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## MS120 Overview and Specifications

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### Overview

Cisco Meraki MS120 switches provide Layer 2 access switching, ideal for branch and campus deployments. The MS120 series features a variety of power options designed to meet the diverse needs of branch and campus deployments.

With 5 different models capable of providing up to 740 W of power over a variety of port densities, including Small-Form Factor Pluggable (SFP) capable uplinks, the MS120 line is fully ready to support future wireless infrastructure deployments across a variety of different environments.



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### Features

- Managed via Cisco Meraki dashboard
- Remote packet capture pools via
- DHCP snooping
- 802.1X authentication

Meraki dashboard

- Automatic firmware upgrades
- Simple Network Management Protocol (SNMP)/Syslog integration
- IPv4/6 Access Control List (ACL) support
- 802.1q VLAN tagging
- 10/100/1000 Mbps RJ45
- 4x 1000 Mbps SFP models available
- Power over Ethernet (PoE) and PoE+ models available for device-level powering

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## Configuration

The basic initial configuration of the MS120 is just as simple as any other model of MS switch. If you are setting up and configuring a device for the first time, review the links for additional information and instructions.

1. [Claim the device to an Organization](#) on the Meraki dashboard by [Using the Organization Inventory](#)
  - a. If a dashboard organization does not yet exist, you may create one by following this guide: [Creating a Dashboard Account and Organization](#)
2. Add the device to a network by following [Adding and Removing Devices from Dashboard Networks](#)
  - a. If a Network does not yet exist, you may create one by following this guide: [Creating and Deleting Dashboard Networks](#)
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 [Using the Cisco Meraki Device 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. [Switch ports](#)

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## Context and Comparisons

|                                | MS120-8FP | MS120-24P | MS120-48FP |
|--------------------------------|-----------|-----------|------------|
| 1GbE RJ45                      | 8         | 24        | 48         |
| 1GbE SFP                       | 2         | 4         | 4          |
| Dedicated Management Interface | -         | 1         | 1          |

|                               |            |            |            |
|-------------------------------|------------|------------|------------|
| <b>Max Switching Capacity</b> | 20 Gbps    | 56 Gbps    | 104 Gbps   |
| <b>PoE/PoE+ Capable</b>       | Yes, 124 W | Yes, 370 W | Yes, 740 W |

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## Technical Breakdown

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### Hardware Breakdown

#### MS120-8 Models

|                                       | <b>MS120-8</b> | <b>MS120-8LP</b> | <b>MS120-8FP</b> |
|---------------------------------------|----------------|------------------|------------------|
| <b>1GbE RJ45</b>                      | 8              | 8                | 8                |
| <b>1GbE SFP</b>                       | 2              | 2                | 2                |
| <b>Dedicated Management Interface</b> | -              | -                | -                |

#### MS120-24/48 Models

|                                 | <b>MS120-24</b> | <b>MS120-24P</b> | <b>MS120-48</b> | <b>MS120-48LP</b> | <b>MS120-48FP</b> |
|---------------------------------|-----------------|------------------|-----------------|-------------------|-------------------|
| <b>1GbE RJ45</b>                | 24              | 24               | 48              | 48                | 48                |
| <b>1GbE SFP</b>                 | 4               | 4                | 4               | 4                 | 4                 |
| <b>Dedicated Mgmt Interface</b> | 1               | 1                | 1               | 1                 | 1                 |

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## Throughput and Capabilities

#### MS120-8 Models

|                           | <b>MS120-8</b> | <b>MS120-8LP</b> | <b>MS120-8FP</b> |
|---------------------------|----------------|------------------|------------------|
| <b>PoE/PoE+ Capable</b>   | -              | Yes, 67 W        | Yes, 124 W       |
| <b>Switching Capacity</b> | 20 Gbps        | 20 Gbps          | 20 Gbps          |

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|                     |          |          |                |
|---------------------|----------|----------|----------------|
| <b>Power Supply</b> | External | External | Fixed Internal |
|---------------------|----------|----------|----------------|

## MS120-24/48 Models

|                           | <b>MS120-24</b> | <b>MS120-24P</b> | <b>MS120-48</b> | <b>MS120-48LP</b> | <b>MS120-48FP</b> |
|---------------------------|-----------------|------------------|-----------------|-------------------|-------------------|
| <b>PoE/PoE+ Capable</b>   | -               | Yes, 370 W       | -               | Yes, 370 W        | Yes, 740 W        |
| <b>Switching Capacity</b> | 56 Gbps         | 56 Gbps          | 104 Gbps        | 104 Gbps          | 104 Gbps          |
| <b>Power Supply</b>       | Fixed Internal  | Fixed Internal   | Fixed Internal  | Fixed Internal    | Fixed Internal    |

## Physical

### MS120-8 Models

|                               | <b>MS120-8</b>                          | <b>MS120-8LP</b>                        | <b>MS120-8FP</b>                         |
|-------------------------------|-----------------------------------------|-----------------------------------------|------------------------------------------|
| <b>Mount Type</b>             | -                                       | -                                       | -                                        |
| <b>Dimensions (h x w x d)</b> | 1.1 x 8.74 x 6 in<br>(2.8 x 22 x 15 cm) | 1.1 x 8.74 x 6 in<br>(2.8 x 22 x 15 cm) | 1.75 x 9 x 8.58 in<br>(4.4 x 23 x 23 cm) |
| <b>Weight</b>                 | 2.36 lb (1.07 kg)                       | 2.76 lb (1.25 kg)                       | 3.42 lb (1.55 kg)                        |
| <b>Power Load (idle/max)</b>  | 5 / 9 W                                 | 7 / 88 W                                | 9 / 161 W                                |
| <b>Operating Temperature</b>  | 32°F - 113°F<br>0°C - 45°C              | 32°F - 113°F<br>0°C - 45°C              | 32°F - 113°F<br>0°C - 45°C               |
| <b>Humidity</b>               | 5% to 95%                               | 5% to 95%                               | 5% to 95%                                |

### MS120-24/48 Models

|  | <b>MS120-24</b> | <b>MS120-24P</b> | <b>MS120-48</b> | <b>MS120-48LP</b> | <b>MS120-48FP</b> |
|--|-----------------|------------------|-----------------|-------------------|-------------------|
|--|-----------------|------------------|-----------------|-------------------|-------------------|

| Mount Type                    | 1U Rack Mount                              | 1U Rack Mount                              | 1U Rack Mount                              | 1U Rack Mount                                | 1U Rack Mount                                |
|-------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|----------------------------------------------|----------------------------------------------|
| <b>Dimensions (h x w x d)</b> | 1.73 x 17.32 x 10 in<br>(4.4 x 44 x 25 cm) | 1.73 x 17.32 x 10 in<br>(4.4 x 44 x 25 cm) | 1.73 x 17.32 x 10 in<br>(4.4 x 44 x 25 cm) | 1.73 x 17.32 x 13.4 in<br>(4.4 x 44 x 34 cm) | 1.73 x 17.32 x 13.4 in<br>(4.4 x 44 x 34 cm) |
| <b>Weight</b>                 | 8.09 lb (3.67 kg)                          | 9.26 lb (4.20 kg)                          | 8.97 lb (4.06 kg)                          | 12.70 lb (5.70 kg)                           | 12.70 lb (5.70 kg)                           |
| <b>Power Load (idle/ max)</b> | 8 / 18 W                                   | 28 / 425 W                                 | 16 / 36 W                                  | 37 / 477 W                                   | 37 / 908 W                                   |
| <b>Operating Temperature</b>  | 32°F - 113°F<br>0°C - 45°C                 | 32°F - 113°F<br>0°C - 45°C                 | 32°F - 113°F<br>0°C - 45°C                 | 32°F - 113°F<br>0°C - 45°C                   | 32°F - 113°F<br>0°C - 45°C                   |
| <b>Humidity</b>               | 5% to 95%                                  | 5% to 95%                                  | 5% to 95%                                  | 5% to 95%                                    | 5% to 95%                                    |

## Troubleshooting

The MS uses LEDs to inform the user of the device's status. Functions are described below, from left to right.

| Function            | LED Status     | Meaning                                                          |
|---------------------|----------------|------------------------------------------------------------------|
| <b>Power</b>        | 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                                       |
| <b>Restore</b>      | N/A            | Reset button to clear switch IP and local configuration settings |
| <b>Switch Ports</b> | Off            | No link is detected on this port                                 |

|                             |                                   |                                                          |
|-----------------------------|-----------------------------------|----------------------------------------------------------|
|                             | Flashing orange (RJ45 ports only) | Activity indicator                                       |
|                             | Solid green                       | 1 Gbps link detected                                     |
| <b>Management Interface</b> | Green                             | Connected, used for easy access to the local status page |

In addition, there is a reset button available on the front panel.

Insert a paperclip if a reset is required.

- A brief, momentary press: To delete a downloaded configuration and reboot.
- Press and hold for more than 10 sec: To force the unit into a full factory reset.

Equipment is to be used only in a restricted access location and installed/operated only by trained service personnel.

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## 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.

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## Event Log

The most common event log messages and their meaning are listed below.

### **Port STP change**

Indicates the Spanning-Tree Protocol (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.