# MS130 Datasheet

## Overview

Cisco Meraki MS130 switches provide Layer 2 access switching, ideal for branch and campus deployments. The MS130 series features a variety of options designed to meet the diverse needs of branch and campus deployments.

With 10 different models, capable of providing up to 740W of power over a variety of port densities, including SFP+ capable uplinks, the MS130 line is fully ready to support future wireless infrastructure deployments across a variety of different environments.

## Features

- Managed via Cisco Meraki Dashboard
- Remote Packet Capture Tools via Meraki Dashboard
- Automatic Firmware upgrades
- SNMP/Syslog Integration
- IPv4/6 ACL support
- 802.1Q VLAN tagging
- DHCP Snooping
- 802.1X Authentication
- 10/100/1000 Mbps RJ45
- 100M/1G/2.5G mGbE RJ45
- 4x 10 Gbe SFP+ models available
- 802.3bt PoE up to 30W per port

# Configuration

The basic initial configuration of the MS130 is just as simple as any other model of MS switch. The links below provide additional information and instructions relating to each step in getting the device setup and configured for the first time.

1. Claim the device to an Organization on the Meraki Dashboard
   a. If a Dashboard Organization does not yet exist, Create one
2. Add the device to a Dashboard Network
   a. If a Network does not yet exist, Create one first
3. Physically connect the device to the local network
   a. Connect one of the RJ45 or SFP/SFP+ 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 the 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. Manage local VLANs / Port configuration

# Technical Breakdown

## Hardware Breakdown

### MS130 Models

| | MS130-8 | MS130-8P | MS130-8P-I | MS130-8X | MS130-12X |
|---|---|---|---|---|---|
| **1Gbe RJ45** | 8 | 8 | 8 | 6 | 8 |
| **mGbe RJ45** (100M/1G/2.5G) | - | - | - | 2 x 2.5G | 4 x 2.5G |
| **1 Gbe SFP** | 2 | 2 | 2 | - | - |
| **10GbE SFP+** | - | - | - | 2 | 2 |
| **Dedicated Mgmt Interface** | - | - | - | - | - |
| **PoE Type** | - | 802.3bt | 802.3bt | 802.3bt | 802.3bt |
| **PoE Port Budget** | - | 30W | 30W | 30W | 30W |
| **PoE Switch Budget** | - | 120W | 120W | 120W | 240W |
| **Power Input** | 12VDC, 2.5A | 54VDC, 2.78A | 100-240V~, 2.8A-1.2A, 50-60Hz | 54VDC, 2.78A | 54VDC, 5.56A |

| | MS130-8 | MS130-8P | MS130-8P-I | MS130-8X | MS130-12X |
|---|---|---|---|---|---|
| **Power Load (idle/max)** | 8W/8W | 8W/128W | 8W/128W | 16W/136W | 19W/260W |
| **Operating Temperature** | 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 |
| **Storage and Transportation Temperature** | -4°F - 158 °F<br>-20°C - 70°C | -4°F - 158 °F<br>-20°C - 70°C | -4°F - 158 °F<br>-20°C - 70°C | -4°F - 158 °F<br>-20°C - 70°C | -4°F - 158 °F<br>-20°C - 70°C |
| **Humidity** | 5% to 95% | 5% to 95% | 5% to 95% | 5% to 95% | 5% to 95% |
| **Mounting** | Desktop<br>Integrated Wall mount | Desktop<br>Integrated Wall mount | Desktop<br>Integrated Wall mount | Desktop<br>Integrated Wall mount | Desktop<br>Integrated Wall mount |
| **Switching Capacity** | 20 Gbps | 20 Gbps | 20 Gbps | 62 Gbps | 76 Gbps |
| **Power Supply** | External | External | Internal | External | External |
| **Fan Operation** | Fanless | Fanless | Fanless | Fixed Internal | Fixed Internal |
| **Dimensions (h x w x d)** | 1.1 x 8.74 x 6in<br>(2.8 x 22.2 x 15cm) | 1.1 x 8.74 x 6in<br>(2.8 x 22.2 x 15cm) | 1.75 x 9 x 8.58in<br>(4.4 x 23 x 23cm) | 1.75 x 9 x 8.58in<br>(4.4 x 23 x 23cm) | 1.75 x 9 x 8.58in<br>(4.4 x 23 x 23cm) |
| **Weight** | 1.94 lb (0.88 kg) | 1.94 lb (0.88 kg) | 2.86 lb (1.3 kg) | 2.12 lb (0.96 kg) | 2.34 lb (1.06 kg) |

| | MS130-24 | MS130-24P | MS130-24X | MS130-48 | MS130-48P | MS130-48X |
|---|---|---|---|---|---|---|
| **1Gbe RJ45** | 24 | 24 | 18 | 48 | 48 | 40 |
| **mGbe RJ45** (100M/1G/2.5G) | - | - | 6 x 2.5G | - | - | 8 x 2.5G |
| **1Gbe SFP** | 4 | 4 | - | 4 | 4 | - |
| **10Gbe SFP+** | - | - | 4 | - | - | 4 |
| **Dedicated Mgmt Interface** | 1 | 1 | 1 | 1 | 1 | 1 |
| **PoE Type** | - | 802.3bt | 802.3bt | - | 802.3bt | 802.3bt |
| **PoE Port Budget** | - | 30W | 30W | - | 30W | 30W |
| **PoE Switch Budget** | - | 370W | 370W | - | 740W | 740W |
| **Power Input** | 100-240V~, 1.5-0.85A, | 100-240V~, 8A-4A, 50-60Hz | 100-240V~, 8A-4A, 50-60Hz | 100-240V~, 1.5-0.85A, | 100-240V~, 12-6A, 50-60Hz | 100-240V~, 12-6A, 50-60Hz |

| | MS130-24 | MS130-24P | MS130-24X | MS130-48 | MS130-48P | MS130-48X |
|---|---|---|---|---|---|---|
| | 50-60Hz | | | 50-60Hz | | |
| **Power Load (idle/max)** | 15W/15W | 32W/406W | 50W/421W | 28W/28W | 49W/803W | 60W/808W |
| **Operating Temperature** | 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 | 32°F - 113 °F<br>0°C - 45°C |
| **Storage and Transportation Temperature** | -4°F - 158 °F<br>-20°C - 70°C | -4°F - 158 °F<br>-20°C - 70°C | -4°F - 158 °F<br>-20°C - 70°C | -4°F - 158 °F<br>-20°C - 70°C | -4°F - 158 °F<br>-20°C - 70°C | -4°F - 158 °F<br>-20°C - 70°C |
| **Humidity** | 5% to 95% | 5% to 95% | 5% to 95% | 5% to 95% | 5% to 95% | 5% to 95% |
| **Mounting** | Integrated 1U Rack Mount | Integrated 1U Rack Mount | Integrated 1U Rack Mount | Integrated 1U Rack Mount | Integrated 1U Rack Mount | Integrated 1U Rack Mount |
| **Switching Capacity** | 56 Gbps | 56 Gbps | 146 Gbps | 104 Gbps | 104 Gbps | 200 Gbps |
| **Power Supply** | Fixed Internal | Fixed Internal | Fixed Internal | Fixed Internal | Fixed Internal | Fixed Internal |
| **Fan Operation** | Fanless | Fixed Internal | Fixed Internal | Fanless | Fixed Internal | Fixed Internal |
| **Dimensions** | 1.73 x 17.32 x 10in<br>(4.4 x 44 x 25cm) | 1.73 x 17.32 x 10in<br>(4.4 x 44 x 25cm) | 1.73 x 17.32 x 10in<br>(4.4 x 44 x 25cm) | 1.73 x 17.32 x 10in<br>(4.4 x 44 x 25cm) | 1.73 x 17.32 x 13.4in<br>(4.4 x 44 x 34cm) | 1.73 x 17.32 x 13.4in<br>(4.4 x 44 x 34cm) |
| **Weight** | 7.19 lb (3.26 kg) | 8.91 lb (4.04 kg) | 9.37 lb (4.25 kg) | 8.14 lb (3.69 kg) | 12.13 lb (5.5 kg) | 12.59 lb (5.71 kg) |

## Whats In the Box

| Model | Included |
|---|---|
| **MS130-8, 8P, 8X, 12X** | MS130 switch, AC Power Supply |
| **MS130-8P-I, MS130-24, 24P. 24X, 48, 48P, 48X** | MS130 switch |

Region-specific power cords are not included in the box*. Order the appropriate power cord separately:

- MA-PWR-CORD-US
- MA-PWR-CORD-EU
- MA-PWR-CORD-UK
- MA-PWR-CORD-CN
- MA-PWR-CORD-IN
- MA-PWR-CORD-BR
- MA-PWR-CORD-TW

- MA-PWR-CORD-AU
- MA-PWR-CORD-AR
- MA-PWR-CORD-JP

***1 MA-PWR-CORD-US is included automatically with US orders only***

**Rack mount screws are included with the MS130-24, 24P. 24X, 48, 48P, 48X models.**

# Accessories

## SFP Modules

The following SFP/Fiber transceivers are supported

| SFP Models | Supported Modules |
|---|---|
| • MS130-8, 8P, 8P-I<br>• MS130-24, 24P<br>• MS130-48, 48P | • MA-SFP-1GB-SX<br>• MA-SFP-1GB-LX10<br>• MA-SFP-1GB-TX |

| SFP+ Models | Supported Modules |
|---|---|
| • MS130-8X<br>• MS130-12X<br>• MS130-24X<br>• MS130-48X | • MA-SFP-1GB-SX<br>• MA-SFP-1GB-LX10<br>• MA-SFP-1GB-TX<br>• MA-SFP-10GB-SR<br>• MA-SFP-10GB-LR<br>• MA-SFP-10GB-ER<br>• MA-CBL-TA-1M<br>• MA-CBL-TA-3M |

* For more information regarding the SFP modules, see the following Cisco Meraki datasheets:

- SFP and Stacking Accessories

# Troubleshooting

The MS uses LEDs to inform the user of the device's status. Functions are described below, from left to right. For fixed Ethernet ports, the status LED is on the top left or bottom right depending on port orientation. There is also a traffic LED which flashes orange as traffic is sent/received through that port.

| Function | LED Status | Meaning |
|---|---|---|
| Power | 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 |
| Switch Ports | Off | Port is operating at less than full speed. For example:<br>• 10/100M on a 1GE port<br>• 100M/1GE on 2.5GE ports<br>• 1G on SFP+ ports |
| | Solid green | Port is operating at full speed<br>• 1GE on 1GE ports<br>• 2.5GE on 2.5GE ports<br>• 10GE on SFP+ |

# 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.

# Event Log

The most common Event Log messages and their meaning are listed below.

- **Port STP change:** Indicates the 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.

# Licensing

MS130 license structure includes two feature tiers:  Enterprise and Advanced. The Enterprise license is available in 1, 3, 5, 7, and 10 year terms. The Advanced License is available in the same terms, except for 7 and 10 years. All MS130s in an organization must have Enterprise or Advanced licenses - they cannot be mixed.

| Model | License | Description |
|---|---|---|
| MS130-8<br>MS130-8P<br>MS130-8P-I<br>MS130-8X<br>MS130-12X | LIC-MS130-CMPT-xY | MS130 compact switch (8/12) Enterprise License and support |
| | LIC-MS130-CMPTA-xY | MS130 compact switch (8/12) Advance License and Support |
| MS130-24<br>MS130-24P<br>MS130-24X | LIC-MS130-24-xY | MS130 24 ports Enterprise License and support |
| | LIC-MS130-24A-xY | MS130 24 ports Advance License and Support |
| MS130-48<br>MS130-48P<br>MS130-48X | LIC-MS130-48-xY | MS130 48 ports Enterprise License and support |
| | LIC-MS130-48A-xY | MS130 48 ports Advance License and Support |

In the Co-term licensing model (most existing Organizations), an Organization must either have all MS130 Enterprise or all MS130 Advanced licenses - they cannot be mixed. **Additonally, a co-term organization cannot mix enterprise and advanced licenses on any switches that have both enterprise and advanced licenses.**

For example, if an organization has existing MS390/C9300/MS150s with enterpise licenses, they cannot add MS130's with advanced licenses in that organization - they must be added with enterprise licenses.

If the organization has existing MS390/C9300/MS150s with advanced licenses, they cannot add MS130's with enterprise licenses in that organization - they must be added with advanced licenses.

In the Per-device licensing model, a mix of Enterprise and Advanced can be added to a single Organization, but certain features may require all

devices in a Organization to have Advanced licenses, e.g. Adaptive Policy.

MS130 Advanced License only provides Adaptive policy as an additional feature.

For more information about the differences between the Advanced and Enterprise licenses see the below links:

- Meraki Co-Termination Licensing Overview
- MS Family Datasheet

The MS130 is also available as Subscription Licensing:

| Model | License |
|---|---|
| MS130-8 | |
| MS130-8P | MS100 Small |
| MS130-8P-I | Essentials: LIC-MS-100-S-E |
| MS130-8X | Advantage: LIC-MS-100-S-A |
| MS130-12X | |
| MS130-24 | MS100 Medium |
| MS130-24P | Essentials: LIC-MS-100-M-E |
| MS130-24X | Advantage: LIC-MS-100-M-A |
| MS130-48 | MS100 Large |
| MS130-48P | Essentials: LIC-MS-100-L-E |
| MS130-48X | Advantage: LIC-MS-100-L-A MS120 |

For more information on licensing, refer to Meraki Licensing Models article.

# MTBF Rating

| Model | MTBF at 25°C (in hours) |
|---|---|
| **MS130-8** | 1,927,507 |
| **MS130-8P** | 563,569 |
| **MS130-8P-I** | 608,122 |
| **MS130-8X** | 1,042,108 |
| **MS130-12X** | 682,400 |

| | |
|---|---|
| **MS130-24** | 789,842 |
| **MS130-24P** | 768,152 |
| **MS130-24X** | 677,546 |
| **MS130-48** | 425,296 |
| **MS130-48P** | 309,196 |
| **MS130-48X** | 396,536 |