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# Network Outdoor PTZ Cameras

TP series

Quick Installation Guide

**103**  
ALPHA 300  
EXCELLENCE IN IP VIDEO

**CNB**  
TECHNOLOGY Inc.

3810-U011A (v082516E)

## User Information



**CAUTION**  
**RISK OF ELECTRIC SHOCK**  
**DO NOT OPEN**



**CAUTION!** TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

### Explanation of two Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance-(servicing) instructions in the literature accompanying the appliance.

Copyright of this manual is belonged to **CNB Technology Inc.** and unauthorized reproduction or copy without the prior written approval of **CNB Technology Inc.** is prohibited.

*Thank you for purchasing our product.*

*If there are any questions, or requests, please do not hesitate to contact the dealer.*

### Disclaimer

- The contents of this document are subject to change without prior notice. Updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual.
- Best effort has been made to verify the integrity and correctness of the contents in this document, but no statement, information, or recommendation in this manual shall constitute formal guarantee of any kind, expressed or implied. We shall not be held responsible for any technical or typographical errors in this manual.
- The product appearance shown in this manual is for reference only and may be different from the actual appearance of your device.
- This manual is a guide for multiple product models and so it is not intended for any specific product.
- Due to uncertainties such as physical environment, discrepancy may exist between the actual values and reference values provided in this manual. The ultimate right to interpretation resides in our company.
- Use of this document and the subsequent results shall be entirely on the user's own responsibility.

### Environmental Protection






- This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

## Safety and Compliance Information

Installation and removal of the unit and its accessories must be carried out by qualified personnel. You must read all of the Safety Instructions supplied with your equipment before installation and operation.

### Conventions Used Symbol

- The symbols in this chapter are shown in the following table. They are used to remind the reader of the safety precautions during equipment installation and maintenance.

|   |  |
|---|--|
|    | <b>WARNING!</b><br>Contains important safety instructions and indicates situations that could cause bodily injury. |
|    | <b>CAUTION!</b><br>Means reader be careful and improper operations may cause damage or malfunction to product.     |
|    | <b>NOTE!</b><br>Means useful or supplemental information about the use of product.                                 |
|  | <b>CAUTION!</b><br><i>Generic alarm symbol</i> : To suggest a general safety concern.                              |
|  | <b>DANGER!</b><br><i>Electric shock symbol</i> : To suggest a danger of high voltage.                              |

## Installation

- This device is a class A product and may cause radio interference. Take measures if necessary.
- Make sure the camera operates in an environment where the temperature and humidity meet requirements. Keep the camera from excessive pressure, vibration, moisture, dust, and intensive electromagnetic radiation.
- Use a power adapter or a PoE device that meets requirements. Otherwise, the device may be damaged.
- Make sure the length of the power cable between the power adapter and the camera is not too long, otherwise the voltage of the camera is lowered, causing the camera to work abnormally. If it is required to lengthen the power cable, lengthen the cable between the power adapter and the mains.
- Do not hold the tail cable by hand for weight bearing. Otherwise, the cable connector of the camera could be loosened.
- Do not cut the tail cable. Exposed tail cables may cause short circuit and damage the camera.
- When connecting to an external interface, use an existing connection terminal, and ensure that the cable terminal (latch or clamp) is in good condition and properly fastened. Ensure that the cable is not tense during mounting, with a proper margin reserved to avoid poor port contact or loosening caused by shock or shake.
- The end of the tail cable must be kept under good protection. Take waterproof measures to protect the tail cable.
- During the process of transportation, special attention is required for the protection of the front glass surface to prevent friction, scratch and contamination, etc. In order to keep the front glass surface clean, do not remove the protective film on the front glass surface during mounting. After mounting is finished, remove the film before the device is powered on.
- Contact professionals for maintenance information. Do not attempt to dismantle the device by yourself. We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.

## Maintenance

- If there is dust on the front glass surface, remove the dust gently using an oil-free brush or a rubber dust blowing ball.
- If there is grease on the lens, remove the grease using an oil-free cloth gently and then clean the lens in a circular spiral from the center outward using an oil-free cloth or a lens cleaning paper dipped with small amount of cleaning solution. If the grease still cannot be removed, change another oil-free cloth or lens cleaning paper and clean the lens gently until it is removed.
- If there is grease or a dust stain on the front glass surface, clean the glass surface gently from the center outward using anti-static gloves or an oil-free cloth. If the grease or the stain still cannot be removed, use anti-static gloves or an oil-free cloth dipped with detergent and clean the glass surface gently until it is removed.
- Do not use organic solvents, such as benzene or ethanol when cleaning the front glass surface.



### CAUTION!

Fiber optic ports – optical safety.



- Never look at the transmit laser while the power is on. Never look directly at the fiber ports and the fiber cable ends when they are powered on.
- Use of controls or adjustments to the performance or procedures other than those specified herein may result in hazardous laser emissions.

## Regulatory Compliance

### FCC Part 15

This equipment has been tested and found to comply with the limits for digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

### LVD/EMC Directive



This product complies with the European Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU.

### WEEE Directive–2012/19/EU



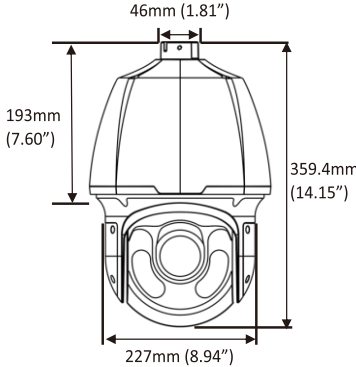
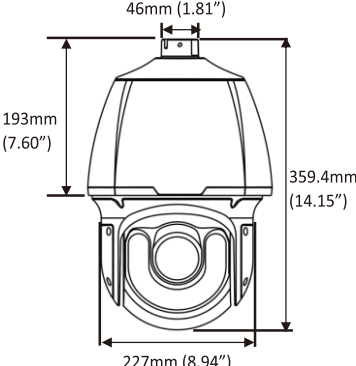
The product this manual refers to is covered by the Waste Electrical & Electronic Equipment (WEEE) Directive and must be disposed of in a responsible manner.

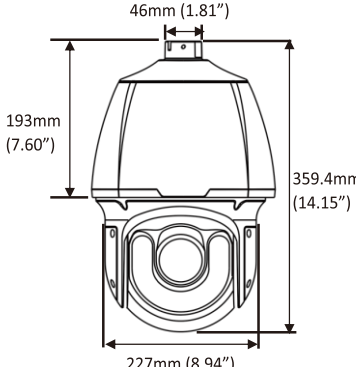
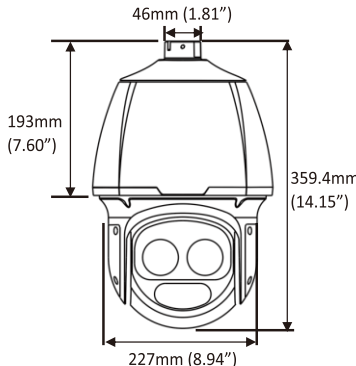
1. Appearance Description

1.1. Dimensions

Dimensions of network dome cameras are as follows.  
For the actual appearance, see the product.

mm (inch)

| Model   | Dimensions   |
|---|--|
| <ul style="list-style-type: none"><li>• <b>TPN24R-x30</b><br/><b>2MP 30X Network IR PTZ</b><ul style="list-style-type: none"><li>- 30X Optical Zoom</li><li>- Smart IR,, up to 100m(328ft) IR distance</li><li>- Water and dust repellent</li><li>- IR anti-reflection window</li><li>- Optical defog supported</li><li>- ONVIF conformance</li><li>- Wide input voltage range of ±25%</li><li>- 6 KV surge protection</li><li>- Intelligent temperature control</li><li>- IP66</li></ul></li></ul>       |   |
| <ul style="list-style-type: none"><li>• <b>TPU24R-x33SW</b><br/><b>2MP 33X Dark Hunter IR PTZ</b><ul style="list-style-type: none"><li>- 33X Optical Zoom</li><li>- Smart IR,, up to 150m(492ft) IR distance</li><li>- Water and dust repellent</li><li>- IR anti-reflection window</li><li>- Optical defog supported</li><li>- ONVIF conformance</li><li>- Wide input voltage range of ±25%</li><li>- 6 KV surge protection</li><li>- Intelligent temperature control</li><li>- IP66</li></ul></li></ul> |  |

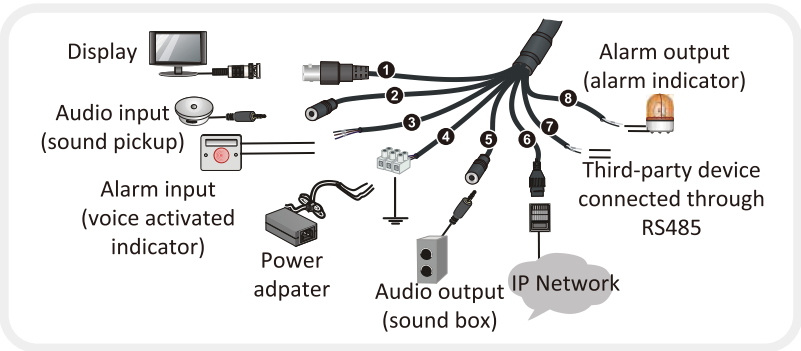
| Model  | Dimensions   |
|--|--|
| <ul style="list-style-type: none"><li>• <b>TPS94R-x22</b><br/><b>4K Ultra-HD Network IR PTZ</b><ul style="list-style-type: none"><li>- 22X Optical Zoom</li><li>- Fourth-generation infrared technology, more than 150m (492ft) IR distance</li><li>- Water and dust repellent</li><li>- IR anti-reflection window</li><li>- Optical defog supported</li><li>- ONVIF conformance</li><li>- Wide input voltage range of ±25%</li><li>- 6 KV surge protection</li><li>- Intelligent temperature control</li><li>- IP66</li></ul></li></ul> |   |
| <ul style="list-style-type: none"><li>• <b>TPL24Z-x33</b><br/><b>1080P Laser VF Network IR PTZ</b><ul style="list-style-type: none"><li>- 33X Optical Zoom</li><li>- Smart IR,, up to 500m(1640ft) IR distance</li><li>- Water and dust repellent</li><li>- IR anti-reflection window</li><li>- Optical defog supported</li><li>- ONVIF conformance</li><li>- Wide input voltage range of ±25%</li><li>- 6 KV surge protection</li><li>- Intelligent temperature control</li><li>- IP66</li></ul></li></ul>                              |  |



**NOTE!**  
For the detailed information about the specifications, see the datasheet.

1.2. Cable Connection

All cables are tagged to indicate their functions separately. The cables available may vary with the product model. The following takes full cable as an example.



| No. | Interface                 | Function   |
|-----|---------------------------|--|
| 1   | Video out                 | Video output interface. Output video signals and connect to analog devices such as monitors for video display.   |
| 2   | Audio in                  | Audio input interface. Input audio signals or performs intercom. <div><b>NOTE!</b><br/>Audio input and intercom cannot be used at the same time with this interface.</div> |
| 3   | Alarm in                  | Alarm input interface. Input alarm signals.  |
| 4   | Power interface           | Connect to the power adaptor.  |
| 5   | Audio out                 | Audio output interface. Output audio signals.  |
| 6   | Ethernet copper interface | 10M/100M Base-TX adaptive Ethernet copper interface. Connect to the copper network.  |
| 7   | RS485                     | Serial port. Interact and control an external device. For example, it can control a third-party device.  |
| 8   | Alarm out                 | Alarm output interface. Output alarm signals.  |

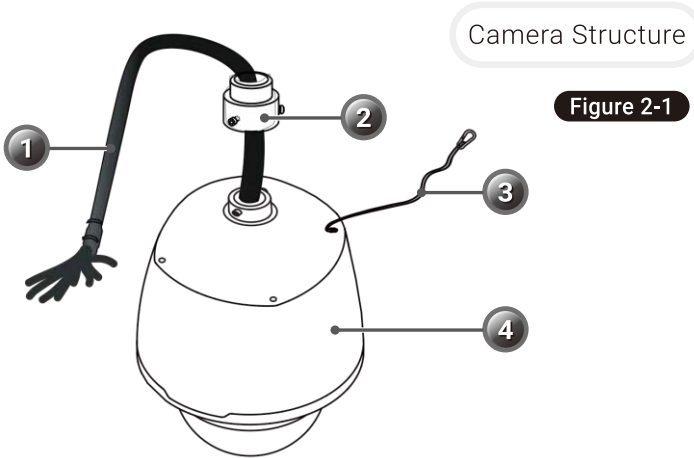
**NOTE!**  
Please disconnect the power before mounting.

2. Mounting Your Camera

The following figures are for your reference only. See the actual product to mount your camera. Mounting processes for dome cameras are similar, differences will be described separately if there is any.

2.1. Check Before Mount

- 1
- Check camera components**  
Before mounting your camera, check the device model, accessory types and quantities against the packing list to ensure components are complete.



| Parts         |                    |                |         |
|---------------|--------------------|----------------|---------|
| 1: Tail cable | 2: Bracket adapter | 3: Safety wire | 4: Dome |

- 2
- Verify the bearing capacity of the mounted position**  
Verify that the mounted position meets the bearing requirements. Otherwise, you are advised to reinforce the mounted position for the device weight. For more information, see the product datasheet.

### 3 Verify the lightning protection and grounding requirements

2.1.3.1. Select proper lightning protection devices for the power supply, audio and video signals interfaces, and RS485 interfaces.

2.1.3.2. See Table 2-2 to ground the terminal properly.

## 2.2. Cable Requirements

### 1 Network cable

10/100 Mbps Ethernet CAT 5/5E UTP cables are applicable to the ANSI/EIA/TIA-568A/B and ISO/D.

Eight wires in the network cable need to be inserted in parallel into the top of the cable connector. The cable connector needs to be crimped in position. When the cable connector is in position, ensure that the metal pieces of the cable connector are parallel to each other and the clamp of the cable connector is intact.

### 2 Power cable

2.2.2.1. Power Loss on the Cable for Different Lengths and Different Core Diameters

Table 2-1

| Core Diameter (unit: mm) | 0.80 | 1.00 | 1.25 | 2.00 |
|--------------------------|------|------|------|------|
| Distance (unit: m)       |      |      |      |      |
| Power (unit: W)          |      |      |      |      |
| 30                       | 28   | 45   | 72   | 183  |
| 40                       | 21   | 34   | 54   | 137  |
| 50                       | 17   | 27   | 43   | 110  |
| 60                       | -    | 22   | 36   | 91   |
| 70                       | -    | 19   | 31   | 78   |
| 80                       | -    | -    | 27   | 68   |
| 90                       | -    | -    | 24   | 61   |
| 100                      | -    | -    | 21   | 55   |



#### NOTE!

Data listed in Table 2-1 is applicable to copper cables that use 24 VAC/24 VDC power supply. The item Core Diameter indicates the conductor diameter.

### 2.2.2.2. Phoenix Connector Description

Table 2-2

| Power Supply   | Cable Color  |
|--|--|
| <ul style="list-style-type: none"> <li>• TPN24R-x30</li> <li>• TPU24R-x33SW</li> <li>• TPS94R-x22</li> <li>• TPL24Z-x33</li> </ul> : 24VAC 3A / 24VDC 2.5A | The anode and the cathode are not distinguished for phoenix connectors of red and black cables.<br><br>GND: yellow-green color.<br><br><b>NOTE!</b><br>GND is used to ground the camera. Ensure that GND is connected to a reliable grounding point. |

## 2.3. Process Map

### 1 Make sure the camera is disconnected from power during installation.

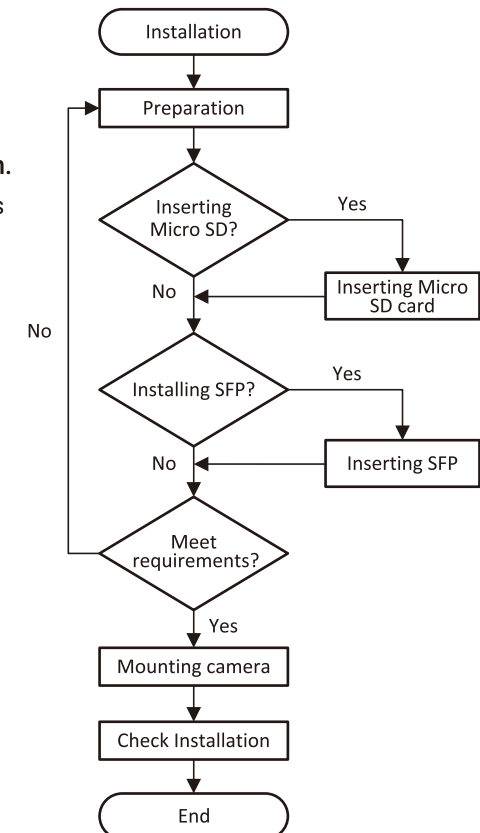
The following figure shows the mounting process.



#### NOTE!

Accessories such as the wall mount bracket and the pendant mount bracket may be necessary during mounting. For their model, refer to the accessory list recommended by your dealer.

The wall bearing capacity and the bracket length must satisfy onsite mounting requirements. You need to select a mount mode according to the actual situations.



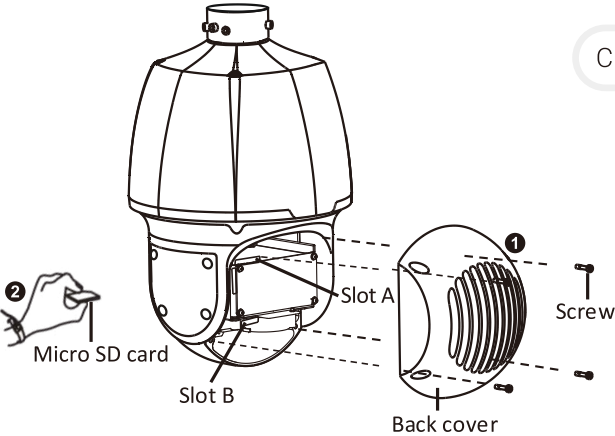


2.4. Insert the Micro SD Card (Optional)

To use the local storage function, you need to install a Micro SD card. The Micro SD card is installed inside the camera. Hot-plugging is not recommended after the Micro SD card is inserted.

1 Insert the Micro SD Card

Unscrew the four cross-recessed screws to remove the back cover. Insert the Micro SD card, and then mount the back cover. Properly mount the waterproof ring in position.



Camera Back

Figure 2-2

| Model          | Micro SD Card Slot Description |
|----------------|--------------------------------|
| • TPN24R-x30   | Slot A                         |
| • TPU24R-x33SW | Slot A                         |
| • TPS94R-x22   | Slot B                         |
| • TPL24Z-x33   | Slot A                         |



NOTE!

Format the Micro SD card before using it. You can do the format job in the software interface.  
For recommended Micro SD card specifications, contact your dealer.  
The following figures are for your reference only. The Micro SD slot may vary with your camera.

2.5. Mount the Camera (Wall Mount)

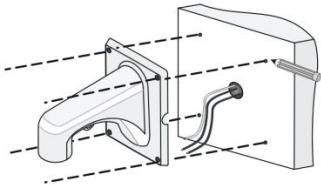
When mounting the camera, please install the bracket adapter to the bracket first and then mount the camera to the bracket.

Tighten all the screws to hold the dome securely.

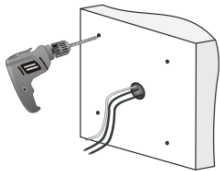
For waterproofing, apply sealant between the dome and the bracket, wall veneer slits, and leading-out holes of the wall.

The following section describes concealed installation. To implement open installation, directly lead the cable out from the cable slot at the flank of the bracket.

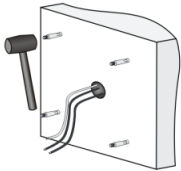
1 Position the drill holes and mark according to the bracket, and then lead the cables out of the wall.



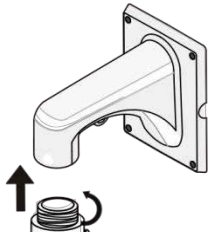
2 Drill holes on the wall. Use a drill bit that matches the diameter of plastic anchor, and refer to bolt length for hole depth.



3 Knock in the expansion bolts and ensure that they are locked into place.



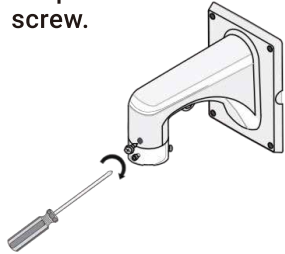
4 Turn the bracket adapter (G1 ½ male thread) in.



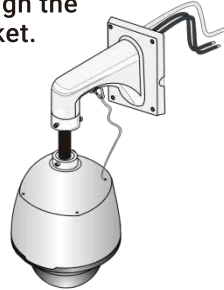
Bracket adapter



- 5** Secure the bracket adapter with a screw.

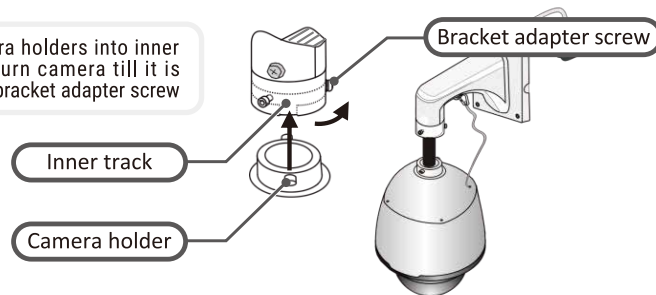


- 6** Attach the safety wire to the bracket and the dome. And lead the tail cable through the bracket.

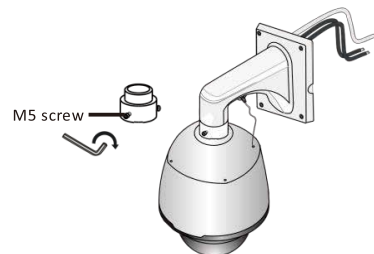


- 7** Attach the dome to the bracket adapter.

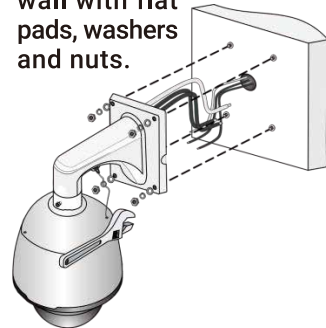
Slide camera holders into inner track and turn camera till it is blocked by bracket adapter screw



- 8** Secure the dome with two M5 screws.



- 9** Connect the cables and attach the bracket to the wall with flat pads, washers and nuts.



## 2.6. Mount the Camera (Pendant Mount)

The pendant mount bracket is for indoor installation only. For specially required outdoor installation, please make sure all waterproof requirements are met. We will not assume any responsibility for damage or loss incurred otherwise.

Any custom made pendant must conform to the waterproof requirements.

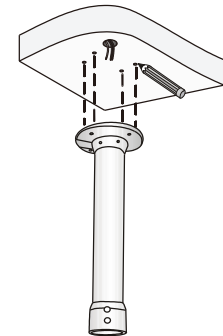
Tail cables should be protected by waterproof measurements and not be exposed. The whole wiring area of tail cables should be well waterproofed. Seal the connector of the dome camera and the pendant for waterproofing. Ensure that the sun shield on the tail cable unit is mounted in position.

When mounting the camera, please first install the bracket adapter to the bracket and then mount the tail cable unit to the adapter.

- 1** Locate the positions of the holes.

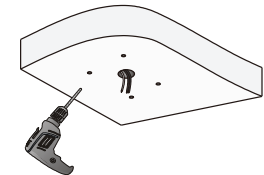
2.6.1.1. Mark the positions of the holes by referring to the mountpoints of the bracket.

2.6.1.2. Lead the cable through the hole on the wall.

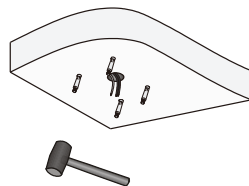


- 2** Select a drill bit matching the outer diameter of the expansion bolt.

For the hole depth, refer to the bolt length.



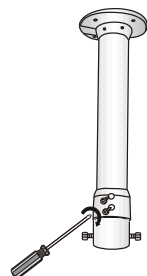
- 3** Knock in the expansion bolts, and verify that they are tightened up.



- 4** Screw-in the bracket adapter (G1 ½ male thread) to the connector of the pendant mount bracket.



- 5** Tighten the screws (M4) at the bracket.



- 6** Mount the dome and connect all the tail cables. (see step 6, 7, 8 in Wall Mount)

## 2.7. Start the Camera

After you have mounted the camera properly, connect the camera to power.

Each time the camera is powered on, it will perform a self-test to check the Pan / Tilt / Zoom (PTZ function). After self-test, you can operate the camera.



### NOTE!

The self-test process starts after the camera is powered up. Please wait patiently.

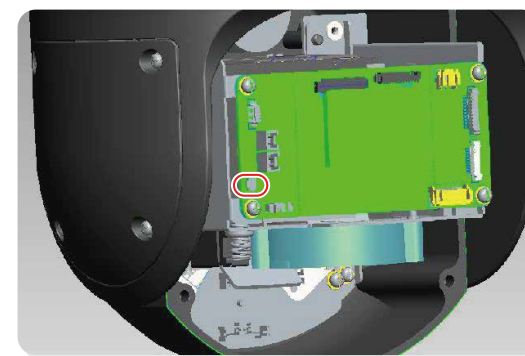
When the operation temperature is lower than zero degree celsius, the camera will be automatically pre-heated (the pre-heat process takes 30 minutes at most). The self-test starts only after the temperature rises above zero degree celsius.

## 2.8. Reset the Camera to Default Settings

Remove the back cover first. For the camera structure, see **Figure 2-2**.

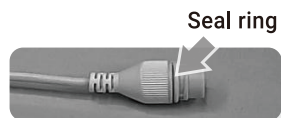
Press and hold the RST button (as shown in the figure below) for about 15 seconds to restore factory default settings.

The RST button only works within ten minutes after the camera is powered on. The camera is restored to the default settings after the startup.



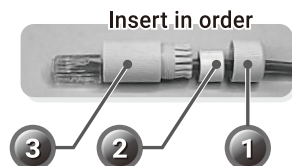
## 2.9. Waterproof Components for an RJ45 Plug

- 1 Attach the seal ring to the copper interface.

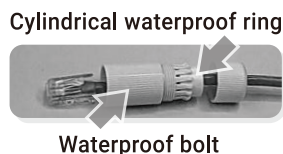


- 2 Mount the waterproof components.

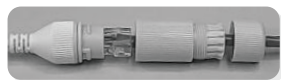
You can crimp the inner wires of the cable with the RJ45 plug first and then cover the waterproof components. You may also cover the waterproof components first.



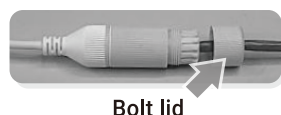
- 3 Insert the cylindrical waterproof ring into bolt.



- 4 Insert the cable into the Ethernet copper interface and screw the waterproof bolt in.



- 5 Screw in the waterproof bolt lid.



- 6 Finish the waterproof installation.



## 2.10. Waterproof Tail Cable

Connect the tail cables and then take the following steps to protect the tail cables from water using waterproof tapes. The figures are for your reference only.

- 1 Connect the tail cables, and protect the cables and cable connections using insulating tapes. Then wrap all the tail cables together using insulating tapes.



- 2 Choose a start point for waterproof tapes and protect the tail cables using waterproof tapes.



### CAUTION!

Avoid short circuit when insulating the cables.


Use self adhesive waterproof tapes that will stick together with the twisted cables.

Tighten waterproof tapes when wrapping the cables and make sure the cable connections are fully covered.

You are recommended to put the waterproof cables in a waterproof junction box which needs to be purchased separately.

3. Set Your Camera over the LAN

To view and configure your camera via the LAN (Local Area Network), you need to install the ALPHA 300 Station to find your camera and change its IP address.



**NOTE!**

Please contact your dealer to get the **ALPHA 300 Station**.

Please refer to the user manual of **ALPHA 300 Station** for detailed information.


3.1. Connect PC and IP Camera to network.

- 1
- Connect your camera and your PC as shown in the figure below to ensure the routing is available.



- 2
- Use ALPHA 300 Station to search online cameras automatically.

- 3
- Modify your camera settings if necessary, including its IP address and subnet mask.



**NOTE!**



The default username is '**root**' and the default password is '**admin**'.

To access your camera from a different subnet, set the gateway for your camera after you log in.

4. Access Your Camera

4.1. System Requirements for Your PC

Dimensions of network dome cameras are as follows.  
For the actual appearance, see the product.

| Item             | Requirements  |
|------------------|---|
| Operating system | Microsoft Windows 8 / Windows 7 / Windows XP(32-bit or 64-bit).<br>Microsoft Windows 7(32-bit) is recommended.  |
| CPU              | 2.0 GHz or higher, dual-core.<br>Intel i3 CPU or higher are recommended.  |
| Memory           | At least 1 GB. 2 GB(or higher) is recommended.  |
| Graphic card     | At least 128MB display memory.<br>Mainstream discrete graphics with more than 1GB display memory are recommended.<br>The hardware should support DirectX9.0c. <div><b>NOTE!</b><br/>Make sure that the latest driver is installed on graphic card.</div> |
| Sound card       | Required. <div><b>NOTE!</b><br/>Two-way audio and voice broadcast require the latest driver on sound card.</div>   |
| Network card     | Gigabit Ethernet network cards(or higher) are recommended.  |

## 4.2. Access Through Web

Before you begin, check that:

- Your camera is operating properly and connected to the network.
- The PC you are using is installed with Internet Explorer 7.0 or later. IE 8.0 is recommended.

Follow the steps below to access your camera through the Web interface:

- 1 Enter the username (default is 'root') and password (default is 'admin') and then click **Login**.



### NOTE!

Install the ActiveX at your first login. For the detailed steps, see **Install the ActiveX**. When the installation of the ActiveX is completed, open your IE to log in.

## 4.3. Install the ActiveX

The following takes the IE browser as an example to describe the installation steps.

- 1 Click **Download**.

 Failed to load ActiveX control, click **Download** to install latest ActiveX control.

- 2 Click **Run** to install the downloaded ActiveX. You may also click **Save** to download the file to your computer first.

- 3 Close the browser and follow the steps to complete the installation.



### NOTE!

For your first login with Windows 7, if the system does not prompt you to install ActiveX, follow these steps to turn off UAC: click the **Start** button, and then click **Control Panel**.

In the search box, type **uac**, and then click **Change User Account Control Settings**. Move the slider to the **Never Notify** position, and then click **OK**. After UAC is turned off, log in again.

If the installation failed, open Internet Option in IE before login. Click the **Security** tab, click **Trusted sites**, and then click **Sites** to add the website. If you use Windows 7, you need to save the setup.exe to your PC first, and then right-click the file, select **Run as administrator**, and then install it according to instructions.

#### 4.4. Adjust the Display

Enter the live view page, and then click the Zoom and Focus buttons to get clear image.