C8111-G2-MX and C8121-G2-MX Installation Guide

The document offers a detailed hardware installation guide for the Cisco Secure Router C8111-G2 and C8121-G2 running MX OS covering mounting options, port connections, and LED indicators, facilitating a straightforward setup process for deploying secure and reliable remote work solutions.

About this Guide

This guide provides instructions on how to install and configure your C8111-G2 and C8121-G2 device. This guide also provides mounting instructions and limited troubleshooting procedures. For more MX-series device installation guides, refer to the MX-series installation guides section on our documentation website.

Product Overview

The Cisco Secure Router C8111-G2 and C8121-G2 are enterprise security appliances running MX OS which are designed for distributed deployments requiring remote administration across small to medium branch environments. It is ideal for network administrators who demand both ease of deployment and a state-of-the-art feature set.

The Cisco Secure Router C8111-G2 and C8121-G2 is designed to securely extend the power of cloud managed networking to almost any location by providing two dedicated WAN ports with one of those WAN ports able to provide PoE to power a cellular gateway. These devices offer up to 10 LAN Gigabit ethernet ports, including up to 3 built-in LAN PoE-enabled ports for access points, cameras, VoIP phones, and other PoE powered devices.

Features

- Managed via Cisco Meraki Dashboard
- Automatic Firmware upgrades
- WAN Link Balancing
- Active Directory integration
- Content Filtering
- Malware Protection (AMP) w/ optional Threat Grid integration

- Automatic WAN Failover
- SD-WAN over Meraki AutoVPN
- On-board ESIM for a more seamless ZTP experience
- 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 IPSec VPN endpoint
- IPS/IDS protection
- Custom Traffic Shaping
- Historical Client Usage statistics
- Netflow support
- Syslog integration
- Remote Packet Capture tools
- IPv6 Support
- 802.1X wired and wireless support

Context and Comparisons

	C8111-G2	C8121-G2
Max Stateful Firewall Throughput in NAT mode	2 Gbps	2 Gbps
Max VPN Throughput	1200 Mbps	1200 Mbps
PoE Capabilities	Yes, 2.5 x MGig RJ45 WAN Ports (802.3at) 1x GbE RJ45 LAN Ports (802.3bt, 45W)	Yes, 2.5 x MGig RJ45 WAN Ports (802.3at) 3x GbE RJ45 LAN Ports (802.3bt, 45W)
Recommended LAN Clients	Up to 200 devices	Up to 200 devices

Physical Specifications

	C8111-G2	**C8121-G2**
RJ45 WAN Interfaces	2x Dedicated MGigE RJ45	2x Dedicated MGigE RJ45
LAN Interfaces - Dedicated	4 x Dedicated GbE RJ45	10 x Dedicated GbE RJ45

Mount Type	Desktop / Wall Mount	Desktop / Wall Mount
Dimensions (h x d x w)	1.3 x 5.6 x 10.8 in / 34 x 143 x 273 mm	1.3 x 6.9 x 12.4 in / 34 x 176 x 316 mm
Weight	1.9 lbs / 0.87 kg	2.5 lbs / 1.15 kg
Power Supply	150W (54 V / 0.92 A)	250W (54 V / 0.92 A)
System Power (idle/max)	16 W / 22 W	18 W / 26 W
System + PoE Power Load (idle/max)	16 W / 97 W	18 W / 176 W
Operating Temperature	32°F - 113 °F 0°C - 45°C	32°F - 113 °F 0°C - 45°C
Storage and Transportation Temperature	-4°F - 158°F -20°C - 70°C	-4°F - 158°F -20°C - 70° C
Humidity	5% to 95%	5% to 95%

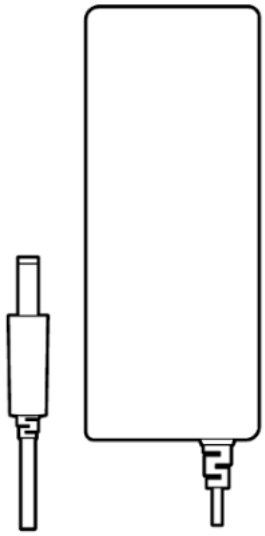
Accessories

Accessory	Description
MA-PWR-150WAC	C8111-G2 Replacement Power Adapter (C8111-G2) (150 Watts AC)
MA-PWR-250WAC	C8121-G2 Replacement Power Adapter (C8121-G2) (250 Watts AC)
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
MA-WMNTBR-PWR-ADP	1x Power adapter holder for external power adapter

Product View and Physical Features

Package Contents



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In addition to the C8111-G2 and C8121-G2 device, the following are provided:

C8111-G2	C8121-G2
Power Adapter (No Power Cable)	Power Adapter (No Power Cable)

Front Panel

C8111-G2

C8121-G2

Status Indicator

The C8111-G2 and C8121-G2 uses a single LED to inform the user of the device's status.

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

Back Panel

C8111-G2

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

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.
WAN / Internet port	[Far left two Ethernet port] This port provides connectivity to the WAN. [Second port from the Far-left Ethernet port] This port provides PoE+ for connectivity to cellular gateways or other PoE powered upstream devices. A steady green LED indicates bidirectional connectivity, and flashing green indicates traffic.
LAN ports	These 4 ports provide connectivity to computers, printers, access points, or Ethernet switches. A steady green LED indicates bidirectional connectivity, and flashing green indicates traffic.
PoE+ Port	[Far right Ethernet port] One of the LAN port provides UPoE for connectivity to computers, printers, access points, or Ethernet switches, up to 45W of PoE power. A steady green LED indicates bidirectional connectivity, and flashing green indicates traffic.
Power input	Designed for use only with the unit’s power supply.

C8121-G2

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

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.
WAN / Internet port	[Far left two Ethernet port] This port provides connectivity to the WAN. [Second port from the Far-left Ethernet port] This port provides PoE+ for connectivity to cellular gateways or other PoE powered upstream devices that require up to 30W of PoE power.
LAN ports	These 4 ports provide connectivity to computers, printers, access points, or Ethernet switches. A steady green LED indicates bidirectional connectivity, and flashing green indicates traffic.
PoE+ Port	[Far right Three Ethernet port] Three of the LAN port provides UPoE for connectivity to computers, printers, access points, or Ethernet switches, up to 45W of PoE power.
Power input	Designed for use only with the unit’s power supply.

Bottom Panel

C8111-G2

C8121-G2

Please note that the serial number is located on the product label on the bottom panel of the C8111-G2 and C8121-G2.

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 C8111-G2 and C8121-G2 to your network. For detailed instructions about creating, configuring and managing Meraki networks, refer to our Managing Dashboard Networks document. Additional resources can also be found via: 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 C8111-G2 and C8121-G2 or create a new network.
3. Add your C8111-G2 and C8121-G2 to your network. You will need your Meraki order number (found on your invoice) or the serial number of each C8111-G2 and C8121-G2, 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 C8111-G2 and C8121-G2 on the map by clicking and dragging it to the location where you plan to mount it.

Check and Set Firmware

To ensure your C8111-G2 and C8121-G2 performs optimally immediately following installation, it is recommended that you facilitate a firmware upgrade prior to mounting your C8111-G2 and C8121-G2.

1. Attach your C8111-G2 and C8121-G2 to power and wired Internet connection.
2. The C8111-G2 and C8121-G2 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 Hardware

Wall screws and anchors will allow you to mount the gateway on a drywall surface, either vertically or horizontally. The distance between the holes you drill should be 5-1/8 inches (13 cm).

- For mounting on drywall, use a ¼-in drill bit, then insert the plastic and screw assemblies.
- For mounting on wood or a similar surface, use only the screws.
- Allow the heads of the screws to stick out far enough to be inserted securely into the back of the appliance.

Connecting to WAN

All C8111-G2 and C8121-G2 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

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 C8111-G2 and C8121-G2.
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 C8111-G2 and C8121-G2 devices are configured to DHCP from upstream WAN / ISP servers. Simply plug the C8111-G2 and C8121-G2'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 PPPoE

PPPoE authentication may be required if you are connecting a C8111-G2 and C8121-G2 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 C8111-G2 and C8121-G2 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- or 100-Mbps data rates.

Basic Troubleshooting

The following steps can be used for troubleshooting basic connectivity issues with your C8111-G2 and C8121-G2.

- Reset the C8111-G2 and C8121-G2
- Factory reset the C8111-G2 and C8121-G2 by holding the factory reset button for 5 seconds
- Try switching cables, or testing your cable on another device

Reference https://documentation.meraki.com/ 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

Cisco Secure Router warranty coverage periods are as follows:

Product	Warranty Period	Warranty Information
C8111-G2 and C8121-G2	2 Years	
C8111-G2 and C8121-G2 Accessories	1 Year	The following are considered accessories: SFP Modules, all mounting kits and stands, interface modules, additional power cords

Additional warranty information can be found on the Return Policy and Requesting a RMA page of the Cisco website.

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.

Cisco Secure Routers C8111-G2 and C8121-G2 devices have been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

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**.