

Cisco Catalyst 9200 Series Switches

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Introduction

Extend intent-based networking everywhere

Cisco® Catalyst® 9200 Series switches extend the power of intent-based networking and Catalyst 9000 hardware and software innovation to a broader set of deployments. With its family pedigree, **Catalyst 9200 Series switches offer simplicity without compromise – it is secure, always on, and IT simplified.**

As foundational building blocks for the Cisco Digital Network Architecture, Catalyst 9200 Series switches help customers simplify complexity, optimize IT, and reduce operational costs by leveraging intelligence, automation and human expertise that no other vendor can deliver regardless of where you are in the intent-based networking journey.

Catalyst 9200 Series switches provide security features that protect the integrity of the hardware as well as the software and all data that flows through the switch. It provides resiliency that keeps your business up and running seamlessly. Combine that with open APIs of Cisco IOS XE® and programmability of the UADP ASIC technology, Catalyst 9200 Series switches give you what you need now with investment protection on future innovations.

With full PoE+ capability, power and fan redundancy, stacking bandwidth up to 160 Gbps, modular uplinks, Layer 3 feature support, and cold patching, Catalyst 9200 Series switches are the industry's unparalleled solution with differentiated resiliency and progressive architecture for cost-effective branch-office access. Catalyst 9200 Series switches also provide operational choice of Cisco DNA Center, or cloud monitoring for Catalyst.

Product overview

Product highlights

- Full Power over Ethernet Plus (PoE+) capability for up to 48 ports for C9200 and Power over Ethernet Plus (PoE+) capability for up to 12 ports for C9200CX. Available in fan less variants for C9200CX.
- Resiliency with **Field-Replaceable Units (FRU)** and redundant power supply, fans, and modular uplinks for C9200. C9200CX models are powered by internal fixed power supply or optional power adapters, when not powered by upstream 802.3bt type4 90W PSE.
- Flexible downlink options with data, PoE+ or mGig
- Operational efficiency with optional **backplane stacking**, supporting stacking bandwidth up to 160 Gbps
- **UADP 2.0** Mini with integrated CPU offers customers optimized scale with better cost structure
- Enhanced security with AES-128 MACsec encryption on C9200 and AES-256 MACsec encryption for C9200CX variants, policy-based segmentation, and trustworthy solutions for the whole C9200 family
- **Layer 3** capabilities, including OSPF, EIGRP, ISIS, RIP, and routed access
- Advanced network monitoring using **Full Flexible NetFlow**

Cisco Software-Defined Access (SD-Access)

- Simplified operations and deployment with policy-based automation from edge to cloud managed with **Cisco Identity Services Engine (ISE)**
- Network assurance and improved resolution time through Cisco DNA Center
- **Plug and Play (PnP)** enabled: A simple, secure, unified, and integrated offering to ease new branch or campus device rollouts or updates to an existing network
- **Cisco IOS XE:** A Common Licensing based operating system for the enterprise Cisco Catalyst 9000 product family with support for model-driven programmability and streaming telemetry
- ASIC with programmable pipeline and micro-engine capabilities, along with template-based, configurable allocation of Layer 2 and Layer 3 forwarding, Access Control Lists (ACLs), and Quality of Service (QoS) entries
- Cloud monitoring for Catalyst option

Features and benefits Platform details

Switch models and configurations

Table 1. Catalyst 9200 Series models and configurations

Models	FRU Power Supply	FRU Fans	Modular Uplinks	Stacking Bandwidth Support	SD-Access Support ¹
Modular uplink models (C9200 Enhanced VN SKUs)	✓	✓	✓	160 Gbps	Yes (32 Virtual Networks) ²
Modular uplink models (C9200 SKUs)	✓	✓	✓	160 Gbps	Yes (4 Virtual Networks)
Fixed uplink Models (C9200L SKUs)	✓	X	X	80 Gbps	Limited (1 Virtual Network)
Compact Models (C9200CX SKUs)	Fixed internal power supply	Fanless	X	X	Yes (16 Virtual Networks)

¹ Catalyst 9200 standalone and stack can support 25 Access Tunnels (for fabric enabled APs).

Note: Over the top fabric deployments eventually migrating to fabric wireless architecture should consider this limit during design/deployment

² C9200-24PB-A, C9200-48PB-A SKUs supports 32 Virtual Networks. These SKUs cannot be stacked with C9200 SKUs with 4VNs

The Cisco Catalyst 9200 Series is made up of modular (C9200), fixed (C9200L) and compact (C9200CX) switch models.

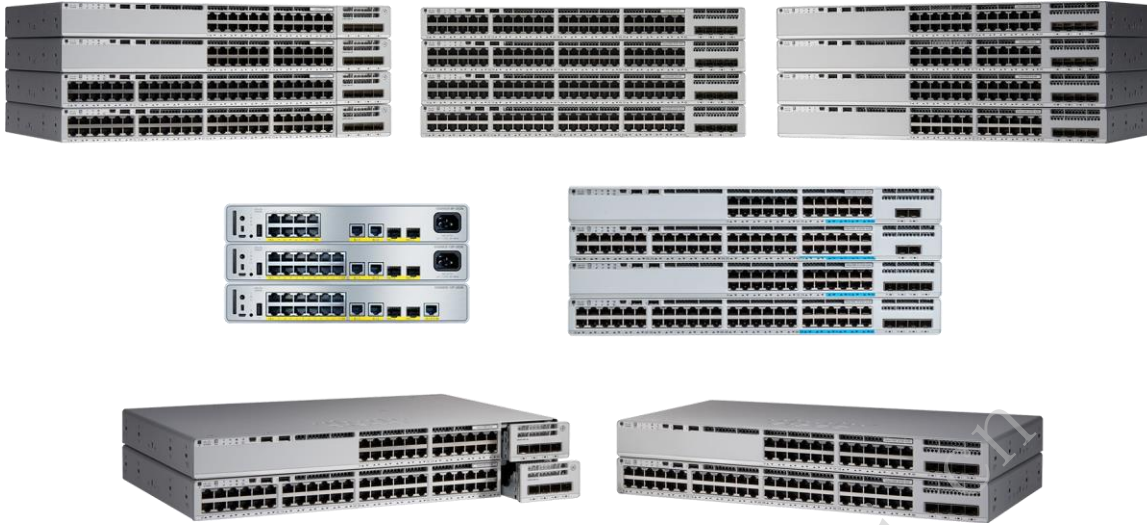


Figure 1.
Cisco Catalyst 9200 Series switches

Table 2. Cisco Catalyst 9200 Series Switch configurations

Switch model	Downlinks total 10/100/1000 or PoE+ copper ports	Uplink configuration	Default primary AC power supply	Fans
Modular uplink models				
C9200-24T	24 ports data	Modular uplink options	PWR-C6-125WAC	FRU redundant
C9200-24P	24 ports full PoE+	Modular uplink options	PWR-C6-600WAC	FRU redundant
C9200-24PB	24 ports full PoE+	Modular uplink options	PWR-C6-600WAC	FRU redundant
C9200-24PXG	24 ports full PoE+ (8 mGig ports up to 10G, 16 ports up to 1G)	Modular uplink options	PWR-C6-600WAC	FRU redundant
C9200-48T	48 ports data	Modular uplink options	PWR-C6-125WAC	FRU redundant
C9200-48P	48 ports full PoE+	Modular uplink options	PWR-C6-1KWAC	FRU redundant
C9200-48PL	48 Ports partial PoE+	Modular uplink options	PWR-C6-600WAC	FRU redundant
C9200-48PB	48 ports full PoE+	Modular uplink options	PWR-C6-1KWAC	FRU redundant
C9200-48PXG	48 ports full PoE+ (8 mGig ports up to 10G, 40 ports up to 1G)	Modular uplink options	PWR-C6-1KWAC	FRU redundant

Switch model	Downlinks total 10/100/1000 or PoE+ copper ports	Uplink configuration	Default primary AC power supply	Fans
Fixed uplink models				
C9200L-24T-4G	24 ports data	4x 1G fixed uplinks	PWR-C5-125WAC	Fixed redundant
C9200L-24P-4G	24 ports full PoE+	4x 1G fixed uplinks	PWR-C5-600WAC	Fixed redundant
C9200L-48T-4G	48 ports data	4x 1G fixed uplinks	PWR-C5-125WAC	Fixed redundant
C9200L-48P-4G	48 ports full POE+	4x 1G fixed uplinks	PWR-C5-1KWAC	Fixed redundant
C9200L-48PL-4G	48 Ports partial PoE+	4X 1G Fixed uplinks	PWR-C5-600WAC	Fixed redundant
C9200L-24T-4X	24 ports data	4x 1/10G fixed uplinks	PWR-C5-125WAC	Fixed redundant
C9200L-24P-4X	24 ports full PoE+	4x 1/10G fixed uplinks	PWR-C5-600WAC	Fixed redundant
C9200L-48T-4X	48 ports data	4x 1/10G fixed uplinks	PWR-C5-125WAC	Fixed redundant
C9200L-48P-4X	48 ports full PoE+	4x 1/10G fixed uplinks	PWR-C5-1KWAC	Fixed redundant
C9200L-48PL-4X	48 Port partial PoE+	4X 1/10G Fixed Uplinks	PWR-C5-600WAC	Fixed redundant
C9200L-24PXG-4X	24 ports full PoE+ (8 mGig ports up to 10G, 16 ports up to 1G)	4x 1/10G fixed uplinks	PWR-C5-600WAC	Fixed redundant
C9200L-48PXG-4X	48 ports full POE+ (12 mGig ports up to 10G, 36 ports up to 1G)	4x 1/10G fixed uplinks	PWR-C5-1KWAC	Fixed redundant
Switch model	Downlinks total 10/100/1000 or PoE+ copper ports	Uplink configuration	Default primary AC power supply	Fans
C9200L-24PXG-2Y	24 ports full PoE+ (8 mGig ports up to 10G, 16 ports up to 1G)	2x 1/10/25G fixed uplinks	PWR-C5-600WAC	Fixed redundant
C9200L-48PXG-2Y	48 ports full POE+ (8 mGig ports up to 10G, 40 ports up to 1G)	2x 1/10/25G fixed uplinks	PWR-C5-1KWAC	Fixed redundant
Compact models				
C9200CX-12T-2X2G	12 ports data	2x 1G copper, 1x 1G CU PD 802.3bt Class 6, 2x 10G SFP+ fixed uplinks	80W External Power Adapter	Fanless
C9200CX-12P-2X2G	12 ports PoE+	2x 1G copper, 2x 10G SFP+ fixed uplinks	310W internal	Fanless
C9200CX-8P-2X2G	8 ports full PoE+	2x 1G copper, 2x 10G SFP+ fixed uplinks	310W internal	Fanless

Network modules

Cisco Catalyst 9200 Series switches come with modular or fixed uplinks as indicated in Table 1. With modular SKUs, the field-replaceable network modules provide infrastructure investment protection by allowing a nondisruptive migration from 1G to 10G and beyond. When you purchase the switch, you can choose from the network modules described in Table 3.

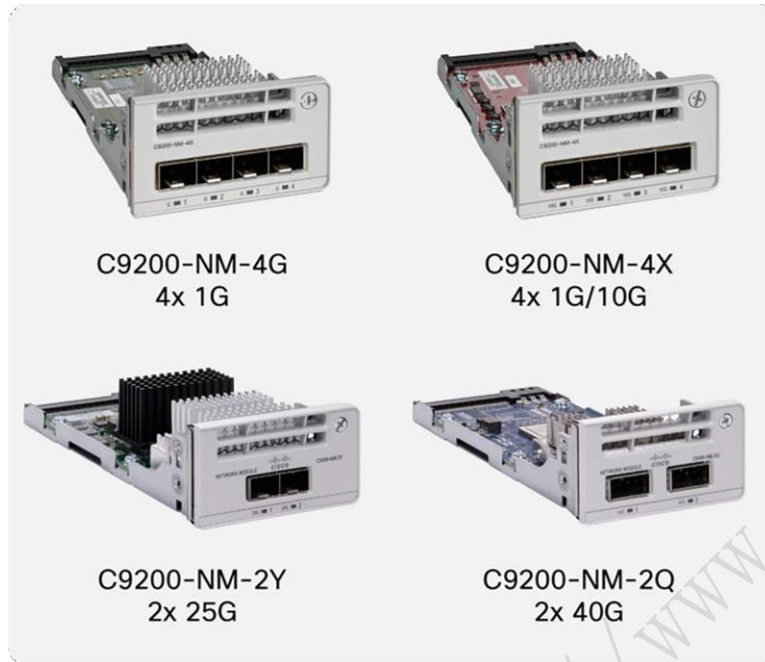


Figure 2.
Cisco Catalyst 9200 Series Switch network modules

Table 3. Network module part numbers and descriptions

Network module	Description
C9200-NM-2Y¹	2 x 25G Network Module
C9200-NM-2Q¹	2 x 40G Network Module
C9200-NM-4G²	4x 1G network module
C9200-NM-4X	4x 1G/10G network module
C9200-NM-BLANK	No network module

¹ Supported only on C9200-24PXG, C9200-48PXG

² Not supported on C9200-24PXG, C9200-48PXG

For additional details, please read our FAQ:

<https://www.cisco.com/c/dam/en/us/products/collateral/switches/catalyst-9000/nb-09-cat-9k-faq-cte-en.pdf>.

Platform resiliency

Power supplies

Cisco Catalyst 9200 Series switches support dual field-replaceable power supplies (Figure 3). Each switch ships with one default power supply, and a second identical power supply can be purchased with the initial order or can be added later. The second power supply can provide redundancy or additional power to PoE+ ports as needed.

Intelligent PoE+

- **IEEE 802.3at PoE+ (up to 30W per port)** is supported on Cisco Catalyst 9200 Series switches to lower the total cost of ownership for deployments that incorporate Cisco IP phones, Cisco Aironet wireless access points, or other standards-compliant PoE+ end devices. PoE+ removes the need to supply wall power to PoE-enabled devices and eliminates the cost of adding electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments. With Cisco Catalyst 9200 Series switches, PoE+ power allocation is dynamic, and power mapping scales up to a maximum of 1440W of PoE+ power.
- **Perpetual PoE** is supported on Cisco Catalyst 9200 Series switches, and maintains the PoE+ power during a switch reload. This is important for critical endpoints such as medical devices and for Internet of Things (IoT) endpoints such as PoE-powered lights, so that there is no disruption during a switch reboot.
- **Fast PoE:** When power is restored to a switch, Fast PoE starts delivering power to endpoints without waiting for the operating system to fully load, thereby speeding up the time for the endpoint to start up.



Figure 3.
Cisco Catalyst 9200 Series Switch dual redundant power supplies

Table 4 lists the PoE+ power availability for each model.

Table 4. PoE+ Power with primary and secondary power supplies

Model	Default primary power supply	Available PoE power with single primary power supply only*	Optional secondary power supply	Available PoE power with additional secondary power supply*
C9200-24P	PWR-C6-600WAC	370W	PWR-C6-600WAC	740W
C9200-24PB	PWR-C6-600WAC	370W	PWR-C6-600WAC	740W
C9200-24PXG	PWR-C6-600WAC	370W	PWR-C6-600WAC	740W
C9200-48P	PWR-C6-1KWAC	740W	PWR-C6-1KWAC	1440W
C9200-48PL	PWR-C6-600WAC	370W	PWR-C6-600WAC	740W
C9200-48PB	PWR-C6-1KWAC	740W	PWR-C6-1KWAC	1440W
C9200-48PXG	PWR-C6-1KWAC	740W	PWR-C6-1KWAC	1440W
C9200L-24P-4G	PWR-C5-600WAC	370W	PWR-C5-600WAC	740W
C9200L-24P-4X	PWR-C5-600WAC	370W	PWR-C5-600WAC	740W
C9200L-48P-4G	PWR-C5-1KWAC	740W	PWR-C5-1KWAC	1440W
C9200L-48PL-4G	PWR-C5-600WAC	370W	PWR-C5-600WAC	740W
C9200L-48P-4X	PWR-C5-1KWAC	740W	PWR-C5-1KWAC	1440W
C9200L-48PL-4X	PWR-C5-600WAC	370W	PWR-C5-600WAC	740W
C9200L-24PXG-4X	PWR-C5-600WAC	370W	PWR-C5-600WAC	740W
C9200L-48PXG-4X	PWR-C5-1KWAC	740W	PWR-C5-1KWAC	1440W
C9200L-24PXG-2Y	PWR-C5-600WAC	370W	PWR-C5-600WAC	740W
C9200L-48PXG-2Y	PWR-C5-1KWAC	740W	PWR-C5-1KWAC	1440W
C9200CX-12P-2X2G	310W Internal	240W	N/A	N/A
C9200CX-8P-2X2G	310W internal	240W	N/A	N/A

*Limited by port number and port rating (for example, 24 PoE+ 30W ports = 720W)

Stacking

Cisco Catalyst 9200 Series switch models are designed for stacking switches as a single virtual switch, enabling customers to have a single management plane and control plane for up to 384 access ports.

Table 5 lists the supported stacking options.

Table 5. Supported stacking options

Model	Stacking support	Stacking bandwidth support	Stacking hardware	Number of members	Supported stack members
Modular models (C9200 SKUs)	StackWise-160	160 Gbps	C9200-STACK-KIT	8	Other C9200 models with same license level
Fixed models (C9200L SKUs)	StackWise-80	80 Gbps	C9200L-STACK-KIT	8	Other C9200L models with same license level

Mixed stacking is **not supported**. You cannot stack fixed (C9200L SKUs) with modular (C9200 SKUs) models, or other Catalyst switches, e.g. Cisco Catalyst 2960-X and 2960-XR Series. Stacking not available on C9200CX switches.

The optional StackWise-160 and StackWise-80 kits consist of two adapters and a stacking cable. The default stacking cable is 0.5 m, but options of 1 m and 3 m are also available.

Table 6 lists the stacking accessories.

Table 6. Stacking accessories

Model	Description
C9200-STACK-KIT	Stack kit for C9200 SKUs only: Two data stack adapters and one data stack cable
C9200L-STACK-KIT	Stack kit for C9200L SKUs only: Two data stack adapters and one data stack cable
STACK-T4-50CM	Data stack 50 cm cable (default cable with Stack Kit)
STACK-T4-1M	Data stack 1 m cable
STACK T4-3M	Data stack 3 m cable



Figure 4.

Cisco Catalyst 9200 Series Switch stacked units

Fan

Cisco Catalyst 9200 Series switches also come with dual fans and support redundancy. Cisco Catalyst 9200 Series switches support redundancy with dual fans. On the C9200 SKUs, the fan units are field-replaceable, whereas on the fixed C9200L and C9200CX SKUs, the fan units are fixed.

Table 7 lists the fan module part number.

Table 7. Fan modules

Model	Description
FAN-T2=	Fan module

Performance and scalability

Table 8 lists performance and scalability metrics for Cisco Catalyst 9200 Series switches. Table 9 lists the bandwidth specifications.

Performance specifications

Table 8. Performance specifications

Description	C9200 SKUs	C9200L SKUs	C9200CX SKUs
Virtual Networks	4 for C9200-24T, C9200-24P, C9200-48T, C9200-48P, C9200- 24PXG, C9200-48PXG, C9200-48PL 32 for C9200-24PB, C9200-48PB	1	16
Stacking bandwidth	160 Gbps	80 Gbps	N/A
Total number of MAC addresses	32,000	16,000	32,000
Total number of IPv4 routes (ARP plus learned routes)	14,000 (10,000 direct routes and 4,000 indirect routes)	11,000 (8,000 direct routes and 3,000 indirect routes)	14,000 (10,000 direct routes and 4,000 indirect routes)
IPv4 routing entries	4,000	3,000	4,000
IPv6 routing entries	2,000	1,500	2,000
Multicast routing scale	1,000	1,000	1,000
QoS scale entries	1,000	1,000	1,000
ACL scale entries	1,600	1,500	1,600

Description	C9200 SKUs	C9200L SKUs	C9200CX SKUs
Packet buffer per SKU	6 MB buffers for 24- or 48-port Gigabit Ethernet models, 12MB buffers for 24 or 48 port multigigabit models	6 MB buffers for 24- or 48-port Gigabit Ethernet models, 12 MB buffers for 24 or 48 port multigigabit models	6 MB buffers
Flexible NetFlow (FNF) entries	16,000 flows on 24- and 48-port Gigabit Ethernet models	16,000 flows on 24- and 48-port Gigabit Ethernet models, 32,000 flows on 24 or 48 port multigigabit models	16,000 flows
DRAM	4 GB	2 GB	4 GB
Flash	4 GB	4 GB	8 GB
VLAN IDs	4096	4096	4096
PVST Instances	128	128	128
STP Virtual Ports (Port VLANs) for PVST	13,000	13,000	13,000
STP Virtual Ports (Port VLANs) for MST	13,000	13,000	13,000
Total Switched Virtual Interfaces (SVIs)	1000	512	1000
Jumbo frames	9198 bytes	9198 bytes	9198 bytes
Wireless bandwidth per switch	Up to 48 Gbps on 24-port and 48-port Gigabit Ethernet model	N/A	
IP SGT binding scale	8K	10K	8K
Number of IPv4 bindings	8K	10K	8K
Number of SGT/DGT policies	2K	2K	2K
Number of SXP Sessions	200	200	200

Bandwidth specifications

Table 9. Bandwidth specifications

Description	Switching capacity	Switch capacity with Stacking	Forwarding rate	Forwarding rate with Stacking
C9200-24T	128 Gbps	288 Gbps	95.23 Mpps	214 Mpps
C9200-24P	128 Gbps	288 Gbps	95.23 Mpps	214 Mpps
C9200-24PB	128 Gbps	288 Gbps	95.23 Mpps	214 Mpps
C9200-24PXG	352 Gbps	532 Gbps	261.90 Mpps	395 Mpps
C9200-48T	176 Gbps	336 Gbps	130.95 Mpps	250 Mpps
C9200-48P	176 Gbps	336 Gbps	130.95 Mpps	250 Mpps
C9200-48PL	176 Gbps	336 Gbps	130.95 Mpps	250 Mpps
C9200-48PB	176 Gbps	336 Gbps	130.95 Mpps	250 Mpps
C9200-48PXG	400 Gbps	580 Gbps	297.61 Mpps	431 Mpps
C9200L-24T-4G	56 Gbps	136 Gbps	41.66 Mpps	101 Mpps
C9200L-24P-4G	56 Gbps	136 Gbps	41.66 Mpps	101 Mpps
C9200L-48T-4G	104 Gbps	184 Gbps	77.38 Mpps	137 Mpps
C9200L-48P-4G	104 Gbps	184 Gbps	77.38 Mpps	137 Mpps
C9200L-48PL-4G	104 Gbps	184 Gbps	77.38 Mpps	137 Mpps
C9200L-24T-4X	128 Gbps	208 Gbps	95.23 Mpps	155 Mpps
C9200L-24P-4X	128 Gbps	208 Gbps	95.23 Mpps	155 Mpps
C9200L-48T-4X	176 Gbps	256 Gbps	130.95 Mpps	190 Mpps
C9200L-48P-4X	176 Gbps	256 Gbps	130.95 Mpps	190 Mpps
C9200L-48PL-4X	176 Gbps	256 Gbps	130.95 Mpps	190 Mpps
C9200L-24PXG-4X	272 Gbps	352 Gbps	214.28 Mpps	262 Mpps
C9200L-24PXG-2Y	292 Gbps	372 Gbps	229.16 Mpps	277 Mpps
C9200L-48PXG-4X	392 Gbps	472 Gbps	291.66 Mpps	351 Mpps
C9200L-48PXG-2Y	340 Gbps	420 Gbps	252.97 Mpps	313 Mpps

Description	Switching capacity	Switch capacity with Stacking	Forwarding rate	Forwarding rate with Stacking
C9200CX-12T-2X2G	35 Gbps	N/A	51 Mpps	N/A
C9200CX-12P-2X2G	34 Gbps	N/A	51 Mpps	N/A
C9200CX-8P-2X2G	30 Gbps	N/A	51 Mpps	N/A

*Measured with 64 byte packets

Software

Platform software benefits

Cisco IOS XE

Cisco IOS XE Software opens a completely new paradigm in network configuration, operation, and monitoring through network automation. Cisco's automation solution is open, standards-based, and extensible across the entire lifecycle of a network device. The various automation mechanisms are outlined below.

- **Automated device provisioning** is the ability to automate the process of upgrading software images and installing configuration files on Cisco Catalyst switches when they are being deployed in the network for the first time. Cisco provides turnkey solutions such as Plug and Play and Preboot Execution Environment (PXE) that enable an effortless and automated deployment.
- **API-driven configuration** is available with modern network switches such as Cisco Catalyst 9200 Series switches. It supports a wide range of automation features and provides robust open APIs over NETCONF and RESTCONF using YANG data models for external tools, both off the shelf and custom built, to automatically provision network resources.
- **Granular visibility** enables model-driven telemetry to stream data from a switch to a destination. The data to be streamed is identified through subscription to a data set in a YANG model. The subscribed data set is streamed to the destination at specified intervals. Additionally, Cisco IOS XE enables the push model. It provides near-real-time monitoring of the network, leading to quick detection and rectification of failures. Cloud monitoring for Catalyst is also available.
- **Seamless software upgrades and patching** supports OS resilience. On Cisco Catalyst 9200 Series switches Cisco IOS XE supports cold patching with reboot, which provides fixes for critical bugs and security vulnerabilities between regular maintenance releases. This support lets you add patches without having to wait for the next maintenance release. Cold patching requires the switch to be rebooted after patching to allow the changes to take effect.
- **Trustworthy solutions built with Cisco Trust Anchor Technologies** provide a highly secure foundation for Cisco products. With Cisco Catalyst 9200 Series switches, these technologies enable hardware and software authenticity assurance for supply chain trust and strong mitigation against man-in-the-middle attacks that compromise software and firmware. Trust Anchor capabilities include image signing, Secure Boot, and Cisco Trust Anchor module.

- **High availability:** Cisco Catalyst 9200 Series switches support high-availability features, including the following:
 - Cross-stack EtherChannel provides the ability to configure Cisco EtherChannel technology across different members of the stack for high resiliency.
 - IEEE 802.1s Multiple Spanning Tree Protocol (MSTP) provides rapid spanning tree convergence independent of spanning tree timers and also offers the benefit of Layer 2 load balancing and distributed processing.
 - Per-VLAN Rapid Spanning Tree (PVRST+) allows rapid spanning tree (IEEE 802.1w) reconvergence on a per-VLAN spanning tree basis, providing simpler configuration than MSTP. In both MSTP and PVRST+ modes, stacked units behave as a single spanning tree node.
 - Switch-port auto-recovery (“err-disable” recovery) automatically attempts to reactivate a link that is disabled because of a network error.
 - The Catalyst 9200 Series platform delivers the best SSO resiliency architecture in a stackable solution with sub-50-ms failover.

The Foundation of Software-Defined Access

Secure Segmentation with SD-Access

Software-Defined Access

The enterprise network lies at the heart of digital transformation. A network that is open, programmable, integrated, and secure maximizes business agility, allowing new business opportunities to be pursued and captured.

Cisco DNA with SD-Access is the network fabric that powers business. It is an open and extensible software-driven architecture that accelerates and simplifies your enterprise network operations. The programmable architecture frees your IT staff from time-consuming, repetitive network configuration tasks so they can focus instead on innovation that positively transforms your business. SD-Access enables policy-based automation from edge to cloud with foundational capabilities. These include:

- Simplified device deployment
- Unified management of wired and wireless networks
- Network virtualization and segmentation
- Group-based policies
- Context-based analytics
- **SD-Access:** Cisco Catalyst 9200 Series switches are the entry-level devices for SD-Access, Cisco’s lead enterprise architecture, with policy-based automation from edge to cloud.
 - Simplified segmentation and micro-segmentation, with predictable performance and scalability
 - Automation through Cisco DNA Center
 - Policy handled through the Cisco Identity Services Engine (ISE)
 - Faster launch of new business services and significantly improved issue resolution time

Assurance

- Full network visibility and monitoring
- End-to-end Quality of Experience (QoE)
- Fast issue resolution and network remediation
- Plug and Play (PnP) enabled: A simple, secure, unified, and integrated offering to ease new branch or campus device rollouts or updates to an existing network

Cloud Security

Umbrella Integration

- **Umbrella Integration:** Small to midsize networks reliant on managed service providers can now host Cisco Umbrella agent directly on their Catalyst 9200 series switches. This allows the business to easily customize their DNS filtering policies to prevent BYOD or IoT guest or corporate users from accessing malicious or inappropriate websites, without having to rely on the MSP to push the policies out. It also lets them optimize use of bandwidth by allowing direct cloud access for trusted apps. Requires Cisco DNA-Advantage License and Umbrella License per device.

Full Flexible NetFlow

- **Full Flexible NetFlow (FNF):** Cisco IOS FNF is the next generation in flow visibility technology. It enables optimization of the network infrastructure, reduces operation costs, and improves capacity planning and security incident detection with increased flexibility and scalability. Catalyst 9200 Series switches are capable of up to 16,000 flow entries on 48-port, 24, 12 and 8 port models.

QoS

- **Superior QoS:** Cisco Catalyst 9200 Series switches offer Gigabit Ethernet speeds with intelligent services that keep traffic flowing smoothly, even at 10 times the normal network speed. Industry-leading mechanisms for cross-stack marking, classification, and scheduling deliver superior performance for data, voice, and video traffic at wire speed. Superior QoS includes granular wireless bandwidth management and fair sharing, 802.1p Class of Service (CoS) and Differentiated Services Code Point (DSCP) field classification, Shaped Round Robin (SRR) scheduling, Committed Information Rate (CIR), and eight egress queues per port.

Smart operation

WebUI

WebUI is an embedded GUI-based device-management tool that provides the ability to provision the device, to simplify device deployment and manageability, and to enhance the user experience. It comes with the default image, so there is no need to enable anything or install any license on the device. You can use WebUI to build configurations, and to monitor and troubleshoot the device without having CLI expertise.

RFID tags

Cisco Catalyst 9200 Series switches have an embedded RFID tag that facilitates easy asset and inventory management using commercial RFID readers.

Blue beacon

Cisco Catalyst 9200 Series switches support both front and back blue beacon LEDs for easy identification of the switch being accessed.

Efficient switch operation

Cisco Catalyst 9200 Series switches provide optimum power saving with Energy Efficient Ethernet (EEE) on the RJ-45 ports and low-power operations for industry best-in-class power management and power consumption capabilities. The ports support reduced power modes so that ports not in use can move into a lower power utilization state. Other efficient switch operation features are as follows:

- Per-port power consumption command allows customers to specify a maximum power setting on an individual port.
- Per-port PoE power sensing measures actual power being drawn, enabling more intelligent control of powered devices. The PoE MIB provides proactive visibility into power usage and allows you to set different power-level thresholds.

Bluetooth ready

Cisco Catalyst 9200 Series switches have hardware support to connect a Bluetooth dongle to your switch, enabling you to use this wireless interface as an IP management port interface. The port can be used for configuration and troubleshooting using WebUI or the Command-Line Interface (CLI), and to transfer images and configurations.

Storage

Cisco Catalyst 9200CX switches have hardware support for up to 4G Micro-SD card storage.

High-performance IP routing

The Cisco Express Forwarding hardware routing architecture delivers extremely high-performance IP routing in Cisco Catalyst 9200 Series switches, based on:

- IP unicast routing protocols (including static, Routing Information Protocol Version 1 [RIPv1], RIPv2, RIPv6, and Open Shortest Path First [OSPF], Routed Access) are supported for small network routing applications with the Network Essentials stack. Equal-cost routing facilitates Layer 3 load balancing and redundancy across the stack.
- Advanced IP unicast routing protocols (including Full [OSPF], Enhanced Interior Gateway Routing Protocol [EIGRP], and Intermediate System-to-Intermediate System Version 4 [IS-ISv4]) are supported for load balancing and for constructing scalable LANs. IPv6 routing (using OSPFv3 and EIGRPv6) is supported in hardware for maximum performance.
- Protocol-Independent Multicast (PIM) for IP multicast routing is supported, including PIM sparse mode (PIM SM), and Source-Specific Multicast (SSM).
- IPv6 addressing is supported on interfaces with appropriate show commands for monitoring and troubleshooting.

Licensing

Introduction to Smart Licensing

Cisco Smart Licensing is a flexible licensing model that provides you with an easier, faster, and more consistent way to purchase and manage software across the Cisco portfolio and across your organization. And it's secure – you control what users can access. With Smart Licensing you get:

- **Easy Activation:** Smart Licensing establishes a pool of software licenses that can be used across the entire organization—no more PAKs (Product Activation Keys).

- **Unified Management:** My Cisco Entitlements (MCE) provides a complete view into all of your Cisco products and services in an easy-to-use portal, so you always know what you have and what you are using.
- **License Flexibility:** Your software is not node-locked to your hardware, so you can easily use, and transfer licenses as needed.

To use Smart Licensing, you must first set up a Smart Account on Cisco Software Central (software.cisco.com).

For a more detailed overview on Cisco Licensing, go to cisco.com/go/licensingguide

Packaging: Network and Cisco DNA licensing

The Cisco Catalyst 9000 family of switches introduces a new and simplified licensing package in the form of base and add-on licenses.

- **The perpetual licensing** package includes the Network Essentials and Network Advantage licensing options that are tied to the hardware. Between them, the base licensing packages cover switching fundamentals, management automation, troubleshooting, and advanced switching features. These Network licenses are perpetual.
- **The subscription licensing** package includes the Cisco DNA Essentials and Cisco DNA Advantage options. In addition to on-box capabilities, the features available with this package provide Cisco innovations on the switch, as well as on Cisco DNA Center. The Cisco DNA subscription licenses are mandatory at the time of configuration. With Cisco DNA software licenses, customers receive embedded SWSS – which covers 24x7x365 Cisco Technical Assistance Center (TAC) support, software release updates, advanced support analytics, and designated service management. This is valid only for the Cisco DNA software subscription stacks (Cisco DNA Essentials and Advantage).

Note: For full hardware support, including the perpetual network stack customers will require Smart Net Total Care for 24x7x365 Cisco Technical Assistance Center (TAC) support, proactive security and product alerts, and product lifecycle management. An additional option for hardware support is Solution Support for your multivendor Cisco solution environment

License consumption is easily determined by the package itself. While perpetual licenses are always permanent and without an expiration date, subscription licenses have to be purchased for a 3-, 5-, or 7-year term (and hence are also known as term-based licenses).

Table 10 shows the combinations of perpetual and subscription licenses that must be purchased.

Supported licensing combinations

Table 10. Licensing combinations

Licensing combinations	Cisco DNA Advantage	Cisco DNA Essentials
Network Essentials	No	Yes
Network Advantage	Yes	No*

*At the time of license renewal, the Cisco DNA Essentials license can be purchased to be used with Network Advantage.

Cisco DNA Software subscription

Cisco DNA Software subscriptions offer a flexible way to buy software for the access domain. At each stage in the product lifecycle, Cisco DNA Software subscriptions help make buying, managing, and upgrading your network and infrastructure software easier. Cisco DNA Software subscriptions provide:

- Flexible licensing models to smoothly distribute customers' software spending over time
- Investment protection for software purchases through software services-enabled license portability
- Lower cost of entry with the new Cisco DNA Software Subscription for Switching model

For ordering information for Cisco DNA Software for Cisco Catalyst 9200 Series switches, go to:

<https://www.cisco.com/c/en/us/products/collateral/software/one-subscription-switching/nb-06-dna-sw-sub-access-sw-ctp-en.html>.

Cisco Catalyst 9200 Series switches run on Cisco IOS XE Release 16.9.2 or later. This software release includes all the features listed earlier in the Platform Software Benefits section.

Managing licenses with Smart Accounts

Creating Smart Accounts by using the Cisco Smart Software Manager (Cisco SSM) enables you to order devices and licensing packages and also manage your software licenses from a centralized website. You can set up Cisco SSM to receive daily email alerts and to be notified of expiring add-on licenses that you want to renew.

You must order an add-on license in order to purchase a switch. When the license term expires, you can either renew the add-on license to continue using it or deactivate the add-on license and then reload the switch to continue operating with the base license capabilities.

Both the base and add-on licenses are also available for a 90-day evaluation period. An evaluation license is activated temporarily, without purchase. An expired evaluation license cannot be reactivated after reload.

Note: It is not required to deploy Cisco DNA Center, just to use one of the above packages.

Table 11 shows the features included in the Network Essentials and Advantage packages.

Table 12 shows the features included in the Cisco DNA Essentials and Advantage packages.

Network licensing

Table 11. Network essentials and advantage package features

Features on Cisco Catalyst uplink switches	Network Essentials	Network Advantage
Switch fundamentals Layer 2, Routed Access (RIP, EIGRP Stub, OSPF -- 1000 routes), PBR, PIM Stub Multicast (1000 routes), PVLAN, VRRP, PBR, CDP, QoS, FHS, 802.1X, MACsec-128, CoPP, SXP, IP SLA Responder, SSO	✓	✓
Advanced switch capabilities and scale EIGRP, HSRP, IS-IS, BSR, MSDP, IP SLA, OSPF	X	✓
Network segmentation VRF, VXLAN, LISP, SGT	X	✓
Automation NETCONF, RESTCONF, YANG, PnP Agent, PnP	✓	✓
Telemetry and visibility Model-driven telemetry, sampled NetFlow, SPAN, RSPAN	✓	✓
Security MACsec-128 (MACsec-256 on C9200CX SKUs)	✓	✓

Cisco DNA licensing

Table 12. Cisco DNA Essentials and Advantage Package Features

Features	Cisco DNA Essentials	Cisco DNA Advantage
Advanced telemetry and visibility Full Flexible NetFlow, EEM	✓	✓
Optimized telemetry and visibility AVC (NBAR2)	X	✓
Day-0 network bring-up automation Cisco Network Plug-and-Play application, network settings, device credentials, LAN automation, host onboarding	✓	✓
Element management Discovery, inventory, topology, software image, licensing, and configuration management	✓	✓
Element management Patch management	X	✓

Features	Cisco DNA Essentials	Cisco DNA Advantage
Basic Assurance Health dashboards – Network, Client, Application; switch and wired client health monitoring	✓	✓
SD-Access Policy-based automation and assurance for wired and wireless	X	✓
Network assurance and analytics Global insights, trends, compliance, custom reports; switch 360, wired client 360; fabric and non-fabric insights; app health, app 360, app performance (loss, latency, jitter)	X	✓
Cloud monitoring for Catalyst	✓*	✓

*Limited device visibility, not currently supported on C9200CX

For a full list of features, please see the switching feature matrix:

https://www.cisco.com/c/m/en_us/products/software/dna-subscription-switching/en-sw-sub-matrix-switching.html?OID=otren019471.

Product sustainability

Refer to the [CSR/Social Responsibility section](#) for more information on Cisco's environmental sustainability policies and initiatives.

Sustainability Topic	Reference
General	Information on product-material-content laws and regulations Materials
	Information on electronic waste laws and regulations, including our products, batteries, and packaging WEEE Compliance
	Sustainability Inquiries Contact: csr_inquiries@cisco.com
	Safety and compliance Safety and compliance information
	Information on product takeback and reuse program Cisco Takeback and Reuse Program
Power	IEEE 802.3at PoE+ Intelligent PoE+ Section
	IEEE 802.3 class 8 PD C9200CX Section
	PoE+ power availability PoE+ Power with Primary and secondary power supplies
	Fan Fan Section
	Power connectors Connectors
	Power supply specifications Power supply specifications

Sustainability Topic		Reference
	Power consumption (ATIS)	Power consumption of standalone Catalyst 9200 Series switches
Material	Product packaging weight and materials	Contact: environment@cisco.com
	Chassis Dimension, weight, MTBF	Model dimensions, weight, and mean time between failure metrics
	Elimination of wet paint on plastic bezel	2019 Cisco Corporate Social Responsibility Report , Pg. 19 Stepping up our work on circularity

Specifications

Dimensions, Eight, Acoustic, Mean time between failures

Table 13-16 show the dimensions, weights, acoustic, and mean time between failures of all models of Cisco Catalyst 9200 Series switches.

Table 13. Model Dimensions

Platform Physical Specifications				
	Chassis Dimensions		Chassis + FEP + Fan Dimensions (HxWxD)	
Model	Inches	Centimeters	Inches	Centimeters
C9200-24T	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200-24P	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200-24PB	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200-24PXG	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200-48T	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200-48P	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200-48PL	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200-48PB	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200-48PXG	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200L-24T-4G	1.73 x 17.5 x 11.3	4.4 x 44.5 x 28.8	1.73 x 17.5 x 12.9	4.4 x 44.5 x 32.9
C9200L-24P-4G	1.73 x 17.5 x 11.3	4.4 x 44.5 x 28.8	1.73 x 17.5 x 12.9	4.4 x 44.5 x 32.9
C9200L-48T-4G	1.73 x 17.5 x 11.3	4.4 x 44.5 x 28.8	1.73 x 17.5 x 12.9	4.4 x 44.5 x 32.9
C9200L-48P-4G	1.73 x 17.5 x 11.3	4.4 x 44.5 x 28.8	1.73 x 17.5 x 12.9	4.4 x 44.5 x 32.9
C9200L-48PL-4G	1.73 x 17.5 x 11.3	4.4 x 44.5 x 28.8	1.73 x 17.5 x 12.9	4.4 x 44.5 x 32.9

Platform Physical Specifications

Model	Chassis Dimensions		Chassis + FEP + Fan Dimensions (HxWxD)	
	Inches	Centimeters	Inches	Centimeters
C9200L-24T-4X	1.73 x 17.5 x 11.3	4.4 x 44.5 x 28.8	1.73 x 17.5 x 12.9	4.4 x 44.5 x 32.9
C9200L-24P-4X	1.73 x 17.5 x 11.3	4.4 x 44.5 x 28.8	1.73 x 17.5 x 12.9	4.4 x 44.5 x 32.9
C9200L-48T-4X	1.73 x 17.5 x 11.3	4.4 x 44.5 x 28.8	1.73 x 17.5 x 12.9	4.4 x 44.5 x 32.9
C9200L-48P-4X	1.73 x 17.5 x 11.3	4.4 x 44.5 x 28.8	1.73 x 17.5 x 12.9	4.4 x 44.5 x 32.9
C9200L-48PL-4X	1.73 x 17.5 x 11.3	4.4 x 44.5 x 28.8	1.73 x 17.5 x 12.9	4.4 x 44.5 x 32.9
C9200L-24PXG-4X	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200L-24PXG-2Y	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200L-48PXG-4X	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200L-48PXG-2Y	1.73 x 17.5 x 13.8	4.4 x 44.5 x 35.0	1.73 x 17.5 x 15.4	4.4 x 44.5 x 39.1
C9200CX-12T-2X2G	1.73 x 10.6 x 6.5	4.4 x 26.9 x 16.5	1.73 x 10.6 x 6.5	4.4 x 26.9 x 16.5
C9200CX-12P-2X2G	1.73 x 10.6 x 9.6	4.4 x 26.9 x 24.4	1.73 x 10.6 x 9.6	4.4 x 26.9 x 24.4
C9200CX-8P-2X2G	1.73 x 10.6 x 9.6	4.4 x 26.9 x 24.4	1.73 x 10.6 x 9.6	4.4 x 26.9 x 24.4

Table 14. Model Weights

Model	Pounds	Kilograms
C9200-24T	11.02	5.0
C9200-24P	12.12	5.5
C9200-24PB	12.12	5.0
C9200-24PXG	11.33	5.1
C9200-48T	11.02	5.0
C9200-48P	12.12	5.5
C9200-48PL	12.12	5.5
C9200-48PB	12.12	5.5
C9200-48PXG	11.98	5.45
C9200L-24T-4G	9.59	4.35
C9200L-24P-4G	10.38	4.71

Model	Pounds	Kilograms
C9200L-48T-4G	9.97	4.53
C9200L-48P-4G	10.58	4.80
C9200L-48PL-4G	10.58	4.80
C9200L-24T-4X	9.59	4.35
C9200L-24P-4X	10.38	4.71
C9200L-48T-4X	9.97	4.53
C9200L-48P-4X	10.58	4.80
C9200L-48PL-4X	10.58	4.80
C9200L-24PXG-4X	12	5.44
C9200L-24PXG-2Y	12	5.44
C9200L-48PXG-4X	12.6	5.71
C9200L-48PXG-2Y	12.6	5.71
C9200CX-12T-2X2G	4.0	1.81
C9200CX-12P-2X2G	6.6	2.99
C9200CX-8P-2X2G	6.6	2.99

Table 15. Model Mean time between failures metrics

Mean time between failures (hours)	
C9200-24T	587,800
C9200-24P	422,310
C9200-24PB	434,220
C9200-24PXG	353,960
C9200-48T	571,440
C9200-48P	375,570
C9200-48PL	375,570
C9200-48PB	384,980
C9200-48PXG	320,440
C9200L-24T-4G	531,030

Mean time between failures (hours)	
C9200L-24P-4G	392,210
C9200L-48T-4G	508,700
C9200L-48P-4G	347,760
C9200L-48PL-4G	347,760
C9200L-24T-4X	525,990
C9200L-24P-4X	390,310
C9200L-48T-4X	503,400
C9200L-48P-4X	346,270
C9200L-48PL-4X	346,270
C9200L-24PXG-4X	379,410
C9200L-24PXG-2Y	374,730
C9200L-48PXG-4X	337,360
C9200L-48PXG-2Y	337,260
C9200CX-12T-2X2G	755,270
C9200CX-12P-2X2G	553,140
C9200CX-8P-2X2G	569,530
PWR-C5-125WAC	3,332,120
PWR-C5-600WAC	1,600,060
PWR-C5-1KWAC	1,600,060
PWR-C6-125WAC	3,332,120
PWR-C6-600WAC	1,600,060
PWR-C6-1KWAC	1,600,060

Table 16. Model Environmental Ranges

Environmental ranges	
Acoustic noise Measured per ISO 7779 and declared per ISO 9296 Bystander positions operating to an ambient temperature of 25° C	With AC power supply (with 48 PoE+ ports loaded): <ul style="list-style-type: none"> • LpA: 42dB typical, 45 dB max • LwA: 5.3B typical, 5.6B max With AC power supply (with 24 PoE+ ports loaded): <ul style="list-style-type: none"> • LpA: 42dB typical, 45 dB max • LwA: 5.3B typical, 5.6B max Typical: Noise emission for a typical configuration Maximum: Statistical maximum to account for variation in production

Connectors

Table 17 shows the supported connectors for Cisco Catalyst 9200 Series switches.

Table 17. Connectors

Power	
Connectors and cabling	<ul style="list-style-type: none"> • 1000BASE-T ports: RJ-45 connectors, 4-pair Cat 5E UTP cabling • 1000BASE-T SFP-based ports: RJ-45 connectors, 4-pair Cat 5E UTP cabling • 100BASE-FX, 1000BASE-SX, -LX/LH, -ZX, -BX10, dense wavelength-division multiplexing (DWDM) and Coarse Wavelength-Division Multiplexing (CWDM) SFP transceivers: LC fiber connectors (single-mode or multimode fiber) • 10GBASE-SR, LR, LRM (only C9200), ER, ZR, DWDM SFP+ transceivers: LC fiber connectors (single-mode or multimode fiber) • SFP+ connector • Cisco StackWise-160/80 stacking ports: copper-based Cisco StackWise cabling • Ethernet management port: RJ-45 connectors, 4-pair Cat 5 UTP cabling • Management console port: RJ-45-to-DB9 cable for PC connections, USB-C adaptor, USB adaptor
Power connectors	<ul style="list-style-type: none"> • Internal power supply connector: The internal power supply is an auto-ranging unit. It supports input voltages between 100 and 240 VAC. Use the supplied AC power cord to connect the AC power connector to an AC power outlet.

For the latest Cisco transceiver module compatibility information, refer to

https://www.cisco.com/c/en/us/td/docs/interfaces_modules/transceiver_modules/compatibility/matrix/TMG_C_M_Tool_User_Manual.html.

Management and standards support

Table 18 shows management and standards support for Cisco Catalyst 9200 Series switches.

Table 18. Management and standards support*

Description	Specification	
Management	BRIDGE-MIB	CISCO-NHRP-EXT-MIB
	CISCO-BRIDGE-EXT-MIB	CISCO-NTP-MIB
	CISCO-BULK-FILE-MIB	CISCO-PAGP-MIB
	CISCO-CABLE-DIAG-MIB	CISCO-PORT-SECURITY-MIB
	CISCO-CALLHOME-MIB	CISCO-PORT-STORM-CONTROL-MIB
	CISCO-CEF-MIB	CISCO-POWER-ETHERNET-EXT-MIB
	CISCO-CIRCUIT-INTERFACE-MIB	CISCO-PRIVATE-VLAN-MIB
	CISCO-CONFIG-COPY-MIB	CISCO-PROCESS-MIB
	CISCO-CONFIG-MAN-MIB	CISCO-PRODUCTS-MIB
	CISCO-DEVICE-LOCATION-MIB	CISCO-RF-MIB
	CISCO-DHCP-SNOOPING-MIB	CISCO-RTP-METRICS-MIB
	CISCO-EIGRP-MIB	CISCO-RTTMON-ICMP-MIB
	CISCO-EMBEDDED-EVENT-MGR-MIB	CISCO-STACKWISE-MIB
	CISCO-ENTITY-FRU-CONTROL-MIB	CISCO-STP-EXTENSIONS-MIB
	CISCO-ENTITY-SENSOR-MIB	CISCO-SYSLOG-MIB
	CISCO-ENTITY-VENDORTYPE-OID-MIB	CISCO-TCP-MIB
	CISCO-ERR-DISABLE-MIB	CISCO-UDLD-MIB
	CISCO-FLASH-MIB	CISCO-VLAN-IFTABLE-RELATIONSHIP-MIB
	CISCO-FLOW-MONITOR-MIB	ENTITY-MIB
	CISCO-FTP-CLIENT-MIB	HC-ALARM-MIB
	CISCO-HSRP-EXT-MIB	HC-RMON-MIB
	CISCO-HSRP-MIB	IEEE8023-LAG-MIB
	CISCO-IETF-BFD-MIB	IF-MIB
	CISCO-IETF-PPVPN-MPLS-VPN-MIB	IP-FORWARD-MIB
	CISCO-IETF-PW-MPLS-MIB	IP-MIB

Description	Specification	
	CISCO-IF-EXTENSION-MIB	LLDP-EXT-MED-MIB
	CISCO-IGMP-FILTER-MIB	LLDP-MIB
	CISCO-IMAGE-LICENSE-MGMT-MIB	MAU-MIB
	CISCO-IMAGE-MIB	MPLS-L3VPN-STD-MIB
	CISCO-IP-CBR-METRICS-MIB	MPLS-LSR-STD-MIB
	CISCO-IP-STAT-MIB	MPLS-VPN-MIB
	CISCO-IP-TAP-MIB	OLD-CISCO-CHASSIS-MIB
	CISCO-IP-URPF-MIB	OLD-CISCO-CPU-MIB
	CISCO-IPSEC-FLOW-MONITOR-MIB	OLD-CISCO-INTERFACES-MIB
	CISCO-IPSEC-MIB	OLD-CISCO-IP-MIB
	CISCO-IPSEC-PROVISIONING-MIB	OLD-CISCO-MEMORY-MIB
	CISCO-IPSLA-AUTOMEASURE-MIB	OLD-CISCO-SYS-MIB
	CISCO-IPSLA-ECHO-MIB	OLD-CISCO-TCP-MIB
	CISCO-IPSLA-JITTER-MIB	OLD-CISCO-TS-MIB
	CISCO-L2-CONTROL-MIB	POWER-ETHERNET-MIB
	CISCO-L2L3-INTERFACE-CONFIG-MIB	RFC1213-MIB
	CISCO-LAG-MIB	RMON-MIB
	CISCO-LICENSE-MGMT-MIB	RMON2-MIB
	CISCO-LOCAL-AUTH-USER-MIB	SMON-MIB
	CISCO-MAC-NOTIFICATION-MIB	SNMPv2-MIB
	CISCO-MDI-METRICS-MIB	SONET-MIB
	CISCO-MEDIA-METRICS-MIB	TCP-MIB
	CISCO-MEMORY-POOL-MIB	UDP-MIB
	CISCO-MPLS-LSR-EXT-STD-MIB	
	CISCO-NBAR-PROTOCOL-DISCOVERY-MIB	

Description	Specification	
Standards	EEE 802.1s	RMON I and II standards
	IEEE 802.1w	SNMPv1, v2c, and v3
	IEEE 802.1x	
	IEEE 802.1x-Rev	
	IEEE 802.3ad	
	IEEE 802.3af	
	IEEE 802.3at	
	IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports	
	IEEE 802.1D Spanning Tree Protocol	
	IEEE 802.1p CoS prioritization	
	IEEE 802.1Q VLAN	
	IEEE 802.3 10BASE-T specification	
	IEEE 802.3u 100BASE-TX specification	
	IEEE 802.3ab 1000BASE-T specification	
	IEEE 802.3z 1000BASE-X specification	
	IEEE 802.1AE - 128-bit AES MACsec inter network device encryption with MACsec Key Agreement (MKA)	
	IEEE 802.3bz (for mGig PKG SKU's only)	
	IEEE 802.3an (10GBase-T) (for mGig PKG SKU's only)	

Power supply specifications

Table 19 lists the power specifications for Cisco Catalyst 9200 Series switches based on the kind of power supply used.

Table 19. Power supply specifications

Description	Specification						
	PWR-C5-125WAC	PWR-C6-125WAC	PWR-C5-600WAC	PWR-C6-600WAC	PWR-C5-1KWAC	PWR-C6-1KWAC	C9200CX Internal
Power supply rated maximum	125W	125W	600W	600W	1000W	1000W	310W
Total output BTU (note: 1000 BTU/hr = 293W)	426.5 BTU/hr, 125W	426.5 BTU/hr, 125W	2047.3 BTU/hr, 600W	2047.3 BTU/hr, 600W	3412 BTU/hr, 1000W	3412 BTU/hr, 1000W	127.95 BTU/hr, 310W
Input-voltage range and frequency	100 to 240 VAC, 50 to 60 Hz	100 to 240 VAC, 50 to 60 Hz	100 to 240 VAC, 50 to 60 Hz	100 to 240 VAC, 50 to 60 Hz	100 to 240 VAC, 50 to 60 Hz	100 to 240 VAC, 50 to 60 Hz	100 to 240 VAC, 50 to 60 Hz
Input current	1.6-0.7A	1.6-0.7A	7-2.8A	7-2.8A	12-6A	12-6A	3.25-1.5A
Output ratings	12V at 10.5A	12V at 10.5A	54V at 11.1A	54V at 11.1A	54V at 16.5A	54V at 16.5A	12V at 10.5A
Output holdup time	20 ms minimum at 100 VAC	20 ms minimum at 100 VAC	20 ms minimum at 100 VAC	20 ms minimum at 100 VAC	20 ms minimum at 100 VAC	20 ms minimum at 100 VAC	20 ms minimum at 100 VAC
Power-supply input receptacles	IEC 320-C14 (IEC60320-C14)	IEC 320-C14 (IEC60320-C14)	IEC 320-C16 (IEC60320-C16)	IEC 320-C16 (IEC60320-C16)	IEC 320-C16 (IEC60320-C16)	IEC 320-C16 (IEC60320-C16)	
Power cord rating	10A	10A	15A	15A	15A	15A	10A
Physical specifications	(H x W x D): 1.58" x 4.0" x 7.6" Weight: 1.5 lb (0.68 kg)	(H x W x D): 1.58" x 4.0" x 7.6" Weight: 1.5 lb (0.68 kg)	(H x W x D): 1.58" x 4.0" x 7.6" Weight: 1.7 lb (0.77 kg)	(H x W x D): 1.58" x 4.0" x 7.6" Weight: 1.7 lb (0.77 kg)	(H x W x D): 1.58" x 4.0" x 7.6" Weight: 2 lb (0.9 kg)	(H x W x D): 1.58" x 4.0" x 7.6" Weight: 2 lb (0.9 kg)	N/A
Supported Product Family	C9200, C9200L	C9200	C9200, C9200L	C9200	C9200, C9200L	C9200	C9200CX

Description	Specification						
	PWR-C5-125WAC	PWR-C6-125WAC	PWR-C5-600WAC	PWR-C6-600WAC	PWR-C5-1KWAC	PWR-C6-1KWAC	C9200CX Internal
Operating temperature	Normal operating temperature* and altitudes: <ul style="list-style-type: none"> • -5° C to +45° C, up to 5000 feet (1500m) • -5° C to +40° C, up to 10,000 feet (3000m) *Minimum ambient temperature for cold start is 32° F (0° C) Short-term* exceptional conditions: <ul style="list-style-type: none"> • -5° C to +50° C, up to 5000 feet (1500m) • -5° C to +45° C, up to 10,000 feet (3000m) • -5° C to +45° C, at sea level with single fan failure *Not more than following in one-year period: 96 consecutive hours, or 360 hours total, or 15 occurrences						
Storage temperature	-40° to 158° F (-40° to 70° C)						
Relative humidity operating and nonoperating noncondensing	5% to 90% noncondensing						
Altitude	10,000 ft. (3000 meters), up to 45° C						
EMC compliance	FCC Part 15 (CFR 47) Class A ICES-003 Class A EN 55032 Class A CISPR 32 Class A AS/NZS 3548 Class A BSMI Class A VCCI Class A CISPR 35 EN 55035, EN300 386*, EN 61000-3-2, EN 61000-3-3						
Safety compliance	UL 60950-1, CAN/CSA-C22.2 No. 60950-1, EN 60950-1, IEC 60950-1, CCC, CE Marking						
LED indicators	"AC OK": Input power to the power supply is OK "PS OK": Output power from the power supply is OK						

*Use shielded cables for locations other than telecom centers

Power consumption of Standalone 9200 Series switches

Table 20 shows the power consumption of standalone Cisco Catalyst 9200 Series switches based on Alliance for Telecommunications Industry Solutions (ATIS) testing using Internet Mix (IMIX) distribution stream traffic, with input voltage of 115VAC at 60 Hz and no PoE loading. The values given are the maximum possible power consumption numbers under the respective test scenarios.

Table 20. Power consumption of standalone Catalyst 9200 Series switches

				Measured P(W)															
				Half port traffic					Full port traffic					Weighted average Pw	No link	PoE test (no traffic)			
SKU	FEP	Uplink	Input	0.01% / EEE	10%	30%	50%	100%	0.01% / EEE	10%	30%	50%	100%			25%	50%	90%	100%
C9200-24T	125W (C5/C6)	C9200-NM-4X1G	115VAC	33.09	36.08	36.15	36.20	36.34	35.51	41.78	41.89	42.00	42.27	41.20	30.65				
			230VAC	33.15	35.95	36.00	36.06	36.19	35.36	41.50	41.62	41.74	42.01	40.94	30.53				
C9200-24T	125W	C9200-NM-4X10G	115VAC	33.62	36.99	37.29	37.58	38.26	35.41	42.00	42.55	43.11	44.49	41.588	32.20				
			230VAC	33.70	36.85	37.13	37.41	38.10	35.40	41.75	42.30	42.85	44.22	41.364	31.90				
C9200-24P	600W (C5/C6)	C9200-NM-4X1G	115VAC	43.57	47.37	47.42	47.47	47.68	46.82	53.79	53.91	54.02	54.30	53.14	40.75	150.71	251.67	416.85	457.98
			230VAC	43.38	46.92	46.95	47.03	47.18	46.35	53.23	53.34	53.45	53.76	52.59	40.43	148.14	247.03	406.62	446.27
C9200-24P	600W (C5/C6)	C9200-NM-4X10G	115VAC	44.62	48.49	48.79	49.11	49.88	47.02	54.18	54.77	55.34	56.77	53.72	42.55	144.60	245.42	410.22	451.45
			230VAC	44.32	48.06	48.37	48.66	49.40	46.41	53.38	53.99	54.51	55.96	52.94	42.26	142.29	241.14	400.76	440.37
C9200-24PXG	600W (C6)	C9200-NM-4X10G	115VAC	84.30	90.90	91.00	92.30	94.20	95.00	110.60	111.60	112.60	115.20	109.5	72.8	296.8	506.3	858.3	941.5
			230VAC	84.10	90.50	91.10	91.60	92.90	94.30	108.80	109.90	111.00	113.60	107.83	72.24	287.8	492.4	826.7	909.1
C9200-24PXG	600W (C6)	C9200-NM-2X25G	115VAC	83.41	87.59	88.56	89.19	90.85	93.96	101.38	103.32	104.89	107.22	101.22	72.52	187.94	290.47	452.61	494.88
			230VAC	81.90	86.97	87.68	88.38	90.03	92.21	99.79	101.14	102.45	105.65	99.62	71.74	185.45	283.86	441.83	480.86

				Measured P(W)															
				Half port traffic					Full port traffic					Weight ed averag e Pw	No link	PoE test (no traffic)			
SKU	FEP	Uplink	Input	0.01% / EEE	10%	30%	50%	100%	0.01% / EEE	10%	30%	50%	100%			25%	50%	90%	100%
C9200-24PXG	600W (C6)	C9200-NM-2X40G	115VAC	82.34	86.78	87.91	88.90	91.64	92.97	100.93	103.00	104.89	108.81	100.92	71.72	188.86	289.2	448.52	496.28
			230VAC	80.05	84.53	85.64	86.69	89.29	90.26	99.20	101.41	103.56	108.70	99.26	71.72	185.29	282.86	441.33	480.95
C9200-48T	125W (C5/C6)	C9200-NM-4X1G	115VAC	36.57	45.09	45.45	45.63	45.70	36.98	53.95	55.36	53.91	55.87	52.445	36.98				
			230VAC	36.99	45.58	45.65	45.71	45.86	36.48	54.51	54.64	54.7	55.04	52.76	36.48				
C9200-48T	125W (C5/C6)	C9200-NM-4X10G	115VAC	38.84	47.07	48.67	48.71	50.41	39.20	56.33	58.36	58.75	61.80	55.164	38.38				
			230VAC	39.1	47.11	47.91	48.37	49.65	39.46	56.32	57.25	58.19	60.72	55.074	38.67				
C9200-48P	1000W (C5/C6)	C9200-NM-4X1G	115VAC	56.07	60.25	60.31	60.36	60.55	56.45	69.33	69.46	69.56	69.87	68.10	50.42	262.61	467.50	812.39	899.99
			230VAC	55.66	59.98	60.05	60.05	60.27	56.09	69.07	69.20	69.30	69.58	67.83	50.04	258.08	457.61	785.35	867.75
C9200-48P	1000W (C5/C6)	C9200-NM-4X10G	115VAC	54.27	61.71	62.20	62.68	63.88	56.114	70.93	70.95	71.92	74.39	69.79	52.26	262.38	467.41	812.23	899.40
			230VAC	53.89	61.09	61.60	62.07	63.24	55.79	69.52	70.47	71.43	73.89	68.58	51.34	257.97	457.30	785.03	867.35
C9200-48PL	600W (C6)	C9200-NM-4X1G	115VAC	43.57	47.37	47.42	47.47	47.68	46.82	53.79	53.91	54.02	54.30	53.14	40.75	150.71	251.67	416.85	457.98
			230VAC	43.38	46.92	46.95	47.03	47.18	46.35	53.23	53.34	53.45	53.76	52.59	40.43	148.14	247.03	406.62	446.27
C9200-48PL	600W (C6)	C9200-NM-4X10G	115VAC	44.62	48.49	48.79	49.11	49.88	47.02	54.18	54.77	55.34	56.77	53.72	42.55	144.60	245.42	410.22	451.45
			230VAC	44.32	48.06	48.37	48.66	49.40	46.41	53.38	53.99	54.51	55.96	52.94	42.26	142.29	241.14	400.76	440.37
C9200-48PXG	1000W (C6)	C9200-NM-4X10G	115VAC	84.26	90.86	91.02	92.26	94.18	95.01	110.55	111.62	112.62	115.2	109.46	72.3	296.81	506.33	858.27	941.49
			230VAC	84.14	90.52	91.05	91.57	92.85	94.25	108.84	109.94	111	113.6	107.86	73.2	287.79	492.42	826.74	909.07
C9200-48PXG	1000W (C6)	C9200-NM-2X25G	115VAC	87.84	95.23	95.98	96.69	98.34	99.25	113.66	115.37	116.7	120.91	112.94	77.57	300.71	513.82	872.63	957.36
			230VAC	87.12	94.14	94.79	95.42	96.99	97.59	111.99	113.52	114.86	117.82	111.13	76.53	290.61	492.91	826.5	910.08

				Measured P(W)															
				Half port traffic					Full port traffic					Weight ed averag e Pw	No link	PoE test (no traffic)			
SKU	FEP	Uplink	Input	0.01% / EEE	10%	30%	50%	100%	0.01% / EEE	10%	30%	50%	100%			25%	50%	90%	100%
C9200-48PXG	1000W (C6)	C9200-NM-2X40G	115VAC	88.01	94.35	95.5	96.48	99.36	98.72	113.2	115.13	117.08	121.84	112.61	76.84	296.86	503.87	861.87	957.4
			230VAC	87.02	93.09	94.15	95.16	97.79	97.28	111.43	113.57	115.66	120.67	110.94	75.84	291.54	491.67	824.85	909.78
C9200L-24T-4G	125W (C5)	Fixed	115VAC	30.03	32.15	32.17	32.2	32.33	32.03	35.90	35.98	36.06	36.23	35.546	27.39	no PoE	no PoE	no PoE	no PoE
			230VAC	29.81	32.26	32.23	32.22	32.35	31.86	35.86	35.94	36.03	36.28	35.502	27.50	no PoE	no PoE	no PoE	no PoE
C9200L-24P-4G	600W (C5)	Fixed	115VAC	39.28	43.98	44.04	44.08	44.22	38.95	48.47	48.6	48.74	49.00	47.571	39.59	153.06	256.56	423.44	466.34
			230VAC	38.88	43.6	43.66	43.69	43.83	38.57	48.09	48.22	48.35	48.62	47.191	39.20	150.51	252.10	413.89	455.15
C9200L-24T-4X	125W (C5)	Fixed	115VAC	30.99	31.98	32.21	32.43	33.04	33.29	36.62	37.02	37.47	38.6	36.485	27.82	no PoE	no PoE	no PoE	no PoE
			230VAC	30.98	32.02	32.24	32.46	33.02	33.24	36.59	36.96	37.41	38.52	36.448	27.90	no PoE	no PoE	no PoE	no PoE
C9200L-24P-4X	600W (C5)	Fixed	115VAC	42.83	44.15	44.62	44.72	45.39	45.45	51.08	51.52	52.2	53.49	50.758	40.17	144.82	241.99	401.32	445.35
			230VAC	42.36	44.19	44.47	44.61	45.28	44.6	49.33	49.91	50.36	51.51	49.075	39.48	142.32	237.52	392.77	434.06
C9200L-48T-4G	125W (C5)	Fixed	115VAC	33.85	40.11	40.20	40.24	40.34	32.74	46.65	46.88	46.96	47.33	45.327	33.85	no PoE	no PoE	no PoE	no PoE
			230VAC	33.62	40.5	40.57	40.63	40.74	33.06	46.8	46.91	47.05	47.49	45.495	34.16	no PoE	no PoE	no PoE	no PoE
C9200L-48P-4G	1000W (C5)	Fixed	115VAC	45.07	52.15	52.22	52.28	52.44	44.6	58.59	58.7	58.81	59.1	57.242	45.82	270.96	484.59	842.07	933.03
			230VAC	44.55	51.5	51.55	51.6	51.77	44.08	57.82	57.91	58.04	58.29	56.493	45.17	266.35	474.24	814.85	899.58
C9200L-48PL-4G	600W (C5)	Fixed	115VAC	39.28	43.98	44.04	44.08	44.22	38.95	48.47	48.6	48.74	49.00	47.571	39.59	153.06	256.56	423.44	466.34
			230VAC	38.88	43.6	43.66	43.69	43.83	38.57	48.09	48.22	48.35	48.62	47.191	39.20	150.51	252.10	413.89	455.15
C9200	125W	Fixed	115VAC	35.52	42.36	42.9	43.35	43.69	35.06	49.27	50.24	51.19	53.60	48.282	36.08	no PoE	no PoE	no	no PoE

				Measured P(W)															
				Half port traffic					Full port traffic					Weight ed averag e Pw	No link	PoE test (no traffic)			
SKU	FEP	Uplink	Input	0.01% / EEE	10%	30%	50%	100%	0.01% / EEE	10%	30%	50%	100%			25%	50%	90%	100%
L-48T-4X	(C5)																	PoE	
			230VAC	35.84	42.60	43.09	43.58	44.81	35.27	49.41	50.36	51.33	53.67	48.422	36.38	no PoE	no PoE	no PoE	no PoE
C9200 L-48P-4X	1000 W (C5)	Fixed	115VAC	53.12	56.89	57.34	57.80	57.81	55.22	63.92	64.86	65.84	68.36	63.494	50.31	262.59	463.36	789.46	872.6
			230VAC	52.63	56.37	56.82	57.3	58.47	54.71	63.41	64.32	65.27	67.64	62.963	50.02	258.64	453.81	766.04	843.89
C9200 L-48PL-4X	600W (C5)	Fixed	115VAC	42.83	44.15	44.62	44.72	45.39	45.45	51.08	51.52	52.2	53.49	50.758	40.17	144.82	241.99	401.32	445.35
			230VAC	42.36	44.19	44.47	44.61	45.28	44.6	49.33	49.91	50.36	51.51	49.075	39.48	142.32	237.52	392.77	434.06
C9200 L-48PXG-4X	1000 W (C5)	Fixed	115VAC	82.60	87.80	88.28	88.76	89.95	92.56	103.53	104.55	105.57	108.19	102.90	72.14	291.62	496.85	842.43	930.11
			230VAC	81.77	86.62	87.11	87.60	88.82	91.87	102.05	103.02	103.98	106.40	101.47	72.50	286.71	486.25	814.71	898.24
C9200 L-24PXG-4X	600W (C5)	Fixed	115VAC	70.94	73.88	74.37	74.84	76.02	77.37	84.12	85.06	86.00	88.32	83.86	64.54	173.05	271.04	431.68	472.39
			230VAC	70.10	73.04	73.62	74.07	75.15	76.74	82.96	83.86	84.78	87.09	82.75	64.04	170.02	265.51	420.96	459.88
C9200 L-48PXG-2Y	1000 W (C5)	Fixed	115VAC	81.81	85.14	85.81	86.49	88.08	89.40	96.32	97.51	98.71	101.76	96.17	71.45	294.56	500.25	846.33	934.08
			230VAC	79.59	82.94	83.64	84.28	85.81	88.20	95.17	96.36	97.52	100.40	95.00	70.28	283.88	483.54	812.20	894.11
C9200 L-24PXG-2Y	600W (C5)	Fixed	115VAC	70.54	73.04	73.78	74.46	76.10	76.25	83.50	84.78	86.09	89.26	83.35	65.58	178.82	280.13	446.82	489.62
			230VAC	68.89	72.02	72.66	73.35	74.93	75.32	82.00	83.34	84.64	87.87	81.92	65.01	175.55	274.59	434.38	475.39

				Measured P(W)															
				Half port traffic					Full port traffic					Weight ed averag e Pw	No link	PoE test (no traffic)			
SKU	FEP	Uplink	Input	0.01% / EEE	10%	30%	50%	100%	0.01% / EEE	10%	30%	50%	100%			25%	50%	90%	100%
C9200 CX- 8P- 2x2G	310W AC	Fixed	115VAC	26.4	27.6	27.7	27.7	27.9	27.4	29.4	29.5	29.6	29.9	29.3	25.3	110.6	176.3	281.1	305.9
			230VAC	26.5	27.4	27.4	27.5	27.6	27	29.1	29.3	29.3	29.7	29	25.2	107.5	171.5	273.2	302.8
C9200 CX- 12P- 2X2G	310W AC	Fixed	115VAC	23.3	24.7	24.9	25	25.2	24	27.7	27.8	28	28.4	27.4	22.2	88.3	152.5	256.2	282.4
			230VAC	23	24.7	24.8	24.9	25.1	23.9	27.6	27.7	27.9	28.4	27.3	21.7	87.4	150.6	251.3	276.7
C9200 CX- 12T- 2X2G	310W AC	Fixed	115VAC	19.5	21.1	21.1	21.2	22.2	19.9	24.1	24.3	24.4	24.9	23.7	17.4	no PoE	no PoE	no PoE	no PoE
			230VAC	18.9	21	21	21.1	21.2	19.8	23.9	24.1	24.3	24.7	23.5	17.3	no PoE	no PoE	no PoE	no PoE

Safety and compliance

Table 21 lists the safety and compliance information for Cisco Catalyst 9200 Series switches.

Table 21. Safety and compliance information

Description	Specification
Safety certifications	<ul style="list-style-type: none"> • IEC 60950-1 • UL 60950-1 • CAN/CSA C22.2 No. 60950-1 • EN 60950-1 • AS/NZS 60950.1 • Class I Equipment
Electromagnetic compatibility certifications	<ul style="list-style-type: none"> • 47 CFR Part 15 • CISPR 32 Class A • CNS 13438 • EN 300 386* • EN 55032 Class A • EN61000-3-2 • EN61000-3-3 • ICES-003 Class A • KN 32 • TCVN 7189 Class A • V-3 Class A • CISPR 35 • EN 300 386* • EN 55035

Description	Specification
	<ul style="list-style-type: none"> • KN 35 • TCVN 7317
Environmental	Reduction of Hazardous Substances (ROHS) 5

*Use shielded cables for locations other than telecom centers

Warranty

Cisco enhanced limited lifetime hardware warranty

Cisco Catalyst 9200 Series switches come with a Cisco Enhanced Limited Lifetime Warranty (E-LLW) that includes Next-Business-Day (NBD) delivery of replacement hardware where available and 90 days of 8x5 Cisco Technical Assistance Center (TAC) support.

Your formal warranty statement, including the warranty applicable to Cisco software, appears in the information packet that accompanies your Cisco product. We encourage you to review the warranty statement shipped with your specific product carefully before use.

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

For further information about warranty terms, visit <https://www.cisco.com/go/warranty>.

Table 22 provides information about the E-LLW.

Table 22. E-LLW details

	Cisco E-LLW
Devices covered	Applies to Cisco Catalyst 9200 Series switches.
Warranty duration	As long as the original customer owns the product.
End-of-life policy	In the event of discontinuance of product manufacture, Cisco warranty support is limited to 5 years from the announcement of discontinuance.
Hardware replacement	Cisco or its service center will use commercially reasonable efforts to ship a replacement for NBD delivery, where available. Otherwise, a replacement will be shipped within 10 working days after receipt of the Return Materials Authorization (RMA) request. Actual delivery times might vary depending on customer location.
Effective date	Hardware warranty commences from the date of shipment to customer (and in case of resale by a Cisco reseller, not more than 90 days after original shipment by Cisco).
TAC support	Cisco will provide during business hours, 8 hours per day, 5 days per week, basic configuration, diagnosis, and troubleshooting of device-level problems for up to a 90-day period from the date of shipment of the originally purchased Cisco Catalyst 9200 Series product. This support does not include solution or network-level support beyond the specific device under consideration.
Cisco.com access	Warranty allows guest access only to Cisco.com.

Cisco services for next-generation Cisco Catalyst switches

Achieve infrastructure excellence faster and with less risk. Cisco Catalyst 9000 Switch Services provide expert guidance to help you successfully deploy, manage and support the Cisco Catalyst 9000 switches. With unmatched networking expertise, best practices and innovative tools, we can help you reduce overall upgrade, refresh, and migration costs as you introduce new hardware, software and protocols into the network. Offering a comprehensive lifecycle of services – from implementation, optimization, technical and managed services – Cisco experts help you minimize disruption and achieve operational excellence to extract maximum value from your Cisco DNA ready infrastructure.

[Learn more about Cisco Services for Enterprise Networks](#)

Software Policy for Cisco Catalyst 9200 Series switches

Software Policy for Network Stack Components

Customers with the Network Essentials Stack and Network Advantage Stack software feature sets are provided with maintenance updates and bug fixes designed to maintain compliance of the software. This includes compliance with published specifications, release notes, and industry standards as long as the original end user continues to own or use the product or up to one year from the end-of-sale date for the product, whichever occurs earlier.

Cisco Embedded Support for Cisco DNA Term Components

Cisco Embedded Support delivers the right support for Cisco software products and suites. It will keep your business applications performing as expected and protect your investment. Cisco Embedded Support for the Cisco DNA Essentials and Cisco DNA Advantage term components is included. Cisco Embedded Support provides access to TAC support, major software updates, maintenance and minor software releases, and the Cisco Embedded Support site, for increased productivity with anytime access.

Ordering

Ordering information

Table 23 lists ordering information for Cisco Catalyst 9200 Series switches. To place an order, visit the Cisco Ordering home page at:

https://www.cisco.com/en/US/ordering/or13/or8/order_customer_help_how_to_order_listing.html.

Switch Models

C9200 models

Table 23. C9200 Models Ordering information

Product number	Product description
C9200-24T-A	Catalyst 9200 24-port Data Switch, Network Advantage
C9200-24T-E	Catalyst 9200 24-port Data Switch, Network Essentials
C9200-24P-A	Catalyst 9200 24-port PoE+ Switch, Network Advantage
C9200-24P-E	Catalyst 9200 24-port PoE+ Switch. Network Essentials
C9200-24PB-A	Catalyst 9200 24-port PoE+, enhanced VRF, Network Advantage

Product number	Product description
C9200-24PXG-E	Catalyst 9200 24-port 8xmGig, 16x1G, PoE+, Network Essentials
C9200-24PXG-A	Catalyst 9200 24-port 8xmGig, 16x1G, PoE+, Network Advantage
C9200-48T-A	Catalyst 9200 48-port Data Switch, Network Advantage
C9200-48T-E	Catalyst 9200 48-port Data Switch, Network Essentials
C9200-48P-A	Catalyst 9200 48-port PoE+ Switch, Network Advantage
C9200-48P-E	Catalyst 9200 48-port PoE+ Switch, Network Essentials
C9200-48PL-A	Catalyst 9200 48-Port partial PoE+ Switch, Network Advantage
C9200-48PL-E	Catalyst 9200 48-Port partial PoE+ Switch, Network Essentials
C9200-48PB-A	Catalyst 9200 48-port PoE+, enhanced VRF, Network Advantage
C9200-48PXG-E	Catalyst 9200 48-port 8xmGig, 40x1G, PoE+, Network Essentials
C9200-48PXG-A	Catalyst 9200 48-port 8xmGig, 40x1G, PoE+, Network Advantage

Network modules

Table 24. C9200 Models Ordering information – network modules

Modular uplink network modules for C9200 Models	
Product number	Product description
C9200-NM-2Y (=)	Catalyst 9200 2 x 25 GE Network Module, spare
C9200-NM-2Q (=)	Catalyst 9200 2 x 40GE Network Module, spare
C9200-NM-4G (=)	Catalyst 9200 4 x 1GE Network Module, spare
C9200-NM-4X (=)	Catalyst 9200 4 x 10GE Network Module, spare
C9200-NM-BLANK	Catalyst 9200 BLANK Network Module

C9200L models

Table 25. C9200L Models Ordering information

Product number	Product description
C9200L-24T-4G-A	Catalyst 9200L 24-port Data 4x1G uplink Switch, Network Advantage
C9200L-24T-4G-E	Catalyst 9200L 24-port Data 4x1G uplink Switch, Network Essentials
C9200L-24P-4G-A	Catalyst 9200L 24-port PoE+ 4x1G uplink Switch, Network Advantage
C9200L-24P-4G-E	Catalyst 9200L 24-port PoE+ 4x1G uplink Switch, Network Essentials
C9200L-48T-4G-A	Catalyst 9200L 48-port Data 4x1G uplink Switch, Network Advantage
C9200L-24T-4X-A	Catalyst 9200L 24-port Data 4x10G uplink Switch, Network Advantage
C9200L-24T-4X-E	Catalyst 9200L 24-port Data 4x10G uplink Switch, Network Essentials
C9200L-24P-4X-A	Catalyst 9200L 24-port PoE+ 4x10G uplink Switch, Network Advantage
C9200L-24P-4X-E	Catalyst 9200L 24-port PoE+ 4x10G uplink Switch, Network Essentials
C9200L-48T-4X-A	Catalyst 9200L 48-port Data 4x10G uplink Switch, Network Advantage
C9200L-48T-4X-E	Catalyst 9200L 48-port Data 4x10G uplink Switch, Network Essentials
C9200L-48P-4X-A	Catalyst 9200L 48-port PoE+ 4x10G uplink Switch, Network Advantage
C9200L-48P-4X-E	Catalyst 9200L 48-port PoE+ 4x10G uplink Switch, Network Essentials
C9200L-48PL-4X-A	Catalyst 9200L 48-port partial PoE+ 4x10G uplink Switch, Network Advantage
C9200L-48PL-4X-E	Catalyst 9200L 48-port partial PoE+ 4x10G uplink Switch, Network Essentials
C9200L-24PXG-4X-E	Catalyst 9200L 24-port 8xmGig, 16x1G, 4x10G, PoE+, Network Essentials
C9200L-24PXG-4X-A	Catalyst 9200L 24-port 8xmGig, 16x1G, 4x10G, PoE+, Network Advantage
C9200L-48PXG-4X-E	Catalyst 9200L 48-port 12xmGig, 36x1G, 4x10G PoE+, Network Essentials
C9200L-48PXG-4X-A	Catalyst 9200L 48-port 12xmGig, 36x1G, 4x10G PoE+, Network Advantage
C9200L-24PXG-2Y-E	Catalyst 9200L 24-port 8xmGig, 16x1G, 2x25G, PoE+, Network Essentials
C9200L-24PXG-2Y-A	Catalyst 9200L 24-port 8xmGig, 16x1G, 2x25G, PoE+, Network Advantage
C9200L-48PXG-2Y-E	Catalyst 9200L 48-port 8xmGig, 40x1G, 2x25G PoE+, Network Essentials
C9200L-48PXG-2Y-A	Catalyst 9200L 48-port 8xmGig, 40x1G, 2x25G PoE+, Network Advantage

C9200CX models

Table 26. C9200CX Models Ordering information

Product number	Product description
C9200CX-12T-2X2G-E	Catalyst 9200CX 12-port 1G, 2x10G and 3x1G, data, Network Essentials
C9200CX-12T-2X2G-A	Catalyst 9200CX 12-port 1G, 2x10G and 3x1G, data, Network Advantage
C9200CX-12P-2X2G-E	Catalyst 9200CX 12-port 1G, 2x10G and 2x1G, PoE+, Network Essentials
C9200CX-12P-2X2G-A	Catalyst 9200CX 12-port 1G, 2x10G and 2x1G, PoE+, Network Advantage
C9200CX-8P-2X2G-E	Catalyst 9200CX 8-port 1G, 2x10G and 2x1G, PoE+, Network Essentials
C9200CX-8P-2X2G-A	Catalyst 9200CX 8-port 1G, 2x10G and 2x1G, PoE+, Network Advantage

Software licenses

C9200 software licenses

Table 27. C9200 Models Ordering information – software licenses

C9200 models software licenses	
Product number	Product description
C9200-DNA-E-24	C9200 Cisco DNA Essentials Term 24-port
C9200-DNA-E-24-3Y	C9200 Cisco DNA Essentials, 24-port, 3 Year Term license
C9200-DNA-E-24-5Y	C9200 Cisco DNA Essentials, 24-port, 5 Year Term license
C9200-DNA-E-24-7Y	C9200 Cisco DNA Essentials, 24-port, 7 Year Term license
C9200-DNA-E-48	C9200 Cisco DNA Essentials Term 48-port
C9200-DNA-E-48-3Y	C9200 Cisco DNA Essentials, 48-port, 3 Year Term license
C9200-DNA-E-48-5Y	C9200 Cisco DNA Essentials, 48-port, 5 Year Term license
C9200-DNA-E-48-7Y	C9200 Cisco DNA Essentials, 48-port, 7 Year Term license
C9200-DNA-A-24	C9200 Cisco DNA Advantage Term 24-port
C9200-DNA-A-24-3Y	C9200 Cisco DNA Advantage, 24-port, 3 Year Term license
C9200-DNA-A-24-5Y	C9200 Cisco DNA Advantage, 24-port, 5 Year Term license
C9200-DNA-A-24-7Y	C9200 Cisco DNA Advantage, 24-port, 7 Year Term license
C9200-DNA-A-48	C9200 Cisco DNA Advantage Term 48-port
C9200-DNA-A-48-3Y	C9200 Cisco DNA Advantage, 48-port, 3 Year Term license

C9200 models software licenses	
Product number	Product description
C9200-DNA-A-48-5Y	C9200 Cisco DNA Advantage, 48-port, 5 Year Term license
C9200-DNA-A-48-7Y	C9200 Cisco DNA Advantage, 48-port, 7 Year Term license
C9200-LIC=	Electronic Cisco DNA Upgrade License for C9200 switches. Note: when upgrading from Cisco DNA Essentials to Cisco DNA Advantage, Network Essentials is upgraded to Network Advantage
C9200-24-E-A	C9200 24-port NW and DNA Essentials to NW and DNA Advantage Upgrade
C9200-24-E-A-3	24-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 3Y
C9200-24-E-A-5	24-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 5Y
C9200-24-E-A-7	24-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 7Y
C9200-48-E-A	C9200 48-port NW and DNA Essentials to NW and DNA Advantage Upgrade
C9200-48-E-A-3	48-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 3Y
C9200-48-E-A-5	48-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 5Y
C9200-48-E-A-7	48-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 7Y

C9200L software licenses

Table 28. C9200L Models Ordering information - software licenses

C9200L models software licenses	
Product Number	Product Description
C9200L-48T-4G-E	Catalyst 9200L 48-port Data 4x1G uplink Switch, Network Essentials
C9200L-48P-4G-A	Catalyst 9200L 48-port PoE+ 4x1G uplink Switch, Network Advantage
C9200L-48P-4G-E	Catalyst 9200L 48-port PoE+ 4x1G uplink Switch, Network Essentials
C9200L-48PL-4G-A	Catalyst 9200L 48-port partial PoE+ 4x1G uplink Switch, Network Advantage
C9200L-48PL-4G-E	Catalyst 9200L 48-port partial PoE+ 4x1G uplink Switch, Network Essentials
C9200L-24T-4X-A	Catalyst 9200L 24-port Data 4x10G uplink Switch, Network Advantage
C9200L-24T-4X-E	Catalyst 9200L 24-port Data 4x10G uplink Switch, Network Essentials
C9200L-24P-4X-A	Catalyst 9200L 24-port PoE+ 4x10G uplink Switch, Network Advantage
C9200L-24P-4X-E	Catalyst 9200L 24-port PoE+ 4x10G uplink Switch, Network Essentials
C9200L-48T-4X-A	Catalyst 9200L 48-port Data 4x10G uplink Switch, Network Advantage

C9200L models software licenses	
Product Number	Product Description
C9200L-48T-4X-E	Catalyst 9200L 48-port Data 4x10G uplink Switch, Network Essentials
C9200L-48P-4X-A	Catalyst 9200L 48-port PoE+ 4x10G uplink Switch, Network Advantage
C9200L-48P-4X-E	Catalyst 9200L 48-port PoE+ 4x10G uplink Switch, Network Essentials
C9200L-48PL-4X-A	Catalyst 9200L 48-port partial PoE+ 4x10G uplink Switch, Network Advantage
C9200L-48PL-4X-E	Catalyst 9200L 48-port partial PoE+ 4x10G uplink Switch, Network Essentials
C9200L-24PXG-4X-E	Catalyst 9200L 24-port 8xmGig, 16x1G, 4x10G, PoE+, Network Essentials
C9200L-24PXG-4X-A	Catalyst 9200L 24-port 8xmGig, 16x1G, 4x10G, PoE+, Network Advantage
C9200L-48PXG-4X-E	Catalyst 9200L 48-port 12xmGig, 36x1G, 4x10G PoE+, Network Essentials
C9200L-48PXG-4X-A	Catalyst 9200L 48-port 12xmGig, 36x1G, 4x10G PoE+, Network Advantage
C9200L-24PXG-2Y-E	Catalyst 9200L 24-port 8xmGig, 16x1G, 2x25G, PoE+, Network Essentials
C9200L-24PXG-2Y-A	Catalyst 9200L 24-port 8xmGig, 16x1G, 2x25G, PoE+, Network Advantage
C9200L-48PXG-2Y-E	Catalyst 9200L 48-port 8xmGig, 40x1G, 2x25G PoE+, Network Essentials
C9200L-48PXG-2Y-A	Catalyst 9200L 48-port 8xmGig, 40x1G, 2x25G PoE+, Network Advantage
C9200L-LIC=	Electronic Cisco DNA Upgrade License for C9200L switches. Note: when upgrading from Cisco DNA Essentials to Cisco DNA Advantage, Network Essentials is upgraded to Network Advantage
C9200L-24-E-A-3	24-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 3Y
C9200L-24-E-A-5	24-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 5Y
C9200L-24-E-A-7	24-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 7Y
C9200L-48-E-A	C9200L 48-port NW and DNA Essentials to NW and DNA Advantage Upgrade
C9200L-48-E-A-3	48-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 3Y
C9200L-48-E-A-5	48-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 5Y
C9200L-48-E-A-7	48-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 7Y

C9200CX software licenses

Table 29. C9200CX Models Ordering information – software licenses

C9200CX models software licenses	
Product Number	Product Description
C9200CX-DNA-E-8	C9200CX Cisco DNA Essentials Term 8-port
C9200CX-DNAE-8-3Y	C9200CX Cisco DNA Essentials, 8-port, 3 Year Term license
C9200CX-DNAE-8-5Y	C9200CX Cisco DNA Essentials, 8-port, 5 Year Term license
C9200CX-DNAE-8-7Y	C9200CX Cisco DNA Essentials, 8-port, 7 Year Term license
C9200CX-DNA-A-8	C9200CX Cisco DNA Advantage Term 8-port
C9200CX-DNAA-8-3Y	C9200CX Cisco DNA Advantage, 8-port, 3 Year Term license
C9200CX-DNAA-8-5Y	C9200CX Cisco DNA Advantage, 8-port, 5 Year Term license
C9200CX-DNAA-8-7Y	C9200CX Cisco DNA Advantage, 8-port, 7 Year Term license
C9200CX-DNA-E-12	C9200CX Cisco DNA Essentials Term 12-port
C9200CX-DNAE-12-3Y	C9200CX Cisco DNA Essentials, 12-port, 3 Year Term license
C9200CX-DNAE-12-5Y	C9200CX Cisco DNA Essentials, 12-port, 5 Year Term license
C9200CX-DNAE-12-7Y	C9200CX Cisco DNA Essentials, 12-port, 7 Year Term license
C9200CX-DNA-A-12	C9200CX Cisco DNA Advantage Term 12-port
C9200CX-DNAA-12-3Y	C9200CX Cisco DNA Advantage, 12-port, 3 Year Term license
C9200CX-DNAA-12-5Y	C9200CX Cisco DNA Advantage, 12-port, 5 Year Term license
C9200CX-DNAA-12-7Y	C9200CX Cisco DNA Advantage, 12-port, 7 Year Term license
C9200CX-LIC=	Electronic Cisco DNA Upgrade License for C9200CX switches. Note: when upgrading from Cisco DNA Essentials to Cisco DNA Advantage, Network Essentials is upgraded to Network Advantage
C9200CX-8-E-A	C9200CX 8-port NW and DNA Essentials to NW and DNA Advantage Upgrade
C9200CX-8-E-A-3	C9200CX 8-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 3Y
C9200CX-8-E-A-5	C9200CX 8-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 5Y
C9200CX-8-E-A-7	C9200CX 8-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 7Y
C9200CX-12-E-A	C9200CX 12-port NW and DNA Essentials to NW and DNA Advantage Upgrade
C9200CX-12-E-A-3	C9200CX 12-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 3Y

C9200CX models software licenses

Product Number	Product Description
C9200CX-12-E-A-5	C9200CX 12-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 5Y
C9200CX-12-E-A-7	C9200CX 12-port NW and Cisco DNA Ess to NW and DNA Adv Upgrade License 7Y

Stacking Cables**Table 30.** StackWise Cable Ordering information

StackWise-80 and StackWise-160 Kit and cables	
Product number	Product description
C9200-STACK-KIT=	C9200 Stack Kit Spare
C9200L-STACK-KIT=	C9200L Stack Kit Spare
STACK-T4-50CM	50CM Type 3 Stacking Cable
STACK-T4-50CM=	50CM Type 3 Stacking Cable, spare
STACK-T4-1M	1M Type 3 Stacking Cable
STACK-T4-1M=	1M Type 3 Stacking Cable, spare
STACK-T4-3M	3M Type 3 Stacking Cable
STACK-T4-3M=	3M Type 3 Stacking Cable, spare

Power supplies**Table 31.** Power Supply Ordering information

Power supplies	
Product Number	Product Description
PWR-C5-125WAC (=)	125W AC Config 5 Power Supply
PWR-C5-125WAC/2	125W AC Config 5 Power Supply - Secondary Power Supply
PWR-C5-600WAC (=)	600W AC Config 5 Power Supply
PWR-C5-600WAC/2	600W AC Config 5 Power Supply - Secondary Power Supply
PWR-C5-1KWAC (=)	1KW AC Config 5 Power Supply
PWR-C5-1KWAC/2	1KW AC Config 5 Power Supply - Secondary Power Supply
PWR-C6-125WAC (=)	125W AC Config 6 Power Supply
PWR-C6-125WAC/2	125W AC Config 6 Power Supply - Secondary Power Supply

Power supplies	
Product Number	Product Description
PWR-C6-600WAC (=)	600W AC Config 6 Power Supply
PWR-C6-600WAC/2	600W AC Config 6 Power Supply - Secondary Power Supply
PWR-C6-1KWAC (=)	1KW AC Config 6 Power Supply
PWR-C6-1KWAC/2	1KW AC Config 6 Power Supply - Secondary Power Supply
PWR-C5-BLANK=	Blank Module

Table 32. Spare power cords Ordering information

Spare power cords	
Product Number	Product Description
CAB-TA-NA=	AC power cord for Cisco Catalyst (North America)
CAB-TA-AP=	AC power cord for Cisco Catalyst (Australia)
CAB-TA-AR=	AC power cord for Cisco Catalyst (Argentina)
CAB-TA-SW=	AC power cord for Cisco Catalyst (Switzerland)
CAB-TA-UK=	AC power cord for Cisco Catalyst (United Kingdom)
CAB-TA-JP=	AC power cord for Cisco Catalyst (Japan)
CAB-TA-250V-JP=	Japan 250VAC power cord for Cisco Catalyst (Japan)
CAB-TA-125V-JP=	Japan 125V AC Type A Power Cable (Japan - 48 port only)
CAB-TA-EU=	AC power cord for Cisco Catalyst (Europe)
CAB-TA-IT=	AC power cord for Cisco Catalyst (Italy)
CAB-TA-IN=	AC power cord for Cisco Catalyst (India)
CAB-TA-CN=	AC power cord for Cisco Catalyst (China)
CAB-TA-DN=	AC power cord for Cisco Catalyst (Denmark)
CAB-TA-IS=	AC power cord for Cisco Catalyst (Israel)
CAB-ACBZ-12A=	AC power cord for Cisco Catalyst (Brazil), 12A/125V BR-3-20 plug up to 12A
CAB-ACBZ-10A=	AC power cord for Cisco Catalyst (Brazil), 10A/250V BR-3-10 plug up to 10A
CAB-C15-CBN	Cabinet jumper power cord, 250VAC 13A, C14-C15 connectors
PWR-ADPT	AC-DC power adapter for the C9200CX-12T-2X2G compact switch (80W)

Spare power cords

Product Number	Product Description
C9K-ADPT-DC	Power adaptor for compact switches, DC to DC adapter
C9K-ADPT-BRKT-12T	Power adaptor bracket for C9200CX-12T-2X2G
C9K-CMPCT-PWR-CLP	Power clip for the C9200CX compact switches

Rack Mounting Brackets**Table 33.** Rack mounted brackets Ordering information

Product Number	Product Description
ACC-KIT-T1=	Accessory kit with 19 inch Type 1 rack mount
RACK-KIT-T1=	19, 23, 24 inch and ETSI Type 1 rack mount kit
4PT-KIT-T2=	4 Point rack mount kit New
C9K-MGNT-TRAY	Magnet and Mounting Tray for compact switches
C9K-CMPCT-DIN-MNT	DIN Rail Mount for compact switches
RACKMNT-19-CMPACT	19-Inch Rack Mounting Brackets for compact switches
C9K-CMPCT-CBLE-GRD	Cable guard for compact switches
C9K-WALL-TRAY	Wall mount bracket for compact switches
C9K-CMPCT-DESK-MNT	Under desk mount for compact switches

Optics online reference

Cisco Catalyst 9200 Series switches support a wide range of optics. Because the list of supported optics is updated on a regular basis, consult the tables available here for the latest SFP+ and SFP compatibility information:

https://www.cisco.com/en/US/products/hw/modules/ps5455/products_device_support_tables_list.html.

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Document history

New or revised topic	Described In	Date
Added new Catalyst 9200CX models, Cloud Monitoring for Catalyst support	Various locations	June 14, 2022
Added New C9200/L partial PoE Information	Table 1 , 3 , 7 , 8 , 12 , 14 , 16 , 19	September 22, 2020
Added correct images for module uplinks	Network Modules	February 21, 2020
Added New C9200 mGig and C9200 32 VN information	Table 1 , 3 , 7 , 8 , 12 , 19	January 28, 2020
Added New C9200 Network Modules	Table 2 , 19	January 28, 2020
Added New Power Supply information PWR-C6-600WAC	Table 3 , 15 , 16 , 19	October 09, 2019
Forwarding rate with Stacking	Table 8	October 09, 2019
Cloud Security Information	General Information	October 09, 2019
Adding C9200L mGig SKUs	Table 1 , 3 , 8 , 12 , 16	May 14, 2019
Revisions of Weight, addition of LIC upgrade and other minor edits	Software licenses table and weights table	April 01, 2019
Revised Table of Contents Headings	Specifications (was "Dimensions, eight, acoustic, mean time between failures") , added Document History	January 03, 2019

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