



Getting Started

This chapter provides information about getting started with and understanding the IP camera. It includes the following sections:

- [Overview, page 1-1](#)
- [Physical Description, page 1-2](#)
- [Power Adapters, page 1-4](#)
- [Hardware Installation, page 1-4](#)
- [LED Definitions, page 1-15](#)
- [Hardware Reset, page 1-15](#)
- [MicroSD/SDHC/SDXC Card Capacity, page 1-15](#)
- [Network Deployment, page 1-15](#)
- [Auto Focus, page 1-18](#)

Overview

The Cisco Video Surveillance 8020 (indoor) and 8030 (indoor/outdoor) IP Cameras are high-definition, full-functioned video endpoints with industry-leading image quality and processing power. The cameras are capable of 5MP resolution at 30 frames per second (fps) while optimizing network usage with H.264, H.265, or MJPEG compression. Contact closures and two-way audio allow integration with microphones, speakers, and access control systems. With their open, standards-based design, the cameras provide ideal platforms for integration and operation as independent devices or as part of a Cisco video surveillance network.

Key features and benefits of the Cisco Video Surveillance cameras include:

- **True high-definition video**—The cameras stream crisp and clear 5MP video at 30 fps while maintaining low network bandwidth.
- **Streaming**—The cameras can stream H.264, H.265, and MJPEG video simultaneously. Each video stream can be configured with individual resolution, quality, and frame-rate settings.
- **Day/night operation**—The cameras provide true day/night functionality, and include an infrared (IR) filter that automatically switches to night mode in low-light scenes. This function can be set to manual, automatic, or scheduled control.
- **Flexible power option**—The cameras support Power over Ethernet (PoE) 802.3af Class 0 for 8020 models, 802.3at Class 4 for 8030 models, and 12 VDC for both models.

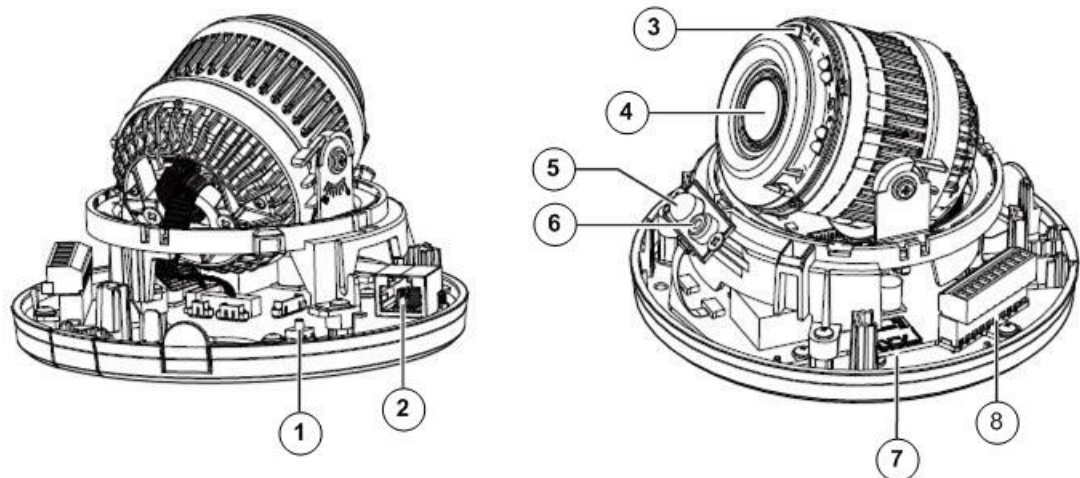
- Mounting options—The cameras can be installed to either a ceiling or wall.
- Motion Detection and Event notification—The cameras can examine designated areas for activity and notify users or other applications when they detect activity that exceeds a predefined sensitivity and threshold. The cameras also provide one digital input and one digital output that can be used to initiate specific actions when an alarm is detected.

Physical Description

The following figures illustrate the camera:

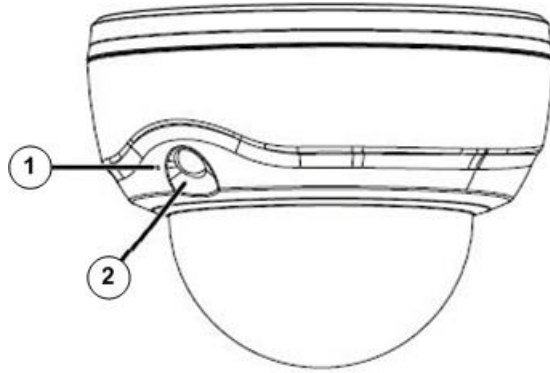
- [Figure 1-1](#)—Cisco Video Surveillance 8020 IP Camera inner view
- [Figure 1-2](#)—Cisco Video Surveillance 8020 IP Camera outer view
- [Figure 1-3](#)—Cisco Video Surveillance 8030 IP Camera physical view

Figure 1-1 Cisco Video Surveillance 8020 IP Camera Inner View



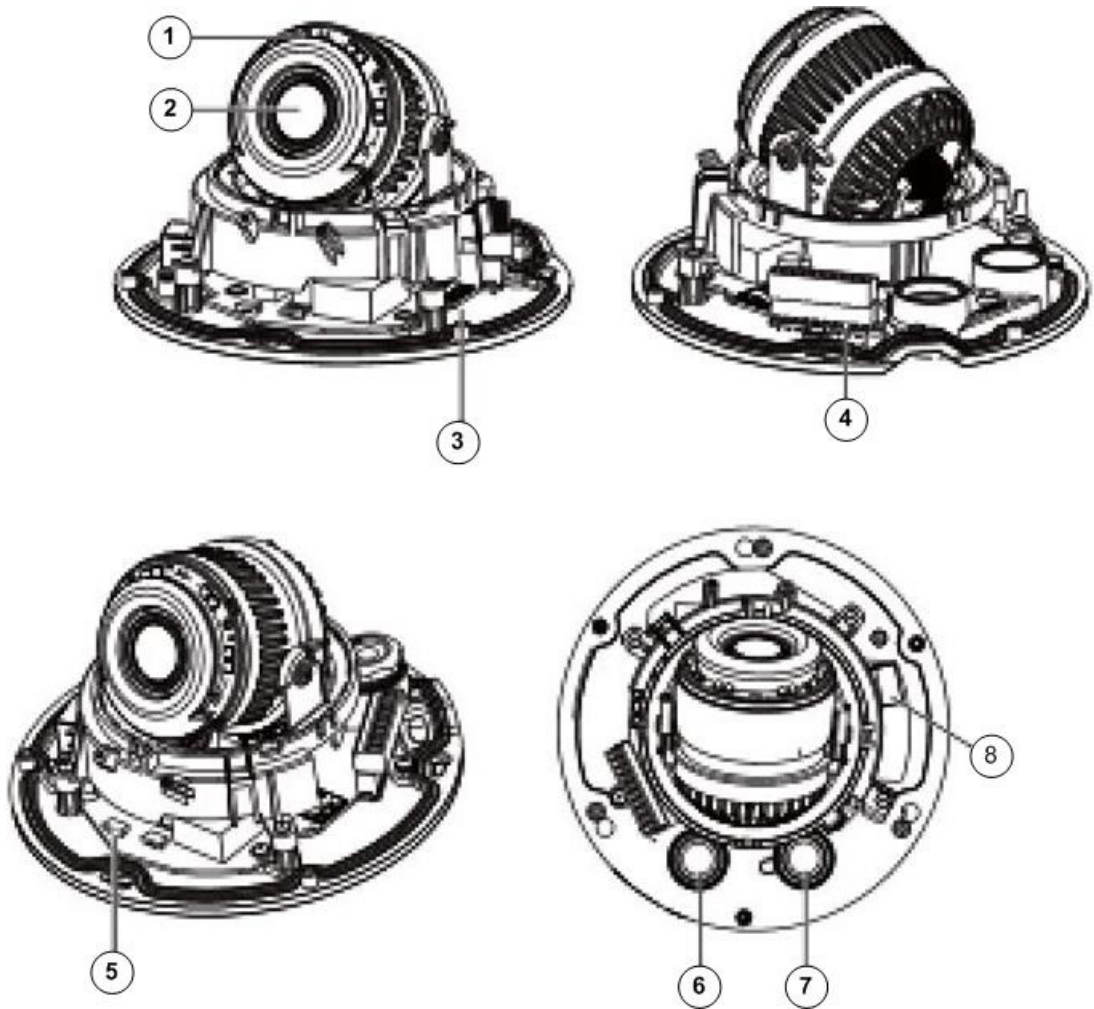
1	Reset button
2	RJ45 Ethernet port
3	IR LEDs
4	Motorized or fixed lens
5	PIR
6	Microphone
7	SD/SDHC/SDXC Card Slot
8	Terminal block

Figure 1-2 Cisco Video Surveillance 8020 IP Camera Outer View



1	Microphone
2	PIR

Figure 1-3 Cisco Video Surveillance 8030 IP Camera Physical View



1	IR LEDs
2	Motorized or fixed lens
3	SD/SDHC/SDXC card slot
4	Terminal block
5	Reset button
6	DI/DO wire inlet
7	Ethernet cable inlet
8	RJ45 Ethernet port

Power Adapters

Figure 1-4 Power Adapters

CIVS-IPC-8020	This product is intended to be supplied by a Listed Power Adapter with LPS, rated PoE 36-57Vdc, 0.7A-0.44A; 12Vdc, 1.75A min. (for model CIVS-IPC-8030); rated PoE 36-57Vdc, 0.4A-0.28A; 12Vdc, 1.0A min. (for model CIVS-IPC-8020)
CIVS-IPC-8020-S	
CIVS-IPC-8030	
CIVS-IPC-8030-S	

Hardware Installation

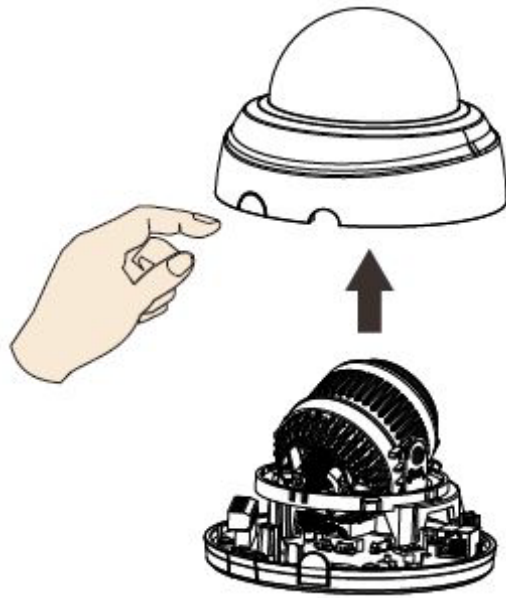
The following sections describe how to install your camera:

- [Cisco Video Surveillance 8020 IP Camera Hardware Installation, page 1-4](#)
- [Cisco Video Surveillance 8030 IP Camera Hardware Installation, page 1-8](#)

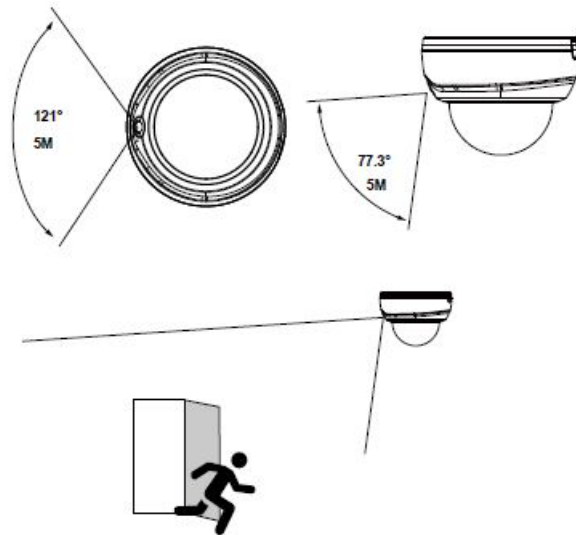
Cisco Video Surveillance 8020 IP Camera Hardware Installation

To perform the hardware installation of the Cisco Video Surveillance 8020 IP Camera, follow these steps:

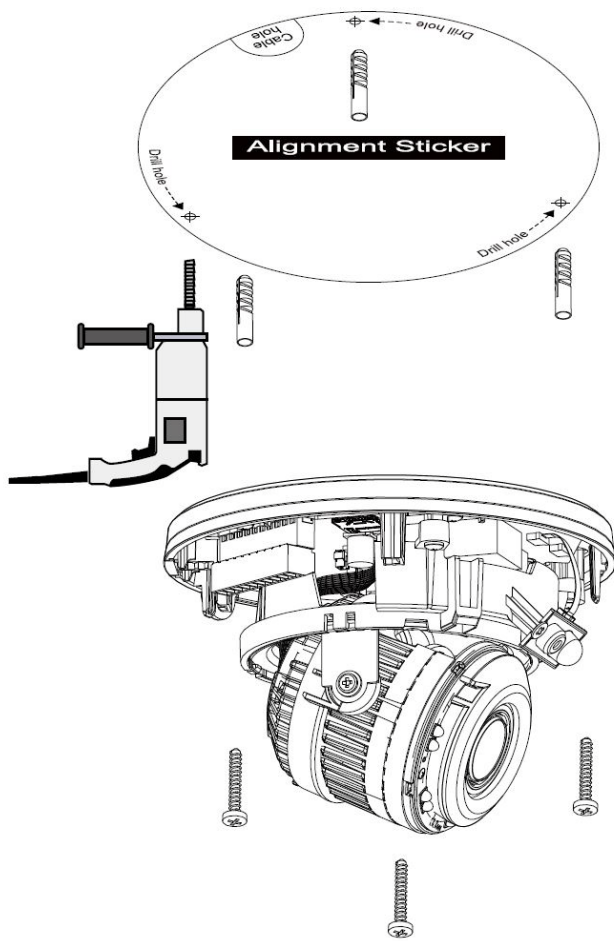
-
- Step 1** Make a note of the MAC address of the camera.
The MAC address is printed on the label that is attached to the camera.
- Step 2** Remove the dome cover by pressing the release button.



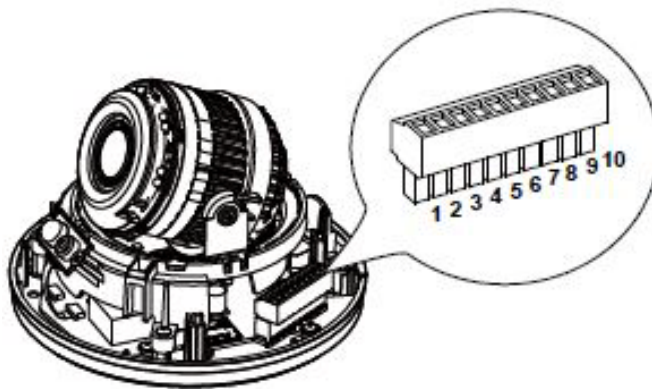
- Step 3** The camera comes with a PIR sensor. Plan your installation position so that the PIR can cover the area of your interest where the intrusion may occur. The rated detection distance is 5 meters.



- Step 4** Attach the alignment sticker to a preferred location. Drill holes on the wall or ceiling to install the plastic anchor and secure the camera using the included screws.
If preferred, drill one routing hole.

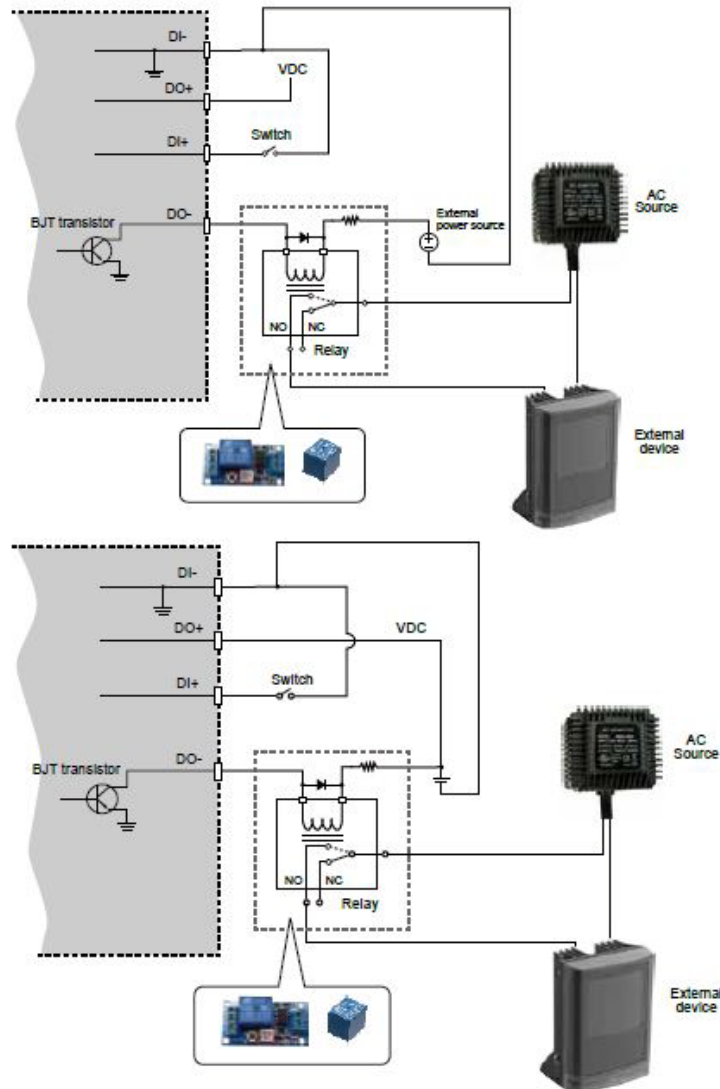


Step 5 If applicable, connect DI/DO wires, 12V DC power, or audio wires to the terminal block.



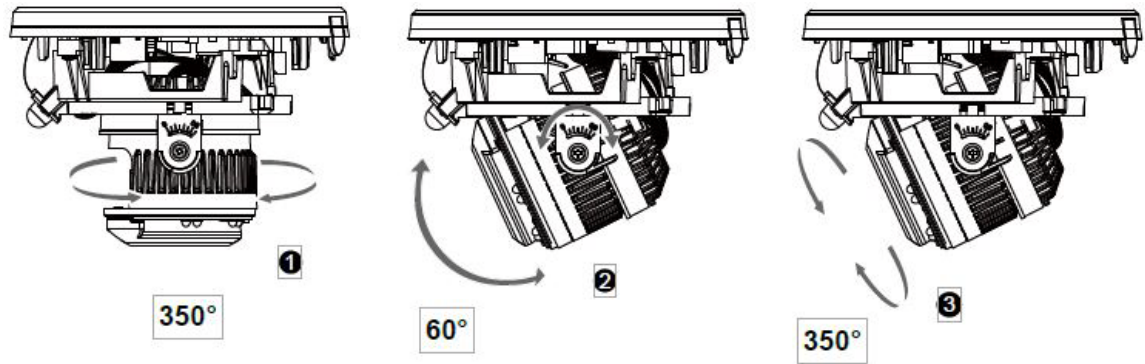
#	Name
1	EXT_MIC_N
2	EXT_MIC_P
3	Audio_out-
4	Audio_out+
5	DI-
6	DI+
7	DO-
8	DO+
9	12V DC-_IN
10	12V DC+_IN

Here is the DI/DO Diagram:

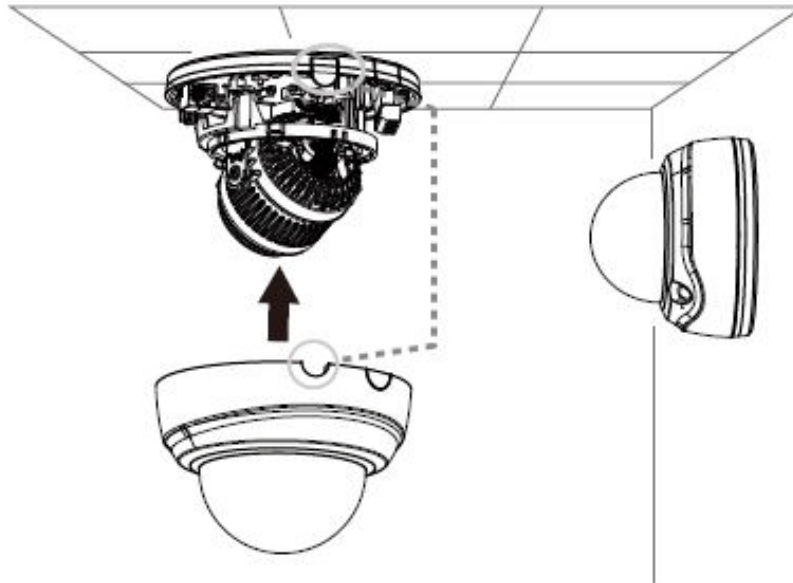


- The DO+ pin provides 5V output voltage, and the max. load is 50mA.
- The max. voltage for DO- pins is 80VDC (External power). In order to control AC devices, the above diagram can be taken in consideration. The diagram uses a relay to control the ON/OFF condition of the AC device.
- An external relay can be triggered by using DO+ or by an external power source, depending on the type of relay you use.
- In case of using an individual relay (instead of using a relay module), for protection against voltage or current spikes, a transient voltage suppression diode must be connected in parallel with the inductive load.

Step 6 Adjust the shooting direction by turning and orienting the lens module. Use a Phillips screwdriver to loosen the retention screws on the sides.



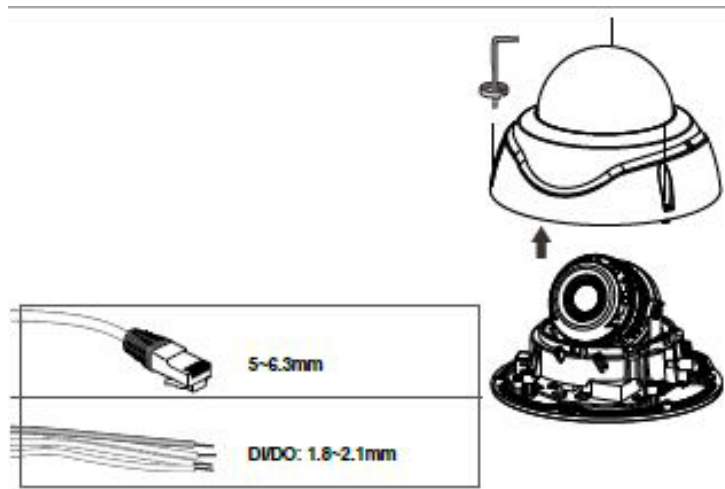
Step 7 Adjust the shooting direction by turning and orienting the lens module. Use a Phillips screwdriver to loosen the retention screws on the sides.



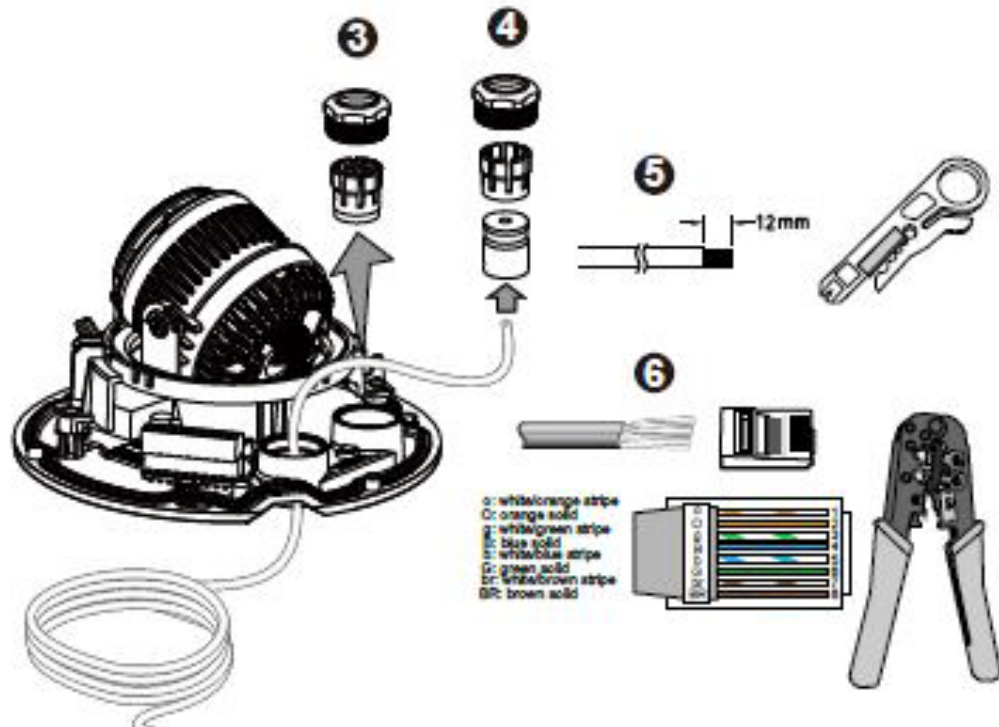
Cisco Video Surveillance 8030 IP Camera Hardware Installation

To perform the hardware installation of the Cisco Video Surveillance 8030 IP Camera, follow these steps:

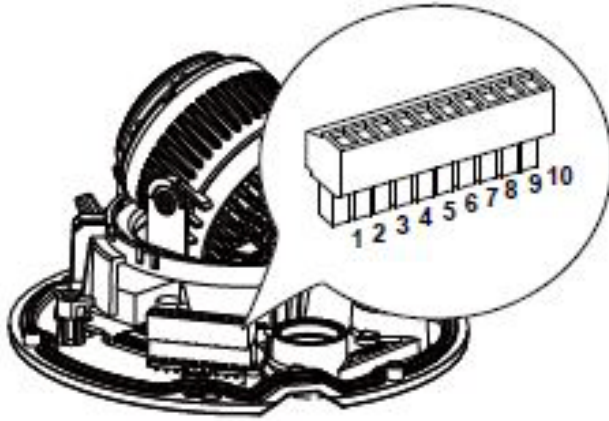
- Step 1** Make a note of the MAC address of the camera.
The MAC address is printed on the label that is attached to the camera.
- Step 2** Use the included T8 wrench to remove the dome cover. If local recording is preferred, install an SD card.



- Step 3** Loosen and remove the waterproof connectors.
- Step 4** Insert an Ethernet cable through the cable gland, and the rubber seal.
- Step 5** Remove part of cable sheath.
- Step 6** You will need an RJ45 crimping tool to attach the Ethernet wires to a connector. When done, connect the cable to the camera’s Ethernet RJ45 socket.

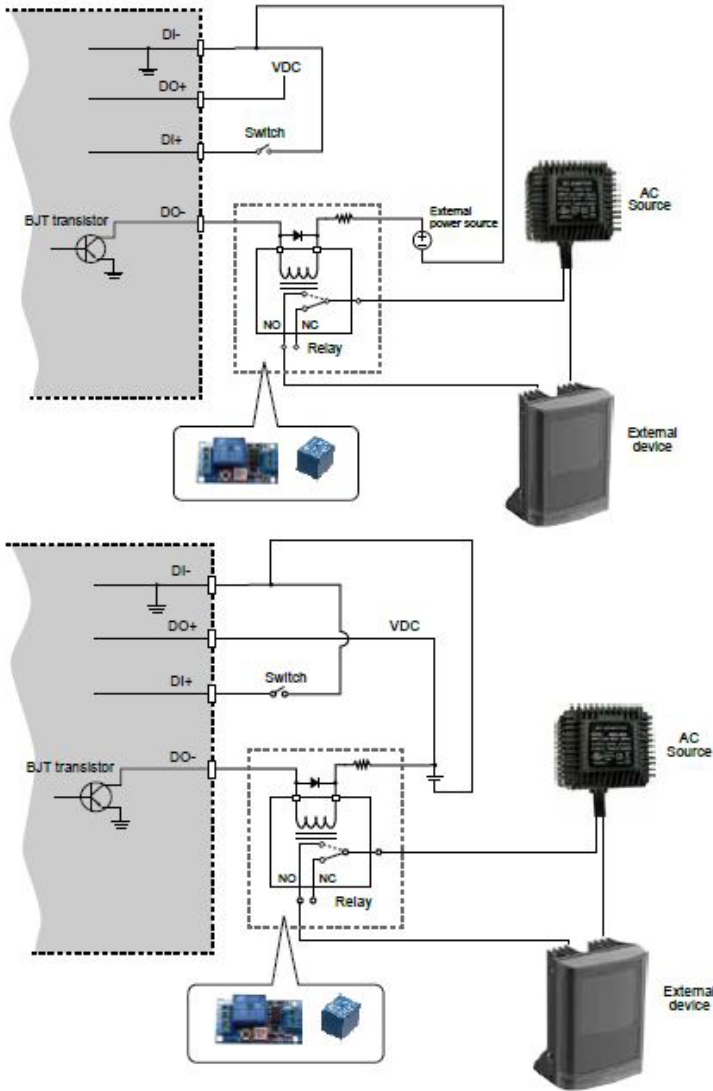


- Step 7** If applicable, connect DI/DO wires, 12V DC power, or audio wires to the terminal block.



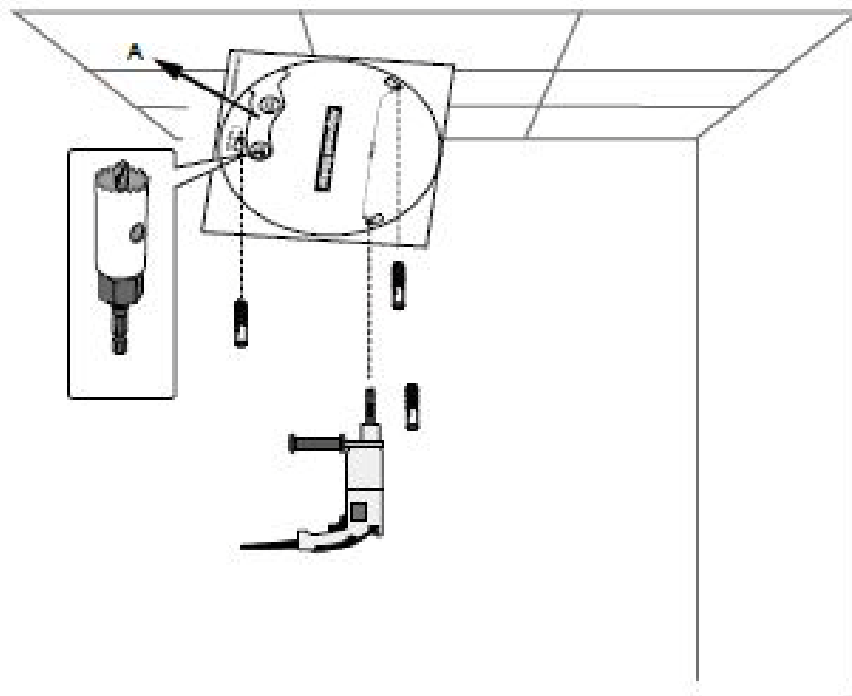
#	Name
1	EXT MIC N
2	EXT MIC P
3	Audio out-
4	Audio out+
5	DI-
6	DI+
7	DO-
8	DO+
9	12V DC- IN
10	12V DC+ IN

Here is the DI/DO Diagram:

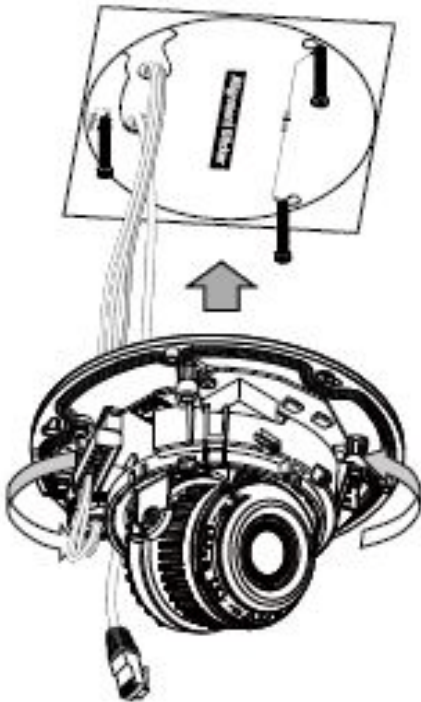


- The DO+ pin provides 5V output voltage, and the max. load is 50mA.
- The max. voltage for DO- pins is 80VDC (External power). In order to control AC devices, the above diagram can be taken in consideration. The diagram uses a relay to control the ON/OFF condition of the AC device.
- An external relay can be triggered by using DO+ or by an external power source, depending on the type of relay you use.
- In case of using an individual relay (instead of using a relay module), for protection against voltage or current spikes, a transient voltage suppression diode must be connected in parallel with the inductive load.

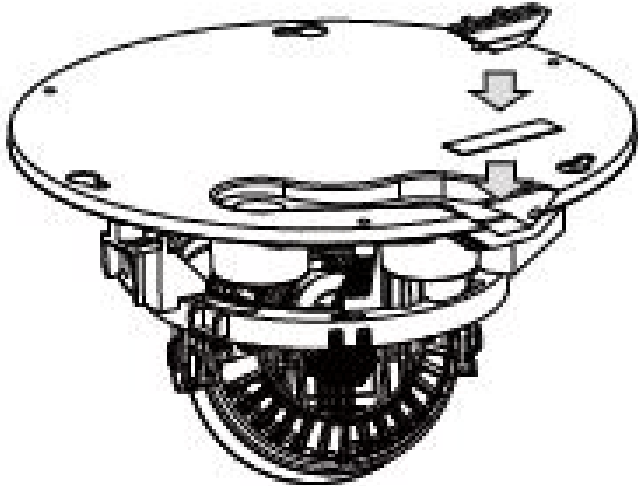
Step 8 Attach the included alignment sticker to a preferred location. Drill holes for mounting screws and if preferred, drill one or two routing holes.

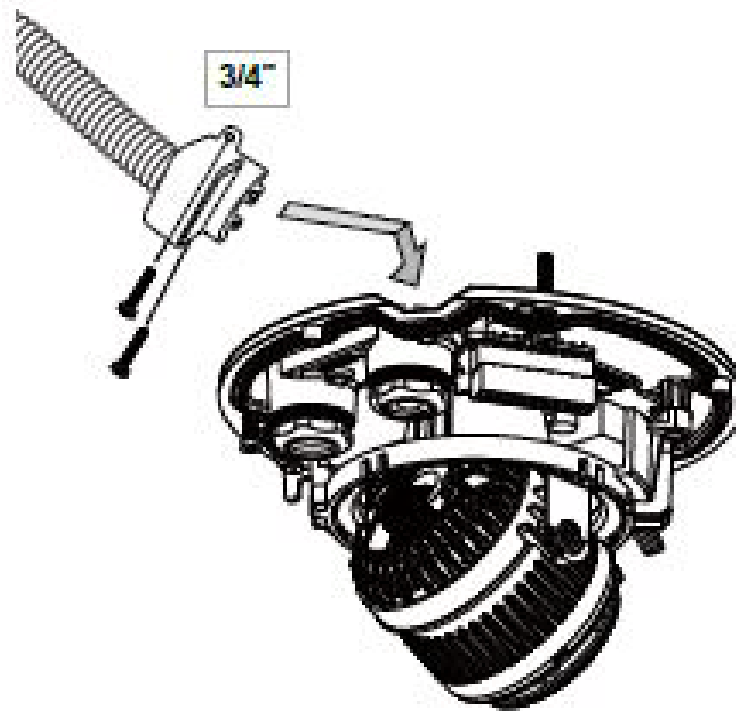


Step 9 When fastening the screws, do not completely tighten the screws. Pass cables through the routing holes, and then mount the camera by passing the screw heads through the keyhole slots. Turn the camera counter-clock wise, and then fasten the screws.



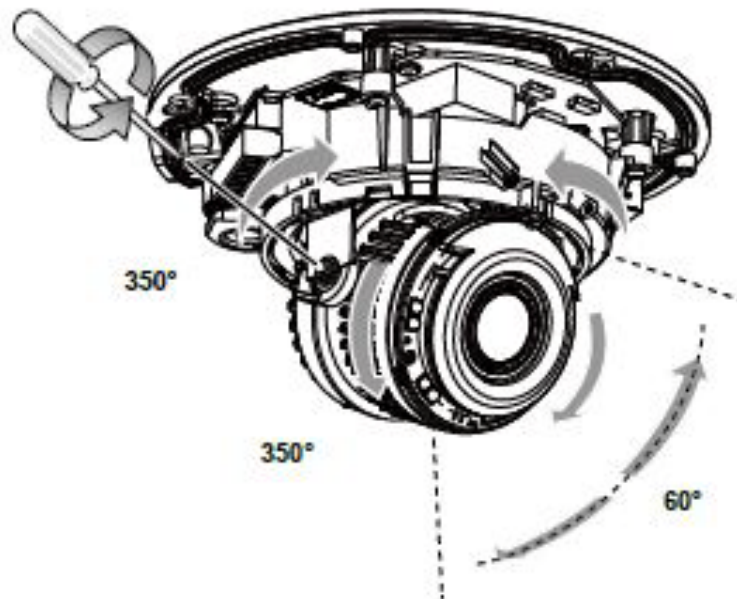
Step 10 If you do not need to route your cables through the side opening, you can use the double-sided tape to attach a plastic stopper to the opening on the side of the camera.



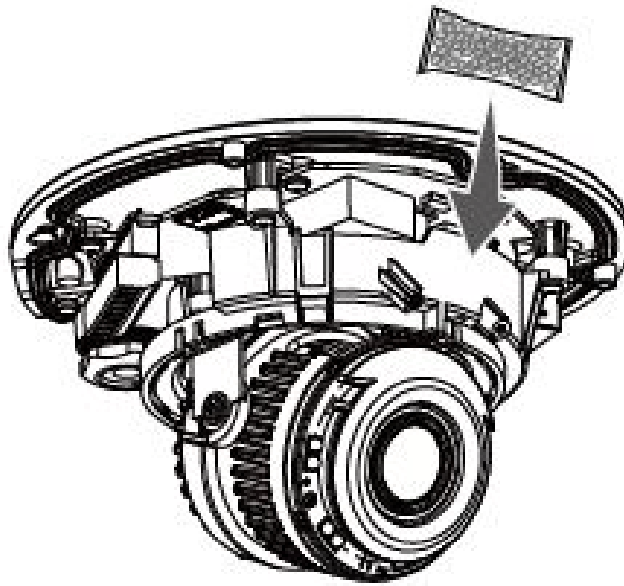


Avoid using a conduit with a hex nut larger than 35mm.

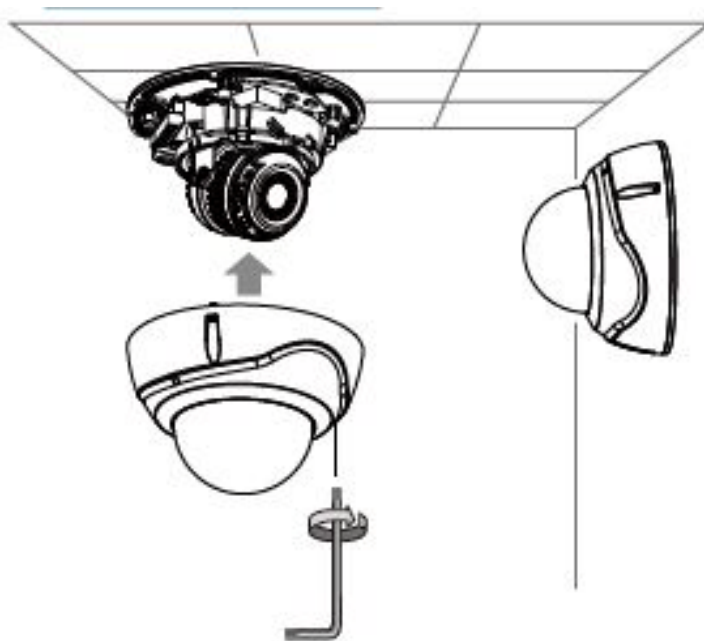
- Step 11** With a live view displayed on your laptop, adjust the zoom and focus to obtain an optimal image. Check the live view to ensure the image is in focus.



- Step 12** Replace the desiccant bag on the camera.



Step 13 Align and install the dome cover.



Step 14 With a live view displayed on your laptop, adjust the zoom and focus to obtain an optimal image. Check the live view to ensure the image is in focus. [Include this step? If yes, do we need to tell users how to get to this live image?]

LED Definitions

Table 1-1 describes the LEDs on the Cisco Video Surveillance IP Camera.

Table 1-1 IP Camera LEDs

Item	LED Status	Description
1	Steady red	Powered and system booting, or network failed
	Red LED off	Power off
	Green LED off	Network disconnected
2	Steady red and green LED blinks every 1 second	Connected to network
3	Green LED blinks every 1 second and red LED blinks consecutively every 0.15 second	Upgrading firmware
4	Green and red LEDs blink every 0.15 second, green and red light on, then blink again	Restoring defaults
5	Red LED is on, green LED blinks and red LED is constantly on	Status after a reset (network connected)
	Green and red LEDs are constantly on	Status after a reset (network disconnected)

Hardware Reset

The recessed button (see [Figure 1-1 on page 1-2](#) for the 8020 or [Figure 1-3 on page 1-3](#) for the 8030) is used to reset the system or restore the factory default settings. Sometimes resetting the system can return the camera to normal operation. If the system problems remain after reset, restore the factory settings and install again.

- **Reset**—Press the recessed reset button. Wait for the camera to reboot.
- **Restore**—Press and hold the reset button until the status LED rapidly blinks. All settings will be restored to factory default. Upon successful restore, the status LED will blink green and red during normal operation.

MicroSD/SDHC/SDXC Card Capacity

The camera is compliant with SD/SDHC/SDXC 16GB / 8GB / 32GB / 64GB and other preceding standard SD cards.

Network Deployment

The following sections provide information about deploying the camera on a network:

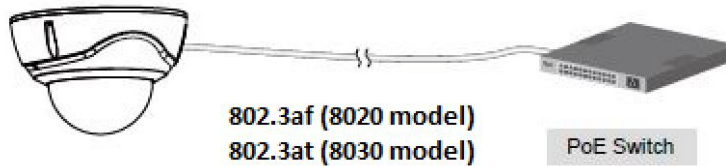
- [General Connection \(PoE\), page 1-16](#)
- [Network Connection, page 1-16](#)

General Connection (PoE)

Using a PoE-Enabled Switch

The camera is PoE-compliant, allowing transmission of power and data via a single Ethernet cable. [Figure 1-5](#) illustrates how to connect the camera to a PoE-enabled switch via an Ethernet cable.

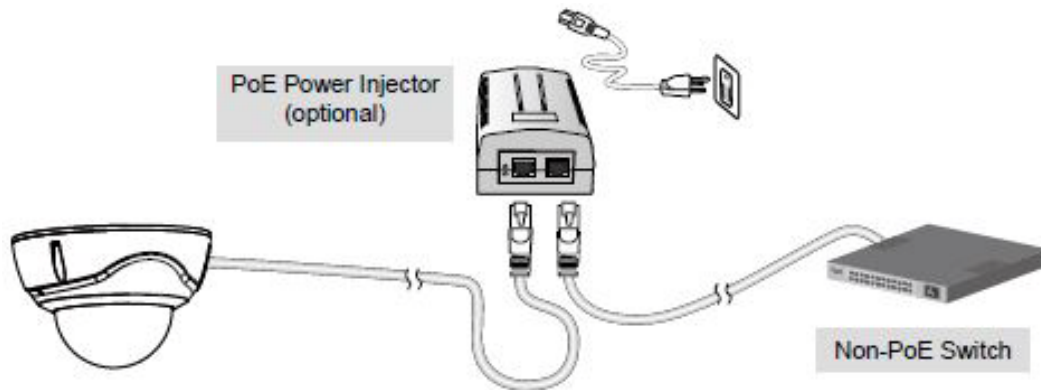
Figure 1-5 Connecting the Camera to a PoE-Enabled Switch



Using a Non-PoE Switch

Use a PoE power injector (optional) to connect between the camera and a non-PoE switch, as shown in [Figure 1-6](#).

Figure 1-6 Connecting the Camera to a Non-PoE Switch



Note

- The camera is only to be connected to PoE networks without routing to outside plants.
- For a PoE connection, use only UL listed I.T.E. with PoE output.

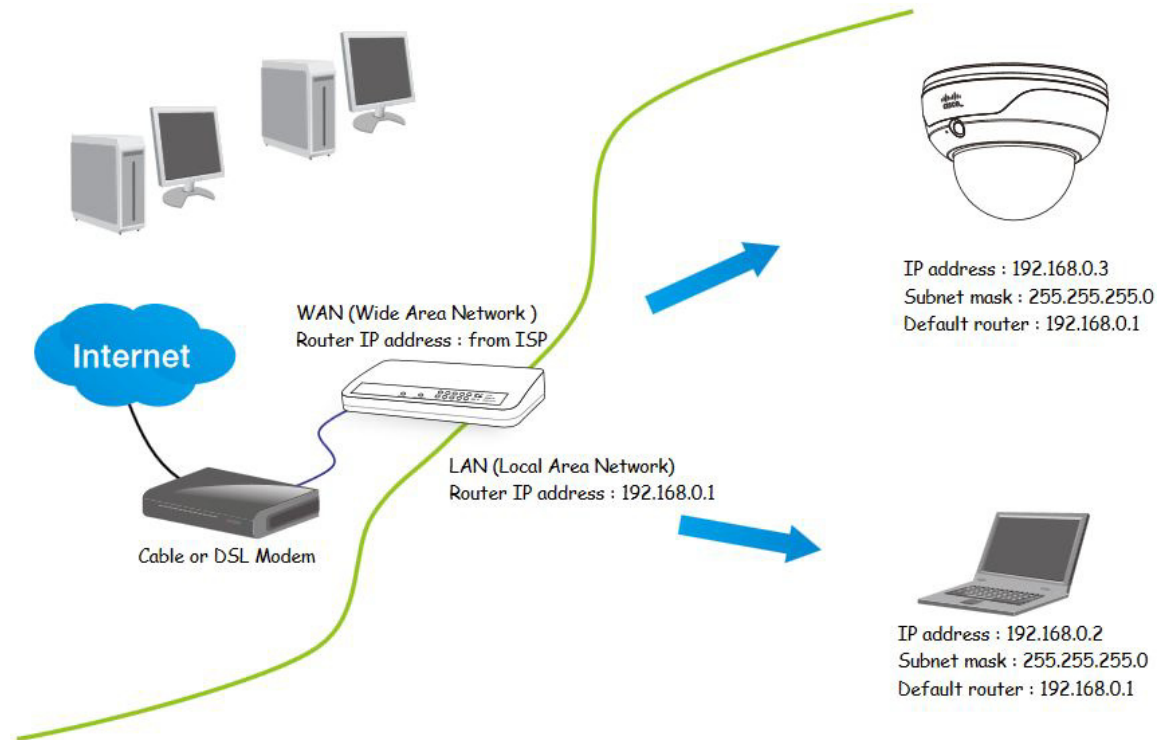
Network Connection

Internet Connection via a Router

To set up the camera over the Internet, make sure you have a router and follow these steps:

- Step 1** Connect your camera behind a router, the Internet environment is illustrated in [Figure 1-7](#).

Figure 1-7 Connecting the Camera Via a Router



Step 2 In this case, if the Local Area Network (LAN) IP address of your camera is 192.168.0.3, forward the following ports for the camera on the router.:

- HTTP port: default is 80
- RTSP port: default is 554
- RTP port for video: default is 5556
- RTCP port for video: default is 5557

If you have changed the port numbers on the Network page, open the ports accordingly on your router. For information about how to forward ports on the router, see your router documentation.

Step 3 Find out the public IP address of your router provided by your Internet Service Provider (ISP).

Use the public IP and the secondary HTTP port to access the camera from the Internet. See the [“Network > General settings”](#) section on page 5-19 for more information.

Internet Connection with Static IP

Choose this connection type if you are required to use a static IP for the camera. See the [“Network > General settings”](#) section on page 5-19 for more information.

Internet Connection via Point-to-Point over Ethernet (PPPoE)

Choose this connection type if you are connected to the Internet via a DSL Line. See description of PPPoE (Point-to-point over Ethernet) in the [“Network Type Tab”](#) section on page 5-19.

Configure the router, virtual server or firewall, so that the router can forward any data coming into a preconfigured port number to a camera on the private network, and allow data from the camera to be transmitted to the outside of the network over the same path.

From	Forward to
122.146.57.120:8000	192.168.2.10:80
122.146.57.120:8001	192.168.2.11:80
...	...

When properly configured, you can access a camera behind the router using the HTTP request such as: `http://122.146.57.120:8000`.

If you change the port numbers on the Network configuration page, open the ports accordingly on your router. For example, you can open a management session with your router to configure access through the router to the camera within your local network. See your network administrator for router configuration if you have troubles with the configuration.

For more information about network configuration options (such as that of streaming ports), choose **Configuration > Network Settings** in the IP camera web-based interface. Cisco also provides the automatic port forwarding feature as an NAT traversal function with the precondition that your router must support the UPnP port forwarding feature.

Auto Focus

On the web session, choose **Configuration > Media > Image > Focus**. Perform the Auto Focus function for best image. However, if you have cascaded cameras, do this one by one. Do not perform this function simultaneously on multiple cameras because the motorized lens also consume considerable power, and may cause the last camera on the line to hang.