**CISCO Z-Series Teleworker Gateway** 



# **CISCO Z-Series Teleworker Gateway User Guide**

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**CISCO Z-Series Teleworker Gateway** 



### **Specifications**

• RJ45 WAN Interfaces: 1x Dedicated GbE RJ45

• Cellular WAN Interfaces: 1x Dedicated GbE RJ45, Built-in Cellular Uplink

• LAN Interfaces: 4x Dedicated GbE RJ45

• Dedicated Wireless Radio Information: 802.11a/b/g/n/ac/ax (2.4 or 5Ghz), 2×2 MU-MIMO with two spatial streams

• Antennas: 2

Maximum Wireless Data Rate: 1.3 Gbps

• Mount Type: Desktop / Wall Mount

• Dimensions (h x d x w): 6.83 x 4.41 x 1.04 in 173.4 x 112 x 26.3 mm (Z4), 7.9 x 4.41 x 1.04 in / 200 x 112 x 26 mm (Z4C)

• Weight: 0.85 lbs / 0.386 kg (Z4), 1.1 lbs / 0.487 kg (Z4C)

• Power Supply: 50W (54 V / 0.92 A)

• Power Load (max): 20W (Z4), 25W (Z4C)

• Operating Temperature: Humidity: 5% to 95%

### Installation

To install the Z4/Z4C series device, follow these steps:

- 1. Choose a suitable location for mounting the device, ensuring proper ventilation.
- 2. Connect the WAN and LAN interfaces as per your network setup.
- 3. Power on the device using the provided power adapter.

### Configuration

To configure the Z4/Z4C series device, access the Meraki Dashboard or the device's web interface using a web browser. Follow the on-screen instructions to set up your network preferences, wireless settings, and security features.

# **Troubleshooting**

If you encounter issues with the device, refer to the troubleshooting section in the user manual for guidance. You can also contact customer support for further assistance.

# Q: How do I reset the device to factory settings?

A: To reset the device, locate the reset button on the back panel. Insert a paper clip and hold the button for more than 10 seconds to perform a full factory reset.

# Z4/Z4C Series Hardware Installation Guide

#### **About this Guide**

This guide provides instruction on how to install and configure your Z4/Z4C series device. This guide also provides mounting instructions and limited troubleshooting procedures. For more Z-series device installation guides, refer to the Z-series installation guides section on our documentation website.

### **Product Overview**

The Cisco Meraki Z-Series teleworker gateway is an enterprise class firewall, VPN gateway and router. Each model offers wireless for connectivity, five gigabit ethernet ports, including a built-in PoE-enabled port for VoIP phones and other powered devices. Each model is designed to securely extend the power of Meraki cloud managed networking to almost any location. With a built-in LTE modem, the Z4C simplifies any deployment that requires a backup cellular uplink, or is positioned in a remote location.

### **Features**

- Managed via Cisco Meraki Dashboard
- · Automatic Firmware upgrades
- Automatic WAN Failover to Cellular Uplink
- L3/L7 Stateful Firewall
- 1:1 and 1:Many NAT
- Configurable VLANs / DHCP support
- · Static Routing
- Client VPN endpoint
- Meraki AutoVPN and L2TP/IPSec VPN endpoint
- Custom Traffic Shaping
- · Historical Client Usage statistics
- Netflow support
- Syslog integration
- Remote Packet Capture tools

# **Physical Specifications**

Z<sub>4</sub>C

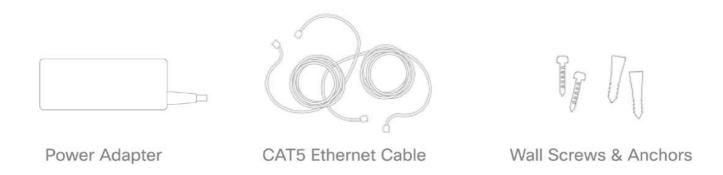
| RJ45 WAN Interfaces   | 2x Dedicated GbE RJ45   | 1x Dedicated GbE RJ45   |
|---|---|---|
| Cellular WAN Interfaces   | 3rd Party USB Modem   | Built-in Cellular Uplink  |
| LAN Interfaces - Dedicated                                      | 4x Dedicated GbE RJ45   | 4x Dedicated GbE RJ45   |
| Wireless Radio Information                                      | 802.11a/b/g/n/ac/ax (2.4 or 5Ghz) 2x2 MU-   | 802.11a/b/g/n/ac/ax (2.4 or 5Ghz) 2x2 MU-   |
|   | МІМО  | MIMO  |
| Antennas  | 2 x 2 MU-MIMO with two spatial streams  | 2 x 2 MU-MIMO with two spatial streams  |
| Maximum Wireless Data Rate                                      | 1.3 Gbps  | 1.3 Gbps  |
| Mount Type  | Desktop / Wall Mount  | Desktop / Wall Mount  |
| Dimensions  (h x d x w)  Weight  Power Supply  Power Load (max) | 6.83 x 4.41 x 1.04 in / 173.4 x 112 x 26.3 mm  0.85 lbs / 0.386 kg  50W (54 V / 0.92 A) | 7.9 x 4.41 x 1.04 in /<br>200 x 112 x 26 mm<br>1.1 lbs / 0.487 kg<br>50W (54 V / 0.92 A)<br>25W |
| Operating Temperature  Storage and Transportation Temperature   | 32°F - 113°F  0°C - 45°C  -4°F - 158°F  -20°C - 70°C                                    | 32°F - 113°F  0°C - 45°C  -4°F - 158°F  -20°C - 70°   |
| Humidity  | 5% to 95%   | 5% to 95%   |

# **Accessories**

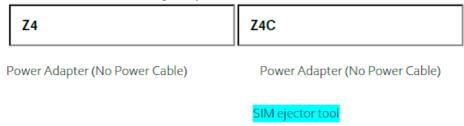
- Accessory
- Description
- MA-PWR-50WAC
- 1x 50W Power Adapter (Z4/Z4C)
- MA-PWR-CORD-US
- 1x AC Power Cable, US plug
- MA-PWR-CORD-EU
- 1x AC Power Cable, EU plug
- MA-PWR-CORD-UK
- 1x AC Power Cable, UK plug
- MA-PWR-CORD-AU
- 1x AC Power Cable, AU plug

# **Product View and Physical Features**

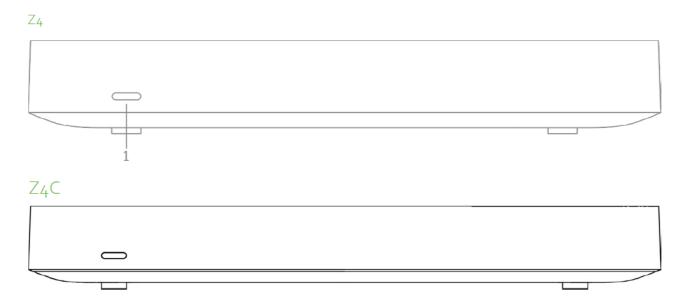
# **Package Contents**



In addition to the Z4/Z4C device, the following are provided:



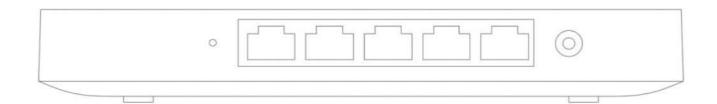
### **Front Panel**



# **Status Indicator**

- The Z4C 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
- Solid Purple (Z4C only) Fully operational/connected, uplink actively using cellular failover

### **Back Panel**



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

· Insert a paper clip if a reset is required.

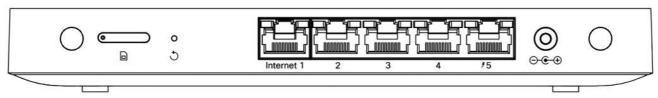
### **Reset button**

- 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 Ethernet port] This port provides connectivity to the WAN.
- These 4 ports provide connectivity to computers, printers, access points, or Ethernet switches.

# LAN ports

- A steady green LED indicates bidirectional connectivity, and flashing green indicates traffic.
- [Far right Ethernet port] One of the LAN port provides PoE+ for connectivity to computers, printers, access points, or Ethernet switches, up to 15W of PoE+ Port 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.

#### Z4C



Additional functions on the back panel are described below, from left to right. Active, supported SIM cards can be inserted into this slot to enable cellular SIM Card Slot capabilities.

### **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.

**USB** port

USB 3.0 for 3G/4G wireless cards. Traffic status is indicated by the USB LED.

• WAN / Internet port

This port provides connectivity to the WAN.

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

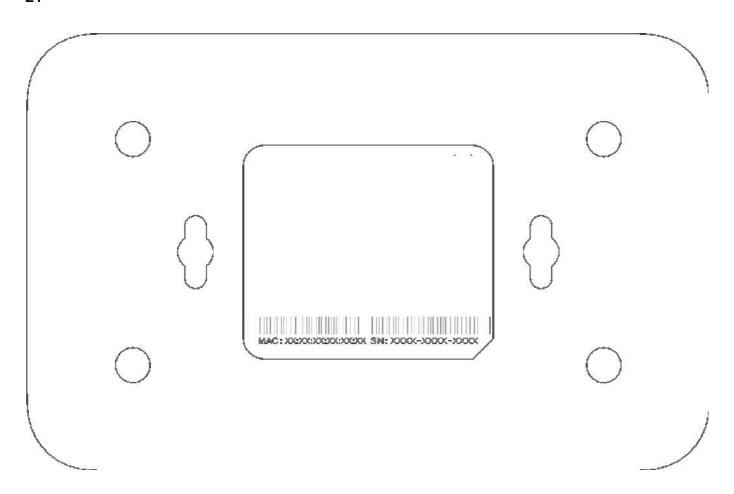
One of the LAN port provides PoE+ for connectivity to computers, printers, access points, or Ethernet switches, up to 15W of PoE power.

A steady green LED indicates bidirectional connectivity, and flashing green indicates traffic.

Power input
 Designed for use only with the unit's power supply.

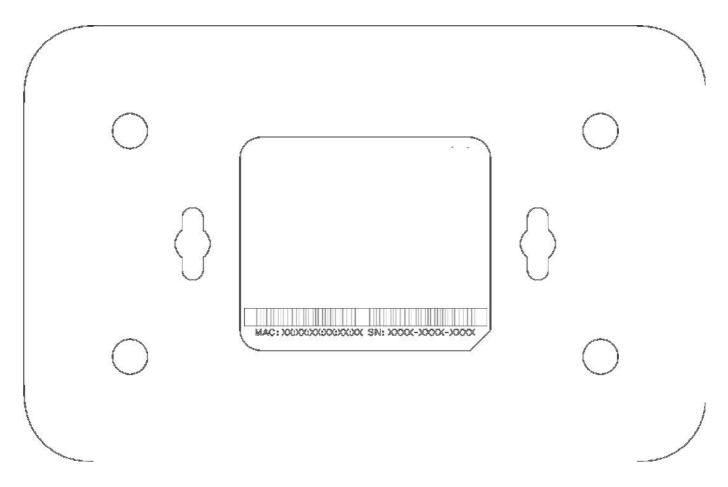
# **Bottom Panel**

# **Z**4



Please note that the serial number is located on the product label on the bottom panel of the Z4

# Z4C



Please note that the serial number is located on the product label on the bottom panel of the Z4C

### **Mounting Hardware**

The supplied wall screws and anchors allow you to mount the gateway on a drywall surface, either vertically or horizontally. The distance between the holes you drill should be 3-15/32 inches (8.8cm) for Z4 and 5-1/8 inches (13 cm) for Z4C.

# 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 Z4/Z4C 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 <a href="http://dashboard.meraki.com">http://dashboard.meraki.com</a>. If this is your first time, create a new account.
- 2. Find the network to which you plan to add your Z4/Z4C or create a new network.
- 3. Add your Z4/Z4C to your network. You will need your Meraki order number (found on your invoice) or the serial number of each Z4/Z4C, 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 Z4/Z4C on the map by clicking and dragging it to the location where you plan to mount it.

#### **Check and Set Firmware**

To ensure your Z4/Z4C performs optimally immediately following installation, it is recommended that you facilitate a firmware upgrade prior to mounting your Z4/Z4C.

- 1. Attach your Z4/Z4C to power and a wired Internet connection.
- 2. The Z4/Z4C 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**

The supplied wall screws and anchors allow you to 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).

- For mounting on drywall, use a 1/4-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 Meraki Z4/Z4C 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 lient 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 Z4/Z4C.
- 2. Using a browser on the client machine, access the appliance's built-in web service by browsing to <a href="http://setup.meraki.com">http://setup.meraki.com</a>. (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 Z4/Z4C devices are configured to DHCP from upstream WAN / ISP servers. Simply plug the Z4/Z4C'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.

### **Setting up Cellular Failover**

The Z4C has an embedded LTE module for cellular failover connections. The following section will walk through first-time set-up of an Z4C with an internet connection as a primary connection and cellular as failover.

Note that the IMEI cannot yet be found on the Meraki dashboard, only on the physical label of the device. The IMEI of the Z4Cs with embedded LTE, as well as the serial number and MAC address, can be found on the product label at the bottom of cellular-embedded Z4C devices

This custom query should expose the IMEI. Note, it doesn't always work.

# To set up the cellular failover connection, follow the steps below:

- 1. Power off the Z4C. Swapping/installing SIM cards while the Z4C is powered on may cause unexpected behavior or error.
- 2. Open the SIM tray using the SIM card removal tool included in the box
- 3. Insert a nano SIM card (4FF size) and close the SIM tray
- 4. Connect the uplink for the Z4C device via a wired connection to connect to the Meraki cloud
- 5. Power on the Z4C and wait for the Z4C to show as online in the Meraki dashboard
- 6. Check with the carrier of choice if an APN needs to be configured. If so, do that from the Meraki Dashboard under Security & SD-WAN > Monitor > Appliance Status > Uplink tab
- 7. Navigate to Security & SD-WAN > Monitor > Appliance Status > Uplink tab and next to Status, select the edit (pencil) button and then select
  - Enabled. When the cellular uplink is successfully connected, you will be able to see the status on the left hand side of the Appliance Status page and in the Uplink tab. The connection will say Ready when it is successfully connected
- Test the cellular failover connection by unplugging the wired connection or by using the traceroute tool under Security & SD-WAN > Monitor > Appliance Status in the Tools tab
- 9. If, after following the steps above, the SIM card is not detected, please confirm with your carrier that the SIM card is active and has data. You will need the ICCID of the SIM card and IMEI of the device to get troubleshooting help from the carrier
  - o A list of certified carriers can be found in our Z4/Z4C Overview and Specifications document

10. Please contact the Meraki Support team if the cellular connection is still not being recognized after following the steps above

# **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 Z4/Z4C 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 Z4/Z4C 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 Z4/Z4C.

- Reset the Z4/Z4C
- Factory reset the Z4/Z4C by holding the factory reset button for 5 seconds
- Try switching cables, or testing your cable on another device

Reference <a href="https://documentation.meraki.com/">https://documentation.meraki.com/</a> 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

### Z-series Warranty coverage periods are as follows:

Z-series (e.g. Z1, Z4C) Lifetime

#### **Z-series Accessories**

The following are considered accessories: 1 Year

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 Z4/Z4C 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.
- 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 <u>dashboard.meraki.com</u> 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

# **Documents / Resources**



<u>CISCO Z-Series Teleworker Gateway</u> [pdf] User Guide Z-Series, Z-Series Teleworker Gateway, Teleworker Gateway, Gateway

# References

- M Home Cisco Meraki Documentation
- O Cisco Meraki
- M Home Cisco Meraki Documentation
- M <u>Document</u>
- User Manual

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