Northern

IP4MVFD

4.0 Megapixel IP Outdoor Motorized Varifocal IR Dome Camera

Installation & Quick Setup Guide

Northern 3625 Cincinnati Avenue, Rocklin, CA 95765 ◆ 855-388-7422 ◆ www.northernvideo.com

Rev. 061516

About this Manual

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website

Please use this user manual under the guidance of professionals.

Legal Disclaimer

REGARDING TO THE PRODUCT WITH INTERNET ACCESS, THE USE OF PRODUCT SHALL BE WHOLLY AT YOUR OWN RISKS. OUR COMPANY SHALL NOT TAKE ANY RESPONSIBILITES FOR ABNORMAL OPERATION, PRIVACY LEAKAGE OR OTHER DAMAGES RESULTING FROM CYBER ATTACK, HACKER ATTACK, VIRUS INSPECTION, OR OTHER INTERNET SECURITY RISKS; HOWEVER, OUR COMPANY WILL PROVIDE TIMELY TECHNICAL SUPPORT IF REQUIRED.

SURVEILLANCE LAWS VARY BY JURISDICTION. PLEASE CHECK ALL RELEVANT LAWS IN YOUR JURISDICTION BEFORE USING THIS PRODUCT IN ORDER TO ENSURE THAT YOUR USE CONFORMS THE APPLICABLE LAW. OUR COMPANY SHALL NOT BE LIABLE IN THE EVENT THAT THIS PRODUCT IS USED WITH ILLEGITIMATE PURPOSES.

IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATER PREVAILS.

Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for a Class A 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 their own expense.

FCC Conditions

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

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

CE This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2004/108/EC, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info

2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into “Warnings” and “Cautions”

Warnings: Serious injury or death may occur if any of the warnings are neglected.

Warnings Follow these safeguards to prevent serious injury or death.	Cautions Follow these precautions to prevent potential injury or material damage.

Warnings

- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 12 VDC according to the IEC60950-1 standard. Please refer to technical specifications for detailed information.
- Do not connect several devices to one power adapter as adapter overload may cause over-heating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket. When the product is mounted on wall or ceiling, the device shall be firmly fixed.
- If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.

- If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.
- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

Cautions

- Make sure the power supply voltage is correct before using the camera.
- Do not drop the camera or subject it to physical shock.
- Do not touch sensor modules with fingers. If cleaning is necessary, use clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period, please replace the lens cap to protect the sensor from dirt.
- Do not aim the camera at the sun or extra bright places. Blooming or smearing may occur otherwise (which is not a malfunction), and affect the endurance of sensor at the same time.
- The sensor may be burned out by a laser beam, so when any laser equipment is in using, make sure that the surface of sensor will not be exposed to the laser beam.
- Do not place the camera in extremely hot, cold (the operating temperature shall be -30°C ~+60°C), dusty or damp locations, and do not expose it to high electromagnetic radiation.
- To avoid heat accumulation, good ventilation is required for operating environment.

- Do not expose internal components to liquid or moisture.
- While in transit, the camera shall be packed in its original packing, or packing of the same protection.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.
- If the product does not work properly, please contact tech support at 855-388-7422. Never attempt to disassemble the camera yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)

Table of Contents

1 Appearance Description 8

2 Installation 11

2.1 Disassembling 12

2.2 Mounting 12

2.2.1 Ceiling Mounting 12

2.2.2 Ceiling Mounting with Gang Box 17

2.2.3 Wall Mounting 20

2.3 Image and Focus Adjusting 22

2.4 Installation of Network Cable Water-proof Jacket 23

3 Setting the Network Camera over the LAN 27

3.1 Wiring 27

3.2 Activating the Camera 28

3.2.1 Activation via Web Browser 28

3.2.2 Activation via SADP Software 29

3.3 Modifying the IP Address 31

4 Accessing via Web Browser 33

1 Appearance Description

The overview of the network dome camera is shown below.

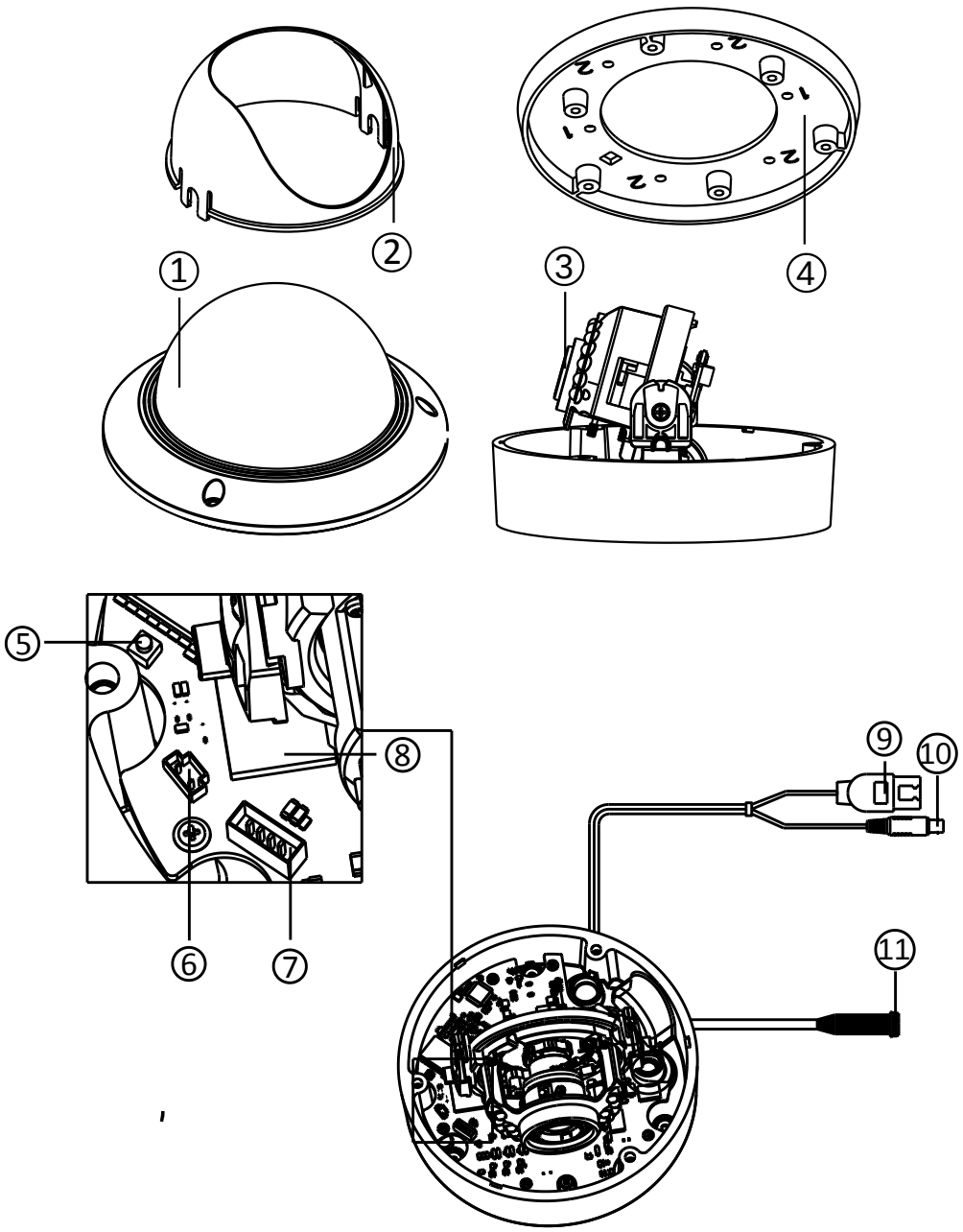

Figure 1-1 Overview

Table 1-1 Overview

No.	Description
1	Bubble
2	Black Liner
3	Lens
4	Mounting Base
5	Reset
6	Auxiliary Video Output
7	Serial Port
8	Micro SD Card Slot
9	Network Cable
10	Power Cable
11	Audio/Alarm Interface

- Press RESET about 10s when the camera is powering on or rebooting to restore the default settings, including the user name, password, IP address, and port No., etc.
- Some of the models support audio and alarm functions. The interfaces are shown as follows.

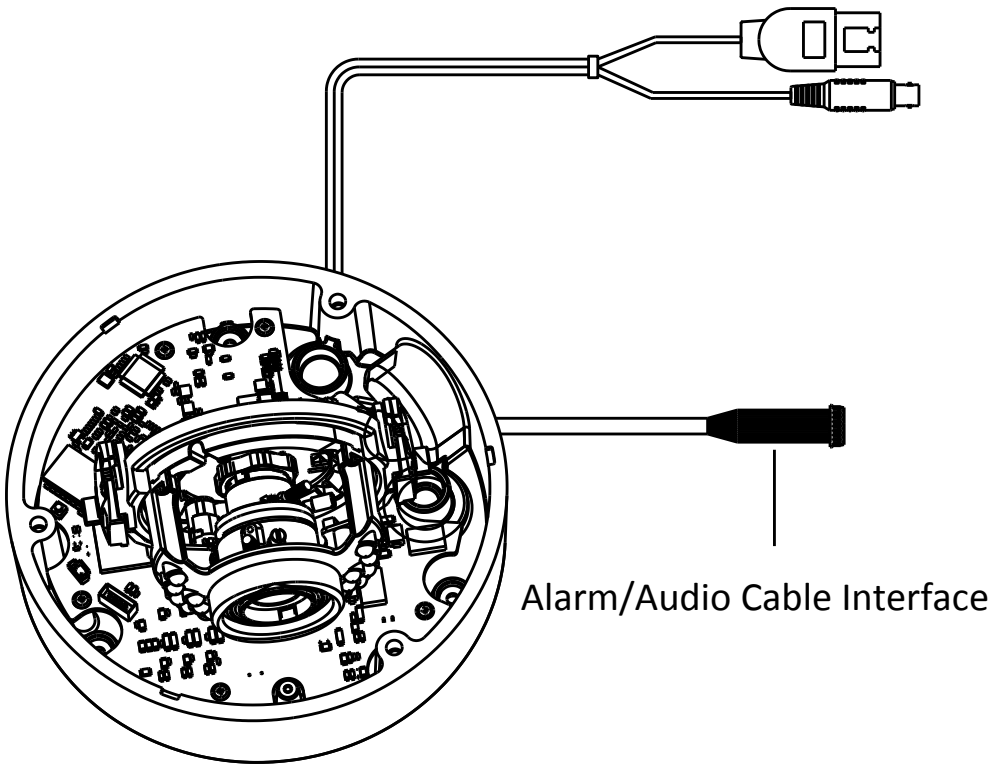

Figure 1-2 Audio and Alarm Interfaces

2 Installation

Before you start:

- Make sure the device in the package is in good condition and all the assembly parts are included.
- The standard power supply is 12V DC, please make sure your power supply matches with your camera.
- Make sure all the related equipment is power-off during the installation.
- Check the specification of the products for the installation environment.
- Make sure that the wall is strong enough to withstand four times the weight of the camera and the bracket.

For the camera that supports IR, you are required to pay attention to the following precautions to prevent IR reflection:

- Dust or grease on the dome cover will cause IR reflection. Please do not remove the dome cover film until the installation is finished. If there is dust or grease on the dome cover, clean the dome cover with clean soft cloth and isopropyl alcohol.
- Make sure that there is no reflective surface too close to the camera lens. The IR light from the camera may reflect back into the lens causing reflection.
- The foam ring around the lens must be seated flush against the inner surface of the bubble to isolate the lens from the IR LEDS. Fasten the dome cover to camera body so that the foam ring and the dome cover are attached seamlessly.

2.1 **Disassembling**

Steps:

1. Loosen the three screws on the edge of the bubble with the screw driver.
2. Open the bubble and remove the inner black liner.

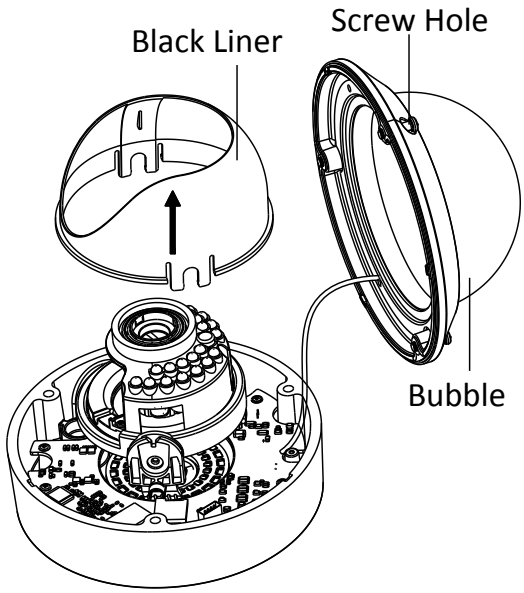

Figure 2-1 Remove the Bubble and Black Liner

2.2 **Mounting**

2.2.1 Ceiling Mounting

Steps:

1. Disassemble the camera. Refer to the section 2.1.
2. Attach the drill template (supplied) to the place where you want to fix the camera.

3. According to the drill template, drill three screw holes in the ceiling.

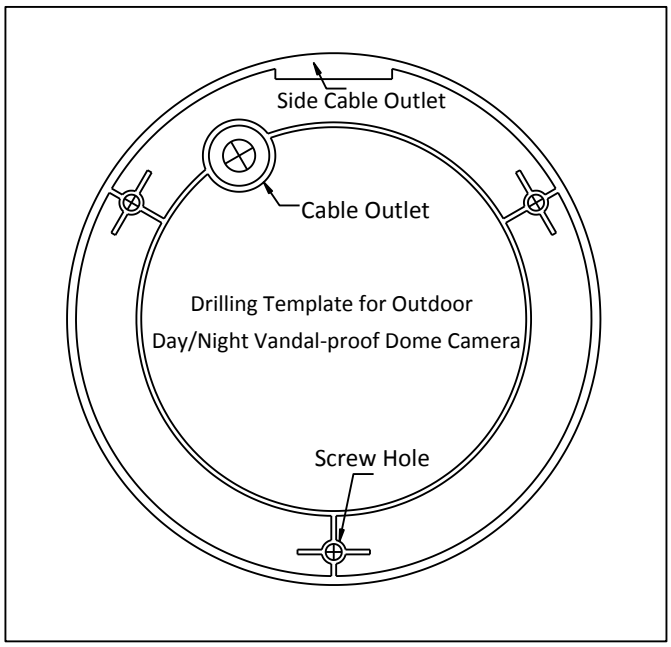

Figure 2-2 The Drill Template

4. If you want to route the cables inside the ceiling, drill a cable hole in the ceiling according to the drill template. Skip this step if you want to route the cables on the surface of the ceiling.
5. Attach the camera to the ceiling by aligning the holes of the back box with the holes on the ceiling.
6. Secure the camera with the supplied screws.

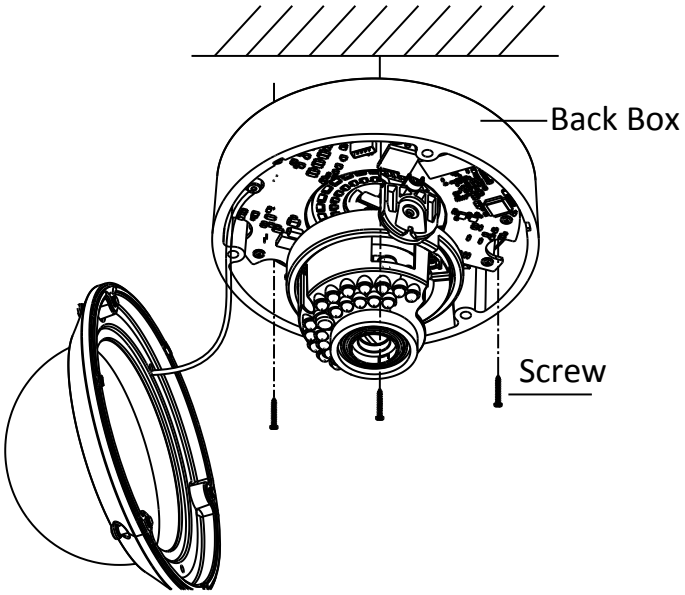

Figure 2-3 Secure the Camera

7. Route the cables through the cable hole.
8. Connect the video output connector to the monitor. Connect the power connector to the power supply.
9. Adjust the image and focus. Please refer to the section 2.3 for more detailed information.
10. Install the inner black liner back to the camera.
11. Install the bubble back to the camera and secure it with screws.

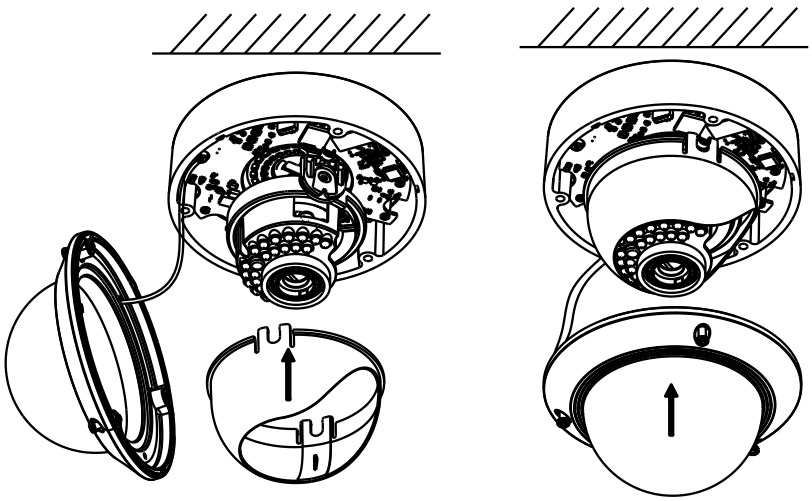

Figure 2-4 Secure Black Liner and Bubble

Conduit Installation on the Side

If you want to route the cables from side of the camera, you need to follow the steps below to install a conduit for cable routing.

Steps:

1. Rotate the water-proof plug counterclockwise to remove it from the camera.

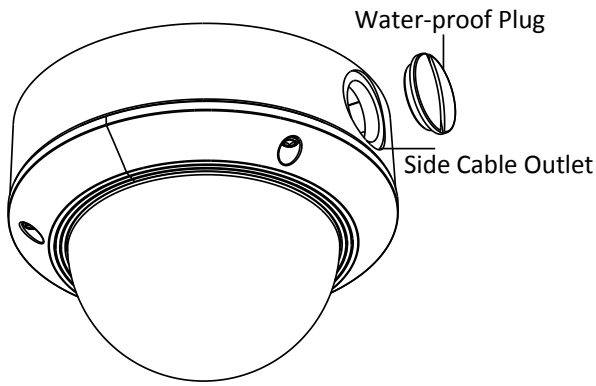

Figure 2-5 Remove the water-proof plug

2. Route the power cable and network cable through the side outlet to the conduit.
3. Align and rotate clockwise the conduit to the side outlet tightly.

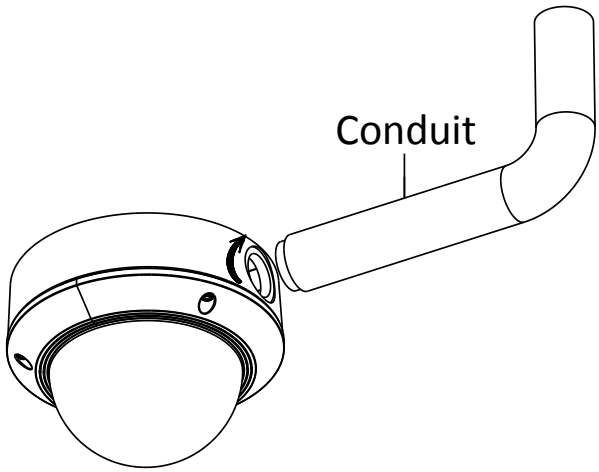

Figure 2-6 Install the Conduit to the Camera

NOTE

For wall mounting, position the side outlet directly downward for water-proof.

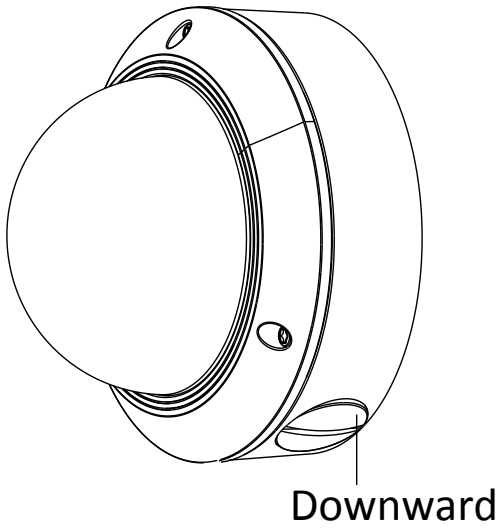

Figure 2-7 Side Outlet Direction

2.2.2 Ceiling Mounting with Gang Box

Steps:

1. Disassemble the camera. Refer to the section 2.1.
2. Install the gang box in the ceiling.
3. Attach the mounting base to the gang box with two screws.

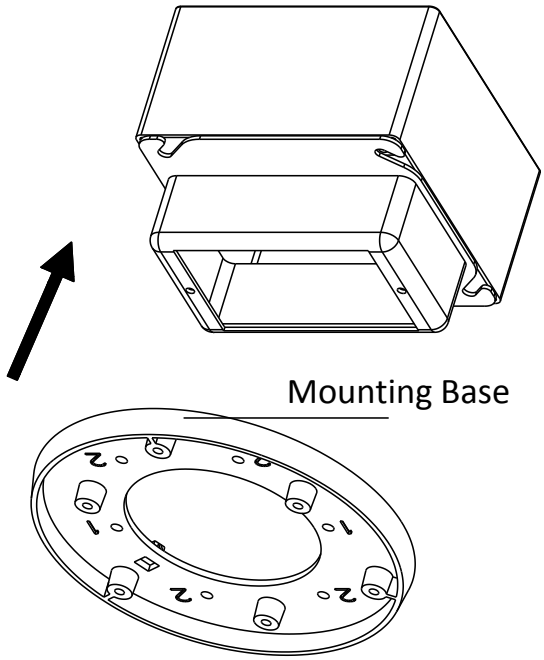

Figure 2-8 In-ceiling Mount

4. Route the cables through the hole in the center of the mounting base.
5. Align the camera with the mounting base.
6. Tighten the screws to secure the camera with the mounting base.
7. Connect the video output connector to the monitor. Connect the power connector to the power supply.
8. Adjust the image and focus. Please refer to the section 2.3 for more detailed information.

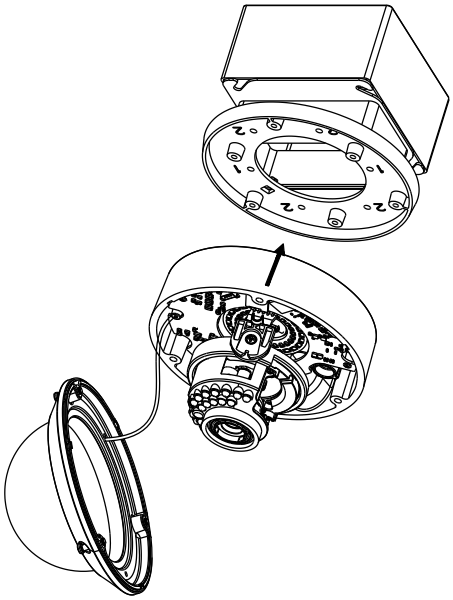

Figure 2-9 Secure Camera

9. Install the inner black liner back to the camera.
10. Align the bubble with the camera.
11. Tighten the screws to secure the bubble with the camera .

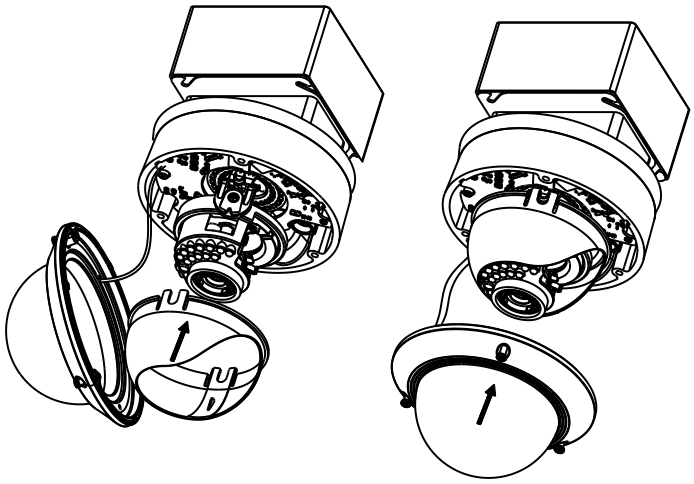

Figure 2-10 Secure the Bubble

2.2.3 Wall Mounting

For the wall mounting, you have to purchase a wall mount.

Steps:

1. Disassemble the camera. Refer to the section 2.1.
2. Install the wall mount and mounting adapter.
3. Align the screw holes of the mounting base with the corresponding screw holes of the mounting adapter.
4. Secure the mounting base to the mounting adapter with four screws.

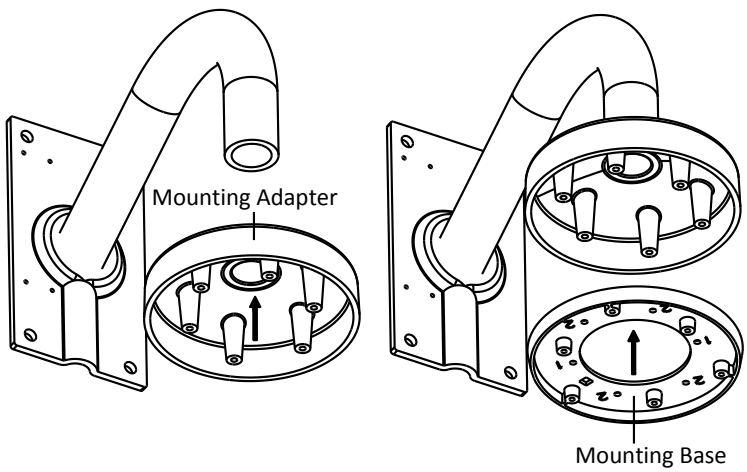

Figure 2-11 Install the Mounting Base

5. Route the cables through the hole in the center of the wall mount.
6. Align the camera with the mounting base.
7. Tighten the set screws to secure the camera with the mounting base.
8. Connect the video output connector to the monitor. Connect the power connector to the power supply.

9. Adjust the image and focus. Please refer to the section 2.3 for more detailed information.

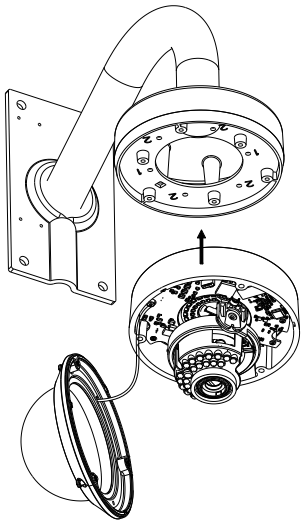

Figure 2-12 Secure Camera

10. Install the inner black liner back to the camera.
11. Align the bubble with the camera.
12. Tighten the screws to secure the bubble with the camera.

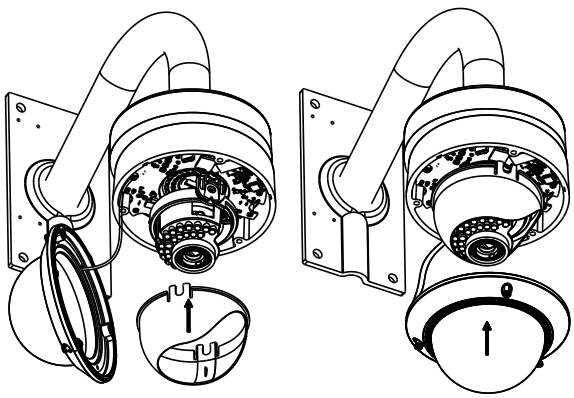

Figure 2-13 Secure Black Liner and Bubble

2.3 **Image and Focus Adjusting**

Steps:

1. 3-axis adjustment.
   1). View the camera image using the monitor.
   2). Rotate the panning table to adjust the panning position of the camera.
   3). Rotate the tilting axes to adjust the tilting position of the camera.
   4). Rotate the lens table to adjust the azimuth angle of the image.

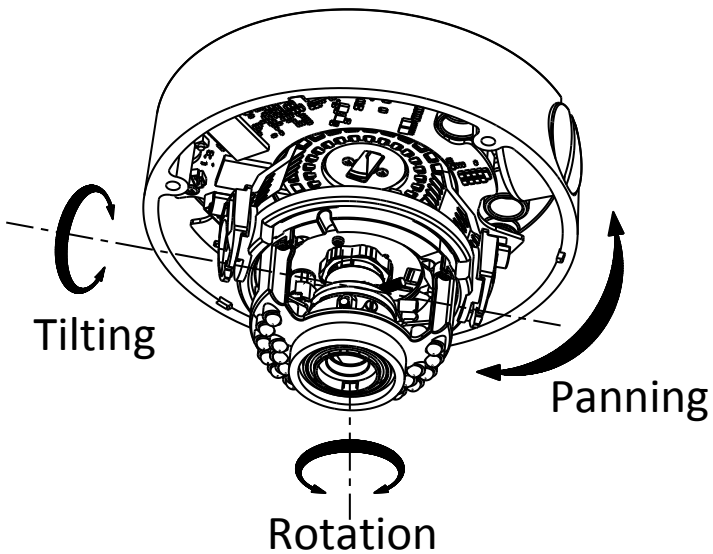

Figure 2-14 3-axis Adjustment

2. Zoom and focus adjustment.
   1). View the camera image using the monitor.
   2). Loosen the zoom lever and move the lever between T (Tele) and W (Wide) to obtain the appropriate angle of view.

3). Tighten the zoom lever.

4). Loosen the focus lever and move the lever between F (Far) and N (Near) to obtain the optimum focus.

5). Tighten the focus lever.

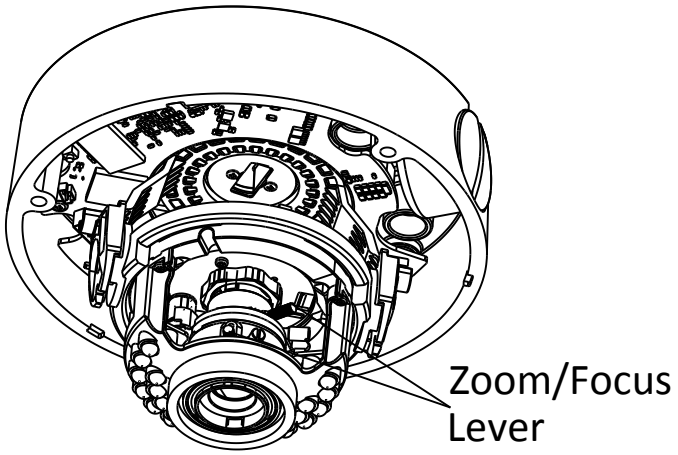

Figure 2-15 Lens Adjustment

2.4 Installation of Network Cable Water-proof Jacket

Purpose:

If the camera is installed outdoor, you can adapt the water-proof accessory for the network cable after the camera is secured on the installation surface.

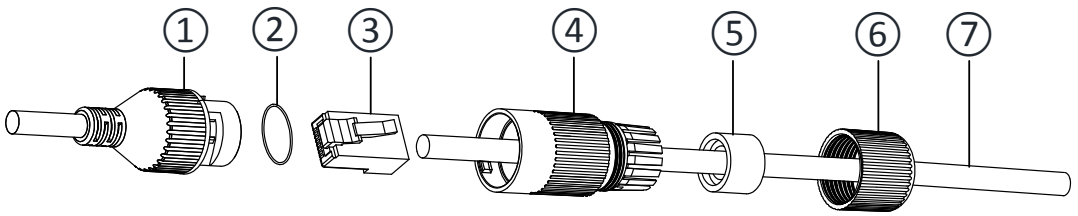

Figure 2-16 Water-proof Accessory Components

Table 2-1 Components

No.	Components
1	Camera's Network Interface Socket
2	O-Type Gasket
3	Network Plug
4	Waterproof Endcap
5	Waterproof Rubber Gasket
6	Lock Nut
7	Network Cable from Router/Switch

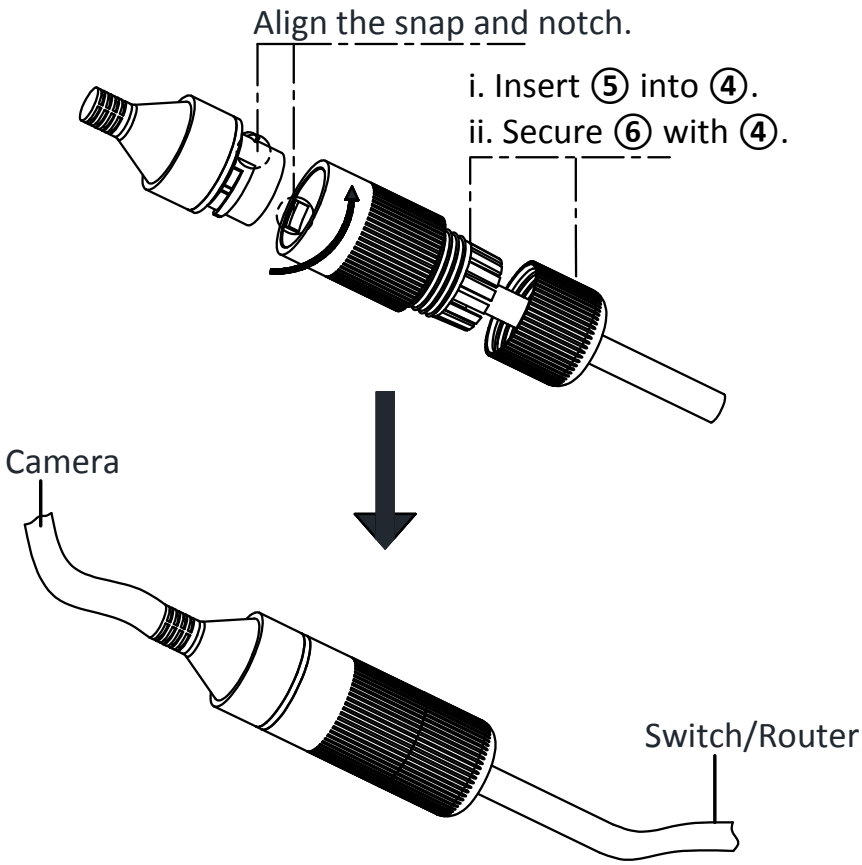

Figure 2-17 Water-proof Accessory Installation

Steps:

1. Feed the plugless network cable ⑦ through the lock nut ⑥, waterproof rubber gasket ⑤ (rubber gasket inset ridge must face waterproof endcap), and the water-proof endcap ④ in order.

2. Crimp an RJ-45 network plug ③onto the end of the cable, taking care to insert the twisted pairs of wires in correct order.
3. Place the O-type gasket ② onto the end of the camera's network interface socket ①.
4. Insert the network plug ③ into the camera's network interface socket①.
5. Insert the water-proof rubber gasket ⑤ into the waterproof endcap ④, and secure lock nut ⑥ with the water-proof endcap ④.
6. Align the snap on the water-proof endcap ④ with the notch on the camera's network interface socket ①**,** and then secure the water-proof endcap ④ to the camera's network interface socket ① to finish installation.

3 Setting the Network Camera over the LAN

Note:

You shall acknowledge that the use of the product with Internet access might be under network security risks. For avoidance of any network attacks and information leakage, please strengthen your own protection. If the product does not work properly, please contact with your dealer or the nearest service center.

3.1 **Wiring**

Please connect to the camera to the network according to the following figures

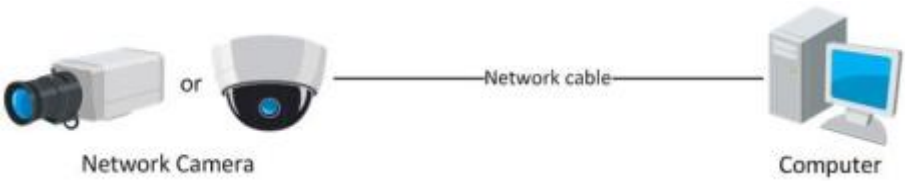

Figure 3-1 Connecting Directly

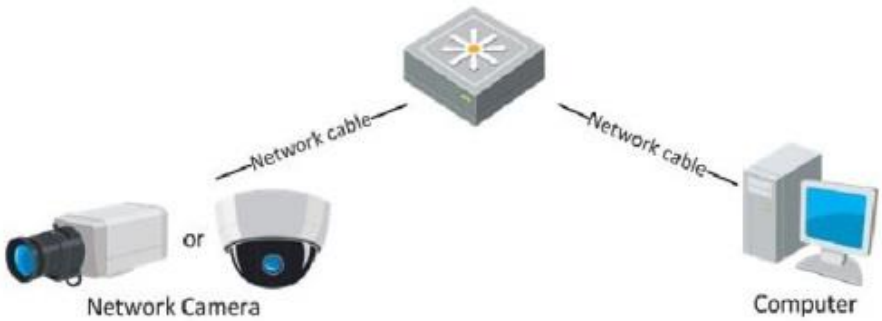

Figure 3-2 Connecting via a Switch or a Router

3.2 Activating the Camera

You are required to activate the camera first by setting a strong password for it before you can use the camera.

Activation via Web Browser, Activation via SADP, and Activation via Client Software are all supported. We take activation via SADP software and Activation via Web Browser as examples to introduce the camera activation. Please refer to the User Manual of Network Camera for Activation via Client Software.

3.2.1 Activation via Web Browser

Steps:

1. Power on the camera, and connect the camera to the network.
2. Input the IP address into the address bar of the web browser, and click Enter to enter the activation interface.

   Notes:

   - The default IP address of the camera is 192.168.1.64.
   - For the camera enables the DHCP by default, you need to activate the camera via SADP software and search the IP address. Please refer to Chapter 3.2.2 for activation via SADP software.

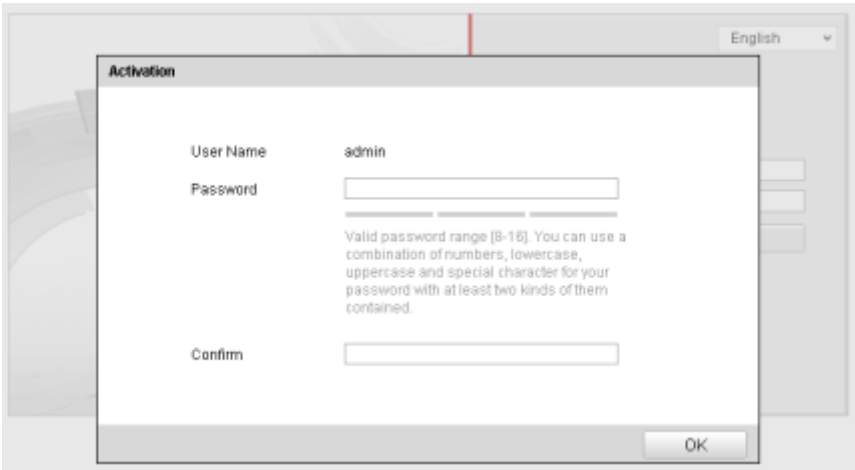

Figure 3-3 Activation Interface(Web)

3. Create a password and input the password into the password field.

STRONG PASSWORD RECOMMENDED– *We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.*

4. Confirm the password.
5. Click **OK** to save the password and enter the live view interface.

3.2.2 Activation via SADP Software

SADP software is used for detecting the online device, activating the camera, and resetting the password.

Get the SADP software from the supplied disk or the official website, and install the SADP according to the prompts. Follow the steps to activate the camera, please refer to the User Manual of Network Camera for other two activation methods.

Steps:

1. Run the SADP software to search the online devices.
2. Check the device status from the device list, and select the inactive device.

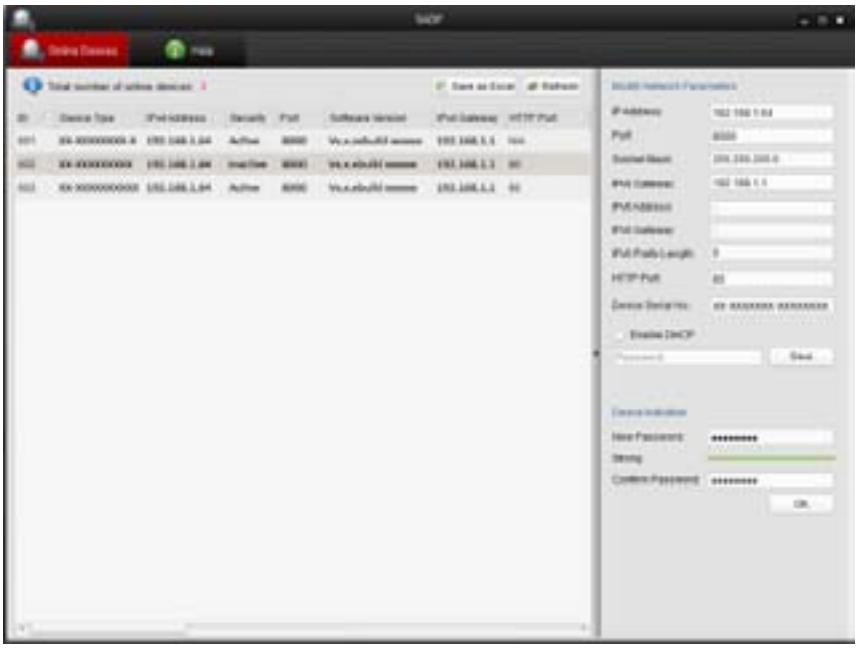

Figure 3-4 SADP Interface

Note:

The SADP software supports activating the camera in batch. Please refer to the User Manual of SADP software for details.

3. Create a password and input the password in the password field, and confirm the password.

STRONG PASSWORD RECOMMENDED– *We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.*

4. Click **OK** to save the password.

   You can check whether the activation is completed on the popup window. If activation failed, please make sure that the password meets the requirement and try again.

3.3 Modifying the IP Address

Purpose:

To view and configure the camera via LAN (Local Area Network), you need to connect the network camera in the same subnet with your PC. Then, install the SADP software or client software to search and change the IP of network camera. We will take modifying the IP Address via SADP software as an example to introduce the IP address modification.

Steps:

1. Run the SADP software.
2. Select an activate device.

Note:

Please refer to Chapter 3.2 to activate the camera if the camera is inactive.

3. Change the device IP address to the same subnet with your computer by either modifying the IP address manually or checking the checkbox of Enable DHCP.

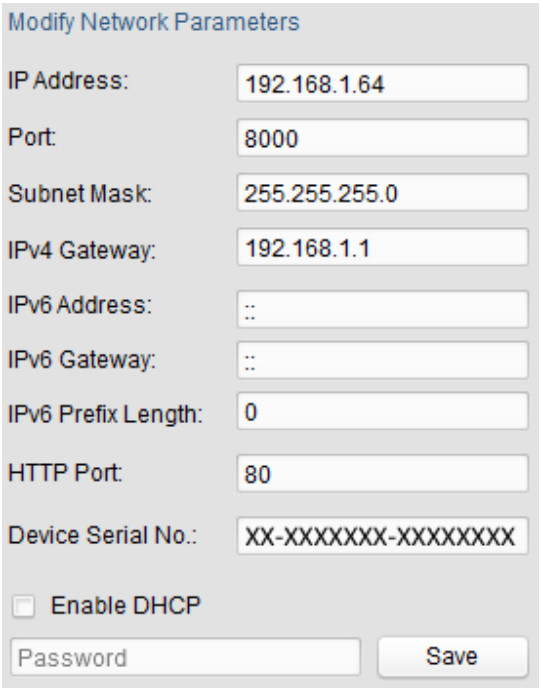

Figure 3-5 Modify the IP Address

4. Input the password to activate your IP address modification.

The batch IP address modification is supported by the SADP. Please refer to the User Manual of SADP for details.

4 Accessing via Web Browser

System Requirement:

Operating System: Microsoft Windows XP SP1 and above version

CPU: 2.0 GHz or higher

RAM: 1G or higher

Display: 1024×768 resolution or higher

Web Browser: Internet Explorer 8.0 and above version, Apple Safari 5.0.2 and above version, Mozilla Firefox 5.0 and above version and Google Chrome 18 and above version

Steps:

1. Open the web browser.
2. In the browser address bar, input the IP address of the network camera, and press the **Enter** key to enter the login interface.

   Note:

   - The default IP address is 192.168.1.64.
   - If the camera is not activated, please activate the camera first according to Chapter 3.2.
3. Input the user name and password.

   The admin user should configure the device accounts and user/operator permissions properly. Delete the unnecessary accounts and user/operator permissions.

   Note:

   The device IP address gets locked if the admin user performs 7 failed password attempts (5 attempts for the user/operator).

4. Click **Login**.

Figure 4-1 Login Interface

5. Install the plug-in before viewing the live video and managing the camera. Please follow the installation prompts to install the plug-in.

NOTE

You may have to close the web browser to finish the installation of the plug-in.

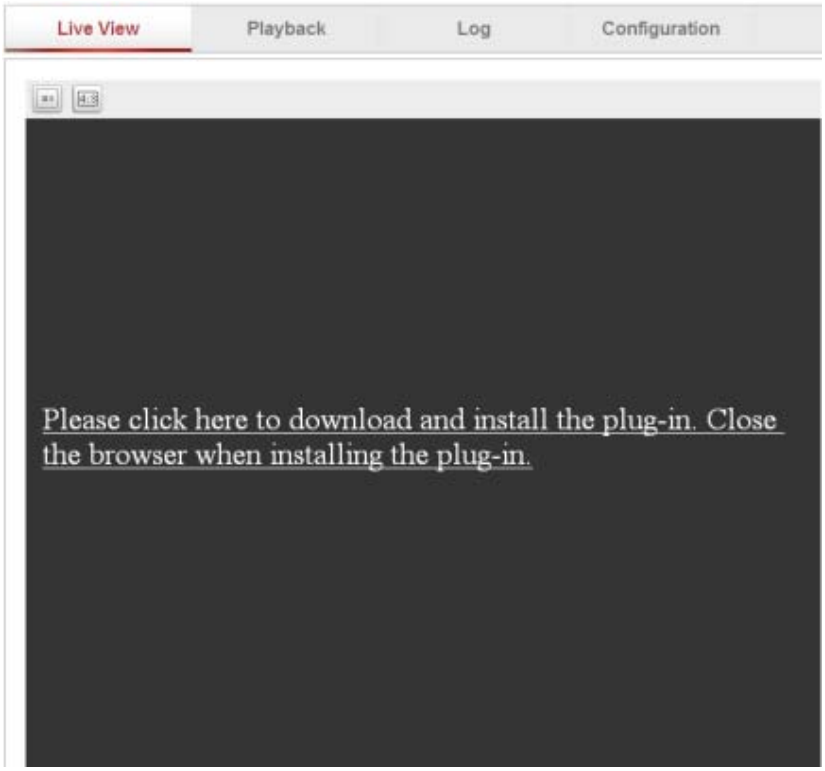

Figure 4-2 Download Plug-in

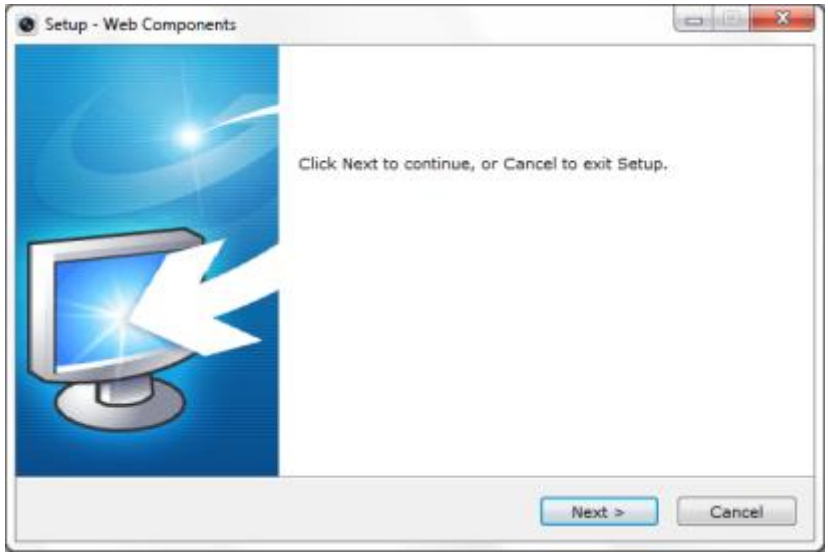

Figure 4-3 Install Plug-in (1)

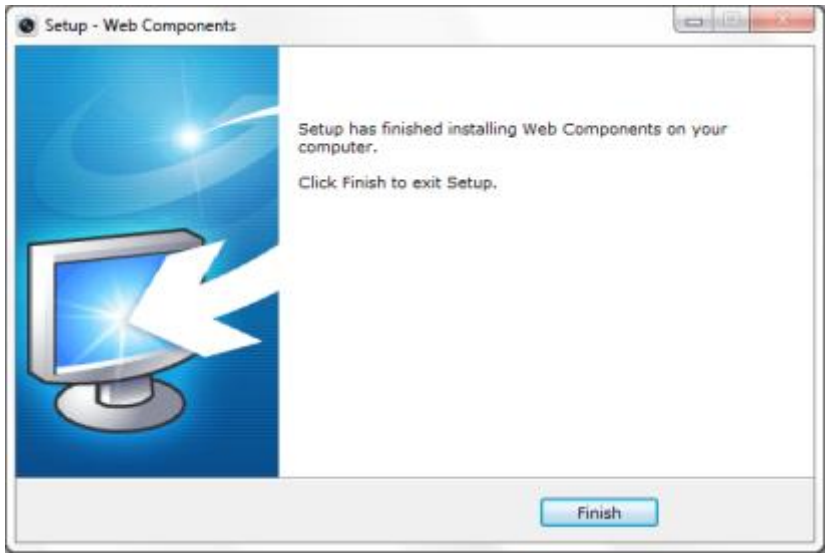

Figure 4-4 Install Plug-in (2)

6. Reopen the web browser after the installation of the plug-in and repeat steps 2~4 to login.

NOTE

For detailed instructions of further configuration, please refer to the user manual of network camera.