



Dahua HD IR Vari-focal Dome Network Camera

Quick Start Guide

Version 1.0.1

Zhejiang Dahua Vision Technology CO., LTD



Welcome

Thank you for purchasing our network cameras.

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

Please read the following safeguards and warnings carefully before you use this series product.

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

Important Safeguards and Warnings

Electrical safety

- All installation and operation should conform to your local electrical safety codes.
- The power source shall conform to the requirement of the Safety Extra Low Voltage (SELV) standard, and supply power with rated voltage which conforms to Limited power Source requirement according IEC60950-1. Please note that the power supply requirement is subject to the device label.
- Make sure the power supply is correct before operating the device.
- A readily accessible disconnect device shall be incorporated in the building installation wiring
- Prevent the power cable from being trampled or pressed, especially the plug, power socket and the junction extruded from the device.
- We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

Environment

- Do not aim the device at strong light to focus, such as lamp light and sun light, otherwise it might cause over brightness or light marks, which are not the device malfunction, and affect the longevity of Charge Coupled Device (CCD) or Complementary Metal-Oxide Semiconductor (CMOS).
- Do not place the device in a damp or dusty environment, extremely hot or cold temperatures, or the locations with strong electromagnetic radiation or unstable lighting.
- Keep the camera away from water or other liquid to avoid damages to the internal components.
- Keep the indoor device away from rain or damp to avoid fire or lightning.
- Keep sound ventilation to avoid heat accumulation.
- Transport, use and store the device within the range of allowed humidity and temperature.
- Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.
- Pack the device with standard factory packaging or the equivalent material when transporting the device.
- The device needs to be installed in the location where professional staff can cover (professionals need to know the attentions of using the device), non-professionals are not allowed to enter device installation area when the device is operating normally, which may cause accidental damage.

Operation and Daily Maintenance



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- Do not directly touch the heat dissipation component of the device to avoid scald.
- Do not dismantle the device because there is no component that can be fixed by users themselves. Otherwise, it might cause water leakage or bad image due to unprofessional dismantling.
- Please contact after-sale service to replace desiccant when it becomes green. (The desiccant is not provided by default)
- It is recommended to use the device together with lightning arrester to improve lightning protection effect.
- It is recommended to get the grounding holes to be grounded to enhance the reliability of the device.
- Do not directly touch the optic component CCD or CMOS. You can use the air blower to blow away the dust or dirt on the lens surface. Please use a dry cloth wetted by alcohol to wipe away the dust gently if necessary.
- Use the dry soft cloth to clean the device. If the dust is difficult to be removed, please wipe it away with a clean cloth wetted slightly by the mild detergent, and then use the dry cloth to clean the device. Do not use volatile solvents like alcohol, benzene, thinner, or strong detergent with abrasiveness, otherwise it will damage the surface coating or reduce the working performance of the device.
- When installing or using the device, do not directly touch or wipe the surface of the dome cover because it is an optical device. If stained with dirt, use oil-free soft brush or air blower to gently wipe it away. If stained with grease or fingerprint, use soft cloth to gently wipe the water drop or oil and wait till it is dry, and then use oil-free cotton cloth or lens cleaning paper soaked with alcohol or detergent to wipe from the lens center outward till it is clean.
- We are not liable for any problems caused by unauthorized modification or attempted repair.
- The dome cover is a kind of optical component, please do not touch or wipe the cover surface during installation and application, it may stain dust, grease or fingerprint, you can use absorbent cotton to dip some diethyl ether or use soft cloth to dip some water and then wipe gently. You can also use air gun to remove the dust if the cover is stained with dust.

Warnings

- Please strengthen the protection of network, device data and personal information, adopt necessary measures of guarantee device network security, including but not limited to using strong password, modifying password regularly, upgrading firmware to the latest version, isolating computer network and so on. For the IP camera firmware of some old version, the ONVIF password won't be modified automatically after the main password of the system is modified. You need to upgrade the camera firmware or upgrade the ONVIF password manually.
- Please modify the default password after login to avoid being stolen.
- Use the standard components provided by manufacturer and make sure the device is installed and fixed by professional engineers.
- The surface of the image sensor should not be exposed to laser beam radiation in an environment where a laser beam device is used.
- Do not provide two or more power supply sources for the device; otherwise it might damage the device.



Disclaimer

- This manual is for reference only. Please refer to the actual product for more details.
- Minor differences might be found in user interface, and there might be deviation between the actual value of some data and the value provided in the manual due to the reasons such as the real environment is not stable. Please refer to the final explanation of the company if there is any doubt or dispute.
- All the designs and software are subject to change without prior written notice. The manual will be regularly updated according to the product upgrade without prior announcement.
- Please contact the supplier or customer service if there is any problem occurred when using the device.
- Please contact the customer service for the latest procedure and supplementary documentation.
- Please visit our website or contact your local service engineer for more information.
- The company is not liable for any loss caused by the operation that does not comply with the manual.
- If there is any uncertainty or controversy, please refer to our final explanation.

Regulatory Information

FCC Information

1.1 FCC conditions:

This device 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.

1.2 FCC compliance:

This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference. This equipment generate, 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 communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Note



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- Please refer to the disk for more details, check and download the corresponding user's manual and tool.
- Before installation, please open the package and check all the components are included.
- Contact your local retailer as soon as possible if something is broken in your package.

Accessory Name	Amount	Accessory Name	Amount
Network Camera Unit	1	Installation Position Map	1
Quick Start Guide	1	Waterproof Connector	1
Screw Package	1	Wrench	1
CD	1		



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1 Device Structure

1.1 Device External Cable

Note

- The following figures are for reference only, which are used to know each structure component and cable port functions.
- There are differences about wire structure for some product models, please refer to the actual object for more details.

You can refer to Figure 1-1 for the external cable ports.

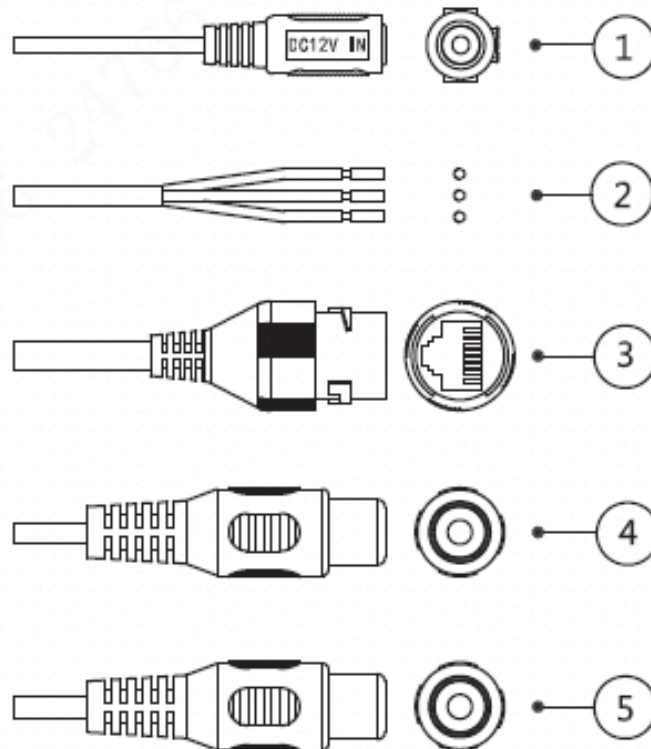


Figure 1-1

Please refer to Table 1-1 for more details about cable port.



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Port	Port Name	Note
1	Power input port	Connect to DC 12V, please be sure to power the device according to the instruction of device label. Caution It may cause damage to the device if it fails to power the device according to the instruction of device label
2	I/O port	It includes alarm signal input and output. Please refer to Table 1-2 for more details.
3	Network port	Connect to standard Ethernet cable, support PoE power supply function. Note Some devices do not support PoE.
4	Audio input port	Input audio signal, receive analog audio signal from sound pick-up etc.(optional, supported by some product models)
5	Audio output port	Output audio signal to speakers etc. (optional, supported by some product models.)

Table 1-1

Please refer to Table 1-2 for detailed information about I/O port.

Port Name	Port Sequence	Port name	Function Description
I/O Port	1	ALARM_IN1	Alarm input port, receive on-off signal of external alarm source.
	2	ALARM_OUT1	Alarm output port, output alarm signal to alarm device.
	3	ALARM_GND	Connect ground.

Table 1-2

1.2 Framework and Dimension

Note

The following figures are for reference only, which are only used to know the device dimension.

Please refer to Figure 1-2 and Figure 1-3 for dimension information. The unit is mm (Inch).



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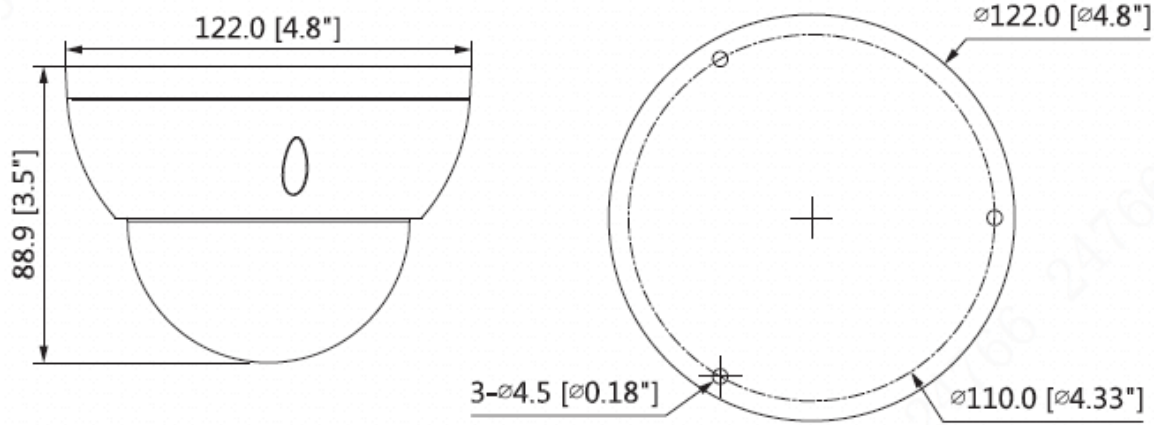


Figure 1-2

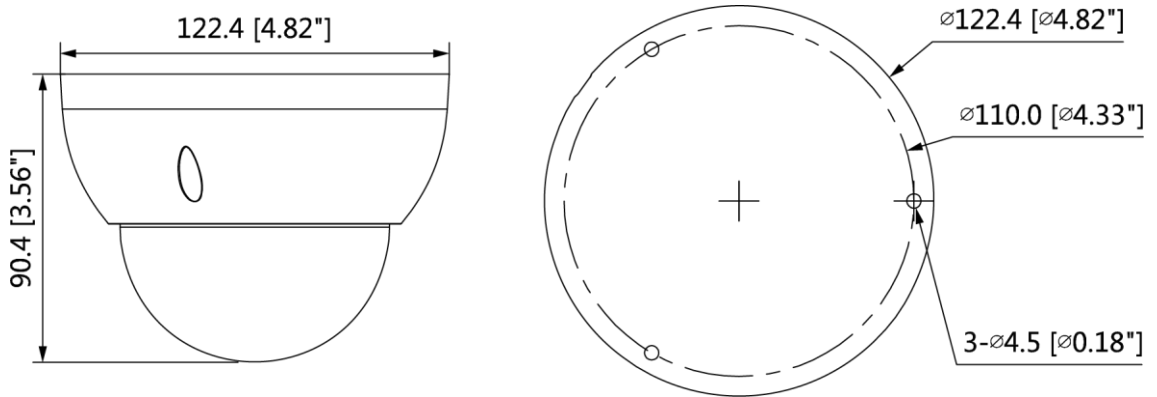


Figure 1-3



2 Device Installation

2.1 Install SD Card (Optional)

Note

- Please install SD card if the device is equipped with SD card slot and it needs to use SD card.
- Please cut off the device power before installing Micro SD card.

Step 1

Use wrench to loosen the screw on the dome cover, open dome cover. Open protection cover and you can see SD card slot and reset button.

Step 2

Open SD card slot, adjust the direction of SD card, install the SD card well, close the SD card slot and lock it firmly, which is shown in Figure 2-1.

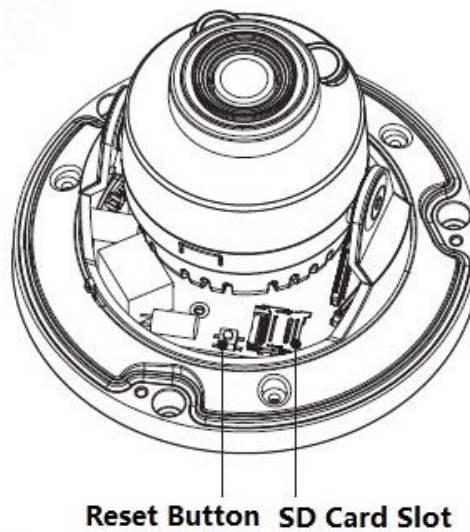


Figure 2-1

Note

Long press the reset button for 10 seconds with power on if the device needs to restore factory default setting.

2.2 Fix Device

Note

- The following installation figure is for reference only; please refer to the figure according to the actual product.
- Before installation, please make sure the installation surface can at least support 3x weight of the camera.



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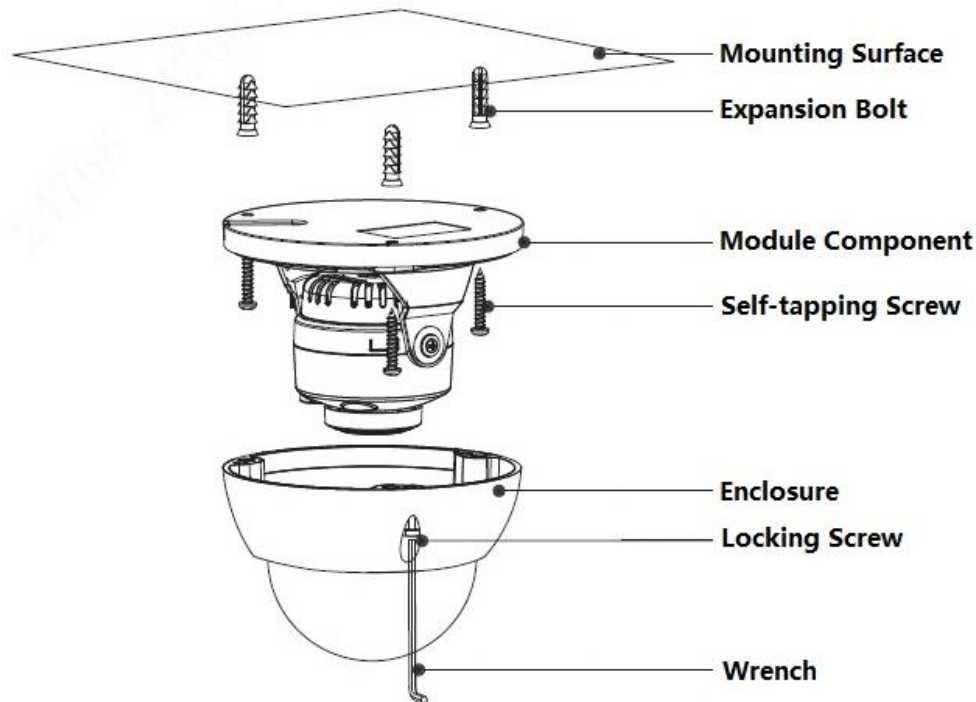


Figure 2-2

Step 1

Take out installation position map and stick it on the mounting surface according to monitoring area.

Step 2

Dig expansion bolt bottom holes according to the hole sites with cross mark on the installation position map, insert the expansion bolts into the mounting holes and lock them firmly.

Step 3

Adjust the location of the mounting pedestal; lead the cable into the cable exit hole which is on the mounting surface.

Note

- It needs to dig a cable exit hole on the mounting surface according to the installation position map if users adopt bottom cabling when installing device.
- It needs to lead out the cable via U-shaped cable channel side exit on the dome pedestal if users adopt side cabling when installing device.

Step 4

Make sure the “TOP” direction on the device is in accordance with that of the installation position map, align the screw hole on the device mounting pedestal with the mounting hole on the mounting surface, and then twist the self-tapping screws into the plastic expansion bolts and lock them firmly, finally fix the dome on the mounting surface.

2.3 Connect Device Cable

- Connect device corresponding power, video output, audio cable and RS485 control cable well according to requirement, and then use insulated tape to twine the connection respectively to make it waterproof.
- Connect alarm input and output terminal to external cable according to “Connect Alarm Input/output Port”, and use insulated tape to twine connection to make it waterproof.



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- Connect network cable to corresponding network port of the device cable according to “Install Waterproof Connector (Optional)”.

Connect Alarm Input/output Port

Note

Some models do not support alarm function, which cannot be applied to this chapter.

Step 1

Connect alarm input device to the alarm input of I/O port.

When the input signal is idle or grounded, the device can collect the different statuses of the alarm input port. When the input signal is connected to 3.3V or it is idle, the device collects the logic “1”. When the input signal is grounded, the device collects the logic “0”.

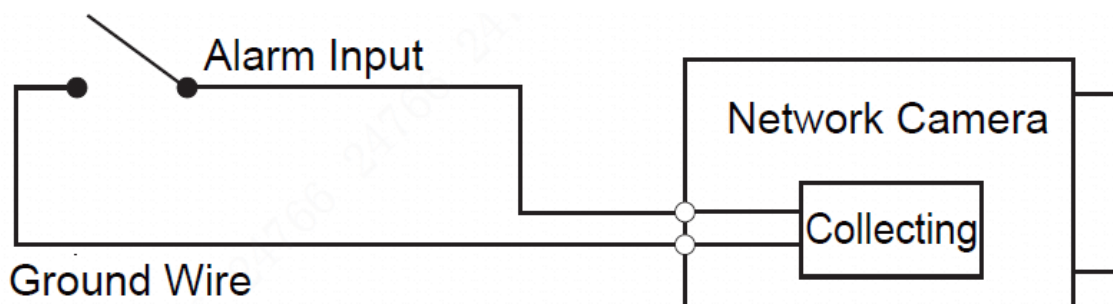


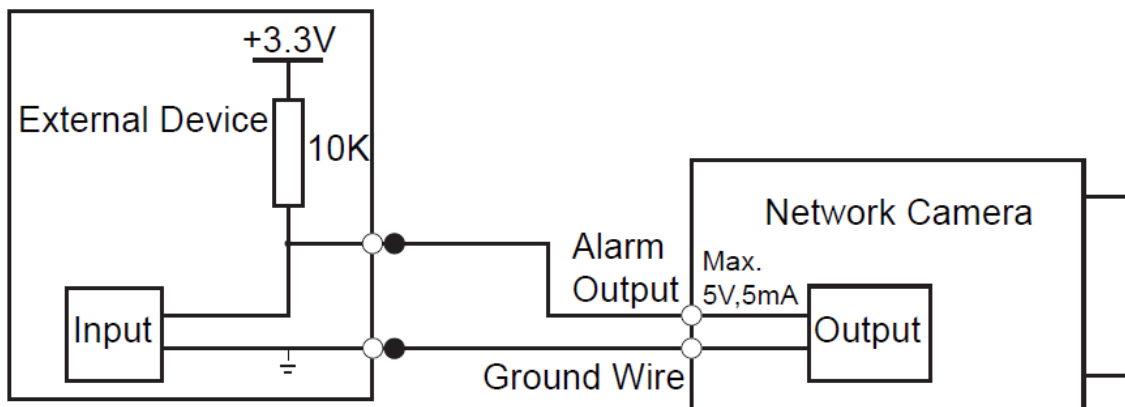
Figure 2-3

Step 2

Connect alarm output device to the alarm output of I/O cable, alarm output is collector open circuit output which connects pull-up 10K resistor to 3.3V externally.

Mode A: Level application. Alarm output high and low level, alarm output is OC; it needs to increase pull-up resistance externally to work normally. Max external pull-up level is 5V, max port current is 5mA. After external pull-up resistance is increased, the default of output signal is high level (external pull-up voltage), and it switches to low level when there is alarm output (when the working current is 5mA, output voltage is less than 0.8V).

Mode B: Switch application. Alarm output is used to drive external circuit, max current is 30mA, max voltage is 5V, it is advised to add a relay if it is beyond the value.

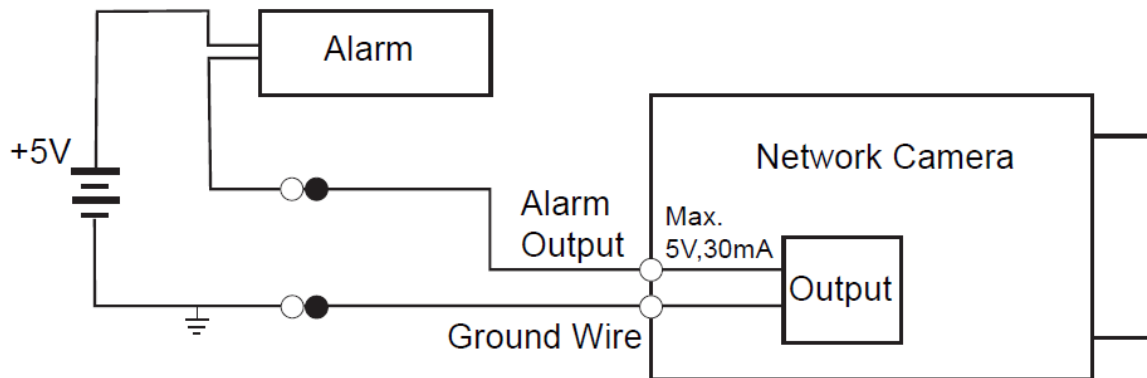


A



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Figure 2-4



B

Figure 2-5

Step 3

Log in WEB interface, make corresponding settings upon alarm input and output on the interface of alarm setup.

- Alarm input of WEB is corresponding to the alarm input of I/O port cable. It is to set corresponding NO, NC input according to the high and low level signal generated when alarm happens for alarm input device.
- Set alarm output on the WEB, alarm output is corresponding to the alarm output end, which is the alarm output port of the I/O port cable.

Install Waterproof Connector (Optional)

The installation process of waterproof connector for network port is shown in Figure 2-6.

Note

It needs to implement the operation when the device is equipped with waterproof connector and it is used outdoors.

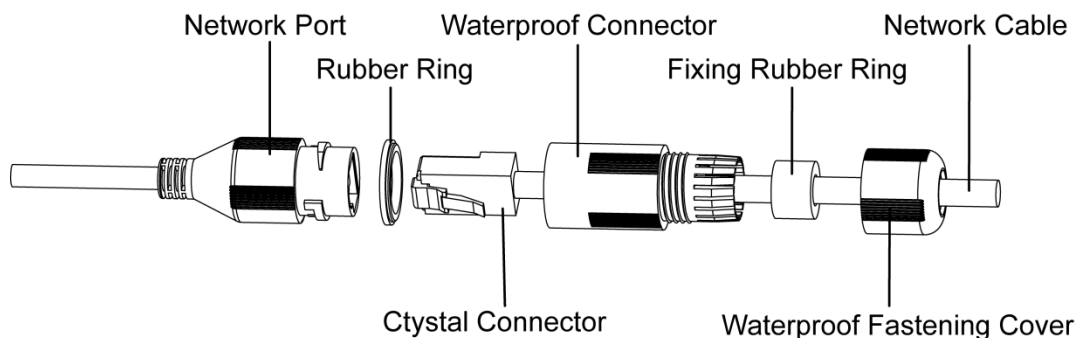


Figure 2-6

Step 1

Keep the convex groove outward and install the rubber ring into the network port, keep the smaller hole of the rubber ring outward and install the fixing rubber ring into the main body of the waterproof connector.

Step 2



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Pull the network cable without crystal head through main body of waterproof connector, fixing rubber ring and waterproof locking cover, make the crystal head of network cable, and then insert it into the network cable.

Step 3

Put the main body of waterproof connector on the network port and rotate it clockwise to lock the network port and waterproof connector firmly.

Step 4

Put the waterproof locking cover on the main body of waterproof connector and rotate it clockwise to lock the waterproof connector and waterproof locking cover firmly.

2.4 Adjust Device Angle

Adjust Monitoring Direction

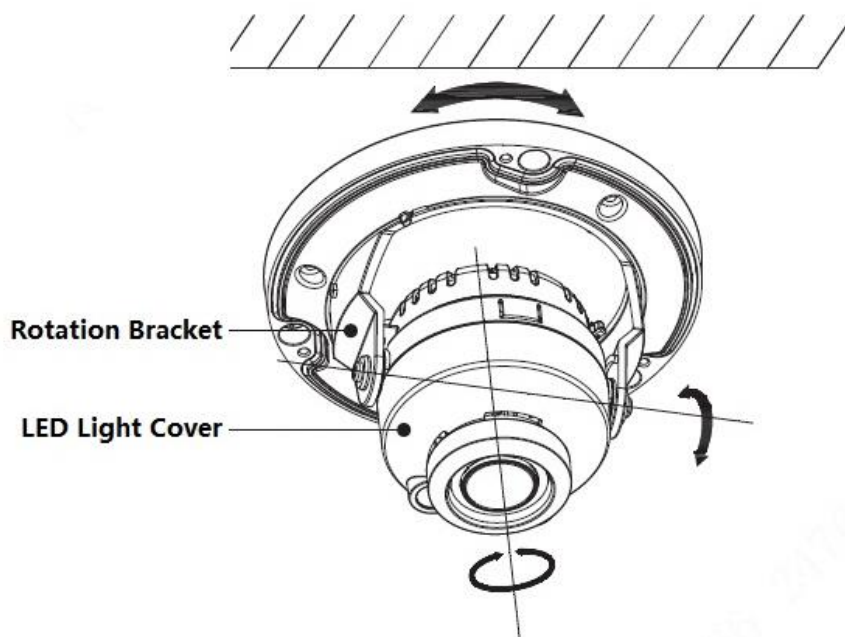


Figure 2-7

Step 1

Hold the rotation bracket on both sides, turn the rotation bracket horizontally, and adjust the lens direction horizontally to the targeted position.

Step 2

Hold the module dome body and make the lens rotate vertically. Adjust the lens monitoring image vertically to proper monitoring angle.

Step 3

Hold the LED light cover and adjust image angle.

Note

- ✧ Range of adjusting lens angle: vertical ($0^{\circ} \sim +75^{\circ}$), horizontal ($0^{\circ} \sim +355^{\circ}$), image rotation direction ($0^{\circ} \sim +355^{\circ}$).
- ✧ Please be aware of the image rotation direction when it rotates the lens vertically, which is to avoid outer cover blocking IR light and affect the IR result.

Adjust Manual Vari-focal Lens (Optional)



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Note

For motorized vari-focal lens, it needs no adjustment during installation, but it needs to confirm monitoring range during installation, it is better to confirm result via mutual switch between W and T.

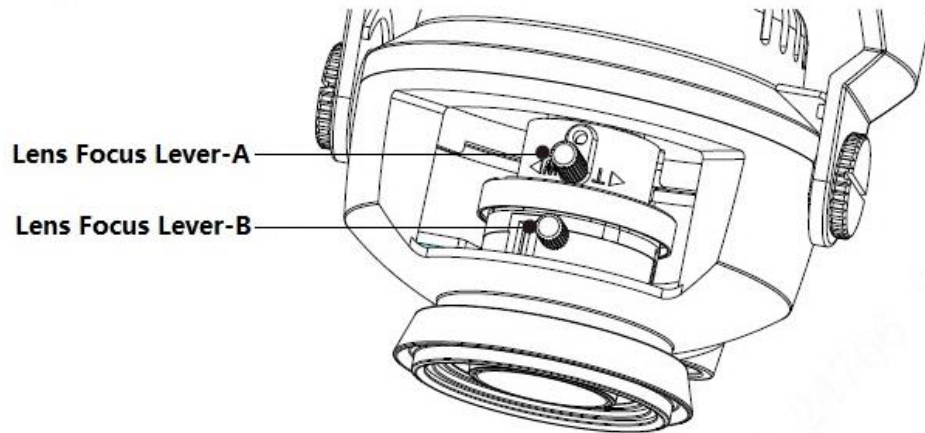


Figure 2-8

Step 1

Loosen lens focus lever A slightly, and then slightly move lens focus lever A to make it swing; adjust the lens focal length to the needed position according to the image display.

Step 2

Loosen lens focus lever B slightly, and then slightly move lens focus lever B to make it swing; make the lens focus clear according to the image display, and then tighten the lens focus lever B firmly.

Step 3

The image may become blurry during the process of tightening the lens focus lever B; adjust the image slightly via moving lens focus lever A to make the image clear, finally lock the lens focus lever A firmly.

2.5 Fix Outer Cover

Step 1

Take up the dome protection enclosure, align it with the screw hole site of the pedestal and then install the enclosure back to place.

Step 2

Use wrench to tighten the mounting screw and then installation is completed.

Note

Dome enclosure is related to waterproof function, make sure it is firmly tightened after adjustment.



3 Network Configuration

You can initialize the device and modify IP address via "Quick Configuration Tool"; you can also initialize device and modify IP address on the WEB interface. Please refer to the *WEB Operation Manual* in the disk for more details.

Note


- It needs to implement initialization if it is the first time use device or the device is restored to factory default. Only some device support initialization function.
- It can implement initialization only when the device IP address (192.168.1.108 by default) and the IP address of PC are in the same network segment.
- In order to make the camera have access to network smoothly, please plan available IP segment according to the actual network environment.
- The following figures are for reference only; different models may have different interfaces.

3.1 Device Initialization

Step 1

Double click "ConfigTool.exe" and open quick config tool.

Step 2

Click  to enter the interface where you can modify IP address, click **Search Setting**, the system will display the **Setting** dialog box.

Step 3

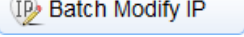
Set the device network segment, login user name and password, and then click **OK**. The system will display the searched devices after searching completes.

Step 4

Select the devices which need initialization and click **Initialization**. The system will display the interface of **Device Initialization**, which is shown in Figure 3-1.



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Select the devices whose IP addresses need to be modified, and then click . The system will display the dialog box of Modify IP Address, which is shown in Figure 3-2.

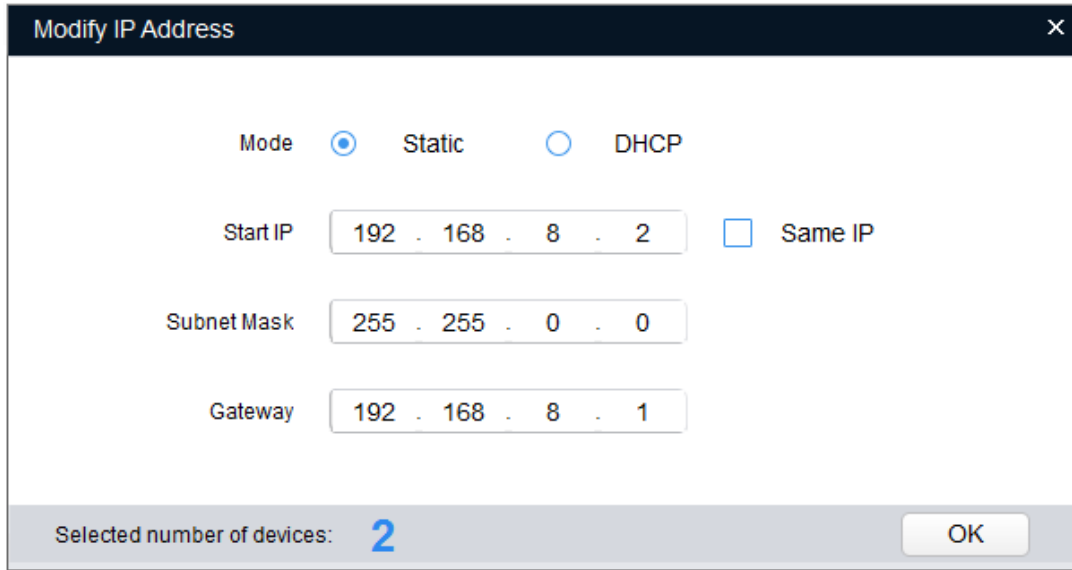


Figure 3-2

Step 5

Set the mode as **Static**, and enter the planned start IP, subnet mask and gateway.

Note

Set the mode as **DHCP** when there is DHCP server in the network, the device will automatically acquire IP address from the DHCP server.

Step 6

Click **OK** to complete modification of device IP address.

3.3 Login WEB Interface

Step 1

Open IE browser, enter the modified camera IP address into the address bar and then press **Enter** button. Please operate according to the interface prompt if the interface displays guide of **Software License Agreement** and **Online Upgrade**.

Step 2

Enter username and password, click **Login**.

Step 3

For the first login, click **Click Here to Download Plug-in**, install controls according to system prompt. The main interface will be shown in Figure 3-3 after control installation is completed.



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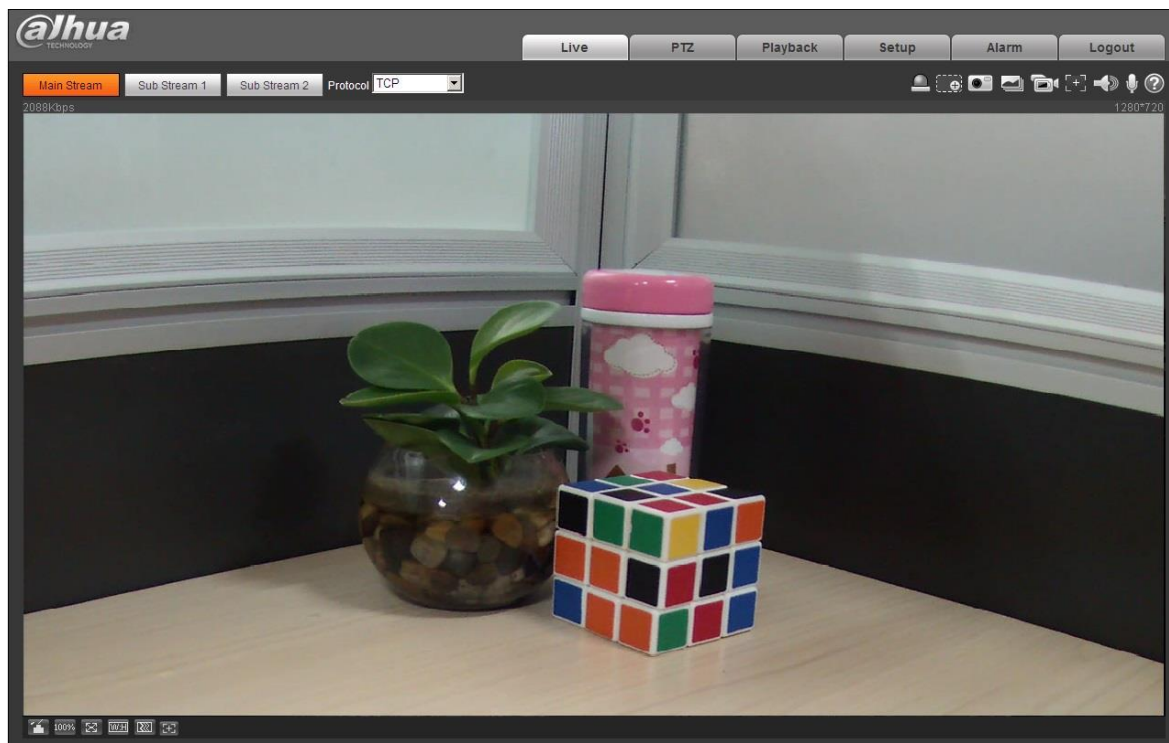


Figure 3-3



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