

# Meraki MS Series Switches

## FAMILY DATASHEET



### Overview

Cisco Meraki offers a broad range of switches, built from the ground up to be easy to manage without compromising any of the power and flexibility traditionally found in traditional enterprise-class switches.

Meraki access & aggregation switches are all managed through an elegant, intuitive cloud interface, freeing administrators to spend less time on configuration and more time on meeting business needs.

To set up a Meraki switch, just plug it in; there's no need for repetitive, command-based configuration, and switches can be up and running within minutes of connecting them to the network.

A powerful centralized management interface gives administrators deep visibility into the network and how it is used. See which switches are near capacity across hundreds of sites. Quickly provision and reconfigure switch ports with security, QoS, and more. The Meraki dashboard provides unified policies, event logs, and monitoring, making it easy to manage network deployments without sacrifice.

### PRODUCT HIGHLIGHTS

- Range of enterprise switching options built on proven Cisco hardware technologies
- Basic L2 to high-performance L3 switches with 10GbE uplinks, suitable for deployments of all sizes
- True zero-touch configuration model that scales with organization needs and requirements
- Integrated troubleshooting tools, logging and alerting reduce operational costs
- Energy efficient design with low acoustics and fanless options
- Flexible stacking for scaled configuration and high performance in one
- Cloud management reduces cost, overhead and time to resolution
- Industry-standard features allow for simple integration into existing and mixed infrastructures
- Role-based administration and automatic, secure firmware updates delivered via the web

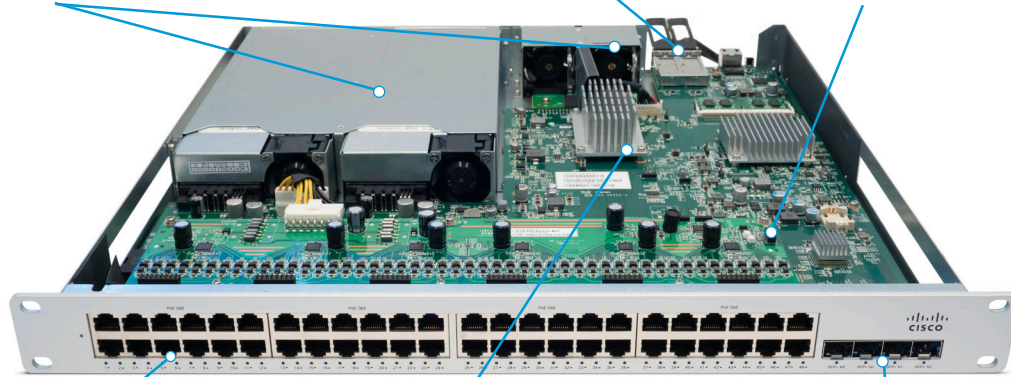
# Inside the Meraki MS

MERAKI MS350-48FP SHOWN, VARIES BY MODEL

Energy Efficient Dual Power Supplies with Variable Speed Fans

Stacking connectors

High Reliability / MTBF  
Extended Life Components



48× 1 GbE Ports with  
802.3af/802.3at PoE/PoE+

Enhanced CPU / Memory  
Meraki Cloud Management

Built-in 4 × 10 GbE SFP+ Uplink  
Ports for Uplink Connectivity

## ENTERPRISE-CLASS HARDWARE

Meraki switches feature high-end hardware and an exceptional feature set, including:





- GbE, 10 GbE and 40 GbE uplink ports for high-speed connectivity to aggregation layer switches or other upstream devices
- Optional Multigigabit ports providing up to 10Gbps on a single Ethernet cable, supporting the latest WiFi performance capabilities
- Wire-speed, non-blocking switch fabric (up to 432 Gbps) and 8 dedicated QoS queues for high-performance, converged voice, video, and data deployments
- Power efficient, quiet acoustic designs, and shallow rack depth options, enabling flexible deployment in wiring closets as well as offices and classrooms
- Fanless design on select models
- Power over Ethernet and PoE+, up to 30W per port
- Up to 740 watt PoE budget with PoE+ support for powering APs, phones, cameras, and other PoE enabled devices (124W for MS220-8/P), with UPoE available on the MS350-24X
- Lifetime hardware warranty and advanced replacement at no additional cost
- Field-replaceable, hot-swappable power supplies and fans. RPS option for mission-critical applications

## POWERFUL FEATURE SET FOR DEPLOYMENTS OF ALL TYPES

Meraki switches include all of the traditional Ethernet features found on the highest end products, including:

- Quality-of-Service (QoS) to prioritize mission critical traffic such as voice and video
- IEEE 802.1X support for port based network access control
- MAC-based RADIUS auth and MAC whitelisting
- Voice VLAN support for simplified VoIP deployments
- Port Mirroring support for monitoring network traffic at line rate
- DHCP snooping to prevent users from adding unauthorized DHCP servers on the network
- IGMP Snooping to optimize network performance with multicast traffic
- Link Aggregation Control Protocol (LACP) for high-capacity trunking, stacking, and increased availability
- Rapid spanning tree, BPDU guard, root guard, and other safeguards to help prevent misconfigurations and reduce convergence time
- Per port VLAN configuration
- Multiple administrative roles with sophisticated security policy management
- High-performance layer 3 routing capabilities on select models



## Meraki Access Switching Portfolio

Series	<b>MS220-8</b> 	<b>MS225</b> 	<b>MS250</b> 	<b>MS350</b> 
<b>Deployment type</b>	Compact	Branch & Small campus	Branch & Small campus	Campus & Multigigabit
<b>Interfaces<sup>1</sup></b>	8 x 1GbE RJ45	24 / 48 x 1GbE RJ45	24 / 48 x 1GbE RJ45	24 / 48 x 1GbE RJ45 8 x XGbE RJ45 (24X only)
<b>Uplinks</b>	2 x 1GbE SFP	4 x 10GbE SFP+	4 x 10GbE SFP+	4 x 10GbE SFP+
<b>PoE capabilities</b>	124W (P model)	370W (P, LP models) 740W (FP models)	370W (P, LP models) 740W (FP models)	370W (P, LP models) 740W (24X, FP models)
<b>Power configuration</b>	Internal	Internal Optional RPS	Modular Redundant PSU optional	Modular Redundant PSU optional
<b>Stacking capabilities</b>	Virtual only	80G physical + virtual	80G physical + virtual	160G physical + virtual
<b>Routing capabilities</b>	–	Static only DHCP Relay	Static + Dynamic <sup>2</sup> DHCP Server + Relay Warm spare (VRRP)	Static + Dynamic <sup>2</sup> DHCP Server + Relay Warm spare (VRRP)
<b>Models</b>	MS220-8-HW MS220-8P-HW	MS225-24-HW MS225-24P-HW MS225-48-HW MS225-48LP-HW MS225-48FP-HW	MS250-24-HW MS250-24P-HW MS250-48-HW MS250-48LP-HW MS250-48FP-HW	MS350-24-HW MS350-24P-HW MS350-24X-HW MS350-48-HW MS350-48LP-HW MS350-48FP-HW

<sup>1</sup>Interfaces may not support 10M half-duplex

<sup>2</sup>Detailed routing specifications are available in series datasheets

## Meraki Aggregation Switching Portfolio

Series	MS410	MS425
		
Deployment type	1G fiber aggregation	10G fiber aggregation
Interfaces	16 / 32 x 1GbE SFP	16 / 32 x 10GbE SFP+
Uplinks	2 x 10GbE SFP+ (MS410-16) 4 x 10GbE SFP+ (MS410-32)	2 x 40GbE QSFP+
Power configuration	Modular Redundant PSU optional (sold separately)	Modular Redundant PSU optional (sold separately)
Stacking capabilities	160G physical + virtual	Front-port 160G + virtual
Routing capabilities	Static + Dynamic DHCP Server + Relay Warm spare (VRRP)	Static + Dynamic DHCP Server + Relay Warm spare (VRRP)
Models	MS410-16-HW MS410-32-HW	MS425-16-HW MS425-32-HW

## Lifetime Warranty with Next Day Advance Replacement

All Cisco Meraki MS switches include a limited lifetime hardware warranty that provides next-day advance hardware replacement. Meraki's simplified software and support licensing model also combines all software upgrades, centralized systems management, and phone support under a single, easy-to-understand model. For complete details, please visit [meraki.cisco.com/support](https://meraki.cisco.com/support).

# Features and Capabilities

Meraki switches include all of the traditional Ethernet features found in modern enterprise access switches, including:

## INTELLIGENT CAMPUS & BRANCH SWITCHING

With built-in monitoring, troubleshooting and logging capabilities, Meraki switches provide a refreshing new approach to managing network infrastructure, regardless of deployment size. Meraki's Virtual Stacking technology eliminates the need for configuration scripts and commands, empowering administrators to make changes quickly and securely on one or all the switches in a deployment at once.

Clients with high usage

5 clients used more than 100.00 GB  
'FILESVR1'; 'NAKIVOTRANSPORTSF' and 3 other clients

Usage stats

Total Data Transferred	Total Data Downloaded	Total Data Uploaded
3.93 TB	1.56 TB	2.37 TB

Intelligent anomaly detection flags potential network events

## WIRED SECURITY WITHOUT COMPROMISE

Whether deployed in an office environment, hospital or retail store, Meraki switches make enforcing security policies a breeze. Set up multiple policies and enable them at the port-level, or apply them across the entire network in a few clicks. Meraki switches also provide comprehensive security reporting, making it easy to proactively discover rogue DHCP servers and other malicious activity on the network.

Email alerts: Send an email if a new DHCP server is seen

Default DHCP server policy: Allow DHCP servers

Note: Switches with configured DHCP servers are always allowed.

Blocked DHCP servers: 02:31:3a:1c:c4:14

DHCP servers for the last day

Description	VLAN	Subnet	IP	Last seen	Recent packet	Policy
CORE_1 (interface CORP_WIFI)	132	10.92.132.0/22	10.92.135.254	13 seconds	<a href="#">view packet</a>	allowed
CORE_1 (interface )	46	172.16.46.0/23	172.16.47.254	1 second	<a href="#">view packet</a>	allowed
SD-WAN Security 1	42	172.16.42.0/23	172.16.43.254	2 seconds	<a href="#">view packet</a>	blocked

Rogue DHCP server detection across the entire network

## TROUBLESHOOTING THE WAY IT SHOULD BE

Drastically reduce time-to-resolution with a variety of powerful troubleshooting tools such as remote cable testing and packet captures that help isolate and troubleshoot network issues.

With Meraki's dynamic network topology, see how the entire network is interconnected, automatically.

Ensure the entire team receives alerts upon power loss, downtime, or configuration changes.

Select a tool: Cable test

Warning: This test will disrupt traffic to 100 or 10 Mbit devices.

12 [Run cable test](#)

Testing the cable attached to port 12

Port	Link	Length	Status	Pair 1	Pair 2	Pair 3	Pair 4
12	down	94.5 m	Failure	open	ok	ok	open

Remote cable test in the Meraki Dashboard

## INDUSTRY LEADING CLOUD MANAGEMENT

Meraki's cloud management architecture delivers true zero-touch switch provisioning – configure switches before they arrive onsite, or use Meraki templates to standardize an entire fleet of switches, no matter what size.

With Meraki Virtual stacking, administrators can manage up to thousands of ports from a single pane of glass, enabling rapid and streamlined configuration that could otherwise take weeks to complete.

Switch ports for the last day

is:access help 3204 switch ports

Switch / Port *	Switch	Name	Type	VLAN	Status	Tags	POE	Access policy	CDP/LLDP
<input type="checkbox"/> CORE 1 / 16	CORE 1	Staging Port	access	110	<input type="checkbox"/>			Open	-
<input type="checkbox"/> CORE 1 / 17	CORE 1	To ALPHA-GW1	access	78	<input checked="" type="checkbox"/>			Open	<a href="#">sfo12.00a-gw1.cisco.com</a>
<input type="checkbox"/> CORE 1 / 18	CORE 1	To ALPHA-GW2	access	78	<input checked="" type="checkbox"/>			Open	<a href="#">sfo12.00a-gw2.cisco.com</a>
<input type="checkbox"/> Closest 1.1.3 / 1	Closest 1.1.3	Cisco Alpha	access	110, voice 110	<input checked="" type="checkbox"/>		disabled	Open	<a href="#">SEP58978D2E1674</a>

Switch virtual stack for managing all switch ports at once

## BUILT-IN APPLICATION LAYER VISIBILITY

Meraki is the only switch to include integrated Layer 7 fingerprinting. Identify hundreds of applications from business apps to BitTorrent and YouTube. User fingerprinting with Google-like search allows administrators to easily identify and control individual users, PCs, iPads, Androids, and other devices. This unprecedented visibility allows optimizing of network resources and maintaining optimal network performance.

Clients · IT-Mac-Image-MBP-2

Status:  currently connected

Switch / port: [IDF 3.1.1 / 32 \(Topology\)](#)

Device type: Apple Windows 7/Vista [event log](#) [packet capture](#) [add note](#)

Usage for the last 2 hours: 69.1 MB (↓ 63.5 MB ↑ 5.6 MB)

Applications:

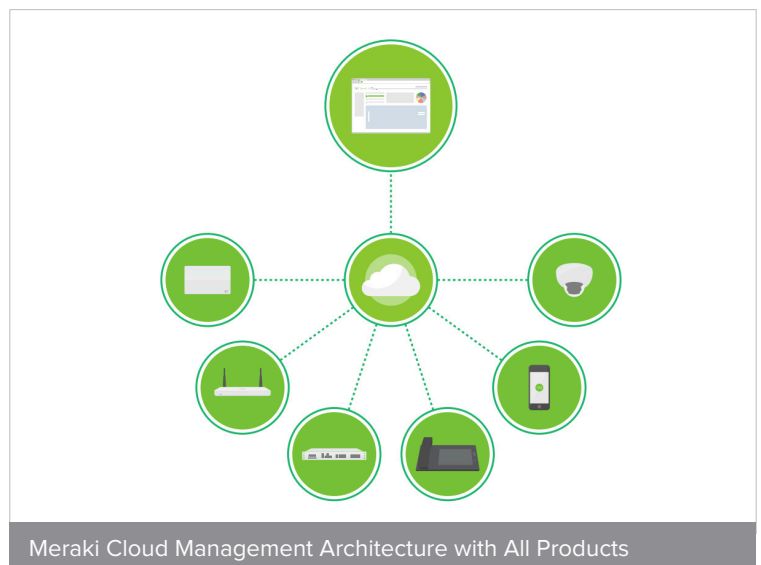
Network: IPv4 address: 10.92.132.216 dynamic

Ping: 80 ms

Granular network client visibility up to the application layer

## BEYOND-THE-NETWORK SOFTWARE ARCHITECTURE

Meraki switches run the same Meraki operating system used by all of Meraki's products. The use of a common operating system allows Meraki to deliver a consistent experience across all product lines, from our Security products to our VoIP phones. When connected, MS350 switches automatically connect to the Meraki cloud, download configuration, and join the appropriate network. If new firmware is required, this is retrieved by the switch and updated automatically. This ensures the network is kept up-to-date with bug fixes, security updates, and new features.



## Included In the Box

MS220-8 Series	Integrated mounting brackets, Mounting screw kit, Getting started insert
MS225 Series	Mounting screw kit, Getting started insert
MS250 Series	Power Supply (1), System fans (2), Mounting screw kit, Getting started insert
MS350 Series	Stacking cable (1), Power Supply (1), system fans (2), Mounting screw kit, Getting started insert
MS410 Series	Power Supply (1), System fans (2), Mounting screw kit, Getting started insert
MS425 Series	Power Supply (1), System fans (3), Mounting screw kit, Getting started insert

## Optional Accessories

DESCRIPTION	ACCESSORY	SUPPORTED MODELS
Power cable	MA-PWR-CORD-US MA-PWR-CORD-EU MA-PWR-CORD-UK MA-PWR-CORD-AU	All models
250W Power Supply	MA-PWR-250WAC	MS350-24, MS350-48, MS410 models, MS425 models
640W Power Supply	MA-PWR-640WAC	MS350-24P, MS350-48LP
1025W Power Supply	MA-PWR-1025WAC	MS350-24X, MS350-48FP
Meraki Stacking Cable, 0.5 Meter	MA-CBL-40G-50CM	All MS225, MS250, MS350, MS410 models, MS425 models
Meraki Stacking Cable, 1 Meter	MA-CBL-40G-1M	All MS225, MS250, MS350, MS410 models, MS425 models
Meraki Stacking Cable, 3 Meter	MA-CBL-40G-3M	All MS225, MS250, MS350, MS410 models, MS425 models
16K System Fan	MA-FAN-16K	MS350-24, MS350-24P, MS350-48, MS350-48LP, MS350-48FP, MS410 Series
18K System Fan	MA-FAN-18K	MS350-24X, MS425 Series

Meraki MS switches support SFP/SFP+/QSFP+ optic accessories for high-speed connectivity. Meraki offers a variety of GbE, 10GbE and 40GbE accessories. Full specifications and compatibility information is available in the Meraki Accessories datasheet: [https://meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_sfp.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_sfp.pdf)

## Additional Resources

**Meraki MS220-8 Compact Series Datasheet**

[meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms220\\_compact.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms220_compact.pdf)

**Meraki MS225 Series Datasheet**

[meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms\\_225.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms_225.pdf)

**Meraki MS250 Series Datasheet**

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**Meraki MS400 Series Datasheet**

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**Cost Calculator**

<https://meraki.cisco.com/buy/cost-calculator>