



Cisco Nexus 9300-EX Switch Datasheet



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OVERVIEW

Based on Cisco Cloud Scale technology, the Cisco Nexus® 9300-EX platforms are the next generation of fixed Cisco Nexus 9000 Series Switches. The new platforms support cost-effective cloud-scale deployments, an increased number of endpoints, and cloud services with wire-rate security and telemetry. The platforms are built on modern system architecture designed to provide high performance and meet the evolving needs of highly scalable data centers and growing enterprises.

Table 1. Cisco Nexus 9300-EX platform switches

Model	Description
Cisco Nexus 93180YC-EX Switch	48 x 1/10/25-Gbps fiber ports and 6 x 40/100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) ports
Cisco Nexus 93108TC-EX Switch	48 x 100M/1/10GBASE-T ports and 6 x 40/100-Gbps QSFP28 ports
Cisco Nexus 93180LC-EX Switch	Up to 32 x 40/50-Gbps QSFP+ ports OR 18 x 100-Gbps QSFP28 ports

APPEARANCE

Figure 1. Cisco Nexus 9300-EX Series Switches





CISCO NX-OS SOFTWARE OVERVIEW

NX-OS is a purpose-built data center operating system designed for performance, resiliency, scalability, manageability, and programmability at its foundation. It provides a robust and comprehensive feature set that meets the demanding requirements of virtualization and automation in present and future data centers. The Cisco Nexus 9000 Series uses an enhanced version of NX-OS with a single binary image that supports every switch in the series, simplifying image management. The operating system is modular, with a dedicated process for each routing protocol: a design that isolates faults while increasing availability. In the event of a process failure, the process can be restarted without loss of state. The operating system supports hot and cold patching and online diagnostics.

The software packaging for the Cisco Nexus 9000 Series offers flexibility and a comprehensive feature set while being consistent with Cisco Nexus access switches. The default system software has a comprehensive Layer 2 security and management feature set. To enable additional functions, including Layer 3 IP unicast and IP multicast routing and Cisco Nexus Data Broker, you must install additional licenses. The licensing guide illustrates the software packaging and licensing available to enable advanced features.

SPECIFICATION OF NEXUS 9300-EX SERIES SWITCHES

Feature	Cisco Nexus 93180YC-EX	Cisco Nexus 93108TC-EX	Cisco Nexus 93180LC-EX
Ports	48 x 10/25-Gbps and 6 x 40/100-Gbps QSFP28 ports	48 x 10GBASE-T and 6 x 40/100-Gbps QSFP28 ports	Up to 32 x 40/50-Gbps QSFP+ ports OR 18 x 100-Gbps QSFP28 ports
Downlink supported speeds	1/10/25-Gbps speeds	100-Mbps and 1/10-Gbps speeds	40/50-Gbps speeds

CPU	4 cores	4 cores	4 cores
System memory	24 GB	24 GB	24 GB
SSD drive	64 GB	64 GB	64 GB
System buffer	40 MB	40 MB	40 MB
Management ports	2 ports: 1 RJ-45 and 1 SFP	2 ports: 1 RJ-45 and 1 SFP	2 ports: 1 RJ-45 and 1 SFP
USB ports	1	1	1
RS-232 serial ports	1	1	1
Power supplies (up to 2)	650W AC, 930W DC, or 1200W HVAC/HVDC	650W AC, 930W DC, or 1200W HVAC/HVDC	500W AC, 930W DC, or 1200W HVAC/HVDC
Typical power*(AC/DC)	210W	290W	220W
Maximum power* (AC/DC)	470W	499W	500W
Input voltage (AC)	100 to 240V	100 to 240V	100 to 240V
Input voltage (high-voltage AC [HVAC])	200 to 277V	200 to 277V	200 to 277V
Input voltage (DC)	-48 to -60V	-48 to -60V	-48 to -60V

Input voltage (high-voltage DC [HVDC])	-240 to -380V	-240 to -380V	-240 to -380V
Frequency (AC)	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz
Fans	4	4	4
Airflow	Port-side intake and exhaust	Port-side intake and exhaust	Port-side intake and exhaust
Physical dimensions (H x W x D)	1.72 x 17.3 x 22.5 in. (4.4 x 43.9 x 57.1 cm)	1.72 x 17.3 x 22.5 in. (4.4 x 43.9 x 57.1 cm)	1.72 x 17.3 x 22.5 in. (4.4 x 43.9 x 57.1 cm)
Acoustics	48.5 dBA at 40% fan speed, 64.9 dBA at 70% fan speed, and 77.8 dBA at 100% fan speed	48.6 dBA at 40% fan speed, 65.2 dBA at 70% fan speed, and 76.5 dBA at 100% fan speed	49.9 dBA at 50% fan speed, 66 dBA at 70% fan speed, and 73.9 dBA at 100% fan speed
RoHS compliance	Yes	Yes	Yes
MTBF	390,330 hours	366,130 hours	323,440 hours

* Typical and maximum power values are based on input drawn from the power circuit. The power supply value (for example, 650W AC power supply: NXA-PAC-650W-PI) is based on the output rating to the inside of the switch

HARDWARE PERFORMANCE AND SCALABILITY SPECIFICATIONS

Item	Cisco Nexus 9300-EX Platform Switches
Maximum number of Longest Prefix Match (LPM) routes	896,000
Maximum number of IP host entries	896,000
Maximum number of MAC address entries	256,000
Maximum number of multicast routes	32,000
Number of Interior Gateway Management Protocol (IGMP) snooping groups	Shipping: 8,000 Maximum: 32,000
Maximum number of Cisco Nexus 2000 Series Fabric Extenders per switch	16
Maximum number of Access Control List (ACL) entries	Per slice of the forwarding engine: 4000 ingress 2000 egress Total (2 forwarding slices): 8000 ingress 4000 egress
Maximum number of VLANs	3,967
Number of Virtual Routing and Forwarding (VRF) instances	Shipping: 1,000 Maximum: 16,000
Maximum number of ECMP paths	64

Maximum number of port channels	512
Maximum number of links in a port channel	32
Number of active SPAN sessions	4
Maximum number of VLAN's in Rapid per-VLAN Spanning Tree (RPVST) instances	3,967
Maximum number of Hot-Standby Router Protocol (HSRP) groups	490
Number of Network Address Translation (NAT) entries	1,023
Maximum number of Multiple Spanning Tree (MST) instances	64
Flow-table size used for Cisco Tetration Analytics platform	64,000
Operating temperature	32 to 104°F (0 to 40°C)
Nonoperating (storage) temperature	-40 to 158°F (-40 to 70°C)
Humidity	5 to 95% (noncondensing)
Altitude	0 to 13,123 ft (0 to 4000m)
Component	Weight
Cisco Nexus 93180YC-EX without power supplies or fans	17.2 lb (7.8 kg)
Cisco Nexus 93108TC-EX without power supplies or fans	17.7 lb (8.0 kg)

Cisco Nexus 93180LC-EX without power supplies or fans	17.2 lb (7.8 kg)
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BASE MODEL ORDERING INFORMATION

Part Number	Product Description
N9K-C93180YC-EX	Nexus 9K Fixed with 48p 1/10G/25G SFP and 6p 40G/100G QSFP28
N9K-C93108TC-EX	Nexus 9K Fixed with 48p 10G BASE-T and 6p 40G/100G QSFP28
N9K-C93180LC-EX	Nexus 9K Fixed with up to 32p 40/50G QSFP+ or up to 18p 100G QSFP28

SOURCES

<https://www.cisco.com/c/en/us/products/collateral/switches/nexus-9000-series-switches/datasheet-c78-736651.html>