Installation Guide

Avigilon™ H5 Dual Head Camera Models:

6.0C-H5DH-D1-IR

10.0C-H5DH-D1-IR

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 product is intended to be supplied by Power over Ethernet (PoE) that is a “Limited Power Source” or "LPS" with output rated 13 W max.
- 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 expose the camera directly to high levels of x-ray, laser, or UV radiation. Direct exposure may cause permanent damage to the image sensor.
- 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.
- Do not open or disassemble the device. There are no user serviceable parts.
- 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), has been exposed to rain or moisture, 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.

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 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.

To meet the requirements of the EN 50130-4 Alarm Systems Applications standard, use an external uninterruptible power (UPS) supply. The UPS must have a backup run time of greater than 5 seconds (>5S) for the power level as specified on the product datasheet.

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.

Legal Notices

© 2021, Avigilon Corporation. All rights reserved. AVIGILON, the AVIGILON logo, AVIGILON CONTROL CENTER, and ACC are trademarks of Avigilon Corporation. ONVIF is a trademark of Onvif, Inc. Other names or logos mentioned herein may be the trademarks of their respective owners. The absence of the symbols ™ and ® in proximity to each trademark in this document or at all is not a disclaimer of ownership of the related trademark. Avigilon Corporation protects its innovations with patents issued in the United States of America and other jurisdictions worldwide (see **avigilon.com/patents**). Unless stated explicitly and in writing, no license is granted with respect to any copyright, industrial design, trademark, patent or other intellectual property rights of Avigilon Corporation or its licensors.

Disclaimer

This document has been compiled and published using product descriptions and specifications available at the time of publication. The contents of this document and the specifications of the products discussed herein are subject to change without notice. Avigilon Corporation reserves the right to make any such changes without notice. Neither Avigilon Corporation nor any of its affiliated companies: (1) guarantees the completeness or accuracy of the information contained in this document; or (2) is responsible for your use of, or reliance on, the information. Avigilon Corporation shall not be responsible for any losses or damages (including consequential damages) caused by reliance on the information presented herein.

Avigilon Corporation
avigilon.com

PDF-H5DH-A

Revision: 2 - EN

20210622

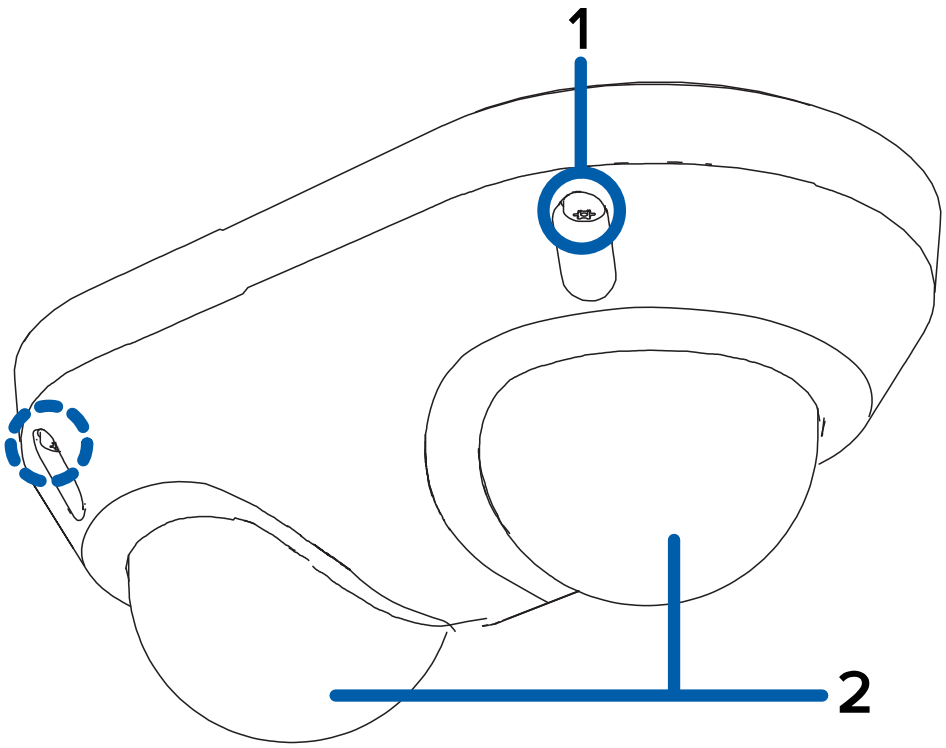
Table of Contents

Overview 1
Cover View 1
Internal View 2
Junction Box View 3
Mounting Plate View 4
Pendant Camera View 5
NPT Adapter View 6
Pendant Wall Mount Bracket View 7
Pendant Wall Mount View 8
Preparing the Installation 9
Pre-Deployment In-Box Configuration 9
Removing the Dualhead Cover 10
Mounting and Aiming Video Analytics Cameras 11
Inserting Cables through the Sealing Grommet 11
Surface Mount Installation 13
Required Tools and Materials 13
Camera Package Contents 13
Installation Steps 13
Mounting the Camera to a Ceiling or Wall 14
Connecting Cables 16
Installing the Dual Head Cover 17
Junction Box Installation 19
Required Tools and Materials 19
Camera Package Contents 19
Installation Steps 19
Using the Junction Box Mounting Adapter 20
Installing the Camera Base into the Junction Box 22
Connecting Cables 23
Installing the Dual Head Cover 24
Pendant Mount Installation 26
Required Tools and Materials 26
Camera Package Contents 26
Installation Steps 26
Mounting the Camera to a Pipe 26

Mounting the Camera to the Pendant Wall Mount 27
Installing the Camera into the NPT Adapter 31
Connecting Cables 32
Installing the Dual Head Cover 33
Connecting to the Camera 36
Initializing a Camera Username and Password 36
Assigning an IP Address 36
Accessing the Live Video Stream 37
Aiming the Dual Head Camera 37
Zooming and Focusing the Dome Camera 38
(Optional) Configuring Onboard Storage 39
Configuring the Camera 39
For More Information 39
Cable Connections 40
Connecting to External Audio and I/O Devices 40
Connection Status LED Indicator 41
Troubleshooting Network Connections and LED Behavior 41
Resetting to Factory Default Settings 43
Setting the IP Address Using the ARP/Ping Method 44
Cleaning 45
Dome Bubble 45
Body 45
Limited Warranty and Technical Support 46

Overview

Cover View



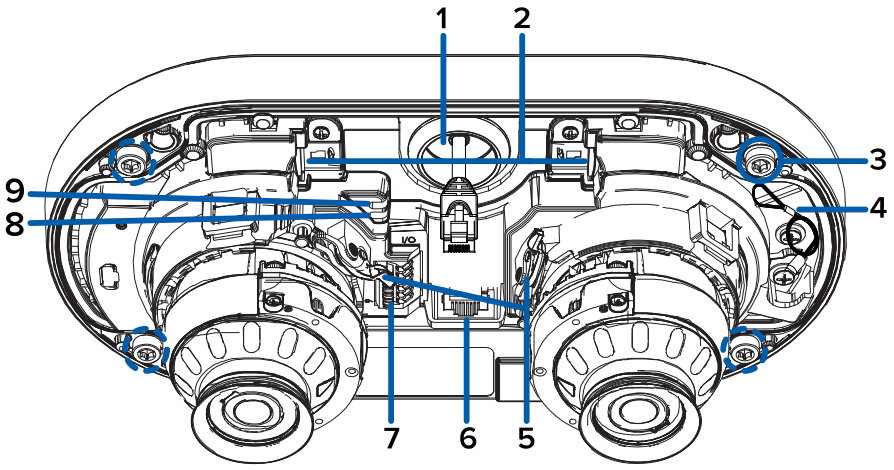
1. **Tamper resistant screws**

   Star-shaped captive screws to fix the dome cover to the base.

2. **Dome cover**

   Vandal resistant dome cover.

Internal View



1. **Cable entry hole**

   An entry hole for the cables required for camera operation.

2. **microSD card slots (x2)**

   Accepts up to two microSD cards for onboard storage. Install microSD cards so the metal contacts are facing the base of the camera. For more information, see *(Optional) Configuring Onboard Storage* on page 39.

3. **Mounting screws**

   Screws for mounting the camera base to the mounting plate, junction box, or NPT adapter.

4. **Lanyard**

   Anchors the cover to the camera base.

5. **Pan and tilt locking latch (x2)**

   Locking mechanism to lock and unlock pan, tilt and azimuth adjustments for each camera head.

6. **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.

7. **I/O connector block**

   Provides connections to external input/output and audio devices.

   If using the optional electrical box wall plate adapter or NPT adapter, align the mounting posts with the mounting slots.

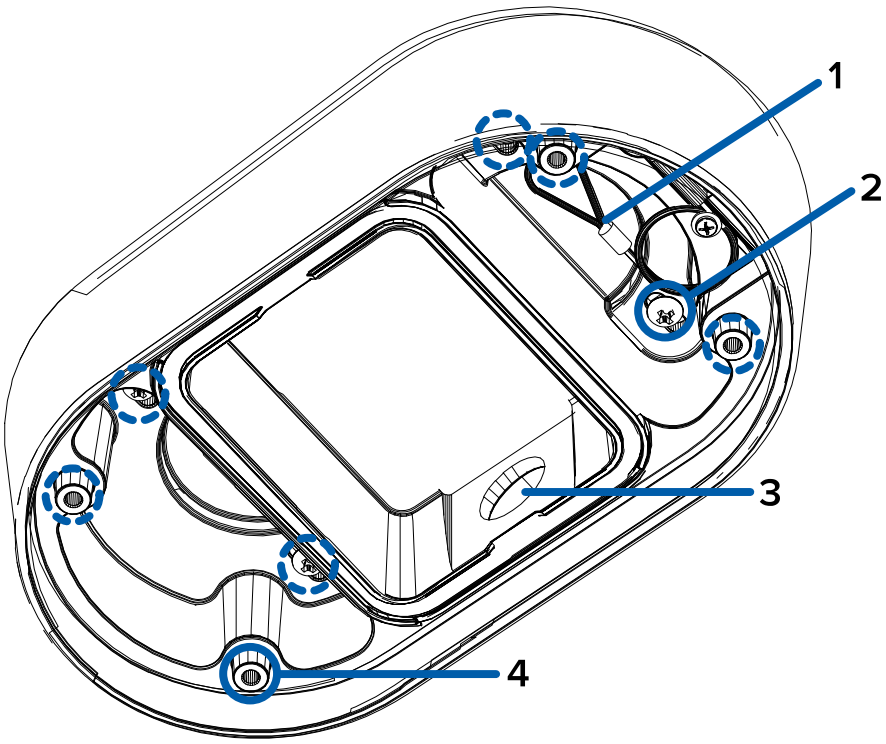
8. **Link LED indicator**

   Amber LED indicates if there is an active connection in the Ethernet port.

9. **Connection status LED indicator**

   Green LED provides information about device operation. For more information, see *Connection Status LED Indicator* on page 41.

Junction Box View



1. **Lanyard**

   Connects to the lanyard anchor on the camera base.

2. **Mounting holes**

   Holes for mounting the junction box to the mounting surface.

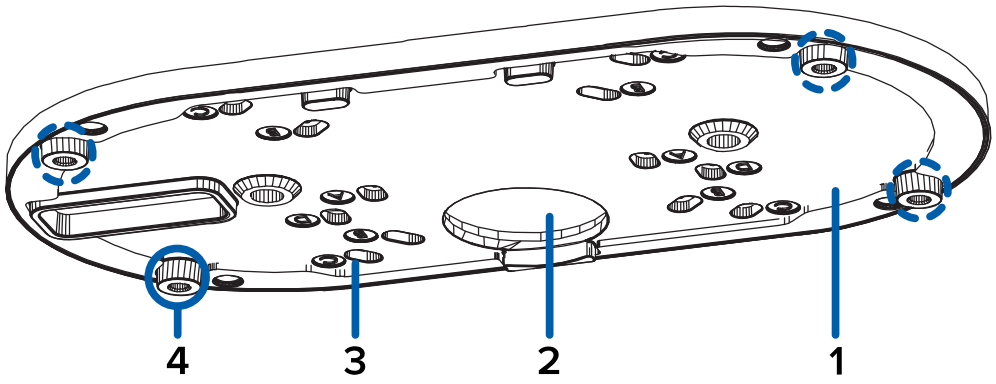
3. **Side conduit entry hole**

   An entry hole for the side conduit and cables requried for camera operation.

4. **Mounting points**

   The mounting points for securing the camera base to the junction box.

Mounting Plate View



1. **Mounting plate**

   Plate for mounting the camera to a wall or ceiling.

2. **Cable entry hole**

   Entry hole for the cables required for camera operation.

3. **Mounting holes**

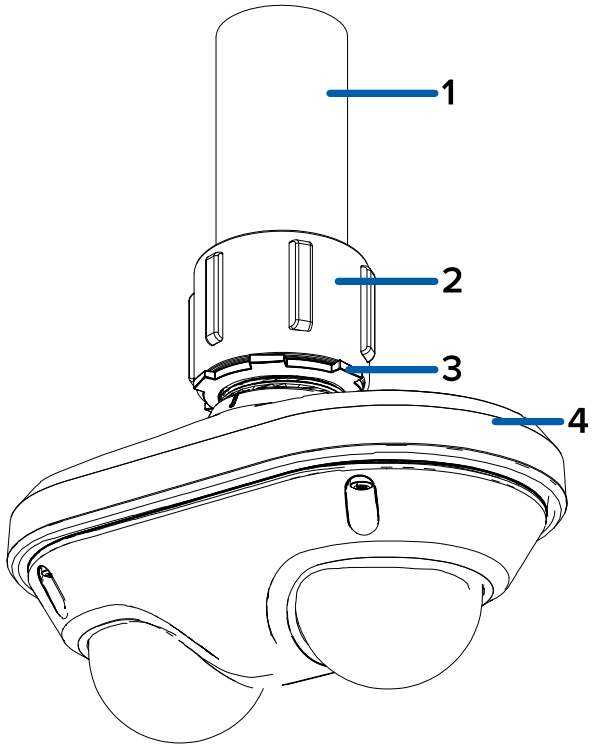
   Holes for mounting the plate to the mounting surface or the following electrical boxes:

   A. UK standard single gang box
   B. Octagon gang box
   C. 4" gang box
   D. US standard single gang box

4. **Camera mounting points**

   Align the mounting points on the plate adapter to the mounting screws on the camera base.

Pendant Camera View



Note: The NPT pipe and NPT-female to NPT-female adapter are not supplied by Avigilon and should be sourced separately. However, if you are using the NPT adapter (H5DH-DP-NPTA1), the lock nut is included.

1. **NPT pipe**

   NPT pipe used for a pendant mount with the NPT adapter.

2. **1-1/2" NPT-female to NPT-female adapter**

   An adapter for attaching the pendant NPT mount to an NPT pipe or wall arm.

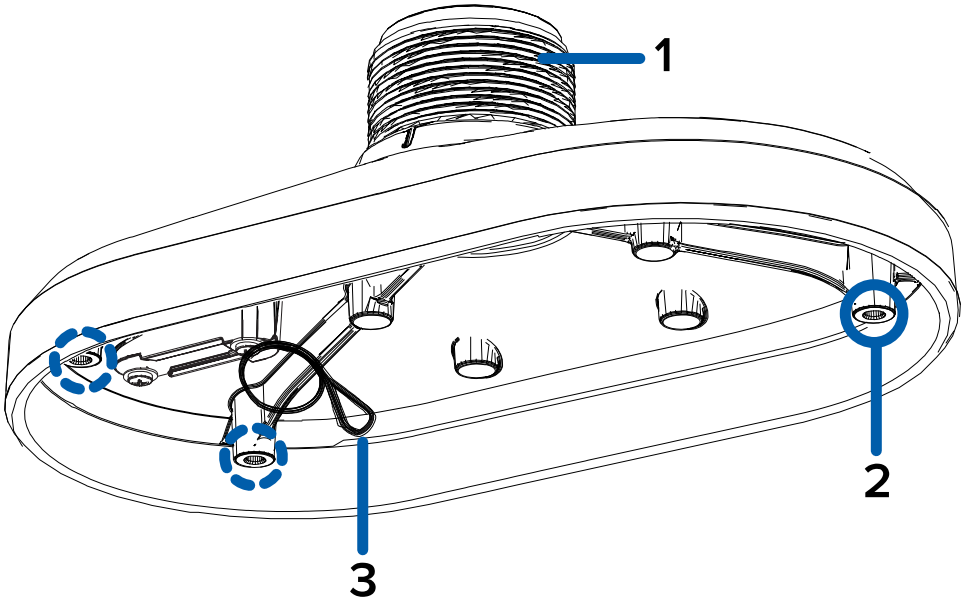
3. **Lock nut**

   Lock nut for securing the pendant NPT mount to an NPT pipe or wall arm.

4. **Pendant NPT adapter**

   Camera pendant mount adapter for NPT pipes and wall arm installations.

NPT Adapter View



1. **1-1/2” NPT thread mount**

   Standard female 1-1/2” NPT thread mount for mounting the camera to an NPT pipe or wall arm.

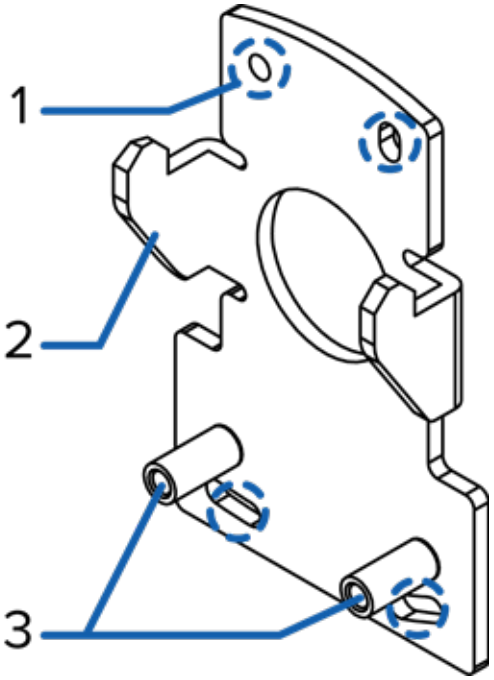
2. **Camera mounting points**

   Align the mounting points on the NPT adapter to the mounting screws on the camera base.

3. **Lanyard**

   Connects to the lanyard anchor on the camera base.

Pendant Wall Mount Bracket View



1. **Bracket mounting holes**

   Points for mounting the pendant wall mount bracket to a mounting surface.

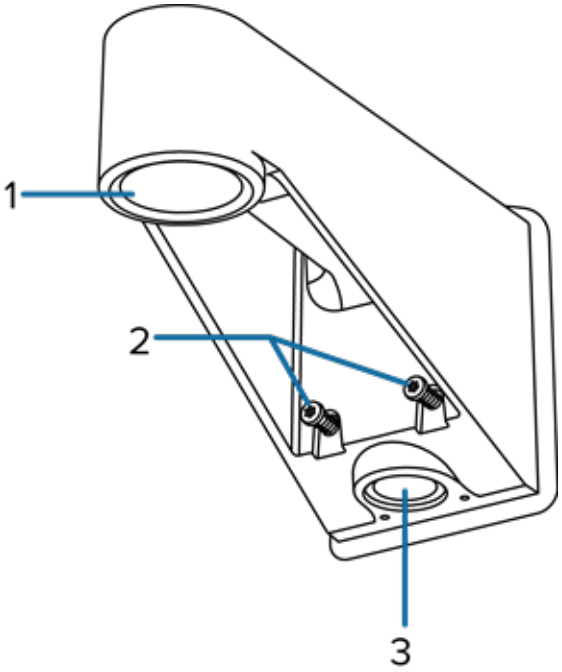
2. **Mounting tabs**

   Tabs for placing the pendant wall mount onto the bracket.

3. **Mounting points**

   Points for securing the pendant wall mount to the mounting bracket.

Pendant Wall Mount View



1. **1-1/2” NPS thread mount**

   Female NPS thread mount for pendant camera installations.

2. **Pendant wall mount screws**

   Screws for securing the pendant wall mount to the mounting bracket.

3. **NPT pipe entry hole**

   A 3/4” NPT threaded hole for NPT pipe conduits.

Preparing the Installation

Pre-Deployment In-Box Configuration

The camera comes equipped with an RJ45 configuration cable pre-installed for users that want to configure camera settings before installing the camera. The RJ45 connector on the configuration cable is accessible through the small flap on the side of the camera box for easy configuration before unpacking the camera.

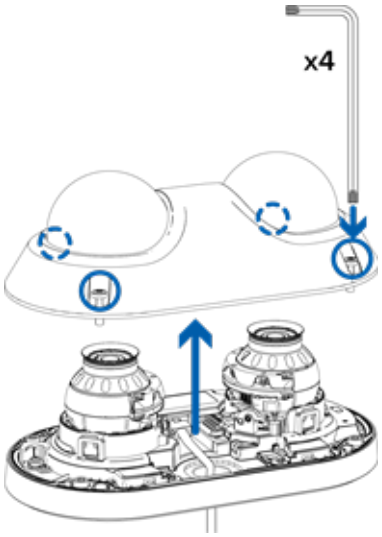
Note: We recommend that you do not exceed 3 hours of leaving your camera connected during in-box configuration with ambient temperatures between 20 °C – 25 °C (68 °F – 77 °F).

1. Locate and open the flap on the side of the camera packaging.
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 an ACC Client, the Camera Configuration Tool, or the camera's web browser interface to configure the camera's settings. For more information about connecting to the camera, see *Assigning an IP Address* on page 36, and *Accessing the Live Video Stream* on page 37.
4. Once you have finished making configuration changes, 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.

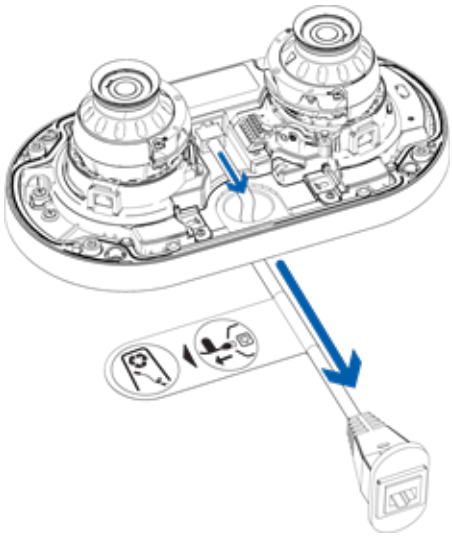
Removing the Dualhead Cover

1. Remove the cover by loosening the screws that fix the cover to the base. Use the provided star-shaped screwdriver to loosen the screws.



> **Note:** Be careful not to scratch or touch the dome bubble. The resulting marks or fingerprints may affect the overall image quality. Keep the protective covers on the outside of the dome bubble until the installation is complete.

2. Lift the cover off the camera base and set it aside.
3. Unplug and remove the RJ-45 in-box configuration cable that comes pre-installed on the camera.



Mounting and Aiming Video Analytics Cameras

When installing an Avigilon video analytics camera, follow the listed mounting and aiming recommendations to maximize the camera's analytics capabilities:

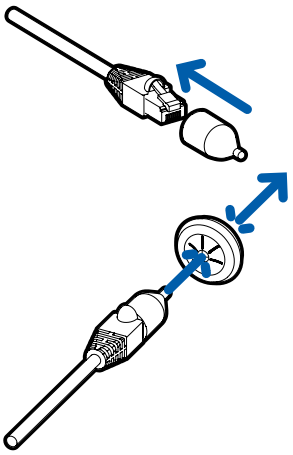
- The camera should be installed above 2.74 m (9 feet).
- The camera should tilt downwards no more than 45 degrees.
- The camera image should be level with the horizon line.
- The camera should be mounted to a stable surface to minimize the physical movement of the camera after installation.

For more details, see *Designing a Site for Video Analytics*. The document is available on the Avigilon website.

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.

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.

Surface Mount Installation

Required Tools and Materials

The following tools are required to complete the installation but are not included in the package:

- Appropriate tool for cutting the cable access hole
- Appropriate tool for drilling mounting screw holes in the mounting surface
- Appropriate screwdriver for attaching camera to an electrical box or mounting surface

Camera Package Contents

Ensure the surface mounted camera package contains the following:

- Avigilon H5 Dual Head Camera
- Camera base mounting template sticker
- Mounting plate adapter
- Star-shaped screwdriver
- 4x screws and anchors — for securing the camera to the mounting surface.
- Rubber grommet
- RJ-45 grommet piercing cap

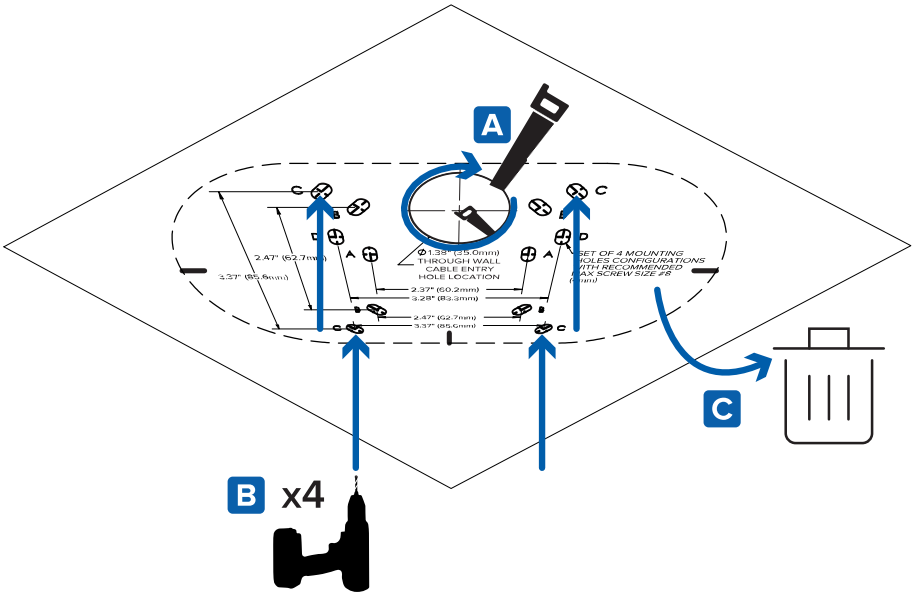
Installation Steps

Complete the following sections to install the device.

Mounting the Camera to a Ceiling or Wall

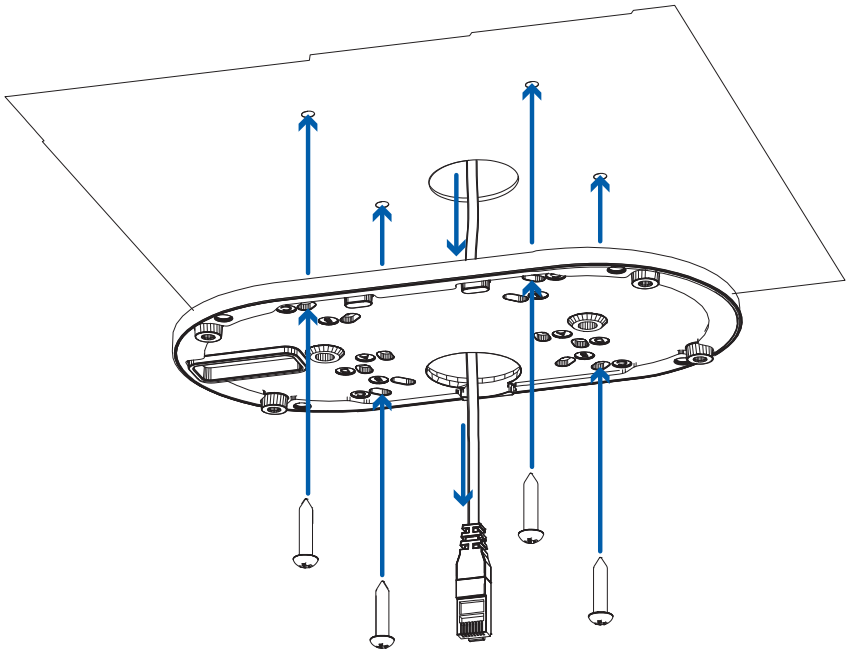
Perform the following steps if mounting the camera directly to the surface and the cables will come from inside the mounting surface. Use this procedure on surfaces that can be easily drilled into, and when the cables should be kept out of sight.

1. Using the Surface Mounting Template, drill 4 pilot holes into the mounting surface for the mounting screws.



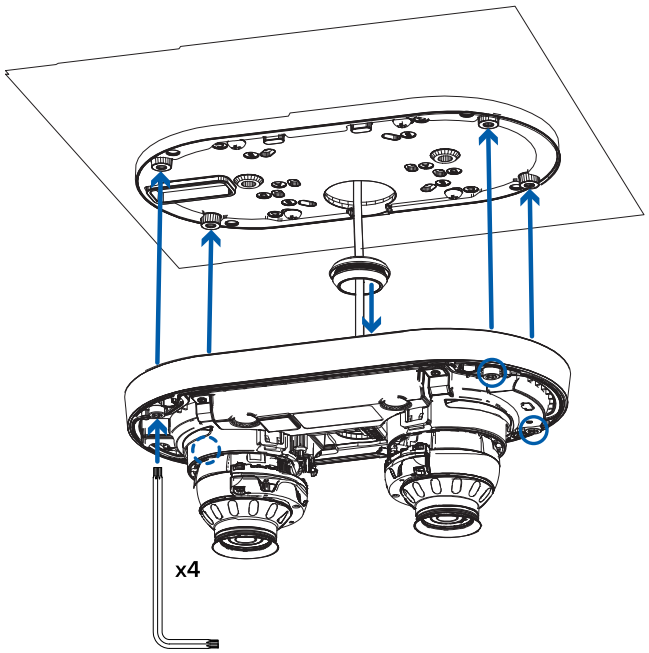
2. Hammer the supplied plastic anchors into the holes.
3. Cut the cable entry hole into the mounting surface with a drywall saw or hole saw.
4. Pull the required cables through the mounting surface and through the cable entry hole in the mounting plate adapter.

5. Align the cable entry hole and mounting holes on the mounting plate adapter with the holes drilled into the mounting surface. Hold the mounting plate adapter to the mounting surface and secure it in place using the provided self-tapping screws.



6. Pull the required cables through the rubber sealing grommet. For more information, see *Inserting Cables through the Sealing Grommet* on page 11.
7. Push the rubber sealing grommet with the required cables into the cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole.

   The rubber grommet should be pressed firmly into the cable entry hole to create a seal.
8. Push the camera base into the mounting plate adapter so that the 4 captive screws in the camera base align with the mounting points on the adapter.



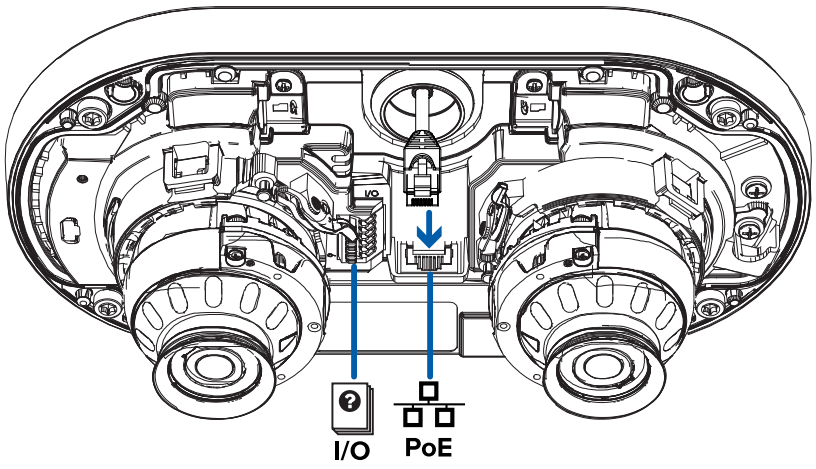
9. Use the star-shaped screwdriver to tighten the 4 captive screws and secure the camera to the mounting plate adapter.

Connecting Cables

Refer to the diagrams in the **Overview section** for the location of the different connectors and status LEDs on the camera base.

1. Connect a network cable to the camera's Ethernet port (RJ-45 connector).

   Power the camera using the network cable with Power over Ethernet (PoE) IEEE 802.3af Class 3. The status LEDs turn on when the camera receives power.



2. If the camera is connected to any external devices, connect the I/O or audio cables to the I/O connector block. For more information, see *Connecting to External Audio and I/O Devices* on page 40.

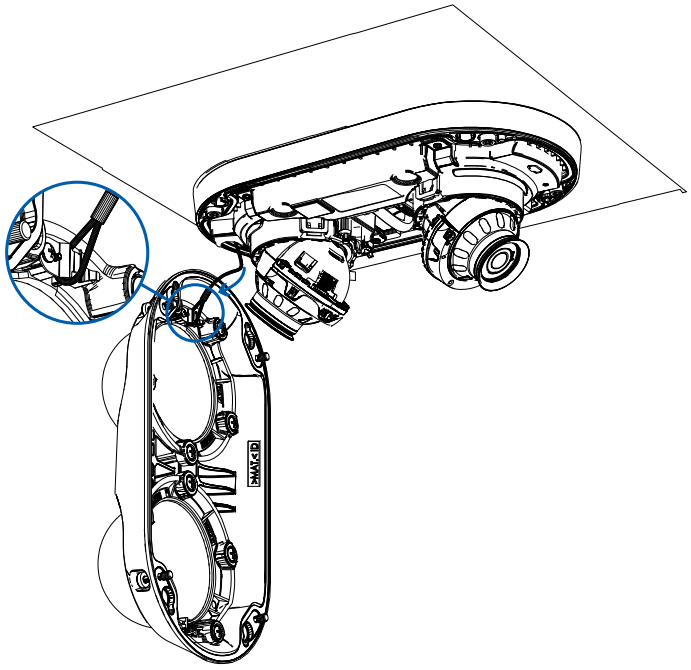
Installing the Dual Head Cover

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:

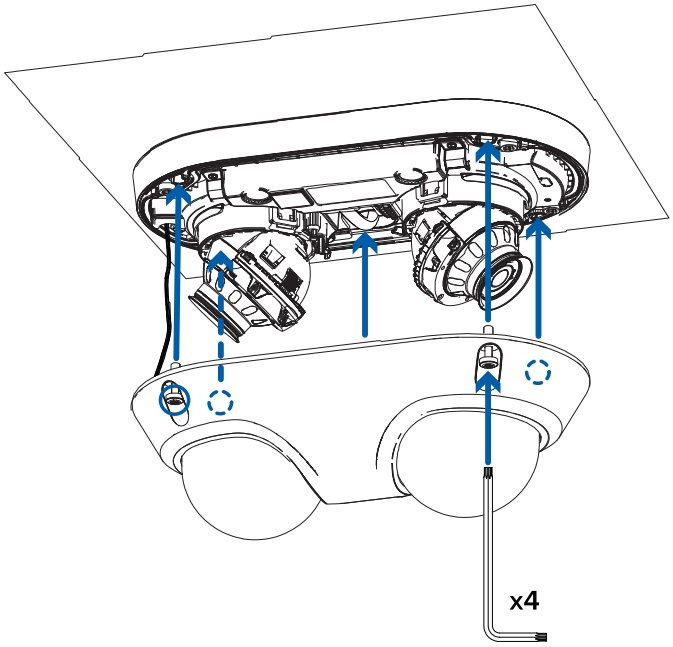
- *Connecting to the Camera* on page 36
- *Aiming the Dual Head Camera* on page 37
- *Zooming and Focusing the Dome Camera* on page 38

Be careful not to touch or scratch the dome bubbles. Any marks or fingerprints on the dome bubbles may cause unwanted reflections from the IR illuminators.

1. Remove the plastic covers on the inside of the dome bubbles.
2. Attach the lanyard to the cover.



3. Attach the cover to the base and tighten the screws with the star-shaped screwdriver.



4. Remove the plastic covers on the outside of the dome bubbles.

Junction Box Installation

Required Tools and Materials

The following tools are required to complete the installation but are not included in the package:

- Appropriate tool for drilling mounting screw holes in the mounting surface
- Appropriate screwdriver for attaching camera to the mounting surface

Camera Package Contents

Ensure the in-ceiling mounted camera package contains the following:

- Avigilon H5 Dual Head Camera
- Camera base mounting template sticker
- Mounting plate adapter
- Star-shaped screwdriver
- 4x screws and anchors — for securing the camera to the mounting surface.
- Rubber grommet
- RJ-45 grommet piercing cap

If you are using the optional Junction box mounting adapter (H5DH-DO-JBOX1), ensure the package contains the following:

- Junction box mounting adapter for the H5 Dual Head Camera
- Lock nut for the side conduit
- Junction box mounting template sticker

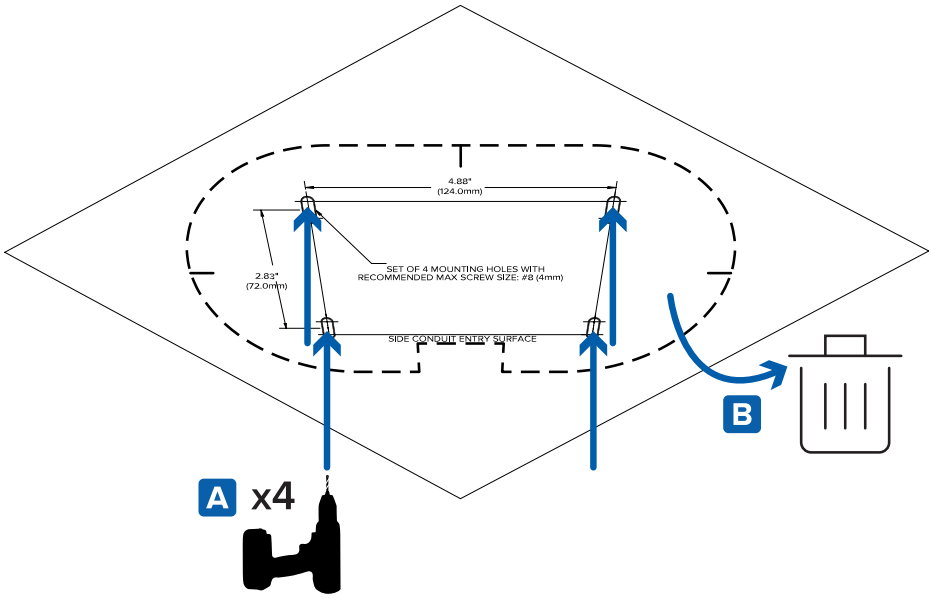
Installation Steps

Complete the following sections to install the device.

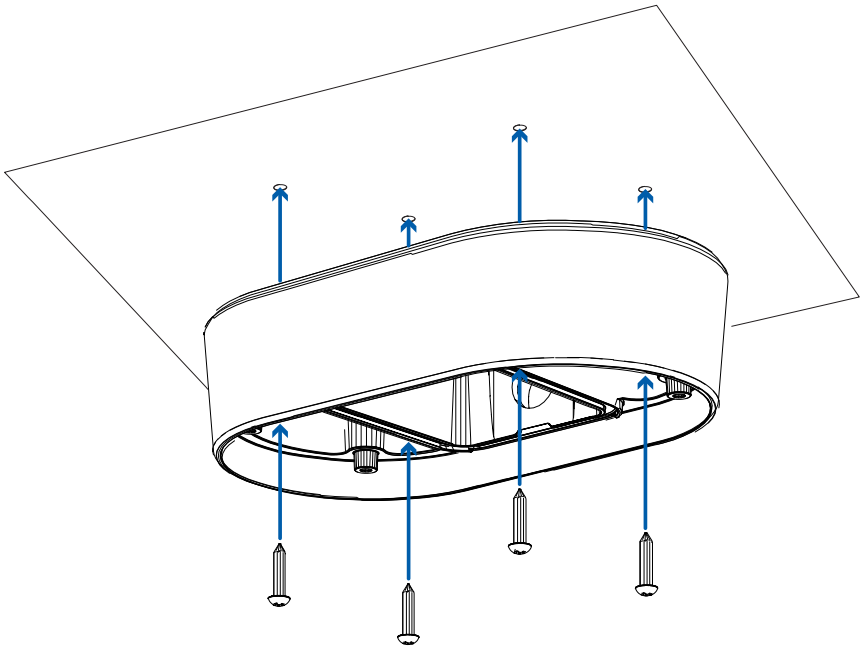
Using the Junction Box Mounting Adapter

If the camera needs to be installed with the optional junction box, install the junction box mounting adapter onto the mounting surface first.

1. Using the Junction Box Mounting Template, drill 4 pilot holes into the mounting surface for the mounting screws.

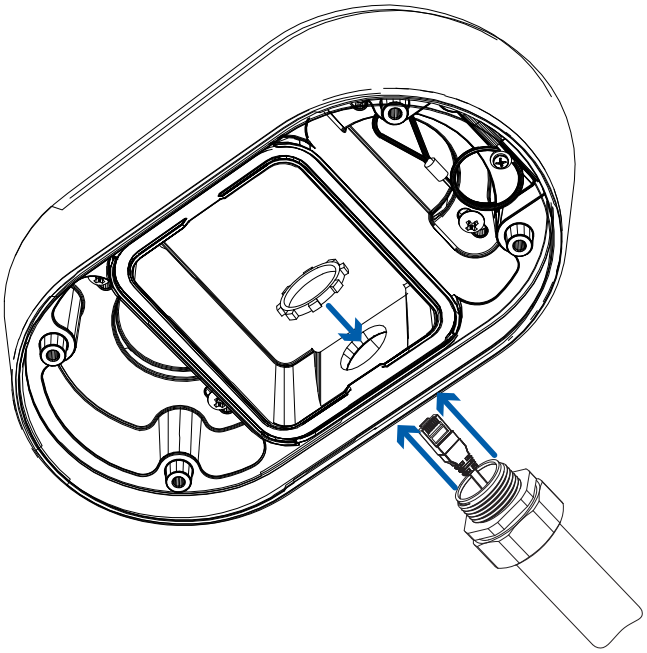


2. Align the conduit for the cables with the side conduit entry surface area on the mounting template.
3. Hammer the supplied plastic anchors into the holes.
4. Align the mounting holes junction box with the holes drilled into the mounting surface. Hold the junction box adapter to the mounting surface and secure it in place using the provided self-tapping screws.



5. Arrange and feed the required cables through the conduit. Pull the cables through the side conduit entry hole on the junction box.
6. Screw the conduit into the side conduit entry hole on the junction box. The side conduit entry hole is compatible with 1/2" conduit pipes.

   Use the provided lock nut to screw on to the end of the inserted conduit to secure it in place.



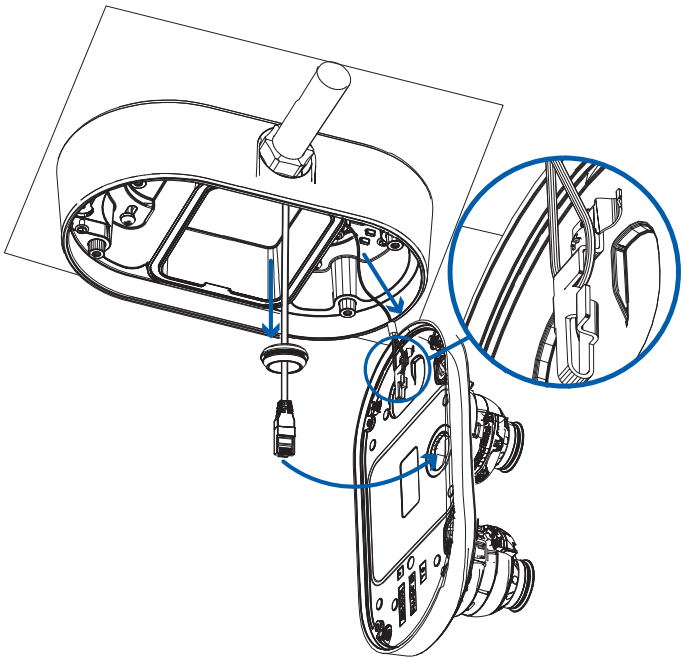
7. Pull the required cables through the rubber sealing grommet. For more information, see *Inserting*

Cables through the Sealing Grommet on page 11.

Installing the Camera Base into the Junction Box

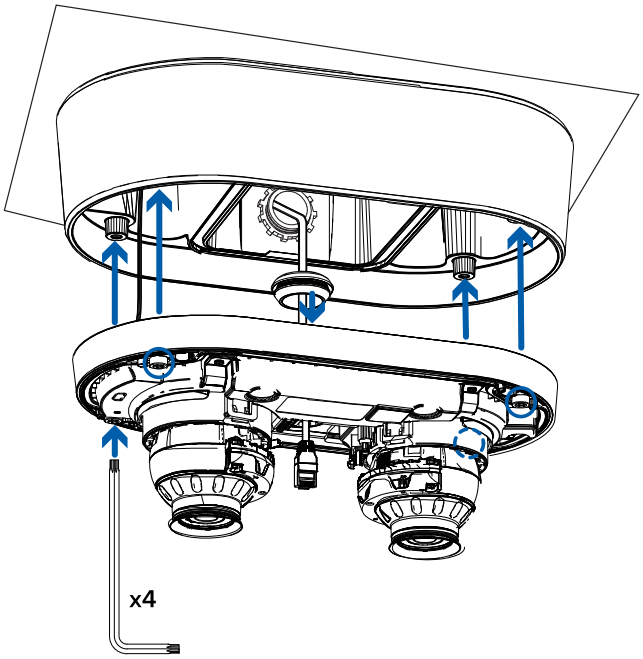
After you install the junction box, mount the camera base into it.

1. Attach the lanyard on the junction box to the anchor on the camera base.



2. Pull the required cables through the cable entry hole on the camera base.
3. Push the rubber sealing grommet with the required cables into the cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole.

   The rubber grommet should be pressed firmly into the cable entry hole to create a seal.
4. Push the camera base into the junction box so that the 4 captive screws in the camera base align with the mounting points on the junction box.



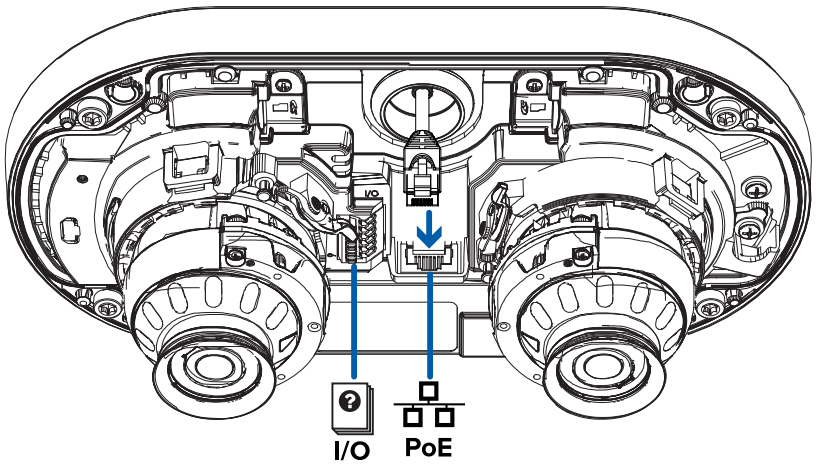
5. Use the star-shaped screwdriver to tighten the 4 captive screws and secure the camera to the junction box.

Connecting Cables

Refer to the diagrams in the **Overview section** for the location of the different connectors and status LEDs on the camera base.

1. Connect a network cable to the camera's Ethernet port (RJ-45 connector).

   Power the camera using the network cable with Power over Ethernet (PoE) IEEE 802.3af Class 3. The status LEDs turn on when the camera receives power.



2. If the camera is connected to any external devices, connect the I/O or audio cables to the I/O connector block. For more information, see *Connecting to External Audio and I/O Devices* on page 40.

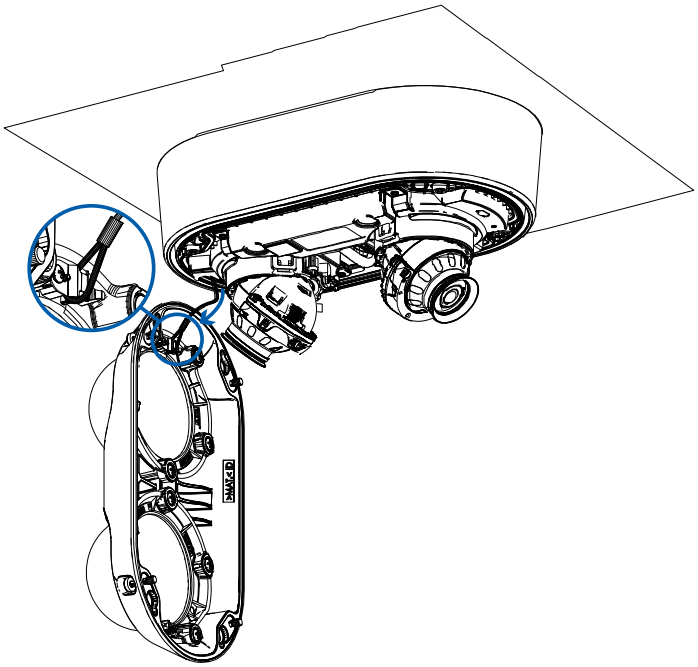
Installing the Dual Head Cover

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:

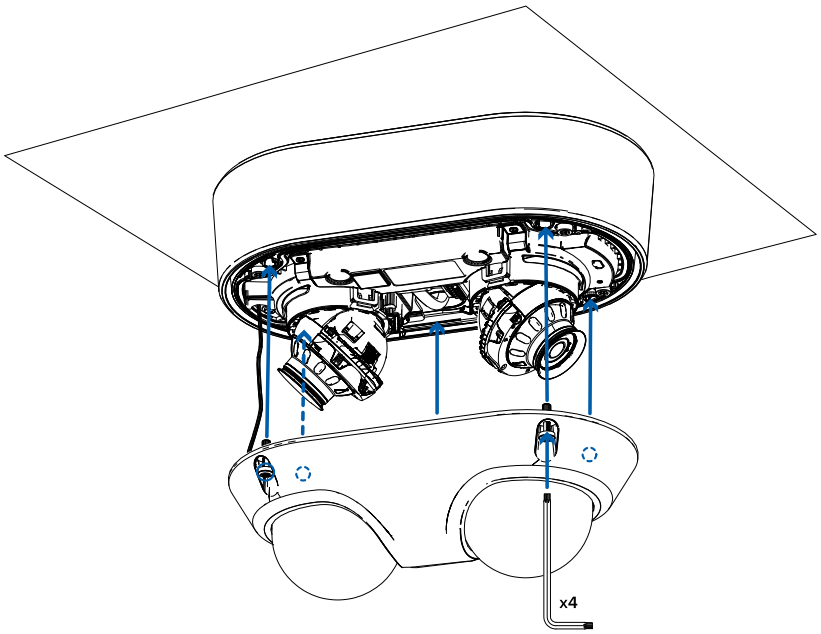
- *Connecting to the Camera* on page 36
- *Aiming the Dual Head Camera* on page 37
- *Zooming and Focusing the Dome Camera* on page 38

Be careful not to touch or scratch the dome bubbles. Any marks or fingerprints on the dome bubbles may cause unwanted reflections from the IR illuminators.

1. Remove the plastic covers on the inside of the dome bubbles.
2. Attach the lanyard to the cover.



3. Attach the cover to the base and tighten the screws with the star-shaped screwdriver.



4. Remove the plastic covers on the outside of the dome bubbles.

Pendant Mount Installation

Required Tools and Materials

The following tools are required to complete the installation but are not included in the package:

- Appropriate tool for cutting the cable access hole, if required

If you will be installing the NPT adapter (H5DH-DP-NPTA1), you will need:

- 1-1/2" NPT female to female adapter
- NPT pipe

Camera Package Contents

Ensure the surface mounted camera package contains the following:

- Avigilon H5 Dual Head Camera
- Mounting plate adapter
- Star-shaped screwdriver
- Rubber grommet
- RJ-45 grommet piercing cap

If you are using the optional NPT adapter (H5DH-DP-NPTA1), ensure the package contains the following:

- NPT adapter for the H5 Dual Head Camera
- Lock nut
- Thread seal tape

Installation Steps

Complete the following sections to install the device.

Mounting the Camera to a Pipe

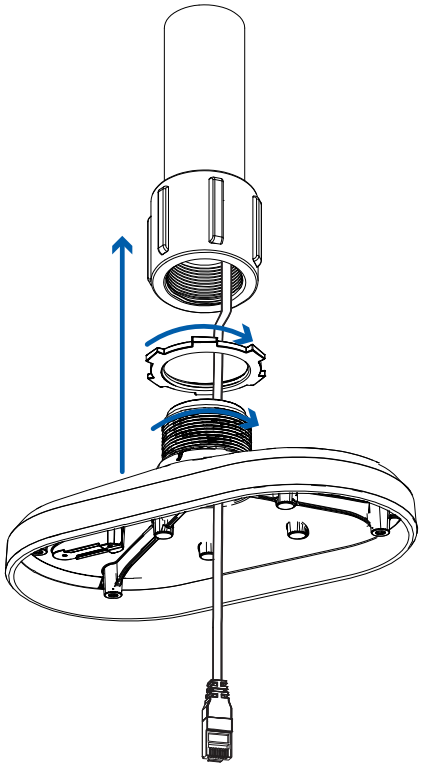
If the camera needs to be installed to a pipe for a pendant installation, you use the NPT adapter (H5DH-DP-NPTA1).

Note: This procedure requires a 1-1/2” NPT-female to NPT-female pipe adapter and conduit pipe that are not supplied by Avigilon and should be sourced separately. It is recommended that the NPT adapter be mounted to a 1-1/2” conduit pipe.

1. Pull the required cables 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

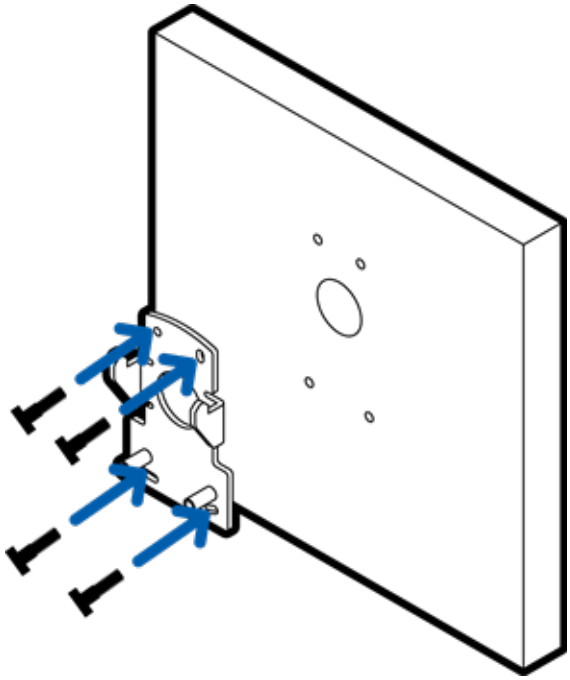


5. Carefully tighten the lock nut until the NPT adapter is secured to the conduit pipe.

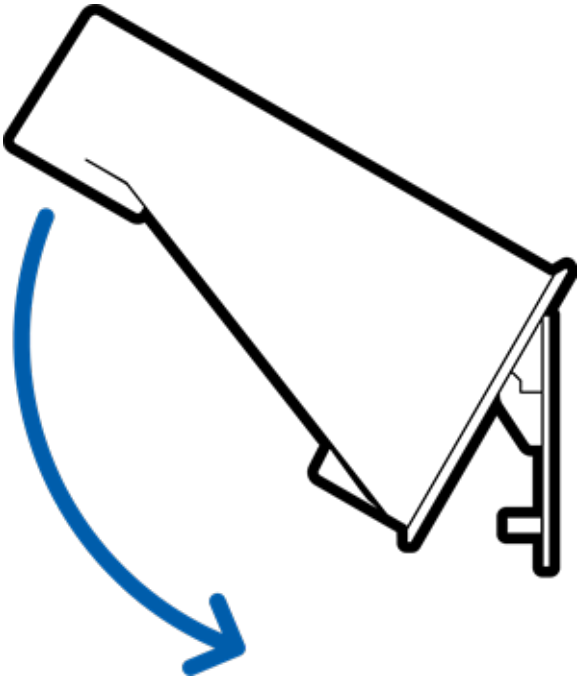
Mounting the Camera to the Pendant Wall Mount

If the camera will be using the pendant wall mount, you will need to install the NPT adapter (H5DH-DP-NPTA1) as well. The pendant wall arm mount (CM-MT-WALL1) is an optional accessory and must be purchased separately.

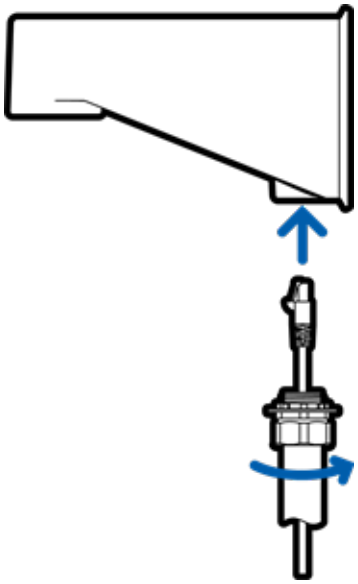
1. Determine where the cables will enter the pendant wall mount.
    - If the cables will be pulled from inside the mounting surface, use the cable entry hole at the rear of the pendant wall mount.
    - If the cables will be coming out of an external conduit pipe, use the 3/4” NPT pipe entry hole on the bottom of the pendant wall mount.
2. Use the provided mounting template to drill four mounting holes into the mounting surface.
    - If you are using the rear cable entry hole, also drill the cable entry hole into the mounting surface.
3. Fasten the pendant wall mount bracket to the mounting surface.



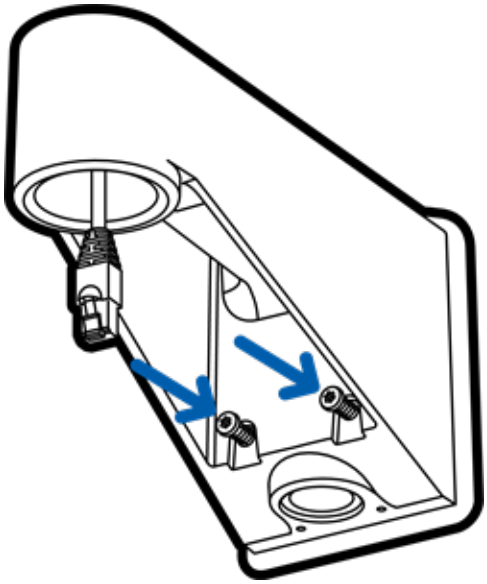
4. Insert the pendant wall mount over the bracket mounting tabs.



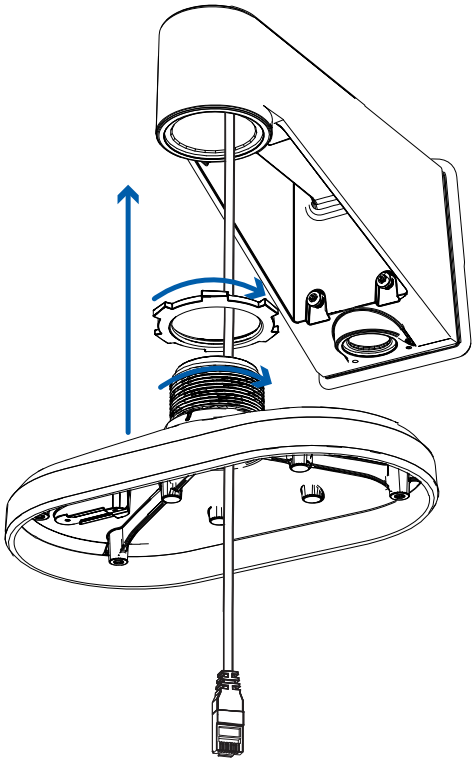
5. Pull the required cables through the preferred cable entry hole on the pendant wall mount.
    - If you are using the pipe entry hole, pull the cables through the pipe conduit then the wall mount. Next, apply thread seal tape to the pipe conduit and screw it into the pipe entry hole.



6. Tighten the wall mount screws to secure the wall mount to the bracket. Use the T20 star-shaped key provided in the camera package.



7. Loosely thread the lock nut onto the NPT adapter, then secure the NPT adapter into the pendant wall mount.
8. Carefully tighten the lock nut until the NPT adapter is secured to the wall mount.

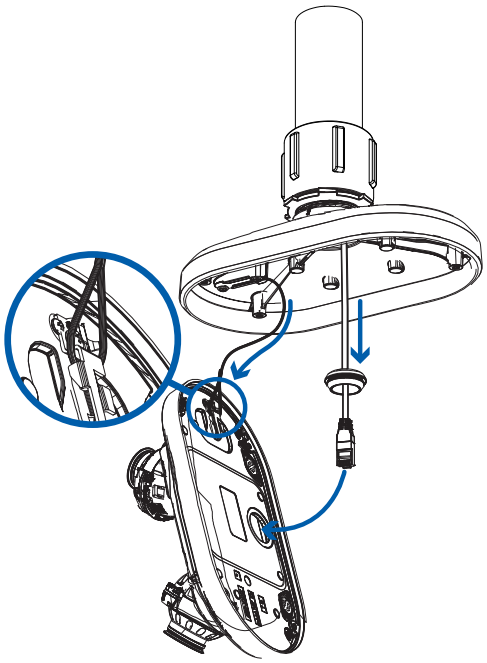


Installing the Camera into the NPT Adapter

Before installing the camera, you must first prepare either the wall mount or NPT pipe mount.

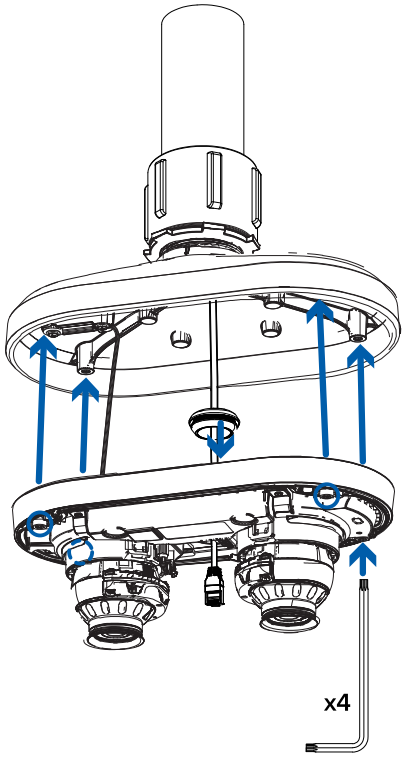
Note: The following steps show installation of the camera into NPT adapter installed onto a pipe. The steps are the same for installing the camera to the wall mount.

1. Attach the lanyard to the camera base. Pull the required cables through the cable entry hole.



2. Pull the required cables through the rubber sealing grommet. For more information, see *Inserting Cables through the Sealing Grommet* on page 11.
3. Push the rubber sealing grommet with the required cables into the cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole.

   The rubber grommet should be pressed firmly into the cable entry hole to create a seal.
4. Push the camera base into the NPT adapter so that the 4 captive screws in the camera base align with the mounting points on the NPT adapter.



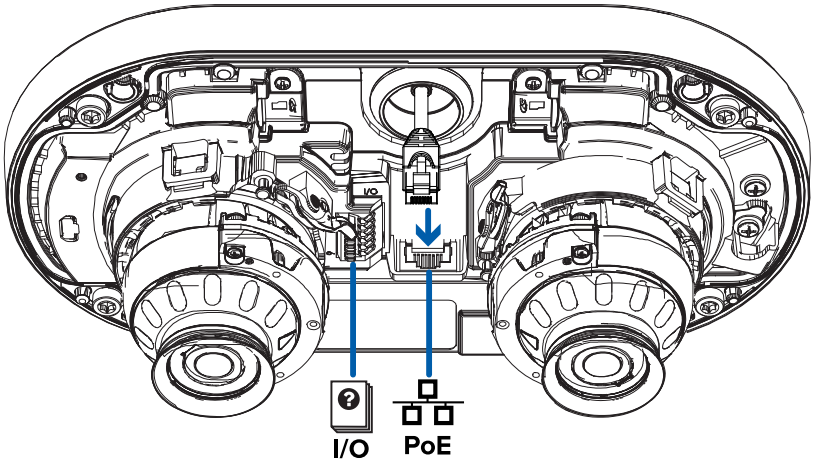
5. Use the star-shaped screwdriver to tighten the 4 captive screws and secure the camera to the NPT adapter.

Connecting Cables

Refer to the diagrams in the **Overview section** for the location of the different connectors and status LEDs on the camera base.

1. Connect a network cable to the camera's Ethernet port (RJ-45 connector).

   Power the camera using the network cable with Power over Ethernet (PoE) IEEE 802.3af Class 3. The status LEDs turn on when the camera receives power.



2. If the camera is connected to any external devices, connect the I/O or audio cables to the I/O connector block. For more information, see *Connecting to External Audio and I/O Devices* on page 40.

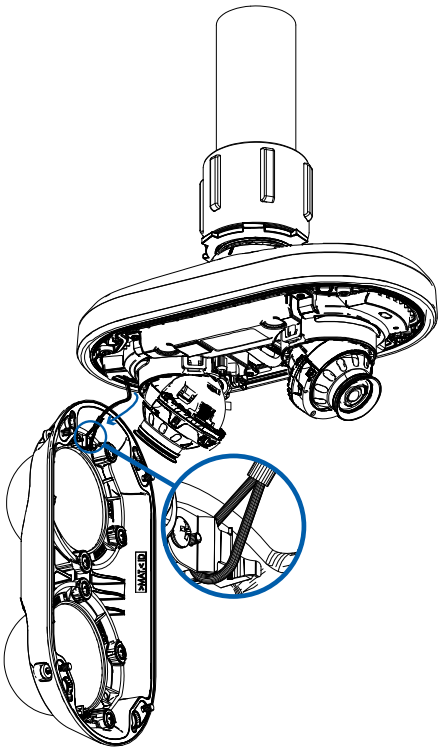
Installing the Dual Head Cover

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:

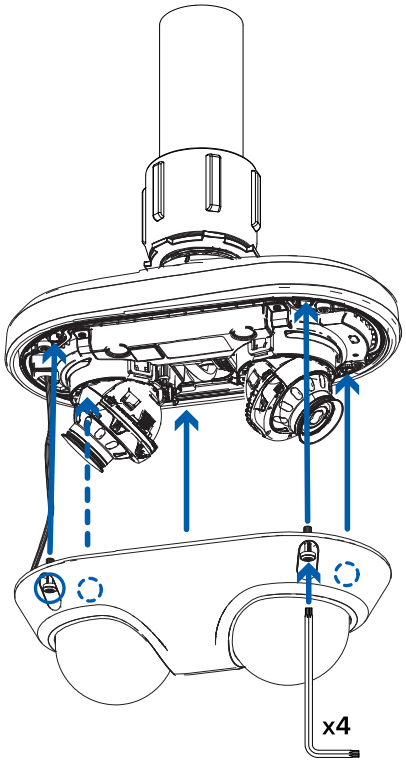
- *Connecting to the Camera* on page 36
- *Aiming the Dual Head Camera* on page 37
- *Zooming and Focusing the Dome Camera* on page 38

Be careful not to touch or scratch the dome bubbles. Any marks or fingerprints on the dome bubbles may cause unwanted reflections from the IR illuminators.

1. Remove the plastic covers on the inside of the dome bubbles.
2. Attach the lanyard to the cover.



3. Attach the cover to the base and tighten the screws with the star-shaped screwdriver.



4. Remove the plastic covers on the outside of the dome bubbles.

Connecting to the Camera

Initializing a Camera Username and Password

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 version 1.4.4 or later: 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*.
- 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 or Camera Configuration Tool before you connect to the 3rd party VMS.

Assigning an IP Address

The device automatically obtains an IP address when it is connected to a network.

Note: If the device cannot obtain an IP address from a DHCP server, it will use Zero Configuration Networking (Zeroconf) to choose an IP address. When set using Zeroconf, the IP address is in the 169.254.0.0/16 subnet.

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

- Device's web browser interface: http://<*camera IP address*>/.
- Network Video Management software application (for example, the Avigilon Control Center™ software).
- ARP/Ping method. For more information, see *Setting the IP Address Using the ARP/Ping Method* on page 44.

Accessing the Live Video Stream

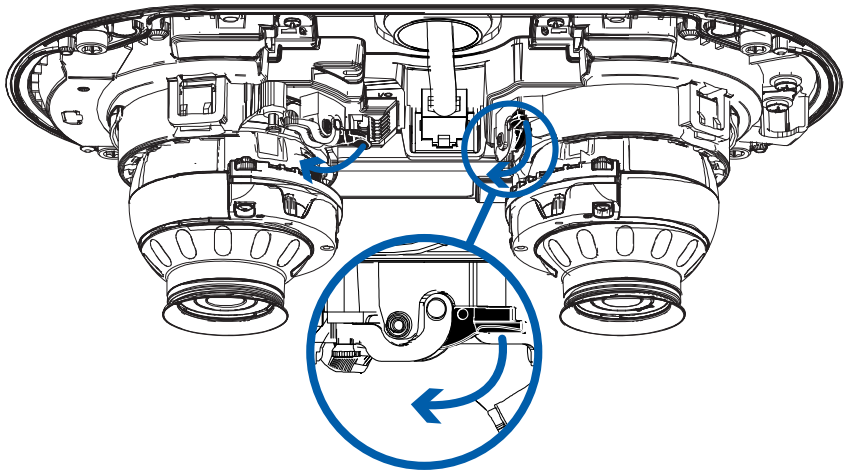
Live video stream can be viewed using one of the following methods:

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

Aiming the Dual Head Camera

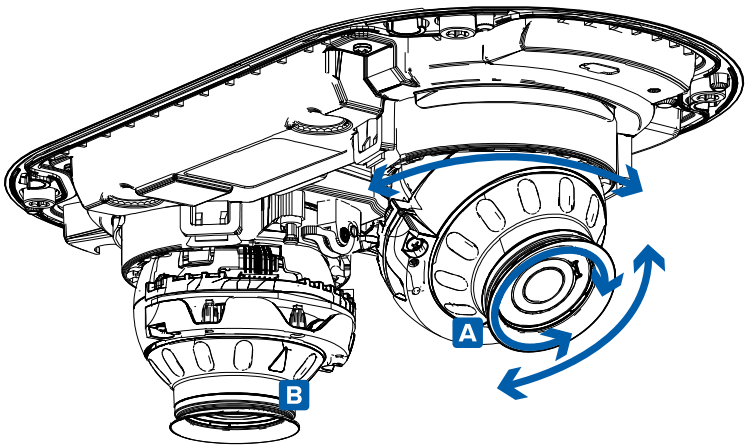
Reference the camera's live stream as you aim the camera.

1. To aim the camera, adjust each of the camera heads as required:
    a. Release the latch to unlock the camera head for panning, tilting and azimuth rotation.

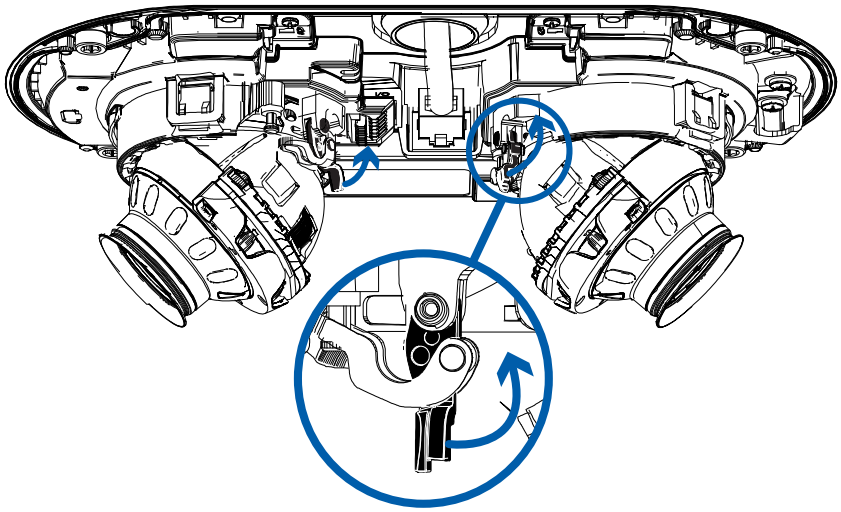


    b. Rotate the azimuth control ring to set the image in the correct rotation. Pan and tilt the camera head to capture the desired field of view.

> **Note:** When using the built-in IR illuminators, Avigilon recommends that the tilt angle is not set to be shallower than 30° above the horizon. This will reduce IR reflection off surfaces near the camera, such as walls or ceilings.



c. Lock the latch back into position when the camera head is in the desired position.



2. In the camera web browser interface, adjust the camera's Image and Display settings to achieve the desired image parameters and position.

Zooming and Focusing the Dome Camera

Ensure this procedure is performed after the dome cover is installed, so you can accommodate for the focus shift caused by the dome bubble.

- In the camera web browser interface or the Avigilon Control Center software, use the camera's Image and Display settings to zoom and focus the camera.
    a. Use the zoom buttons to zoom the camera in or out.
    b. Click **Auto Focus** to focus the lens.
    c. Use the focus near and far buttons to manually adjust the focus.

(Optional) Configuring Onboard Storage

To use the camera's onboard storage feature, you must insert 1 microSD card into a microSD card slot. While there are two microSD slots, currently the camera only supports a single microSD card in either slot for onboard storage. For the location of the microSD card slots, see *Overview* on page 1.

It is recommended that the microSD card have a capacity of 64 GB or more. Video Speed Class microSD card required, with Class V10 or better recommended. If the microSD card does not meet the recommended capacity or write speed, the performance of the onboard storage may suffer and result in the loss of frames or footage.

Ensure the microSD card is designed for continuous video recording or the microSD card life expectancy may be adversely affected.

1. Insert the microSD card into the camera.

   CAUTION — Do not force the microSD card into the camera or you may damage the card and the camera. The card can only be inserted in one direction.

2. Access the camera's web interface to enable the onboard storage feature. For more information, see the *Avigilon High Definition H4 and H5 IP Camera Web Interface User Guide*.

Configuring the Camera

Once installed, use one of the following methods to configure the camera:

- If you have installed multiple cameras, you can use the Avigilon Camera Configuration Tool to configure common settings. For more information, see the *Avigilon Camera Configuration Tool User Guide*.
- If the camera is connected to the Avigilon Control Center system, you can use the client software to configure the camera. For more information, see the *Avigilon Control Center Client User Guide*.
- If the camera is connected to a third-party network management system, you can configure the camera's specialty features in the camera's web browser interface. For more information, see the *Avigilon High Definition H4 and H5 IP Camera Web Interface User Guide*.

For More Information

Additional information about setting up and using the device is available in the following guides:

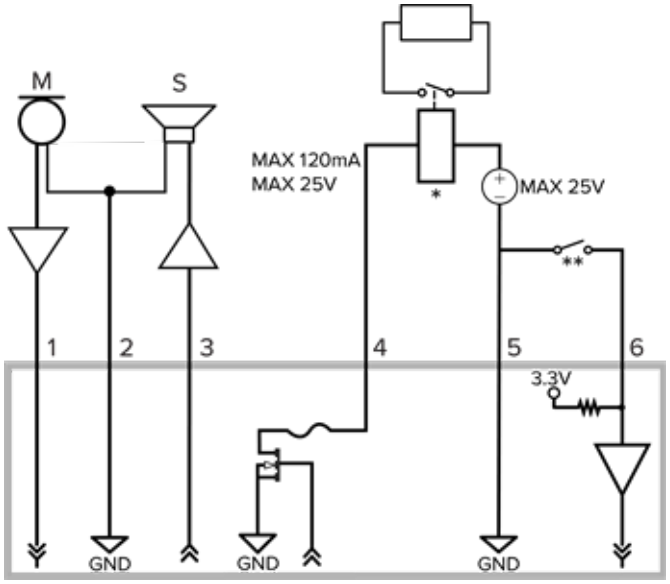
- *Avigilon Control Center Client User Guide*
- *Web Interface User Guide — Avigilon High Definition H4 and H5 IP Cameras*
- *Avigilon Camera Configuration Tool User Guide*
- *Designing a Site with Avigilon Video Analytics*

These guides are available on **help.avigilon.com** and on the Avigilon website: **avigilon.com/support**.

Cable Connections

Connecting to External Audio and I/O Devices

External audio and I/O devices are connected to the camera through the audio and I/O connector block. The pinout for the connector block is shown in the following diagram:



1. Audio Input (line level)

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

2. Audio Ground
3. Audio Output (line level)
4. Digital Output
5. Ground
6. Digital Input

- * — Relay
- ** — Switch
- M — Microphone
- S — Speaker

Connection Status LED Indicator

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 *Avigilon High Definition H4 and H5 IP Camera Web Interface User Guide*.

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.

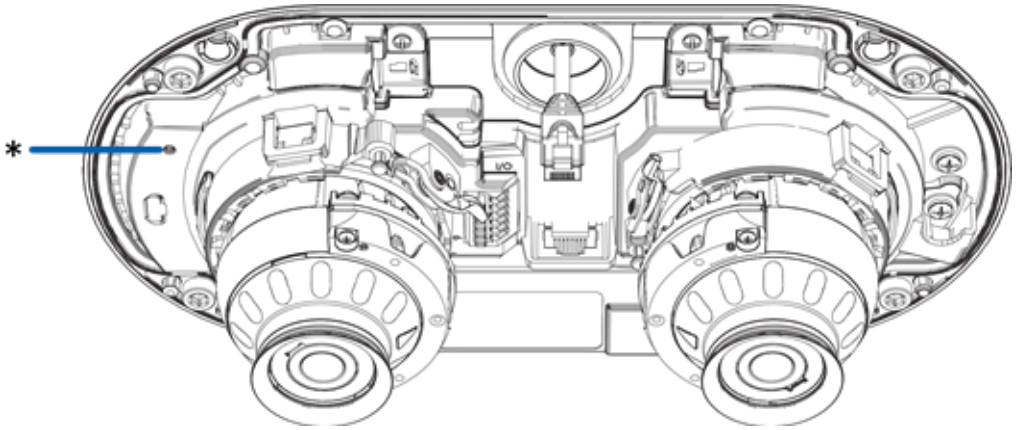
LED Behavior	Suggested Solution
• Green LED is off and amber is on	Perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web interface will not produce the desired result.
• Both LEDs are off and the camera is not connected or streaming video	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.

LED Behavior	Suggested Solution
• 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 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.

Resetting to Factory Default Settings

If the device no longer functions as expected, you can choose to reset the device to its factory default settings.

Use the firmware revert button to reset the device. The firmware revert button is shown in the following diagram:



1. Ensure the camera is powered on.
2. Remove the cover.
3. Using a straightened paperclip or similar tool, gently press and hold the firmware revert button.
4. Release the button after 3 seconds.
5. The LEDs beside the I/O connector block will turn off.

Wait while the camera reverts to the factory default settings.

Setting the IP Address Using the ARP/Ping Method

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

> **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*.

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>: ...`

Cleaning

Dome Bubble

If the video image becomes blurry or smudged in areas, it may be because the dome bubble requires cleaning.

To clean the dome bubble:

- Use hand soap or a non-abrasive detergent to wash off dirt or fingerprints.
- Use a microfiber cloth or non-abrasive fabric to dry the dome bubble.

Important: Failure to use the recommended cleaning materials may result in a damaged or scratched dome bubble. A damaged dome bubble may negatively impact image quality and cause unwanted IR light reflecting into the lens.

Body

- Use a dry or lightly dampened cloth to clean the camera body.
- Do not use strong or abrasive detergents.

Limited Warranty and Technical Support

Avigilon warranty terms for this product are provided at **avigilon.com/warranty**.

Warranty service and technical support can be obtained by contacting Avigilon Technical Support: **avigilon.com/contact**.