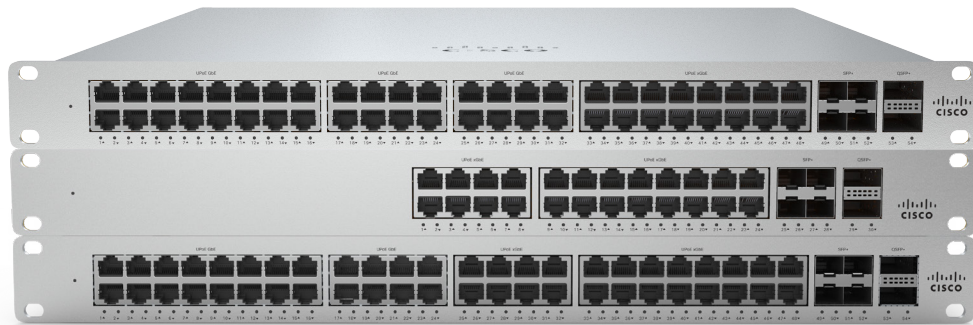


# Meraki MS Series Switches

## 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:

- Receive automatic email alerts for power loss, downtime, excessive Layer 1 errors, or configuration changes
- Utilize remote diagnostic tools such as packet capture to help isolate and troubleshoot network issues
- Stay protected with firmware upgrades and enhancements from the Meraki cloud

The Meraki dashboard provides unified policies, event logs, and monitoring, making it easy to manage network deployments without sacrificing functionality.

## PRODUCT FAMILY HIGHLIGHTS

- Basic L2 to high-performance L3 switches with 1G/10G/40G uplinks, suitable for deployments of all sizes
- Range of enterprise switching options built on proven Cisco hardware technologies
- Integrated troubleshooting tools, logging, and alerting reduce operational costs
- True zero-touch configuration model that scales with organization needs and requirements
- 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
- Energy efficient design with low acoustics and fanless options

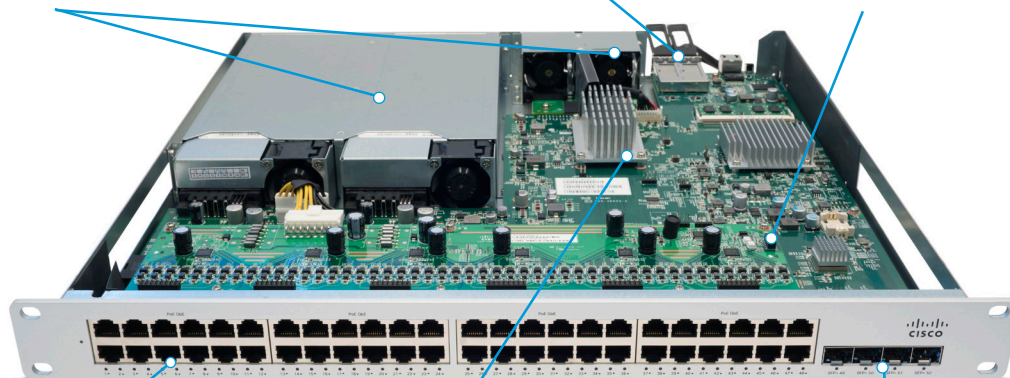
# Inside the Meraki MS

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:





- 1G, 10G and 40G uplink ports for high-speed connectivity to aggregation layer switches or other upstream devices
- Multigigabit ports (MS350-24X and MS355 Series) provide up to 10Gbps on a single Ethernet cable, supporting the latest WiFi performance capabilities
- Wire-speed, non-blocking switch fabric (up to 800 Gbps) and 6 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, cameras, and other PoE enabled devices (124W for 120-8 series), with UPoE available on the MS350-24X and MS355 series
- Lifetime hardware warranty and advanced replacement at no additional cost
- Field-replaceable, hot-swappable power supplies and fans on select models. 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, UDLD, 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 Layer 2 Access Switching Portfolio

| Series                | MS120-8   | MS120   | MS210  | MS225   |
|-----------------------|---|---|--|---|
|                       |  |  |  |  |
| Deployment type       | Compact   | Small branch & office   | Branch & Small campus  | Branch & Small campus   |
| Interfaces            | 8 x 1G RJ45   | 24 / 48 x 1G RJ45   | 24 / 48 x 1G RJ45 ports  | 24 / 48 x 1G RJ45 ports   |
| Uplinks               | 2 x 1G SFP  | 4 x 1G SFP  | 4 x 1G SFP ports   | 4 x 10G SFP+ ports  |
| PoE capabilities      | 67W (LP model)<br>124W (FP model)   | 370W (P, LP models)<br>740W (FP model)  | 370W (P, LP models)<br>740W (FP models)  | 370W (P, LP models)<br>740W (FP models)   |
| Power configuration   | External PSU (non-PoE, LP model)<br>Internal PSU (FP Model)                       | Internal  | Internal<br>Optional RPS   | Internal<br>Optional RPS  |
| Stacking capabilities | Virtual only  | Virtual only  | Stacks with MS225<br>80 Gbps physical + virtual                                    | Stacks with MS210<br>80 Gbps physical + virtual                                     |
| Routing capabilities  | DHCP Relay  | DHCP Relay  | Static only<br>DHCP Relay  | Static only<br>DHCP Relay   |
| Models                | MS120-8-HW<br>MS120-8LP-HW<br>MS120-8FP-HW  | MS120-24-HW<br>MS120-24P-HW<br>MS120-48-HW<br>MS120-48LP-HW<br>MS120-48FP-HW      | MS210-24-HW<br>MS210-24P-HW<br>MS210-48-HW<br>MS210-48LP-HW<br>MS210-48FP-HW       | MS225-24-HW<br>MS225-24P-HW<br>MS225-48-HW<br>MS225-48LP-HW<br>MS225-48FP-HW        |



## Meraki Layer 3 Access Switching Portfolio

| Series                | MS250   | MS350  | MS355 X Series  | MS355 X2 Series   |
|-----------------------|---|--|---|---|
|                       |  |                             |   |                        |
| Deployment type       | Branch & Campus   | Campus & Multigigabit  | Campus & Multigigabit   | High-Density Multigigabit   |
| Interfaces            | 24 / 48 x 1G RJ45 ports   | 24 / 48 x 1G RJ45 <sup>1</sup> ports<br><br>(24X model)<br>16 x 1G RJ45 <sup>1</sup> ports<br>8 x mGig ports | (24X model)<br>16 x 1G RJ45 <sup>1</sup> ports<br>8 x mGig ports<br><br>(48X model)<br>32 x 1G RJ45 <sup>1</sup> ports<br>16 x mGig ports | (24X2 model)<br>24 x mGig ports<br><br>(48X2 model)<br>24 x 1G RJ45 <sup>1</sup> ports<br>24 x mGig ports |
| Uplinks               | 4 x 10G SFP+ ports  | 4 x 10G SFP+ ports   | 4 x 10G SFP+ or<br>2 x 40G QSFP+  | 4 x 10G SFP+ or<br>2 x 40G QSFP+  |
| PoE capabilities      | 370W (P, LP models)<br>740W (FP models)   | 370W (P, LP models)<br>740W (FP, 24X models)   | 740W  | 740W  |
| Power configuration   | Modular<br>Redundant PSU optional   | Modular<br>Redundant PSU optional  | Modular<br>Redundant PSU optional   | Modular<br>Redundant PSU optional   |
| Stacking capabilities | 80 Gbps physical + virtual  | 160 Gbps physical + virtual  | 400 Gbps physical + virtual   | 400 Gbps physical + virtual   |
| Routing capabilities  | Static + Dynamic <sup>2</sup><br>DHCP Server + Relay<br>Warm spare (VRRP)         | Static + Dynamic <sup>2</sup><br>DHCP Server + Relay<br>Warm spare (VRRP)                                    | Static + Dynamic <sup>2</sup><br>DHCP Server + Relay<br>Warm spare (VRRP)   | Static + Dynamic <sup>2</sup><br>DHCP Server + Relay<br>Warm spare (VRRP)                                 |
| Models                | MS250-24-HW<br>MS250-24P-HW<br>MS250-48-HW<br>MS250-48LP-HW<br>MS250-48FP-HW      | MS350-24-HW<br>MS350-24P-HW<br>MS350-48-HW<br>MS350-48LP-HW<br>MS350-48FP-HW                                 | MS355-24X-HW<br>MS355-48X-HW  | MS355-24X2-HW<br>MS355-48X2-HW  |

<sup>1</sup>Interfaces do not support half-duplex on the MS350

<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 1G SFP  | 16 / 32 x 10G SFP+  |
| Uplinks               | 2 x 10G SFP+ (MS410-16)<br>4 x 10G SFP+ (MS410-32)                                | 2 x 40G QSFP+   |
| Power configuration   | Modular<br>Redundant PSU optional (sold separately)                               | Modular<br>Redundant PSU optional (sold separately)                                 |
| Stacking capabilities | 160G physical + virtual   | Front-port 160G + virtual   |
| Routing capabilities  | Static + Dynamic<br>DHCP Server + Relay<br>Warm spare (VRRP)                      | Static + Dynamic<br>DHCP Server + Relay<br>Warm spare (VRRP)                        |
| Models                | MS410-16-HW<br>MS410-32-HW  | MS425-16-HW<br>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).

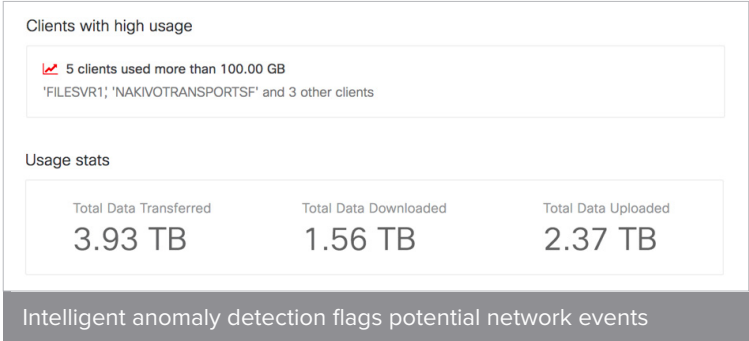
# Features and Capabilities

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.

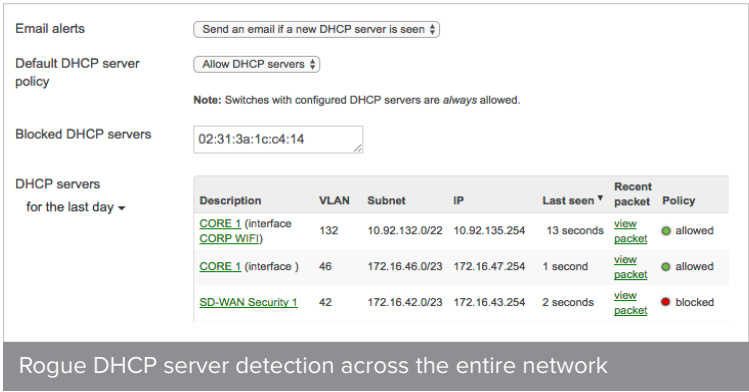
Meraki's Virtual Stacking technology eliminates the need for configuration scripts and commands, empowering administrators to make changes quickly and securely on one or all the switches in a deployment at once.



## 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.

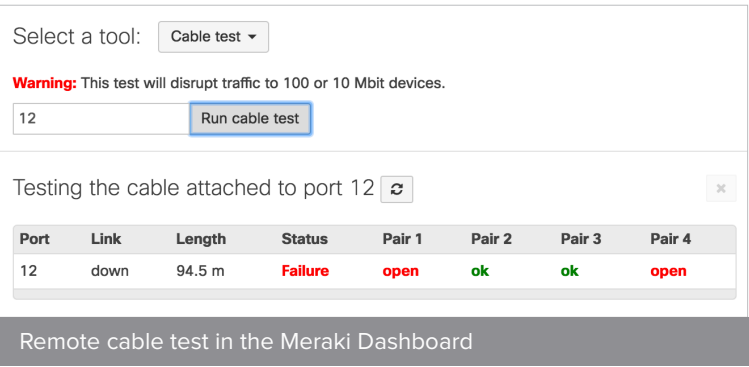


## TROUBLESHOOTING, THE WAY IT SHOULD BE

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.



## 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 Virtual Stacking, IT admins can make configuration changes to hundreds of switch ports in seconds with our intuitive dashboard interface, enabling rapid and streamlined switch port management that would otherwise take weeks to complete.

Switch ports for the last day

3204 switch ports

| Switch / Port | Switch     | Name         | Type   | VLAN           | Status | Tags | POE      | Access policy | CDP/LLDP               |
|---------------|------------|--------------|--------|----------------|--------|------|----------|---------------|------------------------|
| CORE 1/16     | CORE 1     | Staging Port | access | 110            |        |      |          | Open          | -                      |
| CORE 1/17     | CORE 1     | To ALPHA-GW1 | access | 78             |        |      |          | Open          | sf12.00a-gw1.cisco.com |
| CORE 1/18     | CORE 1     | To ALPHA-GW2 | access | 78             |        |      |          | Open          | sf12.00a-gw2.cisco.com |
| Core 1.1.3/1  | Core 1.1.3 | Cisco Alpha  | access | 110, voice 110 |        |      | disabled | Open          | SEP5897B02E1674        |

Switch virtual stack for managing all switch ports at once

## BUILT-IN APPLICATION LAYER VISIBILITY

Meraki switches include integrated Layer 7 visibility, to help IT admins 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

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

Applications

Network: IPv4 address: 10.92.132.216 dynamic

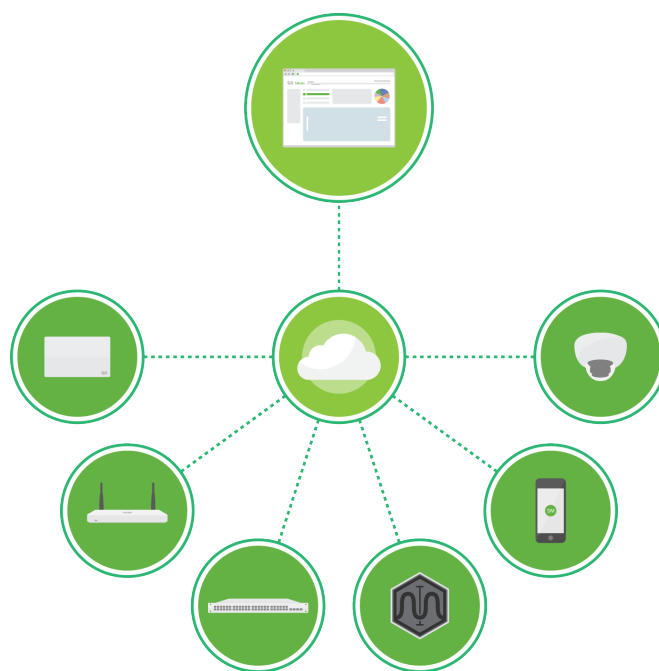
Ping: 80 ms

Granular network client visibility up to the application layer

## BEYOND-THE-NETWORK SOFTWARE ARCHITECTURE

Meraki switches run the same operating system used by all of our products, which allows us to deliver a consistent user experience for network management.

When connected, new Meraki switches automatically reach out to the Meraki cloud and download the most current configuration. Future updates can be user-scheduled, ensuring the network is kept up-to-date with bug fixes, security updates, and new features.



Meraki Cloud Management Architecture with All Products

## Included In the Box

|                |  |
|----------------|--|
| MS120-8 Series | Integrated mounting brackets, External PSU (non-PoE and LP models), Mounting screw kit, Getting started insert |
| MS120 Series   | Mounting screw kit, Getting started insert   |
| MS210 Series   | 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              |
| MS355 Series   | Power Supply (1), 4-post rack mount kit, Pre-Installed Fans (3)  |
| 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<br>MA-PWR-CORD-EU<br>MA-PWR-CORD-UK<br>MA-PWR-CORD-AU | All models  |
| External Power Supply                  | DC 54V/1.67A, 90W, MA-PWR-90WAC<br>DC 12V/2.5A, 30W, MA-PWR-30WAC    | MS120-8, MS120-8-LP   |
| 250W Power Supply                      | MA-PWR-250WAC  | MS250-24, MS250-48, MS350-24, MS350-48, MS410, MS425 models         |
| 640W Power Supply                      | MA-PWR-640WAC  | MS250-24P, MS250-48LP, MS350-24P, MS350-48LP models                 |
| 1025W Power Supply                     | MA-PWR-1025WAC   | MS250-48FP, MS350-24X, MS350-48FP, MS355 models                     |
| Meraki Stacking Cable, 40G, 0.5 Meter  | MA-CBL-40G-50CM  | All MS210, MS225, MS250, MS350, MS410, MS425 models                 |
| Meraki Stacking Cable, 40G, 1 Meter    | MA-CBL-40G-1M  | All MS210, MS225, MS250, MS350, MS410, MS425 models                 |
| Meraki Stacking Cable, 40G, 3 Meter    | MA-CBL-40G-3M  | All MS210, MS225, MS250, MS350, MS410, MS425 models                 |
| Meraki Stacking Cable, 100G, 0.5 Meter | MA-CBL-100G-50CM   | MS355 models  |
| Meraki Stacking Cable, 100G, 1 Meter   | MA-CBL-100G-1M   | MS355 models  |
| Meraki Stacking Cable, 100G, 3 Meter   | MA-CBL-100G-3M   | MS355 models  |
| 16K System Fan                         | MA-FAN-16K   | MS350-24, MS350-24P, MS350-48, MS350-48LP, MS350-48FP, MS410 models |
| 18K System Fan                         | MA-FAN-18K   | MS350-24X, MS355, MS425 models                                      |

Meraki MS switches support SFP/SFP+/QSFP+/QSFP28 optic accessories for high-speed connectivity. Meraki offers a variety of 1G, 10G, 40G, 100G 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 MS120-8 Compact Series Datasheet**

[https://meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms120\\_compact.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms120_compact.pdf)

### **Meraki MS120 Series Datasheet**

[https://meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms120.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms120.pdf)

### **Meraki MS210 Series Datasheet**

[https://meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms210.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms210.pdf)

### **Meraki MS225 Series Datasheet**

[https://meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms225.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms225.pdf)

### **Meraki MS250 Series Datasheet**

[https://meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms250.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms250.pdf)

### **Meraki MS350 Series Datasheet**

[https://meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms350.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms350.pdf)

### **Meraki MS355 Series Datasheet**

[https://meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms355.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms355.pdf)

### **Meraki MS410 Series Datasheet**

[https://meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms410.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms410.pdf)

### **Meraki MS425 Series Datasheet**

[https://meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_ms425.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_ms425.pdf)

### **Meraki SFP & Stacking Accessories Datasheet**

[meraki.cisco.com/lib/pdf/meraki\\_datasheet\\_sfp.pdf](https://meraki.cisco.com/lib/pdf/meraki_datasheet_sfp.pdf)

### **Cost Calculator**

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