Overview of Cisco CW9800L

The Cisco CW9800L is a versatile hardware platform that can operate as one of two operation modes:

- Wireless Controller: Functions as a next-generation, low-scale wireless controller that provides a significant boost in performance and features versus the previous model. In this mode, the CW9800L controller supports up to 10 Gbps throughput, 500 APs, and 10,000 clients, and runs Cisco IOS XE Wireless Controller firmware.
- Campus Gateway: Operates as a Cloud-managed solution for centralized wireless deployments in small campuses. In this mode, the CW9800L controller supports up to 10 Gbps throughput, 500 APs, and 10,000 clients, and runs Cisco IOS XE Wireless Controller firmware, running Cisco IOS XE Campus Gateway firmware.

The hardware specifications are identical between the two personas; the operational differences are determined by the software and configuration.

When deployed as a Wireless Controller, the CW9800L is ideal for on-prem managed wireless for small-to-medium sized campus deployments or medium-to-large remote sites or branch deployments. A single CW9800L can be installed in a standalone deployment, or two CW9800L units can be deployed for high availability.

For more information about features and benefits, see the *Cisco CW9800L Wireless Controller Data Sheet*.

When deployed as Campus Gateway, the CW9800L targets cloud-managed, centralized wireless deployments for small-to-medium sized campus deployments or medium-to-large sized remote sites or branch deployments. A single CW9800L can be installed in a standalone deployment, or two CW9800L units can be deployed for high availability.

For more information about the features and benefits of the Campus Gateway operation, see the *Cisco Campus Gateway Data Sheet*

Figure 1: Cisco CW9800L hardware platform

Summary of Cisco CW9800L Hardware Platform features

Table 1: Cisco CW9800L features

Feature	Description
Chassis Height	One rack-unit (1RU)
Throughput	Up to 10 Gbps
Number of APs supported	500
Number of clients supported	10,000
Memory Options	Bulk Flash: 32GB on-board pSLC eMMC (with optional eUSB support)
Redundancy, Service Ports	1x 1GE Cu Service/Management port
Data Ports	1x 1G/10G Fiber (SFP+)
Storage Temperature	–13° F to 158° F (–25° C to 70° C)
Operating Temperature	0° C to 40° C standard, 0° C to 50° C short-term (sea level) **Note** The maximum temperature is derated by 1.0° C for every 1000 ft (305 m) of altitude above sea level.
Storage Humidity	0% to 95% RH non-condensing
Operating Humidity	5% to 90% RH non-condensing
Operational Altitude	0 to 10,000 ft (3048m) at 30° C
Power Adapter	110W single 12V output adapter (C9800-AC-110W)

Note The CW-ACC-MEM-32G 32GB memory module is an optional component that can only be ordered alongside the Cisco CW9800L (when ordered as a Wireless Controller) and cannot be added or ordered separately afterward. If your unit includes this optional memory module and requires a Return Merchandise Authorization (RMA), it is essential to remove the CW-ACC-MEM-32G module before returning the WLC to the depot. The replacement unit you receive from the RMA depot will not contain a memory module. Cisco Technical Assistance Center (TAC) will provide guidance during this removal process.

Cisco CW9800L front panel

Figure 2: Cisco CW9800L front panel view

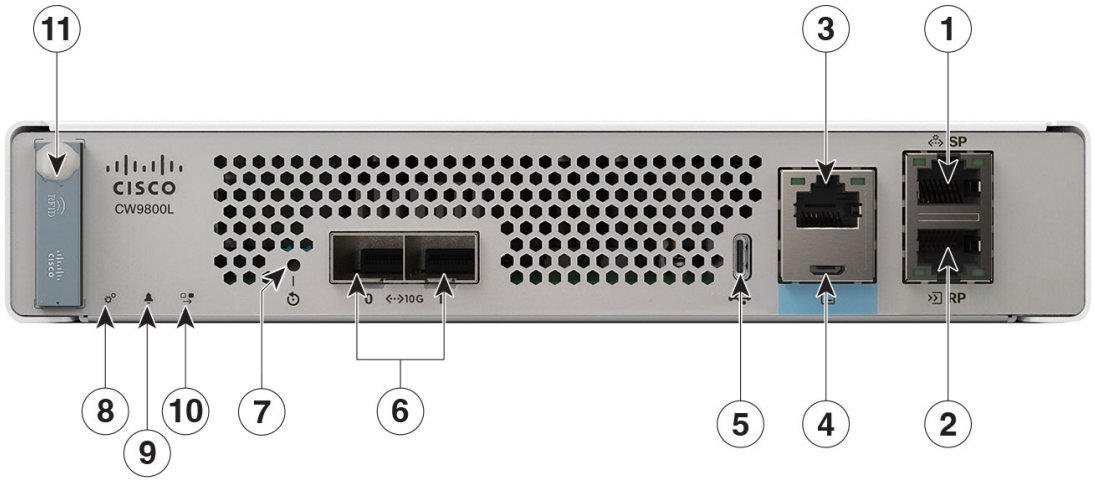

Table 2: Cisco CW9800L front panel components

1	Service Port (SP) (RJ-45) for out-of-band management (for WLC operation) and accessing the local status page (for Campus Gateway Operation)
2	Redundancy Port (RP) (RJ-45) **Note** The redundancy ports can be connected back-to-back or via an L2 switch.
3	CPU console port, which is an RJ-45 RS-232 and micro-B USB serial console port. The default serial port settings are 9600, N, 8, 1. The boot-loader supports baud rates of 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200. A default baud-rate recovery mechanism is not available; however, the bootloader ensures that the stored baud rate setting matches one of the allowed values before setting the baud rate. If a nonstandard value is detected, the baud rate will default to 9600. Micro-B USB serial connection takes precedence over RJ-45 when both connections are made. **Note** If the Micro-B USB console port is used, the CPU console port that supports RJ-45 connector is ignored. That is, only one of the two ports are ever active. **Note** The RJ-45 and micro-B USB console port are disabled for Campus Gateway operation.

4	CPU console port, which is an RJ-45 RS-232 and micro-B USB serial console port. The default serial port settings are 9600, N, 8, 1. The boot-loader supports baud rates of 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200. A default baud-rate recovery mechanism is not available; however, the bootloader ensures that the stored baud rate setting matches one of the allowed values before setting the baud rate. If a nonstandard value is detected, the baud rate will default to 9600. Micro-B USB serial connection takes precedence over RJ-45 when both connections are made. **Note** If you connect both the Micro USB console port and the CPU console port, then USB port takes precedence and the CPU console port is ignored as only one of the two ports are ever active. **Note** The RJ-45 and micro-B USB console port are disabled for Campus Gateway operation.
5	Type C 3.0 USB port used to perform software updates in addition to already available transfer mode, namely HTTP, TFTP, FTP, and SFTP. **Note** The Type C 3.0 USB port is disabled for Campus Gateway operation.
6	1x1/10G SFP+ ports. This port supports speeds of 1G and 10G.
7	Reset button • Pushing the Reset button for less than 10 seconds reloads the CW9800L. • Pushing the Reset button for more than 10 seconds erases the startup configuration in NVRAM of the CW9800L and puts it into Day-0 mode.
8	System LED that displays power-up and boot status.
9	Alarm LED indicates alarm staus or error states. The status or error is posted on the console screen (for wireless controller operation only).
10	High Availability LED that indicates status of High Availability link (for wireless controller operation only).
11	RFID stores identification information about the unit that can be accessed with a reader (for wireless controller operation only).

Front panel LEDs: definitions of states

Table 3: System LED indicators (Wireless Controller operation)

Color	Description
Green 	IOS has boot complete

Color	Description
Blinking Green 	IOS boot in progress
Amber 	System crash
Blinking amber	Secure boot failure
Off 	ROMMON boot

Table 4: System LED indicators (Campus Gateway operation)

Color	Description
Rainbow	The device is initializing and trying to connect to the internet and Meraki Cloud
Orange	The device cannot find an uplink
Flashing White	The device is updating to the latest firmware
White	The device is online and fully operational
Red	The device is in an alarm state due to a problem with the fan, power supply, or storage

Table 5: Alarm LED indicators

Color	Description
Amber 	ROMMON boot and system boot up
Blinking amber 	Temperature error and secure boot failure
Slow blink amber 	Booted with high availability standby
Fast blink amber 	High availability maintenance

Table 6: High availability LED indicators (Wireless Controller operation)

Color	Description
Green 	High availability active
Blinking Green 	High availability standby
Solid amber	Peer not found
Slow blinking amber	Booted with high availablity standby cold
Fast blink amber 	High availability maintenance
Off 	High availability disable

Table 7: SFP LED indicators (Wireless Controller and Campus Gateway operation)

Color	Description
Solid green	Indicates the signal detected and enabled by software
Solid amber	Indicates the loss of signal
Off	Not configured and enabled by software

Table 8: Port LED indicators

Color	Description
Solid green	Indicates link
Flashing green	Indicates activity

Note

- The Cisco CW9800L hardware platform has an external power adapter.
- For Wireless Controller operation, the Alarm Bell LED is illuminated **red**, if the **10-G** uplink ports are not connected to the switch. This does not mean a system or hardware failure. When the interfaces are disabled in the controller, the **red** light remains off even when the controller is not connected.
- For complete Campus Gateway operation, onboarding, and troubleshooting information, please refer to the Meraki documentation at https://documentation.meraki.com.

CW9800L rear panel

Figure 3: Cisco CW9800L rear panel view

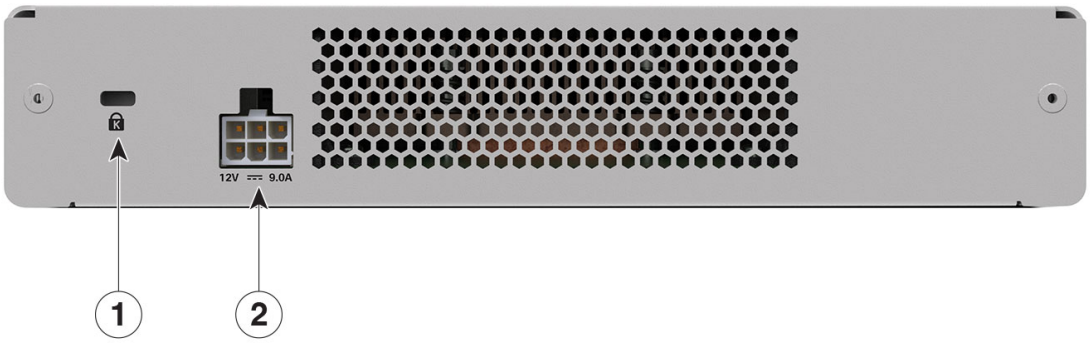

Table 9: Cisco CW9800L rear panel components

1	Attachment slot for Kensington style cable lock.
2	Connection point for external 110W, single output 12VDC power adapter (C9800-AC-110W) or optional redundant power supply (CW9800L-RPS=).