Data sheet
Cisco public

Cisco Nexus 9300-FX3 Series Switches

Contents

Product overview

Artificial Intelligence and Machine Learning (AI/ML) applications are being used increasingly in today's data centers, and the Cisco Nexus® 9000 Series Switches have the hardware and software capabilities to provide the right latency, congestion-management mechanisms, and telemetry to meet the requirements of those applications. The Cisco Nexus 9000 Series Switches address the need for high-performance, power-efficient, compact switching in the networking infrastructure and are designed to support 400G fabrics for next-generation leaf and spine designs.

Large-cloud and data-center networking teams require a flexible, reliable solution that efficiently manages, troubleshoots, and analyzes their IT infrastructure. In addition, they need security, automation, visibility, analytics, and assurance. Coupled with tools such as Cisco Nexus Dashboard Insights for visibility and Cisco Nexus Dashboard Fabric Controller for automation, Cisco Nexus 9000 Series Switches are ideal platforms for building a high-performance AI/ML network fabric.

Based on the Cisco Cloud Scale technology, the Cisco Nexus 9300-FX3 Series is the latest generation of access switches. Building on the Nexus 9300-FX series, the platform supports cost-effective cloud-scale deployments, an increased number of endpoints, and is capable of wire-rate security and telemetry. The platform is built on modern system architecture designed to provide high performance and meet the evolving needs of highly scalable data centers and growing enterprises.

Cisco provides two modes of operation for Cisco Nexus 9000 Series Switches. Organizations can deploy Cisco® Application Centric Infrastructure (Cisco ACI®) or Cisco NX-OS mode.

Cisco ACI is a holistic, intent-driven architecture with centralized automation and policy-based application profiles. It provides a robust transport network for dynamic workloads and is built on a network fabric that combines time-tested protocols with new innovations to create a highly flexible, scalable, and resilient architecture of low-latency, high-bandwidth links. This fabric delivers a network that can support the most demanding and flexible data-center environments.

Designed for the programmable network, the Cisco NX-OS operating system automates configuration and management for customers who want to take advantage of the DevOps operation model and tool sets.

Cisco Nexus 9300 FX3 Switches features and benefits

Table 1. Cisco Nexus 9300 FX3 Switches features and benefits.

Features and benefits	Description
Architectural flexibility	• Cisco Nexus 9000 Series Switches support Cisco Application Centric Infrastructure (Cisco ACI), Cisco NX-OS VXLAN EVPN, Cisco IP Fabric for Media, Cisco Nexus Data Broker, and IP routed or Ethernet switched Layer-2 fabrics using a comprehensive set of unicast and multicast IPv6/IPv4 and Ethernet protocols. • A purpose-built Cisco NX-OS Software operating system with comprehensive, proven innovations. The operating system is modular, with a dedicated process for each routing protocol, a design that isolates faults while increasing availability. • Industry-leading Cisco Software-Defined Networking (SDN) solution with Cisco ACI support. • Support for standards-based VXLAN EVPN fabrics, inclusive of hierarchical multisite support (Refer to VXLAN network with MP-BGP EVPN control plane for more information.) • Three-tier BGP architectures, enabling horizontal, nonblocking IPv6 network fabrics at web scale • Comprehensive protocol support for Layer-3 (v4 and v6) unicast and multicast routing protocol suites, including BGP, Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Routing Information Protocol Version 2 (RIPv2), Protocol Independent Multicast Sparse Mode (PIM-SM), Source-Specific Multicast (SSM), and Multicast Source Discovery Protocol (MSDP) • Segment Routing (SR and SRv6) allows the network to forward MultiProtocol Label Switching (MPLS) packets and engineer traffic without Resource Reservation Protocol (RSVP) Traffic Engineering (TE). It provides a control-plane alternative for increased network scalability and virtualization. • Cisco IP Fabric for Media helps you migrate from an SDI router to an IP-based infrastructure. In an IP-based infrastructure, a single cable has the capacity to carry multiple bidirectional traffic flows and can support different flow sizes without requiring changes to the physical infrastructure. • Cisco Nexus Dashboard Data Broker provides customers complete observability into their network and solution(s) that can help them to identify and mitigate security threats, realize and remediate performance bottlenecks, adhere to data compliance, and have insight into capacity-planning operations.
Extensive programmability	• Day-0 automation through Power On Auto Provisioning (POAP), drastically reducing provision time • Industry-leading integrations for leading DevOps configuration management applications, such as Ansible. Extensive Native YANG, and industry-standard OpenConfig model support through RESTCONF/NETCONF/gNMI • REST API interacting with Data Management Engine (DME) • Model-driven telemetry enhances network observability • Third-party application hosting using Cisco Application Framework (CAF)
High scalability, flexibility, and security	• Flexible forwarding tables support up to two million shared entries • Flexible shared ingress and egress of max 56000 ACL entries • IEEE 802.1ae MAC security (MACsec) capability on all ports, which allows traffic encryption at the physical layer and provides secure server, border leaf, and leaf-to-spine connectivity

Features and benefits	Description
AI/ML networking	• Cisco Nexus 9000 Series Switches support innovative congestion management and flow control algorithms along with the latency and telemetry needed to meet the design requirements of AI/ML fabrics. • Priority Flow Control (PFC) is a key capability supported on Cisco Nexus 9000 Series Switches that prevents Ethernet frame drops by signaling, controlling, and managing Ethernet flows along the path by sending pause frames to appropriate senders. • The platform also supports Explicit Congestion Notification (ECN), which provides end-to-end notification per IP flow by marking packets that experienced congestion, without dropping traffic. The platform is capable of tracking ECN statistics, including the number of marked packets that have experienced congestion. • The platform offers lossless transport for Remote Direct Memory Access (RDMA) over converged Ethernet (RoCE) with support of Data-Center Bridging (DCB) protocols: • Enhanced Transmission Selection (ETS) reserves bandwidth per priority class in network contention situations • Data Center Bridging Exchange Protocol (DCBX) can discover and exchange priority and bandwidth information with endpoints. • Weighted Random Early Detection (WRED) is a congestion avoidance technique that allows Cisco Nexus 9000 Series Switches to detect and react to congestion in the network by marking flows that could cause congestion. • The platform offers Cisco's innovative intelligent buffer management, which offers the capability to distinguish mice and elephant flows and apply different queue-management schemes to them based on their network forwarding requirements in the event of link congestion. • Approximate Fair Dropping (AFD) with Elephant Trap (ETRAP). AFD distinguishes long-lived elephant flows from short-lived mice flows by using ETRAP. ETRAP measures the byte counts of incoming flows and compares them against the user-defined ETRAP threshold. After a flow crosses the threshold, it becomes an elephant flow. • Dynamic Packet Prioritization (DPP) provides the capability of separating mice flows and elephant flows into two different queues so that buffer space can be allocated to them independently.
Hardware and software high availability	• Virtual Port-Channel (vPC) technology provides Layer-2 multipathing through the elimination of Spanning Tree Protocol (STP). • Can-do fabric link in the VXLAN environment, eliminating the need for peer-to-peer VPC • The 64-way Equal-Cost Multipath (ECMP) routing enables the use of Layer-3 fat-tree designs. This feature helps organizations prevent network bottlenecks, increase resiliency, and add capacity with little network disruption. • Software Maintenance Upgrades (SMUs) contain fixes for a specific defect and provide a quick resolution of critical issues. • In-Service Software Upgrades (ISSUs) allow upgrades of device software while the switch continues to forward traffic. ISSUs reduce or eliminate the downtime typically caused by software upgrades. • The switches use hot-swappable Power-Supply Units (PSUs) and fans with N+1 redundancy.
Cisco Nexus Dashboard	• Cisco Nexus Dashboard is a platform that transforms data-center and cloud-network operations through simplicity, automation, and analytics. Cisco Nexus Dashboard Fabric Controller (NDFC), Cisco Nexus Dashboard Insights (NDI), Cisco Nexus Dashboard Orchestrator (NDO), and Cisco Nexus Dashboard Data Broker (NDDB) are integrated as services into Cisco Nexus Dashboard. • Cisco Nexus Dashboard is included with all Cisco Nexus 9000 switch tiered licenses. Cisco Nexus Dashboard Fabric Controller requires a Cisco Data Center Networking (DCN) Essentials license, Cisco Nexus Dashboard Orchestrator requires a DCN Advantage license, and Cisco Nexus Dashboard Insights requires a DCN Premier or a DCN Day 2 Ops add-on license.

Switch model

Table 2. Cisco Nexus 9300-FX3 Series Switches

Model	Description
Cisco Nexus 93180YC-FX3 Switch	48 x 1/10/25 Gbps SFP28 ports and 6 x 40/100 Gbps QSFP28 ports
Cisco Nexus 93108TC-FX3 Switch	48 x 100M/1/10 Gbps BASE-T ports 6 x 40/100 Gbps QSFP28 ports
Cisco Nexus 93108TC-FX3P Switch	48 x 100M/1/2.5/5/10 Gbps BASE-T ports 6 x 40/100 Gbps QSFP28 ports
Cisco Nexus 9348GC-FX3 Switch	48 x 10M/100M/1 Gbps BASE-T ports 4x 1/10/25 Gbps SFP28 ports 2 x 40/100 Gbps QSFP28ports
Cisco Nexus 9348GC-FX3PH Switch	40x 10M/100M/1 Gbps BASE-T ports 8x 10M/100M BASE-T half-duplex ports 4x 1/10/25 Gbps SFP28 ports 2 x 40/100 Gbps QSFP28 ports

The **Cisco Nexus 93180YC-FX3 Switch** (Figure 1) is a 1RU switch that supports 3.6 Tbps of bandwidth and 1.2 Bpps. The 48 downlink ports on the 93180YC-FX3 are capable of supporting 1-, 10-, or 25-Gbps Ethernet, offering deployment flexibility and investment protection. The 6 uplink ports can be configured as 40 or 100-Gbps Ethernet, offering flexible migration options. The Cisco Nexus 93180YC-FX3 switch supports standard PTP telecom profiles with SyncE and PTP boundary clock functionality for telco data-center edge environments.

Figure 1.
Cisco Nexus 93180YC-FX3 Switch

The **Cisco Nexus 93108TC-FX3 Switch** (Figure 2) is a 1RU switch that supports 2.16 Tbps of bandwidth and 1.2 bpps. The 48 10GBASE-T downlink ports on the 93108TC-FX3 can be configured to work as 100-Mbps, 1-Gbps, or 10-Gbps ports. The uplink can support up to six 40- and 100-Gbps ports, or a combination of 1-, 10-, 25-, 40, 50-, and 100-Gbps connectivity, offering flexible migration options.

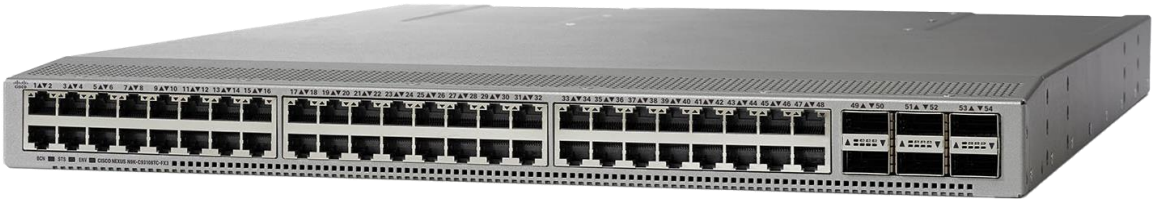

Figure 2.
Cisco Nexus 93108TC-FX3 Switch

The **Cisco Nexus 93108TC-FX3P Switch** (Figure 3) is a compact 1 RU switch that supports 2.16 Tbps of bandwidth and 1.2 Billion packets per second (Bpps). Offering flexible port-speed configurations, the switch supports 48 ports of 100M/1/2.5/5/10G BASE-T on the downlinks. The 6 uplink ports support 40/100G QSFP 28. The 93108TC-FX3P is well suited for network customers requiring more versatility and flexibility in networking speeds.

Figure 3.
Cisco Nexus 93108TC-FX3P Switch

The **Cisco Nexus 9348GC-FX3 Switch** (Figure 4) is a 1RU switch that supports 696 Gbps of bandwidth and over 517 Mpps. The 48 1GBASE-T downlink ports on the 9348GC-FX3 can be configured to work as 10-Mbps, 100-Mbps, or 1-Gbps ports. The 4 ports of SFP28 can be configured as 1/10/25-Gbps and the 2 ports of QSFP28 can be configured as 40- and 100-Gbps ports, or a combination of 10-, 25-, 40, 50-, and 100-Gbps connectivity, offering flexible migration options.

Figure 4.
Cisco Nexus 9348GC-FX3 Switch

The **Cisco Nexus 9348GC-FX3PH Switch** (Figure 5) is a 1RU switch that supports 696 Gbps of bandwidth and over 517 Mpps. The 40 1GBASE-T downlink ports on the 9348GC-FX3PH can be configured to work as 10-Mbps, 100-Mbps, or 1-Gbps ports. The last 8 downlink ports can be configured to work as 10-Mbps or 100-Mbps only. The 4 ports of SFP28 can be configured as 1/10/25-Gbps, and the 2 ports of QSFP28 can be configured as 40- and 100-Gbps ports, or a combination of 10, 25, 40,and 100-Gbps connectivity, offering flexible migration options. The last 8 ports are only of half-duplex functionality and are limited to 10Mbps and 100Mbps speeds only.

Figure 5.
Cisco Nexus 9348GC-FX3PH Switch

Product specifications

The Cisco Nexus 9300-FX3 Series offer industry-leading density and performance with flexible port configurations that can support existing copper and fiber cabling (Table 3).

Table 3. Cisco Nexus 9300-FX3 Series Switch specifications

Feature	Cisco Nexus 93180YC-FX3	Cisco Nexus 93108TC-FX3	Cisco Nexus 93108TC-FX3P	Cisco Nexus 9348GC-FX3	Cisco Nexus 9348GC-FX3PH
Ports	Downlinks: 48 x 1/10/25G SFP28 ports Uplinks: 6 x 40/100G QSFP28 ports	Downlinks: 48 x 100M/1/10G BASE-T ports Uplinks: 6 x 40/100G QSFP28 ports	Downlinks: 48 x 100M/1/2.5/5/10G BASE-T multigigabit-supported ports Uplinks: 6 x 40/100G QSFP28 ports	Downlinks: 48 x 10M/100M/1G BASE-T ports Uplinks: 4 x 10/25G SFP28 and 2 x 40/100G QSFP28 ports	Downlinks: 40 x 10M/100M/1G BASE-T ports and 8 x 10M/100M BASE-T half-duplex ports Uplinks: 4 x 10/25G SFP28 and 2 x 40/100G QSFP28 ports
CPU	4 cores	4 cores	4 cores	4 cores	4 cores
System memory	Default: 16GB Expandable: 16GB	Default: 32GB Expandable: 32GB	Default: 16GB Expandable: 16GB	Default: 32GB Expandable: 32GB	Default: 32GB Expandable: 32GB
SSD drive	128 GB	128 GB	128 GB	128 GB	128 GB
System buffer	40 MB	40 MB	40 MB	40 MB	40 MB
Management ports	1 port: 1 RJ-45	2 ports: 1 RJ-45 and 1 SFP	2 ports: 1 RJ-45 and 1 SFP	2 ports: 1 RJ-45 and 1 SFP	2 ports: 1 RJ-45 and 1 SFP

Feature	Cisco Nexus 93180YC-FX3	Cisco Nexus 93108TC-FX3	Cisco Nexus 93108TC-FX3P	Cisco Nexus 9348GC-FX3	Cisco Nexus 9348GC-FX3PH
USB ports	1	1	1	1	1
1PPS	GPS 1PPS input or output	NA	NA	NA	NA
10MhZ	GPS 10Mhz input or output.	NA	NA	NA	NA
Time of Day (ToD)	1 RJ-45	NA	NA	NA	NA
ANT	Antenna for GNSS	NA	NA	NA	NA
RS-232 serial ports	1	1	1	1	1
Power supplies (up to 2)	650W AC port-side intake and port-side exhaust 930W DC port-side intake and port-side exhaust 1200W HVAC/HVDC dual direction	500W AC port-side intake and port-side exhaust 930W DC port-side intake and port-side exhaust 1200W HVAC/HVDC dual direction	1100W AC port-side intake and port-side exhaust 1900W AC port-side intake only	350W AC port-side intake and port-side exhaust 440W DC port-side intake and port-side exhaust 350W HVAC/HVDC dual direction	350W AC port-side intake and port-side exhaust 1900W AC port-side intake and port-side exhaust 440W DC port-side intake and port-side exhaust 350W HVAC/HVDC dual direction
Typical power (AC/DC)	325W	420W	360W	226W	238W
Maximum power (AC/DC)	600W	464W	530W	242W	251W
Input voltage (AC)	100 to 240V	100 to 240V	100 to 240V	100 to 240V	100 to 240V
Input voltage (High-Voltage AC [HVAC])	200 to 277V	200 to 277V	NA	200 to 277V	200 to 277V
Input voltage (DC)	-48 to -60V	-48 to -60V	NA	-48 to -60V	-48 to -60V
Input voltage (High-Voltage DC [HVDC])	-240 to -380V	-240 to -380V	NA	-240 to -380V	-240 to -380V
POE Ports	NA	NA	Ports 1 to 48	NA	Ports 1 to 48

Feature	Cisco Nexus 93180YC-FX3	Cisco Nexus 93108TC-FX3	Cisco Nexus 93108TC-FX3P	Cisco Nexus 9348GC-FX3	Cisco Nexus 9348GC-FX3PH
POE Modes	NA	NA	POE(15W) POE+(30W) UPoE/POE++(60w)	NA	POE(15W) POE+(30W) POE++(60w)
Frequency (AC)	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz
Fans	4	4	4	3	3
Airflow	Port-side intake and exhaust	Port-side intake and exhaust	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 19.6 in. (4.4 x 43.9 x 49.6 cm)	1.72 x 17.3 x 17.9 in. (4.4 x 43.9 x 45.5 cm)	1.72 x 17.3 x 18 in. (4.4 x 43.9 x 45.9 cm)	1.72 x 17.3 x 19.7 in. (4.4 x 43.9 x 49.9 cm)	1.72 x 17.3 x 19.7 in. (4.4 x 43.9 x 49.9 cm)
Acoustics	Port-side exhaust: Fan speed at 50%:63.4 dBA Fan speed at 70%:74.3 dBA Fan speed at 100%: 83.4 dBA Port-side intake: Fan speed at 50%:64.6 dBA Fan speed at 70%:76.1 dBA Fan speed at 100%: 85.4 dBA	Port-side exhaust: Fan speed at 50%:68.6 dBA Fan speed at 70%:76 dBA Fan speed at 100%: 85.9 dBA Port-side intake: Fan speed at 50%:70.7 dBA Fan speed at 70%:78.3 dBA Fan speed at 100%: 86.9 dBA	Port-side exhaust: Fan speed at 50%: 70.1dBA Fan speed at 70%: 78.1 dBA Fan speed at 100%: 86.0 dBA Port-side intake: Fan speed at 50%: 71.2 dBA Fan speed at 70%: 79.7 dBA Fan speed at 100%: 87.6 dBA	Port-side exhaust: Fan speed at 40%:60.7dBA Fan speed at 70%:71.9 dBA Fan speed at 100%: 81.6 dBA Port-side intake: Fan speed at 40%:66.1 dBA Fan speed at 70%:73.2 dBA Fan speed at 100%: 79.6 dBA	Port-side exhaust: Fan speed at 40%:60.7dBA Fan speed at 70%:71.9 dBA Fan speed at 100%: 81.6 dBA Port-side intake: Fan speed at 40%:66.1 dBA Fan speed at 70%:73.2 dBA Fan speed at 100%: 79.6 dBA
RoHS compliance	Yes	Yes	Yes	Yes	Yes
MTBF	288,760 Hours	276,220 Hours	283,100 hours	283,670 hours	263,920 hours
Minimum ACI release	ACI-15.1.3	ACI-16.0.5	ACI-15.1.3	ACI-16.0.5	NA
Minimum NX-OS release	NXOS-9.3.7	NXOS-10.4.2	NXOS-9.3.5	NXOS-10.4.1	NXOS-10.4.1

Table 4 summarizes the POE specifications.

Table 4. Switch POE power specifications

Switch	Cisco Nexus 93108TC-FX3P POE Power Specifications				Cisco Nexus 9348GC-FX3PH POE Power Specifications			
Power Supply and Mode	**Available PoE power (Watts)**	**Number of PoE ports (15W)**	**Number of PoE+ ports (30W)**	**Number of UPoE/POE ++ ports (60W)**	**Available PoE power (Watts)**	**Number of PoE ports (15W)**	**Number of PoE+ ports (30W)**	**Number of PoE ++ ports (60W)**
Two 1900W PSUs Non-redundant mode	1920	48	48	32	3000	48	48	48
Two 1900W PSUs Redundant mode	1300	48	43	21	1450	48	48	24
Two 1100W PSUs Non redundant mode	1600	48	48	26	NA	NA	NA	NA
Two 1100W PSUs Redundant mode	500	33	16	8	NA	NA	NA	NA

Table 5 presents the power supply part numbers compatible with Cisco Nexus 9300-FX3 Series Switches.

Table 5. Power Supply Compatibility

Cisco Nexus 9300-FX3 Series Switches	Power Supply Part Number
N9K-C93180YC-FX3	NXA-PAC-650W-PE NXA-PAC-650W-PI NXA-PDC-930W-PE NXA-PDC-930W-PI N9K-PUV-1200W
N9K-C93108TC-FX3	NXA-PAC-500W-PE NXA-PAC-500W-PI NXA-PDC-930W-PE NXA-PDC-930W-PI N9K-PUV-1200W
N9K-C93108TC-FX3P	NXA-PAC-1100W-PE NXA-PAC-1100W-PI NXA-PAC-1900W-PI NXA-PAC-930W-PI

Cisco Nexus 9300-FX3 Series Switches	Power Supply Part Number
N9K-C9348GC-FX3	NXA-PAC-350W-PE2 (NxOS) NXA-PAC-350W-PI2 (NxOS) NXA-PAC-350W-PE (ACI) NXA-PAC-350W-PI (ACI) NXA-PDC-440W-PE NXA-PDC-440W-PI NXA-PHV-350W-PE NXA-PHV-350W-PE
N9K-C9348GC-FX3P	NXA-PAC-350W-PE2 NXA-PAC-350W-PI2 NXA-PDC-440W-PE NXA-PDC-440W-PI NXA-PHV-350W-PE NXA-PHV-350W-PE NXA-PAC-1900W-PI NXA-PAC-1900W-PE

Table 6 presents the fan part numbers compatible with Cisco Nexus 9300-FX3 Series Switches.

Table 6. Fan Compatibility

Cisco Nexus 9300-FX3 Series Switches	Fan Part Number
N9K-C93180YC-FX3	NXA-FAN-35CFM-PI NXA-FAN-35CFM-PE
N9K-C93108TC-FX3	NXA-SFAN-35CFM-PI NXA-SFAN-35CFM-PE
N9K-C93108TC-FX3P	NXA-FAN-35CFM-PI NXA-FAN-35CFM-PE
N9K-C9348GC-FX3	NXA-SFAN-30CFM-PI NXA-SFAN-30CFM-PE
N9K-C9348GC-FX3P	NXA-SFAN-30CFM-PI NXA-SFAN-30CFM-PE

Table 7 lists the performance and scalability specifications for the Cisco Nexus 9300-FX3 Series Switch. (Check the software release notes for feature support information.)

Table 7. Hardware performance and scalability specifications[1]

Item	Cisco Nexus 9300-FX3 Series Switches
Maximum number of IPv4 Longest Prefix Match (LPM) routes	1,792,000
Maximum number of IPv4 host entries	1,792,000
Maximum number of IPv6 Longest Prefix Match (LPM) routes	896,000
Maximum number of IPv6 host entries	1,792,000
Maximum number of MAC address entries	512,000
Maximum number of multicast routes	128,000
Number of Internet Group Management Protocol (IGMP) snooping groups	32,000
Maximum number of Cisco Nexus 2000 Series Fabric Extenders per switch (supported only on 93180YC-FX3 and 93108TC-FX3P)	16[2]
Maximum number of Access Control List (ACL) entries	Single-slice forwarding engine: 5000 ingress 2000 egress
Maximum number of VLANs	4096[3]
Number of Virtual Routing and Forwarding (VRF) instances	16,000
Maximum number of ECMP paths	128-way
Maximum number of port channels	512
Maximum number of links in a port channel	32
Number of active SPAN sessions	4
Maximum number of VLANs in Rapid per-VLAN Spanning Tree (RPVST) instances	3967
Maximum number of Hot-Standby Router Protocol (HSRP) groups	490

Item	Cisco Nexus 9300-FX3 Series Switches
Number of Network Address Translation (NAT) entries	1023
Maximum number of Multiple Spanning Tree (MST) instances	64
Flow-table size used for Cisco Nexus Dashboard Insights	64,000
Number of queues	8

[1] Refer to the Cisco Nexus 9000 Series Verified Scalability Guide documentation for scalability numbers validated for specific software releases.

[2] For FEX scale numbers please refer to the Cisco Nexus 9000 Series Verified Scalability Guide documentation.

[3] 27 VLANs out of 4096 are reserved.

Table 8 lists the environmental properties, and Table 9 lists the weights of the Cisco Nexus 9300-FX3 Series Switches.

Table 8. Environmental properties

Property	Description
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)

Table 9. Weight

Component	Weight
Cisco Nexus 93180YC-FX3 without power supplies or fans	21 lb (9.52 kg)
Cisco Nexus 93108TC-FX3P without power supplies or fans	16 lb (7.25 kg)
Cisco Nexus 9348GC-FX3 without power supplies or fans	14.5 lb (6.5 kg)
Cisco Nexus 9348GC-FX3PH without power supplies or fans	14.7 lb (6.6 kg)
Cisco Nexus 93108TC-FX3 without power supplies or fans	15.8 lb (7.1 kg)
350W AC power supply	2.31 lb (1.0 kg)
500W AC power supply	2.14 lb (1.0 kg)
650W AC power supply	2.42 lb (1.1 kg)
1100W AC power supply	3.0 lb (1.36 kg)
1900W AC power supply	3.19 lb (1.4 kg)

Component	Weight
440W DC power supply	2.64 lb (1.19 kg)
930W DC power supply	2.42 lb (1.1 kg)
350W HVDC/HVAC power supply	2.64 lb (1.19 kg)
1200W HVDC/HVAC power supply	2.42 lb (1.1 kg)
Fan tray: NXA-FAN-35CFM-PE or NXA-FAN-35CFM-PI	0.26 lb (0.12 kg)
Fan tray: NXA-SFAN-30CFM-PE or NXA-SFAN-30CFM-PI	0.24 lb (0.10 kg)
Fan tray: NXA-SFAN-35CFM-PE or NXA-SFAN-35CFM-PI	0.28 lb (0.13 kg)

Table 10 summarizes regulatory standards compliance for the Cisco Nexus 9300-FX3 Series Switches.

Table 10. Regulatory standards compliance: safety and EMC

Specification	Description
Regulatory compliance	Complies with CE markings according to directives 2004/108/EC and 2006/95/EC.
Safety	NEBS • UL 60950-1 Second Edition • CAN/CSA-C22.2 No. 60950-1 Second Edition • EN 60950-1 Second Edition • IEC 60950-1 Second Edition • AS/NZS 60950-1 • GB4943
EMC: emissions	• 47CFR Part 15 (CFR 47) Class A • AS/NZS CISPR22 Class A • CISPR22 Class A • EN55022 Class A • ICES003 Class A • VCCI Class A • EN61000-3-2 • EN61000-3-3 • KN22 Class A • CNS13438 Class A
EMC: immunity	• EN55024 • CISPR24 • EN300386 • KN 61000-4 series
RoHS	The product is RoHS-6 compliant with exceptions for leaded-ball grid-array (BGA) balls and lead press-fit connectors.

Software licensing and optics supported

The software packaging for the Cisco Nexus 9000 Series offers flexibility and a comprehensive feature set. 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. To meet customer requirements, licensing is available as both subscription and perpetual. The licensing guide illustrates the software packaging and licensing available to enable advanced features. For the latest software release information and recommendations, refer to the product bulletin at https://www.cisco.com/go/nexus9000.

For details about the optics modules available and the minimum software release required for each supported module, visit https://www.cisco.com/en/US/products/hw/modules/ps5455/products_device_support_tables_list.html.

Ordering information

Table 11 presents ordering information for the Cisco Nexus 9300-FX3 Series Switches.

Table 11. Ordering information

Part number	Product description
Base part numbers	
N9K-C93180YC-FX3	Nexus 9300 with 48p 1/10G/25G SFP28 ports and 6p 40G/100G QSFP28 ports
N9K-C93108TC-FX3	Nexus 9300 with 48p 100M/1/10GT and 6p 40/100G QSFP28 ports
N9K-C93108TC-FX3P	Nexus 9300 with 48p 100M/1/2.5/5/10GT and 6p 100G QSFP28 ports
N9K-C9348GC-FX3	Nexus 9300 with 48p 100M/1GT, 4p 10/25G SFP28 and 2p 40/100G QSFP28 ports
N9K-C9348GC-FX3PH	Nexus 9300 with 48p 100M/1GT w 8x half-duplex ports, 4p 10/25G SFP28 and 2p 40/100G QSFP28 ports
Power supplies	
NXA-PAC-350W-PE	Cisco Nexus 9000 350W AC PS, port-side exhaust
NXA-PAC-350W-PI	Cisco Nexus 9000 350W AC PS, port-side intake
NXA-PAC-350W-PE2	Cisco Nexus 9000 350W AC PS, port-side exhaust
NXA-PAC-350W-PI2	Cisco Nexus 9000 350W AC PS, port-side intake
NXA-PDC-440W-PI	Cisco Nexus 9000 930W DC PS, port-side intake
NXA-PDC-440W-PE	Cisco Nexus 9000 930W DC PS, port-side exhaust
NXA-PAC-500W-PE	Cisco Nexus 9000 500W AC PS, port-side exhaust
NXA-PAC-500W-PI	Cisco Nexus 9000 500W AC PS, port-side intake
NXA-PAC-650W-PE	Cisco Nexus 9000 650W AC PS, port-side exhaust

Part number	Product description
NXA-PAC-650W-PI	Cisco Nexus 9000 650W AC PS, port-side intake
NXA-PAC-1100W-PE	Cisco Nexus 9000 1100W AC PS, port-side exhaust
NXA-PAC-1100W-PI	Cisco Nexus 9000 1100W AC PS, port-side intake
NXA-PAC-1900W-PE	Cisco Nexus 9000 1900W AC PS, port-side exhaust
NXA-PAC-1900W-PI	Cisco Nexus 9000 1900W AC PS, port-side intake
NXA-PDC-930W-PE	Cisco Nexus 9000 930W DC PS, port-side exhaust
NXA-PDC-930W-PI	Cisco Nexus 9000 930W DC PS, port-side intake
NXA-PHV-350W-PE	Cisco Nexus 9300 350W power supply, supports HVAC/HVDC, port side exhaust
NXA-PHV-350W-PI	Cisco Nexus 9300 350W power supply, supports HVAC/HVDC, port side intake
N9K-PUV-1200W	Cisco Nexus 9300 1200W universal power supply, bidirectional airflow and supports HVAC/HVDC
Fans	
NXA-FAN-35CFM-PE	Cisco Nexus fan, 35CFM, port-side exhaust airflow
NXA-FAN-35CFM-PI	Cisco Nexus fan, 35CFM, port-side intake airflow
NXA-SFAN-30CFM-PE	Cisco Nexus fan, 30CFM, port-side exhaust airflow
NXA-SFAN-30CFM-PI	Cisco Nexus fan, 30CFM, port-side intake airflow
NXA-SFAN-35CFM-PE	Cisco Nexus fan, 35CFM, port-side exhaust airflow
NXA-SFAN-35CFM-PI	Cisco Nexus fan, 35CFM, port-side intake airflow
Accessories on Cisco Nexus 9300-FX3 Series Switches	
NXK-ACC-KIT-1RU	Cisco Nexus fixed accessory kit with 4-post rack mount kit
NXK-ACC-KIT-2P	Cisco Nexus fixed accessory kit with 2-post rack mount kit

Warranty, service, and support

The Cisco Nexus 9300-FX3 Series has a 1-year limited hardware warranty. The warranty includes hardware replacement with a 10-day turnaround from receipt of a Return Materials Authorization (RMA).

Cisco offers a range of professional, solution, and product support services for each stage of your Cisco Nexus 9300-FX3 Series deployment:

- Cisco Data Center Quick Start Service for Cisco Nexus 9000 Series Switches: this offering provides consulting services that include technical advice and assistance to help deploy Cisco Nexus 9000 Series Switch.
- Cisco Data Center Accelerated Deployment Service for Cisco Nexus 9000 Series Switches: this service delivers planning, design, and implementation expertise to bring your project into production. The service also provides recommended next steps, an architectural high-level design, and operation-readiness guidelines to scale the implementation to your environment.
- Cisco Migration Service for Cisco Nexus 9000 Series Switches: this service helps you migrate from Cisco Catalyst® 6000 Series Switches to Cisco Nexus 9000 Series Switches.
- Cisco Product Support: this support service is available globally 24 hours a day, 7 days a week, for Cisco software and hardware products and technologies associated with Cisco Nexus 9000 Series Switches. Enhanced support options delivered by Cisco also include solution support for Cisco ACI, Cisco SMARTnet™ service, and Cisco Smart Net Total Care®* service.
- For more information, visit https://www.cisco.com/go/services.

* For Cisco products only.

Cisco environmental sustainability

Information about Cisco's environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the "Environment sustainability" section of Cisco's Corporate Social Responsibility (CSR) Report.

Reference links to **information about key environmental sustainability topics** (mentioned in the "Environment sustainability" section of the CSR Report) are provided in the following table:

Sustainability topic	Reference
Information on product material content laws and regulations	Materials
Information on electronic waste laws and regulations, including products, batteries, and packaging	WEEE compliance

Reference links to **product-specific environmental sustainability information** that is mentioned in relevant sections of this data sheet are provided in the following table:

Sustainability topic	Reference
General	
Product Compliance	Table 10. Safety and compliance information
Power	
Power supply	Table 3. Product specifications: power supplies, typical and maximum power specifications
Material	
Unit weight	Table 9. Weight
Dimensions and mean time between failures metrics	Table 3. Product specifications

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For more information

For more information about the Cisco Nexus 9000 Series and latest software release information and recommendations, visit https://www.cisco.com/go/nexus9000.

Document history

New or revised topic	Described in	Date
Added N9K 93108TC-FX3 to FX3 datasheet	Where appropriate	December 1, 2023
Added N9K 9348GC-FX3 and N9K 9348GC-FX3PH DC/PHV PSUs	Table 3	December 17, 2023
Added POE details for N9K-93108TC-FX3P and N9K-9348GC-FX3PH	Where appropriate	March 11, 2024
Added Power Supply and Fan Compatibility	Table 5 and Table 6	April 29, 2024
Updated Power Supply Compatibility	Table 5 and Table 11	June 7, 2024
Fan part number changes	Table 6	December 2024

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Printed in USA C78-744052-16 12/24