Installation Guide

Avigilon™ H5A Modular Camera Models:

3C-H5MOD-MB2
5C-H5MOD-MB2
3C-H5MOD-RP4
H5A-MOD-2P

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PDF-H5AMOD-A

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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, and 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 Source” with output rated 12 VDC, 11.5 W min. or PoE, 11.5 W minimum.
- Do not connect directly to mains power 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.
- This product should be installed in restricted access locations.
- The micro bullet camera imager models 3C-H5MOD-MB2 and 5C-H5MOD-MB2 comply with EN 60529 IP66 rating.

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 A digital apparatus complies with Canadian ICES-003.

FCC Notice

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

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

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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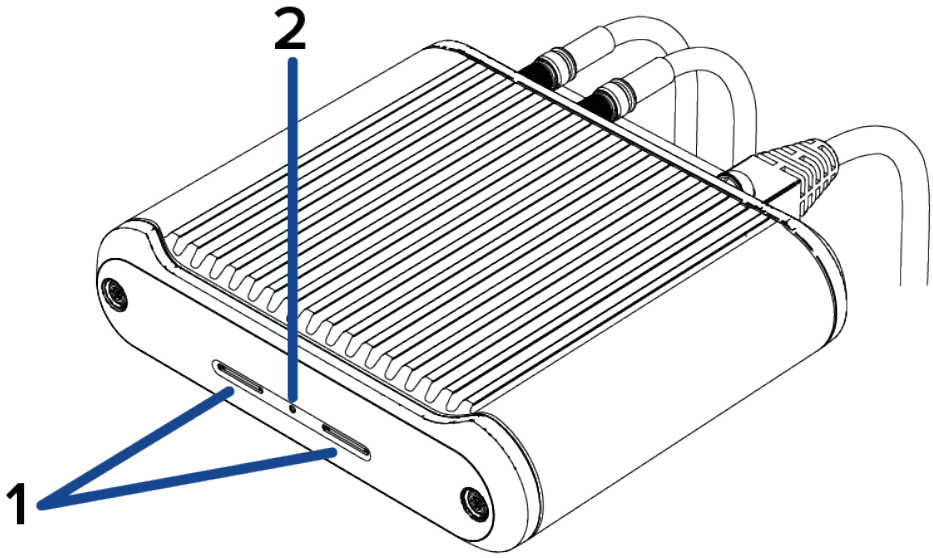
Overview

Main Unit

Front View



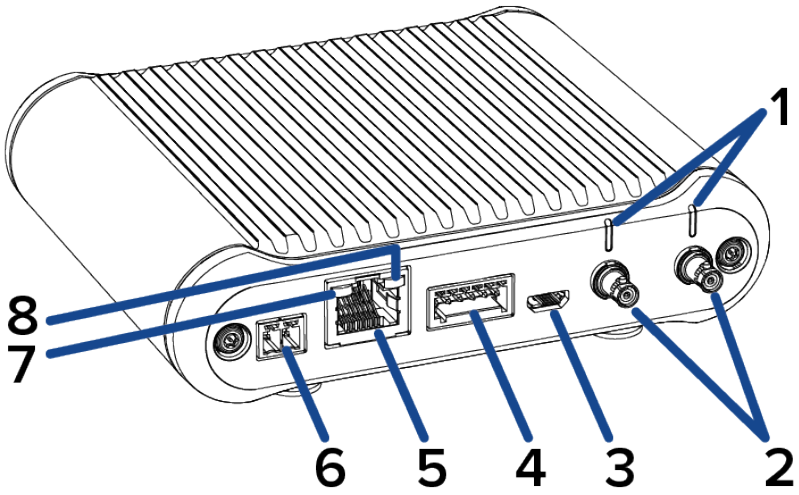
1. **microSD card slots (x2)**

   Accepts up to two microSD cards for onboard storage. Install microSD cards so the metal contacts are facing towards the mounting feet. For more information, see *(Optional) Configuring Onboard Storage* on page 50.

2. **Firmware revert button**

   Resets the camera to its factory default settings.

Rear View



1. **Imager connection LEDs (x2)**

   LEDs that provide information about imager device connections. For more information, see *Imager Connection LED Indicators* on page 53.
2. **Imager HD BNC connectors (x2)**

   HD BNC cable connections for connecting the modular camera main unit to up to two imager modules.
3. **Micro USB port**

   Accepts a micro USB to USB adapter. Only required when using the Avigilon USB Wi-Fi Adapter.
4. **I/O connector block**

   Provides connections to external input/output and audio devices.
5. **Ethernet port**

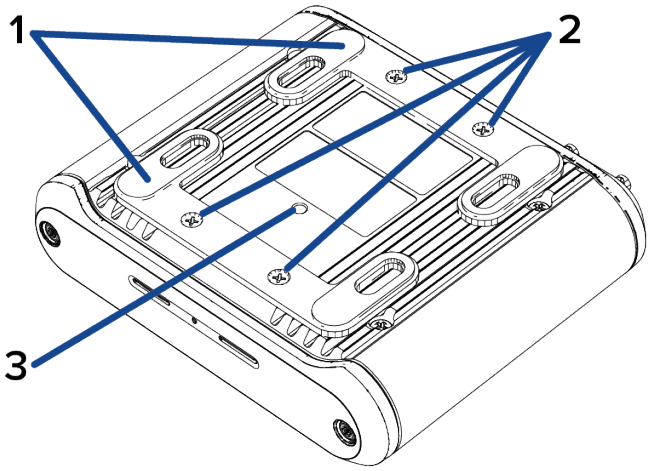
   Accepts an Ethernet connection to a network. Server communication and image data transmission occurs over this connection. Also receives power when it is connected to a network that provides Power over Ethernet.
6. **Power connector block**

   Accepts an external DC power connection when Power over Ethernet is not available.
7. **Link LED indicator**

   Amber LED indicates if there is an active connection in the Ethernet port.
8. **Connection status LED indicator**

   Green LED provides information about device operation. For more information, see *Connection Status LED Indicator* on page 52.

Bottom View



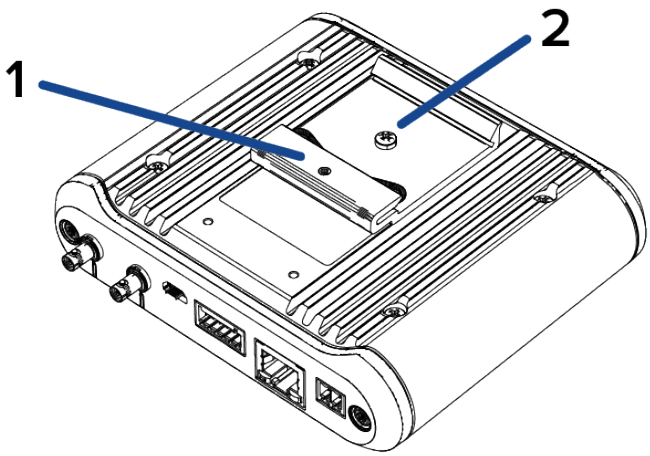
1. **Mounting feet (x2)**

   Main unit mounting feet that can be used for a tabletop installation or a wall mount. The mounting feet are removed for a DIN rail mounted unit.
2. **Mounting feet screws (x4)**

   Screws for fastening the mounting feet to the main unit.
3. **DIN rail mount screw hole**

   Screw hole used for fastening the DIN rail mount to the main unit.

DIN Rail Mount View



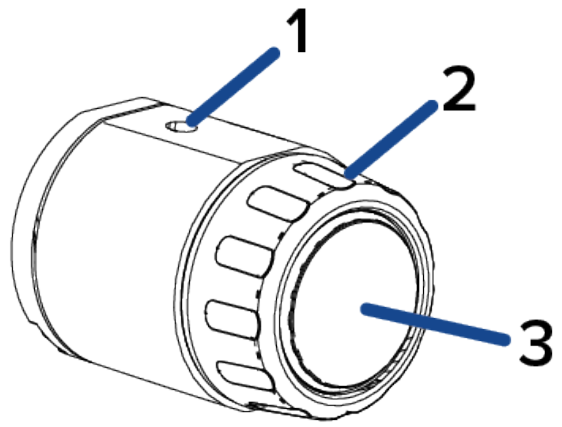
1. **DIN rail mount**

   Mount used for securing the main unit to a DIN rail. Ordered separately (BRKTMD-1001).
2. **DIN rail mount screw**

   Screw used for fastening the DIN rail mount to the main unit.

Micro Bullet Imager

Micro Bullet Imager View



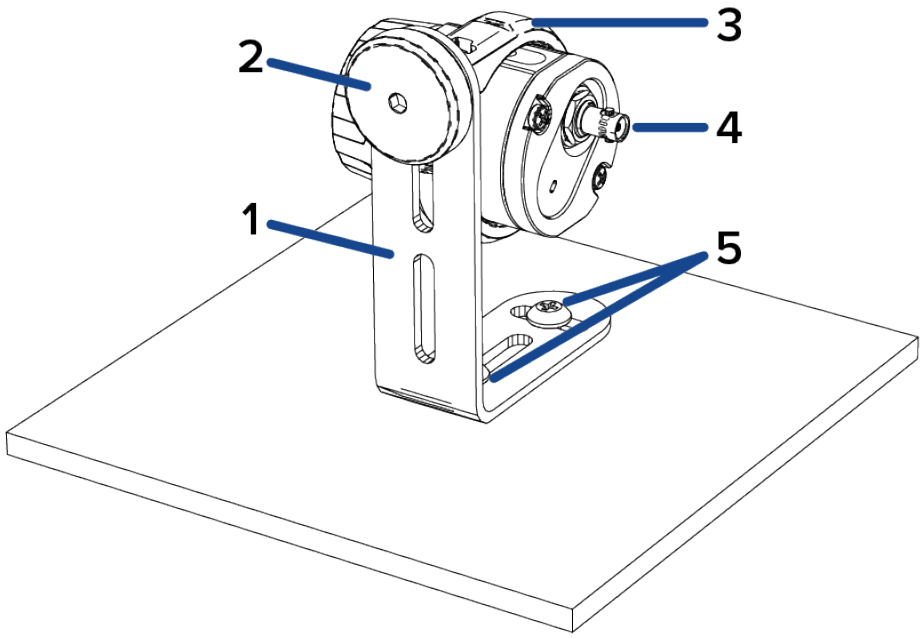
1. **Camera mount**

   Provides mounting point for the imager. Mount accepts M3 screws.
2. **Lens collar**

   Removable lens collar.
3. **Camera lens**

   Lens that captures the video image.

L-Bracket and Micro Bullet View



1. **L-bracket mounting adapter**

   L-bracket for mounting the micro bullet imager to a flat surface.
2. **L-bracket thumbscrew**

   Thumbscrew to adjust the position or angle of the micro bullet imager.
3. **L-bracket micro bullet mount**

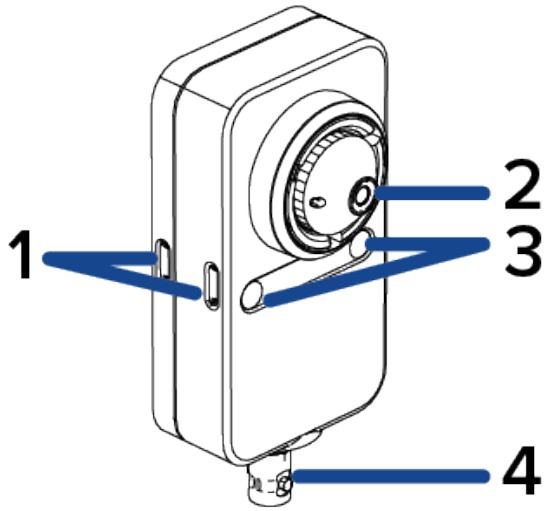
   Mounting collar for connecting the micro bullet imager to the L-bracket mount.
4. **HD BNC connector**

   HD BNC cable connection for connecting the micro bullet imager to the modular camera main unit.
5. **Mounting screws (x2)**

   Screws to fasten the L-bracket mount to the mounting surface.

Right Angle Imager

Right Angle Imager View



1. **Bracket clip retainers (x4)**

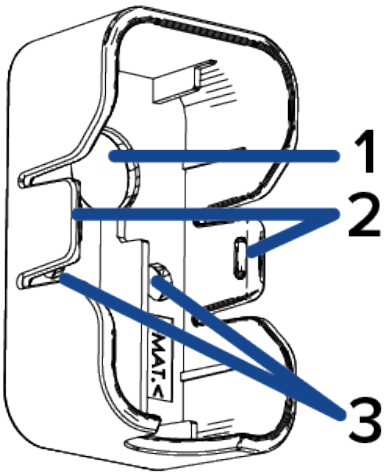
   Bracket clip retainers for fastening the optional accessory flat bracket to the right angle imager.
2. **Camera pinhole lens**

   Pinhole-sized lens that captures the video image.
3. **Mounting slots (x2)**

   Slots for fastening the right angle imager to a mounting surface.
4. **HD BNC connector**

   HD BNC cable connection for connecting the right angle imager to the modular camera main unit.

Optional Accessory Flat Bracket View



1. **Lens opening**

   Opening in the bracket for lens to be positioned.
2. **Bracket mounting clips (x2)**

   Clips to connect the bracket to the clip retainers on the right angle imager.
3. **Mounting slots (x2)**

   Slots for fastening the bracket and right angle imager to a mounting surface with the provided mounting screws.

Preparing the Installation

Modular Camera System Setup

The modular camera provides maximum flexibility to combine different imager modules, mounting options, and cable configurations to suit any number of installation scenarios. Either of the 2 camera imager modules can be connected to the modular camera main unit for maximum versatility and optimal installations.

The following are required to set up your modular camera system:

- At least one modular camera main unit; H5A-MOD-2P
- Up to two imager modules per main unit:
    - Micro bullet imager: 5C-H5MOD-MB2 or 3C-H5MOD-MB2
    - Right angle imager: 3C-H5MOD-RP4
- One HD BNC cable for each imager module:
    - 2 m (6.5 ft) cable: CBL2M-1001
    - 5 m (16.4 ft) cable: CBL5M-1001

Important: HD BNC cables should not be sharply bent, twisted, or crimped to ensure optimal video transmission quality. For more information, see *Recommended Use of HD BNC Cables* on the next page.

Mounting and Aiming Video Analytics Cameras

When installing an Avigilon video analytics camera, follow the listed mounting and aiming recommendations to maximize the camera's analytics capabilities:

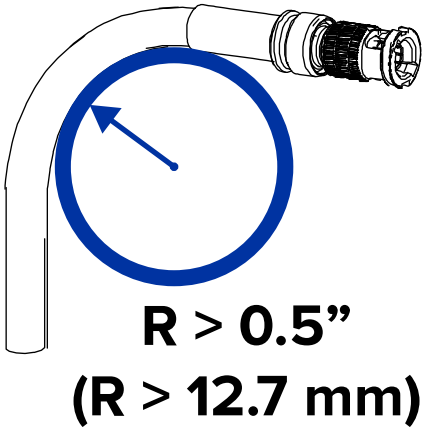
- The camera should be installed above 2.74 m (9 feet).

  The camera also supports lower installations that are in the eye-level range of 1.21 m to 2.13 m (4-7 ft range). If installing in this lower range, make sure to select the Indoor Close-up mode when configuring the analytics. For more information, see the Avigilon *Designing a Site for Video Analytics Guide*, available on the website.
- The camera should tilt downwards no more than 45 degrees.
- The camera image should be level with the horizon line.
- The camera should be mounted to a stable surface to minimize the physical movement of the camera after installation.

For more details, see *Designing a Site for Video Analytics*. The document is available on the Avigilon website.

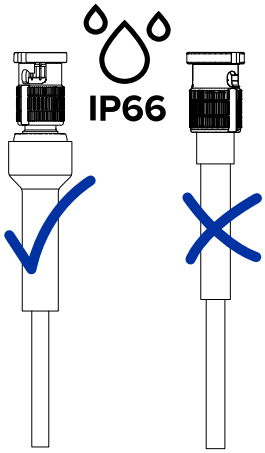
Recommended Use of HD BNC Cables

HD BNC cables are capable of transmitting high resolution video from an imager module to the main unit while also powering the imager module. For optimal performance of the HD BNC cable and to reduce signal degredation, the cable should never be bent or curved any less than a 0.5" (12.7 mm) radius circle.



One connector on each HD BNC cable is IP66 rated for protection from dust and water ingress. The IP66 connector should be used with the micro bullet imager to set up an IP66 rated, weather-protected connection for that imager.

The non-IP rated end of the HD BNC is used to connect to the main unit, which should be installed in a dry and secure location.



Note: Only the micro bullet imager is IP66-rated. The right angle imager should be installed in a dry and secure location.

Main Unit Installation

Required Tools and Materials

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

- At least one modular camera imager and an HD BNC cable. For more information, see *Modular Camera System Setup* on page 14.
- Small slotted screwdriver with 5/64” or 2 mm blade width — for connecting power when not using Power over Ethernet
- No. 2 Phillips screwdriver — for attaching camera to a mounting surface

Main Unit Package Contents

Ensure the surface mounted camera package contains the following:

- Avigilon H5A ,Modular camera main unit
- Base Mounting Template sticker
- Power and I/O terminal block
- 4x screws and anchors — for securing the unit to the mounting surface.

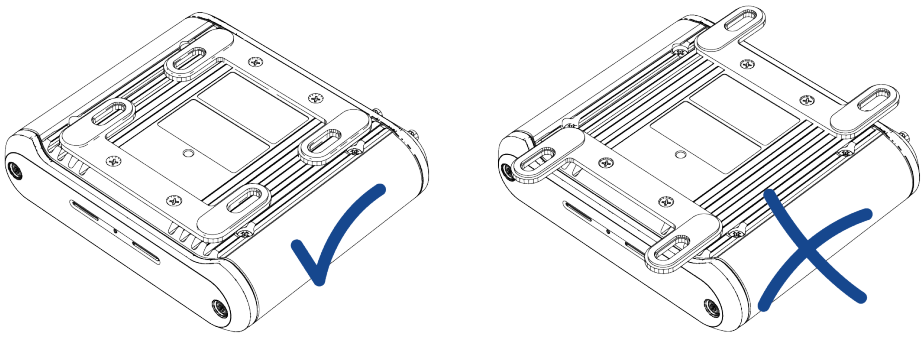
The optional DIN rail mounting accessory, BRKTMD-1001, can also be ordered separately.

Mounting on a Flat Surface or Table

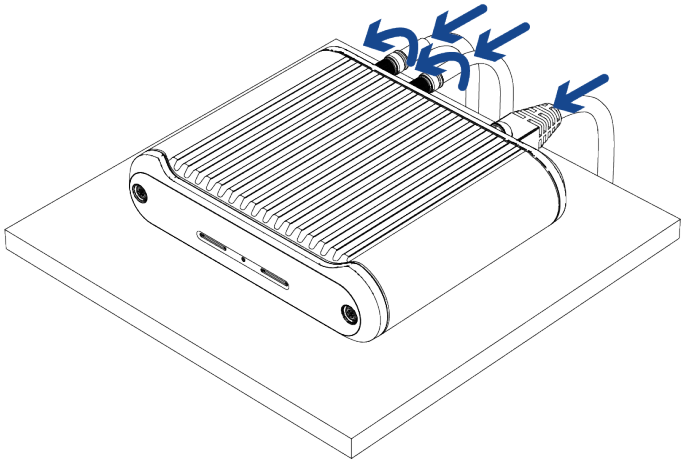
If the modular camera main unit is installed in a secure location where it would not be bumped or jostled, you can place the unit on a flat shelf or tabletop. Make sure to install the main unit in a location where the unit and connected cables will be secure and undisturbed.

1. The unit is shipped with the mounting feet in the tabletop mounting position.

   If the mounting feet are not oriented as shown below, remove the four screws and re-install the mounting feet in the correct orientation. For more information, see *Changing the Mounting Feet Position* on the next page.



2. Place the unit on a flat surface and connect the required cables. For more information, see *Cable Connections* on page 22.

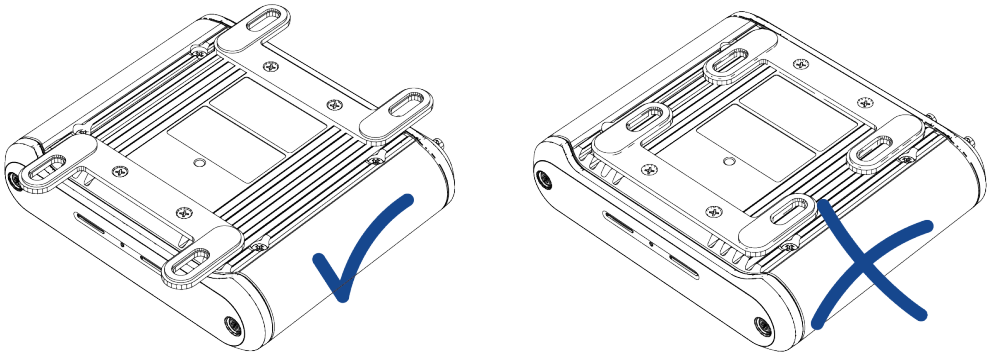


Mounting the Unit to a Wall

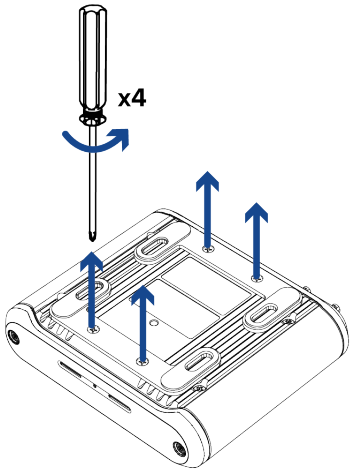
Perform the following steps to install the modular camera main unit on a vertical wall. This mounting option is ideal for keeping the unit and it's cables out of the way.

Changing the Mounting Feet Position

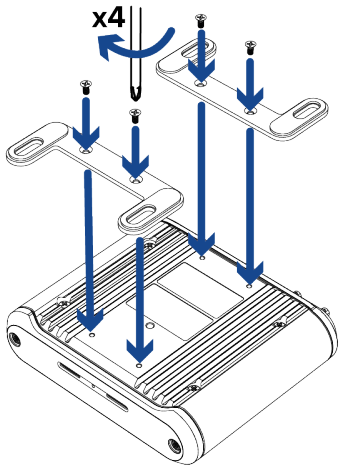
The unit is shipped with the mounting feet in the tabletop mounting position. To mount the unit to a wall, you must first change the orientation mounting feet to match the image below.



1. Remove the 4 screws holding the mounting feet in position.



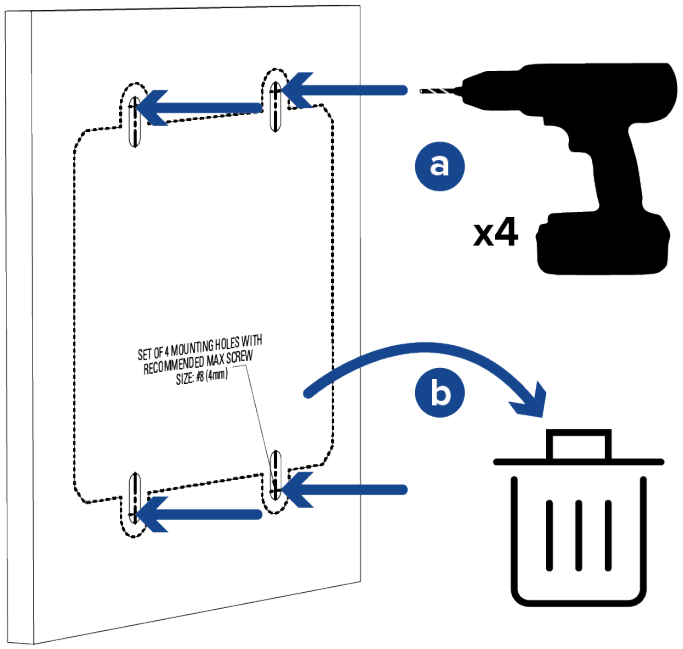
2. Rotate the mounting feet 180° so they match the image below. Connect the mounting feet to the main unit using the 4 screws.



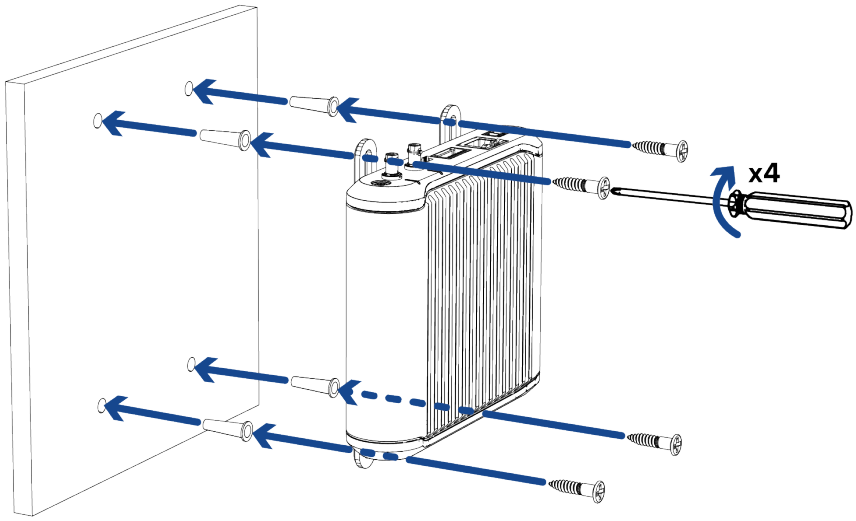
Mounting to a Wall

1. Using the Mounting Template, drill 4 pilot holes into the mounting surface for the mounting screws. Discard the mounting template when you are finished.

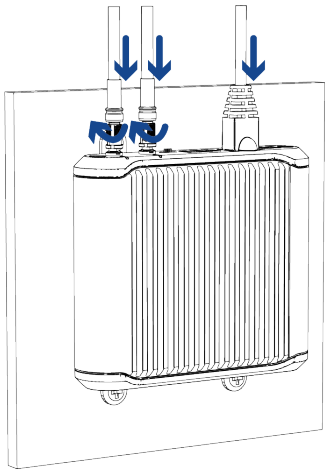
   Be aware that the cables will be coming from one of the two ends of the mounting template where the mounting screws are located.



2. Hammer the supplied plastic anchors into the holes.
3. Align the mounting slots on the unit's mounting feet to the drilled pilot holes and use the provided self-tapping screws to secure the unit to the mounting surface.



4. Connect the required cables. For more information, see *Cable Connections* on page 22.

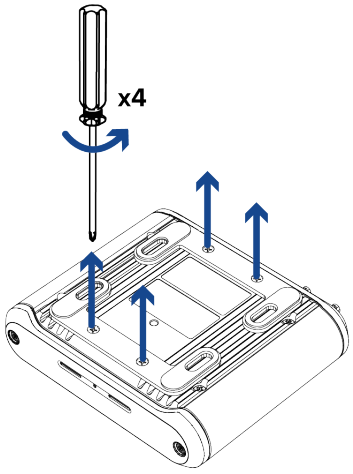


Mounting the Unit on a DIN Rail

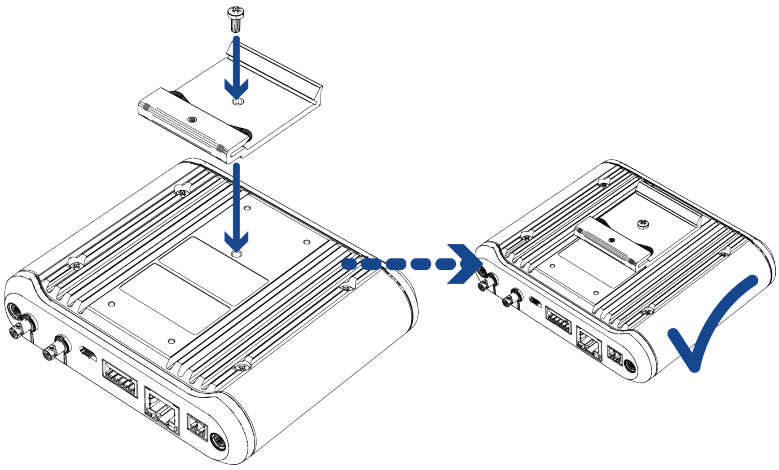
A DIN rail is a standard metal rail that is widely used for mounting equipment, such as on an equipment rack or in a storage room. If you are installing the modular camera main unit in a location with accessible DIN rails, use the DIN rail mount to mount the unit.

The DIN rail mount, BRKTMD-1001, is an optional accessory and must be ordered separately.

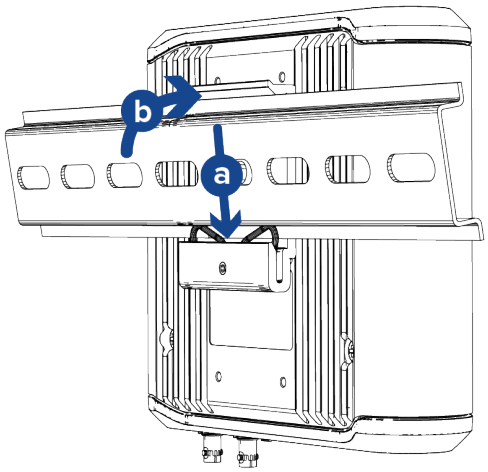
1. Remove the 4 screws holding the mounting feet in position. These parts are not required for a DIN rail mounted main unit.



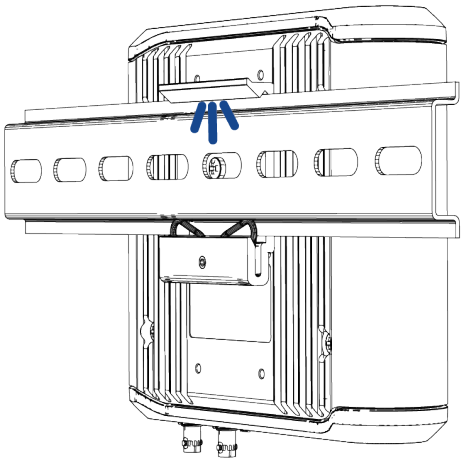
2. Align the DIN rail mount with the center screw hole and fasten it in place with the screw provided.



3. Push the spring portion of the DIN rail mount onto one side of the DIN rail.



4. Rotate the other end of the unit towards the DIN rail until the mount snaps into place.



5. Connect the required cables. For more information, see *Cable Connections* below.

Cable Connections

Connecting the Ethernet and HD BNC Cables

Refer to the diagrams in the **Main Unit Overview section** for the location of the different connectors and status LEDs on the main unit.

1. Connect a network cable to the unit's Ethernet port (RJ45 connector).
2. Connect an HD BNC cable for the number of imager modules you are installing. Up to two imagers can be connected to each main unit.
3. If the camera is connected to any external devices, connect the I/O or audio cables to the I/O connector block. For more information, see *Connecting to External Audio and I/O Devices* on the next page.

4. Power the camera using one of the following methods:
    - Power over Ethernet (PoE) Class 3 — If PoE is available, the LEDs will turn on. PoE, IEEE 802.3af Class 3 is sufficient to power the modular camera main unit and up to two connected imagers.
    - External Power — Connect an external 12 V DC power source to the power connector block. For more information, see *Connecting External Power* below.

    The status LEDs turn on when the camera receives power.

Connecting External Power

If PoE is not available, the camera needs to be powered through the removable power connector block. Refer to the **Main Unit Overview section** for the location of the power connector block.

To connect power to the power connector block, complete the following steps:

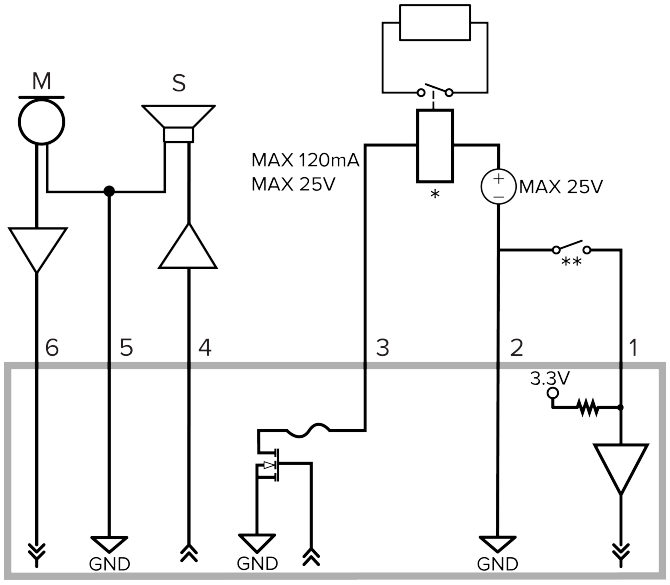
1. Remove the power connector block from the camera.
2. Remove the insulation from ¼" (6 mm) of the power wires. Do not nick or damage the wires.
3. Insert the two power wires into the two terminals on the power connector block. The connection can be made with either polarity.

    Use a small slotted (5/64" or 2 mm blade width) screwdriver to loosen and tighten the terminals.
4. Attach the power connector block back into the camera.

WARNING — 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, 11.5 W min. or PoE, 11.5 W min.

Connecting to External Audio and I/O Devices

External audio and I/O devices are connected to the camera through the audio and I/O connector block. The pinout for the connector block is shown in the following diagram:



1. Digital Input — To activate, connect the Input to the Ground pin. To deactivate, leave disconnected or apply between 3-15 V.
2. Ground
3. Digital Output — When active, Output is internally connected with the Ground pin. Circuit is open when inactive. Maximum load is 25 VDC, 120 mA.
4. Audio Output (line level)

   An external power amplifier should be used when connecting speakers and microphones, as shown in the diagram.
5. Audio Ground
6. Audio Input (line level)

- * — Relay
- ** — Switch
- M — Microphone
- S — Speaker

Micro Bullet Imager Installation

Required Tools and Materials

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

- A modular camera main unit and an HD BNC cable. For more information, see *Modular Camera System Setup* on page 14.
- Appropriate tool for cutting the entry hole in the mounting surface
- No. 2 Phillips screwdriver — for attaching the imager or bracket to a mounting surface

Imager Package Contents

Ensure the micro bullet imager package contains the following:

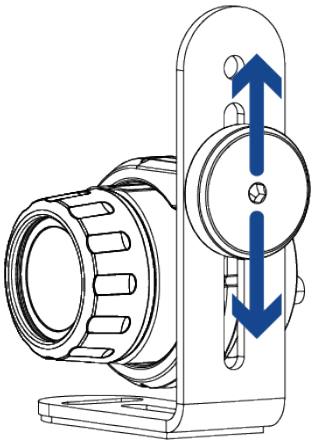
- Avigilon H5A Modular camera micro bullet imager
- L-shaped mounting bracket and mounting screws
- 1x double-sided mounting adhesive strip
- 1x side mounting screw
- 1x lens securing trimring — for securing the imager through a hole in the mounting surface.

Using the L-Bracket Mounting Adapter

If the imager needs to be installed onto a flat surface, use the supplied L-bracket mounting adapter.

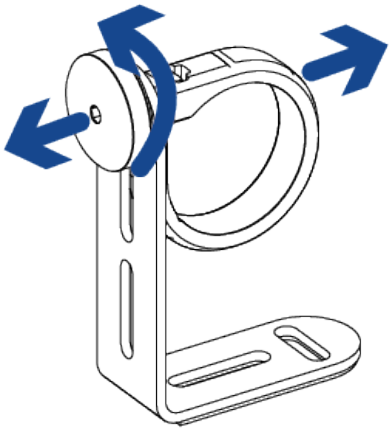
Positioning the Micro Bullet Imager in the L-Bracket

The position of the collar on the L-bracket mounting adapter that the micro bullet imager mounts onto can be adjusted to suit your installation environment. If necessary, you can move the position of the collar from the top to the bottom of the L-bracket.

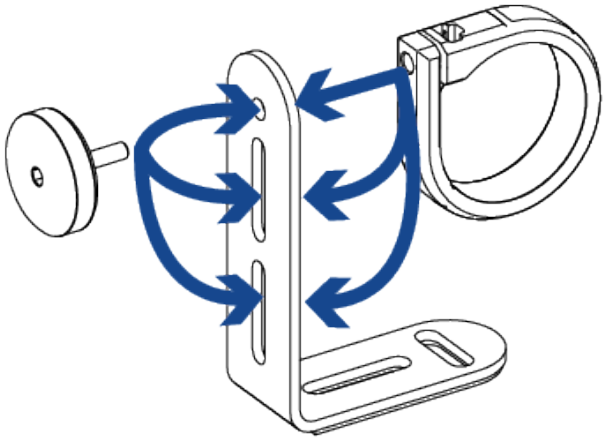


To change the position of the micro bullet collar on the L-bracket:

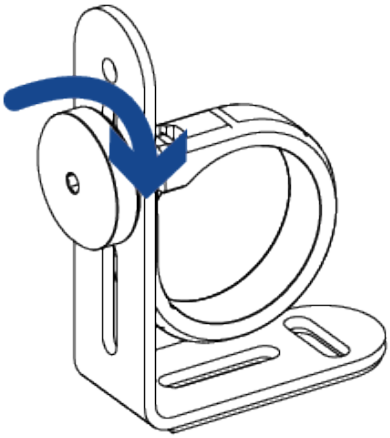
1. Unscrew the thumbscrew holding the collar to the L-bracket. Pull the collar and thumbscrew off of the bracket.



2. Re-insert the thumbscrew into the collar through the hole where you would like it to be mounted.



3. Tighten the thumbscrew to hold the collar in place.



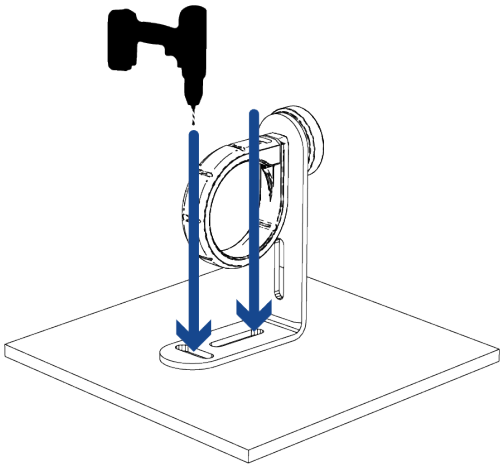
Mounting the L-Bracket

Note: The L-bracket can be mounted in place with either the mounting screws or the mounting adhesive strip. Both options will be described below.

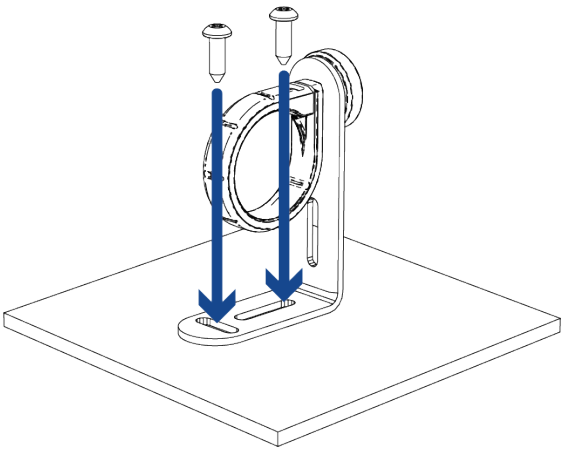
1. Use one of the following two options to fasten the L-bracket mounting adapter to the mounting surface.

   Mounting screws:

   a. Drill two pilot holes into the mounting surface for the mounting screws. Use the mounting slots in the L-bracket as a guide for the holes.

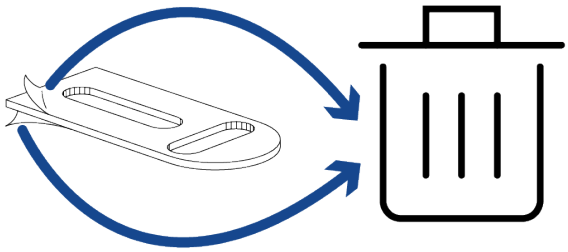


   b. Align the mounting slots on the L-bracket to the drilled pilot holes and use the provided self-tapping screws to secure the bracket to the mounting surface.

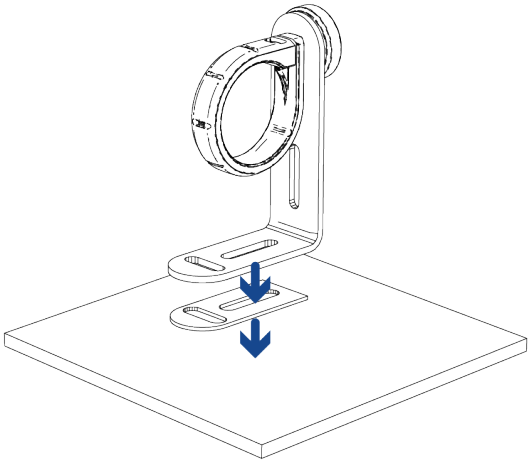


Mounting adhesive strip:

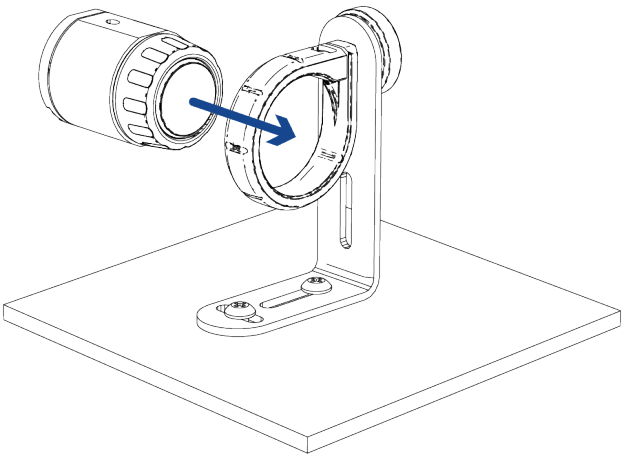
a. Peel the protective layer off of each side of the adhesive strip and discard.



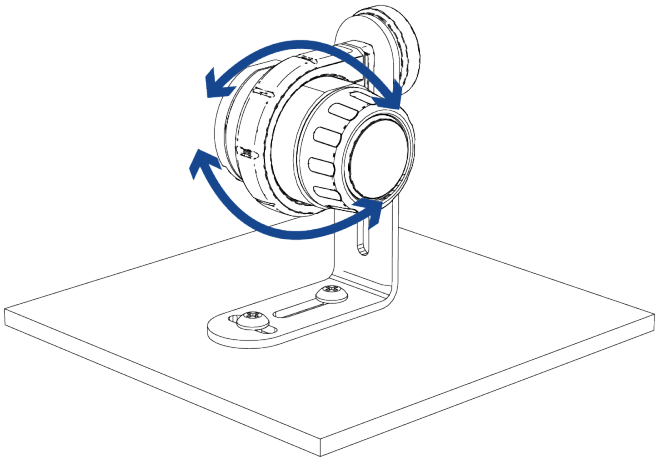
b. Place the adhesive strip onto the mounting surface, making sure to align it with the . Align the L-bracket with the adhesive strip and press the bracket firmly down onto the adhesive for at least 5 seconds.



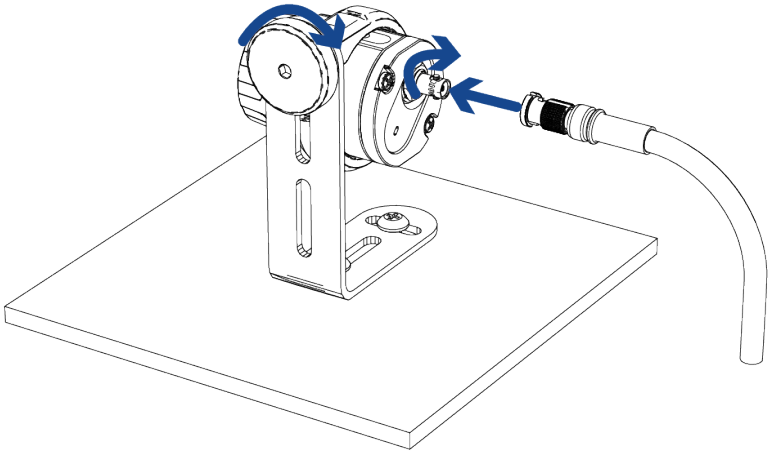
2. Insert the micro bullet imager into the mounting collar. The mounting screw hole on the imager should be on the top of the micro bullet when mounted. This mounting screw hole aligns with the top of the imager's video frame.



3. Twist the micro bullet forwards or backwards to change the aim up or down.



4. Tighten the thumbscrew to secure the position of the micro bullet imager. Connect the HD BNC cable.

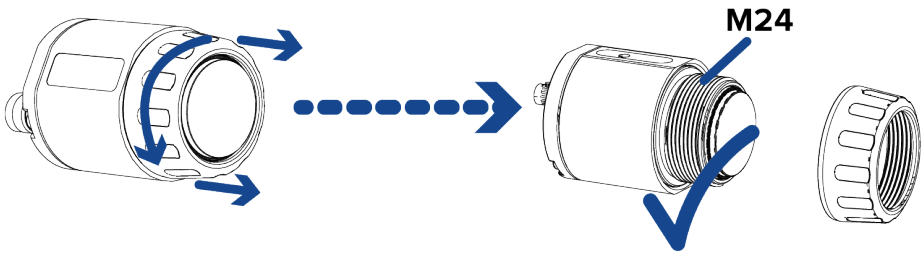


> **Note:** To ensure the micro bullet imager maintains protection from dust and water, make sure to connect the IP66 rated end of the HD BNC cable to the micro bullet. For more information, see *Recommended Use of HD BNC Cables* on page 15.

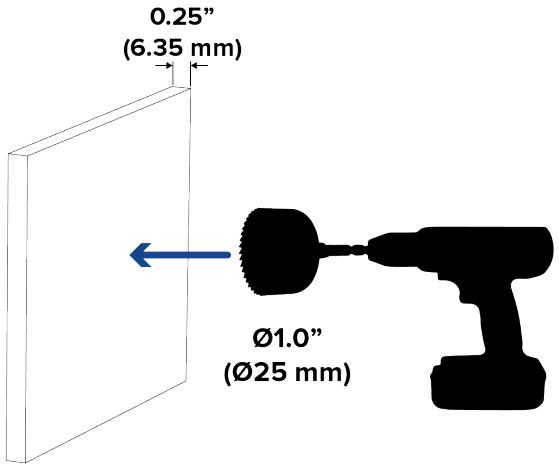
Mounting Through the Mounting Surface

For a more discreet mounting installation, and to keep cables out of reach, you can mount the micro bullet imager through a hole in a mounting surface. Only part of the lens will be visible on the recorded side of the mounting surface.

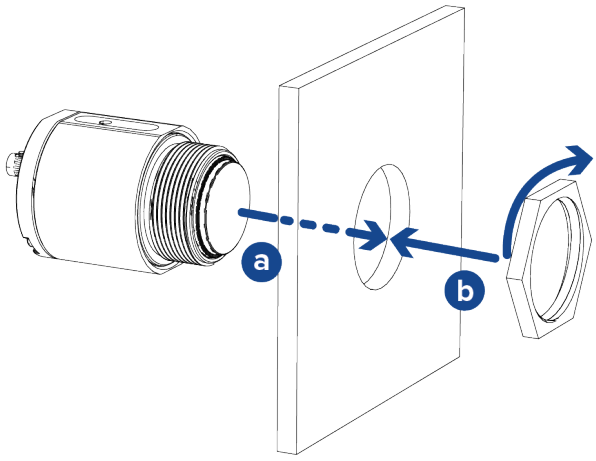
1. Unscrew the lens collar from the micro bullet imager.



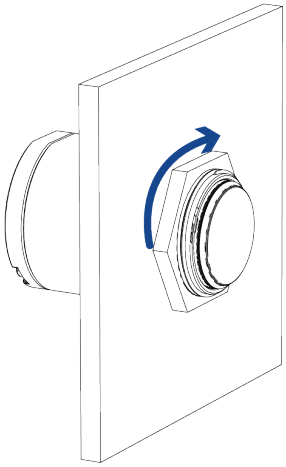
2. Drill a 25 mm (1.0") hole through the mounting surface. The mounting surface should be no more than 6.35 mm (0.25") thick. A countersink hole may be required if the mounting surface is thicker than 6.35 mm (0.25").



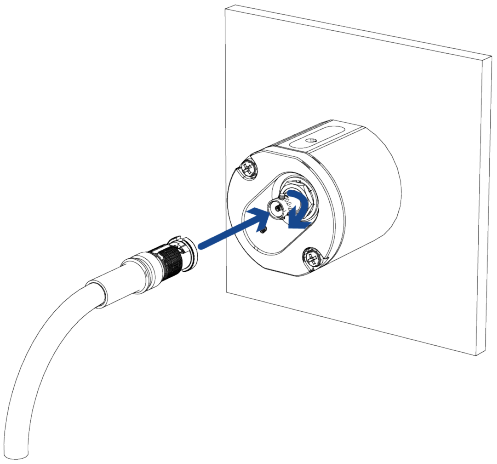
3. Push the micro bullet imager through the mounting hole (a). Secure it in place with the lens ring provided (b). The mounting screw hole on the imager should be on the top of the micro bullet when mounted. This mounting screw hole aligns with the top of the imager's video frame.



4. Tighten the lens ring to secure the micro bullet in place.



5. Connect the HD BNC cable.



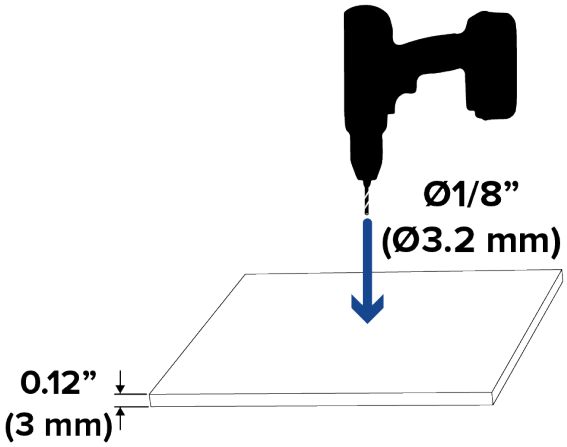
Note: To ensure the micro bullet imager maintains protection from dust and water, make sure to connect the IP66 rated end of the HD BNC cable to the micro bullet. For more information, see *Recommended Use of HD BNC Cables* on page 15.

Mounting to a Thin Metal Sheet

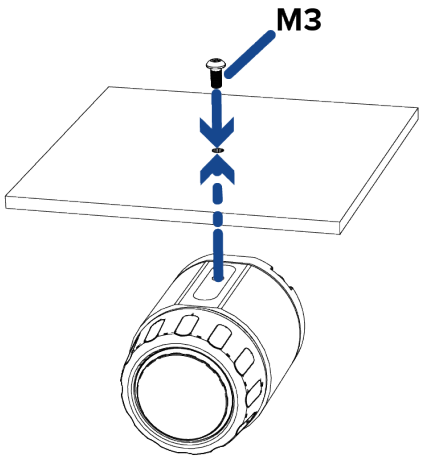
The micro bullet imager has a mounting point on the body of the imager that can be used to mount the micro bullet to a thin mounting surface such as a metal sheet. For this installation the mounting surface should be no more than 3 mm (0.12") thick.

1. Drill one pilot hole into the mounting surface for the mounting screw. The pilot hole should be 3.2 mm (1/8") in diameter, for an M3 mounting screw.

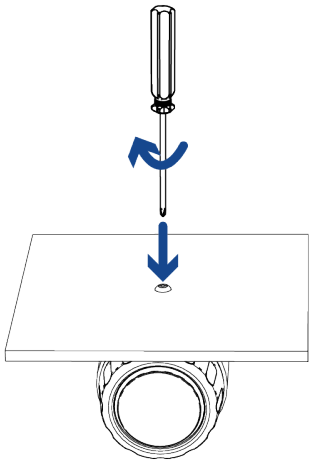
   The mounting surface should be no more than 3 mm (0.12") thick. A countersink hole may be required if the mounting surface is thicker than 3 mm (0.12").



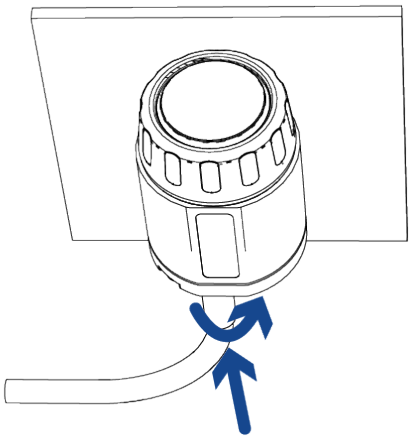
2. Align the screw hole on the micro bullet to the drilled pilot hole and use the provided M3 mounting screw to secure the imager to the mounting surface.



3. Tighten the mounting screw to secure the micro bullet in place.



4. Connect the HD BNC cable.



Note: To ensure the micro bullet imager maintains protection from dust and water, make sure to connect the IP66 rated end of the HD BNC cable to the micro bullet. For more information, see *Recommended Use of HD BNC Cables* on page 15.

Right Angle Imager Installation

Required Tools and Materials

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

- A modular camera main unit and an HD BNC cable. For more information, see *Modular Camera System Setup* on page 14.
- Appropriate tool for cutting the entry hole in the mounting surface
- No. 2 Phillips screwdriver — for attaching the imager or bracket to a mounting surface

Imager Package Contents

Ensure the right angle imager package contains the following:

- Avigilon H5A Modular camera right angle imager
- Optional flat bracket — for installations that require additional protection or discretion.
- 1x double-sided mounting adhesive strip
- 2x mounting screws

Mounting Through the Mounting Surface

For a more discreet mounting installation, and to keep cables out of reach, you can mount the right angle imager through a hole in a wall or other mounting surface. Only part of the lens will be visible on the recorded side of the mounting surface.

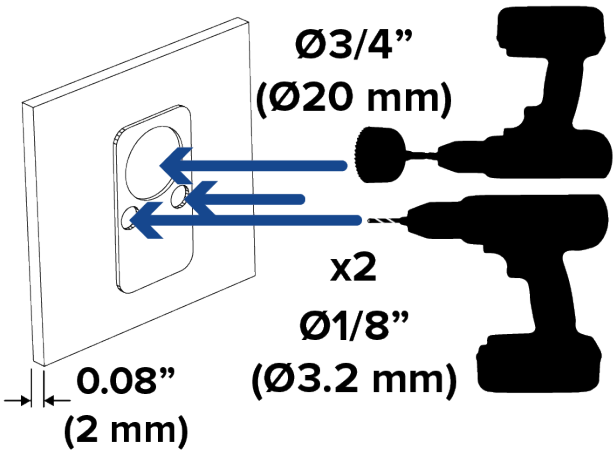
> **Note:** The right angle imager can be mounted in place with either the mounting screws or the mounting adhesive strip. Both options will be described below.

Use one of the following two options to install the right angle imager to the mounting surface.

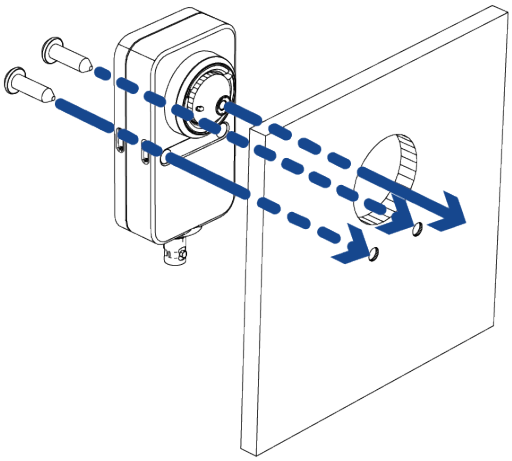
Installing with Mounting Screws

1. Drill a 20 mm (3/4") hole through the mounting surface. Use the adhesive strip as a guide for the hole.

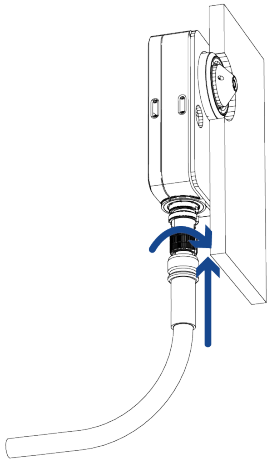
   If the mounting surface is more than 2 mm (0.08") thick, there may be occlusions on the video image. If a smaller drill hole is preferred, we suggest having a countersink hole in the wall to bring the imager closer to the outer mounting surface.
2. Drill two pilot holes into the mounting surface for the mounting screws. Use the adhesive strip as a guide for the holes.



3. Align the lens and mounting holes on the right angle imager with the drilled holes. Secure the imager in place with the mounting screws.



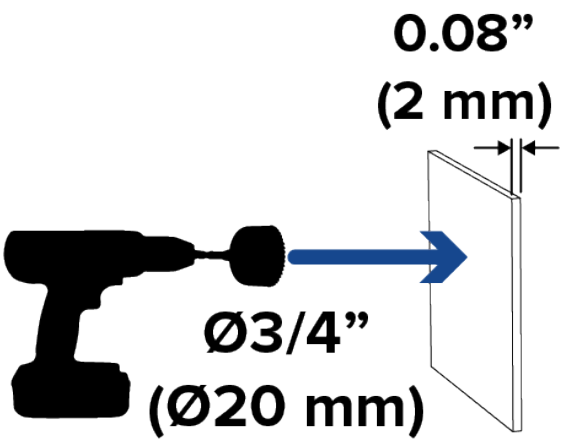
4. Connect the HD BNC cable.



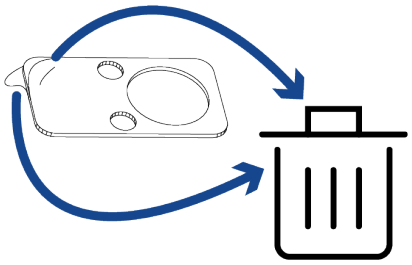
Installing with the Adhesive Strip

1. Drill a 20 mm (3/4") hole through the mounting surface.

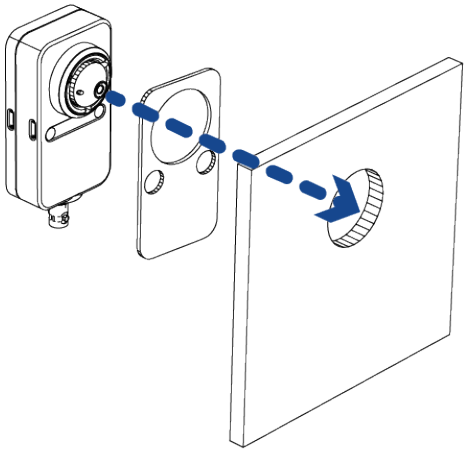
   If the mounting surface is more than 2 mm (0.08") thick, there may be occlusions on the video image. If a smaller drill hole is preferred, we suggest having a countersink hole in the wall to bring the imager closer to the outer mounting surface.



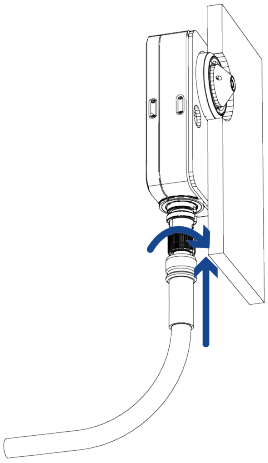
2. Peel the protective layer off of each side of the adhesive strip and discard.



3. Place the adhesive strip onto the mounting surface, making sure to align it with the drilled hole. Align the right angle imager with the adhesive strip and press the imager firmly onto the adhesive for at least 5 seconds.



4. Connect the HD BNC cable.



Mounting the Imager onto a Surface

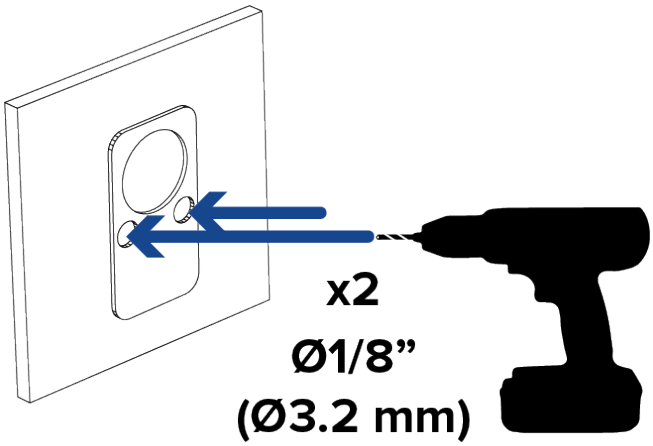
For a straightforward mounting installation, you can mount the right angle imager directly to a wall or other mounting surface.

> **Note:** The right angle imager can be mounted in place with either the mounting screws or the mounting adhesive strip. Both options will be described below.

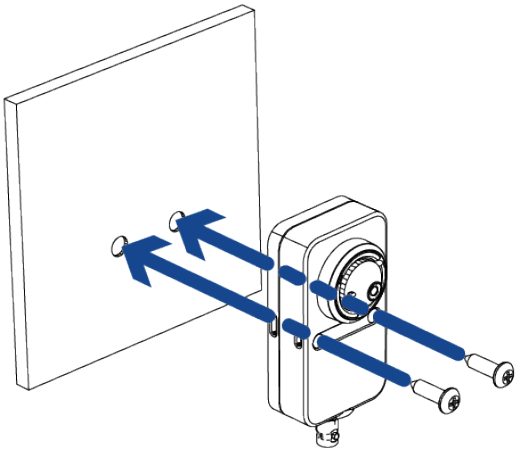
Use one of the following two options to install the right angle imager to the mounting surface.

Installing with Mounting Screws

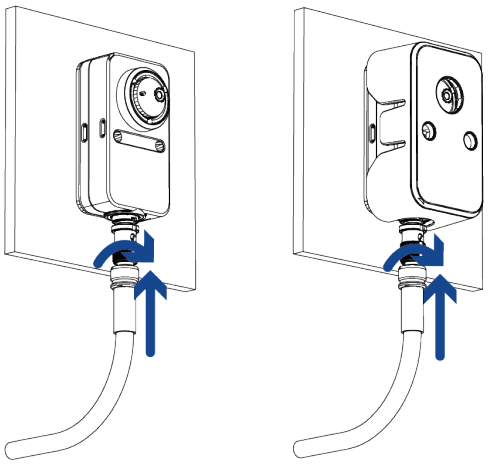
1. Drill two pilot holes into the mounting surface for the mounting screws. Use the adhesive strip as a guide for the holes.



2. Align the mounting holes on the right angle imager with the drilled holes. Secure the imager in place with appropriate mounting screws (not supplied).



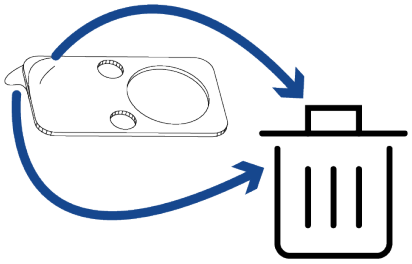
3. Connect the HD BNC cable.



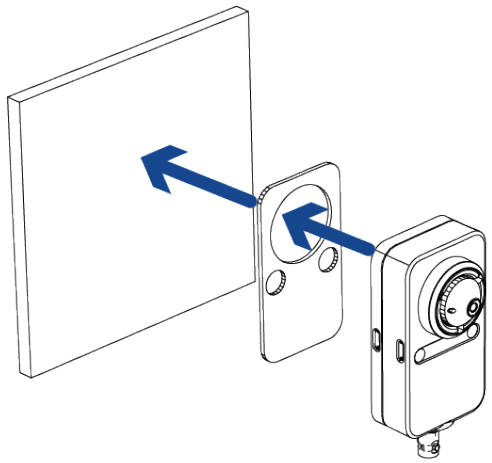
Tip: If it suits your installation, you can install the optional flat bracket onto the right angle imager after mounting it to the wall as shown in the image above. Gently push the bracket onto the imager until the bracket mounting clips click into place.

Installing with the Adhesive Strip

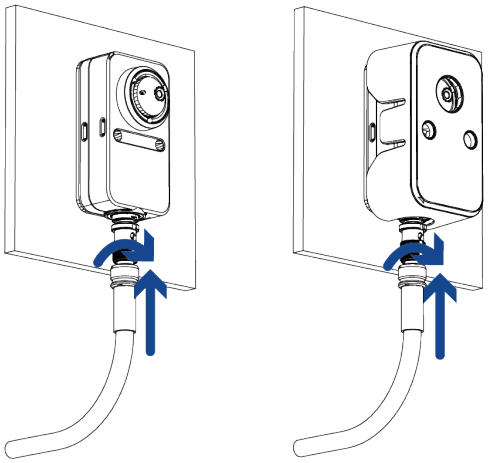
1. Peel the protective layer off of each side of the adhesive strip and discard.



2. Place the adhesive strip onto the mounting surface, making sure to align it with the placement you want the imager to have. Align the right angle imager with the adhesive strip and press the imager firmly onto the adhesive for at least 5 seconds.



3. Connect the HD BNC cable.



> **Tip:** If it suits your installation, you can install the optional flat bracket onto the right angle imager after mounting it to the wall as shown in the image above. Gently push the bracket onto the imager until the bracket mounting clips click into place.

Mounting Through the Mounting Surface with the Bracket

For a more discreet mounting installation, and to keep cables out of reach, you can mount the right angle imager through a hole in a wall or other mounting surface. Only part of the lens will be visible on the recorded side of the mounting surface.

> **Note:** The right angle imager can be mounted in place with either the mounting screws or the

mounting adhesive strip. Both options will be described below.

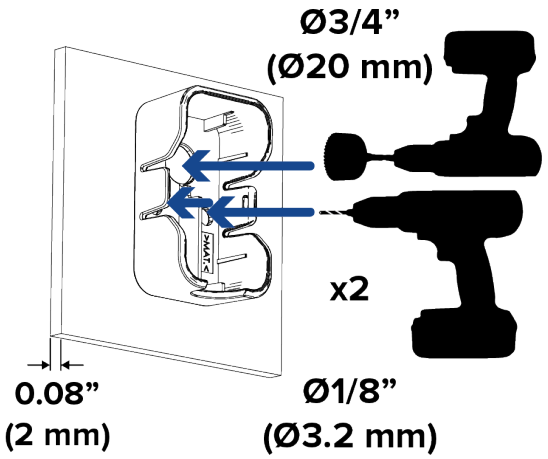
Use one of the following two options to install the right angle imager to the mounting surface.

Installing with Mounting Screws

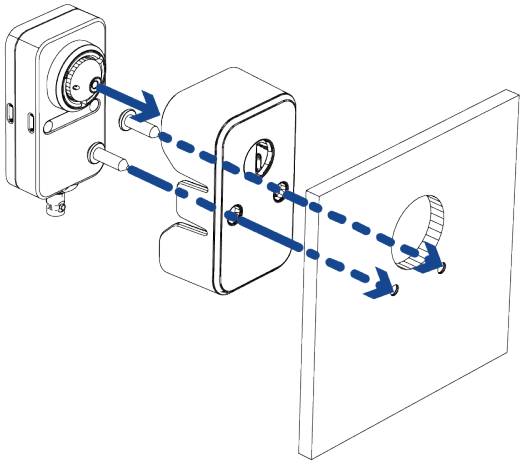
1. Drill a 20 mm (3/4") hole through the mounting surface. Use the mounting bracket as a guide for the hole.

   If the mounting surface is more than 2 mm (0.08") thick, there may be occlusions on the video image.

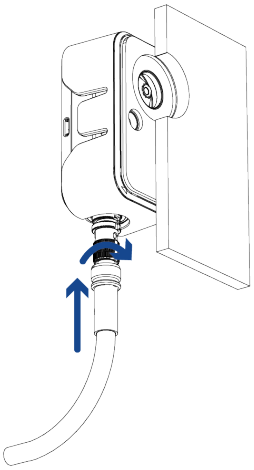
2. Drill two pilot holes into the mounting surface for the mounting screws. Use the mounting bracket as a guide for the holes.



3. Align the lens and mounting holes on the mounting bracket with the drilled holes. Secure the bracket in place with the mounting screws. Snap the right angle imager into the bracket by gently pushing the imager inwards until the bracket mounting clips click into place.



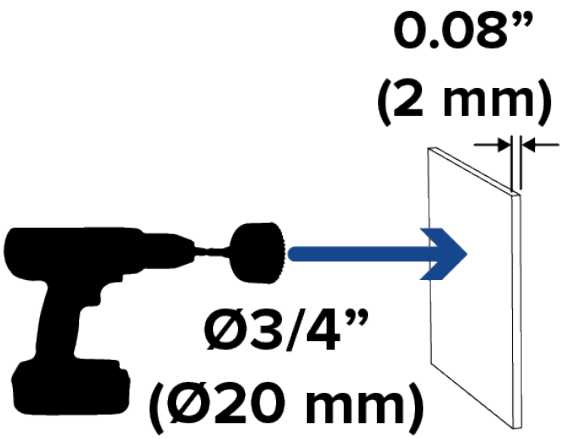
4. Connect the HD BNC cable.



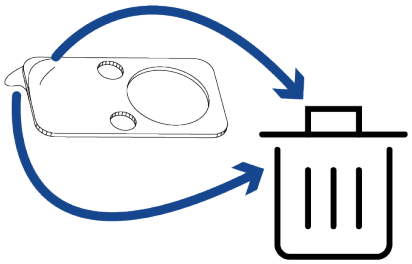
Installing with the Adhesive Strip

1. Drill a 20 mm (3/4") hole through the mounting surface.

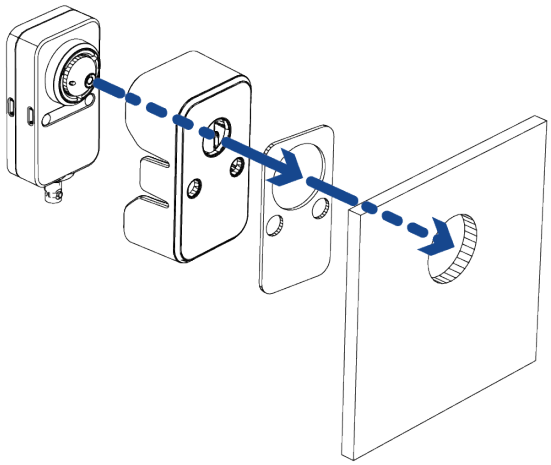
   If the mounting surface is more than 2 mm (0.08") thick, there may be occlusions on the video image.



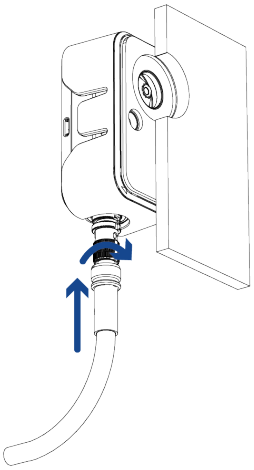
2. Peel the protective layer off of each side of the adhesive strip and discard.



3. Place the adhesive strip onto the mounting surface, making sure to align it with the drilled hole. Align the mounting bracket with the adhesive strip and press the bracket firmly onto the adhesive for at least 5 seconds. Snap the right angle imager into the bracket by gently pushing the imager inwards until the bracket mounting clips click into place.



4. Connect the HD BNC cable.



Mounting the Imager and Bracket onto a Surface

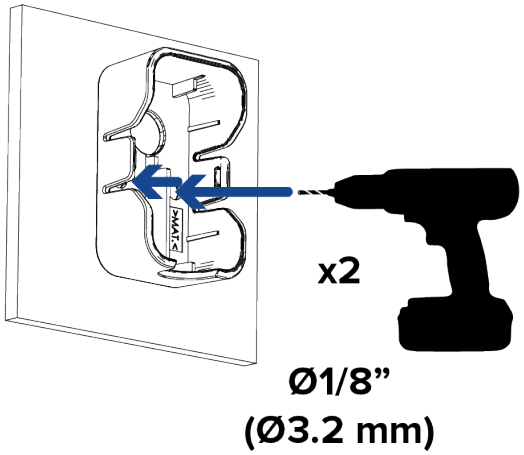
For a straightforward mounting installation, you can mount the right angle imager and mounting bracket directly to a wall or other mounting surface.

> **Note:** The right angle imager can be mounted in place with either the mounting screws or the mounting adhesive strip. Both options will be described below.

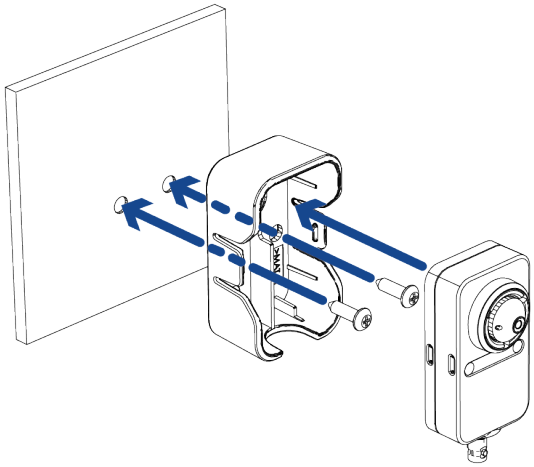
Use one of the following two options to install the right angle imager to the mounting surface.

Installing with Mounting Screws

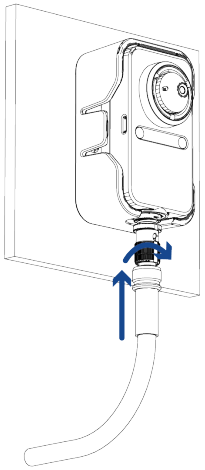
1. Drill two pilot holes into the mounting surface for the mounting screws. Use the mounting bracket as a guide for the holes.



2. Align the mounting holes on the mounting bracket with the drilled holes. Secure the bracket in place with the mounting screws. Snap the right angle imager into the bracket by gently pushing the imager inwards until the bracket mounting clips click into place.

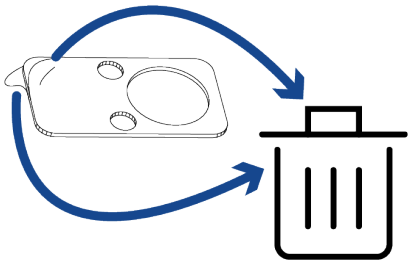


3. Connect the HD BNC cable.

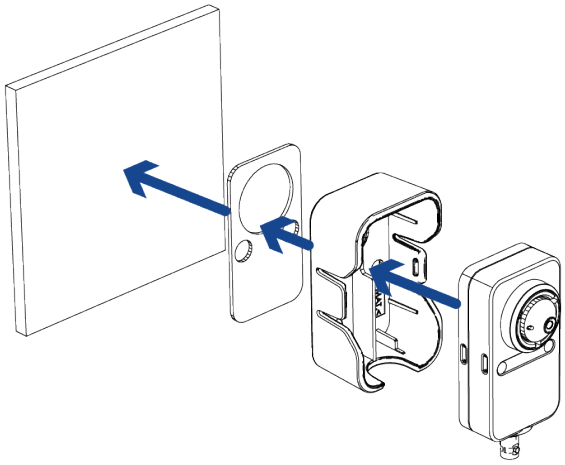


Installing with the Adhesive Strip

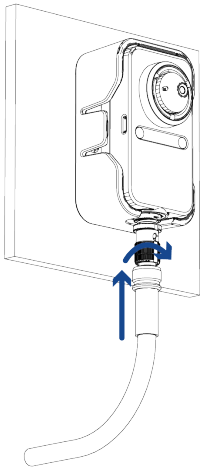
1. Peel the protective layer off of each side of the adhesive strip and discard.



2. Place the adhesive strip onto the mounting surface, making sure to align it with the placement you want the imager to have. Align the mounting bracket with the adhesive strip and press the bracket firmly onto the adhesive for at least 5 seconds. Snap the right angle imager into the bracket by gently pushing the imager inwards until the bracket mounting clips click into place.



3. Connect the HD BNC cable.



Connecting to the Camera

Initializing a Camera Username and Password

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: 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 Cloud Services (ACS) 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 Cloud Services User Guide*.

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, USB Wifi Adapter, or Camera Configuration Tool before you connect to the 3rd party VMS.

(Optional) Using the USB Wi-Fi Adapter

If you have a USB Wi-Fi Adapter (H4-AC-WIFI), attach it to the camera's micro USB port to access the camera's mobile web interface.

After you connect to the Wi-Fi signal broadcast by the adapter, you can access the mobile web interface from any mobile device using the following address:

http://camera.lan

For more information about configuring the camera from the mobile web interface see *Avigilon USB Wi-Fi*

Adapter System User Guide.

Note: The camera will reserve the 10.11.22.32/28 subnet for internal use while the USB Wi-Fi Adapter is plugged in.

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 55.

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).

(Optional) Configuring Onboard Storage

To use the modular camera's onboard storage feature, you must insert 1 microSD card into a microSD card slot. While there are two microSD slots, currently the camera only supports a single microSD card in either slot for onboard storage. For the location of the microSD card slots, see *Main Unit* on page 8.

It is recommended that the microSD card have a capacity of 64 GB or more. Video Speed Class microSD card required, with Class V10 or better recommended. If the microSD card does not meet the recommended capacity or write speed, the performance of the onboard storage may suffer and result in the loss of frames or footage.

Ensure the microSD card is designed for continuous video recording or the microSD card life expectancy may

be adversely affected.

1. Insert the microSD card into the camera.

   CAUTION — Do not force the microSD card into the camera or you may damage the card and the camera. The card can only be inserted in one direction.

2. Access the camera's web interface to enable the onboard storage feature. For more information, see the *Avigilon High Definition H4 and H5 IP Camera Web Interface User Guide*.

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 Camera Configuration Tool to configure common settings. For more information, see the *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*
- *Camera Configuration Tool User Guide*
- *Avigilon USB Wi-Fi Adapter System 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**.

Main Unit LED Indicators

Connection Status LED Indicator

Once connected to the network, the green 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 *Avigilon High Definition H4 and H5 IP Camera Web Interface User Guide*.

Troubleshooting Network Connections and LED Behavior

Note: For any of the below LED behaviors, ensure that the camera is getting power and is using a good network cable before trying another solution.

LED Behavior	Suggested Solution
Green LED is off and amber is on	Perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web interface will not produce the desired result.

LED Behavior	Suggested Solution
Both LEDs are off and the camera is not connected or streaming video	Check the **General** setup page in the camera's web interface to ensure the LEDs are not disabled. If the LEDs are not disabled, perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web interface will not produce the desired result.
Both LEDs are blinking several times at the same time, then pause and repeat the blinking	Perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web interface will not produce the desired result.
A different LED blinking pattern than those described above	Perform a factory reset of the camera using the physical firmware revert button. Resetting through the camera's web interface will not produce the desired result.

Imager Connection LED Indicators

On the main unit, just above the HD BNC connectors are LED indicators for the HD BNC connection status. There is a separate LED for each of the two HD BNC connections. For the location of these LEDs, see *Rear View* on page 9.

When an HD BNC connection is active, the LED will be on. The LED will be off when there is no active HD BNC connection.

Troubleshooting Imager Connections and LED Behavior

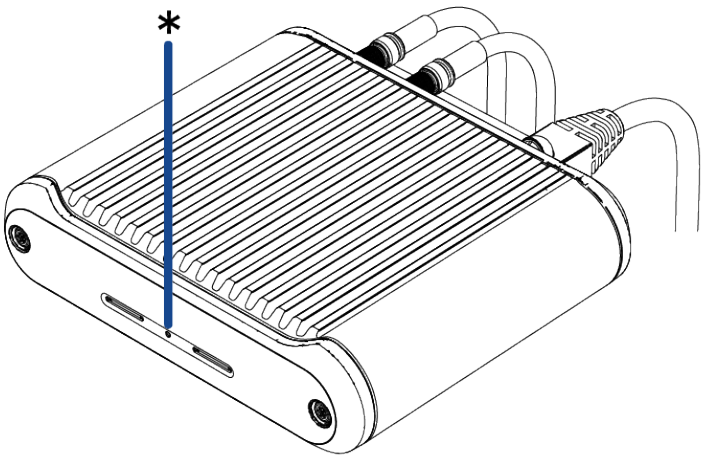
If you have made an HD BNC connection and the LED remains off, try the following solutions:

- Disconnect and reconnect the HD BNC cable to both the imager and the main unit.
- Ensure the HD BNC connections are secure.
- Check if the HD BNC cable has been damaged.

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 camera is powered on.
2. Using a straightened paperclip or similar tool, gently press and hold the firmware revert button (*) for two seconds.

Wait while the 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** checkbox 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>: ...`

Cleaning

Micro Bullet Imager Lens Bubble

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

Note: Cleaning the micro bullet lens bubble does not apply to right angle imagers as they do not have an accessible lens bubble. Use caution if needing to clean the right angle imager lens. Obtain a lens cleaning swab and solution and follow the cleaning instructions provided.

To clean the micro bullet lens 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 lens bubble.

Important: Failure to use the recommended cleaning materials may result in a damaged or scratched lens bubble. A damaged lens bubble may negatively impact image quality.

Imager and Main Unit Body

- Use a dry or lightly dampened cloth to clean the imager and main unit bodies.
- Do not use strong or abrasive detergents.

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**.