



Cisco

C1-N9K-C93180YC-EX

Datasheet



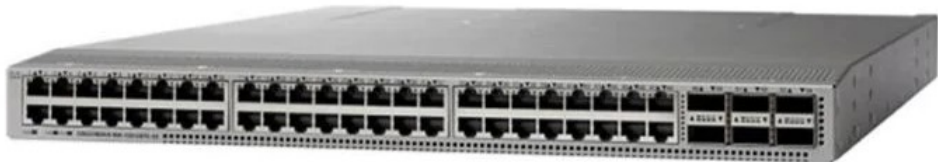
Product Overview

- The Cisco Nexus 9300-EX Series by Cisco delivers a fixed switching solution ideal for scalable, high-performance data centers and cloud infrastructure.
- This switch targets mid-to-large enterprises, service providers, and distributed data centers that need future-ready, robust network platforms.
- It features 48 x 10/25G SFP+ auto-negotiating ports, 6 x 100G QSFP28 ports, and up to 3.6 Tbps of switching capacity for intensive workloads.
- Flexible operation modes include Cisco NX-OS and support for Cisco ACI to adapt deployment to enterprise or cloud-native demands.
- Extensive virtualization, seamless migration between legacy and high-speed servers, and support for advanced networking protocols enhance adaptability.
- With its versatility in deployment, the Nexus 9300-EX ensures investment protection and streamlined operations for data centers aiming for sustainable expansion.

Product Highlights

- **Architectural Flexibility:** Supports both traditional and next-generation networks with Cisco ACI, VXLAN EVPN, and advanced BGP architectures for large-scale growth.
- **Extensive Programmability:** Integrates with leading DevOps tools. Full support for open APIs and automation for fast, error-free deployment.
- **Intelligent Buffer Management:** Handles mixed data flows with advanced queue and buffer technologies, optimizing traffic for performance and stability.
- **Resilient Operation and Management:** N+1 high-availability, modular NX-OS, real-time telemetry, and advanced diagnostics ensure reliable, simplified network management.

Detailed Features



C1-N9K-C93180YC-EX

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Component	Specification
Downlink Ports	48 x 10/25G SFP+ auto-negotiating
Uplink Ports	6 x 100G QSFP28 (breakout to 4x25G/4x10G)
Switching Capacity	3.6 Tbps
Forwarding Rate	2.6 Bpps
Form Factor	1 RU rack-mountable



Modern System Architecture

Built upon Cisco Cloud Scale technology, this platform delivers uncompromised performance and high functionality for current and future data center needs. The combination of advanced hardware and optimized system design provides seamless reliability and scale-out options for demanding enterprise environments.

High-Density Agile Connectivity

The switch offers 48 x 10/25G SFP+ and 6 x 100G QSFP28 ports with flexible breakout, easing the migration from 1G/10G to 25G/100G. This design supports organizations transitioning to faster networking speeds for both server access and aggregation layers without disrupting existing investments.

Investment Protection

Expansive Layer 2/Layer 3 scalability, support for legacy and evolving standards, and large buffer architecture help extend the lifecycle of existing network deployments while supporting new virtualization strategies. This minimizes upgrade costs and delivers long-term value to customers.

Dual Mode Operation

Organizations can deploy either Cisco NX-OS or enable Cisco ACI mode, offering granular policy-based automation or traditional networking for maximum compatibility with enterprise IT automation strategies and cloud-native models.

Advanced Virtualization and Segmentation

Support for VXLAN EVPN, three-tier BGP, and segment routing allows scalable data center fabrics and seamless workload mobility. These technologies empower granular network segmentation and simplify large-scale multi-site deployments.

Comprehensive Layer 3 Protocols

Full support for BGP, OSPF, EIGRP, PIM, and more enables robust route control in both IPv4 and IPv6 environments. Rich protocol diversity ensures simplified multi-vendor integration and maximizes routing flexibility.

Next-Gen Buffer Management

Cisco's buffer management distinguishes mice and elephant flows, using innovative queueing to maintain high throughput and application performance even under heavy burst or microburst traffic, thereby preventing bottlenecks.

Robust High Availability and Management

Hot-swappable PSUs and fans, advanced N+1 redundancy, and modular NX-OS processes ensure maximum uptime. Cisco's DCNM platform and real-time health monitoring streamline troubleshooting, change management, and compliance.

Technical Specifications

Product Specifications

Feature	Value
Model	C1-N9K-C93180YC-EX
Brand	Cisco
Port Configuration	48 x 10/25G SFP+ auto-negotiating ports
Port Configuration (Uplinks)	6 x 100G QSFP28 ports (breakout capable to 4x25G or 4x10G)
Switching Capacity	3.6 Tbps (full duplex)
Forwarding Rate	2.6 Bpps
Latency	~1 microsecond (cut-through; sub-microsecond for 64B packets)
Jumbo Frames	Up to 9216 bytes
CPU	Quad-core 2.5 GHz x86
CPU Cores	Quad-core
CPU Frequency	2.5 GHz



Feature	Value
CPU Architecture	x86
Memory	24 GB DDR4
Storage	128 GB SSD (boot/OS)
Power Supplies	Dual redundant, hot-swappable (AC or DC options)
AC Input	100–240V AC (50/60 Hz)
Typical Power Consumption	270W (no PoE)
Cooling	Hot-swappable fan modules (front-to-back airflow)
Form Factor	1 RU rack-mountable
Dimensions (H x W x D)	1.72 x 17.3 x 22.5 in (4.4 x 44.0 x 57.2 cm)
Height	1.72 in (4.4 cm)
Width	17.3 in (44.0 cm)
Depth	22.5 in (57.2 cm)
Operating Temperature Min	0°C (32°F)
Operating Temperature Max	40°C (104°F)
Storage Temperature Min	-40°C (-40°F)
Storage Temperature Max	70°C (158°F)
Humidity	5% to 95% non-condensing
MTBF	975,233 hours
Supported Protocols	BGP, OSPF, EIGRP, PIM, VRRP, VXLAN, EVPN
Operating System	Cisco NX-OS (modular)
QSFP28 Breakout Support	Each 100G port supports 4 x 25G or 4 x 10G via breakout cable
Power Redundancy	N+1 or grid redundancy supported

Product Comparison

Feature	C1-N9K-C93180YC-EX	C1-N9K-C9364C	C1-N9K-C9504-B2
Port Configuration	48 x 10/25G SFP+, 6 x 100G QSFP28	64 x 100G QSFP28	Modular chassis (up to 4 line cards, flexible ports)
Switching Capacity	3.6 Tbps	12.8 Tbps	Flexible, depending on installed modules
Forwarding Rate	2.6 Bpps	8.4 Bpps	Dependent on configuration



Feature	C1-N9K-C93180YC-EX	C1-N9K-C9364C	C1-N9K-C9504-B2
Stacking/ Chassis	Standalone 1RU	Standalone 2RU	Modular, high expandability
Power Redundancy	N+1, hot-swappable	N+1, hot-swappable	Full modular redundancy
Supported Protocols	NX-OS, BGP, OSPF, VXLAN, EVPN	NX-OS, BGP, OSPF, VXLAN, EVPN	NX-OS, full protocol suite
Form Factor	1 RU rack-mount	2 RU rack-mount	Chassis-based, multi-slot
Expansion Flexibility	QSFP28 breakout, fixed port	QSFP28 high-density, fixed port	Line card and supervisor modularity
Ideal Deployment	High-performance access or aggregation	Core or high-speed aggregation	Large-scale core or aggregation, enterprise and cloud DCs

Accessories

Category	Accessories
Included Accessories	- Dual Hot-Swappable Power Supply Units - Rack Mount Kit - Console Cable
Optional Accessories	- SFP+/QSFP28 Optical Transceivers - Advanced DCNM Software License - Spare Fan Modules



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Contact Us

Email

High Connectivity: sales@router-switch.com

Expert Technical Support: ccie-support@router-switch.com

Cooperative Partnerships: ccie-support@router-switch.com

Phone

USA: +1-626-655-0998

Hong Kong: +852-25925389 / +852-25925411

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Global Branches

Headquarters (Hong Kong)

Rm 605, 6/F, Fa Yuen Comm Bldg, 75-77 Fa Yuen St, Mongkok, Kowloon, Hong Kong, China

USA Branch

3592 Rosemead Blvd, B #220, Rosemead, CA 91770, USA

Shenzhen Branch

Jingfeng Building, 1001 Shangbu South Road, Futian District, Shenzhen, China

UK Branch

Third Floor, 207 Regent Street, London W1B 3HH, UK



References

[1] Cisco Systems. (2024). Cisco Nexus 9000 Series Switches Datasheet. Retrieved from <https://www.cisco.com/c/en/us/products/collateral/switches/nexus-9000-series-switches/datasheet-c78-742283.html>