

MS390 Datasheet

Overview

The Meraki MS390 addresses the most demanding enterprise applications by combining the simplicity of the Meraki dashboard with powerful switching hardware. To satisfy high-bandwidth applications and the deployment of high-speed 802.11ax/wifi-6 access points, the MS390 provides multigigabit ports, 480G stacking, and modular 10/40G uplinks. The MS390 delivers resiliency with fast stack convergence and StackPower. The MS390 provides Adaptive Policy using an over-the-wire tag which segments traffic into security groups to deliver scalable security. The MS390 is integrated under the Meraki dashboard to provide a simply powerful solution to the most demanding wired access applications.

Adaptive Policy provides simple & scalable security policies to segment traffic using Security Groups. Security Groups are created in the dashboard using natural language such as "IOT device" & "Guest." The security policy intent (e.g., Permit or Deny) is then simply provisioned between Security Groups which results in the segmentation of each group's traffic. By making security policy management intuitive and scalable relative to legacy IP-address based Access Control Lists, Adaptive Policy empowers operators to confidently secure their network traffic independent of future network changes.

By pooling & distributing power across MS390s using a series of StackPower cables, StackPower provides simple and resilient power distribution across the stack.



Models

| Number of Ports | Model | Description |
|-----------------|--------------|-------------------------|
| | MS390-24-HW | 24-port Gbe switch |
| | MS390-24P-HW | 24-port Gbe PoE+ switch |

| | | |
|-----------------|----------------|-------------------------------------------|
| 24 Ports | MS390-24U-HW | 24-port Gbe UPoE switch |
| | MS390-24UX-HW | 24-port mGbe UPoE switch |
| 48 Ports | MS390-48-HW | 48-port Gbe switch |
| | MS390-48P-HW | 48-port Gbe PoE+ switch |
| | MS390-48U-HW | 48-port Gbe UPoE switch |
| | MS390-48UX-HW | 36-port 2.5Gbe + 12-port mGbe UPoE switch |
| | MS390-48UX2-HW | 48-port 5Gbe UPOE switch |

Features

| Category | Features |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Highlights | <ul style="list-style-type: none"> • Layer-3 • 40G or 10G modular uplink options on all models • mGig support • Dual Dedicated 120G Hardware Stacking Ports • PoE+ and UPoE Support • StackPower |
| Management | <ul style="list-style-type: none"> • Managed via Cisco Meraki Dashboard • Zero-touch remote provisioning (no staging needed) • Basic configuration capability via local management page • Detailed historical per-port and per-client usage statistics • Operating System, device, and hostname fingerprinting • Automatic firmware upgrades with scheduling control • SNMP and SYSLOG support for integration with other network management solutions* |
| Remote Diagnostics | <ul style="list-style-type: none"> • Email, SMS and Mobile push notification alerts¹ • 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 | <ul style="list-style-type: none"> • Physically stack up to 8 switches with 480 Gbps of stacking bandwidth on all models • Virtual stacking supports thousands of switch ports in a single logical stack for unified management, monitoring, and configuration • Faster convergence |

| | |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <ul style="list-style-type: none"> StackPower |
| Ethernet Switching Capabilities | <ul style="list-style-type: none"> 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 (1000 active VLANs with STP enabled) Single Instance of 802.1s Multiple Spanning Tree Protocol (interoperable with RSTP, STP, PVST, RPVST) 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: 32K |
| Layer 3 | <ul style="list-style-type: none"> Static routing, OSPFv2 Multicast routing (PIM-ASM) Warm Spare (VRRP) DHCP Server, DHCP Relay |
| Security | <ul style="list-style-type: none"> Integrated multi-factor authentication for Dashboard management Role-based access control (RBAC) with granular device and configuration control Corporate wide password policy enforcement IEEE 802.1X RADIUS and MAB, hybrid authentication and RADIUS server testing Single-Host/Multi-Domain/Multi-Host/Multi Authentication Port security: Sticky MAC, MAC whitelisting DHCP snooping, detection and blocking, Dynamic ARP Inspection IPv4 and IPv6 ACLs Secure Connect * Adaptive Policy * |



* Available in a future software release

MS390 Licensing

MS390 license structure includes two feature tiers: Enterprise and Advanced. The MS390 also introduces a new and simpler license to hardware mapping, specifically 24-port or 48-port licenses. As with all MS, every MS390 license is available in 1, 3, 5, 7, and 10 year terms.

| MS390 License Structure | 24-Port Model | 48-port Model |
|-------------------------|---------------|---------------|
| Advanced Features | LIC-MS390-24A | LIC-MS390-48A |

Enterprise Features

LIC-MS390-24E LIC-MS390-48E

The features available with advanced licensing are:

- Adaptive policy *
- Greater than 1,000 routes for OSPF



* Available in a future software release

Context and Comparisons

| Description | 24 Port Models | | | 48 Port Models | | |
|------------------------|----------------|------------|------------|----------------|------------|-------------|
| | MS350-24X | MS355-24X2 | MS390-24UX | MS350-48FP | MS355-48X2 | MS390-48UX2 |
| 1GbE RJ45 | 16 | - | - | 48 | 24 | - |
| mGbE RJ45 | 8 | 24 | 24 | - | 24 | 48 |
| 10GbE SFP+ | 4 | 4 | Modular | 4 | 4 | Modular |
| 40GbE QSFP+ | n/a | 2 | Modular | - | 2 | Modular |
| Hardware Stack Port | 2x 40G | 2x 100G | 2x 120G | 2x 40G | 2x 100G | 2x 120G |
| Management Interface | 1 | 1 | 1 | 1 | 1 | 1 |
| Hot Swap PS | Yes, Dual | Yes, Dual | Yes, Dual | Yes, Dual | Yes, Dual | Yes, Dual |
| Hot Swap Fans | Yes, 2x | Yes, 3x | Yes, 3x | Yes, 2x | Yes, 3x | Yes, 3x |
| Layer 3 Routing | Yes | Yes | Yes | Yes | Yes | Yes |
| UPoE Capable | Yes, 740W | Yes, 740W | Yes, 560W | Yes, 740W | Yes, 740W | Yes, 645W |
| Max Switching Capacity | 176 Gbps | 640 Gbps | 640 Gbps | 176 Gbps | 688 Gbps | 640 Gbp |
| Max Stacking Bandwidth | 160 Gbps | 400 Gbps | 480 Gbps | 160 Gbps | 400 Gbps | 480 Gbps |

Technical Breakdown

Interfaces Specifications

| Model | Interfaces | Uplink 10/40GbE (SFP+, QSFP+) | 120G Hardware Stack Port | Dedicated Management Interface | PoE/ UPoE Capabilities |
|----------------|-------------------------------------------------|----------------------------------|--------------------------|-----------------------------------|---------------------------|
| MS390-24-HW | 24 x 1GbE RJ45 | Modular | 2 | 1 | n/a |
| MS390-24P-HW | 24 x 1GbE RJ45 | Modular | 2 | 1 | PoE |
| MS390-24U-HW | 24 x 1GbE RJ45 | Modular | 2 | 1 | UPoE |
| MS390-24UX-HW | 24 x mGbE RJ45 | Modular | 2 | 1 | UPoE |
| MS390-48-HW | 48 x 1GbE RJ45 | Modular | 2 | 1 | n/a |
| MS390-48P-HW | 48 x 1GbE RJ45 | Modular | 2 | 1 | PoE |
| MS390-48U-HW | 48 x 1GbE RJ45 | Modular | 2 | 1 | UPoE |
| MS390-48UX-HW | 36 x 100M/1G/2.5G + 12 x 100M/1G/2.5G/5G/10G | Modular | 2 | 1 | UPoE |
| MS390-48UX2-HW | 48 x 100M/1G/2.5G/5G | Modular | 2 | 1 | UPoE |



All models are available with modular uplinks that have been listed under the [Accessories](#) list. For supported SFP modules please refer the [SFP Datasheet](#).

Physical Specifications

| Model | Dimensions (h x w x d) W/ Default Power Supply | Weight | Mount Type | Hot Swap Fans | Operating Temperature | Humidity |
|--------------|---------------------------------------------------|--------------------|---------------|---------------|-----------------------|----------|
| MS390-24-HW | 1.73" x 17.5" x 17.7" (4.4 x 44.5 x 44.9cm) | 16.03 lb (7.27 kg) | 1U Rack Mount | Yes, 3x | -5°C to 45°C | 5 to 90% |
| MS390-24P-HW | 1.73" x 17.5" x 17.7" (4.4 x 44.5 x 44.9cm) | 16.33 lb (7.4 kg) | 1U Rack Mount | Yes, 3x | -5°C to 45°C | 5 to 90% |

| | | | | | | |
|-----------------------|------------------------------------------------|--------------------|---------------|---------|--------------|----------|
| MS390-24U-HW | 1.73" x 17.5" x 19.2" (4.4 x 44.5 x 44.8cm) | 16.63 lb (7.54 kg) | 1U Rack Mount | Yes, 3x | -5°C to 45°C | 5 to 90% |
| MS390-24UX-HW | 1.73" x 17.5" x 20.2" (4.4 x 44.5 x 51.3cm) | 18.18 lb (8.25 kg) | 1U Rack Mount | Yes, 3x | -5°C to 45°C | 5 to 90% |
| MS390-48-HW | 1.73" x 17.5" x 17.7" (4.4 x 44.5 x 44.9cm) | 16.43 lb (7.45 kg) | 1U Rack Mount | Yes, 3x | -5°C to 45°C | 5 to 90% |
| MS390-48P-HW | 1.73" x 17.5" x 17.7" (4.4 x 44.5 x 44.9cm) | 16.73 lb (7.59 kg) | 1U Rack Mount | Yes, 3x | -5°C to 45°C | 5 to 90% |
| MS390-48U-HW | 1.73" x 17.5" x 19.2" (4.4 x 44.5 x 48.8cm) | 17.03 lb (7.72 kg) | 1U Rack Mount | Yes, 3x | -5°C to 45°C | 5 to 90% |
| MS390-48UX-HW | 1.73" x 17.5" x 22.2" (4.4 x 44.5 x 56.4cm) | 20.50 lb (9.34 kg) | 1U Rack Mount | Yes, 3x | -5°C to 45°C | 5 to 90% |
| MS390-48UX2-HW | 1.73" x 17.5" x 22.2" (4.4 x 44.5 x 56.4cm) | 20.05 lb (9.09 kg) | 1U Rack Mount | Yes, 3x | -5°C to 45°C | 5 to 90% |

Performance

| Model | Switching Capacity | Stacking Bandwidth | Forwarding rate |
|----------------------|--------------------|--------------------|-----------------|
| MS390-24-HW | 208 Gbps | 480 Gbps | 154.76 Mpps |
| MS390-24P-HW | 208 Gbps | 480 Gbps | 154.76 Mpps |
| MS390-24U-HW | 208 Gbps | 480 Gbps | 154.76 Mpps |
| MS390-24UX-HW | 640 Gbps | 480 Gbps | 476.19 Mpps |
| MS390-48-HW | 256 Gbps | 480 Gbps | 190.48 Mpps |
| MS390-48P-HW | 256 Gbps | 480 Gbps | 190.48 Mpps |
| MS390-48U-HW | 256 Gbps | 480 Gbps | 190.48 Mpps |
| MS390-48UX-HW | 580 Gbps | 480 Gbps | 431.54 Mpps |

MS390-48UX2-HW

640 Gbps

480 Gbps

476.19 Mpps

Power Options and Specifications

| Model | Default Power Supply | Hot Swap Power Supply | Available PoE W/ Primary PS | Available PoE W/ Secondary PS*** | Power Load (idle/max) |
|-----------------------|----------------------|-----------------------|-----------------------------|----------------------------------|-----------------------|
| MS390-24-HW | MA-PWR-350WAC** | Yes, Dual | n/a | n/a | 79.2 / 99 W |
| MS390-24P-HW | MA-PWR-715WAC** | Yes, Dual | 445W | 720W | 84.1 / 554.4 W |
| MS390-24U-HW | MA-PWR-1100WAC | Yes, Dual | 830W | 1440W | 85.4 / 990.3 W |
| MS390-24UX-HW | MA-PWR-1100WAC | Yes, Dual | 560W | 1440W | 162.7 / 809.9 W |
| MS390-48-HW | MA-PWR-350WAC** | Yes, Dual | n/a | n/a | 83.9 / 109.9 W |
| MS390-48P-HW | MA-PWR-715WAC** | Yes, Dual | 437W | 1152W | 92.6 / 555 W |
| MS390-48U-HW | MA-PWR-1100WAC | Yes, Dual | 822W | 1800W | 145 / 844.9 W |
| MS390-48UX-HW | MA-PWR-1100WAC | Yes, Dual | 490W | 1590W | 218.5 / 785.5 W |
| MS390-48UX2-HW | MA-PWR-1100WAC | Yes, Dual | 645W | 1745W | 157.9 / 843.8 W |



** Upgrade options to 715W and 1100W PSU are available.

*** The PoE values are provided considering the secondary PS to be the default power supply of the respective model.

What's included

| Model | Package Contents |
|---------------------|----------------------------------------------------------------------------------------------------------|
| MS390-24-HW | 1 x Power Supply (MA-PWR-350WAC), Rack mount brackets and screw kit, 3 x Pre-Installed Fans, Cable guide |
| MS390-24P-HW | 1 x Power Supply (MA-PWR-715WAC), Rack mount brackets and screw kit, 3 x Pre-Installed Fans, Cable guide |

| | |
|-----------------------|-----------------------------------------------------------------------------------------------------------|
| MS390-24U-HW | 1 x Power Supply (MA-PWR-1100WAC), Rack mount brackets and screw kit, 3 x Pre-Installed Fans, Cable guide |
| MS390-24UX-HW | 1 x Power Supply (MA-PWR-1100WAC), Rack mount brackets and screw kit, 3 x Pre-Installed Fans, Cable guide |
| MS390-48-HW | 1 x Power Supply (MA-PWR-350WAC), Rack mount brackets and screw kit, 3 x Pre-Installed Fans, Cable guide |
| MS390-48P-HW | 1 x Power Supply (MA-PWR-715WAC), Rack mount brackets and screw kit, 3 x Pre-Installed Fans, Cable guide |
| MS390-48U-HW | 1 x Power Supply (MA-PWR-1100WAC), Rack mount brackets and screw kit, 3 x Pre-Installed Fans, Cable guide |
| MS390-48UX-HW | 1 x Power Supply (MA-PWR-1100WAC), Rack mount brackets and screw kit, 3 x Pre-Installed Fans, Cable guide |
| MS390-48UX2-HW | 1 x Power Supply (MA-PWR-1100WAC), Rack mount brackets and screw kit, 3 x Pre-Installed Fans, Cable guide |

Optional Accessories

| Accessory | Description | Supported Models |
|--------------------------|---------------------------------------|--------------------------|
| MA-PWR-350WAC | 350W AC Power Supply | MS390-24-HW, MS390-48-HW |
| MA-PWR-715WAC | 715W AC Power Supply | All Models |
| MA-PWR-1100WAC | 1100W AC Power Supply | All Models |
| MA-MOD-2X40G | 2 x 40G Uplink Module | All Models |
| MA-MOD-4X10G | 4 x 10G Uplink Module | All Models |
| MA-MOD-8X10G | 8 x 10G Uplink Module | All Models |
| MA-CBL-120G-50CM | Meraki 120G Stacking Cable, 0.5 Meter | All Models |
| MA-CBL-120G-1M | Meraki 120G Stacking Cable, 1 Meter | All Models |
| MA-CBL-120G-3M | Meraki 120G Stacking Cable, 3 Meter | All Models |
| MA-CBL-SPWR-30CM | Meraki MS390 30CM Power-Stack Cable | All Models |
| MA-CBL-SPWR-150CM | Meraki MS390 150CM Power-Stack Cable | All Models |
| MA-FAN-16K2 | System Fan | All Models |
| MA-RCKMNT | Meraki MS390 Rack Mount Kit | All Models |

Regulations and Compliance

| | |
|------------------------|--------------------------------------------------------------------------------------------------------------------|
| Electromagnetic | FCC Part 15 (CFR 47) Class A, ICES-003 Class A, CISPR22 Class A, CNS13438, EN 300 386 V1.6.1, EN 55022 Class A, EN |
|------------------------|--------------------------------------------------------------------------------------------------------------------|

| | |
|-----------------------|------------------------------------------------------------------------------------------------------------------------|
| Compatibility | 61000-3-2, EN61000-3-3, KN 32, TCVN 7189 Class A, EN 55032 , CISPR 32 Class A, V-2/2015.04, V-3/2015.04, VCCI-CISPR 32 |
| Certifications | Class A, CISPR24, EN 300 386 V1.6.1, EN 55024, KN35, TCVN 7317 |
| Safety | CAN/CSA-C22.2 No. 60950-1, UL 60950-1, EN 60950-1, IEC 60950-1, AS/NZS 60950.1 |
| Environmental | Reduction of Hazardous Substances (RoHS) |
| Warranty | Full lifetime hardware warranty with next-day advanced replacement included |

MTBF Rating

| Model | MTBF at 25°C |
|----------------|--------------|
| MS390-24-HW | 314,790 |
| MS390-24P-HW | 299,000 |
| MS390-24U-HW | 238,410 |
| MS390-24UX-HW | 214,760 |
| MS390-48-HW | 305,870 |
| MS390-48P-HW | 277,770 |
| MS390-48U-HW | 227,410 |
| MS390-48UX-HW | 202,160 |
| MS390-48UX2-HW | 198,647 |

Installation Guide

For instructions on how to install and configure the MS390 series switch please refer the [MS390 Series Installation Guide](#)