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Cisco Nexus 9300-EX, FX, and FX3 24 Port Series Switches

Contents

Product overview

The Cisco Nexus® 93180YC-FX3H, 93108TC-FX3H, 93180YC-FX-24, 93108TC-FX-24, 93180YC-EX-24, and 93108TC-EX-24 switches belong to the fixed Cisco Nexus 9000 platform based on [Cisco® Cloud Scale technology](#). The switches support cost-effective and compact form factors for smaller data center deployments. 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.

The Cisco Nexus 9000 Series Switches offer a variety of interface options to transparently migrate existing data centers from 100-Mbps, 1-Gbps, and 10-Gbps speeds to 25 Gbps at the server, and from 10- and 40-Gbps speeds to 50 and 100 Gbps at the aggregation layer. The platforms provide investment protection for customers, delivering large buffers, highly flexible Layer 2 and Layer 3 scalability, and performance to meet the changing needs of virtualized data centers and automated cloud environments.

Cisco provides two modes of operation for Cisco Nexus 9000 Series Switches. Organizations can use [Cisco NX-OS Software](#) to deploy the switches in standard Cisco Nexus switch environments (NX-OS mode). Organizations can also deploy the infrastructure that is ready to support the [Cisco Application Centric Infrastructure](#) (Cisco ACI™) platform to take full advantage of an automated, policy-based, systems-management approach (ACI mode).

Switch models

Table 1.   Cisco Nexus 9300 Series Switches

Model	Description
Cisco Nexus 93180YC-FX3H*	24* x 1/10/25-Gbps fiber ports and 6 x 40/100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) ports
Cisco Nexus 93108TC-FX3H*	24* x 100M/1/10GBASE-T ports and 6 x 40/100-Gbps QSFP28 ports
Cisco Nexus 93180YC-FX-24*	24* x 1/10/25-Gbps fiber ports and 6 x 40/100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) ports
Cisco Nexus 93108TC-FX-24*	24* x 100M/1/10GBASE-T ports and 6 x 40/100-Gbps QSFP28 ports
Cisco Nexus 93180YC-EX-24*	24* 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-24*	24* x 100M/1/10GBASE-T ports and 6 x 40/100-Gbps QSFP28 ports
*Licensed to use any 24 downlink ports (total number of ports = 48) and 6 uplink ports. Upgrade to a 48-port license by installing an upgrade license N9K-FX3-24P-UPG= or N9K-FX-24P-UPG= or N9K-EX-24P-UPG=. Please refer to the [Cisco NX-OS License Guide](#) for details.	

The Cisco Nexus 93180YC-FX3H (Figure 1) is a 1RU switch with 24 downlink ports (licensed to use any 24 of the 48 ports) capable of supporting 1-, 10-, or 25-Gbps Ethernet. The 6 uplink ports can be configured as 40 and 100-Gbps Ethernet, offering flexible migration options. Please see the Licensing guide section to enable features on the platform. Cisco Nexus 93180YC-FX3H switch also supports standard PTP Telecom profiles with SyncE and PTP boundary clock functionality for Telco data center edge environments.

Figure 1.
Cisco Nexus 93180YC-FX3H Switch

The Cisco Nexus 93108TC-FX3H Switch (Figure 2) is a compact 1 RU switch that supports 24 ports (licensed to use any 24 of the 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-FX3H is well suited for network customers requiring more versatility and flexibility in networking speeds.

Figure 2.
Cisco Nexus 93108TC-FX3H Switch

The Cisco Nexus 93180YC-FX-24 Switch (Figure 3) is a One-Rack-Unit (1RU) switch with latency of less than 1 microsecond. The 24 downlink ports (licensed to use any 24 of the 48 ports) on the 93180YC-FX-24 are capable of supporting 1-, 10-, or 25-Gbps Ethernet or as 16- or 32-Gbps Fibre Channel ports,[1] creating a point of convergence for primary storage, compute servers, and back-end storage resources at the top of rack. The 6 uplink ports can be configured as 40- and 100-Gbps Ethernet or FCoE ports, offering flexible migration options. The switch has IEEE compliant, FC-FEC, and RS-FEC enabled for 25-Gbps support. All ports support wire-rate MACsec encryption.[2] Please see the licensing guide section to enable features on the platform.

Figure 3.
Cisco Nexus 93180YC-FX-24 Switch

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[1] Capabilities to enable FC are on the software roadmap.

[2] Capabilities to enable MACsec need feature license; please see the Cisco Nexus 9000 Licensing Guide.

The Cisco Nexus 93108TC-FX-24 (Figure 4) is a 1RU switch with 24 10GBASE-T downlink ports (licensed to use any 24 of the 48 ports) that can be configured to work as 100-Mbps, 1-Gbps, or 10-Gbps ports. The 6 uplink ports can be configured as 40- and 100-Gbps ports, offering flexible migration options.
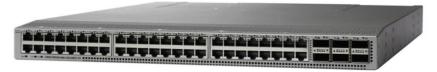

Figure 4.
Cisco Nexus 93108TC-FX-24 Switch

The Cisco Nexus 93180YC-EX-24 Switch (Figure 5) is a 1RU switch with latency of less than 1 microsecond. The 24 downlink ports (licensed to use any 24 ports out of the 48 ports) on the 93180YC-EX-24 can be configured to work as 1-, 10-, or 25-Gbps ports, offering deployment flexibility and investment protection. The 6 uplink ports can support 40- and 100-Gbps or a combination of 1-, 10-, 25-, 40-, 50-, and 100-Gbps connectivity, thus offering flexible migration options. The switch has FC-FEC enabled for 25Gbps and supports up to 3m in DAC connectivity. Please check the Cisco Optics Matrix for the most updated support.

Figure 5.
Cisco Nexus 93180YC-EX-24 Switch

The Cisco Nexus 93108TC-EX-24 Switch (Figure 6) is a 1RU switch with 24 10GBASE-T downlink ports (licensed to use any 24 of the 48 ports) that can be configured to work as 100-Mbps, 1 Gbps, or 10-Gbps ports. The 6 uplink ports can support 40- and 100-Gbps or a combination of 1-, 10-, 25-, 40, 50-, and 100-Gbps connectivity, thus offering flexible migration options.

Figure 6.
Cisco Nexus 93108TC-EX-24 Switch

Features and benefits

The Cisco Nexus 9300 Series Switches provide the following features and benefits:

- **Architectural flexibility**

  ◦ Industry-leading software-defined networking solution 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, non-blocking IPv6 network fabrics at web scale.

  ◦ Segment routing 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.

  ◦ Comprehensive protocol support for Layer 3 (v4/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).

- **Extensive programmability**

  ◦ Day-0 automation through Power On Auto Provisioning, drastically reducing provisioning time.

  ◦ Industry-leading integrations for leading DevOps configuration management applications – Ansible, Chef, Puppet, and SALT. Extensive Native YANG and industry-standard OpenConfig model support through RESTCONF/NETCONF.

  ◦ Pervasive APIs for all switch CLI functions (JSON-based RPC over HTTP/HTTPs).

- **High scalability, flexibility**

  ◦ Flexible forwarding tables support up to 1 million shared entries on EX models. Flexible use of TCAM space allows for custom definitions of Access Control List (ACL) templates.

- **Intelligent buffer management**

  ◦ The platform offers Cisco's innovative [intelligent buffer management](#), which offers 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.

  ◦ Intelligent buffer management functions are:

  ◦ Approximate Fair Dropping (AFD) with Elephant trap (ETRAP). AFD distinguishes long-lived elephant flows from short-lived mice flows, by using ETRAP. AFD exempts mice flows from the dropping algorithm so that mice flows will get their fair share of bandwidth without being starved by bandwidth-hungry elephant flows. Also, AFD tracks elephant flows and subjects them to the AFD algorithm in the egress queue to grant them their fair share of bandwidth.

  ◦ Flows and subjects them to the AFD algorithm in the egress queue to grant them their fair share of bandwidth.

  ◦ ETRAP measures the byte counts of incoming flows and compares this 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. Mice flows, sensitive to congestion and latency can take priority queue and avoid re-ordering that allows to elephant flows to take full link bandwidth.

- **Hardware and software high availability**

  - Virtual Port-Channel (vPC) technology provides Layer 2 multipathing through the elimination of Spanning Tree Protocol. It also enables fully utilized bisectional bandwidth and simplified Layer 2 logical topologies without the need to change the existing management and deployment models.

  - 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.

  - Advanced reboot capabilities include hot and cold patching.

  - The switches use hot-swappable Power-Supply Units (PSUs) and fans with N+1 redundancy.

- **Purpose-built Cisco NX-OS Software operating system with comprehensive, proven innovations**

  - A single binary image that supports every switch in the Cisco Nexus 9000 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.

  - Data Center Network Manager (DCNM) is the network management platform for all NX-OS–enabled deployments, spanning new fabric architectures, IP Fabric for Media, and storage networking deployments for the Cisco Nexus-powered data center. Accelerate provisioning from days to minutes, and simplify deployments from day zero through day N. Reduce troubleshooting cycles with graphical operational visibility for topology, network fabric, and infrastructure. Eliminate configuration errors and automate ongoing change in a closed loop, with templated deployment models and configuration compliance alerting with automatic remediation. Real-time health summary for fabric, devices, and topology. Correlated visibility for fabric (underlay, overlay, virtual and physical endpoints), including compute visualization with VMware.

  - Network traffic monitoring with Cisco Nexus Data Broker builds simple, scalable, and cost-effective network Test Access Points (TAPs) and Cisco Switched Port Analyzer (SPAN) aggregation for network traffic monitoring and analysis.

- **Cisco Tetration platform support**

  ◦ The telemetry information from the Cisco Nexus 9300 Series Switches is exported every 100 milliseconds by default directly from the switch's Application-Specific Integrated Circuit (ASIC). This information consists of three types of data: (a) Flow information, this information contains information about endpoints, protocols, ports, when the flow started, how long the flow was active, etc. (b) Inter-packet variation, this information captures any inter-packet variations within the flow. Examples include variation in Time To Live (TTL), IP and TCP flags, payload length, etc. (c) Context details, context information is derived outside the packet header, including variation in buffer utilization, packet drops within a flow, association with tunnel endpoints, etc.

  ◦ The Cisco Tetration™ platform consumes this telemetry data, and by using unsupervised machine learning and behavior analysis, provides pervasive visibility across the data center in real time. By using algorithmic approaches, the Tetration platform provides deep application insights and interactions, enabling dramatically simplified operations, a zero-trust model, and migration of applications to any programmable infrastructure. To learn more, go to https://www.cisco.com/go/tetration.

- **Cisco Network Assurance Engine (NAE)**

  ◦ Cisco NAE continuously verifies if the network infrastructure is operating as per policy intent and leverages the power of mathematical models to reason on behalf of the operator at the policy, configuration, and dynamic state levels. NAE can precisely indicate problems in a network, can identify which applications or parts of a network are affected, and can diagnose root causes and suggest fixes. Its continuous verification approach transforms day-2 operations from reactive to proactive, and it does so without using any packet data. NAE helps avoid outages by predicting the impact of changes, reducing network-related IT incidents and shrinking the mean time to repair by up to 66 percent. NAE also helps ensure network security and segmentation compliance. To learn more about NAE, visit https://www.cisco.com/c/en/us/products/data-center-analytics/network-assurance-engine/index.html.

Product specifications

The Cisco Nexus 9300 Series Switches offer industry-leading density and performance with flexible port configurations that can support existing copper and fiber cabling (Table 2).

Table 2.   Cisco Nexus 9300 Series Switch specifications

Feature	Cisco Nexus 93180YC-FX3H	Cisco Nexus 93108TC-FX3H	Cisco Nexus 93180YC-FX-24	Cisco Nexus 93108TC-FX-24	Cisco Nexus 93180YC-EX-24	Cisco Nexus 93108TC-EX-24
Ports	24* x 10/25-Gbps and 6 x 40/100-Gbps QSFP28 ports (*total number of ports is 48)	24* x 10GBASE-T and 6 x 40/100-Gbps QSFP28 ports (*total number of ports is 48)	24* x 10/25-Gbps and 6 x 40/100-Gbps QSFP28 ports (*total number of ports is 48)	24* x 10GBASE-T and 6 x 40/100-Gbps QSFP28 ports (*total number of ports is 48)	24* x 10/25-Gbps and 6 x 40/100-Gbps QSFP28 ports (*total number of ports is 48)	24* x 10GBASE-T and 6 x 40/100-Gbps QSFP28 ports (*total number of ports is 48)
Downlink supported speeds	1/10/25-Gbps speeds	100-Mbps and 1/10-Gbps speeds	1/10/25-Gbps speeds	100-Mbps and 1/10-Gbps speeds	1/10/25-Gbps speeds	100-Mbps and 1/10-Gbps speeds

Feature	Cisco Nexus 93180YC-FX3H	Cisco Nexus 93108TC-FX3H	Cisco Nexus 93180YC-FX-24	Cisco Nexus 93108TC-FX-24	Cisco Nexus 93180YC-EX-24	Cisco Nexus 93108TC-EX-24
CPU	4 cores	4 cores	4 cores	4 cores	4 cores	4 cores
System memory	Upto 32 GB	Upto 32 GB	24 GB	24 GB	24 GB	24 GB
SSD drive	128 GB	128 GB	64 GB	64 GB	64 GB	64 GB
System buffer	40 MB	40 MB	40 MB	40 MB	40 MB	40 MB
Management ports	1 RJ-45 port	2 ports: 1 RJ-45 and 1 SFP	1 RJ-45 port L1 and L2 ports are unused	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	1	1	1
RS-232 serial ports	1	1	1	1	1	1
Power supplies (up to 2)	650W AC, 930W DC, or 1200W HVAC/HVDC	1100W AC, 1900W AC	500W AC, 930W DC, or 1200W HVAC/HVDC	500W AC, 930W DC, or 1200W HVAC/HVDC	500W AC, 930W DC, or 1200W HVAC/HVDC	500W AC, 930W DC, or 1200W HVAC/HVDC
Typical power[*] (AC/DC)	325W	360W	260W	276W	210W	290W
Maximum power[*] (AC/DC)	600W	530W	425W	460W	470W	499W
Input voltage (AC)	100 to 240V	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	200 to 277V	200 to 277V	200 to 277V	200 to 277V
Input voltage (DC)	–48 to –60V	–48 to –60V	–48 to –60V	–48 to –60V	–48 to –60V	–48 to –60V
Input voltage (high-voltage DC [HVDC])	–240 to –380V	–240 to –380V	–240 to –380V	–240 to –380V	–240 to –380V	–240 to –380V
Frequency (AC)	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz
Fans	4	4	4	4	4	4
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	Port-side intake and exhaust

Feature	Cisco Nexus 93180YC-FX3H	Cisco Nexus 93108TC-FX3H	Cisco Nexus 93180YC-FX-24	Cisco Nexus 93108TC-FX-24	Cisco Nexus 93180YC-EX-24	Cisco Nexus 93108TC-EX-24
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 17.2 x 18 in. (4.4 x 43.6 x 45.7 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)	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	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	70.1 dBA at 50% fan speed, 78.1 dBA at 70% fan speed, and 86 dBA at 100% fan speed	57 dBA at 40% fan speed, 68.9 dBA at 70% fan speed, and 77.4 dBA at 100% fan speed	64.2 dBA at 40% fan speed, 68.9 dBA at 70% fan speed, and 77.8 dBA at 100% fan speed	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
RoHS compliance	Yes	Yes	Yes	Yes	Yes	Yes
MTBF	265,570 hours	269,760 hours	238,470 hours	319,790 hours	390,330 hours	366,130 hours
Minimum ACI image	ACI-N9KDK9-16.0	ACI-N9KDK9-16.0	ACI-N9KDK9-14.2.1	ACI-N9KDK9-14.2.1	ACI-N9KDK9-14.2.1	ACI-N9KDK9-14.2.1
Minimum NX-OS image	NXOS-10.3.1[***]	NXOS-10.3.1[***]	NXOS-9.3(2)[**]	NXOS-9.3(2)[**]	NXOS-9.3(2)[**]	NXOS-9.3(2)[**]

[*] Typical and maximum power values are based on input drawn from the power circuit. The power supply value (for example, 500W AC power supply: NXA-PAC-500W-PI) is based on the output rating to the inside of the switch.

[**] EX-24/FX-24 switches are only supported on NX-OS version NXOS 9.3(2) and above

[***] FX3H switches are only supported on NX-OS version NXOS 10.3.1 and above

Table 3 lists the performance and scalability specifications for the Cisco Nexus 9300 Series Switches. (Check the software release notes for feature support information.)

Table 3. Hardware performance and scalability specifications[*]

Item	Cisco Nexus 9300-FX3H Series Switches	Cisco Nexus 9300-FX Series Switches	Cisco Nexus 9300-EX Series Switches
Maximum number of Longest Prefix Match (LPM) routes[**]	1,792,000	1,792,000	896,000
Maximum number of IP host entries[**]	1,792,000	1,792,000	896,000
Maximum number of MAC address entries[**]	512,000	512,000	256,000
Maximum number of multicast routes	128,000	128,000	32,000
Number of Internet Group Management Protocol (IGMP) snooping groups	Shipping: 8,000 Maximum: 32,000	Shipping: 8,000 Maximum: 32,000	Shipping: 8,000 Maximum: 32,000
Maximum number of Cisco Nexus 2000 Series Fabric Extenders per switch	16	16	16
Maximum number of Access Control List (ACL) entries	Single-slice forwarding engine: 5000 ingress 2000 egress	Single-slice forwarding engine: 5000 ingress 2000 egress	Per slice of the forwarding engine: 4000 ingress 2000 egress Total (2 forwarding slices): 8000 ingress 4000 egress
Maximum number of VLANs	4096[**]	4096[**]	4096[**]
Number of Virtual Routing and Forwarding (VRF) instances	Shipping: 1,000 Maximum: 16,000	Shipping: 1,000 Maximum: 16,000	Shipping: 1,000 Maximum: 16,000
Maximum number of ECMP paths	64	64	64
Maximum number of port channels	512	512	512
Maximum number of links in a port channel	32	32	32
Number of active SPAN sessions	4	4	4
Maximum number of VLANs in Rapid per-VLAN Spanning Tree (RPVST) instances	3967	3967	3967
Maximum number of Hot-Standby Router Protocol (HSRP) groups	490	490	490

Item	Cisco Nexus 9300-FX3H Series Switches	Cisco Nexus 9300-FX Series Switches	Cisco Nexus 9300-EX Series Switches
Number of Network Address Translation (NAT) entries	1023	1023	1023
Maximum number of Multiple Spanning Tree (MST) instances	64	64	64
Number of queues	8	8	8

*More templates and greater scalability are on the roadmap. Refer to the latest Cisco Nexus 9000 Series Verified Scalability Guide documentation for the latest exact scalability values validated for specific software.

**127 VLANs out of 4096 are reserved

***Raw capacity of flow table.

Table 4 lists the environmental properties, and Table 5 lists the weight for the Cisco Nexus 9300 Series Switches.

Table 4.   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 5.   Weight

Component	Weight
Cisco Nexus 93180YC-FX3H without power supplies or fans	21 lb (9.52 kg)
Cisco Nexus 93108TC-FX3H without power supplies or fans	16 lb (7.25 kg)
Cisco Nexus 93180YC-FX-24 without power supplies or fans	17.4 lb (7.9 kg)
Cisco Nexus 93108TC-FX-24 without power supplies or fans	17.4 lb (7.9 kg)
Cisco Nexus 93180YC-EX-24 without power supplies or fans	17.2 lb (7.8 kg)
Cisco Nexus 93108TC-EX-24 without power supplies or fans	17.7 lb (8.0 kg)
500W AC power supply	2.42 lb (1.1 kg)
930W DC power supply	2.42 lb (1.1 kg)
1200W HVDC/HVAC power supply	2.42 lb (1.1 kg)
Fan tray: NXA-FAN-30CFM-F or NXA-FAN-30CFM-B	0.26 lb (0.12 kg)

Table 6 summarizes regulatory standards compliance for the Cisco Nexus 9300 Series Switches.

Table 6.   Regulatory standards compliance: safety and EMC

Specification	Description
Regulatory compliance	Products should comply 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 Switches 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 for 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 Cisco Optics compatibility matrix.

Ordering information

Table 7 presents ordering information for the Cisco Nexus 9300 Series Switches.

Table 7.   Ordering information

Part number	Product description
Base part numbers	
N9K-C93180YC-FX3H	Cisco Nexus 9000 fixed with 24p 1/10G/25G SFP and 6p 40G/100G QSFP28
N9K-C93108TC-FX3H	Cisco Nexus 9000 fixed with 24p 100M/1/10G BASE-T and 6p 40G/100G QSFP28
N9K-C93180YC-FX-24	Cisco Nexus 9000 fixed with 24p 1/10G/25G SFP and 6p 40G/100G QSFP28
N9K-C93108TC-FX-24	Cisco Nexus 9000 fixed with 24p 100M/1/10G BASE-T and 6p 40G/100G QSFP28
N9K-C93180YC-EX-24	Cisco Nexus 9000 fixed with 24p 1/10G/25G SFP and 6p 40G/100G QSFP28
N9K-C93108TC-EX-24	Cisco Nexus 9000 fixed with 24p 100M/1/10G BASE-T and 6p 40G/100G QSFP28
Power supplies on Cisco Nexus 9300	
NXA-PAC-650W-PI	Cisco Nexus 9000 650W AC PS, port-side intake
NXA-PAC-650W-PE	Cisco Nexus 9000 650W AC PS, port-side exhaust
NXA-PAC-1100W-PI	Cisco Nexus 9000 1100W AC PS, port-side intake
NXA-PAC-1100W-PE	Cisco Nexus 9000 1100W AC PS, port-side exhaust
NXA-PAC-1900W-PI	Cisco Nexus 9000 1900W AC PS, port-side intake
NXA-PAC-500W-PI	Cisco Nexus 9000 500W AC PS, port-side intake
NXA-PAC-500W-PE	Cisco Nexus 9000 500W AC PS, port-side exhaust
NXA-PDC-930W-PI	Cisco Nexus 9000 930W DC PS, port-side intake
NXA-PDC-930W-PE	Cisco Nexus 9000 930W DC PS, port-side exhaust
N9K-PUV-1200W	Cisco Nexus 9300 1200W universal power supply, bidirectional air flow, and supports HVAC/HVDC
Fans on Cisco Nexus 9300 Series	
NXA-FAN-35CFM-PI	Cisco Nexus single fan, 35CFM, port-side intake airflow
NXA-FAN-35CFM-PE	Cisco Nexus single fan, 35CFM, port-side exhaust airflow
NXA-FAN-30CFM-F	Cisco Nexus single fan, 30CFM, port-side exhaust airflow
NXA-FAN-30CFM-B	Cisco Nexus single fan, 30CFM, port-side intake airflow

Part number	Product description
Licenses on Cisco Nexus 9300 Series	
N9K-FX-24P-UPG=	Cisco Nexus 9300 48-port upgrade license for FX switches
N9K-EX-24P-UPG=	Cisco Nexus 9300 48-port upgrade license for EX switches
C1E1TN9300XF-3Y	Cisco ACI and NX-OS subscription Essentials package for 10/25/40G+ Cisco Nexus 9000 leaf switch 3-year term
C1E1TN9300XF-5Y	Cisco ACI and NX-OS subscription Essentials package for 10/25/40G+ Cisco Nexus 9000 leaf switch, 5-year term
C1E1TN9300XF-7Y	Cisco ACI and NX-OS subscription Essentials package for 10/25/40G+ Cisco Nexus 9000 leaf switch, 7-year term
C1A1TN9300XF-3Y	Cisco ACI and NX-OS subscription Advantage package for 10/25/40G+ Cisco Nexus 9000 leaf switch, 3-year term
C1A1TN9300XF-5Y	Cisco ACI and NX-OS subscription Advantage package for 10/25/40G+ Cisco Nexus 9000 leaf switch, 5-year term
C1A1TN9300XF-7Y	Cisco ACI and NX-OS subscription Advantage package for 10/25/40G+ Cisco Nexus 9000 leaf switch, 7-year term
C1P1TN9300XF-3Y	Cisco ACI and NX-OS subscription Premier package for 10/25/40G+ Cisco Nexus 9000 leaf switch, 3-year term
C1P1TN9300XF-5Y	Cisco ACI and NX-OS subscription Premier package for 10/25/40G+ Cisco Nexus 9000 leaf switch, 5-year term
C1P1TN9300XF-7Y	Cisco ACI and NX-OS subscription Premier package for 10/25/40G+ Cisco Nexus 9000 leaf switch, 7-year term
ACI-ES-XF	Cisco ACI Essentials SW license for a 10/25/40G+ Cisco Nexus 9000 leaf switch
ACI-AD-XF	Cisco ACI Advantage SW license for a 10/25/40G+ Cisco Nexus 9000 leaf switch
NXOS-ES-XF	Cisco NX-OS Essentials SW license for a 10/25/40G+ Cisco Nexus 9000 leaf switch
NXOS-AD-XF	Cisco NX-OS Advantage SW license for a 10/25/40G+ Cisco Nexus 9000 leaf switch
Power cords	
CAB-250V-10A-AR	AC Power cord - 250V, 10A - Argentina (2.5 meter)
CAB-250V-10A-BR	AC Power cord - 250V, 10A - Brazil (2.1 meter)
CAB-250V-10A-CN	AC Power cord - 250V, 10A - PRC (2.5 meter)
CAB-250V-10A-ID	AC Power cord - 250V, 10A, South Africa (2.5 meter)
CAB-250V-10A-IS	AC Power cord - 250V, 10A - Israel (2.5 meter)
CAB-9K10A-AU	Power cord, 250VAC 10A 3112 Plug, Australia (2.5 meter)
CAB-9K10A-EU	Power cord, 250VAC 10A CEE 7/7 Plug, EU (2.5 meter)

Part number	Product description
CAB-9K10A-IT	Power cord, 250VAC 10A CEI 23-16/VII Plug, Italy (2.5 meter)
CAB-9K10A-SW	Power cord, 250VAC 10A MP232 Plug, SWITZ (2.5 meter)
CAB-9K10A-UK	Power cord, 250VAC 10A BS1363 Plug (13 A fuse), UK (2.5 meter)
CAB-9K12A-NA	Power cord, 125VAC 13A NEMA 5-15 Plug, North America (2.5 meter)
CAB-AC-L620-C13	North America, NEMA L6-20-C13 (2.0 meter)
CAB-C13-C14-2M	Power cord jumper, C13-C14 Connectors, 2-meter length (2 meter)
CAB-C13-C14-AC	Power cord, C13 to C14 (recessed receptacle), 10A (3 meter)
CAB-C13-CBN	Cabinet jumper power cord, 250 VAC 10A, C14-C13 connectors (0.7 meter)
CAB-IND-10A	10A power cable for India (2.5 meter)
CAB-N5K6A-NA	Power cord, 200/240V 6A North America (2.5 meter)
CAB-HVAC-SD-0.6M	HVAC power cable for Anderson-LS-25
CAB-HVAC-RT-0.6M	HVAC Power cable with right-angle connector for RF-LS-25
Accessories on Cisco Nexus 9300-EX Series	
NXK-ACC-KIT-1RU	Cisco Nexus fixed accessory kit with 4-post rack mount kit

Warranty, service, and support

The Cisco Nexus 9300 Series Switches have 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 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 Switches.

- 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: 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

Cisco makes the packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant, or guarantee that it is complete, accurate, or up to date. This information is subject to change without notice.

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For more information

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

Document history

New or revised topic	Described In	Date
Added FX3H switches	Product overview	August 1, 2023

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