

Installation Guide

Avigilon[™] H4 Fisheye Dome Camera Models:

6.0L-H4F-DO1-IR and 12.0-H4F-DO1-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 use.



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



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.
- This product is intended to be used in an Network Environment 0 per IEC TR62101. The camera is to be connected only to PoE network that complies with IEEE 802.3af without routing to the outside plant.
- This product is intended to be supplied by a UL Listed Power Unit marked “Class 2” or “LPS” or “Limited Power Source” with output rated 12 VDC or Power over Ethernet (PoE), rated 48 VDC, 25.5W min.
- Any external power supply connected to this product may only be connected to another Avigilon product of the same model series. External power connections must be properly insulated.
- Do not connect directly to mains power for any reason.



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

- 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 cables to excessive stress, heavy loads or pinching.
- Do not open or disassemble the device. There are no user serviceable parts.
- Refer all 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.

FCC Notice

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.

Legal Notices

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Revision: 2 - EN

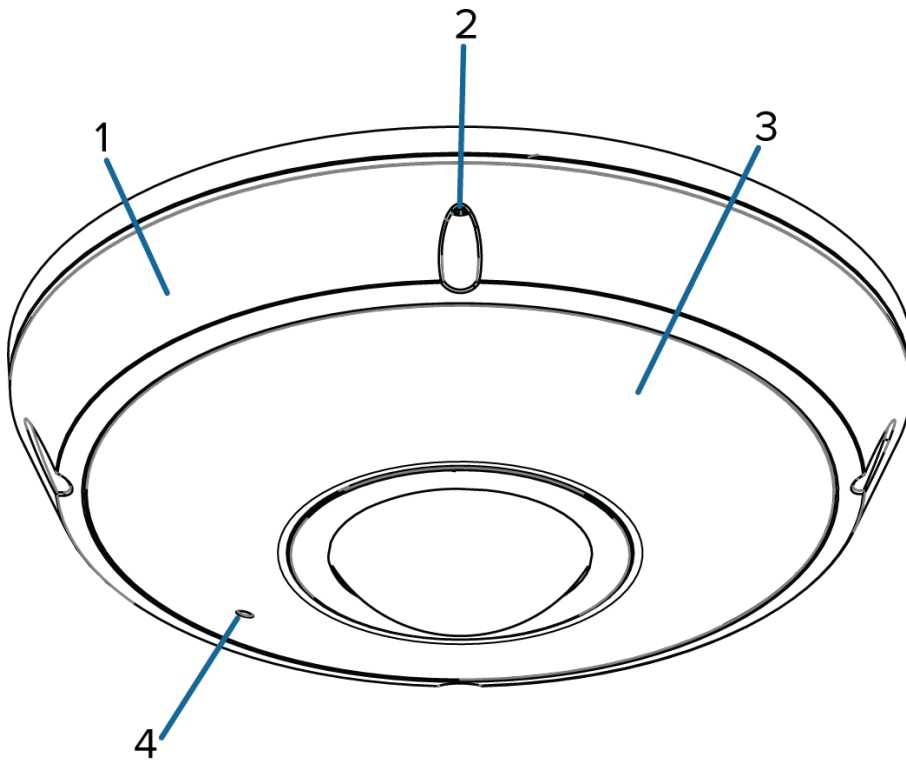
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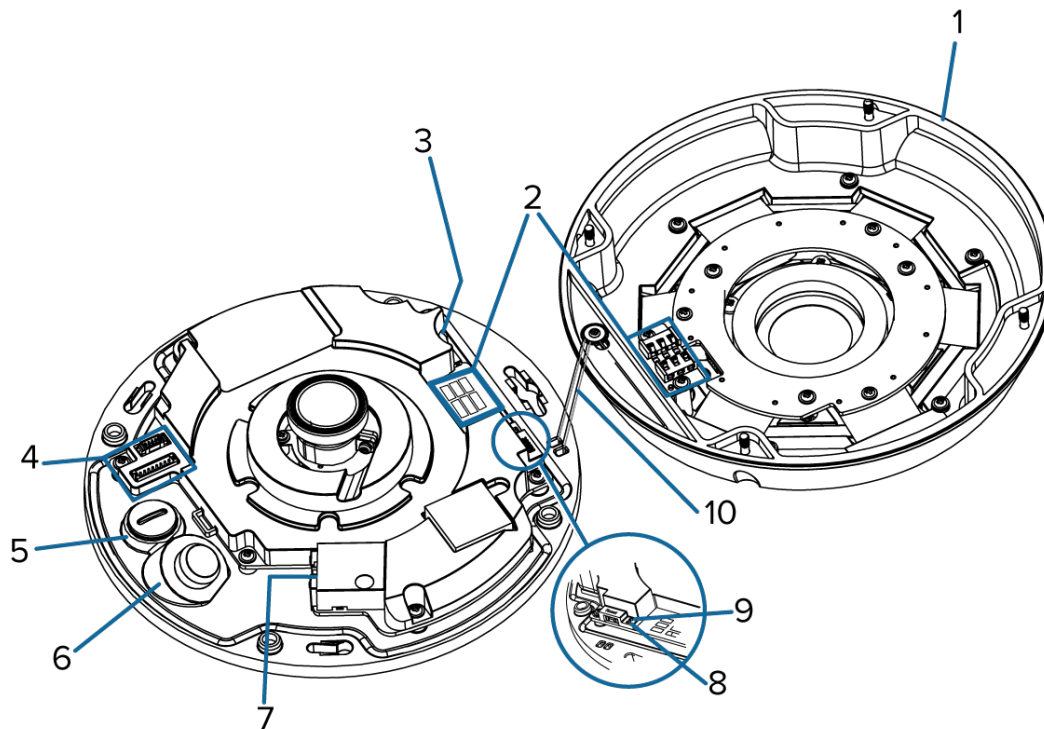
Overview

Cover View



1. **Dome cover**
Vandal resistant dome cover.
2. **Tamper resistant screws**
Torx captive screws to fix the dome cover to the base.
3. **IR illuminator**
Provides scene illumination in the IR spectrum.
4. **Microphone**
Built-in audio receiver.

Internal View



1. **Dome cover**

Vandal resistant dome cover.

2. **IR contacts**

Align the IR contacts when installing the dome cover to the base. The contacts must be connected to use the IR illuminators.

3. **microSD card slot**

Accepts a microSD card for onboard storage.

4. **Auxiliary cable connector**

Accepts an auxiliary connection for connecting the camera to auxiliary power, audio and I/O devices.

5. **Auxiliary cable entry hole**

An entry hole for the auxiliary cable.

6. **Ethernet cable entry hole**

An entry hole for the Ethernet cable.

7. **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.

8. **Link LED**

Indicates if there is an active connection in the Ethernet port.

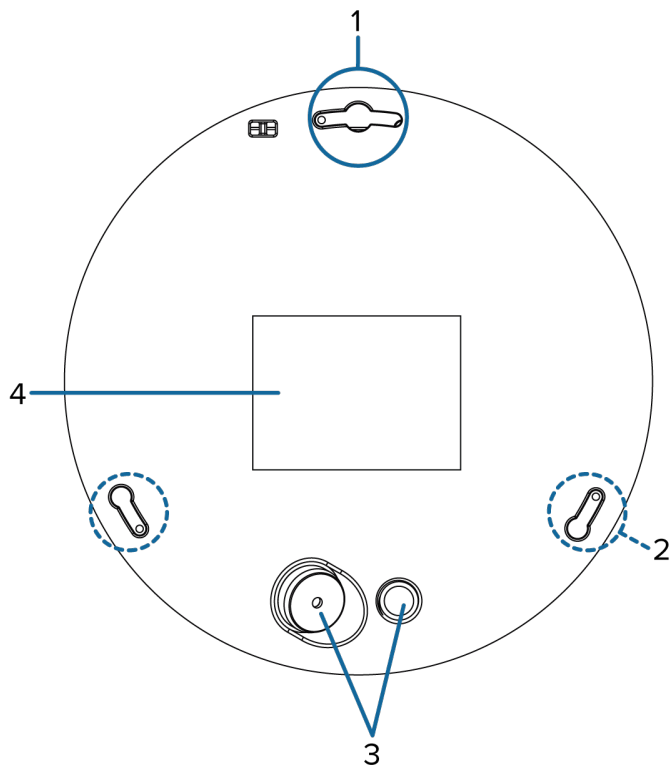
9. **Connection status LED**

Provides information about camera operation. For more information, see *LED Indicators* on page 31.

10. **Lanyard**

Anchors the dome cover to the camera base.

Bottom View



1. **Primary mounting slot**

The primary mounting point for the camera.

If using the optional mounting bracket or NPT adapter, align the primary camera post (largest diameter post) with the primary mounting slot.

NOTE: If you are planning to mount the camera on a wall, be aware that the primary mounting slot aligns with the top of the video image.

2. **Secondary mounting slots**

Mounting points for the camera.

If you are using the optional mounting bracket or NPT adapter, align the camera posts to the mounting slots.

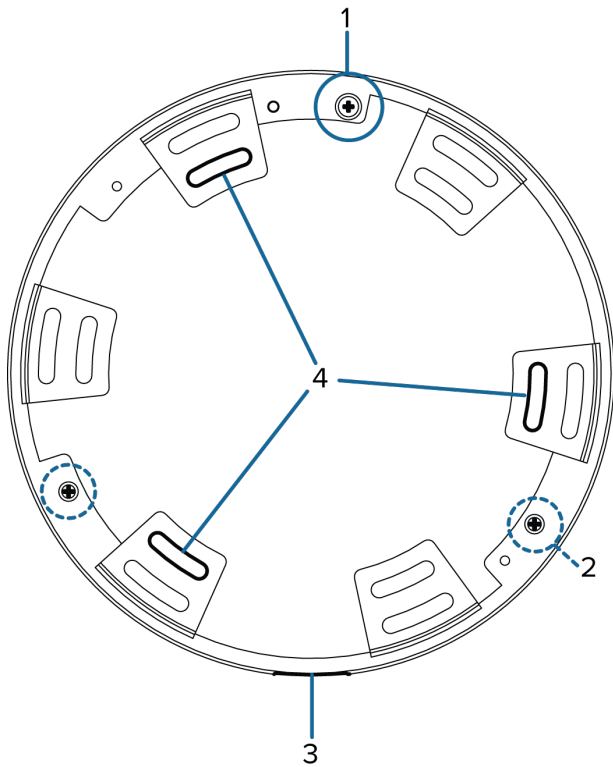
3. Cable entry holes

An entry holes for the cables required for camera operation.

4. Serial number tag

Device information, product serial number and part number label.

Bracket View



1. Primary camera post

Align the primary camera slot on the optional bracket to the primary mounting post on the dome camera base.

2. Secondary camera posts

Align the camera posts on the bracket to the mounting slots on the dome camera base.

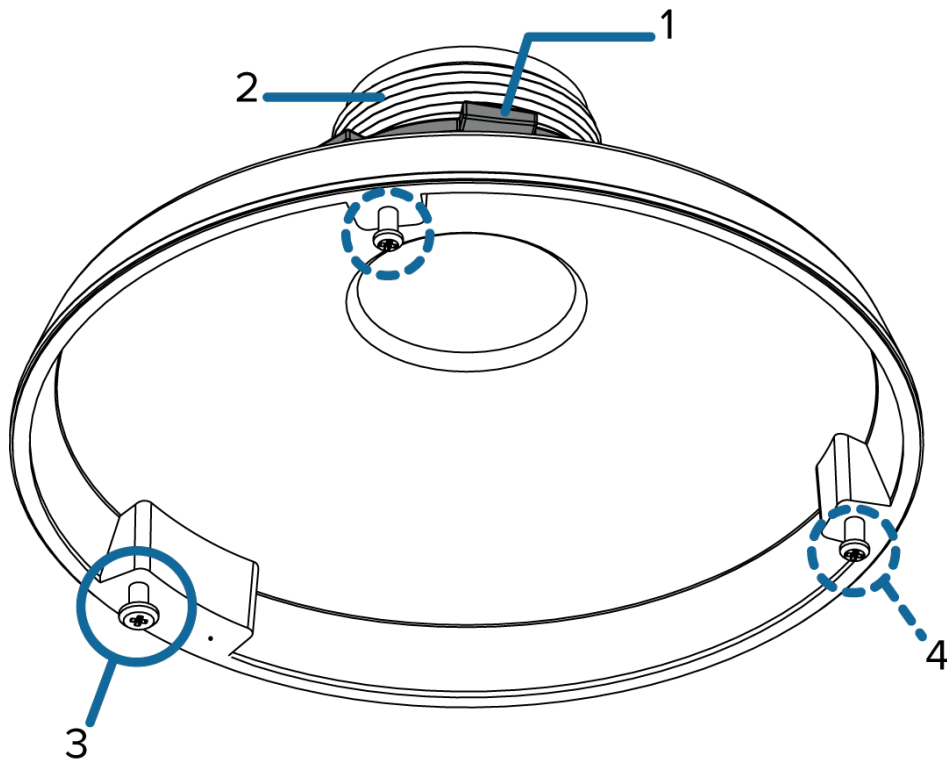
3. Cable entry notch

An entry notch for network, power and I/O cables.

4. Mounting slots

Mounting points for the optional bracket.

NPT Adapter View



1. **Locking nut**

Locking nut for securing the NPT adapter to the pipe.

2. **1-1/2" NPT thread mount**

Standard female 1-1/2" NPT thread mount for mounting the dome camera to a pole or bracket.

3. **Primary camera post**

Align the primary camera slot on the NPT adapter to the primary mounting post on the dome camera base.

4. **Secondary camera posts**

Align the camera posts on the adapter to the mounting slots on the dome camera base.

Installation

Required Tools and Materials

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

- If you will be installing the NPT adapter (H4F-MT-NPTA), you will need a 1-1/2" NPT female to female adapter.

Camera Package Contents

Ensure the package contains the following:

- Avigilon™ H4 Fisheye Dome Camera
- Camera Base Mounting Template sticker
- Bracket Mounting Template sticker
- Optional mounting bracket
- Torx screwdriver
- Auxiliary cable
- Desiccant bag
- 3 screws and anchors — for securing the camera to the mounting surface.
- 1 x (M3 x 8 mm) T10 Torx screw — for securing the camera base to the bracket.
- 2 x (M4 x 8 Philips) machine screws — for securing the bracket to an electrical gang box.
- Rubber washer
- Rubber grommet

If you are using the optional NPT adapter (H4F-MT-NPTA), ensure the package contains the following:

- NPT adapter for the H4 Fisheye Dome Camera
- NPT lock nut
- 1 x (M3 x 8 mm) T10 Torx screw — for securing the camera base to the bracket.
- Thread seal tape

Installation Steps

Complete the following steps to install the camera:

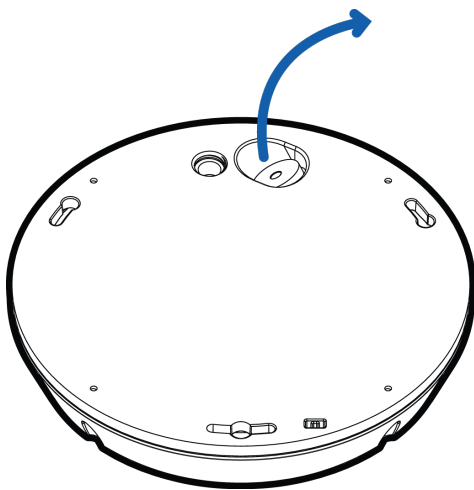
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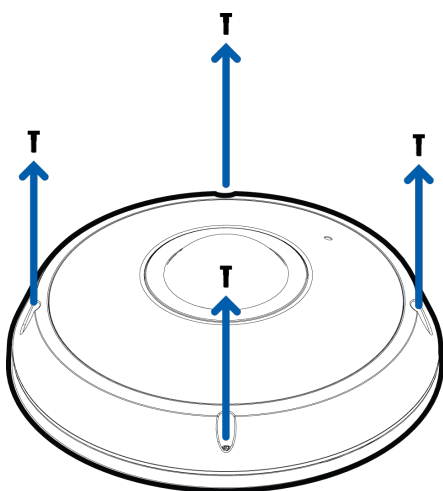
Removing the Dome Cover

1. From the bottom of the dome camera, remove the white plug covering the Ethernet cable entry hole. Once removed, the plug can be discarded.

Be aware that a vacuum may occur within the camera during shipping. Removing the plug may allow the dome cover to be removed more easily.



2. Remove the dome cover by loosening the screws that fix the cover to the base. Use the provided Torx screwdriver to loosen the screws.



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

Preparing the Cables

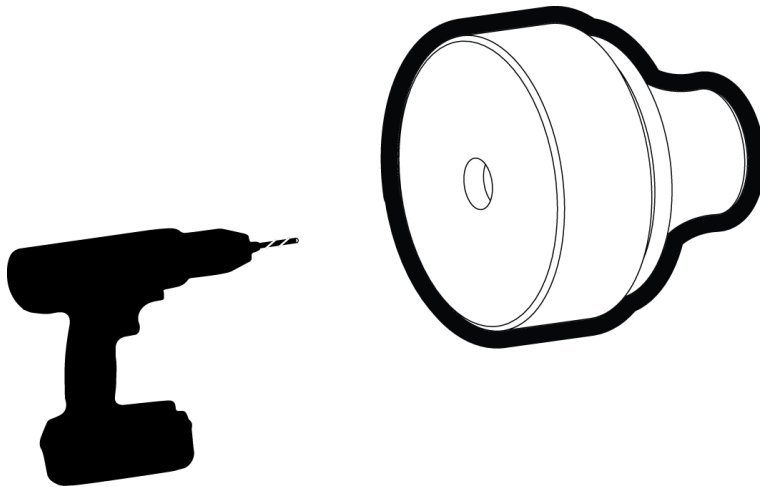
Before you connect the cables to the dome camera, you must prepare the cables for installation.

If the dome camera is installed outdoors, it is important that the cables be insulated against the weather. Provided with the dome camera is a rubber grommet for waterproofing the Ethernet cable, and a rubber washer for the auxiliary cable.

NOTE: The Ethernet cable must be uncrimped to perform this procedure.

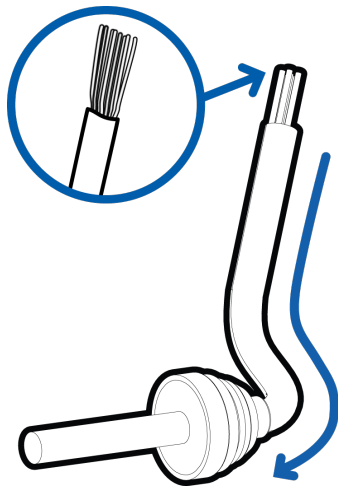
The auxiliary cable that is provided with the dome camera includes an I/O terminal, external power connector, audio input and audio output connectors. You need to connect the auxiliary cable to the dome camera if any one of the auxiliary cable connectors is used. For more information about each of the connector options, see *Auxiliary Cable Connections* on page 29.

1. Thread the Ethernet cable into the rubber grommet.
 - a. Drill a hole through the center of the provided rubber grommet.

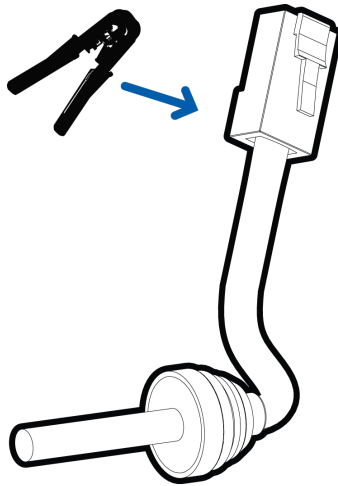


- b. Push the cable through the hole in the rubber grommet.

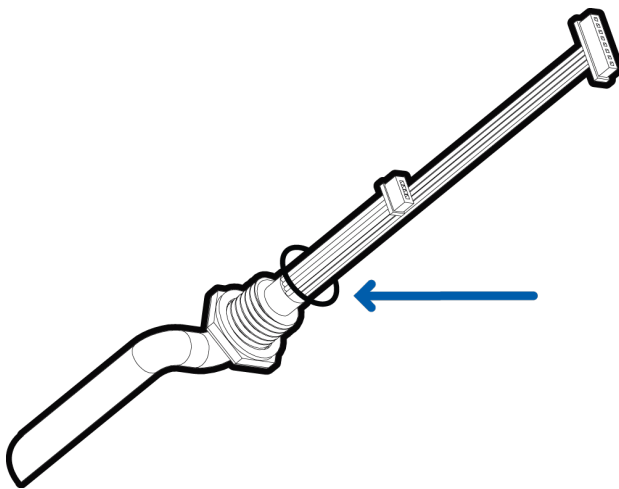
Ensure the orientation of the cable and grommet matches the following image.



c. Crimp the connector onto the Ethernet cable.



2. If you are using the auxiliary cable, thread the rubber washer through the end with the white connectors.



3. Do not connect the cables to the dome camera till indicated.

(Optional) Configuring microSD Card Storage

To use the camera's SD card storage feature, you must insert a microSD card into the card slot.

It is recommended that the microSD card have a write speed of class 10 or better. If the microSD card does not meet the recommended write speed, the recording performance may suffer and result in the loss of frames or footage.

1. Insert a microSD card into the camera.



CAUTION — Do not force the microSD card into the camera or you may damage the card and the camera.

2. Access the camera's web interface to enable the onboard storage feature. For more information, see the *Avigilon High Definition H.264 Camera Web Interface User Guide*.

Mounting the Dome Camera

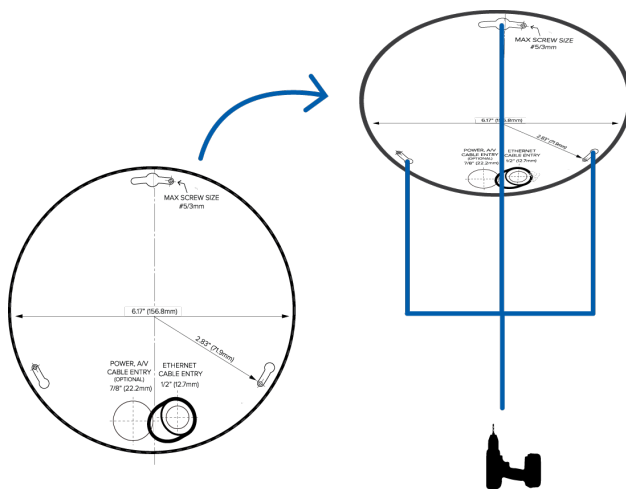
Mounting the Dome Camera to a Ceiling or Wall

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.

If you do not need to use the auxiliary cable, skip the relevant steps.

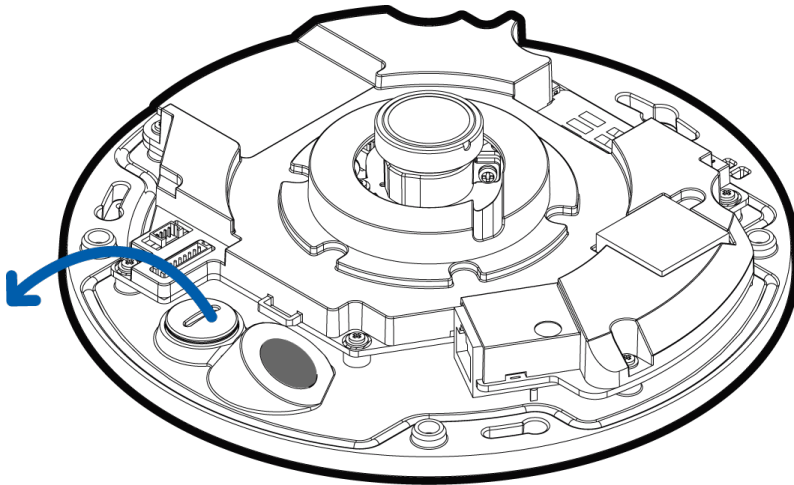
1. Using the Camera Base Mounting Template, drill 3 pilot holes into the mounting surface.

If you are mounting the camera to a wall, make sure the pilot hole for the primary mounting slot is at the top, or the video image will be rotated.



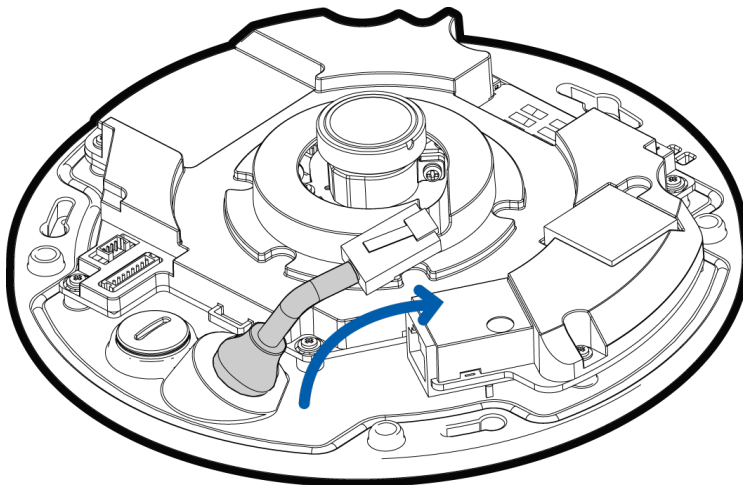
2. Hammer the supplied plastic anchors into the holes.
3. Drill the 2 cable entry holes into the mounting surface.
4. Pull the required cables through the mounting surface.

5. If you are installing the auxiliary cable, remove the black plug covering the auxiliary cable entry hole. Otherwise, keep the cover on the auxiliary cable entry hole to prevent dust from entering the dome camera.

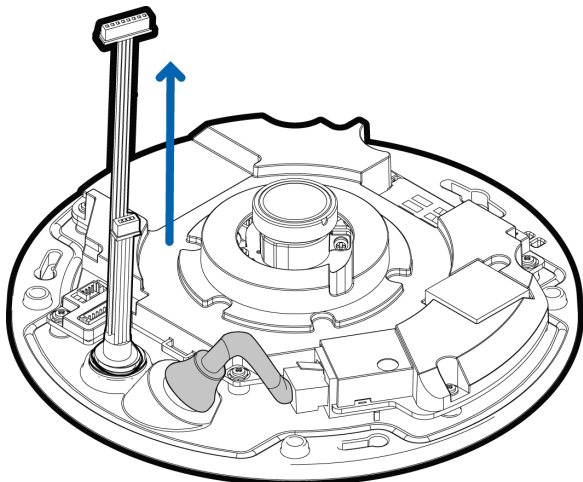


6. Pull the Ethernet cable through the Ethernet cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole.

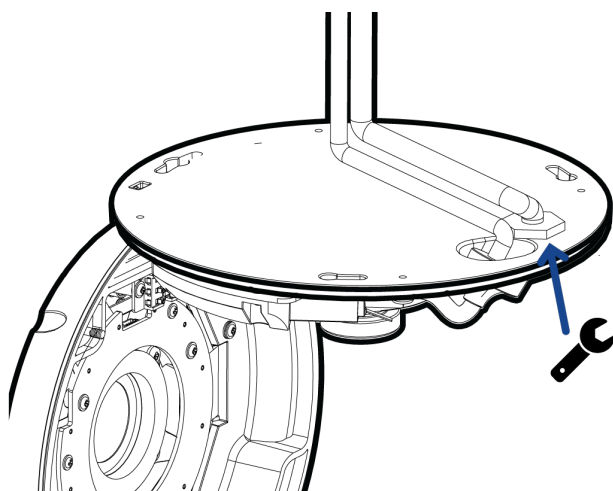
The rubber grommet around the Ethernet cable should be pressed firmly into the Ethernet cable entry hole to create a seal.



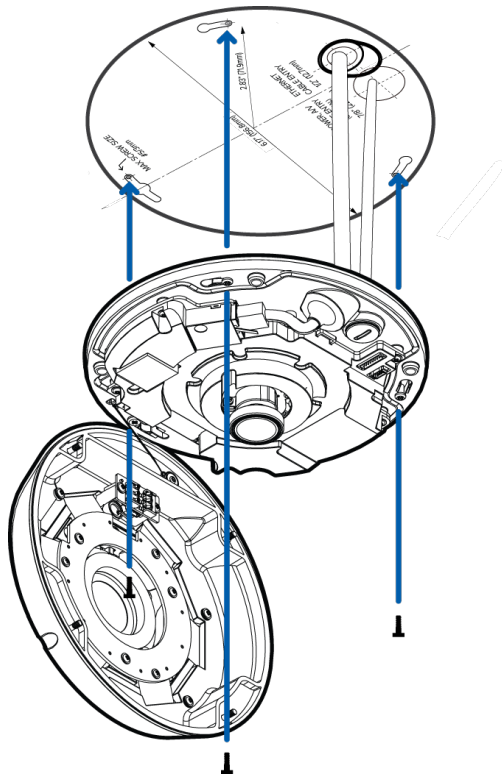
7. If you need the auxiliary cable, pull the cable through the auxiliary cable entry hole.



8. Using a wrench or pliers, tighten the auxiliary cable into the camera base.



- Align the camera base to the pilot holes then use the provided self-tapping screws to secure the camera to the mounting surface.



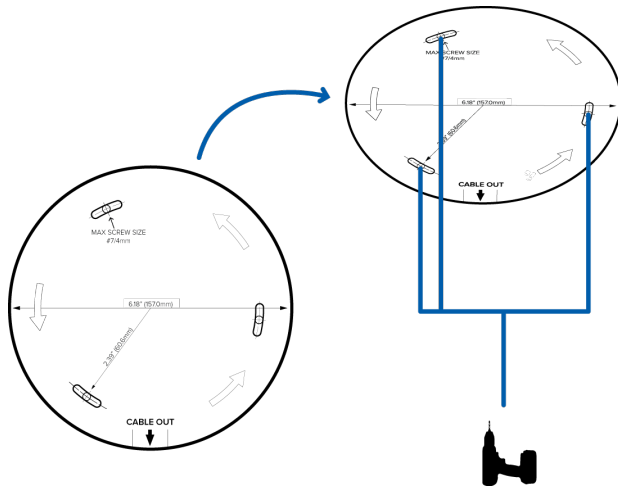
Mounting the Dome Camera Using the Side Cable Entry Hole

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.

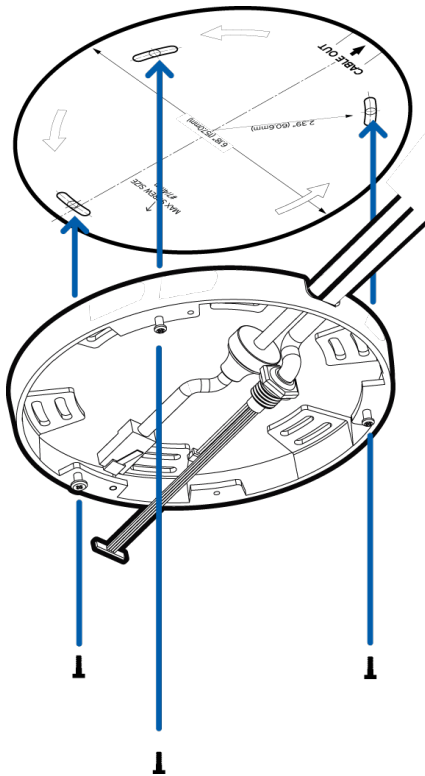
If you do not need to use the auxiliary cable, skip the relevant steps.

1. Using the Bracket Mounting Template, drill 3 holes into the mounting surface.

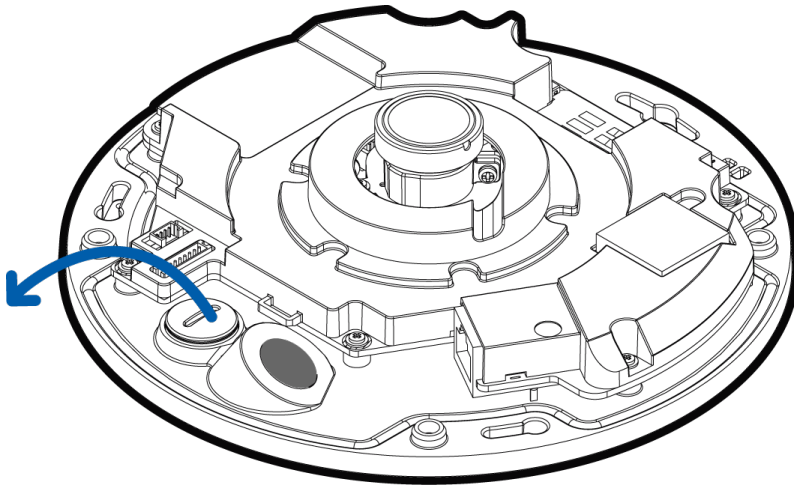
When installing on a wall, the side cable entry hole must point straight down or the video image will be rotated.



2. Hammer the supplied plastic anchors into the holes.
3. Arrange and feed the required cables through the cable entry notch on the bracket.
4. Align the bracket to the mounting holes then use the provided self-tapping screws to secure the mounting bracket to the mounting surface.

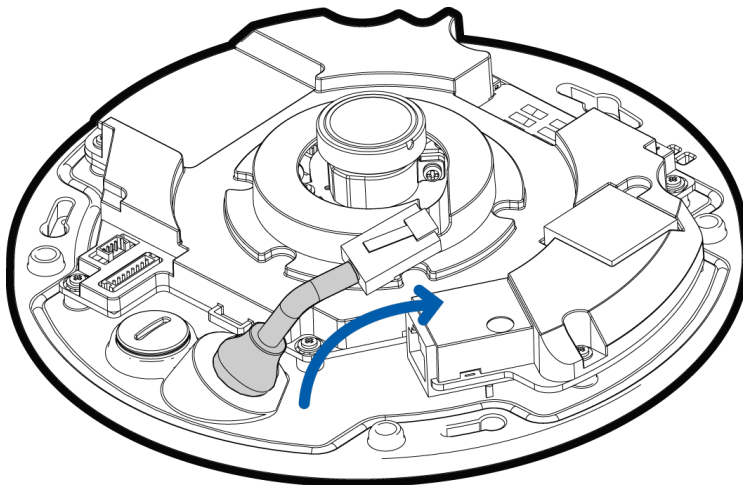


5. If you are installing the auxiliary cable, remove the black plug covering the auxiliary cable entry hole. Otherwise, keep the cover on the auxiliary cable entry hole to prevent dust from entering the dome camera.

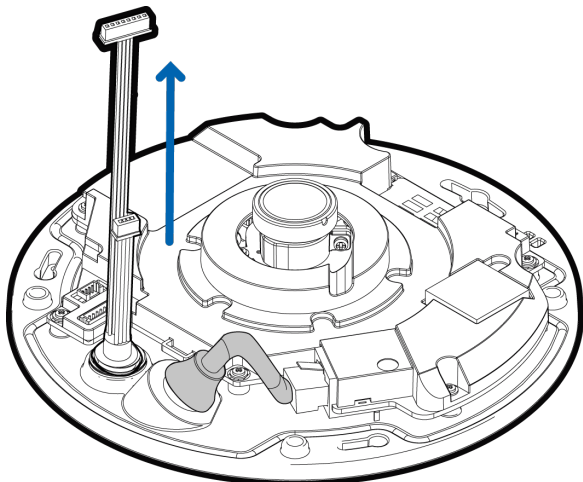


6. Pull the Ethernet cable through the Ethernet cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole.

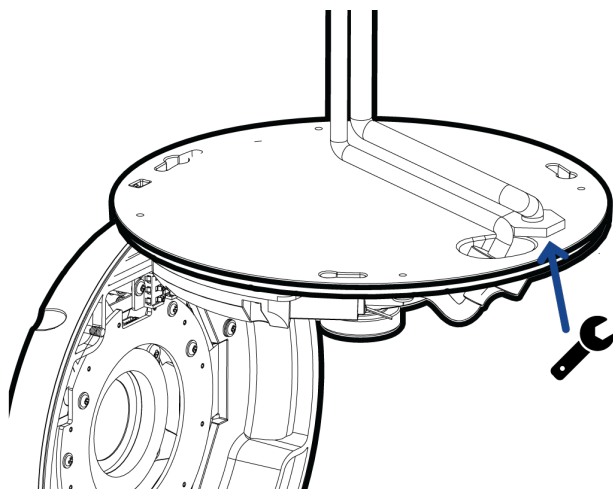
The rubber grommet around the Ethernet cable should be pressed firmly into the Ethernet cable entry hole to create a seal.



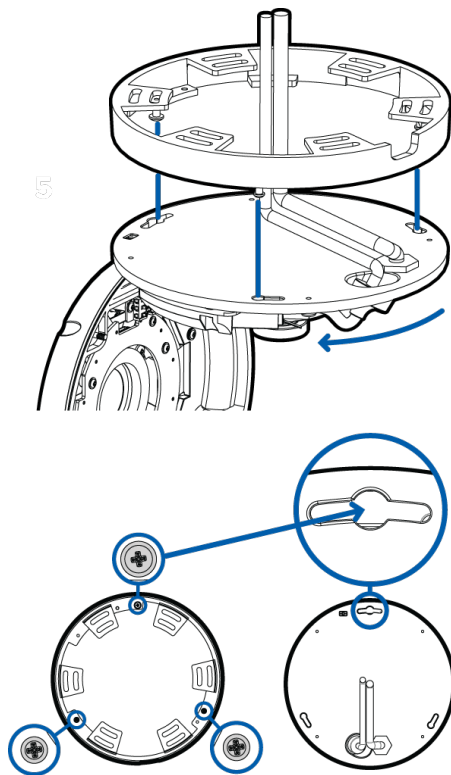
7. If you need the auxiliary cable, pull the cable through the auxiliary cable entry hole.



8. Using a wrench or pliers, tighten the auxiliary cable into the camera base.

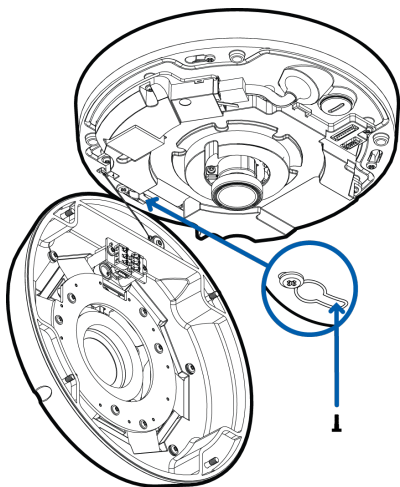


- Align the mounting slots on the camera base to the camera posts on the bracket, then twist counter-clockwise until the posts come to the right end of the mounting slots.



A tapped hole is now visible through the left side of the primary mounting slot on the camera base.

- Insert the provided Torx screw through the primary mounting slot in the camera base, and into the now visible hole in the mounting bracket.



- Tighten the screw to lock the camera to the bracket.

Mounting the Dome Camera to an Electrical Box

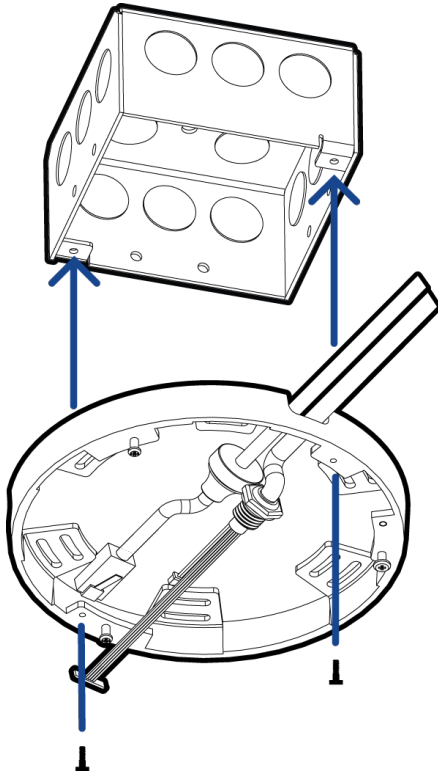
Perform the following steps if the required electrical components and cables must be contained in an electrical gang box. To mount the dome camera to an electrical gang box, you must use the provided bracket.

If you do not need to use the auxiliary cable, skip the relevant steps.

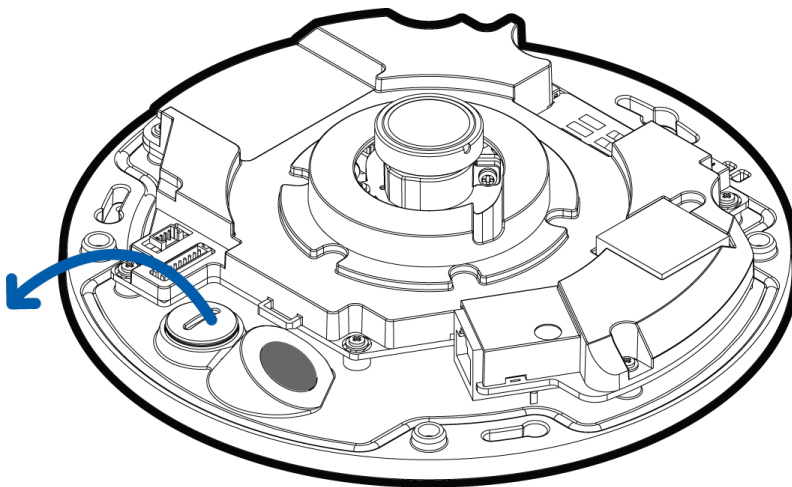
1. Install the electrical gang box as required.
2. Align the bracket mounting holes to the mounting points on the electrical gang box.

If you are mounting the camera to a wall, make sure the primary mounting post on the bracket is at the top, or the video image will be rotated.

3. Use the provided machine screws to secure the bracket to the electrical gang box.

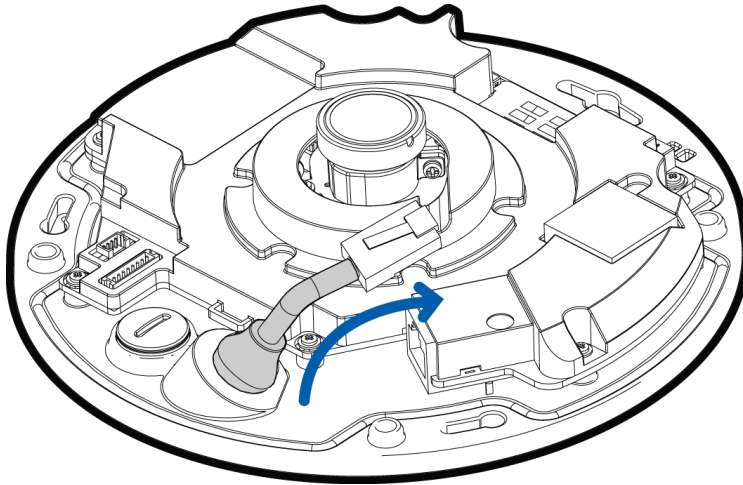


4. If you are installing the auxiliary cable, remove the black plug covering the auxiliary cable entry hole. Otherwise, keep the cover on the auxiliary cable entry hole to prevent dust from entering the dome camera.

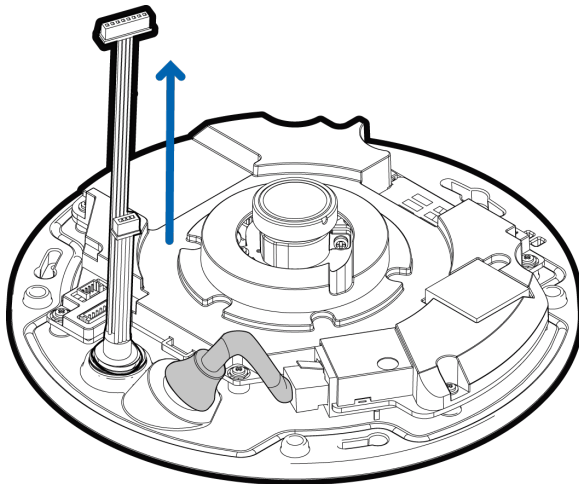


5. Pull the Ethernet cable through the Ethernet cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole.

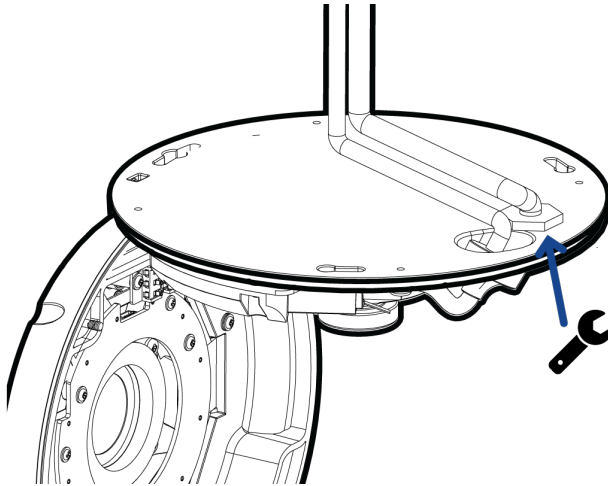
The rubber grommet around the Ethernet cable should be pressed firmly into the Ethernet cable entry hole to create a seal.



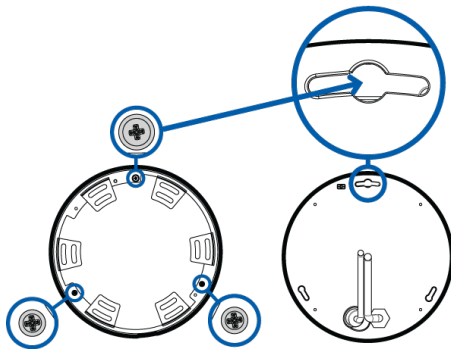
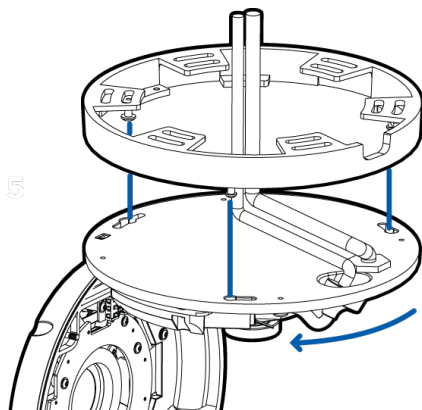
6. If you need the auxiliary cable, pull the cable through the auxiliary cable entry hole.



- Using a wrench or pliers, tighten the auxiliary cable into the camera base.

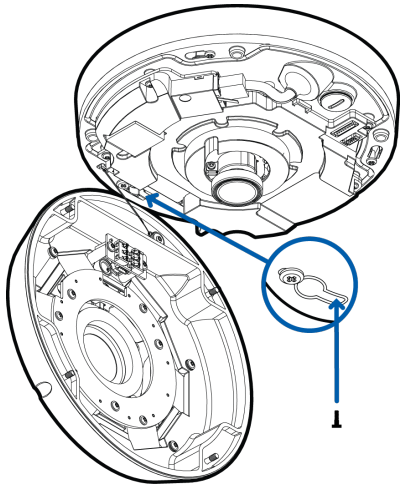


- Align the mounting slots on the camera base to the camera posts on the bracket, then twist counter-clockwise until the posts come to the right end of the mounting slots.



A tapped hole is now visible through the left side of the primary mounting slot on the camera base.

9. Insert the provided Torx screw through the primary mounting slot in the camera base, and into the now visible hole in the mounting bracket.



10. Tighten the screw to lock the camera to the bracket.

Mounting the Dome Camera to an NPT Pipe

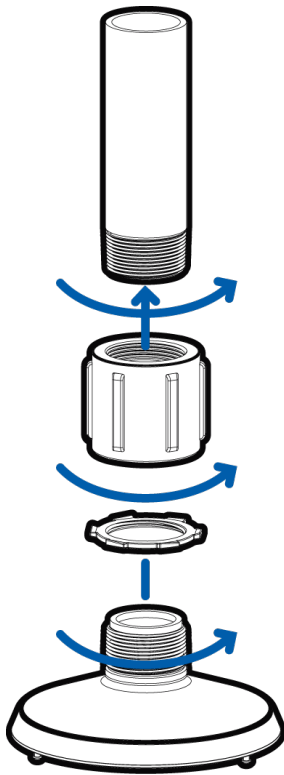
Perform the following steps if the dome camera needs to be installed to an NPT pipe for a pendant installation. To perform this procedure, you need the optional NPT adapter (H4F-MT-NPTA).

If you do not need to use the auxiliary cable, skip the relevant steps.

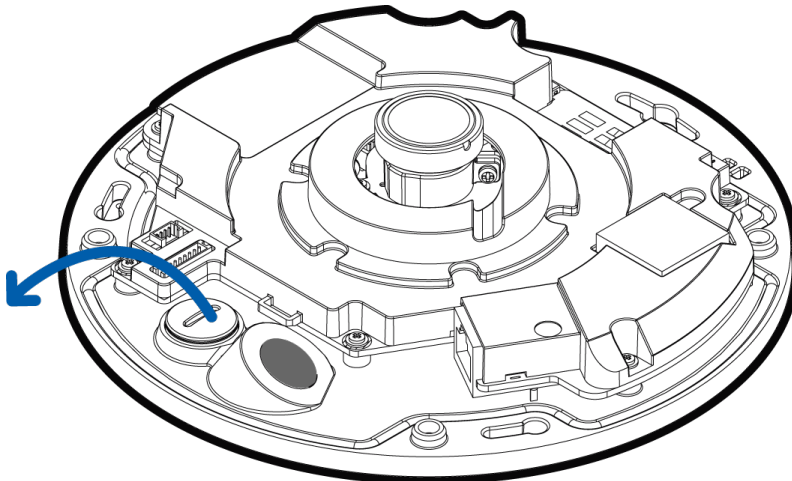
1. Pull the required cable through the NPT conduit pipe.
2. Apply thread seal tape to the pipe and screw on the 1-1/2" NPT female to NPT female pipe adapter.
3. Screw the lock nut onto the NPT adapter.
4. Apply thread seal tape to the NPT adapter and screw it into the pipe adapter.

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

- a. NPT conduit pipe
- b. 1-1/2" NPT female to female pipe adapter
- c. Lock nut
- d. NPT adapter

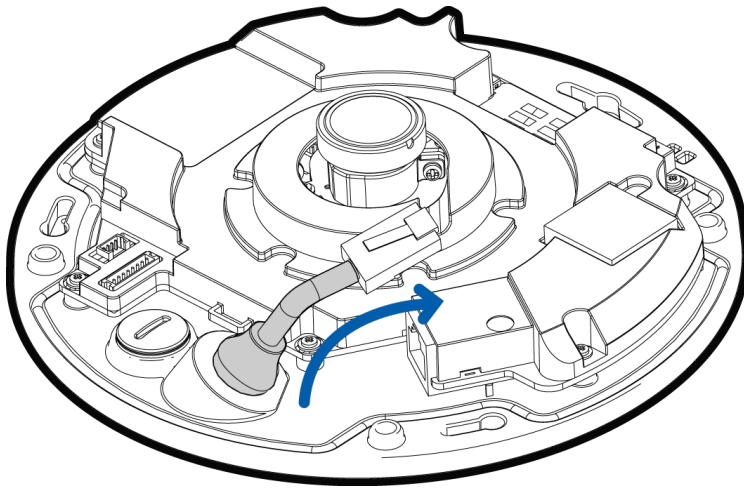


5. If you are installing the auxiliary cable, remove the black plug covering the auxiliary cable entry hole. Otherwise, keep the cover on the auxiliary cable entry hole to prevent dust from entering the dome camera.

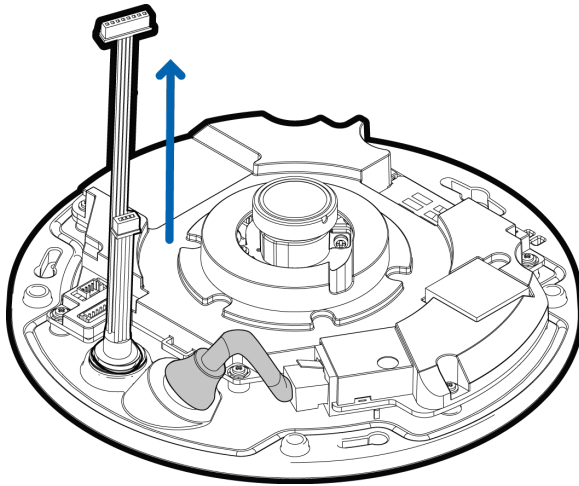


6. Pull the Ethernet cable through the Ethernet cable entry hole on the camera base. The thread around the grommet should line up with the cable entry hole.

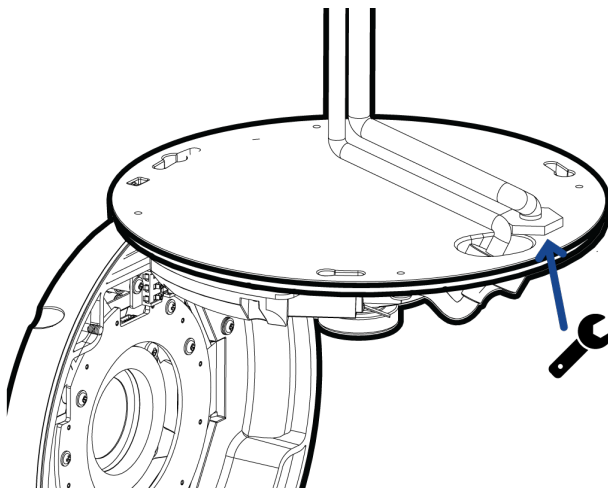
The rubber grommet around the Ethernet cable should be pressed firmly into the Ethernet cable entry hole to create a seal.



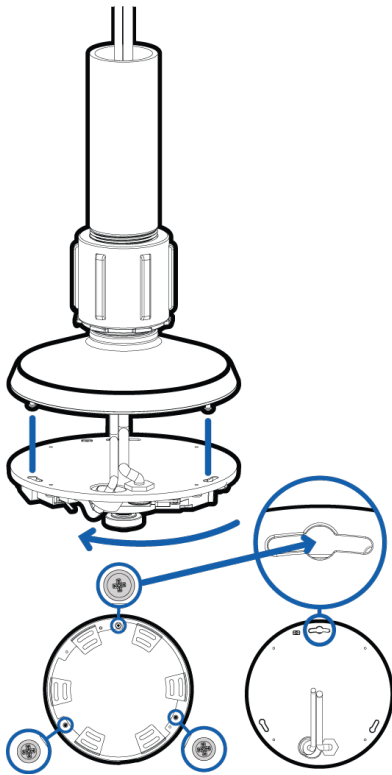
7. If you need the auxiliary cable, pull the cable through the auxiliary cable entry hole.



8. Using a wrench or pliers, tighten the auxiliary cable into the camera base.

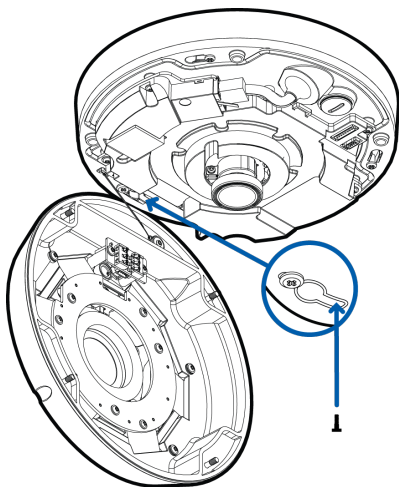


- Align the mounting slots on the camera base to the camera posts on the NPT adapter, then twist counter-clockwise until the posts come to the right end of the mounting slots.



A tapped hole is now visible through the left side of the primary mounting slot on the camera base.

- Insert the provided Torx screw through the primary mounting slot in the camera base, and into the now visible hole in the NPT adapter.

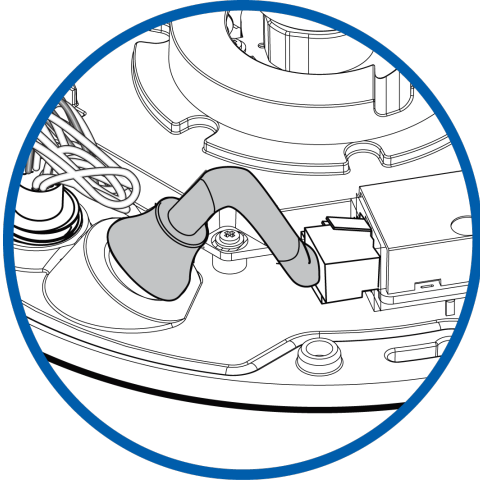


- Tighten the screw to lock the camera to the bracket.

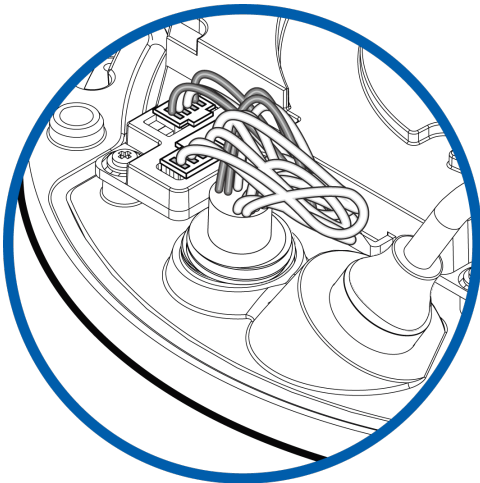
Connecting Cables

Refer to the diagrams in the Overview section for the location of the different connectors on the camera base.

1. Connect a network cable to the camera's Ethernet port (RJ-45 connector).



2. If the camera is connected to any external devices, connect the auxiliary cable to the auxiliary cable connectors.



3. Power the camera using one of the following methods.
 - Power over Ethernet (PoE) Class 3 — If PoE is available, the LEDs will turn on.
 - External Power — Connect the auxiliary cable to the auxiliary cable connectors.

The status LEDs turn on when the dome camera receives power.

NOTE: The dome camera may not immediately begin normal operations if the environment is too cold. It may take up to 20 minutes for the dome camera to warm up and begin operations if the temperature is below -25°C (-13°F).

Assigning an IP Address

The camera 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:

- Camera's web browser interface: `http://<camera IP address>/`
- Network Video Management software application (for example, Avigilon Control Center (ACC)[™]).
- ARP/Ping method. For more information, see *Setting the IP Address Using the ARP/Ping Method* on page 33.

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

Accessing the Live Video Stream

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

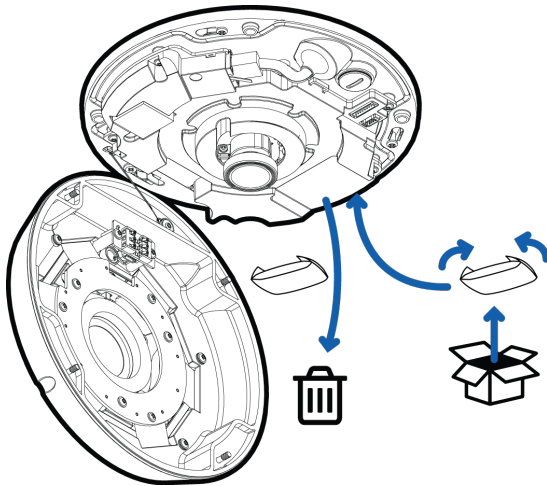
- Web browser interface: `http://< camera IP address>/`
- Network Video Management software application (for example, the Avigilon Control Center software).

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

Installing the Dome Cover

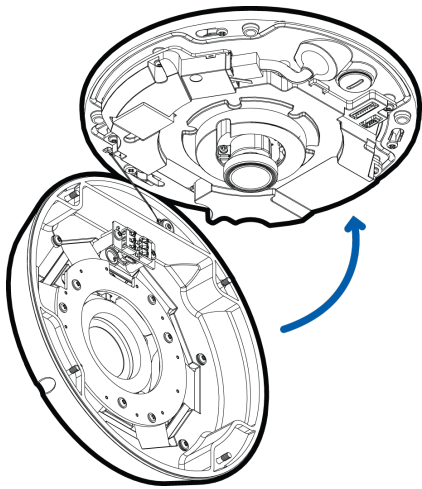
Be careful not to touch or scratch the dome bubble. Any marks or fingerprints on the dome bubble may cause unwanted reflections from the IR illuminators.

1. Discard the desiccant pack that is glued to the camera base.

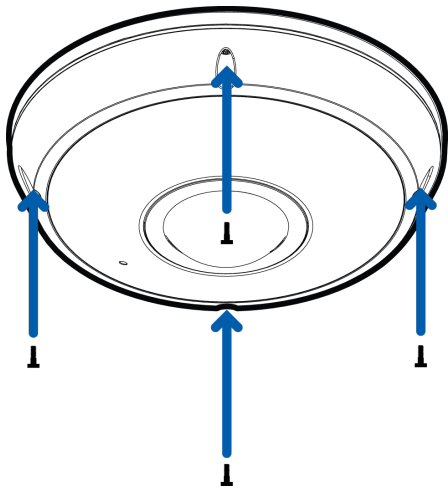


2. On the new desiccant pack provided with the camera, remove the adhesive backing and fold down the sides over the adhesive.
3. Place the new desiccant pack in the same location as the old pack and make sure it sticks to the camera.
4. Attach the dome cover to the base.

Tip: Make sure the IR contacts are aligned to fit the dome cover to the base.



5. Tighten the screws with the Torx screwdriver.



6. Remove the plastic cover on the dome bubble.

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 H.264 Web Interface User Guide*.

For More Information

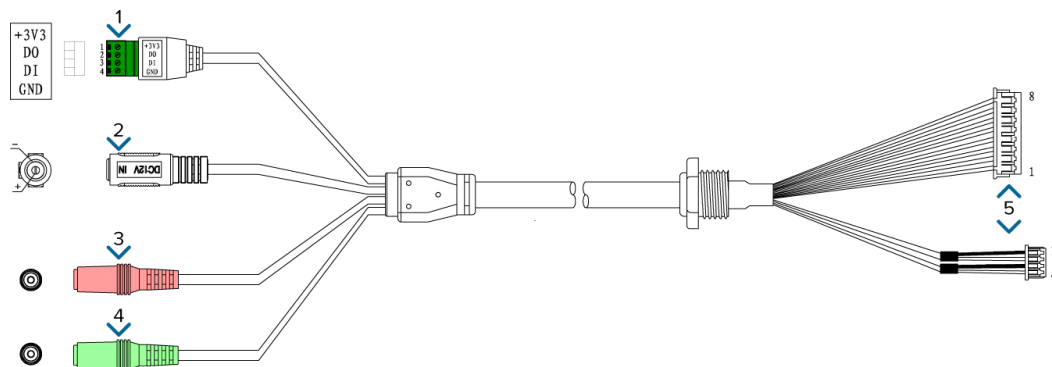
Additional information about setting up and using the device is available in the following guides:

- *Avigilon Control Center Client User Guide*
- *Avigilon High Definition H.264 Web Interface User Guide*
- *Avigilon Camera Configuration Tool User Guide*

The manuals are available on the Avigilon website: <http://www.avigilon.com/support-and-downloads>

Auxiliary Cable Connections

The auxiliary cable that is provided with the dome camera includes an I/O terminal, external power connector, audio input and audio output connectors. Connect all the required external devices to the auxiliary cable:



1. Connect external input and output devices to the I/O terminal block. External input and output devices can include: door contacts, relays, etc.
 - +3V3 — Power, 3.3 V DC, 100 mA max
 - DO — Digital output
 - DI — Digital input
 - GND — Ground
2. If the camera will be using external power, connect a 12 V DC, 2.125 A min. polarized power adapter to the black power connector.

NOTE: Do not connect external power if you are powering the dome camera by PoE.

 - Positive on the center pin
 - 5.5 mm outer diameter
 - 2.1 mm inner diameter
3. Connect an external microphone or a line level input to the pink audio input connector. It accepts a 3.5 mm audio connector.
4. Connect a PA system or speaker with a built in amplifier to the green line level audio output connector. It accepts a 3.5 mm audio connector.
5. Connect the white connector heads directly to the camera I/O connector. This will allow the camera to use the auxiliary cable connections.

Configuring the Microphone

The H4 Fisheye Dome Camera features two microphones: a built-in microphone and an external audio input.

After you've connected the required microphones, you can configure the microphones or line level audio input from the camera web interface or in the ACC Client software.

- In the camera web interface, the microphones are configured from the Microphone page. You can adjust the microphone volume by changing the gain.
 - **Internal Microphone Gain** — configures the gain for the microphone that is built into the camera.
 - **External Source Gain** — configures the gain for any line level audio input that is connected to the pink audio input connector on the auxiliary cable.

For more information, see the *Camera Web Interface User Guide*.

- In the ACC Client software, the microphones are configured in the Microphone dialog box that can be accessed from the camera's Setup tab. You can adjust the microphone volume by changing the gain and link the audio to other cameras in the site.
 - **Audio Input 1** — configures the gain for the microphone that is built into the camera.
 - **Audio Input 2** — configures the gain for any line level audio input that is connected to the pink audio input connector on the auxiliary cable.

For more information, see the *Avigilon Control Center Client User Guide*.

LED Indicators

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

The following table describes what the LEDs indicate:

Connection State	Connection Status LED	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.

Resetting to Factory Default Settings

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

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

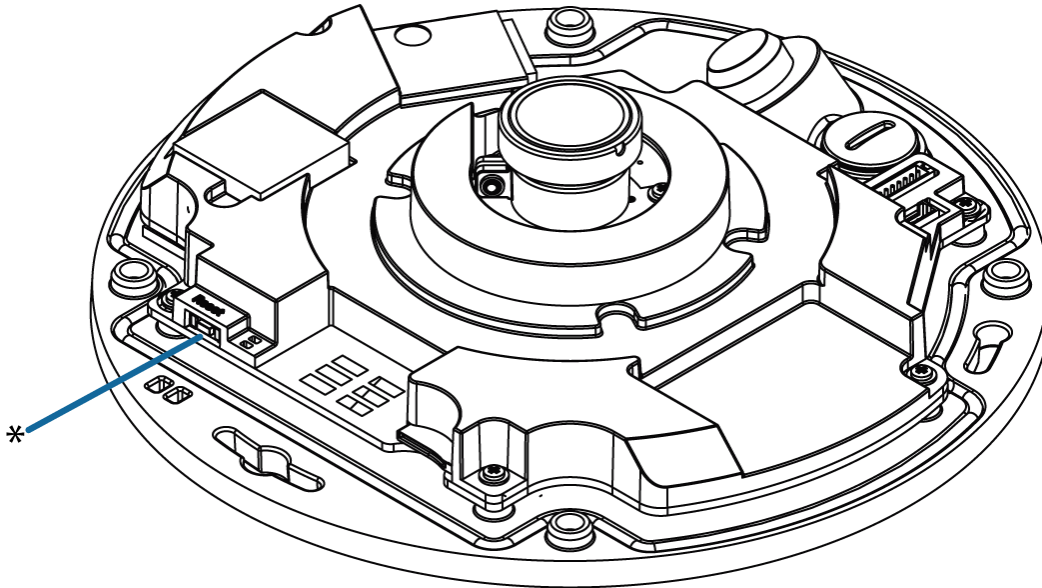


Figure 1: The reset button on the camera base beside the IR contacts.

1. Ensure the camera is powered on.
2. Remove the dome cover.
3. Press and hold the reset button.
4. Release the button when the LEDs beside the reset button turn off.

Wait while the dome camera reverts to the factory default settings.

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 H.264 Web Interface User Guide*.

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>: ...

Cleaning

Dome Bubble

If the video image becomes blurry or smudged in areas, it may be because the dome bubble requires cleaning.

To clean the dome bubble:

- Use hand soap or a non-abrasive detergent to wash off dirt or fingerprints.
- Use a microfiber cloth or non-abrasive fabric to dry the dome bubble.

Important: Failure to use the recommended cleaning materials may result in a damaged or scratched dome bubble. A damaged dome bubble may negatively impact image quality and cause unwanted IR light reflecting into the lens.

Body

- Use a dry or lightly dampened cloth to clean the camera body.
- Do not use strong or abrasive detergents.

Specifications

Camera

Audio Input/Output	Line level I/O and internal microphone
Lens	1.45 mm, F/2.2
SD Storage	microSDHC/microSDXC/UHS-1 – minimum class 10 or better recommended

Network

Network	100 BaseTX
Cabling Type	CAT5
Connector	RJ-45
API	ONVIF Profile S compliant (www.onvif.org)
Device Management Protocols	SNMP v2c SNMP v3
Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication.
Streaming Protocols	IPv4, TCP/IP, HTTP, HTTPS, UPnP, RTSP/RTP/RTCP, IGMP, SMTP, FTP, DHCP, NTP, DNS, DDNS, PPPoE, CoS, QoS, UDP, ICMP, ARP, SSL, TLS

Mechanical

Dimensions Ø x H	Dome camera only — 160 mm x 51 mm (6.2" x 2.0") With bracket — 162mm x 70mm; 6.38" x 2.75" With NPT adapter — 160mm x 124mm; 6.31" x 4.89"
Weight	Camera — 0.826 kg; 1.77 lbs With bracket — 0.94 kg; 2.07 lbs With NPT adapter — 1.138 kg; 2.5 lbs
Body	Aluminum
Housing	Vandal resistant. Surface mount; or pendant mount with NPT adapter.
Finish	Powder coat, RAL 9003

Electrical

Power Consumption	25.5 W max
Power Source	VDC: 12 V +/-10%, 2.125 W min., L.P.S. per IEC 60950-1 PoE: IEEE 802.3af Class 3 PoE+: IEEE 802.3at Class 4
Power Connector	DC power input adapter

Environmental

Operating Temperature	-40 °C to +55 °C (-40 °F to 131 °F) with 12 V DC or PoE+ Plus power
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	-20 °C to +55 °C (-4 °F to 131 °F) with PoE power
Storage Temperature	-25°C to +50 °C (-13 °F to 122 °F)
Humidity	0-95% non-condensing
Certifications	
Certifications	UL cUL CE ROHS WEEE RCM EAC KC
Safety	UL 60950-1 CSA 60950-1 IEC/EN 60950-1 IEC 62471
Environmental	IK10 Impact Rating (camera housing only) Meets IEC 60529 IP66 Weather Rating IEC/UL/CSA 60950-22
Electromagnetic Emissions	FCC Part 15 Subpart B Class B EN 55032 IC ICES-003 Class B EN 61000-6-3 EN 61000-3-2 EN 61000-3-3 KN 32
Electromagnetic Immunity	EN 55024 EN 61000-6-1 KN 35

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