ZS-HM3X
Dual spectrum bullet camera

User Manual

V1.0.0

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1. Safety notices

Warning

- In the process of installation and use of the equipment, the various electrical regulations of the State and the areas in use must be strictly observed.
- Please use the power adapter from a regular manufacturer. The specific requirements of the power adapter can be found in the product parameter table.
- Do not connect multiple devices to the same power adapter.
(Exceeding the adapter load may cause excessive heat or fire)
- Be sure to disconnect the power supply of the device during wiring, disassembly and other operations. Do not operate on a live line.
- If the device smokes, smells or makes a noise, switch off the power immediately and unplug the power cord, Get rid of it and contact our company in time.
- If the device does not work properly, please contact our company and do not disassemble or modify the integrated machine in any way.
(The Company is not responsible for problems caused by unauthorized modifications or repairs)
- Do not aim the lens of the device at bright objects, such as the sun, or damage the thermal imaging detector.

Attention

- Avoid dropping objects on the device or strong vibration device, keep the device away from places where magnetic field interference exists.
- Avoid installing the device where the surface is prone to vibration or shock (ignoring this may damage the device).
- Do not use the device at high temperature, low temperature or high humidity. Refer to the parameter table of the device for specific temperature and humidity requirements.
- Do not place the equipment in an environment with corrosive gases, which may damage the equipment.
- Devices accessing the Internet may face network security problems. Please strengthen the

protection of personal information and data security.
- Contact us as soon as you find potential network security hazards on your device.
- It is your responsibility to properly configure all passwords and other related product security settings, and to properly keep your username and password.
- Please keep all the original packaging materials of the equipment properly so that if problems arise, the equipment can be packed with the packaging materials and sent back to the manufacturer for disposal.
- The Company is not liable for accidental damage in transit caused by non-original packaging materials.
- Unstable power supply unit to frequently cause re-starting of camera that leads to any hardware issues of the camera would be out of warranty from the ThermTec.

Quality requirements for installation and maintenance personnel
- Has the qualification certificate or experience to install and repair the video monitoring system, and has the qualification to do related work.

In addition, you must have the following knowledge and operational skills.
- Basic knowledge and installation skills of video monitoring systems and components.
- Basic knowledge and operation skills for low voltage wiring and low voltage electronic wiring.
- Has basic network security knowledge and skills, and can read this manual.

2. Overview

2.1 Product description

HM3X series is a security bullet network camera that combines infrared thermal imaging, visible light and remote network services. It has built-in video encoding and network services, supports functions such as high temperature alarm and VCA, and has reliable and stable performance.

HM3X series are completely suitable for security, fire protection in the forest, warehouse, scenic area etc.

2.2 Features

- Constantly cutting-edge image processing and temperature measurement algorithms, which come true early smog and high temperature warning.
- H.264/H. 265 Efficient video compression algorithm to save bandwidth and storage.
- Support intelligent analysis, intelligent recognition of human, vehicles, board, etc.
- Supports network standard interface protocols such as ONVIF and PSIA.
- multi-level video quality configuration, encoding complexity configuration.
- Supports bi-spectrum single IP addresses to reduce network usage.

- Advanced auto-motorized on thermal Image.
- Smooth software access capacity for third party.
- Independent dual spectrum image fusion technology.

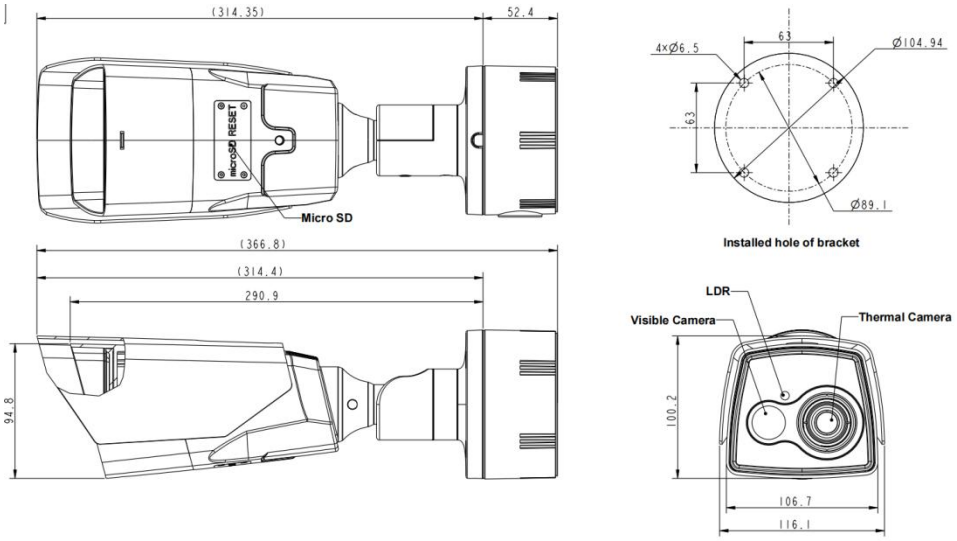
2.3 Specification

Model		HM3X				
Infrared	Detector type	Uncooled infrared microbolometer—Vox				
	Resolution	384x288				
	Pixel	12μm				
	NETD	25mk@ 25℃				
	Spectral range	8～14um				
	Focus method	Motorized				
	Focal length	7mm	10mm	17mm	25mm	35mm
	Image adjustment	Auto/Manual adjustment for contrast ratio & brightness & acutance				
	Uniformity correction	Auto/Manual shutter, background correction				
	Image noise reduction	3D DNR				
	Image gain	IDE, HDR(in WDR model)				
	Palette	9 color palettes to choose from (including iron red, rainbow, black and white, etc.), can be customized color scale				
	EIS	Yes				
Visible	Image sensor	1/2.8” Progressive Scan CMOS				
	Resolution	2592(H)×1536(V)				
	Focal Length	Combination with infrared lens for visible lens 4\6\8\12mm options				
	IR Range	50 m				
	Illuminance	Color：0.01lux Black & white：0.001lux				
Network	Image fusion	Yes				
	Video compression	H.264, H265				
	Image output	Main stream (visible)：2688*1520，2560*1440，1920*1080，1280*720，720*576，640*360，704*288，352*288； Main stream(Infrared)：1920*1080，1280*960，1280*720，720*576，384*288，352*288； Sub stream (visible)：1920*1080，1280*720，720*576，640*360,704*288,352*288； Sub stream(Infrared)：1280*960，1280*720，720*576，384*288，352*288；				

	Protocol	IPv4/IPv6,HTTP,HTTPS,,FTP,DNS,NTP,RTSP,RTCP,RTP,TCP,UDP,IGMP,ICMP,DHCP
	API	ISAPI,SDK, third-party management platform（Network Optix), ONVIF, etc.
	Common function	Heartbeat, password protection, multi-user access control
	Security	Support password protection, bonding MAC ID, IP filtration
	Web Browser	Google Kernel Browser, Edge
	User access	Up to 10 users，3 levels: Administrator, Operator, General
	RAW	Yes(for temperature measurement camera only)
	VCA	4 VCA types (motion detection, cross line, intrusion, area entry and exit)
	Fire detection	Yes
Interface	Power	DC12V（±20%）, POE
	Ethernet	RJ45 10 M/100 M self-adaptive Ethernet
	Serial port	1x ch RS485
	Alarm I/O	2x ch input, 2x ch output
	Audio I/O	1x ch input, 1x ch output
	Storage	Micro SD up to 512G
General	Operating temperature/humidity	Temperature: -20℃~60℃(outdoors), humidity＜90%RH
	Storage temperature	–45°C ~ +75°C
	Power Consumption	小于 6w（w/o IR）
	Reliability	TVS 6000V lightning protection, surge protection, voltage transient protection
	Approval	CE (EN 60950:2000) ROHS
	Protection level	IP66
	Size	314.35*116.1*94.8
	Weight	＜2.1kg（w/o junction）

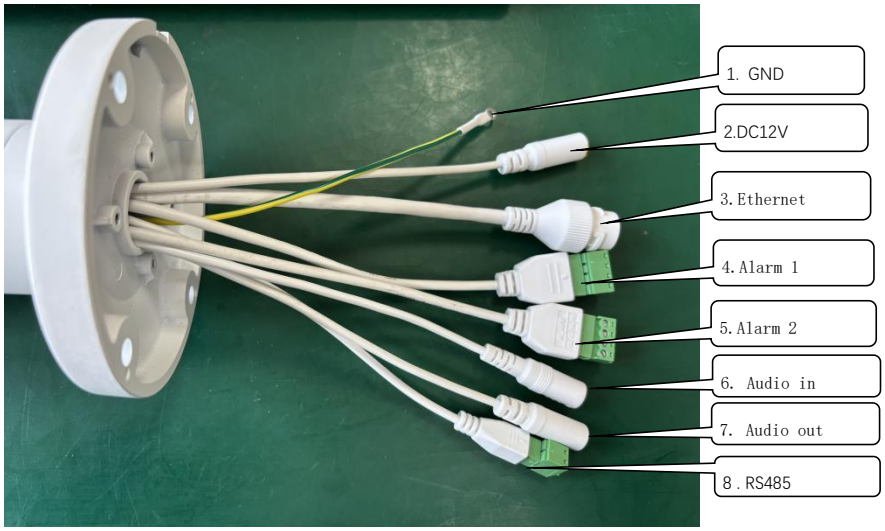
3. Product dimensions and interface direction

3.1 Dimension



3.2 Cable interfaces

External interface shown below,



3.3 Installation direction

During the installation and fixation of the device, the cables have been combed and connected. On the premise of ensuring the correct installation of the wick, connect the power supply for power-on self-check.

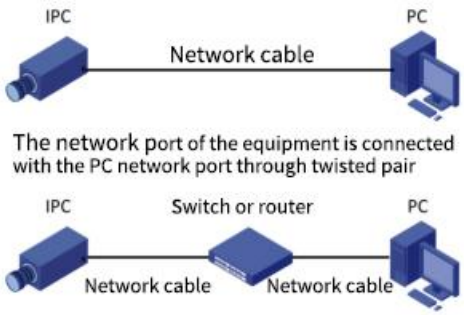
1. If the device can be turned on normally and display the screen, the installation of the device is over.
2. When the device is normal, if the device cannot be turned on normally, please check whether the cable interface is connected properly, if the cable connection is normal, you need to check the cable wiring, etc.
3. It is recommended to supply power to the device nearby. If you need to extend the power supply line, please ensure that the voltage and current of the extended line can meet the power supply standard.

4. Network and login configuration

4.1 Network configuration

After the device is installed, it needs to configure the function and set the parameters. You can configure the related function through the browser. Before configuring, make sure the device is connected to the computer and can access the product you need to set up. There are two ways to connect:

The upper side is a diagram connected through a direct line, and the lower side is a diagram connected through a switch or router.



Connection diagram

The default IP address of the device is 192.168.1.128. You need to set the IP address of the computer you are operating on to the same network segment as the device before you can login and use it properly. You can access and use the device function through the browser.

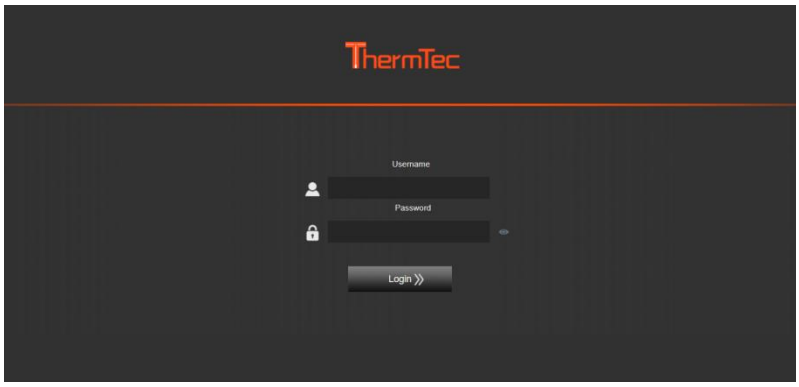
To protect your privacy and corporate data and avoid network security issues with camera products, it is recommended that you set a strong password that complies with security specifications.

- Device default IP address: 192.168.1.128
- Device account: admin

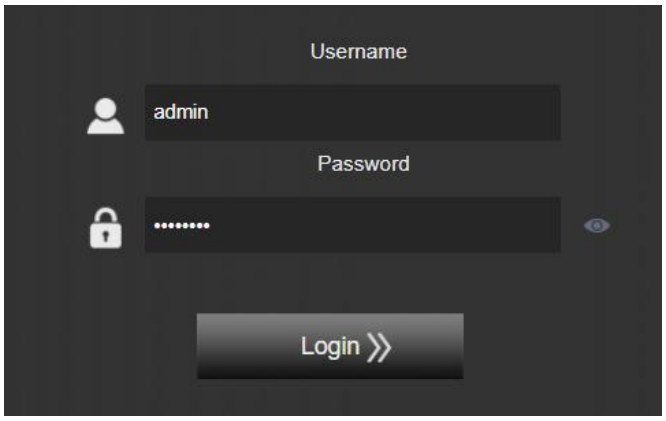
- Device password: admin123

4.2 Login website interface

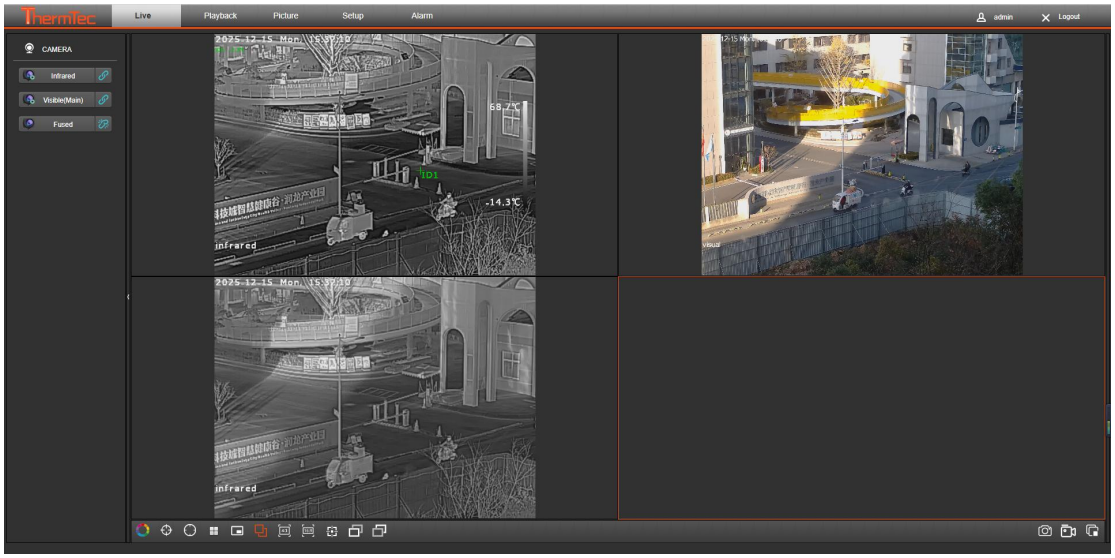
Step 1. Open the Google or IE browser, enters the IP address of the camera in the address bar and press【Enter】， after successful connection, the Web displays the interface shown.



Step 2. Input admin and password to go into the web page for login website(user name default for admin,password: admin123).



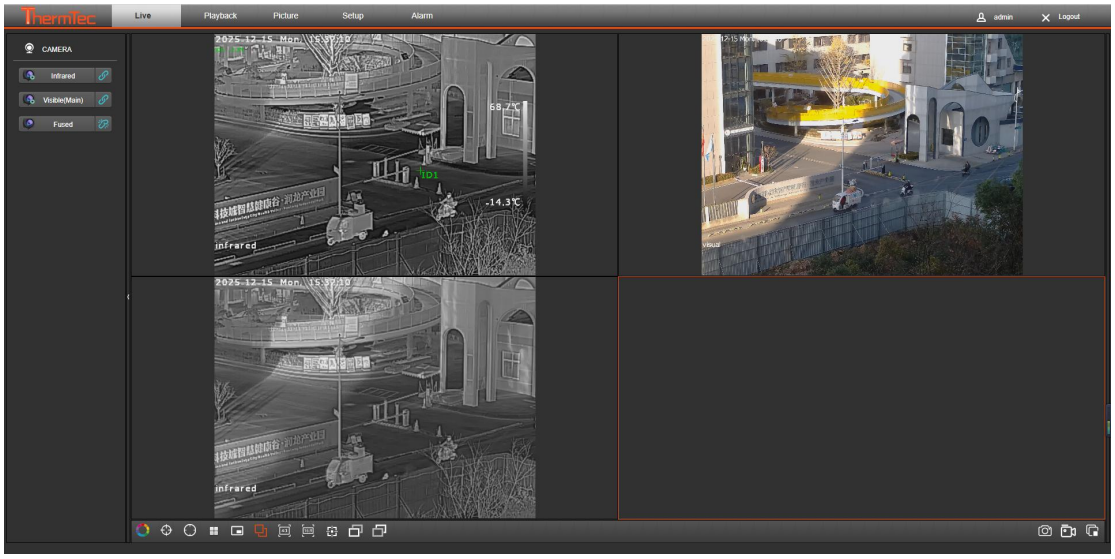
Step 3 After entering your password, you will jump to the video preview interface. When you enter the main interface of the device, you can click "Log Out" in the upper right corner to exit the system safely.



5.Operation

5.1 Preview

There are commonly including live view, playback, log search, setup for parameters etc.



5.1.1 Preview operation

Click the Preview button to enter the device preview interface and do the following preview:

Color palette change: You can switch between nine false color pictures, and the selected false color can be clicked to save the false color state.

Zeroing: After clicking, the mechanical shield will move to calibrate the thermal image. You can hear the sound of the calibration action of the mechanical shield.

Screen segmentation: It can be divided into one picture and four pictures. Normally, it is only used to view three images, thermal image, white light and fusion image. One picture can be viewed by enlarging the selected image. Double click the image to view the selected image in full screen.

Clear: Eliminate the dot line frame in the image, which will be used in the subsequent temperature measurement function.

PIP: It is used to open the picture in picture function of visible light image

Image fusion: Used to turn on the fusion mode of thermal image.

Capture: Grab a real-time preview image and keep it to the local path.

Record: Record the video, click again to stop recording, and the video file will be saved in the set path.

Preview Start Stop: Click the key to open all previews of the device, and click the key again to close all previews.

Picture scale: It indicates that the preview screen size is 4:3 and 16:9 respectively.

5.1.2 Image adjustment

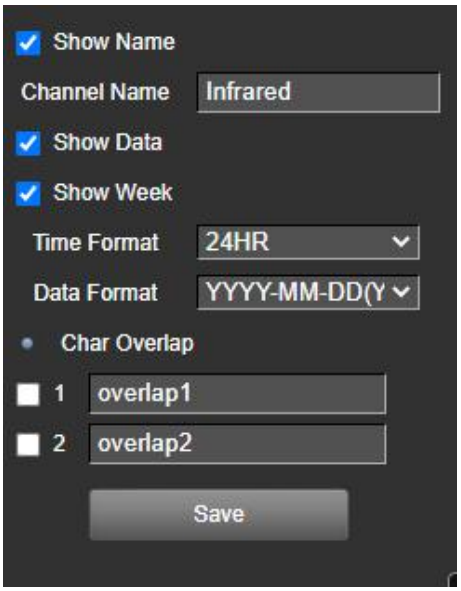
Totally here includes image adjust configuration both visible camera and thermal camera,which can adjust the brightness, contrast, saturation and sharpness on the local web page.



Parameter	Description
Contrast	Adjust the brightness of the browsing screen
Brightness	Adjust the contrast of browsing screen
Saturation	Adjust the saturation of the browsing screen
Sharpness	Adjust the sharpness of the browsing screen
Default	Click this icon to restore the brightness, contrast, saturation and sharpness to the default values

5.1.3 OSD Configuration

OSD refers to the character information superimposed on the screen with video images. The content of OSD includes time customization and other information.



- The channel name can be set according to the user's needs. The display name, display date and display week can be enabled or not according to the actual needs.

- Time format "24 hour system" and "12 hour system" are optional.
- Multiple OSD display date formats are available
- The device supports characters superimposed on the image screen, and the content of each line shall not exceed 15 characters.
- Input the required characters in the character content column, and save it to preview the characters displayed in the image. Drag the mouse to select the display position of the characters, and click Save to display the corresponding characters in the screen.

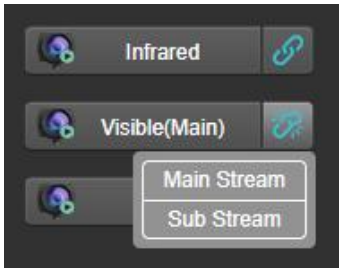
5.1.4 Image connection

There are three image connection methods: thermal imaging, visible light, and fusion image.

When connecting visible light images, the main stream and the sub stream can be selected.

When logging in to the preview interface, the three-channels image will be automatically connected. Clicking the image connection shortcut key will disconnect the connection. Double clicking the image shortcut key will reconnect the selected image.

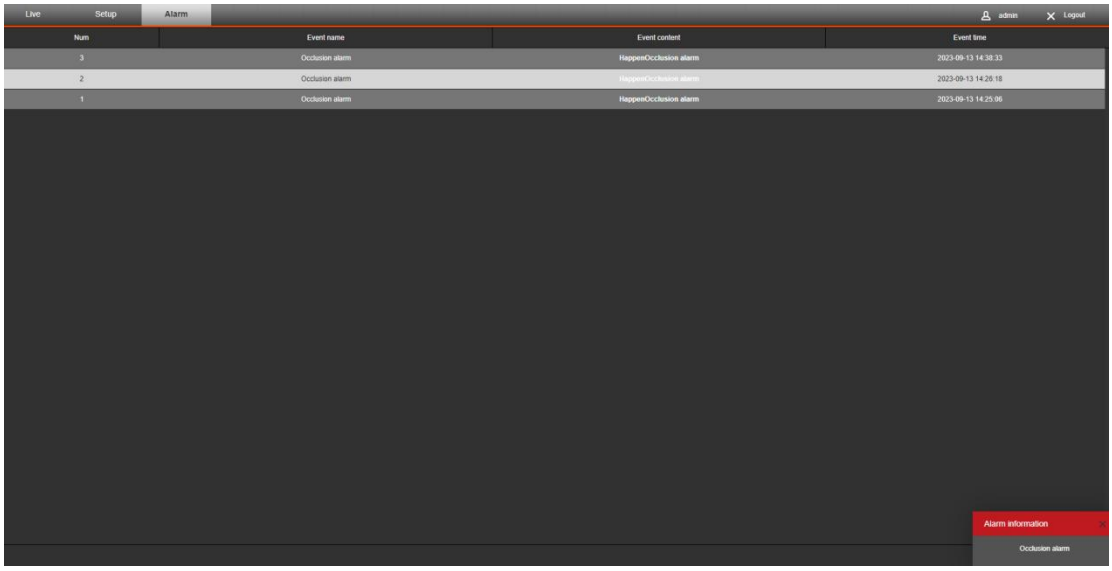




5.2 Alarm

5.2.1 Alarm search

To retrieve triggered alarm item, alarm event and time etc.

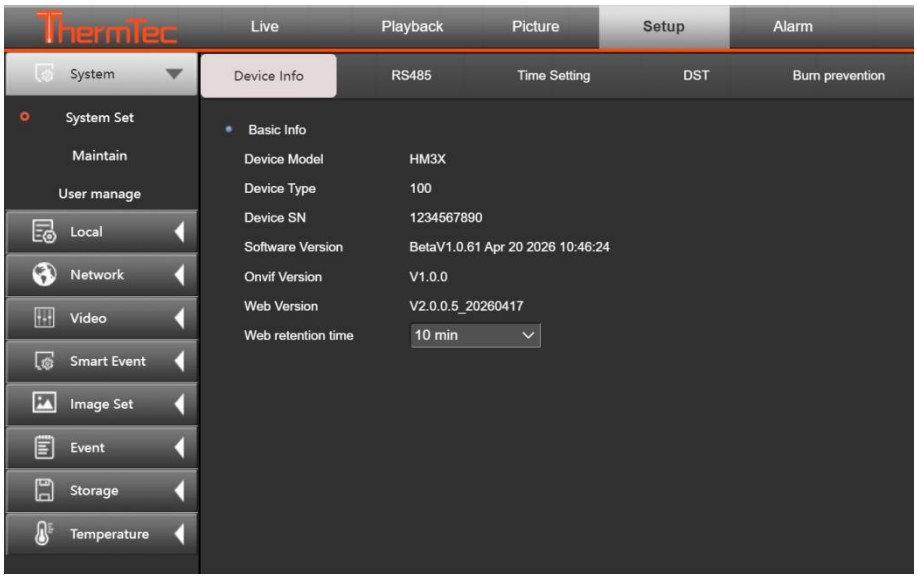


5.3 System configuration

5.3.1 Device Information

In the device information configuration interface, "device model", "device serial number", "software version", "WEB version" and other information. You can modify the "Device Name" of the device and click the Save button to save the settings.

Setup > System Set > Device Info to check firmware version



5.3.2 RS485 setup

The interface can be matched by configuring the parameters of the serial port.

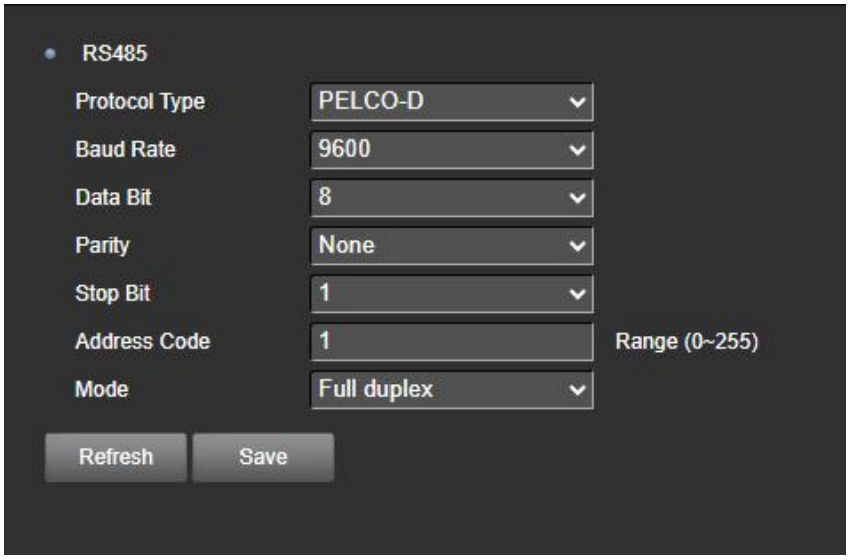
Baud rate: "2400" - "115200" multiple options.

Data bits: "5", "6", "7" and "8" are optional.

Check digit: "None", "Odd check" and "Even check" can be selected.

Stop bit: "1" and "2" are two options.

Decoder type and address: set something according to actual needs.

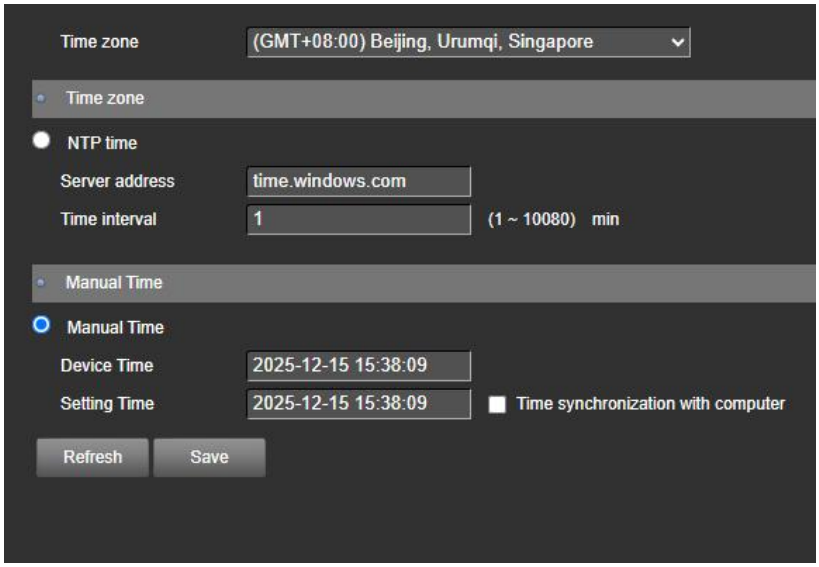


5.3.3 Time setting

“Time zone”displays the time zone of the current device and can be set according to the actual situation.

The timing methods are divided into NTP timing and manual timing. NTP timing: set the NTP server address, NTP port number and timing interval, and the device can be timed every other period of time according to the settings; Manual timing: set the device time manually. When "Time synchronization with computer" is checked, the time of the device and the local PC host can be kept consistent.

Click Save after setting parameters.



5.3.4 Daylight saving time

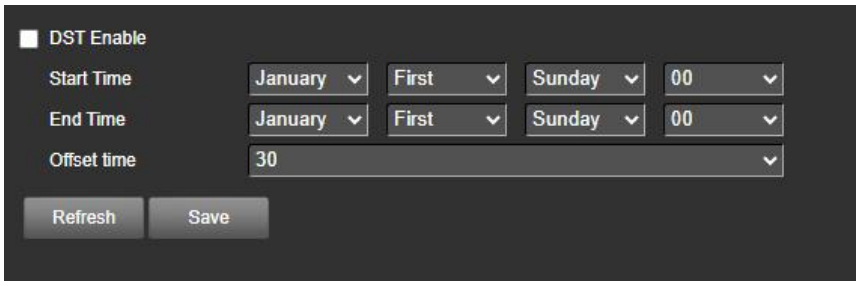
Enable its function by the DST option.

Setup time:

In the Start Time & End Time to choose Time, Week, Month.

Configure offset：Set daylight saving time at the offset time to save.

Refresh: Just suitable for back to last non-saving setting.



5.3.5 Anti-burn function

Burn prevention: Activate anti-burn function.

Level: It is relevant protection level with low, medium and high level.

Area pix: Set up minimum pixel threshold value of the high temperature in the monitor area.

Duration: Set up duration range of the anti-burn.

Save configuration:

- Save : It is for existing configuration.
- Refresh : Remove unsaved configuration and back last status.



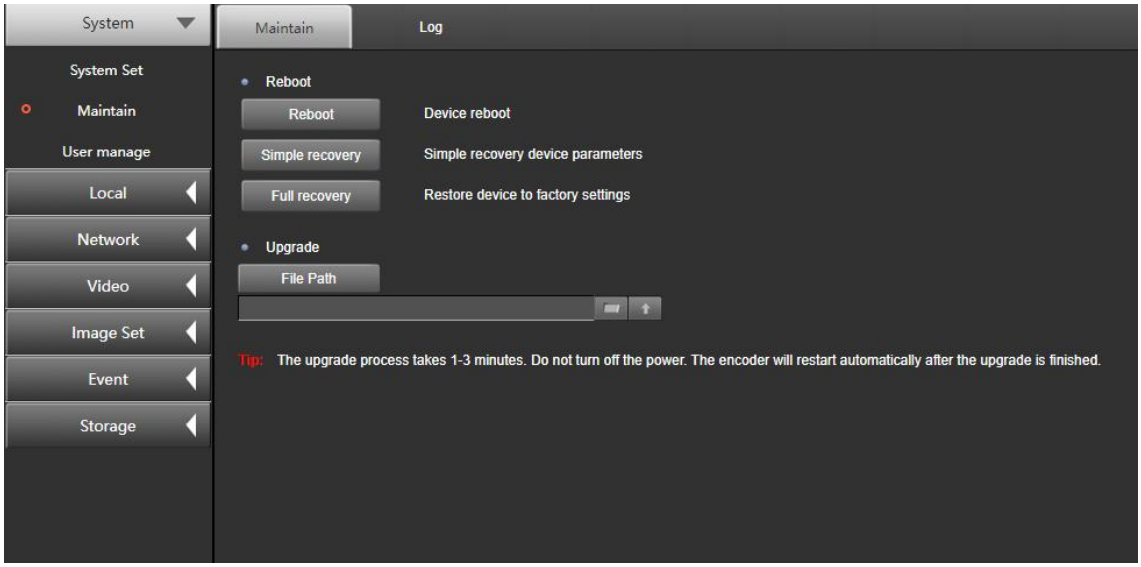
5.3.6 Maintenance

Device restart: click "Reboot" to restart the device.

Simple recovery: Simple recovery of device parameters means that all parameters except IP address, sub-net mask and gateway are restored to factory settings.

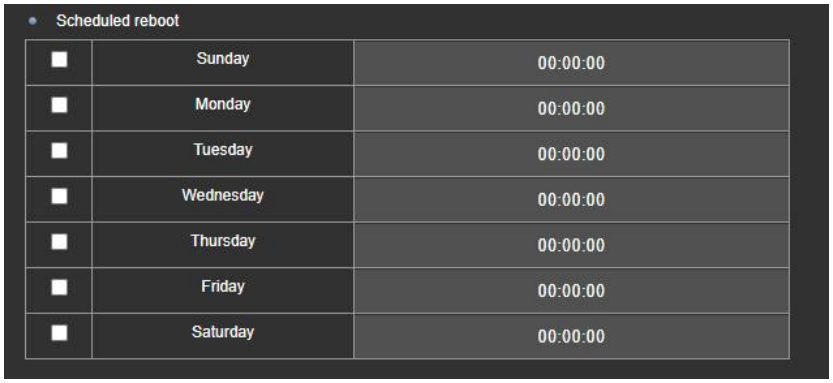
Full recovery: full recover the camera parameters to the factory settings.

System upgrade: click Browse, select the directory where the local upgrade file is located, and then click Upgrade to start the upgrade. Please do not power off during the upgrade. The device will restart automatically after the upgrade.



5.3.7 Scheduled reboot

This page includes rebooting data to be selected one or more, rebooting time,save configuration and disable function.



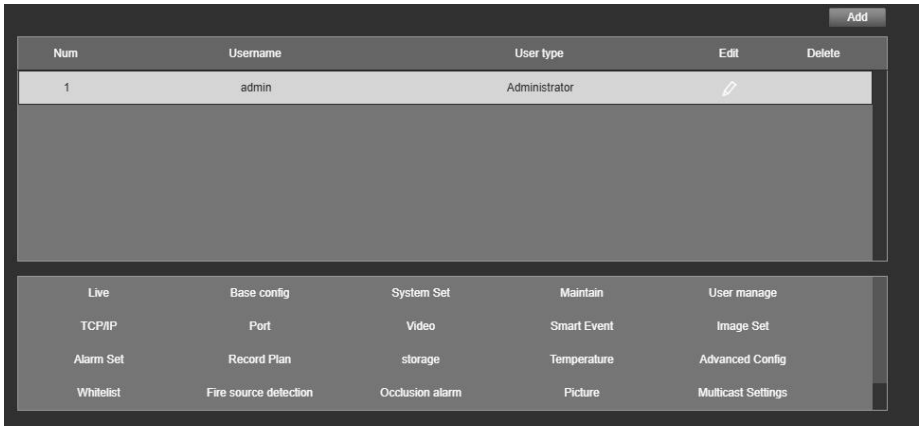
5.3.8 User management

When the former user is the super user "admin", other users can be created according to actual needs, up to 9 users can be created.

Add User: Click Add to display the Add User Interface, where you can set the user name and password. User Permissions can be used to set the basic permissions and channel permissions of the added users, and then click OK.

Modify User: select the user to modify, and click Modify to enter the Modify User Interface. Users added or modified can set their Basic Permission and Channel Permission.

Delete User: select the user to delete and click Delete to confirm deletion.



5.4 Local storage

Preview capture path: the local path where the image file is stored after the preview capture.

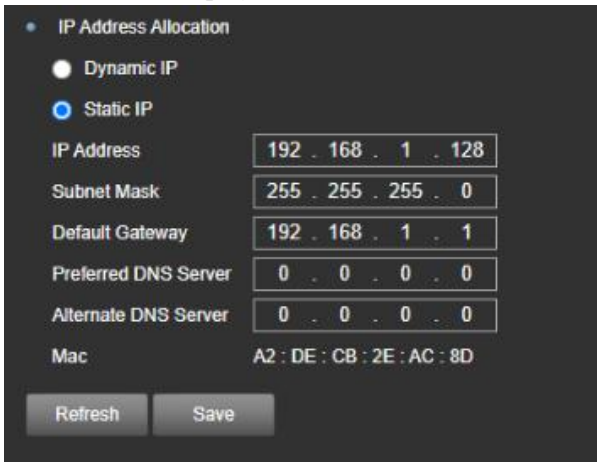
Video saving path: the local path where video files are saved after previewing the video.



5.5 Network

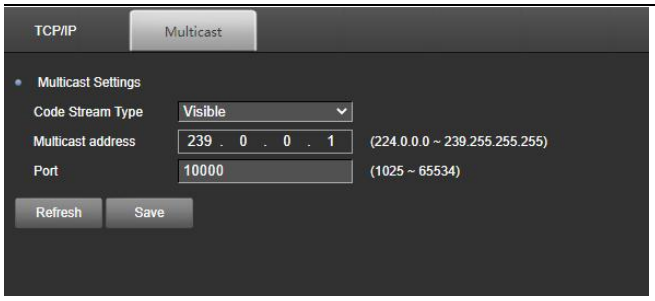
5.5.1 TCP/IP setup

The "Network card type", "Device IPv4 address", "IPv4 sub-net mask" and "IPv4 default gateway" can be set for the network card parameter configuration. The automatic IP address acquisition is set to ON, and the device can automatically acquire the network address and related network parameters.
DNS server configuration can be set to "preferred DNS server" and "alternate DNS server".
Domain name access can be used normally only after the correct DNS address is set.
MAC address: display device MAC address.



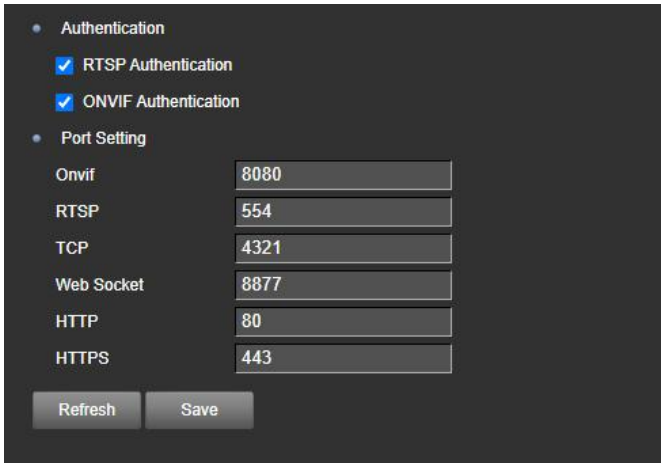
5.5.2 Multicast

The video screen is previewed through the network access device. If the upper limit of the device access is exceeded, the video screen cannot be previewed. At this time, you can set the multicast IP address for the device and use the multicast protocol access method to solve the problem. Select "Enable" to enable multicast, enter the multicast address and port, and click "OK" to complete the configuration.



5.5.3 Port

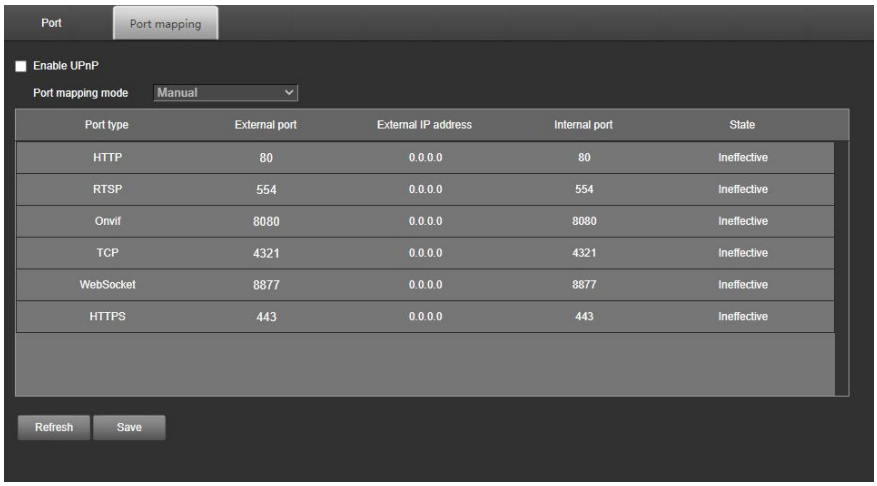
Support RTSP, ONVIF and other network protocol access
The port configuration parameters can be set to "ONVIF port (default 8080)", "HTTP port (default 80)", "HTTPS port (default 443)", "RTSP port (default 554)", "TCP port (default 4321)", "Web Socket port (default 8877)"
When accessing devices through the network, you can set corresponding ports as required.



5.5.4 Port mapping

Set "UPnP Enable" to ON, and enable the port mapping function. The port mapping methods are "Manual" and "Automatic".
Automatic mode: The user does not need to modify the mapping port, and the device can automatically map the port to the public network.
Manual mode: User can manually modify the external ports to be mapped under the specified public network. You do not need to modify the port of the device itself to map the device port to the public network.
On a computer system with the UPnP protocol enabled in the same LAN broadcast domain, users can directly search the network of the system for the camera and display the model and serial number. Double click the icon, and a browser page will automatically pop up to access the current

IP address of the device.



5.5.5 Email

To be setting mail parameters when an alarm occurs, you can send mail to the specified mailbox.

Before You Start

Set the DNS server before using the Email function. Go to **Setup > Network > TCP/IP** for DNS settings.

Steps below:

1. Go to email settings page: **Setup > Network > Advanced Config > Mail Set > Save**

2. Setting email parameters:

1) Sender information: enter the sender's email address, SMTP server address, SMTP port number (default 465), user name, and password.

2) If your email server requires authentication, check **Server Authentication** and input your user name and password to log in to the server.

3) Message encryption: SSL, TLS and no encryption can be selected.

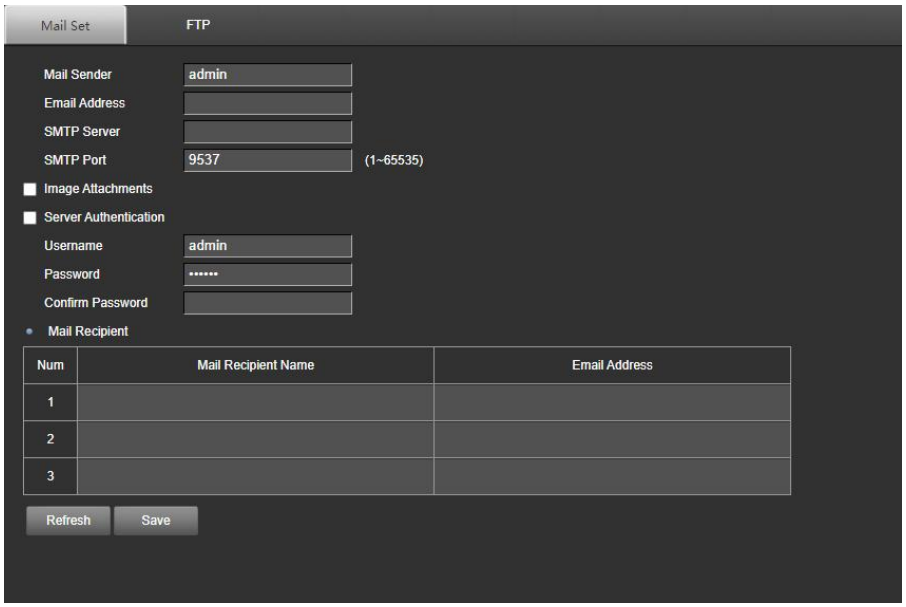
- When you select SSL or TLS, and disable STARTTLS, emails are sent after encrypted by SSL or TLS. The SMTP port should be set as 465.
- When you select **SSL** or **TLS** and **Enable STARTTLS**, emails are sent after encrypted by STARTTLS, and the SMTP port should be set as 25.

Noted: If you want to use STARTTLS, make sure that the protocol is supported by your email server. If you check the **Enable STARTTLS** while the protocol is not supported by your email sever, your email is sent with no encryption.

4) If you want to receive notification with alarm pictures, check and enable **Image attachments.** The notification email has 3 attached alarm pictures over the matter with the configurable image capturing interval.

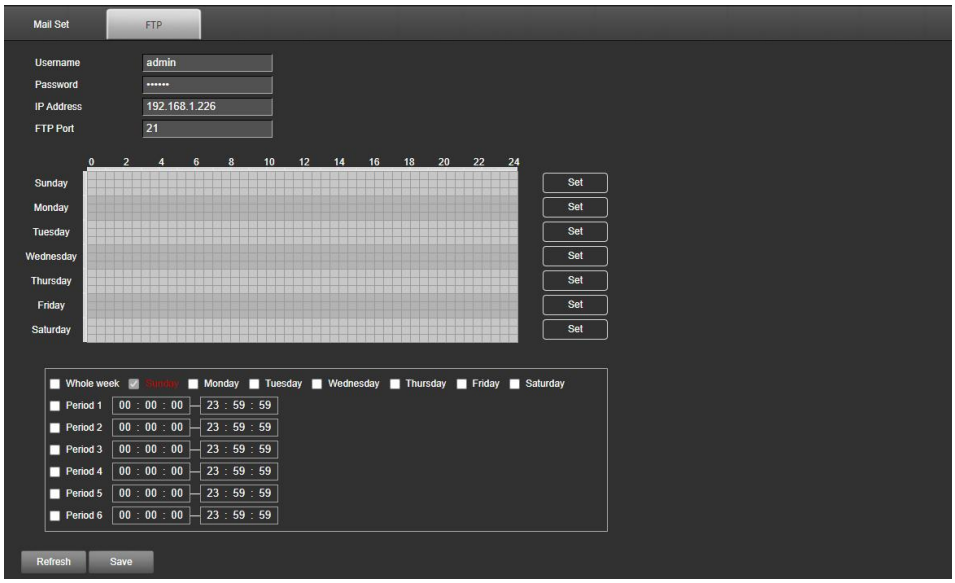
5) Input the recipient information: input the email address of the recipient, click the **Test** button to confirm if the function is well performed.

3. Click **Save**.



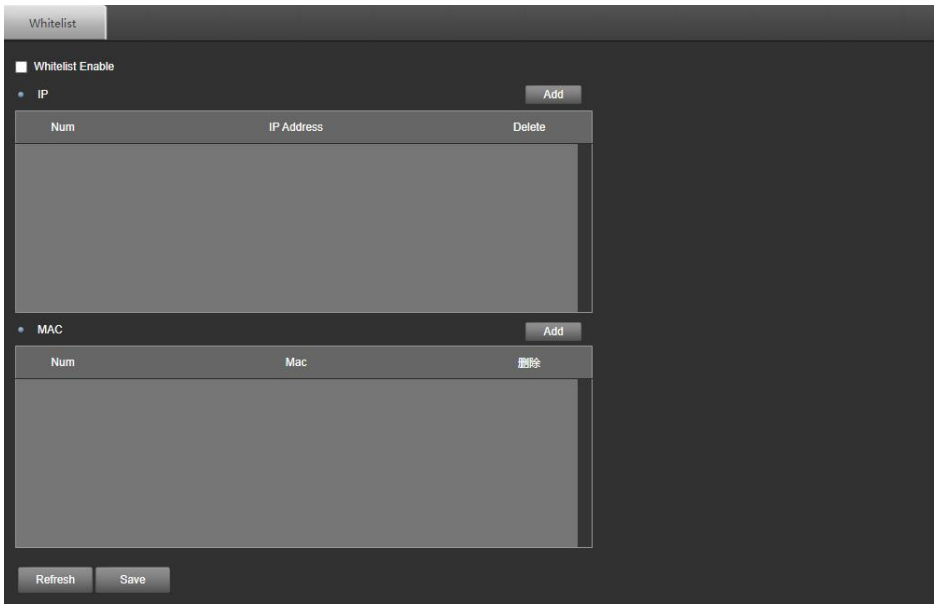
5.5.6 FTP

User can realize bidirectional file transmission on a specific FTP server. Set the address and port number of the FTP server, user name and password with upload permission, and check Set Date and Time. After the relevant parameters are modified, click Save to save the relevant settings.



5.5.7 White list

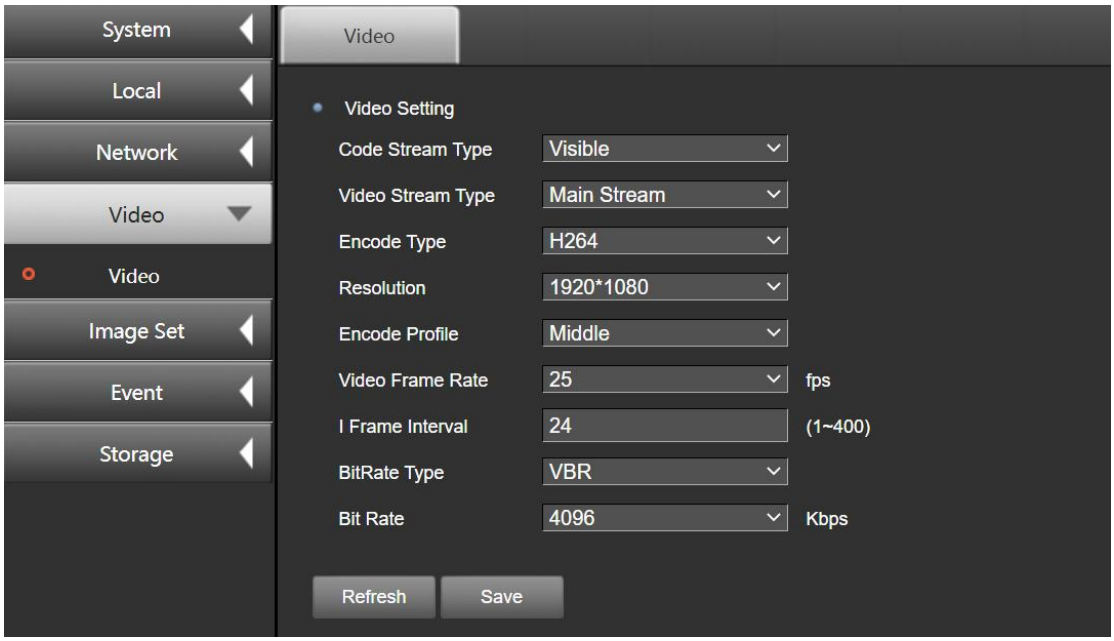
Users can set the users allowed to access the device through IP permissions
White list: add IP/MAC of users who can log in to the device. If the user selects the white list, only the user's IP/MAC is in the list can he log in to the device; If white list is not selected, there is no restriction on users accessing this device
MAC verification takes effect only when the IP addresses of the device and PC are in the same LAN.



5.6 Video Configuration

5.6.1 Video Streaming

User can set the image format and stream parameters of each stream according to the support of the device, and select to open the main stream and the sub stream according to the actual needs.



Code Stream type: can be set to switch between visible and infrared image types

Video Stream type: video parameters of main stream and sub stream can be set.

Encode Type: H.265 and H.264 can be set. The specific encoding type is subject to the actual equipment.

Resolution: The required resolution size can be set according to the actual needs. The higher the resolution, the higher the requirements for network bandwidth.

Encode Profile: the encoding level is divided into three levels: low, medium and high. The higher the level, the better the image quality

Video frame rate: refers to the number of frames per second of the video. It can be set according to the actual needs. The higher the frame rate, the higher the requirements for network bandwidth, and the higher the storage space required.

I Frame Interval: refers to the number of frames between the two keyframes. The larger the I frame interval is, the smaller the rate fluctuation is, but the lower the image quality is, on the contrary, the higher the image quality is.

Bit rate Type: The bit rate type can be used to set the fixed bit rate, variable bit rate and average bit rate. Fixed bit rate means the transmission of the set bit rate size, which is fast in compression, but may cause video mosaic. The variable bit rate means that it changes automatically without exceeding the size of the bit rate. The compression speed is slow, but the image clarity in complex scenes is guaranteed.

5.7 Image configuration

5.7.1 Image parameter settings

Set the image parameters of different scenes according to the preview screen currently played by the device, so as to meet the needs of image effects in different scenes.

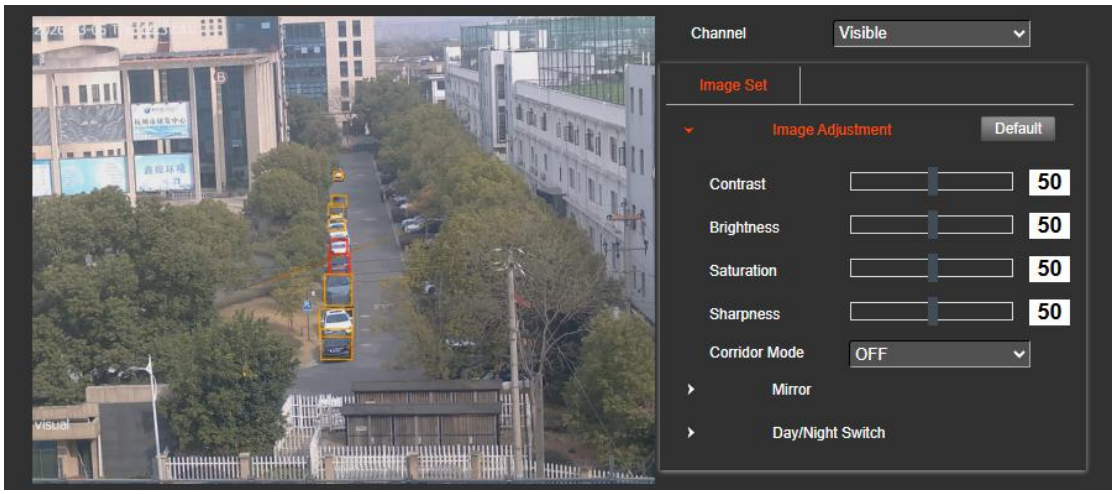
Visible light image adjustment: "brightness", "contrast", "saturation" and "sharpness" of the camera can be adjusted according to the image effect

Day night switching of visible light: "day", "night", "automatic" and "regular switching" can be selected.

Daytime mode: the image is in color.

Night mode: the image is black and white.

Timed switching mode: the user needs to set the start time and end time of the day. During this period, the device will automatically use the day mode, and outside this period, the device will automatically use the night mode.



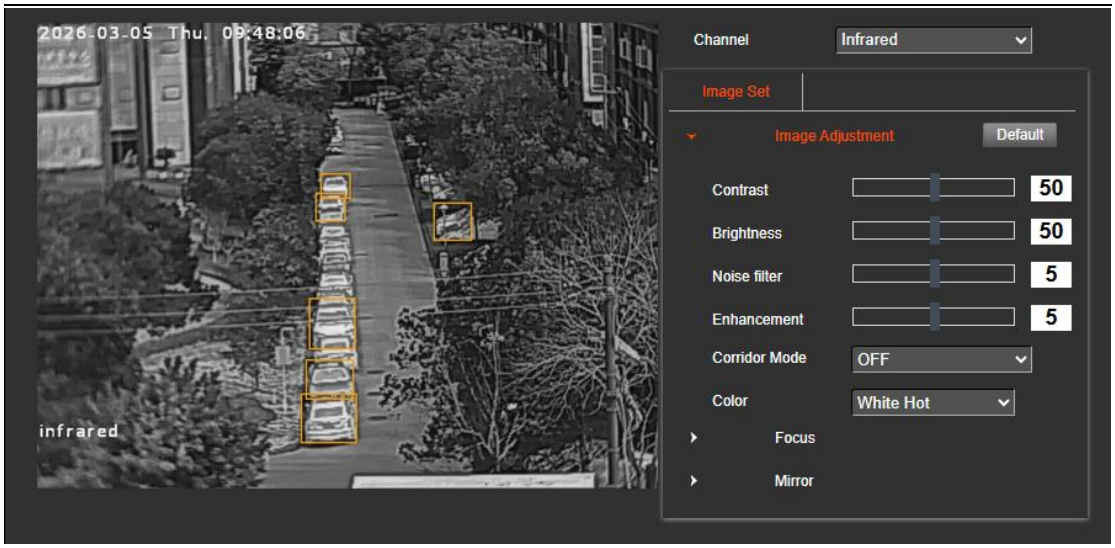
Thermal image adjustment: "brightness", "contrast", "image noise reduction" and "image enhancement" of the camera can be adjusted according to the image effect.

Focusing mode: Auto-focusing, recovering focus site and non-operational mode.

Palette: Totally 9 palettes could be selected by user.

Corridor mode: Enabling this function that image can be flipped 90° automatically.

Mirror mode: To change image or video, user can flip image via this menu when image is upside down.



5.7.2 OSD setup

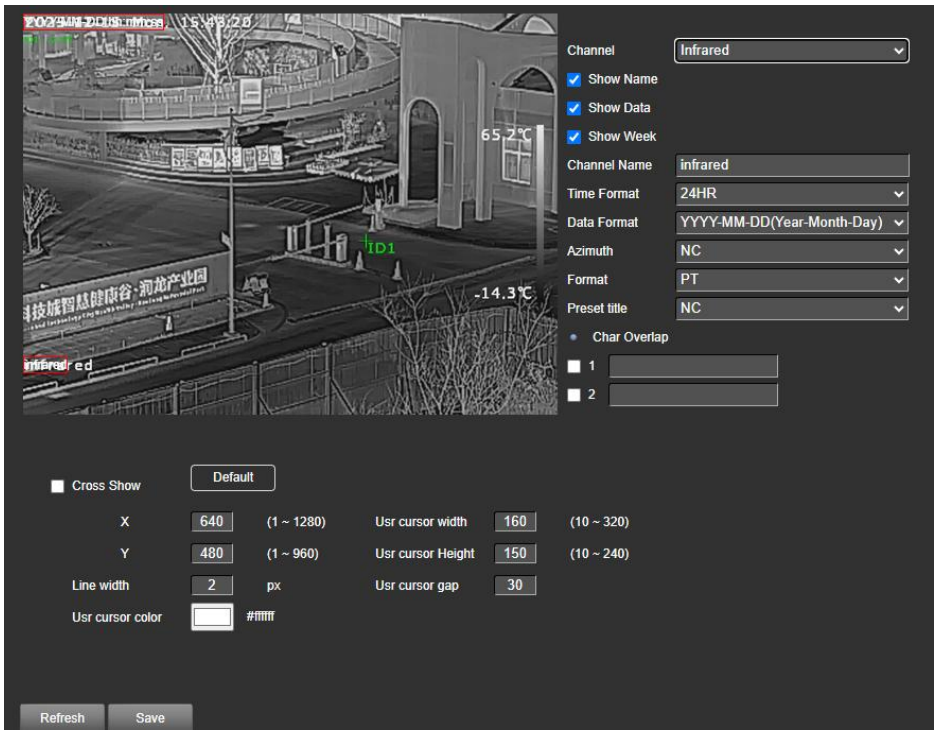
OSD is the character information overlay on the screen with the video image. OSD content includes time customization and other information.

Channel: can be set to switch between visible and infrared image types

The channel name can be set according to the user's needs. The display name, display date and display week can be enabled or not according to the actual needs.

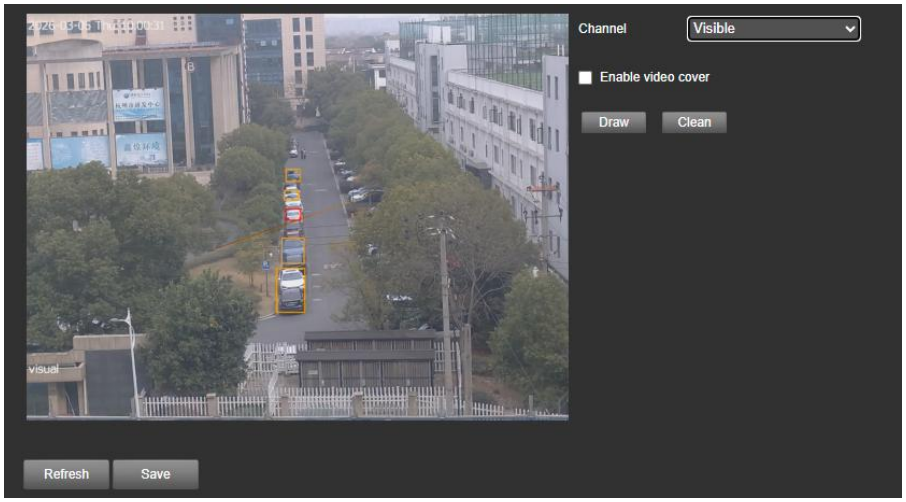
- The time format can be "24-hour" or "12 hour".
- Various OSD display date formats are available
- The device supports characters superimposed on the image screen, and can support up to 3 lines of characters superimposed content, with each line of content no more than 15 characters.

Enter the required characters in the character content column. After saving, the entered characters will be displayed in the preview image. Drag the mouse to select the display position of the characters, and click Save to display the corresponding characters in the screen.



5.7.3 Video obstruction

Go to Setup > Image Set > Private room > Enable button > Save
Select target from the camera channel either visible or thermal image, select Video obstruction to activate this function.
Draw the special area in the live view, support diverse areas could be drawn In one live view simultaneously.



5.7.4 Regional focusing

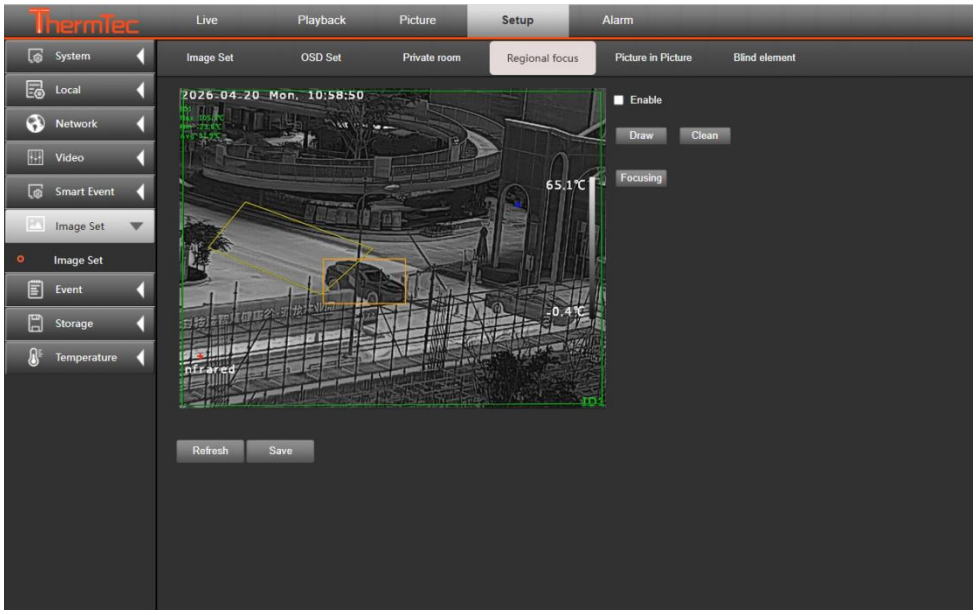
Regional focus function can assure for a defined target or region as the first.

Go to Setup > Image Set > Regional focus > Enable menu to activate regional focusing function.

Click Draw for setup the region range where you'd like to draw a polygon and save it.

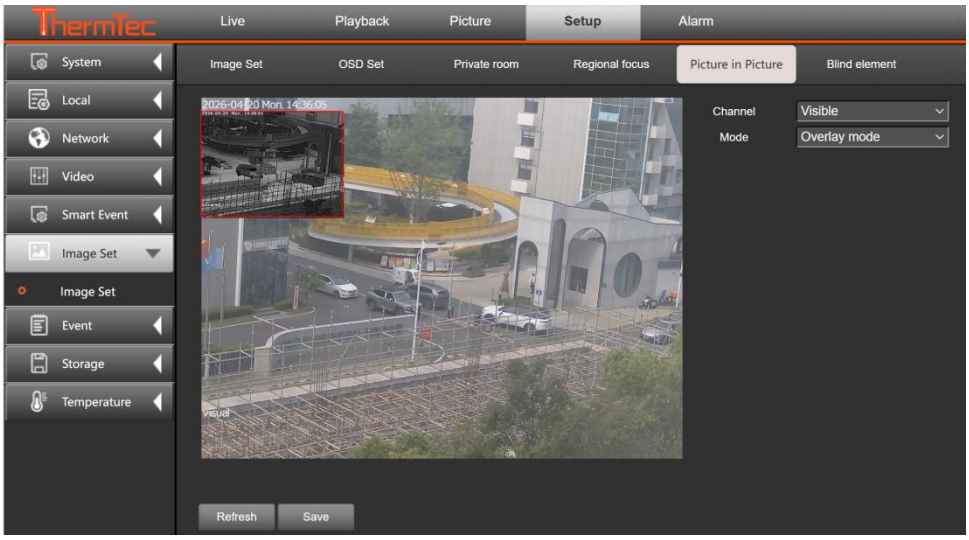
Clean is that you can delete existing drawing.

Refresh is that you can get back to last drawing under the editing state.



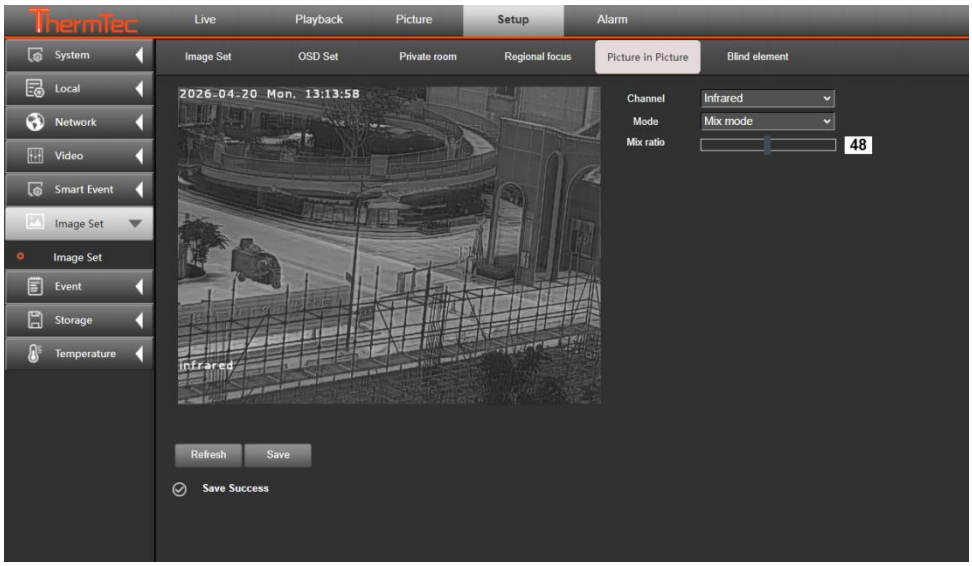
5.7.5 PIP & Imaging fusion

Under the visible light option, there will be a normal mode and a picture in picture mode. After the picture in picture mode is selected, a small infrared image box will appear in the visible light image. After it is successfully opened, it can normally display the visible light hot image that can be painted in picture.



【Notice】: The visible light should be selected as the image type firstly.

Imaging fusion function is integrated visible & thermal image simultaneously, user can adjust the fusing percentage via the Mix radio on the image.
In the thermal channel, you can choose thermal image either normal mode or fusion mode, go to Setup > Image Set > Picture in Picture > Save



5.7.6 Blind element processing

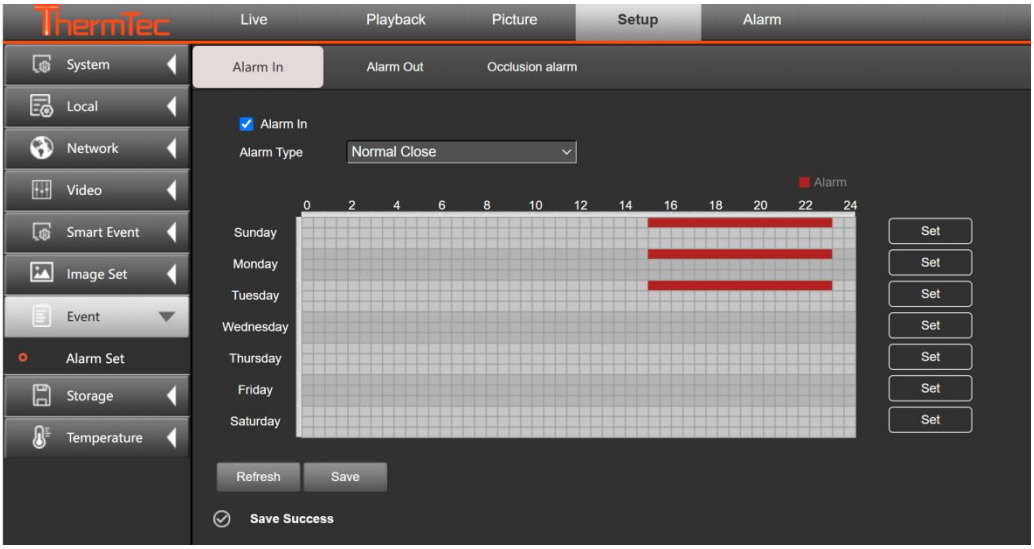
Open blind element processing through the menu to check the changes of image display. If there are spot, spot or linear blind elements in the image, use the direction keys to control the place where blind element processing is required, and click the blind element processing to eliminate it. If there are too many spots in the image, you can also select automatic blind element processing. After the blind element processing operation is completed, click the Save button.



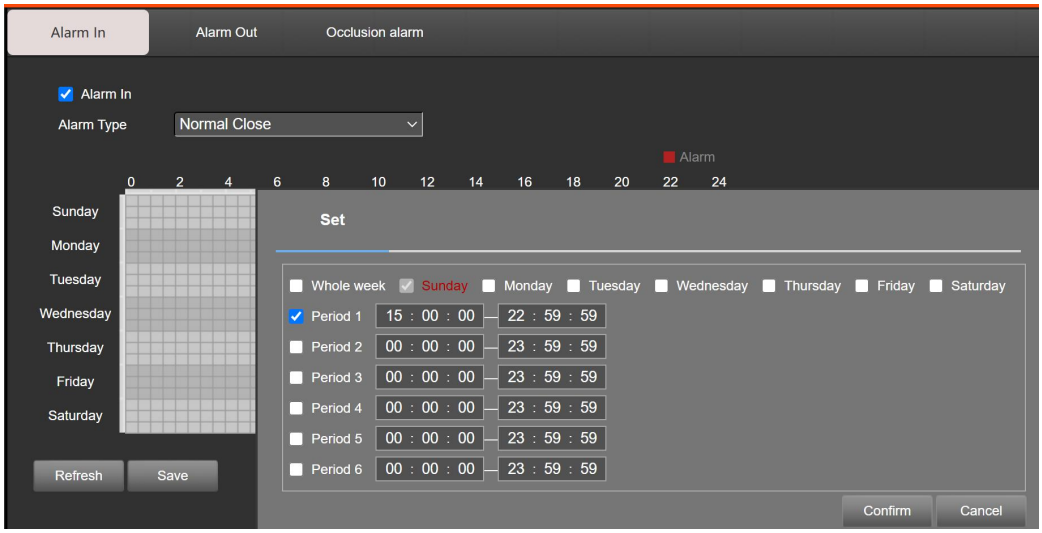
5.8 Alarm event

5.8.1 Alarm In

Click ☑ enable the alarm input linkage function in the upper left. The alarm type can be set as normally open and normally closed. Click Edit to edit the deployment time. You can set the deployment of the whole week or one day of a week, and you can set the start time and end time of six time periods for a day in detail.



Go to the Set to setup alarm event of the time frame.



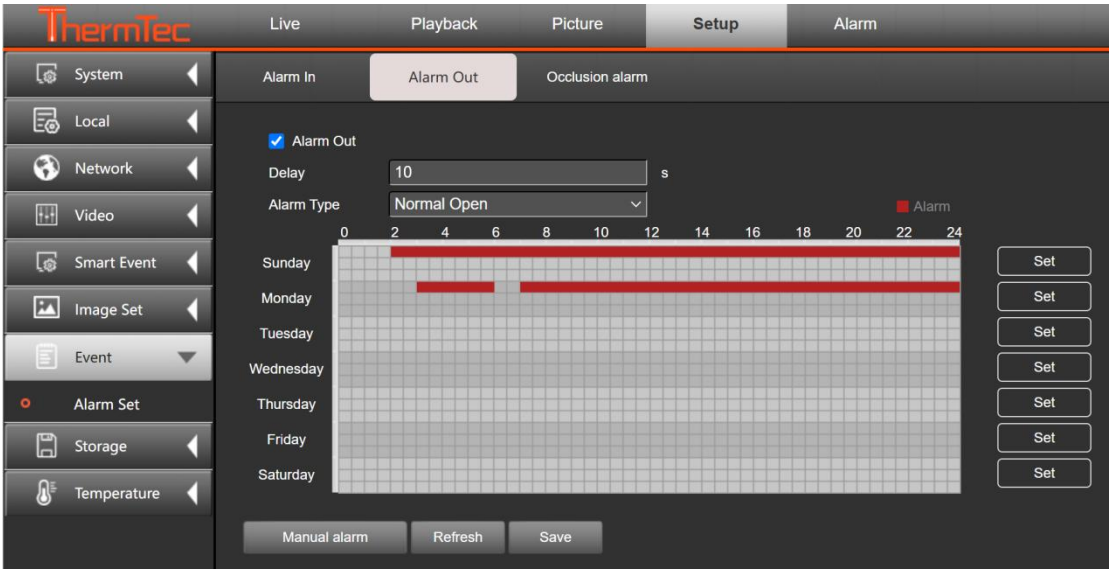
5.8.2 Alarm Out

Setup > Event > Alarm Out:

Enable Alarm Out ☑, setup time period of the constant alarm event, and the alarm delay time represents the duration after the alarm is triggered. It can be set between 5 seconds and 10 minutes, or it can be set manually to close the alarm manually. The alarm state cannot be set.

Select alarm out interface either alarm out 1 or alarm out 2 to the external alarm device in the third party.

Click Edit to edit the deployment time. You can set the deployment of the whole week or one day of a week, and you can set the start time and end time of six time periods for a day in detail.

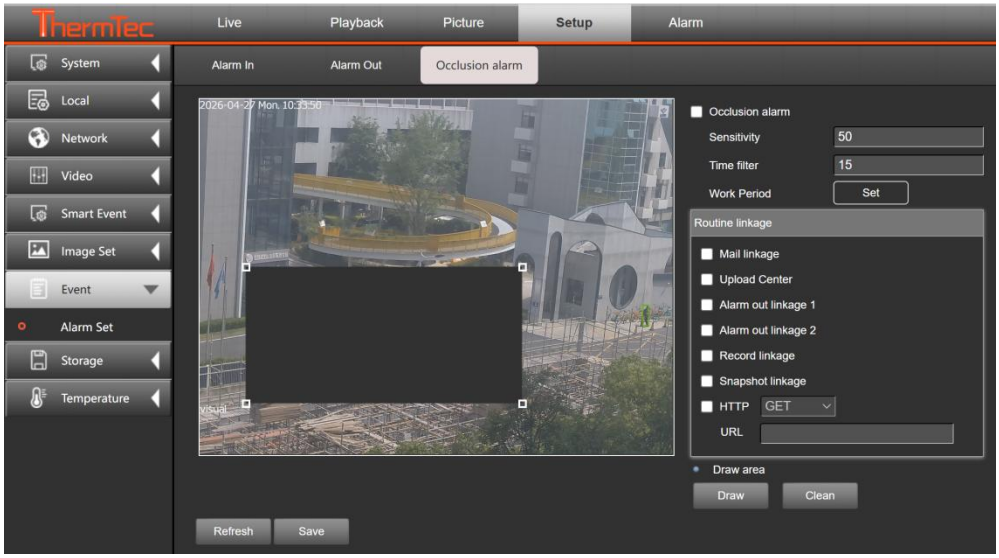


5.8.3 Occlusion alarm

There will be triggered shielding alarm event if presetting area is blocked by the human factor, occlusion alarm will be triggered automatically.
Steps: Setup > Event > occlusion alarm > Enabling this function > Draw area > Save.

Set occlusion alarm parameters, sensitivity range 0 to 100, the higher sensitivity value, the easier to detecting occlusion event.

Linkage mode: Alarm linkage for setting alarm info can be reference in the alarm event.
Snapshot linkage: Snapshot the relevant picture after triggering a event, which is automatically saved at the defaulted or manually saved storage path.
Mail linkage: Reference the mail linkage to be set in details, user should set up snapshot configuration firstly.
Upload center: Complete the setting of the server before taking this function.
HTTP linkage: Take GET or POST command in the URL after deploying a local server.

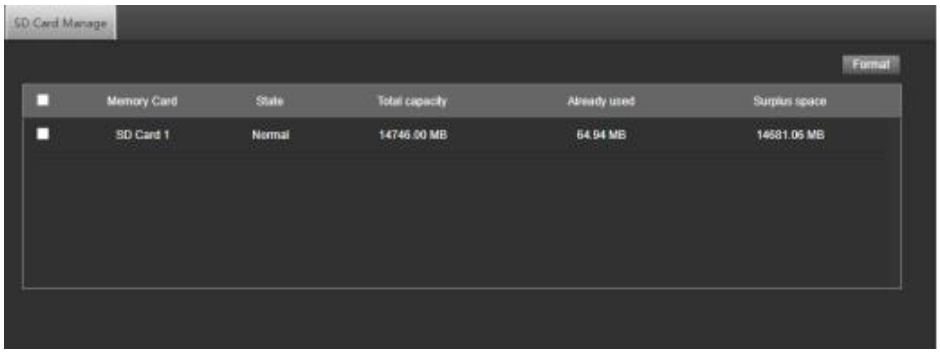


5.9 Storage

5.9.1 SD Card Manage

User can inspect the existing storage capacity and working statue, format SD card.
SD card information displays the configured information, including total capacity, remaining space, used space, and status.
Tick the detected SD card and click "Format". When the SD card status changes from

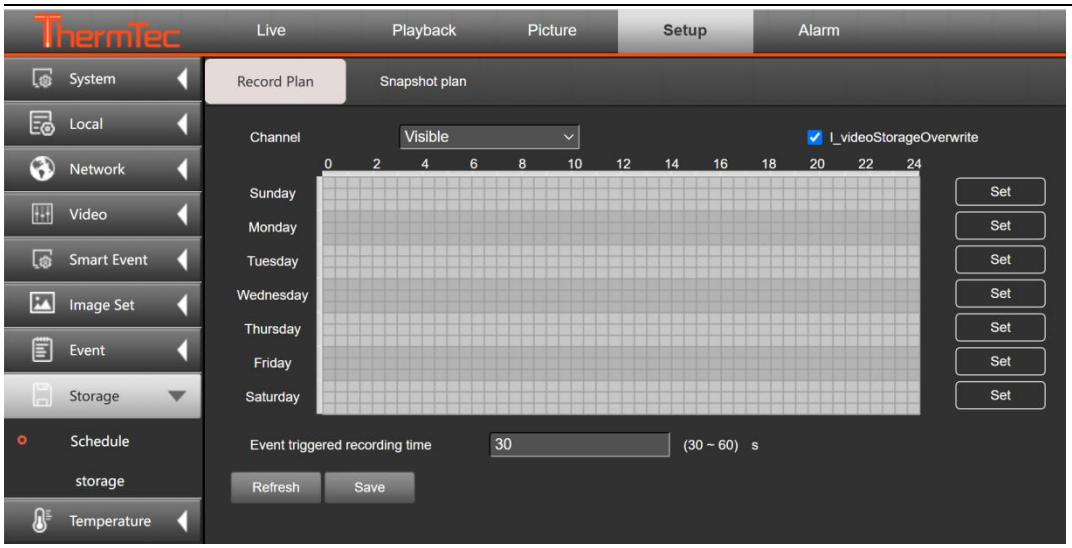
"Unformatted" to "Normal", it can be used normally.
Click Save after settings finished.



5.9.2 Schedule

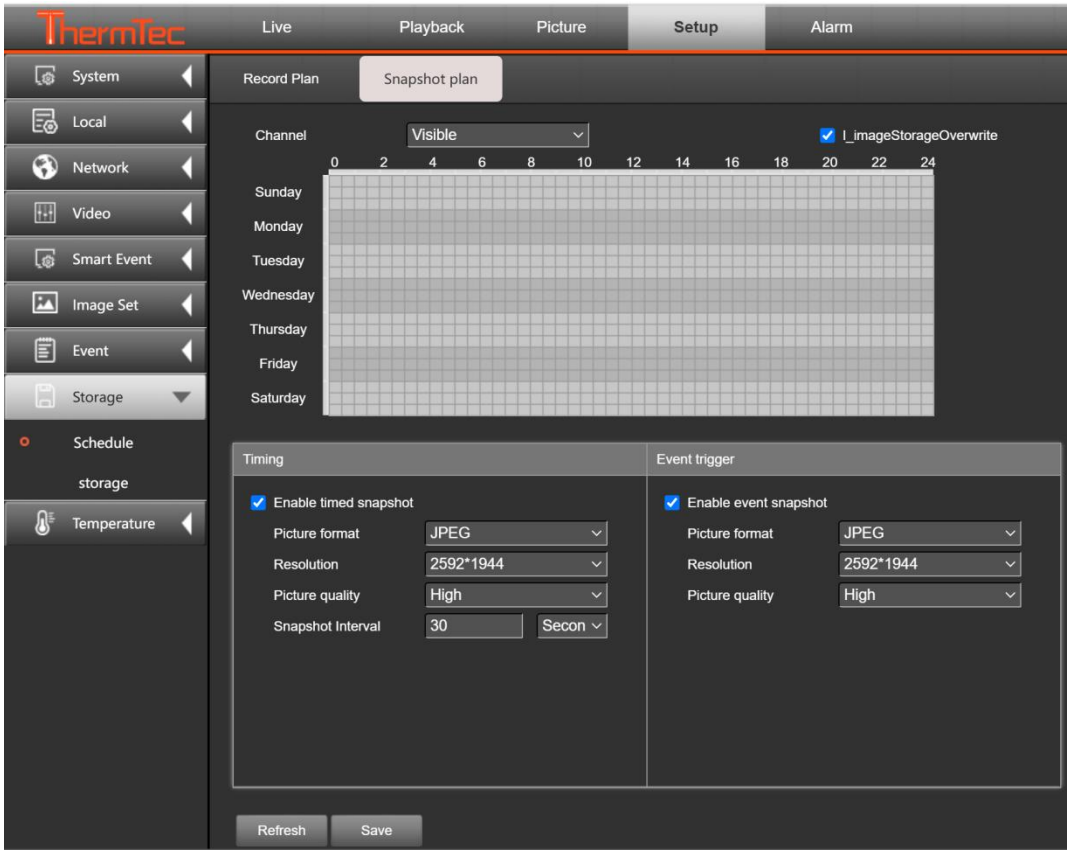
Edit the video deployment time. Select the required video type(timing or event trigger), set the deployment of the whole week or one day of a week, and you can set the start time and end time of six time periods for a day in detail. In addition, user can set the time interval of the video package (1-60 minutes).

Setup > Storage > Schedule > Record Plan > Channel > Enable I_Video Storage Overwrite, shown below.



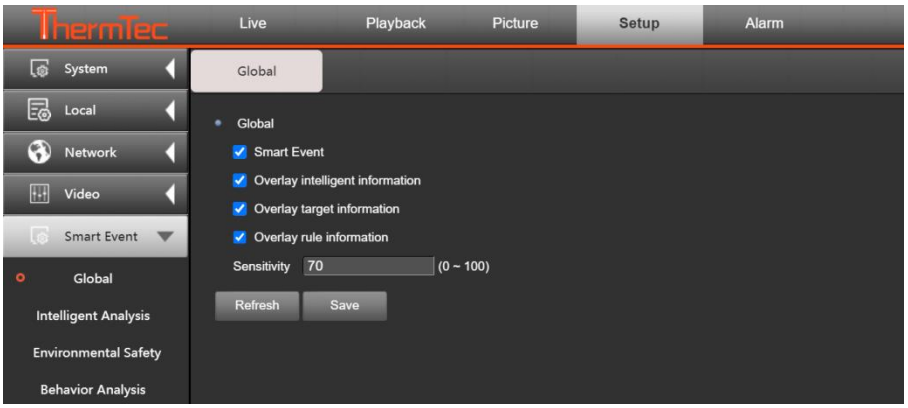
5.9.3 Snapshot Plan

Setup > Storage > Schedule > Snapshot Plan > Channel > Enable I_Video Storage Overwrite, to include scheduled screenshot capture, timed and event screenshot, picture format, snapshot interval etc. shown below.



5.10 Smart Event (VCA)

User can set some smart events via the drawing rule line at the particular area, primary functions including crossing the cordon,access & leave area, regional intrusion,motion detection,double line crossing,to enable Smart Event firstly,shown below.

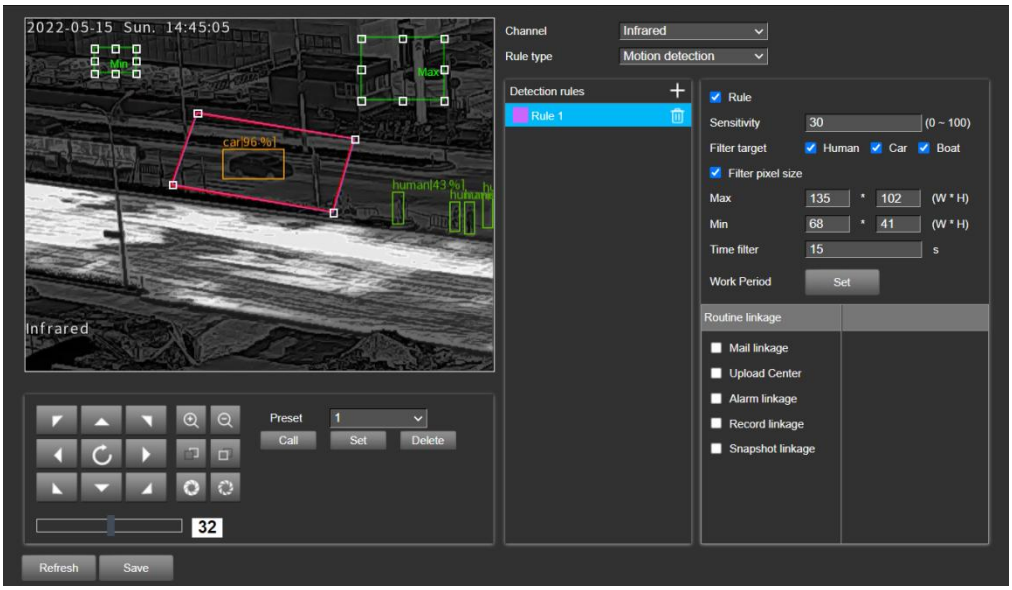


5.10.1 Motion detection

User can set moving detection from the different target in one or multiple regions,

An example with the motion detection to set VCA rule below.

Setup > Smart Event > Intelligent Analysis > set channel and rule info > Save



Channel: There are two channels of visible light and thermal image, and the different channel VCA events need to be configured separately.

Rule Type: Select the specific VCA event type, with a total of 6 VCA events, including motion detection, cross the cordon, regional intrusion, and other VCA events to choose from;

Detection Rules: Click ‘ + ’ to add new event rules,the same event type supports up to 4 detection rules,click delete icon to delete the corresponding detection rules;

Rule: Event enable option,check to active the event

Sensitivity: Each area can be set with different sensitivity, the value range of 0~100, the higher the level, the more sensitive detection;

Filter Target: The target alarm identification of human,vehicle,board targets can be set,the checked target will alarm after triggering the alarm event,unchecked target automatically filters out the target's detection settings that do not trigger an alarm

Filter pixel size: The pixel size value of the target trigger alarm can be set. When the area proportion of the target in the area exceeds the set pixel range, the alarm will be reported, that is, the maximum detection target and the minimum detection target;

Time filter: The interval between VCA event triggering, means between the end of event 1 and event 2 triggering;

Work Period: Set the alarm time period: the alarm event will be started within the set time range, there are 6 periods for setting, select the check box before the time period is valid, select the number of weeks, select the check box before the weeks, can be set separately for several days or seven days of the week.

Mail linkage: The email address can be set in the network Settings, and this function can also send the information of alarm video and alarm capture to the mailbox. Before enabling this function, the Settings of alarm capture and video should be completed. When the alarm is triggered, the device will send an email to notify the user.

Upload center: Enable this function need to complete before the server interface Settings. When the alarm is triggered, the device will send alarm data information to the central server.

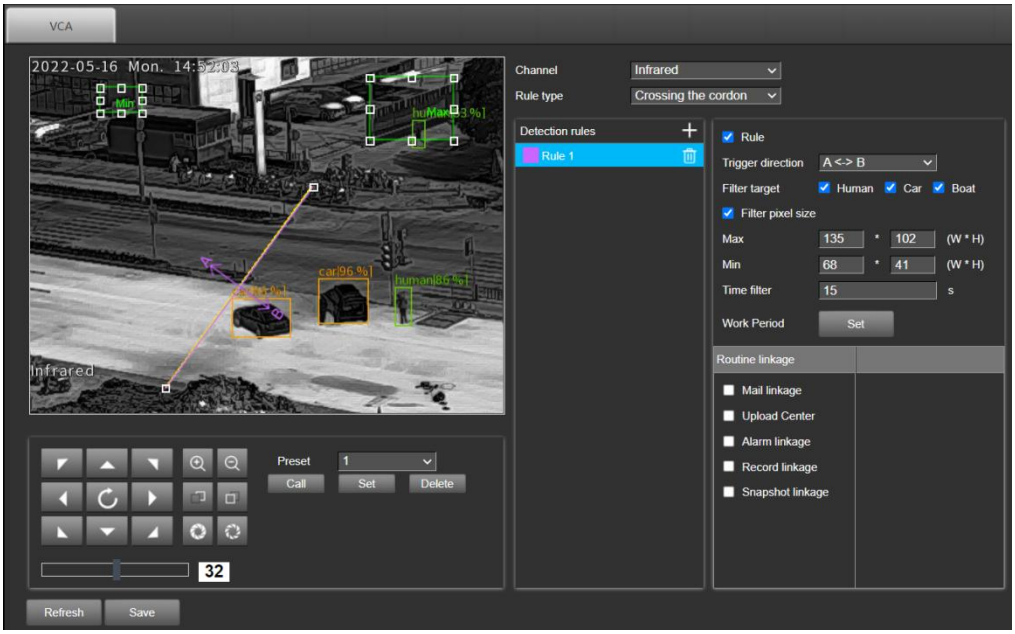
Alarm linkage: Local alarm linkage, when the event triggered will create a I/O signal,the related configuration please refer to 5.10

Record linkage: Start record when the alarm triggered till the alarm finished

Snapshot linkage: Capture a picture when the alarm triggered

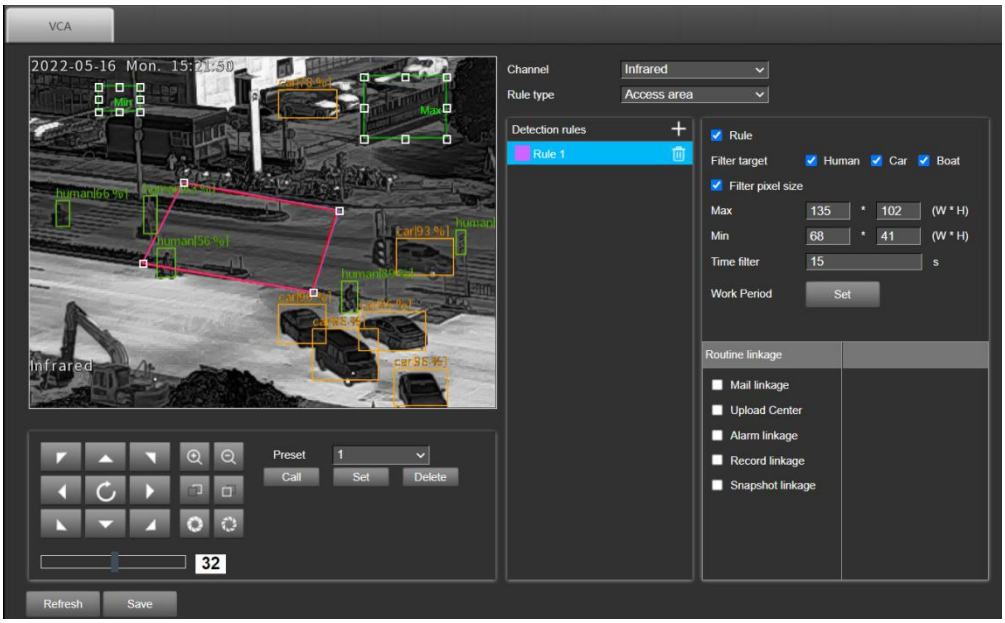
5.10.2 Crossing the cordon

Crossing the cordon function setup is same the motion detection, following the Channel > Rule type for crossing the cordon > drawing and setup some configuration to Save, shown below.



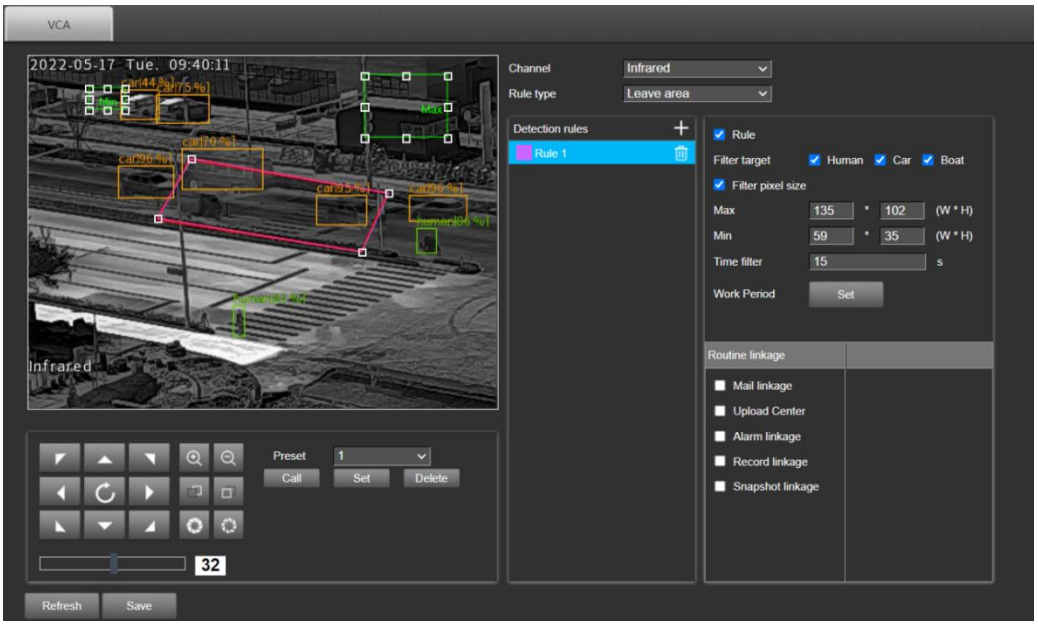
5.10.3 Access area

Select the relevant channel either infrared or visible > Rule type for access area > drawing and setup some configuration to Save, shown below.



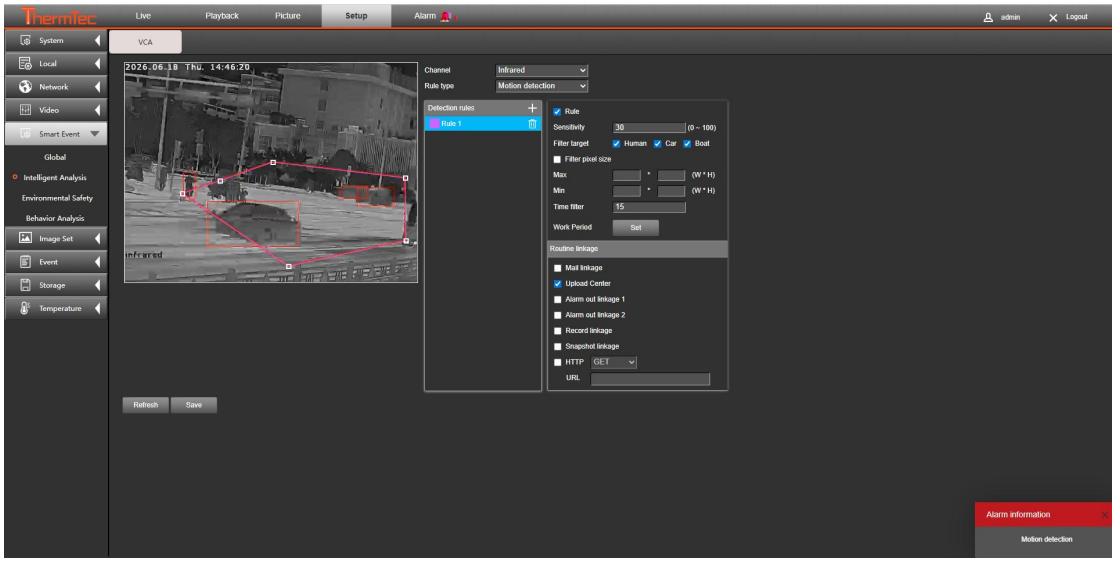
5.10.4 Leave area

Select the relevant channel either infrared or visible > Rule type for leave area > drawing and setup some configuration to Save, shown below.



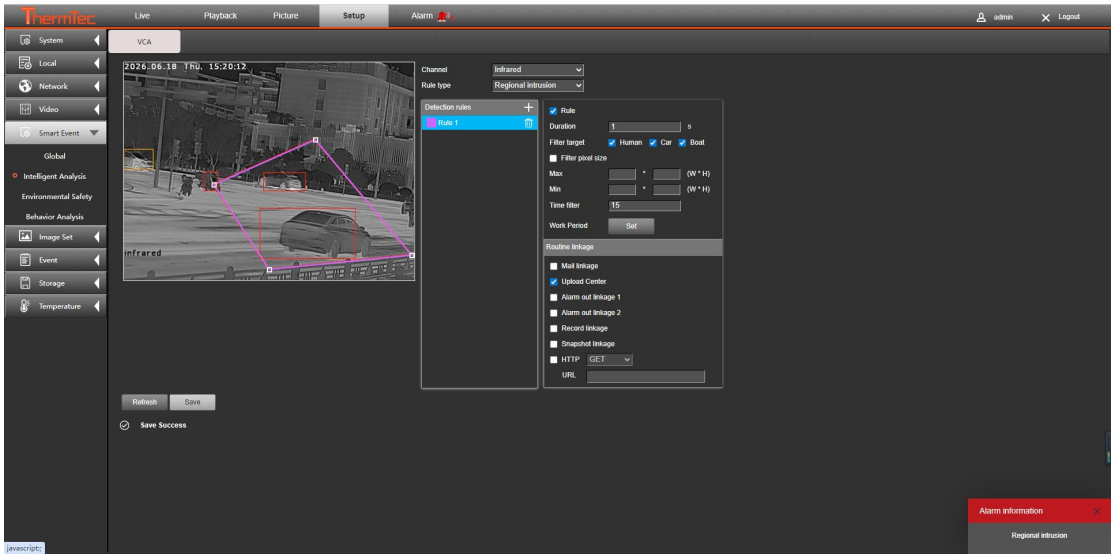
5.10.5 Motion detection

Select the relevant channel either infrared or visible > Rule type for motion detection > drawing and setup some configuration to Save, shown below.



5.10.6 Regional intrusion

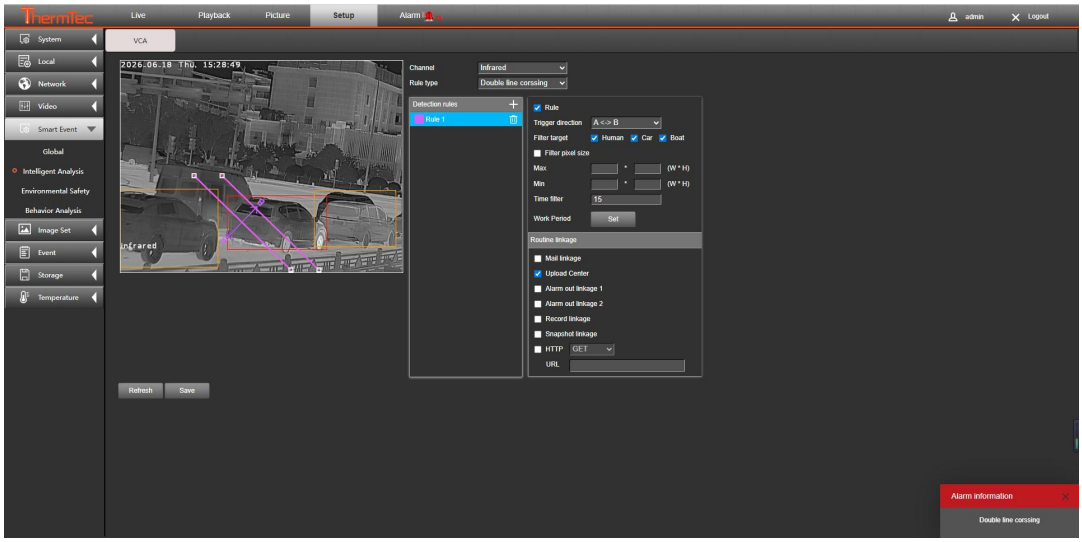
Select the relevant channel either infrared or visible > Rule type for regional intrusion > drawing and setup some configuration to Save, shown below.



5.10.7 Double line crossing

Select the relevant channel either infrared or visible > Rule type for regional intrusion >

drawing and setup some configuration to Save, shown below.



5.10.8 Environmental Safety (Fire detection)

When the device detects a fire source, it will display screens, link alarms and upload alarm information according to the configured strategy. The fire source detection can be used together by adjusting the sensitivity, which can improve the accuracy of detection and linkage, and is suitable for fire prevention environments such as indoors, scenic spots, forests, and tunnels.

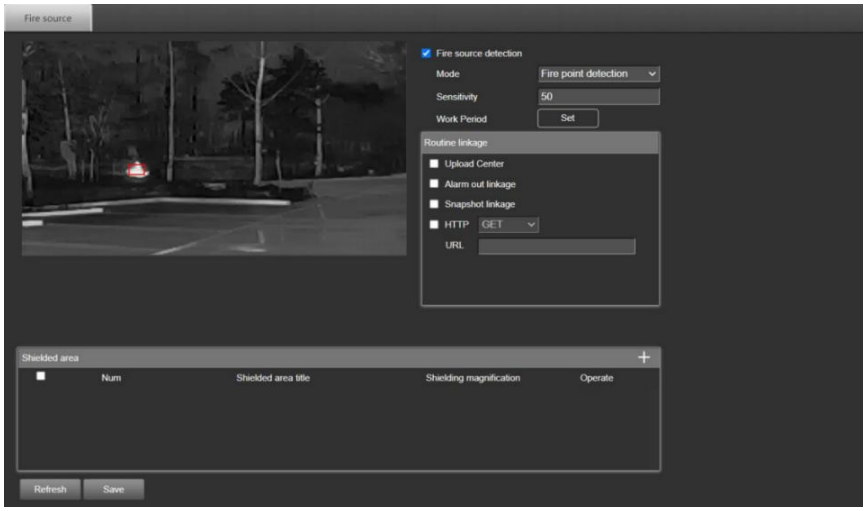
Fire source detection can be applied outdoors and indoors. The monitoring range depends on the size of the infrared lens. Currently, the largest lens is a 35mm infrared lens.In order to achieve the best detection effect, please select according to the following requirements point.

• The selected installation point must be the commanding height within the detection range.

• Try to choose a location with convenient transportation and complete basic power supply and network facilities, such as communication signal towers, watchtowers, and the tops of high-rise buildings.

Fire source detection settings

To reduce potential fire source security risks, configure the fire detection function in areas where fire sources may exist. This parameter is used to detect whether there is a fire point in the scenario.



1) On the Fire Detection screen, you can set the option of enabling thermal imaging fire point detection;

2) Select Fire Detection to enable the fire detection function;

3) Select the corresponding fire point detection option;

4) Set the event sensitivity;

Sensitivity: The value ranges from 0 to 100. The higher the sensitivity, the easier it is to detect suspicious ignition points. However, the false alarm rate is higher

Work period: Edit the event deployment time.

Shielding area: check the shielding area.

1) Click Add drawing area, click the end points of the polygon area in turn in the live screen, and then click the left button of the mouse to complete the drawing, forming a closed area, and click Save after drawing.

2) Click Clear All to clear the mapped mask area.

3) Click the drawn area and adjust the mask area parameters.

4) Click the area title to modify the title displayed in the masked area.

5) Shielding ratio: The shielding area can be adjusted according to the magnification of the lens. The default value is 1, which cannot be changed (this device does not have the function of magnification for the time being).

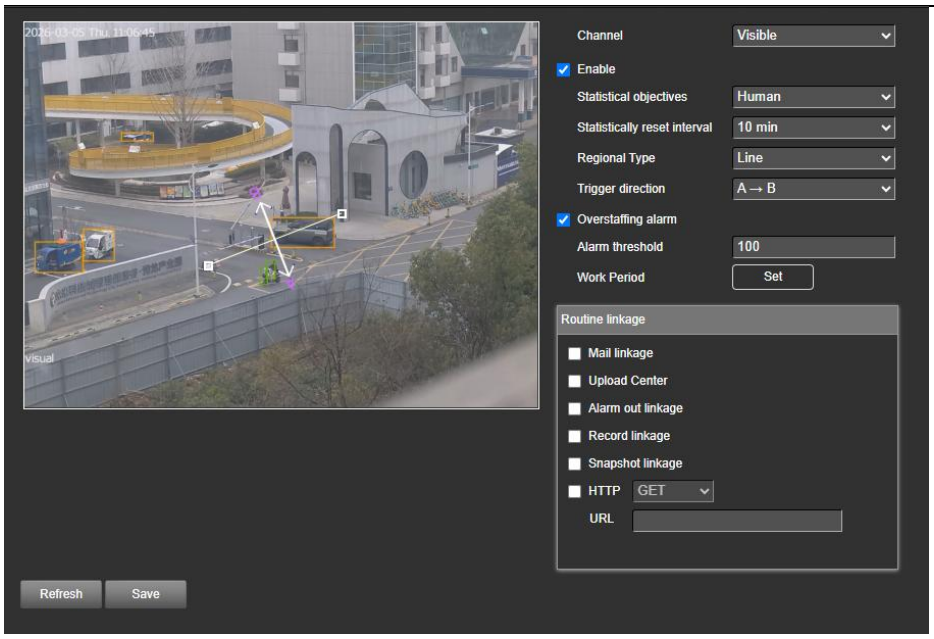
6) Optional operations: You can set multiple masking zones using the preceding method. Set the masking zones based on site requirements.

7) Click Save.

Routine Linkage: The related event can set as linkage alarm, the details please refer to the 6.5.2 linkage alarm.

5.10.9 Target statistics

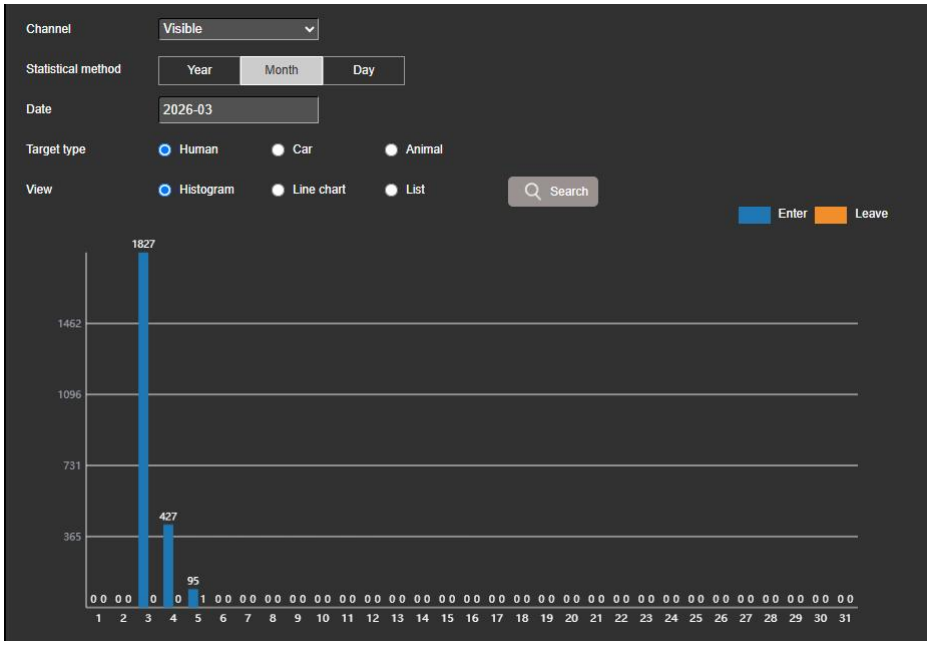
Setup > Smart Event > Behavior Analysis > Target statistics to setup some parameters > Save, shown below.



Notice:
Channel to be selected either visible or infrared camera. Statistical objectives include human, car and animal. Trigger direction with three types: A to B, B to A, A/B both way.

5.10.10 Search report

The search report is used to query and visualize traffic statistics generated by intelligent video analysis, and supports filtering data by channel, time period (year/month/day), and target type. Steps: Channel > Statistical method from the day/month/ year > Select target type > Click to Search.



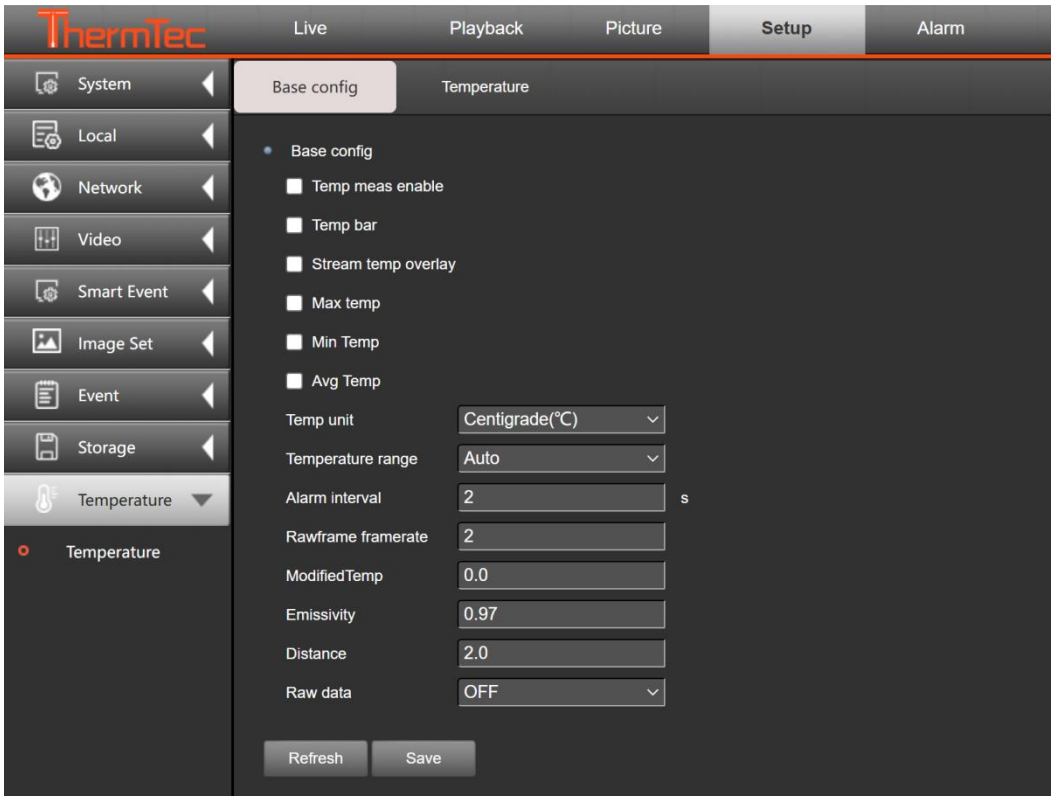
5.11 Temperature measurement

This function is usually used in the particular area to monitor the target temperature in real time.
Setup > Temperature > Base config / Temperature > Save
Here some notices:

• The target surface should be as perpendicular to the optical axis as possible; the recommended angle of the target surface should not exceed 45°.
• The target imaging resolution should be at least 3×3 pixels.
• When measuring the temperature of a specific area, use line or box temperature measurement.

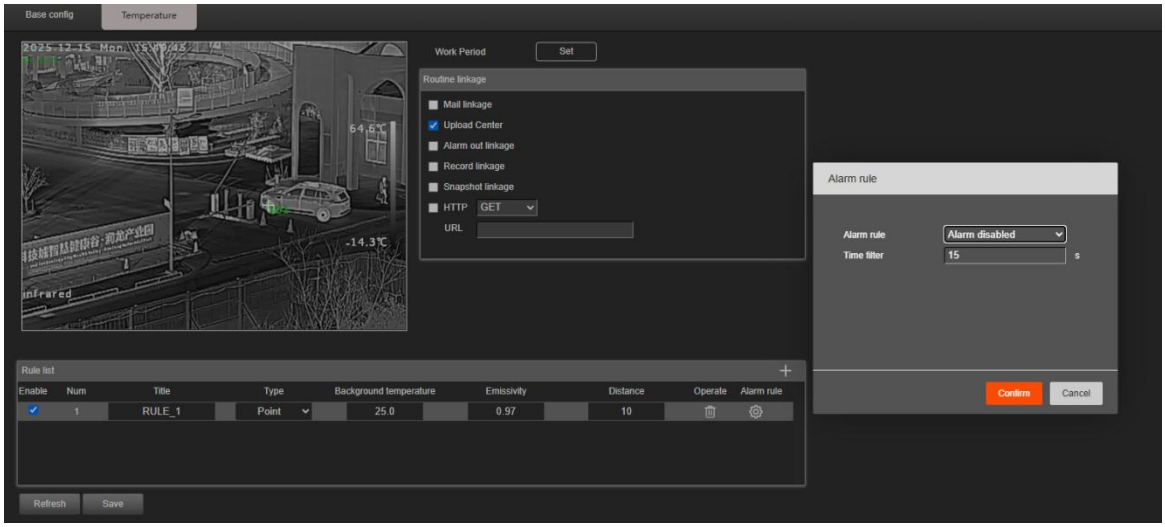
5.11.1 Base config

Enable temperature measurement, this function is inactive state normally. In this interface that user can set items should be Temperature bar, stream temperature overlay, temperature range, raw frame rate, distance, raw data etc.



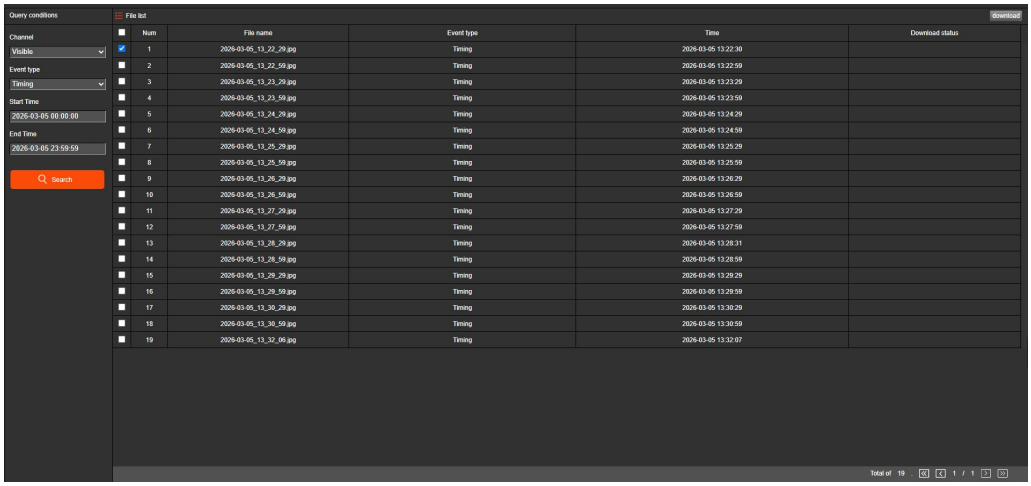
5.11.2 Set temperature measurement

Setup > Temperature > “+” in the rule list > Alarm rule > Confirm
Routine linkage includes Mail linkage, Upload center, Alarm out linkage etc. Please refer to the relevant alarm event configuration.



5.12 Picture

The image playback feature allows you to retrieve, view and download screenshot files stored on the device. It supports precise filtering by channel, event type, and time range, enabling you to review image records from scenarios such as scheduled screenshots and event-triggered screenshots. Picture > Select a channel > Event type > Start time > End time > Search > select the relevant files > Download button on the top corner.



5.13 Playback

The video playback feature is used to retrieve, play, and manage historical video files stored on the device. It supports precise filtering of historical clips by channel, date, and recording type (scheduled/alarm-triggered), and allows users to review video footage using a timeline or variable playback speeds.

Steps: Select a channel for future playback > select corresponding data > video type (all record or alarm record) > Search > Click playback icon on the time list > control playback speed > download video.



Notice:

Control playback operation includes playback speed (fast forward, slow playback) period of video

time, volume adjustment, pause.