



User Guide

GD-CI-EP2747P

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1 Installation of PTZ camera

1.1. Basic description of PTZ camera

1.1.1. Inventory equipment and accessories

Installing the dome, please check whether the equipment and its accessories are complete according to the equipment's packing list, and confirm whether the equipment in the packaging box is intact.

Notice

When transporting the dome, do not pull the power cord directly, otherwise it may affect the waterproof performance of the high-definition dome or cause wiring problems.

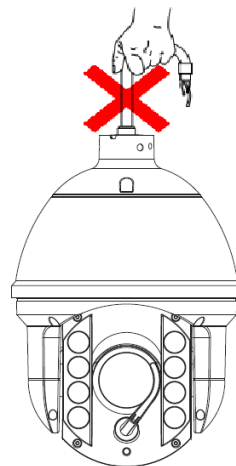


Figure 1-1-1 Schematic diagram of incorrect handling

1.1.2. Cable instructions

Infrared high-definition dome PTZs are equipped with different cables according to the performance of the dome PTZ.

Notice

This article will give the most complete cable interface. Please refer to the actual product for the specific interface.

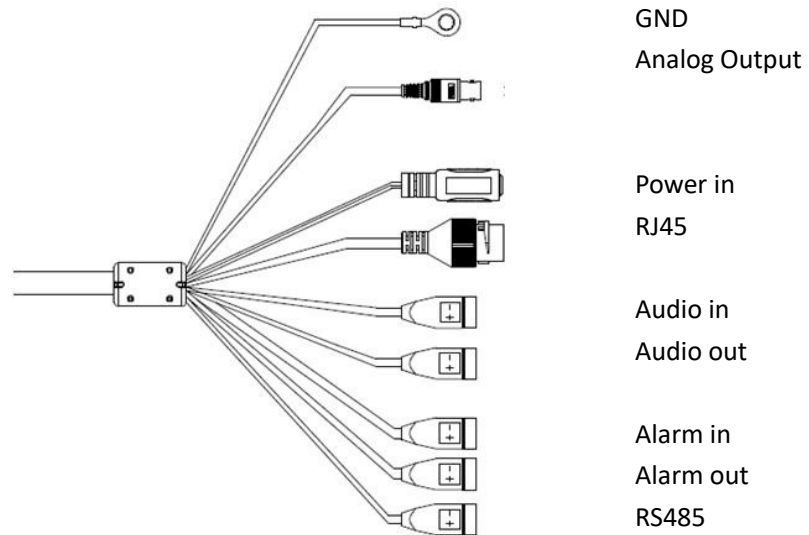


Figure 1 -1-2 Full-featured dome camera cable

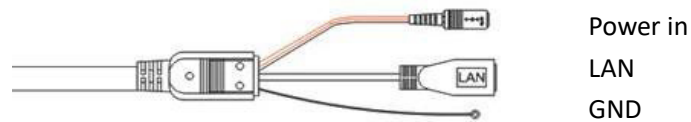


Figure 1-1-3 Ordinary cables

- Power input (POWER): Provide the correct power input according to the label
- RS485: RS485 control line
- Alarm input (ALARM IN): Alarm input and alarm ground
- Alarm output (ALARM OUT): Alarm output and alarm ground
- Audio input (AUDIO IN): audio input and audio ground
- Audio output (AUDIO OUT): audio output and audio ground
- Network port (LAN): RJ45 network interface
- Analog output (VIDEO): BNC interface, analog video signal output
- Ground wire: connect to the earth

The product is equipped with a protective cover for the network port when it leaves the factory to prevent the network port from being short-circuited by water.

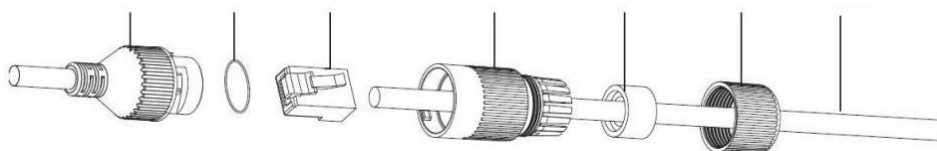


Figure 1-1-3 Installation diagram of network port protective cover

The production process is as shown in Figure 1-1-3. Pass the network cable through the fastening nut, waterproof rubber ring, and waterproof sleeve body in sequence, then crimp the crystal head, and put the rubber ring on the network port at the same time. Select the mode cap body.

1.2. PTZ camera and bracket dimensions

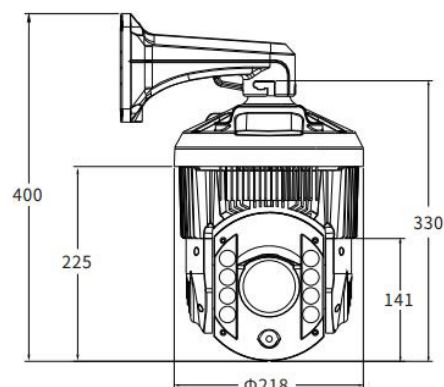


Figure 1-2-1 Dimensions of dome machine

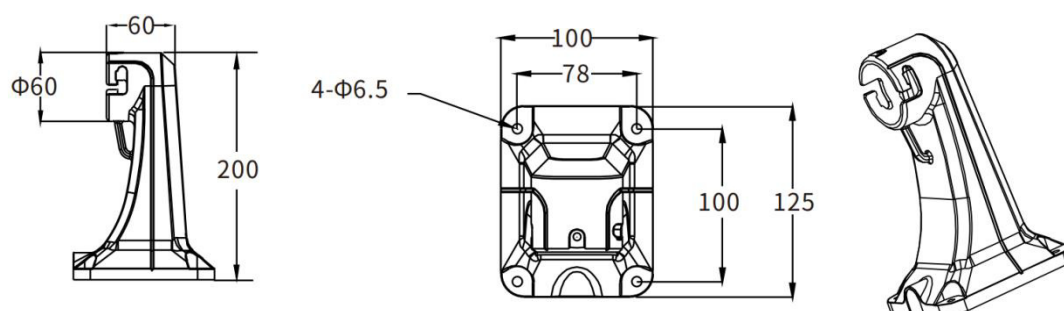
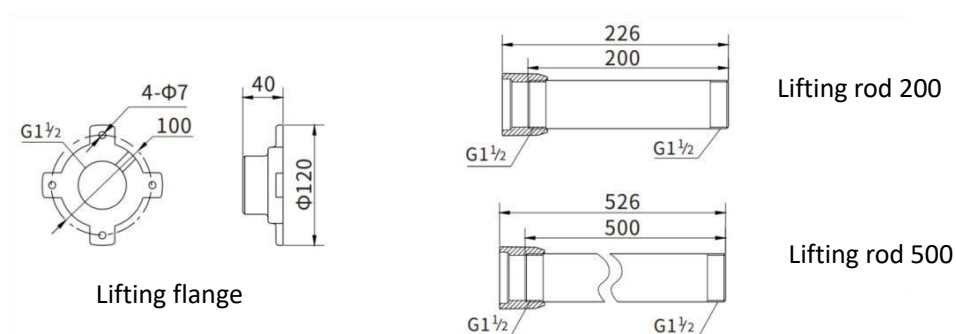


Figure 1-2-2 Wall bracket dimensions



G1 1/2 pipe thread

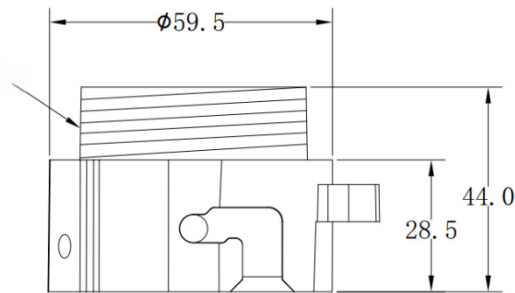


Figure 1-2-3 Adapter size

1.3. PTZ camera installation

Note:

In order to achieve the lightning protection effect, the ground lead of the product must be reliably grounded, and its specifications refer to relevant national standards.

For different types of bracket installation methods, please refer to the relevant content below in this manual. Different products have different sizes, structures and appearances. Please refer to Appendix 2 for the corresponding bracket dimensions of specific products. The actual bracket used shall prevail during actual construction. The following takes the wall bracket installation method as an example.

1.3.1. Wall mounting

(1) Accessories: Dome machine wall-mounted bracket (load-bearing 10 kg).

(2) Drill holes in the wall.

a. As shown in Figure 1-3-1, use the bracket mounting holes and cable outlet holes as templates to draw and drill holes on the wall. Pass the power cord, network cable and other signal cables that need to be connected to the dome camera through the wall hole to be connected.

b. Install 4 M6 expansion bolts in the mounting holes.

Note: The template paper needs to be made by the user according to the bracket.

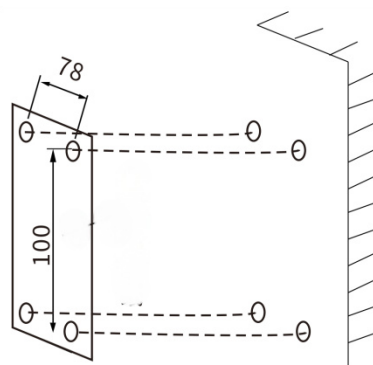


Figure 1-3-1 It can be made by the user according to the bracket

(3) Install the bracket.

Connect the dome tail cable and the wiring harness according to actual needs. If the cable connector is not waterproof, please use raw material tape to waterproof it. As shown in Figure 1-3-2, gather the wire harness into the bracket, then fix the bracket on the four expansion bolts, and use $\phi 6$ flat washers, spring washers and nuts to lock them. Pay attention to the bracket not to press the cable, and the nut must be tightened. Insufficient tightening may cause the device to fall from the installation place.

Note:

If the PTZ camera is used in an outdoor environment, the gap between the wall bracket and the wall and the wall outlet hole should be sealed and waterproofed.

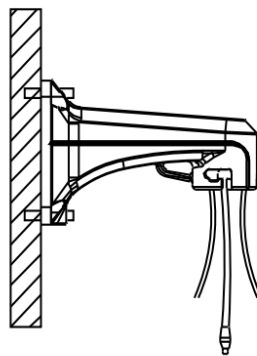


Figure 1-3-2

(4) The connecting cable is led out from the inner cavity of the wall-mounted bracket; find 3 hexagon socket screws in the accessory bag, including 2 M6×12 hexagon socket screws, and install them in the M6 threaded hole of the dome connector. Install the M6×10 hexagon socket screws to the M6 screw holes on the wall mounting bracket. Do not tighten the three screws yet; find the safety rope and fasten one end of it to the PTZ camera lifting ring. (As shown in Figure 1-3-3)

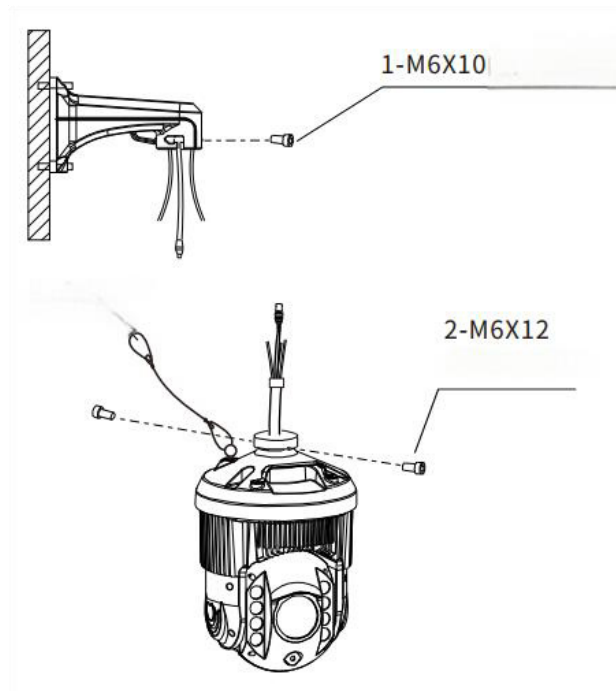


Figure 1-3-3

(5) Buckle the other end of the safety rope into the corresponding hole of the wall-mounted bracket, and then connect the connecting wire in the bracket to the tail wire of the dome camera accordingly. (As shown in Figure 1-3-4)

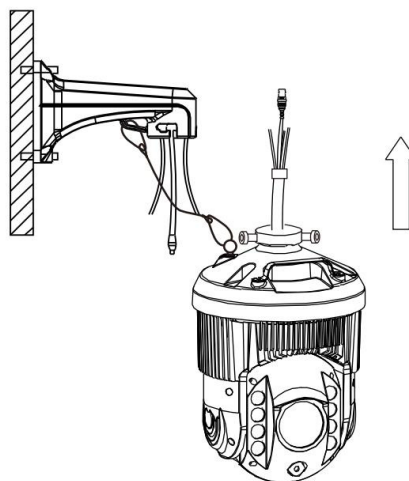


Figure 1-3-4

(6) There are M6 hexagonal socket screws at the connector of the dome machine. Use these two M6 hexagon socket screws to hang them into the two notches of the wall mounting bracket, and then tighten the two hexagon socket screws. Finally, tighten the M6 hexagon socket screw already installed on the bracket. Wall-mounted installation completed. (As shown in Figure 1-3-5)

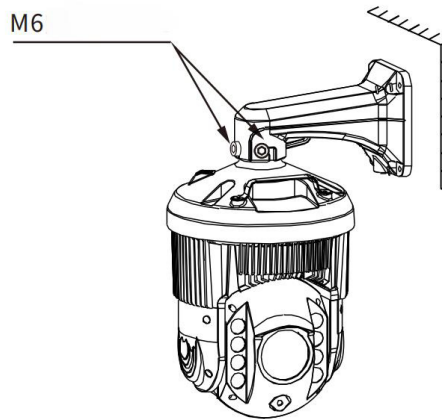


Figure 1-3-5

1.3.2. Corner installation

(1) Accessories: PTZ camera wall-mounted bracket (load-bearing 10kg); bracket accessories - corner steel plate (load-bearing 70kg).

(2) Install the corner fittings.

a. As shown in Figure 1-3-6, use the mounting holes and outlet holes of [Bracket Accessories - Corner Steel Plate] as a template to draw and drill holes on the wall.

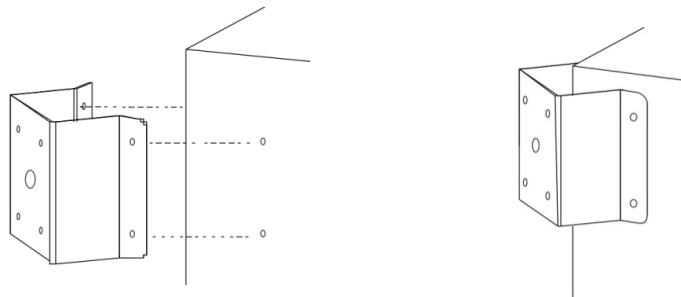


Figure 1-3-6 Figure 1-3-7

b. As shown in Figure 1-3-7, install M8 expansion bolts in the holes in the wall, pass the wire harness to be connected to the PTZ camera through the wiring holes, and then put $\phi 8$ flat washers and springs on the bolts. Pad, nut, tighten the nut, and fix [bracket accessories-corner steel plate].

(3) Install the PTZ camera and bracket: see 1.3.1.

(4) Install the wall bracket.

a. As shown in Figure 1-3-8, gather the wire harness into the bracket, then fix the bracket to the bracket accessories with 4 M6 screws, and use $\phi 6$ flat washers, spring washers and nuts to lock.

Note:

Do not press the bracket on the cable. The nut must be tightened. Insufficient tightening may cause the device to fall from the installation location. If the PTZ camera is used in an outdoor environment, the gap between the wall bracket and the wall and the wall outlet hole should be sealed and waterproofed.

b. For external cable connections, please install the wall bracket.

Note:

The above is a view of concealed cable installation. If you want to install the cables on the surface, put the cables directly out of the outlet hole on the side of the bracket without passing them through the wall.

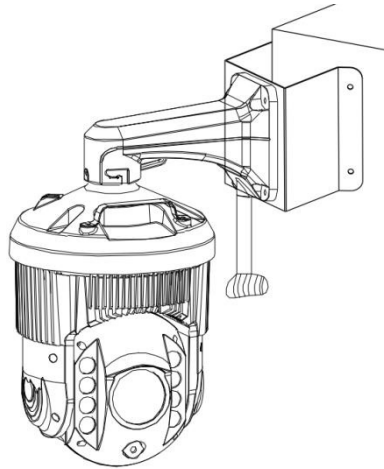


Figure 1-3-8

1.3.3. Crane installation

(1) Accessories: boom (load bearing 15kg).

(2) Installation preparation.

a. As shown in Figure 1-3-9, use the hanging rod mounting hole and cable outlet hole as a template, draw the hole location on the wall, drill the hole, and fix it first, then install the flange plate on the top of the wall, and install it in sequence. Boom, connecting nut, adapter. The power supply, network and other signal lines that need to be connected to the dome machine should be passed through the wall hole to be connected.

b. Install M8 expansion bolts in the mounting holes and tighten them.

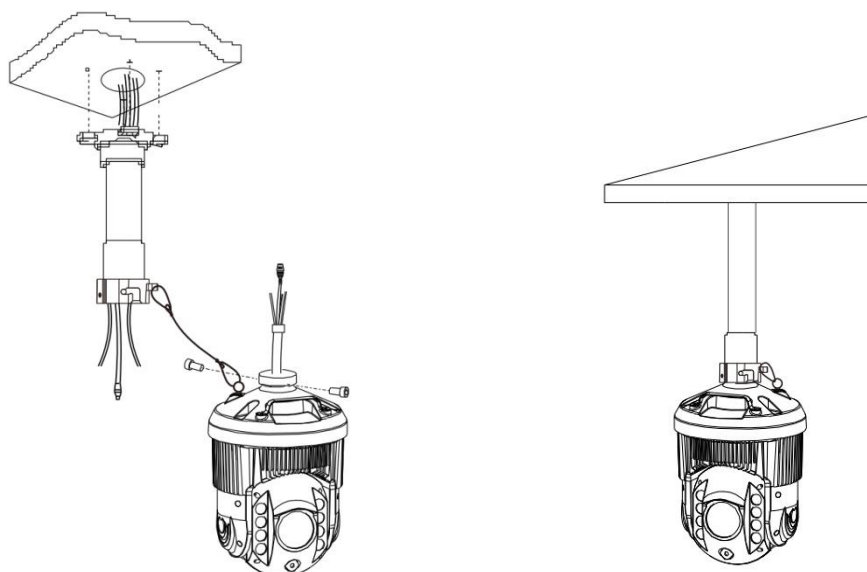


Figure 1-3-9 Figure 1-3-10

(3) Install the PTZ camera and boom.

The connection between the dome camera and the adapter is the same as the connection between the dome camera and the wall-mounted bracket. Please refer to the wall-mounted bracket installation method. The installation effect is shown in Figure 1-3-10.

1.3.4. Pole installation

(1) Accessories: PTZ camera wall-mounted bracket (load-bearing 10kg); steel plate with U-shaped slot (load-bearing 60kg); hose clamp.

(2) Install the column assembly.

- a. As shown in Figure 1-3-11, use the hose clamp to pass through the reserved hole on the back of the [steel plate with U-shaped slot], surround the cylinder, and insert the end without locking nut into the other end.
- b. Use a screwdriver to adjust the locking nut on the hose hoop so that the [steel plate with U-shaped slot] is firmly fixed on the cylinder.
- c. Pass the power, network and other signal cables that the user needs to connect to the dome machine through the outlet holes of the [steel plate with U-shaped slot].
- d. To install the PTZ camera and bracket, please refer to the wall bracket installation method. The installation effect is shown in Figure 1-3-12.

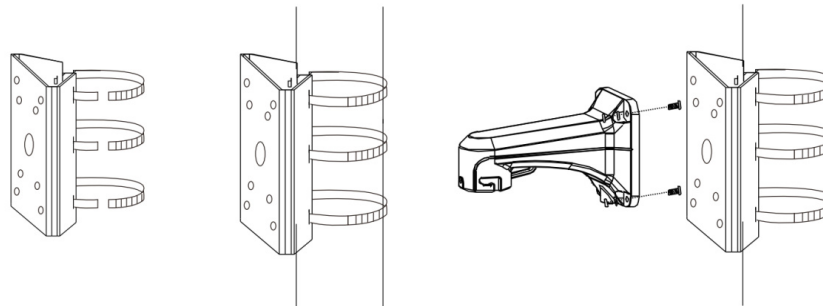


Figure 1-3-11

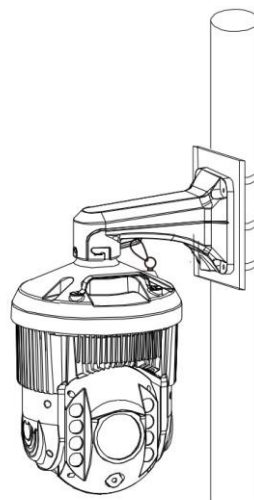


Figure 1-3-12

2 Product characteristics and basic parameters

2.1 Product Features

Thank you for using our infrared high-definition monitoring equipment. The network's high-definition movement images are clear, delicate, real, and rich in color. The movement adopts the industry's leading encoding and compression technology to minimize compression losses and requires a lower bit rate under the same image quality, thereby reducing transmission bandwidth and storage space. Excellent auto-focus and auto-exposure technology, accurate focusing, fast speed, and optimal exposure effect. At the same time, it has good low illumination performance, small size, low power consumption, green, energy saving and environmental protection.

- Built-in decoder
 - (1) Fully digital design, no data will be lost after power failure
 - (2) Integrated design, high reliability
 - (3) Power-off memory protection function: After restarting after a power outage, the dome camera can automatically restore to the position before the power outage or the operating action before the power outage.
 - (4) Automatic operation function after power-on, can run guard position, left and right scan, frame scan, no action
 - (5) Automatic cruise function, 8 cruise paths, each cruise path can be set to any 32 preset positions;
 - (6) Support RS485 bus
- Built-in PTZ
 - (1) Precision motor drive, smooth operation, sensitive response, accurate positioning
 - (2) Integrated design, compact structure
 - (3) Exquisite mechanical drive device supports horizontal 360 ° continuous rotation without monitoring blind spots
 - (4) Horizontal slow rotation of 0.5 ° per second, the image does not shake, the maximum rotation speed can reach 30 0 ° per second, enabling 105° continuous monitoring in the vertical direction
 - (5) Built-in integrated digital processing color camera with zoom lens, high sensitivity and high resolution
- Lens auto function
 - (1) auto focus
 - (2) automatic exposure control
 - (3) Auto white balance

- (4) Automatic color, black and white conversion

2.2 Basic technical parameters

2.2.1 Main features and basic parameters

- Infrared function
- Minimum illumination 0Lux, using high-efficiency infrared array, low power consumption, irradiation distance up to 100 meters
- The infrared light and magnification distance matching algorithm adjusts the brightness of the infrared light according to the magnification and distance to make the image reach the ideal state.
- Constant current circuit design, infrared lamp life up to 30,000 hours
- Shield structure
 - (1) Wiper cleaning function can scrape off rain and dust (optional)
 - (2) High-strength alloy aluminum integral die-cast shell, internal all-metal structure
 - (3) Super heat dissipation design reduces the temperature of the PTZ camera's inner cavity and prevents the inner cover of the PTZ camera from fogging.
 - (4) Impact-resistant and corrosion-resistant, the protection level reaches IP66
 - (5) The camera is isolated from the infrared light to avoid the impact of infrared light halo and heat on the camera and images.
- System functions
- The maximum image resolution is 2560×1440 (specifically determined according to the optional movement)
- Support multi-language menu and operation prompt function, user-friendly interface
- Supports power-off status memory function. After power-on, it will automatically return to the monitoring position before power-off or perform the monitoring tasks before power-off.
- Idle action, you can enter multiple operating modes when no one is operating: guard position, automatic scan, pattern scan, automatic cruise
- Support power-on action, the dome machine will perform scheduled monitoring tasks after power-on
 - (1) Support WEB to change front-end parameters
- Chinese and English title editing, coordinate and time display
- Internet function
 - (1) Ultra low bit rate

- (2) Images can be viewed and controlled through WEB browser and client software
- (3) Support multiple streams
- (4) Using H.265 video compression algorithm

3 Instructions

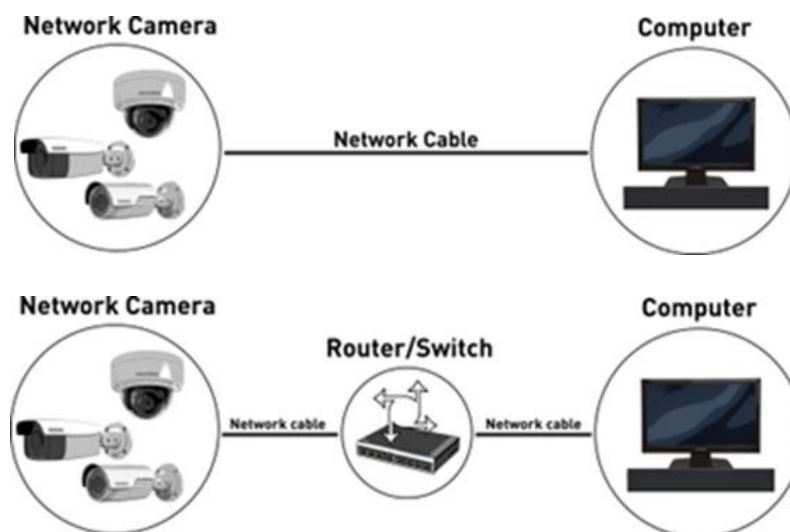
3.1 System connection

Notice

If you connect the product to the Internet, you are at your own risk, including but not limited to the possibility that the product may be subject to network attacks, hacker attacks, virus infections, etc. The company is not responsible for the resulting abnormal product operation, information leakage and other problems, but the company will Provide you with product-related technical support in a timely manner.

In order to ensure the network security of the smart PTZ camera, it is recommended that you perform regular network security assessment and maintenance on the network smart PTZ camera system.

Before accessing the IP camera, you need to connect the device to your PC. You can connect directly through a network cable or through a switch or router



- Device default parameters: IP address: 192.168.1.68, username: admin, password: system123, (Note: IP address, username, and password may change, please refer to the product label). After logging in to the interface, users can make various settings according to personal needs.
- The product supports PELCO-D control protocol.

4 Equipment lightning protection and grounding requirements

High-definition network dome machines are generally placed outdoors and often face severe lightning protection problems in seasons with frequent thunderstorms. The harsh environment places higher requirements on lightning protection levels and lightning protection installation for outdoor equipment, and the diversity of outdoor environments makes lightning protection installation forms complex and changeable. This chapter mainly focuses on equipment installed outdoors, and provides reasonable opinions on outdoor protective covers, equipment lightning protection and grounding.

a. Protection against lightning strikes and surges

This product adopts air discharge tube and TVS plate lightning protection technology, which can effectively prevent damage to the equipment caused by various pulse signals such as instantaneous lightning strikes and surges with power below 1500W. However, for outdoor installation, necessary protective measures must be taken according to the actual situation and on the premise of ensuring electrical safety:

- Signal transmission lines must be kept at least 50 meters away from high-voltage equipment or high-voltage cables;
- Outdoor wiring should be routed under the eaves as much as possible;
- For open areas, sealed steel pipes must be used for buried wiring, and the steel pipes must be grounded at one point. Overhead wiring is absolutely prohibited;
- In areas with severe thunderstorms or areas with high induced voltages (such as high-voltage substations), additional measures such as installing high-power lightning protection equipment and installing lightning rods must be taken;
- The lightning protection and grounding design of outdoor devices and lines must be considered in conjunction with the lightning protection requirements of the building and comply with relevant national standards and industry labeling requirements;
- The system must be equipotentially grounded. The grounding device must meet the dual requirements of system anti-interference and electrical safety, and must not be short-circuited or mixed-connected with the neutral line of the strong power grid. When the system is grounded alone, the grounding impedance must not be greater than $4\ \Omega$, and the cross-sectional area of the grounding conductor must be not less than 25mm^2 ;

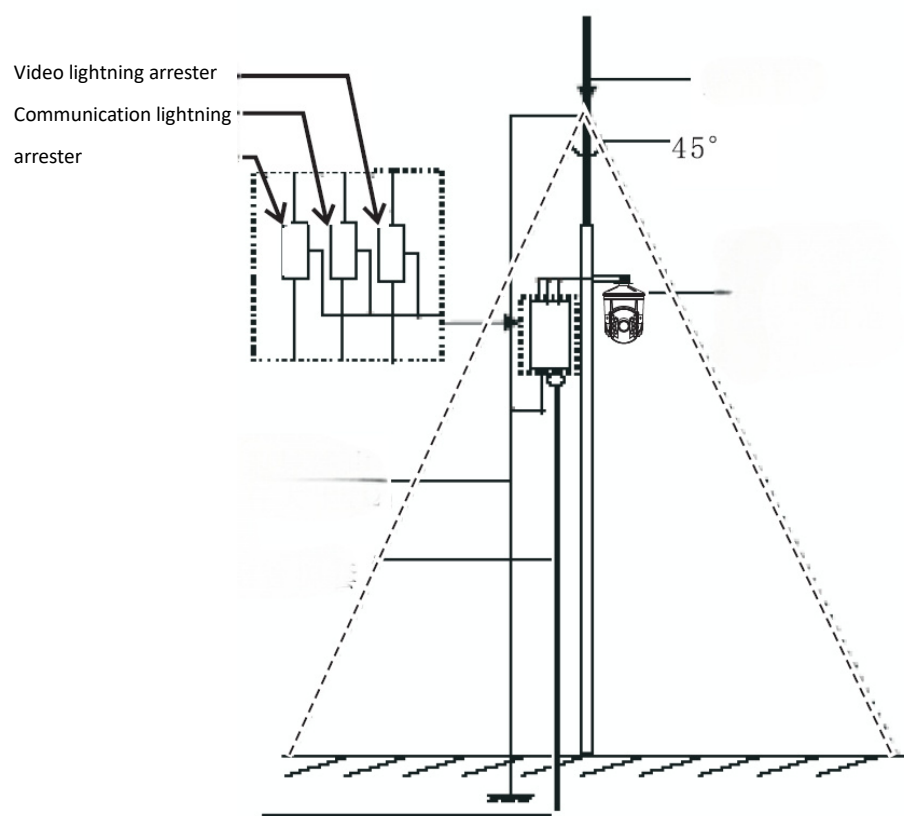


Figure 4-1-1 Equipment lightning protection diagram

5 Power cord requirements

In actual applications, please actually calculate the power consumption of the device (= voltage × current) based on the voltage and current parameters on the specific product nameplate.

- The data in the table below is applicable when the power cord is AC24V/DC24V, the lower operating limit of the powered device is AC18V (AC24V - 25%), the ambient temperature is 50 degrees Celsius, and the conductor material is copper wire, where the wire diameter is the conductor diameter.

Line Diameter mm Distance m Power w	0.80 AWG20)	1.00 (AWG18)	1.25 (AWG16)	1.63 (AWG14)	2.00 (AWG12)
10	143	223	349	593	892
20	72	112	175	297	446
30	48	74	116	198	298
40	36	56	87	148	223
50	29	45	70	119	179
60	24	37	58	99	149
70	-	32	50	85	128
80	-	28	44	74	112
90	-	-	39	66	99
100	-	-	35	59	89
110	-	-	32	54	81
120	-	-	-	49	74
130	-	-	-	46	69
140	-	-	-	42	64
150	-	-	-	40	60
160	-	-	-	-	56
170	-	-	-	-	53
180	-	-	-	-	50

Table 5-1-1 Maximum length and power requirements of power cords with different wire diameters (for reference only)

- The data in the following table is applicable when the power cord supplies power at DC12V and the lower operating limit of the powered device is DC9V. (12V - 25%) , ambient temperature 50 degrees Celsius, conductor material is copper wire, where the wire diameter is the conductor diameter.

Wire diameter mm Distance m Power w	0.8 (AWG20)	1.0 (AWG18)	1.25 (AWG16)	1.63 (AWG14)	2.0 (AWG12)
6	60	93	145	247	372
7	51	80	125	212	319
9	40	62	97	165	248
10	36	56	87	148	223
15	24	37	58	99	149
20	18	28	43	74	112
30	12	19	29	49	74
40	-	14	22	37	56
50	-	-	18	30	45
60	-	-	-	25	37
70	-	-	-	21	32
80	-	-	-	-	28
90	-	-	-	-	25
100	-	-	-	-	22

Table 5-1-2 Maximum length and power requirements of power cords with different wire diameters (for reference only)

- The data in the table below is applicable when the power cord is DC12V, the lower operating limit of the powered device is DC10.8V (12V - 10%), the ambient temperature is 50 degrees Celsius, and the conductor material is copper wire, where the wire diameter is the conductor diameter.

mm/mw	0.80 (AWG20)	1.00 (AWG18)	1.25 (AWG16)	1.63 (AWG14)	2.00 (AWG12)
6	29	45	70	119	179
10	17	27	42	71	107
20	9	13	21	36	54
30	6	9	14	24	36
40	4	7	11	18	27
50	-	5	8	14	21
60	-	-	7	12	18
70	-	-	6	10	15
80	-	-	-	9	13
90	-	-	-	8	12
100	-	-	-	-	11
110	-	-	-	-	10
120	-	-	-	-	9

Table 5-1-2 Maximum length and power requirements of power cords with different wire diameters (for reference only)

6 Common problem

a. Login issues

i. When logging in for the first time, you are not prompted to install the control

Please change the user account's control settings and log in again. The operation method is: enter [Control Panel / User Account], click < User Account >, Select < Change User Account Control Settings >, set it to " Never notify " and confirm.

ii. Control installation failed

Before logging in, add the device IP to IE 's trusted site. Operation method: [Tools /Internet Options / Security] , select " Trusted Sites " and click <Site> to add it as a trusted site.

If you log in on a Windows 7 client, you also need to save the control locally first, then right-click and select " Run as administrator " to install it.

iii. Unable to watch the live broadcast after logging in for the first time

Please turn off the firewall of your current PC first, and then log in to the device again to watch the live broadcast.

b. Control issues

When the RS485 cannot control the dome camera, check whether the camera PTZ address is set correctly and whether the 485 wiring is correct and firm.

7 Maintenance and care

a. Mirror maintenance

The mirror surface is coated with an anti-reflective coating. Dust, grease, fingerprints, etc. will produce harmful substances and cause its performance to decrease or cause scratches, haze, etc.

Once dirt is found, please handle it as follows:

- Dusty

Use an oil-free soft brush or hair dryer to gently wipe away.

- Contaminated by grease or fingerprints

Gently wipe off water droplets or oil with a soft cloth and dry it, then wipe it with oil-free cotton cloth or lens cleaning paper dipped in alcohol or lens cleaning fluid.

b. Body maintenance

To clean the fuselage, you can wipe it with a soft dry cloth. If the dirt is difficult to remove, please use a clean soft cloth dipped in a small amount of neutral detergent to gently wipe it off, and then wipe it dry. Do not use volatile solvents such as alcohol, benzene or thinner, or strong, abrasive cleaners, otherwise they will damage the surface coating or reduce the performance of the device.

