

Installation Guide

Avigilon H4 Mini Dome Camera Models with Ceiling Mount Adapter:

H4M-D plus H4M-MT-DCIL

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 a UL Listed Power Unit marked "Class 2" or "LPS" or "Limited Power" with output rated 12 VDC, 10W minimum, or Power over Ethernet (PoE) rated 48 VDC, 4W 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 to high levels of x-ray, laser, or UV radiation 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.
- This product should be installed in restricted access locations.

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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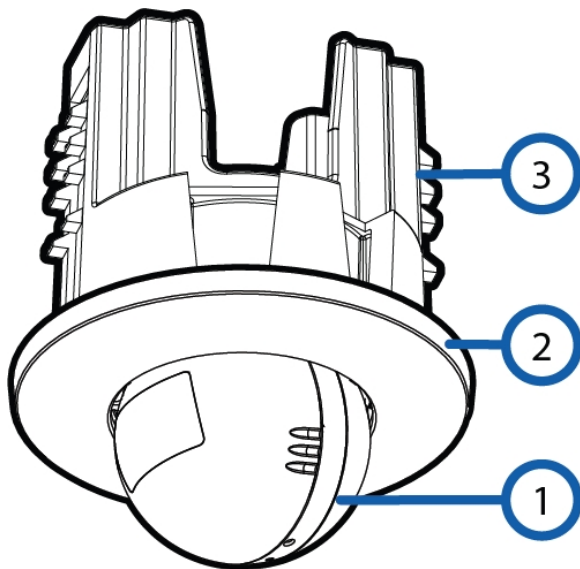
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Overview

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

Cover View



1. **Camera body**

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

2. **In-ceiling mount bezel**

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

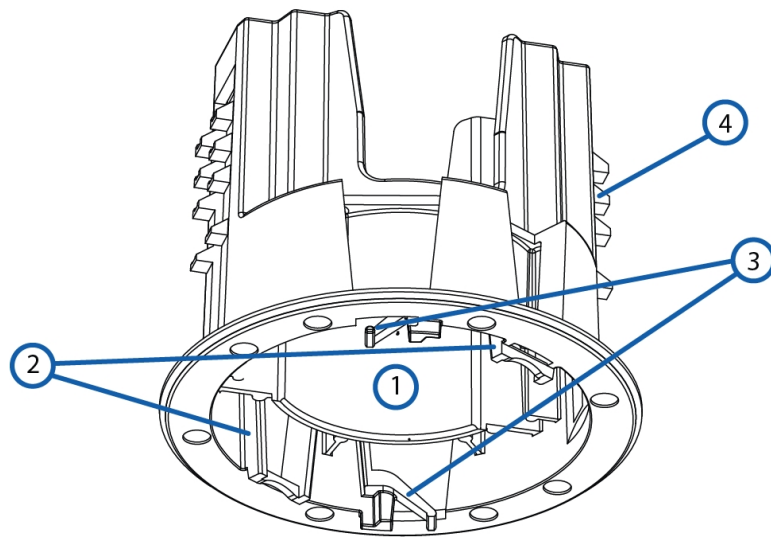
3. **Mounting adapter**

Used to mount the camera to a wall or ceiling 1/2" Male NPT Pipe Thread. The mounting clamps and retainer are not shown.

4. **NPT pipe**

Used for installing cameras from the ceilings.

In-ceiling Mounting Adapter View



1. Cable entry hole

An entry hole for the cables required for camera operation.

2. Camera attachment slots

Slots that the camera housing clips are inserted into to attach the camera body to the ceiling mounting adapter.

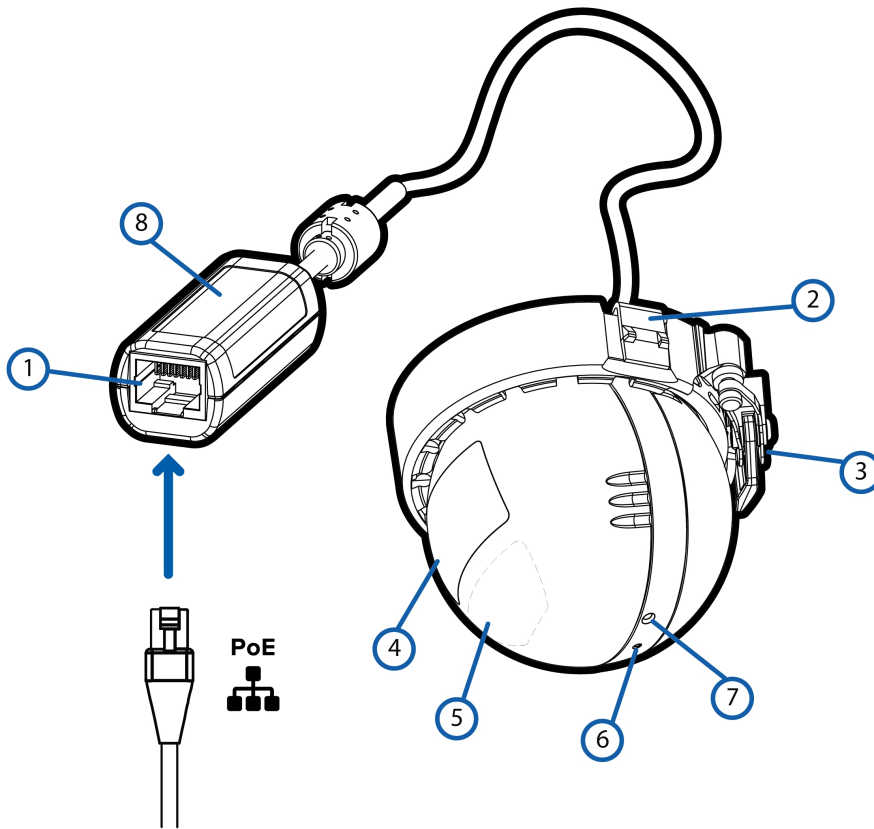
3. Bezel attachment clips

Clips to hold the bezel in place.

4. Mounting clamps (not shown)

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

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. Locking latch

Orange-colored latch that locks the camera in place after the camera has been aimed . For more information, see *Aiming the Camera* on page 16.

4. Camera lens

The lens is behind the protective dome.

5. **Infrared illuminator** (optional)

The infrared illuminator is available on selected models.

6. **Connection status LED indicator**

Provides information about device operation. For more information, see *Connection Status LED Indicator* on page 20.

7. **Firmware revert button**

Used to reset the camera. For more information, see *Resetting to Factory Default Settings* on page 22.

8. **Serial number tag**

Provides the serial number and MAC address for the camera.

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 H4 Mini Dome Camera (H4M-D), the "camera".

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

- 2 screws and anchors for solid walls
- Surface mount bezel

Ensure the low-profile in-ceiling mounting adapter package (H4M-MT-DCIL1) contains the following:

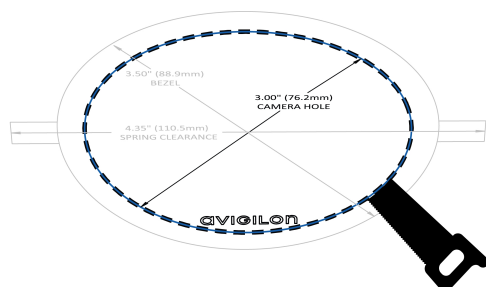
- In-ceiling mounting adapter for an H4 Mini Dome Camera
- In-ceiling mounting template sticker
- Low-profile bezel

Using the In-Ceiling Mounting Adapter

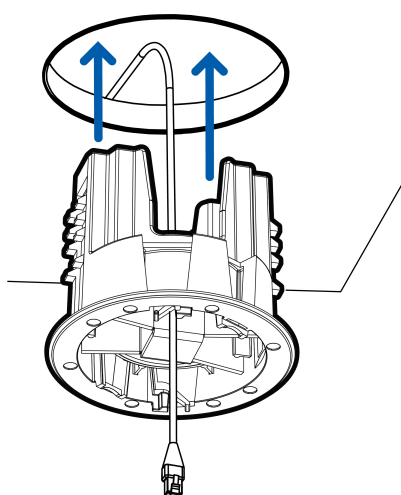
If the camera needs to be installed into a ceiling, you can disregard the surface mount adapter that is provided with the camera and use the in-ceiling mounting adapter instead.

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

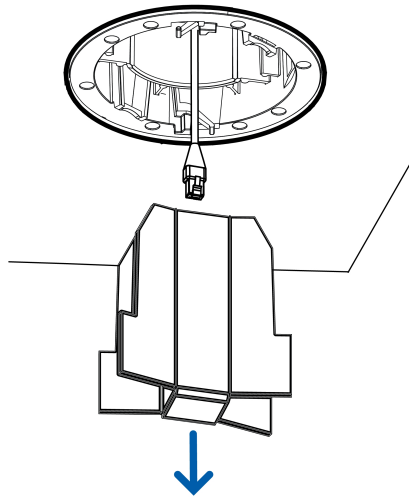
1. Use the in-ceiling mounting template to cut an entry hole for the camera into the ceiling.



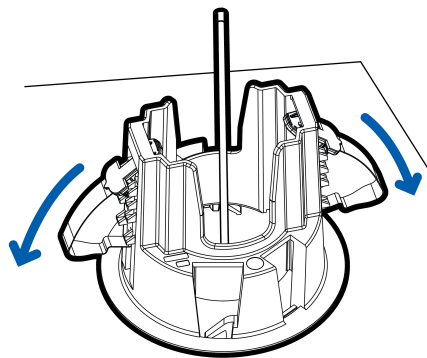
2. Insert the in-ceiling mounting adapter into the entry hole then pull the required cable through the adapter.



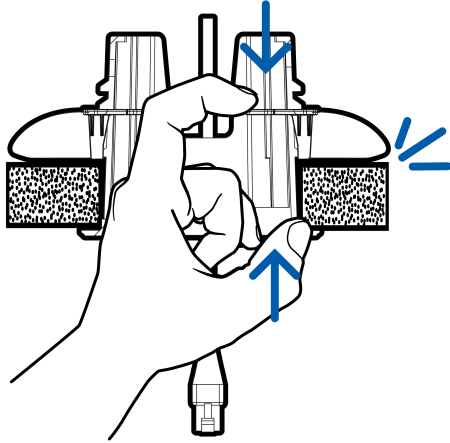
3. Pull off the clamp retainer holding the clamps in place.



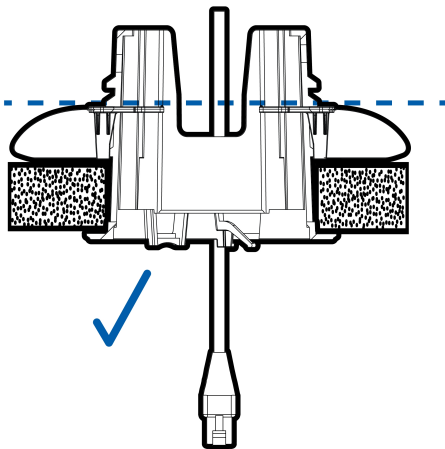
4. Push the orange clamp handles up so that the metal arms extend outside the mounting adapter.



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.



Installing the Camera Base to the Mounting Adapter

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

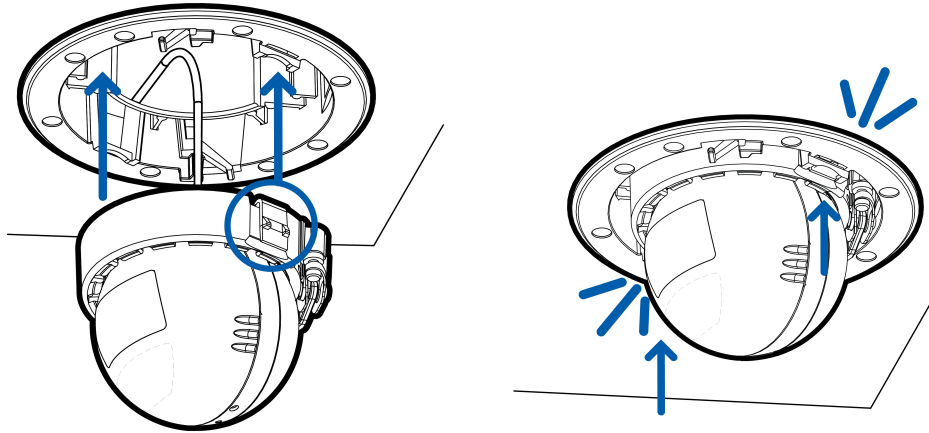
After you install the mounting adapter, mount the camera base to the adapter, using the following steps:

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

adapter.

The connection status LED indicator will turn on once a network link has been established.

2. Position the camera in the mounting adapter, reinserting the connected cable through the cable entry hole.
3. Align the camera housing clips on the camera base to the camera attachment retainers on the mounting adapter. Press the camera base into the mounting adapter. The camera base clicks into place and is held securely.




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*.
- USB Wi-Fi Adapter: when connecting a camera in the factory default state, you will be redirected to the Create Administrator User page to create the first user. For more information, see *Avigilon USB Wi-Fi Adapter System User Guide*.

- Avigilon Control Center software version 7.4 or later, or version 6.14.12 or later: when connecting a camera in the factory default state, the client software will ask you to create a new user. For more information, see the *Avigilon Control Center Client User Guide*.
- Avigilon 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 23.

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 page 14.
- 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.

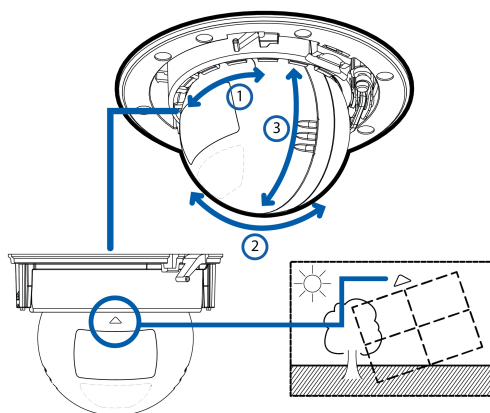
Aiming the Camera

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

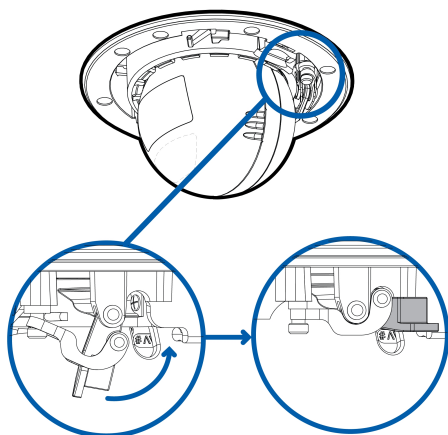
1. Unlock the orange locking latch on the camera base if it is already locked. The lens should be pointing in the general direction of the intended view.

The arrow indicator between the optical window and the camera base indicates the top of the view.

2. Start with the arrow indicator as close to the mounting adapter as possible. Make pan adjustments (see number **1** in the image below) until the lens is pointed in the intended direction. Then make the necessary tilt (see number **2** in the image below) and azimuth (see number **3** in the image below) adjustments until the live view is adjusted to your satisfaction.



3. Swivel the locking latch to lock it into the closed position.

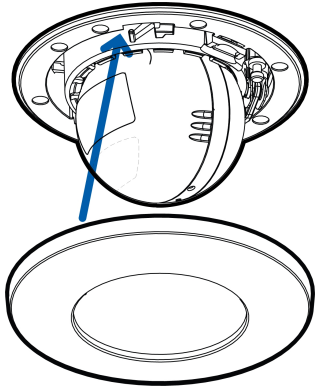


4. In the camera web browser interface or the Avigilon Control Center software, adjust the camera's Image and Display settings.

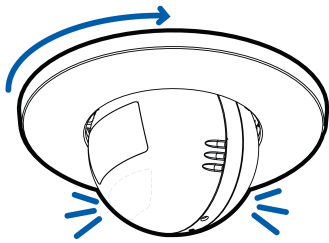
Attaching the Bezel

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

1. Locate the two clips on the inner side of the bezel.
2. Place the bezel up against the mounting adapter with the clips slightly to the left of the bezel mounting clips on the mounting adapter.



3. Rotate the bezel clockwise until it snaps into place.



Configuring the Camera

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

- If you have the USB Wifi Adapter, you can access the mobile web interface to configure the camera. For more information, see *Avigilon USB Wi-Fi Adapter System User Guide*.
- 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

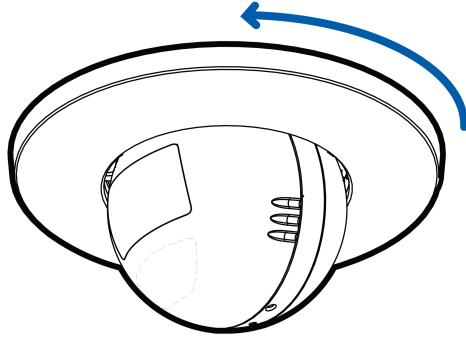
Once connected to the network, the Connection Status LED indicator will display the progress in connecting to the Network Video Management software.

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	On	Connected to the Network Video Management software or an ACC™ Server. The default connected setting can be changed to Off using the camera's web user interface. For more information see the <i>Avigilon High Definition H4 and H5 IP Camera Web Interface User Guide</i> .

Removing the Camera from the Mounting Adapter

1. Twist the bezel counter-clockwise until it releases. Some force will be required to release the bezel and you will hear a click as it is released.

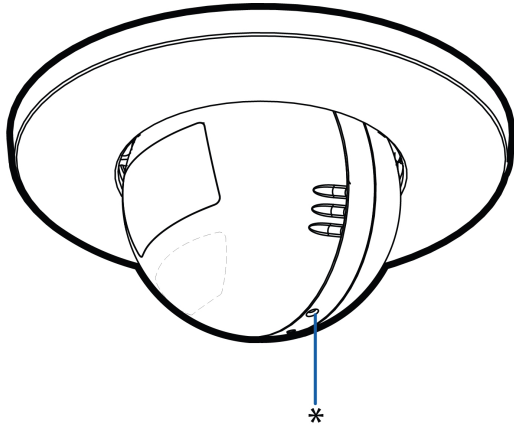


2. Pinch the camera housing clips in the attachment slots to release the camera body from the ceiling mount and pull the camera out of the mount.

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>: ...

Specifications

Camera

Lens	2.8mm, F1.2, IR Corrected
HFOV (Angle of View)	1.3 MP: (5:4) 74°; (16:9) 110° 2.0 MP: (5:4) 74°; (16:9) 110° 3.0 MP: (5:4) 94°; (16:9) 100°, (4:3) 100°

Network

Network	100Base-TX
Cabling Type	CAT5
Connector	RJ-45
ONVIF®	ONVIF compliant with version 1.02, 2.00, Profile S (www.onvif.org)
Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication
Protocols	IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, Zeroconf, ARP
Streaming Protocols	RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP
Device Management Protocols	SNMP v2c SNMP v3

Mechanical

Dimensions L x W x H	In-ceiling Mount: 89 mm x 89 mm x 39 mm (3.5" x 3.5" x 1.5")
Max. Ceiling Thickness	In-ceiling Mount: 25 mm (1")
Camera Weight with In-ceiling Mounting Bracket	H4M-D1 - 152 g (0.34 lbs)
Body	Polycarbonate and aluminum
Housing	Polycarbonate
Finish	Cool grey, black
Adjustment Range	360° pan, -5° to 75° tilt, ±115° azimuth

Electrical

Power Consumption	4 W
Power Source	PoE: IEEE802.3af Class 2 compliant
RTC Backup Battery	3V manganese lithium
Environmental	
Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	-30 °C to 70 °C (-22 °F to 158 °F)
Humidity	0-95% non-condensing
Certifications	
Certifications/ Directives	UL, cUL, CE, ROHS, WEEE, RCM, EAC, KC
Safety	UL 62368-1, CSA 62368-1, IEC/EN 62368-1, IEC 62471
Environmental	Indoor Applications
Electromagnetic Emissions	FCC Part 15 Subpart B Class B, IC ICES-003 Class B, EN 55032 Class B, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, KN 32
Electromagnetic Immunity	EN 55024, EN 61000-6-1, EN 50130-4, KN 35

Limited Warranty and Technical Support

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

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