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# **Thermal Hybrid PTZ Camera**

## **Quick Start Guide**

**Version 1.0.0**

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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.

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

- **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. 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.
2. Be sure to use all the accessories (such as power adapter) recommended by manufacturer.
3. Do not connect several thermal hybrid domes to one power adapter. It may result in overheat or fire if it exceeds the rated load.
4. 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.
5. Avoid oil stain and kinds of chemicals tarnishing and damaging the lens surface.
6. Store the device in a cool and dry place where there is ventilation but no intense

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- electromagnetic field.
  - 7. Violent vibration or crash is not allowed during transportation and application.
  - 8. Before you connect the cable, install or uninstall, or begin the daily maintenance work, please turn off the power and unplug the power cable.
  - 9. Please make sure the produce is secure firmly on the wall or the ceiling.
  - 10. 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.
  - 11. 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.
- 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.

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- 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 PTZ INSTALLATION

## 1.1 Installation Preparation

### 1.1.1 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 PTZ and its corresponding installation component. It is required to have 4 times of the safety factor.

### 1.1.2 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 (or 24V DC) 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)

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## 2 SETUP BEFORE INSTALLATION

### 2.1 Check Accessories

The housing and the PTZ are separately packed when the device leaves factory, please check the packing list for the first installation. Please contact the customer service if there is anything missing.

### 2.2 PTZ Dimension

Please refer to Figure 2-1 for the device dimension.

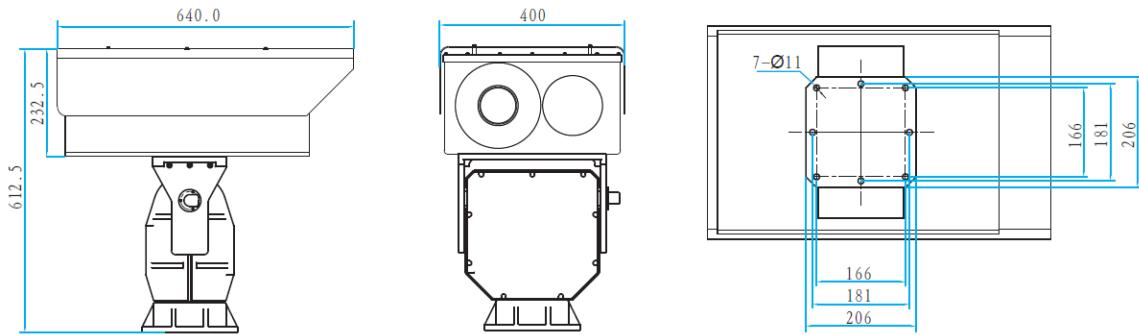


Figure 2-1

### 3 INSTALLATION

#### Attention

The device installation platform is set up by the users themselves; it shall meet the following installation conditions during device installation:

- The hole site of the installation platform should be matched with that of the PTZ pedestal.
- The device is advised to install on the installation platform which can sustain the weight of more than 1T.
- The device can't be installed in the application environment which is not stable.
- Make sure all the screws on the device are firmly tightened; otherwise it will influence the PTZ rotation accuracy, wind-resistance capability, waterproof performance, PTZ service life and etc.
- It needs more than 3 people to install the device, please protect the lens during installation.

The device is not allowed to power up before it is fixed on the installation platform; otherwise the device may turn over and cause damage to the lens during power on self test for the device.

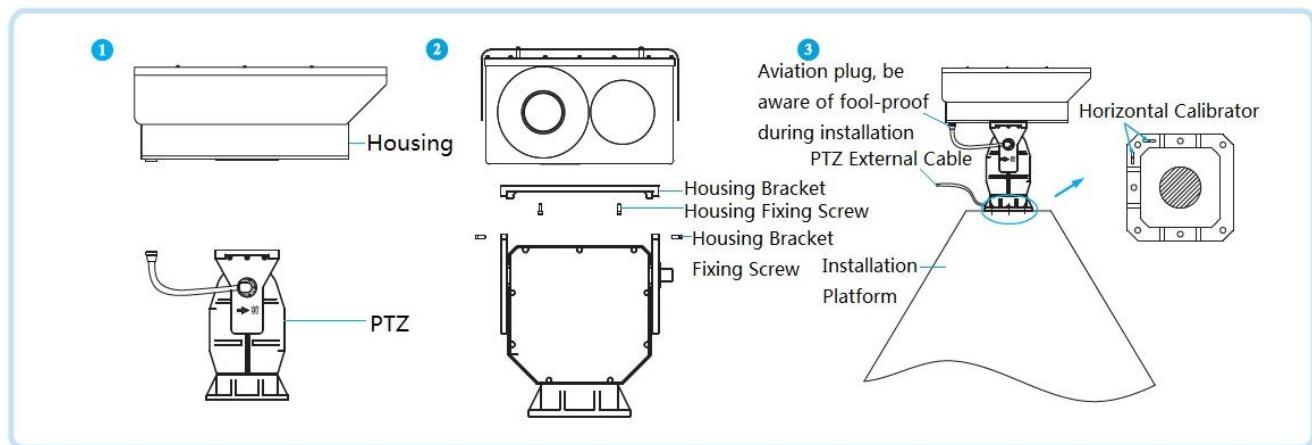


Figure 3-1

The installation steps are as follows:

#### Step 1

Use the inner hex wrench from in the PTZ accessories bag to loosen the screws on both sides of the housing bracket, and take off the housing bracket.

#### Step 2

Use the screws in the housing accessories to install the housing bracket taken off from step 1 in the housing bottom.

#### Step 3

Install the housing which is equipped with bracket on the PTZ according to the direction; use the inner hex wrench to fix the bracket well.

#### Step 4

The PTZ side is marked with front sign (as it is shown in figure 3-1 (1)), pay attention not to install it reversely, make sure the lens direction is in accordance with the indication direction.

#### Step 5

Connect the aviation plug to the corresponding location of the housing aviation plug and tighten it firmly.

#### Step 6

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Move the device to the installation platform designated by the users; use the screws in the PTZ accessories to fix the PTZ on the installation platform.

### **Step 7**

It can extend PTZ cable properly according to the actual construction needs, the device is equipped with power adapter by default, and please consult related personnel in our company when using other adapters before installation. The extended cable needs to be prepared by users themselves, refer to the chapter “1.1.2” for more details about the cable.

## 4 Network Configuration

### 4.1 Modify IP Address

IP address can be acquired and modified through quick configuration tool for the thermal hybrid dome, please refer to the << Quick Configuration Tool Operation Manual>> for more details.

#### Note:

Currently the quick configuration tool only supports the cameras which apply to the same network segment with computer IP address.

Step 1 Connect the PC to the device directly via network cable.

Step 2 Double click the “ConfigTools.exe” and open the quick configuration tool.

Step 3 Double click the device to be configured, the system will pop out the “Login” dialog box.

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.

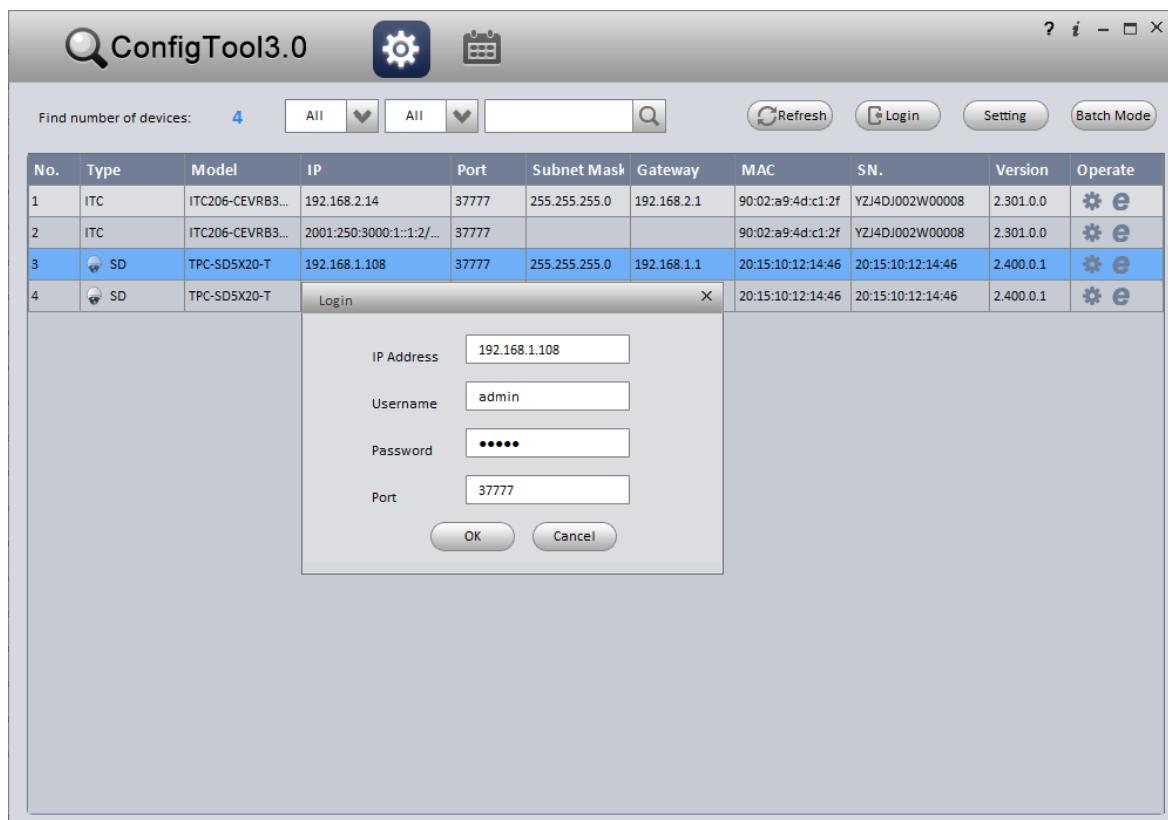


Figure 4-1

Step 4 Modify the camera IP address on the “Net” interface, click “Save” to finish modification.

See Figure 4-2 for more details.

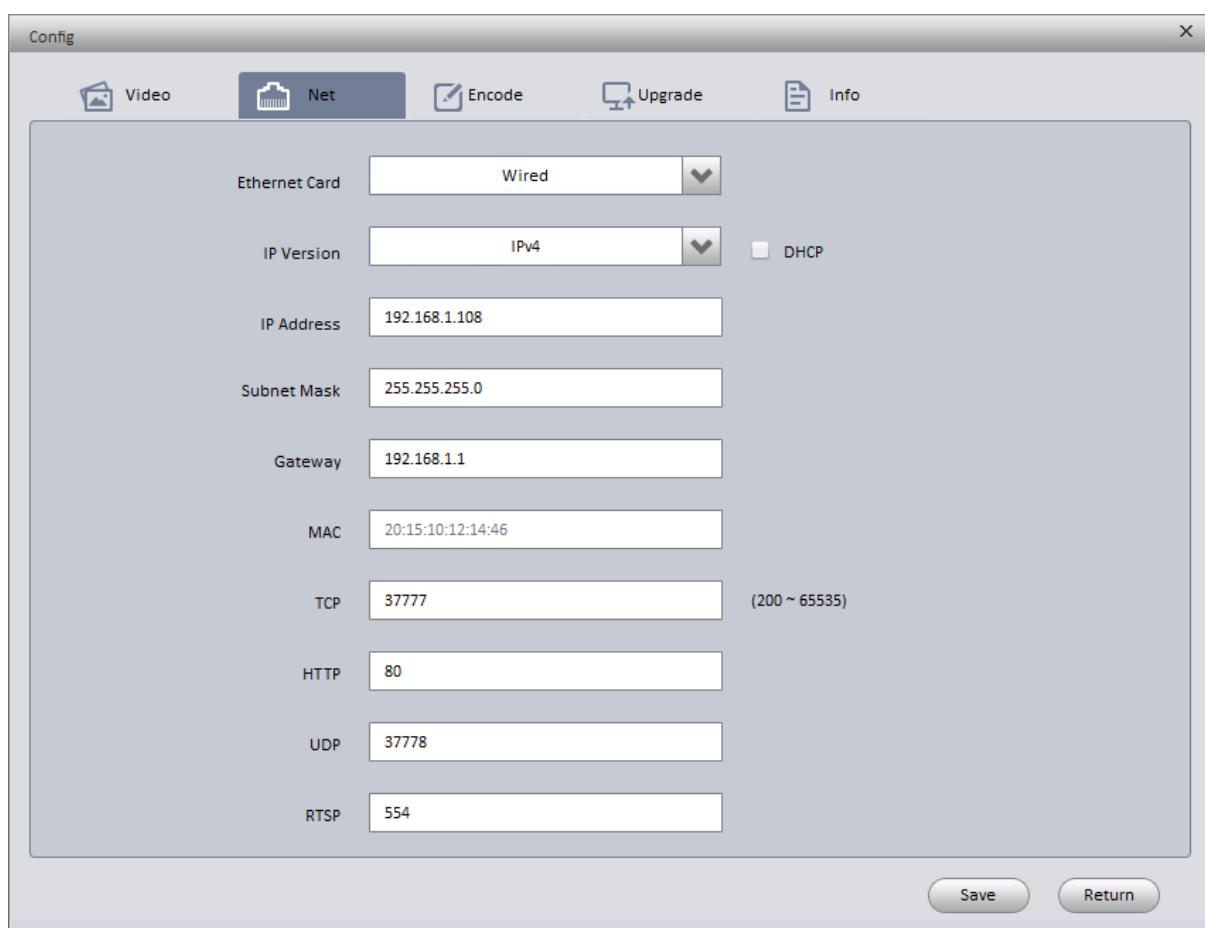


Figure 4-2

## 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.

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 4-3 for more details.



Figure 4-3

Step 3 Install controls according to the system prompt; see Figure 3-4 for the WEB main interface.  
Please modify the administrator password as soon as possible after you successfully logged in.

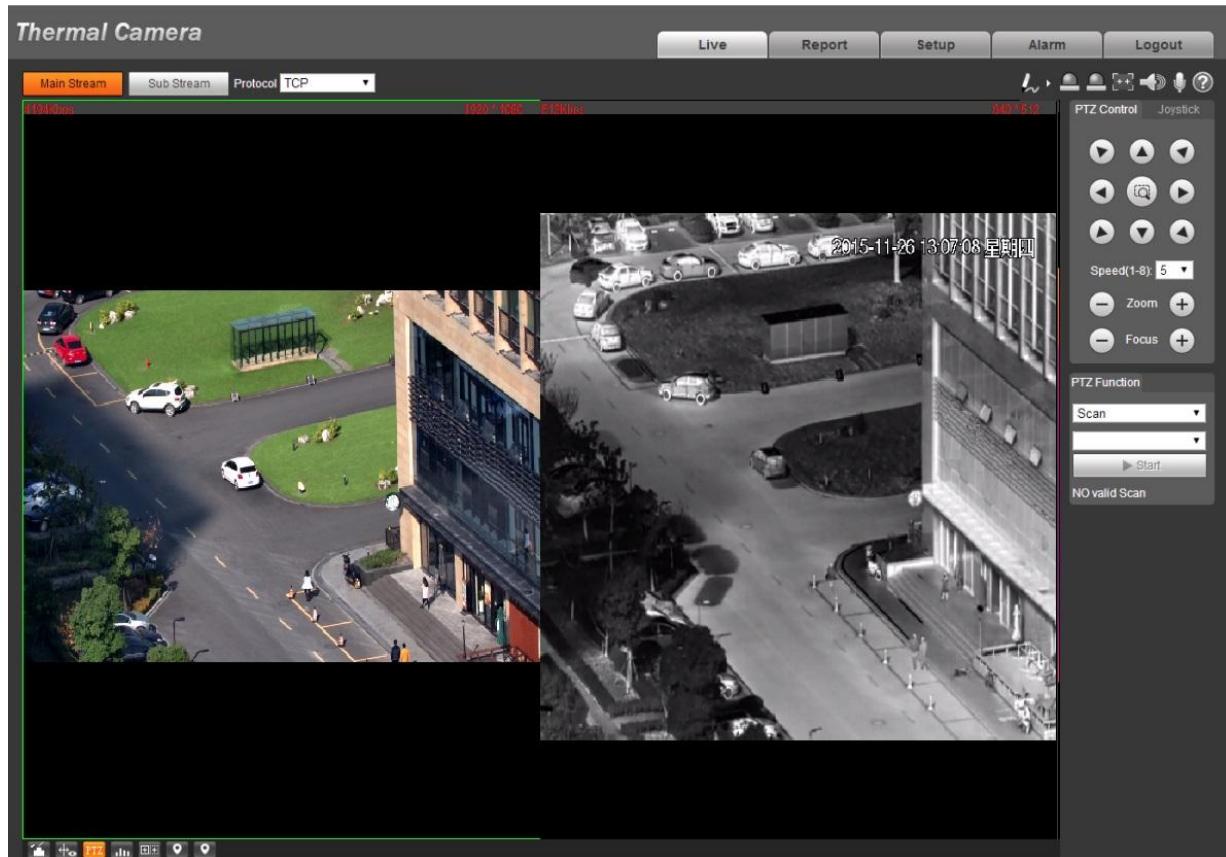


Figure 4-4

## 5 APPENDIX I LIGHTENING PROTECTION AND SURGE PROTECTION

This series thermal hybrid dome adopts TVS lighting protection technology. It can effectively prevent damages from various pulse signals below 4000W, such as sudden lighting 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 below 25 mm<sup>2</sup>. See Figure 5-1.

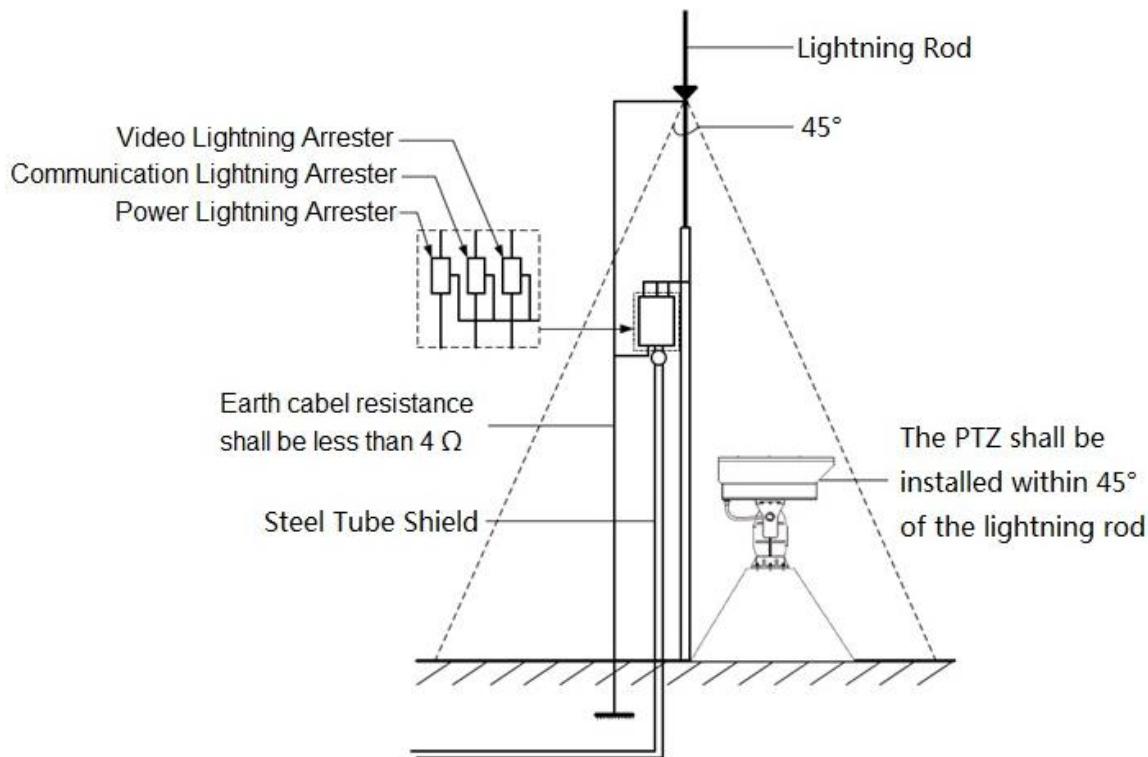


Figure 5-1

## 6 APPENDIX II PROBLEMS AND SOLUTIONS

SYMPTOM	CAUSE	SOLUTION
1) No self-diagnosis, no video signal when I connect PTZ to power.	Red LED is not on. ● Your power supplying does not apply to the power. Or connection is too loose. ● Power off or transformer problem.	● Check power is connected or properly earthed. ● Check power supply condition or check transformer.
	Red LED light on the power board is on ● Power supplying is low ● Something wrong with power board.	● Use multimeter to check dome load. ● Please contact retailer to replace power board.
2) No self diagnosis. There is a noise	Power supplying is inadequate. Mechanical malfunction.	Replace power supplying. Need electrical engineer help.
3) Video signal loss occurs in high speed rotation.	Power supplying is not sufficient	Replace power supplying.
4) Video signal is not successive	Circuit connection is too loose.	Connect tightly.
	Video switch or power problem	Need electrical engineer help.
5) Video is not clear.	Focus is in manual mode.	Control manually.
	PTZ cover is dirty.	Wash PTZ cover
6) During PTZ switch, there is a tilt movement in the monitor.	Camera power is not in the same Phase.	When several PTZs are connected to one transformer, please connect the transformer output cable to the domes' same side.
7) The PTZ keeps rotating and it is out of control	The supply voltage is too low or the power is insufficient.	Use multimeter to check the PTZ voltage and current, if it is too low, then it needs to improve supply voltage till the device runs normally.

### 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.
- If there is any uncertainty or controversy, please refer to the final explanation of us.
- Please visit our website or contact your local service engineer for more information.