

# MS410 SERIES

10G fiber aggregation switches designed for medium-size enterprise and campus networks



## AGGREGATION SWITCHING WITH MERAKI

The Cisco Meraki 410 series extends cloud management across the aggregation layer for medium-size networks with our 1/10G fiber aggregation switches.

As with our access layer switches, our aggregation switches are built from the ground up to be easy to manage without compromising any of the power and flexibility traditionally found in enterprise-class switches.

To bring up a Meraki switch, simply plug it in. Meraki switches do not require CLI for switch configuration or port management.

Meraki's centralized management gives administrators granular visibility into their network. Our dashboard helps you keep track of every configuration change in your network with our detailed event and change logs.

## INDUSTRY-LEADING CLOUD MANAGEMENT

Cloud management has a number of benefits that make it easier to build campus networks:

- Automatic email alerts from power loss, downtime, excessive Layer 1 errors, or configuration changes
- Powerful remote diagnostic tools such as packet capture to help isolate and troubleshoot network issues
- Role-based administration
- Firmware upgrades and enhancements from the Meraki cloud
- Virtual Stacking enables switch port configuration changes on the dashboard interface without the need to physically stack switches
- Incredible network transparency with application, operating system, client, and hostname visibility
- Zero-touch provisioning for rapid deployment across sites

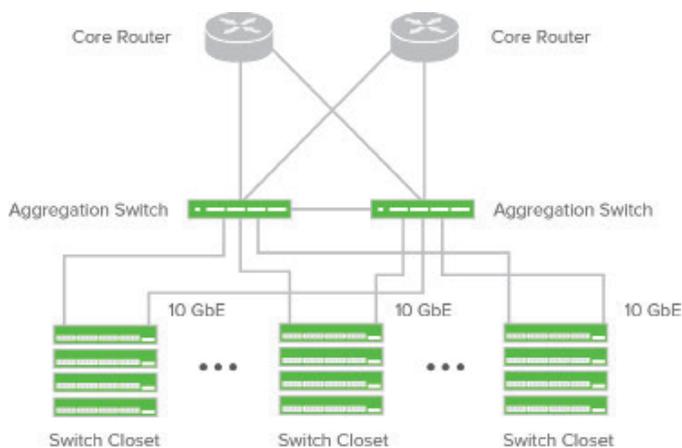
### Product Highlights

- Aggregation switches to connect multiple access layer devices for a more versatile network
- Available models with 16 or 32 x 1G SFP ports to support small- and medium-size enterprises
- 10G uplink interfaces on all models
- Support for field replaceable, redundant power supplies
- Up to 144G of switching capacity
- 6 configurable QoS queues for converged voice, video, and data applications
- Integrated mounting brackets for rack mounting
- Lifetime hardware warranty and advanced replacement at no additional cost

## Meraki switches feature high-end hardware features, including:

- Compact, 1RU design for space-constrained environments
- Terabit performance with non-blocking architecture
- Field-replaceable, hot-swappable power supplies/fans
- Front-to-back cooling
- Dedicated management port
- Low power consumption and shallow rack depth, which enable flexible deployment
- Stacking option for building redundant architectures

## Designed for a Complete Cloud-Managed Switch Network



## Enterprise-Ready Features:

Meraki switches include all of the traditional Ethernet features found in the enterprise:

- IEEE 802.1X, MAB, and Hybrid authentication support for wired access control with RADIUS server monitoring
- ACL support (IPv4 & IPv6) and MAC whitelisting
- Single-Host/Multi-Domain/Multi-Host/Multi Authentication
- Change of Authorization (CoA) and RADIUS accounting support
- DHCP snooping to protect against rogue DHCP servers on the network
- Dynamic ARP Inspection to prevent man-in-the-middle attacks
- Rapid Spanning Tree, BPDU guard, root guard, loop guard, and other safeguards to help prevent misconfigurations and reduce convergence time
- Per port VLAN configuration, Voice VLAN support for simplified VoIP deployments
- Port Mirroring to monitor network traffic
- IGMP Snooping to optimize network performance for multicast applications
- Multiple administrative roles with sophisticated security policy management
- Link Aggregation Control Protocol (LACP) for high-capacity trunking, with Multichassis (MLAG) support on stacked switches
- Quality-of-Service (QoS) to prioritize mission-critical traffic such as voice and video
- CDP, LLDP advertisement and snooping, with detailed neighbor visibility and discovery

## Lifetime Warranty with Next-day Advanced Replacement

Cisco Meraki MS switches include a limited lifetime hardware warranty that provides next-day advance hardware switch replacement as long as the original purchaser owns the product. 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 [www.meraki.cisco.com/support](http://www.meraki.cisco.com/support)

## MS410 SERIES

Model	Physical Dimensions (H x W x D) (depth includes PSU)	Weight	Interface	Switching Capacity	Stacking Bandwidth
MS410-16-HW	1.74" x 17.33" x 19.08" (4.37 x 48.46 x 51.66cm)	11.8 lbs (5.4 kg)	<ul style="list-style-type: none"><li>• 16 x 1G SFP fiber</li><li>• 2 x 10G SFP+ uplink</li><li>• 2 x Stacking ports</li><li>• RJ45 Management port</li></ul>	72 Gbps	160 Gbps
MS410-32-HW	1.7" X 17.33" X 19.08" (4.37 X 48.46 X 51.66cm)	12.6 lbs (5.7 kg)	<ul style="list-style-type: none"><li>• 32 x 1G SFP fiber</li><li>• 4 x 10G SFP+ uplink</li><li>• 2 x stacking ports</li><li>• RJ45 Management port</li></ul>	144 Gbps	160 Gbps

## Power Options & Specifications

Model	Idle / Full Load Power	Power Supply Configuration	Supported Power Supply
MS410-16-HW	50 / 85 W	Hot-swappable	2 x 250W PSU*
MS410-32-HW	50 / 85 W	Hot-swappable	2 x 250W PSU*

\* Single power supply (PSU) included. For redundancy, second PSU is sold separately

## What's Included

Model	Description
MS410-16-HW	1 x Power Supply (MA-PWR-250WAC), Mounting screw kit, 2 x Pre-Installed Fans
MS410-32-HW	1 x Power Supply (MA-PWR-250WAC), Mounting screw kit, 2 x Pre-Installed Fans

## Optional Accessories / Optics

Meraki switches are modular in design, allowing for hot-swappable field replacements and a range of optics (no lock-out of third-party optics). Details of SFP-based modules can be found in the SFP Datasheet, available in the Meraki Library.

Description	Accessory	Supported Models
Meraki 40GbE Stacking / Uplink Cable, 0.5 Meter	MA-CBL-40G-50CM	MS410
Meraki 40GbE Stacking / Uplink Cable, 1 Meter	MA-CBL-40G-1M	MS410
Meraki 40GbE Stacking / Uplink Cable, 3 Meter	MA-CBL-40G-3M	MS410
Field replaceable 16K rpm front-to-back fan	MA-FAN-16K	MS410
Field replaceable 250W power supply	MA-PWR-250WAC	MS410

# Specifications

## Management

Managed via the Web with the Meraki cloud management platform

Integrated with Meraki Wireless and complete portfolio of IT products and solutions

Zero-touch remote provisioning (no staging needed)

Detailed historical per-port and per-client usage statistics

Operating system, device, and hostname fingerprinting

SNMP and SYSLOG support for integration with other network management solutions

Automatic firmware upgrades with scheduling control

## Remote Diagnostics

Email, SMS and Mobile push notification alerts <sup>1</sup>

Ping, traceroute, cable testing, and link failure detection with alerting

Remote packet capture

Dynamic and interactive network discovery and topology

Combined event and configuration change logs with instant search

## Stacking

Virtual Stacking supports thousands of switch ports in a single logical stack for unified management, monitoring, and configuration

Physical stacking of up to 8 switches with 160 Gbps stack bandwidth

## Ethernet Switching Capabilities

802.1p Quality of Service, 8 queues (w/ 6 configurable for DSCP-to-CoS mapping)

802.1Q VLAN and trunking support for up to 4,094 VLANs

802.1w, 802.1D Rapid Spanning Tree Protocol (RSTP, STP)

STP Enhancements: BPDU guard, Root guard, Loop guard, UDLD

Broadcast storm control

802.1ab Link Layer Discovery Protocol (LLDP) and Cisco Discovery Protocol (CDP)

802.3ad Link aggregation with up to 8 ports per aggregate, Multichassis aggregates supported on stacked switches

Port mirroring

IGMP snooping for multicast filtering

MAC Forwarding Entries: 96K

## Layer 3 capabilities

Static routing, OSPFv2

Multicast routing

Warm Spare (VRRP) <sup>2</sup>

DHCP Relay, DHCP Server

## Mounting

Rack-mountable with included rack mount hardware

Front-to-back airflow

## Performance

Non-blocking fabric

72/144 Gbps switching capacity on MS410-16/32

1.2 microsecond latency

Jumbo frame support (9578 ethernet frame)

## Interfaces

16 or 32 x 1G SFP

4 x 10G SFP+

1x RJ45 Management port

## Power

Power input: 100 - 240 VAC, 47-63 Hz

Power consumption: 50-85W

## Environment

Operating temp: 0°C to 40°C, Humidity: 5 to 95% non-condensing

## Regulatory

CSA (US)

IC (Canada)

CE (Europe)

C-Tick (Australia/New Zealand)

RoHS

## Warranty

Full lifetime hardware warranty with next-day advanced replacement included

## MTBF

Model	MTBF
MS410-16	583,457 hrs
MS410-32	291,729 hrs

<sup>1</sup> Requires carrier-supported email to SMS gateway

<sup>2</sup> OSPF and Warm Spare do not operate concurrently (stacking is recommended for gateway redundancy)