Cisco CW9800L Wireless Controller

Contents

The Cisco CW9800L Wireless Controller brings wireless management to small and medium wireless networks. It can manage up to 500 Access Points (APs) and 10,000 clients while providing flexibility and scalability in building a secure and assured wireless network.

Product overview

The Cisco CW9800L Wireless Controller brings advanced performance, security, and simplicity to small and medium-sized wireless networks. It supports up to 500 APs and 10,000 clients delivering robust, future-ready Wi-Fi for handling the latest devices, cloud-based applications, and IoT demands with ease. With enterprise-grade features in a compact form factor, it is ideal for growing businesses, educational campuses, or remote branches.

Powered by Cisco IOS® XE, the Cisco CW9800L enables seamless integration with Cisco Catalyst Center for AI-driven analytics, enhanced troubleshooting, and network automation. Security is built in, with support for WPA3, Encrypted Traffic Analytics, and Software-Defined Access, helping to safeguard users and data.

Cloud monitoring, accessible via the Meraki dashboard, provides unified visibility for easy management and troubleshooting. With application hosting and modular design, it supports next-generation use cases while maximizing investment.

The Cisco CW9800L is the ideal choice for organizations seeking intelligent, secure, and future-proofed wireless connectivity delivering enterprise innovation at the right scale for your needs.

Features and benefits

Table 1. Features overview

Feature	Description
Chassis Height	One rack-unit (1 RU)
Processor	Intel Icelake-D LCC (8-core, 2 GHz)
Maximum number of access points	500
Maximum number of clients	10000
Maximum throughput	Up to 10 Gbps
Maximum WLANs	4096
Maximum VLANs	4096
Maximum Site Tags	250
Maximum Flex APs per site	400
Maximum policy tags	4096
Maximum RF tags	250
Maximum RF profiles	500
Maximum policy profiles	4096
Maximum Flex profiles	250
Fixed uplinks	2x 1G/10G SFP+
Redundant power supply (Optional)	CW9800L-RPS= (Dual-input DC power sources to single adapter for power redundancy)
Maximum power consumption	90 W (with 4.5 W USB load)
Deployment modes	Centralized (local), Distributed Branch (Cisco FlexConnect®), SD-Access Wireless (fabric)
Form factor	8.5” x 9.24” x 1.58” (216 mm * 234.7 mm * 40.2 mm)

Enhanced performance, capacity, and operational efficiency

The Cisco CW9800L Wireless Controller significantly elevates the capabilities of wireless infrastructure, offering increased performance and double the capacity compared to the base C9800-L model. It supports up to 500 access points and 10,000 clients, with up to 10 Gbps backhaul throughput, making it ideal for small to medium deployments.

Beyond capacity, the CW9800L is designed for operational efficiency, operating up to 10 dB quieter than its predecessor. Its compact 1 RU form factor, combined with a dedicated rack shelf (CW9800L-RMNT=) that allows two units to occupy a single rack unit, optimizes space. This blend of higher capacity and reduced operational footprint provides substantial business value through improved network handling and lower operational costs.

- Twice the capacity and increased performance over base C9800-L
- Supports 500 APs and 10,000 clients
- Up to 10 dB quieter operation for flexible deployment
- 1 RU design with dual-unit rack shelf option

The CW9800L extends its value through advanced features that bolster flexibility and reliability. It supports app hosting containers, enabling customers to deploy custom applications directly on the controller when ordered with the additional 32 GB storage option. This capability enhances network programmability and allows for tighter integration of third-party services.

The CW9800L offers a redundant power option (CW9800L-RPS =), ensuring continuous operation and minimizing service interruptions.

Platform Support

The Cisco Wireless 9800L Wireless Controller is available as a single SKU appliance:

- CW9800L

It supports Cisco Access Points from the following generations: Wi-Fi 5 Wave 2 (802.11ac Wave 2), Wi-Fi 6/6E (802.11ax), and Wi-Fi 7 (802.11be)

Image Specifications

The Cisco Wireless 9800L Controller requires minimum 17.18.2 IOS-XE release.

Product specifications

Physcial dimensions

Table 2. Specifications of Cisco CW9800L WLC

Dimension	Value
Width	8.5 in
Depth	9.24 in
Height	1.58 in
Weight	2.1 kg or 4.6 lb

Product components

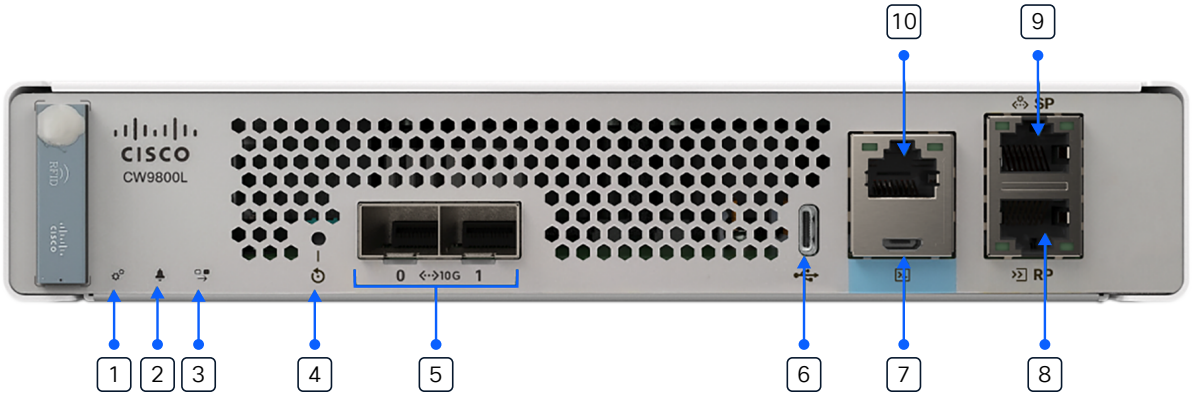

Figure 1. Front Panel

Table 3. Front Panel Components

Label	Description
1	System LED
2	Alarm LED
3	High availability LED
4	Reset button
5	2x 1/10G SFP+ ports

Label	Description
6	USB C 3.0
7	Micro USB console port
8	RJ-45 redundancy port (RP)
9	RJ-45 service port (SP)
10	RJ-45 console port

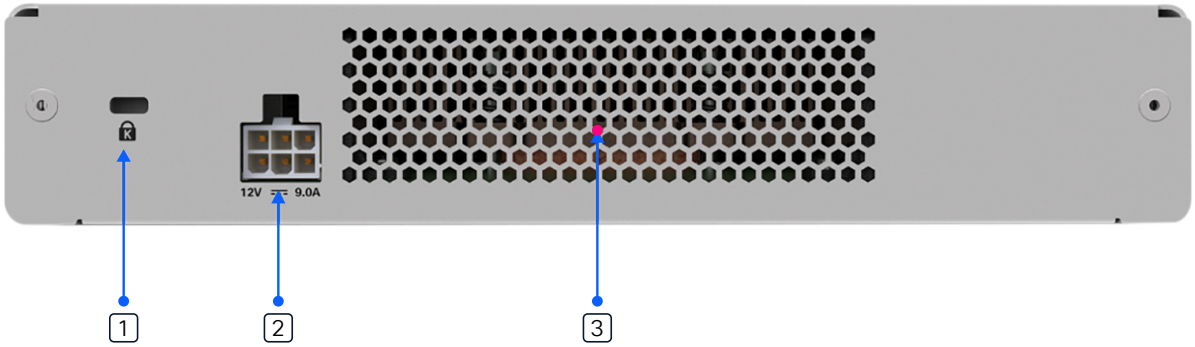

Figure 2. CW9800L Back Panel Components

Table 4. Back Panel Components

Label	Description
1	Kensington lock
2	Power adapter
3	Ventilation

Table 5. Ports and their Purpose

Port	Description
1x RJ-45 console port	Console port for out-of-band management.
1x Micro USB console port	Console port for out-of-band management.
1x USB 3.0 port Type C	USB 3.0 port for plugging in external memory.
1x RJ-45 management port	Management port used for out-of-band management. Also known as the service port.
1x RJ-45 redundancy port	Redundancy port used for SSO.
2x SFP+ 10G fiber ports	Ports used for sending and receiving traffic between access points and controller, northbound traffic, in-band management traffic, and wireless client traffic. Must be connected to the switch.

Front Panel LEDs

Table 6. Definition of Front Panel LED State

LED	Color	Function
System	Solid Green	Indicates that the IOS has completed booting.
	Blinking Green	Indicates that the IOS boot process is in progress.
	Solid Amber	Indicates a system crash.
	Blinking Amber	Indicates a secure boot failure.
	Off	Indicates the system is in ROMMON boot mode.
Alarm (ALARM/ALM) LED	Solid Green	Indicates that ROMMON boot is complete.
	Blinking Green	Indicates that a system image upgrade is in progress.
	Solid Amber	Indicates that ROMMON boot and system boot up are active.
	Blinking Amber	Indicates a temperature error or secure boot failure.
	Off	HA Disable
HA LED	Solid Green	HA Active
	Blinking Green	HA Standy Hot
	Solid Amber	Peer not found
	Slow Blinking Amber	Booted w/HA Standby Cold
	Fast Blinking Amber	HA Maintenance
	Red	WLC is powered on and loading bootstrap firmware (along with System LED Green and Alarm LED Solid Amber)
SFP LED	Solid Green	Indicated the Signal Detected and enable by Software
	Solid Amber	Indicated the Loss of Signal
	Off	Not Configured and not enable by softwave
Console	Solid Green (Right LED on RJ45)	USB Console Active
	Solid Green (Left LED on RJ45)	RJ-45 Console Active
SP/RP LEDs	Off	No linkup
	Solid Green (Right LED on RJ45)	Linkup
	Blinking Green (Left LED on RJ45)	Activity

Technical specifications

Table 7. Specifications

	Specification
Wireless	IEEE 802.11a, 802.11b, 802.11g, 802.11d, WMM/802.11e, 802.11h, 802.11n, 802.11k, 802.11r, 802.11u, 802.11w, 802.11ac Wave1 and Wave2, 802.11ax, 802.11be
Wired, switching, and routing	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, 1000BASE-T, 1000BASE-SX, 1000-BASE-LH, IEEE 802.1Q VLAN tagging, IEEE 802.1AX Link Aggregation, 802.3ae
Data Standards Requests For Comments (RFCs) **Security standards**	• RFC 768 User Datagram Protocol (UDP) • RFC 791 IP • RFC 2460 IPv6 • RFC 792 Internet Control Message Protocol (ICMP) • RFC 793 TCP • RFC 826 Address Resolution Protocol (ARP) • RFC 1122 Requirements for Internet Hosts • RFC 1519 Classless Interdomain Routing (CIDR) • RFC 1542 Bootstrap Protocol (BOOTP) • RFC 2131 Dynamic Host Configuration Protocol (DHCP) • RFC 5415 Control and Provisioning of Wireless Access Points (CAPWAP) Protocol • RFC 5416 CAPWAP Binding for 802.11 • IEEE 802.11i (WPA2, RSN) • Wi-Fi Protected Access 3 (WPA3) • RFC 1321 MD5 Message-Digest Algorithm • RFC 1851 Encapsulating Security Payload (ESP) Triple DES (3DES) Transform • RFC 2104 HMAC: Keyed-Hashing for Message Authentication • RFC 2246 TLS Protocol Version 1.0 • RFC 2401 Security Architecture for the Internet Protocol • RFC 2403 HMAC-MD5-96 within ESP and AH • RFC 2404 HMAC-SHA-1-96 within ESP and AH • RFC 2405 ESP DES-CBC Cipher Algorithm with Explicit IV • RFC 2407 Interpretation for Internet Security Association Key Management Protocol (ISAKMP)

	Specification
	• RFC 2408 ISAKMP • RFC 2409 Internet Key Exchange (IKE) • RFC 2451 ESP CBC-Mode Cipher Algorithms • RFC 3280 Internet X.509 Public Key Infrastructure (PKI) Certificate and Certificate Revocation List (CRL) Profile • RFC 4347 Datagram Transport Layer Security (DTLS) • RFC 5246 TLS Protocol Version 1.2 • RFC 8446 TLS Protocol Version 1.3
Encryption	• Advanced Encryption Standard (AES): Cipher Block Chaining (CBC), Counter with CBC-MAC (CCM), Counter with CBC Message Authentication Code Protocol (CCMP) • Data Encryption Standard (DES): DES-CBC, 3DES • Secure Sockets Layer (SSL) and Transport Layer Security (TLS): RC4 128-bit and RSA 1024-and 2048-bit • DTLS: AES-CBC • IPsec: DES-CBC, 3DES, AES-CBC (Supported only for FIPS use cases)
Authentication, Authorization, and Accounting (AAA)	• IEEE 802.1X • RFC 2548 Microsoft Vendor-Specific RADIUS Attributes • RFC 2716 Point-to-Point Protocol (PPP) Extensible Authentication Protocol (EAP)-TLS • RFC 2865 RADIUS Authentication • RFC 2866 RADIUS Accounting • RFC 2867 RADIUS Tunnel Accounting • RFC 2869 RADIUS Extensions • RFC 3576 Dynamic Authorization Extensions to RADIUS • RFC 5176 Dynamic Authorization Extensions to RADIUS • RFC 3579 RADIUS Support for EAP • RFC 3580 IEEE 802.1X RADIUS Guidelines • RFC 3748 Extensible Authentication Protocol (EAP) • Web-based authentication • TACACS support for management users

	Specification
Management	• Simple Network Management Protocol (SNMP) v1, v2c, v3 • RFC 854 Telnet • RFC 1155 Management Information for TCP/IP-based Internets • RFC 1156 MIB • RFC 1157 SNMP • RFC 1213 SNMP MIB II • RFC 1350 Trivial File Transfer Protocol (TFTP) • RFC 1643 Ethernet MIB • RFC 2030 Simple Network Time Protocol (SNTP) • RFC 2616 HTTP • RFC 2665 Ethernet-Like Interface Types MIB • RFC 2674 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and Virtual Extensions • RFC 2819 Remote Monitoring (RMON) MIB • RFC 2863 Interfaces Group MIB • RFC 3164 Syslog • RFC 3414 User-Based Security Model (USM) for SNMPv3 • RFC 3418 MIB for SNMP • RFC 3636 Definitions of Managed Objects for IEEE 802.3 MAUs • RFC 4741 Base NETCONF protocol • RFC 4742 NETCONF over SSH • RFC 6241 NETCONF • RFC 6242 NETCONF over SSH • RFC 5277 NETCONF event notifications • RFC 5717 Partial Lock Remote Procedure Call • RFC 6243 With-Defaults capability for NETCONF • RFC 6020 YANG • Cisco private MIBs
Management interfaces	• Web-based: HTTP/HTTPS • Command-line interface: Telnet, Secure Shell (SSH) Protocol, serial port • SNMP • NETCONF

	Specification
Environmental conditions supported	Operating temperature: • 32° F to 104° F (0° C to 40° C) Storage temperature: • –13° F to 158° F (–25° C to 70° C) Operating humidity: • 5%–95% RH non-condensing Storage humidity: • 0%–95% RH non-condensing Altitude: • Operational altitude: 0 to 10,000 ft (3048 m) at 86° F/30° C • Nonoperating altitude: TBD Electrical input: • AC input frequency range: 50 to 60 Hz • AC input voltage: 100 to 240 VAC Maximum power consumption: • CW9800L max measured power = 90 W (with 4.5 W USB load) Maximum heat dissipation: • CW9800L: 307.2 Btu/hr (with 4.5 W USB load) Sound power level measure: • Normal up to 25.6C (78.8F): 29.5 bBA • Elevated 26 to 39C (79–102F): 37.4 dBA • High 40–49C (104–122F): 43.8 dBA • Max 50C+ (122F+): 47.3 dBA Power adapter: • Input power: 100 to 240 VAC; 50/60 Hz

	Specification	
Regulatory compliance	Safety: • UL/CSA 60950-1 • IEC/EN 60950-1 • AS/NZS 60950.1 • CAN/CSA-C22.2 No. 60950-1	
	EMC - Emissions:	Class A
	• FCC 47CFR15 • AS/NZS CISPR 22 • CISPR 22 • EN55022/EN55032 (EMI-1) • ICES-003 • VCCI • KN 32 (EMI-2) • CNS-13438	
	EMC – Emissions: • EN61000-3-2 Power Line Harmonics (EMI-3) • EN61000-3-3 Voltage Changes, Fluctuations, and Flicker (EMI-3)	

Table 8. Supported SFPs

Type	Modules supported
1G SFP	GLC-TE GLC-LH-SMD GLC-SX-MMD

Type	Modules supported
10G SFP	SFP-10G-SR
	SFP-10G-SR-S
	SFP-10G-LR
	SFP-10G-LR-S
	SFP-H10GB-CU2.5M
	SFP-H10GB-CU3M
	SFP-H10GB-CU5M
	SFP-H10GB-ACU7M
	SFP-H10GB-ACU10M
	Finisar-LR (FTLX1471D3BCL)
	Finisar-SR (FTLX8574D3BC)
	SFP-10G-AOC1M
	SFP-10G-AOC2M
	SFP-10G-AOC3M
	SFP-10G-AOC5M
	SFP-10G-AOC7M
	SFP-10G-AOC10M
	SFP-10G-SR-I
	SFP-10G-ZR-I
	SFP-10G-BXD-I
	SFP-10G-BXU-I

Software requirements

Table 9. Software Requirements

Feature	Description
Software	Cisco IOS XE Software version 17.18.2 or later

Ordering information

Table 10. Ordering information

Type	Part #	Product Description
Controller	CW9800L	Cisco CW9800L Wireless Controller
Accessories, Spare	CW9800L-RPS =	Power Supply with Redundancy
Power Adapter	C9800-AC-110W	Single output 12 V DC, 110 W 120/240 V AC adapter, shipped by default

Warranty information

Find more warranty information on Cisco.com at the Product Warranties page.

Cisco 1-year limited hardware warranty terms

The following are terms applicable to your hardware warranty. Your embedded software is subject to the Cisco General Terms and/or any Supplemental General Terms or specific software warranty terms for additional software products loaded on the device.

Duration of hardware warranty: One (1) year

Replacement, repair, or refund procedure for hardware: Cisco or its service center will use commercially reasonable efforts to ship a replacement part within ten (10) working days after receipt of the RMA request. Actual delivery times may vary depending on customer location.

Cisco reserves the right to refund the purchase price as its exclusive warranty remedy.

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9800 Series Wireless Controllers

CW9800L Wireless Controller At-A-Glance