



MV32 Installation Guide

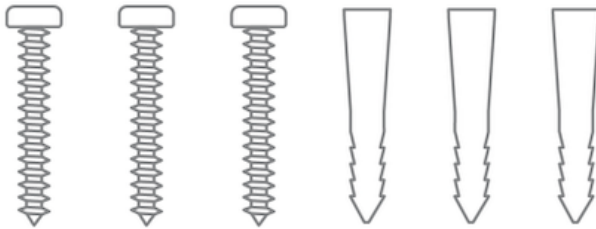
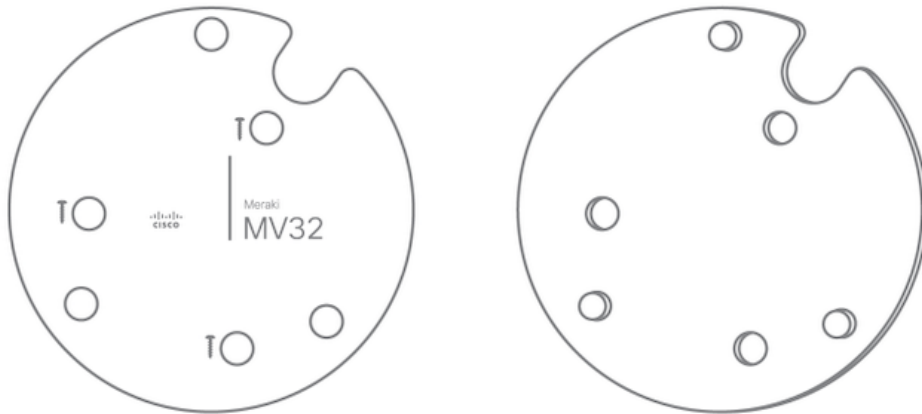
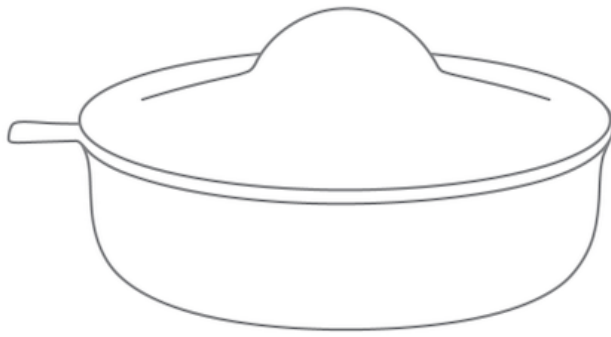
MV32 Overview

The Cisco Meraki MV32 is a network fisheye camera that is exceptionally simple to deploy and configure due to its integration into the Meraki Dashboard and the use of cloud augmented edge storage. The MV family eliminates complex and costly servers and video recorders required by traditional solutions which removes the limitations typically placed on video surveillance deployments.

Before mounting to any surface, ensure you have read through the [placement guidelines](#) below to ensure best field of view.

Package Contents

In addition to the MV camera, the following are provided:



From top-left to bottom-right:

- 1 x MV32
- 1 x base mount wall template
- 1 x base mount plate
- 1 x T6 Torx key
- 3 x wall screws
- 3 x wall anchors

Powering the MV32

The MV32 features a 1000BASE-TX Ethernet port and requires 802.3af PoE minimally for operation. Route the Ethernet cable from an active port on a PoE switch or PoE injector.

Note: Power over Ethernet supports a maximum cable length of 300 ft (100 m).

Placement Guidelines

The Meraki MV32 is a fisheye camera boasting a full 360 degree field-of-view of the area underneath the camera. The resulting camera image provides an expansive view of its nearby surroundings. This becomes extremely useful when you want to capture an overview of your entire scene and can take the place of multiple cameras. To ensure you have sufficient camera coverage for your specific use case, the placement guidelines for MV32 are outlined along with expected coverage quality.



Note: You can change between different viewing options on the MV32. [Read this article.](#)



Initial Considerations

While the MV32 enables you to achieve a broad overview of the area to gain situation awareness, it does not completely replace the need for other cameras in your surveillance network. First, consider the goal(s) you hope to achieve with your new fisheye camera. Some questions to ask yourself include;

1. What level of detail do you require from your image?

2. What distance from the camera's center is this level of detail required?
3. Are there any restrictions around mounting cameras to walls and/or ceilings?

We recommend utilizing the fisheye camera to detect an event of interest, and a fixed lens or varifocal camera to identify key details for further action. For example, if placing an MV32 in the center of a room, an MV12 or MV22 camera that is placed facing key points of entry will provide you the level of detail in the event that person identification is required.

General Guidelines

To maximize the coverage of your MV32, the right placement and positioning is essential. The following tips and guidelines should be considered when positioning your MV32:

- **Mount the camera 10 - 14 ft (3 - 4.3 m) above the ground** to optimize for object detail within 20 ft (6.1m) of the surrounding area. At this height, the on-board analytics can detect objects within a radius of up to 25 ft (7.6 m) from the camera's center.



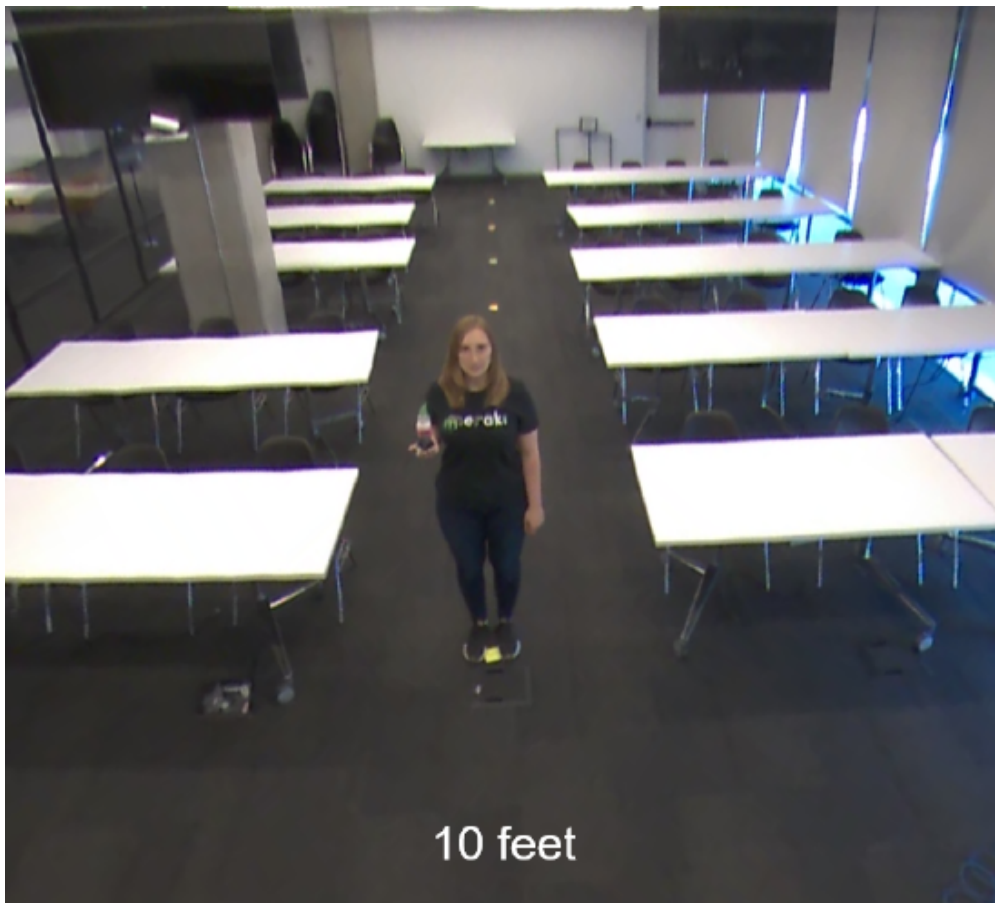
Note: If your surface is very high, you can use the [Telescoping Pendant Mount](#) to lower the mounting height of the camera.

- **Position your camera away from corners** to fully utilize its 360 degree FoV. The ideal placement is typically on the ceiling at or near the center of a room.
- **Keep ambient lighting consistent.** With a larger FoV, it can be difficult to maintain consistent lighting conditions throughout the entire frame. Two areas of drastically different lux levels will impact the quality of your video stream. Monitor your camera's visibility during installation to determine if additional light sources are required to capture the entire scene. Avoid placing cameras where light sources are pointed directly at the camera dome, as this can cause degradation of image quality.

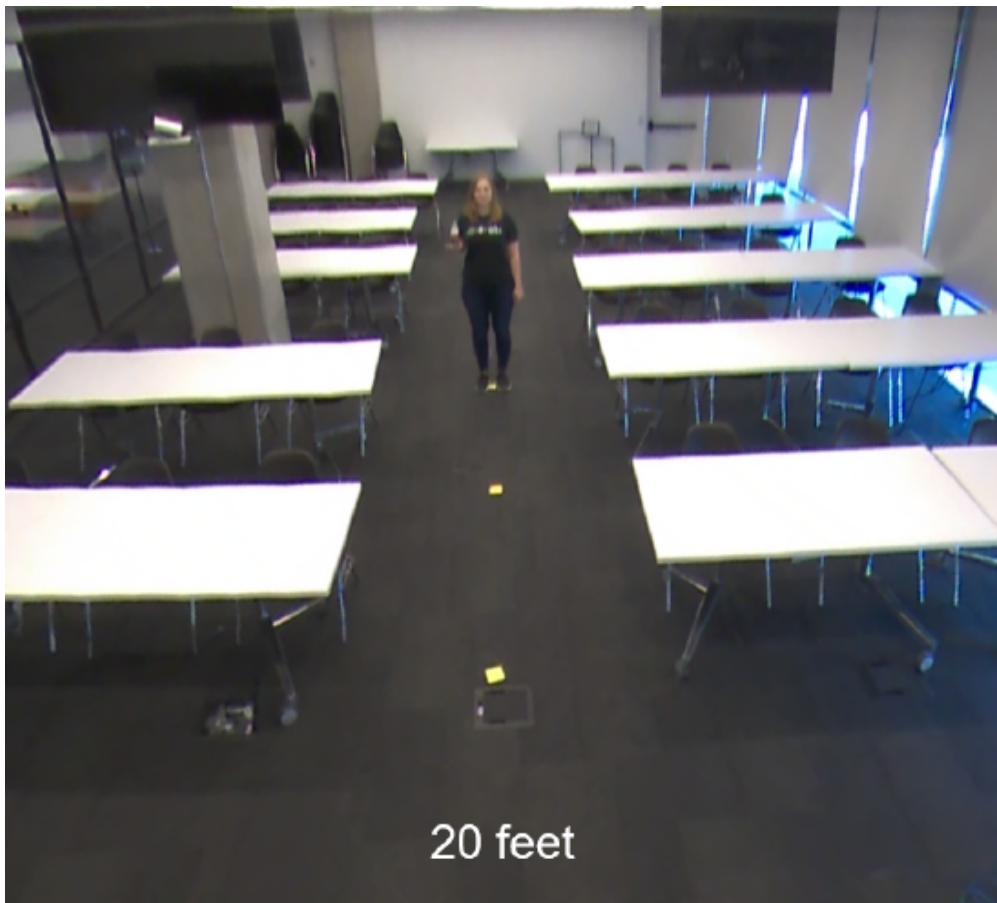
Coverage Guidelines

At the recommended height of 10-14 feet off the ground, the level of detail which can be captured from the camera is represented below. The following screenshots will give you an idea of the level of detail you can expect to see from certain distances away from the center of the camera. The subject is 5 ft 7 in (171 cm) tall and holding an MV gnome which is 8 in (20 cm) tall.

- 0 to 10 feet: At this distance, detailed images can be captured which allow identification of an object or person. Facial details can be discerned and small objects can be identified.



- 10 to 20 feet: At this distance, object and person identification is still possible, however some details will be lost.



- 20 to 40 feet: At this distance, details will be lost and identification of objects or people will become difficult. Smaller objects may become invisible. If identification is needed at these distances, consider supplementing your camera design with additional cameras.



Understanding the amount of detail required at a specific radius extending from your fisheye camera will allow proper planning and design of your security camera system.

Frequently Asked Questions

Can I mount the MV32 on the wall?

If placed on a wall, half of the camera's field of view will face the perpendicular ceiling. This does not properly use of the 360-degree field of view of this camera. The MV32 is better installed on a ceiling, where the more of the field of view captures useful content. Additionally, the digital pan-tilt-zoom (DPTZ) feature of the MV32 is currently configured for ceiling mounting.



Furthermore, the camera's computer vision analytics function on training algorithms based on a top-down view of its surroundings. Orientations differing from this model will limit the performance of the camera's analytics. Therefore, it is not recommended to install the MV32 perpendicular to the ground.

What happens if I place the camera on a surface higher than the recommended 10-14 ft?

Mounting the MV32 higher than the recommended maximum height of 14 feet will result in decreased image quality of the surrounding area and impact the performance of the built-in people detection analytics. Placement at this height will enable an overview of larger areas but impact the amount of recognizable detail in the image. If your surface is very high, you can use the [Telescoping Pendant Mount](#) to lower the mounting height of the camera.

Can I replace all my cameras with a single MV32?

The MV32 is a great option to deploy if you desire a broad overview of the scene and to gain situational awareness. In general, we recommend utilizing the fisheye camera to detect an event of interest, and a fixed lens or varifocal camera to identify key details of the scene.

Pre-Install Preparation

You should complete the following steps before going on-site to perform an installation:

Configure Your Network in Dashboard

The following is a brief overview only of the steps required to add an MV32 to your network. For detailed instructions about creating, configuring and managing Meraki Camera networks, refer to the online documentation (<https://documentation.meraki.com/MV>).

1. Login to <http://dashboard.meraki.com>. If this is your first time, create a new account.
2. Find the network to which you plan to add your cameras or create a new network.
3. Add your cameras to your network. You will need your Meraki order number (found on your invoice) or the serial number of each camera, which looks like Qxxx-xxxx-xxxx, and is found on the bottom of the unit.
4. Verify that you the camera is now listed under **Cameras > Monitor > Cameras**.

Check and Configure Firewall Settings

If a firewall is in place, it must allow outgoing connections on particular ports to particular IP addresses. The most current list of outbound ports and IP addresses for your particular organization can be found [here](#).

DNS Configuration

Each MV32 will generate a unique domain name to allow for secured direct streaming functionality. These domain names resolve an A record for the private IP address of the camera. Any public recursive DNS server will resolve this domain.

If utilizing an on site DNS server, please whitelist *.devices.meraki.direct or configure a conditional forwarder so that local domains are not appended to *.devices.meraki.direct and that these domain requests are forwarded to Google public DNS.

Assigning IP Addresses

At this time, the MV32 does not support static IP assignment. MV32 units must be added to a subnet that uses DHCP and has available DHCP addresses to operate correctly.

Installation Instructions

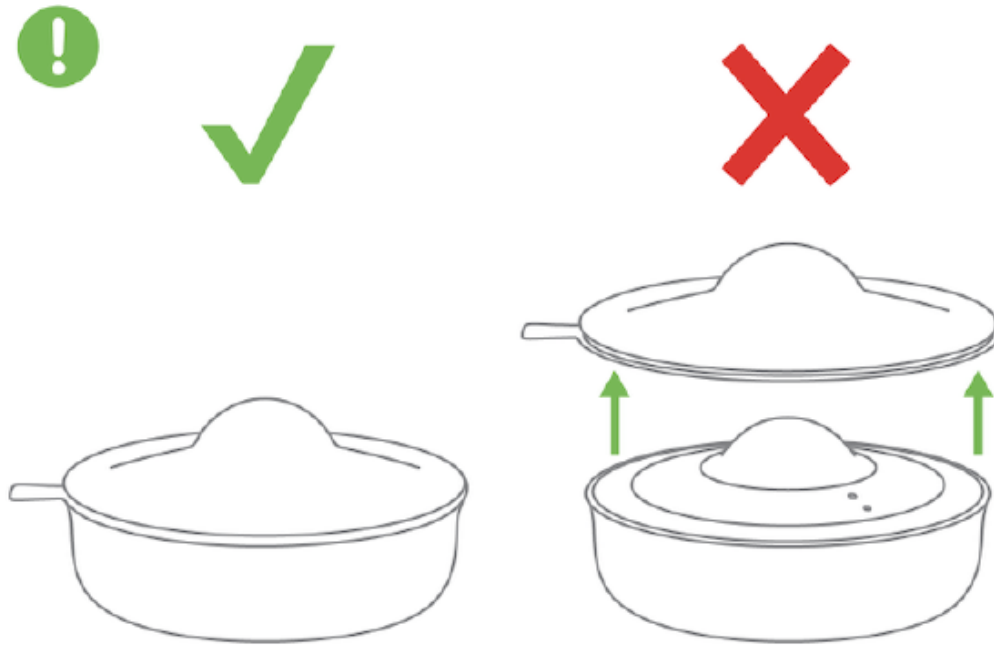
Note: Each MV32 comes with an instruction pamphlet within the box. This pamphlet contains detailed step by step guides and images to assist in the physical install of the camera. A pdf of the pamphlet can be found [here](#).

Note: During first time setup, the MV32 will automatically update to the latest stable firmware. Some features may be unavailable until this automatic update is completed. This process may take up to 5 minutes due to enabling of whole disk encryption.

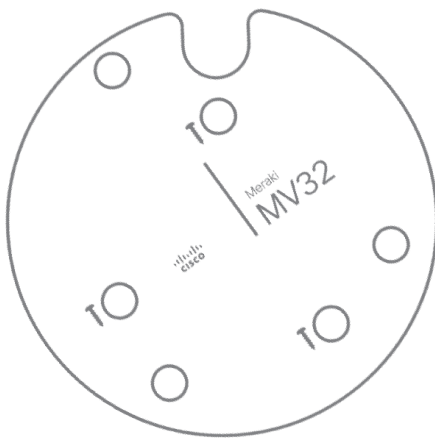
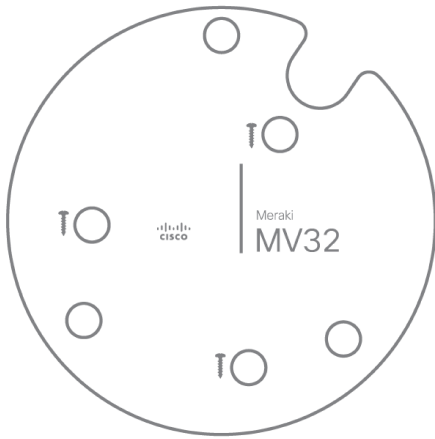
Mounting Instructions

For most mounting scenarios, the MV32 wall mount provides a quick, simple, and flexible means for mounting your device. The installation should be done in a few simple steps:

Note: Leave protective plastic cover on the optical dome, as this will prevent the optical dome from any damage during installation.



1. First route the Ethernet cable through the ceiling surface or ceiling tile hole. Position the mounting template such that the "Meraki MV32" text is aligned with your desired image orientation. This could mean orienting the image to align North-to-South or with objects of interest within the field of view.

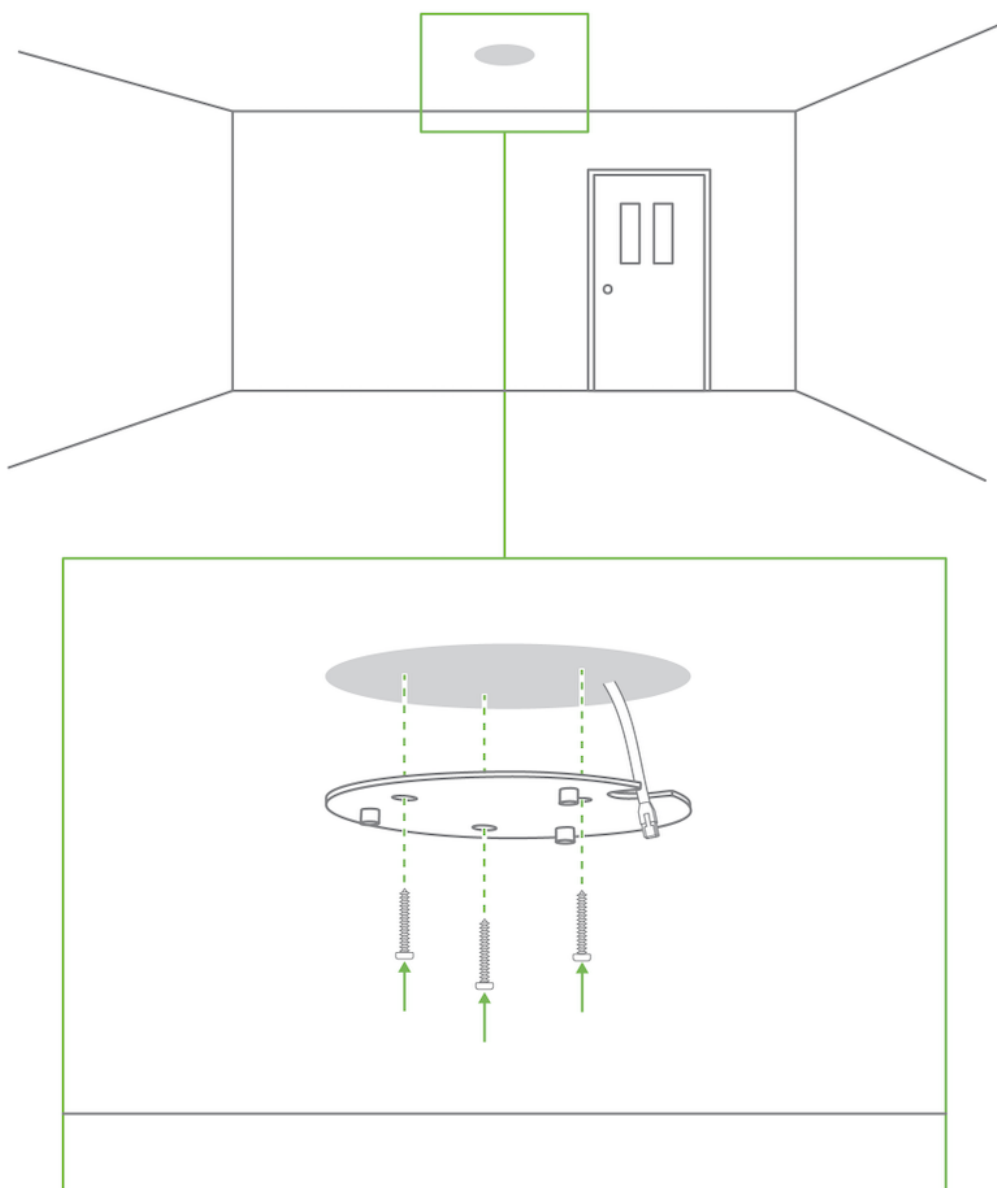


It is important that care is taken during this step! The image sensor on the fisheye camera is fixed. Once physical installation is complete, the image can only be rotated by 180 degrees in software and no other adjustments can be made.

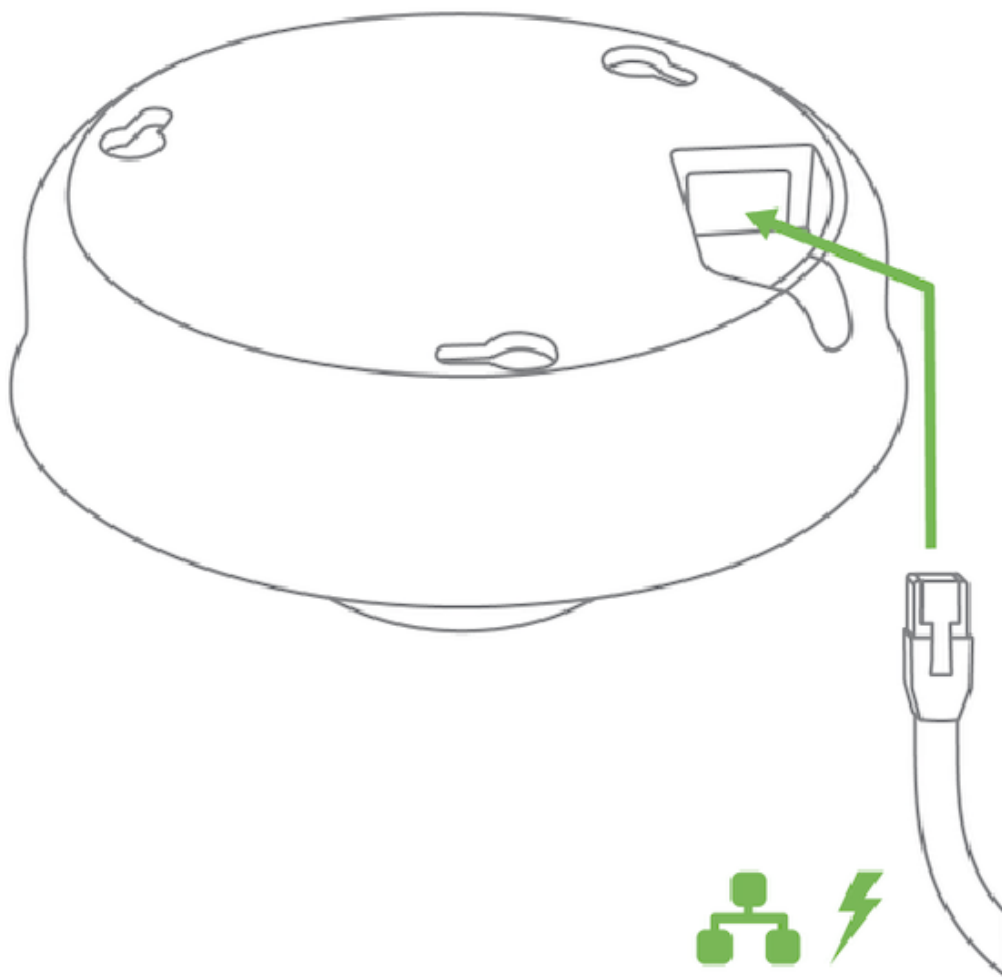


Note: Never attempt to open the camera dome to adjust the lens rotation. This will void the camera's warranty and likely cause damage to the hardware

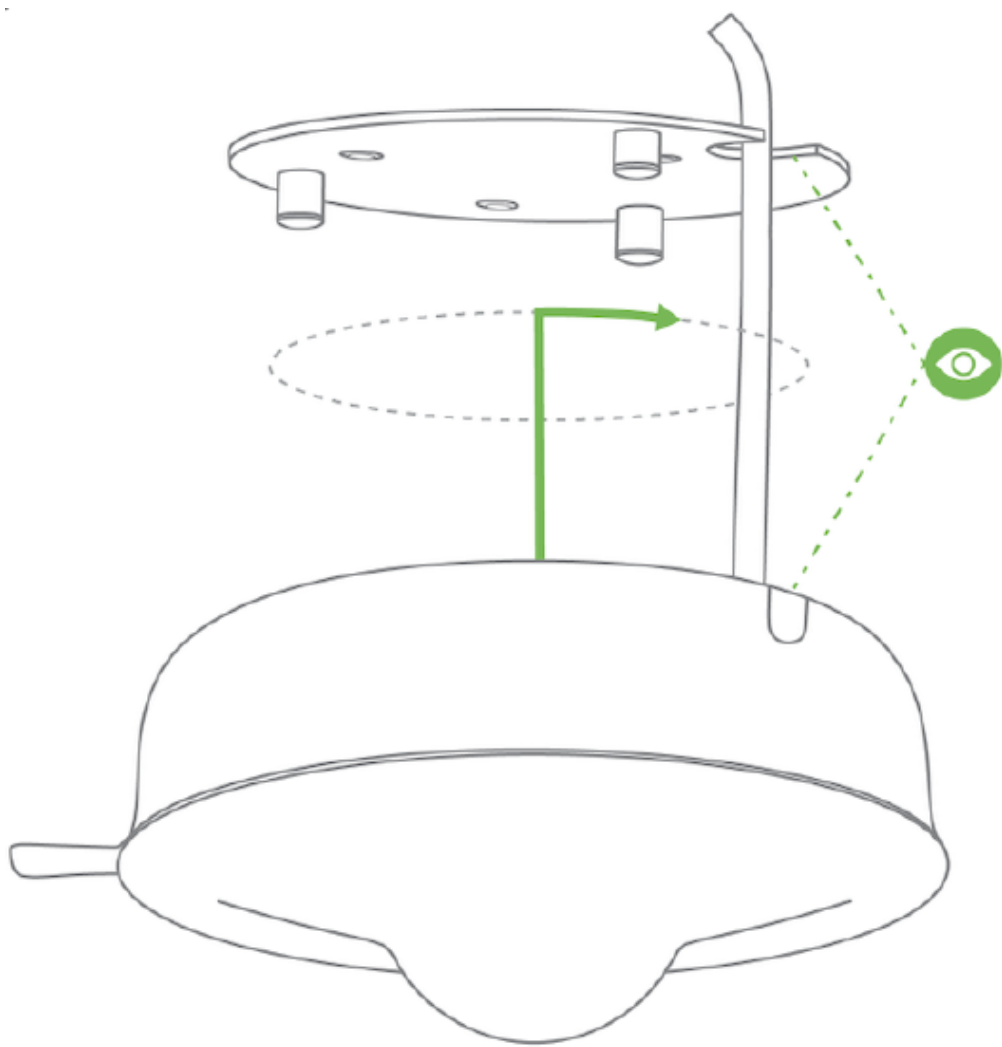
Once done, attach the base mount plate onto the desired surface using the three provided screws.



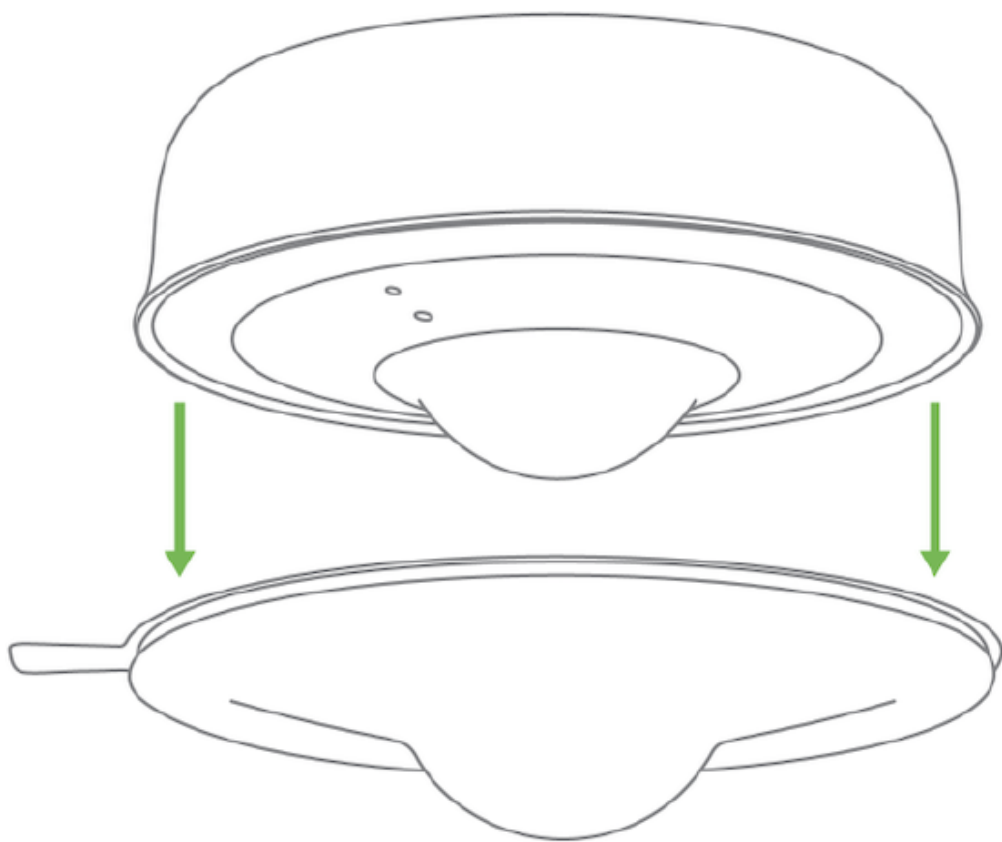
2. Connect PoE cable to camera. For cables that will exit out the side of the camera, remove the mouse hole cover before routing the cable.



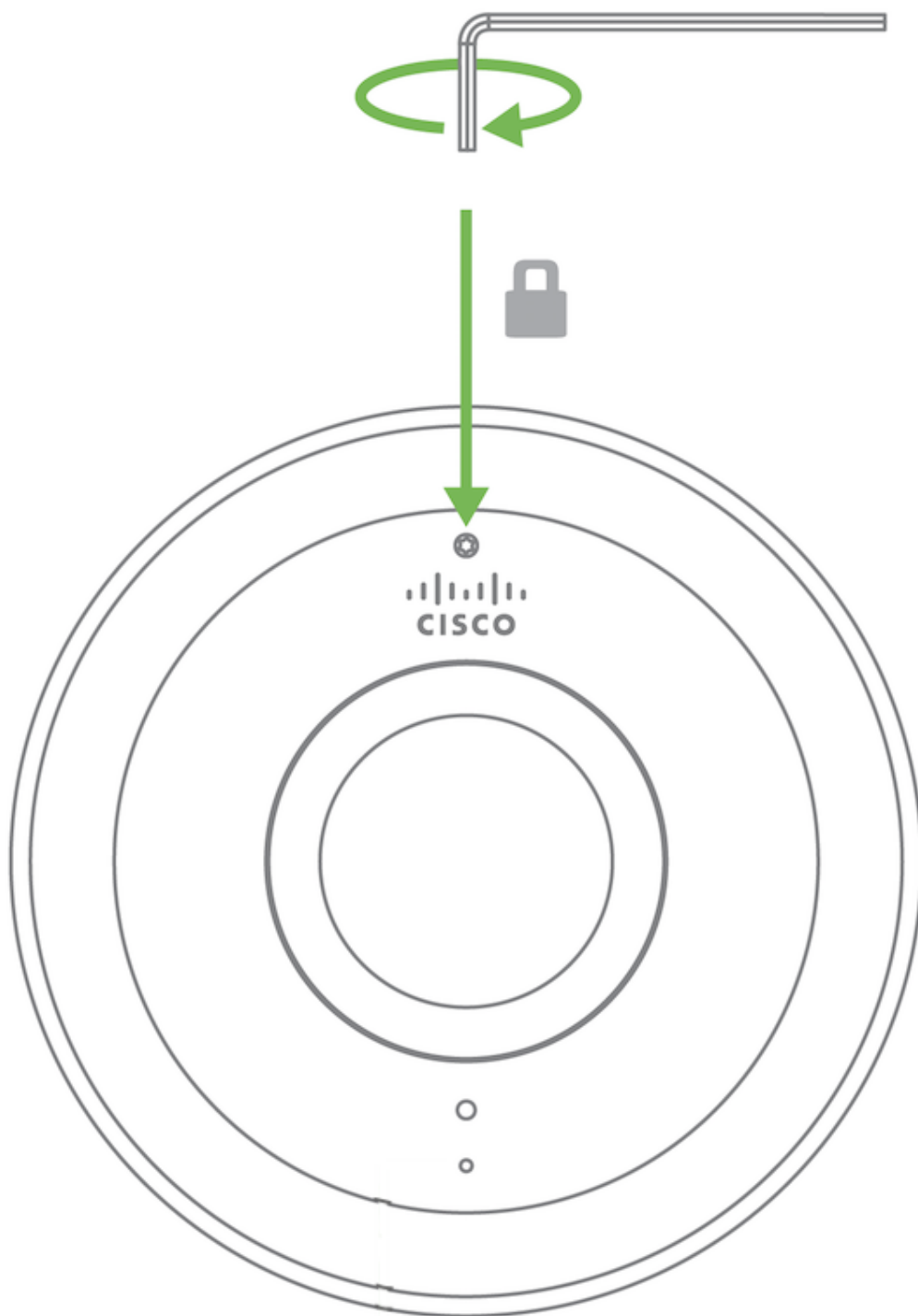
3. Slide camera over top of mount plate and rotate onto mount plate hooks.



4. Remove the protective cover to expose the dome, security screw hole, status LED, and microphone.



5. Secure Torx safety screw with provided Torx key.



5. Observe the status LED on the left side of the camera lens assembly and ensure the camera is connected via Ethernet (solid green) or WiFi (solid blue). A MV must first be provisioned over a wired Ethernet connection before it can be deployed wirelessly. For information on how to connect via WiFi, see the setup guide [here](#).

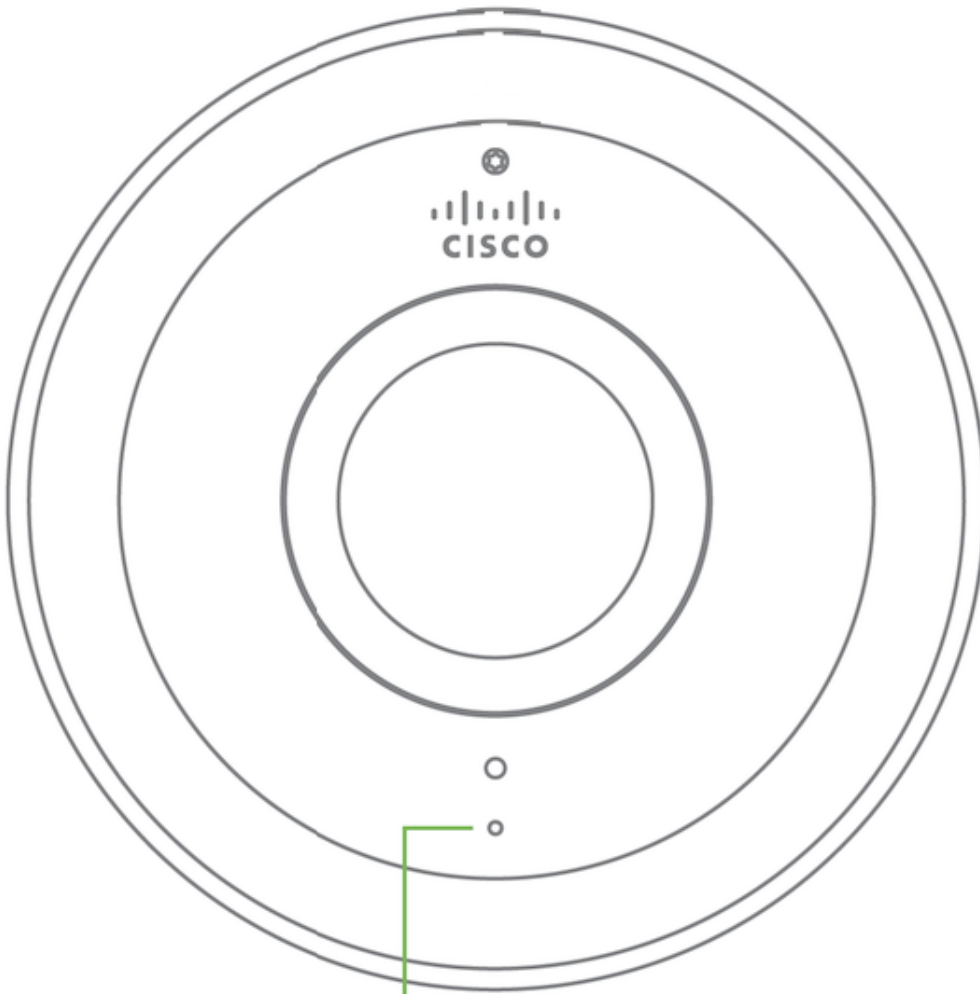
Your MV32 is equipped with a LED light on the front of the unit to convey information about system functionality and performance.

The various status conditions of a MV are indicated by the following colors and patterns:

- Rainbow (solid, rotating through colors) - MV is booting up.
- Flashing Blue - MV is searching for WiFi network(s).
- Flashing Green - MV is upgrading or initializing for the first time.
- Solid Green - MV is connected via Ethernet.
- Solid Blue - MV is connected via WiFi.
- Solid Violet - MV has audio recording enabled.
- Solid Amber - MV has an issue and may need replacement.



Note: Audio recording is not yet available on the MV32.



LED	?

