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## MV93/93X Installation Guide

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### MV93/93X Overview

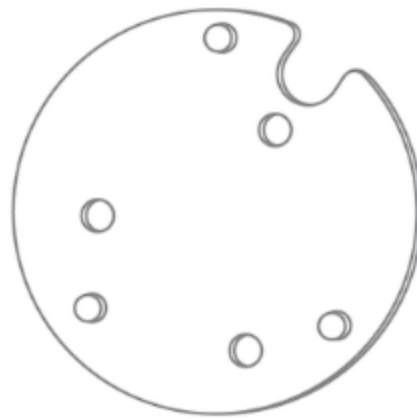
The Cisco Meraki MV93/93X is a network fisheye camera that is exceptionally simple to deploy and configure due to its integration into the Meraki Dashboard and the use of cloud augmented edge storage. The MV family eliminates complex and costly servers and video recorders required by traditional solutions 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.

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### Package Contents

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



From top-left to bottom-right:

- 1 x MV93/93X
- 1x Allen wrench with T10 Torx head
- 3x Phillips head mounting screws and anchors
- 1x Mount plate

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- 1x Paper mount plate template with double sided tape to apply to wall
  - 1x Plastic bubble cover
  - Black electrical tape (not shown)
  - Quick install guide (not shown)
  - Regulatory booklet (not shown)

## Powering the MV93/93X

The MV93/93X 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).

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## 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 MV93/93X 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 the camera is now listed under **Cameras > Monitor > Cameras**.

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## 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](#).

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## DNS Configuration

Each MV93/93X 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.

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## Assigning IP Addresses

At this time, the MV93/93X does not support static IP assignment. MV93/93X units must be added to a subnet that uses DHCP and has available DHCP addresses to operate correctly.

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## Installation Instructions

**Note:** Each MV93/93X 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 MV93/93X 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.

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## Powering the MV93/93X

There are three options to power the MV93/93X camera:

- POE adapter (not included)
- 12V DC adapter (not included)
- 24V AC power source

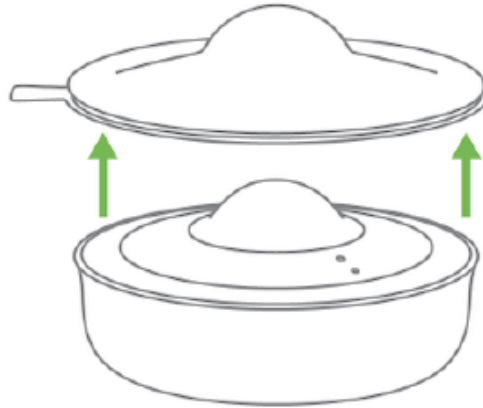
## Mounting Instructions

For most mounting scenarios, the MV93/93X wall mount provides a quick, simple, and flexible means for mounting your device. The installation should be done in a few simple steps:

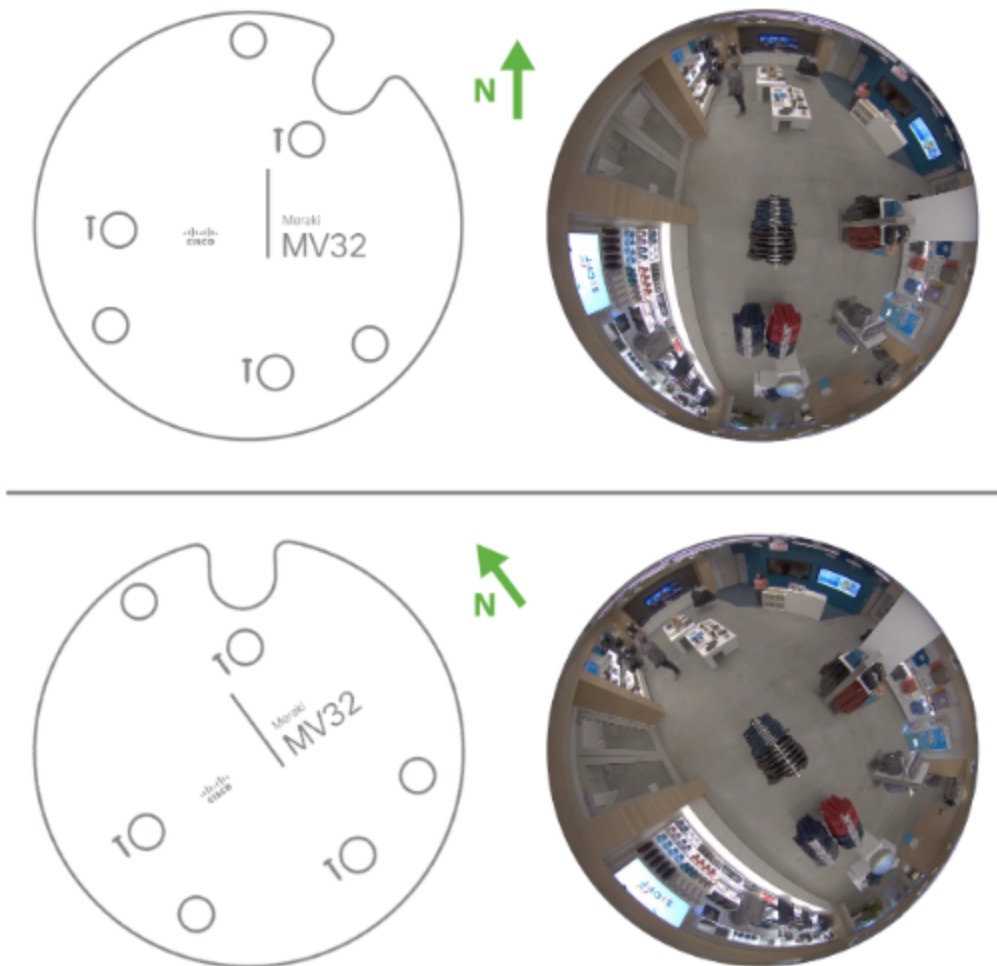
**Note:** Leave protective plastic cover on the optical dome, as this will prevent the optical dome from any damage during installation.

Follow these steps to complete the installation of the MV93/93X Camera:

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



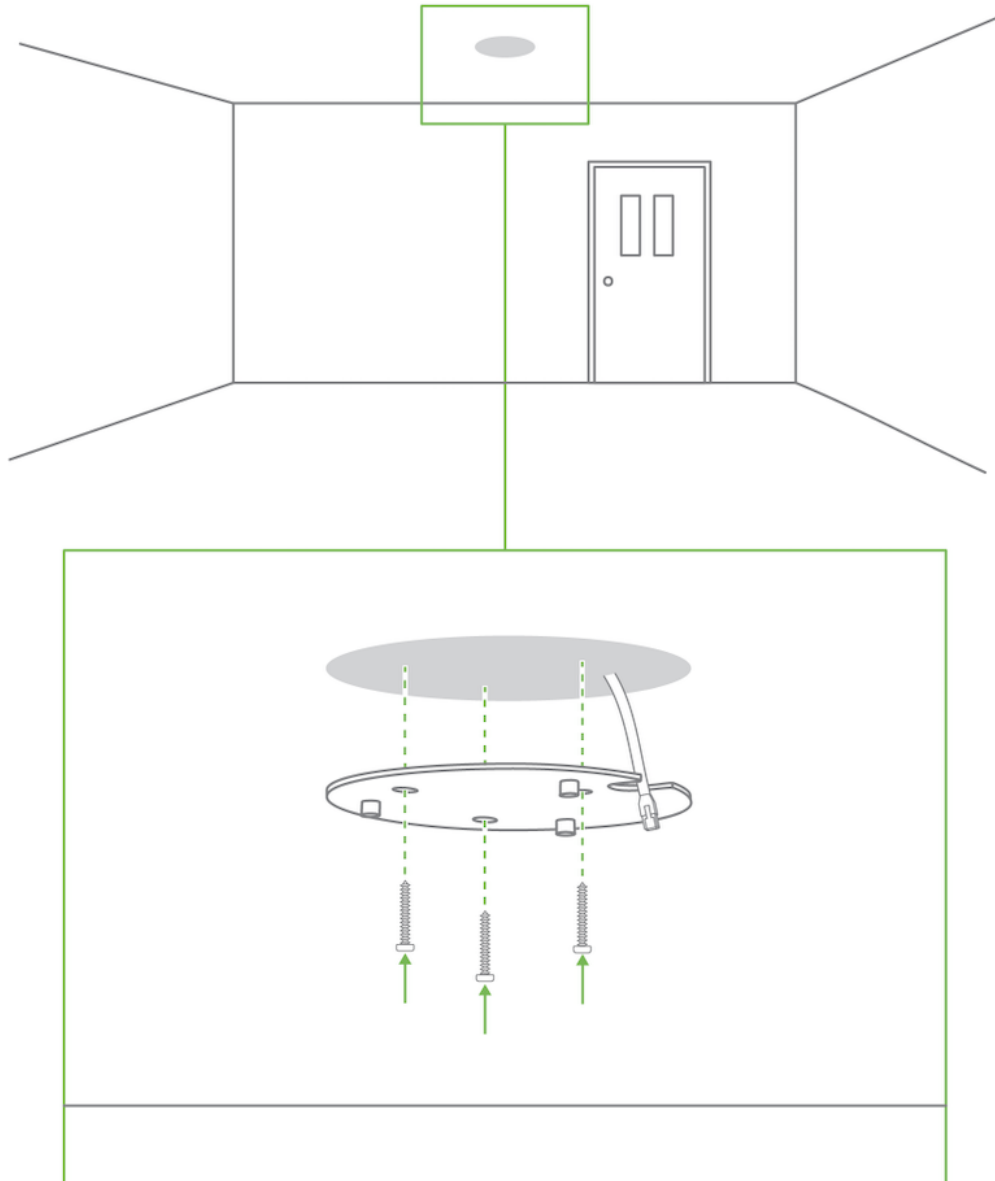
1. First route the Ethernet cable through the ceiling surface or ceiling tile hole. Position the mounting template such that the "Meraki MV93" or "Meraki MV93X" text is aligned with your desired image orientation. This could mean orienting the image to align North-to-South or with objects of interest within the field of view.



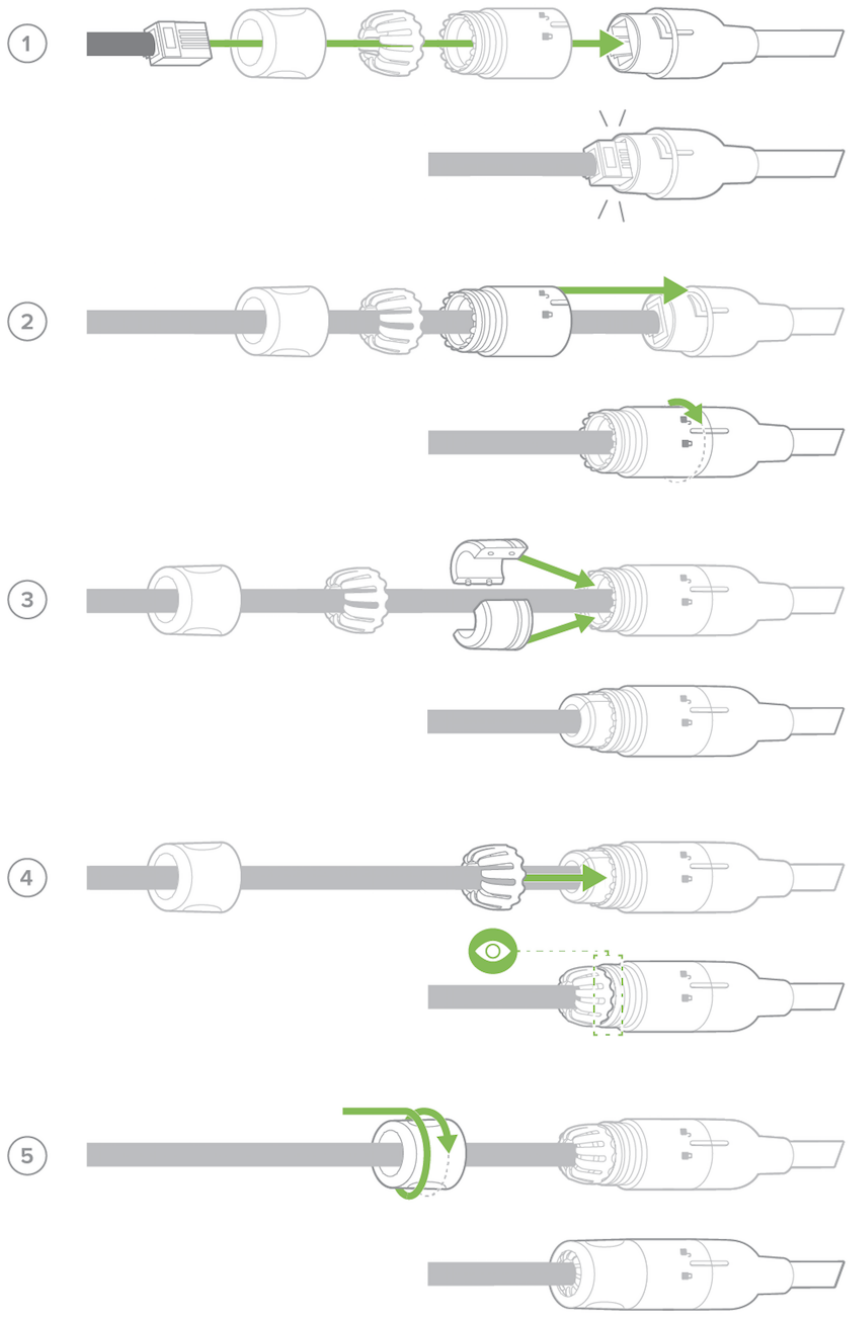
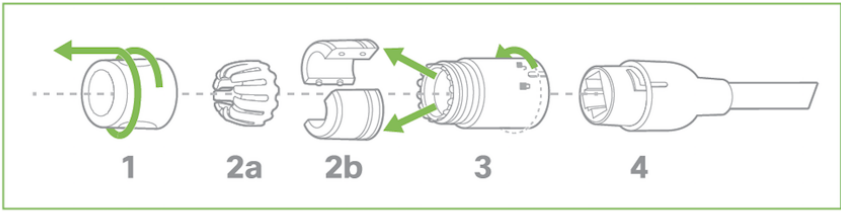
It is important that care is taken during this step! The image sensor on the fisheye camera is fixed. Once physical installation is complete, the image can only be rotated by 180 degrees in software and no other adjustments can be made.

**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.

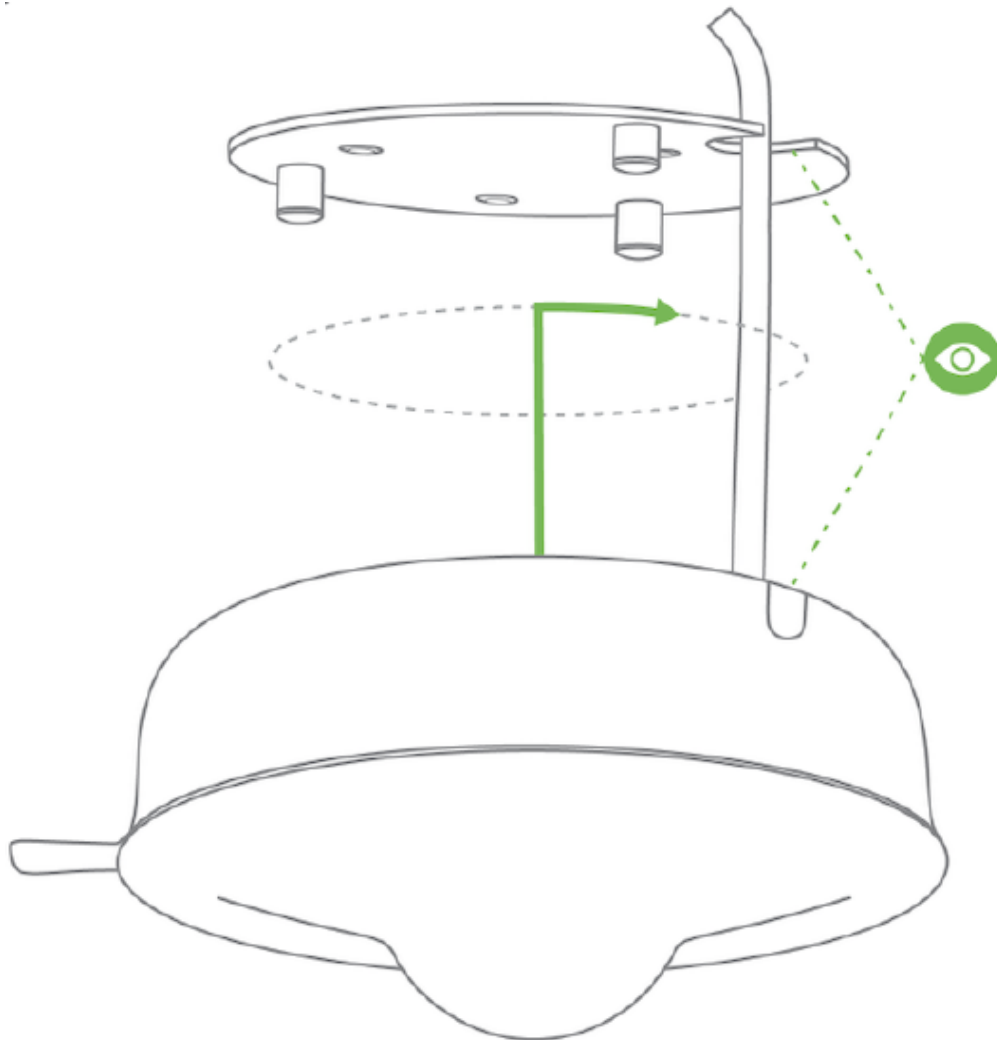


2. Follow this [in-depth cable gland assembly guide](#) to connect the PoE cable to the camera cable gland and ensure seal is water-tight. **This step is very important and may result in damage to the camera if done improperly.**

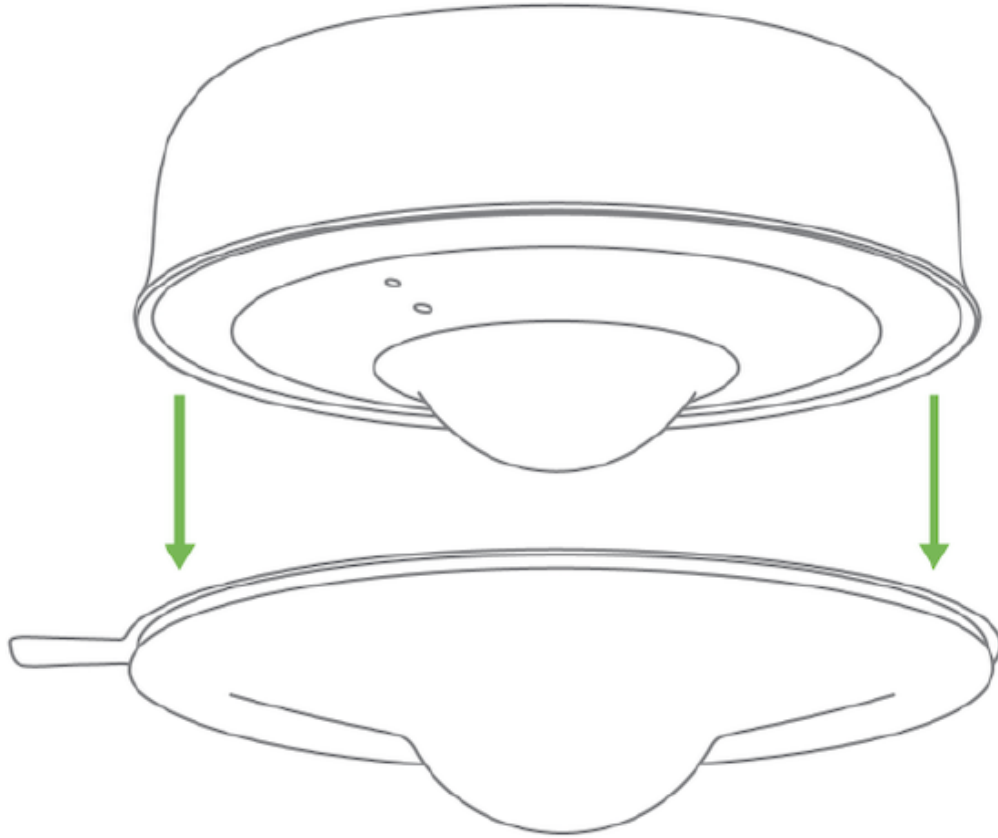




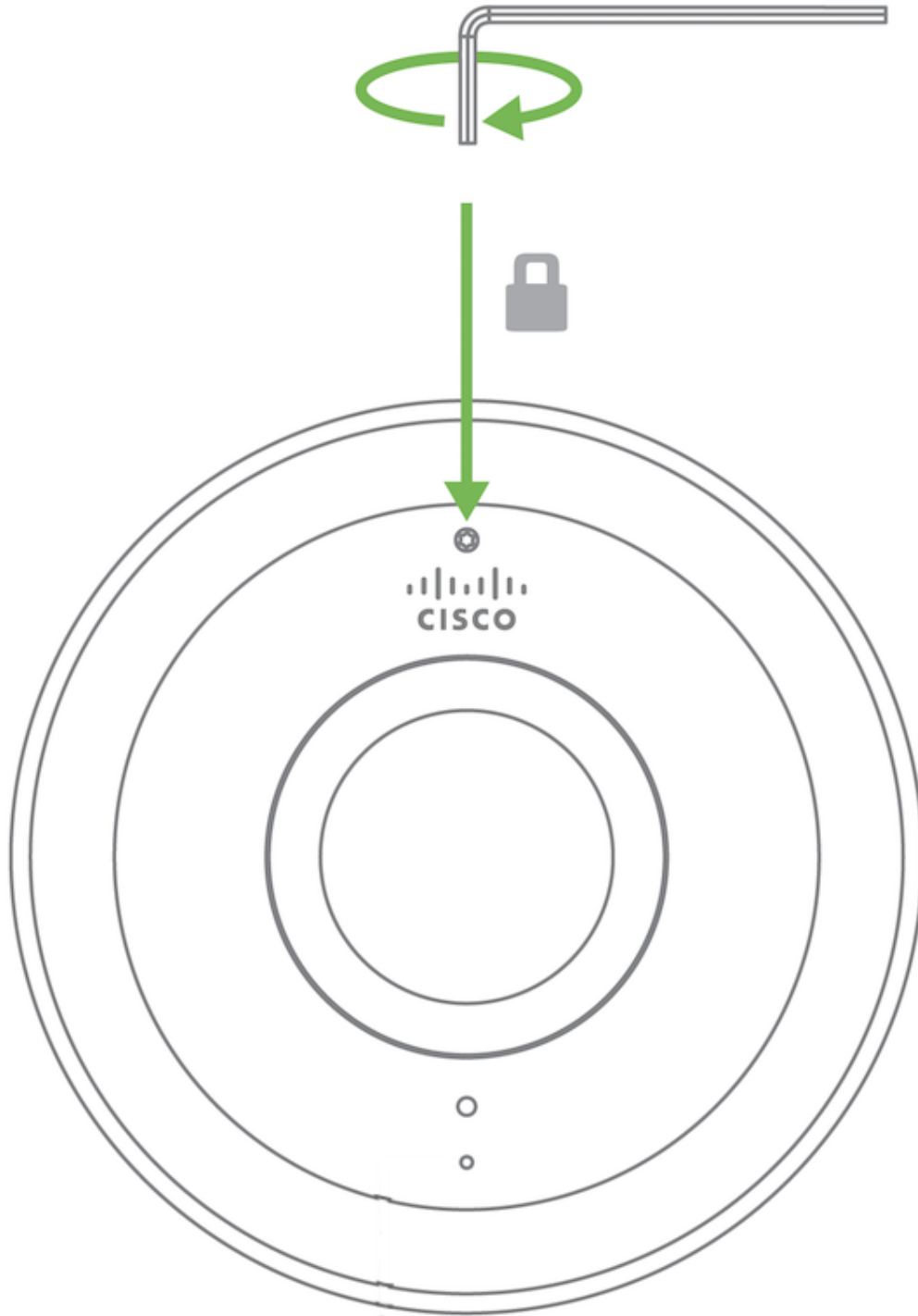
3. Slide camera over top of mount plate and rotate onto mount plate hooks.



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

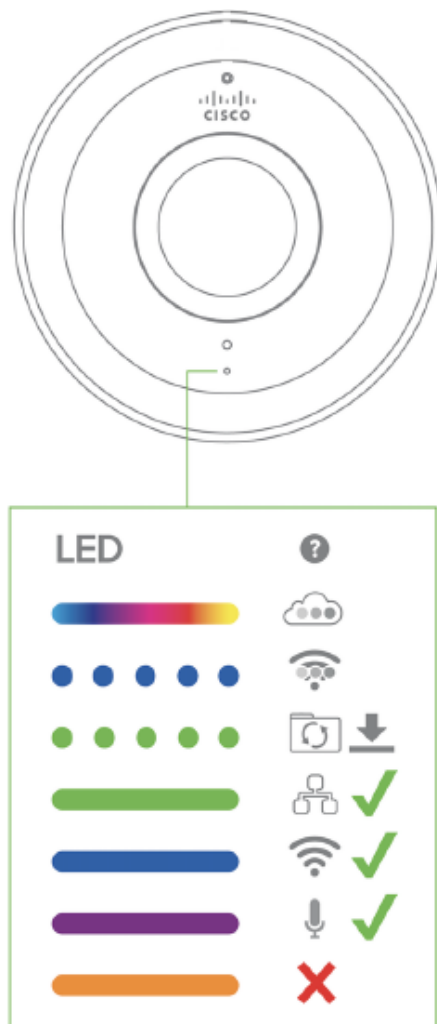


5. Secure Torx safety screw with provided Torx key.



6. 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 MV93/93X 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 is not able to connect to Dashboard.

## Regulatory Information

### FCC Compliance Statement

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.

### FCC Interference Statement

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 correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### FCC Caution

Any changes or modifications not expressly approved by Meraki could void the user's authority to operate this equipment. This Transmitter must not be co-located or operation in conjunction with any other antenna or transmitter.

### FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IEEE 802.11b/g/n/ax 2.4 GHz DTS spectrum operation of this product in the USA is firmware-limited to channels 1 through 11.

If the device is going to be operated in the 5.15 - 5.25 frequency range, then it is restricted to indoor environment only.

This device meets all other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

### Industry Canada Statement

This device complies with RSS -247 of the Industry Canada 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.

Ce dispositif est conforme à la norme CNR-247 d'Industrie Canada applicable aux appareils radio exempts de licence.

Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

### Industry Canada Caution

(i) the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

(ii) high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Avertissement:

(i) les dispositifs fonctionnant dans la bande 5 150-5 250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

(ii) De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5 250-5 350 MHz et 5 650-5 850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

### Industry Canada Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

### Déclaration d'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

### Japan Caution Statement

この製品は屋内においてのみ使用可能です

The 5 GHz W52 and W53 bands are for indoor use only.

For additional information on the certification status for the product, please visit [Meraki.com/compliance](https://meraki.com/compliance).

For additional information on Meraki hardware and for other installation guides, please refer to [documentation.meraki.com](https://documentation.meraki.com).