



Cisco Video Surveillance PTZ IP Camera Installation Guide

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CONTENTS

Overview	iii
Organization	iii
Obtaining Documentation, Obtaining Support, and Security Guidelines	iii

CHAPTER 1

Overview	1-1
Introduction	1-1
Package Contents	1-2
PTZ IP Camera Physical Details	1-3
Status LEDs	1-4

CHAPTER 2

Installing the Camera	2-1
Installation Guidelines	2-1
Warnings Before Installation	2-2
Installing the PTZ IP Camera	2-3
Cabling Through Waterproof Connectors	2-4
Connecting the Cables	2-5
Preparing the Camera	2-6
Mounting to the Wall	2-7
Mounting to the Ceiling	2-9
Connecting to the Network	2-12

CHAPTER 3

Performing the Initial Setup of the IP Camera	3-1
--	------------

CHAPTER 4

Managing the Camera	4-1
Understanding the PTZ IP Camera User Interface	4-1
PTZ IP Camera Window Links	4-1
PTZ IP Camera Windows	4-2
Powering the PTZ IP Camera On or Off	4-3
Resetting the PTZ IP Camera	4-3
Viewing Live Video	4-4
Camera Settings	4-6
Motion Detection Settings	4-9
Pan/Tilt/Zoom Settings	4-10

Privacy Zone 4-12



Preface

Overview

This document, *Cisco Video Surveillance PTZ IP Camera Installation Guide*, provides information about installing and deploying the following Cisco Video Surveillance PTZ IP cameras:

- Cisco Video Surveillance SD Outdoor 2830 PTZ IP Camera, NTSC
- Cisco Video Surveillance SD Outdoor 2835 PTZ IP Camera, PAL
- Cisco Video Surveillance HD Outdoor 6930 PTZ IP Camera

Organization

This manual is organized as follows:

Chapter 1, “Overview”	Provides an overview of the IP camera and its features.
Chapter 2, “Installing the Camera”	Provides instructions for physically installing the IP camera.
Chapter 3, “Performing the Initial Setup of the IP Camera”	Provides instructions for performing the initial network setup of the IP camera.
Chapter 4, “Managing the Camera”	Provides instructions for accessing and understanding the IP camera user interface, adjusting its focus and, powering the IP camera on and off, and resetting the IP camera.

Obtaining Documentation, Obtaining Support, and Security Guidelines

For information about obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What’s New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What’s New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.



CHAPTER

1

Overview

This chapter describes the Cisco Video Surveillance pan, tilt, and zoom (PTZ) IP cameras, and includes the following topics:

[1 Introduction, page 1-1](#)

- [Package Contents, page 1-2](#)
- [PTZ IP Camera Physical Details, page 1-3](#)

Introduction

The Cisco Video Surveillance PTZ IP cameras are primarily used for monitoring wide open outdoor areas such as building entrances, airports, highways, and parking lots.

The dome cover protects the camera body against rain and dust. The wide temperature range allows the camera to operate under extreme weather conditions.

The following PTZ IP cameras are available:

- Cisco Video Surveillance SD Outdoor 2830 PTZ IP Camera, NTSC
- Cisco Video Surveillance SD Outdoor 2835 PTZ IP Camera, PAL
- Cisco Video Surveillance HD Outdoor 6930 PTZ IP Camera

For installers, properly adjusting the focus of an HD IP camera can be difficult due to the image detail. To make installation and adjustment easier, the PTZ IP camera incorporates built-in stepping motors that the installer can use to remotely control the focal length and precisely adjust the camera focus.

For complete installation and tampering prevention, the PTZ IP camera also fits different conduits and corrugated tubes sizes for cable installation.

Package Contents

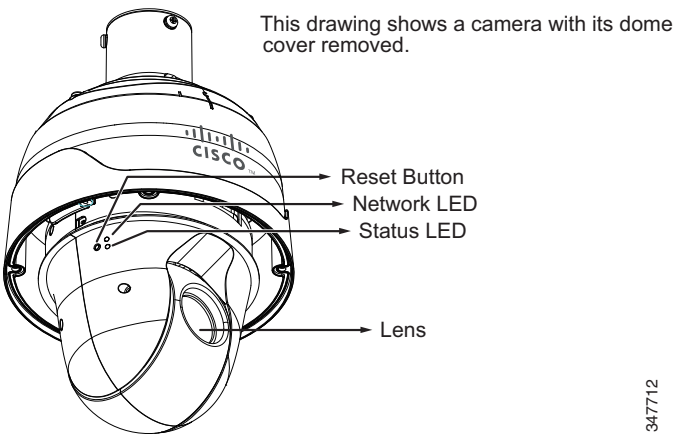
The Cisco Video Surveillance PTZ IP camera package includes the following items:

- Cisco Video Surveillance PTZ IP Camera (1)
- Pendant cap (1)
- Screw driver (1)
- Ethernet cable (1)
- O-RING (1)
- Ground wire (1)
- Waterproof connector (1)
- Connector (1)
- Terminal blocks (2)
- Silica gel packets (2)
- Twin adhesives (2)
- Screws M5x8 (3)
- Screws M4x8 (3)
- Screw M3x5 (1)
- Extra set of product labels (3)
- Cisco documentation pointer card (P/N: 78-21181-01)
- Cisco RoHS document (1)

PTZ IP Camera Physical Details

Figure 1-1 and the table that follows describe the outer view of the PTZ IP camera.

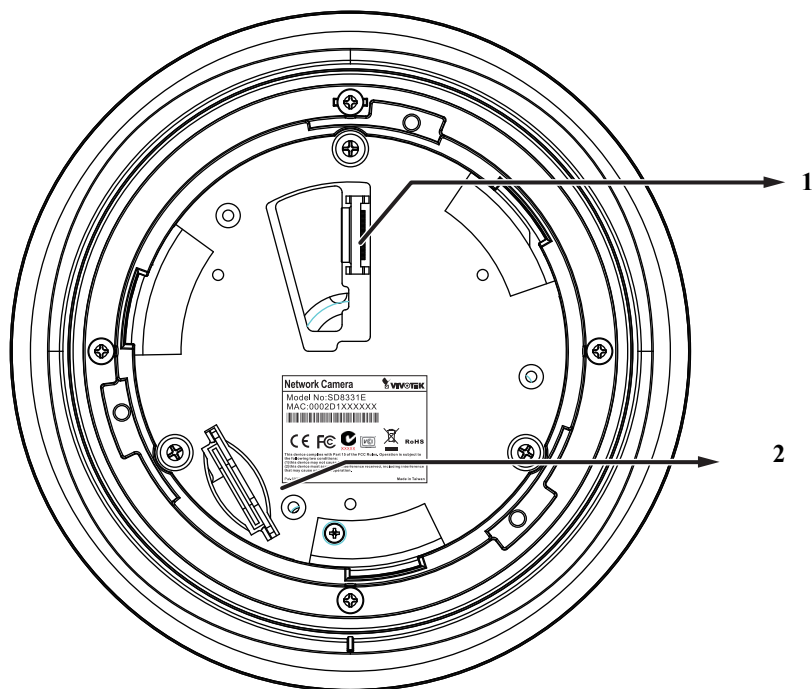
Figure 1-1 Outer View of the PTZ IP Camera



Reset Button	<p>Recessed button that reboots the PTZ IP camera or resets it to a default state. You can use a pin or paper clip to depress it.</p> <p>Depending on how long you depress the reset button, you can do either of the following:</p> <ul style="list-style-type: none"> Reset—Press and release the reset button. Wait for the PTZ IP camera to reboot. Restore—Press and hold the reset button for about 30 seconds. All settings are restored to the factory defaults.
Network LED	Status of the network to which the camera is attached.
Status LED	Status of the PTZ IP camera. For more information, see Table 1-1 .
Lens	Lens that pans, tilts and zooms.

Figure 1-2 and the table that follows describe the inner view of the PTZ IP camera.

Figure 1-2 Inner View of the PTZ IP Camera



1	Board-to-board Connector	Board to board connector.
2	SD/SDHC/SDXC Card Slot	Slot for the SD, SDHC, or SDXC card.

Status LEDs

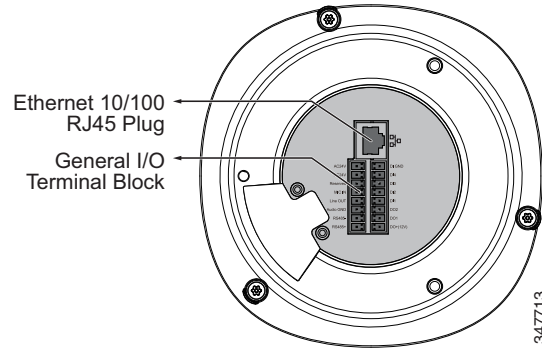
Table 1-1 describes the LED indicator for each PTZ IP camera status state.

Table 1-1 Status LEDs

LED	Status
Green	Camera is done booting and is available for use.
Steady Red	Power on and system booting.
Red LED unlighted	Power off.
Steady Red + blinking Green every 1 sec.	Network works (heartbeat)
Steady Red + Green LED unlighted	Network fail
Steady Red + blinking Green every 2 sec.	Audio mute (heartbeat).
Blinking Red every 0.15 sec. + blinking Green every 1 sec.	Upgrading firmware
Blinking Red every 0.15 sec. + blinking Green every 0.15 sec.	Restore default

Figure 1-3 shows the interface view of the PTZ IP camera.

Figure 1-3 *Interface View*



Ethernet 10/100 RJ45 Plug	Plug for a standard LAN cable to connect the PTZ IP camera to a 10/100BaseT router or switch.
General I/O Terminal Block	General purpose input/output (GPIO) terminal block that is used to connect external input and output devices. For more information, see Table 1-2 .

Table 1-2 shows the order of the GPIO terminal block.

Table 1-2 *GPIO Terminal Block*

AC24V		DI GND
AC24V		DI4
Reserved		DI3
MIC IN		DI2
Line OUT		DI1
Audio GND		DO2
RS485-		DO1
RS485+		DO+(12V)



Installing the Camera

This chapter provides information and instructions for installing the Cisco Video Surveillance PTZ IP camera, and includes the following topics:

- [Installation Guidelines, page 2-1](#)
- [Warnings Before Installation, page 2-2](#)
- [Installing the PTZ IP Camera, page 2-3](#)
- [Connecting to the Network, page 2-12](#)

The installation procedures apply to the following PTZ IP cameras:

- Cisco Video Surveillance SD Outdoor PTZ IP Camera, NTSC (CIVS-IPC-2830)
- Cisco Video Surveillance SD Outdoor PTZ IP Camera, PAL (CIVS-IPC-2835)
- Cisco Video Surveillance HD Outdoor PTZ IP Camera (CIVS-IPC-6930)

Installation Guidelines

Before you begin the installation, review these guidelines:

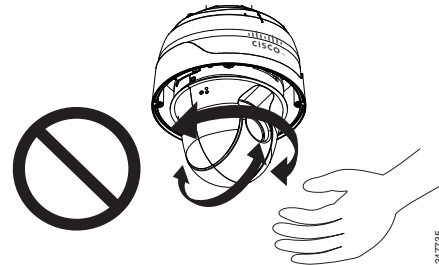
- The PTZ IP camera requires a network cable and a connection to a standard 10/100BaseT router or switch. To power the PTZ IP camera with Power over Ethernet (PoE), a switch must be 802.3af compliant.
- If you are using the PTZ IP camera on a network connection that does not provide PoE, you must use a third-party AC 24V power adapter.
- If you are using an external speaker, microphone, input device, output device, or pan/tilt control device, you must configure additional settings after installing and performing the initial set up of the PTZ IP camera before the external device can fully operate. For detailed information about these settings, see the *Cisco Video Surveillance PTZ IP Camera Configuration Guide*.
- If you do not connect an external device (speaker, microphone, input, output, or pan/tilt control) when you perform the following installation procedure, you can install any of these devices later.

Warnings Before Installation

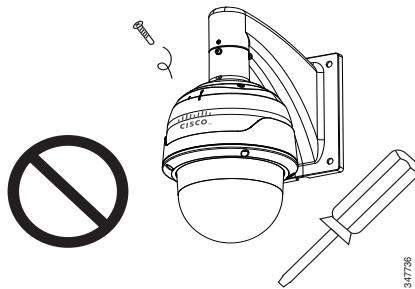
- Power off the PTZ IP camera as soon as smoke or unusual odors are detected.

Contact your distributor in the event of this happening.

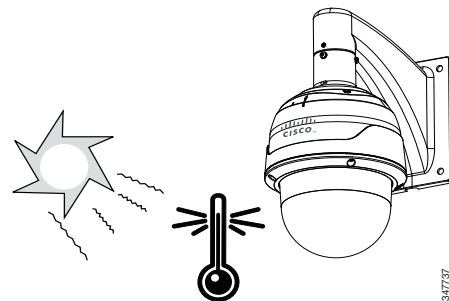
- Do not manually pan and tilt the PTZ IP camera when the power is on.



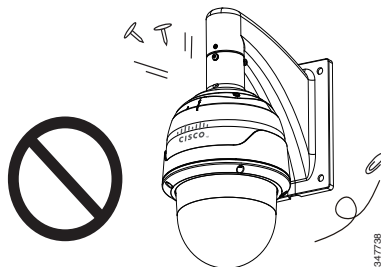
- Do not disassemble the PTZ IP camera.



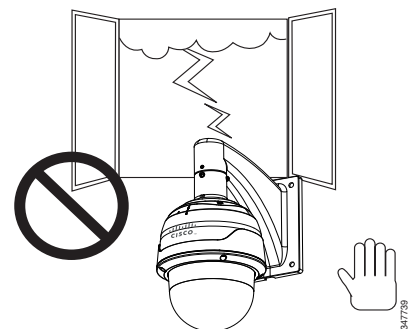
- Refer to the PTZ IP Configuration Guide for the operating temperature.



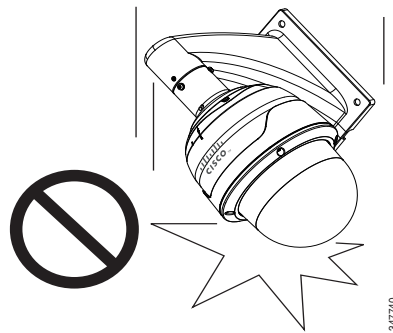
- Do not insert sharp or tiny objects into the PTZ IP camera.



- Do not touch the PTZ IP camera during a lightning storm.



- Do not drop the PTZ IP camera.

**Warning**

Installation of the equipment must comply with local and national electrical codes. Statement 1074

**Warning**

The power supply must be placed indoors. Statement 331

**Note**

If you use the IP camera outdoors, place the camera and the power supply in a suitable NEMA enclosure.

**Warning**

This product must be connected to a power-over-ethernet (PoE) IEEE 802.3af compliant power source or an IEC60950 compliant limited power source. Statement 353

**Caution**

Inline power circuits provide current through the communication cable. Use the Cisco provided cable or a minimum 24AWG communication cable.

**Note**

The power adapter that you use with the IP camera must provide power that is within $\pm 10\%$ of the required power.

**Note**

The equipment is to be connected to a Listed class 2, limited power source.

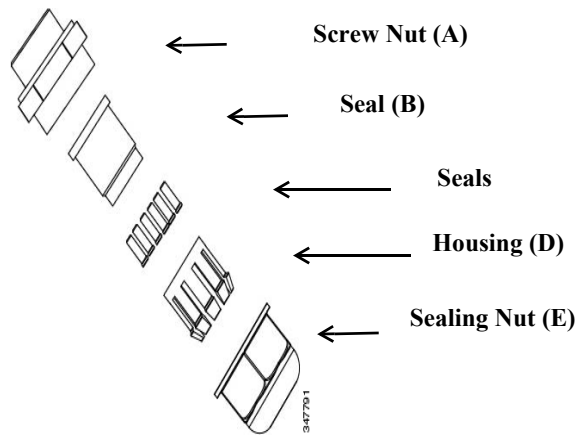
Installing the PTZ IP Camera

Use the procedures in this section to install the PTZ IP camera.

Cabling Through Waterproof Connectors

Perform the following steps to install and connect an external power cable and I/O cables for external devices:

- Step 1** Disassemble the components of the waterproof connector into parts (A)–(E).

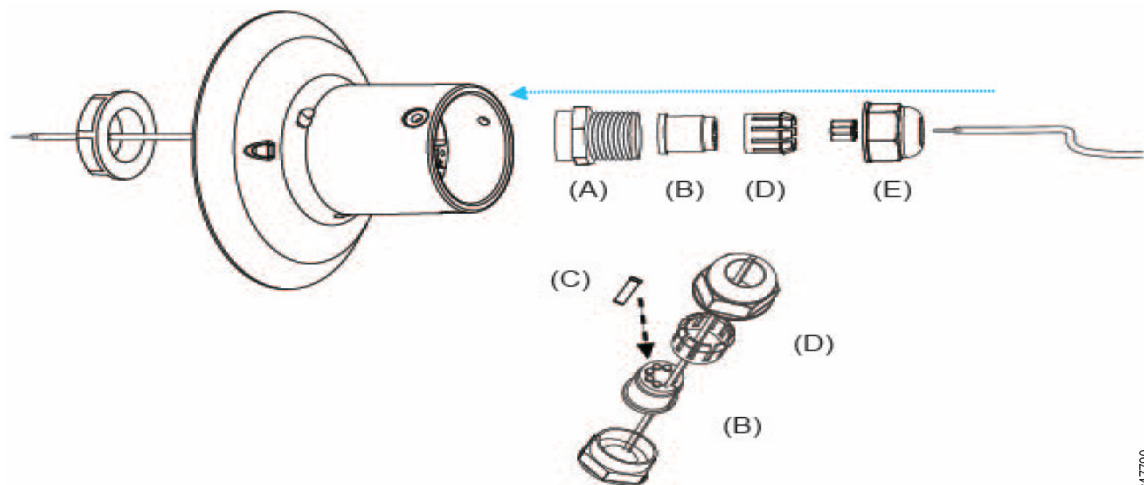


- Step 2** Remove the plastic stopper from the bottom of the dome cap and keep the M20 hex nut.
- Step 3** Depending on the number of wires, remove seals (C) from the rubber seal (B).
- Step 4** Feed the power cable through the waterproof connector (E --> D --> B --> A). Be sure to feed enough power cable length through the waterproof connector to connect the power cable to the GPIO block.

The recommended cable gauge is 1.2–1.8 mm.



Note There are 16 holes on the seal (B), and the widest holes with a crack on the side are specific for power cables.



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- Step 5** Push the seal (B) into the housing (D).
- Step 6** Insert the seals (C) into unused holes on the seal (B) to avoid moisture.
- Step 7** Secure the sealing nut (E) and hex nut from the bottom of the camera tightly.
-

Connecting the Cables

Perform the following steps to install and connect the I/O wires and RJ45 Ethernet cable.

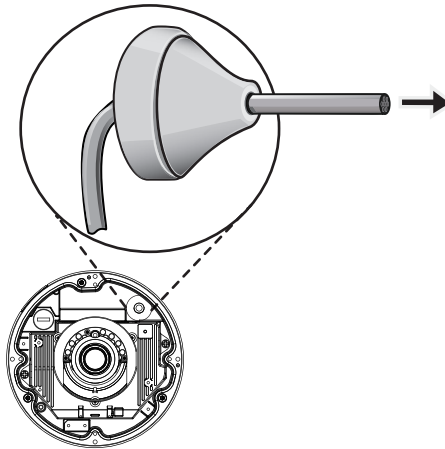
**Caution**

Avoid touching the circuit boards to prevent damage by electrostatic discharge.

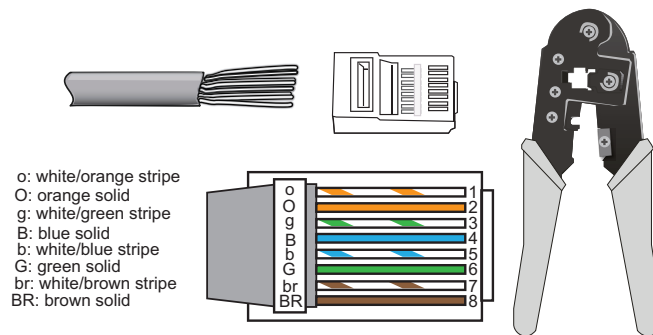
**Note**

We recommend using 24AWG (0.51 mm) gauge cable.

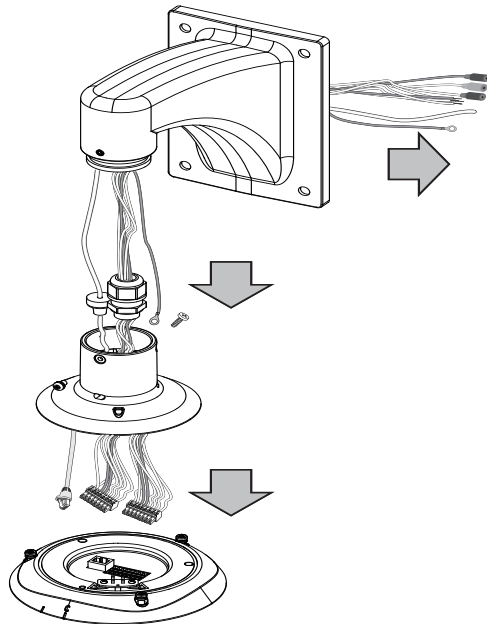
- Step 1** Use a small-size flat-blade screwdriver to secure I/O wires to the included terminal blocks.
- Step 2** Use a small screwdriver to make a hole in the rubber seal plug and insert an Ethernet cable (without a connector) through the opening.



- Step 3** Strip about 1/2 inch (12 mm) of the sheath from the Ethernet cable.
- Step 4** Use 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 5** Feed the Ethernet cable and I/O wires through the mounting bracket, the openings on the dome cap, and to the interface section. Insert the narrow end of the rubber seal plug through the dome cap from the top side for water proofing.
- Step 6** Secure the included ground wire to the dome cap, pass it through the mount bracket, and connect the other end to a grounded conduit later.



Preparing the Camera

Prior to mounting the camera to the wall or ceiling, attach the silica gel packets to the camera using these steps.

- Step 1** Remove the black dome cover of the camera.
- Step 2** Turn the camera upside down.
- Step 3** Attach the silica gel packets to the inside wall of the camera using the adhesive strips.

Step 4 Attach the black cover to the camera.

Mounting to the Wall

You can connect the PTZ IP camera to the wall using the following accessories:

- Goose neck for wall mount—CIVS-6KA-GNECK=
- Adapter—CIVS-PA-PTZADPTR=

Connecting to the Mount Bracket

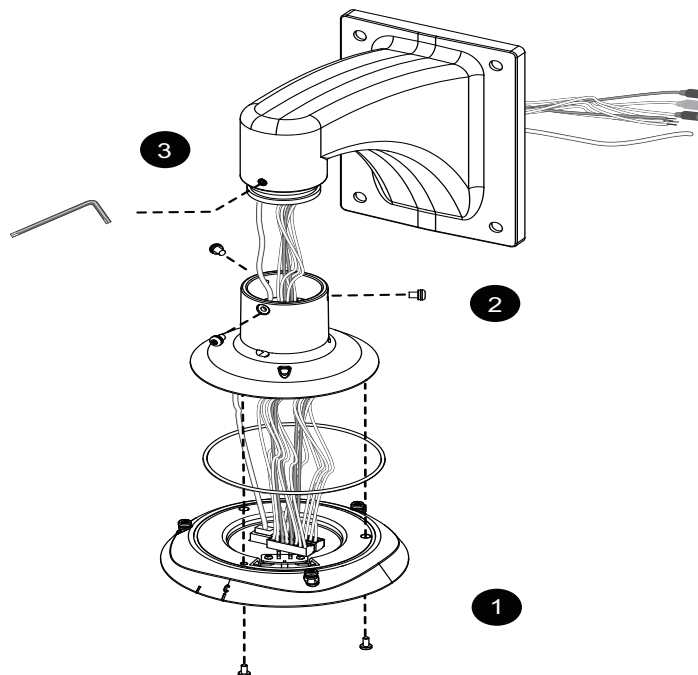
Use these steps to connect cables to the mount bracket.

Step 1 Press the seal ring into the groove on canister.

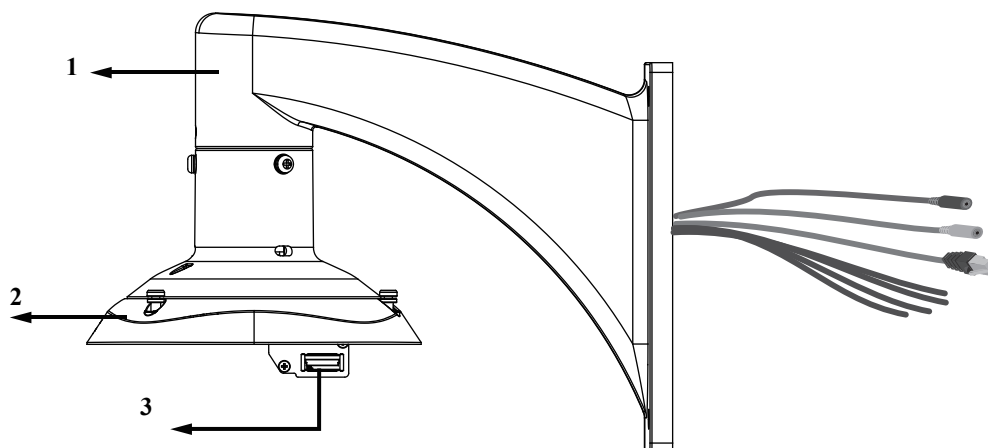
Use the black machine screws (M4x8) to attach the interface section to the dome cap.

Step 2 Secure the dome cap to the mount bracket.

Step 3 Use the included hex wrench to secure the connection.



You can now carry the camera and the top section to the installation site.



1	Mount bracket
2	Interface section
3	Board-to-board connector

Mounting the PTZ Camera



Note

Before mounting the camera, install an SD, SDHC, or SDXC card if you prefer recording to local storage.

- Step 1** Select a rigid mounting location to prevent vibration to the camera, and attach the alignment sticker to the wall.



Note

The camera weighs 3.66kg.

- Step 2** Drill four pilot holes (10mm in diameter and 4cm deep) into the wall, and hammer in threaded anchors.



Note

Hammer the anchors with hex nuts on them, so the threaded poles do not get deformed. If preferred, drill another hole for routing cables.

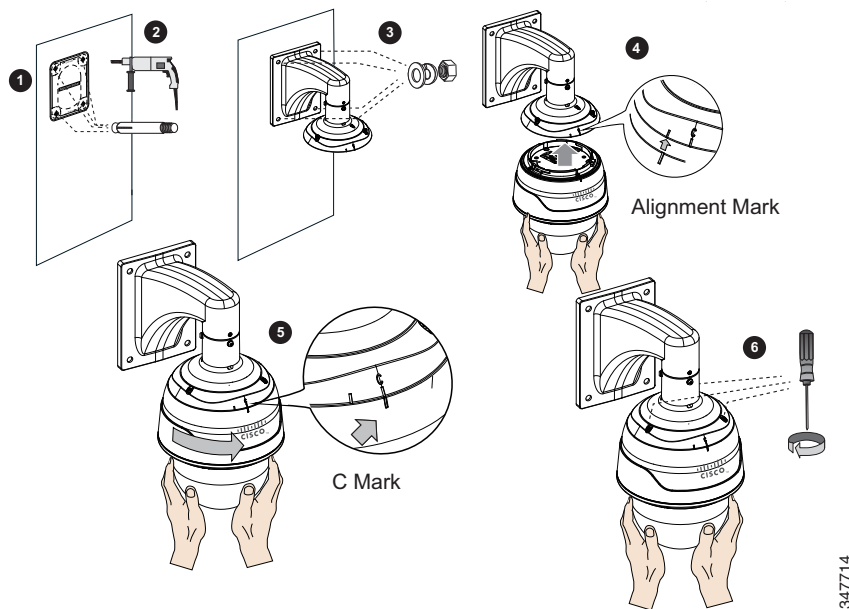
- Step 3** Secure the wall mount bracket to wall using four sets of captive washers and nuts.

- Step 4** Align the camera body with the top section.

- Align the alignment mark on the camera with that on the interface section.
- Push the camera up to match the top section.

- Step 5** Rotate the camera clockwise until its alignment mark is aligned with the “C” mark.

- Step 6** Use the included T25 stardriver to securely tighten the three anti-tamper screws from the top.



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Mounting to the Ceiling

You can connect the PTZ IP camera to the ceiling using the following accessories:

- 20cm Pendant Pipe with Adapter Installed—CIVS-PA-EXT=
- Pendant Head—CIVS-6KA-PENHEAD=

Connecting to the Pendant Pipe

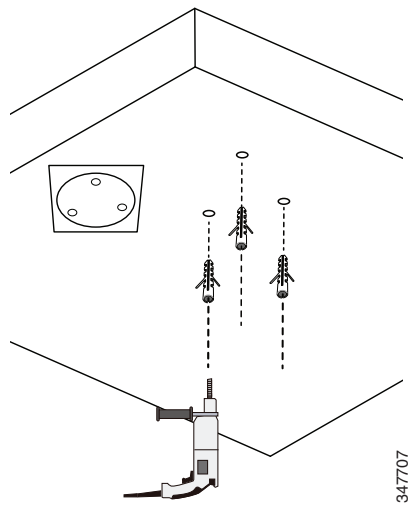
Use these steps to mount the camera to the ceiling using a pendant pipe.

- Step 1** Determine a hard surface ceiling location, and use the alignment sticker to mark the positions where holes will be drilled to secure the pendant head.

Hammer the anchors into the ceiling.

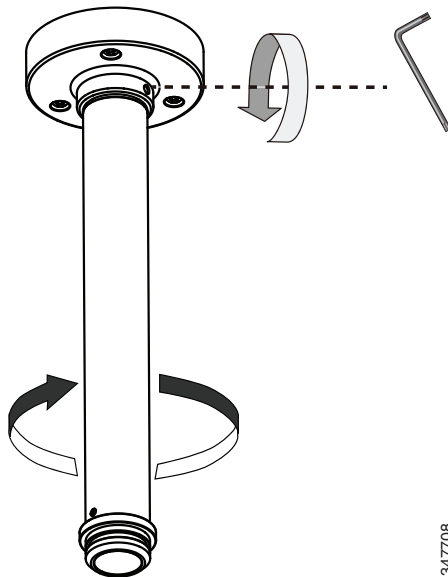


Note Mounting holes should be 10 mm in diameter and 60 mm deep. Use M6.2 x75mm screws.



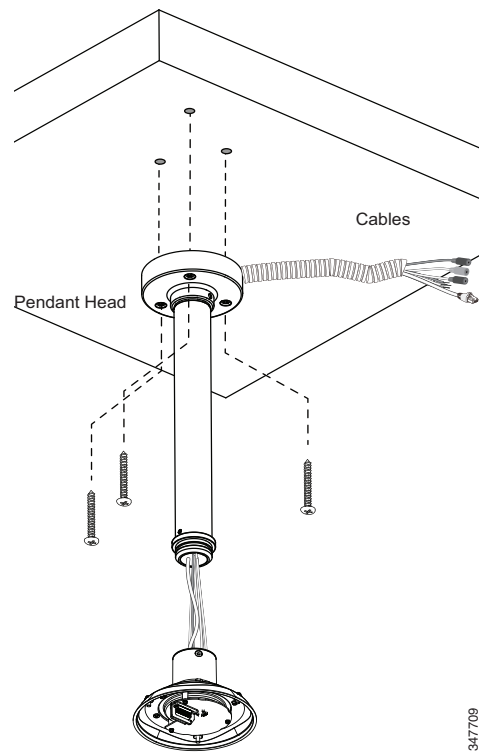
Step 2 Attach the pendant pipe to the pendant head by turning the pipe clockwise.

Step 3 Secure the connection using a 3mm hex wrench.

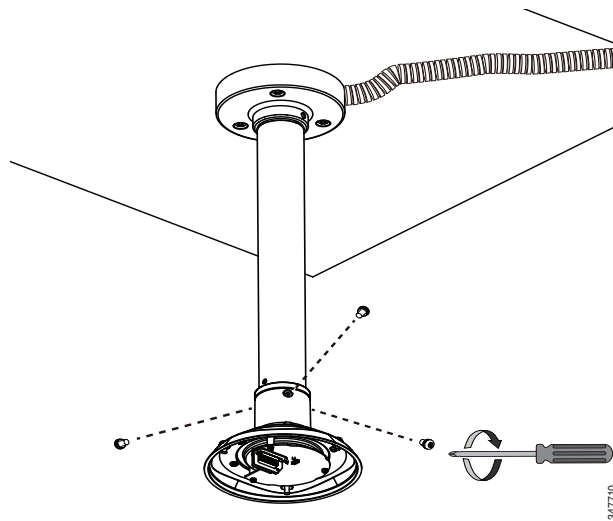


Step 4 Route power lines and other wires through the pendant head. You may apply a 1 inch conduit.

Step 5 Secure the pendant head to the ceiling by using the M6.2 x75mm screws.



Step 6 Secure the camera's top section to the pendant head by fastening 3 M5x8 screws.

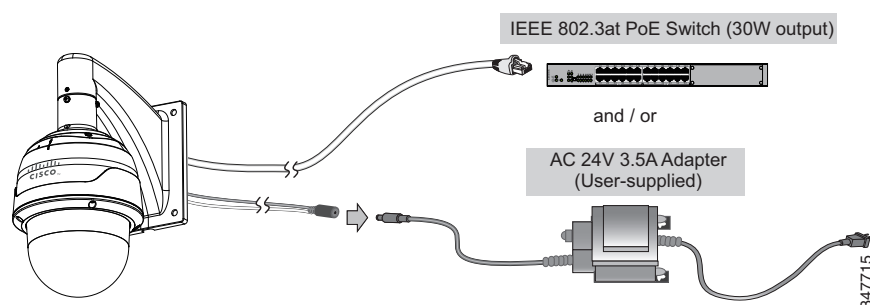


Step 7 Attach the camera using Step 4–Step 6 in the [Mounting the PTZ Camera](#) section.

Connecting to the Network

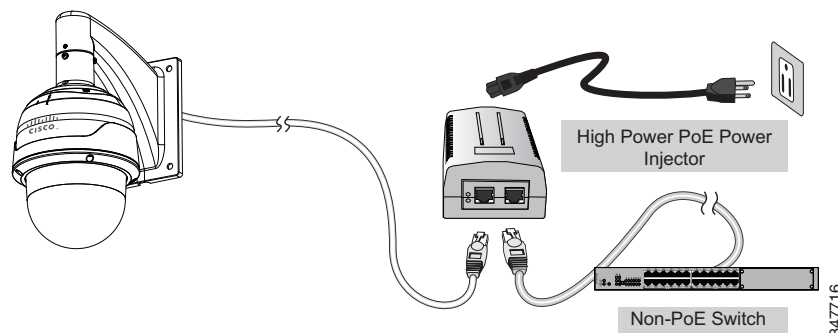
Use the following steps to connect the camera to a Power over Ethernet (PoE) switch:

- Step 1** Connect the camera's Ethernet cable (CAT5e or better) to a PoE Plus switch.
- A 30W PoE output port alone cannot drive the onboard heater. If using the PoE switch, the application does not apply in low-temperature condition. A 30W PoE plus can only drive the camera when it is working at a temperature higher than -10°C.
- Step 2** Connect the power wires to an AC 24V power adapter (user-supplied).
- The AC 24V adapter can drive the camera and the onboard heater. You can connect both power sources for redundancy in power supply.



If you are using a non-PoE switch, use a high power PoE power injector with a 60W output to connect between the camera and non-PoE switch.

Sufficient power is required for low temperature conditions when the onboard heater is activated.



What to do next

- After you install the PTZ IP camera, follow the instructions in the [“Performing the Initial Setup of the IP Camera”](#) section on page 3-1 to access the camera through your network.
- After completing the initial setup, use the PTZ IP camera user interface in the Managing the Camera section to adjust the focal length and zoom factor.

For complete configuration information, refer to the *Cisco Video Surveillance PTZ IP Configuration Guide*.



CHAPTER 3

Performing the Initial Setup of the IP Camera

After you install the PTZ IP camera as described in the [Chapter 2, “Installing the Camera”](#) or after you perform a factory reset procedure, you must access the PTZ IP camera and make initial configuration settings. These settings include administrator and root passwords, and whether the PTZ IP camera can be accessed through an HTTP connection in addition to the default HTTPS (HTTP secure) connection.

To make these configuration settings, you connect to the PTZ IP camera from any PC that is on the same network as the PTZ IP camera. The PC must meet these requirements:

- Operating system—Microsoft Windows 7 (32-bit and 64-bit)
- Browser—Internet Explorer 8.0 (32-bit only)

In addition, you must know the IP address and default login credentials of the PTZ IP camera. By default, when the PTZ IP camera powers on, it attempts to obtain an IP address from a DHCP server in your network. If the camera cannot obtain an IP address through DHCP within 90 seconds, it uses a default IP address of 192.168.0.100. The default login credentials (Username/Password) are admin/admin.

To connect to the PTZ IP camera for the first time and make initial configuration settings, perform the following steps. You can change these configuration settings in the future as described in the *Cisco Video Surveillance PTZ IP Camera Configuration Guide*.

Before you Begin

The Microsoft .NET Framework version 2.0 or later must be installed on the PC that you use to connect to the PTZ IP camera. You can download the .NET Framework from the Microsoft website.

Procedure

- Step 1** Start Internet Explorer, enter **HTTPS://ip_address** in the address field, and press **Enter**.
Replace *ip_address* with the IP address that the PTZ IP camera obtained through DHCP or, if the camera was unable to obtain this IP address, enter **192.168.0.100**.
The Login window appears.
- Step 2** Enter the default login credentials:
Username: **admin**
Password: **admin**
The Initialization window appears.

- Step 3** In the Password and Confirm Password fields of the admin row, enter a password for the PTZ IP camera administrator.
- You must enter the same password in both fields. The password is case sensitive and must contain at least eight characters, which can be letters, numbers, and special characters, but no spaces. Special characters are: ! " # \$ % & ' () * + , - . : ; < = > ? @ [\] ^ _ ` { | } ~.
- Step 4** In the Password and Confirm Password fields of the Root row, enter a password that is used when accessing the PTZ IP camera through a Secure Shell (SSH) connection.
- You must enter the same password in both fields. The password is case sensitive and must contain at least eight characters, which can be letters, numbers, and special characters, but no spaces. Special characters are: ! " # \$ % & ' () * + , - . : ; < = > ? @ [\] ^ _ ` { | } ~.
- You use the root password if you need to troubleshoot the PTZ IP camera through an SSH connection with the assistance of the Cisco Technical Assistance Center.
- Step 5** In the Access Protocols area, check the **Enable HTTP** check box if you want to allow both HTTP and HTTPS connections to the IP camera.
- By default, only the Enable HTTPS check box is checked, which allows only HTTPS (secure) connections to the IP camera.
- Step 6** Click **Apply**.
- The PTZ IP camera reboots and the Login window appears.
- Step 7** After the PTZ IP camera reboots, start Internet Explorer and, in the Address field, enter the following:
protocol://ip_address
 where:
- *protocol* is **HTTPS** or **HTTP**. (You can use HTTP only if you enabled it in [Step 5](#).)
 - *ip_address* is the IP address that you used in [Step 1](#).
- Step 8** If you are prompted to install ActiveX controls, which are required to view video from the IP camera, follow the on-screen prompts to do so.
- The Home window appears.
-



CHAPTER

4

Managing the Camera

This chapter provides information and instructions for managing the Cisco Video Surveillance PTZ IP camera, and includes the following topics:

- [Understanding the PTZ IP Camera User Interface, page 4-1](#)
- [Powering the PTZ IP Camera On or Off, page 4-3](#)
- [Resetting the PTZ IP Camera, page 4-3](#)
- [Viewing Live Video, page 4-4](#)

Understanding the PTZ IP Camera User Interface

After you log in to the PTZ IP camera, you can access the windows and perform a variety of administrative and user procedures.

The links and activities that you can see and access in the PTZ IP camera windows depend on your camera privilege level.

- Administrator—Can access all PTZ IP camera windows, features, and functions.
- Viewer—Can access the Camera Video & Control window with limited controls, and can access the **Refresh**, **Logout**, **About**, and **Help** links from that window.

PTZ IP Camera Window Links

The PTZ IP camera user interface includes links that you use to access various windows and perform other activities. [Table 4-1](#) describes each link and lists the PTZ IP camera privilege level that you must have to access the link.

Table 4-1 *Links in the PTZ IP Camera Windows*

Link	Description	Privilege Level
Refresh	Updates the information in the window that is currently displayed.	Administrator User
Home	Displays the Home window.	Administrator

Table 4-1 *Links in the PTZ IP Camera Windows (continued)*

Link	Description	Privilege Level
View Video	Displays the Camera Video & Control window.	Administrator
	You may be prompted to install ActiveX controls when trying to access this window for the first time. ActiveX controls are required to view video from the IP camera. Follow the on-screen prompts to install ActiveX controls.	User
Setup	Provides access to the configuration menus for the PTZ IP camera.	Administrator
Logout	Logs you out from the PTZ IP camera.	Administrator
		User
About	Displays a pop-up window with model, version, and copyright information for the PTZ IP camera.	Administrator
		User
Help	Provides reference information for the window that is currently displayed.	Administrator
		User

PTZ IP Camera Windows

The PTZ IP camera user interface includes these main windows:

- Home window—Displays the system information that is described in [Table 4-2](#).
- Setup window—Provides access to the PTZ IP camera configuration windows. For more information, refer to the *Cisco Video Surveillance PTZ IP Camera Configuration Guide*.
- Camera Video & Control window—Displays live video from the camera and lets you control a variety of camera and display functions.

Table 4-2 *Home Window Information*

Field	Description
General Information	
ID	Identifier of the PTZ IP camera.
Name	Name of the PTZ IP camera.
Current Time	Current date and time of the PTZ IP camera.
S/N	Serial number of the PTZ IP camera.
Firmware	Version of the firmware that is installed on the PTZ IP camera.
Part Number	Cisco manufacturing part number of the PTZ IP camera.
Top Assembly Revision	Cisco assembly revision number.
Network Status	
MAC Address	MAC address of the PTZ IP camera.
Configuration Type	Method by which the PTZ IP camera obtains its IP address.
LAN IP	IP address of the LAN to which the PTZ IP camera is connected.
Subnet Mask	Subnet mask of the LAN to which the PTZ IP camera is connected.
Gateway Address	IP address of the gateway through which the PTZ IP camera is connected.

Table 4-2 Home Window Information (continued)

Field	Description
Primary DNS	IP address of the primary DNS server, if configured for the PTZ IP camera.
Secondary DNS	IP address of the secondary DNS server, if configured for the PTZ IP camera.
IO Port Status	
Input Port	Current state of the input port(s) on the PTZ IP camera.
Output Port	Current state of the output port(s) on the PTZ IP camera.
Stream 1 and Stream 2	
User	PTZ IP camera user name of each user who is accessing the primary video stream (Stream 1) or the secondary video stream (Stream 2) through a client PC or a third-party device. By default, users appear in order of start time. To display users in ascending order of any information in any corresponding column, click the column heading. Click a column heading again to reverse the display order.
IP Address	IP address of the client device.
Start Time	Time and date that the client accessed the video stream for this session.
Elapsed Time	Length of time that the client has been accessing the video stream.
Codec	Video codec being used for the stream.

Powering the PTZ IP Camera On or Off

The PTZ IP camera does not include an on/off switch. You power it on or off by connecting it to or disconnecting it from a power source. When you power off the PTZ IP camera, configuration settings are retained.

To power on the PTZ IP camera, take either of these actions:

- Use an STP (shielded twisted pair) Category 5 or higher network cable to connect the PTZ IP camera to a network switch that provides 802.3af compliant PoE.
- Use an optional AC 24V power adapter to connect the PTZ IP camera to a wall outlet.

To power off the PTZ IP camera, take either of these actions:

- If the PTZ IP camera is receiving PoE, disconnect the network cable.
- If the PTZ IP camera is receiving power through the power adapter, unplug the adapter from the wall or disconnect it from the camera.

Resetting the PTZ IP Camera

You reset the PTZ IP camera by pressing the Reset button on the PTZ IP Camera (see [Figure 1-1 on page 1-3](#)). There are various reset types, as described in [Table 4-3](#).

You also can also perform these reset operations from the Maintenance Settings window as described in the *Cisco Video Surveillance PTZ IP Camera Configuration Guide*.

Table 4-3 *Resetting the PTZ IP Camera*

Reset Type	Procedure	Remarks
Reboot	Press and immediately release the Reset button.	This action is equivalent to powering the PTZ IP camera down and then powering it up. Settings that are configured for the PTZ IP camera are retained.
Factory reset	Press and hold the button for at least 15 seconds.	Sets all PTZ IP camera options to their default values. After you perform this procedure, follow the steps in Chapter 3, “Performing the Initial Setup of the IP Camera.”

Viewing Live Video

After you install and set up the Cisco Video Surveillance PTZ IP camera, you can connect to the PTZ IP camera through Internet Explorer and access the Camera Video & Control window to view live video.

The Camera Video & Control window also provides for controlling the video display, configuring preset positions, and controlling certain PTZ IP camera functions. Available controls depend on the privilege level of the user.



To view live video, log in to the PTZ IP camera, then click **View Video** in the PTZ IP camera Main window menu bar. The Camera Video & Control window appears. This window displays live video from the camera and lets you control a variety of camera and display functions.

The controls that you see in the Camera Video & Control window depend on your PTZ IP camera privilege level and the configurations settings for the PTZ IP camera. Users with the Administrator privilege can access all controls. Users with the Viewer privilege do not have access to the following controls:

- Video image controls
- Motion detection controls

[Table 4-4](#) describes the controls in the main Camera Video & Control window.

Table 4-4 *Camera Video & Control Window Controls*


Control	Description
Video controls	
Video Codec drop-down list 	Choose the codec for video transmission (H.264 or MJPEG). You can choose H.264 only if the primary video stream (channel 1) is enabled. You can choose MJPEG only if the secondary video stream (channel 2) is enabled. for the PTZ IP camera.

Table 4-4 Camera Video & Control Window Controls (continued)

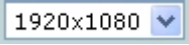








Control	Description
Video Resolution drop-down list 	<p>Choose the resolution for video transmission. The resolutions in this drop-down list depend on the video standard that you selected.</p> <p>The default value for H.264 is 1920 x 1080. The default value for MJPEG is 704 x 480.</p> <p>You cannot configure a secondary stream if you configure this resolution for 1920 x 1080.</p> <p>Note You can also change the resolution for video transmission by changing the value in the Streaming Window > Video Resolution Type field in the PTZ IP camera web-based interface.</p>
Image tools	
Hotspot zoom button 	<p>Click this latch button to enable the digital zoom feature, which provides five-step digital zooming in for the normal (not full screen) video display. Click this button again to disable the digital zoom feature.</p> <p>To perform a digital zoom, engage the Hotspot zoom button and click the video display. The first five clicks zoom the display. The sixth click returns to unzoomed display.</p>
Hotspot pan+tilt button 	<p>This button is disabled.</p>
Save snapshot button 	<p>Captures and saves a the current video image as a .gif file or a .jpg file in the location of your choice and with the file name of your choice.</p> <p>When you click this button, the Snapshot window appears. Click Save and follow the on-screen prompts to save the image with the name and in the location that you want.</p>
Flip button 	<p>Rotates the video image by 180 degrees.</p>
Mirror button 	<p>Reverses the video image.</p>
Restore button 	<p>Displays the default video image, which is not rotated and not reversed.</p>
Full Screen button 	<p>Displays the video image in full screen mode.</p> <p>To return to normal display mode, click the full screen image.</p>

Table 4-4 Camera Video & Control Window Controls (continued)

Control	Description
Audio Control	
	<p>Displays the controls for audio when you enable audio. Controls are dimmed when audio is disabled. To enable audio:</p> <ul style="list-style-type: none"> Click on the Setup link and select Streaming. From the Audio section of the Streaming page, check the Enable Audio box. Click Save. <p>Use these controls to enable or disable the speaker and microphone. Use the sliders to adjust the volume.</p>

The following settings are accessible from the main Camera Video & Control window:

- [Camera Settings, page 4-6](#)
- [Motion Detection Settings, page 4-9](#)
- [Pan/Tilt/Zoom Settings, page 4-10](#)
- [Privacy Zone, page 4-12](#)

Camera Settings

The controls in [Table 4-5](#) appear when you click the Up Arrow next to Camera Settings under the video image.

Table 4-5 Camera Settings

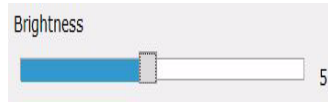
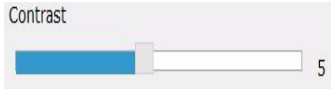
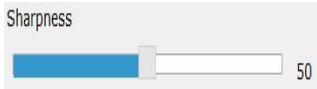
Control	Description
Picture Adjustments	
<p>Brightness slider</p> 	<p>To control the brightness of the video image, drag the slider. Values are 1 through 10. A higher value increases the brightness and a lower value decreases the brightness. For example, if the PTZ IP camera is facing a bright light and the video appears too dark, you can increase the brightness.</p> <p>The default value is 5.</p>
<p>Contrast slider</p> 	<p>To control contrast of the video image, drag the slider. Values are 1 through 10. A higher value increases the contrast and a lower value decreases the contrast.</p> <p>The default value is 5.</p>

Table 4-5 Camera Settings (continued)

Control	Description
Sharpness slider 	<p>To control the sharpness of the video from the PTZ IP camera, drag the slider. Values are 1 through 100. A higher value increases the sharpness and a lower value decreases the sharpness.</p> <p>The default value is 50.</p>
Restore button	Resets white balance, brightness, contrast, sharpness, saturation, and hue to their default values.
White Balance Mode	<p>Options are</p> <ul style="list-style-type: none"> • Auto (default)—White balance is automatically set by the camera and is suitable for most conditions. • Indoor—This white balance mode is specifically for indoors. You can capture images with natural white balance. • Outdoor—This white balance mode is specifically for outdoors. You can capture images with natural white balance in the morning and evening. • One Push WB—This option is a fixed white balance mode. You can automatically readjust as required, assuming that a white object, in suitable lighting conditions and occupying more than half of the image area, is seen by the camera. • Manual—With this option you can set the white balance by setting red gain (RGain) and blue gain (BGain) manually. • Sodium Lamp—This option is a fixed white balance mode specifically for sodium vapor lamps. • ATW—The camera automatically adjusts the white balance in response to varying light conditions.

Exposure Control

Note Click on the Exposure Control heading to access the controls.

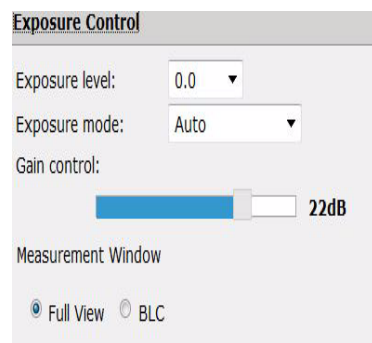


Table 4-5 Camera Settings (continued)

Control	Description
Exposure level	<p>Choose this option if you want to increase or decrease the exposure level.</p> <p>For example, if you want to add light to properly expose the image, set the value to +2. If you want to underexpose the scene, set value to -2.</p> <p>Range is -2.0 through +2.0. Default is 0.</p>
Exposure mode	<p>Options are</p> <ul style="list-style-type: none"> • Auto (default)—Automatically sets the Exposure time. You can manually set the Gain control. • Shutter Priority—Allows you to manually set the Exposure time and Gain control. Choose longer exposures to create an impression of motion. Choose shorter exposures to ensure that the motion is effectively frozen in the resulting image. • Iris Priority—Allows you to manually set the Gain control and Iris adjustment to control the distance between the nearest and farthest objects in a scene that appear acceptably sharp in an image. • Manual—Allows you to manually set the Exposure time, Gain control, and Iris adjustment. Selecting this option sets the Switch Mode to Day on the Camera page.
Gain control slider	<p>Set the gain control.</p> <p>Range is 6dB through 28dB.</p> <p>Default is 22dB.</p> <p>Note Changing gain control affects the Day to Night Threshold on the Camera page.</p>
Measurement Window	<p>Options are</p> <ul style="list-style-type: none"> • Full View—Exposure is calculated based on full view. • Back light compensation (BLC)—This option adds a weighted region in the middle of the image view to give necessary exposure compensation. The option is only available when the Exposure mode is set to Auto.
Advanced Settings	
Note Click on the Advanced Settings title to access the control.	
Enable WDR	<p>For extremely light and dark areas, enable the wide dynamic range (WDR) feature to ensure you can clearly view the objects in the scene.</p> <p>Options are</p> <ul style="list-style-type: none"> • Off (default) • Auto • Manual

Motion Detection Settings

The controls in [Table 4-6](#) appear when you click the Up Arrow in the **Motion Detection** area under the video image. These controls are available only when viewing the primary (H.264) stream.



Note

When you use PTZ on the camera, motion detection is disabled for 20 seconds.

Table 4-6 Motion Detection Settings

Control	Description
Enable Motion Detection check box	<p>Enables the motion detection feature and displays a grid over the video image.</p> <p>When motion detection is enabled, the PTZ IP camera monitors activity in regions of the video that you specify. If activity at a defined level occurs in any of these areas, the PTZ IP camera generates an alert and takes the actions that are configured as described in the Event Notification Window in the PTZ IP camera web-based interface.</p> <p>After motion detection has been enabled, you create specific regions that the PTZ IP camera monitors for activity. To create a motion detection region, right-click on the video image, choose Draw Region, and then click and drag across the motion detection grid to draw a green square or rectangle comprised of one or more grid squares. Up to eight of the following regions can be drawn:</p> <ul style="list-style-type: none"> • Motion inclusion regions—Designate areas to examine for motion. You can draw up to four motion inclusion regions. • Motion Exclusion Regions—Designate areas to ignore for motion. You can draw up to four motion exclusion regions. <p>For each region listed under the Region Properties area, you can configure the following properties:</p> <ul style="list-style-type: none"> • IsActive—Specifies whether the region is active (enabled) or not active (disabled). Choose true to enable a region; choose False to disable a region. • Location—Specifies the grid coordinate (X, Y) for the upper left corner of the region. • Name—You can enter a name of up to 12 characters for a region. • Region Type—Specifies whether the region is an inclusion or an exclusion region. Choose Inclusion to have the region examine for motion; choose Exclusion to have the region ignore motion. • Sensitivity—Designates the relative amount of activity that the PTZ IP camera must detect in the area before it generates an alert. A lower value means that more, or faster, activity is required to trigger an alert. A higher value means that less, or slower, activity is required. The default value is 80. • Threshold—Designates the percentage of pixels that the PTZ IP camera must identify as changed in the area before it generates an alert. The camera detects pixel changes at the defined sensitivity level. The default threshold value is 10. <p>To reset the sensitivity and threshold to their default values of 80 and 10 respectively, right-click on the region, and choose Restore Values.</p> <p>To remove a region, right-click it, and choose Delete Region.</p>

Pan/Tilt/Zoom Settings

The controls in [Table 4-7](#) appear when you click the Up Arrow in the **Pan/Tilt/Zoom** area at the bottom of the video image.

Table 4-7 *Pan/Tilt/Zoom Settings*

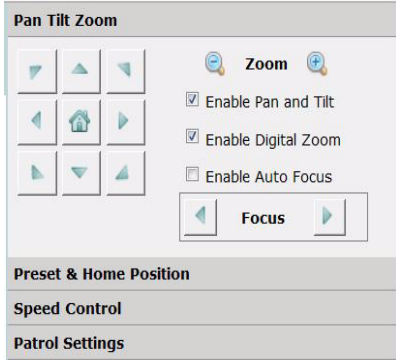
Control	Description
Pan Tilt Zoom	
	<p>Check the Enable Pan and Tilt box to enable the pan and tilt controls on the left.</p> <p>Use the arrow buttons to manually position the camera to the desired area.</p> <p>Use the home button to return the camera to the original position.</p>
Zoom	<p>To control the field of view zoom factor, left click on the minus magnifier to zoom out (wide). Left click on the plus magnifier to zoom in (telephoto).</p> <p>Depress the left mouse button to continuously zoom in or out.</p>
Enable Digital Zoom	Check this box to enable digital zoom.
Enable Auto Focus	Check this box to automatically focus the PTZ IP camera for the selected zoom.
Focus	<p>To manually control the field of view focus, use the left arrow to focus on near objects. Use the right arrow to focus on far objects.</p> <p>Note To use the Focus controls, ensure that the Enable Auto Focus option is not checked.</p>

Table 4-7 Pan/Tilt/Zoom Settings (continued)


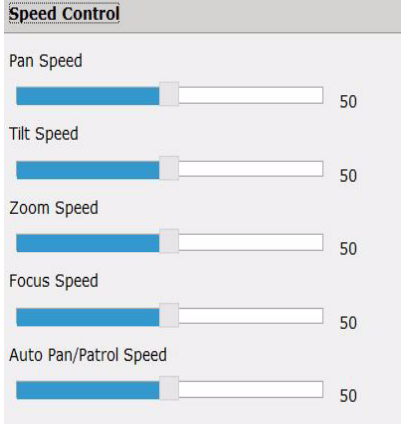
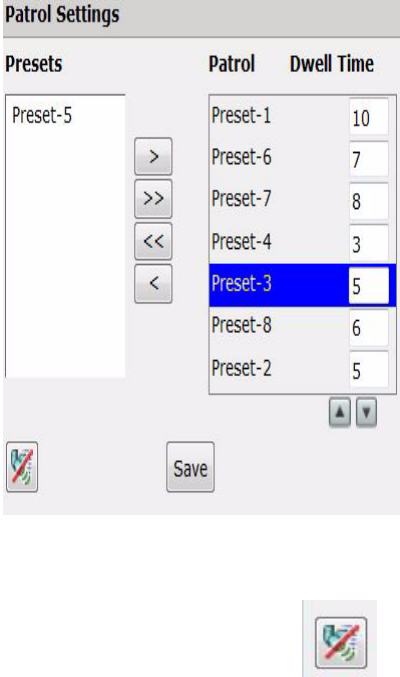
Control	Description
Preset & Home Position Note Click on the title to access these controls.	
	<p>You can configure a maximum of eight preset positions.</p> <p>To add a preset position</p> <ul style="list-style-type: none"> Click on the plus button. Enter a unique name for this preset position. The name can contain from 1 to 64 characters, which can be letters, numbers, and special characters, but no spaces. Special characters are: ! % () , - = @ _ ~ Click the Save button. <p>If you already configured the maximum amount of preset positions, an error message displays.</p> <p>To delete a preset position, use the trash button.</p> <p>Note You cannot delete a preset position that is part of a patrol list. Go to Patrol Settings to remove a preset position from the patrol list.</p> <p>To set one of the preset positions as the home position, click the Set Current Home Position button.</p> <p>To restore the default home position, click the Restore default Home Position button.</p>
Speed Control	
	<p>Pan Speed—Use the slider to set the rate at which the camera pans to the desired location. Values are 1 through 100. Default is 50.</p> <p>Tilt Speed—Use the slider to set the rate at which the camera tilts. Values are 1 through 100. Default is 50.</p> <p>Zoom Speed—Use the slider to set the rate at which the camera zooms. Values are 1 through 100. Default is 50.</p> <p>Focus Speed—Use the slider to set the rate at which the camera focuses on a desired location. Values are 1 through 100. Default is 50.</p> <p>Auto Pan/Patrol Speed—Use the slider to set the rate at which the camera automatically pans and patrols based on the patrol list. Values are 1 through 100. Default is 50.</p>

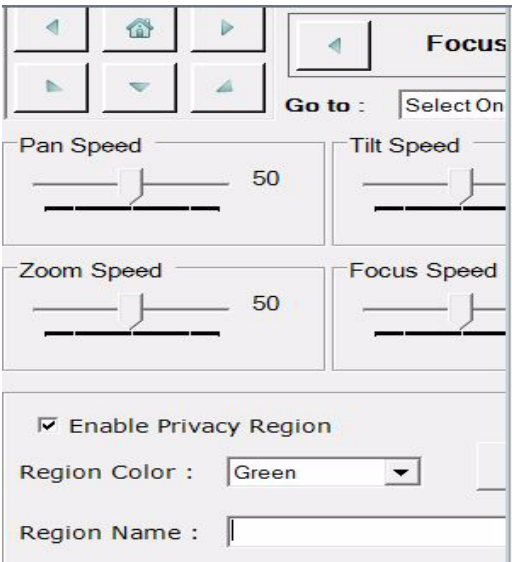
Table 4-7 Pan/Tilt/Zoom Settings (continued)

Control	Description
Patrol Settings	
	<p>Use this screen to manage the patrol areas and times for each preset position.</p> <p>After adding the preset positions, select the preset position in the Presets list. Use the right arrow button to add one preset (>) to the patrol list. To add all of the preset positions, use the Shift key to highlight all of the positions. Click the double right arrow button (>>). These presets are now added to the Patrol list.</p> <p>Set the time that the Preset position patrols the area before moving to the next position by adding the time in the Dwell Time box next to each preset.</p> <p>Dwell Time is the time (in seconds) that the camera spends in a specific preset area.</p> <p>To set the priority of each preset, highlight the preset. Use the up and down arrows under the Patrol and Dwell Time window to set the priority of each preset.</p> <p>Click the Save button to save the patrol settings. An informational message appears indicating that the patrol settings are successfully stored on the camera.</p> <p>Use the Auto Patrol button to start patrolling the first preset area in the patrol list followed by the second, and so forth. Click the button to stop patrolling.</p>

Privacy Zone

The controls in [Table 4-8](#) appear when you click the Up Arrow in the **Privacy Zone** area at the bottom of the video image.

Table 4-8 Privacy Zone Controls

Control	Description
	<p>Use the Privacy Zone section to mask particular regions that should not be visible in video streaming. Privacy Zone is drawn on the center of the image. In the Privacy Zone section, use the pan, tilt, zoom, and focus controls to place targeted object or view inside the green box in center. The green box can be resized to increase height and width.</p> <p>Once the target object is inside the green box, enter the name in the Region Name edit box and click the Add button to draw the mask on video.</p> <p>To change mask color, click the Region Color drop down box and select mask color. Click the Save button to apply new mask color to video.</p> <p>To remove a privacy region, select desired region from the Privacy Mask drop down list. The camera automatically goes to the position of the selected mask. Click the Delete button to delete the mask. The message, “Privacy Zone setting successfully stored on the camera” is displayed when region is deleted.</p> <p>To focus on a particular Privacy Zone, select the region name from Privacy Mask drop down list. The camera automatically pans and tilts to the masked region.</p>



INDEX

A

About link [4-2](#)
ActiveX controls [4-2](#)

B

brightness [4-6](#)

C

camera
 See PTZ camera
Camera Video/Control window
 accessing [4-4](#)
 description [4-2](#)
 displaying [4-2](#)
connecting, to the IP camera
 for the first time [3-1](#)
 PC requirements for [3-1](#)
contrast [4-6](#)

D

DHCP, obtaining IP address through [3-1](#)

F

factory reset [4-4](#)

H

help, for IP camera windows [4-2](#)

Home window

 description [4-2](#)
 displaying [4-1](#)
HTTP, allowing access through [3-2](#)

I

installing
 IP camera [2-1](#)
 warnings [2-2](#)
 waterproof connector [2-4](#)
IP address
 default for IP camera [3-1](#)
 obtaining from DHCP server [3-1](#)
IP camera
 accessing through a web browser [3-1](#)
 connecting to for the first time [3-1](#)
 installation [2-1](#)
 warnings [2-2](#)
 waterproof connector [2-4](#)
 logging out of [4-2](#)
 powering off [4-3](#)
 powering on [4-3](#)
 windows [4-2](#)

L

live video
 viewing
 through home window [4-4](#)
 through third-party device or software [4-4](#)
 See also video
log out, of IP camera [4-2](#)

M

motion detection
 enabling [4-9](#)

P

password
 requirements for [3-2](#)
password, requirements for [3-2](#)
power
 adapter [2-1](#)
 powering off the IP camera [4-3](#)
 powering on the IP camera [4-3](#)
 Power over Ethernet (PoE) [2-1](#)
Power over Ethernet (PoE) [2-1](#)

R

rebooting, IP camera [4-4](#)
Refresh link [4-1](#)
reset
 factory default values [4-4](#)
 reboot [4-4](#)

S

Setup window
 description [4-2](#)
 displaying [4-2](#)
sharpness [4-7](#)

V

video
 viewing live
 through Home window [4-4](#)
 through third-party device or software [4-4](#)

See also live video

video codec
 controls in Camera Video/Control window [4-4](#)
video image
 controls in Camera Video/Control window [4-6](#)
video resolution
 controls in Camera Video/Control window [4-5](#)
View Video link [4-2](#)

W

warnings before installation [2-2](#)
waterproof connector [2-4](#)