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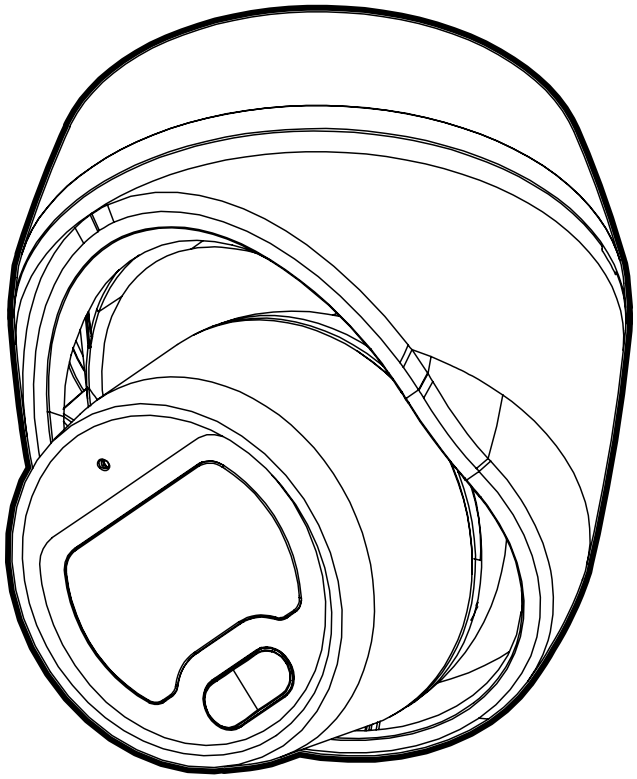

Installation Guide

Avigilon H5M Outdoor Fixed Dome Camera

Surface: H5M-DO

In-Ceiling: H5M-DO plus H5M-MT-DCIL1

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Revision: 1 - EN

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Important Safety Information

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

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

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

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

- Installation must be performed by qualified personnel only.
- Installation of the device must conform to all local codes.
- This product is intended to be supplied by Power over Ethernet (PoE) that is a "Limited Power Source" or "LPS" rated 48 VDC, 8W min.
- Do not connect directly to a mains power system for any reason.

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

- Do not expose the camera directly to high levels of x-ray, laser, or UV radiation. Direct exposure may cause permanent damage to the image sensor.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other sources of heat.
- Do not subject the device cables to excessive stress, heavy loads or pinching.
- Do not open or disassemble the device. There are no user serviceable parts.
- Refer all device servicing to qualified personnel. Servicing may be required when the device has been damaged (such as from a liquid spill or fallen objects), has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Do not use strong or abrasive detergents when cleaning the device body.
- Use only accessories recommended by Avigilon.

Regulatory Notices

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

Disposal and Recycling Information

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

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

European Union:

This symbol means that according to local laws and regulations your product should be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. Some collection points accept products for free. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

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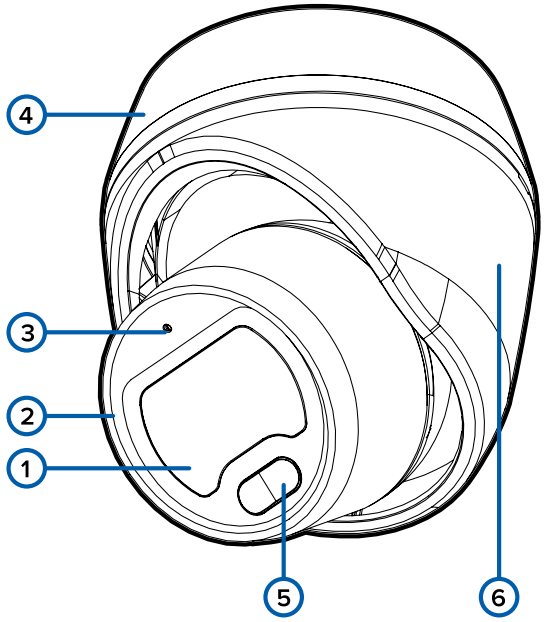
Overview

Cover View - Surface Mount



1. **Camera lens**

   The lens is behind the protective cover.

2. **Camera body**

   The main body of the camera, including the internal mechanisms for aiming the camera.

3. **Connection status LED indicator and firmware revert button**

   - LED provides information about device operation. For more information, see *Connection Status LED Indicator* on page 33.
   - Firmware revert is used to reset the camera. For more information, see *Resetting to Factory Default Settings* on page 37.

4. **Mounting adapter**

   Used to mount the camera to a wall or ceiling.

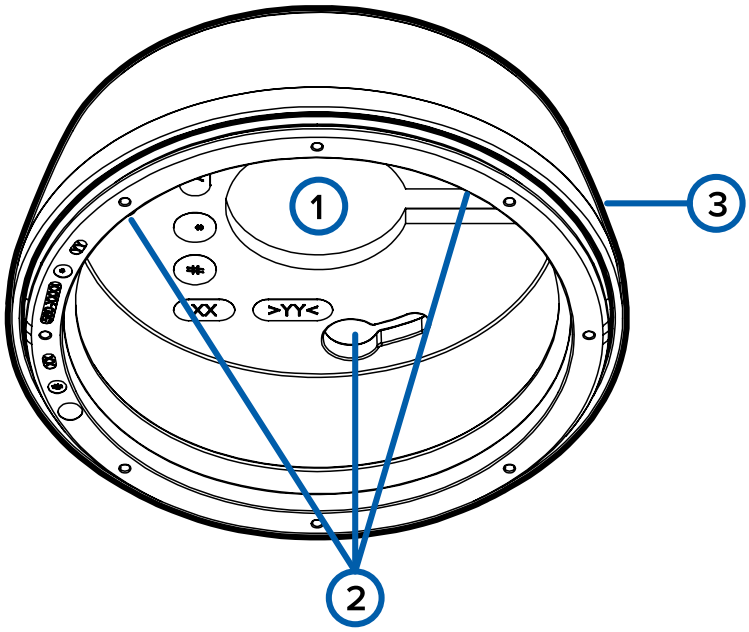
5. **Infrared illuminator**

   Provides scene illumination in the IR spectrum.

6. **Camera shroud**

   Used to protect the camera mounting features, the camera internals, and the surface mounting adapter.

Surface Mounting Adapter View



1. **Cable entry hole**

   An entry hole for the cables required for camera operation.

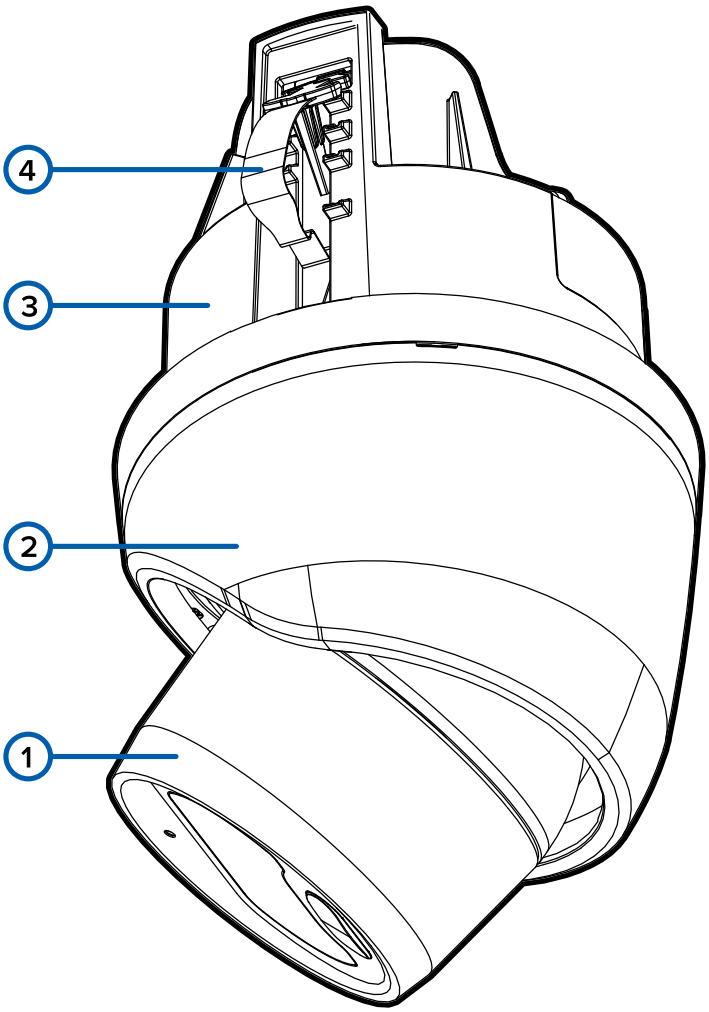
2. **Mounting holes**

   Holes for mounting the surface mounting adapter to the ceiling or wall.

3. **Cable side entry slot**

   Slot that can be used to run the Ethernet cable through the side of the surface mount adapter instead of the rear entry hole.

Cover View - In-Ceiling Mount



1. **Camera body**

   The main body of the camera, including the internal mechanisms for aiming the camera.

2. **Camera shroud**

   Used to protect the camera mounting features, the camera internals, and the in-ceiling mounting adapter.

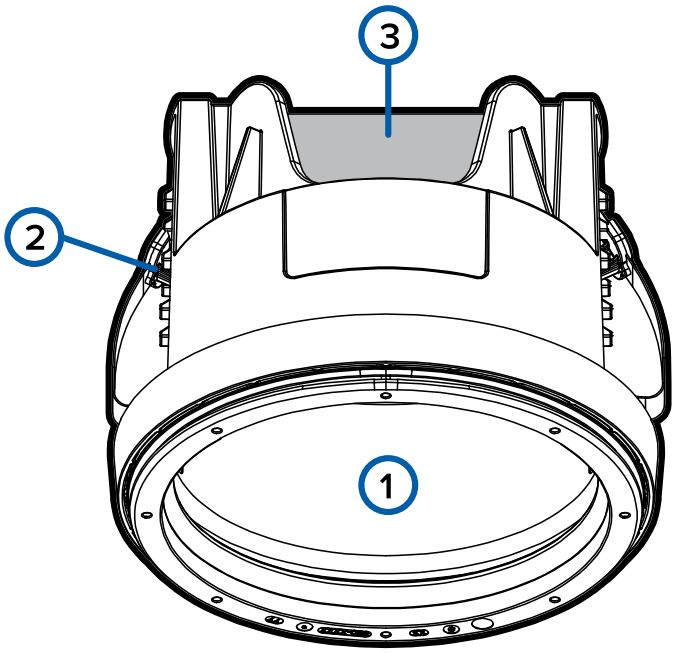
3. **In-Ceiling mounting adapter**

   Used to mount the camera into a wall or ceiling.

4. **Mounting springs**

   Metal springs with plastic tabs that extend outward to hold the in-ceiling mounting adapter in place.

In-Ceiling Mount Adapter View



1. **Cable entry hole**

   An entry hole for the cables required for camera operation.

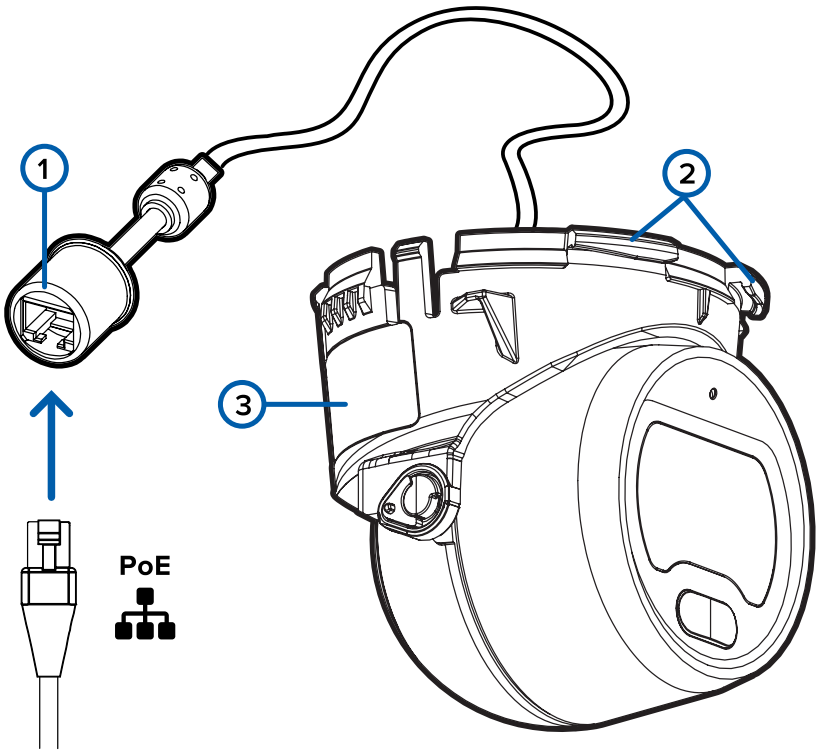
2. **Mounting springs (not shown)**

   Metal springs with plastic tabs that extend outward to hold the in-ceiling mounting adapter in place.

3. **Cardboard clamp retainer**

   Used to hold the in-ceiling mounting clamps in place while installing the mounting adapter.

Camera Body View



1. **Ethernet port**

   Accepts power and Ethernet connection to the network.

   The camera can only be powered by Power over Ethernet (PoE). Server communication and image data transmission also occur over this connection.

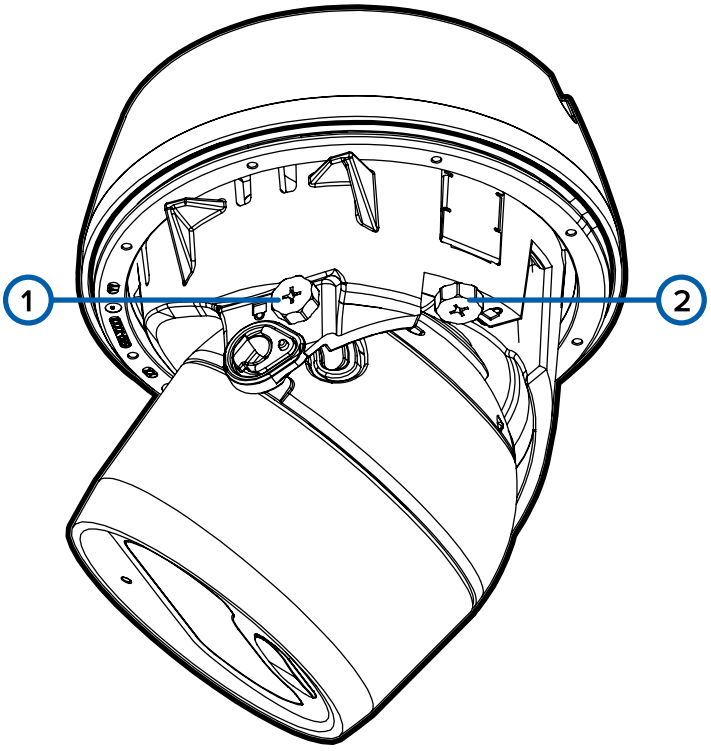
2. **Camera housing clips**

   Clips that attach the camera body to the mounting adapter.

3. **Serial number tag**

   Provides the serial number and MAC address for the camera.

Camera Body Rear View



1. **Tilt locking screw**

   Philips screw that is tightened to lock the camera's tilt movements in place after the camera has been aimed. For more information, see *Aiming the Camera* on page 29.

2. **Pan locking screw**

   Philips screw that is tightened to lock the camera's pan movements in place after the camera has been aimed. For more information, see *Aiming the Camera* on page 29.

Surface Mount Installation

Required Tools and Materials

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

- No. 2 Phillips screwdriver — for attaching camera to an electrical box or mounting surface.

Camera Package Contents

Ensure the package contains the following:

- Avigilon H5M Fixed Dome Camera (H5M-DO), the "camera".
    - Surface mounting template sticker
    - 4 screws and anchors for solid walls (3 required for installation; 1 provided as spare)
    - Surface mount
    - Camera shroud
    - Protective cable boot

Using the Surface Mount Adapter

The camera is provided with a surface mount adapter that can be mounted to a wall or ceiling.

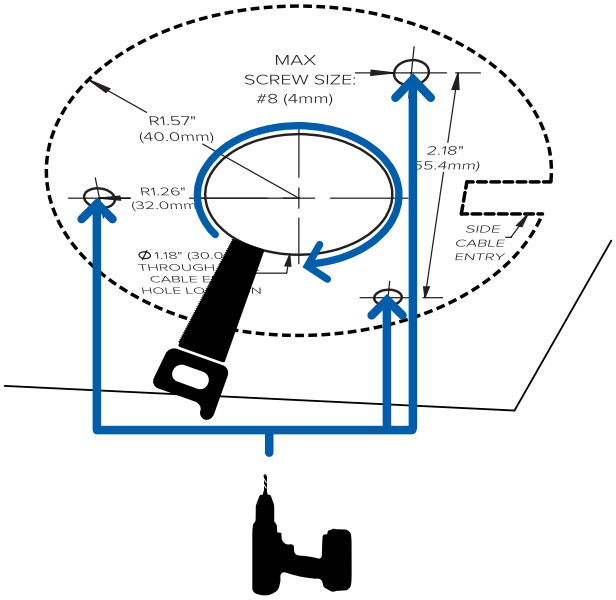
If the camera needs to be installed with the in-ceiling mounting adapter (H5M-MT-DCIL1), see *Using the In-Ceiling Mounting Adapter* on page 20 for more information.

Cables Routed from Inside Mounting Surface

Perform the following steps if the required cables are 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.

Perform the following steps to mount the surface adapter to the mounting surface:

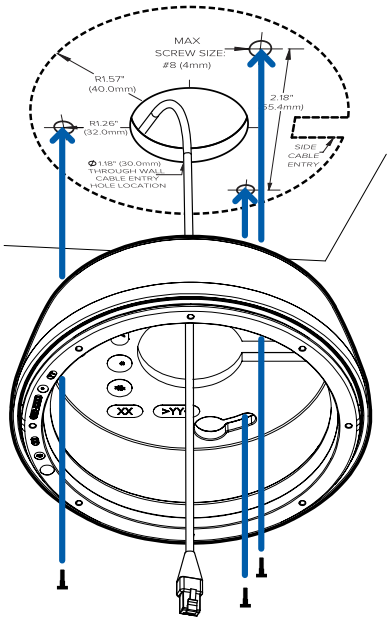
1. Use the mounting template to drill three mounting holes into the mounting surface and drill or cut the cable entry hole.



2. Pull the required Ethernet cable through the cable entry hole and the cable entry hole in the

mounting adapter.

3. Drive three screws to fasten the mounting adapter to the mounting surface.

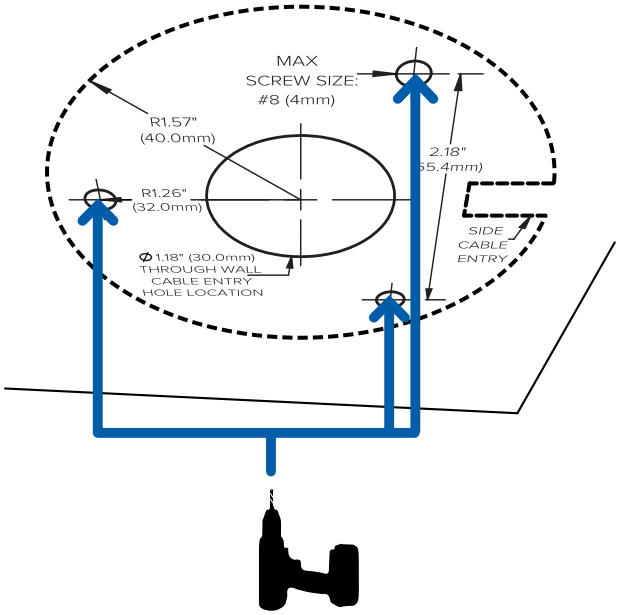


Cables Routed through the Side Cable Entry

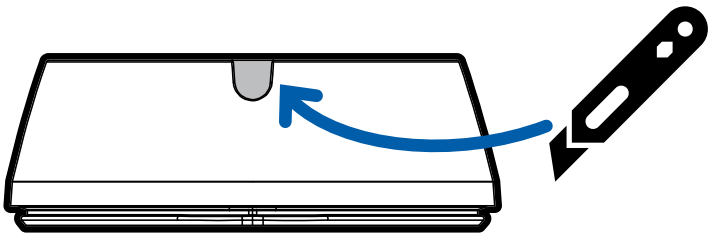
Perform the following steps if the required cables are coming from outside the mounting surface and will be run along the wall or ceiling. Use this procedure on surfaces that cannot be easily cut or drilled into, and when the cables must be brought along the outside of the mounting surface.

Perform the following steps to mount the surface adapter to the mounting surface:

1. Use the mounting template to drill three mounting holes into the mounting surface.

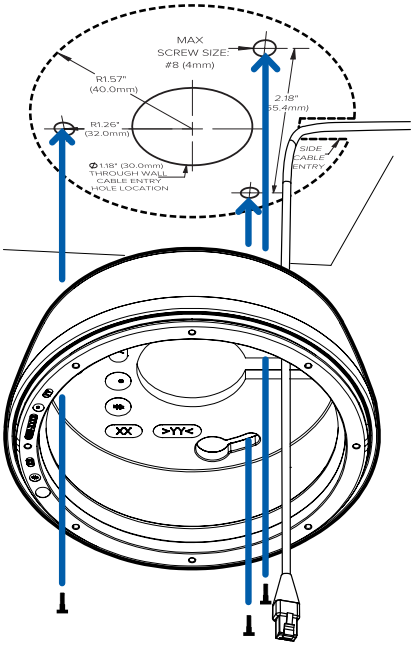


2. Cut the side cable entry tab off of the surface mount adapter.



3. Run the required Ethernet cable along the mounting surface so it can be pulled in through the side cable entry.
4. Pull the required Ethernet cable through the cable entry hole and drive three screws to fasten the

mounting adapter to the mounting surface.



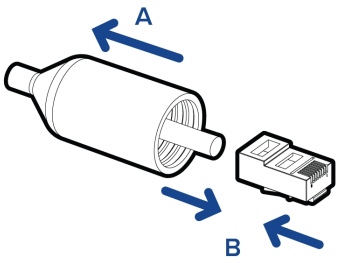
Installing the Camera Body to the Mounting Adapter

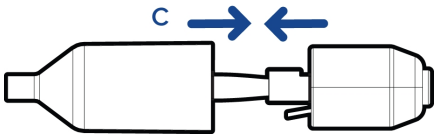
Important: Be careful not to scratch or touch the camera lens. The resulting marks or fingerprints may affect the overall image quality. Keep the protective covers on the outside of the camera lens until the installation is complete.

Note: This process is the same for both surface and in-ceiling mounted cameras. Surface mount is shown in the following figures.

After you install the mounting adapter, mount the camera body to the adapter, using the following steps:

1. Install the protective cable boot to protect the Ethernet connection from water and moisture.





a. Thread one end of the Ethernet cable through the protective cable boot.

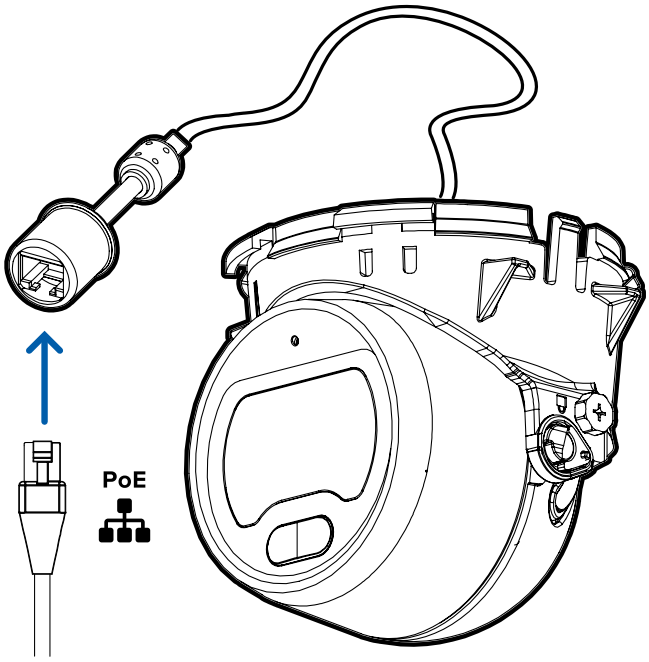
   Ensure the orientation of the cable and boot matches the one shown in the image.

b. Crimp the Ethernet cable.

c. After you connect the cable to the camera, slide the boot over the Ethernet port.

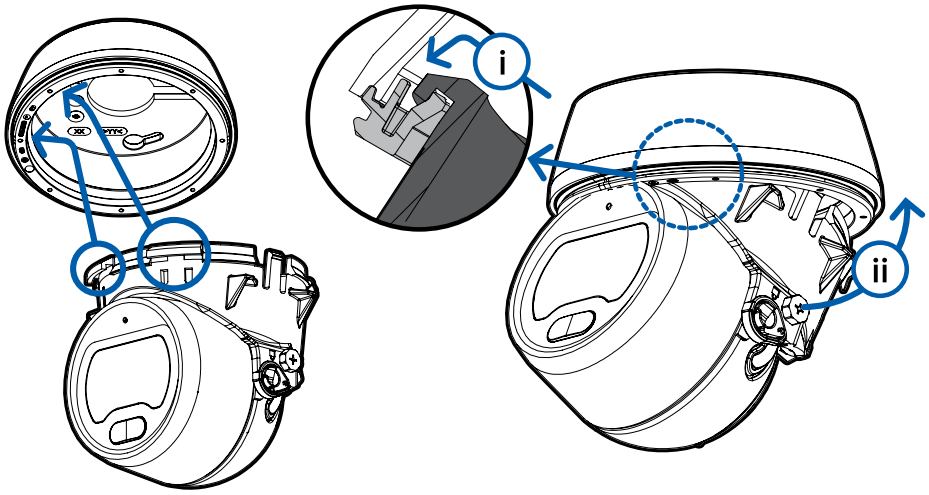
2. Connect the Ethernet port attached to the camera to the Ethernet cable that was pulled through the adapter.

   The connection status LED indicator will blink when the connection is being established and will turn off once streaming has started.

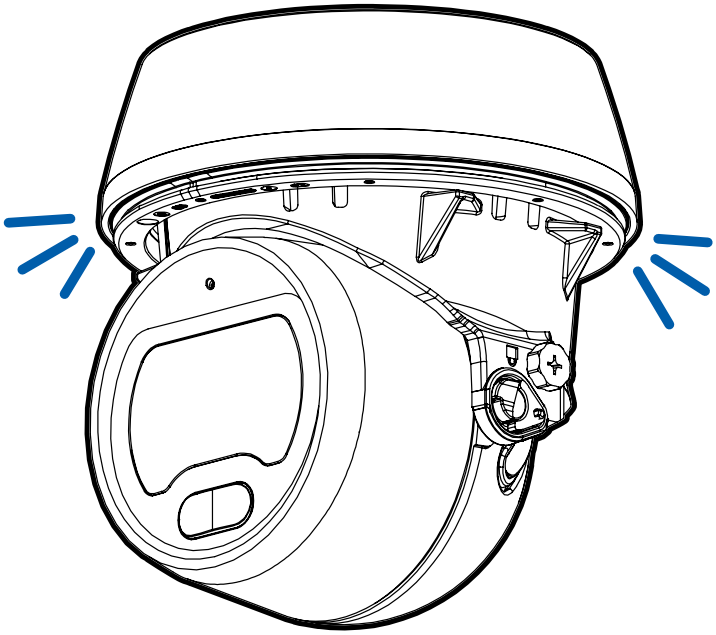


3. Align the camera housing clips on the camera base to the camera attachment edge on the mounting

adapter. Tilt the camera so that the two front clips grab the attachment edge of the mounting adapter.



4. Press the back end of the camera body into the mounting adapter. The camera body clicks into place and is held securely.



In-Ceiling Mount Installation

Required Tools and Materials

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

- Appropriate tool for cutting the entry hole in the mounting surface.

Camera Package Contents

Ensure the package contains the following:

- Avigilon H5M Fixed Dome Camera (H5M-DO), the "camera".

  The following accessories are included but not required for an installation using a ceiling mount adapter:

  - Surface mounting template sticker
  - 4 screws and anchors for solid walls
  - Surface mount
  - Camera shroud
  - Protective cable boot

Ensure the low-profile in-ceiling mounting adapter package (H5M-MT-DCIL1) contains the following:

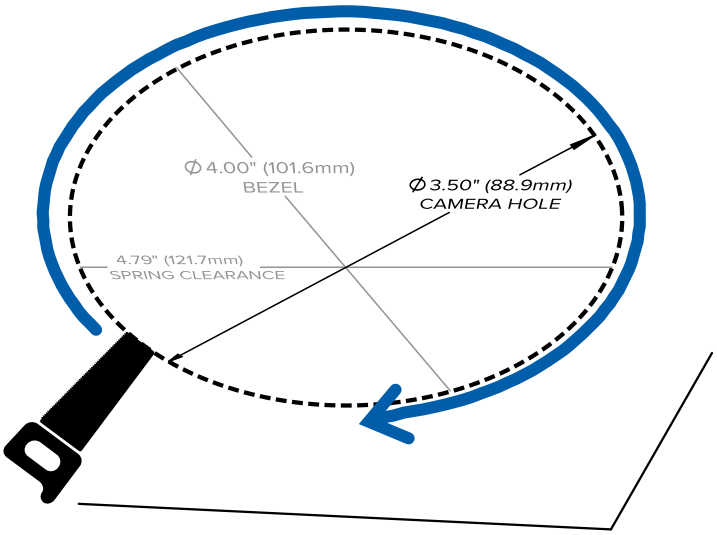
- In-ceiling mounting adapter for an H5M Fixed Dome Camera
- In-ceiling mounting template sticker

Using the In-Ceiling Mounting Adapter

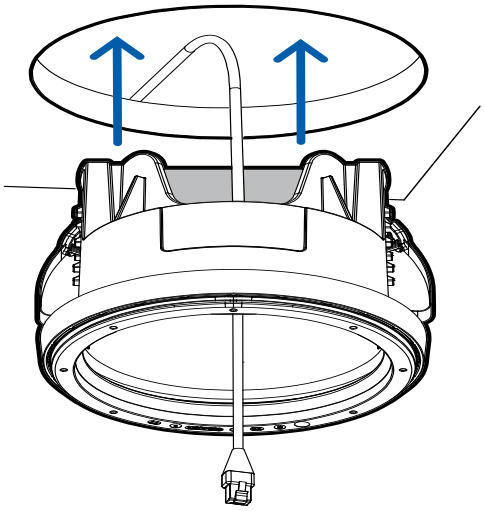
If the camera needs to be installed into a ceiling, you can disregard the surface mount adapter that is provided with the camera and use the in-ceiling mounting adapter instead.

Note: The maximum supported mounting surface thickness for the in-ceiling mounting adapter is 25 mm (1").

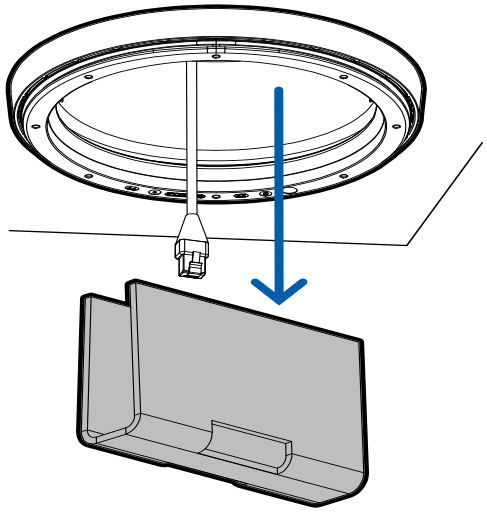
1. Use the in-ceiling mounting template to cut an entry hole for the camera into the ceiling.



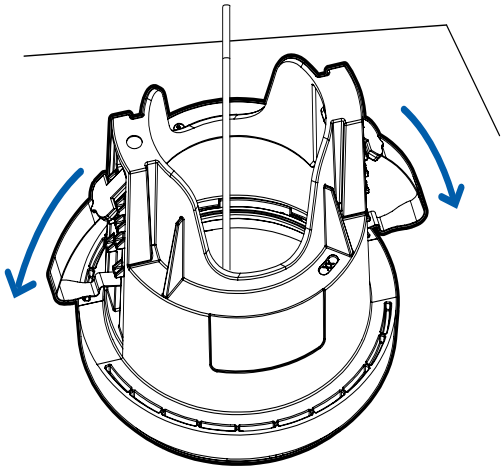
2. Insert the in-ceiling mounting adapter into the entry hole then pull the required cable through the adapter.



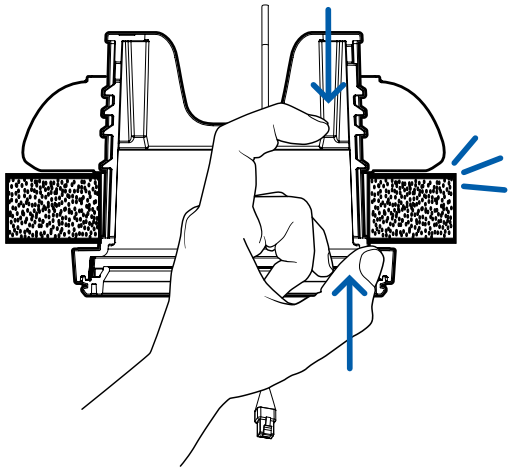
3. Pull out the clamp retainer that is holding the clamps in place.



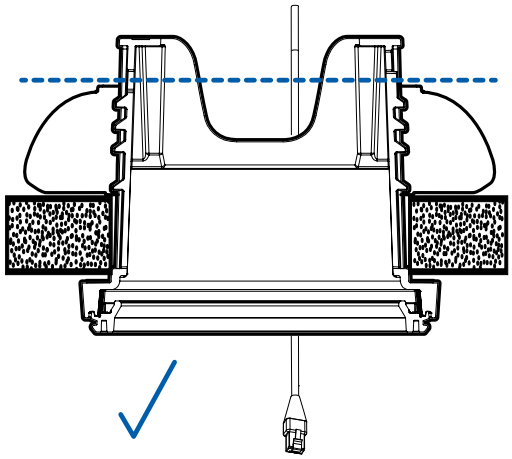
4. Push the orange clamp handles up so that the metal arms extend outside the mounting adapter.



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.



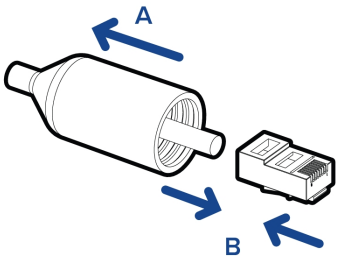
Installing the Camera Body to the Mounting Adapter

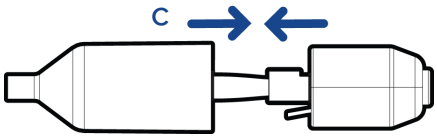
Important: Be careful not to scratch or touch the camera lens. The resulting marks or fingerprints may affect the overall image quality. Keep the protective covers on the outside of the camera lens until the installation is complete.

Note: This process is the same for both surface and in-ceiling mounted cameras. Surface mount is shown in the following figures.

After you install the mounting adapter, mount the camera body to the adapter, using the following steps:

1. Install the protective cable boot to protect the Ethernet connection from water and moisture.





   a. Thread one end of the Ethernet cable through the protective cable boot.

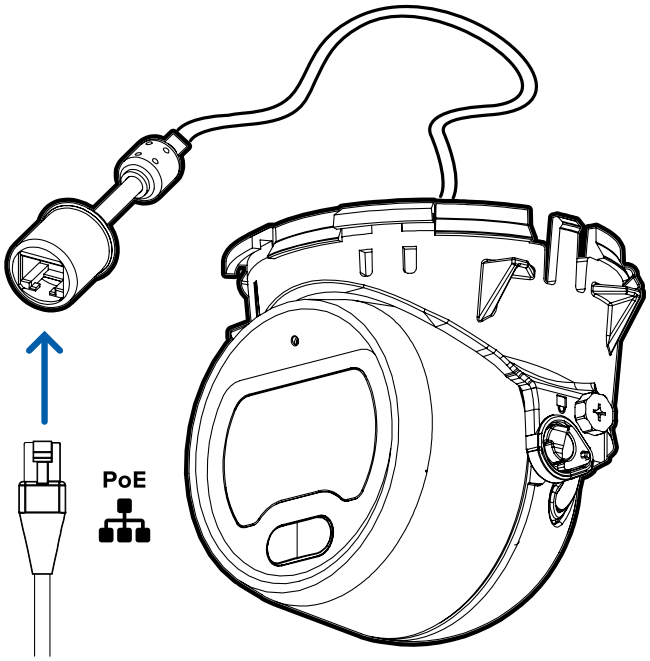
      Ensure the orientation of the cable and boot matches the one shown in the image.

   b. Crimp the Ethernet cable.

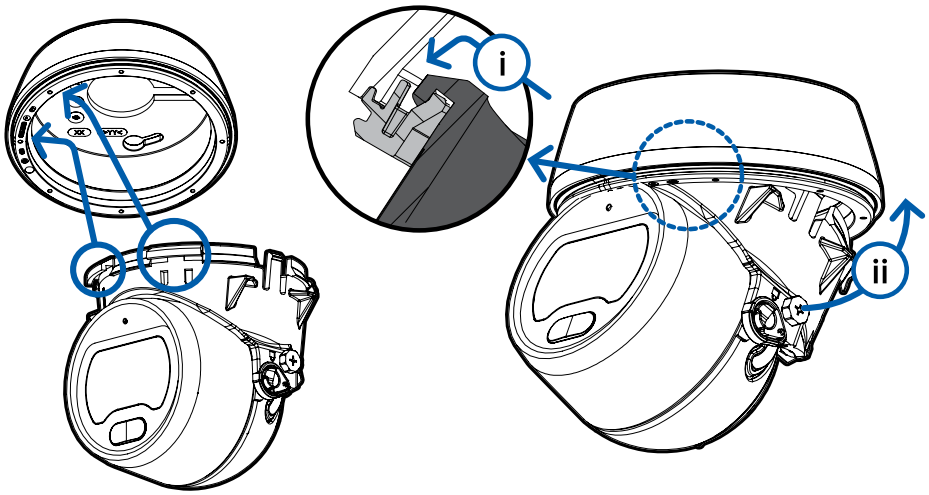
   c. After you connect the cable to the camera, slide the boot over the Ethernet port.

2. Connect the Ethernet port attached to the camera to the Ethernet cable that was pulled through the adapter.

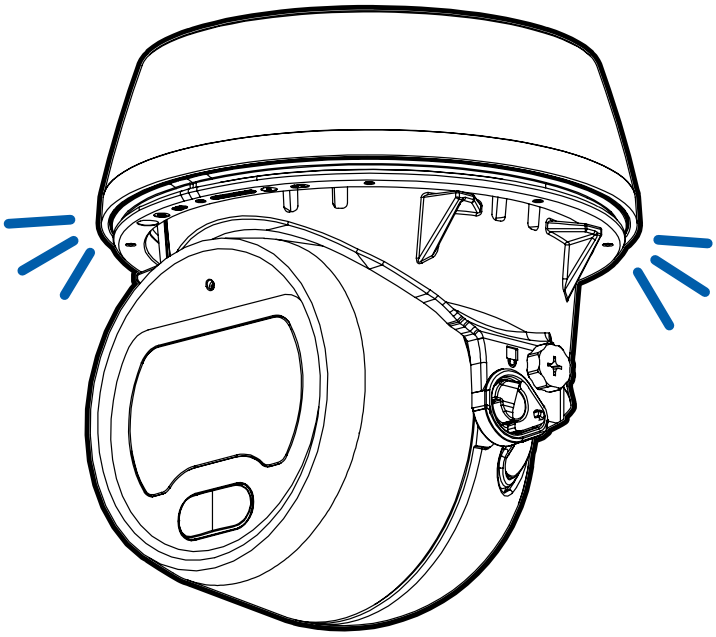
   The connection status LED indicator will blink when the connection is being established and will turn off once streaming has started.



3. Align the camera housing clips on the camera base to the camera attachment edge on the mounting adapter. Tilt the camera so that the two front clips grab the attachment edge of the mounting adapter.



4. Press the back end of the camera body into the mounting adapter. The camera body clicks into place and is held securely.



Connecting to the Camera

Initializing a Camera Username and Password

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

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

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

- Camera's Web Interface: enter the camera's IP address in a web browser to access the web interface. If the camera is in the factory default state you will be redirected to the Add a new user page to create the first user. For more information, see the *Avigilon High Definition H4 and H5 IP Camera Web Interface User Guide*.
- Camera Configuration Tool version 1.4.4 or later: cameras discovered in the factory default state will be identified by . Select the **Admin Users** tab to create the first user. For more information, see the *Avigilon Camera Configuration Tool User Guide*.
- Avigilon Control Center software version 7.4 or later, or version 6.14.12 or later: when connecting a camera in the factory default state, the client software will ask you to create a new user. For more information, see the *Avigilon Control Center Client User Guide*.
- Avigilon Blue service v3.0 or later: when adding a camera you will be asked to create a new user for cameras in the factory default state. For more information, see the *Avigilon Blue Subscriber or Dealer User Guides*.

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

Assigning an IP Address

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

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

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

- Device's web browser interface: http://<*camera IP address*>/.
- Network Video Management software application (for example, the Avigilon Control Center™ software).
- ARP/Ping method. For more information, see *Setting the IP Address Using the ARP/Ping Method* on page 38.

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

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

Accessing the Live Video Stream

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

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

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

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

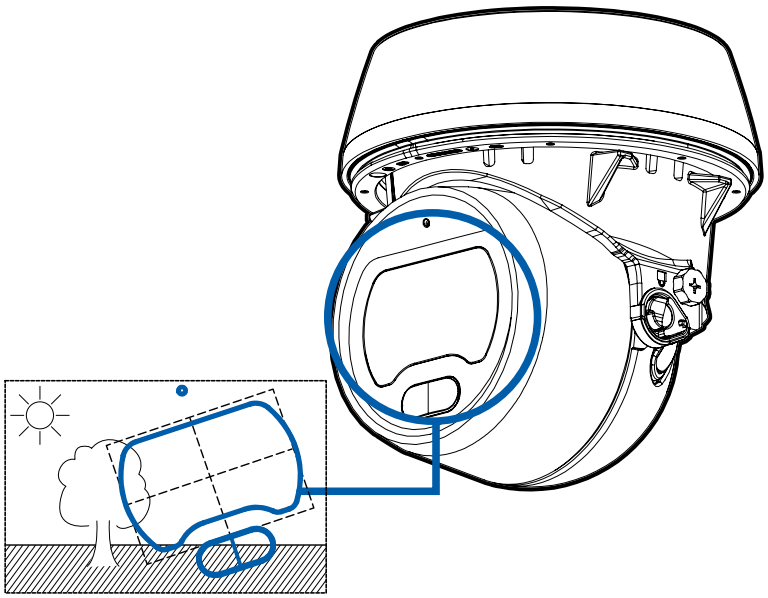
Aiming the Camera

Tip: When you are aiming the camera, reference the live stream for the camera.

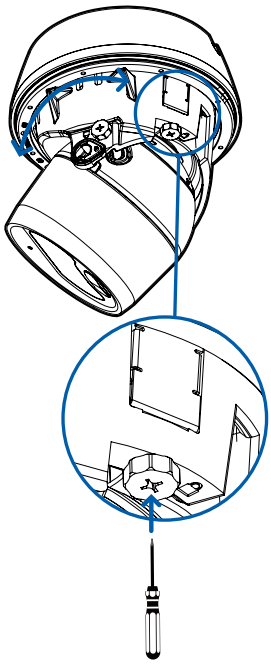
Note: This process is the same for both surface and in-ceiling mounted cameras. Surface mount is shown in the following figures.

1. Loosen the pan and tilt locking screws if they are already secured. The lens should be pointing in the general direction of the intended view.

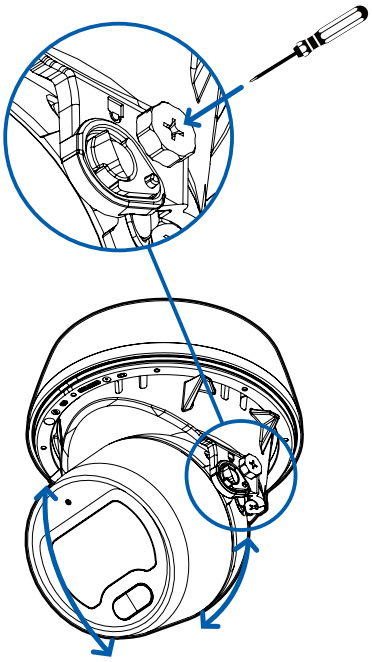
   The infrared illuminator at the bottom of the optical window indicates the bottom of the view.



2. Start with adjusting the pan by rotating the camera body inside the mounting adapter. When it is pointed in the right direction, tighten the pan locking screw to secure the position.



3. Adjust the lens tilt angle and rotate the camera head to adjust the azimuth until the image is in the correct angle. Tighten the tilt locking screw to secure the camera position.



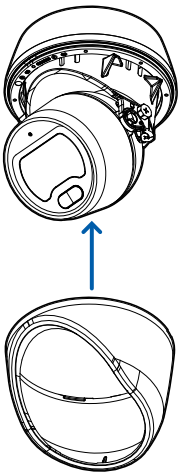
4. In the camera web browser interface or the Avigilon Control Center software, adjust the camera's Image and Display settings.

Attaching the Camera Shroud

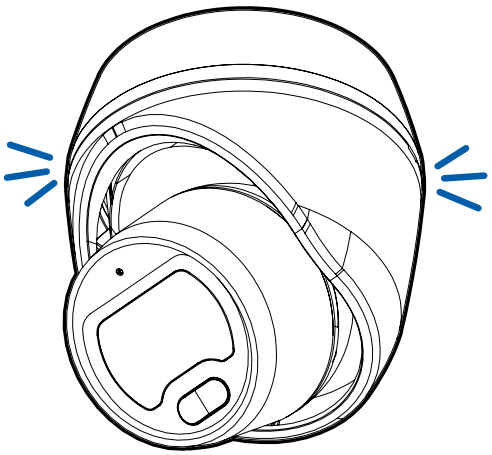
After you lock the camera in place, attach the camera shroud to the mounting adapter, by completing the following steps:

> **Note:** This process is the same for both surface and in-ceiling mounted cameras. Surface mount is shown in the following figures.

1. Align the opening in the camera shroud with the camera lens viewer.
2. Slide the shroud over the camera body.



3. Press on both sides of the shroud to click it into place in the mounting adapter.



Configuring the Camera

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

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

For More Information

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

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

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

Connection Status LED Indicator

Once connected to the network, the Connection Status LED indicator will display the progress in connecting to the Network Video Management software.

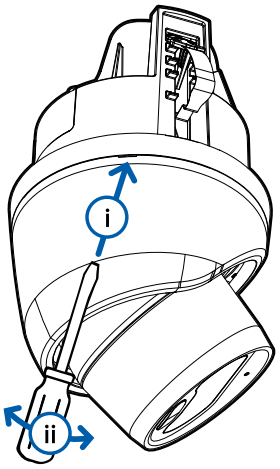
The following table describes what the LED indicator shows:

Connection State	Connection Status LED Indicator	Description
Obtaining IP Address	One short flash every second	Attempting to obtain an IP address.
Discoverable	Two short flashes every second	Obtained an IP address but not connected to the Network Video Management software.
Upgrading Firmware	Two short flashes and one long flash every second	Updating the firmware.
Connected	Off	Connected to the Network Video Management software or an ACC™ Server.

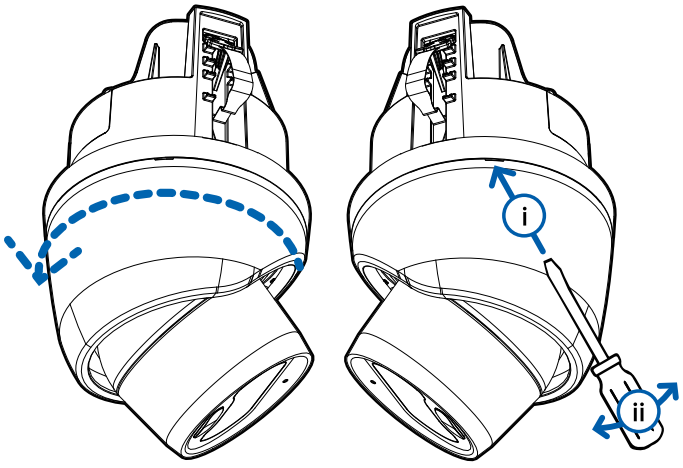
Disassembling the Camera

Note: This process is the same for both surface and in-ceiling mounted cameras. In-ceiling mount is shown in the following figures.

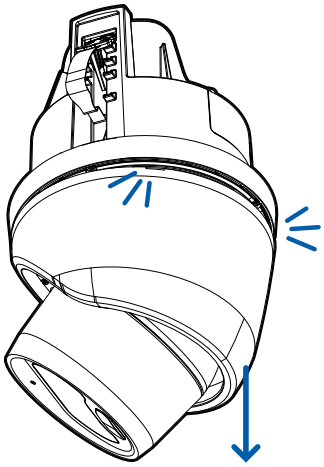
1. Insert a flat head screwdriver into the small slot in between the camera shroud and mounting adapter. Twist the screwdriver to release the camera shroud from the mounting adapter.



2. Rotate the camera to access the slot on the other side. Insert a flat head screwdriver into the slot and twist it to release the camera shroud from the mounting adapter.

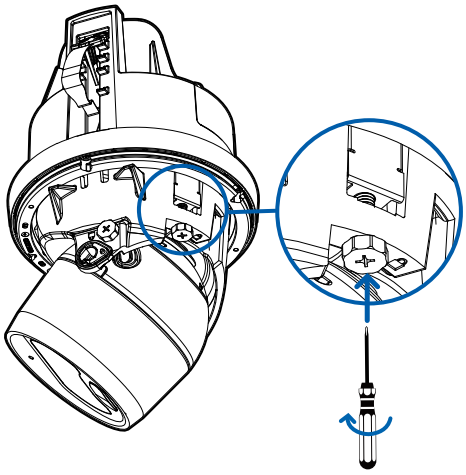


3. Pull the camera shroud down and away from the camera after both sides have been released.

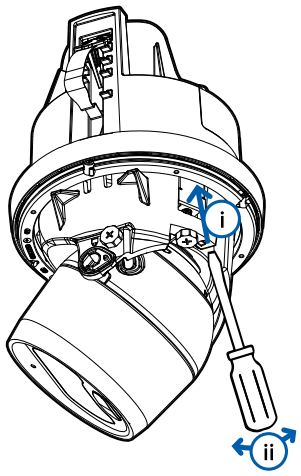


4. Loosen the pan locking screw enough so there is a small gap below the screw, as shown below.

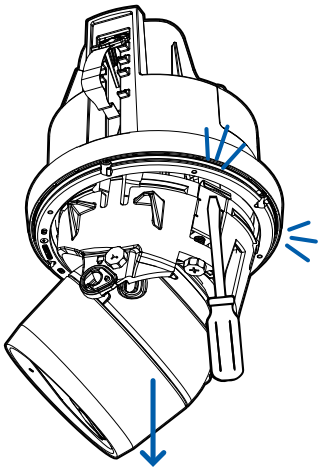
   Once you have loosened the screw all of the way, it will stop. Do not try to loosen the screw any further than this point.



5. Slide the flat head screwdriver along the metal pan locking tab that was loosened by the pan locking screw, in between the camera body and the mounting adapter. Gently pry the camera body out of the mounting adapter.



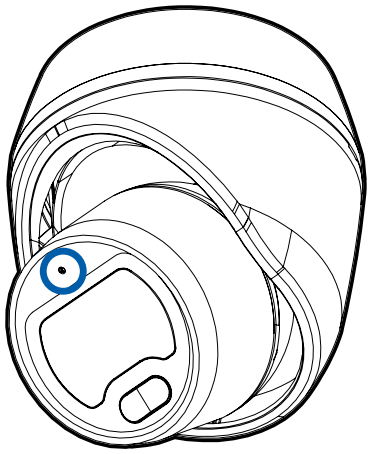
6. After the back has been released, angle the camera body so it comes off of the mounting adapter clips and pull it away from the mounting adapter.



Resetting to Factory Default Settings

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

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



1. Ensure the device is powered on.
2. Using a straightened paperclip or similar tool, gently press and hold the firmware revert button.
3. Release the button after three seconds.

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

Setting the IP Address Using the ARP/Ping Method

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

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

1. Locate and make note of the MAC Address (MAC) listed on the Serial Number Tag for reference.
2. Open a Command Prompt window and enter the following commands:
   a. `arp -s` *<New Camera IP Address> <Camera MAC Address>*

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

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

      For example: `ping -l 123 -t 192.168.1.10`
3. Reboot the camera.
4. Close the Command Prompt window when you see the following message:

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

Limited Warranty and Technical Support

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

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