

•• Important Safeguards and Warnings ••

Please read the contents of this section carefully as they describe the proper handling, installation, and power requirements needed to operate your device.

**Power Requirements**

- All installation and operation of this device should conform to your local electrical safety codes.
- Before operation, please ensure the power supply used is supplying the correct amount of voltage to the camera.
- Ensure to use only power supplies that conform to SELV requirements as well as properly rated voltage conforming to Limited Power Source in IEC60950-1. Refer to the camera label's power requirements for more information.
- Install all wiring in areas that will prevent the cords from being trampled on or damaged.

**Application Environment Requirements**

- The device should be used within the required humidity levels (±95%) and altitude (<math>3000m</math>).
- Do not use the device in a corrosive environment such as with levels of high salt concentration (sea, beach, and coastal areas).
- Do not use the device in environments with high levels of gas vapors or chemical plants.
- Do not use the device in areas of strong vibrations such as in boats or motor vehicles.
- Do not install the device in areas of extreme heat or cold. The operating temperature of the device ranges between 50°F/86°F (10°C/30°C). If storing the device, please make sure the temperature is in the storage area is between -40°F/158°F (-40°C/70°C).
- To avoid damage to the unit due to heat accumulation, do not install the device in areas that will block the ventilation opening.
- Do not aim the lens at a direct light source such as the sun, lasers, molten steel, etc. This could damage the internal heat detector.
- The device has a weatherproof rating of IP67 and is waterproof, however, do not allow liquid to enter the device as it could cause damage to the internal components. If water enters the device, please disconnect from power and disconnect any cables to prevent liquid from entering further into any other components.
- Do not place any foreign objects into the device as it may cause the device to short circuit or cause bodily harm.
- Do not store the device in areas of intense vibration or in areas that are subject to high levels of condensation. If transporting the device, it is highly recommended to use the packing materials included with the device to avoid any damage.

**Operation and Maintenance Requirements**

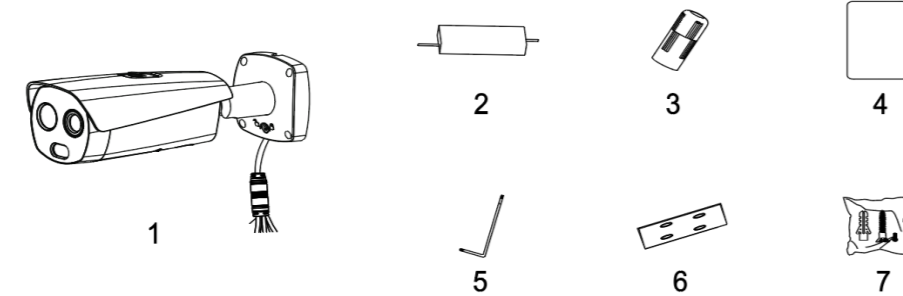
- To avoid injury, Do not touch the heat dissipation component while in operation.
- Do not dismantle or attempt to repair the device. Any attempts to repair the device, unprofessionally, could cause additional damage to the device.
- If using the camera outdoors, it is highly recommended to use the device along with a lightning arrester. This will help to prevent damage in case of a lightning strike during normal operation.
- Do not touch the photosensitive device with your hands. The lens can be cleaned using a soft cloth. If dirt or dust is on the lens, rubbing alcohol can be used to remove the debris from the lens.
- If cleaning the body of the device, a soft cloth can also be used. For any hard to remove dirt a neutral detergent can be used to wipe the dirt away.
- Do not use any volatile solvents such as benzene, thinner, or any other cleaner that is strong or abrasive.

**Safety and Precautions**

- For security purposes, it is highly recommended to modify the default password after setup.
- Use only the recommended accessories provided by the manufacturer when installing the device. The device should be installed and maintained by professionals.
- Do not use more than one power source to power the device. If using a PoE method to connect the device, do not use a power adapter.
- A 2.5m long control cable is reserved when the device is delivered out of factory. An explosion proof flexible tube or armor cable to protect when the control cable is connected to the explosion proof control cabinet.
- It is recommended to remove the device from power during maintenance or overhaul. Do not open the cover of the device while it is powered on.
- Inspect each component for any cracks or defects before use.

•• 1 Unpacking the Box ••

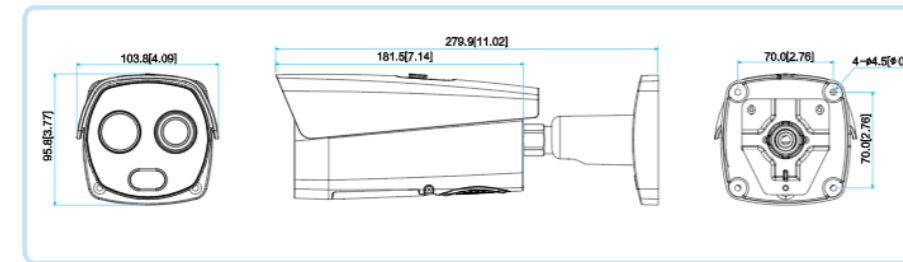
Refer to the following checklist below for a list of included items.



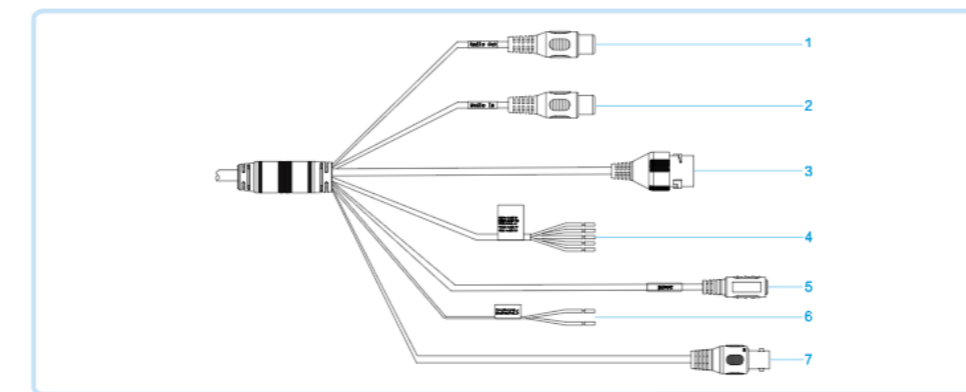
No.	Name	No.	Name	No.	Name
1.	Camera	2.	Power Supply	3.	Waterproof Connector
4.	Quick Start Guide	5.	Wrench	6.	Positioning Map
7.	Screw bag	-	-	-	-

•• 2 Design ••

**Dimensions**



**Cables**



Please refer to the information provided below for more details regarding the cables on your device.

SN	Port	Port Name	Connector	Function Description
1	Audio Out	Audio output port	RCA	Output audio to external speaker or RCA compatible device
2	Audio In	Audio input port	RCA	Analog audio input for an RCA compatible microphone.
3	LAN	Network port	Ethernet port	Connect to a standard Ethernet cable. Supports PoE power supply.
4	ALARM_NO	Alarm output port	N/A	Alarm output ports, output alarm signal to external alarm devices. Use ALARM_NO port together with ALARM_COM port.
4	ALARM_COM	Alarm output port	N/A	Alarm output ports, receives on/off signals from external alarms.
4	ALARM_IN1	Alarm input port	N/A	Alarm input ports, receives on/off signals from external alarms.
4	ALARM_IN2	Alarm input port	N/A	Alarm input ports, receives on/off signals from external alarms.
4	ALARM_GND	Ground	N/A	Grounded terminal for alarm ports.
5	Power	Power input port	N/A	Input 12V DC. Please refer to the label on the device for specific power requirements for your device. Do not use PoE power along with 12V DC power supply.
6	RS-485	RS-485	N/A	Used to control an external PTZ device (sold separately).
7	Video Out	Video output port	BNC	Outputs analog video signal. This is typically used to connect to a CCTV to check the image.

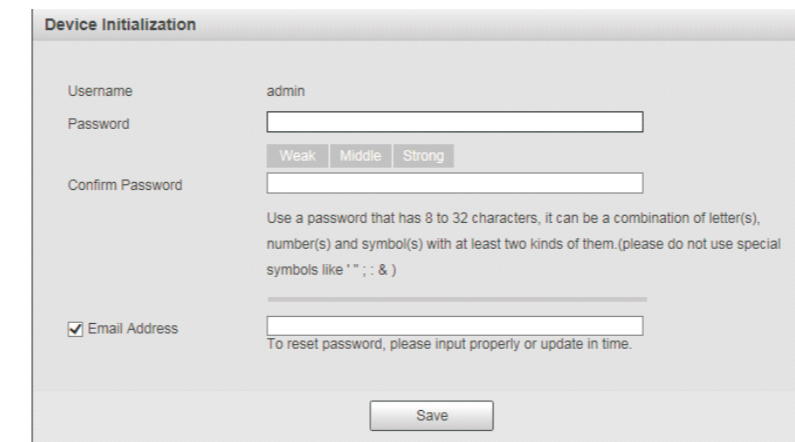
•• 3 General Configuration ••

**Camera Setup**

The camera can be accessed using the built in web user interface via a web browser. For optimal use, please use Internet Explorer when accessing your device in a web browser. To access the web user interface (web UI) locate the IP address of your device using an IP Config Tool and type it into your web browser. For security purposes, make sure to change the default password.

**Note:** The default IP address for the camera is: 192.168.1.1087

**Step 1:** Open the web browser and input the default IP address into the address bar. Press Enter to access the interface.



**Step 2:** Enter a new password for your device into the Device Initialization screen. This will be the new admin password for the device.

Parameter	Description
Password	Use a password between 8-32 characters. The password can be a combination of letters, numbers, and special characters (except ' ', ', , ') and must contain at least two types of characters. For security purposes, a strong password is recommended.
Confirm Password	Use a password that has 8 to 32 characters. It can be a combination of letter(s), number(s) and symbol(s) with at least two kinds of them (please do not use special symbols like " ", " ; ").
EmailAddress	To reset your password using an email address, enter an email address into the Email address field.

**Step 3:** Click the Save button to complete initialization.

**Modifying an IP Address**

For security purposes, it is advised to modify the default IP address according to your network environment. For more information on how to modify an IP address on your device, please refer to the information below.

**Step 1:** Open the web browser (IE) and input the default IP address into the address bar. Press Enter. Use your username and password to access the interface.

**Step 2:** In the interface, click on Setup >> Network >> TCP/IP. This will take you to the TCP/IP menu. This menu allows you to modify the IP address for your device.

**Step 3:** In the TCP/IP menu, click on DHCP. This will allow the device to configure the IP address of your device to your network environment.

**Step 4:** Click Save

**Step 5:** Exit the interface. Log back into the interface and access the TCP/IP menu. Click on the Static button to set the IP address to a static IP address.

•• 4 Installation ••

Before physical installation, make sure the surface can support up to eight times the weight of the device. The images referenced in this document are for reference purposes only.

**Cable Preparation**

The cables used for the installation of your device should meet the following criteria.

- 75 ohm
- Full cable with copper conductor.
- 95% knitted copper shield

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

If the distance of the power cable needs to be lengthened, it is highly recommended to not exceed the maximum transmission distance. Transmission distance is dependent on the diameter of the wire being used during installation. The size of the wire diameter is fixed and 12V DC voltage transmission power is 10W. Please refer to the following table below for more details.

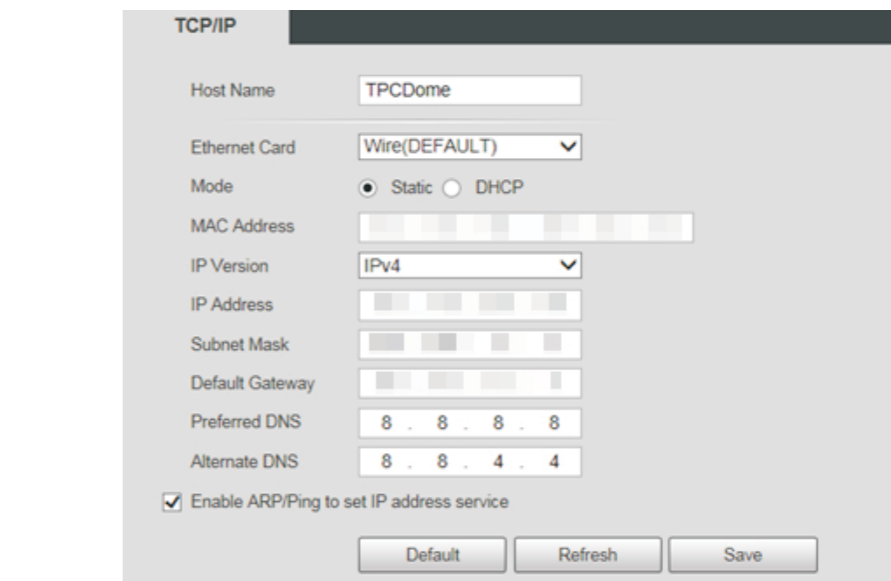
Wire Diameter (mm)	Max. Distance (Feet/M)
0.800	61.06 (18.61)
1.000	95.41 (29.08)
1.250	149.08 (45.44)
2.000	381.66 (116.33)

**Note:** All signal cables (audio, alarm input, output, and RS-485, etc) are recommended to use a 0.56mm (24AWG) or above cable if lengthening the wire cable.

**Installing the Camera**

**Installing a MicroSD card**

Before installing a microSD card into the device, please make sure no power is being applied. Use caution, do not press and hold reset button when installing a microSD card. This will reset the camera back to factory settings causing the device to have to be initialized again. To avoid internal damage, ensure that the waterproof ring is installed properly before securing the cover back to the device.



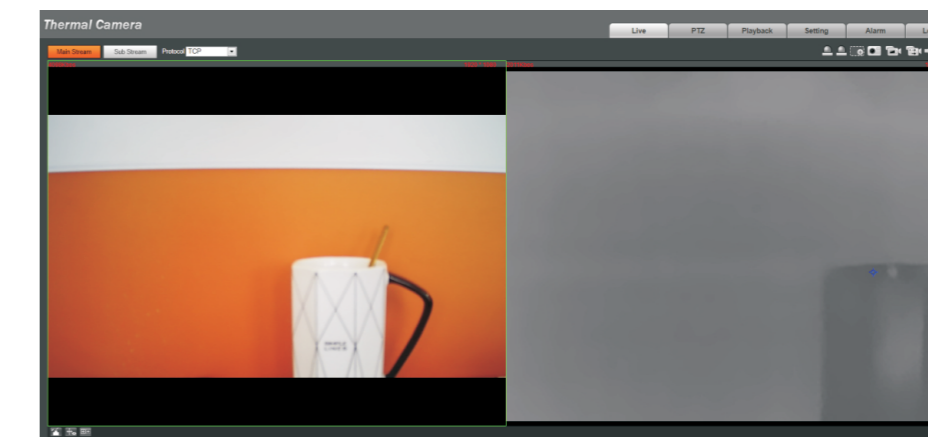
**Live View**

Some devices might have different live view interfaces. This images provided in this document are for reference purposes only.

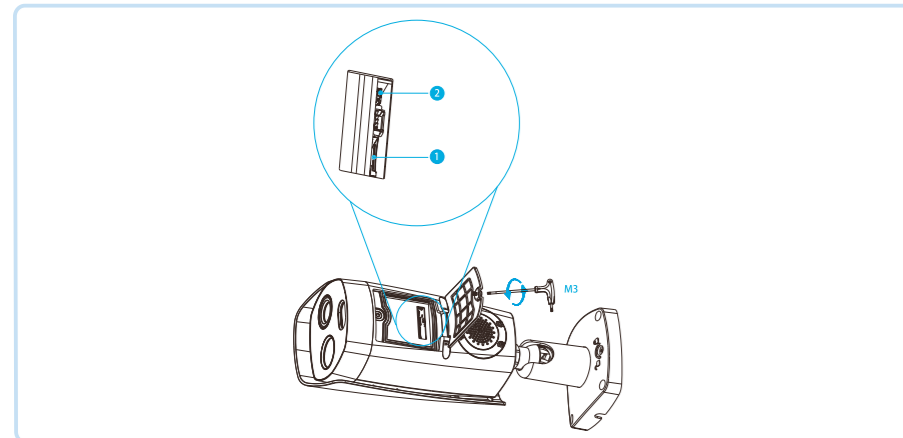
**Step 1:** Open the web browser (IE) and input the default IP address into the address bar. Press Enter. Use your username and password to access the interface.

**Note:** Use the modified IP address previously setup to access your device. The default username is admin; the password will be the password setup during device initialization.

**Step 2:** Click Login to display the Live View interface. The browser will prompt you to install the necessary plugin. Please save and install the plugin according to the instructions provided in the interface. The interface will refresh automatically after the plugin has finished installing. This will display the live view image from your device in the interface.

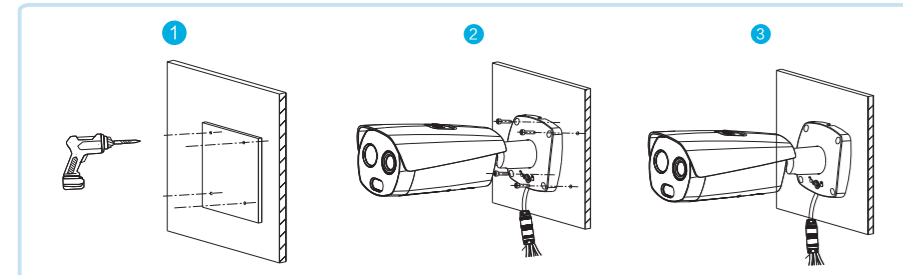


**Installing a MicroSD card**

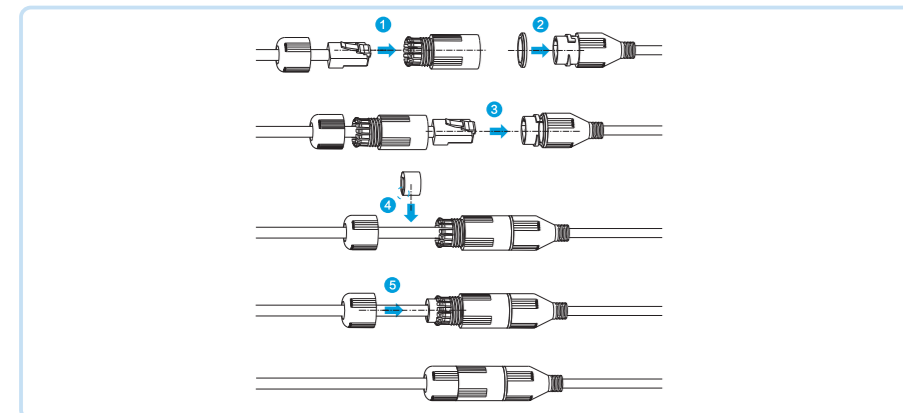


No.	Name	No.	Name
1	MicroSD Card Slot	2	Reset Hole

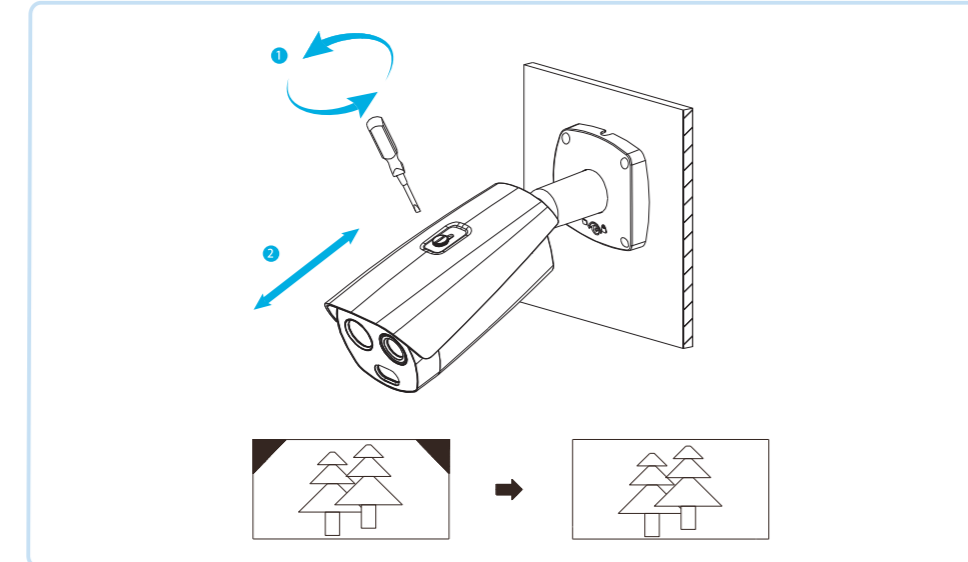
**Installing the Camera**



**Installing the Waterproof Connector**

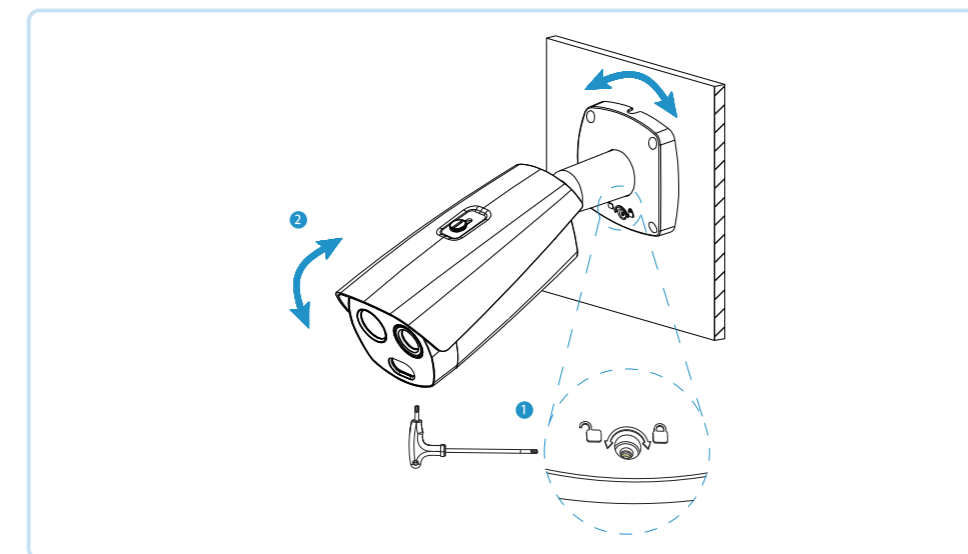


**Adjusting the Sun Shield Cover**



**Adjusting the Camera**

Loosen the adjusting screw on the base of the camera to adjust the device. Once finished, tighten the adjusting screw firmly to lock it into position. Do not rotate the device over 360° when the body of the device and the mounting pedestal form a 90° angle.



•• 5 Configuring Alarm ••

Before configuring an alarm, make sure the device is powered off and no voltage is being applied.

**Alarm Input and Output Description**

**Step 1:** Connect the input from the external alarm to the alarm input port of the I/O cable of the device.

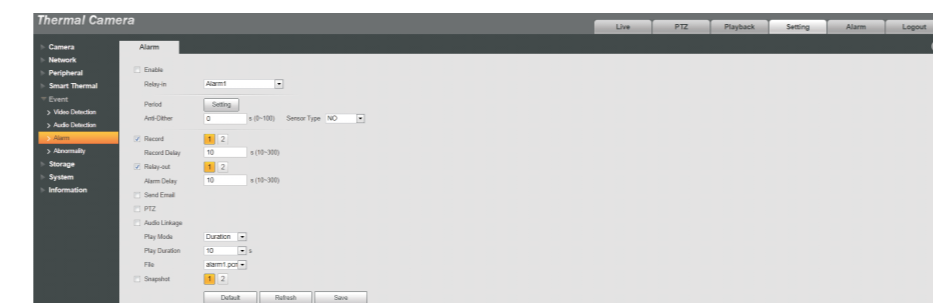
**Step 2:** Connect the output from the external alarm to the alarm output port of the I/O cable of the device. The alarm output relay switch and the alarm output port can only be

**Step 3:** Open the web user interface via a web browser and navigate to **Setting >> Event >> Alarm** to access the alarm interface.

**Step 4:** Click on **Enable** and adjust any alarm settings necessary in the interface. Click **Save** to save the settings to the device.

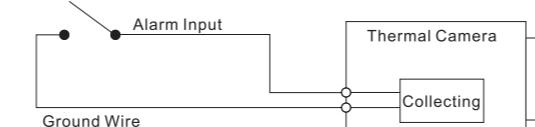
\* Alarm input corresponds to the alarm input port of the device I/O cable and corresponds to the NO and NC according to the high and low signal levels generated by the external alarm.

\* Alarm output corresponds to the alarm output port of the device's I/O cable.

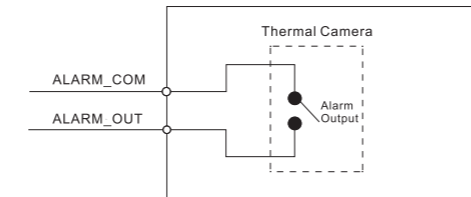


**Alarm Input and Output Figures**

The alarm input signal is either idle or grounded; the device will register different states of input. The input signal is connected to 3.3V or idle the device registers a logic of "1". When the input signal is grounded, the device registers a logic of "0".



The ALARM\_OUT and ALARM\_COM inputs for a switch which can be used to provide an alarm output. By default, the switch is on and will be off if a signal is not registered.



•• Appendix 1 Lightening and Surge Protection ••

This series camera adopts TVS lightning protection technology. This technology effectively prevents damage from various pulse signals below 6000V, such as sudden lightning bolts or surges. Adhere to your local electrical safety codes and take all necessary precaution measures when installing the camera in an 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 layouts should be run in areas above or below ground.

\* For areas of large land, use a sealing seal tube to run the cables underground. Do not leave the cables laying above ground while installing.

\* For areas of large land, install a 10KA lightning rod near the camera's power and Ethernet ports. For camera's using a power adapter, install a 10KA lightning rod near the adapter's input port.

\* For camera's installed on an iron tower, ensure the device is properly grounded. Connect the camera's ground wire to the tower's ground wire and ensure the following:

\* Make sure the camera is over 3 meters away from the tower's lightning rod's top point.

\* Use several strands of copper wire with a total diameter of 16mm².

\* Ensure the camera is installed within both arcs of circles whose radius is 60 meters. For more detail, please refer to the image provided in this section.

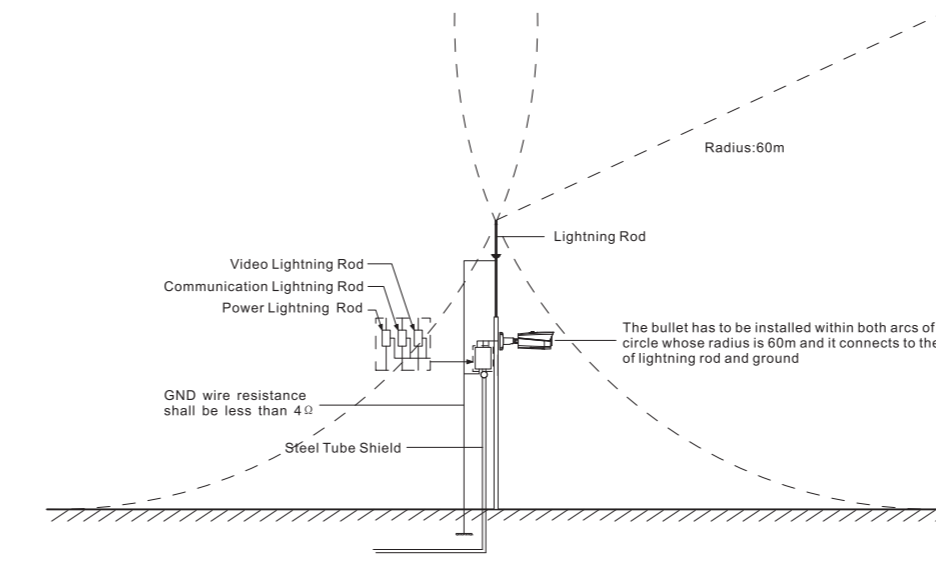
\* If there is no ground wire on the tower, connect the camera's ground wire into the ground.

\* If installing near areas prone to strong thunderstorms or near high voltage such as, high-voltage transformer substations, additional high-power thunder protection device or lightning rod will need to be installed.

\* The thunder protection and grounding of the device and cables should conform to all local, national, or industry standards.

\* The system should adapt to equal-potential wiring. The grounding device should meet anti-jamming and conform to your local electrical safety codes. The grounding device should not short circuit to N (neutral) lines of a high voltage grid or mixed with other wires.

When connected to the ground, the surface resistance shall not be more than 4Ω and the ground cable's cross sectional area shall be no less than 25mm². For more details, please refer to the image provided below.



**Thermal Hybrid Network Bullet Camera**

**Quick Start Guide**

V1.0.2

