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MR36H Installation Guide

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MR36H Installation Guide

The Cisco Meraki MR36H is a dual-band 802.11ax cloud-managed access point with integrated Ethernet ports. Designed for room wireless and wired connectivity, the MR36H is easy to install on the wall on a single gang box, and is the first cloud managed hospitality AP.

About this Guide

This guide provides instructions on how to install and configure your MR36H access points. This guide also provides mounting instructions and limited troubleshooting procedures. For more wireless installation guides, refer to the [wireless installation guides section](#) on our documentation website.

Product Overview

Physical Specifications

MR36H

Interfaces

- 1x Gigabit Ethernet (RJ45) with 802.3af Power over Ethernet output *
- 2x Gigabit Ethernet (RJ45) outputs

*It can work with 802.3af with lower capabilities



Power

- Power over Ethernet: 37 - 57 (802.3at compatible)
- Power consumption: 25W max (802.3at)
- Power over Ethernet injector sold separately

Environment

- Operating temperature: 32 °F to 104 °F (0 °C to 40 °C)
- Storage and Transportation Temperature: -4 °F to 158 °F (-20 °C to 70 °C)
- Humidity: 5 to 95% non-condensing

Physical Security

- Two security screw options (included)
- Concealed mount plate

Package Contents

The MR36H package contains the following:

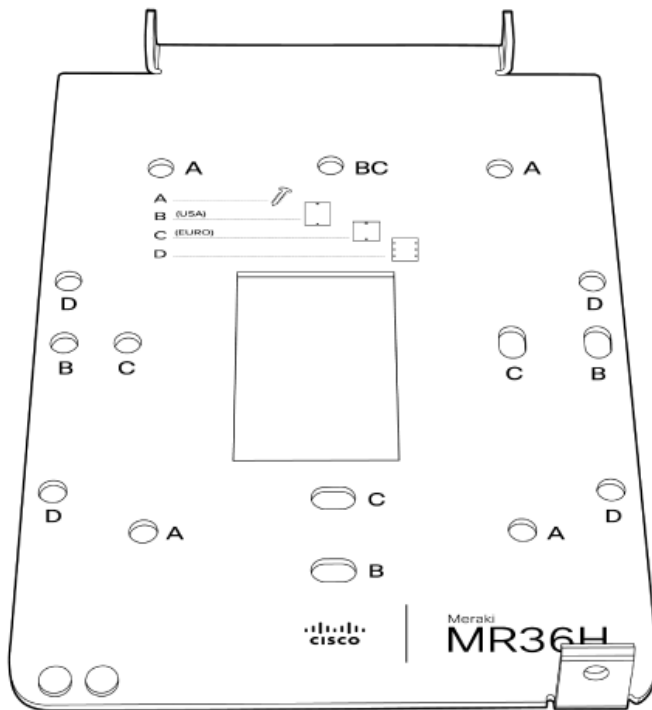
MR36H Cloud-Managed Access Point



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Mount cradle



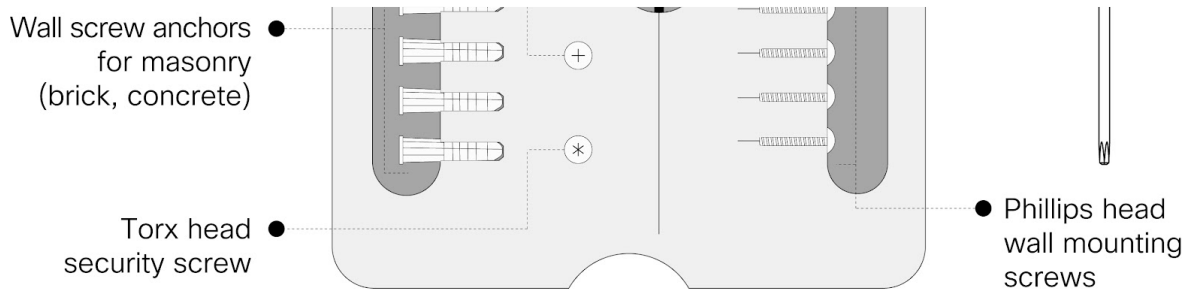
Mount Kit

- Wall screws, wall screw anchors, and security screws
- Eject/Security Screw tool

● Eject/Security Screw tool

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Security Features

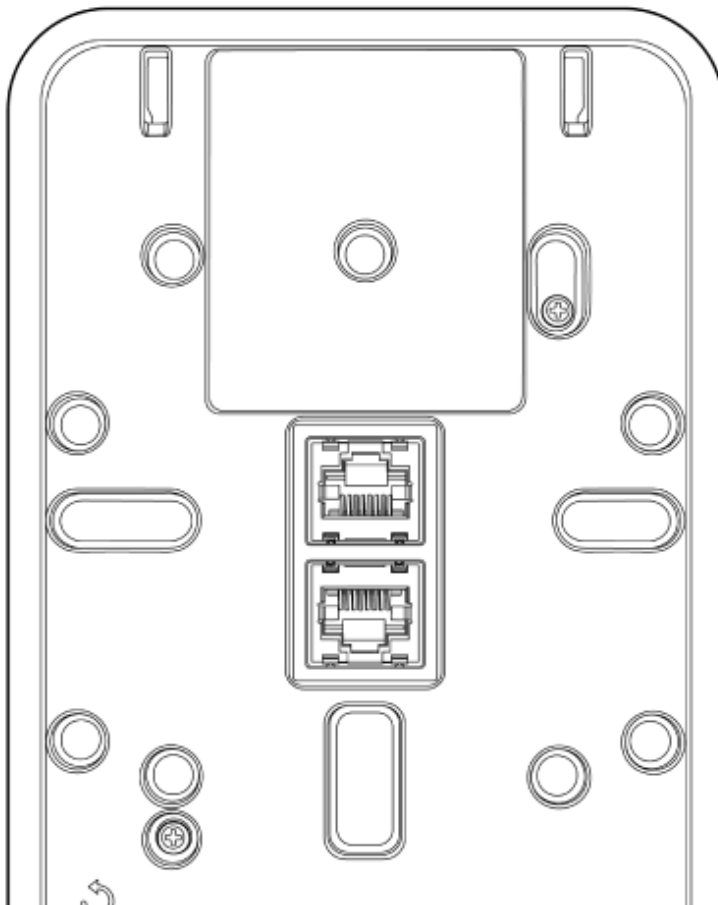
The MR36H features multiple options for physically securing the access point after installation:

1. Security screw – The accessory kit includes screws that can be used to secure the access point to the mount cradle. Engaging the security screw prevents accidental dislodging and theft.

Ethernet Ports

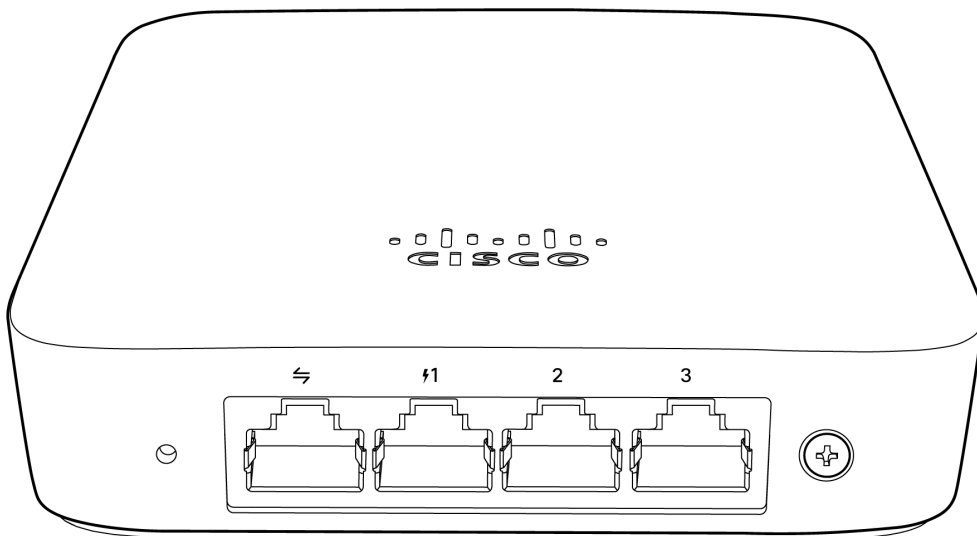
Uplink

The MR36H features a Gigabit Ethernet RJ45 port that accepts 802.3at and 802.3af power on the rear of the unit. This port should be used for uplink to your WAN connection.



LAN Access Ports

The MR36H features 3x LAN ports labeled 1 through 3. Port 1 may provide 802.3af out to an end device if the MR36H is powered via a 802.3at power source. Configuration details can be found in the [AP port profiles](#) article.



The LAN ports on an MR36H behave like access ports on a switch, and will not accept incoming traffic if it has a VLAN (802.1q) tag applied.

Connecting another MR to the LAN ports of the MR36H is not a supported topology.

Through MR-4072 we learnt that if another MR is connected to the LAN port of an MR36H, DHCP requests

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Power Source Options

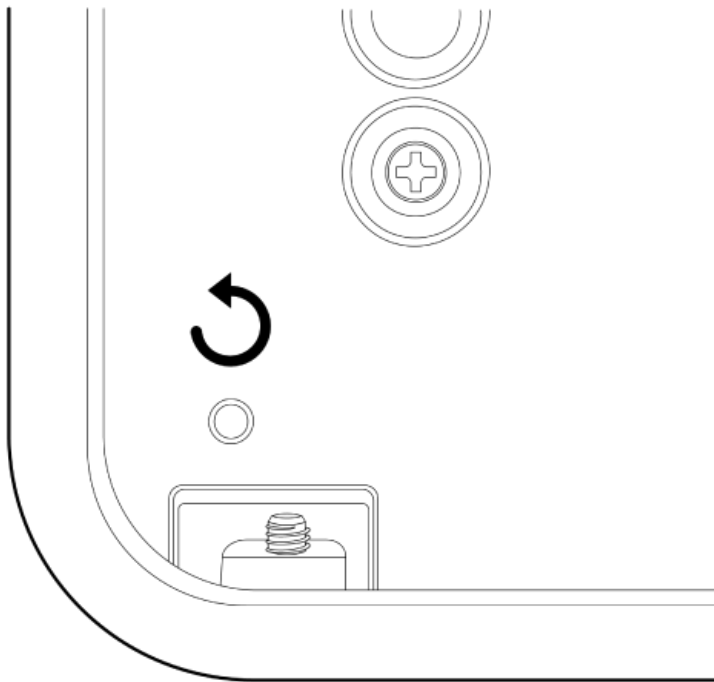
The MR36H access point can be powered via PoE using either the Meraki PoE Injector (sold separately), or a PoE switch.

The MR36H will function in low power mode when powered by a 802.3af power source. While in low power mode, the MR36H will disable 802.3af out on the LAN1 port. Despite being in low power mode, the device can still supply full wireless capabilities.

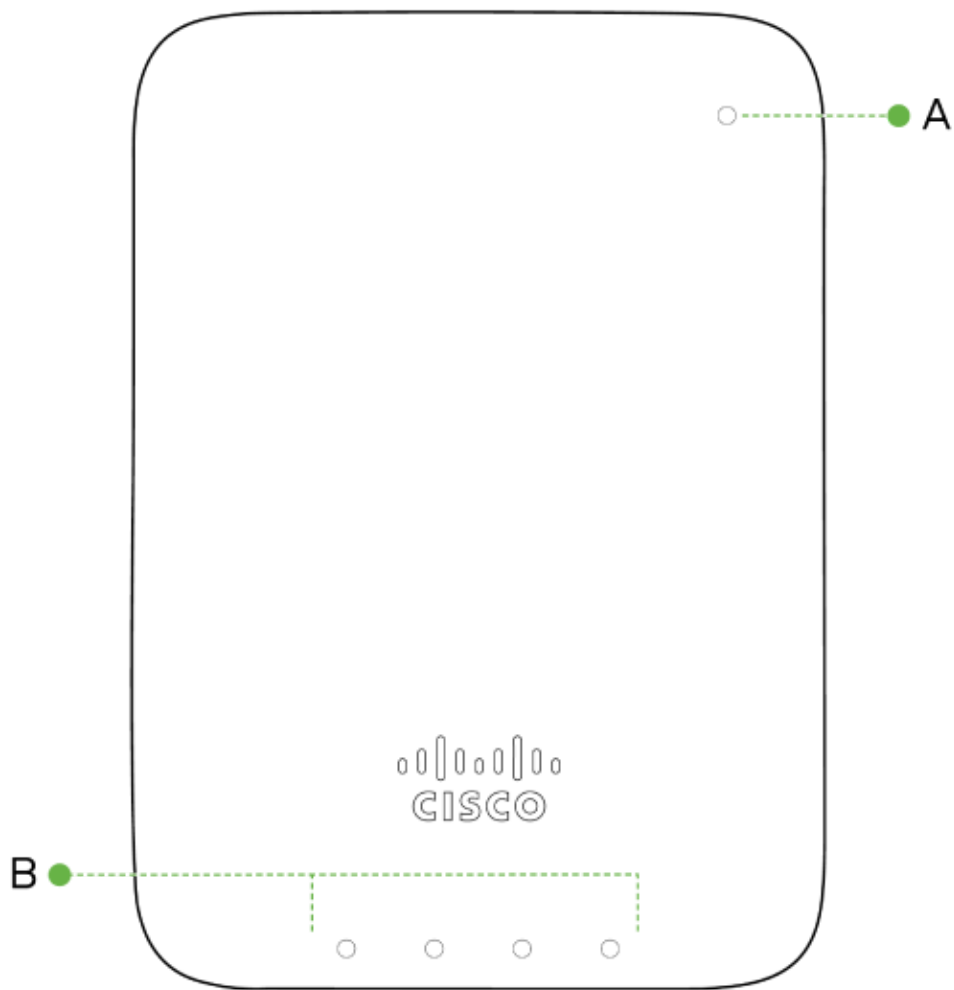
Factory Reset Button

If the button is pressed and held for at least five seconds and then released, the MR36H will reboot and be restored to its original factory settings by deleting all configuration information stored on the unit.

The factory reset button is located on the rear of the unit and must be ejected from the mount plate in order to be activated.



LED Indicators



A - System Status LED

B - Ethernet status LEDs

System Status

The MR36H is equipped with a multi-color LED light on the front of the unit on the top right to convey

performance. The LED shines through the faceplate of the AP and is visible when the AP is powered on or powered off.



- Orange - AP is booting (permanent Orange suggests hardware issue)
- Blinking Orange - AP can't find uplink
- Rainbow - AP is initializing/scanning
- Blue - AP in Gateway mode with clients
- Blinking Blue - AP is upgrading
- Green - AP in Gateway mode with no clients

Ethernet Status

The MR36H features four green Ethernet status LEDs near the bottom of the faceplate. When an Ethernet client is connected, the LED will shine through the faceplate if Run Dark mode is not enabled.

Run Dark Mode

The MR36H may be operated in "Run Dark" mode for additional security and to reduce the visibility of the access point. In this mode, the LED will not be illuminated. This mode may be [configured](#) through the Meraki dashboard.

When a MR36H is rebooted with rundark mode enabled, an orange LED will illuminate during boot then all lights will be turned off after boot.

Safety and Warnings

These operations are to be taken with respect to all local laws. Please take the following into consideration for safe operation:

- Power off the unit before you begin. Read the installation instructions before connecting the system to the power source.
- Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.
- Read the wall-mounting instructions carefully before beginning installation. Failure to use the correct hardware or to follow the correct procedures could result in a hazardous situation to people and damage to the system.
- This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 15 A, 125 Vac, or 10A, 240 Vac.
- Please only power the device with the provided power cables or standard PoE to ensure regulatory compliance.

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 MR36H to your network. For detailed instructions about creating, configuring and managing Meraki wireless networks, refer to the online documentation (documentation.meraki.com).

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 APs or create a new network.
3. Add your APs to your network. You will need your Meraki order number (found on your invoice) or the serial number of each AP, which looks like Qxxx-xxxx-xxxx, and is found on the bottom of the unit. You will also need your Enterprise license key, which you should have received via email.
4. Go to the map / floor plan view and place each AP on the map by clicking and dragging it to the location where you plan to mount it.

Check and Set Firmware

To ensure your MR36H performs optimally immediately following installation, it is recommended that you facilitate a firmware upgrade prior to mounting your MR36H.

1. Attach your MR36H to power and a wired Internet connection. See the "Power the MR36H" section for details.
2. The MR36H will turn on and the LED will glow solid orange. If the unit does not require a firmware upgrade, the LED will turn either green (no clients associated) or blue (clients associated) within thirty seconds.

* If the unit requires an upgrade, the LED will begin blinking orange until the upgrade is complete, at which point the LED will turn solid green or blue. You should allow at least a few minutes for the firmware upgrade to complete, depending on the speed of your internet connection.

Check and Configure Upstream Firewall Settings

If a firewall is in place, it must allow outgoing connections on particular ports to particular IP addresses. Check the Meraki Dashboard under the help section for Firewall information.

Assigning an IP Address to the MR36H

All gateway MR36Hs (MR36Hs with Ethernet connections to the LAN) must be assigned routable IP addresses. These IP addresses can be dynamically assigned via DHCP or statically assigned.

Dynamic Assignment

When using DHCP, the DHCP server should be configured to assign a static IP address for each MAC address belonging to a Meraki AP. Other features of the wireless network, such as 802.1X authentication, may rely on the property that the APs have static IP addresses.

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Static Assignment

Static Assignment

Static IPs are assigned using the local web server on each AP. The following procedure describes how to set the static IP:

1. Using a client machine (e.g., a laptop), connect to the AP wirelessly (by associating to any SSID broadcast by the AP) or over a wired connection.
2. If using a wired connection, connect the client machine to the MR36H either through a PoE switch or a PoE Injector. If using a PoE switch, plug an Ethernet cable into the MR36H's Ethernet jack, and the other end into a PoE switch. Then connect the client machine over Ethernet cable to the PoE switch. If using a PoE Injector, connect the MR36H to the "PoE" port of the Injector, and the client machine to the "LAN" port.
3. Using a web browser on the client machine, access the AP's built-in web server by browsing to <http://my.meraki.com>. Alternatively, browse to <http://10.128.128.128>.
4. Click on the "Uplink Configuration" tab. Log in. The default login is the serial number (e.g. Qxxx-xxxx-xxxx), with no password (e.g., Q2DD-551C-ZYW3).
5. Configure the static IP address, net mask, gateway IP address and DNS servers that this AP will use on its wired connection.
6. If necessary, reconnect the AP to the LAN.

Static IP via DHCP Reservations

Instead of associating to each Meraki AP individually to configure static IP addresses, an administrator can assign static IP addresses on the upstream DHCP server. Through "DHCP reservations," IP addresses are "reserved" for the MAC addresses of the Meraki APs. Please consult the documentation for the DHCP server to configure DHCP reservations.

Collect Tools

You will need the following tools to perform an installation:



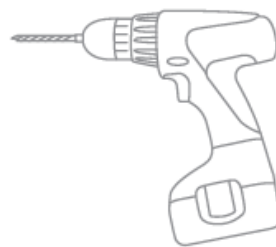
T8 Torx
screwdriver



Phillips
screwdriver



Hammer



Drill with 1/4"
(6.3mm) bits

Collect Additional Hardware for Installation

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in installation:





802.3at PoE power source (either PoE switch or Meraki 802.3at PoE Injector)



Network cables with RJ45 connectors long enough for your particular mounting location

Installation Instructions

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When installing the back of APs during normal operation, please do not stack power on APs on top of each other during pre-installation to avoid heat damage.



Choose Your Mounting Location

A good mounting location is important to getting the best performance out of your MR36H access point. Keep the following in mind:

1. The device should have an unobstructed line of sight to most coverage areas for highest performance.
2. Power over Ethernet supports a maximum cable length of 360 ft (100 m).

Install the MR36H

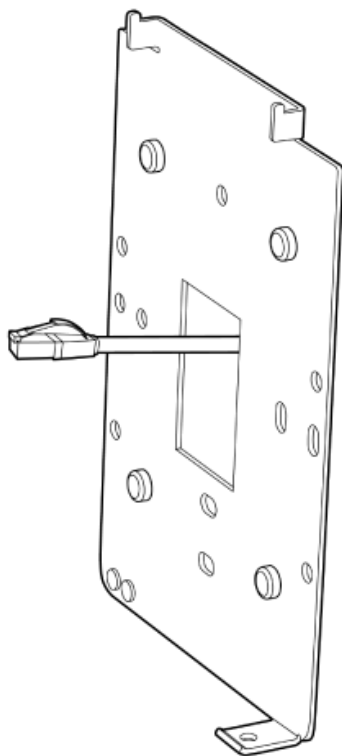
For most mounting scenarios, the MR36H mount cradle provides a quick, simple, and flexible means of mounting your device. The installation should be done in two steps. First, install the mount cradle to your selected

location. Then, attach the MR36H to the mount cradle.

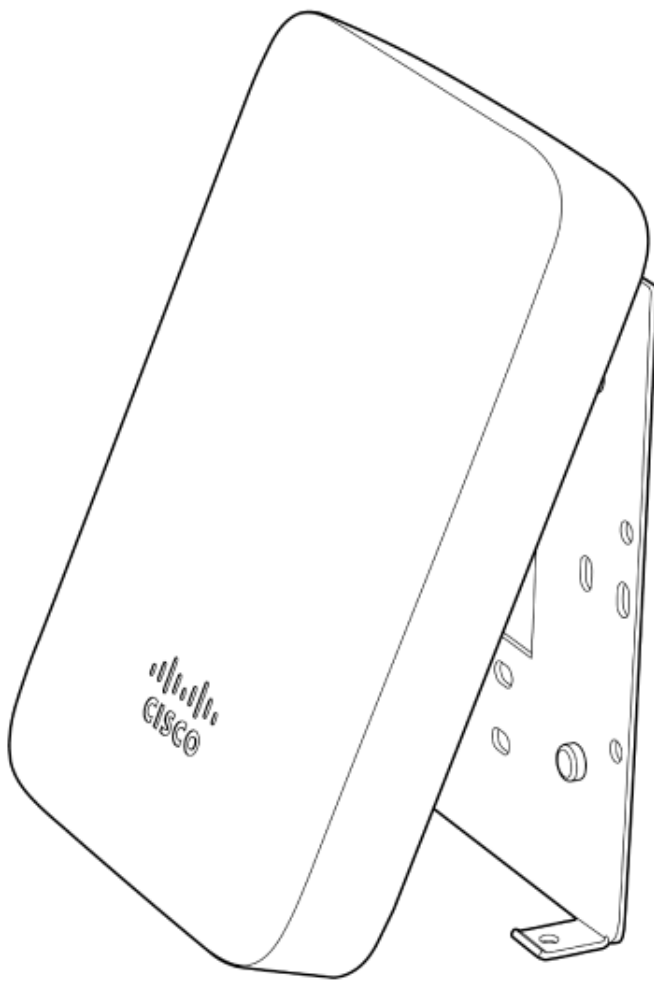
Attach the mount cradle

The MR36H can be mounted to a 4" square cable junction box and European outlet boxes (mounting screws are not included).

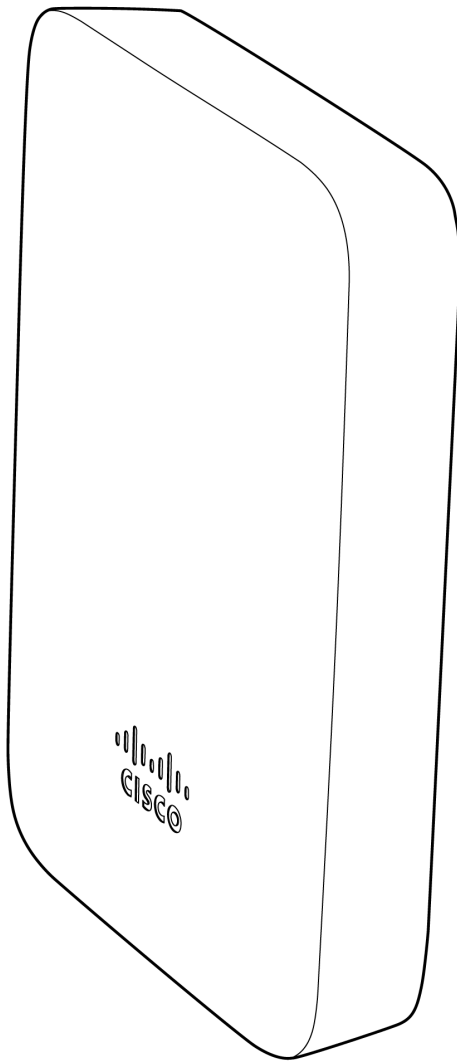
Using appropriate mounting hardware for your specific type of junction box, attach the mount cradle to the junction box.



To attach the MR36H to the mount cradle properly, line up the top edge of the AP with the top tab of the mount cradle. Since the cradle is already mounted to the wall, guide the MR36H towards the top tab and insert the top tabs into the MR36H's slot.



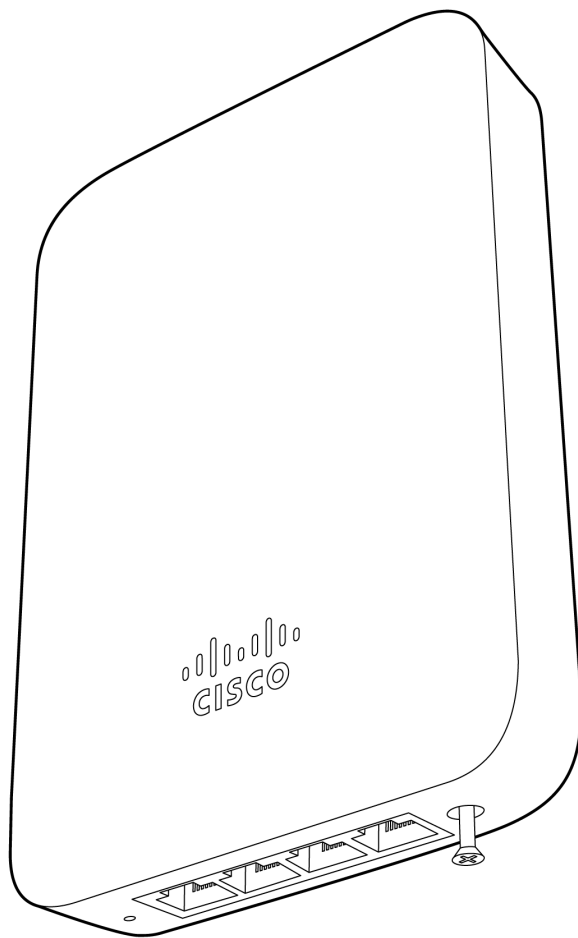
Then adjust the MR36H to guide the MR36H's bottom slot into the cradle's bottom tab until it clicks into place. Once in place, the MR36H should be secured to the cradle by using one of the included screws in the cradle's bottom tab.



Secure the MR36H

Depending on your mounting environment, you may want to secure the MR36H to its mount location. Your MR36H can be secured via security screw (Torx security screws are included).



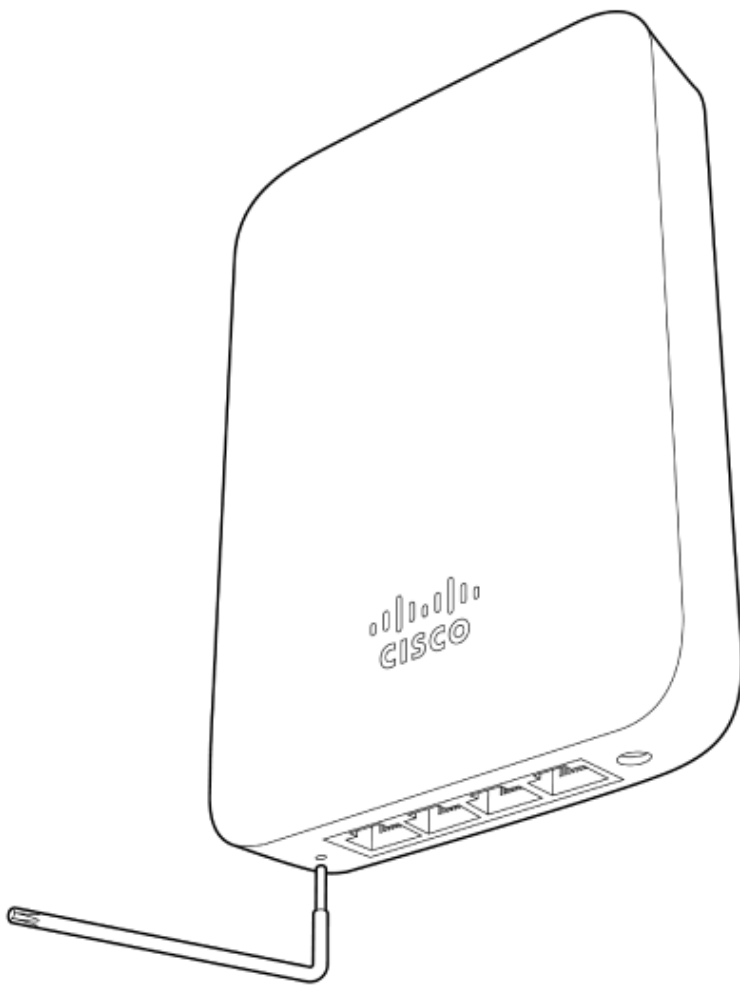


Ejecting MR36H from mount plate

To release the MR36H from the mount cradle, first remove the security screw that secures the MR36H to the cradle's bottom tab. While holding the MR36H with one hand, use the eject tool to trigger the release

mechanism. Then remove the MR36H from the cradle's top tab.





Verify Device Functionality and Test Network Coverage

1. Check LEDs

1. The Power LED should be solid green (or blue, if clients are connected). If it is flashing blue, the firmware is upgrading and the LED should turn green when the upgrade is completed (normally within a few minutes). See the "[LED Indicators](#)" section for more details.

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te to the Internet to check and upgrade its firmware.



2. Verify access point connectivity

1. Use any 802.11 client device to connect to the MR36H and verify proper connectivity using the client's web browser.

3. Check network coverage

4. Confirm that you have good signal strength throughout your coverage area. You can use the signal strength meter on a laptop, smart phone, or other wireless device.

Basic Troubleshooting

The following steps can be used for troubleshooting basic connectivity issues with your access point.

- Reset the access point
- Factory reset the access point by holding the factory reset button for 5 seconds
- Try switching cables, or testing your cable on another device

If your access point still does not connect, the following instructions may be useful, depending on your issue.

Check Radio Functionality by Making the AP a Repeater

1. If your AP is acting as a gateway, disconnect the Ethernet cable from the LAN (while keeping the AP powered on). This will switch your AP into repeater mode. If no other gateways are within range, the AP will begin broadcasting an SSID appended with "-scanning". If you are able to connect to this SSID and go to my.meraki.com from your web browser, then your radio is working.
2. Physically place the repeater AP (AP with disconnected LAN) next to a working gateway AP.
3. Connect the power adapter or PoE. The radio and signal strength LEDs on the AP will turn solid green or blue once the access point boots up and detects the gateway.
4. The access point is now a repeater and will check into Dashboard.
5. On dashboard under monitor and access points you will see the connectivity bar for the specific Repeater AP reflecting a light green color, which means the AP is a repeater. Gateway APs will reflect a dark green color in the connectivity bar and also will have the letter G (Gateway) on top of the AP symbol.

Check Ethernet Port Functionality by Connecting to the AP

1. Disable the Wireless adapter on your computer.
2. Make sure the Ethernet adapter on your device is set to obtain an IP address automatically via DHCP.
3. Connect your computer to the Ethernet port on the AP with an Ethernet cable.
4. The Ethernet LED on the AP should turn solid green or blue.
5. If the Ethernet LED does not turn solid green or blue, try swapping the cable. If the Ethernet port still does

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port, if the AP has one.



6. If the Ethernet LED does not turn solid green or blue, you may have a bad port on the AP. If this is the case

If the Ethernet LED does not turn solid green, you may have a bad port on either your end or the AP. If the AP signal LEDs will continue to scan.

7. Once the Ethernet LED turns solid green or blue, your computer should obtain an IP address from the AP via DHCP.

Check Static IP Address Configuration

1. If the AP has a static IP address, the green signal LEDs will begin to flash on and off and you will not receive an IP address via DHCP.
2. Disconnect the Ethernet cable from the AP.
3. Associate to the SSID being broadcasted by the AP. If there are no other APs in the network within range the SSID may be appended with "-scanning".
4. Go to my.meraki.com in your web browser.
5. The MAC address on the back of the access point should match the physical address value on the my.meraki.com Overview page.
6. Once you have verified that the MAC address is correct on the overview tab, click the tab Static IP configuration.
7. Enter the username (serial number on the back of the AP) which is case sensitive and must include the dashes. (There is no password).
8. Make sure your AP is set to obtain a correct DHCP or static IP address configuration from your network.

Reference <https://documentation.meraki.com/MR> for additional information and troubleshooting tips.

If you are still experiencing hardware issues, please contact Cisco Meraki support by logging in to dashboard and use the **Help** option near the top of the page, then open an email case or call using the contact information on that page.

Warranty

MR Warranty coverage periods are as follows:

Indoor MR 36H AP	Lifetime	Applies to MR device and ethernet cables in box
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Note: The above table is a general guideline for warranty terms and is not final. Warranty terms are subject to printed warranty information on the relevant online Meraki data sheets.

If your Cisco Meraki device fails and the problem cannot be resolved by troubleshooting, contact support to address the issue. Once support determines that the device is in a failed state, they can process an RMA and

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In order to initiate a hardware replacement for non-functioning hardware that is under warranty, you must have access to the original packaging the hardware was shipped in. The original hardware packaging includes device serial number and order information, and may be required for return shipping.

Meraki MR36H devices have 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.

Additional warranty information can be found on: <https://meraki.cisco.com/support#process:warranty>

Support and Additional Information

If issues are encountered with device installation or additional help is required, **contact Meraki Support** by logging in to **dashboard.meraki.com** and opening a case by visiting the **Get Help** section.

- The equipment is intended for industrial or other commercial activities.
- The equipment is used in areas without exposure to harmful and dangerous production factors, unless otherwise specified in the operational documentation and/or on the equipment labeling.
- The equipment is not for domestic use. The equipment is intended for operation without the constant presence of maintenance personnel.
- The equipment is subject to installation and maintenance by specialists with the appropriate qualifications, sufficient specialized knowledge, and skills.
- Rules and conditions for the sale of equipment are determined by the terms of contracts concluded by Cisco or authorized Cisco partners with equipment buyers.
- Disposal of a technical device at the end of its service life should be carried out in accordance with the requirements of all state regulations and laws.
- Do not throw in the device with household waste. The technical equipment is subject to storage and disposal in accordance with the organization's disposal procedure.
- The equipment should be stored in its original packaging in a room protected from atmospheric precipitation. The permissible temperature and humidity ranges during storage are specified in the Operation (Installation) Manual.
- Transportation of equipment should be carried out in the original packaging in covered vehicles by any means of transport. The temperature and humidity during transportation must comply with the permissible established ranges of temperature and humidity during storage (in the off state) specified in the Operation Manual (Installation)

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