



Cisco

C9500-48Y4C-A

Datasheet



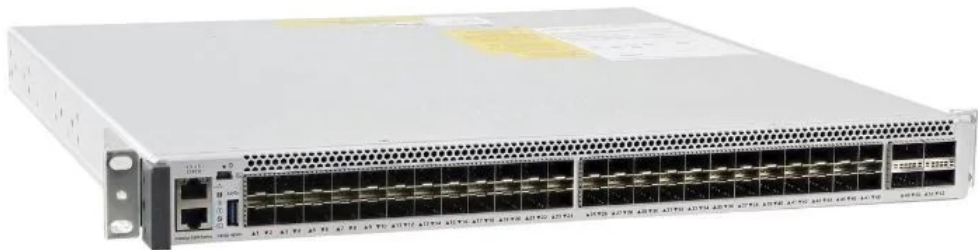
Product Overview

- Cisco Catalyst 9500 Series switches deliver top-tier enterprise core and aggregation performance with advanced hardware and security.
- These switches are designed for enterprise campuses, data centers, and digital workplaces, serving IT integrators and large organizations.
- With up to 3.2 Tbps switching, 1 Bpps forwarding, and support for 48 × 25G ports, they offer high-speed, reliable connectivity and scalability.
- The Catalyst 9500-48Y4C-A includes advanced routing, MPLS, virtualization, and cloud-ready monitoring for enhanced flexibility.
- Efficient cloud or on-premises management and simplified deployment with Cisco Meraki, StackWise Virtual, and Software-Defined Access (SD-Access).
- Built for modern enterprise needs, these switches ensure high availability, easy management, and future-proof network evolution.

Product Highlights

- **High-Performance ASIC Platform:** Powered by the Cisco Silicon One Q200 or UADP ASIC for advanced packet forwarding and high scalability.
- **Multi-Rate Port Design:** Offers up to 48 ports of nonblocking 10/25G SFP28, ideal for dense campus and aggregation applications.
- **Cloud and Virtual Integration:** StackWise Virtual technology and Meraki dashboard enable efficient management and operation.
- **Enterprise-Level Security:** Line-rate MACsec, WAN-MACsec encryption, and advanced access control for robust protection.

Detailed Features



C9500-48Y4C-A

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Component	Specification
Switching Capacity	Up to 3.2 Tbps
Forwarding Rate	Up to 1 Bpps
Port Configuration	48 × 25G SFP28 ports
Routing Capability	IPv4/IPv6, Layer 2/3, MPLS
Power Supply	Dual redundant, AC or DC options



Next-Gen ASIC Design

Built on Cisco Silicon One Q200 and UADP ASICs, the C9500-48Y4C-A achieves up to 12.8 Tbps switching and 8 Bpps forwarding performance. The combination supports powerful native switching and routing with deep buffering, high-speed memory, and low power consumption, making it suitable for high-demand core and aggregation roles.

Comprehensive Connectivity Options

The platform equips up to 60 native nonblocking 10/25/50G SFP56, alongside multiple 40/100/200/400G QSFP-DD and QSFP28 ports. This design enables maximum flexibility for diverse campus or aggregation deployment, supporting seamless integration into evolving enterprise networks.

Flexible and Scalable Routing Tables

Supports massive MAC and routing table sizes, including up to 256,000 MAC addresses and 2 million routing entries. Dual-stack IP support and programmable hardware allocation streamline the transition to IPv6, meeting scaling needs for growing hybrid and IoT environments.

Virtualization and High-Availability Features

With StackWise Virtual, customers gain operational efficiency, multichassis EtherChannel for resiliency, and a scalable system bandwidth foundation. Redundant platinum-rated power supplies and N+1 field-replaceable fan trays ensure non-stop operation in mission-critical networks.

Deep Application Intelligence

Equipped with high-performance multi-core Intel CPUs and up to 960 GB SSD storage, the switch enables on-device container-based application hosting, network telemetry, and model-driven programmability, supporting real-time automation and monitoring.

Security with Full Hardware Support

Line-rate 256-bit MACsec and WAN-MACsec encryption are available in hardware, ensuring secure data across both campus and WAN environments. The system supports granular Quality-of-Service and advanced access control for traffic security.

Advanced Layer 2/3 Enterprise Services

Supports comprehensive enterprise services, including SD-Access, MPLS Layer 2/3 VPN, NAT, multicast, and Precision Time Protocol. These enable integration into modern digital business architectures and critical time-sensitive applications.

Cloud-Based and Automated Management

Meraki cloud dashboard integration provides simple statistics and troubleshooting, while Cisco IOS XE software offers automated device provisioning, API-driven configuration, streaming telemetry, and seamless patch management for maximum operational efficiency.

Technical Specifications

Product Specifications

Feature	Value
Switching Capacity	Up to 3.2 Tbps
Forwarding Rate	Up to 1 Bpps
Total MAC Addresses	Up to 82,000
IPv4 Routes (indirect/direct)	Up to 212,000
IPv4 Host/ARP	90,000
IPv6 Routes (indirect/direct)	Up to 212,000
IPv6 Host	90,000
QoS ACL Scale	Up to 16,000
Security ACL Scale	Up to 27,000
FNF Entries	Up to 98,000
DRAM	16 GB



Feature	Value
Flash	16 GB
VLAN IDs	4,000
Total SVIs	4,000
Jumbo Frame	9,216 bytes
Power Supply Selection	C9K-PWR-650WAC-R or C9K-PWR-930WDC-R
Dimensions (H x W x D)	1.73 x 17.5 x 18.0 in
Rack Units (RU)	1 RU
Input Voltage	90 to 264 VAC
Operating Temperature	32° to 104°F (0° to 40°C)
Storage Temperature	-4° to 149°F (-20° to 65°C)
Relative Humidity Operating	5% to 90%
Relative Humidity Non-operating	5% to 95% (non-condensing)
Altitude (operation)	Up to 13,000 feet at 40°C
MTBF	316,960 hours
Weight	9.96 kg

Product Comparison

Feature	C9500-48Y4C-A	C9500-24Y4C-EDU	C9300-48UB-A=
Fixed Ports	48 × 25G SFP28	24 × 25G SFP28	48 × 1G/2.5G/5G/10G Multigig
Switching Capacity	Up to 3.2 Tbps	Up to 2.0 Tbps	Up to 1.2 Tbps
Forwarding Rate	Up to 1 Bpps	Up to 720 Mpps	Up to 912 Mpps
Stacking Support	StackWise Virtual	StackWise Virtual	StackWise-480
Power Supply	Dual AC/DC options	Dual AC/DC options	Dual redundant, optional
Hardware Security	MACsec support	MACsec support	NA
Management Interface	Meraki/Catalyst Center	Meraki/Catalyst Center	WebUI, CLI, Meraki
Application Hosting	Supports container app	Supports container app	Basic application support



Feature	C9500-48Y4C-A	C9500-24Y4C-EDU	C9300-48UB-A=
Redundancy	Redundant fans & PSU	Redundant fans & PSU	Redundant fans & PSU

Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none">- Power Supply Module- Rack Mount Kit- Console Cable
Optional Accessories	<ul style="list-style-type: none">- 25G SFP28 Transceiver- Redundant Power Supply- Network Module Expansion Card



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References

[1] Cisco. (2024). Cisco Catalyst 9500 Series Switches Data Sheet. Retrieved from <https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-9500-series-switches/nb-06-cat9500-ser-data-sheet-cte-en.html>