

## MS150 Series Installation Guide

### About This Guide

This guide provides instruction on how to install and configure your MS150 series switch. This guide also provides mounting instructions and limited troubleshooting procedures. For more switch installation guides, refer to the [switch installation guides section](#) on our documentation website.

### Product Overview

#### Physical Specifications

	24T-4G	24P-4G	24T-4X	24P-4X	48T-4X	48LP-4X
<b>1Gbe RJ45</b>	24	24	24	24	48	48
<b>mGbe RJ45</b>	-	-	-	-	-	-
<b>1 Gbe SFP</b>	4	4	-	-	-	-
<b>10Gbe SFP+</b>	-	-	4	4	4	4
<b>Dedicated Mgmt Interface</b>	1	1	1	1	1	1
<b>PoE Type</b>	-	802.3bt	-	802.3bt	-	802.3bt
<b>PoE Port Budget</b>	-	30W	-	30W	-	30W
<b>PoE Switch Budget</b>	-	370W	-	370W	-	370W
<b>Stacking Ports</b>	2	2	2	2	2	2
<b>Power Input</b>	12VDC, 2.5A	54VDC, 2.78A	12VDC, 3.70A	54VDC, 2.78A	12VDC, 5.56A	54VDC, 5.56A
<b>Power Load (idle/max)</b>	13.7W/32.4W	22.9W/422.2W	13.7W/32.4W	22.9W/422.2W	23.1W/49.8W	36.2W/460.6W
<b>Operating Temperature</b>	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C
<b>Storage and Transportation Temperature</b>	-4°F - 158 °F -20°C - 70°C	-4°F - 158 °F -20°C - 70°C	-4°F - 158 °F -20°C - 70°C	-4°F - 158 °F -20°C - 70°C	-4°F - 158 °F -20°C - 70°C	-4°F - 158 °F -20°C - 70°C

<b>Humidity</b>	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%
<b>Mounting</b>	Integrated 1U Rack Mount	Integrated 1U Rack Mount	Integrated 1U Rack Mount	Integrated 1U Rack Mount	Integrated 1U Rack Mount	Integrated 1U Rack Mount
	<b>48FP-4X</b>	<b>48T-4G</b>	<b>48LP-4G</b>	<b>48FP-4G</b>	<b>24MP-4X</b>	<b>48MP-4X</b>
<b>1Gbe RJ45</b>	48	48	48	48	16	32
<b>mGbe RJ45</b>	-	-	-	-	8 x 5G*	16 x 5G*
<b>1Gbe SFP</b>	-	4	4	4	-	-
<b>10Gbe SFP+</b>	4	-	-	-	4	4
<b>Dedicated Mgmt Interface</b>	1	1	1	1	1	1
<b>PoE Type</b>	802.3bt	-	802.3bt	802.3bt	802.3bt	802.3bt
<b>PoE Port Budget</b>	30W	-	30W	30W	60W**	60W**
<b>PoE Switch Budget</b>	740W	-	370W	740W	370W	740W
<b>Stacking Ports</b>	2	2	2	2	2	2
<b>Power Input</b>	54VDC, 2.78A	12VDC, 2.5A	54VDC, 2.78A	54VDC, 2.78A	54VDC, 2.78A	54VDC, 2.78A
<b>Power Load (idle/max)</b>	44.6W/891.4W	23.1W/49.8W	36.2W/460.6W	44.6W/891.4W	43W/454W	76W/933W
<b>Operating Temperature</b>	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C
<b>Storage and Transportation Temperature</b>	-4°F - 158 °F -20°C - 70°C	-4°F - 158 °F -20°C - 70°C	-4°F - 158 °F -20°C - 70°C	-4°F - 158 °F -20°C - 70°C	-4°F - 158 °F -20°C - 70°C	-4°F - 158 °F -20°C - 70°C
<b>Humidity</b>	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%	5% to 95%
<b>Mounting</b>	Integrated 1U Rack Mount	Integrated 1U Rack Mount	Integrated 1U Rack Mount	Integrated 1U Rack Mount	Integrated 1U Rack Mount	Integrated 1U Rack Mount



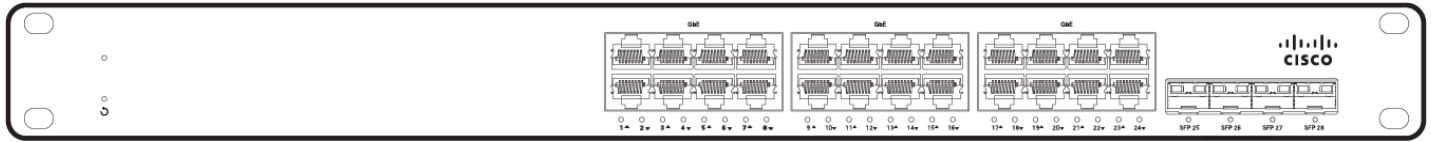
\* mGig available on ports 17-24 for 24MP-4X and ports 33-48 for 48MP-4X models.

\*\* UPoE up to 60W available on ports 17-24 for 24MP-4X and ports 33-48 for 48MP-4X models.

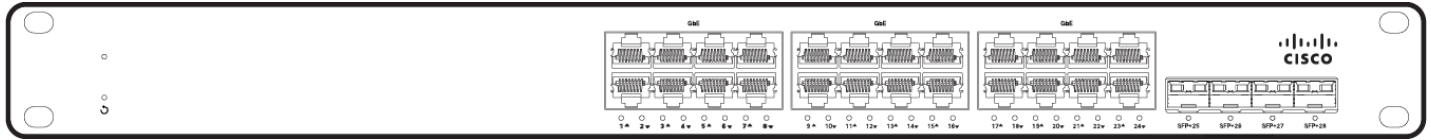
## Product View and Physical Features

### Front Panel

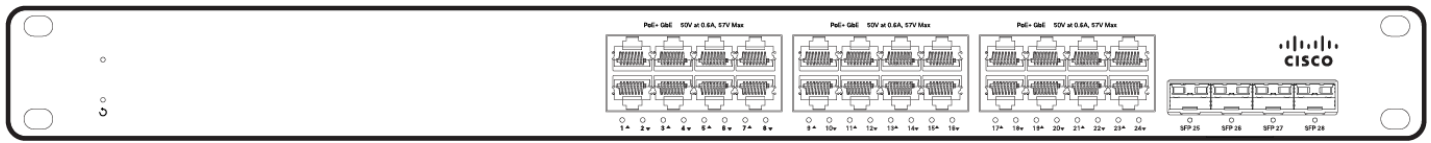
### MS150-24T-4G Series front panel



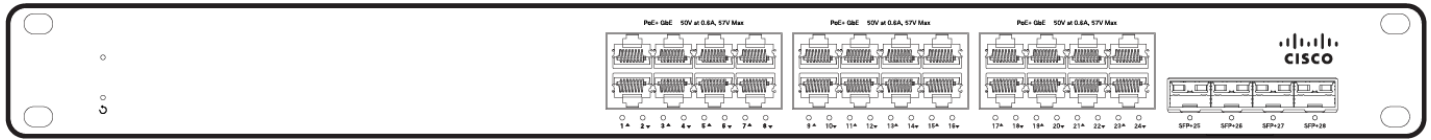
### MS150-24T-4X Series front panel



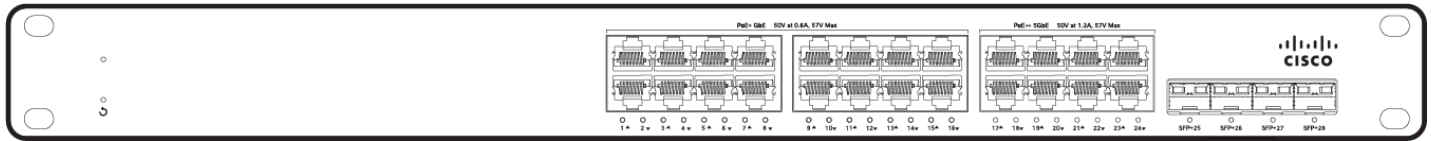
### MS150-24P-4G Series front panel



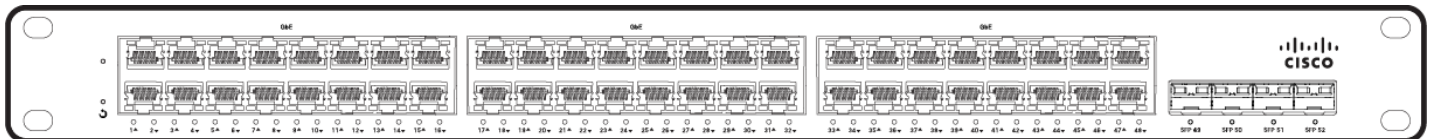
### MS150-24P-4X Series front panel



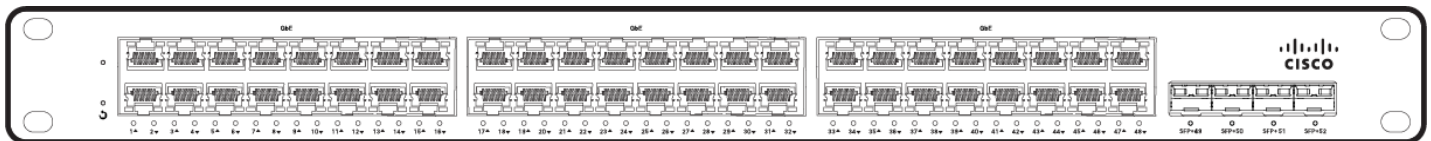
### MS150-24MP-4X Series front panel



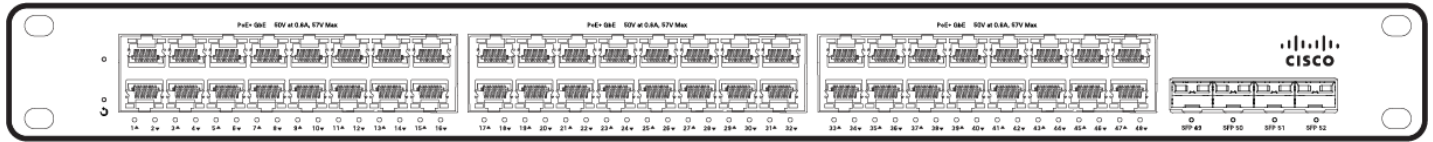
### MS150-48T-4G Series front panel



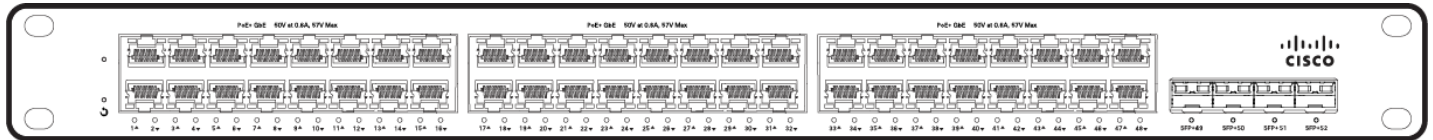
### MS150-48T-4X Series front panel



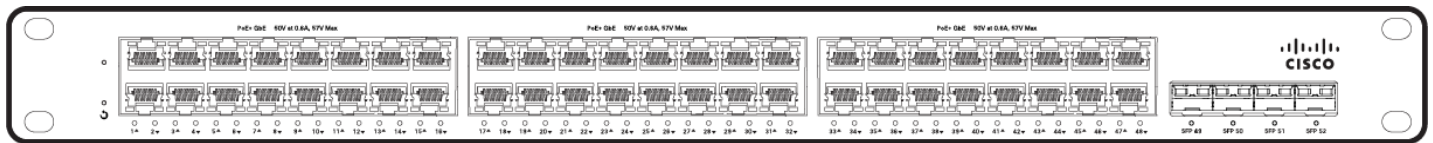
## MS150-48LP-4G Series front panel



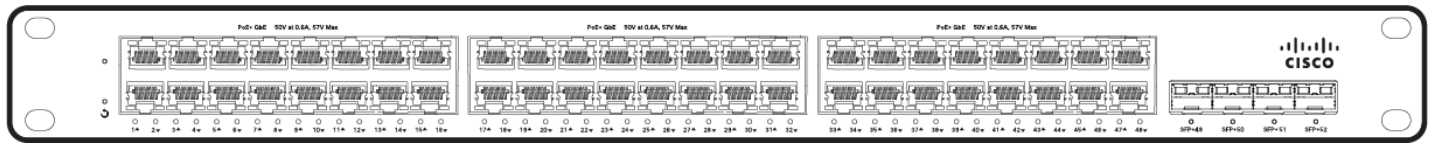
## MS150-48LP-4X Series front panel



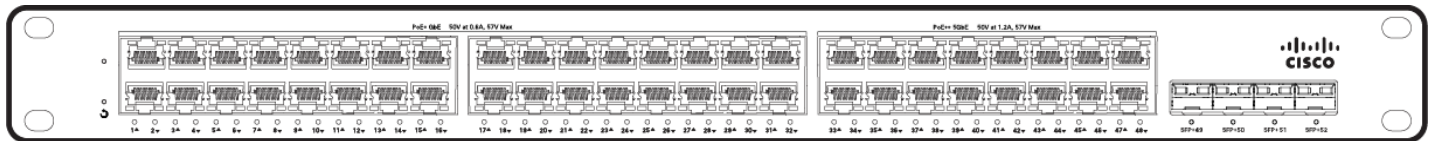
## MS150-48FP-4G Series front panel



## MS150-48FP-4X Series front panel



## MS150-48MP-4X Series front panel



## Back Panel

### MS150 Series back panel



### Factory Reset Button

There is a factory reset button on the front panel. A brief, momentary press deletes the downloaded configuration and reboots the switch, which will then download a new copy of the config. If the button is pressed and held for at least five seconds and then released, the switch will reboot and be restored to its original factory settings by deleting all configuration information stored on the unit.

## Ports and Status Indicators

The MS uses LEDs to inform the user of the device's status. Functions are described below, from left to right. For fixed Ethernet ports, the status LED is on the top left or bottom right depending on port orientation. There is also a traffic LED which flashes orange as traffic is sent/received through that port.

Function	LED Status	Meaning
<b>Power</b>	Solid orange	Switch is unable to connect to the Meraki cloud
	Flashing white	Firmware upgrade in process
	Solid white	Switch is fully operational and connected to the Meraki cloud
	Off	Switch does not have power
<b>Restore</b>	N/A	Restore button to clear switch IP and local configuration settings
<b>Switch Ports</b>	Off	No link is detected on this port
	Solid orange	10/100 Mbps (1 Gbps on SFP+)
	Solid green	Port is operating at full speed <ul style="list-style-type: none"><li>• 1GE on 1GE ports</li><li>• 5GE on 5GE ports</li><li>• 10GE on SFP+</li></ul>

In addition, there is a RESTORE button available on the front panel.

Insert a paperclip if a restore 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 restore.

## Back Panel Components

Function	LED Status	Meaning
<b>Management Interface</b>	Green	Connected, used for easy access to the local status page
<b>Stack Ports</b>	Green	QSFP28 stacking cable is connected
	Off	No link is detected on this port

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## Package contents

In addition to the MS switch, the following are provided:



### Rack Mounting Kit

Note: The MS150 does not include stacking cables. [Stacking cables](#) sold separately.

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## 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 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 to ensure regulatory compliance.

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## Pre-install Preparation

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

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## Configure your Dashboard Network

The following is a brief overview only of the steps required to add a switch to your network. For detailed instructions about creating, configuring and managing Meraki networks, refer to the online documentation ([documentation.meraki.com](http://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 switches or create a new network.
3. Add your switches to your network. You will need your Meraki order number (found on your invoice) or the serial number of each switch, 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 switch on the map by clicking and dragging it to the location where you plan to mount it.

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## Check and Set Firmware

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

1. Attach your switch to power and a wired Internet connection.
2. The switch will turn on and the power LED will glow solid orange.
3. If the unit requires an upgrade, the power LED will begin blinking white until the upgrade is complete, at which point the LED will turn solid white. You should allow at least a few minutes for the firmware upgrade to complete, depending on the speed of your internet connection.

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## Check and Configure Upstream 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 [on the firewall configuration page in your dashboard](#).

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## Assigning an IP Address

All switches 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 switch. Other features of the network, such as 802.1X authentication, may rely on the property that the switches have static IP addresses.

### Static Assignment

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

1. Using a client machine (e.g., a laptop), connect to the switch over a wired connection.
2. Using a web browser on the client machine, access the switch's built-in web server by browsing to <http://my.meraki.com>. Alternatively, browse to <http://1.1.1.100>
3. 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).
4. Configure the static IP address, net mask, gateway IP address and DNS servers that this switch will use on its management connection.
5. If necessary, reconnect the switch to the LAN.

### Static IP via DHCP Reservations

Instead of associating to each Meraki switch 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 switches. Please consult the documentation for the DHCP server to configure DHCP reservations.

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## Installation Instructions

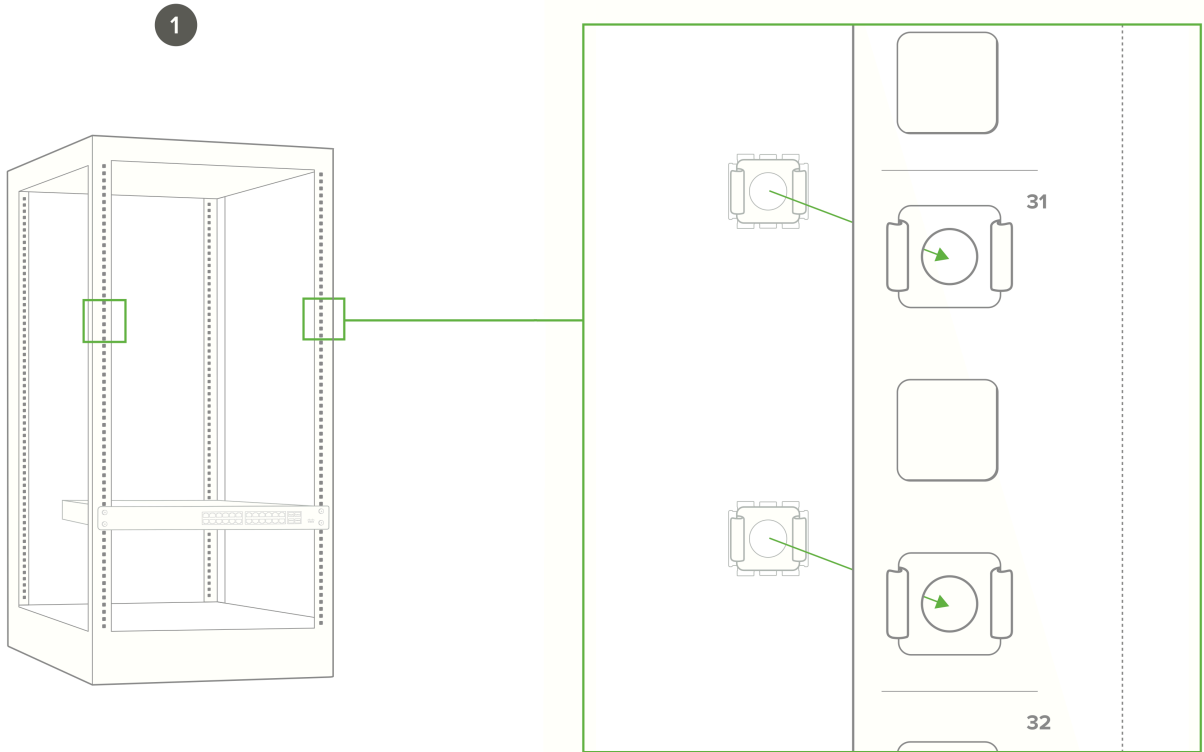


Each switch comes with a graphical instruction pamphlet within the box. This pamphlet contains detailed step by step guides and images to assist in



the physical install of the switch.

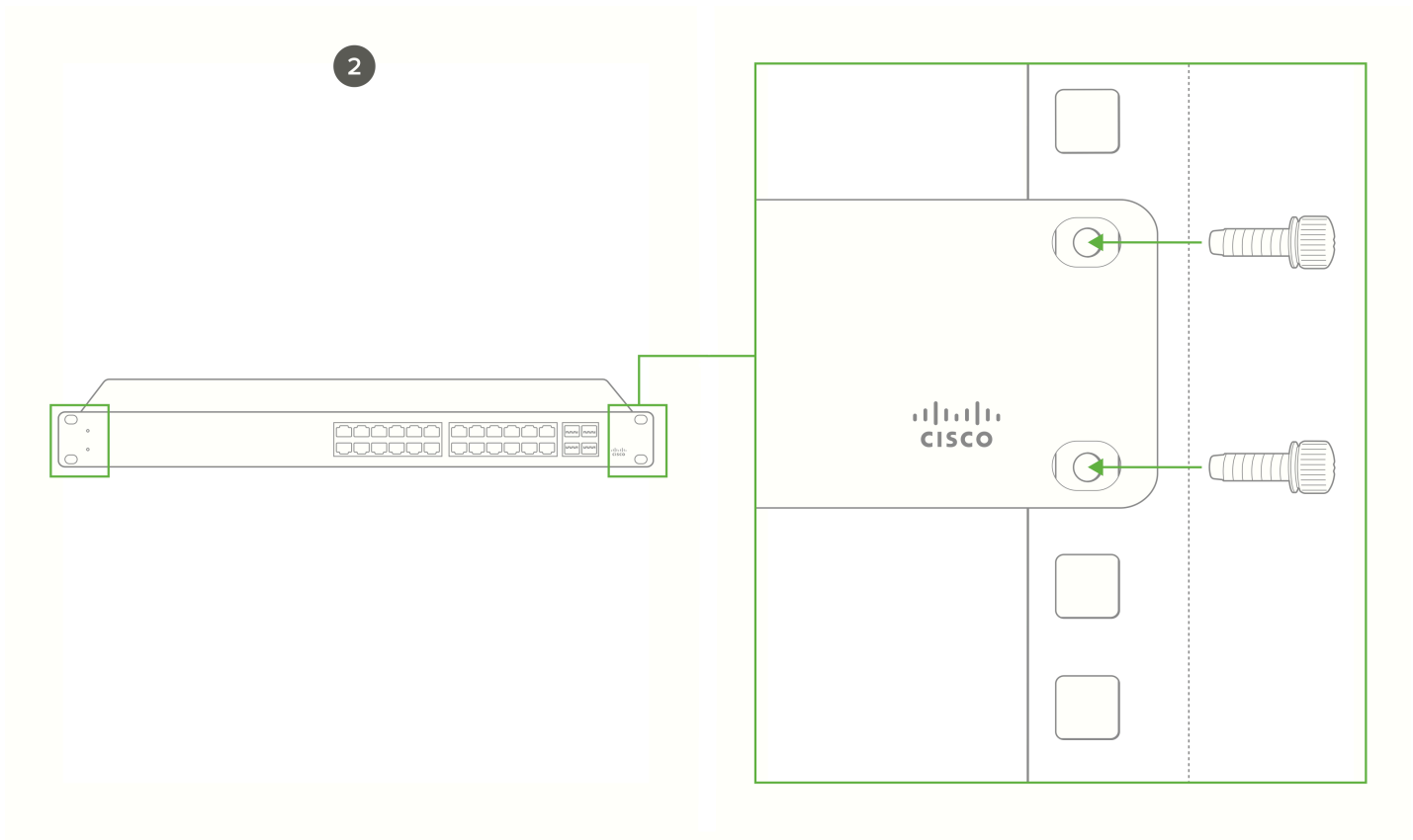
1. Install the mounting cage nuts in the rack being used for the switch.



2. Attach the switch face plate to the cage nuts on the rack.

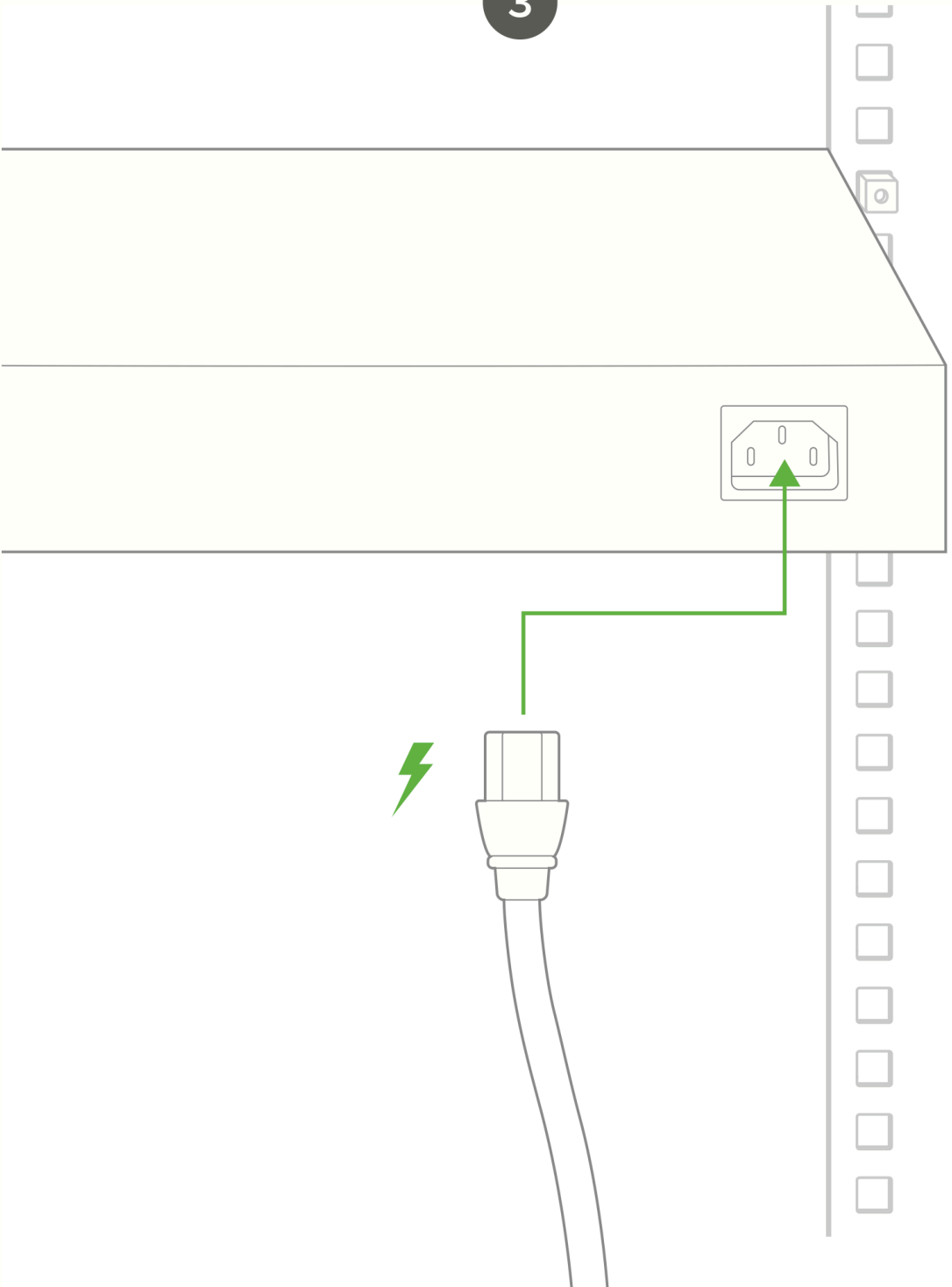


2



3. Connect power to the power supply unit.

3



4. (Optional) Install additional SFP+ units as needed, depending on the compatibility of your model.

## Mounting hardware

The mounting hardware includes a rack mount kit for standard 1U racks. When installing the device, make sure that there is sufficient space between the rear of the rack and other obstacles to ensure adequate airflow.

## Optional Mid-Mount bracket

MS150-48 port models are designed for an optional MA-MNT-MID-1 mid-mount bracket when using 2-post racks.

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## Basic Troubleshooting

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

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

If your switch still does not connect, the following instructions may be useful, depending on your issue: [Troubleshooting an MS Switch](#).

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

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

## Bringing your Stack Online

MS150 switches can be connected in a physical stack using dedicated stacking ports and cables. Configuration steps and additional information about stacking can be found [here](#).

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

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

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## Warranty


MS Warranty coverage periods are as follows:

	Time Period	Comments
<b>MS150</b>	Lifetime	
<b>MS Accessories</b>	1 Year	The following are considered accessories: SFP Modules, twinax/SFP+ cables, stacking cables, all mounting kits and stands, antennas, interface modules, additional power cords, PoE injectors

**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 send out a replacement device free of charge. In most circumstances, the RMA will include a pre-paid shipping label so the faulty equipment can be returned.

 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 MS150 devices have 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 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>

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## 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.

For additional information on Meraki hardware and for other installation guides, please refer to **documentation.meraki.com**.