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# **Thermal Hybrid Bullet Camera Quick Start Guide**

**Version 1.0.0**

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# Table of Contents

<b>1</b>	<b>ACCESSORY LIST .....</b>	<b>1</b>
<b>2</b>	<b>DEVICE STRUCTURE.....</b>	<b>2</b>
2.1	Device External Cable .....	2
2.2	Device Dimension.....	3
<b>3</b>	<b>DEVICE INSTALLATION .....</b>	<b>4</b>
3.1	Installation Preparation .....	4
3.1.1	Check installation space and intension .....	4
3.1.2	About cable .....	4
3.2	Installation Steps .....	4
<b>4</b>	<b>NETWORK CONFIGURATION .....</b>	<b>8</b>
4.1	Modify IP Address .....	8
4.2	Login WEB Interface.....	9
<b>5</b>	<b>APPENDIX I LIGHTENING PROTECTION AND SURGE PROTECTION .....</b>	<b>11</b>

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## Welcome

Thank you for purchasing our thermal hybrid dome!

**Please read the following safeguards and warnings carefully before you install or use the product!**

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# Important Safeguards and Warnings

## Safety Measures

### 1. Qualified Engineer Needed

- The installation engineer or maintenance engineer shall have corresponding CCTV system installation certificate or maintenance qualification certificate.
- The installation engineer or maintenance engineer shall have qualification certificate for work at height.
- The installation engineer or maintenance engineer shall have the basic knowledge and operation technique for low-voltage cable layout and low-voltage electronic cable connection.
- Please read the installation manual carefully and keep it well for future reference,
- We are not liable for any problems caused by unauthorized modifications or attempted repair.

### 2. Lifting Appliance Requirement

- Please select the proper thermal hybrid dome installation mode and use the lifting appliances at the safety environment.
- The lifting appliances shall have the enough capacity to reach the installation height.
- The lifting appliances shall have safe performance.

### 3. Power Requirements

- All installation and operation here should conform to your local electrical safety codes. We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.
- Please check if the power supply is correct before device operation.
- The power shall conform to the requirement in the SELV (Safety Extra Low Voltage) and the rated voltage (AC 24V) of Limited power source according to IEC60950-1. The power supply requirement is subject to the device label.
- Please install easy-to-use power failure device when installing the cables, which is for emergent power off when necessary.
- Please prevent the line cord from being trampled or pressed, especially the plug, power socket and the junction from the device.
- The power adapter is provided by default, the input power of the power adapter is 100VAC – 240VAC 50/60Hz 1.7A.

**The precaution measures include two types: Warning and Note.**

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- **Warning:** It is to alert you there is an optional risk of death or series injury!
  - **Note:** It is to alert you there is an optional risk of damage or property loss!

## Warning

1. Be sure to use all the accessories (such as power adapter) recommended by manufacturer.
2. Do not connect several thermal hybrid domes to one power adapter. It may result in overheat or fire if it exceeds the rated load.
3. Avoid aiming the lens at the strong radiation source directly (such as sun, laser, molten steel etc); in case it may cause unrecoverable damage to the thermal imaging detector. What's worse, it may cause severe damage to the detector.
4. Avoid oil stain and kinds of chemicals tarnishing and damaging the lens surface.
5. Store the device in a cool and dry place where there is ventilation but no intense electromagnetic field.
6. Violent vibration or crash is not allowed during transportation and application.
7. Before you connect the cable, install or uninstall, or begin the daily maintenance work, please turn off the power and unplug the power cable.
8. Please make sure the produce is secure firmly on the wall or the ceiling.
9. Please turn off the power and unplug the power cable, If there is any smoke, disgusting smell, or noise. Please contact your local retailer or customer service centre for help.
10. All the examination and repair work should be done by the qualified service engineers. We are not liable for any problems caused by unauthorized modifications or attempted repair.

## Note

### 1. Safety Transportation

- Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.
- This series product must use split type package during the transportation.
- We are not liable for any damage or problem resulting from the integrated package during the transportation.

### 2. When device is malfunction

Shut down the device and disconnect the power cable immediately if there is smoke, abnormal smell or abnormal function. Please contact your local retailer ASAP.

### 3. Do not try to dismantle or modify the device

- There is risk of personal injury or device damage resulting from opening the shell.
- Please contact your local retailer if there is internal setup or maintenance requirement.
- We are not liable for any problems caused by unauthorized modifications or attempted repair.

### 4. Do not allow other object falling into the device

- Please make sure there is no metal or inflammable, explosive substance in the thermal hybrid dome.

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- The above mentioned objects in the device may result in fire, short-circuit or damage.
  - Please shut down the device and disconnect the power cable if there is water or liquid falling into the camera. Please contact your local retailer ASAP.
  - Please pay attention to the camera. Avoid the sea water or rain to erode the camera.

## **5. Handle carefully**

Do not allow this series product fall down to the ground.

Avoid heavy vibration.

## **6. Installation Environment Requirement**

- This series thermal hybrid dome should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.
- This series product shall be away from the strong electromagnetism radiant, please keep it away from wireless power, TV transmitter, transformer and etc.

## **7. Daily Maintenance**

- Please use the soft cloth to clean dust on the shell, or you can use soft cloth with cleaning liquid to clean the shell and then use soft cloth to make it dry.
- Do not use gasoline, dope thinner or other chemical material to clean the shell. It may result in shell transfiguration or paint flake.
- Do not allow the plastic or rubber material to touch the shell for a long time. It may result in paint flake.

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# 1 Accessory List

Please check if there is any obvious damage to the device appearance when opening the external packing box, besides, you need to confirm if the accessories are in accordance with the ones on the list. Please refer to sheet 1-1 for the accessories; please be aware that the actual config is based on the specific product.

<b>Name</b>	<b>Quantity</b>
Camera (with bracket)	1
Power Adapter	1
Installation Accessories Bag	1
Quick Start Guide	1

Sheet 1-1

## 2 Device Structure

### 2.1 Device External Cable

The device external cable is shown in Figure 2-1.

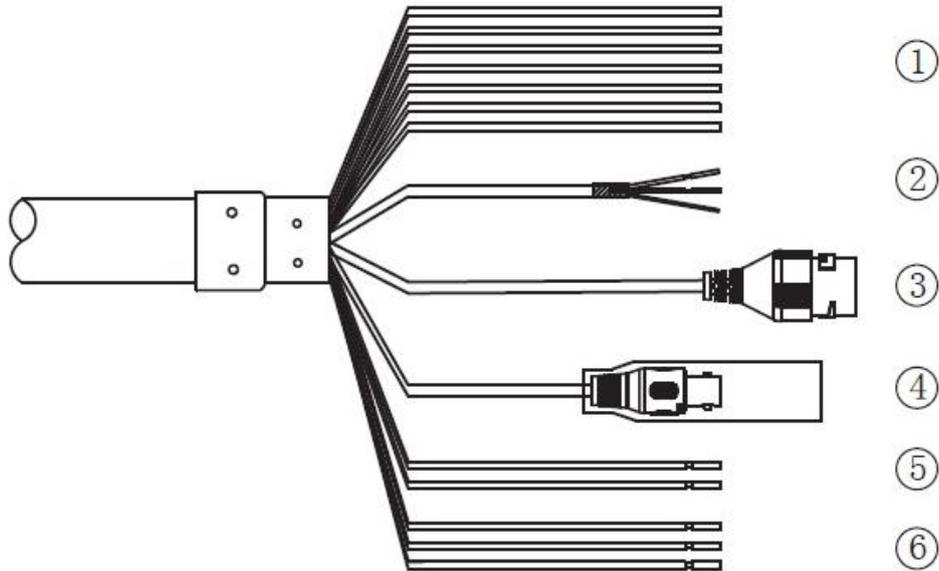


Figure 2-1

Please refer to sheet 2-1 for more details about the external cable.

SN	Port	Port name	Connector	Note
1	ALARM_OUT1	Alarm output	Various external alarm device	Alarm output port 1, output alarm signal to alarm device.
	ALARM_COM1			
	ALARM_OUT2			Alarm output port 2, output alarm signal to alarm device.
	ALARM_COM2			
	ALARM_IN1	Alarm input	Various alarm devices, such as smoke sensor etc.	Alarm input port; it is to receive the on-off signal of external alarm source.
	ALARM_IN2			
	ALM_IN_GND			
2	AUDIO IN	Audio input & output	RCA	Input audio signal, it is to receive analog audio signal from pickup and other devices.
	AUDIO OUT			Output audio signal to speaker and other devices.
	AUDIO GND			GND
3	LAN	Network port	Ethernet port	Connect to standard Ethernet cable. <b>Note:</b> Some devices don't support PoE power supply.
4	VIDEO OUT	Analog video output	BNC	Output analog video signal, it can connect to TV monitor to check image.

SN	Port	Port name	Connector	Note
5	RS485	RS485 port	-	RS485 port, control external PTZ etc.
6	POWER	Power input port	-	Power port, input AC 24V. <b>Note:</b> Actual use is accordance with the instruction of device label.

Sheet 2-1

**Note:**

Please use the connector in the accessories bag to insert into the network port before device power on, at this moment, BNC outputs HDCVI signal.

## 2.2 Device Dimension

Please refer to Figure 2-2 (with bracket) and Figure 2-3 (without bracket) for the device dimension.

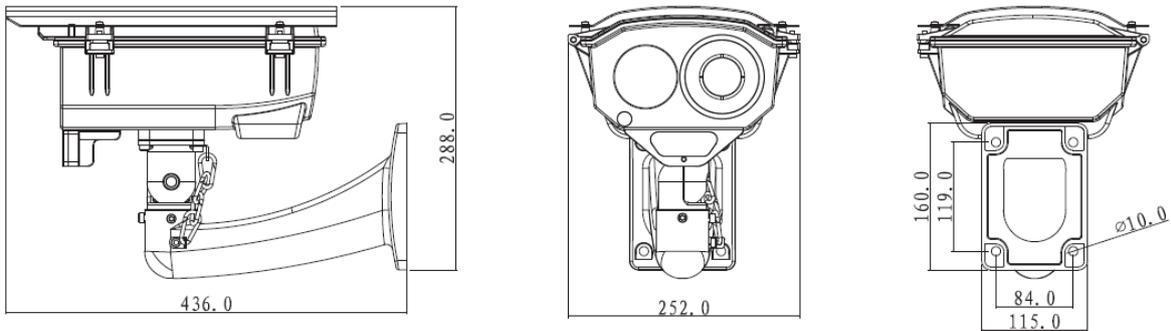


Figure 2-2

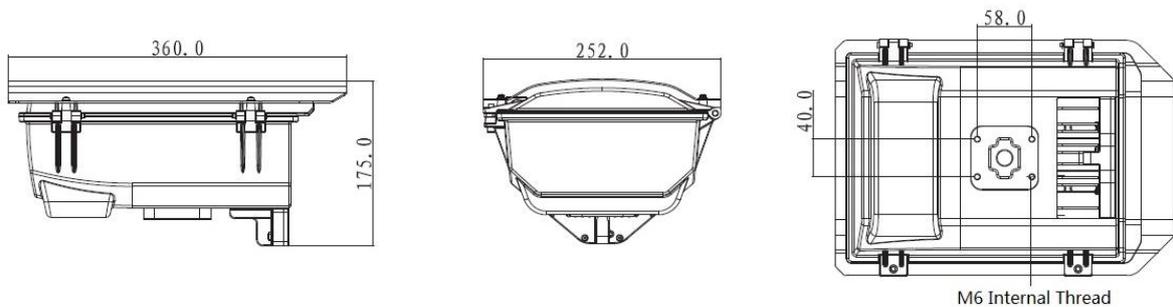


Figure 2-3

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## 3 Device Installation

### 3.1 Installation Preparation

#### 3.1.1 Check installation space and intension

Please make sure the installation environment has enough space to install the PTZ and its corresponding bracket.

Please make sure the ceiling, wall and the bracket can support the total weight of PTZ and its corresponding installation component, it is required to be equipped with 8 times of safety factor.

#### 3.1.2 About cable

- Select required power cable

The device provides power adapter by default, it is advised to refer to the following requirements when users need to extend the power cable.

The recommended max transmission distance is shown in the following sheet when the wire diameter is fixed and 24V AC voltage loss rate is lower than 10%.

Wire diameter (mm)	Max distance (ft/m)
1.000	22ft (6m)
1.250	35ft (10m)
2.000	90ft (27m)

- Select required signal cable

All the signal cables (audio, alarm input output, RS485 and etc) are recommended to use 0.56mm (24 AWG) and bigger wire as signal cable extension wire.

- Select required video cable
  - 75 ohm impedance
  - Full cable with copper conductor
  - 95% knitted copper shield

International Model	Max Transmission Distance (ft\m)
RG59/U	750Ft (229m)
RG6/U	1,000Ft (305m)
RG11/U	1,500Ft (457m)

### 3.2 Installation Steps

#### Warning:

It should prevent the device, part and tool etc falling from high sky during the process of installation, which is to avoid device damage, spare part lack and pedestrian injury and destruction of other objects.

#### Step 1

Select a flat wall and make sure the wall can sustain the weight of 60kg.

#### Step 2

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Dig four installation hole sites according to the installation holes of the bracket, please be aware that the hole size and depth need to match those of the expansion bolt, make sure there is no deviation for the hole sites, please refer to Figure 3-1 for more details.

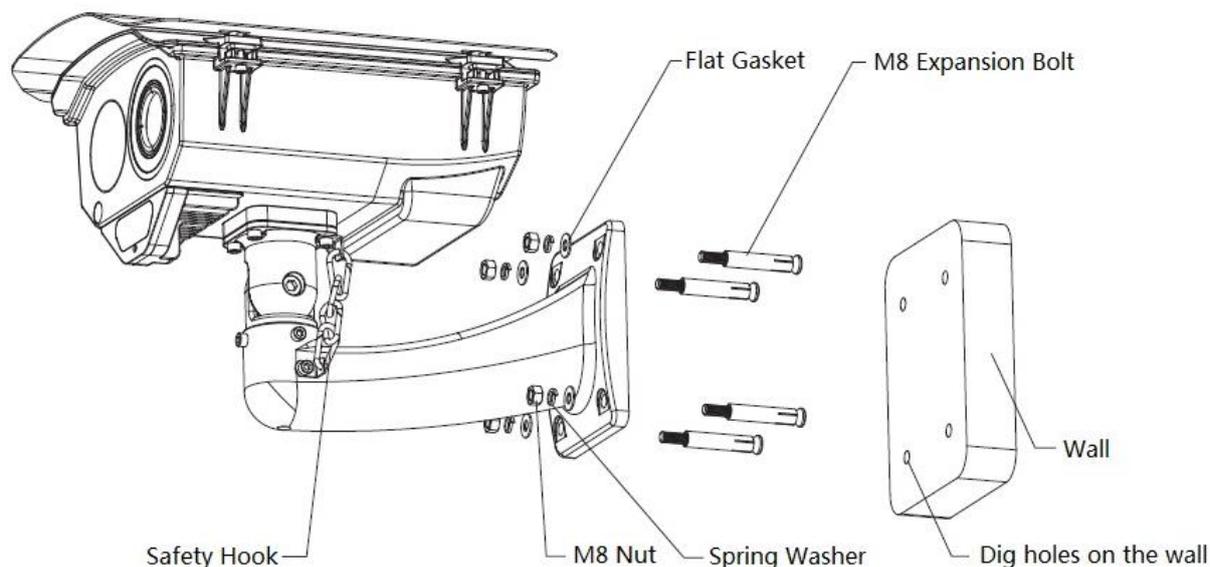


Figure 3-1

**Step 3**

Take out M8 expansion bolt from the accessories bag, knock the expansion bolt into the holes you have dug by a hammer, make sure the expand tubes of the expansion bolts are fully inserted into the wall and make them parallel with the installation surface.

**Step 4**

Insert the four installation holes on the camera bracket into the expansion bolts, cover them with flat gaskets and spring washers in sequence, and then lock them firmly with M8 nuts, which is to fix the device stably on the wall

**Step 5**

Plug the device external cable well according to the application requirements and check if the safety hook is stably installed.

**Note:**

The grounding hole is recommended to be connected to ground, which is to improve the device stability.

**Step 6**

Waterproof connector installation for network port; please refer to Figure 3-2.

**Note:**

Please implement this step if the device is equipped with network port waterproof connector and it is used outdoors.

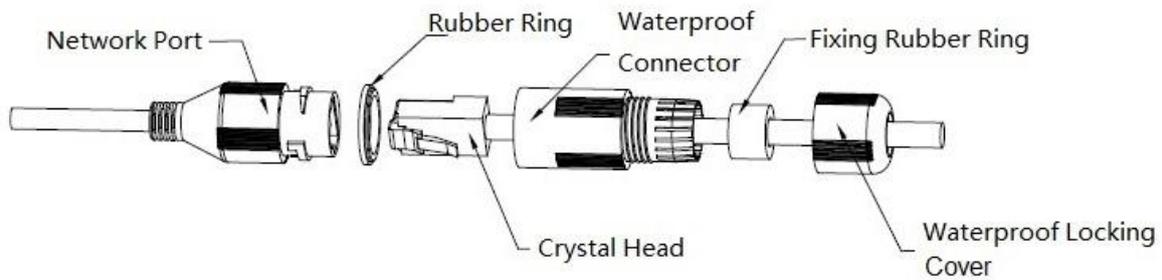


Figure 3-2

1. Keep the convex groove outward and install the rubber ring into the network port, keep the smaller hole of the rubber ring outward and install the fixing rubber ring into the main body of the waterproof connector.
2. Pull the network cable without crystal head through main body of waterproof connector, fixing rubber ring and waterproof locking cover, make the crystal head of network cable, and then insert it into the network cable.
3. Put the main body of waterproof connector on the network port and rotate it clockwise to lock the network port and waterproof connector firmly.
4. Put the waterproof locking cover on the main body of waterproof connector and rotate it clockwise to lock the waterproof connector and waterproof locking cover firmly.

### Step 7

Loosen the adjusting screw by using a screwdriver, adjust the camera body UDLR and adjust the device rotation less than  $360^\circ$ , tighten the adjusting screws firmly via screwdriver after monitoring angle is well adjusted, and make sure the bracket is stable enough to support the device and it can't be rotated, which is shown in Figure 3-3.

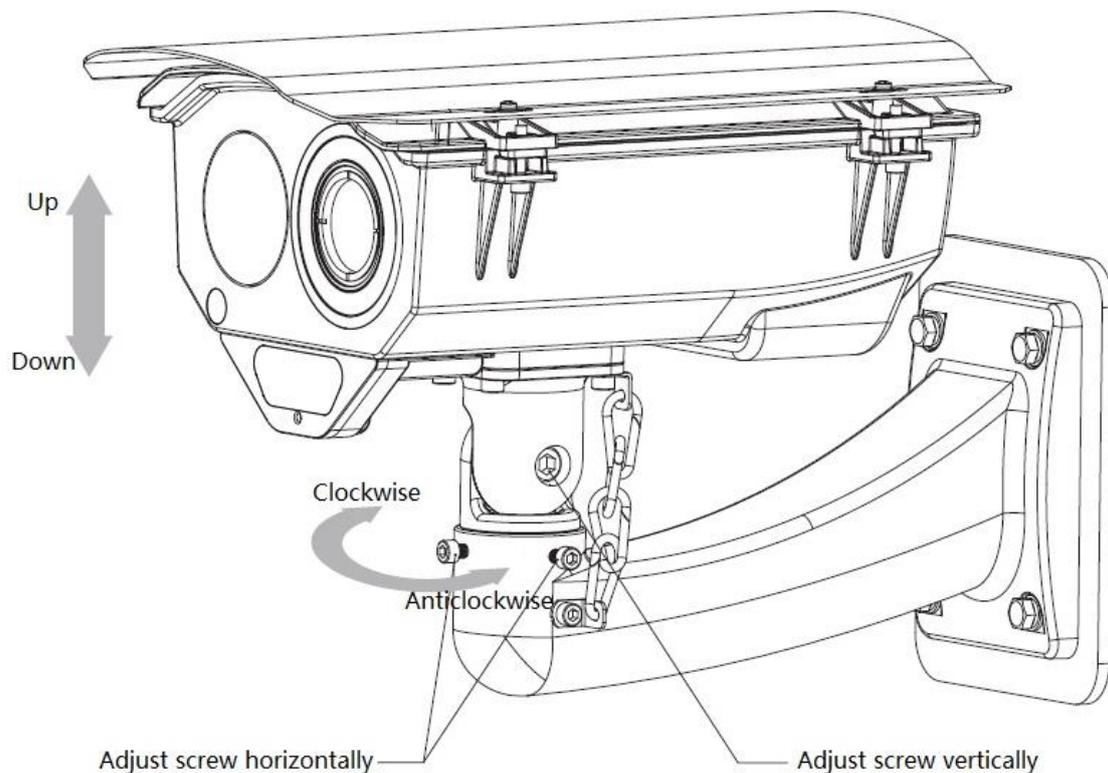


Figure 3-3

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**Note:**

Make sure to loosen the adjusting screw when adjusting the device direction and angle, tighten the adjusting screws firmly after the adjustment is completed.

Please do not rotate the camera body more than 360° when the device body and installation chassis form an angle of 90° and the adjusting screws are in the condition of being firmly tightened.

**Step 8**

The device sun shield can be moved forward and backward, it can be adjusted according to the application scenario. The locking screws on the sun shield need to be tightened after adjustment.

## 4 Network Configuration

### 4.1 Modify IP Address

IP address can be acquired and modified through quick configuration tool for the thermal hybrid dome (the default IP address is: 192.168.1.108), please refer to the << Quick Configuration Tool Operation Manual>> for more details. Users can modify device IP via this method when they forget the device IP.

#### Note:

- It can modify camera IP via quick tool, but the camera needs to be powered on and connected to network.
- Currently the quick config tool can only support searching the camera which is in the same network segment with computer IP address.

#### Step 1

Double click the “ConfigTools.exe” and open the quick configuration tool.

#### Step 2

Double click the device to be configured; the system will pop out the “Login” dialog box.

#### Step 3

Enter the IP address, user name, password and port number of the camera, and click “OK”.

#### Note:

The default user name and password are admin and admin respectively, the default port is 37777. See Figure 4-1 for more details.

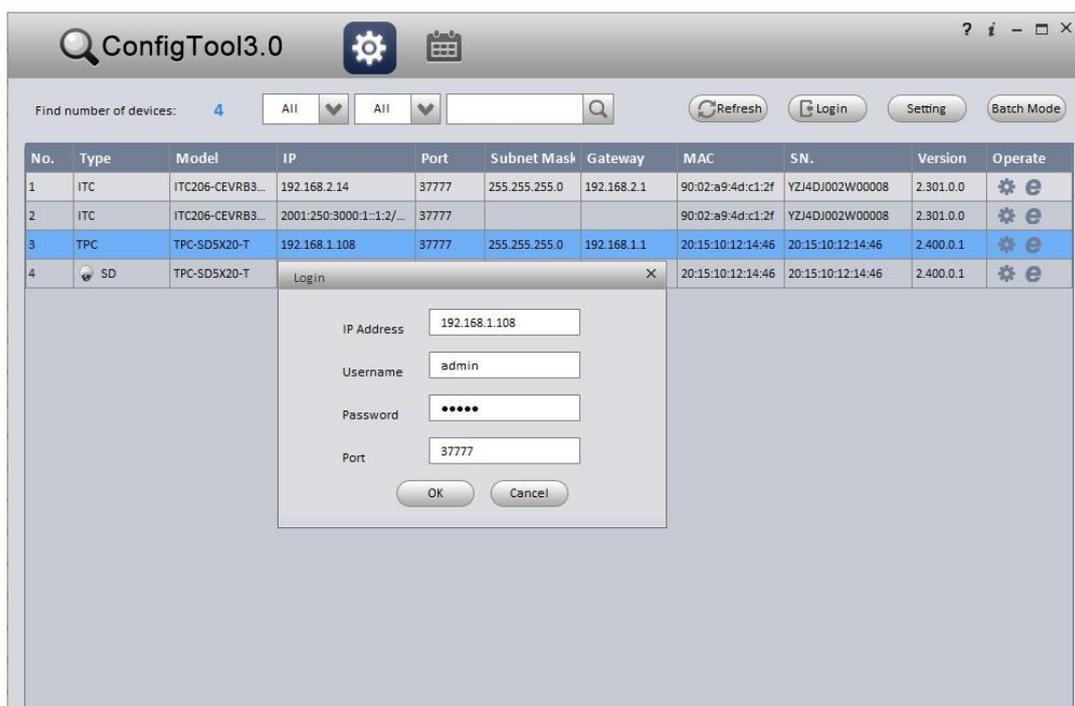


Figure 4-1

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### Step 4

Modify the camera IP address on the “Net” interface, click “Save” to finish modification.

See Figure 4-2 for more details.

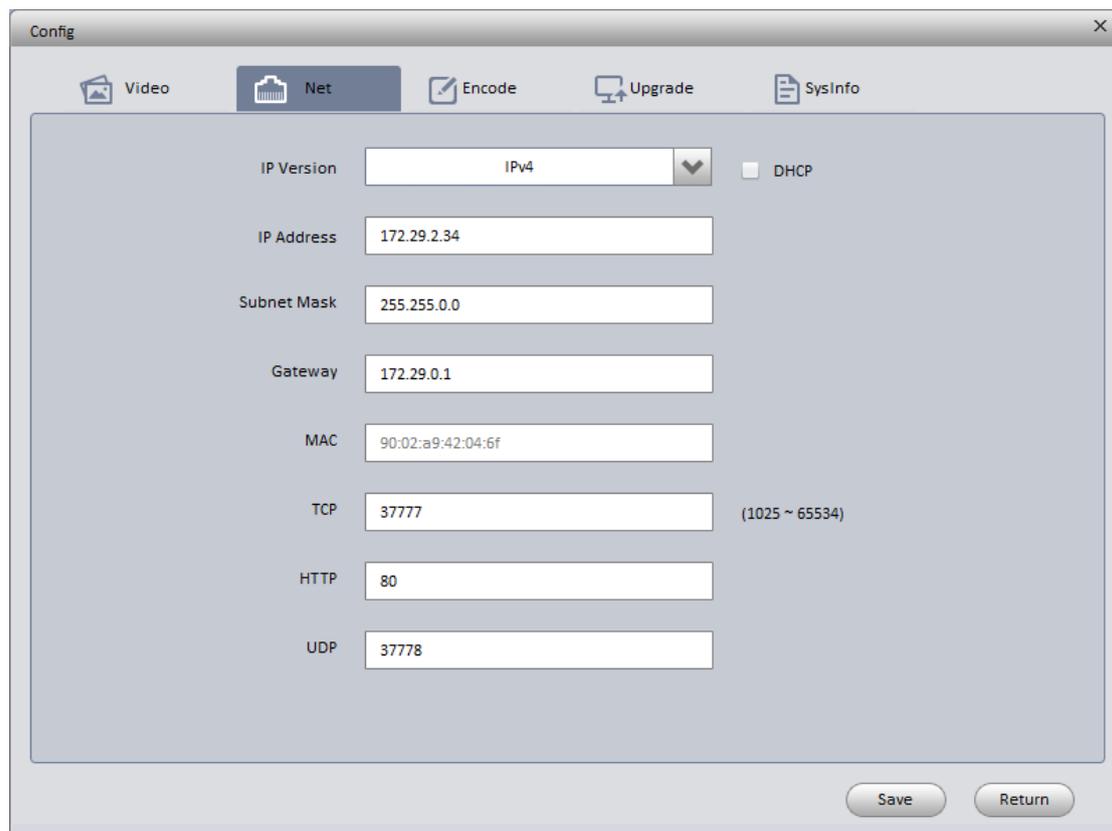


Figure 4-2

## 4.2 Login WEB Interface

### Note:

Different devices may have different WEB interfaces, the figures below are just for reference, please refer to the <<WEB Operation Manual>> in the disk and the actual interface for more details

### Step 1

Open IE and input the modified camera IP address in the address bar. The system will pop out a login box, which is shown in Figure 4-3.



Figure 4-3

**Step 2**

The login interface is shown below; please input your user name and password (Default user name is admin and password is admin respectively), click "login". See Figure 4-4 for more details.

**Step 3**

Install controls according to the system prompt; see Figure 4-4 for the WEB main interface. Please modify the administrator password as soon as possible after you successfully logged in.

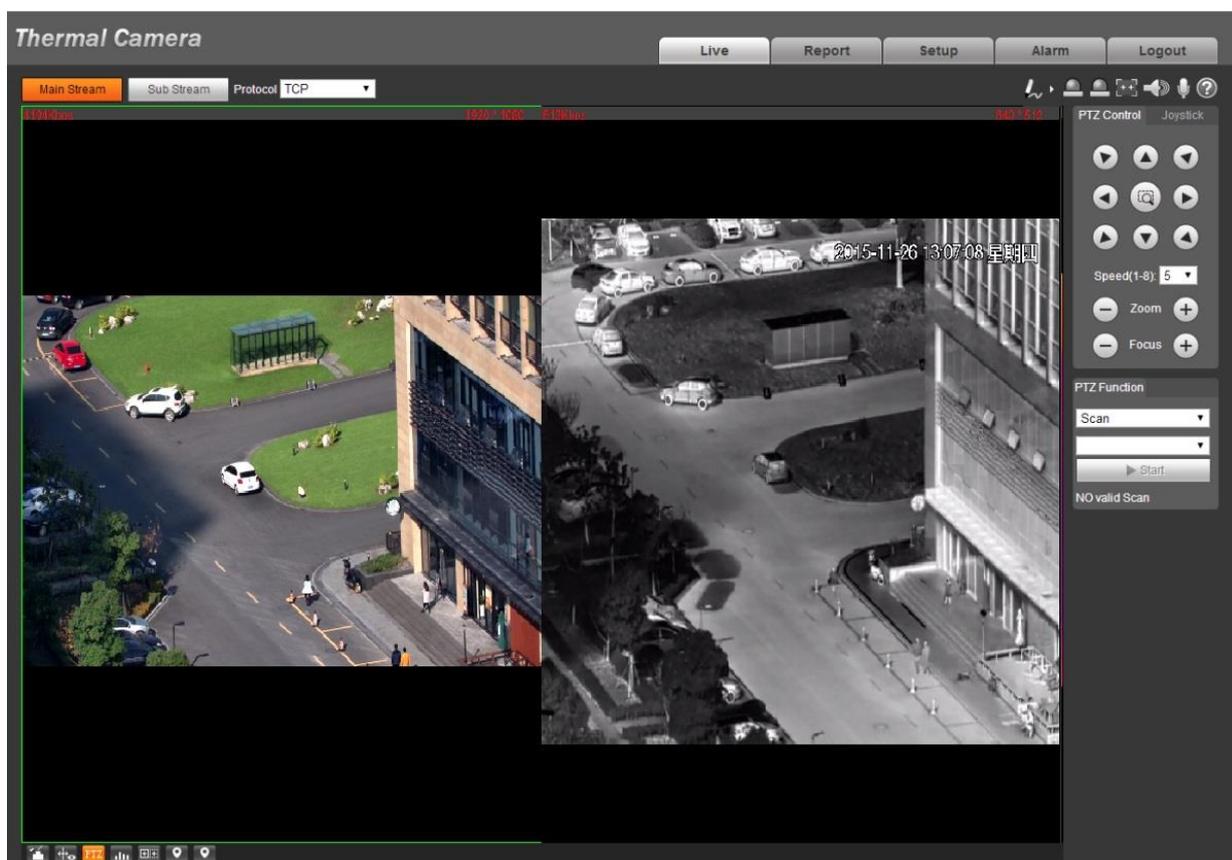


Figure 4-4

## 5 APPENDIX I LIGHTENING PROTECTION AND SURGE PROTECTION

This series thermal hybrid dome adopts TVS lightning protection technology. It can effectively prevent damages from various pulse signals below 6000W, such as sudden lightning and surge. While maintaining your local electrical safety code, you still need to take necessary precaution measures when installing the thermal hybrid dome in the outdoor environment.

- The distance between the signal transmission cable and high-voltage device (or high-voltage cable) shall be at least 50 meters.
- Outdoor cable layout shall go under the penthouse if possible.
- For vast land, please use sealing steel tube under the land to implement cable layout and connects one point to the earth. Open floor cable layout is forbidden.
- In area of strong thunderstorm hit or near high sensitive voltage (such as near high-voltage transformer substation), you need to install additional high-power thunder protection device or lightning rod.
- The thunder protection and earth of the outdoor device and cable shall be considered in the building whole thunder protection and conform to your local national or industry standard.
- System shall adopt equal-potential wiring. The earth device shall meet anti-jamming and at the same time conforms to your local electrical safety code. The earth device shall not short circuit to N (neutral) line of high voltage power grid or mixed with other wires. When connect the system to the earth alone, the earth resistance shall not be more than  $4\ \Omega$  and earth cable cross-sectional area shall be no less than  $25\ \text{mm}^2$ . See Figure 5-1.

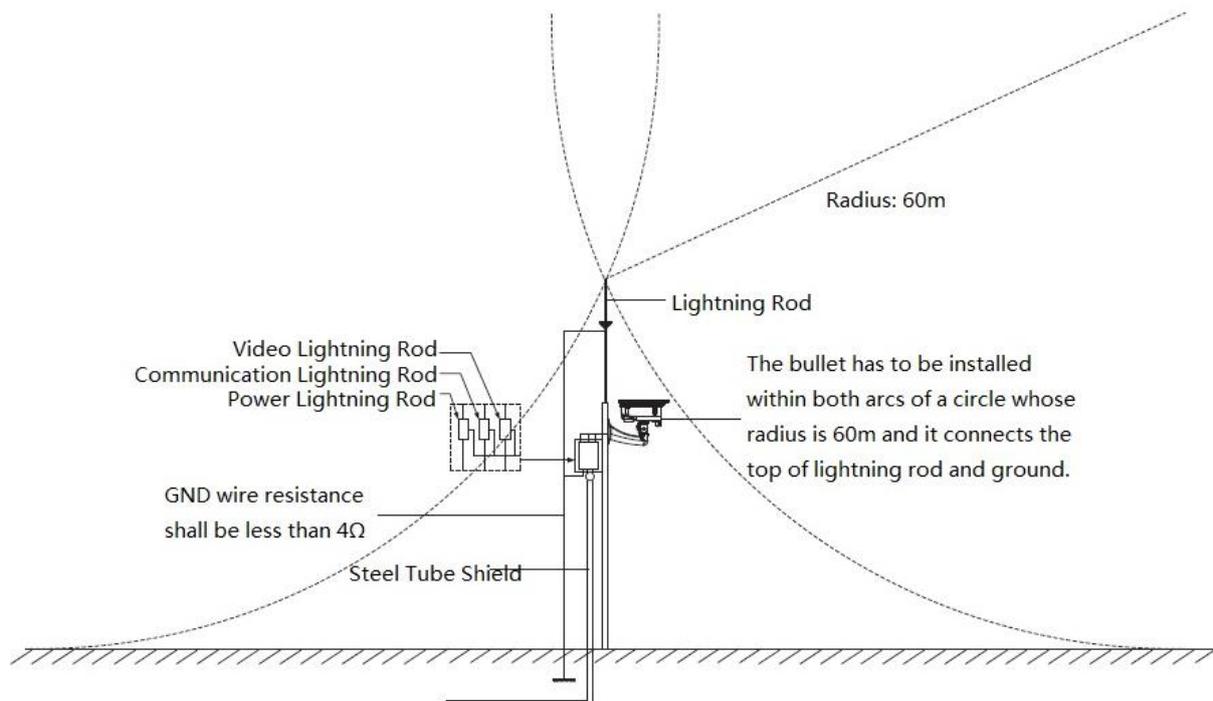


Figure 5-1

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**Note**

- **This manual is for reference only. Slight difference may be found in the user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **All trademarks and registered trademarks are the properties of their respective owners.**
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- **Please visit our website or contact your local service engineer for more information.**