AVIGILON™ UNITY

Unity H6A Dualhead Camera Installation Guide

Contents

H6A Dual Head Cameras Installation Guide

The H6A Dual Head Cameras Installation Guide provides installation instructions for different mounting scenarios: surface, junction box, and pendant mount. This Installation Guide also covers how to connect to external devices and how to add cameras to the network.

Camera Models:

6.0C-H6ADH-DO1-IR	10.0C-H6ADH-DO1-IR	16.0C-H6ADH-DO1-IR

Safety and Regulatory Information

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

Important Safety Information

This Installation Guide 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.

WARNING

The 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.

CAUTION

The 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.
- Any external power supply connected to this product may only be connected to another product of the same model series. External power connections must be properly insulated.
- ESD to the camera when it is operating could cause a temporary loss of video. When servicing the camera, follow the appropriate ESD mitigation procedures. The operator should remove any static by grounding themselves before servicing the camera.
- 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.

Important

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 Power over Ethernet (PoE), 25 W min.

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 device complies with ISO 20653 IPX9K 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 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.

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.

The use of EMC compliant support and auxiliary equipment with this device is required in order to fully comply with the EMC regulatory standards.

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 supply (UPS).

This equipment contains a coin cell battery. Risk of fire, explosion, and burns. Do not disassemble, crush, heat above 100°C (212°F), or incinerate.

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

This Class B digital apparatus complies with Canadian ICES-003 (B)/NMB-003(B).

For Korea

이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며,
모든 지역에서 사용할 수 있습니다.

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.

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

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

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Revision: 1 - EN

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Limited Warranty and Technical Support

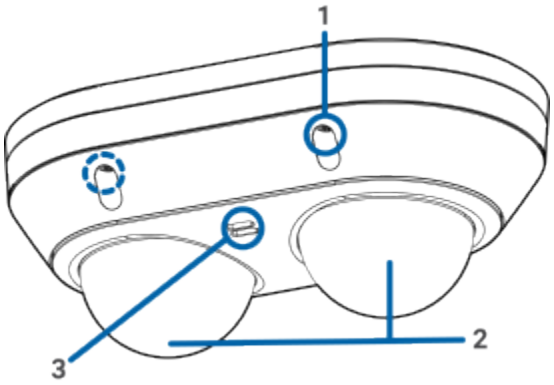
See Avigilon warranty information & policies for information regarding the terms of the product's warranty.

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

H6A Dual Head Cameras Overview

Camera Module

Cover View



1. **Tamper resistant screws**

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

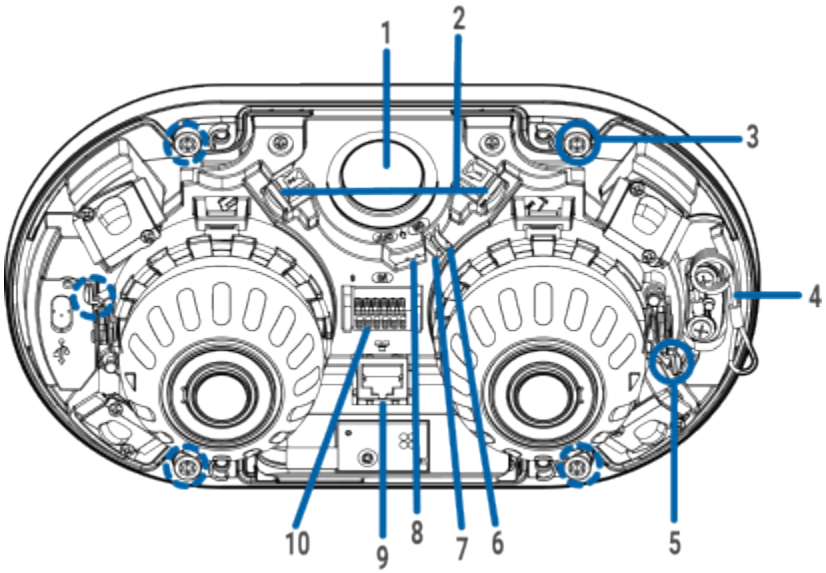
2. **Dome bubble**

   Vandal resistant dome cover.

3. **Microphone slots**

   Allows sound to pass through the dome cover to the microphone.

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 36.

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. **Link LED indicator**

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

7. **Connection status LED indicator**

   Green LED provides information about device operation. For more information, see Connection Status LED Indicators.

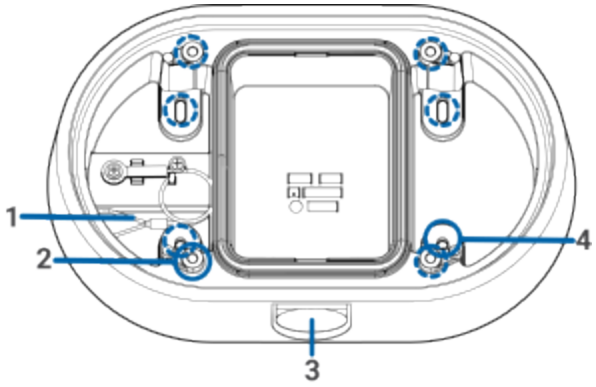
8. **Microphone switch**

   ON/OFF switch for the microphone.

9. **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.

10. **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.

Junction Box (JBOX-1201) View



1. **Lanyard**

   Connects to the lanyard anchor on the camera base.

2. **Mounting holes**

   Holes for mounting the junction box (JBOX-1201) to the mounting surface.

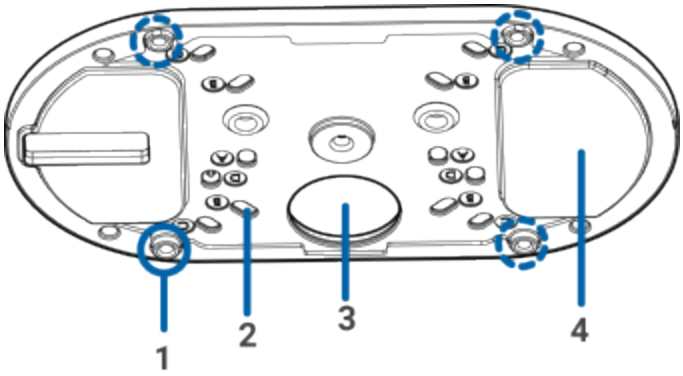
3. **Side conduit entry hole**

   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. **Camera mounting points**

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

2. **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

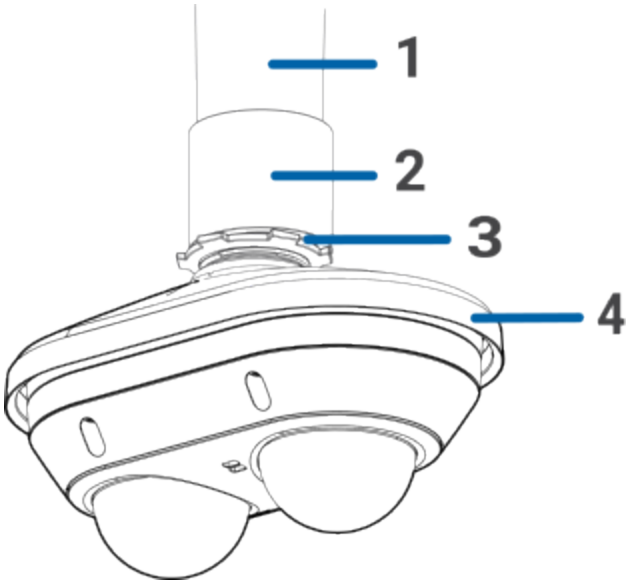
3. **Cable entry hole**

   Entry hole for the cables required for camera operation.

4. **Mounting plate**

   Plate for mounting the camera to a wall or ceiling.

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 (NPTA-1201), the lock nut is included.

1. **NPT pipe**

   NPT pipe used for a pendant mount with the NPT adapter (NPTA-1201).

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.

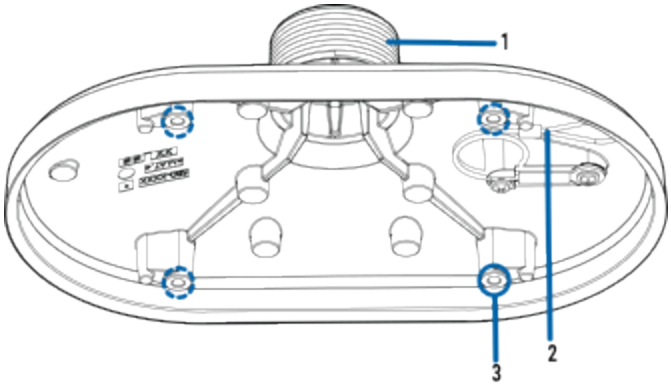
3. **Lock nut**

   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 (NPTA-1201) 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.

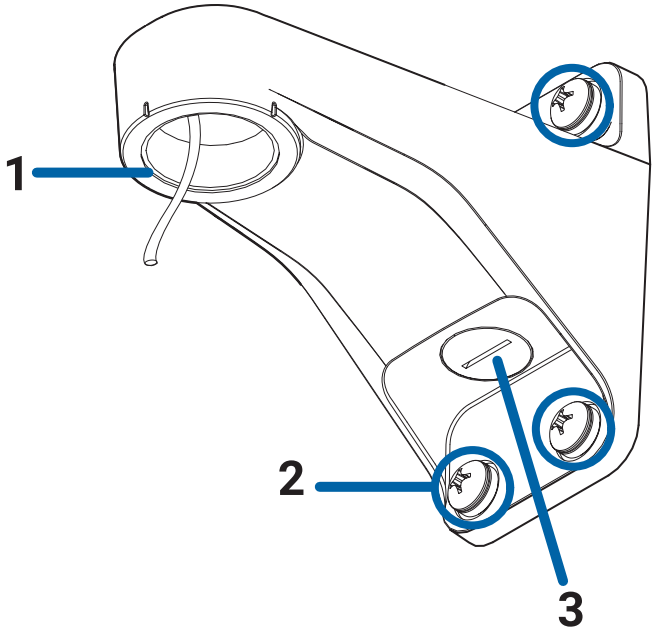
2. **Lanyard**

   Connects to the lanyard anchor on the camera base..

3. **Camera mounting points**

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

Pendant Wall Mount (WLMT-1021) 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 (WLMT-1021) to the mounting bracket.

3. **NPT pipe entry hole**

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

Preparing H6A Dual Head Cameras for Installation

The following sections outline the pre-installation steps:

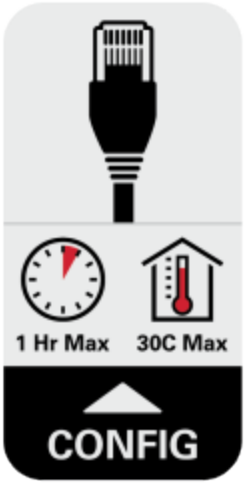
Pre-Deployment In-Box Configuration

H6A Dual Head cameras come with a configuration cable (RJ45 connector) already attached. You can use the cable to configure camera settings before installing it. Access the RJ45 connector cable through the side flap.

NOTE

Make sure the camera does not overheat in the box. The maximum recommended ambient temperature is 30°C (86°F). The maximum recommended duration of in-box configuration is 1 hour.

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 either the camera's web browser interface, Camera Configuration Tool or the VMS client application, for example: Unity Video or ACC Clients.
4. Configure camera settings as required.
5. Unplug the network cable once you are done configuring cameras.

> **NOTE**
>
> 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

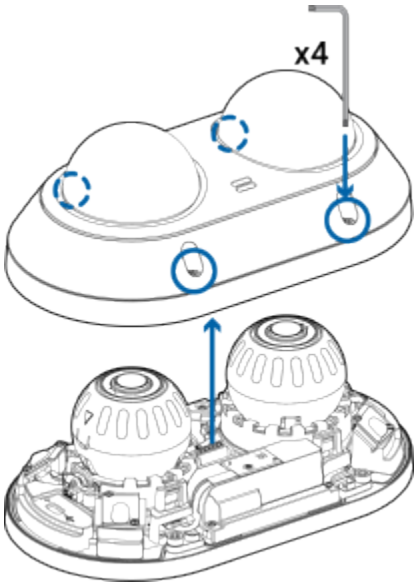
Follow these guidelines when mounting and aiming Avigilon cameras for best results:

- **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.

Removing the H6A Dual Head Camera Cover

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

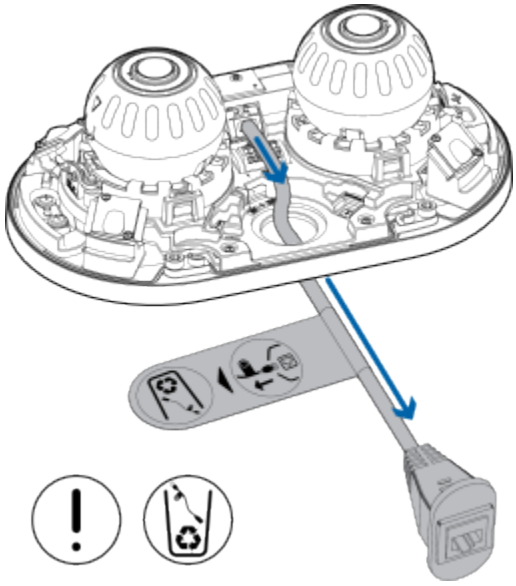


NOTE

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.



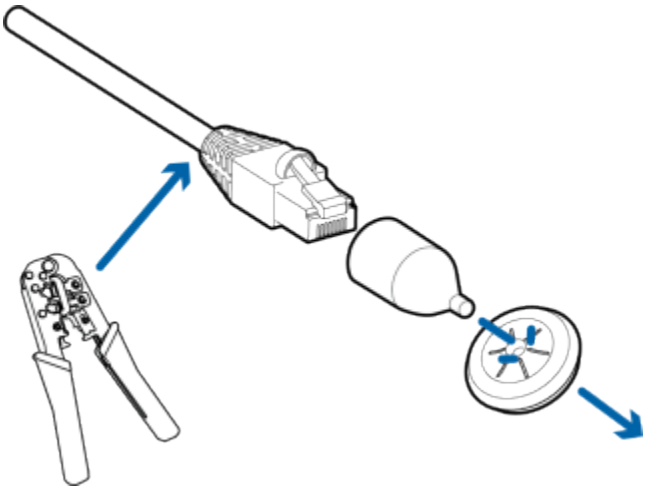
Inserting Cables through the Sealing Grommet

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. Pull the tab on the grommet to open a hole for the Ethernet cable.
3. 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.

4. 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 H6A Dual Head Cameras

The following sections provide instructions on how to install H6A Dual Head cameras:

Installing H6A Dual Head Surface Mount Cameras

Installing H6A Dual Head Surface Mount Cameras

Follow these steps to install the camera using a surface mount:

H6A Dual Head Surface Mount 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.

H6A Dual Head Surface Mount Package Contents

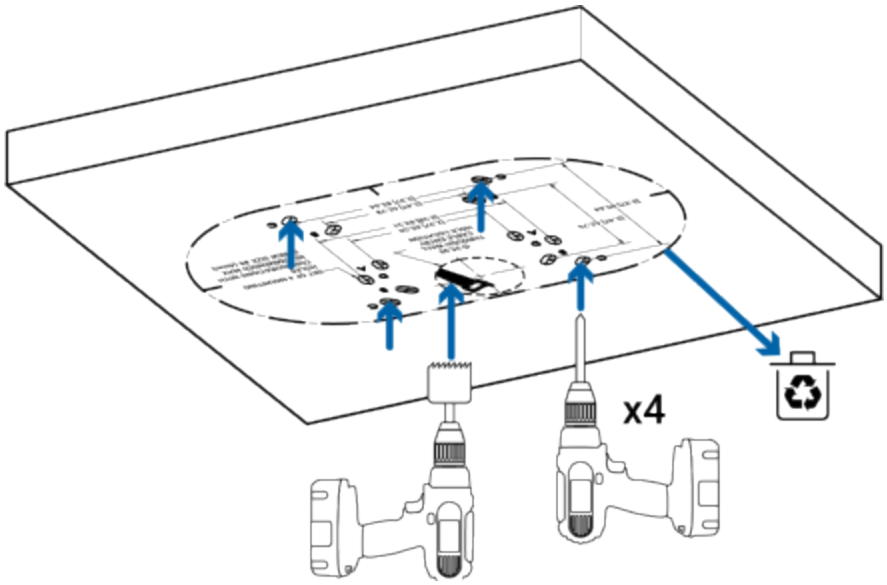
Make sure the package contains the following:

- 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

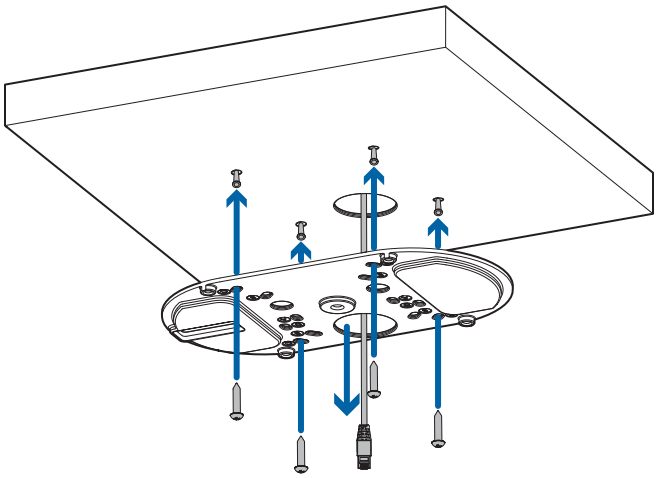
Mounting H6A Dual Head Cameras to a Ceiling or Wall

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.



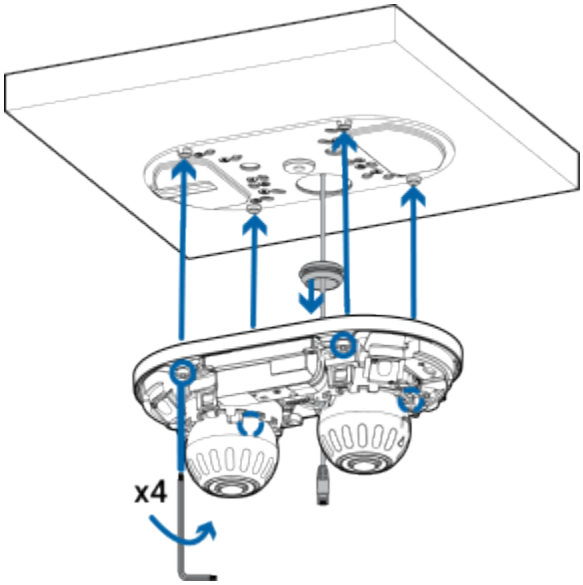
2. Hammer the supplied plastic anchors into the holes.
3. Cut the cable entry hole into the mounting surface with a drywall saw or hole saw.
4. Pull the required cables through the mounting surface and through the cable entry hole in the mounting plate adapter.
5. Align the cable entry hole and mounting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

Installing the H6A Dual Head Camera Cover when using the In-Ceiling Mount

Be careful not to touch or scratch the dome bubble when installing the dome cover.

NOTE

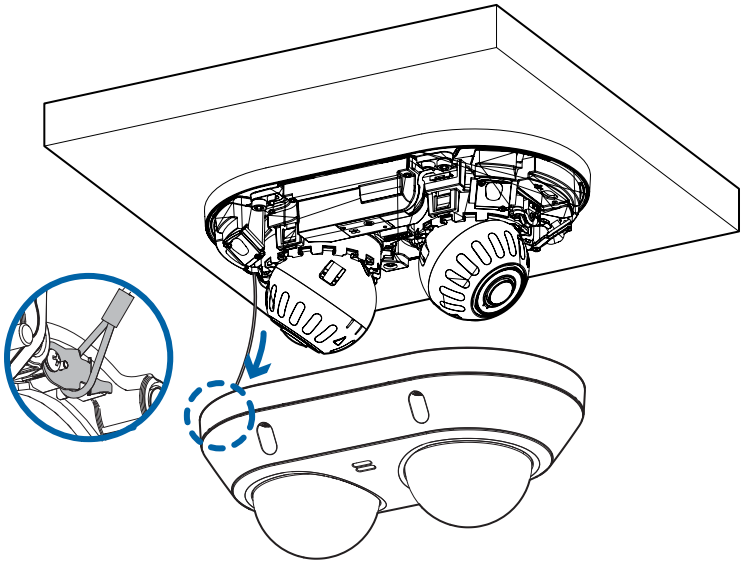
Before installing the dome cover, we recommend that you first connect to the camera

and adjust the aim, zoom, and focus so that the camera covers the required field of view. For more information, see:

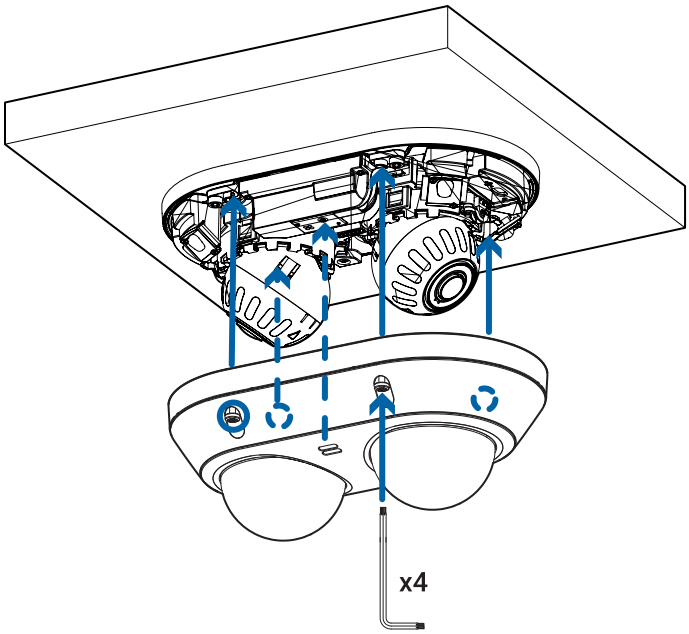
- Connecting Cables to H6A Dual Head Cameras
- Aiming the H6A Dual Head Camera Camera
- Zooming and Focusing Cameras

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 (torque recommendation: 1.5 Nm).



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

Installing a H6A Dual Head Junction Box

Follow these steps to install the camera junction box:

H6A Dual Head Junction Box Required Tools and Materials

H6A Dual Head Junction Box Package Contents

Using the H6A Dual Head Junction Box Mounting Adapter

Installing the H6A Dual Head Camera Base into the Junction Box

Installing the H6A Dual Head Camera Cover when using the Junction Box

H6A Dual Head Junction Box Required Tools and Materials

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

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

H6A Dual Head Junction Box Package Contents

Ensure the package contains the following:

- 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

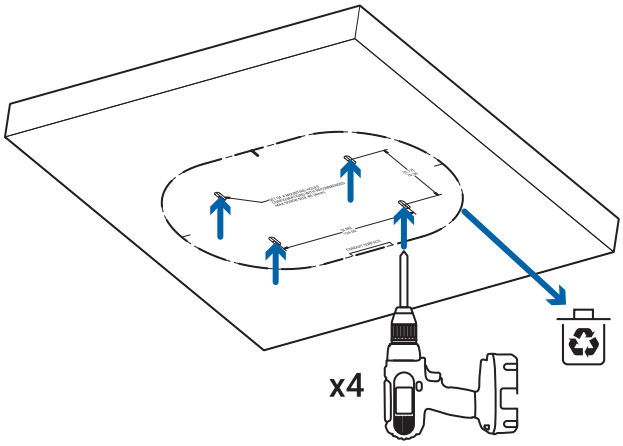
If you are using the optional Junction box mounting adapter (JBOX-1201), ensure the package contains the following:

- Junction box mounting adapter for H6A Dual Head cameras
- Lock nut for the side conduit
- Junction box mounting template sticker

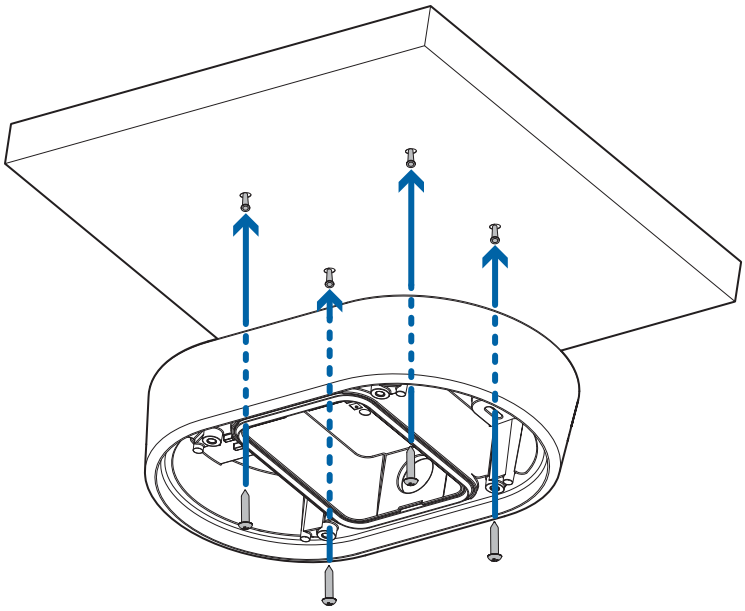
Using the H6A Dual Head Junction Box Mounting Adapter

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.

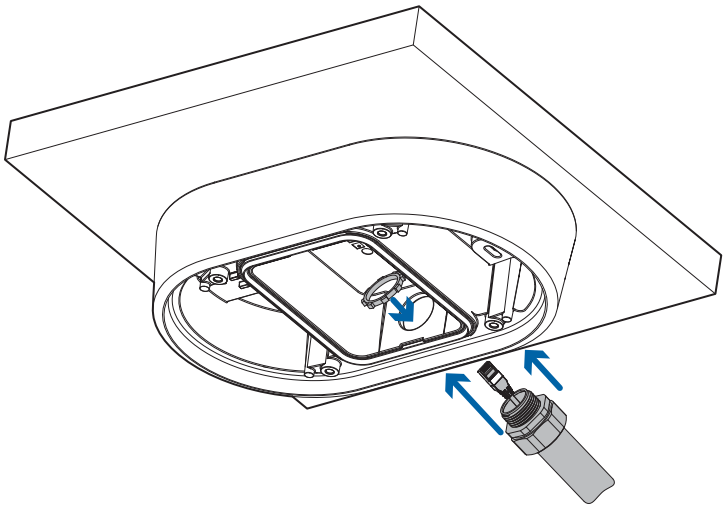


2. Align the conduit for the cables with the side conduit entry surface area on the mounting template.
3. Hammer the supplied plastic anchors into the holes.
4. Align the mounting holes junction box with the holes drilled into the mounting surface. Hold the junction box adapter to the mounting surface 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.

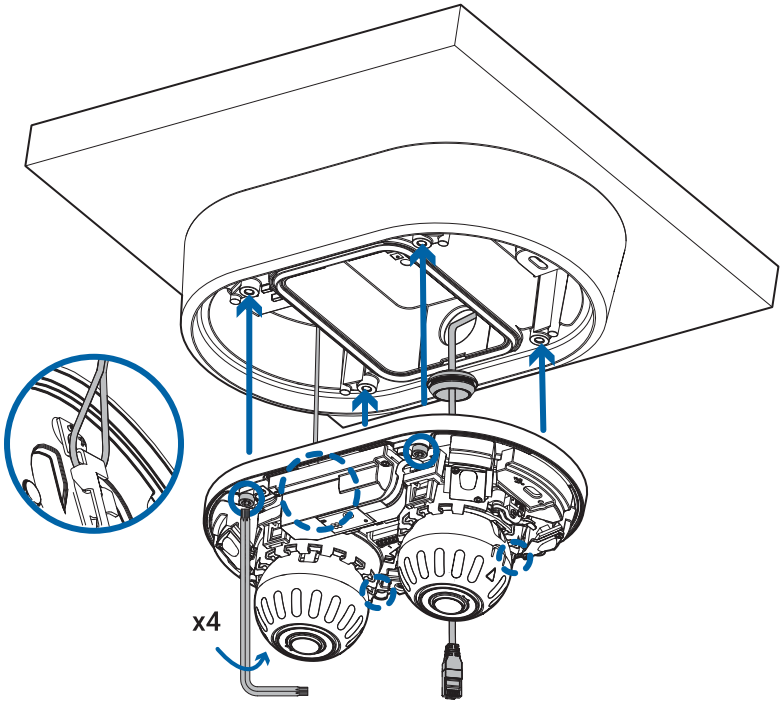


7. Pull the required cables through the rubber sealing grommet. For more information, see Inserting Cables through the Sealing Grommet.

Installing the H6A Dual Head 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.

Installing the H6A Dual Head Camera Cover when using the Junction Box

Be careful not to touch or scratch the dome bubble when installing the dome cover.

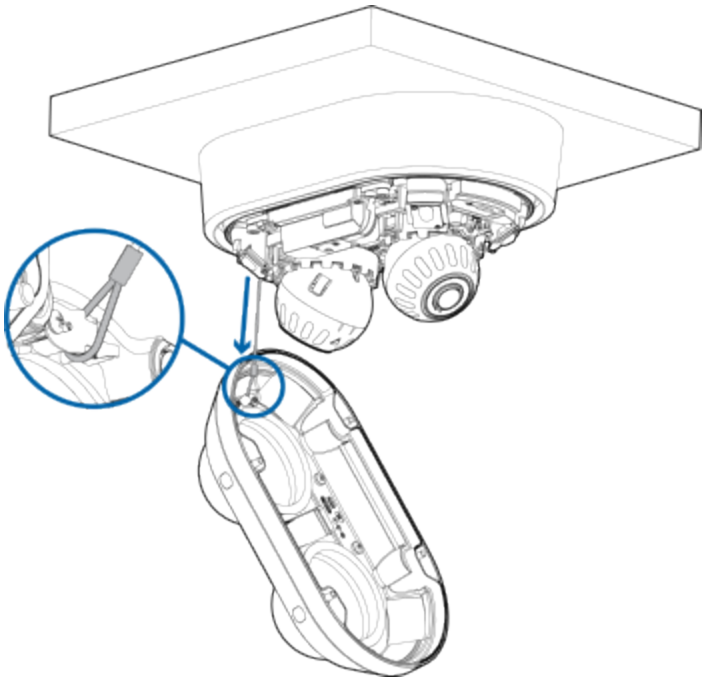
NOTE

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:

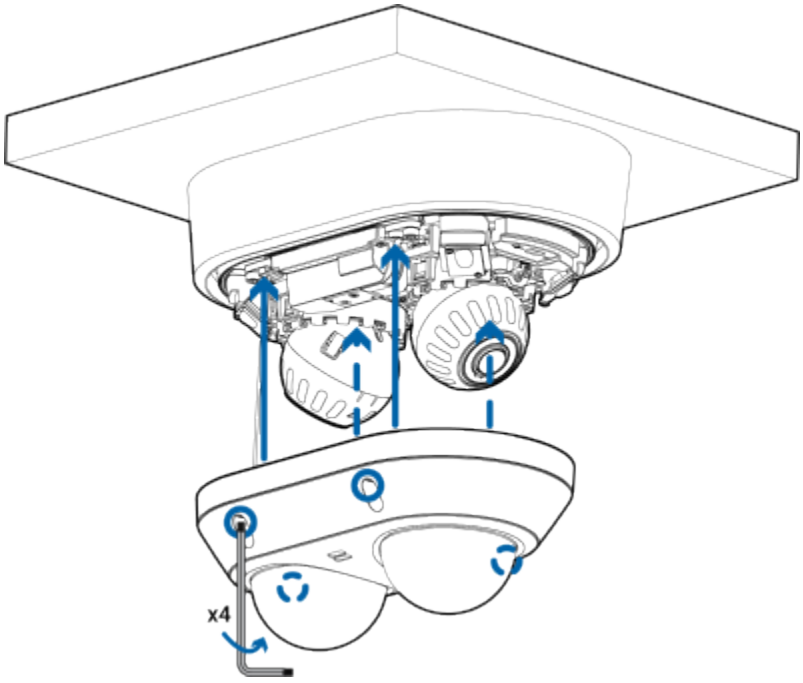
- Connecting Cables to H6A Dual Head Cameras
- Aiming the H6A Dual Head Camera Camera
- Zooming and Focusing Cameras

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 (torque recommendation: 1.5 Nm).



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

Installing H6A Dual Head Pendant Mount Cameras

Follow these steps to install the camera using a pendant mount:

H6A Dual Head Pendant Mount 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 (NPTA-1201), you will need:

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

H6A Dual Head Pendant Mount Package Contents

Ensure the package contains the following:

- Avigilon H6A Dual Head camera
- Mounting plate adapter
- Star-shaped screwdriver
- Rubber grommet
- RJ-45 grommet piercing cap

If you are using the optional NPT adapter (NPTA-1201), ensure the package contains the following:

- NPT adapter for the H6A Dual Head Camera
- Lock nut
- Thread seal tape

Mounting H6A Dual Head Cameras to a Conduit Pipe

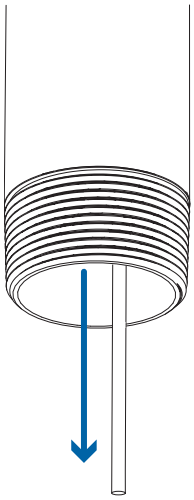
If the camera needs to be installed to a pipe for a pendant installation, you use the NPT adapter (NPTA-1201).

NOTE

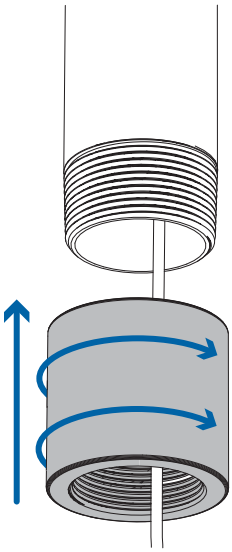
This procedure requires a 1-1/2" NPT-female to NPT-female pipe adapter and conduit

pipe that are not supplied 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.

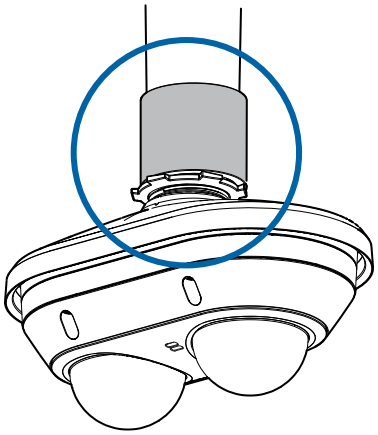
   Make sure the parts are assembled in this order from NPT conduit pipe to camera adapter:

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 H6A Dual Head Cameras to a Pendant Wall Mount

The pendant wall arm mount (WLMT-1021) is an optional accessory and must be purchased separately.

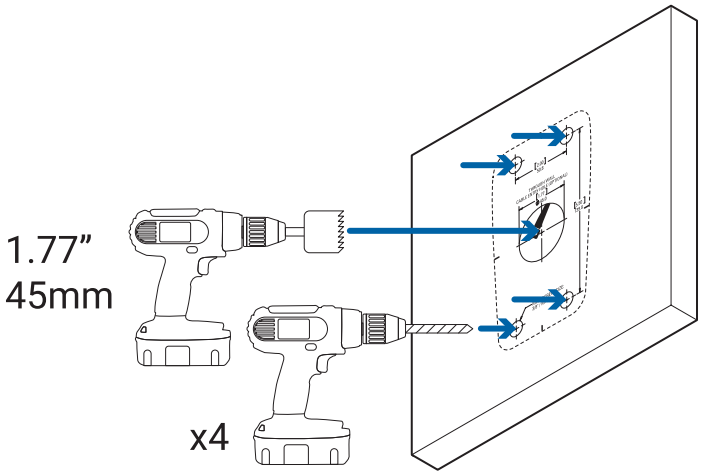
1. Determine where the cables will enter the pendant wall mount.

    a. If the cables will be pulled from inside the mounting surface, use the cable entry hole at the rear of the pendant wall mount

    b. 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..

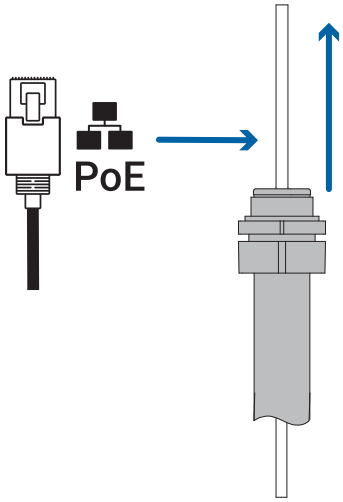
2. Use the provided mounting template to drill four mounting holes into the mounting surface.

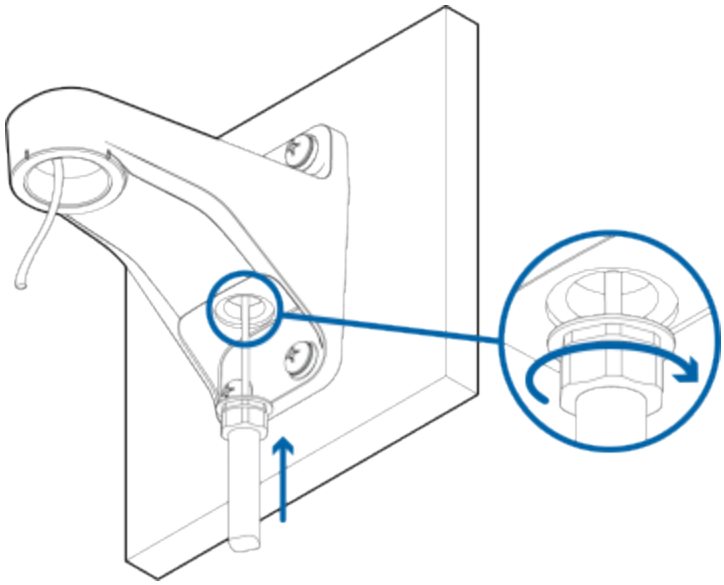
    a. If you are using the rear cable entry hole, also drill the cable entry hole into the mounting surface.



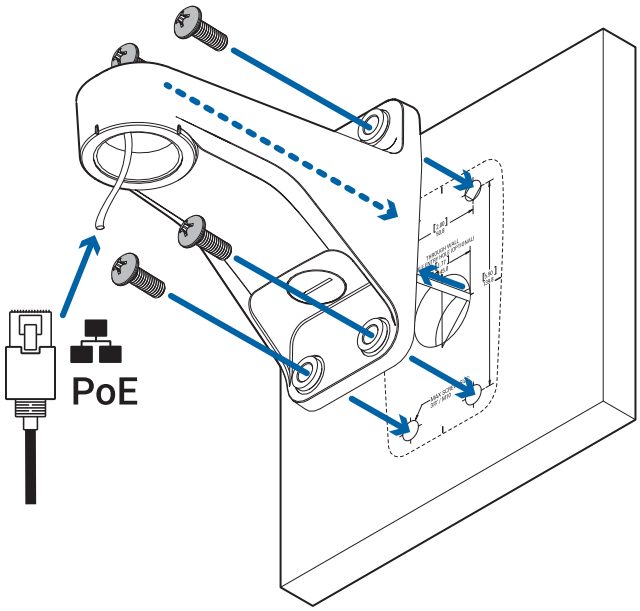
3. Pull the required cables through the preferred cable entry hole on the pendant wall mount.

    a. 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.



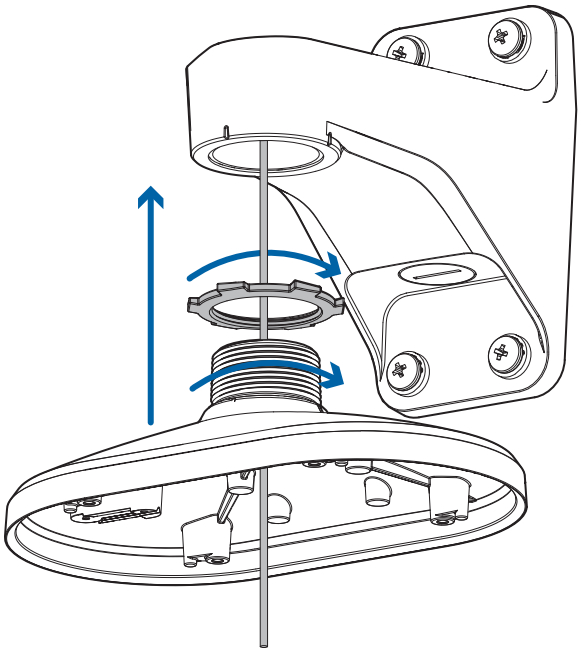


4. Tighten the wall mount screws to secure the wall mount. Use the T20 star-shaped key provided in the camera package.



5. Loosely thread the lock nut onto the NPT adapter, then secure the NPT adapter into the pendant wall mount.

6. Carefully tighten the lock nut until the NPT adapter is secured to the wall mount.



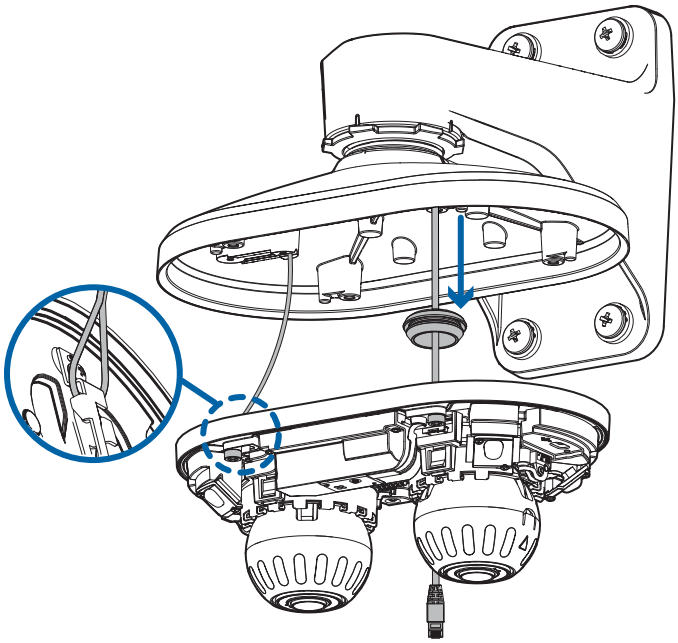
Installing H6A Dual Head Cameras to the NPT Adapter

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 the NPT adapter installed onto a wall mount. The steps are the same for installing the camera to a pipe.

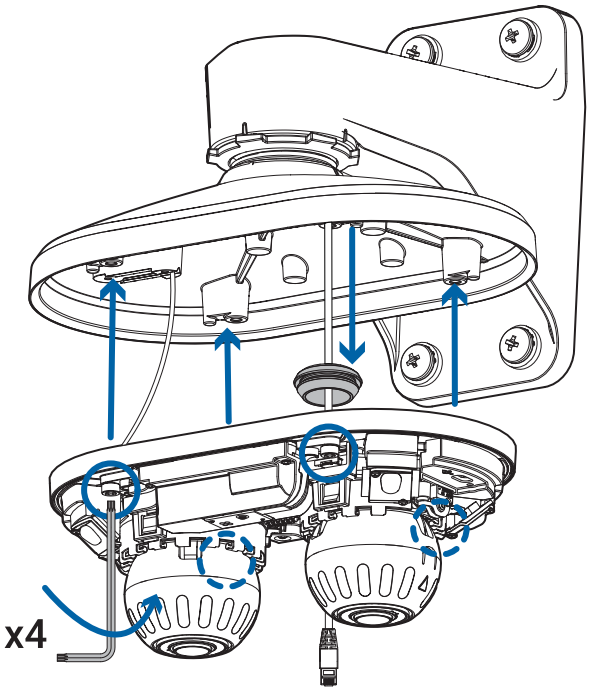
1. Attach the lanyard to the camera base. Pull the required cables through the cable entry hole.



2. Pull the required cables through the rubber sealing grommet. For more information, see Inserting Cables through the Sealing Grommet.

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. Tighten the bolts to secure the camera to the adapter.

Installing the H6A Dual Head Camera Cover when using the Pendant Mount

Be careful not to touch or scratch the dome bubble when installing the dome cover.

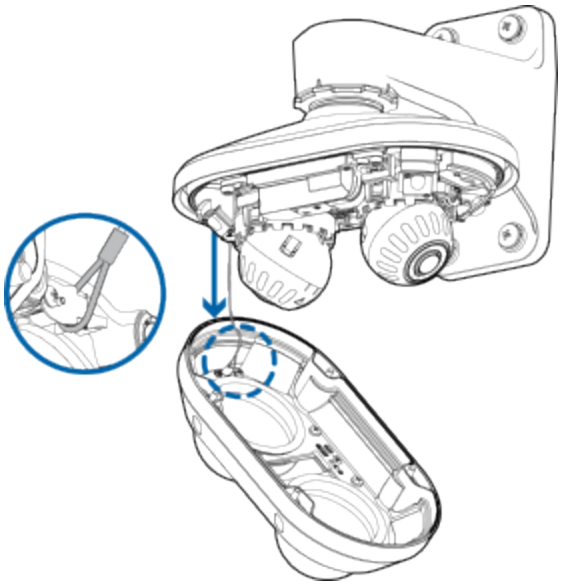
NOTE

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:

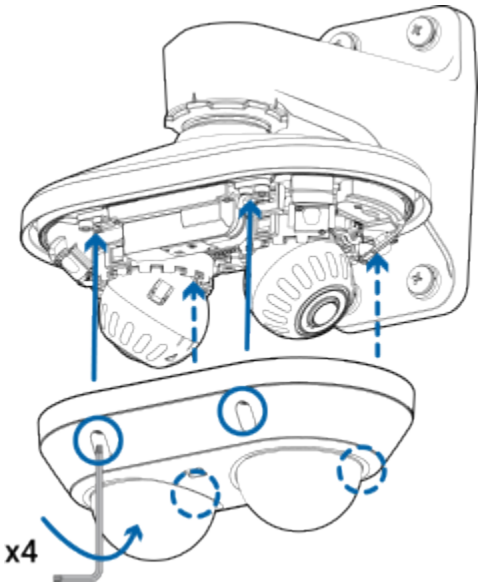
- Connecting Cables to H6A Dual Head Cameras
- Aiming the H6A Dual Head Camera Camera
- Zooming and Focusing Cameras

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 (torque recommendation: 1.5 Nm).



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

Connecting Cables to H6A Dual Head Cameras

H6A Dual Head 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 Power Cables to H6A Dual Head Cameras

There are three ways of connecting H6A Dual Head cameras to a power source:

- Power over Ethernet (PoE) — connect Power over Ethernet (PoE) to supply the camera with electrical power and network connection using the Ethernet port.
- Auxiliary Power — connect Aux power to supply the camera with electrical power. You will have to supply network connectivity using the Ethernet port.
- Auxiliary Power and Power over Ethernet (PoE) — connect both PoE and Aux Power. The camera will draw power exclusively from Aux and use PoE for network connectivity.

Power over Ethernet (PoE)

H6A Dual Head cameras accept a PoE connection to supply electrical power and network connectivity. The PoE connection also facilitates communication with the network servers and sharing of video footage, images and other data over the network.

1. Locate the Ethernet port on the camera. See the *Overview* section for the locations of the Ethernet port.
2. Insert the PoE cable to the camera's Ethernet port (RJ45 connector).
3. The green and yellow LED indicators will light up if the connection was successful. Refer to the Connection Status LED Indicators section for more information.

Auxiliary Power

If PoE is not available, the camera needs to be powered through the removable power connector block.

To connect power to the power connector block, complete the following steps:

1. Remove the power connector block from the camera. See the *Overview* section for the locations of the Power Connector Block.
2. Remove the insulation from ¼" (6 mm) of the power wires. Do not nick or damage the wires.
3. Insert the two power wires into the two terminals on the power connector block. The connection can be made with either polarity.

   Use a small slotted (5/64" or 2 mm blade width) screwdriver to loosen and tighten the terminals.
4. Attach the power connector block back into the camera.

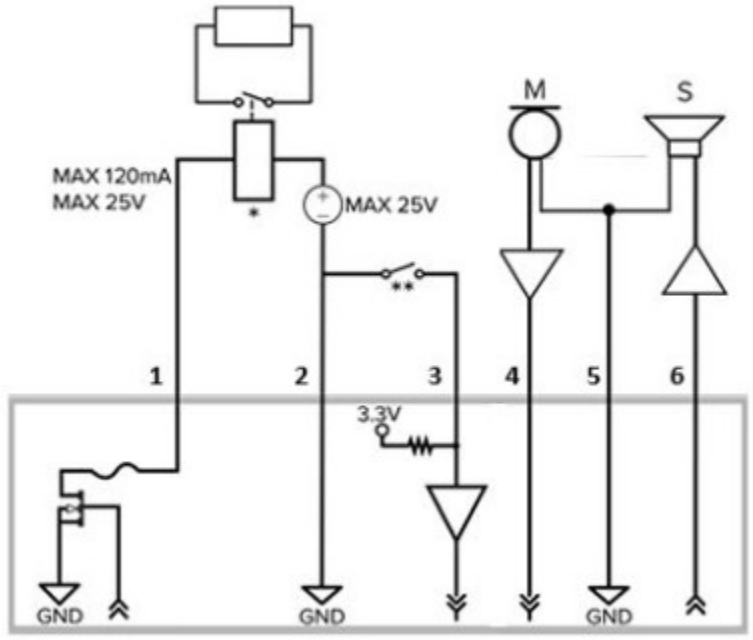
Auxiliary Power and Power over Ethernet (PoE)

You can connect cameras to both PoE and Aux to provide power redundancy. If the camera has power available from both auxiliary (Aux) power supply and a PoE PSE (Power Sourcing Equipment) device, the camera will draw power from Aux. If the camera loses power from Aux, it can switch to drawing power from PoE.

Connecting External Devices to H6A Dual Head Cameras

External devices are connected to the H6A Dual Head camera through pluggable terminal blocks. For the locations of the terminals, see *Camera Module* on page 1.

The pinout for the I/O terminal block is shown in the following diagram:



1. Digital Output
2. Ground
3. Digital Input
4. Audio Input (Line Level)
5. Audio Ground
6. Audio Output (Line Level)

* — Relay

** — Switch

M — Microphone

S — Speaker

Switching on the Microphone on H6A Dual Head Cameras (Optional)

H6A Dual Head camera models feature an internal microphone, and include a switch to physically enable or disable the microphone. The microphone switch is set to OFF by default. See the *Overview* section for the location of the camera's microphone.

We recommend that you enable the microphone before installing the camera in its final location.

1. Locate the microphone switch on the camera assembly.
2. Slide the switch from the default OFF position to ON to enable the microphone.
3. You will also need to enable the audio feature in the camera web interface, Avigilon Unity Video or ACC after you have added the camera to the network and initialized it. See Resources for Avigilon Cameras for information on using camera features and configuring settings.

Configuring Onboard Storage (Optional)

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.

We recommend that the microSD card have a minimum storage capacity of 64 GB. 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. See the *Overview* section for the location of the microSD card slot.

   WARNING

   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. You will also need to enable the storage feature in the camera web interface. See Resources for Avigilon Cameras for information on using camera features and configuring settings.

Adding Cameras to the Network

H6A Dual Head 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

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.

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.

- **Mobile Web Interface** — use the mobile web interface to configure cameras that were added to the network using the USB Wi-Fi Adapter from the mobile web interface.

  Refer to the Wi-Fi Adapter Mobile Web Interface 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.
- **Camera Web Interface** — use the camera web interface to initialize and configure cameras individually from a web browser without using the VMS.
- **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.

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

- **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 by Creating a Username and Password

You must create an initial user with administrator privileges and log in to the camera before the camera becomes operational. You will need the camera's IP address to create the initial user. See Discovering Cameras on the Network for instructions on how to obtain the camera's IP address.

There are different tools you can use to create the initial user. See Choose a Tool to Access Camera Settings for more information.

You can use one of the following tools to create the initial user:

- **Avigilon Unity Video** — when connecting a camera in the factory default state, the client software will ask you to create a new user. Requires software version 7.4 or later.
- **Avigilon Control Center** — when connecting a camera in the factory default state, the client software will ask you to create a new user. Requires software version 6.14.12 or later.
- **Camera Configuration Tool** — cameras discovered in the factory default state will be identified by . Select the *Admin Users* tab to create the first user.
- **Mobile Web Interface** — when connecting a camera in the factory default state, you will be redirected to the *Create Administrator User* page to create the first user.
- **Camera 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.

NOTE

If you are using a third-party VMS, you must complete this step with either CCT, USB Wi-fi Adapter mobile web interface or the camera's web interface before you can use the camera.

Connection Status LED Indicators

Once connected to the network, the green Connection Status LED indicator will display the progress in connecting to the Video Management System (VMS) software. The following table outlines the different LED signals:

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.

Connection State	Connection Status LED Indicator	Description
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 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	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.

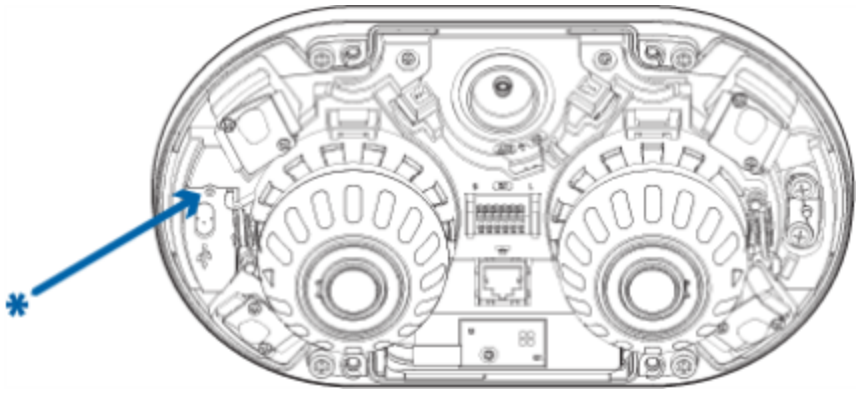
LED Behavior	Suggested Solution
Both LEDs are blinking several times at the same time, then pause and repeat the blinking	Perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web interface will not produce the desired result.
A different LED 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 H6A Dual Head Cameras to their Factory Default Settings

If the H6A Dual Head 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 it's factory default settings.

Follow these steps to manually reset the camera:

1. Ensure the camera is powered on.
2. Remove the camera cover.
3. Locate the reset button on the camera module. 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.

Adjusting H6A Dual Head 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, or adjust the IR LEDs for IR camera models.

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

Aiming the Dome Camera

Zooming and Focusing Cameras

Accessing the Live Video Stream

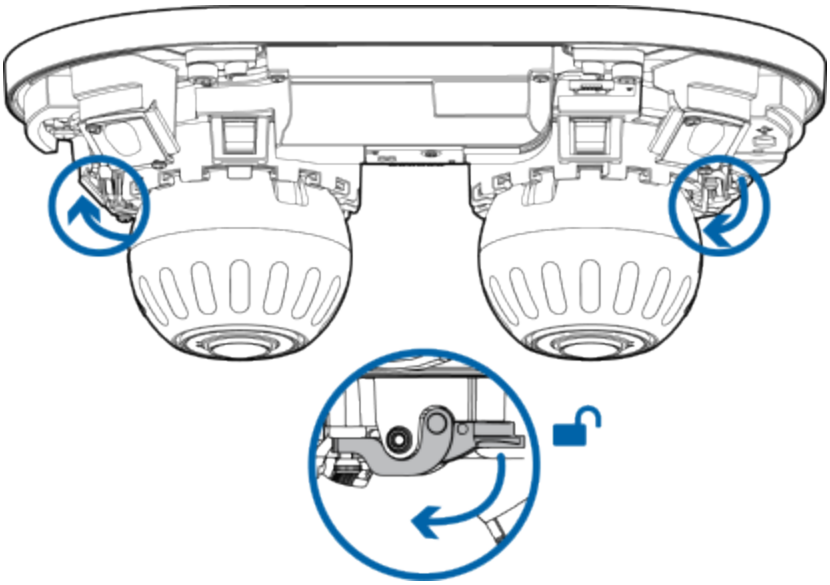
You can view the live video stream using one of the following methods:

- Camera Web Interface
- Avigilon Unity Video client application
- Avigilon Control Center client application
- VMS client application

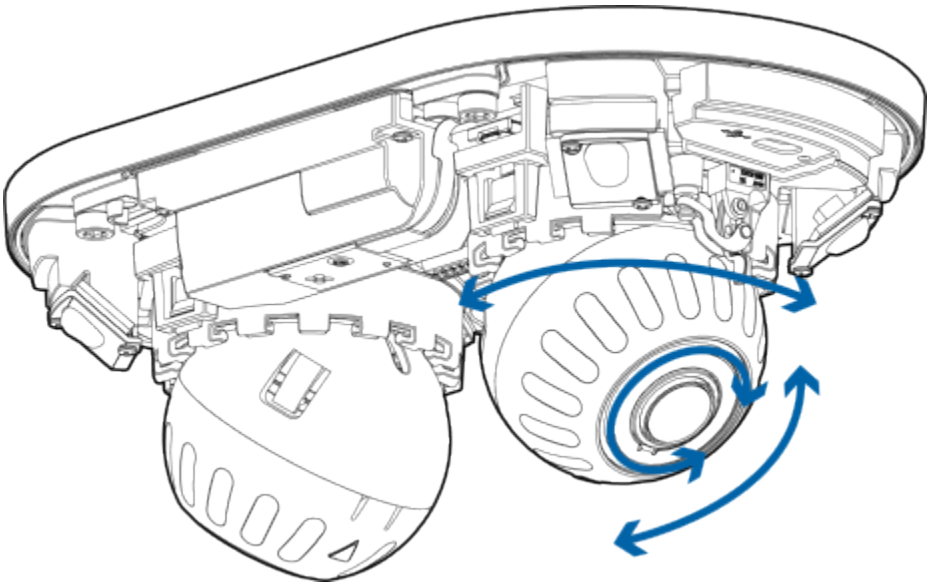
Aiming the H6A Dual Head Camera Camera

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.



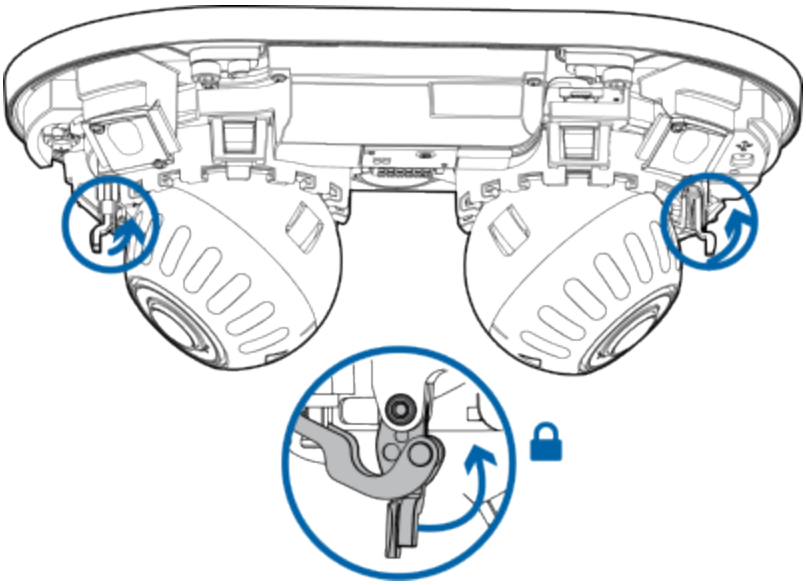
b. Rotate the azimuth control ring to set the image in the correct rotation. Pan and tilt the camera head to capture the desired field of view.



NOTE

When using the built-in IR illuminators, we recommend 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 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**.

H6A Dual Head 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 H6A Dual Head Cameras

Cleaning H6A Dual Head Cameras

Dirt, dust and/or fingerprints on the camera can cause the video image to becomes blurry. Make sure you clean these products to ensure optimal performance. Refer to the instructions below when cleaning H6A Dual Head 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 H6A Dual Head 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.

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. To upgrade your camera firmware, see the Avigilon Software Downloads page.
4. 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.
5. For instructions on using the Camera Web Interface to configure camera settings and features, see the relevant Avigilon Camera Web Interface User Guide
6. 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.

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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