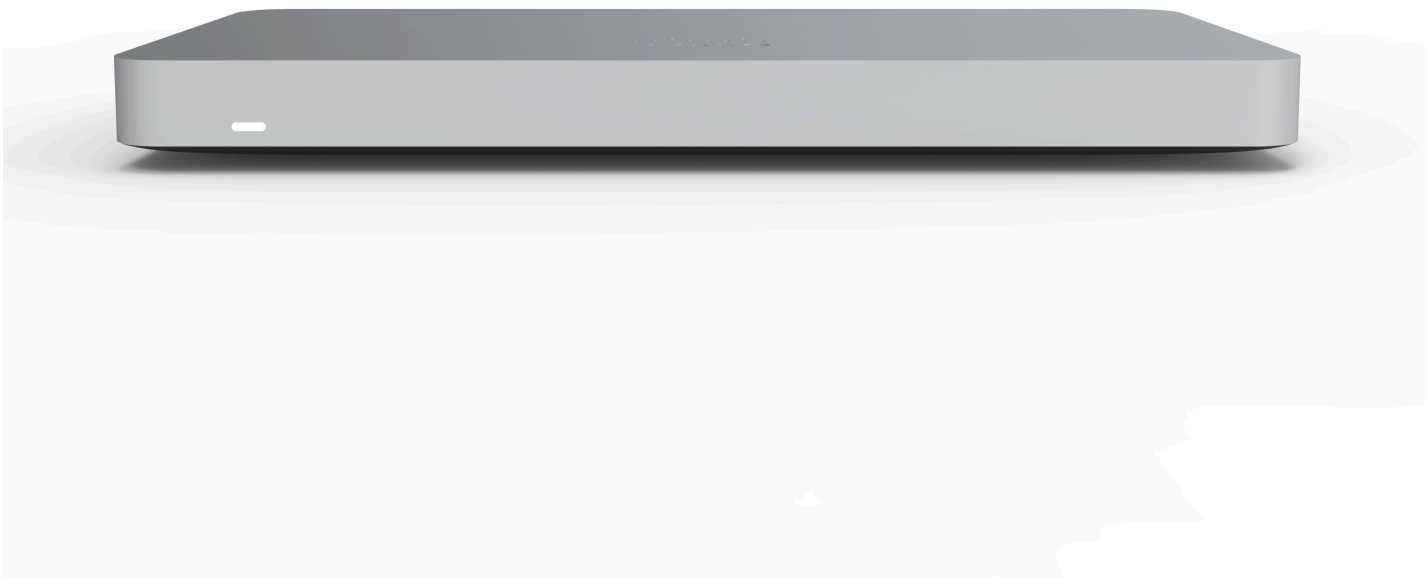
MX75 Hardware Installation Guide

This guide provides instruction on how to install and configure your MX75 series device. This guide also provides mounting instructions and limited troubleshooting procedures. For more MX device installation guides, refer to the MX installation guides section on our documentation website.

Product Overview

The Meraki MX75 is an enterprise security appliance designed for distributed deployments that require remote administration across medium branch environments. It is ideal for network administrators who demand both ease of deployment and a state-of-the-art feature set. The Meraki Dashboard allows for simple and easy deployment of the MX75 with minimal pre-configuration in almost any location.



Features

MX75 provides dedicated WAN uplinks, a single 1GbE SFP port, and 2 RJ45 1GbE ports. The LAN ports include 10 RJ45 1GbE ports. The MX75 is ready for deployment in a variety of enterprise environments. MX75 appliance provides the following features:

- Managed via Cisco Meraki Dashboard
- Automatic Firmware upgrades
- WAN Link Balancing
- Automatic WAN Failover
- SD-WAN over Meraki AutoVPN
- L3/L7 Stateful Firewall
- Geo based firewall rules
- 1:1 and 1:Many NAT
- Configurable VLANs / DHCP support
- Static Routing
- Client VPN endpoint
- Meraki AutoVPN and L2TP/IPSec VPN endpoint
- Active Directory integration
- Content Filtering
- Malware Protection (AMP) w/ optional Threat Grid integration
- IDS/IPS protection
- Custom Traffic Shaping
- Historical Client Usage statistics
- Netflow support
- Syslog integration
- Remote Packet Capture tools

Context and Comparisons

	MX68	MX75	MX85
# WAN Uplinks	2	3	4
Backup Cellular Uplink	Built-in (Cellular Models Only), Via 3rd Party USB Modem	Via 3rd Party USB Modem	Via 3rd Party USB Modem
Stateful Firewall Throughput	450 Mbps	1 Gbps	1 Gbps
Maximum site-to-site VPN Throughput	200 Mbps	500 Mbps	500 Mbps
Advanced Security Throughput	300 Mbps	800 Mbps	800 Mbps
PoE+ Capabilities	Yes, 2x GbE RJ45 LAN Ports (802.3at)	Yes, 2x RJ45 / 1 Gigabit Ethernet port (LAN)	Yes, 1x RJ45 / 1 Gigabit Ethernet port (WAN)
Recommended Use Case	Small branch with up to 50 users	Small branch office or retail location with 200 users	Small to midsize branch office or retail location with 250 users

Physical Specifications

	MX68	MX75	MX85
# WAN Interfaces	2	3	4
Cellular WAN Interfaces	Cellular Uplink via 3rd Party USB Modem	Cellular Uplink via 3rd Party USB Modem	Cellular Uplink via 3rd Party USB Modem
LAN Interfaces - Dedicated	10x Dedicated GbE RJ45	10x Dedicated Gigabit Ethernet RJ45	3x Dedicated GbE RJ45
LAN Interfaces - Convertible	2x Dedicated GbE RJ45 PoE+		1x Convertible LAN/WAN GbE RJ45
Mount Type	Desktop / Wall Mount	Desktop / Wall Mount	Rack Mount
Dimensions (h x d x w)	1.1 x 5.8 x 11.2 in / 27 x 148 x 284 mm	1.06" x 5.83" x 11.14" 27 x 148 x 283 mm	1.7” x 9.8“ x 19” 43.8 x 250 x 484.6mm
Weight	2.46 lb / 1.12 kg	1.87lb (0.85kg)	8.2lb (3.7kg)
Power Supply	100W DC (included)	100W DC (included)	Internal 100-220V 50/60Hz AC
Power Load (idle/max)	11W / 79W	12W / 96W	12W / 55W
Operating Temperature	32°F - 104 °F 0°C - 40°C	32°F to 113°F (0°C to 45°C)	32°F to 104°F (0°C to 40°C)
Storage and Transportation Temperature	-4°F - 158°F -20°C - 70°C	-4°F - 158°F -20°C - 70°C	-4°F - 158°F -20°C - 70°C
Humidity	5% to 95%	5% to 95%	5% to 95%

Accessories

Accessory	Description
MA-PWR-CORD-US	1x AC Power Cable, US plug
MA-PWR-CORD-EU	1x AC Power Cable, EU plug
MA-PWR-CORD-UK	1x AC Power Cable, UK plug
MA-PWR-CORD-AU	1x AC Power Cable, AU plug

Note: Please refer to meraki.com for additional single-mode and multi-mode fiber transceiver modules

Product View and Physical Features

Front Panels

MX75

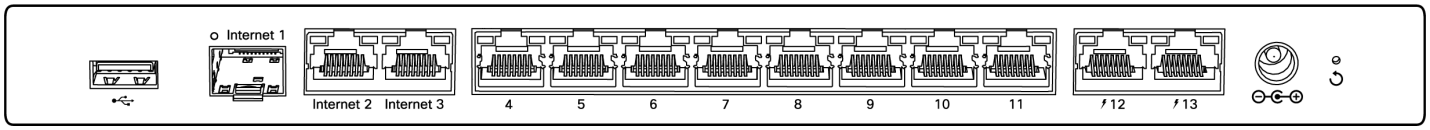
Status Indicator

The MX75 series devices uses an LED to inform the user of the device's status. LED patterns and their meanings are described below.

LED Status	Meaning
Solid orange	Power is applied but the appliance is not connected to the Meraki Dashboard
Rainbow Colors	The appliance is attempting to connect to Meraki Dashboard
Flashing White	Firmware upgrade in progress
Solid White	Fully operational/connected, uplink actively using wired WAN
Solid Purple	Fully operational/connected, uplink actively using integrated cellular failover

Back Panels

MX75



MX75 Back Panel Functions

Additional functions on the back panel are described below, from left to right.

USB port	USB 3.0 for external 3G/4G wireless modems. Traffic status is indicated by the USB LED.
WAN / Internet port	This port provides connectivity to the WAN.
LAN ports	These 10 ports provide connectivity to computers, printers, access points, or Ethernet switches. A steady green LED indicates bidirectional connectivity, and flashing green indicates traffic.
Power input	Designed for use only with the unit's power supply.
Reset button	Insert a paper clip if a reset is required. Press for 1 second to delete a downloaded configuration and reboot. Press and hold for more than 10 seconds to force a full factory reset.

Side Panels

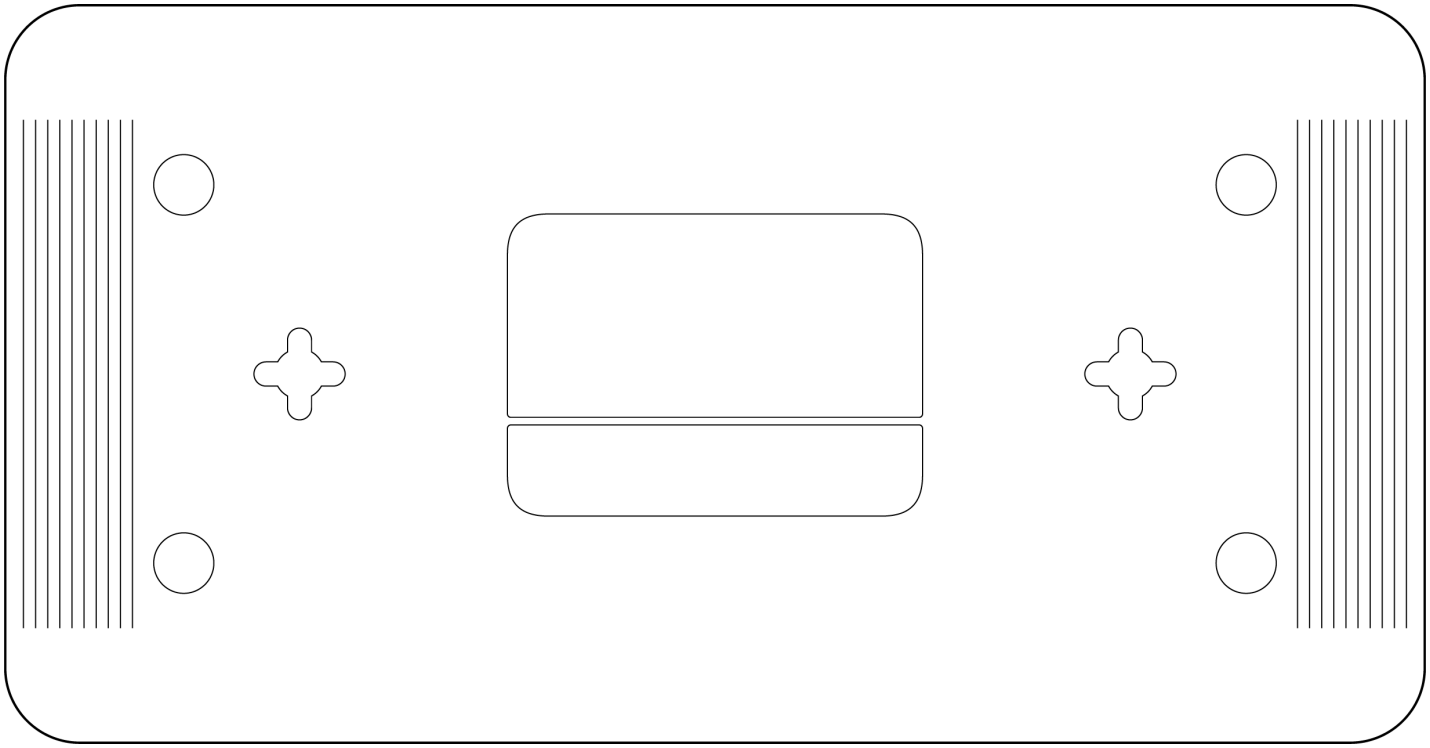
MX75

MX75 Side Panel Functions

Additional functions on the side panel are described below, from left to right.

USB port	USB 2.0 for 3G/4G wireless cards. Traffic status is indicated by the USB LED.

Bottom Panel



Please note that the serial number is located on the product label at the bottom panel of MX75 devices

Package Contents

In addition to the MX device, the following are provided:

MX75
Power Adapter (No Power Cable)
2x CAT5 Ethernet Cables

Safety and Warnings

These operations are to be taken with respect to all local laws. Please take the following into consideration for safe operation:

- Power off the unit before you begin. Read the installation instructions before connecting the system to the power source.
- Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.
- Read the mounting instructions carefully before beginning installation. Failure to use the correct hardware or to follow the correct procedures could result in a hazardous situation to people and damage to the system.
- This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 15 A, 125 Vac, or 10A, 240 Vac.
- Please only power the device with the provided power cables to ensure regulatory compliance.

Pre-install Preparation

You should complete the following steps before going on-site to perform an installation.

Configure your Dashboard Network

The following is a brief overview only of the steps required to add an MX to your network. For detailed instructions about creating, configuring and managing Meraki networks, refer to the online documentation (documentation.meraki.com).

1. Login to http://dashboard.meraki.com. If this is your first time, create a new account.
2. Find the network to which you plan to add your MX or create a new network.
3. Add your MX to your network. You will need your Meraki order number (found on your invoice) or the serial number of each MX, which looks like Qxxx-xxxx-xxxx, and is found on the bottom of the unit. You will also need your Enterprise license key, which you should have received via email.
4. Go to the map / floor plan view and place each MX on the map by clicking and dragging it to the location where you plan to mount it.

Check and Set Firmware

To ensure your MX performs optimally immediately following installation, it is recommended that you facilitate a firmware upgrade prior to mounting your MX.

1. Attach your MX to power and a wired Internet connection.
2. The MX will turn on and the power LED will glow solid orange.
3. If the unit requires an upgrade, the power LED will begin blinking white until the upgrade is complete, at which point the LED will turn solid white. You should allow at least a few minutes for the firmware upgrade to complete, depending on the speed of your internet connection.

Check and Configure Upstream Firewall Settings

If an upstream firewall is already in place, it must allow outgoing connections on particular ports to particular IP addresses. The most current list of outbound ports and IP addresses for your particular organization can be found on the firewall configuration page in your dashboard.

Installation Instructions

Mounting Recommendations

You can mount the appliance on a drywall surface, either vertically or horizontally. The distance between the holes you drill should be 5-1/8 inches (13 cm). The fan grills for the MX75 are located at the bottom of the chassis.

Note: Please make sure there are no blockages or obstructions within one inch of the top of the chassis or within 0.5 inches of the sides so that nothing interferes with cooling.

Connecting to WAN

All Meraki MX devices must have an IP address. This section describes how to configure your local area network before you deploy it. A local management web service, running on the appliance, is accessed through a browser running on a client PC. This web service is used for configuring and monitoring basic ISP/WAN connectivity.

Setting up a Static IP Address

To ensure that the client PC is redirected to the local web service in the following step, you must disable all other network services (ex: wi-fi) on your client machine.

Do the following to configure basic connectivity and other networking parameters:

1. Using a client machine such as a laptop, connect to one of the **LAN** ports of the MX.
2. Using a browser on the client machine, access the appliance's built-in web service by browsing to http://setup.meraki.com. (You do not have to be connected to the Internet to reach this address)
3. Click **Uplink configuration** under the **Local status** tab. The default credentials use the device serial number as the username, with a blank password field.
4. Choose **Static** for the **IP Assignment option**.
5. Enter the IP address, subnet mask, default gateway IP and DNS server information.

Setting up a DHCP IP Address

By default all MX devices are configured to DHCP from upstream WAN / ISP servers. Simply plug the MX's WAN / Internet port to your upstream circuit and wait a few minutes for the unit to negotiate a DHCP address.

When the WAN connection is fully enabled, Internet LED 1 will turn green.

Additional Settings

Please note that all these settings below are accessible only via the local management console.

Setting VLANs

If your WAN uplink is on a trunk port, choose **VLAN tagging > Use VLAN tagging** and enter the appropriate value for **VLAN ID** for your network.

Setting up a Secondary WAN Interface on the MX75

MX75 comes with three dedicated Internet ports, which are both configured under **Security & SD-WAN > Monitor > Appliance Status** in the Uplink tab.

Setting PPPoE

PPPoE authentication may be required if you are connecting MX device to a DSL circuit. You need to know your authentication option and credentials (supplied by your ISP) in order to complete these steps.

- Choose **Connection Type > PPPoE.**
- Select your **Authentication** option.
- If you select **Use authentication**, enter appropriate values for **Username** and **Password**.

Web Proxy Settings

These settings take effect if the MX device has to fall back to using HTTP to contact the Cloud Controller. By default, web proxy is disabled. To enable web proxy, do the following:

- Choose **Web proxy > Yes**.
- Enter values as appropriate for **Hostname or IP** and **Port**.
- If you require authentication, choose **Authentication > Use authentication**, and enter appropriate values for **Username** and **Password**.

To apply all configuration settings to the appliance, be sure to click **Save Settings** at the bottom of the page.

Configuring Physical Link Settings

To configure physical link settings on the Ethernet ports, click **Local status > Ethernet configuration**. You can enable half duplex, full duplex, and autonegotiation, as well as set 10/100/1000-Mbps data rates.

Basic Troubleshooting

The following steps can be used for troubleshooting basic connectivity issues with your MX.

- Reset the MX
- Factory reset the MX by holding the factory reset button for 10-15 seconds
- Try switching cables, or testing your cable on another device

Reference https://documentation.meraki.com/MX for additional information and troubleshooting tips.

If you are still experiencing hardware issues, please contact Cisco Meraki support by logging in to dashboard and using the **Help** option near the top of the page, then opening and email case or calling using the contact information on that page.

Warranty

MX Warranty coverage periods are as follows:

MX (e.g. MX75)	Lifetime	Full lifetime hardware warranty with next-day advanced replacement included.
MX Accessories	1 Year	The following are considered accessories: SFP Modules, all mounting kits and stands, interface modules, additional power cords

Note: The above table is a general guideline for warranty terms and is not final. Warranty terms are subject to printed warranty information on the relevant online Meraki data sheets.

If your Cisco Meraki device fails and the problem cannot be resolved by troubleshooting, contact support to address the issue. Once support determines that the device is in a failed state, they can process an RMA and send out a replacement device free of charge. In most circumstances, the RMA will include a pre-paid shipping label so the faulty equipment can be returned.

> In order to initiate a hardware replacement for non-functioning hardware that is under warranty, you must have access to the original packaging the hardware was shipped in. The original hardware packaging includes device serial number and order information, and may be required for return shipping.

> Meraki MX75 devices have been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. A digital device that is marketed for use in a residential environment notwithstanding use in commercial, business and industrial environments.

Additional warranty information can be found on: https://meraki.cisco.com/support#process:warranty

Support and Additional Information

If issues are encountered with device installation or additional help is required, **contact Meraki Support** by logging in to **dashboard.meraki.com** and opening a case by visiting the **Get Help** section.

- The equipment is intended for industrial or other commercial activities.
- The equipment is used in areas without exposure to harmful and dangerous production factors, unless otherwise specified in the operational documentation and/or on the equipment labeling.
- The equipment is not for domestic use. The equipment is intended for operation without the constant presence of maintenance personnel.
- The equipment is subject to installation and maintenance by specialists with the appropriate qualifications, sufficient specialized knowledge, and skills.
- Rules and conditions for the sale of equipment are determined by the terms of contracts concluded by Cisco or authorized Cisco partners with equipment buyers.
- Disposal of a technical device at the end of its service life should be carried out in accordance with the requirements of all state regulations and laws.
- Do not throw in the device with household waste. The technical equipment is subject to storage and disposal in accordance with the organization's disposal procedure.
- The equipment should be stored in its original packaging in a room protected from atmospheric precipitation. The permissible temperature and humidity ranges during storage are specified in the Operation (Installation) Manual.
- Transportation of equipment should be carried out in the original packaging in covered vehicles by any means of transport. The temperature and humidity during transportation must comply with the permissible established ranges of temperature and humidity during storage (in the off state) specified in the Operation Manual (Installation)

For additional information on Meraki hardware and for other installation guides, please refer to **documentation.meraki.com**.