MS350 Overview and Specifications

Overview

The Cisco Meraki MS350 series provides 10G SFP+ uplinks and high-performance access switching for large enterprise and campus networks. The switch includes optional PoE/PoE+ support, highly scalable Layer 3 routing and modular power/fans for mission-critical networks. The family features the MS350-24X which includes 8 multigigabit (mGig) ports and UPoE support for high-performance 802.11ax/ac access points, servers, and workstations.

Features

- Managed via Cisco Meraki Dashboard
- Remote Packet Capture Tools via Meraki Dashboard
- Automatic Firmware upgrades
- SNMP/Syslog Integration
- IPv4/6 ACL support
- 802.1q VLAN tagging
- L3 routing including OSPF
- Broadcast Storm Control
- 2x Dedicated Stack Ports providing 160G of Stacking bandwidth
- Dynamic ARP Inspection / DHCP Snooping
- 802.1X Authentication
- 10/100/1000 Mbps RJ45
- 4x 1000/10000 Mbps SFP+
- 8x 100M/1G/2.5G/5G/10G mGbE RJ45 (MS350-24X only)
- PoE+ models available for device level powering

- Warm Spare capable

Configuration

The basic initial configuration of the MS350 is just as simple as any other model of MS switch. The links below provide additional information and instructions relating to each step in getting the device setup and configured for the first time.

1. Claim the device to an Organization on the Meraki Dashboard
    a. If a Dashboard Organization does not yet exist, Create one
2. Add the device to a Dashboard Network
    a. If a Network does not yet exist, Create one first
3. Physically connect the device to the local network
    a. Connect one of the RJ45 ports to existing infrastructure to provide a temporary uplink
    b. Power on the device and let it check in to the Dashboard
    c. If necessary, configure a Static IP through the Local Status Page to allow it to communicate with the Meraki Dashboard.
4. Allow the device to complete check-in and perform any initial firmware upgrades
5. Finish configuring the device from the Meraki Dashboard
    a. Create a Switch Stack
    b. Manage local VLANs / Port configuration
    c. Configure Layer 3 Routing

Context and Comparisons

	MS350-24P	MS350-24X
1GbE RJ45	24	16
10GbE SFP+	4	4
mGbE RJ45 (100M/1G/2.5G/5G/10G)	-	8
Hardware Stack Port	2	2
Dedicated Mgmt Interface	1	1
Hot Swap Power Supply	Yes, Dual	Yes, Dual

Hot Swap Fans	Yes	Yes
Layer 3 Routing	Yes	Yes
UPoE Capable	-	Yes
Max Stacking Bandwidth	160 Gbps	160 Gbps
Max Switching Capacity	128 Gbps	272 Gbps

Refer to the MS Family Datasheet for more details around compatible SKUs for power supplies, stacking cables, redundant fans etc for different switch models.

Technical Breakdown

Hardware Breakdown

MS350-24 Models

	MS350-24	**MS350-24P**	**MS350-24X**
1GbE RJ45	24	24	16
10GbE SFP+	4	4	4
mGbE RJ45 (100M/1G/2.5G/5G/10G)	-	-	8
40G Hardware Stack Port	2	2	2
Dedicated Mgmt Interface	1	1	1
Hot Swap Fans	Yes	Yes	Yes
Hot Swap Power Supply	Yes, Dual	Yes, Dual	Yes, Dual
Layer 3 Switching	Yes	Yes	Yes
UPoE Capable	-	-	Yes

MS350-48 Models

	MS350-48	**MS350-48LP**	**MS350-48FP**

1GbE RJ45	48	48	48
10GbE SFP+	4	4	4
mGbE RJ45	-	-	-
40G Hardware Stack Port	2	2	2
Dedicated Mgmt Interface	1	1	1
Hot Swap Fans	Yes	Yes	Yes
Hot Swap Power Supply	Yes, Dual	Yes, Dual	Yes, Dual
Layer 3 Routing	Yes	Yes	Yes
UPoE Capable	-	-	-

Network ports on the MS350 switches operate at full-duplex; half-duplex operation is not supported

Cabling Best Practices for Multi-Gigabit operations: While Category-5e cables can support multigigabit data rates upto 2.5/5 Gbps, external factors such as noise, alien crosstalk coupled with longer cable/cable bundle lengths can impede reliable link operation. Noise can originate from cable bundling, RFI, cable movement, lightning, power surges and other transient event. It is recommended to use Category-6a cabling for reliable multigigabit operations as it mitigates alien crosstalk by design.

Throughput and Capabilities

MS350-24 Models

	MS350-24	**MS350-24P**	**MS350-24X**
Layer 3 Routing	Yes	Yes	Yes
PoE+ Capable	-	Yes, 370W	Yes, 740W
UPoE Capable	-	-	Yes (8 mGbe ports)
Switching Capacity	128 Gbps	128 Gbps	176 Gbps
Stacking Bandwidth	160 Gbps	160 Gbps	160 Gbps

MS350-48 Models

	MS350-48	MS350-48LP	MS350-48FP
Layer 3 Routing	Yes	Yes	Yes
PoE+ Capable	-	Yes, 370W	Yes, 740W
UPoE Capable	-	-	-
Switching Capacity	176 Gbps	176 Gbps	176 Gbps
Stacking Bandwidth	160 Gbps	160 Gbps	160 Gbps

Physical

MS350-24 Models

	MS350-24	MS350-24P	MS350-24X
Mount Type	1U Rack Mount	1U Rack Mount	1U Rack Mount
Dimensions (h x w x d)	1.72 x 19.07 x 18.85in (4.38 x 48.46 x 47.9cm)	1.72 x 19.07 x 18.85in (4.38 x 48.46 x 47.9cm)	1.72 x 19.07 x 20.32in (4.38 x 48.46 x 51.62cm)
Weight	12.37 lb (5.61 kg)	13.14 lb (5.96 kg)	14.48 lb (6.6 kg)
Power Load (idle/max)	56 / 66 W	57 / 466 W	215 / 867 W
Operating Temperature	23 °F - 122 °F -5°C - 50°C	23 °F - 122 °F -5°C - 50°C	23 °F - 122 °F -5°C - 50°C
Humidity	5% to 95%	5% to 95%	5% to 95%

MS350-48 Models

	MS350-48	MS350-48LP	MS350-48FP
Mount Type	1U Rack Mount	1U Rack Mount	1U Rack Mount
Dimensions (h x w x d)	1.72 x 19.07 x 18.85in	1.72 x 19.07 x 18.85in	1.72 x 19.07 x 20.32in

	(4.38 x 48.46 x 47.9cm)	(4.38 x 48.46 x 47.90cm)	(4.38 x 48.46 x 51.62cm)
Weight	11.56 lb (5.24 kg)	12.37 lb (5.61 kg)	12.83 lb (5.82 kg)
Power Load (idle/max)	56 / 63 W	63 / 478 W	69 / 888 W
Operating Temperature	23 °F - 122 °F -5°C - 50°C	23 °F - 122 °F -5°C - 50°C	23 °F - 122 °F -5°C - 50°C
Humidity	5% to 95%	5% to 95%	5% to 95%

Troubleshooting

The MS uses LEDs to inform the user of the device's status. When the device powers on, all the Internet LEDs flash twice. Additional functions are described below, from left to right.

Front Panel Components

Item	Function	LED Status	Meaning
1	Power	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
2	Switch Ports	Off	No client connected
	1GbE RJ45	Solid Green	1 Gbps
		Solid Orange	10/100 Mbps
	mGbE RJ45	Solid green	10 Gbps

		Solid Orange	1/2.5/5 Gbps
	SFP+	Solid Green	10 Gbps
		Solid Orange	1 Gbps

Back Panel Components

Common Troubleshooting

My device is connected to the network but not checking in to the Meraki cloud or shows a solid Orange LED.

Confirm that the device is powered on and has a valid IP address that is able to access the Internet. Use the Local Status Page to get more information about the connectivity status of the device such as if it can successfully reach the Local Gateway, Internet, and/or Meraki Cloud servers. If necessary, contact Meraki Support for additional assistance.

My Status LED is blinking WHITE

A blinking WHITE Status LED indicates that the device is in contact with the Dashboard Cloud servers and is performing a firmware update. This can sometimes take 20-45 minutes or more to complete depending on hardware and other factors.

My Status LED is blinking ORANGE

The device is not able to successfully communicate with the Dashboard Cloud servers or there may be a hardware issue with the device. Check the Local Status Page of the device to confirm the status and reach out to Meraki Support for further troubleshooting.

Event Log

The most common Event Log messages and their meaning are listed below.

Port STP change

Indicates the STP state of the port has changed, lists the relevant port number, previous, and new states. Typically accompanied by a 'Port status change' event.

Port status change

Indicates the link state of the port has changed, lists the relevant port number, old, and new state. Always accompanied by a 'Port STP change' event.

SFP module inserted/removed

Indicates that an SFP module was either inserted or removed, includes SFP module information for inserted events and always lists the relevant port number.

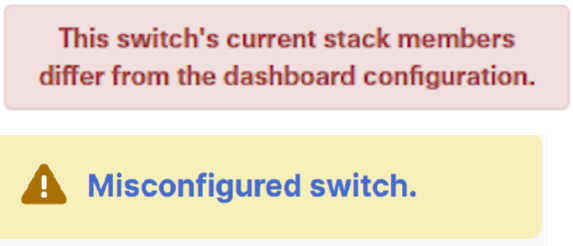
Common Stacking Alerts

View our dedicated Switch Stacking document for more detailed information about configuring a Switch Stack and common issues.

Ensure all stack members are configured on dashboard, online and connected via their stacking ports.

Note: If connected and configured correctly, the alert will disappear within up to 1 hour. If the error persists, please contact Cisco Meraki Technical Support for further troubleshooting.

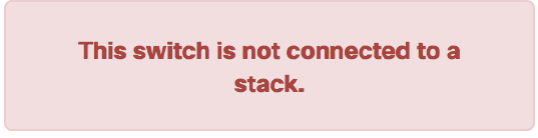
This switch's current stack members differ from the dashboard configuration/ Misconfigured Switch.

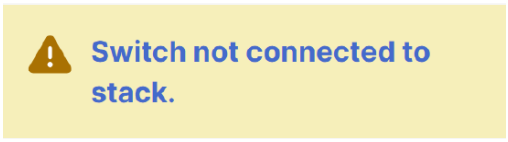


This can occur in the following scenarios:

- Stack members are configured on dashboard, but not all members are connected via their stacking ports.
- A stack member has failed or is powered off.

This switch is not connected to a stack/Switch not connected to stack.

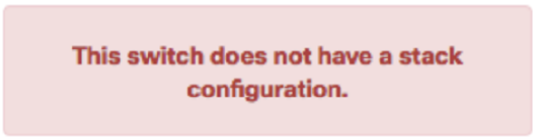


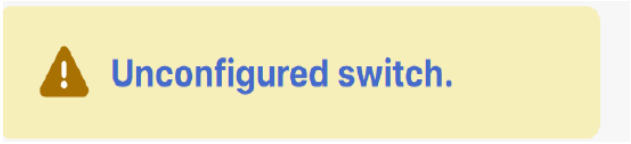


This can occur in the following scenarios:

- The switch is configured on dashboard as a stack member, but is not connected to a stack.

This switch does not have a stack configuration/Unconfigured Switch.





This can occur in the following scenarios:

- The switch is physically connected as a stack, but not configured on dashboard as a stack member.

Common Troubleshooting

My device is connected to the network but not checking in to the Meraki cloud or shows a solid Orange LED.

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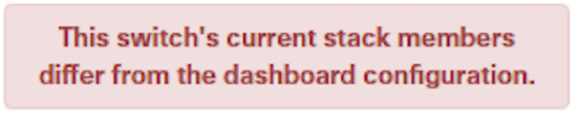

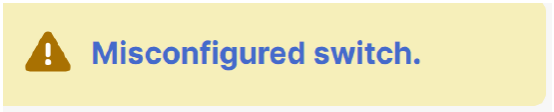

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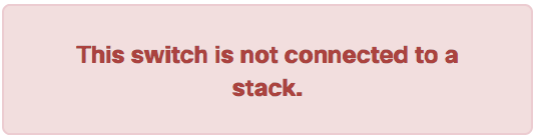

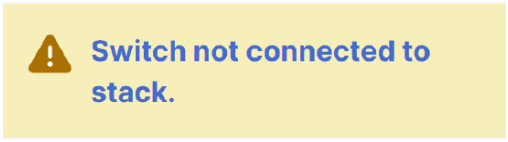

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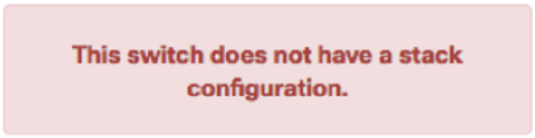

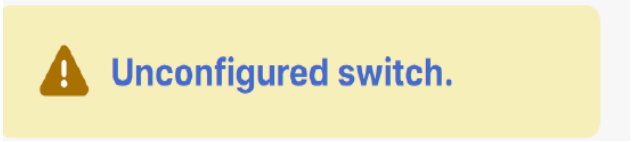

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