AVIGILON™ UNITY

Unity H6A Fisheye Camera Installation Guide

Contents

H6A Fisheye Cameras Installation Guide

The H6A Fisheye Cameras Installation Guide provides installation instructions for four different camera mounting scenarios: surface, in-ceiling, pendant and wedge mount. This Installation Guide also covers how to connect external devices and how to add cameras to the network.

Camera Models:

8.0C-H6A-FE-180-DO2	8.0C-H6A-FE-360-DO1	12.0C-H6A-FE-360-DO1	8.0C-H6A-FE-DC1
8.0C-H6A-FE-180-DO2-IR	8.0C-H6A-FE-360-DO1-IR	12.0C-H6A-FE-360-DO1-IR	12.0C-H6A-FE-DC1

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.

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 device complies with EN 60529 IP66 and IP67 rating.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the

interference at his own expense.

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

For Korea

이 기기는 업무용(A급) 선자파 석합기기로서 판매자 또는 사용자는 이 섬을 수의하시기 바라
가정외의 지역에서 사용하는 것을 목적으로 합니다.

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.

For Taiwan

網路攝影機

型號: Model: ACFSERA1, ACFSENA1, ACFSCNA1

Class A Warning: 警告: 為避免電磁干擾, 本產品不應安裝或使用於住宅環境

ACFSERA1: Recommended to use MicroSemi model PD-9001 GR/AT/AC or similar rated PoE model.

ACFSENA1 & ACFSCNA1: Recommended to use MicroSemi model PD-3501 G/AC or similar rated PoE model.

報驗義務人 (Contact for inspection）
摩托羅拉系統股份有限公司 (Motorola Taipei)
台北市中山區民生東路3段 2號 5樓之1

重要安全守則

	警告 不遵守以下說明可能會導致嚴重傷害或死亡
	• 安裝必須由合格人員執行，並且必須符合所有當地法規。 • 本產品連接的任何外部電源僅可連接到同一型號系列的其他 Avigilon 產品。外部電源連接必須正確絕緣。 • 請勿因任何原因直接連接到主電源
	警告 不遵守以下說明可能會導致嚴重傷害或死亡
	• 請勿將相機直接暴露在高強度的 X 射線、雷射或紫外線輻射下。直接暴露可能會對影像感測器造成永久性損壞。

設備名稱： 網路攝影機 型號（型式）：ACFSERA1, ACFSENA1, ACFSCNA1
Equipment name: Network Camera Type designation (Type)

單元Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr^{+6})	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
印刷電路板及電子組件	o	o	o	o	o	o
金屬零件	o	o	o	o	o	o
電纜及電纜組件	o	o	o	o	o	o
塑料和聚合物零件	o	o	o	o	o	o
光學與光學元件	o	o	o	o	o	o

備考1. 〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值
Note 1：“Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2. 〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。
Note 2：“o” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of

備考3. 〝－〞係指該項限用物質為排除項目。
Note 3：The “–” indicates that the restricted substance corresponds to the exemption.

Legal Notices

not a disclaimer of ownership of the related trademark.

Disclaimer

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Avigilon Corporation
avigilon.com

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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 Fisheye Camera Overview

There are different types of H6A Fisheye cameras based on the installation method. Refer to the following overview sections to see the different H6A Fisheye camera components:

H6A Fisheye Surface Mount Overview

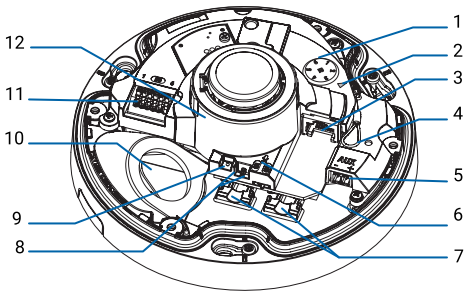
H6A Fisheye In-Ceiling Mount Overview

H6A Fisheye Pendant Mount Overview

H6A Fisheye Wedge Mount Overview

H6A Fisheye Surface Mount Overview

Internal View



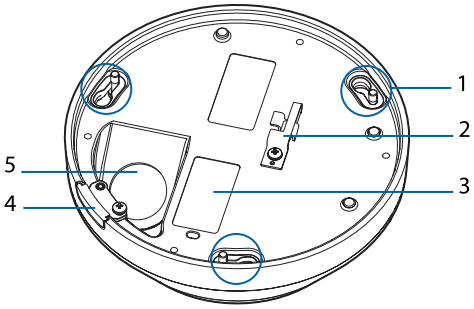
1. **IR LED Marking Points** —This IR LED marking points to the six LEDs on the bezel that can be controlled through WebUI. Refer to Viewing the IR LED Marking Points on the H6A Fisheye Cameras.

NOTE

This is applicable only on the IR camera models.

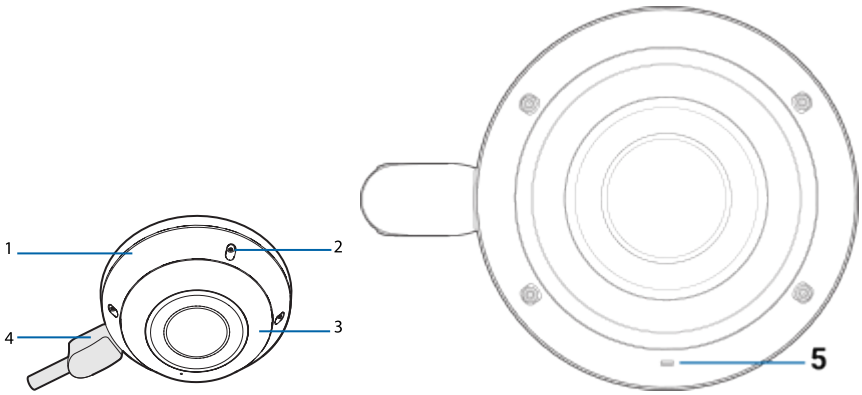
2. **North Facing Arrow** — Indicates which direction to point the camera. This affects the image layout when dewarping the image. For more information, see Positioning a H6A Fisheye Surface Mount Camera.
3. **Ethernet port** — Accepts an Ethernet connection to a network. Server communication and image data transmission occurs over this connection. Also receives power when it is connected to a network that provides Power over Ethernet.
4. **Lanyard** — Anchors the cover to the camera base.
5. **Power connector block** — Connects an external DC power connection. Used when PoE is not available. For more information, see .
6. **Microphone switch** — Switch to enable or disable the built-in microphone. For more information, see Switching on the Microphone on H6A Fisheye Cameras (Optional) .
7. **microSD card slots (x2)** — Accepts two microSD cards for onboard storage. Install microSD cards so the metal contacts are facing upward. For more information, see Configuring Onboard Storage (Optional).
8. **LED indicators** — two LED indicators indicate the connection status. The green LED provides information about device operation. The amber LED indicates if there is an active connection in the Ethernet port. For more information, see Connection Status LED Indicators.
9. **Firmware revert button** — Resets the camera to its factory default settings.
10. **Cable entry hole** — An entry hole for the cables required for camera operation.
11. **I/O connector block** — Provides connections to external input/output and audio devices.
12. **Serial number tag** — Device information, product serial number and part number label.

Bottom View



1. **Mounting slots** — The mounting points for the camera. If you are using the optional electrical box wall plate adapter or NPT adapter, align the mounting posts with the mounting slots. If mounting directly to a wall or ceiling, insert the mountings screws through the slots to fix the camera to the mounting surface.
2. **Lanyard anchor** — The safety lanyard attaches to the anchor to prevent the camera from falling during installation.
3. **Serial number tag** — Device information, product serial number and part number label.
4. **Side conduit tab** — For installations that require cabling through a side conduit, this tab should be removed and replaced by the conduit shroud.
5. **Cable entry hole** — An entry hole for the cables required for camera operation.

Cover View



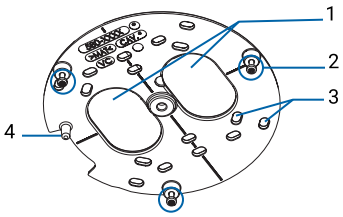
1. **Dome cover** — Vandal resistant dome cover.
2. **Tamper resistant screws** — Star-shaped captive screws to fix the dome cover to the base.

3. **IR illuminator** — Provides scene illumination in the IR spectrum for supported camera models.

4. **Conduit shroud** — Optional shroud for connecting a side-entry 1/2" (18 mm) EMT conduit for cabling. Only use when using the side conduit.

5. **Microphone slots** — Allows sound to pass through the dome cover to the microphone.

Wall Plate Adapter



1. **Cable entry holes** — Entry holes for the cables required for camera operation.

2. **Camera mounting posts** — Aligns the mounting posts on the wall plate adapter to the mounting slots on the camera base.

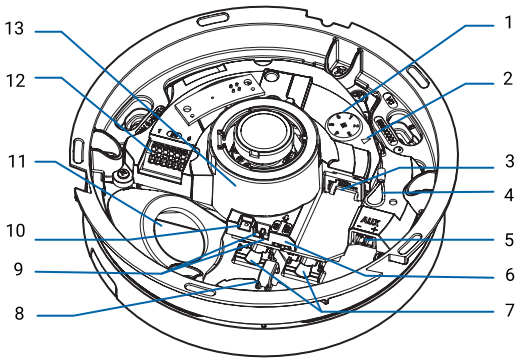
3. **Mounting holes** — Holes for mounting the wall plate to the following:

    a. UK standard single gang box
    b. Octagon gang box
    c. 4" gang box
    d. Mounting surface
    e. US standard single gang box

4. **Orientation post** — Orientation post that fits properly into the cable entry hole area of the camera base. Post will prevent installation in the incorrect orientation.

H6A Fisheye In-Ceiling Mount Overview

Interior View



1. **IR LED Marking Points** — The IR LED marking point to the six LEDs on the bezel that can be controlled through the WebUI. For more information, see Viewing the IR LED Marking Points on the H6A Fisheye Cameras.

   NOTE

   This is applicable only on the IR camera models.

2. **North Facing Arrow** — Indicates which direction to point the camera. This affects the image layout when dewarping the image.

3. **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.

4. **Lanyard** — Anchors the cover to the camera base.

5. **Power connector block** — Accepts an external DC power connection when Power over Ethernet is not available.

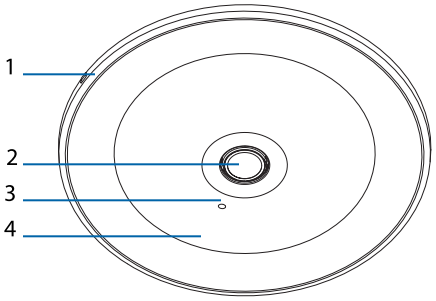
6. **Microphone switch** — Switch to enable or disable the built-in microphone. For more information, see Switching on the Microphone on H6A Fisheye Cameras (Optional) .

7. **microSD card slots (x2)** — Accepts up to two microSD cards for onboard storage. Install microSD cards so the metal contacts are facing upward. For more information, see Configuring Onboard Storage (Optional).

8. Ethernet cable clip — Clip to secure the Ethernet cable out of the way of other camera components.
9. **LED indicators** — two LED indicators indicate the connection status. The green LED provides information about device operation. The amber LED indicates if there is an active connection in the Ethernet port.

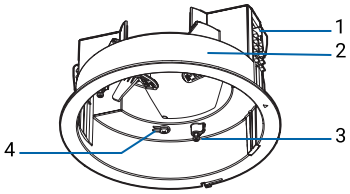
   For more information on how to determine the camera's connection status, see Connection Status LED Indicators.
10. Firmware revert button — Resets the camera to its factory default settings.
11. **Cable entry hole** — An entry hole for the cables required for camera operation.
12. **I/O connector block** — Provides connections to external input/output and audio devices.
13. **Serial number tag** — Device information, product serial number and part number label.

Cover View



1. **Cover lock** — Locking point for securing the cover to the in-ceiling mount.
2. Camera lens — Fisheye camera lens.
3. **Microphone** — Built-in audio receiver.
4. **In-ceiling cover** — Discreet cover, which can be painted to blend into the mounting surface.

In-Ceiling Adapter

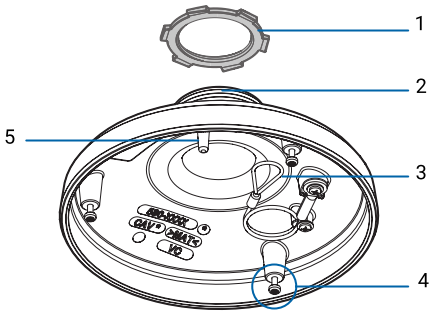


1. **Clamps** — Manually adjustable clamps for securing the camera to the ceiling.
2. **In-ceiling mount adapter** — Used to mount the camera to a ceiling.
3. **Camera mounting posts** — Align the mounting posts on the in-ceiling adapter to the mounting slots on the camera base.
4. Orientation post — Orientation post that fits properly into the cable entry hole area of the camera base. Post will prevent installation in the incorrect orientation.

H6A Fisheye Pendant Mount Overview

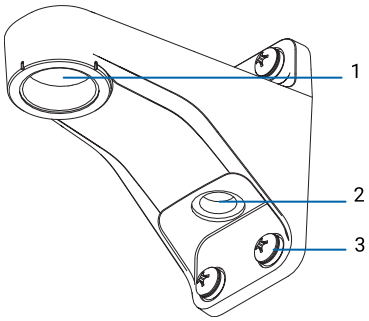
The internal view of the H6A Fisheye Pendant Mount Camera is the same as the Surface Mount. For the *Internal View*, see H6A Fisheye Surface Mount Overview .

Pendant NPT Adapter



1. **Lock nut** — Lock nut for securing the pendant NPT mount to an NPT pipe or wall arm. Supplied with the NPT adapter.
2. **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.
3. **Lanyard** — Connects to the lanyard anchor on the camera base.
4. Orientation post — Orientation post that fits properly into the cable entry hole area of the camera base. Post will prevent installation in the incorrect orientation.
5. **Camera mounting posts** — Align the mounting posts on the pendant NPT adapter to the mounting slots on the camera base.

Pendant Wall Arm

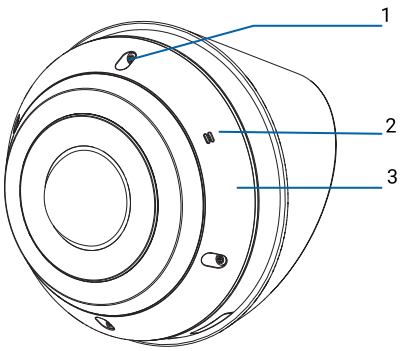


1. **1-1/2” NPS thread mount** — Female NPS thread mount for pendant camera installations.
2. **Pendant wall mount screws** — Screws for securing the pendant wall mount to the mounting bracket.
3. **NPT pipe entry hole** — A 3/4" NPT threaded hole for NPT pipe conduits.

H6A Fisheye Wedge Mount Overview

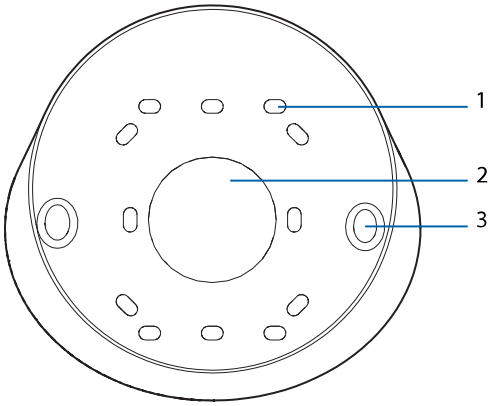
The internal view of the H6A Fisheye Pendant Mount Camera is the same as the Surface Mount. For the *Internal View*, see H6A Fisheye Surface Mount Overview .

Cover View



1. **Tamper resistant screws** — Star-shaped captive screws to fix the dome cover to the base.
2. **Microphone** — Built-in audio receiver.
3. **Dome cover** — Vandal resistant dome cover.

Wedge Mount Adapter



1. **Mounting holes** — Holes for mounting the wall plate to the following:
   - UK standard single gang box
   - Octagon gang box
   - 4" gang box
   - Mounting surface

- US standard single gang box

2. **Cable entry holes** — Entry holes for the cables required for camera operation.
3. **Camera mounting posts** — Align the mounting posts on the wall plate adapter to the mounting slots on the camera base.

Preparing H6A Fisheye Cameras for Installation

The following sections outline the pre-installation steps:

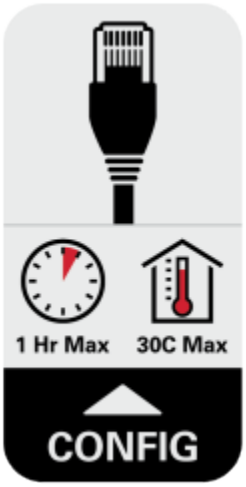
Pre-Deployment In-Box Configuration (Optional)

The camera comes with a pre-installed cable that lets you configure camera settings before installation. Access the RJ45 connector cable through the side flap.

NOTE

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

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



2. Connect a network cable to the RJ45 plug on the configuration cable. The network cable must provide PoE. IEEE 802.3af Class 3, to power the camera during configuration.
3. Connect to the camera using the ACC Client, Unity Video Client, the Camera Configuration Tool, or the camera's web browser interface to configure the camera's settings.
4. Once you have finished making configuration changes, unplug the network cable.

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.

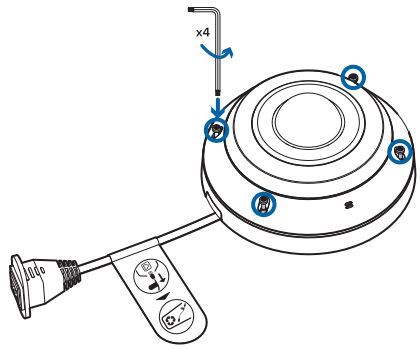
For more information, see Designing a Site with Avigilon Self-Learning Video Analytics.

Removing the H6A Fisheye Cameras Cover

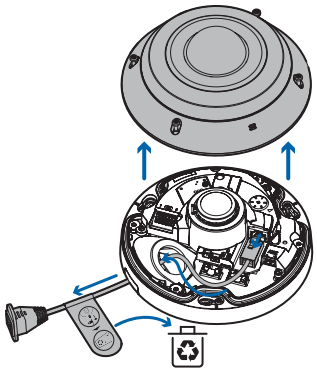
Important

Protect the bubble from scratches and fingerprints to maintain image quality. Leave the protective cover on the bubble until installation is finished.

1. Unscrew the camera cover using the provided star screwdriver.



2. Lift the cover off and set it aside.



3. Remove the pre-installed RJ45 configuration cable and dispose of it.

Preparing the H6A Fisheye Camera Cables

Route all cables through a grommet before connecting to the camera to prevent moisture damage. The camera comes with two rubber grommets for waterproofing the required cables:

- Use the single-hole rubber grommet for installations using PoE power and require only the Ethernet cable. For more information, see Inserting an Ethernet Cable through the Single-Hole Grommet.
- Use the 3-hole rubber grommet for installations that require more than one cable. For more information, see Inserting Cables through the 3-Hole Grommet.

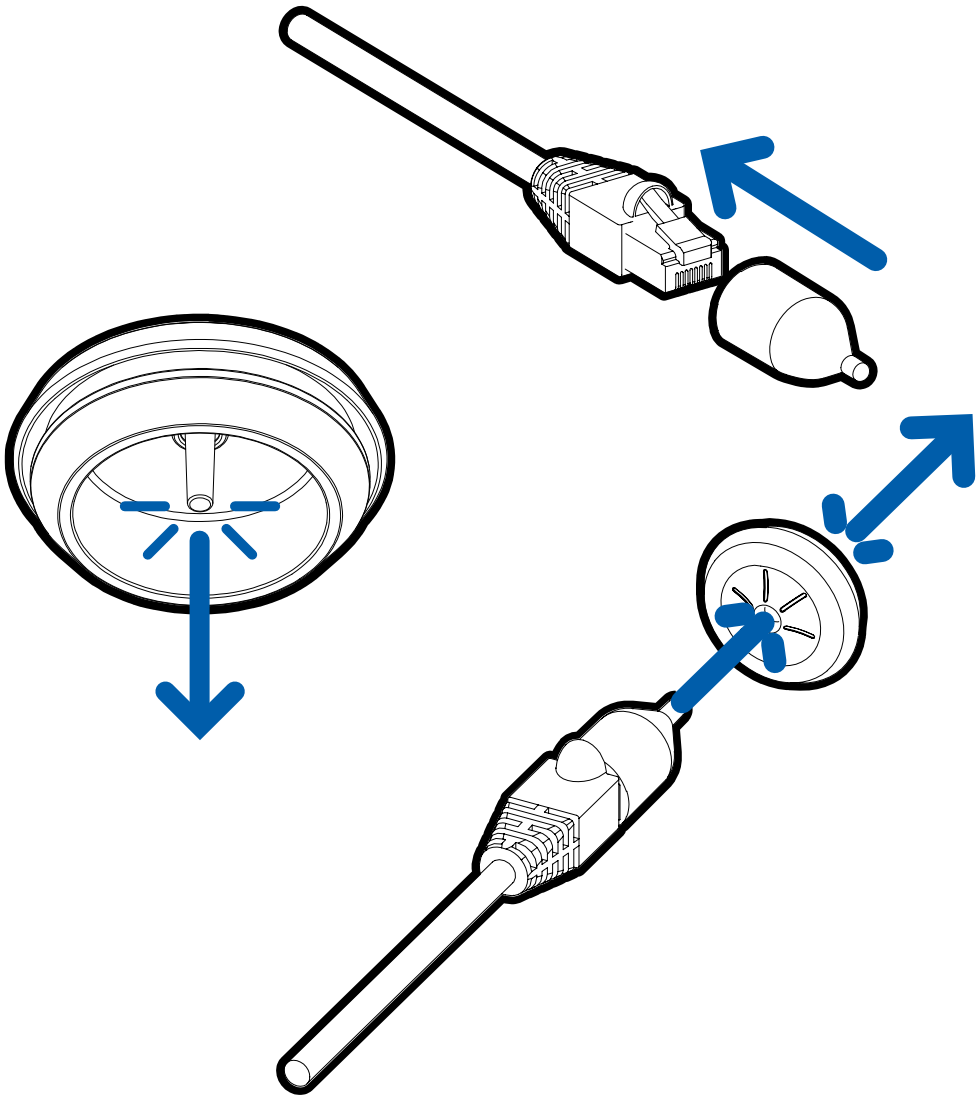
Inserting an Ethernet Cable through the Single-Hole Grommet

You must pull the required Ethernet cable through the single-hole sealing grommet included with the camera.

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.



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

NOTE

If you require multiple cables, see Inserting Cables through the 3-Hole Grommet to follow the 3-hole grommet procedure.

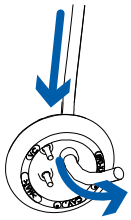
Inserting Cables through the 3-Hole Grommet

NOTE

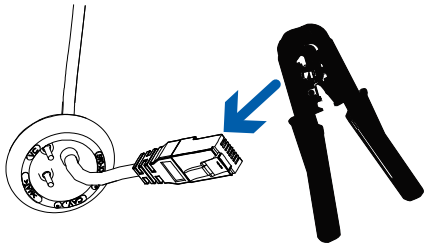
The Ethernet cable must be uncrimped to perform this procedure.

The camera includes an I/O terminal for input/output and audio connections, an external power connector, and an Ethernet connector. If you are connecting 2 or more cables to the camera, follow this procedure for using the 3-hole sealing grommet to insulate the cables from the weather.

1. Remove the sealing grommet from the accessory kit.
2. Thread the Ethernet cable into the largest hole in the 3-hole rubber grommet.
   a. Push the Ethernet cable through the open hole in the rubber grommet. Ensure the orientation of the cable and grommet matches the following image.



   b. Crimp the connector onto the Ethernet cable.



3. If you are using other cables, pull one or both of the tabs on the grommet to open the secondary holes for the additional cables.
4. Thread the additional cables through the secondary grommet holes. Threading thin cables through the secondary holes may require the use of silicone sealant at the opening to ensure weather proofing.

5. Do not connect the cables to the camera until indicated in the installation procedure.

Installing H6A Fisheye Cameras

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

Installing H6A Fisheye Surface Mount Cameras

Installing H6A Fisheye In-Ceiling Mount Cameras

Installing H6A Fisheye Pendant Mount Cameras

Installing H6A Fisheye Wedge Mount Cameras

Installing H6A Fisheye Surface Mount Cameras

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

H6A Fisheye Surface Mount Installation Requirements

Positioning a H6A Fisheye Surface Mount Camera

Installing a H6A Fisheye Cameras Directly onto a Wall or Ceiling

Installing a H6A Fisheye Cameras Using a Side Conduit Entry Hole

H6A Fisheye Surface Mount Installation Requirements

Make sure you verify the package contents and assemble the necessary tools and equipment before starting the installation.

Package Contents (Provided)

The package should contain the following:

- H6A Fisheye Cameras module (H6A-FE-xxx-DOx) or (H6A-FE-xxx-DOx-IR)
- Camera Base Mounting Template sticker
- Wall plate adapter (Optional) — for electrical box installations
- Star-shaped screwdriver
- Power terminal block
- Optional conduit shroud — for side-entry conduit cabling.
- 3x screws and anchors — for securing the camera to the mounting surface
- 3-hole rubber grommet — for multi-cable installations.
- Single-hole rubber grommet — for installations with a single Ethernet/PoE cable
- RJ45 grommet piercing cap — for use with single-hole rubber grommet only

Required Tools and Equipment (Not Provided)

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

- Appropriate tool for cutting the cable access hole
- Small slotted screwdriver with 5/64" or 2 mm blade width — for connecting power when not using Power over Ethernet
- No. 2 Phillips screwdriver — for attaching camera to an electrical box or mounting surface

Positioning a H6A Fisheye Surface Mount Camera

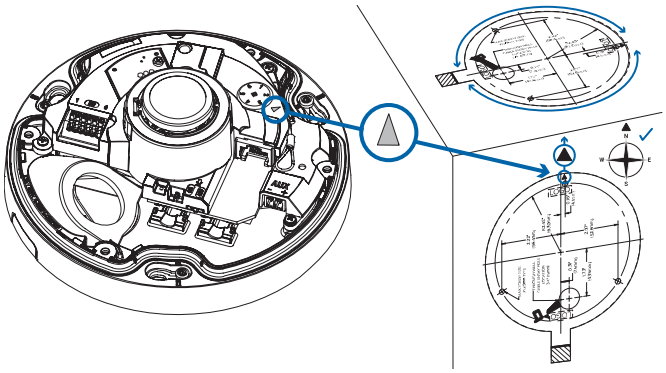
The H6A Fisheye Cameras provides 360° views of large areas. Because of the 360° view, it is not obvious which part of the camera should be facing up when installed on a wall. To help with this, the mounting template and the camera body have an up orientation arrow printed on them to signal which end should be facing up.

TIP

Before removing the mounting template after cutting or drilling the required holes, mark or otherwise make note of the direction the orientation arrow is facing. This will help you to align the camera body in the same orientation when installing.

When installing the camera on a ceiling, the orientation arrow can go in any direction. If you are installing the camera on a wall, make sure that the orientation arrow is facing up.

The arrow on the camera module indicates the front of the camera. It suggests a north-facing direction, although the camera can point in a direction that is not North. If this is the case, you should make note of the actual direction. When dewarping the camera streams, the front of the camera is corresponds with 0° in the camera web interface. The other three camera streams correspond with 180°, 270° and 360° respectively.

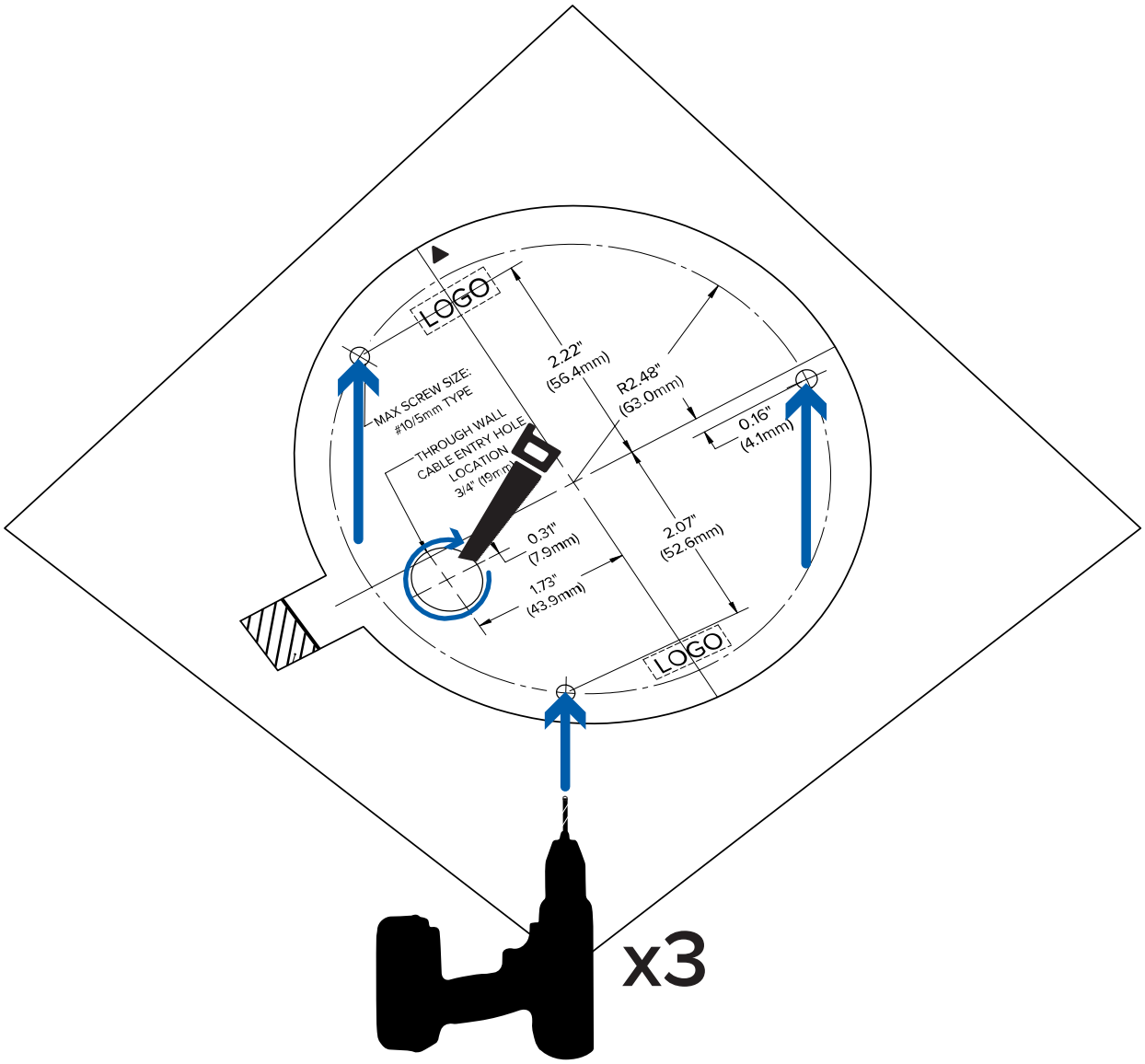


Installing a H6A Fisheye Cameras Directly onto a Wall or Ceiling

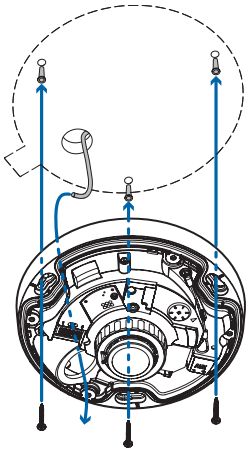
Perform the following steps if the required cables will be coming from inside the mounting surface and the camera will be mounted immediately over the cable hole. Use this procedure on surfaces that can be easily drilled into, and when the cables should be kept out of sight.

1. Stick the Mounting Template sticker onto the wall or ceiling. If you are mounting the camera to a wall, make sure the up orientation arrow is at the top, or the video image will be rotated.

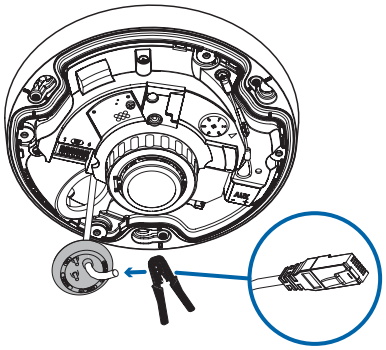
2. Drill 3 pilot holes into the mounting surface for the mounting screws.



3. Hammer the supplied plastic anchors into the holes.
4. Drill the cable entry hole into the mounting surface.
5. Remove the mounting template sticker and recycle it.
6. Pull the required cables through the mounting surface and through the cable entry hole in the camera base.
7. Align the up orientation arrow on the camera base with the arrow on the mounting template. Align the mounting slots on the camera base to the drilled pilot holes and use the provided self-tapping screws to secure the camera to the mounting surface.



8. Pull the required cables through the rubber sealing grommet. For more information, see Preparing the H6A Fisheye Camera Cables.

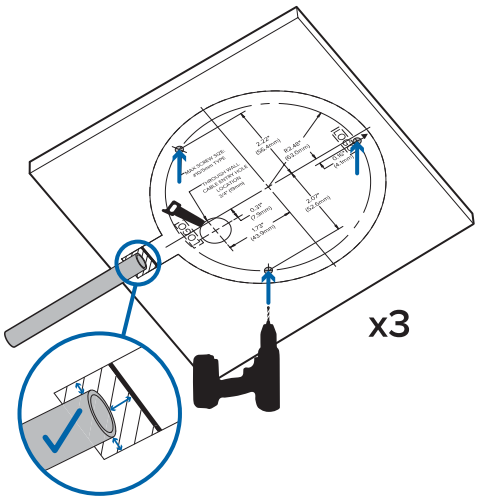


9. Push the rubber sealing grommet with the required cables into the cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole. The rubber grommet should be pressed firmly into the cable entry hole to create a seal.

Installing a H6A Fisheye Cameras Using a Side Conduit Entry Hole

Perform the following steps if the required cables will be run along the mounting surface. Use this procedure if the mounting surface is difficult to drill into, or if the cables must be routed outside of the mounting surface.

1. Using the Surface Mounting Template, drill 3 pilot holes into the mounting surface for the mounting screws. If you are mounting the camera to a wall, make sure the up orientation arrow is at the top, or the video image will be rotated.

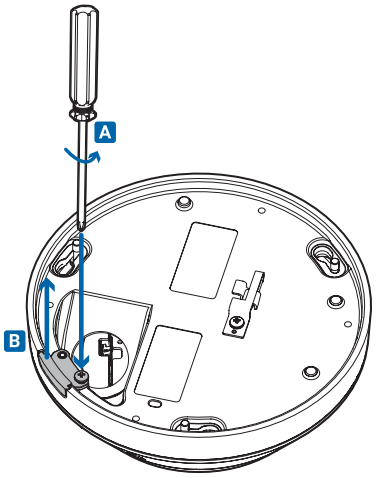


2. Align the conduit for the cables so that the end of the conduit falls inside the conduit landing area of the mounting template.

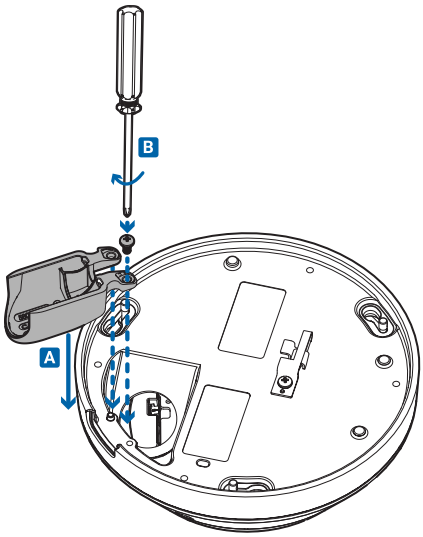
3. Hammer the supplied plastic anchors into the holes.

4. Arrange and feed the required cables through the conduit.

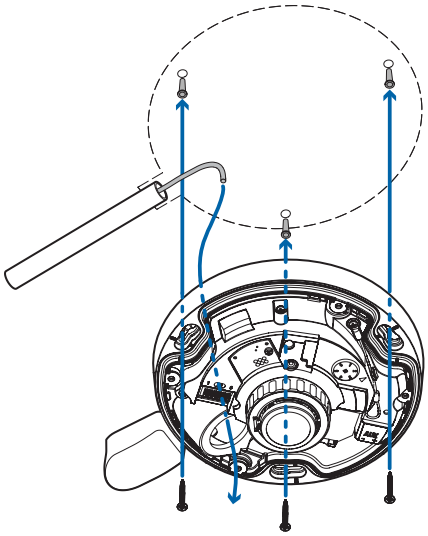
5. Loosen the screw holding the cable entry tab on the side of the camera base. Remove the cable entry tab.



6. Use the same screw to install the optional conduit shroud to the cable entry tab position. The conduit shroud is compatible with up to 1/2" conduits.



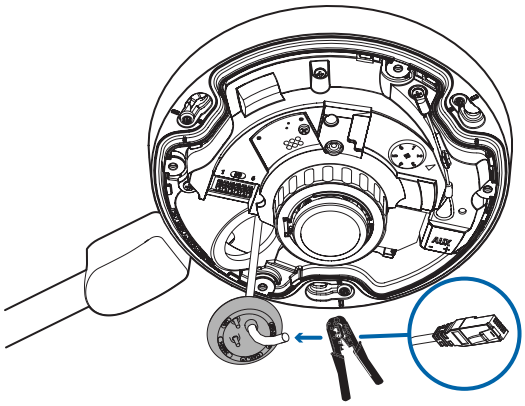
7. Pull the required cables through the cable entry hole on the camera base.
8. Align the up orientation arrow on the camera base with the arrow on the mounting template. Align the mounting slots on the camera base to the drilled pilot holes and use the provided self-tapping screws to secure the camera to the mounting surface.



TIP

Make sure the cables run through the space provided by the conduit shroud and that they are not pinched.

9. Pull the required cables through the rubber sealing grommet.



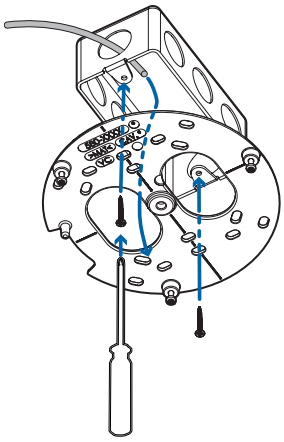
10. Push the rubber sealing grommet with the required cables into the cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole. The rubber grommet should be pressed firmly into the cable entry hole to create a seal.

Installing a H6A Fisheye Cameras to an Electrical Box

Perform the following steps if the required electrical components and cables must be contained in an electrical gang box. To mount the camera to an electrical gang box, you must use the provided wall plate adapter.

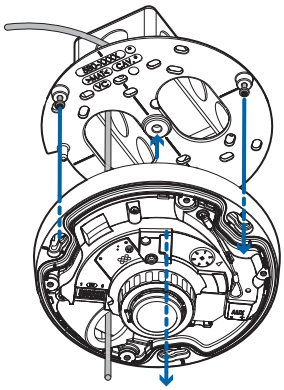
1. Install the electrical gang box as required.
2. Align the wall plate adapter mounting holes to the mounting points on the electrical gang box.

   If you are mounting the camera to a wall, make sure the up orientation arrow on the wall plate is at the top, or the video image will be rotated.
3. Use the provided machine screws to secure the wall plate adapter to the electrical gang box.

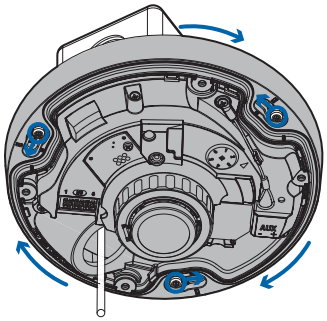


4. Pull the required cables through the electrcal box and a cable entry hole on the wall plate. Then feed the cables through the cable entry hole on the camera base.

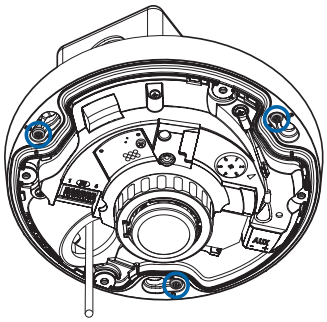
5. Align the up orientation arrow on the camera base with the arrow on the wall plate adapter. Align the mounting slots on the camera base to the mounting posts on the wall plate adapter and push the camera base onto the adapter.



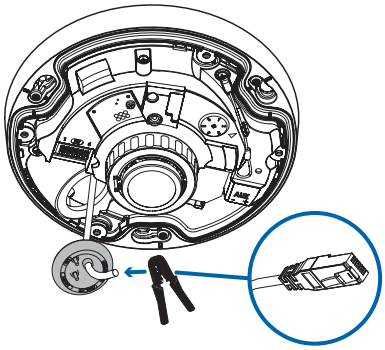
6. Twist the camera base clockwise until the posts come to the right end of the mounting slots.



7. Tighten the mounting posts to fix the camera base into place.



8. Pull the required cables through the rubber sealing grommet. For more information, see Preparing the H6A Fisheye Camera Cables.

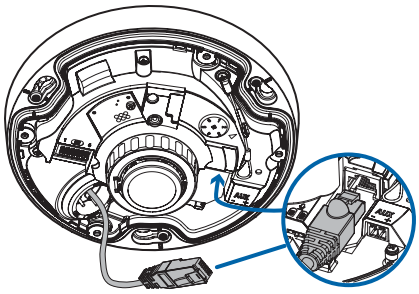


9. Push the rubber sealing grommet with the required cables into the cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole. The rubber grommet should be pressed firmly into the cable entry hole to create a seal.

Attaching Cables to the H6A Fisheye Surface Mount Camera

There are different ways to supply the camera with power. For more information, see .

1. If you are using a network cable to supply the camera with power as well as network connectivity, connect it to the camera's Ethernet port (RJ45 connector).



2. If you are using an external DC power cable to supply the camera with power, connect the cable to the camera's power connector block. For more information, see Connecting External Devices to H6A Fisheye Cameras.

3. The status LEDs turn on when the camera receives power and/or network connection. For more information, see Connection Status LED Indicators.

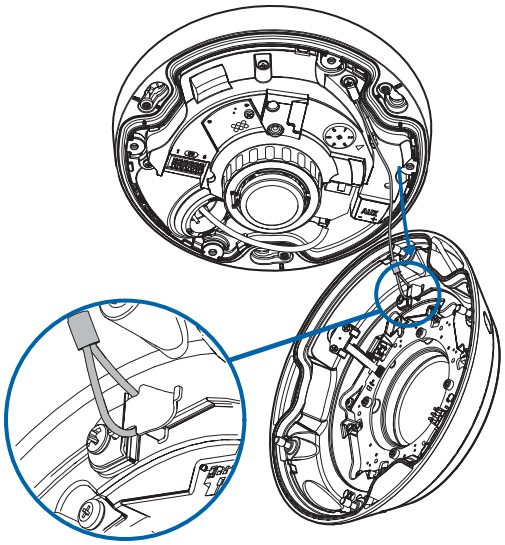
Installing the H6A Fisheye Camera Cover

The last step before finalizing the installation is to attach the camera cover. Before installing the 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 and then return to this topic.

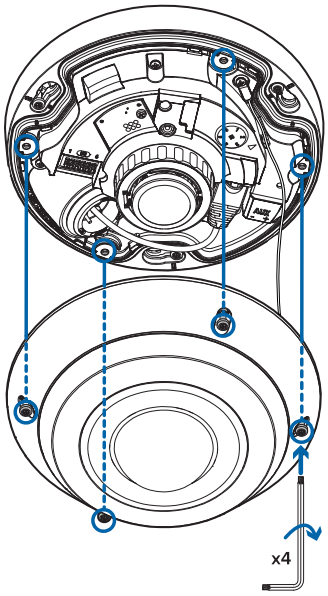
1. Connecting Cables to H6A Fisheye Cameras
2. Adding Cameras to the Network
3. Adjusting H6A Fisheye Cameras

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

1. Attach the lanyard to the cover.



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



3. Remove the plastic cover on the dome bubble.

Installing H6A Fisheye In-Ceiling Mount Cameras

Follow these steps to install the camera using an in-ceiling mount:

H6A Fisheye In-Ceiling Mount Installation Requirements

Make sure you verify the package contents and assemble the necessary tools and equipment before starting the installation.

Package Contents (Provided)

The package should contain the following:

- H6A Fisheye In-Ceiling Mount Camera (H6A-FE-xxx-DCx)
- In-ceiling mounting adapter
- In-ceiling camera cover
- Star-shaped screwdriver
- Power terminal block
- 3-hole rubber grommet — for multi-cable installations

- Single-hole rubber grommet — for installations with a single Ethernet/PoE cable
- RJ45 grommet piercing cap — for use with single-hole rubber grommet only

Required Tools and Equipment (Not Provided)

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

- Appropriate tool for cutting the entry hole in the mounting surface
- Small slotted screwdriver with 5/64" or 2 mm blade width — for connecting power when not using Power over Ethernet

Positioning an H6A Fisheye In-Ceiling Mount Camera

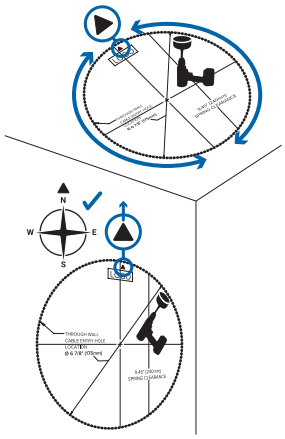
The H6A Fisheye Cameras provides 360° views of large areas. Because of the 360° view, it is not obvious which part of the camera should be facing up when installed on a wall. To help with this, the mounting template and the camera body have an up orientation arrow printed on them to signal which end should be facing up.

When installing the camera on a ceiling, the orientation arrow can go in any direction.

TIP

Before removing the mounting template after cutting or drilling the required holes, mark or otherwise make note of the direction the orientation arrow is facing. This will help you to align the camera body in the same orientation when installing.

When installing the camera to a wall, make sure that the orientation arrow is facing up, as shown in the diagram below.



Installing the H6A Fisheye In-Ceiling Mount Adapter

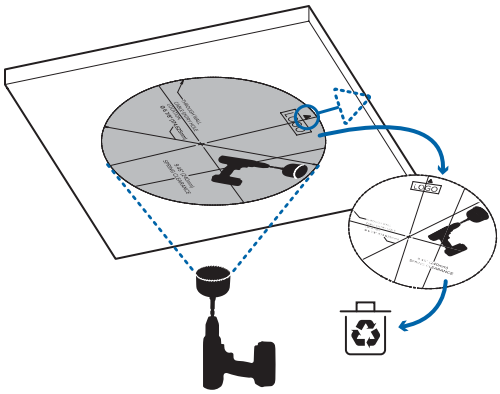
If the camera needs to be installed into a ceiling, install the in-ceiling mounting adapter into the ceiling first.

NOTE

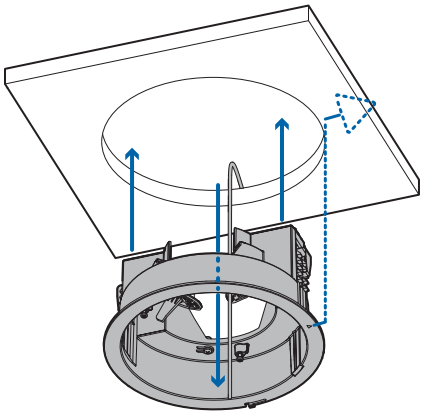
The maximum supported ceiling thickness is 32 mm (1.25").

1. Use the in-ceiling mounting template to cut an entry hole for the camera into the ceiling. Mark or otherwise make note of the position of the orientation arrow so that the other parts can be mounted in the same orientation.

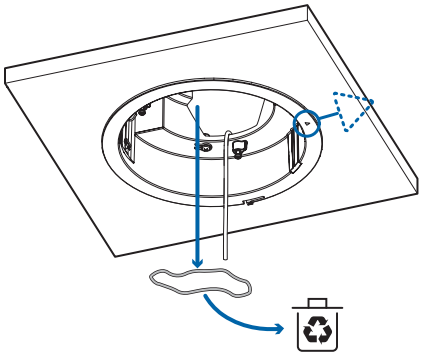
   If you are mounting the camera to a wall, make sure the up orientation arrow is at the top, or the video image will be rotated. For more information, see Positioning an H6A Fisheye In-Ceiling Mount Camera.



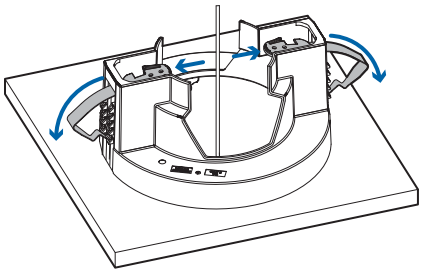
2. Insert the in-ceiling mounting adapter into the entry hole then pull the required cables through the adapter. Ensure the orientation arrow on the adapter is facing the same direction as it did on the mounting template.



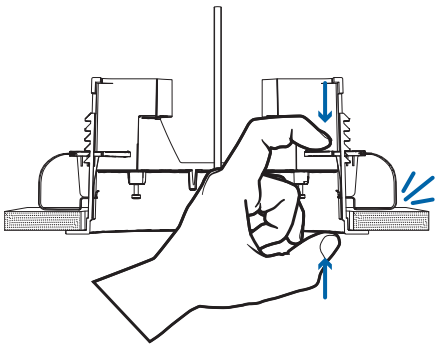
3. Pull off the elastic clamp retainer holding the clamps in place.



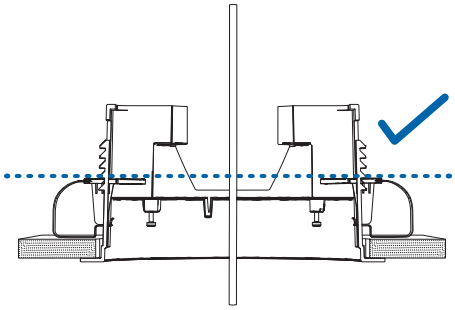
4. Push the orange clamp handles up so that the metal arms extend outside the mounting adapter.



5. With your thumb on the outside edge of the mounting adapter and your forefinger on one of the orange clamp handles, pinch the clamp down until the clamp is secured.



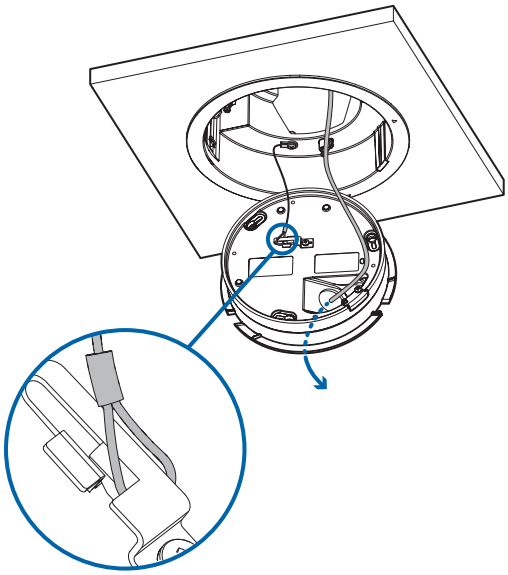
6. Repeat the previous step on the other side. Make sure both clamps are level and horizontal.



Mounting the H6A Fisheye Cameras into the In-Ceiling Adapter

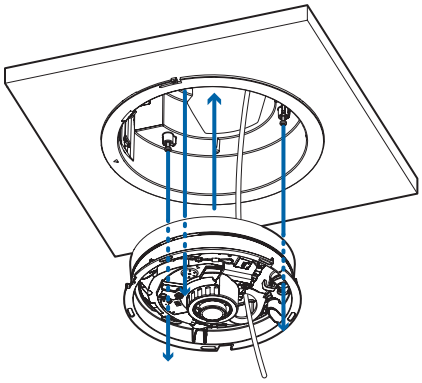
After you install the mounting adapter, you can mount the camera base to the adapter.

1. Attach the camera lanyard to the mounting adapter.

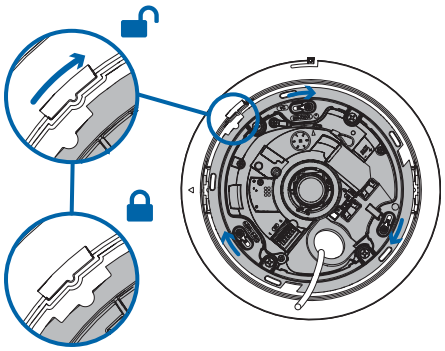


2. Pull the required cables through the cable entry hole on the camera base.

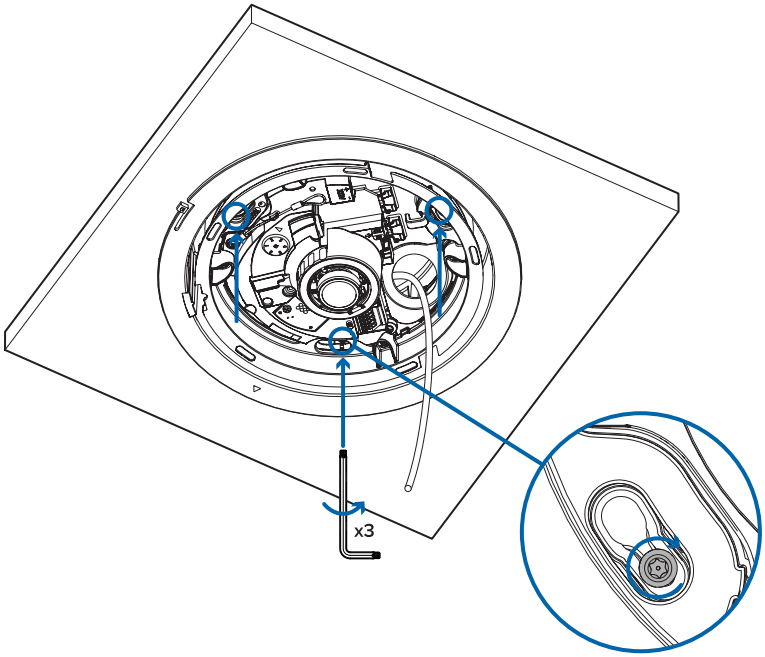
3. Align the up orientation arrow on the camera base with the arrow on the in-ceiling adapter. Align the mounting slots on the camera base to the mounting posts on the in-ceiling adapter and push the camera base onto the adapter.



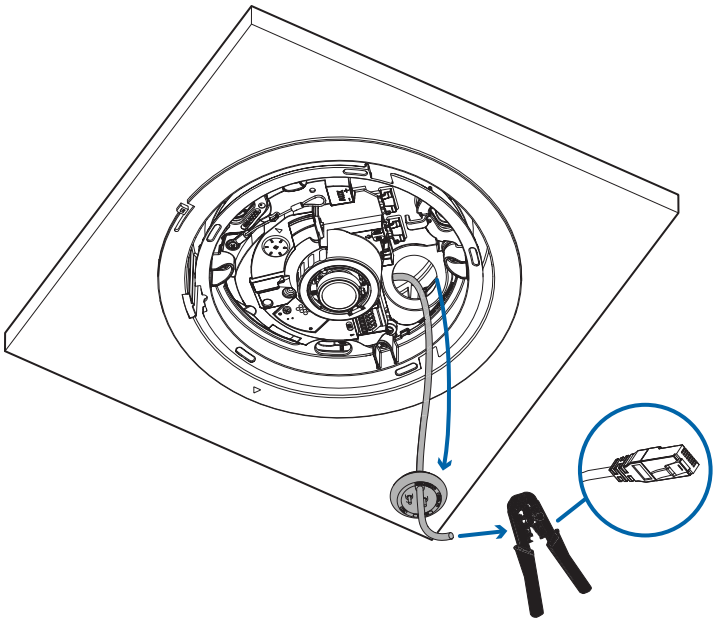
4. Twist the camera base clockwise until the posts come to the right end of the mounting slots and the alignment feature is in the locked position.



5. Tighten the mounting posts to fix the camera base into place. Ensure that the orientation arrows on the in-ceiling adapter and camera base point in the same direction.



6. Pull the required cables through the rubber sealing grommet. For more information, see Preparing the H6A Fisheye Camera Cables.



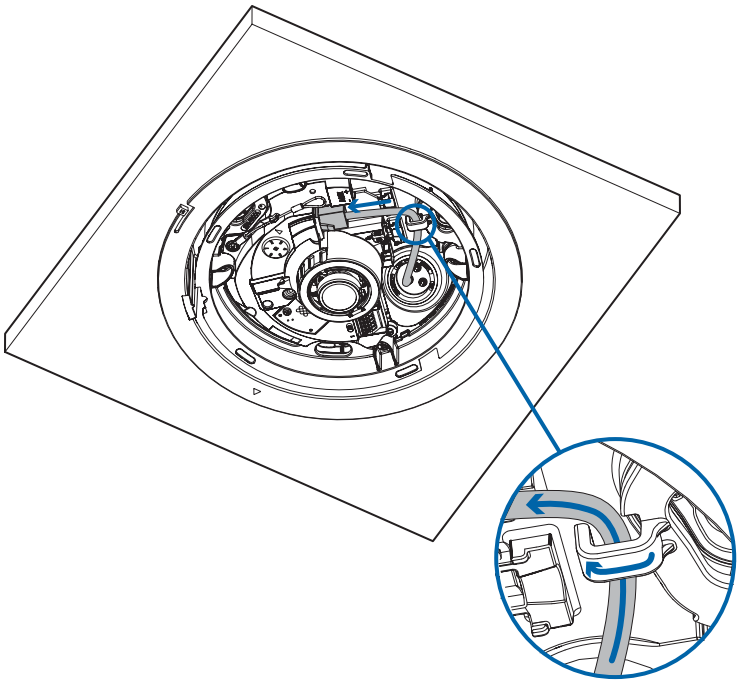
7. Install the grommet into the cable entry hole on the camera base. Make sure the grommet flange is securely seated on the inside and outside of the cable entry hole.

Attaching Cables to the H6A Fisheye In-Ceiling Mount Camera

There are different ways to supply the camera with power. For more information, see .

1. If you are using a network cable to supply the camera with power as well as network connectivity, connect it to the camera's Ethernet port (RJ45 connector).

> **TIP**
>
> You can use the clip to hold the cable so it does not interfere with the camera's field of view.



2. If you are using an external DC power cable to supply the camera with power, connect the cable to the camera's power connector block. For more information, see Connecting External Devices to H6A Fisheye Cameras.

3. The status LEDs turn on when the camera receives power and/or network connection. For more information, see Connection Status LED Indicators.

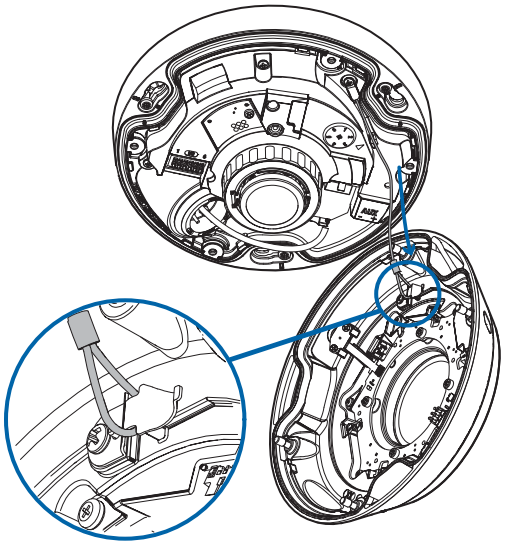
Installing the H6A Fisheye Camera Cover

The last step before finalizing the installation is to attach the camera cover. Before installing the 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 and then return to this topic.

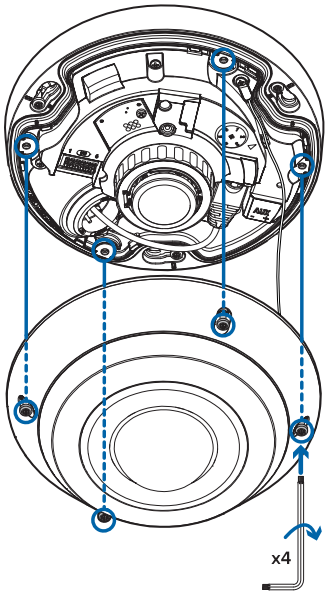
1. Connecting Cables to H6A Fisheye Cameras
2. Adding Cameras to the Network
3. Adjusting H6A Fisheye Cameras

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

1. Attach the lanyard to the cover.



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



3. Remove the plastic cover on the dome bubble.

Installing H6A Fisheye Pendant Mount Cameras

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

H6A Fisheye Pendant Mount Installation Requirements

Make sure you verify the package contents and assemble the necessary tools and equipment before starting the installation.

Package Contents (Provided)

The package should contain the following:

- H6A Fisheye Cameras module (H6A-FE-xxx-DOx) or (H6A-FE-xxx-DOx-IR)
- Camera Base Mounting Template sticker
- Star-shaped screwdriver

- Power terminal block
- Optional conduit shroud — for side-entry conduit cabling
- 3x screws and anchors — for securing the camera to the mounting surface
- 3-hole rubber grommet — for multi-cable installations
- Single-hole rubber grommet — for installations with a single Ethernet/PoE cable
- RJ45 grommet piercing cap — for use with single-hole rubber grommet only

NPT Adapter Package Contents (Provided)

If you ordered the NPT Adapter, the package should contain the following:

- NPT Adapter H5A-FE-MT NPTA1
- Lock nut
- Thread seal tape

Required Tools and Equipment (Not Provided)

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
- Small slotted screwdriver with 5/64" or 2 mm blade width — for connecting power when not using Power over Ethernet

Required Tools and Materials for the NPT Adapter (Not Provided)

If you ordered the NPT Adapter, you will also need these components:

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

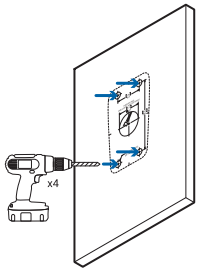
Installing the Pendant Wall Arm

You can use the Pendant Wall Arm (WLMT-1021) when mounting the H6A Fisheye Cameras. You must attach the H6A Fisheye Cameras to the NPT adapter (PLMT-1001) to mount the camera to the Pendant Wall Arm. For instructions, see Mounting the H6A Fisheye Cameras to the NPT Adapter.

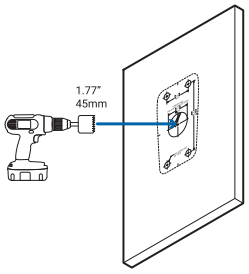
Installing the Pendant Wall Arm When Accessing Cables through the Wall

If the cables will be pulled from inside the mounting surface, you will need to drill a hole in the wall behind the Pendant Wall Arm. Make sure you provision the appropriate tools for the mounting surface.

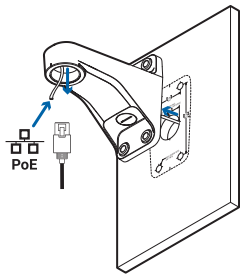
1. Stick the Mounting Template sticker onto the wall.
2. Drill four mounting holes into the mounting surface as indicated by the mounting template.



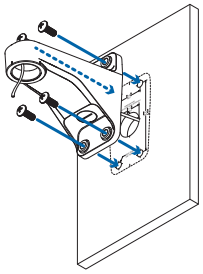
3. Drill the cable entry hole into the mounting surface.



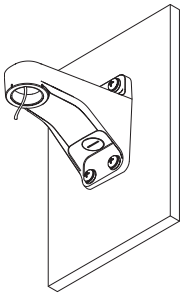
4. Pull the cables through the cable entry hole on the Pendant Wall Arm.



5. Arm the Pendant Wall Arm to the mounting surface using four screws.



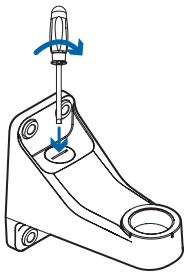
6. Refer to this diagram to verify the installation:



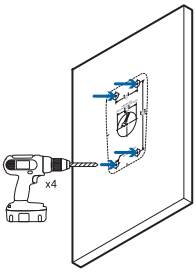
Installing the Pendant Wall Arm When Accessing Cables through a Conduit Entry Hole

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 Arm.

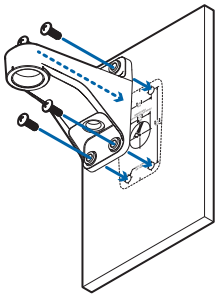
1. Stick the Mounting Template sticker onto the wall.
2. Remove the conduit hole cover on the bottom of the Pendant Wall Arm using a screw driver.



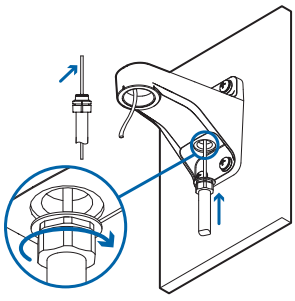
3. Drill four mounting holes into the mounting surface as indicated by the mounting template.



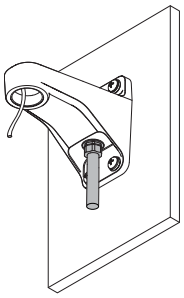
4. Arm the Pendant Wall Arm to the mounting surface using four screws.



5. Thread the cables from the conduit pipe through the conduit hole on the bottom of the Pendant Wall Arm and secure the conduit to the base of the wall mount by rotating the conduit connector.



6. Refer to the following image to verify the installation:

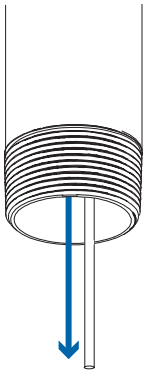


Installing the NPT Adapter to a Conduit Pipe

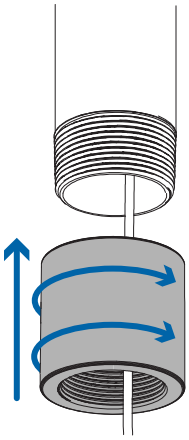
You can attach the NPT adapter (PLMT-1001) to a conduit pipe to optimize camera placement in spaces with high-ceilings.

Follow these steps to attach the NPT adapter to the conduit pipe:

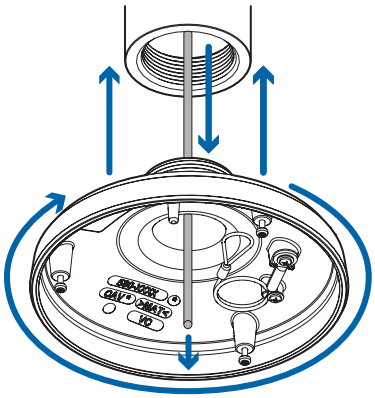
1. Pull the required cables through the NPT conduit pipe.



2. Screw the lock nut onto the NPT adapter.



3. Pull the cables through the NPT adapter and tighten the lock nut until the NPT adapter is secured to the conduit pipe.



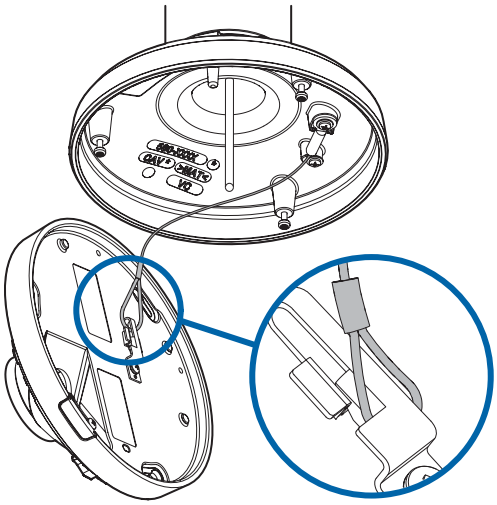
Mounting the H6A Fisheye Cameras to the NPT Adapter

To complete the installation, mount the H6A Fisheye Cameras to the NPT Adapter.

Important

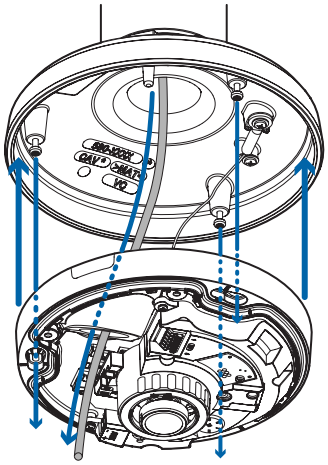
Make sure you install the NPT Adapter to either the Pendant Wall Arm or the NPT conduit pipe before mounting the camera.

1. Attach the camera lanyard to the NPT adapter.

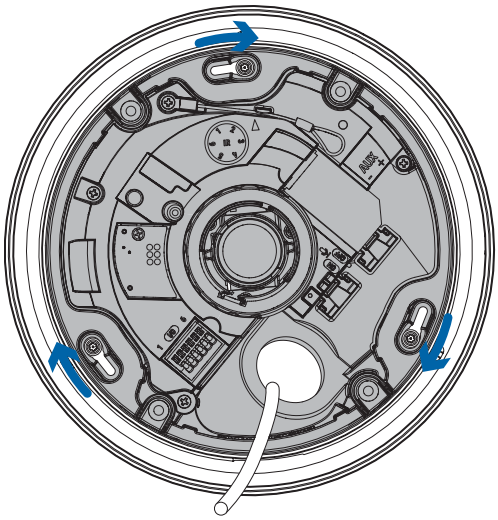


2. Pull the required cables through the cable entry hole.

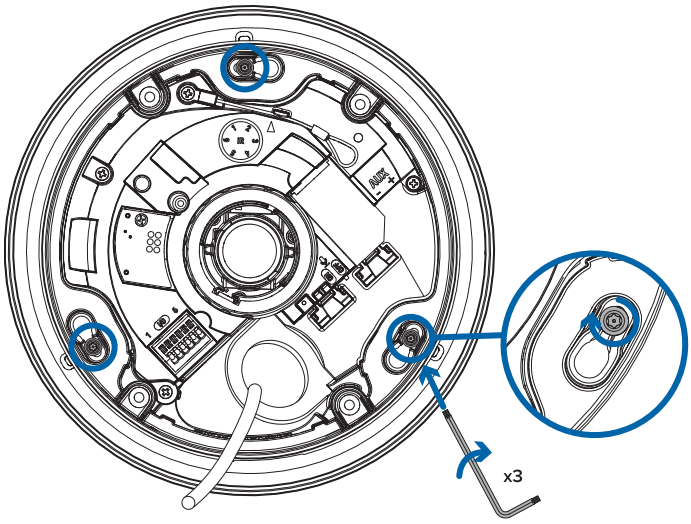
3. Align the mounting slots on the camera base to the mounting posts on the NPT adapter and push the camera base onto the adapter.



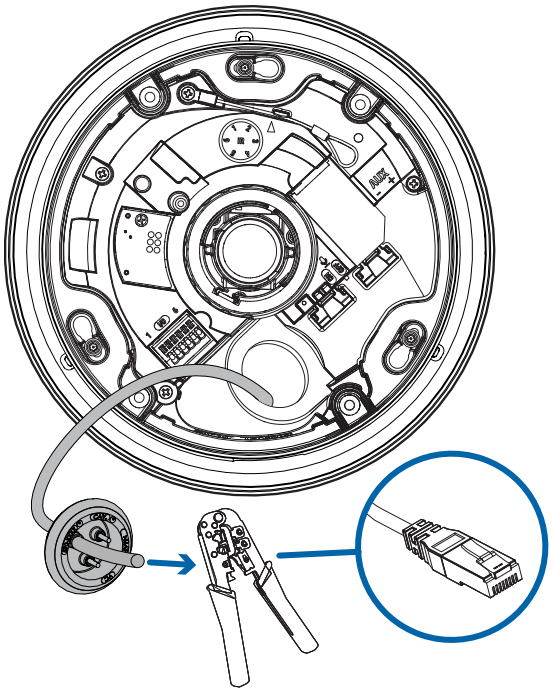
4. Twist the camera base clockwise until the posts come to the right end of the mounting slots.



5. Tighten the mounting posts to fix the camera base into place.



6. Pull the required cables through the rubber sealing grommet. For more information, see Preparing the H6A Fisheye Camera Cables.

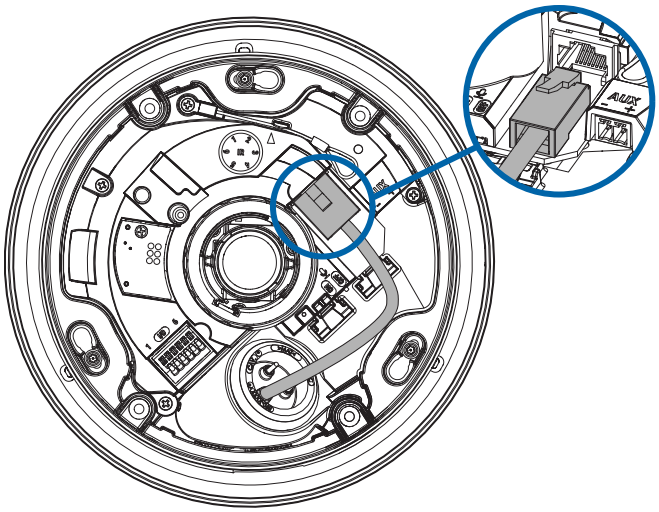


7. Push the rubber sealing grommet with the required cables into the cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole. The rubber grommet should be pressed firmly into the cable entry hole to create a seal.

Attaching Cables to the H6A Fisheye Pendant Mount Camera

There are different ways to supply the camera with power. For more information, see .

1. If you are using a network cable to supply the camera with power as well as network connectivity, connect it to the camera's Ethernet port (RJ45 connector).



2. If you are using an external DC power cable to supply the camera with power, connect the cable to the camera's power connector block. For more information, see Connecting External Devices to H6A Fisheye Cameras.

3. The status LEDs turn on when the camera receives power and/or network connection. For more information, see Connection Status LED Indicators.

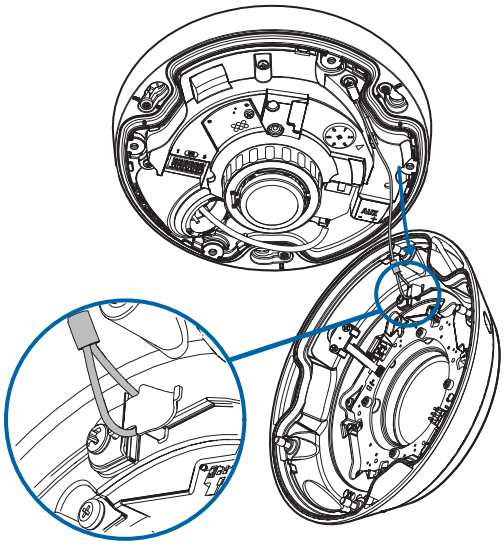
Installing the H6A Fisheye Camera Cover

The last step before finalizing the installation is to attach the camera cover. Before installing the 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 and then return to this topic.

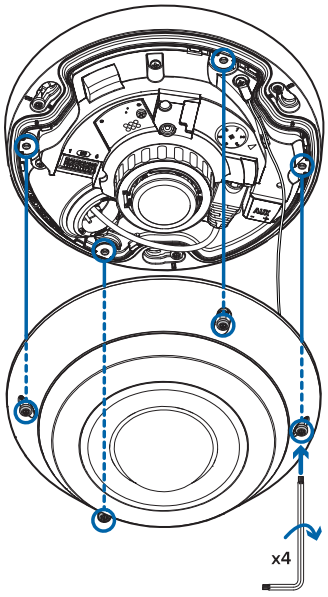
1. Connecting Cables to H6A Fisheye Cameras
2. Adding Cameras to the Network
3. Adjusting H6A Fisheye Cameras

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

1. Attach the lanyard to the cover.



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



3. Remove the plastic cover on the dome bubble.

Installing H6A Fisheye Wedge Mount Cameras

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

H6A Fisheye Wedge Mount Installation Requirements

Make sure you verify the package contents and assemble the necessary tools and equipment before starting the installation.

Package Contents (Provided)

The package should contain the following:

- H6A Fisheye Cameras module (H6A-FE-xxx-DOx) or (H6A-FE-xxx-DOx-IR)
- Wedge mount adapter
- Star-shaped screwdriver
- Power terminal block
- Optional conduit shroud — for side-entry conduit cabling
- 4x screws and anchors — for securing the camera to the mounting surface
- 3-hole rubber grommet — for multi-cable installations
- Single-hole rubber grommet — for installations with a single Ethernet/PoE cable

- RJ45 grommet piercing cap — for use with single-hole rubber grommet only

Required Tools and Equipment (Not Provided)

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

- Appropriate tool for cutting the cable access hole
- Small slotted screwdriver with 5/64" or 2 mm blade width — for connecting power when not using Power over Ethernet
- No. 2 Phillips screwdriver — for attaching camera to an electrical box or mounting surface

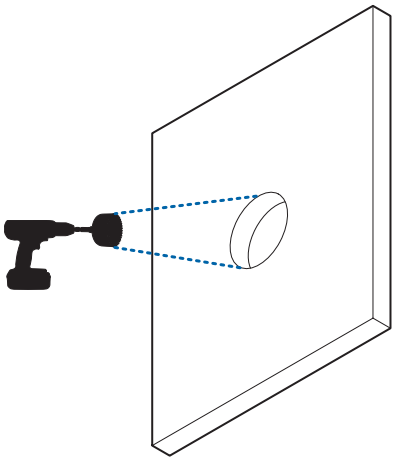
Positioning a H6A Fisheye Wedge Mount Camera

The H6A Fisheye Cameras provides 360° views of large areas. Because of the 360° view, it is not obvious which part of the camera should be tilted down when installed on a wall. The wedge mount adapter should be positioned so the camera points downwards at an angle.

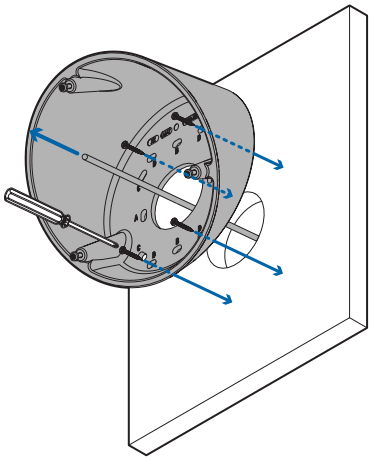
Installing the H6A Fisheye Wedge Mount Camera

Perform the following steps if the required cables will be coming from inside the mounting surface and the camera will be mounted immediately over the cable hole. Use this procedure on surfaces that can be easily drilled into, and when the cables should be kept out of sight.

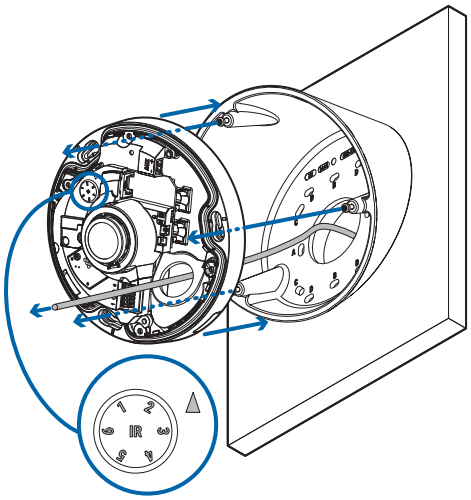
1. Drill the cable entry hole.



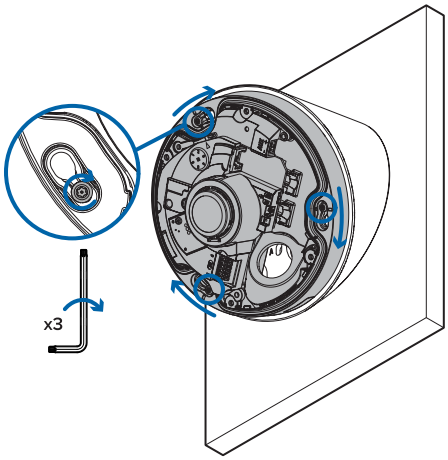
2. Mount the wedge cover to the wall and screw it into place. Make sure you align the cable entry hole with the hole you drilled in the wall.



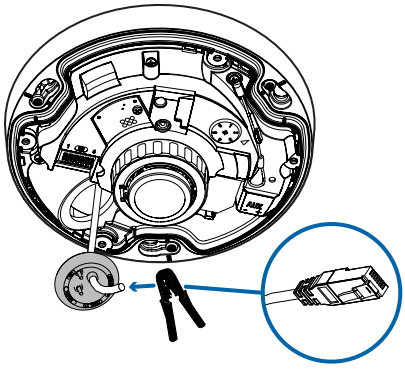
3. Pull the required cables through the mounting surface and through the cable entry hole in the camera base.



4. Mount the camera to the wedge adapter using the Allen key.



5. Pull the required cables through the rubber sealing grommet. For more information, see Preparing the H6A Fisheye Camera Cables.

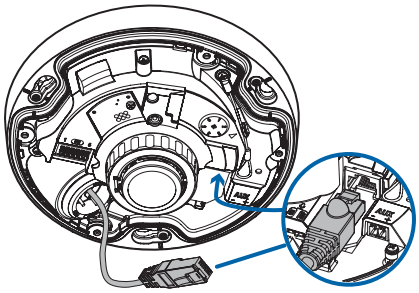


6. Push the rubber sealing grommet with the required cables into the cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole. The rubber grommet should be pressed firmly into the cable entry hole to create a seal.

Attaching Cables to the H6A Fisheye Wedge Mount Camera

There are different ways to supply the camera with power. For more information, see .

1. If you are using a network cable to supply the camera with power as well as network connectivity, connect it to the camera's Ethernet port (RJ45 connector).



2. If you are using an external DC power cable to supply the camera with power, connect the cable to the camera's power connector block. For more information, see Connecting External Devices to H6A Fisheye Cameras.

3. The status LEDs turn on when the camera receives power and/or network connection. For more information, see Connection Status LED Indicators.

Installing the H6A Fisheye Camera Cover

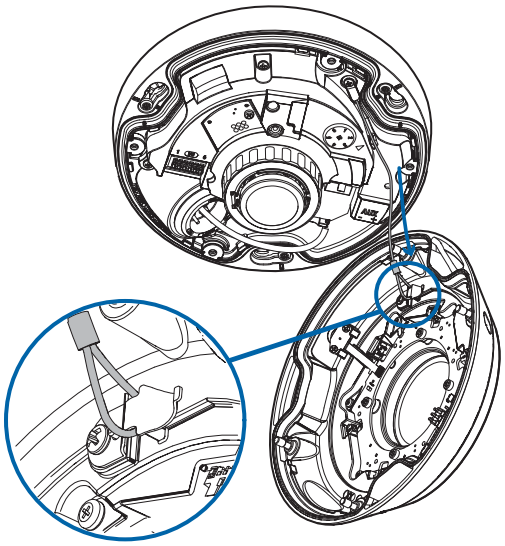
The last step before finalizing the installation is to attach the camera cover. Before installing

the 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 and then return to this topic.

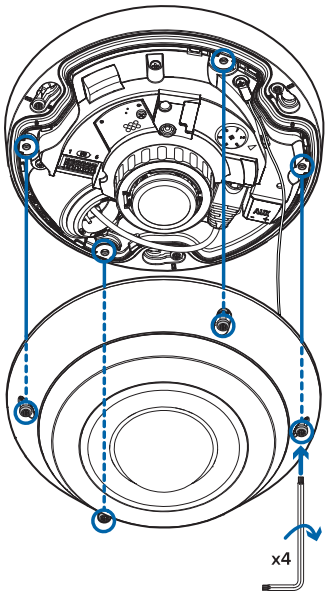
1. Connecting Cables to H6A Fisheye Cameras
2. Adding Cameras to the Network
3. Adjusting H6A Fisheye Cameras

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

1. Attach the lanyard to the cover.



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



3. Remove the plastic cover on the dome bubble.

Connecting Cables to H6A Fisheye Cameras

H6A Fisheye 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 Fisheye Cameras

Connecting External Devices to H6A Fisheye Cameras

Switching on the Microphone on H6A Fisheye Cameras (Optional)

Configuring Onboard Storage (Optional)

Connecting Power Cables to H6A Fisheye Cameras

There are three ways of connecting H6A Fisheye 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 Fisheye 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.

H6A Fisheye Camera Failover

H6A Fisheye cameras support non-seamless failover. These cameras will power-off while waiting to transition from Aux power to PoE power. If the Aux power is resupplied, the camera might reboot while transitioning back to using Aux power. The camera might not reboot if the external Aux power supply reacts quickly enough to the increase in load.

NOTE

Make sure that sufficient power is manually reserved on the PSE, as the camera will not request PoE power until the camera loses Aux power.

Connecting External Devices to H6A Fisheye Cameras

External devices are connected to the camera through pluggable terminal blocks.

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

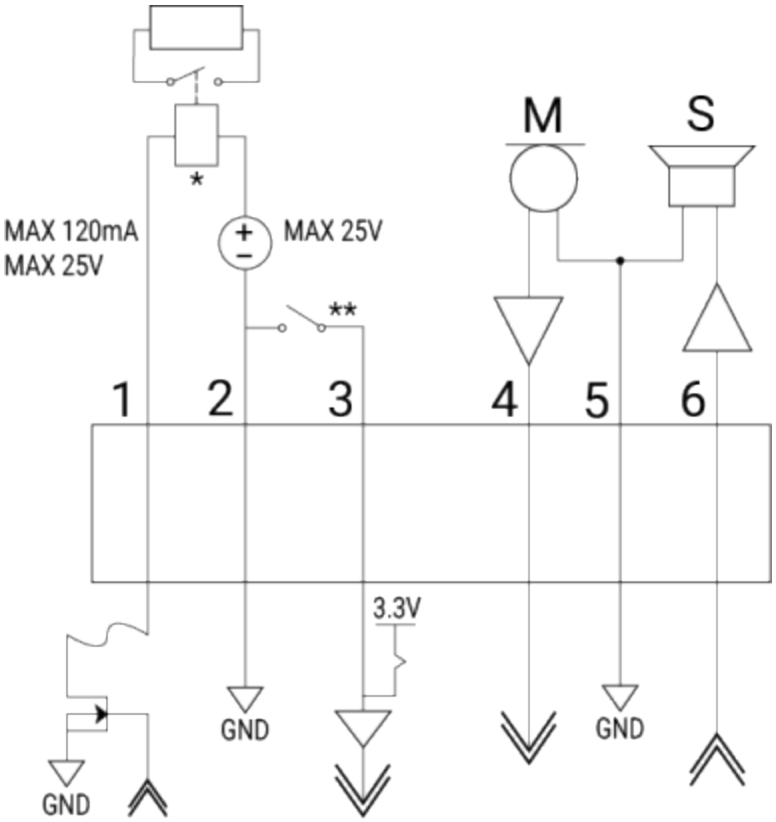


Figure 1: Pinout diagram showing the different connectors on the H6A Fisheye camera's removable terminal block.

1. Digital Output — When active, Output is internally connected with the Ground pin. Circuit is open when inactive. Maximum load is 25 VDC, 120 mA.
2. Ground
3. Digital Input — To activate, connect the Input to the Ground pin. To deactivate, leave disconnected or apply between 3-15 V.
4. Audio Input (line level)
5. Audio Ground
6. Audio Output (line level) — An external power amplifier should be used when connecting speakers and microphones, as shown in the diagram.

* — Relay

** — Switch

M — Microphone

S — Speaker

Switching on the Microphone on H6A Fisheye Cameras (Optional)

H6A Fisheye 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 Fisheye 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.

- **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.
- **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 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.
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*

Connection State	Connection Status LED Indicator	Description
		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.
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.

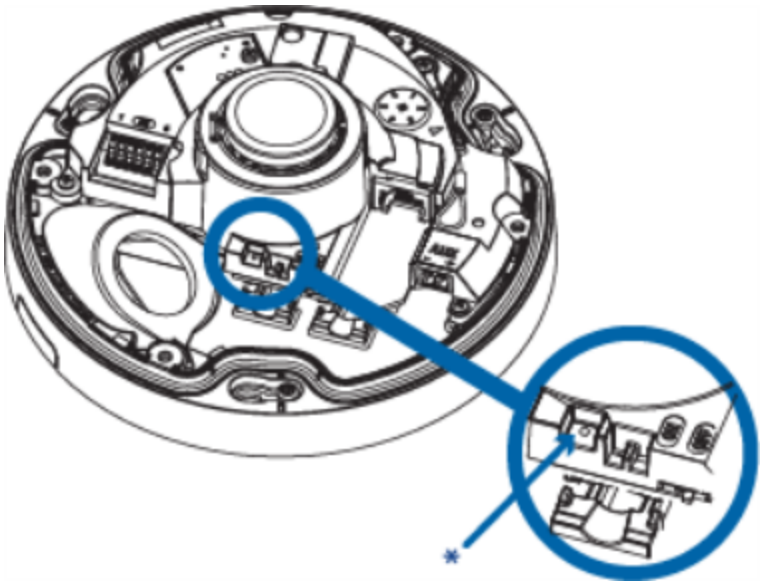
LED Behavior	Suggested Solution
A different LED blinking pattern than those described above	Perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web interface will not produce the desired result.

Resetting H6A Fisheye Cameras to their Factory Default Settings

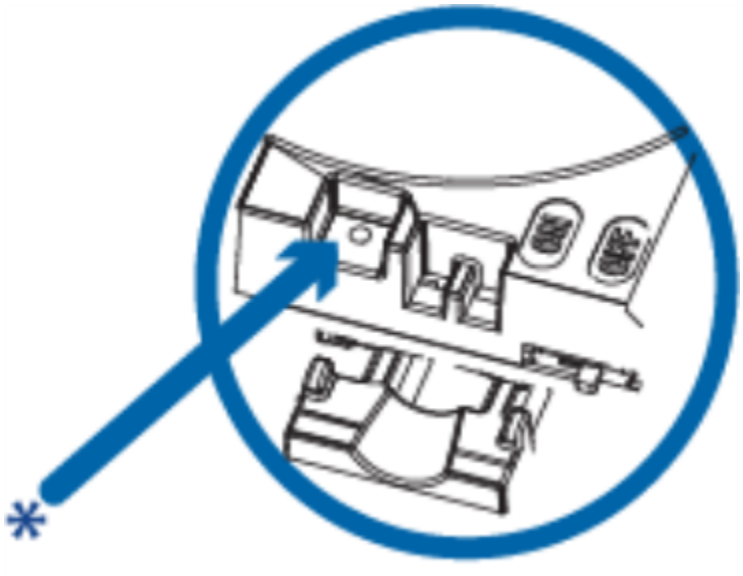
If the H6A Fisheye camera no longer functions as expected, try performing a factory reset using the camera's firmware revert button. Use the firmware revert button to reset the device to it's factory default settings.

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 Fisheye 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

Zooming and Focusing Cameras

Viewing the IR LED Marking Points on the H6A Fisheye 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

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**.

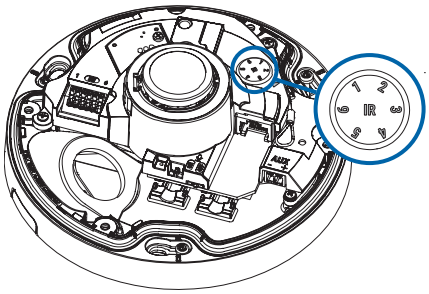
Viewing the IR LED Marking Points on the H6A Fisheye Cameras

The H6A Fisheye Cameras comes with 6 IR LED marking points. The IR LED marking points to the six LEDs on the bezel that can be controlled through the WebUI. You should dim those IR LED pointing towards the corner or the wall in order to reduce reflection back into the scene.

You want to shine the IR LED towards the field of view. The intensity adjustment varies depending on the setup.

NOTE

This is applicable only to the IR camera variants.



H6A Fisheye 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 Fisheye 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 Fisheye 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 Fisheye 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. For instructions on using the Camera Configuration Tool (CCT) to claim and configure multiple cameras at once, see the Motorola Solutions Camera Configuration Tool User Guide.
4. For instructions on using the Camera Web Interface to configure camera settings and features, see the relevant Avigilon Camera Web Interface User Guide
5. For instructions on using the Mobile Web Interface to connect cameras to the network over Wi-Fi and apply settings, see the USB Wi-Fi Adapter Web Interface User Guide.

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

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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