm
- 1-channel audio input and 1-channel audio output, supporting bidirectional voice talkback
- Supporting the local storage of the Micro SD card (the maximum capacity is 128 GB) and effectively avoid the video loss caused by network failure。
- Providing software and hardware watchdogs and automatic recovery from failure
- With metal hosing and linkage cooling structure

- With 3-axis rotary adjustment structure, easy to install and adjust
- DC 12 V/AC 24V/ POE
- Support 10 languages: English, Chinese, Spanish, Portuguese, Polish, Italian, Russian, French, Czech, Hungarian. (The default language is English)

1.5 Packing List

Unpack and check the appearance of product for no obvious damage, and confirm the item list for Table 1-4 is consistent.

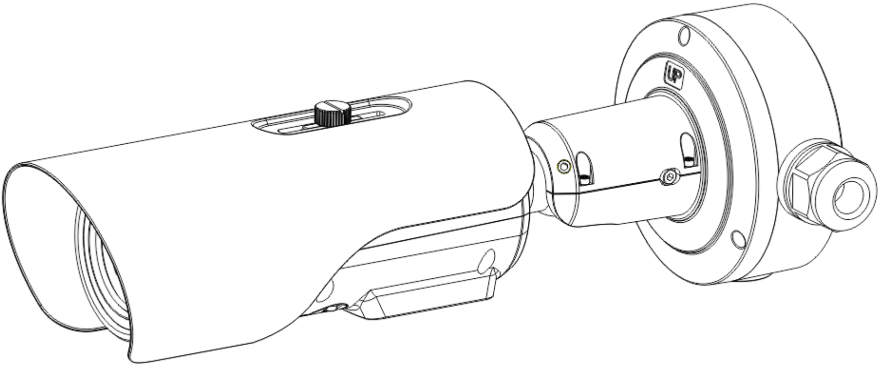
Table 1-4 Packing List

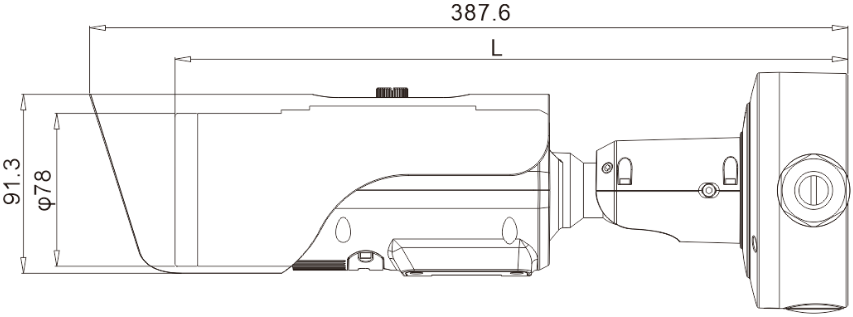
Item	**Quantity**	**Remark**
Thermal camera	1	
User manual	1	
Installation location label	1	
Network interface protect cover	1	
Plastic anchor	3/4	
Self-tapping screw	3/4	
Allen Key	2	
T15 wrench	1	Configured for A bracket
Plug and sealing ring	2	Configured for A bracket
Grand Head	1	Configured for A bracket
Junction box and accessories	1	Configured for A bracket

2 Device Dimensions

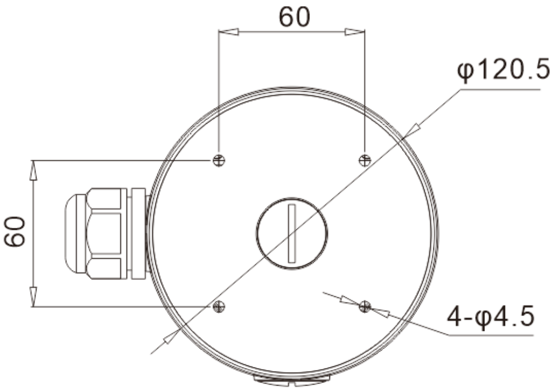
The different brackets of device are having different dimensions, please refer to actual product.

Figure 2-1 The A Bracket with Junction box Dimensions (unit: mm)





F15/F25 L=348mm
F35 L=363.4mm
F50 L=376.4mm



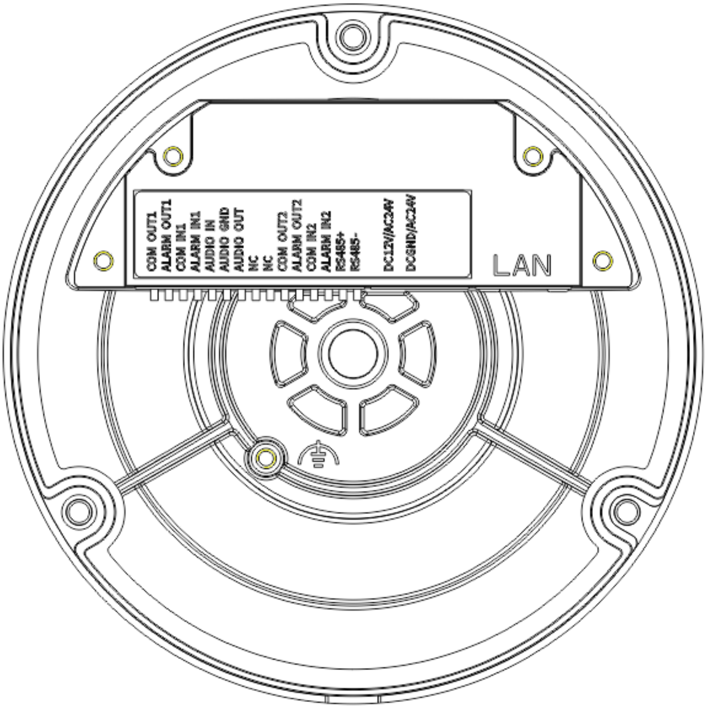
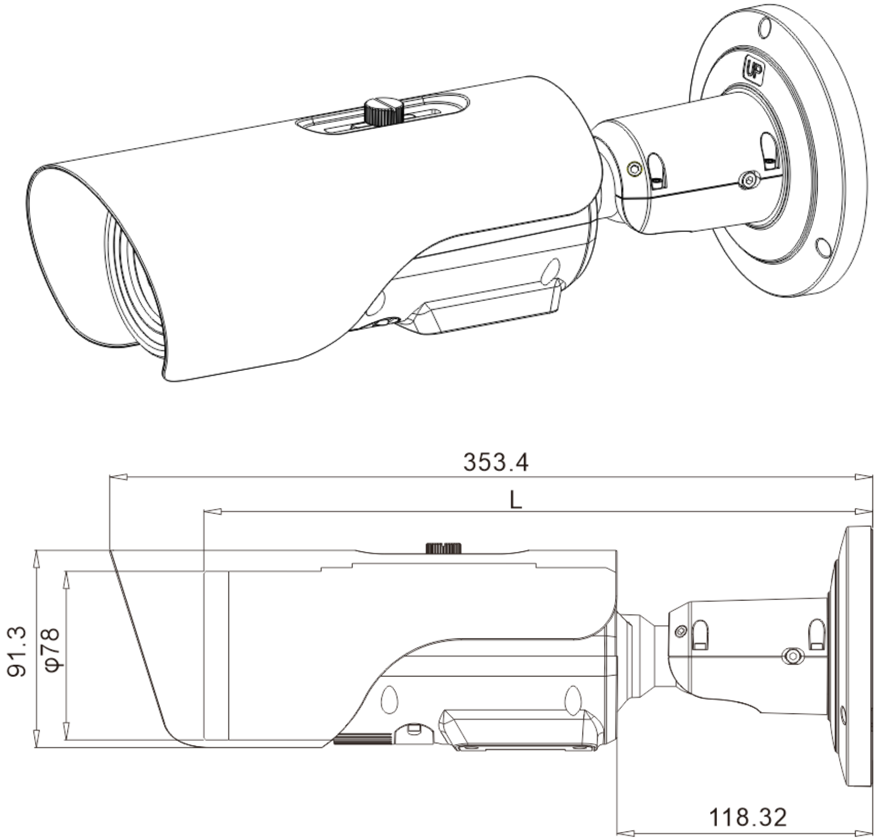

COM OUT1
ALARM OUT1
COM IN1
ALARM IN1
AUDIO IN
AUDIO GND
AUDIO OUT
NC
NC
COM OUT2
ALARM OUT2
COM IN2
ALARM IN2
RS485+
RS485-
DC12V/AC24V
DCGND/AC24V
LAN

Figure 2-2 The B Bracket Dimensions (unit: mm)



F15/F25 L=313.8mm
F35 L=329.4mm
F50 L=341.8mm

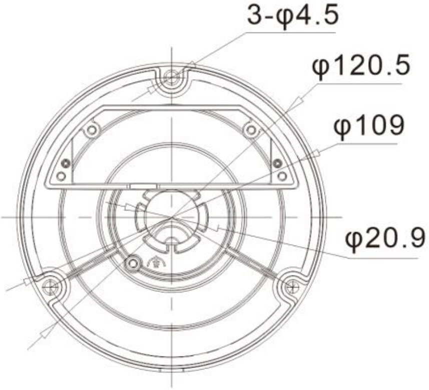
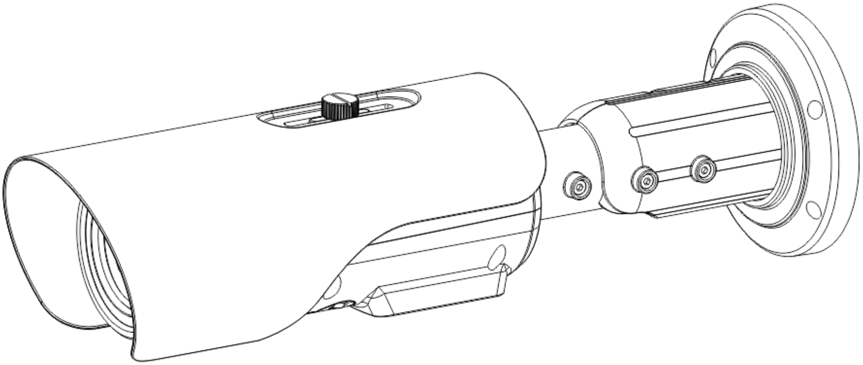
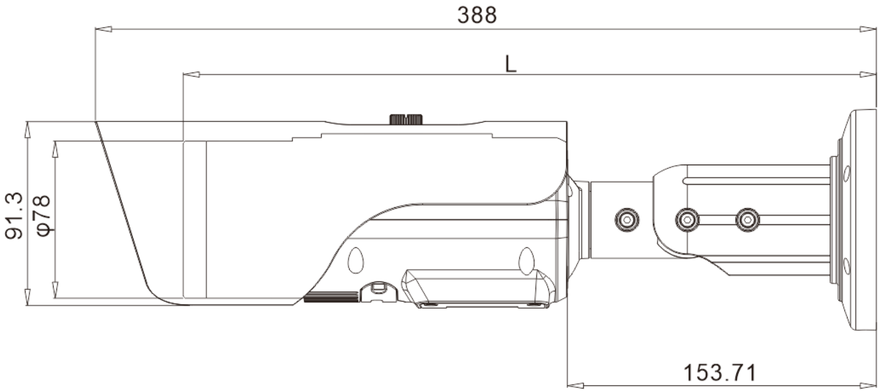
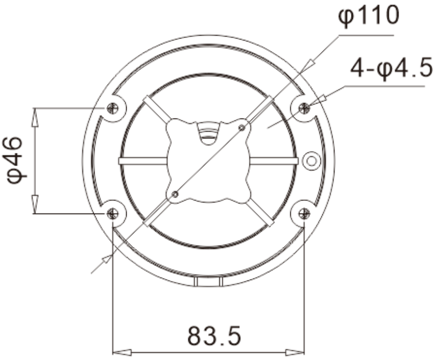


Figure 2-3 The C Bracket Dimensions (unit: mm)





F15/F25 L=348mm
F35 L=363.4mm
F50 L=376.4mm



3 Installation

3.1 Preparations

Tools needed (Not included) and supplied parts are shown in Table 3-1.

Table 3-1 Installation tools

Tools	Appearance
Phillips screwdriver (Not included)	
Claw hammer (Included)	
Hammer drill (Not included)	
Spirit level (Not included)	
T15 ring spanner (Included)	
Stainless hexagon socket head cap bolt (Included)	
Self-tapping screw (Included)	
Inflatable colloidal particle (Included)	

3.2 Installation Mode

The thermal imaging integrated camera can be installed on the ceiling or the wall. You can select the appropriate installation according to your requirements. If the camera needs to be installed on the cement wall, you need to install the expansion screws (the mounting holes of the screws must be consistent with that of the support), and then install the support.

NOTE

The wall where the support is mounted must be able to withstand at least three times of the total weight of the support and the camera.

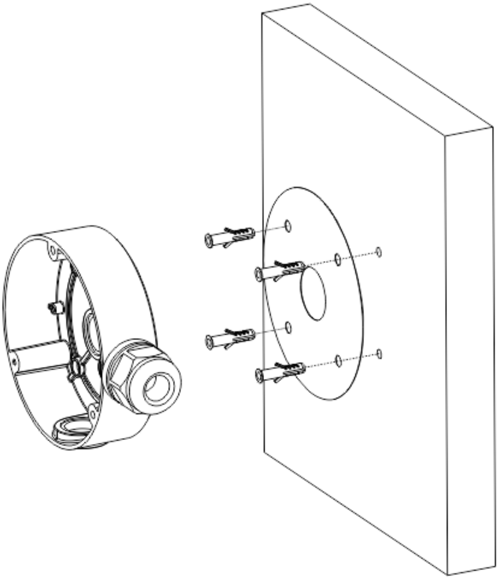
The different brackets have different installation methods, please choose the correspond method according to the purchased product.

3.2.1 Installing A Bracket With Junction Box

Step 1 Take out the installation location label from the package, stick it on the ceiling or the wall. According to the location hole positions shown in the installation location label, punch four location holes on the ceiling or the wall.

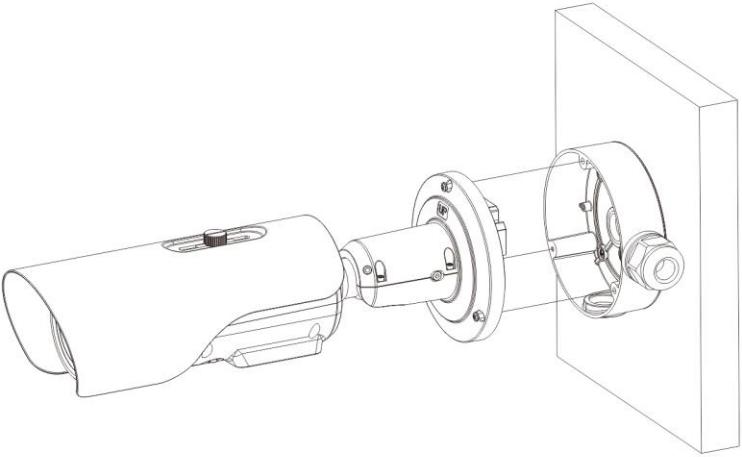
Step 2 Drive the plastic anchors into the holes, fix the junction box by self-tapping screws, as shown in Figure 3-5.

Figure 3-1 Fixing the junction box



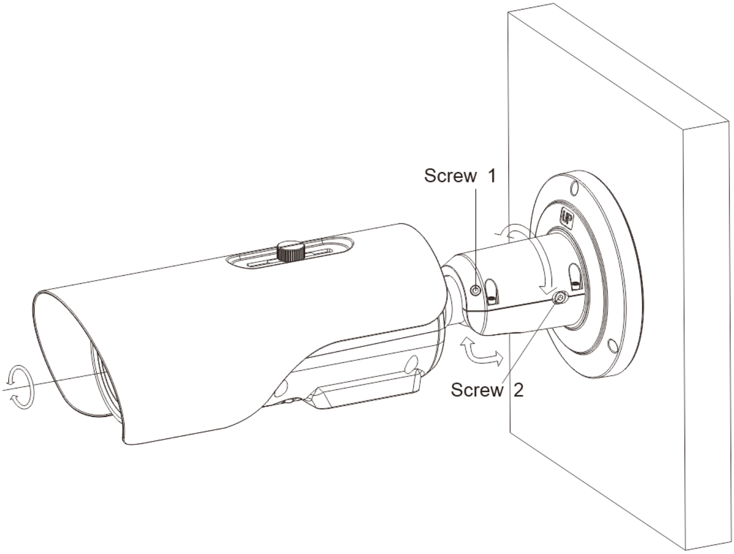
Step 3 Wiring of junction box. Align the holes in bracket with the box and fix the camera to the box with self-tapping screws, as shown in Figure 3-2.

Figure 3-2 Fix the camera to the junction box



Step 4 Connect the multi connector cable. Loosen screw 1 and screw 2, adjust the surveillance angle, as shown in Figure 3-3.

Figure 3-3 Adjust the surveillance angle

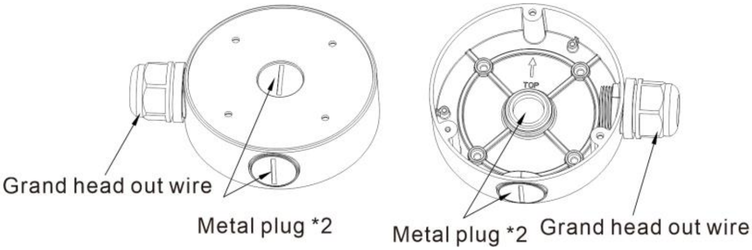


Step 5 After adjusting angle, fix screw 2 and screw 1 in turn to finish installation.

NOTE

- There are three pipe thread interface in the junction box, one of which needs to be used with Grand head, so our company provides two plugs.

Figure 3-4 Installing plug



----End

3.2.2 Installing B Bracket Without Junction Box

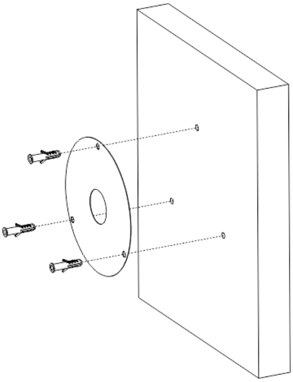
Step 1 Take out the installation location label from the package, stick it on the ceiling or the wall. According to the location hole positions shown in the installation location label, punch three location holes on the ceiling or the wall.

Step 2 Drive the plastic anchors into the holes, as shown in Figure 3-5.

NOTE

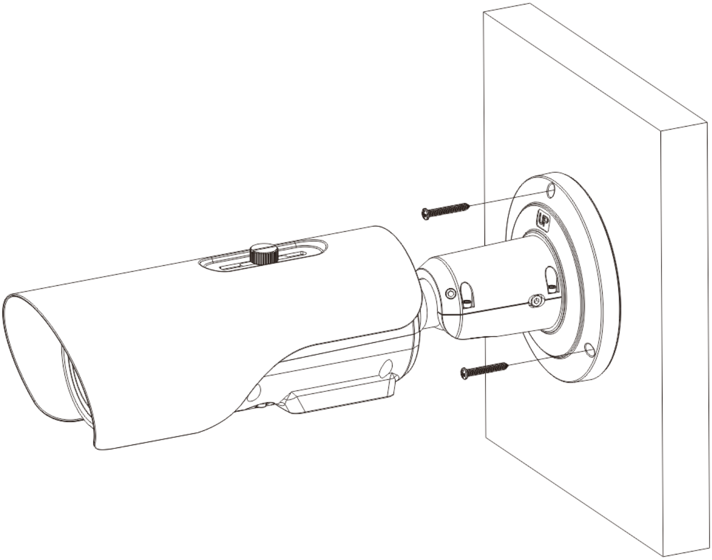
- If you choose the back leading mode, drill a leading-out hole on the ceiling or the wall, as shown in the area highlighted in red in Figure 3-1. (This manual uses the back leading mode as an example.)
- If you choose the side leading mode, lead the multi-connector combination cable from the side notch on the bottom of the camera.

Figure 3-5 Installation location label



Step 3 Align the holes in bracket with the plastic anchors in ceiling or wall, fix the bracket with self-tapping screws, as shown in Figure 3-6.

Figure 3-6 Fixing Camera

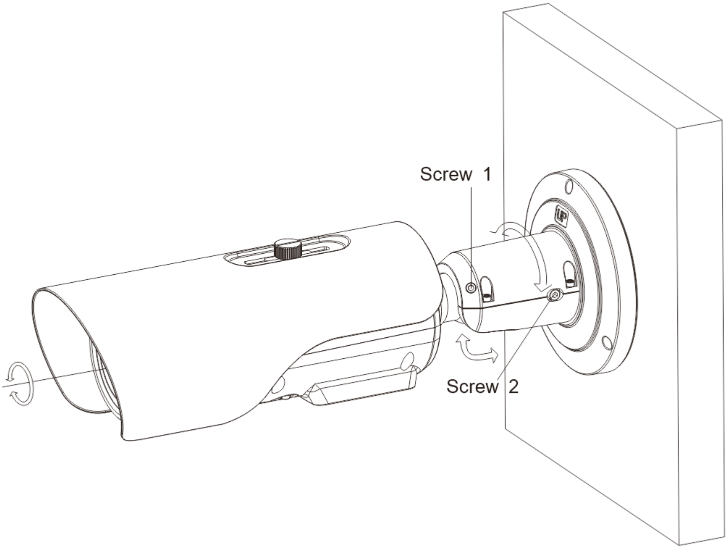


Step 4 Connect the multi connector cable. Loosen the screw 1 and screw 2, adjust the surveillance angle, as shown in Figure 3-7

Step 5 Insert the focusing screw into the screw hole and focus along the direction of arrows.

Step 6 After adjusting angle, fix screw 2 and screw 1 in turn to finish installation, as shown in Figure 3-7.

Figure 3-7 Adjust the surveillance angle



----End

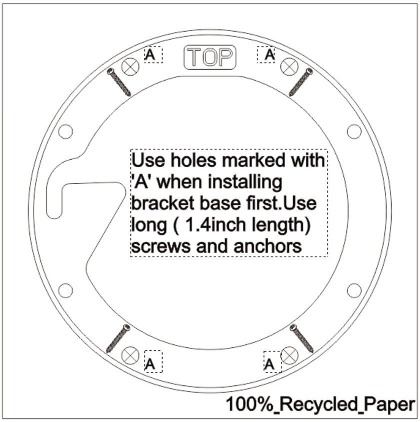
3.2.3 Installing C Bracket

Step 1 Remove the installation location label delivered with the camera. Stick it on the ceiling or the wall, as shown in Figure 3-5.

NOTE

- If you choose the back leading mode, pouch a leading-out hole on the ceiling or the wall, as shown in the area highlighted in red in Figure 3-1. (This manual takes the back leading mode as an example.)
- If you choose the side leading mode, lead the multi-connector combination cable from the side notch on the bottom of the camera.

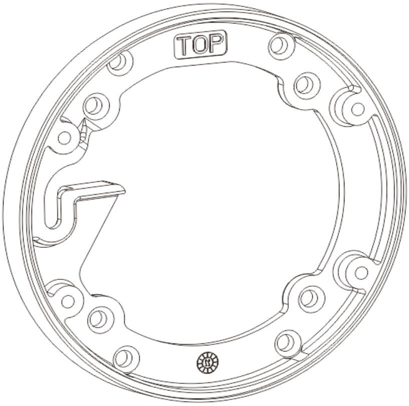
Figure 3-8 Installation location label


A
TOP
A
Use holes marked with 'A' when installing bracket base first.Use long (1.4inch length) screws and anchors
A
A
100%_Recycled_Paper

Step 2 According to the location hole positions shown in the installation location label, punch four location holes with diameter 5 mm on the ceiling or the wall.

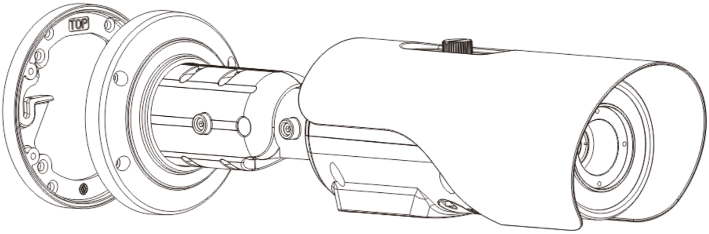
Step 3 Fix the installation base on the wall, as shown in Figure 3-6.

Figure 3-9 Fixing base



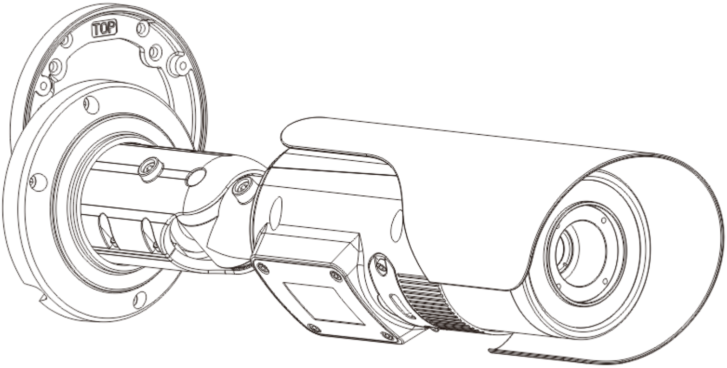
Step 4 Hang the integrated camera into the base along the guide slots and rotate it to a certain angle for facilitate cable connection, as shown in Figure 3-10.

Figure 3-10 Hang the integrated camera into the base



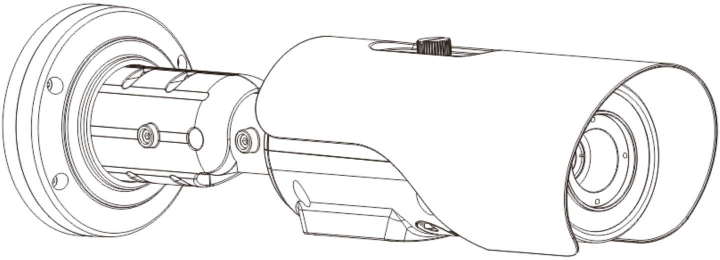
Step 5 Connect and conceal the cables for the integrated camera. After wiring, rotate the integrated camera to align with the installation base, as shown in Figure 3-11.

Figure 3-11 Align with the base



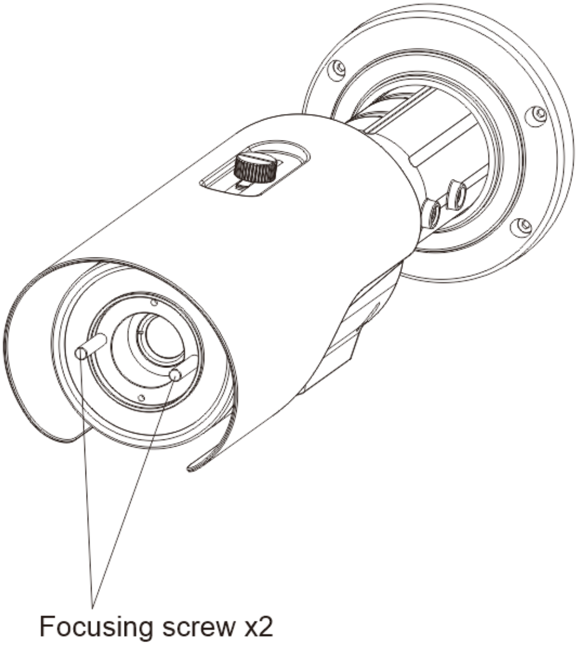
Step 6 Fix the integrated camera to the installation base, as shown in Figure 3-2.

Figure 3-12 Fix the integrated camera to the installation base



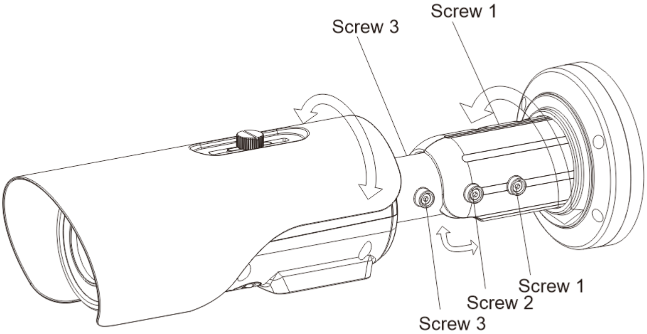
Step 7 Put the screws into the holes and focus by manual as shown in Figure 3-13.

Figure 3-13 Focus with focusing screw



Step 8 Adjust the surveillance angle, as shown in Figure 3-7, and then fix the screws.

Figure 3-14 Adjust the surveillance angle



1. Loosen the screw 1, and adjust the part 1 along the arrow direction. the adjustment angle is 360 degrees.
2. Loosen the screw 2, and adjust the part 2 along the arrow direction. the adjustment angle is 90 degrees.
3. Loosen the screw 3, and adjust the part 3 along the arrow direction. the adjustment angle is 360 degrees.

----End

4 Quick Configuration

4.1 Login and Logout

CAUTION

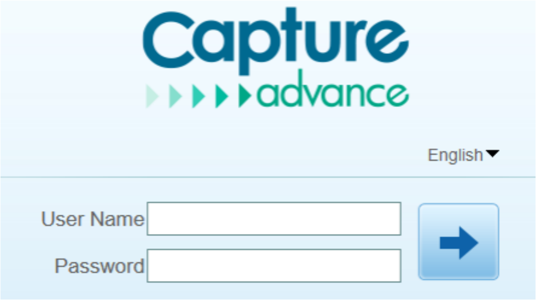
To access the web interface through Internet Explorer 8 or later versions, otherwise, some functions may be unavailable.

Login system

Step 1 Open the Internet Explorer, enter the IP address of IP camera (DHCP is on by default) in the address box, and press Enter.

The login page is displayed, as shown in Figure 4-1.

Figure 4-1 Login page



Step 2 Input the user name and password.

NOTE

- For system security, please change your password after your first login.
- Select the language you need on login page.

Step 3 Click Login.

The main page is displayed.

----End

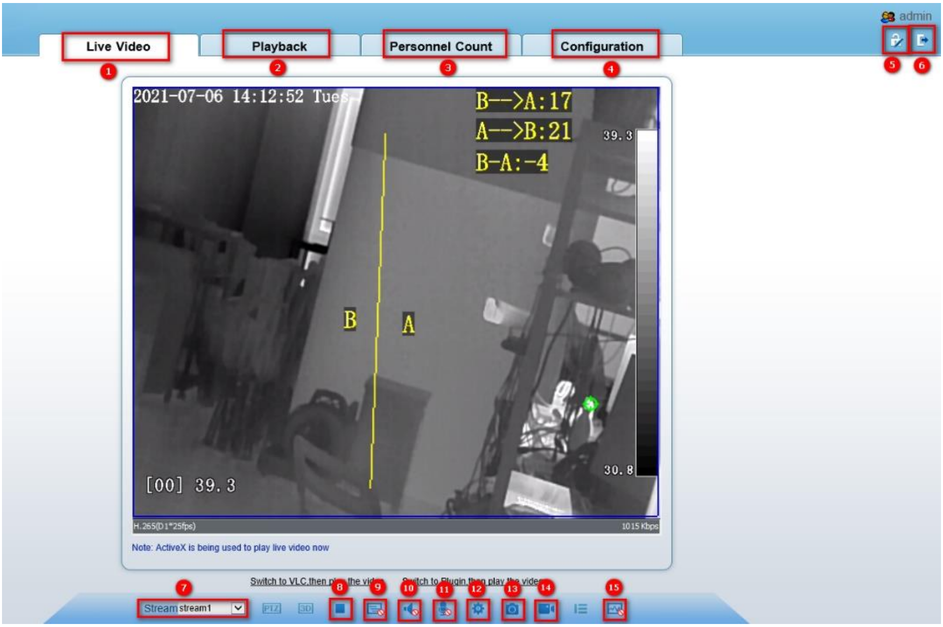
Logout

To logout of system, click in the upper right corner of the main page, the login page is displayed after you log out of the system.

4.2 Main Page Layout

On the main page, you can view Live video, playback and configuration. Parameter setting, Video control, Web login and logout can be performed by PC. The main page layout shown in Figure 4-2. For more details, please refer to Table 4-1.

Figure 4-2 Main page layout



Note: ActiveX is being used to play live video now

Table 4-1 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.

No.	Function	Description
3	Personnel count	Count the number of people passing through the area, the statistic can be shown by line chart, histogram and list, as shown in Figure 4-4.
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 three streams. Choose one type from drop-down 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	Sensor setting	Click to set sensor setting.
13	Snapshot	Click for snapshot
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.

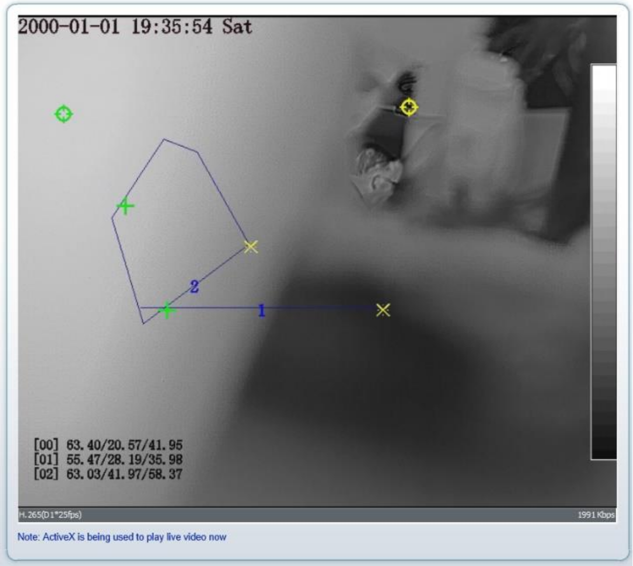
NOTE

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 4-3 The icon



2000-01-01 19:35:54 Sat

```
[00] 63.40/20.57/41.95
[01] 55.47/28.19/35.98
[02] 63.03/41.97/58.37
```

Note: ActiveX is being used to play live video now

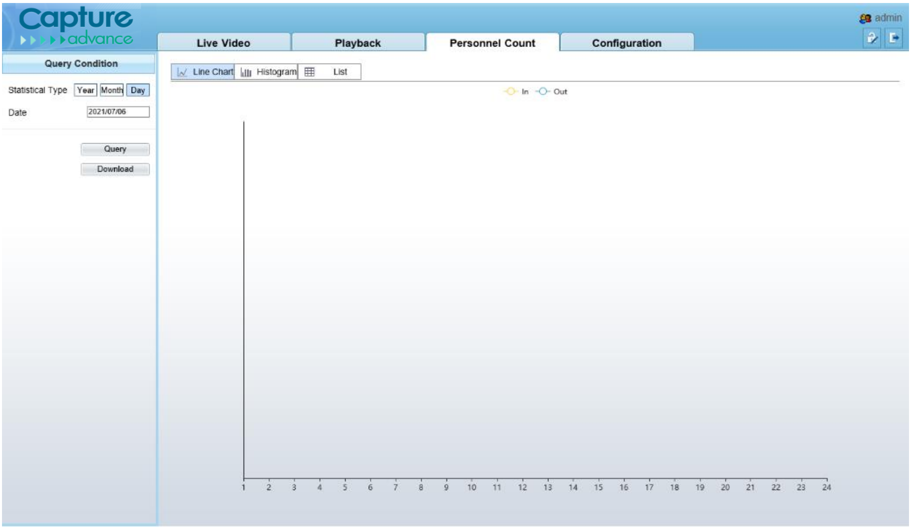
⌖: The lowest temperature of the full screen.

⌖: The highest temperature of the full screen.

✕: The lowest temperature of the area.

+: The highest temperature of the area.

Figure 4-4 Personnel count interface



Date 2021/07/06

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

4.3 Changing the Password

Description

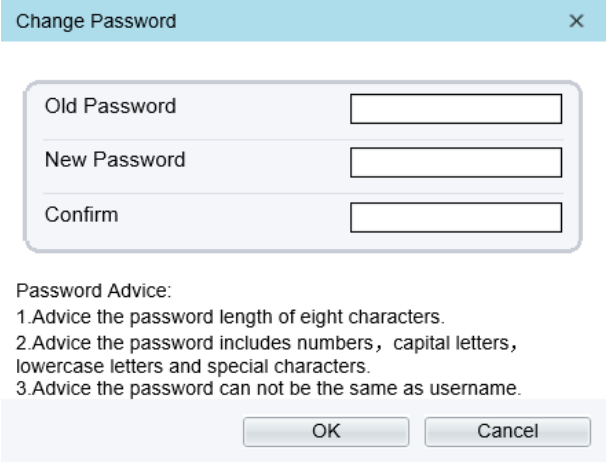
You can click 🔏 to change the current login password.

Procedure

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

The **Change Password** dialog box is displayed, as shown in Figure 4-5.

Figure 4-5 Modify Password dialog box



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.

NOTE

The change password page will be displayed if you don’t change the default password when you login the system for the first time.

Step 2 Enter the old password, new password, and confirm 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 cause is displayed. (For example, the new password length couldn’t be less than eight.)

Step 4 Click **OK**.

The login page is displayed.

----End

4.4 Browsing Video

User can browse the real-time video in the web management system.

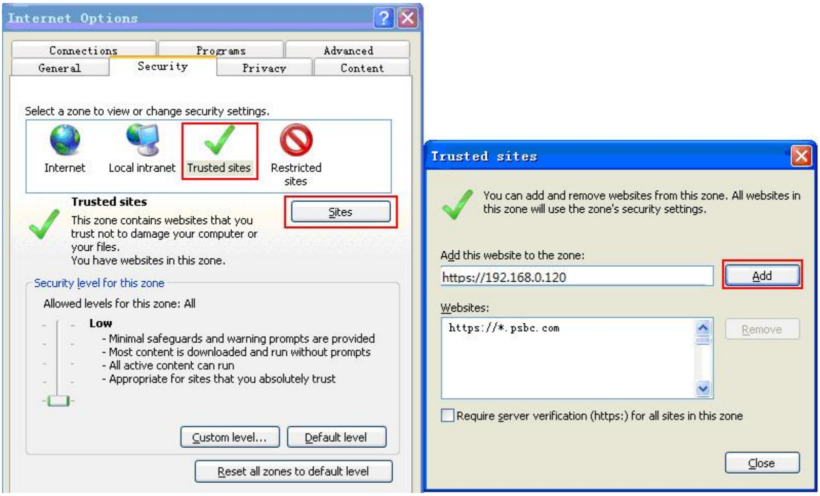
Preparation

In order to view live video normally, the following steps are performed for the first access.

Step 1 Open the Internet Explorer. **Choose Tools** > **Internet options** > **Security** > **Trusted sites** > **Sites.**

In the display dialog box, click **Add**, as shown in Figure 4-6.

Figure 4-6 Adding a trusted site



Select a zone to view or change security settings.

Trusted sites

This zone contains websites that you trust not to damage your computer or your files.
You have websites in this zone.

Security level for this zone

Allowed levels for this zone: All

Low

- Minimal safeguards and warning prompts are provided
- Most content is downloaded and run without prompts
- All active content can run
- Appropriate for sites that you absolutely trust

You can add and remove websites from this zone. All websites in this zone will use the zone's security settings.

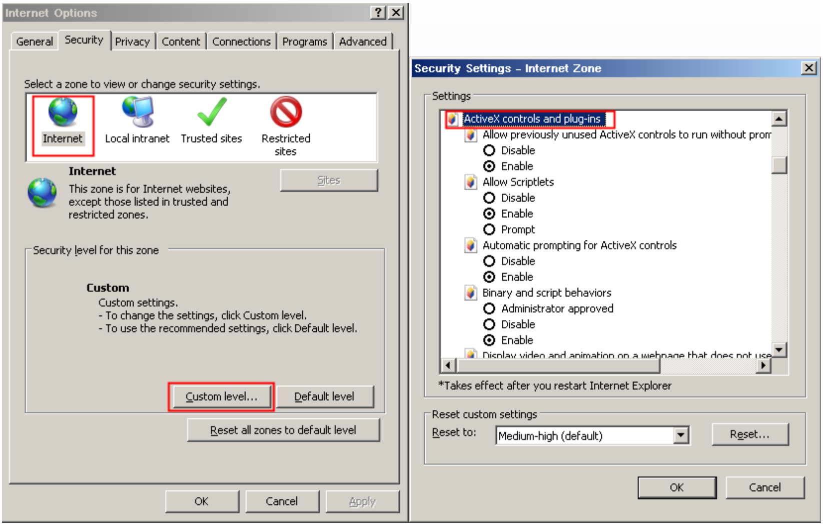
Add this website to the zone:
https://192.168.0.120

Websites:
https://*.psbc.com

☐ Require server verification (https:) for all sites in this zone

Step 2 In the Internet Explorer, choose Tool > Internet Options > Security > Customer level, and and set “Download unsigned ActiveX control” and “initialize and script ActiveX controls” not marked as safe for scripting under “ActiveX controls and plug-ins” to “Enable", as shown in Figure 4-7.

Figure 4-7 Configuring ActiveX control and plug-ins



Select a zone to view or change security settings.

Internet

This zone is for Internet websites, except those listed in trusted and restricted zones.

Security level for this zone

Custom

Custom settings.
- To change the settings, click Custom level.
- To use the recommended settings, click Default level.

Settings

ActiveX controls and plug-ins
- Allow previously unused ActiveX controls to run without prom
  - ○ Disable
  - ● Enable
- Allow Scriptlets
  - ○ Disable
  - ● Enable
  - ○ Prompt
- Automatic prompting for ActiveX controls
  - ○ Disable
  - ● Enable
- Binary and script behaviors
  - ○ Administrator approved
  - ○ Disable
  - ● Enable
- Display video and animation on a webpage that does not use

*Takes effect after you restart Internet Explorer

Reset custom settings

Reset to: Medium-high (default)

Step 3 Download and install the player control as prompted.

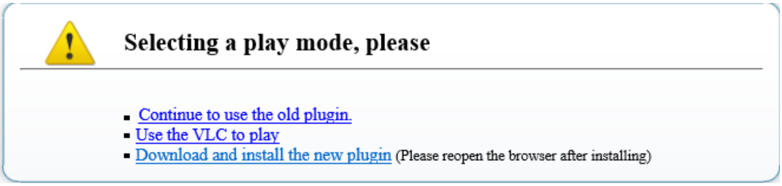
NOTE

The login page is displayed when the control is loaded.

4.4.1 Install Plugins

You will be prompted with a message "Download and install the new plugin" will show as in Figure 4-8, when you log in to the web management system for the first time.

Figure 4-8 Install plugin



Selecting a play mode, please

- Continue to use the old plugin.
- Use the VLC to play
- Download and install the new plugin (Please reopen the browser after installing)

Procedure

Step 1 Click the message, download and install the plugin following the prompts.

Step 2 During installing, user should close the browser.

Step 3 Reopen the browser after installation.

Step 4 Input the IP address to login.

----End

4.5 Setting Local Network Parameters

Description

Local network parameters include:

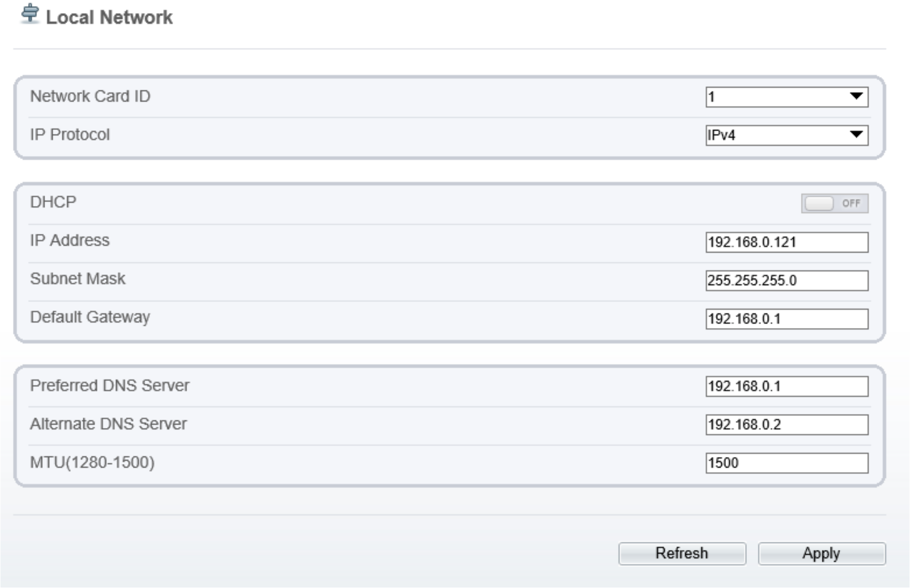
- IP protocol
- IP address
- Subnet mask
- Default gateway
- Dynamic Host Configuration Protocol (DHCP)
- Preferred Domain Name System (DNS) server
- Alternate DNS server
- MTU

Procedure

Step 1 Choose **Configuration** > **Device** >**Local Network**.

The **Local Network** page is displayed, as shown in Figure 4-9.

Figure 4-9 Device information



Network Card ID: 1
IP Protocol: IPv4
DHCP: OFF
IP Address: 192.168.0.121
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.0.1
Preferred DNS Server: 192.168.0.1
Alternate DNS Server: 192.168.0.2
MTU(1280-1500): 1500

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

Table 4-2 Local network parameters

Parameter	Description	Setting
IP Protocol	IPv4 is the Internet Protocol which adopts a 32-bit address.	[Setting method] Select a value from the drop-down list box. [Default value] **IPv4**
DHCP	Enable 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.	N/A

Parameter	Description	Setting
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**
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 pram’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 log in to the system again.
- You can click **Reset** to set the parameters again if required.

----End

5 Thermal Setting

5.1 Temperature Parameters

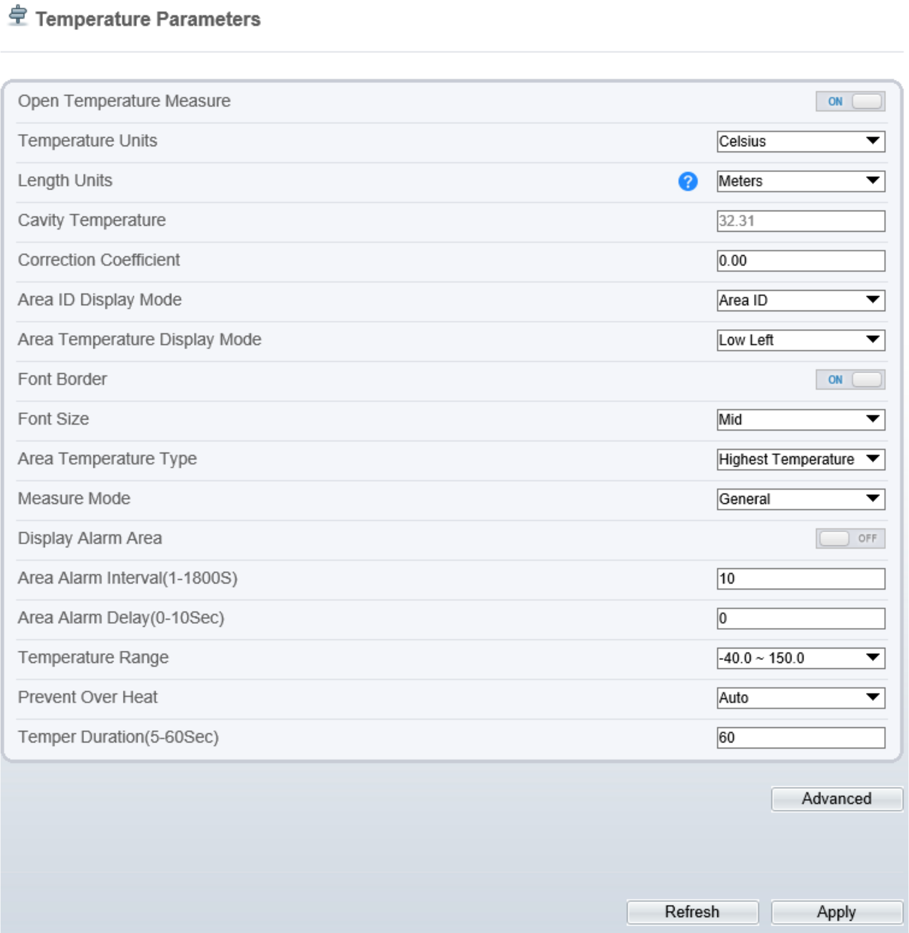
Temperature parameters include: temperature unit, ambient temperature, cavity temperature, correctional coefficient area temperature display mode, and so on.

Operation Procedure

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

The **Temperature Parameters** page is displayed, as shown in Figure 5-1.

Figure 5-1 Temperature Parameters interface



Temperature Parameters

Open Temperature Measure	ON
Temperature Units	Celsius
Length Units	Meters
Cavity Temperature	32.31
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

Step 2 Set the parameters according to Table 5-1.

Table 5-1 Temperature parameters

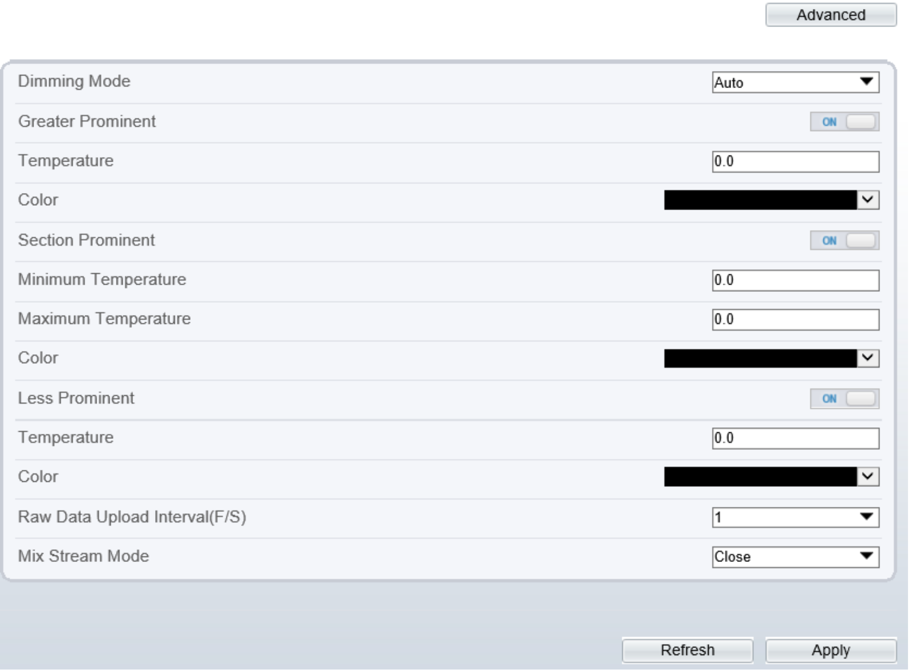
Parameter	Description	Setting
Open Temperature Measure	Enable to open temperature measure.	[Setting method] Enable

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	[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. For example: 1. The measured object temperature is 30, and actual temperature is 37, so the correction coefficient should be **7.** 2. The measured object temperature is 37, and actual temperature is 30, so the correction coefficient should be **-7.**	[Setting method] Enter a value manually. [Default value] **0.00**
Area ID Display Mode	Choose the area ID display mode, Area ID or Area name.	[Setting method] Select a value from the drop-down list box. [Default value] **Area ID**
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] **Disable**

Parameter	Description	Setting
Font Size	Custom font size. There are three sizes can be chosen.	[Setting method] Select a value from the drop-down list box.
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	Choose the measure mode from the drop-down list. Different models may have different mode, please refer to actual product.	[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**
Area Alarm Delay(0-10Sec)	When it happens alarm, it will delay for the setting time. The default value is 0.	[Setting method] Enter a value manually ranges from 1 to 10. [Default value] **0**
Temperature range	It depends the device, different devices have different modes, there are two ranges, such as -20 ℃ -150℃， -40 ℃-150℃.	[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.	[Setting method] Select a value from the drop-down list box.

Parameter	Description	Setting
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	When prevent over heat mode is manual, the user should choose the action manually, such as pick up, lay down.	[Setting method] Select a value from the drop-down list box.

Figure 5-2 Advanced interface



Dimming Mode	Auto
Greater Prominent	ON
Temperature	0.0
Color	⬛
Section Prominent	ON
Minimum Temperature	0.0
Maximum Temperature	0.0
Color	⬛
Less Prominent	ON
Temperature	0.0
Color	⬛
Raw Data Upload Interval(F/S)	1
Mix Stream Mode	Close

Table 5-2 Advance parameters

Parameter	Description	Setting
Dimming Mode	There are auto and manual modes. It will show on temperature item.	[Setting method] Select a value from the drop-down list box. [Default value] **Auto**

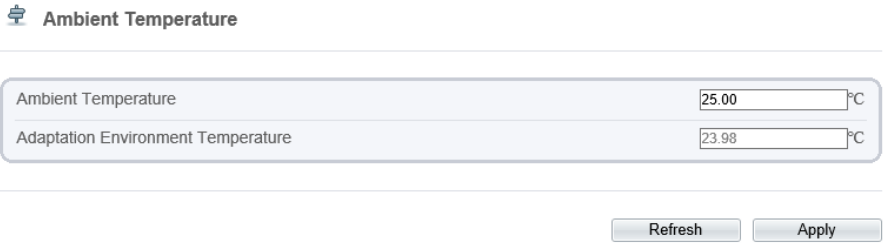
Parameter	Description	Setting
Greater Prominent	Enable that, the image will show the setting color if the temperature is higher than set value.	[Setting method] Enter a value manually. Choose one color to show.
Section Prominent	Enable that, the image will show the setting color if the temperature is between minimum and maximum temperature.	[Setting method] Enter a value manually. Choose one color to show.
Less Prominent	Enable that, the image will show the setting color if the temperature is lower than set value.	[Setting method] Enter a value manually. Choose one color to show.
Raw Data Upload Interval(F/S)	Interval of Upload 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 lighting image to mix.	[Default value] **Close**

----End

5.2 Ambient temperature

Set the ambient temperature of camera, click “Apply” to save the setting, click “Refresh” the adaptation environment temperature will be refresh based on ambient temperature.

Figure 5-3 Ambient temperature



Ambient Temperature 25.00 ℃

Adaptation Environment Temperature 23.98 ℃

Table 5-3 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

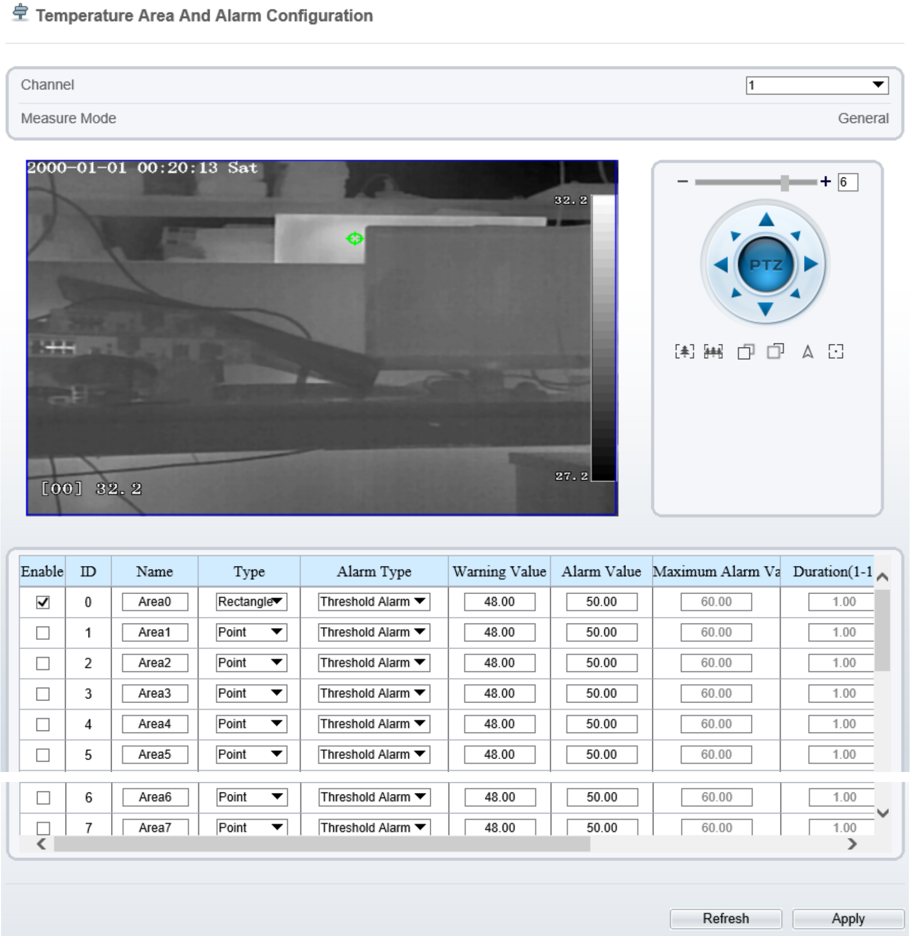
5.3 Temperature Area

Operation Procedure

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

The **Temperature Area** page is displayed, as shown in Figure 5-4

Figure 5-4 Temperature area and alarm configuration



Temperature Area And Alarm Configuration

Channel: 1

Measure Mode: General

Enable	ID	Name	Type	Alarm Type	Warning Value	Alarm Value	Maximum Alarm Va	Duration(1-1
☑	0	Area0	Rectangle	Threshold Alarm	48.00	50.00	60.00	1.00
☐	1	Area1	Point	Threshold Alarm	48.00	50.00	60.00	1.00
☐	2	Area2	Point	Threshold Alarm	48.00	50.00	60.00	1.00
☐	3	Area3	Point	Threshold Alarm	48.00	50.00	60.00	1.00
☐	4	Area4	Point	Threshold Alarm	48.00	50.00	60.00	1.00
☐	5	Area5	Point	Threshold Alarm	48.00	50.00	60.00	1.00
☐	6	Area6	Point	Threshold Alarm	48.00	50.00	60.00	1.00
☐	7	Area7	Point	Threshold Alarm	48.00	50.00	60.00	1.00

Step 2 Set the parameters according to Table 5-4

Table 5-4 Temperature area and alarm configuration

Parameter	Description	Setting
Channel	N/A	[Setting method] Select a value from the drop-down list box. [Default value] 1
Measure Mode	Set at temperature parameter interface.	N/A

Parameter	Description	Setting
Name	Area name of temperature area.	[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. It need to set the alarm schedule	[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**
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**
Duration (1-10S)	Choose temperature rise alarm, set the duration, the temperature rise the value and it is kept for duration setting, the alarm is triggered successfully.	

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

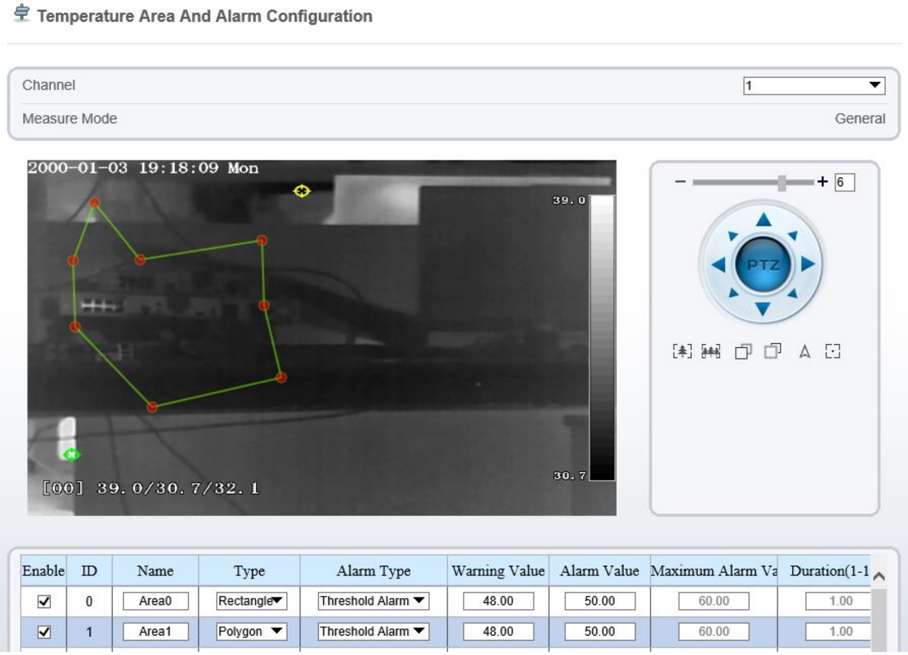
Step 3 **Set temperature area**.

Step 1. Select an area ID

Step 2. Select type from drop-list.

Step 3. Press and hold the left mouse button, and drag in the video area to draw a temperature area, as shown in Figure 5-5.

Figure 5-5 Temperature Area Setting Interface



Temperature Area And Alarm Configuration

Channel: 1

Measure Mode: General

2000-01-03 19:18:09 Mon

[00] 39.0/30.7/32.1

Enable	ID	Name	Type	Alarm Type	Warning Value	Alarm Value	Maximum Alarm Va	Duration(1-1
☑	0	Area0	Rectangle	Threshold Alarm	48.00	50.00	60.00	1.00
☑	1	Area1	Polygon	Threshold Alarm	48.00	50.00	60.00	1.00

Step 4. Click **Apply**, the message “Apply success” pops up, the temperature area is set successfully.

Delete a temperature area:

Step 1. Select an area ID

Step 2. Click the temperature area and right-click.

Step 3. Click Apply, the message “Apply success” pops up, the temperature area is deleted successfully.

Step 4 Click **Apply**.

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

----End

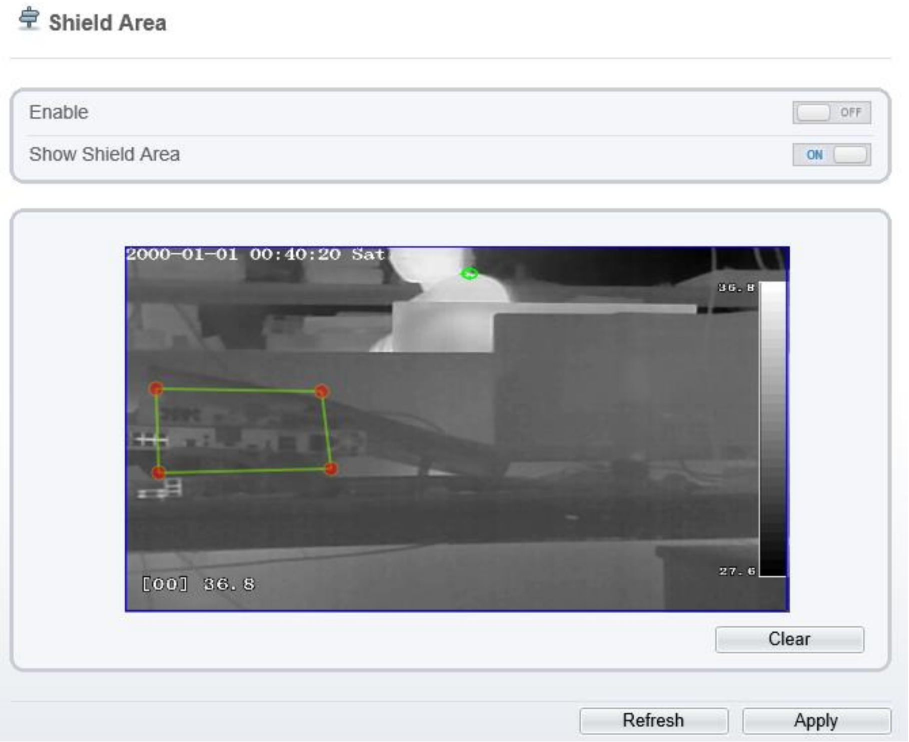
5.4 Shield Area

Shield area is meaning that the camera will not to detect the temperature of that area.

Operation Procedure

Step 1 Choose **Configuration** >**Thermal** > **Shield Area.**

Figure 5-6 Shield Area



Step 2 Enable the shield area.

Step 3 Enable **Show Shield Area,** then the setting shield will show on live video.

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

Step 5 Click **Clear** to clear the shield area.

----End

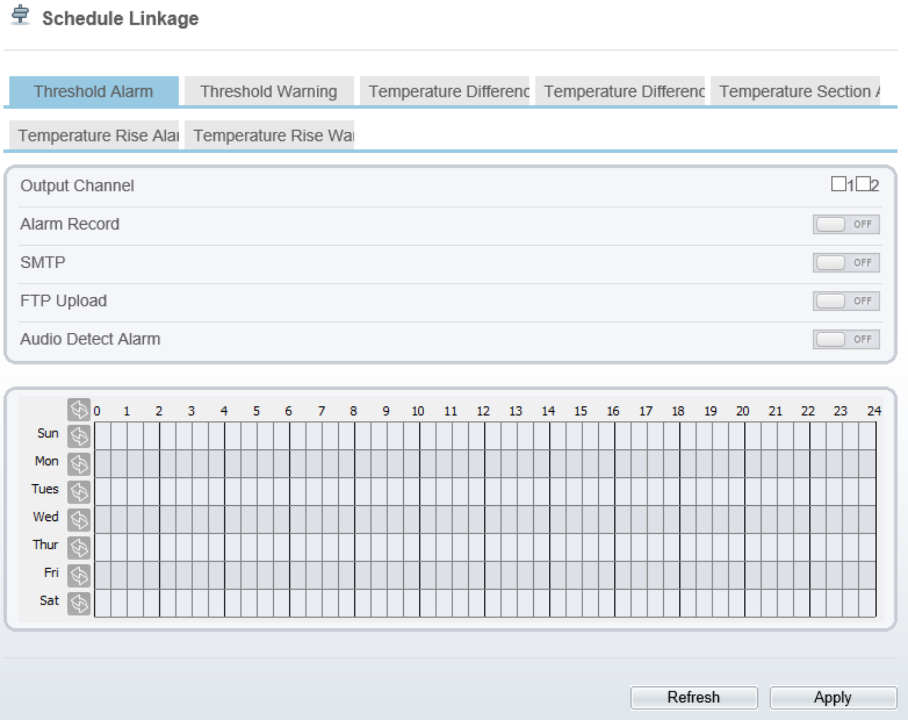
5.5 Schedule Linkage

Operation Procedure

Step 1 Choose **Configuration** >**Thermal** > **Schedule Linkage**

The **Schedule Linkage** page is displayed, as shown in Figure 5-7

Figure 5-7 Schedule Linkage



Output Channel ☐1 ☐2

Alarm Record OFF

SMTP OFF

FTP Upload OFF

Audio Detect Alarm OFF

Step 2 Tick the output channel.

Step 3 Enable “Alarm Record”, “SMTP”,”FTP” , “Audio Detect Alarm” button.

Step 4 Set schedule linkage.

Method 1： Left click to select any time point within 0:00-24:00 from Monday to Sunday as shown in Figure 5-7.

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

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 5 Click **Apply**.

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

----End

5.6 Bad Point Check

Description

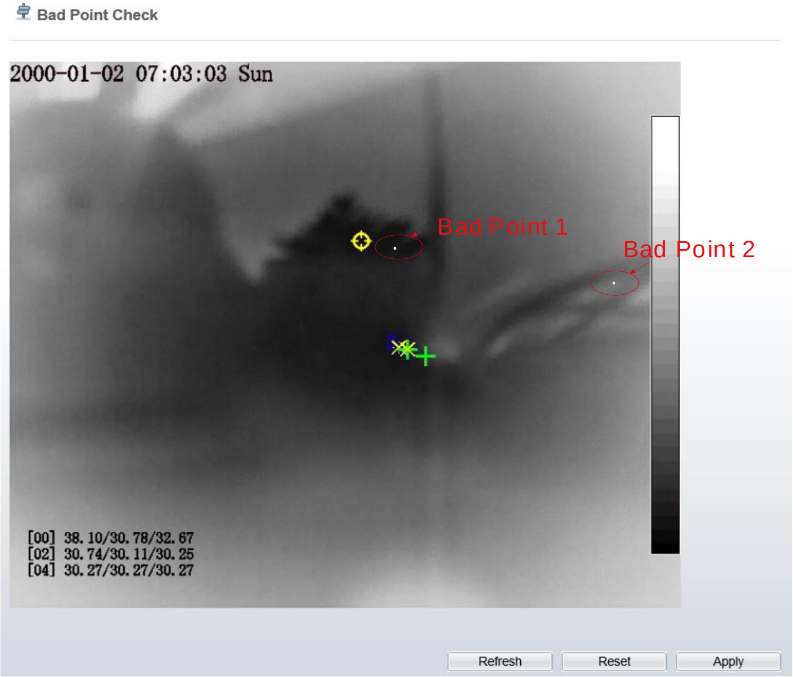
The points that can’t move when the environment or scenario change is bad point. You can delete the bad point by bad point check function.

Procedure

Step 1 Choose **Configuration** >**Thermal** > **Bad Point Check**

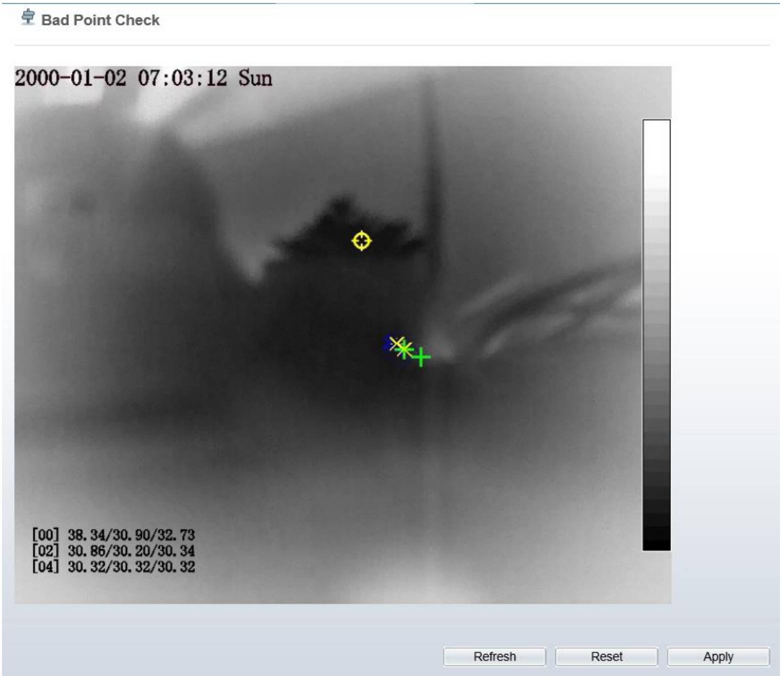
The **Bad Point Check** page is displayed, as shown in Figure 5-8.

Figure 5-8 Bad Point Check



Step 2 Click the white point at image, click **Apply** to recover the bad point, as shown in Figure 5-9

Figure 5-9 Recover bad point



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

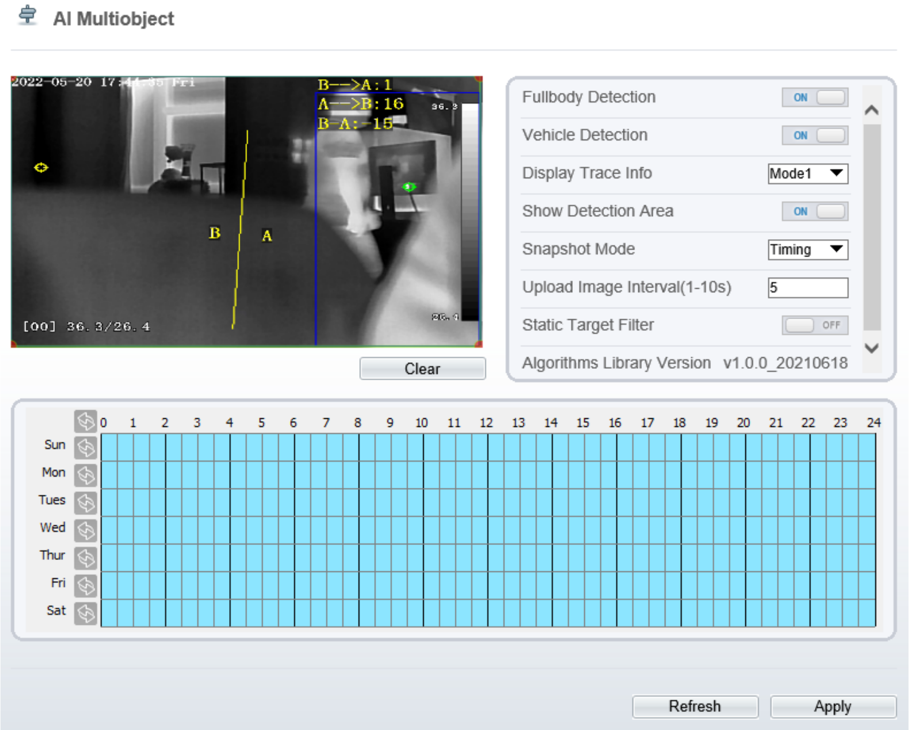
Step 4 Click **Apply.** The message "Apply success" is displayed, the system saves the settings.

----End

6 AI Multiobject

6.1 Parameters of AI Multiobject

Figure 6-1 AI Multiobject



AI Multiobject

Fullbody Detection	ON
Vehicle Detection	ON
Display Trace Info	Mode1
Show Detection Area	ON
Snapshot Mode	Timing
Upload Image Interval(1-10s)	5
Static Target Filter	OFF
Algorithms Library Version	v1.0.0_20210618

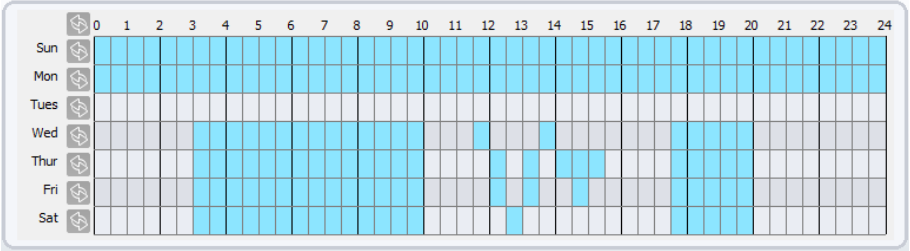
Table 6-1 Parameters of AI multiobject

Parameter	Description	How to set
Full body detection	The camera will snap the whole body when someone appears in live video.	Enable
Vehicle detection	The camera will snap the vehicle when the vehicles appears in live video.	Enable
Display trace info	Enable the function and a trace frame will show at live video.	Choose from drop list.

Parameter	Description	How to set
Show detection area	Enable to set a detection area, and the frame will show at live video	Enable
Snapshot mode	There are three mode can be chosen, such as timing, and optimal.	Choose from drop list.
Upload image interval(1-10 s)	At timing mode, set the interval of upload image.	Input a value ranges 1 to 10
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 6-2 Schedule



7 Intelligent Analysis

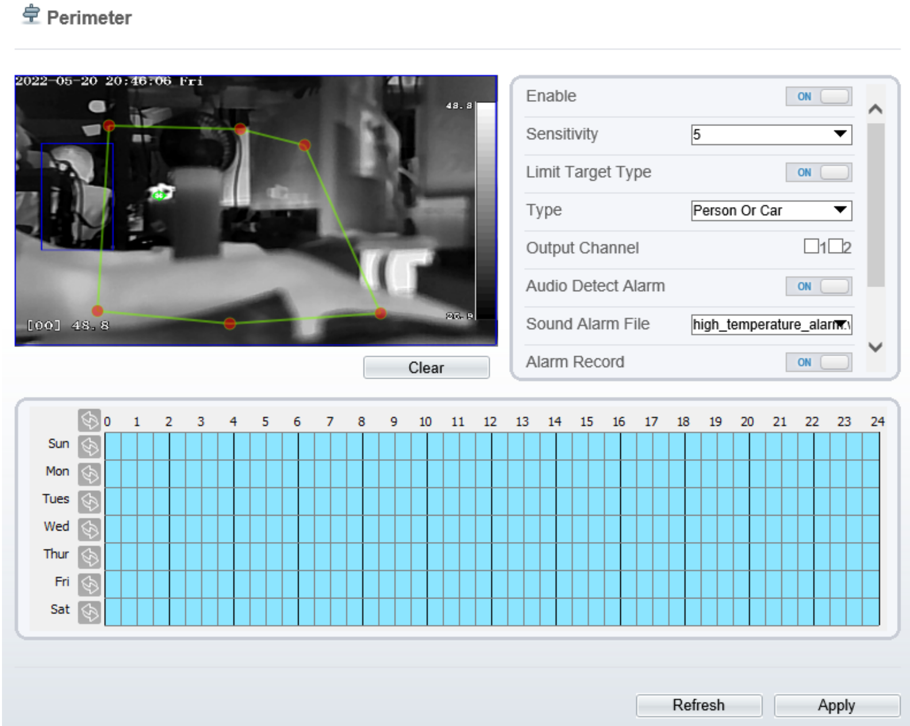
7.1 Perimeter

The perimeter 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** > **Perimeter** to access the **Perimeter** interface, as shown in Figure 7-1.

Figure 7-1 Perimeter Setting Interface



Perimeter

Enable: ON

Sensitivity: 5

Limit Target Type: ON

Type: Person Or Car

Output Channel: ☐1 ☐2

Audio Detect Alarm: ON

Sound Alarm File: high_temperature_alarm

Alarm Record: ON

Step 2 Set all parameters for perimeter. Table 7-1 describes the specific parameters.

Table 7-1 Perimeter Parameter Description

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.
Audio detection alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the sound alarm file (set at the "**Configuration > Alarm > Sound 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

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 7-2.

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.

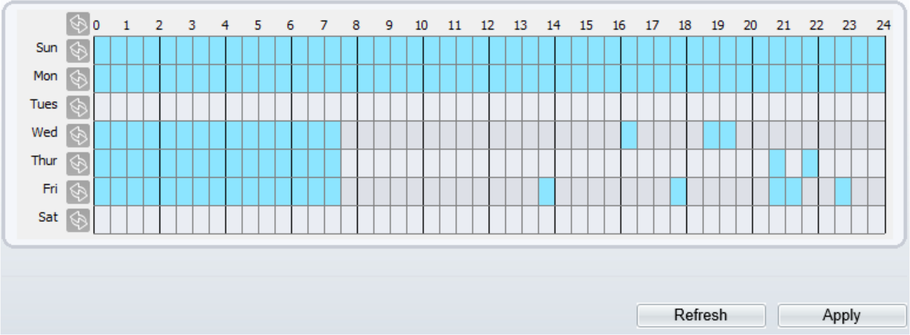
NOTE

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 7-2 Deployment Time Setting Interface



----End

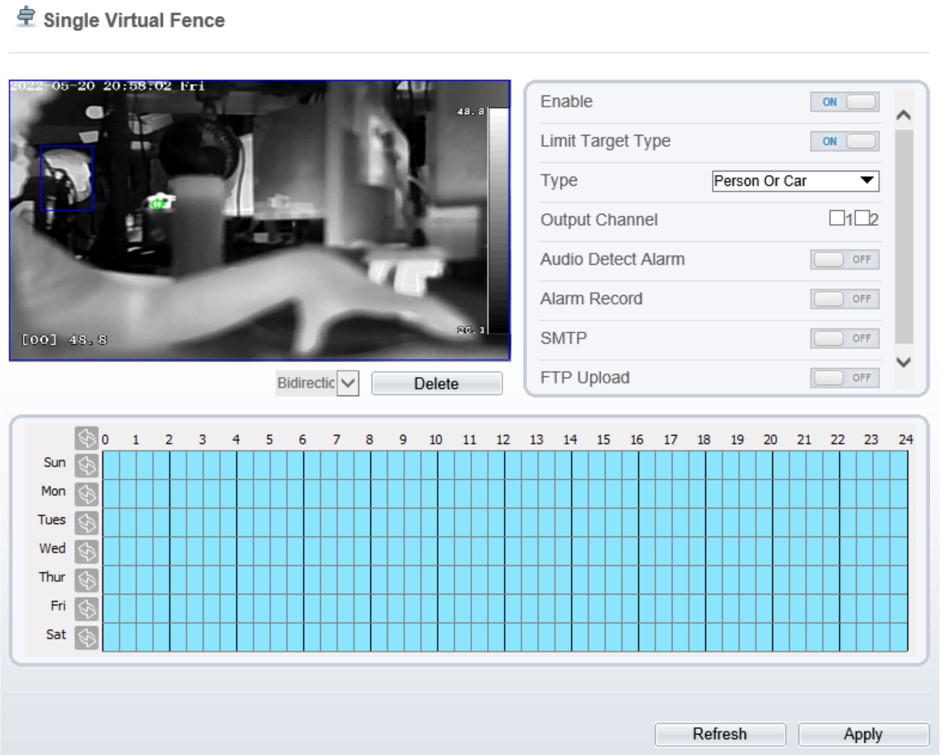
7.2 Single Virtual Fence

A single virtual fence 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 Virtual Fence** to access the **Single Virtual Fence** setting interface, as shown in Figure 7-3.

Figure 7-3 Single Virtual Fence Setting Interface



Single Virtual Fence

Enable ON

Limit Target Type ON

Type Person Or Car

Output Channel ☐1☐2

Audio Detect Alarm OFF

Alarm Record OFF

SMTP OFF

FTP Upload OFF

Step 2 Set all parameters for the single virtual fence. Table 7-2 describes the specific parameters.

Table 7-2 Description of Parameters for Single Virtual Fence

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 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.
Audio detection alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the sound alarm file (set at the "**Configuration > Alarm > Sound 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

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 virtual fence is generated.

Setting a single virtual fence: click a line (and the trip line turns red) to select the single virtual fence 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 virtual fence 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 virtual fence 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 virtual fence 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 virtual fence which detects person foot as the recognition target cannot be too short, because a short single virtual fence tends to miss targets.

Step 4 Set deployment time

For more details please refer to 7.1 Step 4

----End

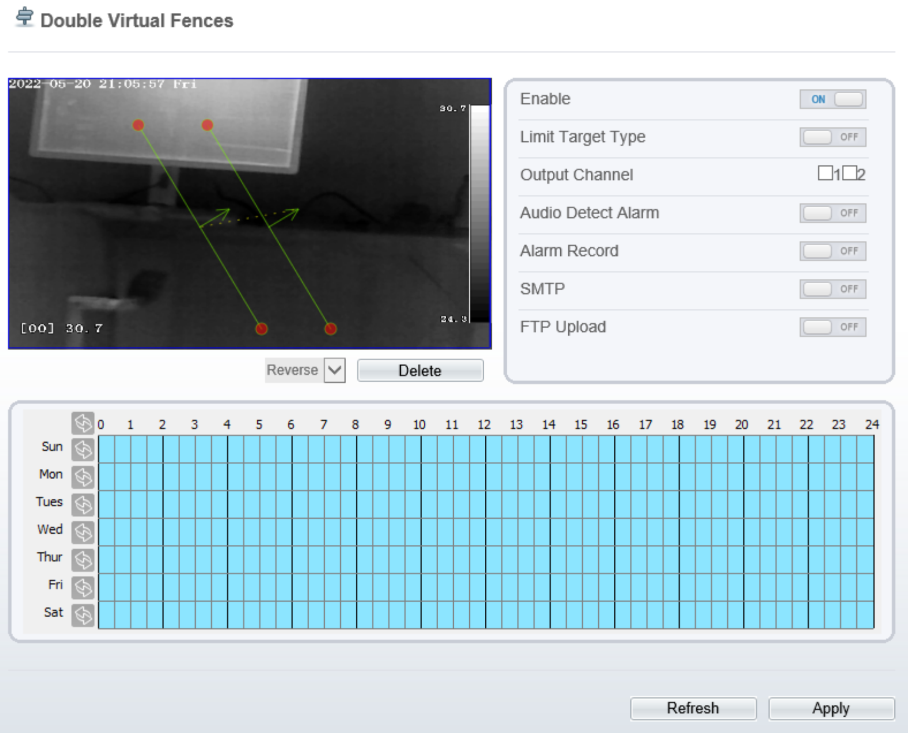
7.3 Double Virtual Fences

Double virtual fences 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 Virtual Fences** to access the **Double Virtual Fences** setting interface, as shown in Figure 7-4.

Figure 7-4 Double Virtual Fences Setting Interface



Enable ON

Limit Target Type OFF

Output Channel ☐1 ☐2

Audio Detect Alarm OFF

Alarm Record OFF

SMTP OFF

FTP Upload OFF

Step 2 Set all parameters for the double virtual fences. Table 7-3 describes the specific parameters.

Table 7-3 Description of Parameters for Double Virtual Fence

Parameter	Description	Setting
Enable	Enable the button to enable the alarm.	[How to set] Click 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 as person for indoor use.	[How to set] Click to enable Limit Target Type. [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.
Audio detection alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the sound alarm file (set at the "**Configuration** > **Alarm** > **Sound 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

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 virtual fences to set the direction to Positive or Reverse.

Setting double virtual fences: Click one of the double virtual fences (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 virtual fences.

NOTE

- The two virtual fences 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 virtual fences 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 virtual fences 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 virtual fences which detect person foot as the recognition target cannot be too short, because short double virtual fences tend to miss targets.

Step 4 Set deployment time.

For more details please refer to 7.1 Step 4.

----End

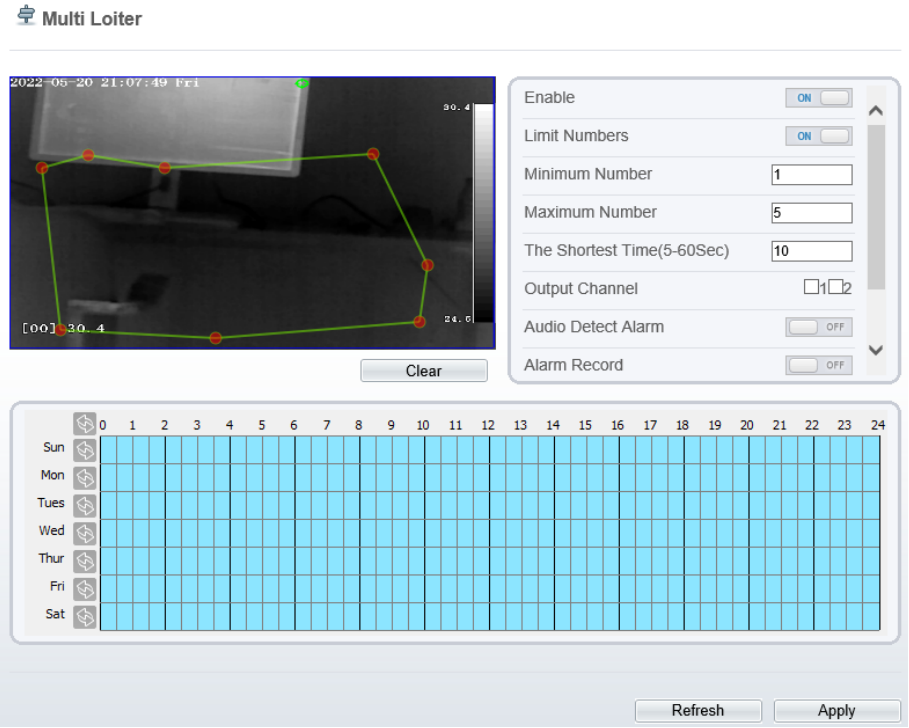
7.4 Multi Loiter

Multiple loiter 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 Loiter** to access the **Multi Loiter** setting interface, as shown in Figure 7-5.

Figure 7-5 Multi Loiter Setting Interface



Enable	ON
Limit Numbers	ON
Minimum Number	1
Maximum Number	5
The Shortest Time(5-60Sec)	10
Output Channel	☐1 ☐2
Audio Detect Alarm	OFF
Alarm Record	OFF

Step 2 Set all parameters for multiple loitering. Table 7-4 describes the specific parameters.

Table 7-4 Multiple Loitering Parameter Description

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

Parameter	Description	Setting
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.
Audio detection alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the sound alarm file (set at the "**Configuration > Alarm > Sound 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.

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 7.1 Step 4

----End

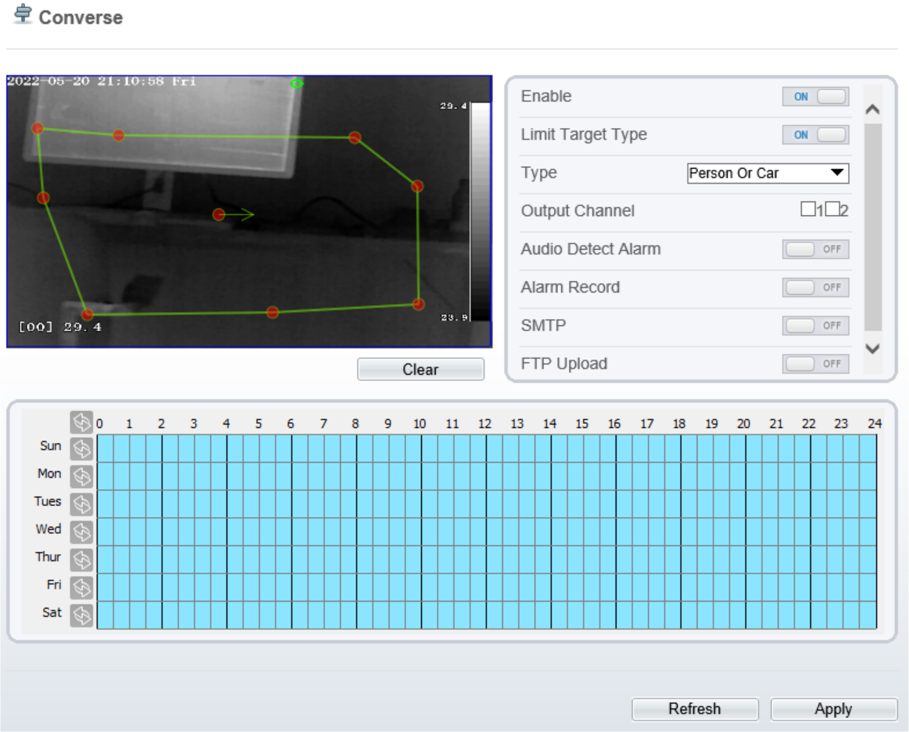
7.5 Converse

Converse 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** > **Converse** to access the **Converse** setting interface, as shown in Figure 7-6.

Figure 7-6 Converse Setting Interface



Enable ON
Limit Target Type ON
Type Person Or Car
Output Channel ☐1 ☐2
Audio Detect Alarm OFF
Alarm Record OFF
SMTP OFF
FTP Upload OFF

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

Table 7-5 Converse Parameter Description

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

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.
Audio detection alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the sound alarm file (set at the "**Configuration > Alarm > Sound 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, move the arrow in the field can set the direction of converse.

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 7.1 Step 4**.**

----End

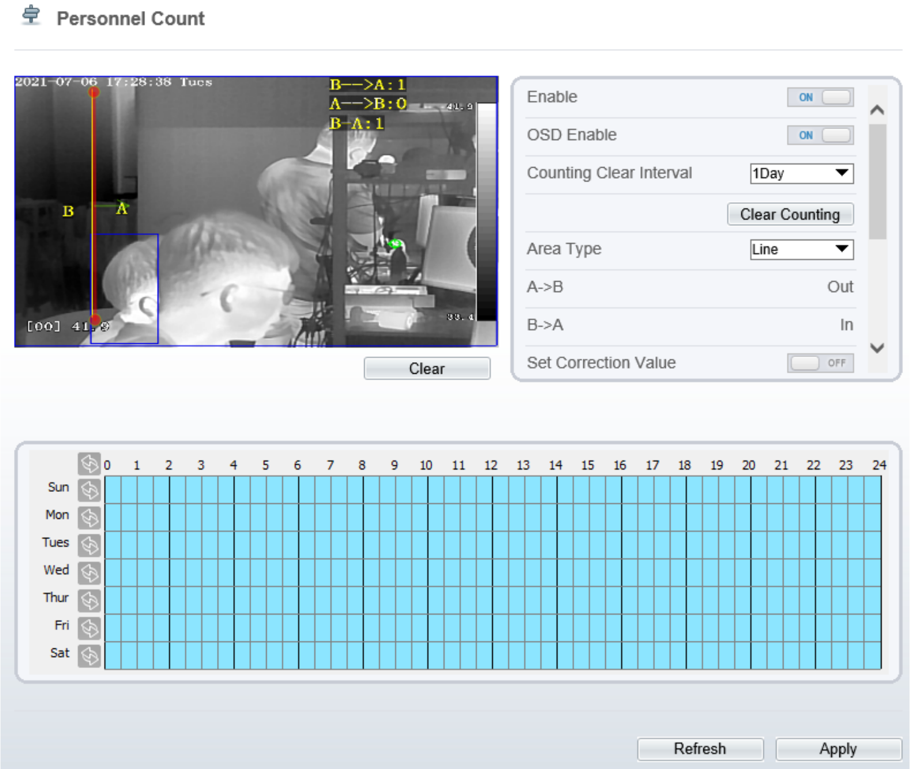
7.6 Personnel count

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. 0

Procedure

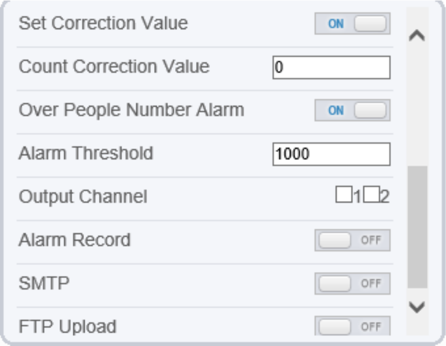
Step 1 Select **Intelligent Analysis** > **Personnel Count** to access the **Personnel Count** setting interface, as shown in Figure 7-7.

Figure 7-7 Personnel count



Personnel Count

Enable	ON
OSD Enable	ON
Counting Clear Interval	1Day
Area Type	Line
A->B	Out
B->A	In
Set Correction Value	OFF


Set Correction Value: ON
Count Correction Value: 0
Over People Number Alarm: ON
Alarm Threshold: 1000
Output Channel: ☐1 ☐2
Alarm Record: OFF
SMTP: OFF
FTP Upload: OFF

Step 2 Set all parameters for illegal parking. Table 7-6 describes the specific parameters.

Table 7-6 Description of Parameters for Personnel Count

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

Parameter	Description	Setting
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
Alarm Threshold	The threshold of enable alarm.	[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.
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 7.1 Step 4.

----End

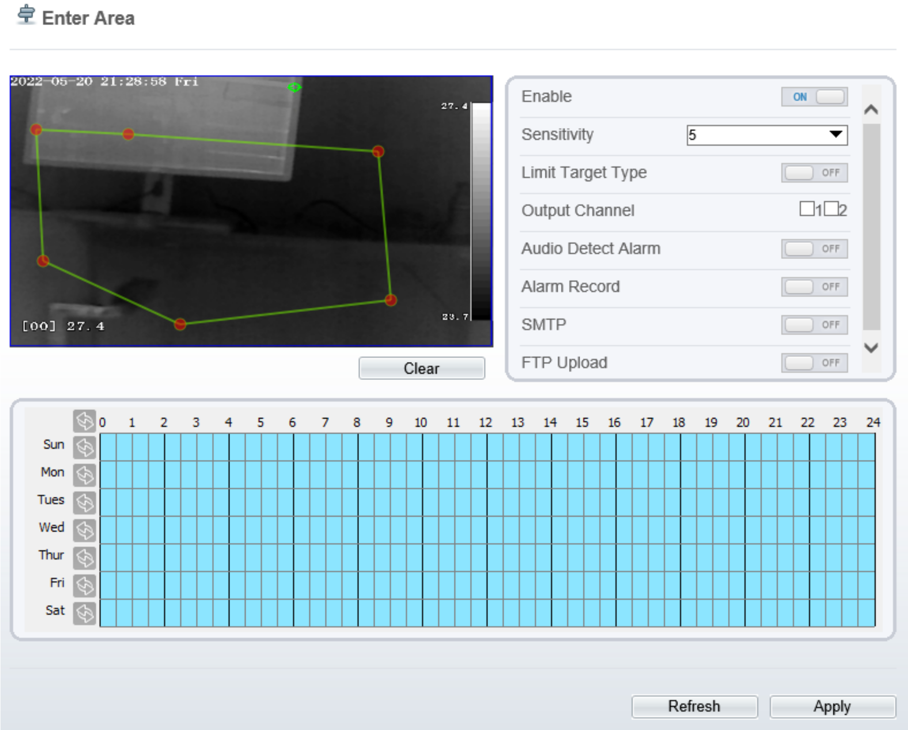
7.7 Enter Area

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 7-8.

Figure 7-8 Enter area



Enter Area

Enable: ON

Sensitivity: 5

Limit Target Type: OFF

Output Channel: ☐1 ☐2

Audio Detect Alarm: OFF

Alarm Record: OFF

SMTP: OFF

FTP Upload: OFF

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

Table 7-7 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

Parameter	Description	Setting
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.
Audio detection alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the sound alarm file (set at the "**Configuration > Alarm > Sound 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 7.1 Step 4.

----End

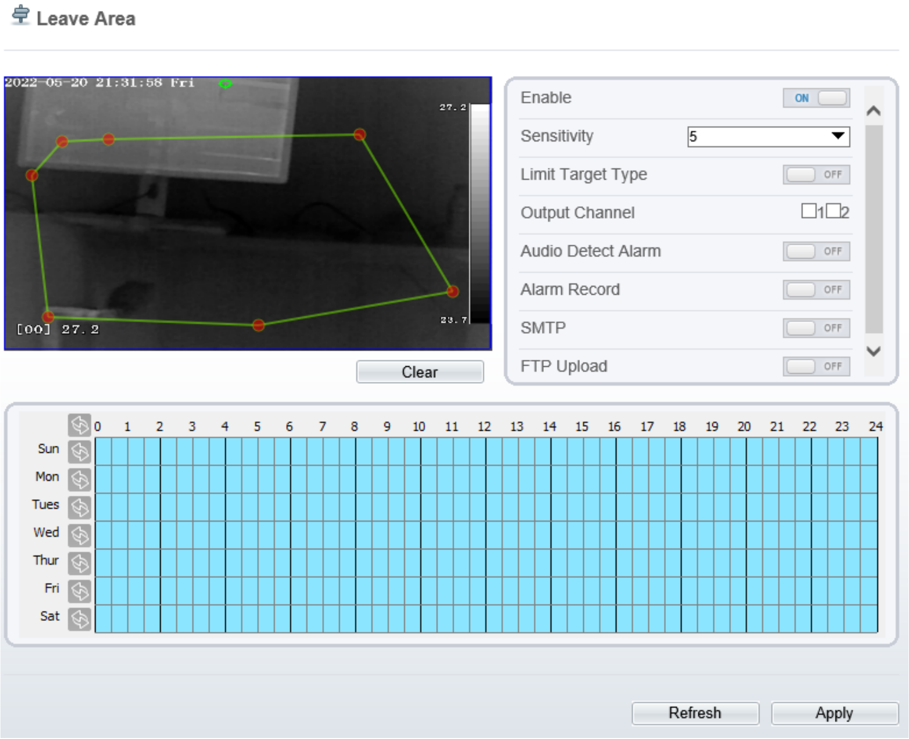
7.8 Leave Area

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 7-9.

Figure 7-9 Leave area



Leave Area

Enable ON
Sensitivity 5
Limit Target Type OFF
Output Channel ☐1 ☐2
Audio Detect Alarm OFF
Alarm Record OFF
SMTP OFF
FTP Upload OFF

Step 2 Set all parameters for illegal parking. Table 7-8 describes the specific parameters.

Table 7-8 Description of Parameters for leave 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.
Audio detection alarm	Enable, when the alarm happens, it will be play audio to alarm. Choose the sound alarm file (set at the "**Configuration > Alarm > Sound 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

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 7.1 Step 4**.**

----End

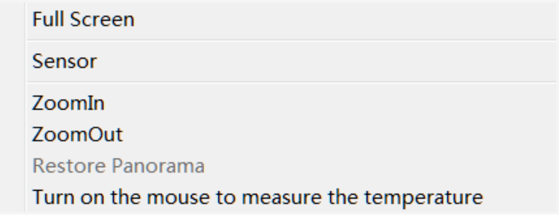
8 Image Settings

8.1 Image Settings Configuration

Operation Procedure

Step 1 On the Edge browser, select Live Video and right-click the surveillance image to set, as shown in Figure 8-1.

Figure 8-1 Right-click configuration



Full Screen

Sensor

ZoomIn

ZoomOut

Restore Panorama

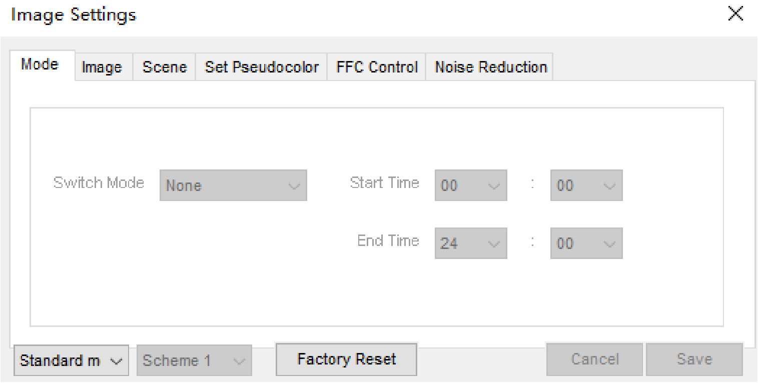
Turn on the mouse to measure the temperature

Table 8-1 Parameters of right click

parameters	Description
Full screen	Click to display live video full screen
Sensor	Enter to adjust sensor 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.
Turn on the mouse to measure the temperature	Turn on, the temperature of mouse’s location shows on screen.

Step 2 Choose **Sensor** to enter the image settings interface, the **Image Settings** dialog box is displayed, as shown in Figure 8-2.

Figure 8-2 Image settings



Switch Mode: None

Start Time: 00 : 00

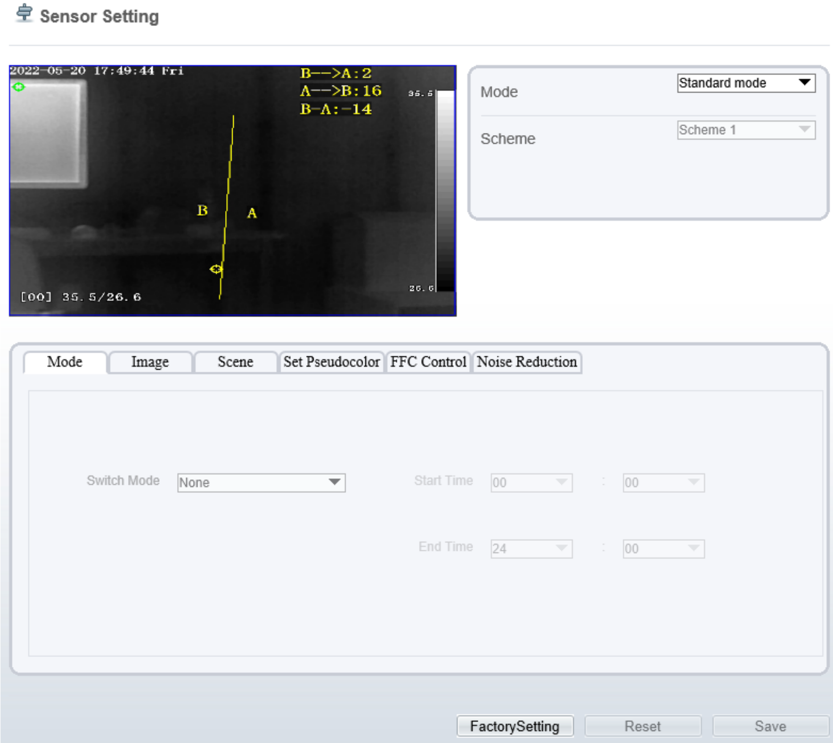
End Time: 24 : 00

Standard m

Scheme 1

Step 3 Or enter "**Configuration** > **Sensor Setting**" interface to set, as shown in Figure 8-3.

Figure 8-3 Thermal channel sensor setting



Mode: Standard mode

Scheme: Scheme 1

Switch Mode: None

Start Time: 00 : 00

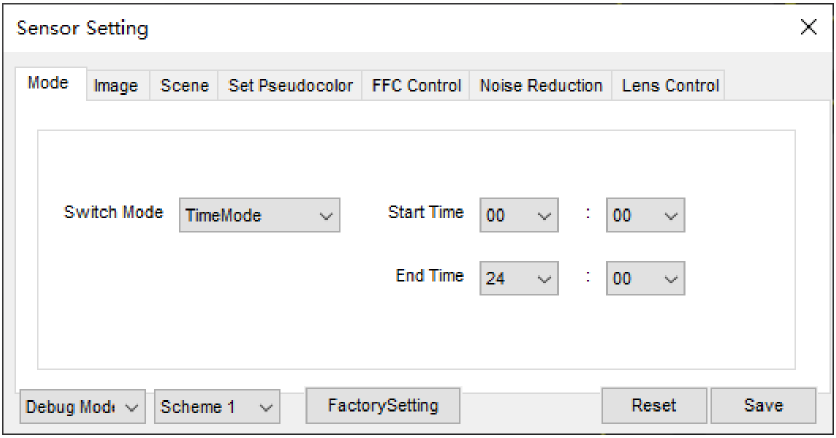
End Time: 24 : 00

----End

8.2 Mode

Figure 8-4 shows the **Mode** interface.

Figure 8-4 Mode interface



Switch Mode TimeMode

Start Time 00 : 00

End Time 24 : 00

Operation Procedure

Step 1 Click Standard ▼ in the lower left corner of Sensor Setting, 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**

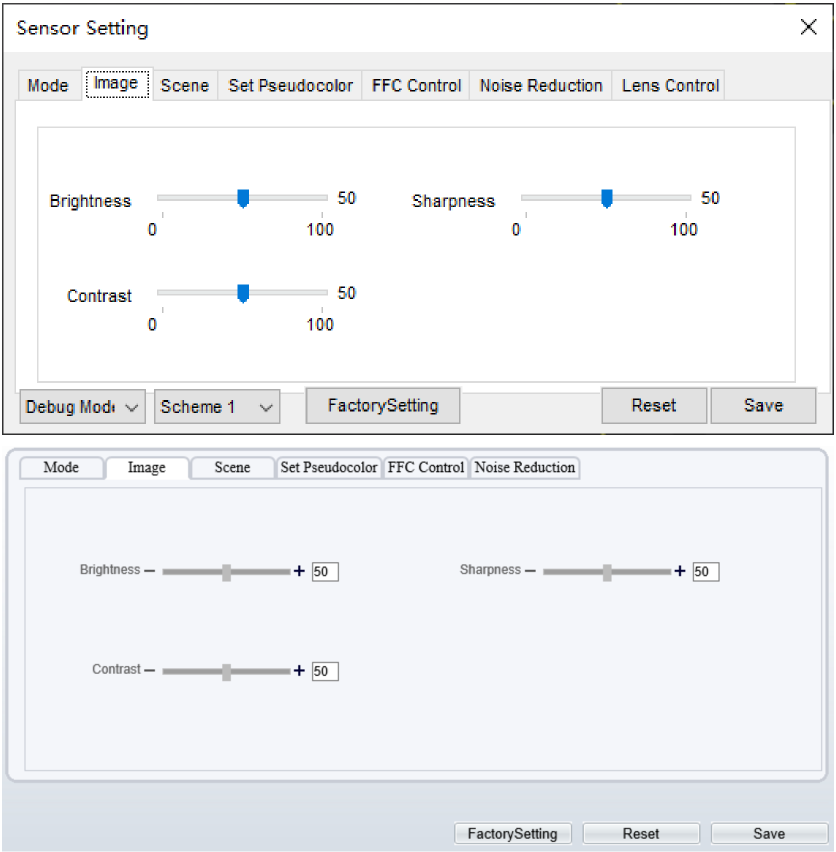
Step 5 Click **Save**, the message "Save succeed" is displayed, the system saves the settings.

----End

8.3 Images

Figure 8-5 shows the **Image** interface.

Figure 8-5 Image interface



Brightness 50

Sharpness 50

Contrast 50

Step 1 Click Standard ▾ in the lower left corner of Sensor Setting, 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

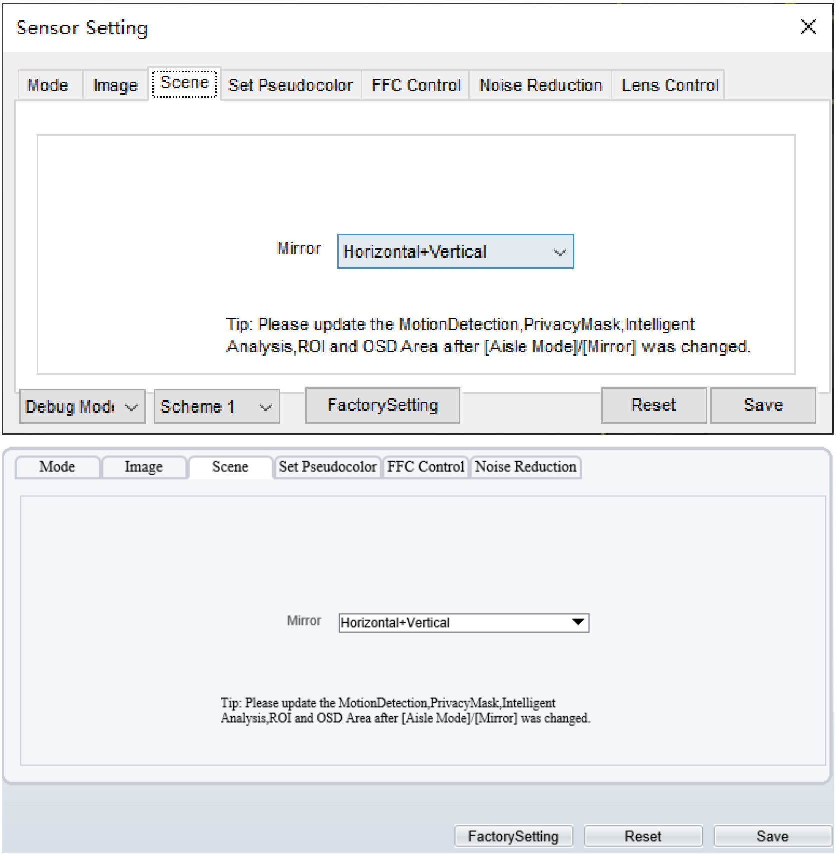
Step 3 Click **Save**, the message "Save succeed" is displayed, the system saves the settings.

----End

8.4 Scene

Figure 8-6 shows the **Scene** interface

Figure 8-6 Scene interface



Mirror: Horizontal+Vertical

Tip: Please update the MotionDetection,PrivacyMask,Intelligent Analysis,ROI and OSD Area after [Aisle Mode]/[Mirror] was changed.

Step 1 Click Standard ▼ in the lower left corner of Sensor Setting, 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.

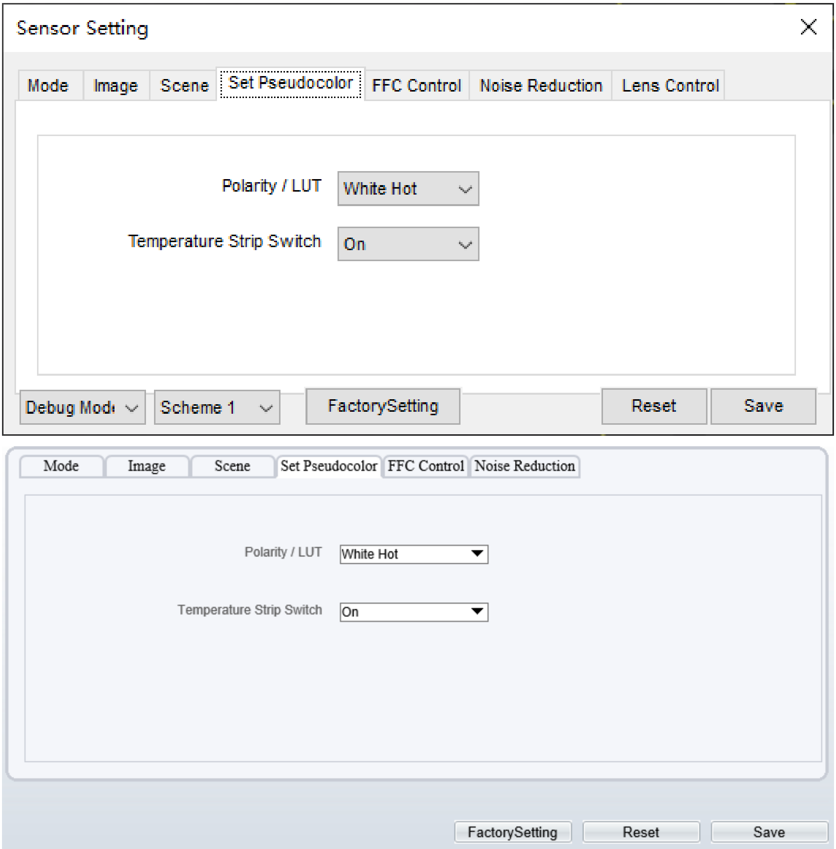
Vertical: the image is flipped up and down.

----End

8.5 Set Pseudocolor

Figure 8-7 shows the **Set Pseudocolor** interface

Figure 8-7 Set pseudocolor interface



Polarity / LUT: White Hot

Temperature Strip Switch: On

Step 1 Click Standard ▼ in the lower left corner of Sensor Setting, and choose **set pseudo color**

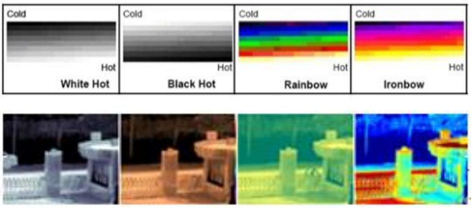
Step 2 Choose polarity/LUT mode from drop-list.

Step 3 Enable or disable the temperature strip switch

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

NOTE

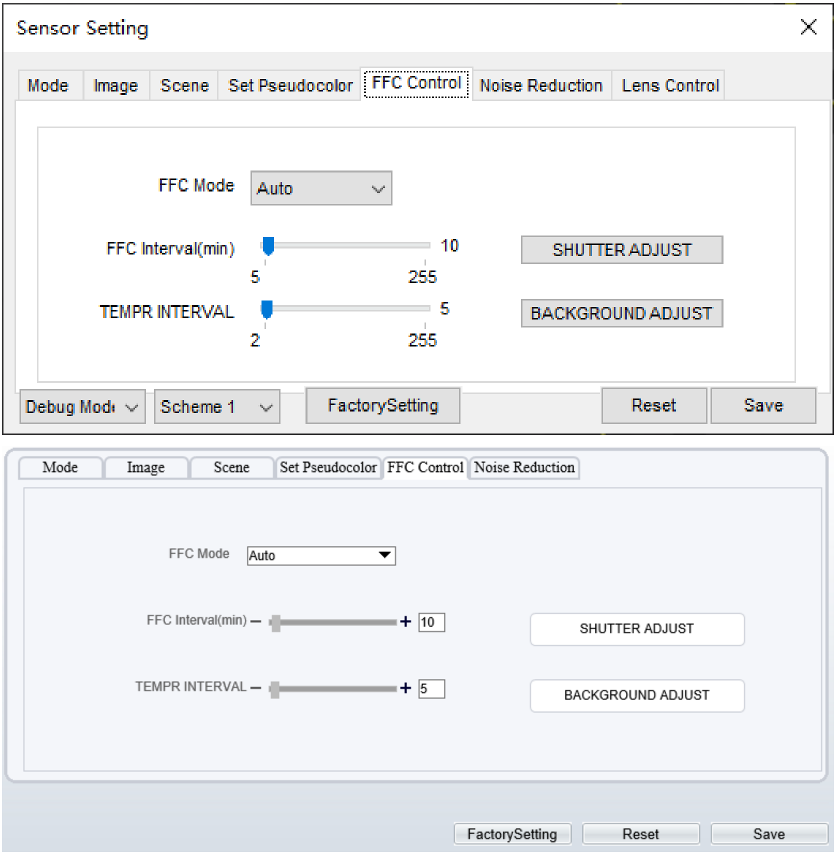
The temperatures of the temperature fields detected by the thermal imaging camera are separately mapped to values ranging from 0 to 255 by the algorithm. In the black/white display mode, this range is converted to the gray scale tones. For example, 0 indicates completely black, and 255 indicates completely 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.



8.6 FFC Control

Figure 8-8 shows the **FFC Control** interface.

Figure 8-8 FFC control interface



FFC Mode: Auto

FFC Interval(min): 10

TEMPR INTERVAL: 5

Table 8-2 lists the parameters on the FFC control interface.

Table 8-2 Parameters on the FFC control interface

Parameter	Description	Setting
FFC Mode	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-	[How to set] Select from the drop-down list box. [Default value] Auto

Parameter	Description	Setting
	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. **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 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. **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.	
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.	[How to set] Select by dragging the slider. [Default value] 5
Tempr interval	In the automatic FFC mode, the tempr interval value ranges from 5 to 25.5 degree centigrade. When the time reach to setting value, the camera does background adjust operation automatically.	[How to set] Select by dragging the slider. [Default value] 5
Shutter adjust	Click the icon and the camera performs the action.	Manually
Background	Click the icon and the camera performs the action.	Manually

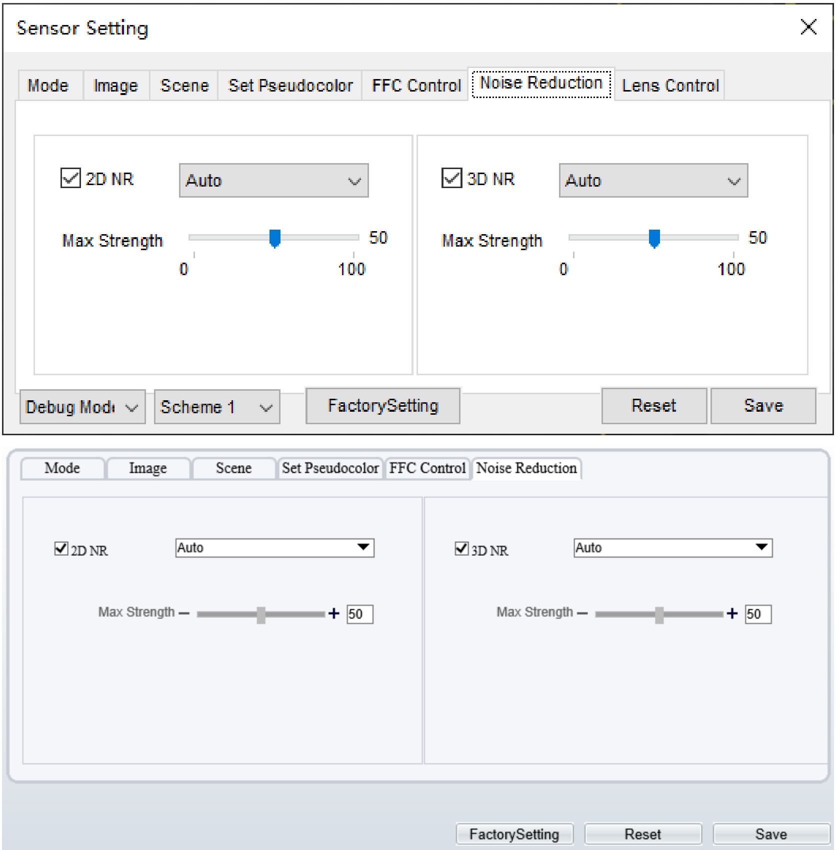
Parameter	Description	Setting
adjust		

----End

8.7 Noise Reduction

Figure 8-9 shows the **Noise Reduction** interface.

Figure 8-9 Noise reduction interface



☑ 2D NR Auto

Max Strength 50

☑ 3D NR Auto

Max Strength 50

Table 8-3 lists the Noise reduction parameters.

Table 8-3 Parameters on the Noise reduction interface

Parameter	Description	Setting
2DNR	Decrease the image	[How to set]

Parameter	Description	Setting
	noise.	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

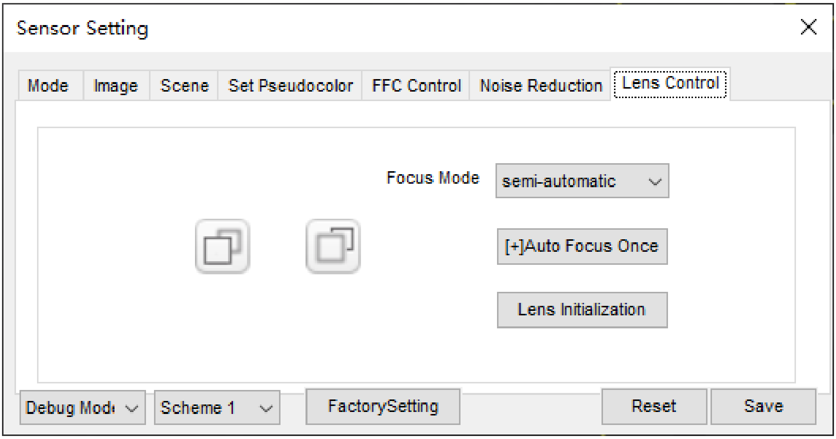
8.8 Lens Control

NOTE

The lens control is only used for motor lens.

Figure 8-10 shows the **Lens Control** interface.

Figure 8-10 Lens control interface



Focus Mode semi-automatic

Step 1 Click Standard ▼ in the lower left corner of Sensor Setting, and choose **Lens Control**.

Step 2 Click “Near focus” or “Far focus” to focus automatically.

Step 3 Choose focus mode, there are two modes available, semi-automatic and manual.

Step 4 Click “Auto focus once” to focus once.

Step 5 Click “Lens initialization” to initialize the lens.

Step 6 Click **Save**, the message "Save succeed" pops up, the system saves the settings.

----End

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 Internet Explorer. The steps are as follows (taking IE9 as an example): 1. Open the Internet Explorer. 2. Select **Tools** > **Internet Options**. 3. On the **General** tab, select **Delete** under **Browsing history**. The **Delete Browsing History** dialog box appears. 4. Select all check boxes. 5. 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 (℃/℉)	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
	577/1070	0.06
Aluminum plate (rough)	26/78	0.06
Aluminum (oxidized @ 599℃)	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	199/390	0.18

Cobalt	599/1110	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	1299-1399/2270-2550	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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