

Meraki MG21 and MG21E Installation Guide

This document describes how to install and set up the MG21 LTE gateway. Additional reference documents are available online at: www.meraki.com/library/products.

MG21-HW Overview

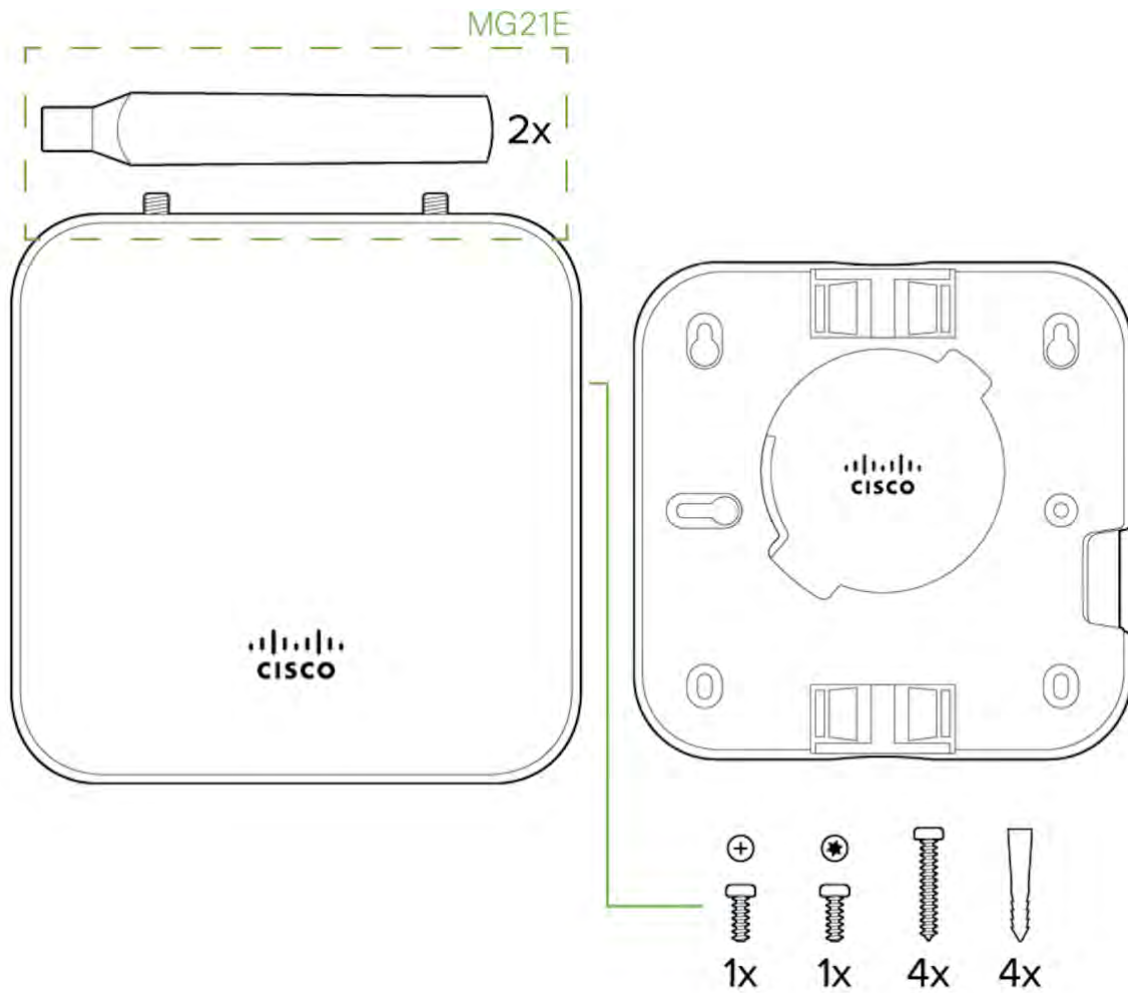
The Meraki MG21-HW (model: MG21-HW-NA, MG21E-HW-NA) is an enterprise LTE gateway designed for distributed deployments that require remote administration. It is ideal for network administrators who demand both ease of deployment and a state-of-the-art feature set. This appliance provides the following new features:

- Support for 2 LAN connections (1 for 802.3at support)
- Wall screws and anchors for mounting drywall surface, either vertically or horizontally

MG21-HW Operational Temperature: 32° F to 104° F (0° C to 40° C)

Package Contents

In addition to the MG21-HW, the following are provided.



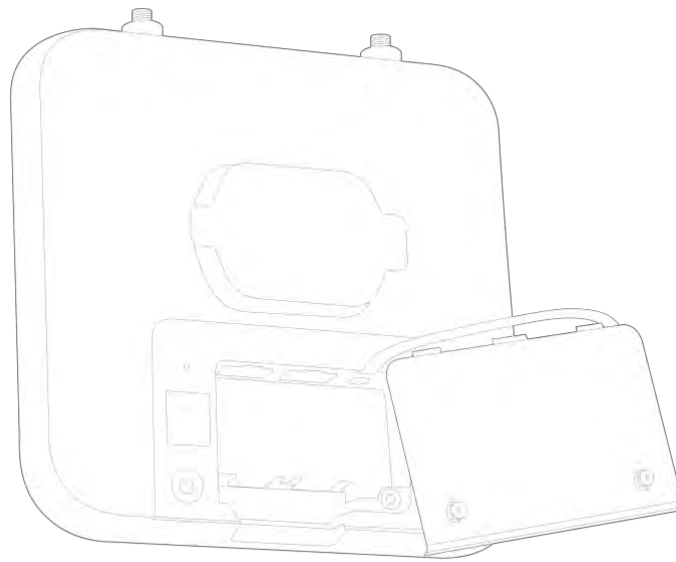
The MG21-HW front panel

Ports and Status Indicators

The MG21-HW uses a single LED to inform the user of the device's status.

Function	LED Status	Meaning
Power Up/Boot	Solid Orange	Power is applied
Connecting	Rainbow	Device in process of connecting to the Meraki Dashboard
Connected	Solid White	Fully operational
Upgrading	Flashing White	During boot or no WAN link
LTE Enabled	Purple	LTE is on and connected

The MG21-HW back panel

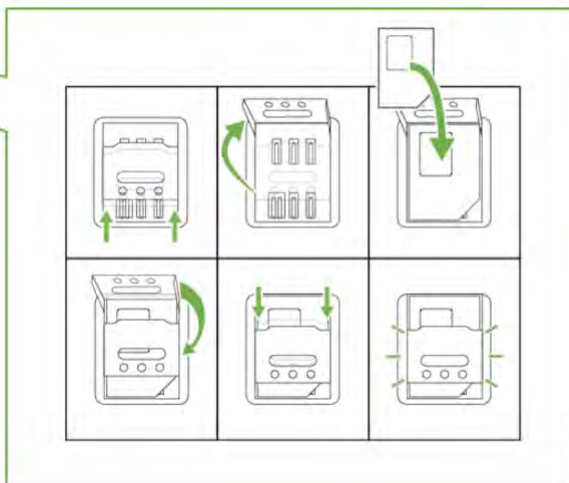
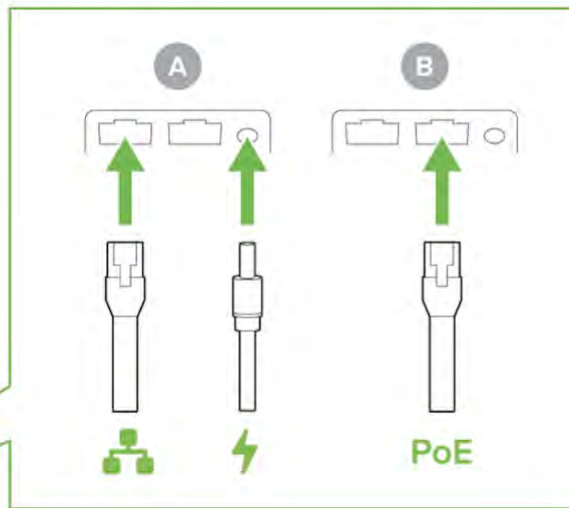
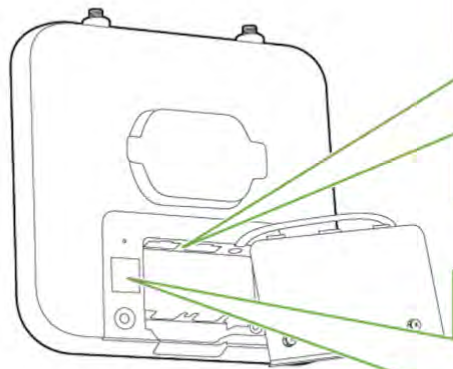


Additional functions on the back panel are described below, from left to right.

Internet ports	Two ports provide connectivity to the WAN.
Power input	Designed for use only with the unit's power supply.
Antenna ports	Two RP-SMA ports for dipole antennas (two antennas included)

The MG21-HW input panel

Restore button	Insert a paper clip if a reset is required. A brief, momentary press: To delete a downloaded configuration and reboot. Press and hold for more than 10 sec: To force the unit into a full factory reset.
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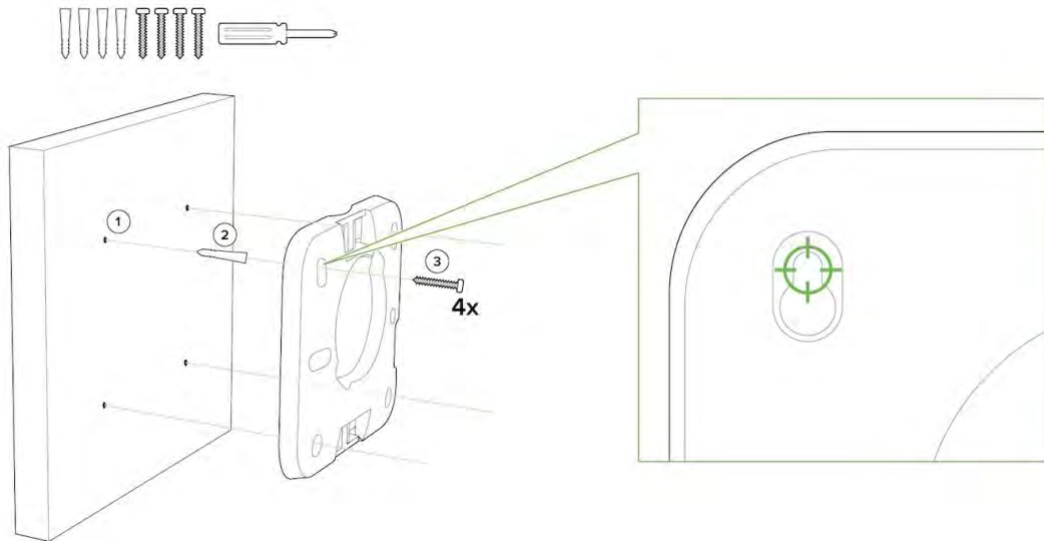


Mounting hardware

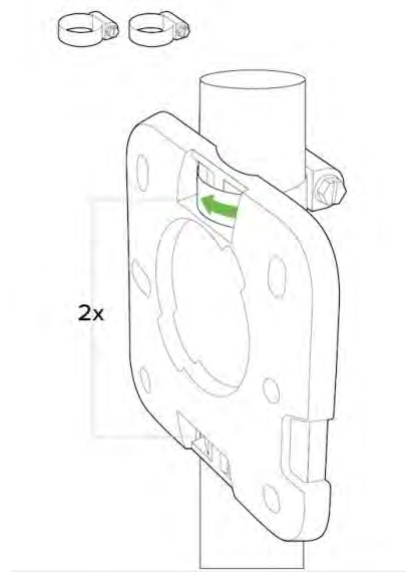
The supplied wall screws and anchors allow you to mount the appliance on a drywall surface, either vertically or horizontally. The distance between the holes you drill should be 93 mm.

- For mounting on drywall, use a ¼-in drill bit, then insert the plastic and screw assemblies.
- For mounting on wood or a similar surface, use only the screws.
- Allow the heads of the screws to stick out far enough to be inserted securely into the back of the appliance.

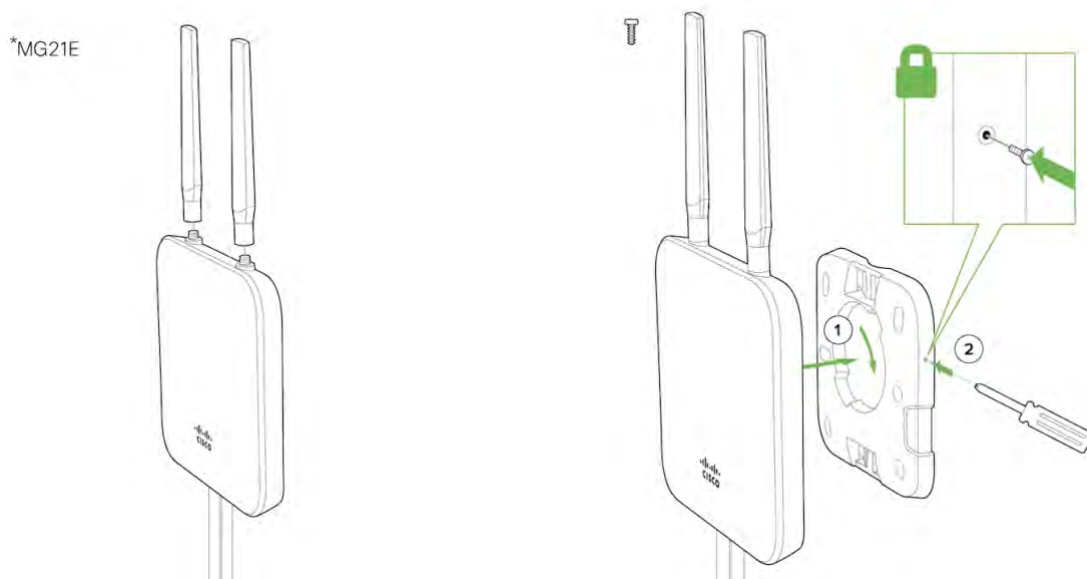
Mount Option A:



Mount Option: B



Mounting The Device:



Outdoor Installation

Hardware

The installation for outdoor deployments of the MG21 and MG21E is the same procedure and uses the same mounting hardware as the indoor deployment.

Power

Powering the MG21 and MG21E in an outdoor deployment will require the use of the POE injector.

IP67 Rating

This device is IP67 rated.

Connecting to the WAN

All Meraki MG devices must have an IP address. This section describes how to configure your local area network before you deploy it. A local management web service, running on the appliance, is accessed through a browser running on a client PC. This web service is used for configuring and monitoring basic ISP/WAN connectivity.

Setting up a static IP address

To ensure that the client PC is redirected to the local web service in the following step, you must disable all other network services (e.g., Wi-Fi) on your client machine.

Do the following to configure basic connectivity and other networking parameters:

1. Using a client machine such as a laptop, connect to one of the **LAN** ports of the MG.
2. Using a browser on the client machine, access the appliance's built-in web service by browsing to <http://setup.meraki.com>. (You do not have to be connected to the Internet to reach this address)
3. Click **Uplink configuration** under the **Local status** tab.
4. Choose **Static** for the **IP Assignment option**.
5. Enter the IP address, subnet mask, default gateway IP and DNS server information.

Setting up a DHCP IP address

By default all MG devices are configured to DHCP from upstream WAN / ISP servers. Simply plug one of the MG's WAN / Internet ports into your upstream circuit and wait a few minutes for the unit to negotiate a DHCP address.

Icon

When the WAN connection is fully enabled, the Internet 1 or 2 LED 1 will turn green.

Additional settings

Please note that all these settings below are accessible only via the local management console.

Setting VLANs

If your WAN uplink is on a trunk port, choose **VLAN tagging > Use VLAN tagging** and enter the appropriate value for **VLAN ID** for your network.

Setting PPPoE

PPPoE authentication may be required if you are connecting the MG to a DSL circuit. You need to know your authentication option and credentials (supplied by your ISP) in order to complete these steps.

- Choose **Connection Type > PPPoE**.
- Select your **Authentication** option.
- If you select **Use authentication**, enter appropriate values for **Username** and **Password**.

Web proxy settings

These settings take effect if the MG device has to fall back to using HTTP to contact the Cloud Controller. By default, web proxy is disabled. To enable web proxy, do the following:

- Choose **Web proxy > Yes**.
- Enter values as appropriate for **Hostname or IP** and **Port**.
- If you require authentication, choose **Authentication > Use authentication**, and enter appropriate values for **Username** and **Password**.

To apply all configuration settings to the appliance, be sure to click **Save Settings** at the bottom of the page.

Configuring physical link settings

To configure physical link settings on the Ethernet ports, click **Local status > Ethernet configuration**. You can enable half duplex, full duplex, and auto-negotiation, as well as set 10- or 100-Mbps data rates.

Regulatory

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.

Party issuing Supplier's Declaration of Conformity

Cisco Meraki
500 Terry A. Francois Blvd. San
Francisco, CA
94158
USA
compliance@meraki.com

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 Cisco 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.

FCC Professional Installation Statement

This equipment requires professional installation.

Industry Canada Statement

The MG21-HW-NA, MG21E-HW-NA comply with license-exempt RSSs 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 RSS 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.

This radio transmitter has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna types:

Dipole, Panel

Antenna gain (in dBi):

Set	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
2	1/2	CISCO	MA-ANT-C1-B	Panel	Reversed-SMA	Note 2
3	1/2	CISCO	MA-ANT-C1-A	Dipole	Reversed-SMA	Note 2

Set	Port	Band Item	Gain (dBi)				
			Band 2	Band 4	Band 5	Band 12	Band 13
2	1/2	Antenna Gain	9.0	5.9	4.6	5	6.1
3	1/2	Antenna Gain	4.24	3.45	1.94	1.14	1.98

Innovation, Sciences et Développement économique Canada a approuvé l'utilisation de ce transmetteur radio avec les types d'antenne énumérés ci-dessous, le gain maximal admissible étant indiqué. Les types d'antennes non inclus dans cette liste qui ont un gain supérieur au gain maximal indiqué pour tout type listé sont strictement interdits pour une utilisation avec cet appareil.

Antenna types:

Dipole, Panel

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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.