Tiandy

Thermal & Optical Bi-spectrum Network Bullet Camera

Quick Start Guide

Thank you for choosing our products. Please read the User Manual carefully before using this product. This user manual will provide you with instructions for correct installation and operation.

Service hotline: 400-686-5688

I. Safety Instruction

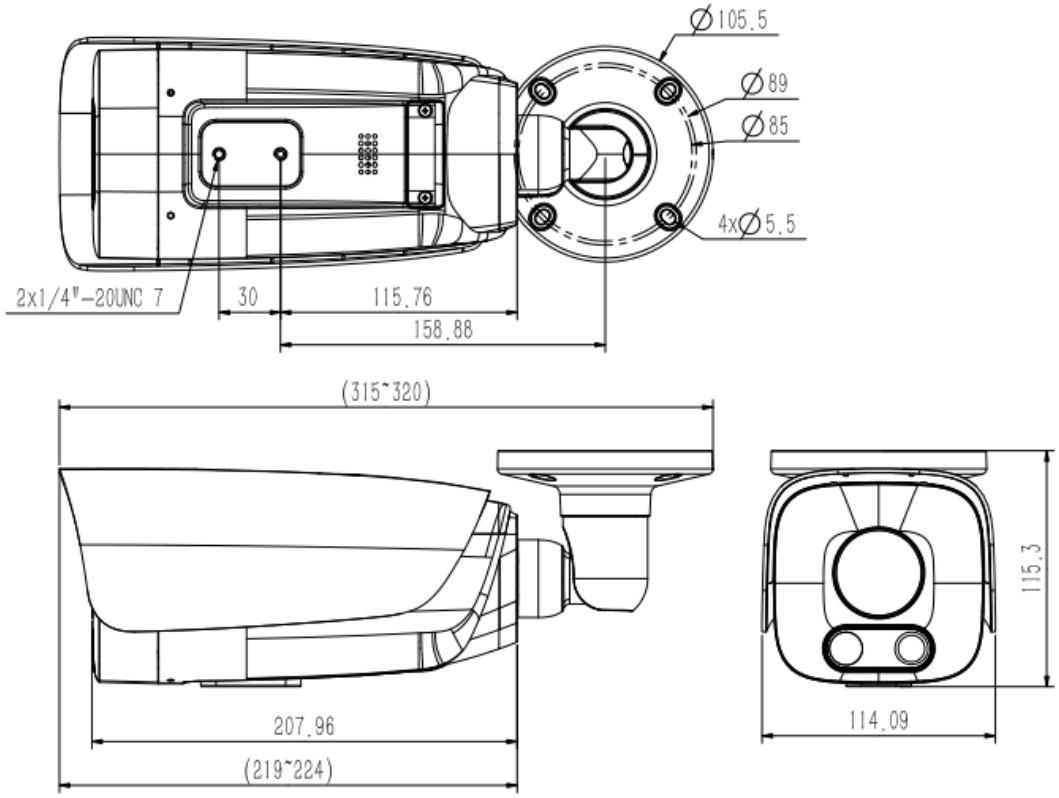
These instructions are intended to ensure that user can use the product correctly to avoid danger and property loss. Please carefully read this guidance and keep it for future reference before operating the device.

The latest version will be updated regularly according to the software and hardware improvement of our product. Updated information will be updated in the latest version of this manual without prior notice.

The precaution measure is divided into “Warnings” and “Cautions”

 **Warnings** Follow these safeguards to prevent serious injury or death.	1. Input voltage should meet both the SELV (Safety Extra Low Voltage) 2. Contact the distributor for abnormal operation. Do Not disassemble or modify the devices in any way. 3. Moisture must be avoided for indoor devices in case of fire and electric shock. 4. Install the equipment on the ceiling to ensure that it can withstand at least 4 times the weight of the equipment. 5. Moisture must be avoided for indoor devices in case of fire and electric shock.
 **Cautions** Follow these precautions to prevent potential injury or	1. Original package must be used for shipment and management to avoid high pressure, high vibration and imprisonments 2. Avoid direct contact with image sensor. Cover the dust cap while not operating. 3. Do not aim the camera at the extra bright places (light, sunlight, and laser) in case of affecting the endurance of CMOS at the same time. 4. Do not place the camera in extremely hot, cold, dusty or damp locations, and do not expose it to high electromagnetism radiation. 5. To avoid heat accumulation, good ventilation is required for operating environment. 6. Ensure that the installation location is kept at a sufficient distance from the surrounding electromagnetic sensitive equipment to prevent electromagnetic interference. 7. Keep the camera away from liquid while on using. Original package during shipment is strongly recommended. 8. Any replacement of the device battery or the use of a mismatched type may cause irreversible damage to the device. 9. Modify the default login password when first login the device to avoid the loss caused by weak password. 10. When the Micro SD is used, it is recommended to use a special video surveillance Micro SD card to avoid after sales maintenance arising from the rapid damage of ordinary Micro SD cards.

II. Dimension (unit: mm)



III. Hardware Interface

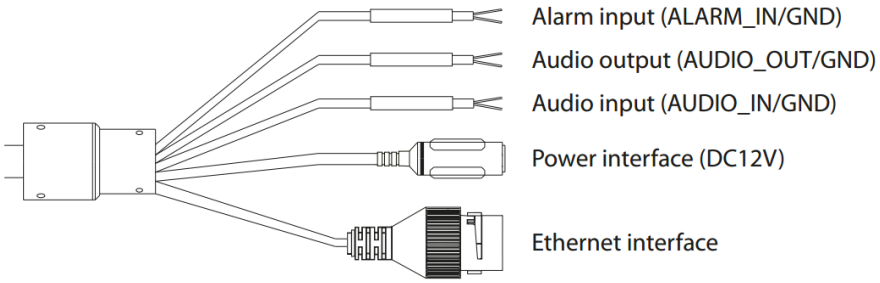


Fig. Description of tail cable interface

Note: The camera is equipped with a full-function tail cable or a multi-function tail cable. Please refer to the actual product.

IV. Quick operation guide

4.1. Access to Devices

1. Camera Default IP address: 192.168.1.2. Please set the computer IP and device IP address in the same network segment: for example, setting 192.168.1.3 as computer IP, you can access the camera through the Internet Explorer.

Note: Use the IE browser that comes with the Windows operating system and make sure the version is above 8.0.

2. Download and install the plug-in when first operating.

3.Open IE browser and input the device IP address in the address bar to display the login interface; input the user name and password: admin / 1111 (user name is not case sensitive), and click "log in" to display the download control prompt interface. Click the link to download and install the control.

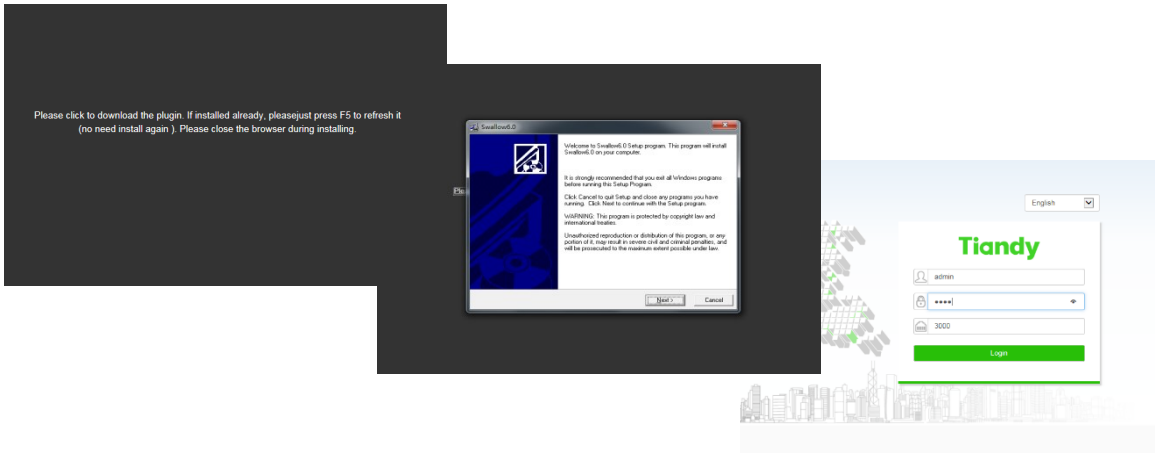


Fig. Login interface

4. After the plug-in is successfully installed, reopen the browser, input the device IP address, and click "Go to" to display the login interface.

5.Enter “admin/1111”（not case-sensitive） as Username and Password. Stream/sub stream/others stream can be connected when entering into the preview interface.

6. To ensure equipment network security, you are strongly recommended to change the password in [User Management] after login. For detailed instructions for using the device, please click .In the upper right corner of the interface to acquire online help.

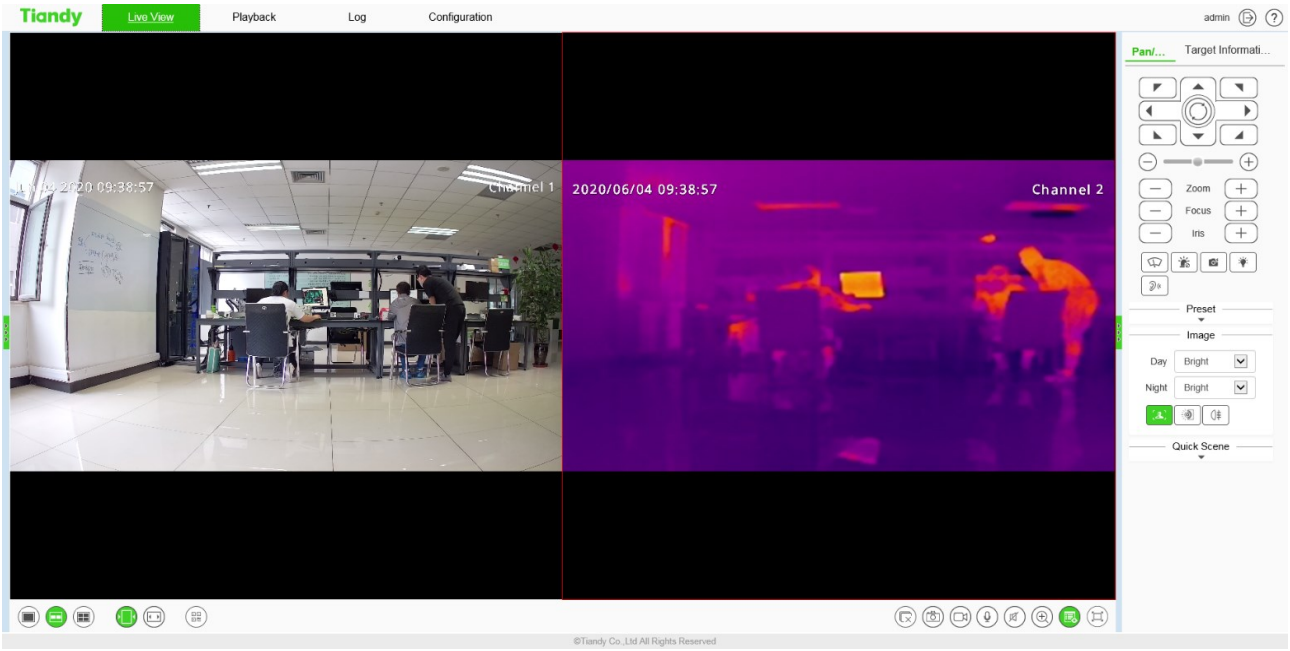


Fig. Video Preview

4.2. Modify IP

To prevent IP conflicts, modify the camera's IP address in time. Please log in to the device on the Internet Explorer and modify the camera IP address (Configuration-Network-Basic Set）.

Automatically obtain IP address by enabling DHCP; manually assign IP address by entering a new IP address and gateway (IP and gateway shall be in the same network segment) and click "Save". Some types will take effect after automatic restart.

V. Installation Guide

5.1 Design of Survey Points and Environment Confirmation

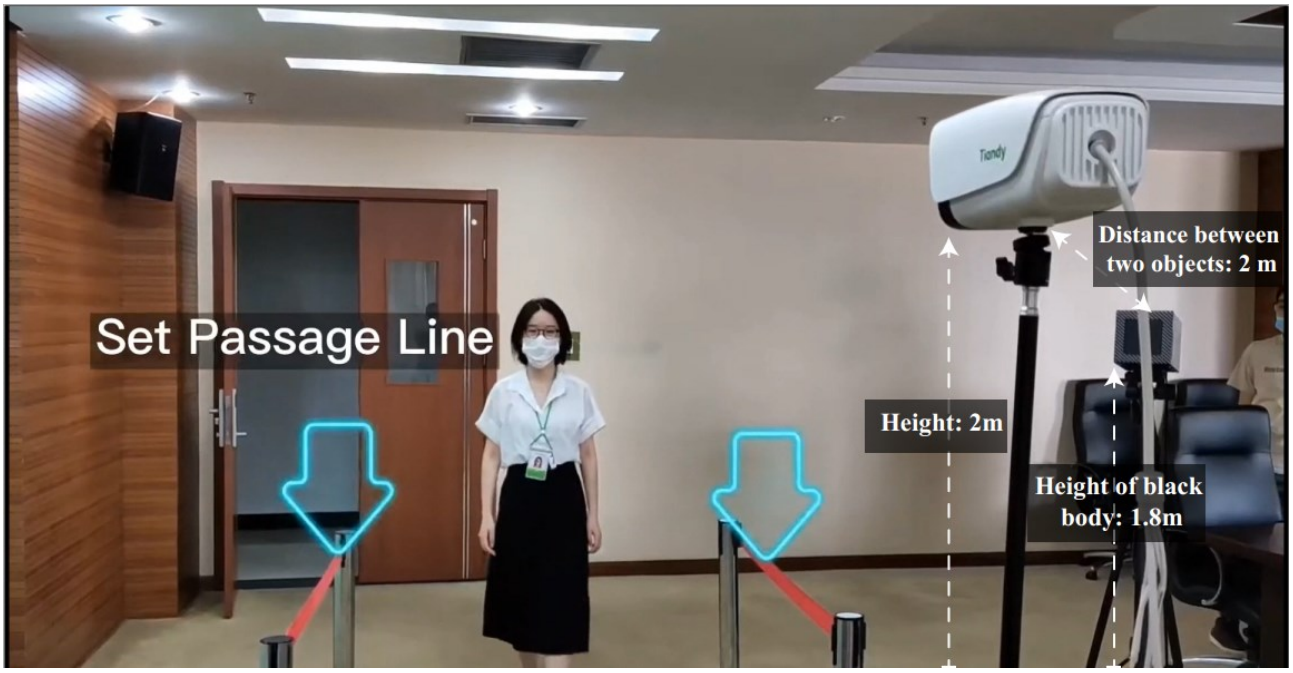
5.1.1 Environment Confirmation

- The visible light channel should be provided with sufficient lighting and free from the impact of such int erference as the backlighting/reflected light/hard light variation/shielding/high temperature.
- The product should be installed in a stable place that is relatively isolated from the ambient conditions, instead of outdoors or any places connected to outdoor spaces, places with airflow, strong electromagnetic interference or vibration.
- Prohibited installation sites:

 Insufficient light	 Backlight/connection to outdoor space
 With hats, long bangs, masks and glasses	 With high-temperature background like dispay devices

5.1.2. Design of Survey Points

1. Installation height for thermal imaging temperature measuring camera (such as TC-C54LP configuration: E/T/4mm, 4 mm lens) is 2 m or 1.8 m for black body; the straight-line distance is 1.5 m between the camera and black body, as shown in diagram below:



2. Install the camera at the same side of black body and avoid shielding the space between them; the radiation side of black body (note: Radiation side should not be collided or polluted) should face the radiation direction of camera; place the black body at the left or right side of thermal imaging picture; protect the tripod by installing temporary fences.

3. People stream should face the camera. The target person's forehead should face the camera when measuring temperature. Personnel are highly recommended to stay at and face the camera for temperature measurement. Temporary measures can be adopted at site for planning the personnel route and leading the personnel to the camera position.

Note: Thermal imaging temperature measuring camera may not undergo temperature test until it is preheated for 30min. after it is switched on so as to ensure accuracy.

5.1.3. Installation of Frontend Equipment

The temperature measurement product should be installed on a tripod by referring to the installation guide of indoor portable product; while others should be fixed and installed based on the requirements for height and distance.

Others should be fixed and installed based on the specific ambient environment. Make sure the supports are stable and reliable and conform to the following requirements:

Schematic diagram for 4 mm focal length:

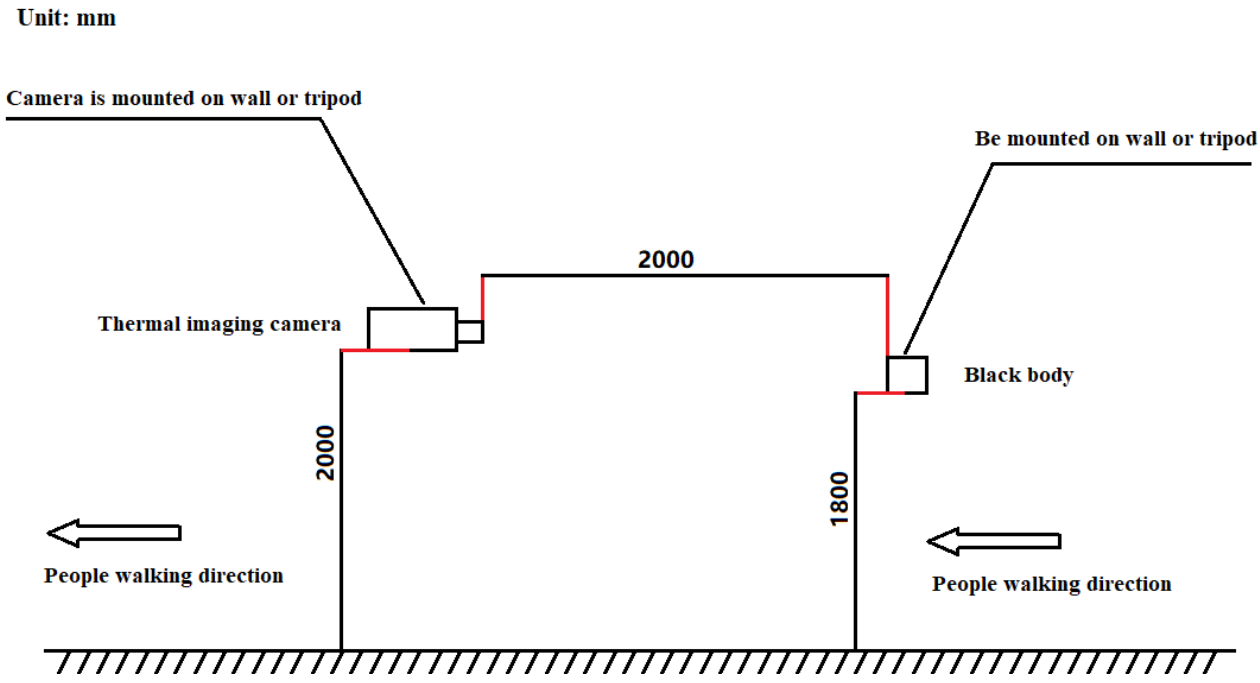


Fig. Schematic Diagram for 4 mm Focal Length

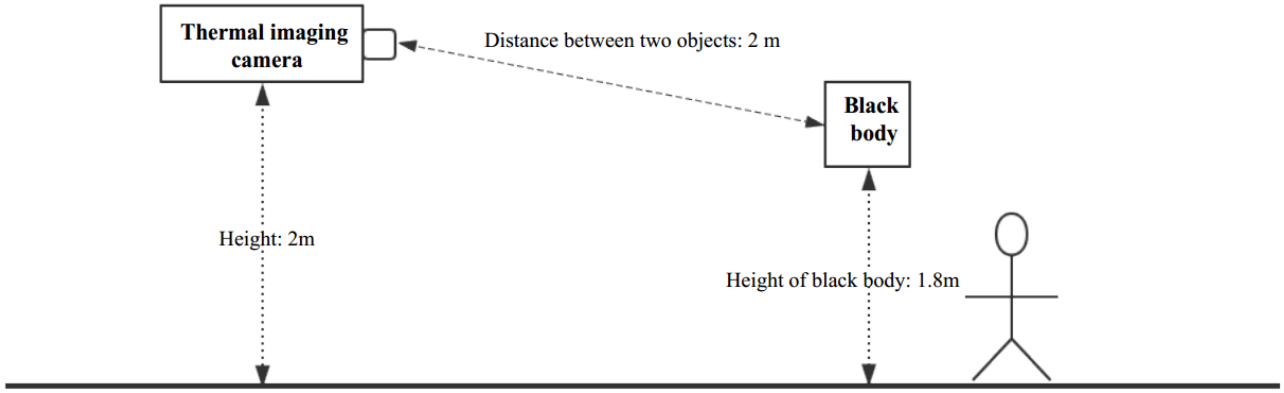


Fig. Top View

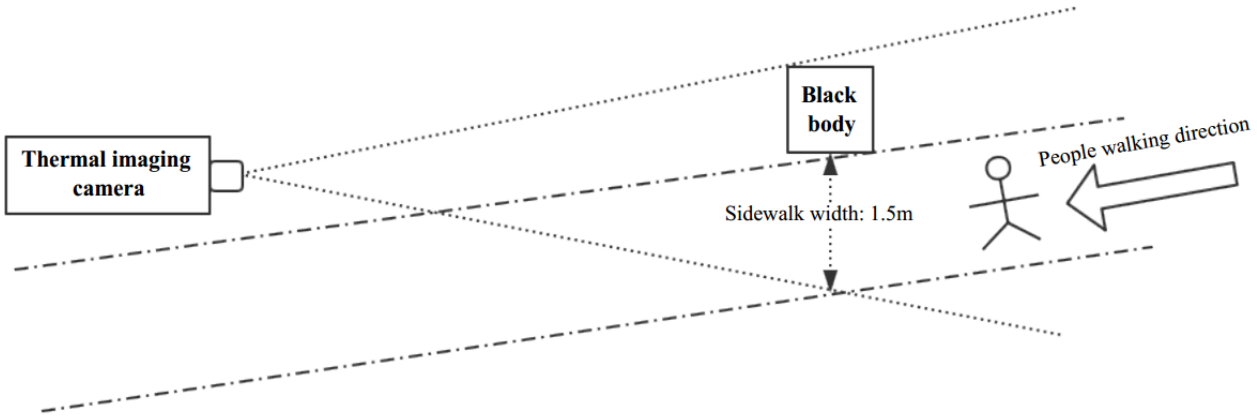


Fig. Side View

Actual effects are as follows:

Check if the distance between the black body and thermal imaging camera and between forehead and camera meet the requirements by using a tape. The distance requirements are as follows:

Focal Length of Lens	Distance between Black Body and Camera	Distance between Forehead and Camera	Width of Optimal Temperature Measurement Location
4mm	1.5m	1.5m	1.3m

- The accuracy of temperature measurement can be best guaranteed when the distance between forehead, black body and camera is consistent. Take the 4 mm focal length as example, the calibrated distance of black body is 1.5 m, the optimal temperature measurement distance is 1.5 m (straight-line distance between forehead and camera); the optimal measurement width is about 1.3 m at the 1.5 m position (about 1 gate); otherwise, the temperature measured will be higher at front of 1.5 m position, or lower at the rear position. It is ideal to set the footprint position at the 1.5 m position to guide personnel to measure temperature one by one.
- Check if camera and black body are installed at the same side and the space between camera and black body is shielded.
- Check if people walking direction and the forehead of target personnel face the camera.

VI. Setting of Human Body Temperature Measurement

6.1 Human body temperature measurement setting

User may set the parameters of temperature measurement via: [Login device] => [Configuration] => [Human body temperature measurement setting], as shown in diagram below:

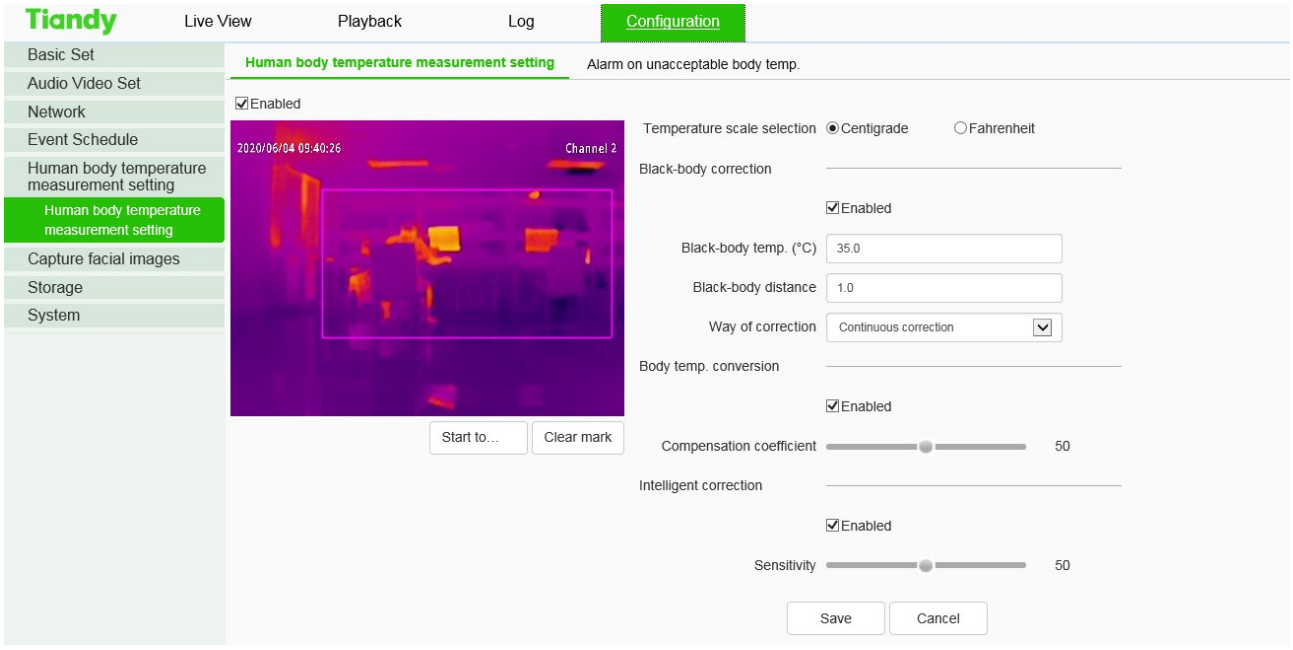


Fig. Human body temperature measurement setting interface

Relevant parameters:

Parameters	Description
Enable	Check box to turn on the human body temperature measurement function, and uncheck to turn off the human body temperature measurement function.
Start marking the position of black body	Mark the position of black body on the screen for calibration.
Temperature scale selection	The device supports two temperature scales: Centigrade scale and Fahrenheit. The system defaults to Centigrade scale.
Black-body correction	The device supports temperature correction by comparing temperature with a set thermostatic source (black body). Users can realize this function by setting the parameter information of [Black-body temp.], [Black-body distance], [Way of correction].
Black-body temp.	Set the black-body temperature for temperature correction.
Black-body distance	The device supports temperature correction within a certain range. Note: Black-body is a constant temperature source. Distance will cause thermal radiation loss. The larger the distance loss, the worse the correction effect.
Way of correction	The equipment supports manual correction and continuous correction for temperature correction.
Manual correction	The user clicks on the Manual Correction button to perform a temperature correction.
Continuous correction	The device will continuously correct the temperature.
Body temp. conversion	The device supports the conversion of internal body temperature to body temperature. Users can realize this function by setting the parameter information of [Compensation coefficient].
Compensation coefficient	The compensation coefficient ranges from 0 to 100, which can be set according to the actual environment.
Intelligent correction	The device supports big data temperature correction. Users can realize this function by setting the parameter information of [Sensitivity].
Sensitivity	He Sensitivity range is 0-100, which can be set according to the actual environment.
Save	Click “Save” to save the corresponding parameter settings.
Cancel	Click “Cancel” to restore the last saved parameter.

6.2. Black Body Set-up

1. Once powered on for 20 min, the black body will display 35 ℃ as default; Otherwise, long press “SEL” key and adjust the value through “Λ” and “V” key.

2. Once camera and black body are fixed, make sure the black body is located at the top right corner or top left corner of imaging picture of thermal imaging camera, as shown in diagram below:

3. Fill the temperature of black body as 35℃ and draw the rule box at the middle of radiation surface of black body; The rule box should be as small as possible (keep the rule box at the middle of black body; the measurement accuracy will increase along with the decrease of box; refer to the green box at the top right corner of image below) and click “OK” to take effect.

Attention:

1. The set temperature of the IE must be consistent with the actual temperature of the black body, otherwise, the detected temperature may be inaccurate or abnormal;
2. In the use, the black body frame must be in the centre of the block body, otherwise, the detected temperature may be inaccurate or abnormal.

6.2 Alarm on unacceptable body temp.

User may set the alarm of abnormal temperature via: [Login device] => [Configuration] => [Alarm on unacceptable body temp.] as shown in diagram below:

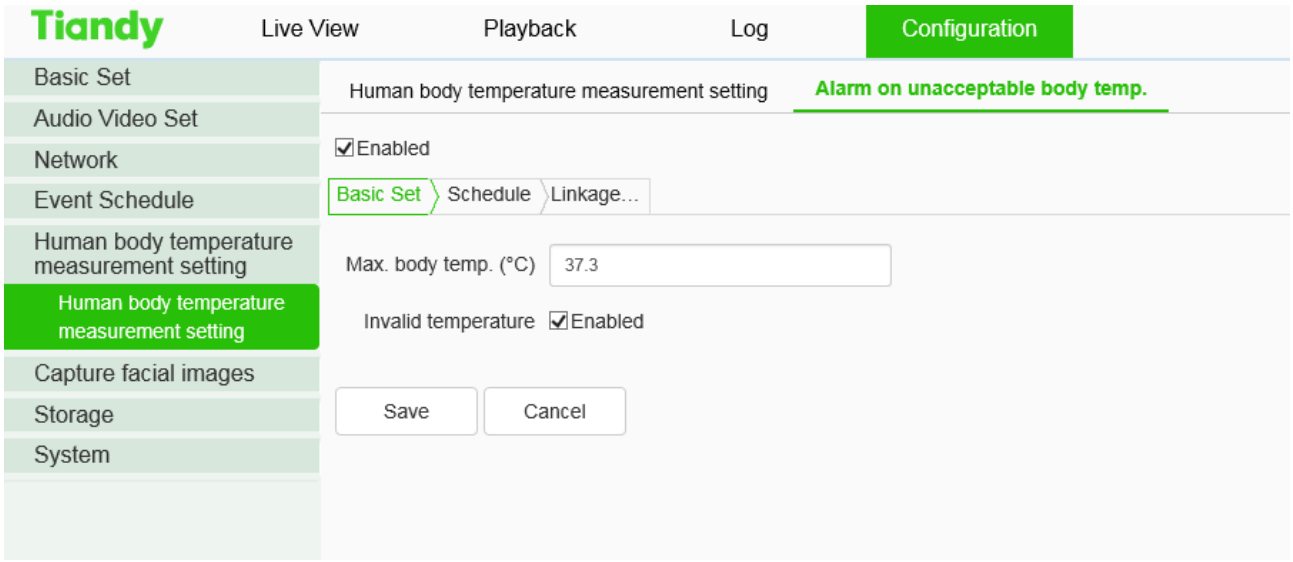


Fig. Alarm on unacceptable body temp. Interface

[Alarm on unacceptable body temp.]=> [Basic Set]

The user sets the upper limit of body temperature. When the upper limit of body temperature is exceeded, the alarm will be started.

[Alarm on unacceptable body temp.]=> [Schedule]

Set the effective time of abnormal temperature alarm, which is set 24 hours a day by default. Click the blue bar to modify the deployment time, and then click save.

[Alarm on unacceptable body temp.]=> [Linkage Mode]

Set the alarm linkage function when the alarm occurs. For example: linkage output, linkage video recording, conventional linkage, etc.

6.4. Human Face Capture Setting

Users, according to their actual need, may set up the parameters of human face capture function by: login=>setup=>human face capture=>human face setup, as is demonstrated below.

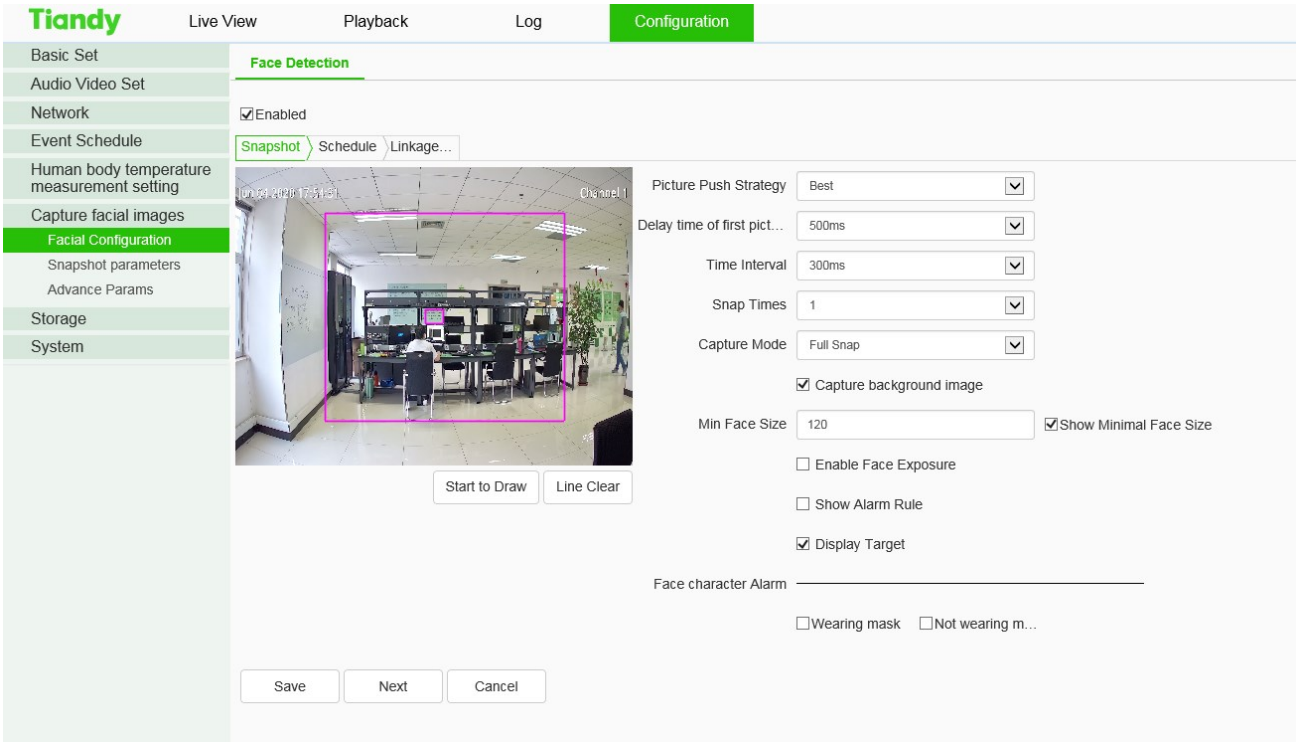
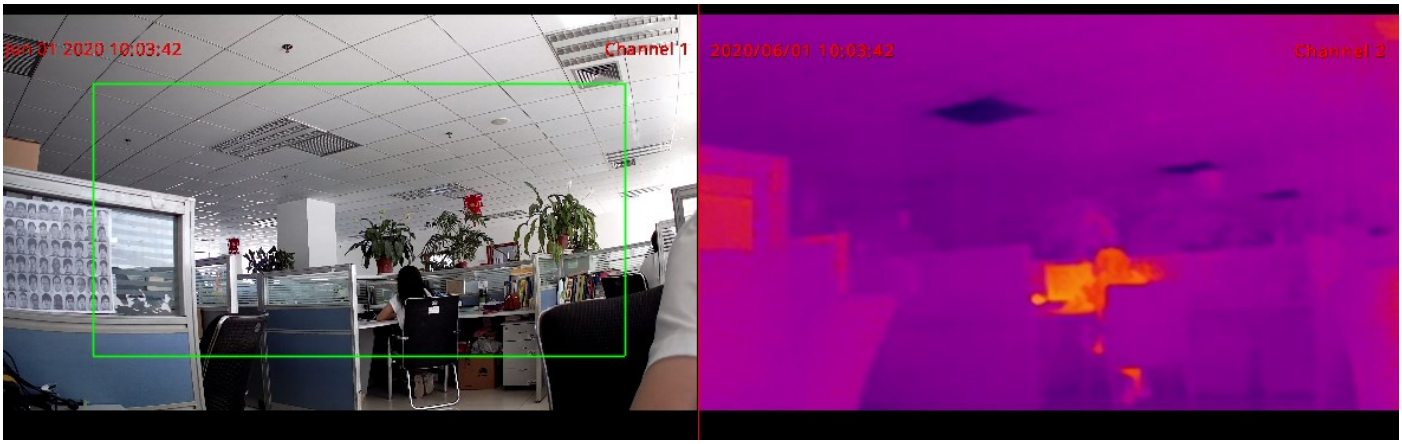


Fig. Face detection Interface

The detecting frame demonstrated above is the default human face capture scope which shall be equal or smaller than the thermal imaging video channel to ensure the effectiveness of the temperature measurement within the thermal imaging scope. The out-of-scope measurement is invalid.

After selecting checkbox [display alarming rules], it maybe checked whether the visible light measurement area consistent with the thermal imaging area, as is demonstrated below：



VII. Human Body Temperature Measurement Setting

7.1 Device Connection Instruction

1. The device support the direct connection between the cables and the POE ports, on condition that only device power supply, other than plug-and-play function, is supported.
2. As the front end of the thermal imaging is muti-channel, the ports shall be interval in the connection process to NRV if POE is adopted, as is demonstrated below:

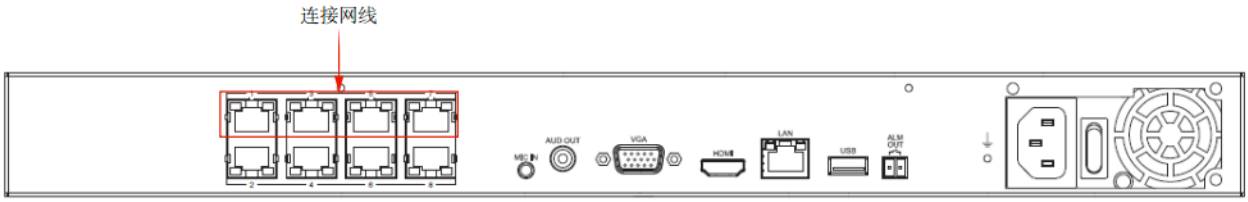


Fig. Cable Connection Sketch

7.2 Device Functioning Instruction

Note: The basic parameter information of NVR device comes from the in-device parameter configuration of the thermal imaging front end.

7.2.1 Device IP Adding

1.Users, according to their actual need, may enter the IP configuration page by “Channel Management=>Channel Configuration=>Basic Configuration”, as is demonstrated below：

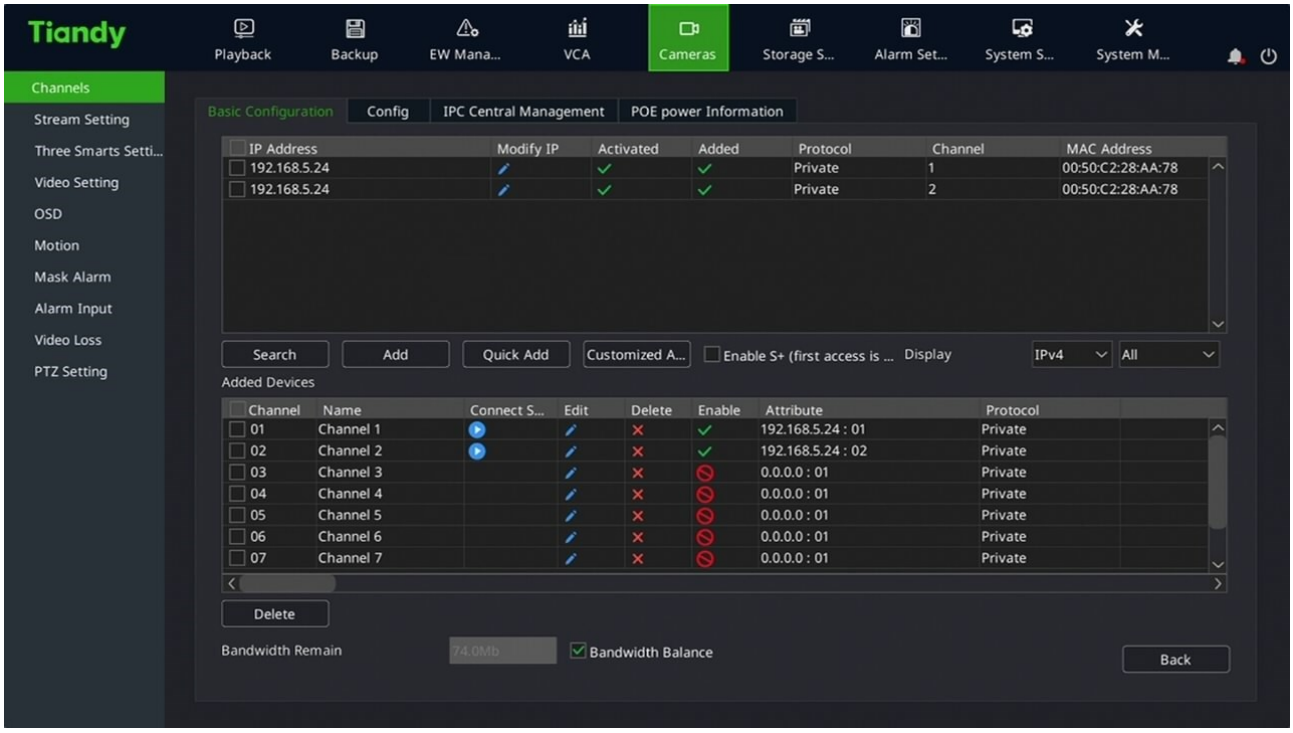


Fig. Channel Configuration

3. Click the “ ”icon in Modify IP to modify the thermal imaging front end IP into the same network

segment with the NVR device, e.g. set the IP to：192.168.3.10，as is demonstrated below:

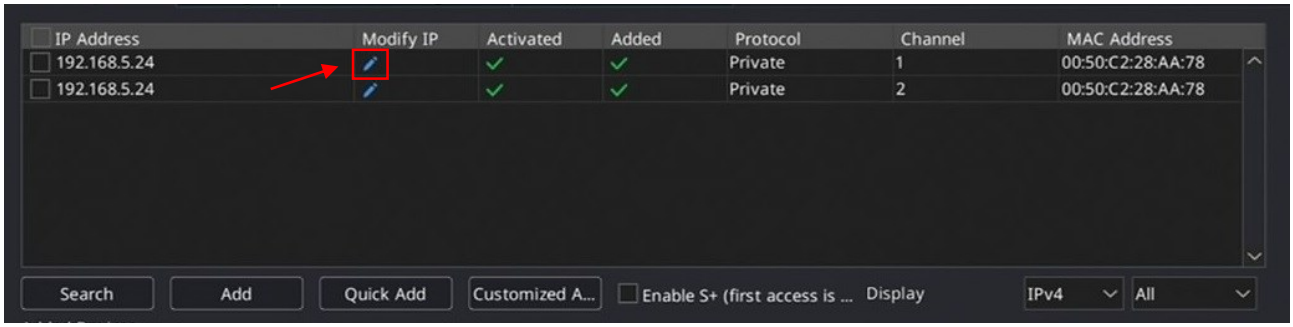


Fig. Device Searching

3.Click the "  "icon in Device Adding，and input the IP of the thermal imaging front end and select the device signal channel, while other information may be input according to actual need, as is demonstrated below:

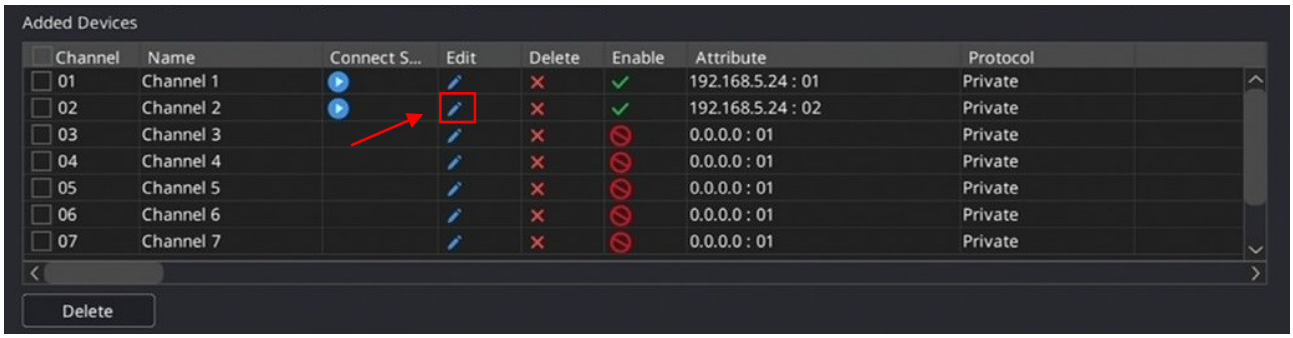


Fig. Added Device

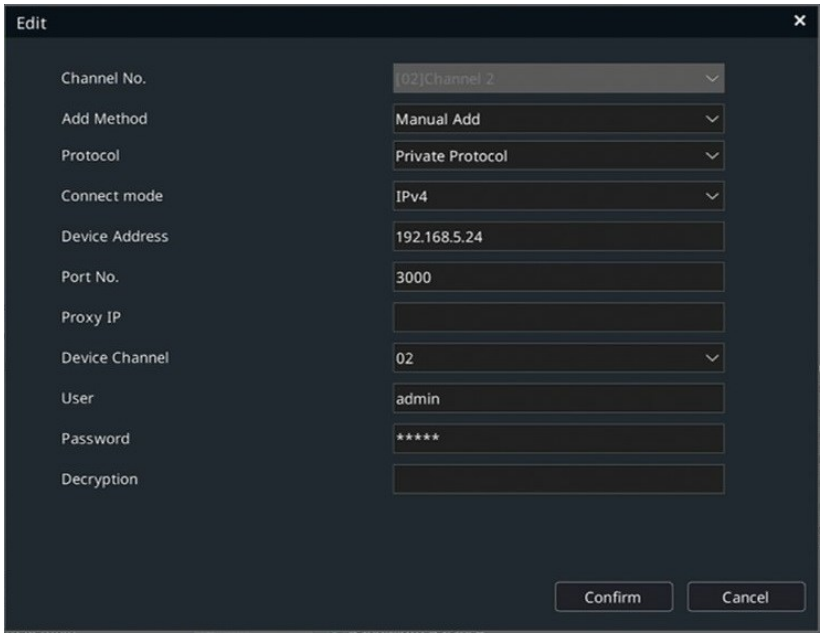


Fig. Device IP Editing Demonstration

4. Click "Confirm" icon to connect the camera of the thermal imaging device.

Notice：

1. The IP of the thermal imaging front end shall be consistent with that of the NVR device, otherwise, it may lead to the failure the device adding.

2. As two channels embodied in the thermal imaging front device, users shall notice the channel number when adding the device manually.

7.2.2 Human Body Temperature Measurement

Users, according to their actual need, may enter the NVR configuration page for human body temperature measurement to set up the basic data and co-action mode of human body temperature measurement, as is demonstrated below:

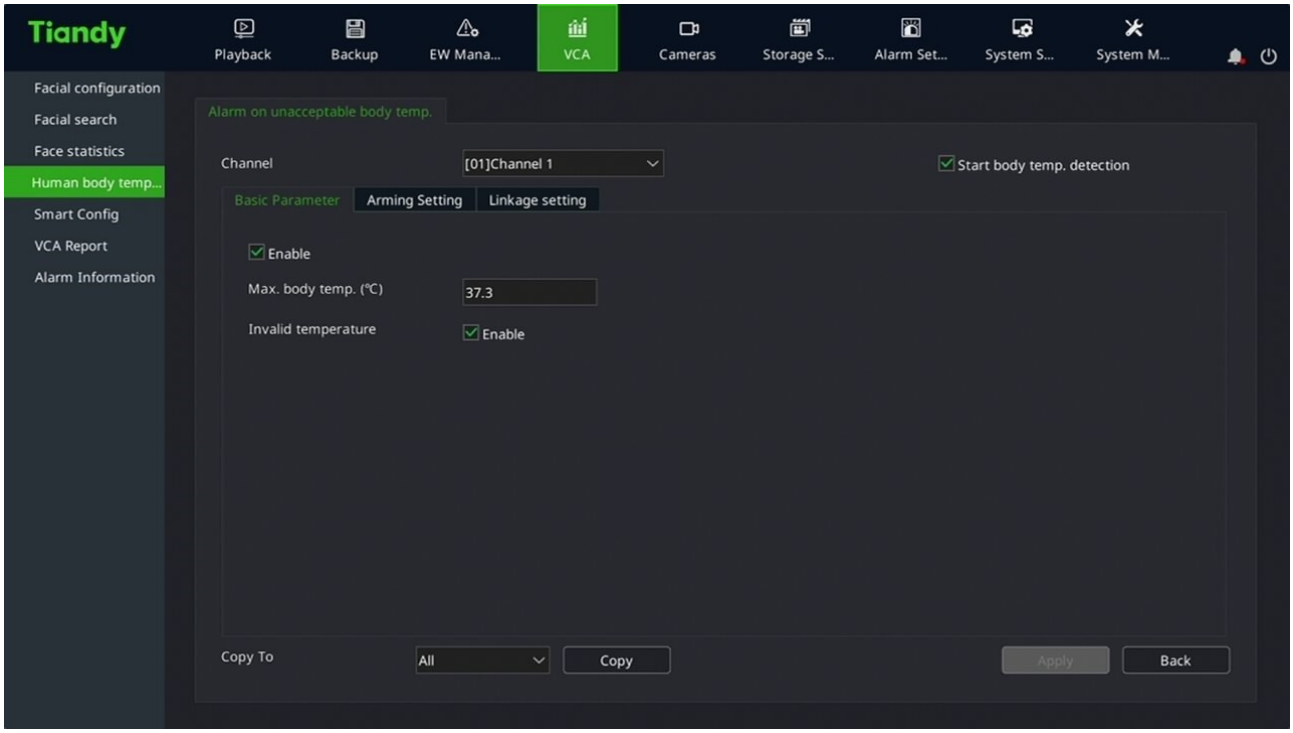


Fig. Alarm of Abnormal Body Temperature

Human Body Temperature Measurement=>Alarm of Abnormal Body Temperature=>Basic Parameters：

1.Select [activate body temperature measurement] checkbox to activate the human body temperature measurement function，and cancel the selection to shut down the function.

2. Select [activate] checkbox to activate the human body abnormal temperature detecting function. Set up [max. body temperature], the value of which is exceeded, the alarm would be on.

3. Users may set up invalid temperature according to their actual need. (Invalid temperature: the undetectable human body temperature caused by over low temperature or collection error)

Human body temperature measurement=>Alarm of abnormal body temperature=>Protection con

figuration:

1.Select [activate body temperature measurement] checkbox to activate the human body temperature measurement function，and cancel the selection to shut down the function.

2. Set up the protection configuration, click [copy] to copy to all channels.

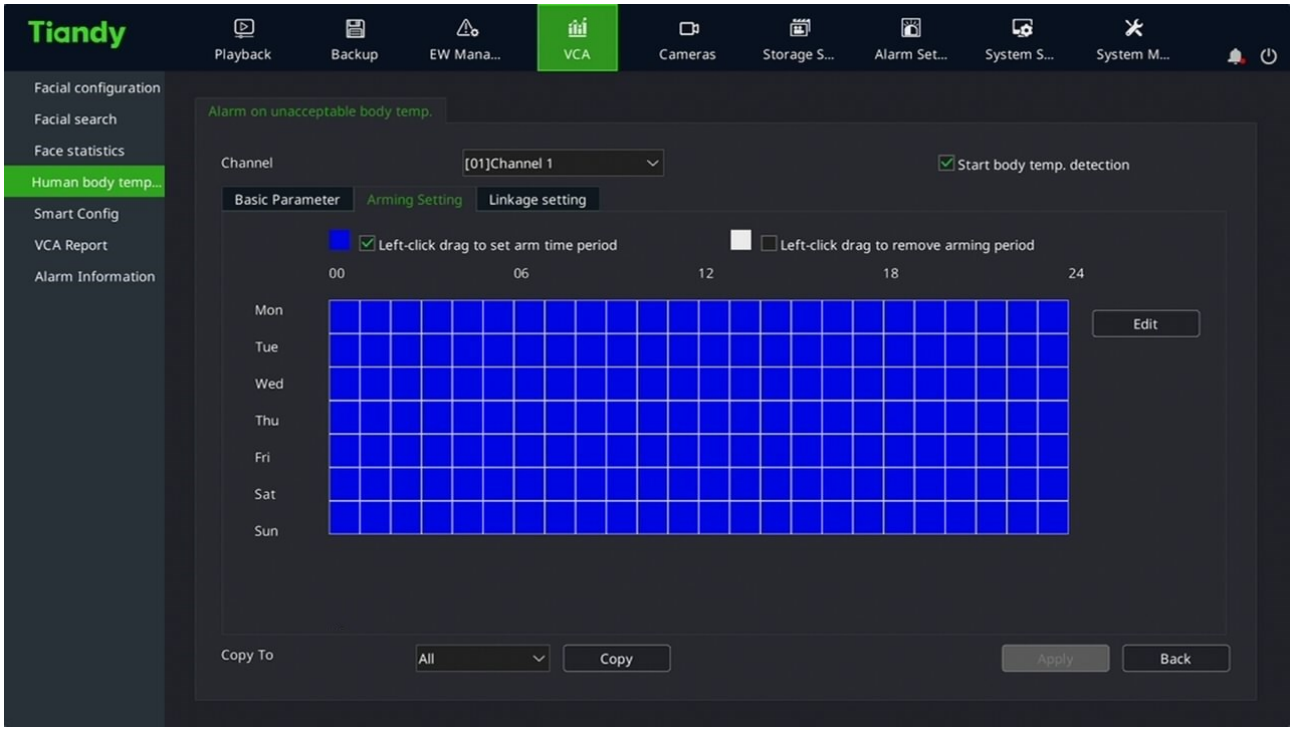


Fig. Protection Configuration Setup for Abnormal Body Temperature

Human Body Temperature Measurement=> Alarm of Abnormal Body Temperature=> Co-action Setup:

1. Select [activate body temperature measurement] checkbox to activate the human body temperature measurement function，and cancel the selection to shut down the function.

2. Set up basic information like [normal co-action], [co-action output], [co-action video recording] according to actual need.

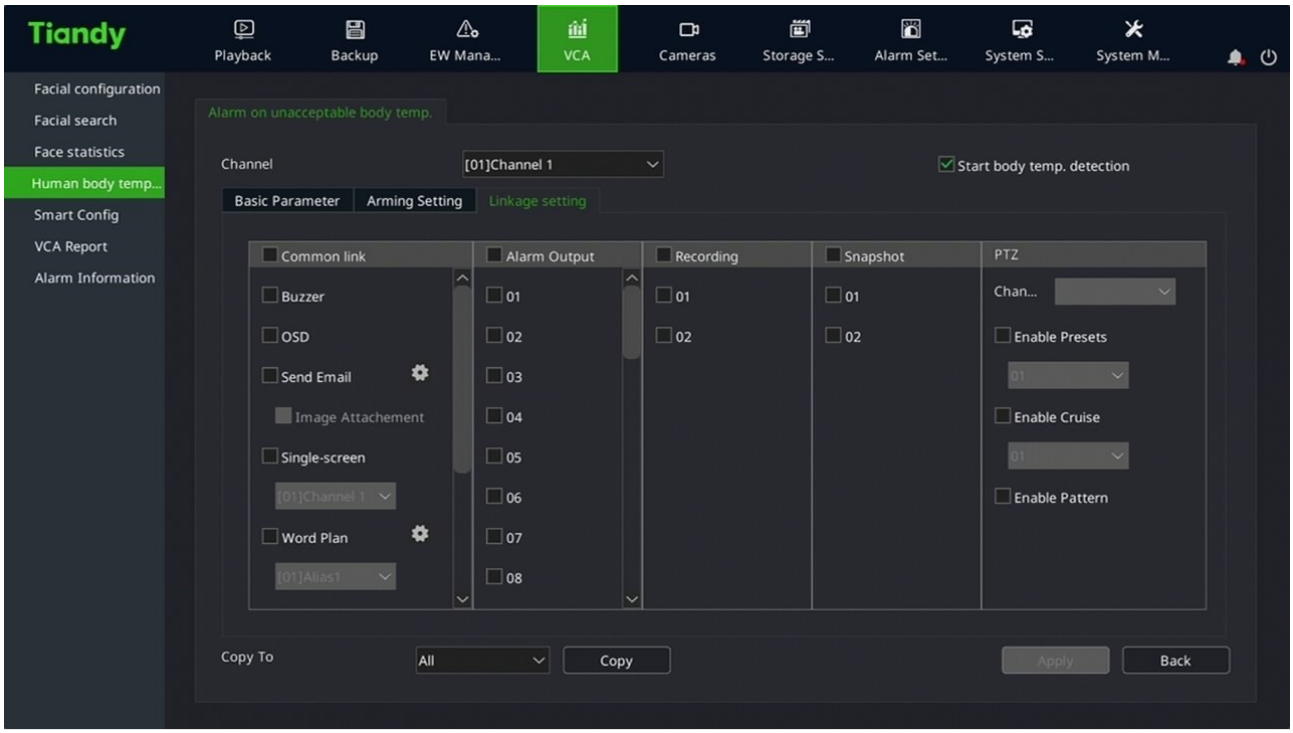


Fig. Abnormal Body Temperature Co-action Setup

Notice：

1. The parameters of the equipment are collected from the thermal imaging front end equipment. Please conduct the specific parameters setup in the front end equipment.

7.2.3 Facial Configuration

Users may, according to their actual need, enter the human facial configuration page by “Main Menu => Intelligent Analysis => Facial Configuration”, as is demonstrated below:

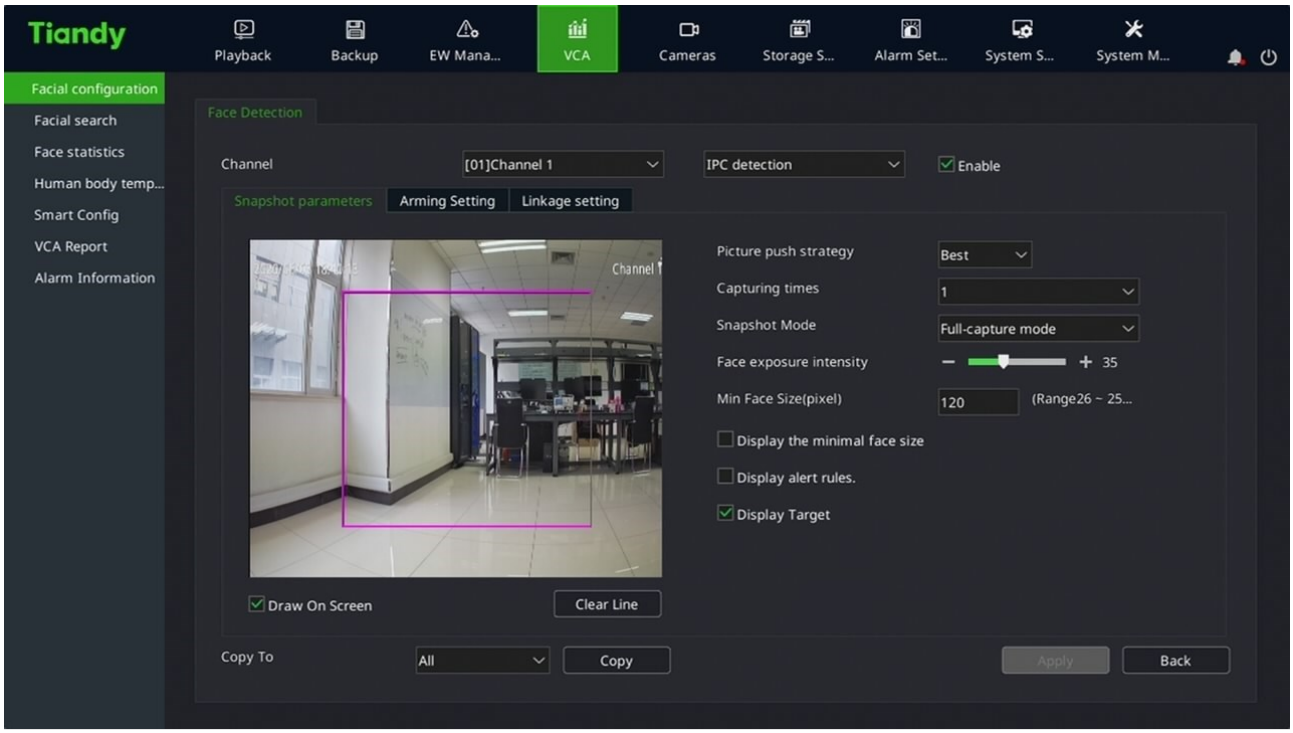


Fig. Facial Configuration

1. Select [activate] checkbox to activate the facial configuration function.
2. Select [activate line drawing] to start line drawing, and click [erase lines] icon to erase the existing lines.
3. Select the algorithm type of facial configuration (e.g. push graph strategy, capture times, etc.) and activate IPC detection.

Notice：

1. The equipment support masks identification, which may be set up in the [co-action setup]

7.2.4 Facial Search

Users may, according to their actual need, enter the human facial search page by “Main Menu => Intelligent Analysis => Facial Search”. Select the "abnormal body temperature" drop-down list in the searching condition [human body temperature measurement] to search the persons with abnormal temperature, as is demonstrated below:

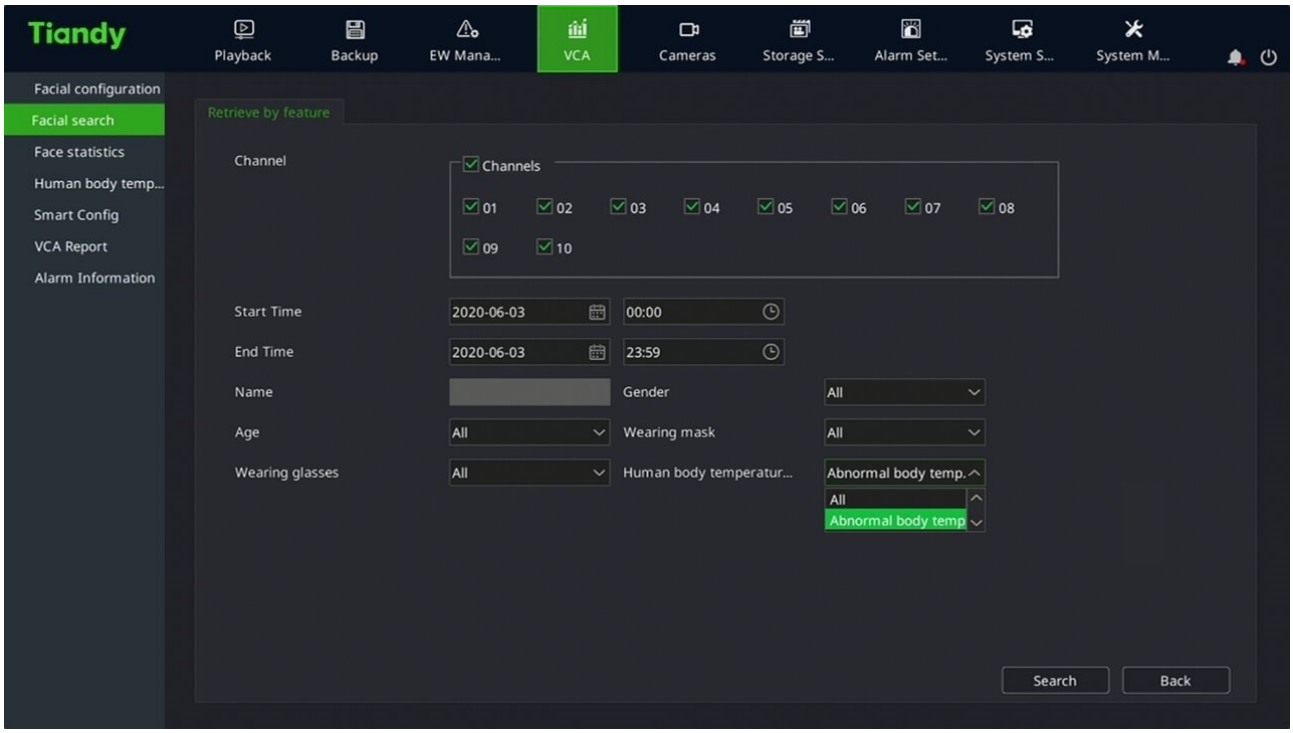


Fig. Facial Searching

7.2.5 Facial Statistics

Users may, according to their actual need, enter the facial statistics page by “Main Menu => Intelligent Analysis => Facial Statistics”. Select the "abnormal body temperature" drop-down list in the searching condition [Statistics Type] to search the persons with abnormal body temperature, as is demonstrated below:

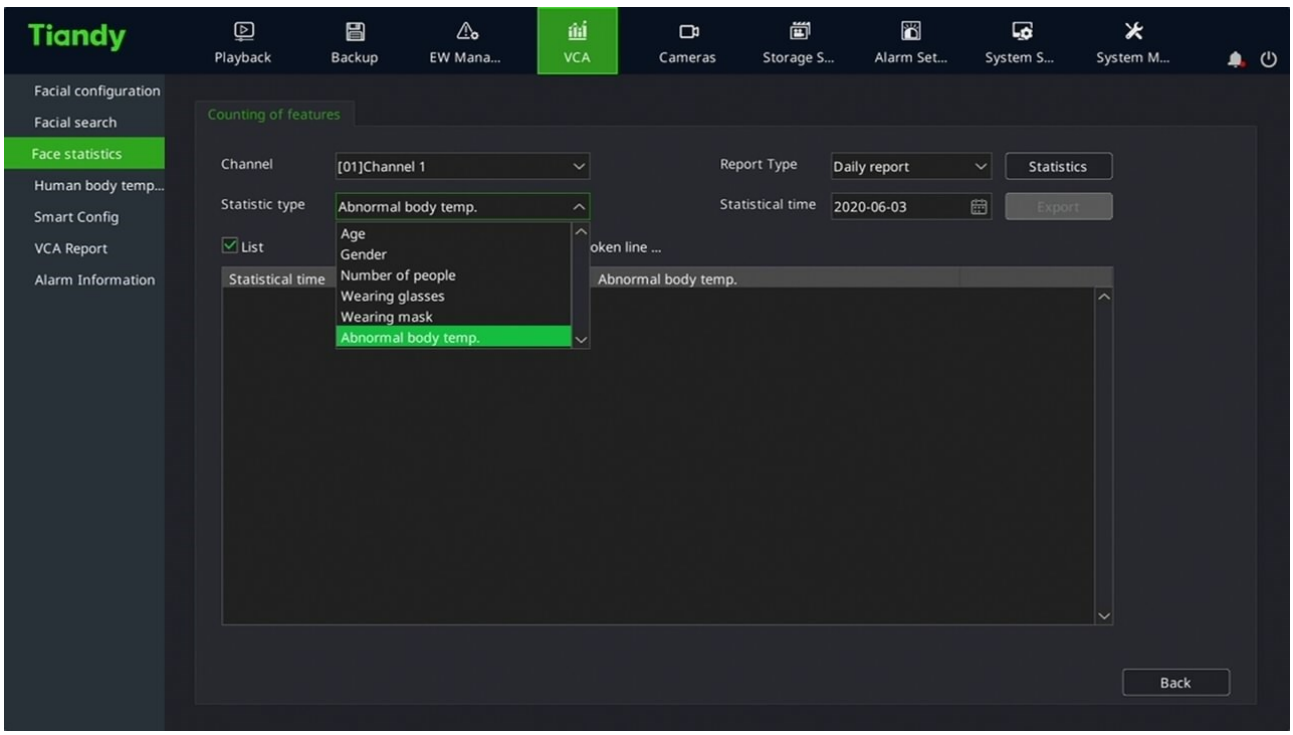


Fig. Facial Statistics

7.2.6 System Setting

Users may, according to their actual need, enter the network card setting by “Main Menu=>System Settings=>Network Settings=>Network Card" to set up the equipment IP, as is demonstrated below:

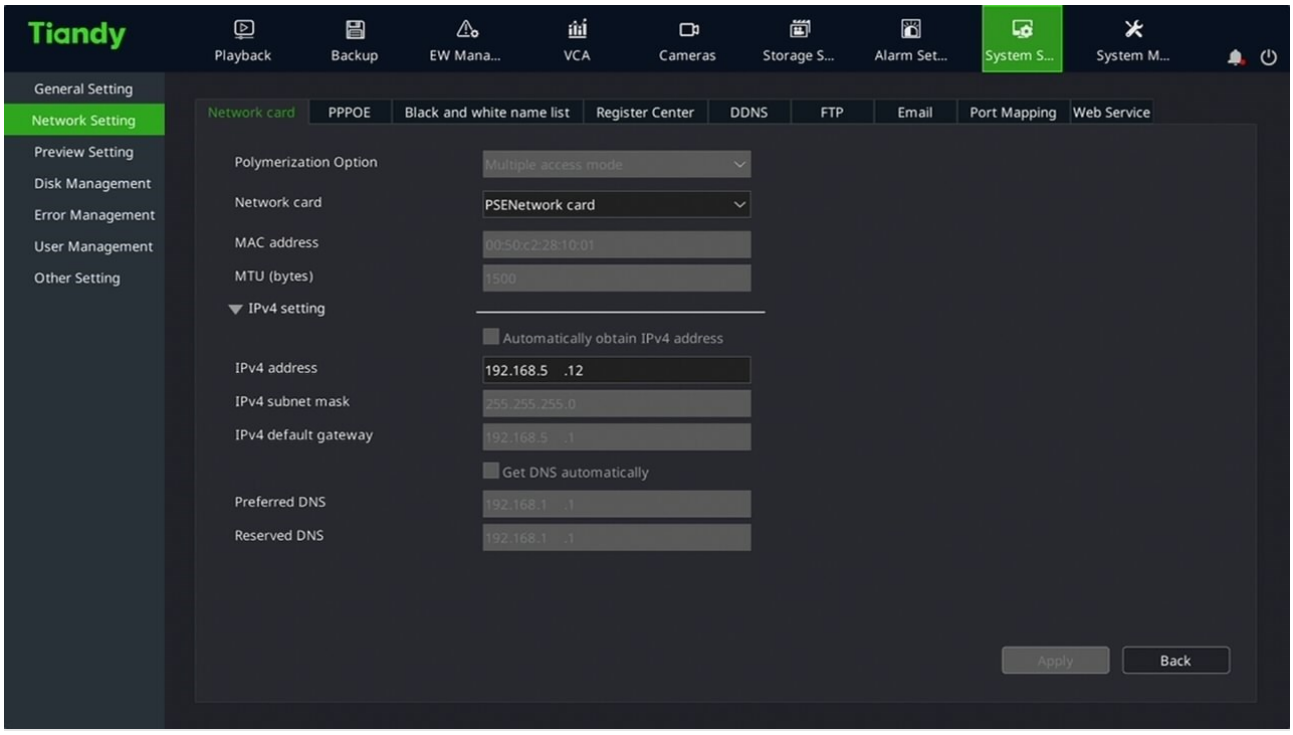


Fig. Network Card Setting

VIII. Disclaimer

1. The company has tried its best to ensure the completeness and accuracy of the contents contained in the Manual. For any doubt or dispute, please refer to the company's final explanation.

2. The company will keep the contents contained in this Manual up-to-date in accordance with product enhancements and will periodically improve or update the products or procedures described in this Manual. The updated contents will be reflected in the latest version of this Manual without prior notice.

3. The contents contained in this Manual are for reference and guidance only for users. It is not guaranteed to be exactly the same with the real product. The real product shall prevail.

4. The parts, components and accessories mentioned in this Manual are for illustration purposes only and do not represent the configurations of your purchased model.