

Installation Guide

Avigilon H4 Mini Dome Camera Models with Surface Mount Adapter:

1.3C-H4M-D1, 1.3C-H4M-D1-IR, 2.0C-H4M-D1, 2.0C-H4M-D1-IR, 3.0C-H4M-D1, 3.0C-H4M-D1-IR

Important Safety Information

This manual provides installation and operation information and precautions for the use of this camera. 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.
- The H4M-D product is intended to be supplied by Power over Ethernet (PoE) that is a “Limited Power Source” or “LPS” rated 48 VDC, 4W min.
- This product is intended to be used in a Network Environment 0 per IEC TR62101. The camera is to be connected only to PoE networks that comply with IEEE 802.3af without routing to the outside plants.
- 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 o 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.

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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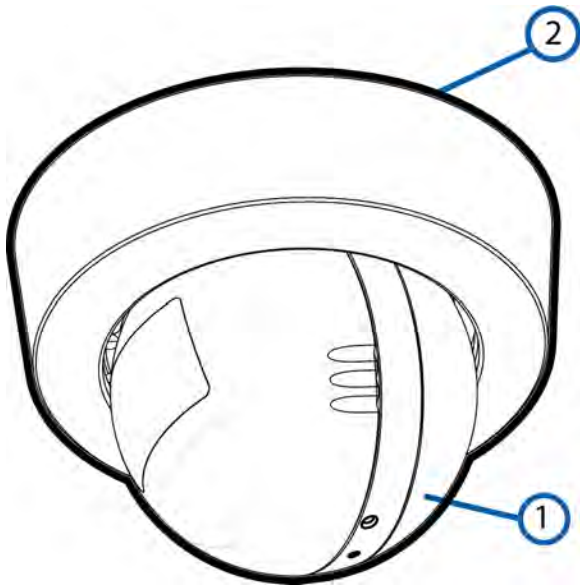
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Overview

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



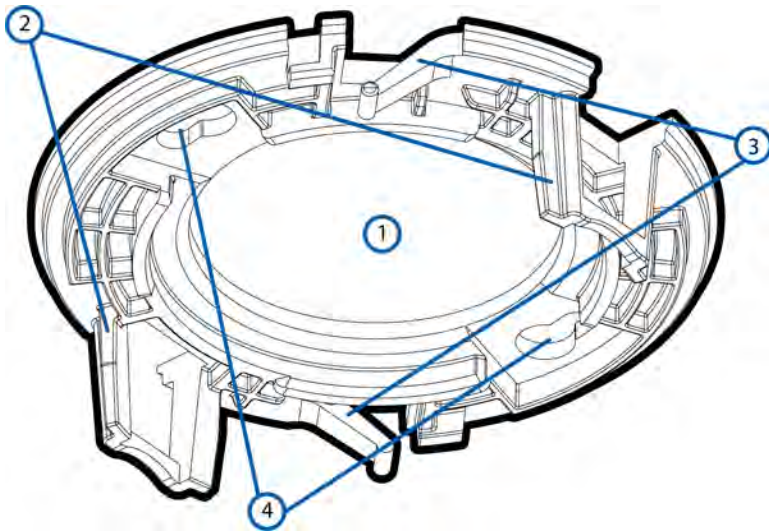
1. **Camera body**

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

2. **Surface mount bezel**

Used to protect the camera latch, 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. **Camera attachment slots**

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

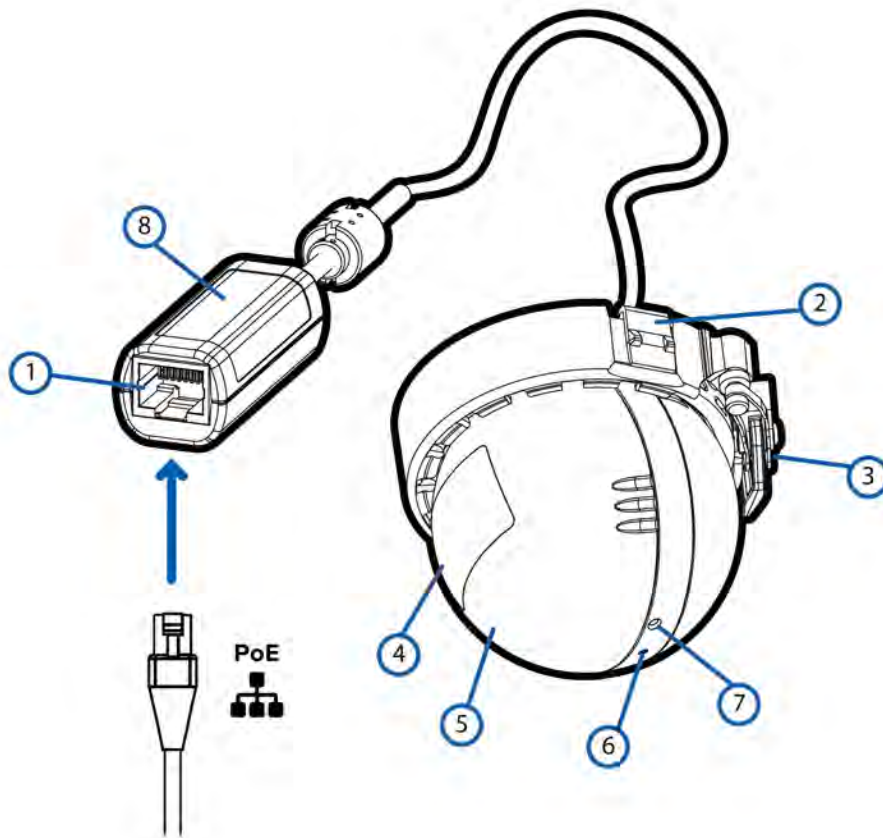
3. **Bezel attachment clips**

Clips to hold the bezel in place.

4. **Mounting holes**

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

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 13.

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 16.

7. Firmware revert button

Used to reset the camera. For more information, see *Resetting to Factory Default Settings* on page 18.

8. Serial number tag

Provides the serial number and MAC address for the camera.

Installation Steps

Complete the following sections to install the camera.

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".
 - Surface mounting template sticker
 - 2 screws and anchors for solid walls
 - Surface mount adapter
 - Surface mount bezel

Using the Surface Mount Adapter

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

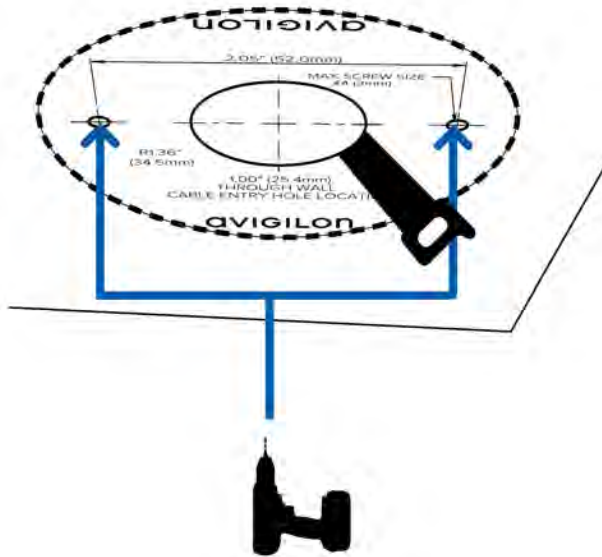
If the camera needs to be installed in a different way, use one of the other mounting adapter options and refer to their installation manuals for more information.

- Low-profile in-ceiling mounting adapter
 - Gray (H4M-MT-DCIL1)
 - Black (H4M-MT-DCIL1-BL)

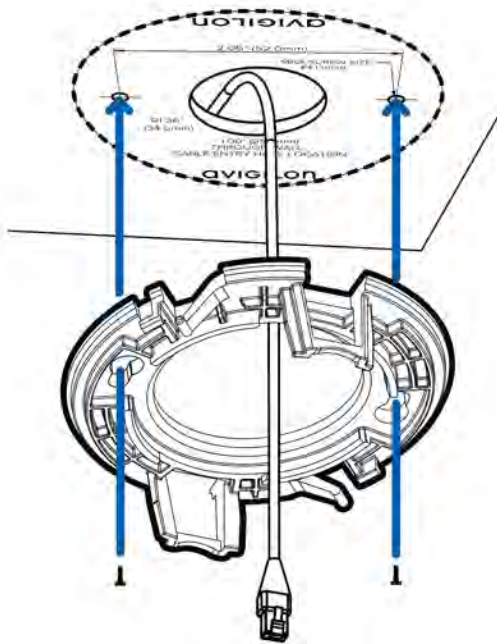
Perform the following steps if the required cables are coming from inside the mounting surface and the camera will be mounted immediately over the cable hole. Use this procedure on surfaces that can be easily drilled into, and when the cables should be kept out of sight.

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

1. Use the mounting template to drill two mounting holes into the mounting surface and drill the cable entry hole.



2. Pull the required Ethernet cable through the cable entry hole.
3. Drive two screws to fasten the mounting adapter to the mounting surface.

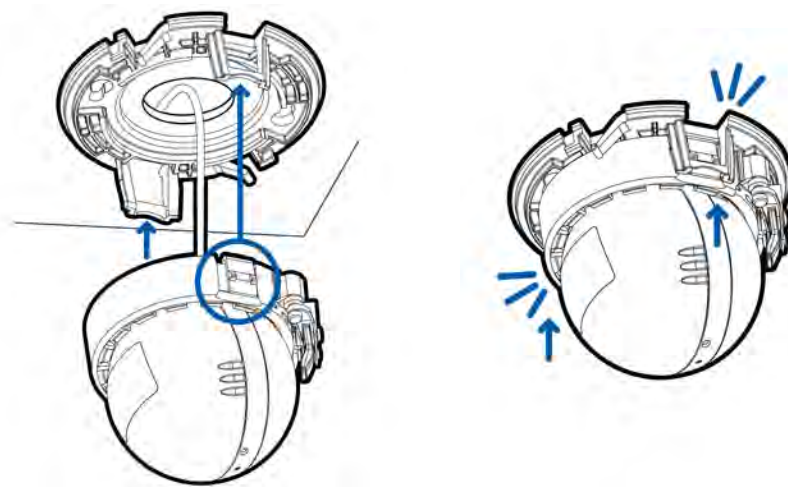


Installing the Camera Base to the Mounting Adapter

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 cable entry hole.
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.



Assigning an IP Address

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

NOTE: If the camera 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 19.

NOTE: The default device username is `administrator` with no password.

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: The default camera username is `administrator` with no password.

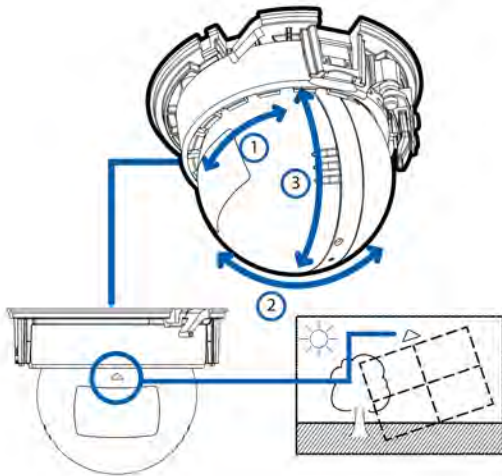
Aiming the Camera

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

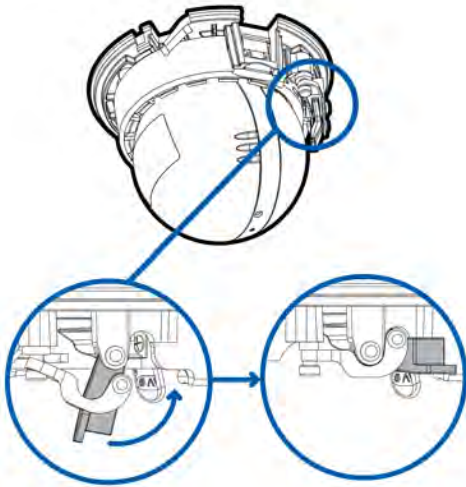
1. Unlock the orange locking latch on the camera base if it is already locked. The lens should be pointing in the general direction of the intended view.

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

2. Start with the arrow indicator 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.



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

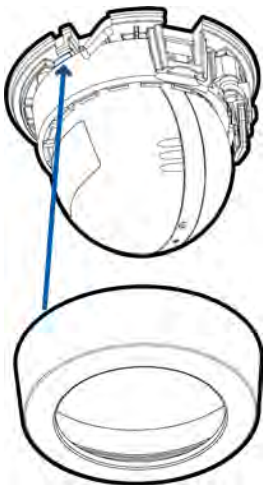


- In the camera web browser interface or the Avigilon Control Center software, adjust the camera's Image and Display settings.

Attaching the Bezel

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

- Locate the two raised slots on the inner side of the bezel.
- Place the bezel up against the mounting adapter with the raised slots slightly to the left of the bezel mounting clips on the mounting adapter.



3. Rotate the bezel clockwise until the clips snap together.



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 Web Interface User Guide - H4 HD*.

For More Information

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

- *Avigilon Control Center Client User Guide*
- *Avigilon Device Web Interface User Guide*
- *Avigilon Camera Configuration Tool User Guide*

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

Connection Status LED Indicator

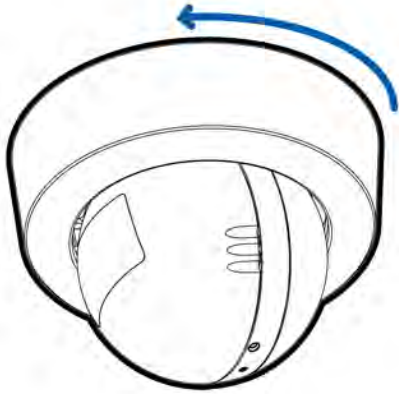
Once connected to the network, the Connection Status LED indicator will display the progress in connecting to the Network Video Management software.

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 is 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 setting can be changed to "Off" using the camera's web user interface. For more information see the <i>Web Interface User Guide - H4 HD</i> .

Removing the Camera from the Mounting Adapter

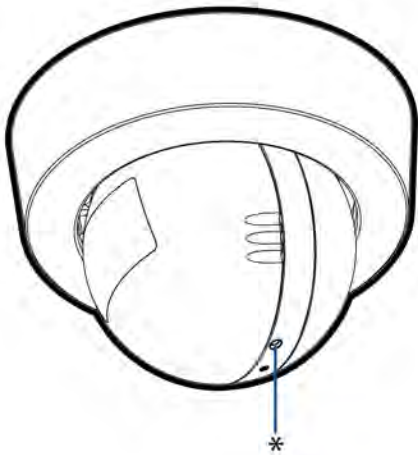
1. Twist the bezel counter-clockwise until it releases. Some force will be required to release the bezel and you will hear a click as it is released.



2. Pinch the camera housing clips in the attachment slots to release the camera body from the surface 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 will 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 *Web User Interface Guide - Avigilon High Definition H.264 IP Camera Models*.

1. Locate and copy down 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	Surface Mount: 73 mm x 73 mm x 52 mm (2.9" x 2.9" x 2.0") 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 Surface Mounting Bracket	H4M-D1 - 118 g (0.26 lbs)
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
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
Electromagnetic Immunity	EN 55024, EN 61000-6-1, EN 50130-4

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/).