



AVIGILON™ UNITY

H5A IR PTZ Camera Installation Guide

Contents

H5A IR PTZ Cameras Installation Guide	4
H5A IR PTZ Camera Overview	5
Preparing H5A IR PTZ Cameras for Installation	9
Pre-Deployment In-Box Configuration	10
Mounting and Aiming Video Analytics Cameras	11
Inserting Cables through the Sealing Grommet	11
Installing H5A IR PTZ Cameras	13
H5A IR PTZ Camera Package Contents	13
Retrofitting an H4 IR PTZ	14
Installing H5A IR PTZ Cameras Using the Pendant Wall Mount	15
Installing the NPT Mount for Pendant Mount Cameras	18
Attaching the H5A IR PTZ Camera	20
Connecting Cables to H5A IR PTZ Cameras	25
Connecting Cables to H5A IR PTZ Cameras	26
H5A IR PTZ Camera Power Redundancy	31
Connecting External Devices to H5A IR PTZ Cameras	32
Configuring Onboard Storage (Optional)	33
Adding Cameras to the Network	34
Choose a Tool to Access Camera Settings	35
Discovering Cameras on the Network	36
Initializing a Camera Username and Password	38
Connection Status LED Indicators	39
Setting the IP Address Through the ARP/Ping Method	41
Resetting H5A IR PTZ Cameras to their Factory Default Settings	42
Adjusting H5A IR PTZ Cameras	43
Accessing the Live Video Stream	44
Zooming and Focusing Cameras	45
Setting the Home Preset Position	46
Camera Maintenance	47

Cleaning Cameras	47
Cleaning PTZ Cameras using the Washer Presets	49
Troubleshooting H5A IR PTZ Cameras	49
Resources for Avigilon Cameras	50
Safety and Regulatory Information	51
Important Safety Information	51
Regulatory Notices	53
Legal Notices	55
Limited Warranty & Technical Support	56

H5A IR PTZ Cameras Installation Guide

The H5A IR PTZ Cameras Installation Guide provides instructions for installing H5A IR PTZ cameras. This Installation Guide also covers how to connect external devices and how to add cameras to the network.



Camera Models:

2.0C-H5A-IRPTZ-DP40-WP	4.0C-H5A-IRPTZ-DP36-WP	8.0C-H5A-IRPTZ-DP36-WP
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[H5A IR PTZ Camera Overview](#)

[Preparing H5A IR PTZ Cameras for Installation](#)

[Installing H5A IR PTZ Cameras](#)

[Connecting Cables to H5A IR PTZ Cameras](#)

[Adding Cameras to the Network](#)

[Adjusting H5A IR PTZ Cameras](#)

[Camera Maintenance](#)

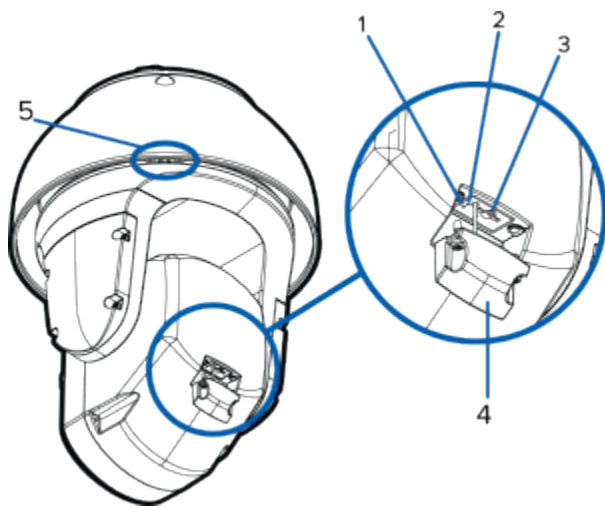
[Troubleshooting H5A IR PTZ Cameras](#)

[Resources for Avigilon Cameras](#)

[Safety and Regulatory Information](#)

H5A IR PTZ Camera Overview

Rear View



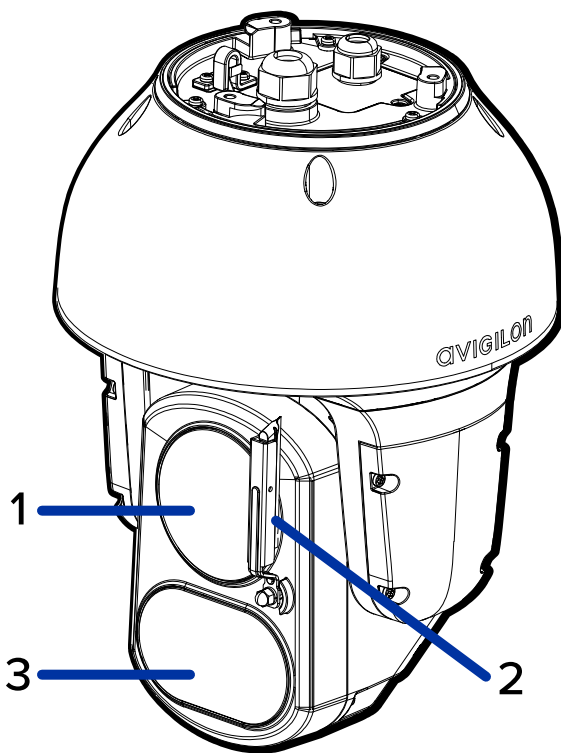
1. **Link LED indicator** — Amber LED indicates if there is an active connection in the Ethernet port.
2. **Connection status LED indicator** — Green LED provides information about device operation. For more information, see [Connection Status LED Indicators](#).
3. **microSD card slot** — Accepts a microSD card for onboard storage. For more information, see [Configuring Onboard Storage \(Optional\)](#).
4. **microSD cover** — Protective cover for the microSD card slot. Uses tamper resistant

screws to secure the cover.

5. **Sprayer mounting location** — An optional washer can be mounted at this location for cleaning the lens and IR window . Connect digital output 1 from the camera to the washer pump. This will allow the camera WebUI or Avigilon Control Center to activate the washer whenever a washing sequence is initiated. For more information, please refer to the PTZ Camera Web Interface User Guide. The washer and cleaning liquid are sold separately.

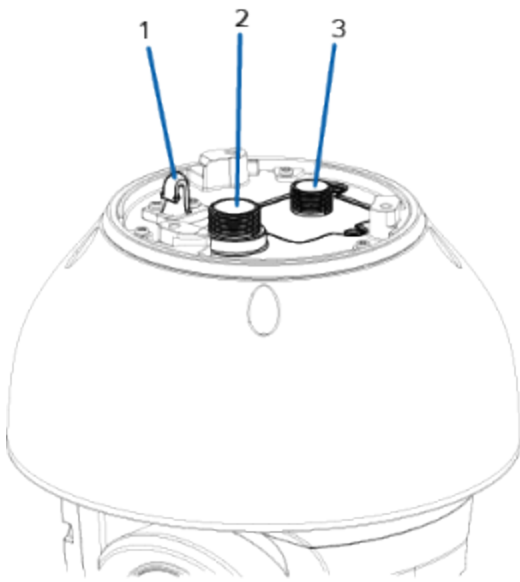
Install the sprayer mounting bracket by tightening the provided screws into this location.

Front View



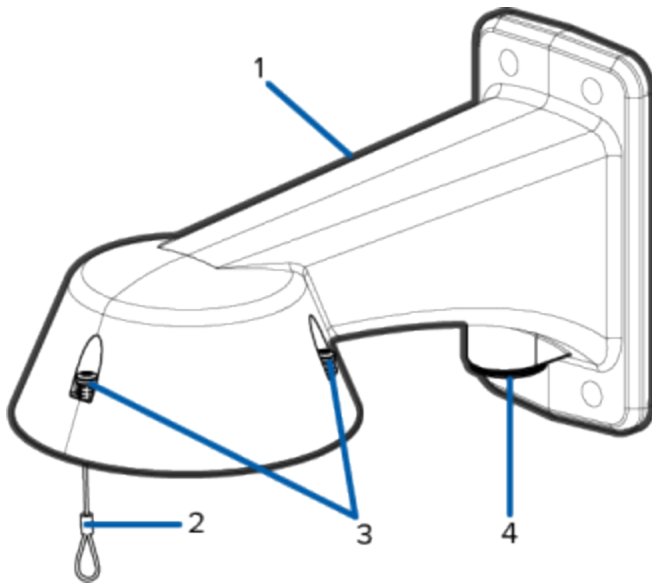
1. **Lens** — The camera lens is housed behind a protective window.
2. **Wiper** — Wiper rotates 180° to clean both lens and IR window.
3. **Variable IR Illuminators** — High powered infrared LEDs with variable field of view to accommodate different low light situations. The IR illuminators are housed behind a protective window.

Top View



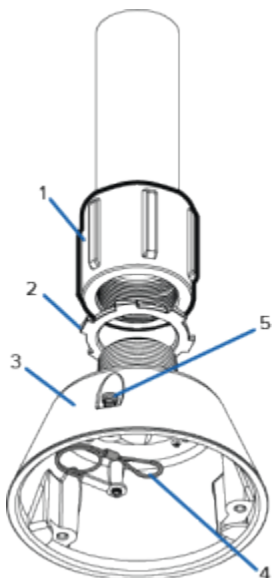
1. **Lanyard anchor** — The safety lanyard attaches to the anchor to prevent the camera from falling during installation.
2. **Ethernet port** — Accepts an Ethernet connection to a network. Server communication and image data transmission occurs over this connection. Also receives power when it is connected to a network that provides Power over Ethernet.
3. **Power and I/O cables** — Cables for connecting the camera to auxiliary power and I/O devices. For more information, see [Connecting External Devices to H5A IR PTZ Cameras](#).

Pendant Wall Mount View



1. **Pendant wall mount** — Camera mount for walls and other mounting surfaces.
2. **Lanyard** — Connects to the lanyard anchor on the camera base.
3. **Tamper resistant screws** — Star captive screws to fix the dome camera to the mounting adapter.
4. **NPT pipe entry hole** — A 3/4" NPT threaded hole for NPT pipe conduits.

NPT Mount View



1. **1-1/2" NPT-female to NPT-female adapter** — An adapter for attaching the pendant NPT mount to an NPT pipe.

 NOTE

The adapter is not an included accessory supplied by Avigilon and should be sourced separately.

2. **Lock nut** — Locking nut for securing the pendant NPT mount on the NPT-female to NPT-female adapter.
3. **Pendant NPT mount** — Dome camera mount for NPT pipes.
4. **Lanyard** — Connects to the lanyard anchor on the camera base.
5. **Tamper resistant screws** — Star captive screws to fix the dome camera to the mounting adapter.

Preparing H5A IR PTZ Cameras for Installation

Complete these tasks before installing the H5A IR PTZ camera:

[Pre-Deployment In-Box Configuration](#)

[Mounting and Aiming Video Analytics Cameras](#)

[Inserting Cables through the Sealing Grommet](#)

Pre-Deployment In-Box Configuration

The camera comes with an RJ45 configuration cable if you want to configure camera settings before installation. You can access the RJ45 connector through the flap on the side of the camera box for easy configuration before unpacking the camera.

NOTE

The maximum recommended duration of in-box configuration is 1 hour. The maximum recommended ambient temperature is 30° C (86° F).

1. Locate and open the flap on the side of the camera packaging. Look for the *Config* label.



2. Connect a network cable to the RJ45 plug on the configuration cable. The network cable must provide PoE. IEEE 802.3af Class 3, to power the camera during configuration.
3. Connect to the camera using the ACC Client, the Camera Configuration Tool or the camera's web interface. For more information, see [Adding Cameras to the Network](#).
4. Once you have finished configuring the camera, you can unplug the network cable.

CAUTION

Be careful when handling the camera after configuring it inside the packaging. The camera may be hot when handling it or removing from the packaging immediately after in-box configuration.

Mounting and Aiming Video Analytics Cameras

Follow these guidelines when mounting and aiming Avigilon cameras for best results:

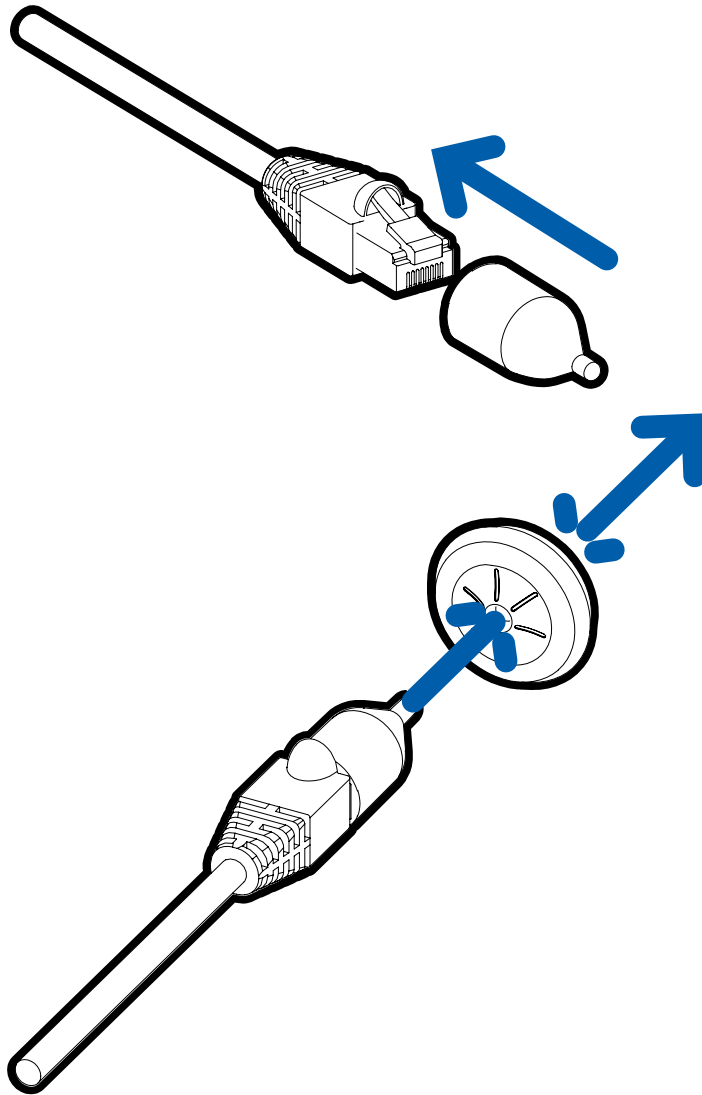
- Height — Above 2.74 meters (9 feet).
- Tilt — Downward tilt of 45 degrees maximum.
- Level — Keep the camera image level with the horizon.
- Stability — Securely mount to a stable surface to prevent movement.

For more information, see [Designing a Site with Avigilon Self-Learning Video Analytics](#).

Inserting Cables through the Sealing Grommet

Unless specified otherwise, you must pull the required cables through the sealing grommet included with the camera when using a cable entry hole. If installing an indoor camera, this step may not be required.

1. Remove the sealing grommet from the accessory kit.
2. Push an Ethernet cable through the grommet by one of the following methods:
 - a. If the Ethernet cable is uncrimped, push the cable through the grommet.
 - b. If the Ethernet cable is already crimped, place the grommet piercing cap on the Ethernet connector then push the cable through the grommet.



Ensure that the orientation of the cable and grommet matches the one shown in the image.

3. Push any other required cables through the grommet.

 NOTE

If you will pull multiple cables through the sealing grommet, apply silicone sealant to seal any gaps in the grommet.

Installing H5A IR PTZ Cameras

The following sections provide instructions on how to install H5A IR PTZ cameras:

[H5A IR PTZ Camera Package Contents](#)

[Retrofitting an H4 IR PTZ](#)

[Installing H5A IR PTZ Cameras Using the Pendant Wall Mount](#)

[Installing the NPT Mount for Pendant Mount Cameras](#)

[Attaching the H5A IR PTZ Camera](#)

H5A IR PTZ Camera Package Contents

Make sure the package contains the following parts:

- Avigilon H5A IR PTZ camera
- T20 star key
- T10 star key
- 3 x RJ-45 crimp-on plug
- External power and I/O wiring harness
- Sprayer mounting bracket and installation screws (only for models with wiper)

H5A IR PTZ Pendant Mount Materials

NOTE

The pendant wall mount and pendant NPT mount are sold separately.

If you are installing the camera with the pendant wall mount, ensure the package includes the following:

- Pendant wall mount (IRPTZ-MNT-WALL1)
- Mounting template sticker

If you are installing the camera with the NPT mount, ensure the package includes the following:

- NPT mount (IRPTZ-MNT-NPTA1)
- Lock nut
- Thread sealing tape

Retrofitting an H4 IR PTZ

The Avigilon H5A IR PTZ camera provides easy retrofitting with Avigilon H4 IR PTZ camera installations, with a few exceptions. Keep the following points in mind if you are swapping a new H5A IR PTZ with an installed H4 IR PTZ:

- Re-use the original mounting location. The H5A IR PTZ is designed to install into the same wall arm or NPT mounting location as the H4 IR PTZ.
- H4 IR PTZ PoE requirements are different from the H5A IR PTZ, which requires an PoE injector 802.3bt 90W Single Port. The legacy PoE injectors used with the H4 IR PTZ are probably not compliant with IEEE 802.3bt and a new PoE injector should be sourced for the H5A IR PTZ installation. The recommended PoE injector is POE90U-1BT.

Installing H5A IR PTZ Cameras Using the Pendant Wall Mount

Follow these instructions if you are installing an H5A IR PTZ camera using the Pendant wall mount:

1. Stick the mounting template to the wall.
2. Use the provided mounting template to drill four mounting holes into the mounting surface.
3. If you are installing the camera somewhere where the cables will be accessed from inside the wall drill the cable entry hole into the mounting surface.
4. If you are installing the camera somewhere where the cables will be accessed from the side via a conduit pipe, pull the required cables through the preferred cable entry hole on the pendant wall mount.
5. If you are using the pipe entry hole, pull the cables through the pipe conduit then the wall mount. Next, apply thread seal tape to the pipe conduit and screw it into the pipe entry hole.

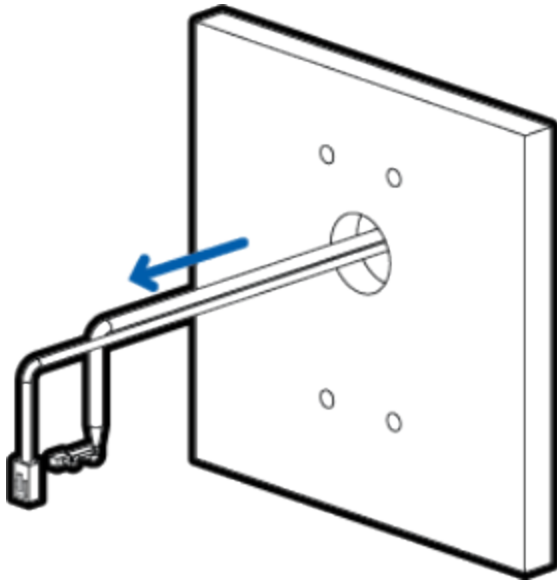


Figure 1:

Cables pulled from the back entry hole.

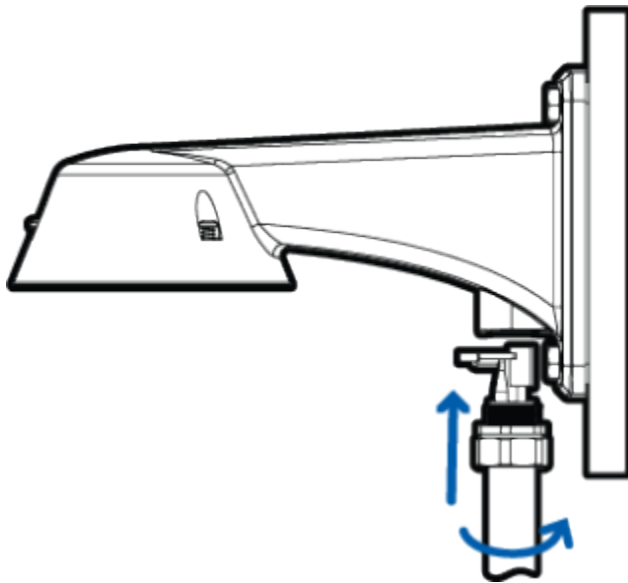
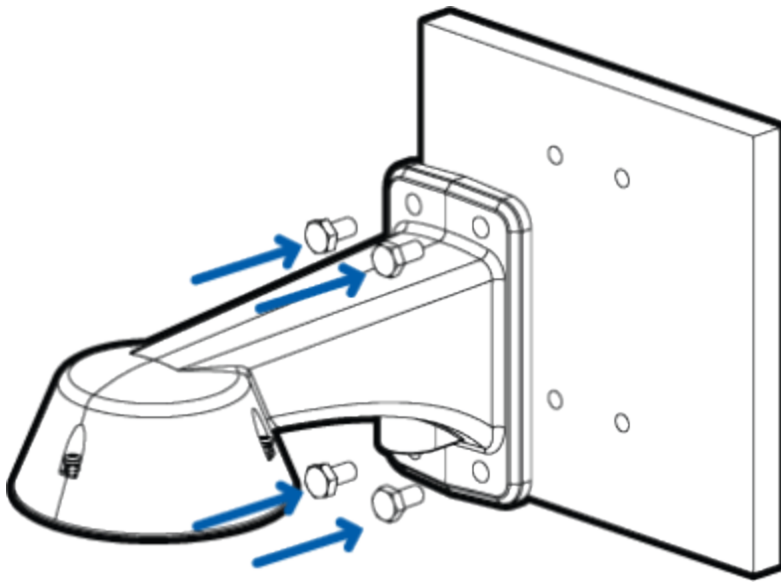


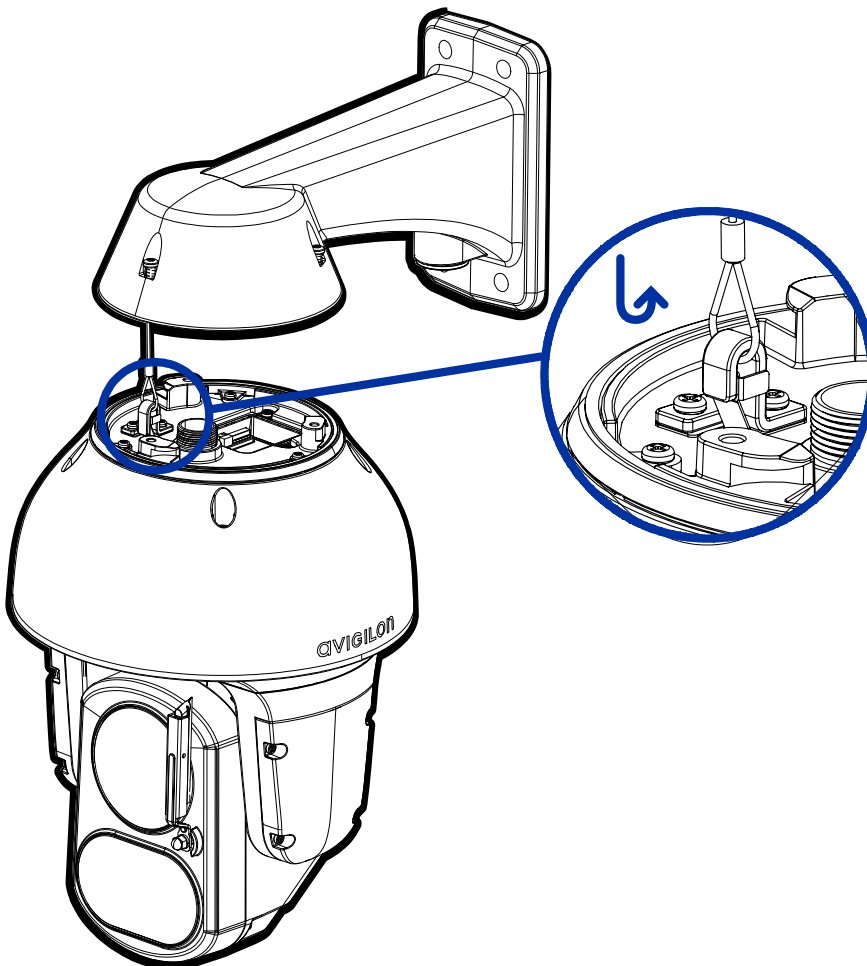
Figure 2:

Cables pulled from the conduit entry hole.

6. Fasten the pendant wall mount to the mounting surface.



7. Tighten the wall mount screws to secure the wall mount to the wall.
8. Connect the safety lanyard from inside the wall mount to the anchor on the PTZ camera.



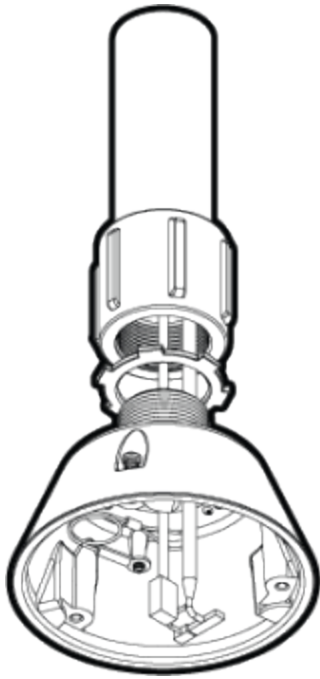
Installing the NPT Mount for Pendant Mount Cameras

Follow these instructions if you are using an NPT mount with the pendant mount camera. Attaching the camera to an NPT mount can help lower the camera into a scene, enhancing visibility.

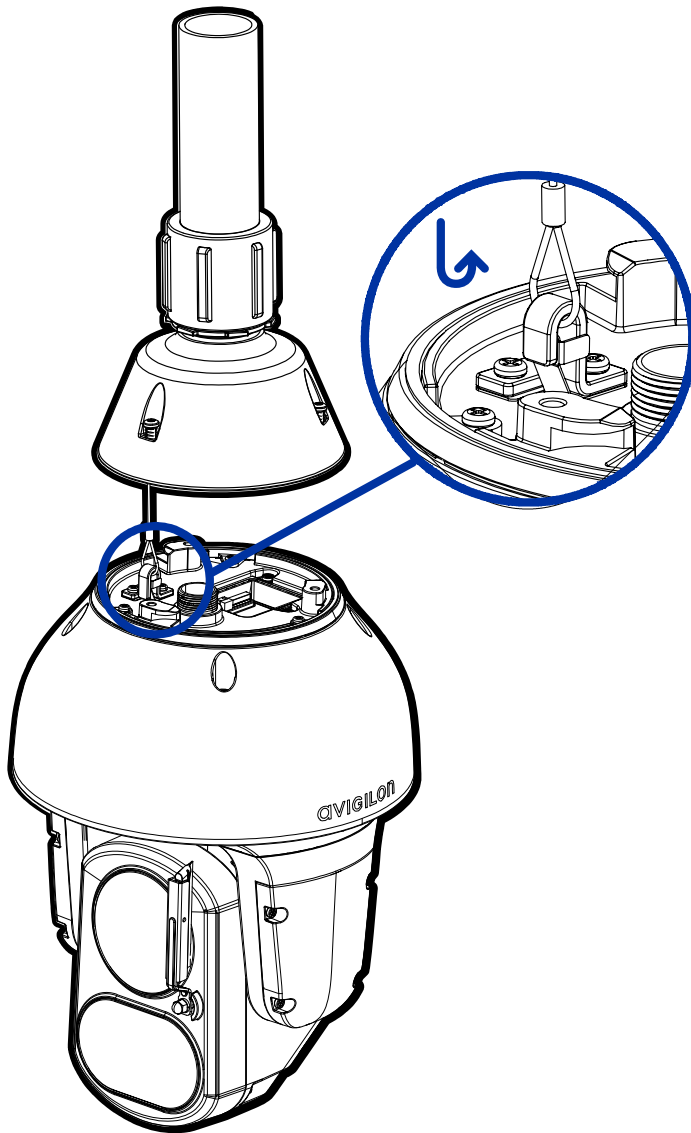
NOTE

This procedure requires a 1-1/2" NPT-female to NPT-female pipe adapter. It is recommended that the NPT adapter be mounted to a 1-1/2" conduit pipe.

1. Pull the required cable through the NPT conduit pipe.
2. Apply thread seal tape to the pipe and screw on the 1-1/2" NPT female to NPT female pipe adapter.
3. Screw the lock nut onto the NPT adapter.
4. Apply thread seal tape to the NPT adapter and screw it into the pipe adapter. Make sure the parts are assembled in this order from NPT conduit pipe to camera adapter:
 - a. NPT conduit pipe
 - b. 1-1/2" NPT female to female pipe adapter
 - c. Lock nut
 - d. NPT adapter



5. Connect the safety lanyard from inside the NPT mount to the anchor on the PTZ camera.



Attaching the H5A IR PTZ Camera

NOTE

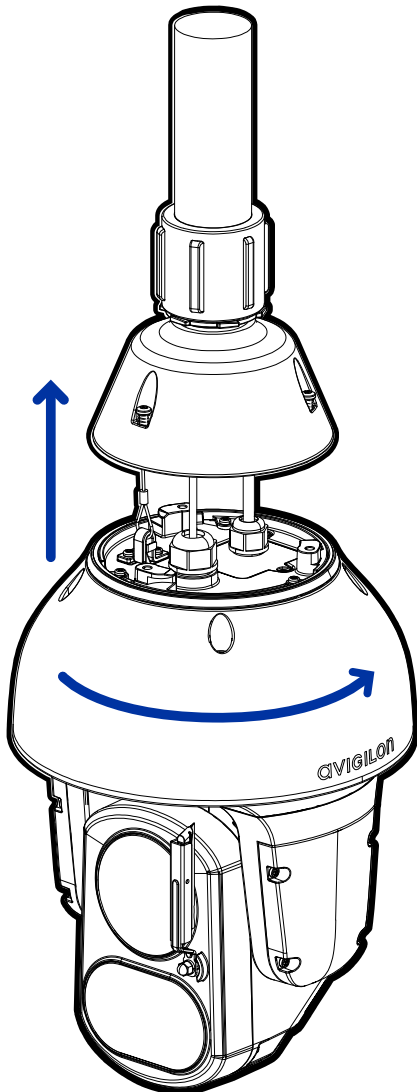


Before installing the dome cover, we recommend that you first connect to the camera and adjust the aim, zoom, and focus so that the camera covers the required field of view. For more information, see:

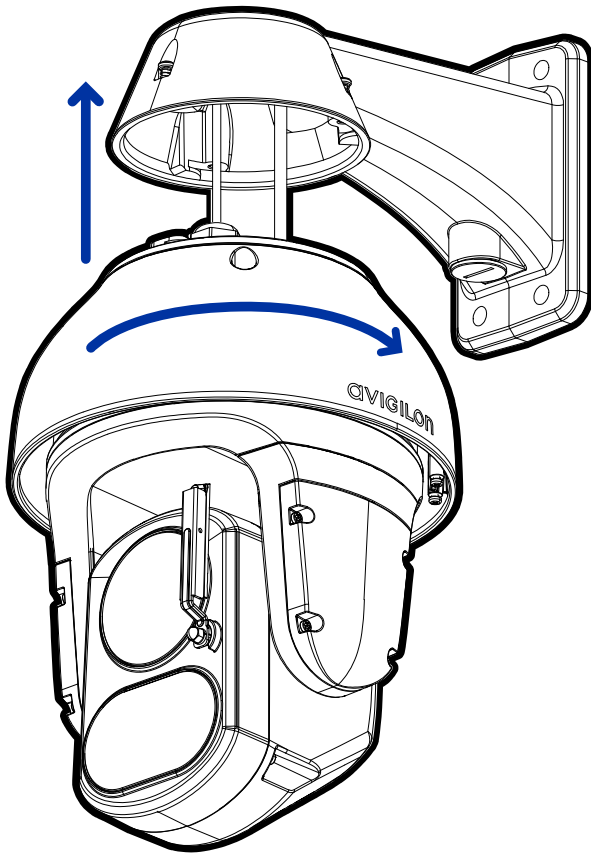
- [Adding Cameras to the Network](#)
- [Zooming and Focusing Cameras](#)

Follow these steps to attach the camera to the mount:

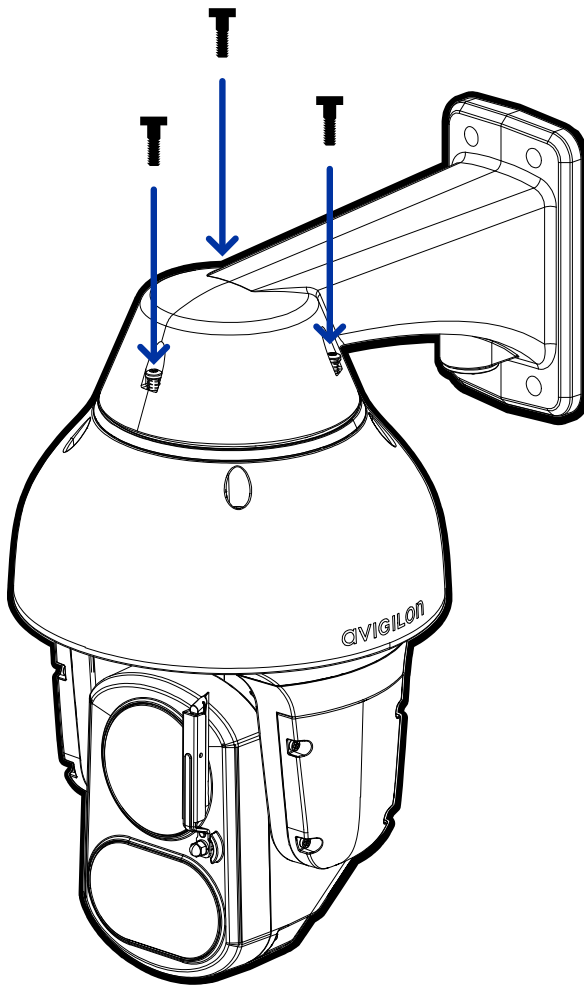
1. If you are using an NPT adapter, push the camera into the NPT adapter and twist to secure the camera.



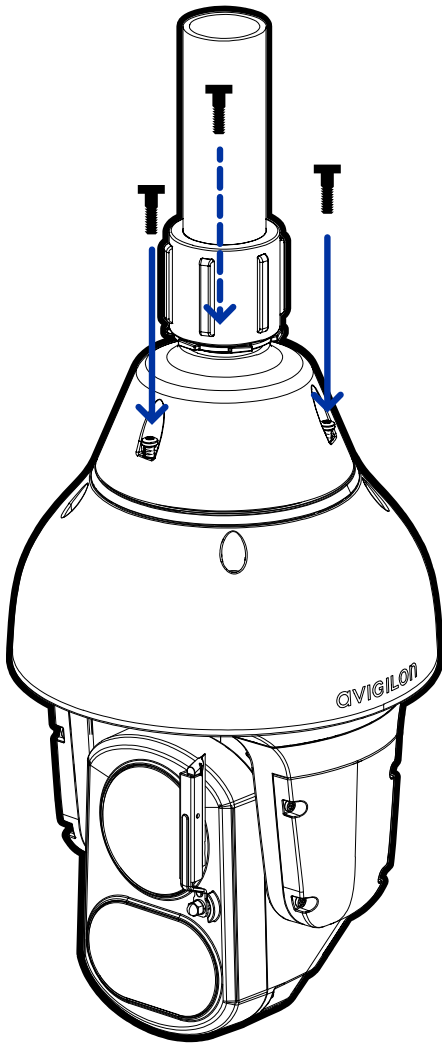
2. If you are not using an NPT adapter, push the camera into the pendant mount and twist to secure the camera.



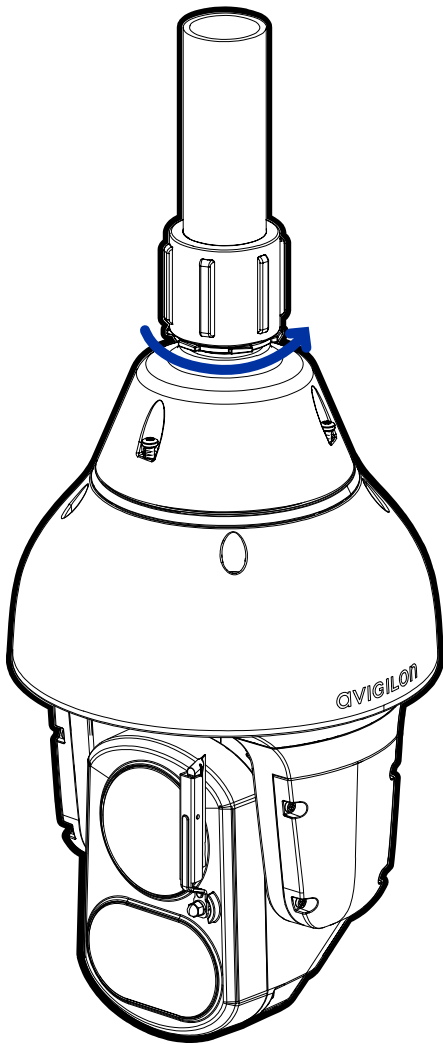
3. Use the T20 star key to tighten the screws in the pendant mount adapter.



4. Use the T20 star key to tighten the screws in the NPT adapter.



5. If you are installing the camera to an NPT mount, make sure the mount adapter is secured then tighten the lock nut to fix the camera to its final position.



Connecting Cables to H5A IR PTZ Cameras

H5A IR PTZ Cameras require electrical power and a network connection to operate. The following sections cover how to supply the camera with power and network connectivity and how to connect external devices using the camera's removable connector block.

Connecting Cables to H5A IR PTZ Cameras

[Connecting External Devices to H5A IR PTZ Cameras](#)

[Configuring Onboard Storage \(Optional\)](#)

Connecting Cables to H5A IR PTZ Cameras

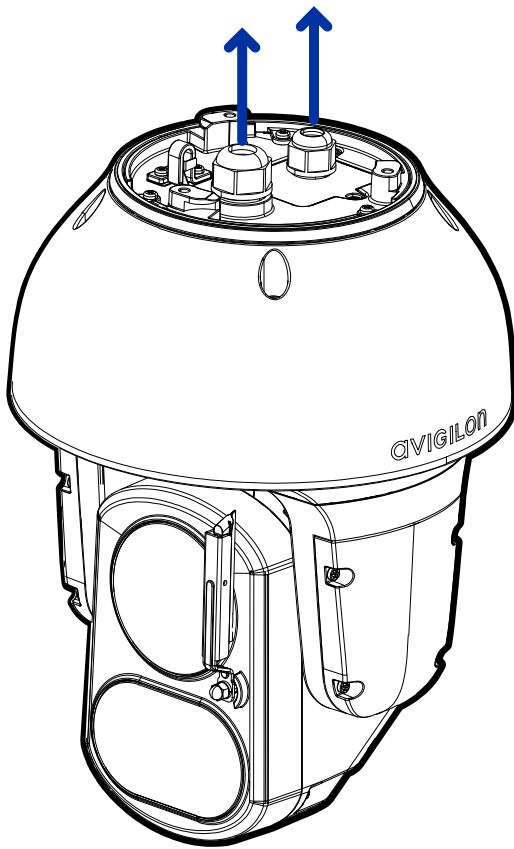
Refer to the diagrams in the [H5A IR PTZ Camera Overview](#) section for the location of the different connectors.

NOTE

H5A IR PTZ cameras do not support cables with boots or strain reliefs.

Follow these steps to connect power and network connectivity to the camera:

1. Make sure the safety lanyard is connected to the camera.
2. Remove the sealing gland caps from the top of the camera.



3. If there are external input or output devices that need to be connected to the camera (for example: door contacts, relays, etc.), connect the devices to the camera I/O connector cable.
4. If you are using a PoE Injector, connect a Gigabit 802.3bt 60 W PoE injector 802.3bt 90W Single Port (POE90U-1BT) network cable to the injector.
5. If you are using External Power, connect a 24 V DC or 24 V AC (RMS) auxiliary power source that supports up to 51 W or 75 VA. For more information, see [Connecting External Devices to H5A IR PTZ Cameras](#).
6. Thread the Ethernet cable into the cable gland.

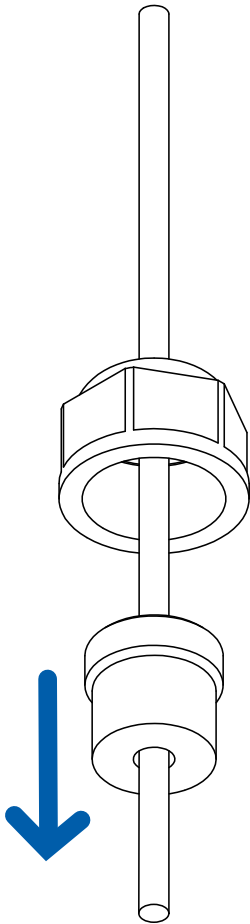
- a. The cable gland for the Ethernet cable already has an opening for the cable along the side of the gland.

Do not cut or slice the cable gland. This may make it possible for water to enter the camera, and could void the warranty.

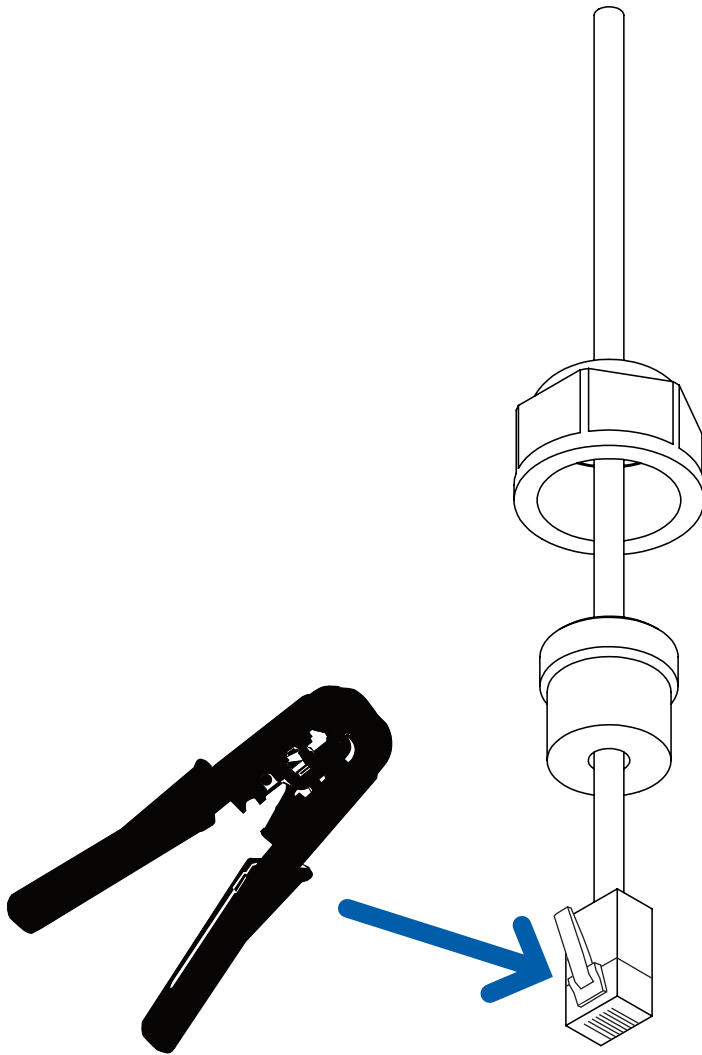
- b. Push the cable through the gland cap, and then the opening on the side of the cable

gland.

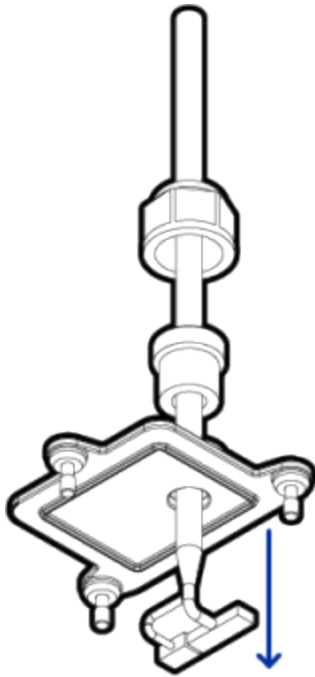
Ensure the orientation of the cable and cable gland matches the following image.



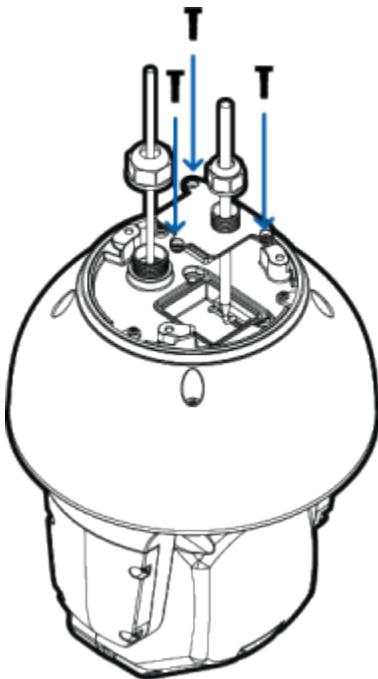
c. Crimp the connector onto the Ethernet cable.



7. Remove the I/O cover and feed the I/O connector cable through the gland cap, cable gland, and I/O cover. The I/O cable gland has a plug in it that must be pulled out before feeding the cable through.



8. Tighten the cable glands around the cables.
9. Connect power and I/O to the camera, then tighten the I/O cover.



10. Connect a network cable to the Ethernet port (RJ-45 connector). The Link LED indicator will turn on once a network link has been established.

 NOTE

If you need to remove the RJ45 connector from the camera to check a network issue, gently pull the cable towards the locking tab to release the RJ45 plug before pulling upwards.

11. Check that the Connection Status LED indicator indicates the correct state. For more information, see [Connection Status LED Indicators](#).

H5A IR PTZ Camera Power Redundancy

Connecting cameras to both PoE and Aux can provide power redundancy in the event that the camera's external AUX power supply fails. If the camera loses power from the preferred Aux power supply it can transition to drawing power from the PoE PSE device.

Seamless Failover

H5A IR PTZ cameras support seamless failover. These cameras can transition between PoE and auxiliary power sources without any interruption of camera operation or video recording. This is mainly useful if you want redundant power sources so that backup power will be available if one power source goes down.

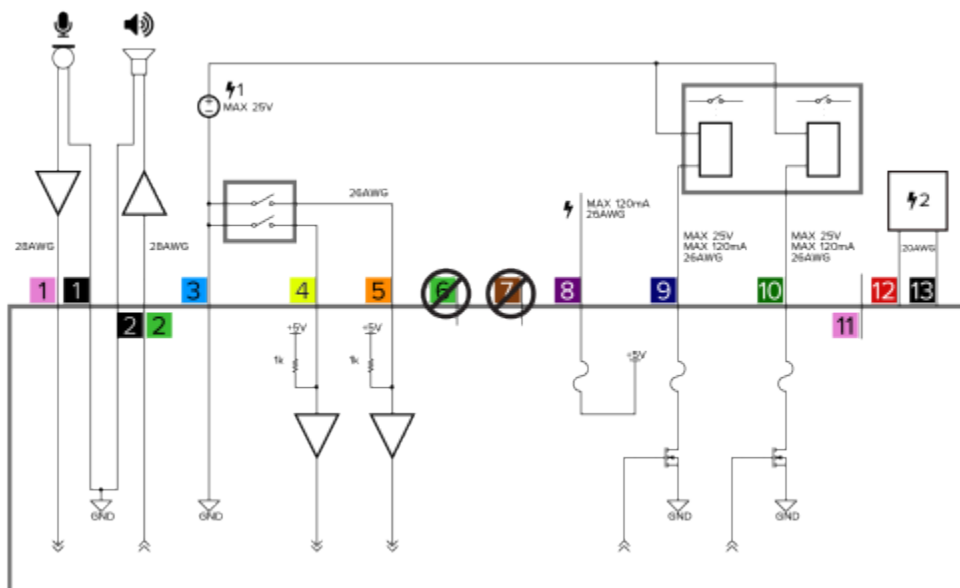
 NOTE

There is a downside to having seamless failover, even when it is not required. You can still connect cameras to PoE-enabled switches while running the camera on Aux power. Since the PoE connection remains active when running on Aux power, if the camera is connected to a PoE-enabled port on a switch, the switch by default will allocate some of its overall power budget to that port.

Connecting External Devices to H5A IR PTZ Cameras

Power supplies and external devices are connected to the camera through the power and I/O wires.

The pinout for the I/O and power wires is shown in the following diagram:



1. Pink (AUDIO_IN) – Audio Input (line level)

An external power amplifier should be used when connecting speakers and microphones, as shown in the diagram.

2. Black – Audio Ground

3. Light Green (AUDIO_OUT)– Audio Output (line level)

4. Black – Audio Ground

5. Light Blue (GND) – Ground for digital inputs and outputs.

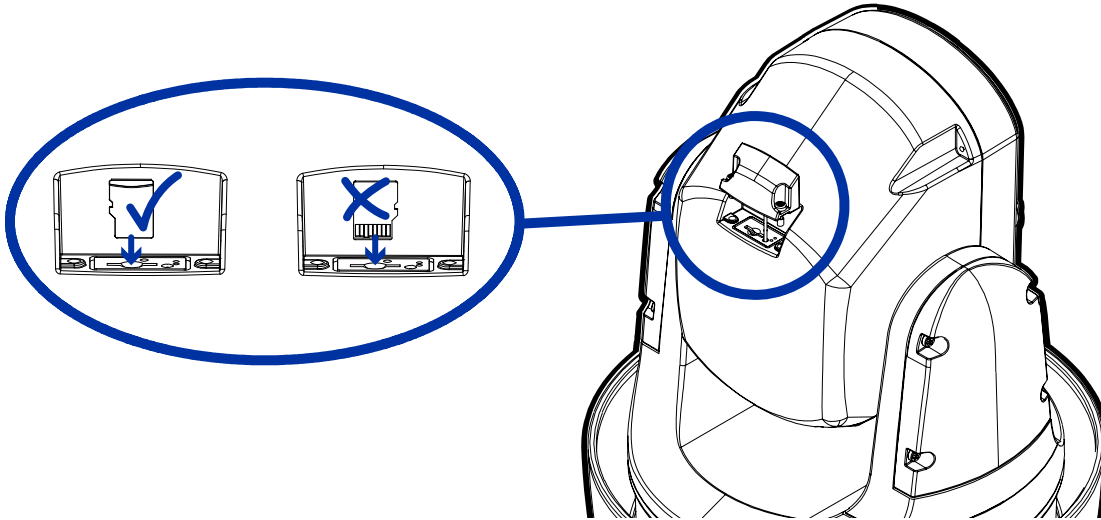
6. Yellow (RI_1)— Digital Input, Relay 1. The input voltage must be below 0.7 V to register as a low input. The input voltage should not exceed 5 V when high.
 7. Orange (RI_2)— Digital Input, Relay 2
 8. Light Green (RI_3)— Unused Wire, do not connect.
 9. Brown (RI_4) — Unused Wire, do not connect.
 10. Purple (RO+)— +5V power output from camera.
 11. Blue (RO_1) — Digital Output,
 12. Green (RO_2) — Digital Output
 13. Pink (Reserved) — Reserved Wire, do not connect.
 14. Red (DC) — Auxiliary Power Wire, accepts DC and AC power.
 15. Black (DC) — Auxiliary Power Wire, accepts DC and AC power.
1. External relay power supply
 2. Optional 24 V AC (RMS) or 24 V DC Aux. power supply

Configuring Onboard Storage (Optional)

To use the camera's microSD card storage feature, you must insert a microSD card into the card slot.

It is recommended that the microSD card have a capacity of 64 GB or more, and a write speed of class 10 or better. If the SD card does not meet the recommended capacity or write speed, the recording performance may suffer and result in the loss of frames or footage.

1. Using the T10 star Key, unscrew and open the microSD cover at the rear of the camera.
2. Insert a microSD card into the camera. Refer to the image below for the correct microSD card orientation.



⚠ CAUTION

Do not force the microSD card into the camera or you may damage the card and the camera.

3. Access the camera's web interface to enable the onboard storage feature. For more information, see the *Avigilon PTZ Camera Web Interface User Guide*.

Adding Cameras to the Network

H5A IR PTZ Cameras must be added to the IP network before you can connect them to the Video Management System (VMS). The following sections cover how to add cameras to the network and how to discover the camera's IP addresses.

Choose a Tool to Access Camera Settings

Discovering Cameras on the Network

Initializing a Camera Username and Password

Connection Status LED Indicators

Setting the IP Address Through the ARP/Ping Method

Resetting H5A IR PTZ Cameras to their Factory Default Settings

Choose a Tool to Access Camera Settings

There are different tools that you can use to configure cameras. You can configure cameras directly in Avigilon Unity Video or Avigilon Control Center. This is the best option if you want to claim and configure cameras from the VMS. If you are configuring many cameras with the same settings, you will want to use the Camera Configuration Tool (CCT) to claim and apply settings in bulk. The camera web interface allows you to configure cameras one at a time from a web browser. You can only access the camera's web interface from a computer connected to the same network as the camera.



TIP

Download the latest version of CCT, Unity Video or ACC from [avigilon.com/software-downloads](https://www.avigilon.com/software-downloads).

You can use one of the following tools:

- Avigilon Unity Video — use the Unity Video client application to claim, initialize and configure cameras. If you are using Unity Video, it saves time to complete these tasks from one application.

Refer to the [Avigilon Unity Video Client User Guide](#) for instructions.

- Avigilon Control Center — use the ACC client application to claim, initialize and configure cameras.

Refer to the [Avigilon Control Center Client User Guide](#) for instructions.

- Camera Configuration Tool — use CCT to discover, initialize and configure cameras. CCT can discover and claim many cameras at once. You can also use CCT to configure and bulk apply common settings to cameras.

Refer to the [Camera Configuration Tool User Guide](#) for instructions.

- Camera Web Interface — use the camera web interface to initialize and configure cameras individually from a web browser without using the VMS. You can not use the camera web interface to discover cameras. You must find the IP address on the network before you can access the web interface.

Refer to the relevant Avigilon Camera Web Interface User Guide at docs.avigilon.com/unity-cameras for instructions.

Discovering Cameras on the Network

The camera will automatically be assigned an IP address as soon as it is connected to the network. To ensure proper connectivity, the cameras and the client machine accessing them must be on the same subnet. This can be achieved through one of the following methods:

- If DHCP is enabled, set the client machine to obtain a DHCP assignment so that the cameras and devices are automatically added to the same subnet.
- If DHCP is not enabled, set the client machine for zero-configuration networking (zero-conf). The cameras will use zeroconf to obtain an IP address in the 169.254.x.x range. Zero-conf is the default behavior for Windows OS when DHCP is not available.

Finding the Camera's IP Address

After you have added the camera to the network, you must find the camera's IP address. You will need the camera's IP address if you want to access and configure the camera's settings.

Use one of the following methods to find the camera's IP address:

- **Camera Configuration Tool (CCT)** — use CCT to autodiscover cameras on the same network as the client machine you are using.
- **Avigilon Unity Video or ACC** — use the client application to autodiscover cameras on the same network as the client machine that the software application is installed on.

Download the latest version of CCT, Unity Video or ACC from [avigilon.com/software-downloads](https://www.avigilon.com/software-downloads).

Consider one of these options if you do not have access to CCT, Avigilon Unity or ACC:

- **ARP/Ping** — The ARP/ping method can be used to change the IP address of a camera that is factory default and does not currently have any administrator credentials configured. The arp Windows command adds an entry to the ARP table. Then, while powering on the camera, pinging the camera with the new IP address will cause the camera to take on the new IP address.
- **DHCP assignment** — a network administrator will be able to check the DHCP assignment for the IP addresses on the network.

Changing the IP Address (Optional)

The IP address settings can be changed using one of the following methods:

- Video Management System (VMS) software application, e.g., Unity Video client
- Camera Configuration Tool

Initializing a Camera Username and Password

Cameras manufactured after January 1, 2020, do not have a default username or password and will be in a factory default state.

Important

You must create a user with administrator privileges before the camera is operational.

The first user can be created using any of the following methods:

- Camera's Web Interface: enter the camera's IP address in a web browser to access the web interface. If the camera is in the factory default state you will be redirected to the Add a new user page to create the first user. For more information, see the *Avigilon High Definition H4 and H5 IP Camera Web Interface User Guide*.
- Camera Configuration Tool: cameras discovered in the factory default state will be identified by . Select the Admin Users tab to create the first user. For more information, see the *Avigilon Camera Configuration Tool User Guide*.
- USB Wi-Fi Adapter: when connecting a camera in the factory default state, you will be redirected to the Create Administrator User page to create the first user. For more information, see *Motorola Solutions USB Wi-Fi Adapter System User Guide*.
- Avigilon Control Center software version 7.4 or later, or version 6.14.12 or later: when connecting a camera in the factory default state, the client software will ask you to create a new user. For more information, see the *Avigilon Control Center Client User Guide*.
- Avigilon Cloud Services (ACS) v3.0 or later: when adding a camera you will be asked to create a new user for cameras in the factory default state. For more information, see the *Avigilon Cloud Services User Guide*.

TIP

If you are connecting your Avigilon camera to a 3rd party VMS, you will need to set up the first user through the camera's Web Interface, USB Wifi Adapter, or Camera Configuration Tool before you connect to the 3rd party VMS.

Connection Status LED Indicators

Once connected to the network, the green Connection Status LED indicator will display the progress in connecting to the Network Video Management software. The following table describes what the LED indicator shows:

Connection State	Connection Status LED Indicator	Description
Obtaining IP Address	One short flash every second	Attempting to obtain an IP address.
Discoverable	Two short flashes every second	Obtained an IP address but not connected to the Network Video Management software.
Upgrading Firmware	Two short flashes and one long flash every second	Updating the firmware.
Connected	On	Connected to the Network Video Management software or an ACC™ Server. The default connected setting can be changed to Off using the camera's web user interface. For more information see the <i>Avigilon</i>

Connection State	Connection Status LED Indicator	Description
		<i>High Definition H4 and H5 IP Camera Web Interface User Guide.</i>

Troubleshooting Network Connections and LED Behavior

NOTE

For any of the below LED behaviors, ensure that the camera is getting power and is using a good network cable before trying another solution.

LED Behavior	Suggested Solution
Green LED is off and amber is on	Perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web interface will not produce the desired result.
Both LEDs are off and the camera is not connected or streaming video	Check the General setup page in the camera's web interface to ensure the LEDs are not disabled. If the LEDs are not disabled, perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web interface will not produce the desired result.
Both LEDs are blinking several times at the same time, then pause and repeat the blinking	Perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web

LED Behavior	Suggested Solution
	interface will not produce the desired result.
A different LED blinking pattern than those described above	Perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web interface will not produce the desired result.

Setting the IP Address Using the ARP/Ping Method

NOTE

The ARP/Ping Method will not work if the **Disable setting static IP address through ARP/Ping method** checkbox is selected in the camera's web browser interface. For more information, see the *Avigilon High Definition H4 and H5 IP Camera Web Interface User Guide*.

Complete the following steps to configure the camera to use a specific IP address:

1. Locate and make note of the MAC Address (MAC) listed on the Serial Number Tag for reference.
2. Open a Command Prompt window and enter the following commands:

a. `arp -s <New Camera IP Address> <Camera MAC Address>`

For example: `arp -s 192.168.1.10 00-18-85-12-45-78`

b. `ping -l 123 -t <New Camera IP Address>`

For example: `ping -l 123 -t 192.168.1.10`

3. Reboot the camera.
4. Close the Command Prompt window when you see the following message:

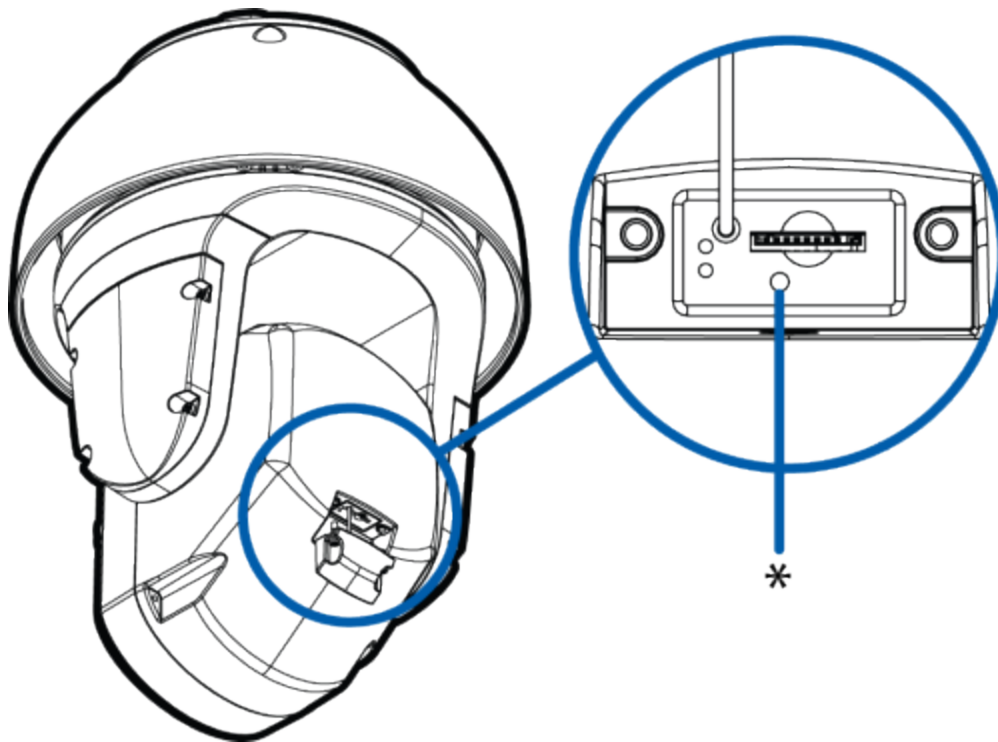
```
Reply from <New Camera IP Address>: ...
```

Resetting H5A IR PTZ Cameras to their Factory Default Settings

If the camera no longer functions as expected, try performing a factory reset using the camera's firmware revert button. Use the firmware revert button to reset the device to its factory default settings.

Follow these steps to manually reset the camera:

1. Ensure the camera is powered on.
2. Remove the SD cover located on the camera.
3. Locate the reset button on the config panel. The reset button is a small hole.



4. Use a paperclip or small tool to press and hold the reset button until the LEDs beside the reset button turn off.
5. Release the button and wait while the camera reverts to the factory default settings.

⚠ CAUTION

Do not apply excessive force. Inserting the tool too far may damage the camera.

Adjusting H5A IR PTZ Cameras

The last stage of the installation is adjusting the camera to optimize the video quality. Use the Live Viewer in the camera's web interface or the VMS to check the camera's field of view. Once you have access to the camera's video stream, you can adjust the camera's zoom and

focus controls.

Make sure you complete these steps before attaching the camera's cover in case you need to make further adjustments:

[Accessing the Live Video Stream](#)

[Zooming and Focusing Cameras](#)

[Setting the Home Preset Position](#)

Accessing the Live Video Stream

Live video stream can be viewed using one of the following methods:

- Web browser interface: `http://< camera IP address>/`.
- Network Video Management software application (for example, the Avigilon Control Center™ software).

NOTE

Depending on the manufacture date of your camera, you will have one of the two options below to log in for the first time:

- Cameras manufactured after January 1, 2020: these cameras do not have a default username or password and will be in a factory default state. You must create a user with administrator privileges before the camera is operational. For more information, see [Initializing a Camera Username and Password](#).
- Cameras manufactured before January 1, 2020: login to the camera using the default username of `administrator` with no password. It is recommended that you change



the password after your first login.

Zooming and Focusing Cameras

You can use the camera's Zoom and Focus controls to adjust the camera image before finishing the installation. You will need access to the camera's video feed to check the camera's image quality.



Important

Make sure you install the camera's cover before adjusting the camera's zoom and focus because the camera cover can affect the image.

You can use the camera web browser, Avigilon Unity Video or ACC to access the camera's *Image and Display* settings to zoom and focus the camera.

1. Access the camera's *Image and Display* settings.
2. Use the **Zoom** controls to zoom the camera in or out.
3. Use the **Focus** controls to manually adjust the focus.
4. Click **Auto Focus** to let the camera automatically focus the lens.
5. Click **Save**.

Setting the Home Preset Position

The PTZ camera supports self-learning video analytics from the home preset position. The home preset position is typically the field of view the PTZ camera returns to after being used for investigations.

Before you can configure the camera's home position, you must connect the camera to a site in the ACC™ Client software. For more information about adding cameras to a site and the following steps, see the *Avigilon Control Center Client User Guide*.

To set the home preset position, display the live video from the PTZ camera then complete the following steps:



TIP

Name the preset position "Home" so that it will be easy to find when configuring the camera for other applications.

1. Move the camera's field of view into position.
2. In the **Presets** drop-down list, select a number then click .
3. In the dialog box, enter a name for the preset.
4. Select the **Set as home preset** checkbox if you want this to be the camera's Home preset.
5. Click **OK**.

After you've set the camera's home preset position, you can configure the required video analytics events in the ACC Client software.

Returning to the Home Position

After the home preset position has been configured, you can manually set the PTZ camera to return to the configured field of view by clicking .

You can also configure the PTZ camera to automatically return to the home preset position after the camera is left idle for a set amount of time. This can be configured in two ways: through a PTZ tour or a rule.

A PTZ tour can be configured from the camera web interface or in the ACC Client software. To

configure the PTZ camera to automatically return to the home position, create a new tour and add only the home position to the preset list. Next, select the **Set as default tour** checkbox and use the **Default Tour Idle Start Time (Minutes)** field to define the expected amount of idle time before the camera returns to the home position.

To use the rule method, you must have an Enterprise Edition or Standard Edition version of the Avigilon Control Center system. To configure the PTZ camera to automatically return to the home position, create a rule that includes the following settings:

- On the Select Rule Event(s) page, select **PTZ idle**.
- On the Select Rule Action(s) page, select **Go to Home Preset**.

Camera Maintenance

The sections below provide information and instructions for the ongoing maintenance of your Avigilon cameras and devices. Perform regular maintenance to ensure that your products continue to perform well throughout the product's service life.

Cleaning Cameras

Cleaning Cameras

Dirt, dust and/or fingerprints on the camera can cause the video image to become blurry. Make sure you clean these products to ensure optimal performance. Refer to the instructions

below when cleaning H5A IR PTZ Cameras.

Which Cleaning Solutions Should I Use?

You can clean Avigilon cameras using mild soap and water along with a non-abrasive cloth, microfiber cloths work best.

CAUTION

Do not use Windex to clean plastic or Lexan surfaces such as a dome or camera housing.

How Should I Clean H5A IR PTZ Cameras?

If the surface is extremely dirty, use a non-abrasive cloth with soap and water, but make sure you use long, sweeping strokes. Do not apply pressure or the dirt particles can scratch the plastic. Once the surface is clean of dust and dirt, use a new clean non-abrasive cloth with soap and water. This time apply more pressure to help remove the smaller particles. When cleaning the camera body, use a dry or lightly dampened cloth. Do not use strong or abrasive detergents.

Important

Make sure you do not rub any dirt that might already be on the camera. This will scratch the lens which will adversely impact image quality.

Cleaning PTZ Cameras using the Washer Presets

Cleaning PTZ Cameras using the Washer Presets

Some PTZ cameras, including the H5A IR PTZ camera, have a washer and wiper built in to clean dirt and dust away from the front of the camera. You can also use PTZ camera presets to automate self-cleaning. The presets will activate depending on your instructions.

There are two ways to create and assign PTZ camera presets:

- **Camera Web Interface** — Activate the washer and wiper on the Live View page of the PTZ camera's web interface. See [Using Camera Presets](#) for instructions. If you need to create a new preset, navigate to the *Washer* page of the PTZ camera's web interface. See [Washer](#) for instructions.
- **Avigilon Control Center** — Activate the washer and wiper using the PTZ auxiliary command.

Troubleshooting H5A IR PTZ Cameras

Refer to the following sections to troubleshoot common errors with H5A IR PTZ Cameras.

No Video After Turning On the Camera in a Cold Environment

NOTE

The following troubleshooting case only applies to cameras that are powered up in a cold environment of -10°C to -40°C (14°F to -40°F) or lower. To properly power the camera at this lower temperature requires 95 W PoE or auxiliary power supply.

Up to a 60 minute startup delay may be necessary to warm up the camera when powering up in a cold environment below -10°C (14°F). During this cold start delay, video will not display and errors may be generated in ACC. If you are viewing video in the web interface you will see a blue screen and message about being in cold start mode. Video transmission will start and the errors will stop once the camera has warmed up.

Resources for Avigilon Cameras

The following resources provide information for installing, configuring and using Avigilon cameras. You can find more information and resources for your Avigilon cameras at docs.avigilon.com.

1. For best practices on positioning cameras for optimal performance, see the [Designing a Site with Avigilon Self-Learning Video Analytics](#).
2. For instructions on adding and configuring cameras in Avigilon Unity Video or ACC, see the [Avigilon Unity Video Client User Guide](#) or the [ACC 7 Client User Guide](#).
3. For instructions on using the Camera Configuration Tool (CCT) to claim and configure multiple cameras at once, see the [Motorola Solutions Camera Configuration Tool User Guide](#).
4. For instructions on using the Camera Web Interface to configure camera settings and features, see the relevant Avigilon Camera Web Interface User Guide
5. For instructions on using the Mobile Web Interface to connect cameras to the network over Wi-Fi and apply settings, see the [USB Wi-Fi Adapter Web Interface User Guide](#).

Only cameras that are compatible with the USB Wi-Fi adapter can use the mobile web interface.

Safety and Regulatory Information

The following sections provide important information. Make sure you review these sections before installing the camera:

[Important Safety Information](#)

[Regulatory Notices](#)

[Legal Notices](#)

[Limited Warranty & Technical Support](#)

Important Safety Information

This manual provides installation and operation information and precautions for the use of this device. Incorrect installation could cause an unexpected fault. Before installing this equipment read this manual carefully. Please provide this manual to the owner of the equipment for future reference.

	This Warning symbol indicates the presence of dangerous voltage within and outside the product enclosure that may result in a risk of electric shock, serious injury or death to persons if proper precautions are not followed.
---	---

	This Caution symbol alerts the user to the presence of hazards that may cause minor or moderate injury to persons, damage to property or damage to the product itself if proper precautions are not followed.
--	--

	 WARNING Failure to observe the following instructions may result in severe injury or death.
---	--

- Installation must be performed by qualified personnel only, and must conform to all local codes.
- This device should be installed in restricted access locations.
- Installation must be performed while the camera is disconnected from power.
- This product is intended to be supplied by a UL Listed Power Unit marked "Class 2" or "LPS" or "Limited Power Source" with output rated 24VAC $\pm$ 10%, 110 VA min.; 24VDC $\pm$ 10%, 75 W min. or a PoE injector 802.3bt 90W Single Port such as POE90U-1BT.
- Do not connect directly to mains power for any reason.

	 CAUTION Failure to observe the following instructions may result in injury to persons or damage to the device.
---	---

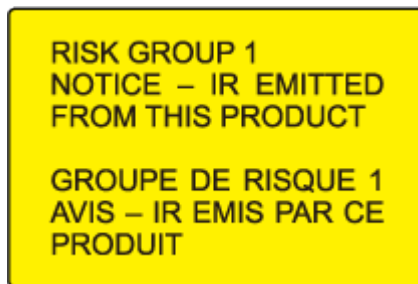
- Do not install near any heat sources such as radiators, heat registers, stoves, or other sources of heat.
- Do not subject the device cables to excessive stress, heavy loads or pinching.
- Refer all device servicing to qualified personnel. Servicing may be required when the device

has been damaged (such as from a liquid spill or fallen objects), does not operate normally, or has been dropped.

- Do not use strong or abrasive detergents when cleaning the device body.
- Use only accessories recommended by Avigilon.

For IR safety, the minimum usage distance shall be 380 mm (15") distance or greater.

Risk Group 1. NOTICE: IR emitted from this product. Use appropriate shielding or eye protection.



Regulatory Notices

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class B digital apparatus complies with Canadian ICES-003.

This device complies with EN 60529 IP66, IP67, and IP68 rating.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is

no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Changes or modifications made to this equipment not expressly approved by Avigilon Corporation or parties authorized by Avigilon Corporation could void the user's authority to operate this equipment.

To meet the requirements of the EN 50121-4 Railway Applications Standard, use an external power supply or POE injector that is also compliant with EN 50121-4. Please contact Avigilon for assistance regarding supporting equipment.

UK Product Security and Telecommunications Infrastructure (PSTI) Act: Avigilon cameras comply with the PSTI requirements. For more information, see the published [PSTI Statement of Compliance](#).

Disposal and Recycling Information

When this product has reached the end of its useful life, please dispose of it according to your local environmental laws and guidelines.

Risk of fire, explosion, and burns. Do not disassemble, crush, heat above 100 °C (212 °F), or incinerate.

European Union:



This symbol means that according to local laws and regulations your product should be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. Some collection points accept

products for free. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

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Revision: 1 - EN

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Limited Warranty and Technical Support

Avigilon warranty terms for this product are provided at [avigilon.com/warranty](https://www.avigilon.com/warranty).

Warranty service and technical support can be obtained by contacting Avigilon Technical Support: [avigilon.com/contact](https://www.avigilon.com/contact).

More Information & Support

For additional product documentation and software and firmware upgrades, visit support.avigilon.com.

Contact Avigilon Technical Support at support.avigilon.com/s/contactsupport.

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