

# **HDCVI Camera User's Manual**

**Version 1.0.1**

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# Welcome

Thank you for purchasing our HDCVI camera!

This user's manual is designed to be a reference tool for your system.

Please read the following safeguard and warnings carefully before you use this series product!

Please keep this user's manual well for future reference!

## Important Safeguards and Warnings

### 1 . Electrical safety

- All installation and operation here should conform to your local electrical safety codes.
- The power shall conform to the requirement in the SELV (Safety Extra Low Voltage) and the Limited power source is rated DC 12V or AC24V in the IEC60950-1. (Power supply requirement is subject to the device label).
- Please install easy-to-use device for power off before installing wiring, which is for emergent power off when necessary.
- Please check if the power supply meets the requirements of working voltage of the camera before operating the device (The material and length of the power supply cable will influence terminal voltage value).
- Please prevent the line cord from being trampled or pressed, especially the plug, power socket and the junction from the device.

### 2 . Environment

- Please don't aim the device at strong light (such as lighting, sunlight and so on) to focus.
- Please transport, use and store the device within the range of allowed humidity and temperature.
- Please do not allow water and other liquid falling into the camera in case that the internal components are damaged.
- Please keep the sound ventilation in case of heat accumulation.
- Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.
- Please pack the device with standard factory packaging or material with same quality when transporting the device.
- It is recommended to use the device together with lightning protection device to enhance lightning protection effect.
- It is recommended to GND the device to enhance device reliability.
- It is advised to use qualified video transmission cable to improve video quality. It is recommended to use 75-3 coaxial cable or higher standard.

### Warning

- Please use the standard accessories provided by manufacturer and make sure the device is installed and fixed by professional engineers.
- Please prevent the device surface from the radiation of laser beam when using laser beam device.

- Please do not provide two or more power supply modes for the device, otherwise it may cause damage to the device.

## **Statement**

- Please refer to the actual product for more details; the manual is just for reference.
- The manual will be regularly upgraded according to the product update; the upgraded content will be added in the manual without prior announcement.
- Please contact the customer service for the latest procedure and supplementary documentation.
- The company is not liable for any loss caused by the operation which is not followed by the manual.
- Please refer to the company's final explanation if there is any doubt or dispute.

# 1 General Introduction

## 1.1 Overview

This series HDCVI camera conforms to the HDCVI standard. It supports video signal high-speed long distance transmission without any delay. It can be controlled by the HCVR conforming to the HDCVI.

## 1.2 Features

- Adopt high performance CMOS image sensor, megapixel definition.
- For 720P series, it supports RG59 coaxial cable transmission without any loss. The distance is over 800m. For 1080P, 4M and 4K series, it supports RG59 coaxial cable transmission without any loss. The distance is over 500m.
- High speed, long distance real-time transmission.
- Support HDCVI HD video and CVBS analog SD video output.
- Support 3D noise reduction (some models support 2D noise reduction), excellent low illuminance performance.
- Support ICR switch to realize surveillance both in the daytime and at night.
- Support OSD menu adjustment parameters.
- Support smart IR function.
- Support WDR/DWDR function.
- Support DC 12V power supply (Some models support DC 12V/AC 24V).
- Support power reverse output, output DC 12V power (Only supported by some models).
- Support IP67 compliance.
- Support IK10 compliance.
- It can be applied to environments which requires HD image and vandal proof performance, such as banking, supermarket, telecom, government, school, airport, factory, hotel, museum and etc.

## 2 Device Framework

### Note:

It fails to support OSD menu operation when it outputs SD video for model B and C; it realizes zoom and focus operation via UTC when it outputs SD video for model A and D.

See Figure 2-1 for the dimension of **model A**. The unit is mm.

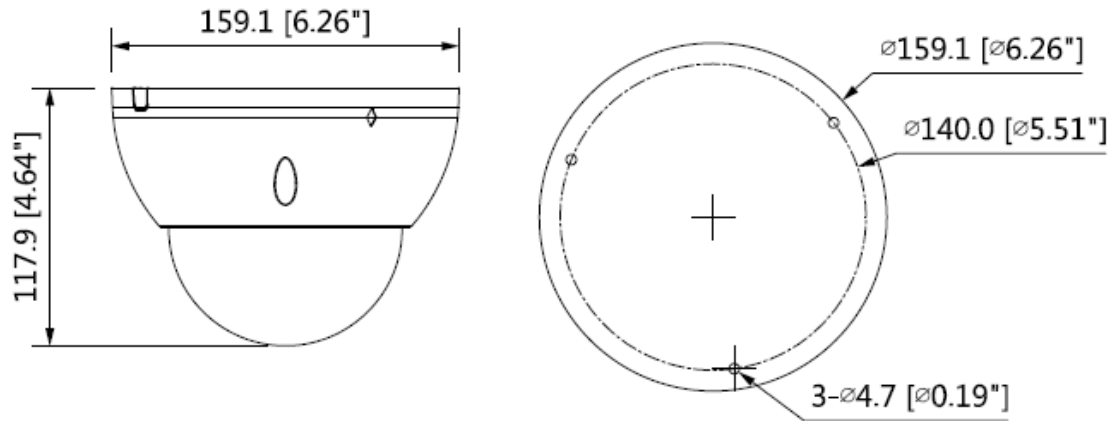


Figure 2-1

See Figure 2-2 for the dimension of **model B**. The unit is mm.

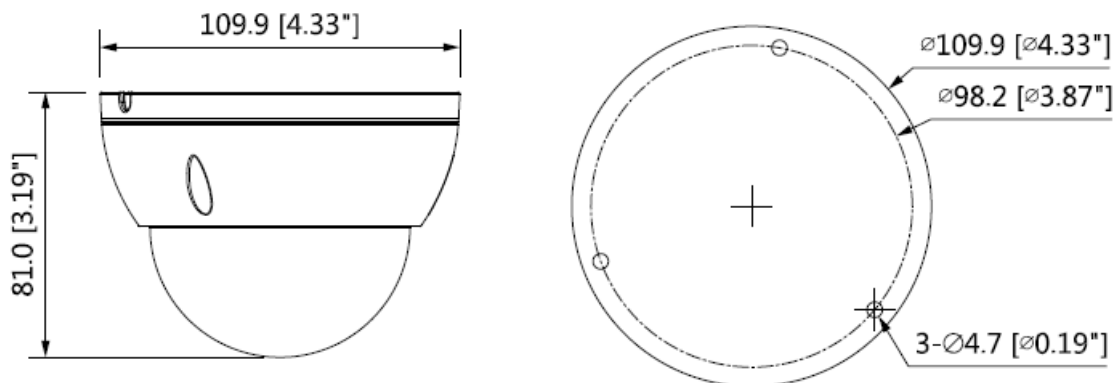


Figure 2-2

See Figure 2-3 for the dimension of **model C**. The unit is mm.

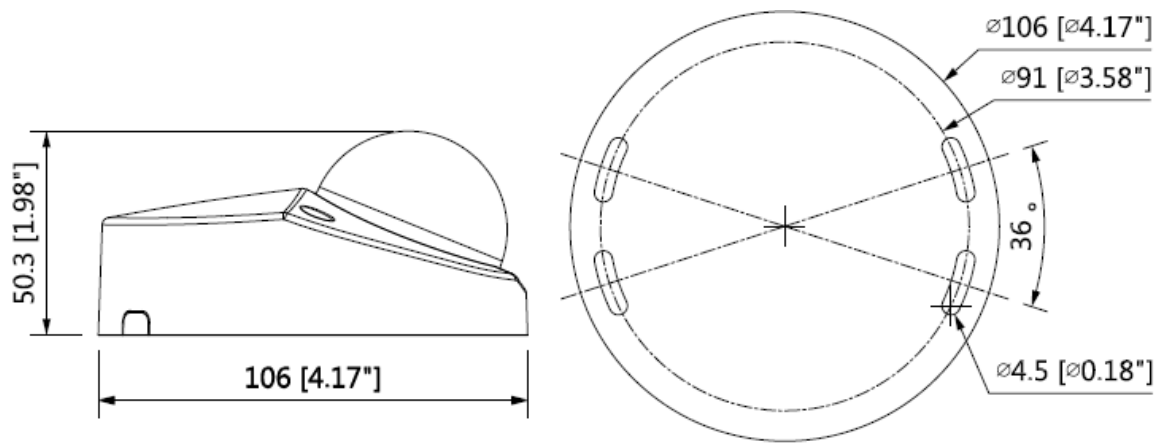


Figure 2-3

See Figure 2-4 for the dimension of **model D**. The unit is mm.

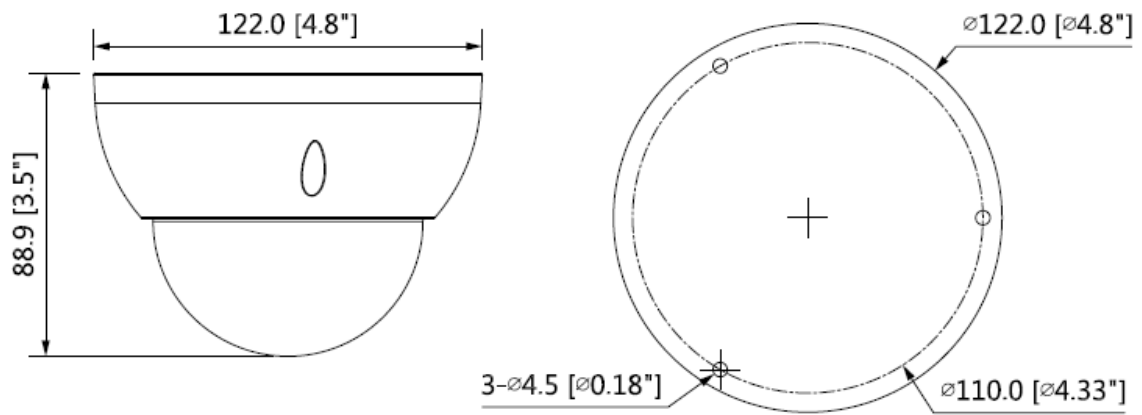


Figure 2-4

### 3 Device Cable Structure

Refer to Figure 3-1 for DC 12V power input port.

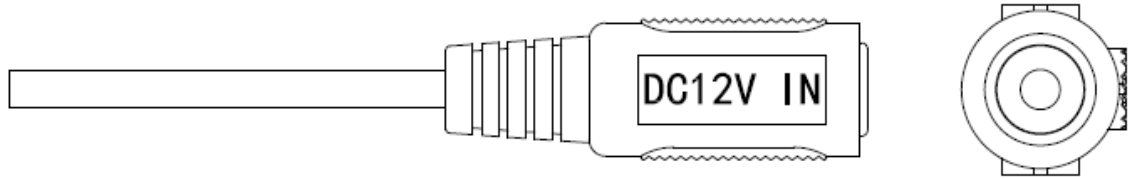


Figure 3-1

Refer to Figure 3-2 for DC 12V/AC 24V power input port.

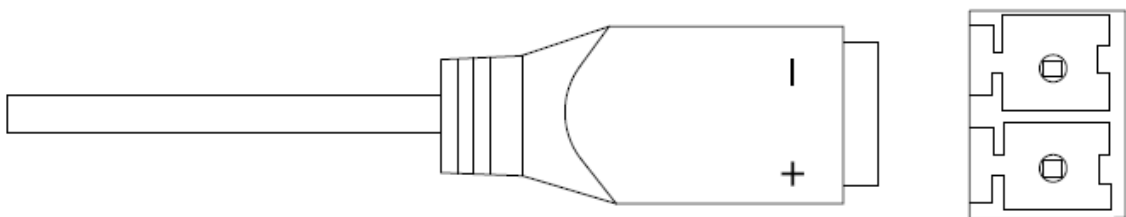


Figure 3-2

Please refer to Figure 3-3 for power reverse port.

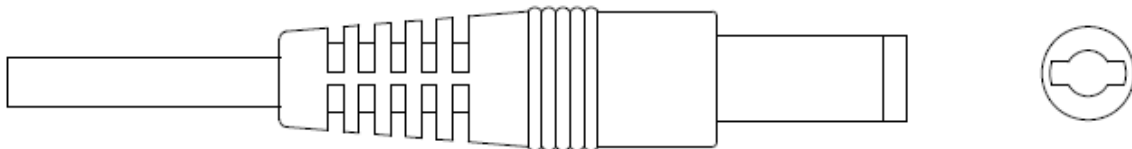


Figure 3-3

Refer to Figure 3-4 for video output port.

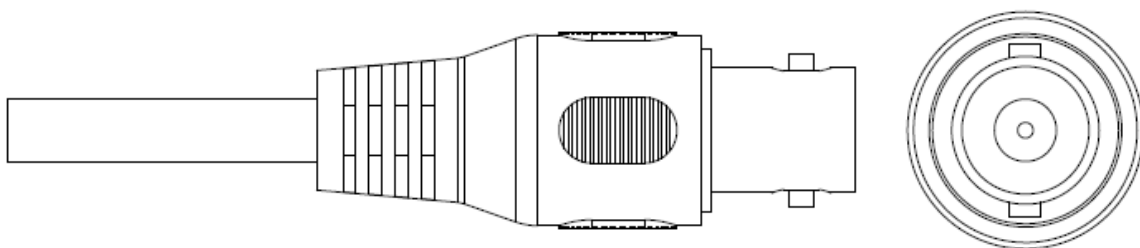


Figure 3-4

#### Note:

- Video output port (yellow): analog video output port.
- Video output port (black): HDCVI HD video output port.  
Some models only have one black video output port, HD/SD output can be switched via PFM820 (UTC Controller) or OSD menu → Advanced → Video Output.



- Video output port (gray): HDCVI video output port, support POC power supply, it can realize HD/SD switch output via OSD menu and UTC controller.
- Video output port (red): SDI video output port.

Refer to Figure 3-5 for mobile video output port and cable sequence.

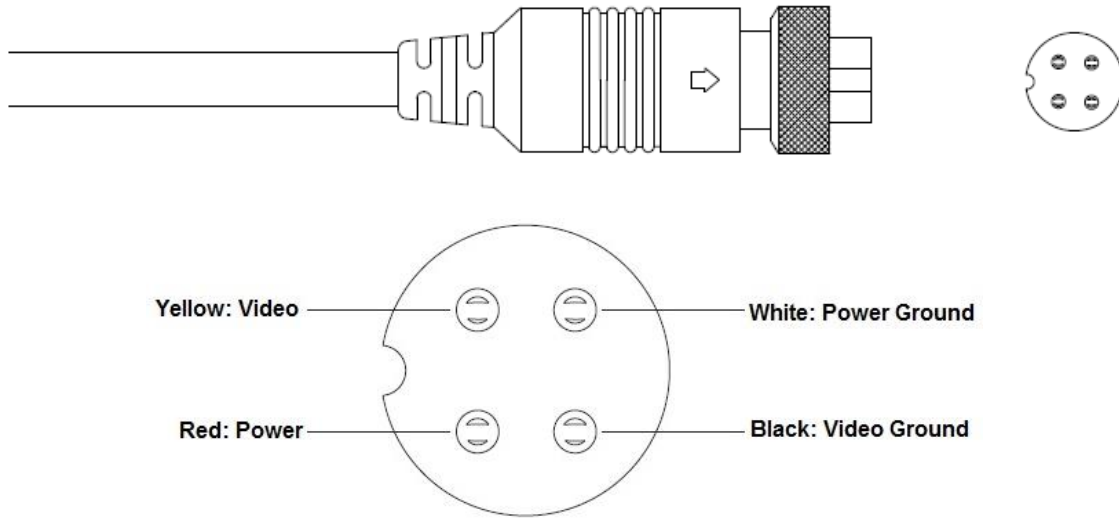


Figure 3-5

Refer to Figure 3-6 for audio input port.

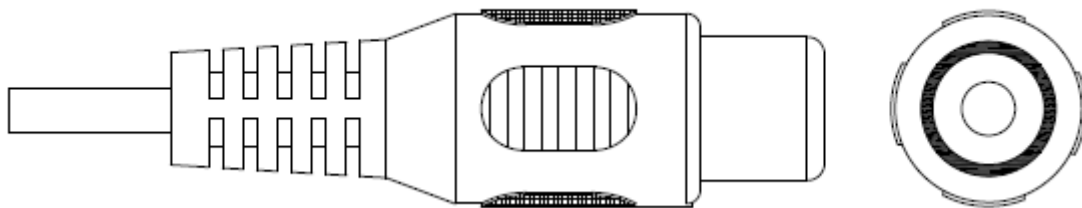


Figure 3-6

Refer to Figure 3-7 for alarm function port.

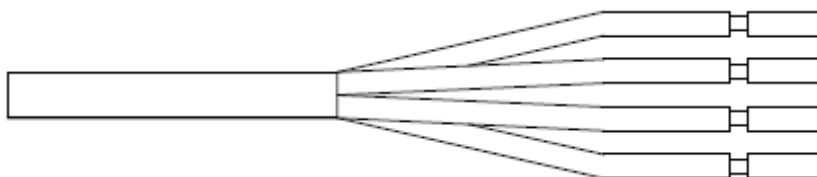


Figure 3-7

Please refer to Table 3-1 for description of alarm cable.

Color	Port	Function
Red	ALARM_IN	Alarm input port, it is to receive the signal of external alarm.
Black	ALARM_GND	Alarm GND

Orange	ALARM_NC	Alarm output common contact, on-off value alarm output.
Green	ALARM_NO	Alarm output normally open contact, on-off value alarm output.

Table 3-1

## 4 Device Installation

Dome camera mainly uses ceiling installation; installation surface includes ceiling and wall.

### Attention:

- Please install the device in time after it is taken apart, which is to avoid the camera module being exposed to damp environment for too long.
- Before the installation, please make sure the installation surface is thick enough to sustain at least 3X weight of the camera.
- For the installation mode of side outlet, make sure the direction of side outlet is in accordance with that of the installation position map when sticking the installation position map. Besides, pull the cable through the pedestal cable slot before locking the screw.
- Please don't tear off the electrostatic adsorption film on the surface of transparent cover before installation debugging is completed, which is to avoid damage during installation.
- The installation figures below are for reference only, please refer to the actual model for more details.

### 4.1 Installation for Model A, B and D

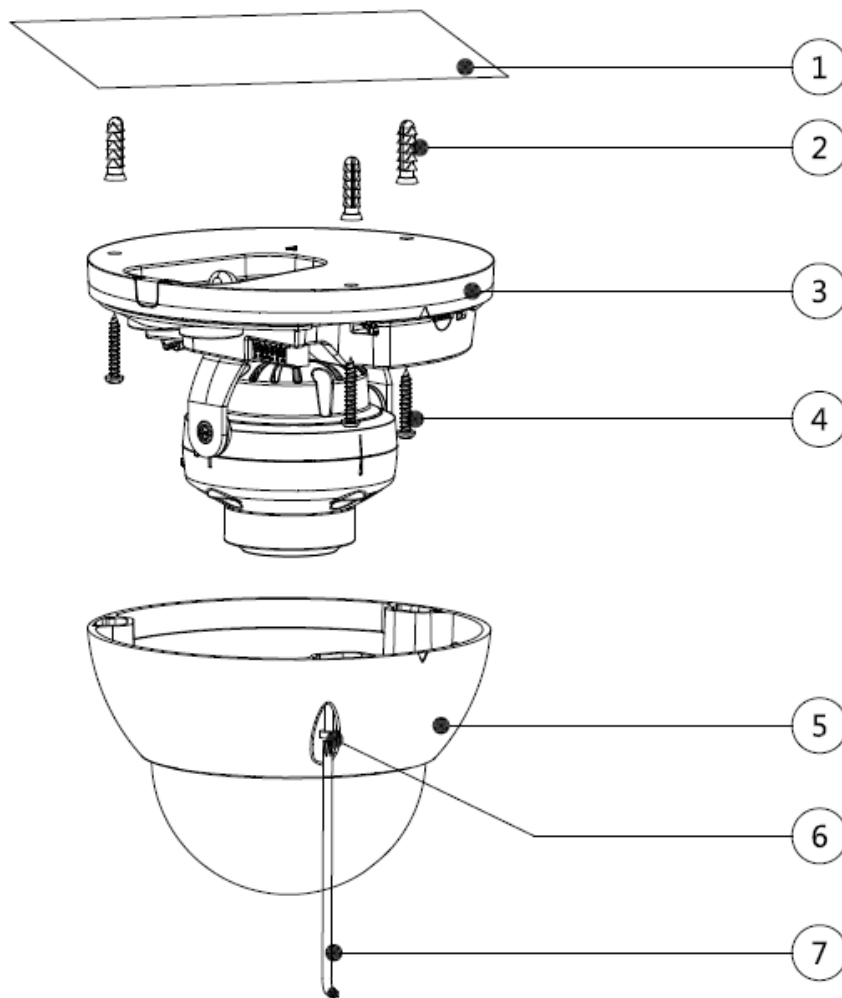


Figure 4-1

### Step 1

Take out the installation position map from the accessories bag, and paste it on the ceiling or wall ① according to the cable outlet location, dig holes on the installation surface according to the installation position map, take out the expansion bolts ② from the accessories bag and insert them into the installation holes and fix them.

### Step 2

Use inner hex wrench ⑦ to loosen three locking screws ⑥ in the enclosure and take down the enclosure ⑤.

### Step 3

Adjust the location of the dome pedestal ③ according to the top cable outlet or side cable outlet. Pull the cable out through the side outlet of installation surface and pedestal (please skip the step if it is top cable outlet), aim the screw fixing holes of dome pedestal to the fixing holes of expansion bolts on the installation surface, then insert the self-tapping screws ④ into the expansion bolts and secure them firmly, fix the dome on the installation surface.

### Step 4

Connect the video output port of the device to the back-end encoding device and connect the power port to power.

### Step 5

Adjust the lens angle to proper monitoring location after the image displays on the back-end encoding device, and then adjust focal length of the lens to make image clear, which is shown in Figure 4-2.

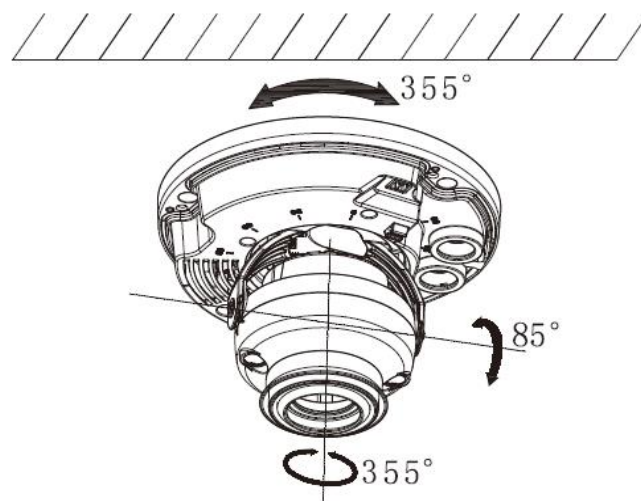


Figure 4-2

It can realize coaxial control via five-direction button for model A, which is shown in Figure 4-3.

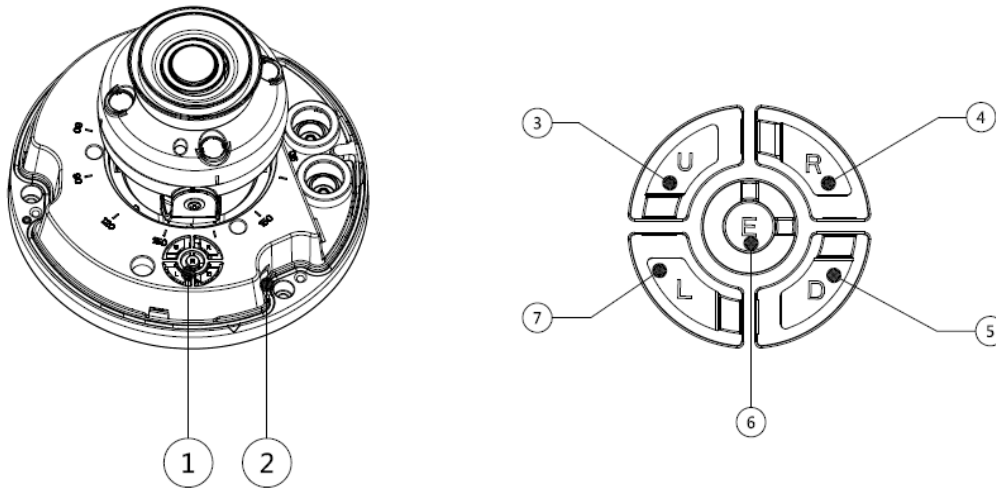


Figure 4-3

Please refer to Table 4-1 for more details for five-direction description.

Name	Function
Up	<ul style="list-style-type: none"> <li>● It is to select OSD menu option in OSD menu.</li> <li>● Short press to focus and long press to zoom when exiting OSD menu.</li> <li>Long press right button to zoom in, long press left button to zoom out.</li> </ul>
Down	
Left	
Right	
Middle	Confirm button

Table 4-1

- Long press the middle button for 5 seconds to realize HD/SD switch. Dual output and trip output can't be switched via button.
- Press middle button for 2 seconds and release the button to enter OSD menu, short press the middle button to confirm after entering menu, up and down buttons are used to select menu options, left and right buttons are used to adjust parameter value.
- Select "Exit" and short press the middle button to exit OSD menu.

**Note**

Left and right buttons fail to realize focus and zoom functions when operating OSD menu via five-direction buttons; you need to operate after exiting OSD menu.

**Step 6**

Use three fixing screws in the enclosure to fix the dome enclosure on the dome pedestal. So far, the device installation and cable connection have been completed, you can check the monitoring image via back-end encoding device.

**4.2 Installation for Model C**

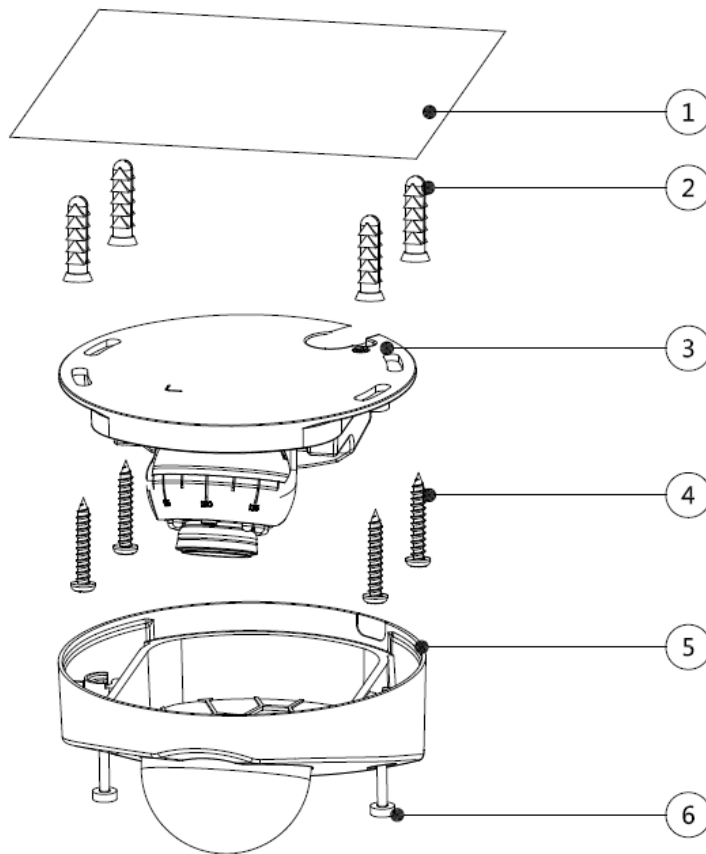


Figure 4-4

**Step 1**

Take out the installation position map from the accessories bag, and paste it on the ceiling or wall ① according to the cable outlet location, dig holes on the installation surface according to the installation position map, take out the expansion bolts ② from the accessories bag and insert them into the installation holes and fix them.

**Step 2**

Unfasten fixing screws ⑥ on the enclosure and take down the dome enclosure ⑤.

**Step 3**

Adjust the location of the dome pedestal ③ according to the top cable outlet or side cable outlet. Pull the cable out through the side outlet of installation surface and pedestal (please skip the step if it is top cable outlet), aim the screw fixing holes of dome pedestal to the fixing holes of expansion boles on the installation surface, then insert the self-tapping screws ④ into the expansion bolts and secure them firmly, fix the dome on the installation surface.

**Step 4**

Connect the video output port of the device to the back-end encoding device and connect the power port to power.

**Step 5**

Adjust the lens angle to proper monitoring location after the image displays on the back-end encoding device, and then adjust focal length of the lens to make image clear, which is shown in Figure 4-5.

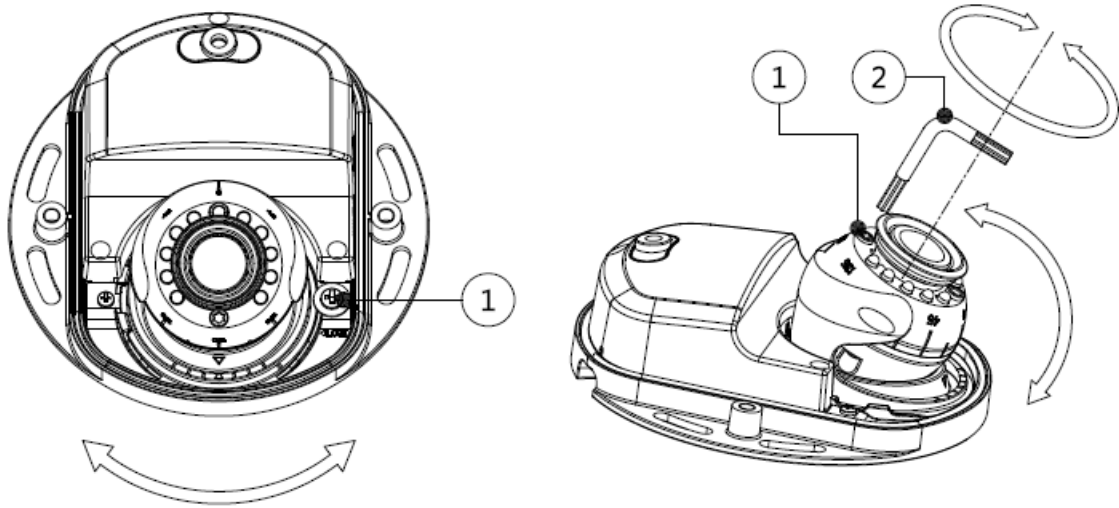


Figure 4-5

**Step 6**

Use fixing screws to fix the dome enclosure on the dome pedestal.

So far, the device installation and cable connection have been completed, you can check the monitoring image via back-end encoding device.

## 5 Menu

### 5.1 HCVR Settings

This HDCVI camera series can adjust OSD menu via coaxial control. After connected the camera to the HDCVI series HCVR, from Main Menu->Setting->System->PTZ, you need to select the channel number for access and set control mode as HDCVI and the protocol as HD-CVI. Click “Save” button to save current setup. See Figure 5-1.



Figure 5-1

### 5.2 Menu Operation

Click the right mouse button and select “PTZ Control”, then you will see the “PTZ Setup” menu, which is as shown in Figure 5-2 and Figure 5-3.



Figure 5-2





Figure 5-3

See Table 5-1 for the details of button functions.












Button	Function	
 + 	Open menu	
 , 	Select menu item	
 , 	Select menu value	
 Zoom 	Adjust lens zoom and auto trigger focus	<b>Note:</b> Some of the buttons can only be applied for the motorized vari-focal camera.
 Focus 	Adjust lens focus	
 Iris	Auto focus under current zoom rate	

Table 5-1

If there is “↵”, click the “Confirm” button in “Menu Operation” interface to go to the 2nd menu. Click “Return” button to go back to the previous menu interface.

# Appendix I Maintenance

## Attention

Please maintain the device according to the following instructions in order to ensure the image effect and long-term stable operation of the device.

## Maintenance for lens and mirror surface

The lens and mirror surface are covered with antireflection coating, so it may produce hazardous substance and lead to performance reduction or scratch, dimness etc. Please don't touch sensor CCD (or CMOS) directly, you can use hair dryer to remove dust or dirt on the lens surface. Please use dry cloth slightly soaked with alcohol to get rid of dust and dirt gently if it is necessary to be cleaned.

## Camera Body Maintenance

Use a soft dry cloth to clean the camera body when it is dirty, in case the dirt is hard to remove, use a clean dry cloth soaked with mild detergent and wipe gently, make it dry later. Don't use volatile solvent like alcohol, benzene, thinner and etc. or strong detergent with abrasiveness, otherwise it will damage the surface coating or reduce the working performance of the device.

## Maintenance for Dome Cover

Dome cover is an optical device, please don't touch or wipe cover surface directly during installation and use, please refer to the following methods to deal with once dirt is found:

Stained with dirt

Use oil-free soft brush or hair dries to remove it gently.

Stained with grease or fingerprint

Use soft cloth to wipe the water drop or oil gently to make it dry, then use oil-free cotton cloth or paper soaked with alcohol or detergent to wipe from the lens center to outward. It is ok to change the cloth and wipe several times if it is not clean enough.

## 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 mentioned 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.**