



## N9K-93180YC-FX DataSheet

Cisco Nexus N9K-93180YC-FX is a 1 RU data center switch offering 48 1/10/25 Gbps SFP+ downlinks, 6 × 40/100 Gbps QSFP28 uplinks, 3.6 Tbps throughput, <1 μs latency, and MACsec security.

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### N9K-93180YC-FX Description

The Cisco Nexus 93180YC-FX switch (also known as N9K-C93180YC-FX or Nexus 9300-FX series) delivers ultra-low latency and 3.6Tbps wire-rate performance in a compact 1 RU form factor. Engineered for next-generation data centers, the 93180YC-FX supports 48 1/10/25 Gbps SFP+ downlinks and six 40/100 Gbps QSFP28 uplinks, while providing advanced MACsec encryption, comprehensive Layer 2/3 feature sets, and programmable NX-OS software for seamless integration with Cisco ACI and VXLAN EVPN fabrics.

### Product Highlights

Ports  
Switching Capacity  
Forwarding Rate

### Quick Specs

Parameter	Specification
Ports	48 × 1/10/25-Gbps SFP+ downlinks; 6 × 40/100-Gbps QSFP28 uplinks
Switching Capacity	3.6 Tbps

Forwarding Rate	1.2 bpps
Latency	< 1 $\mu$ s
CPU	6-core processor
System Memory	Up to 32 GB
System Buffer	40 MB
Management Port	1 $\times$ RJ-45 (Mgmt0)
Power (Max)	425 W
Dimensions (HxWxD)	1.72" $\times$ 17.3" $\times$ 22.5" (4.4 $\times$ 43.9 $\times$ 57.1 cm)
Fans	4 removable modules
MTBF	238,470 hours

## Key Features

### High-Density Connectivity

48 1/10/25 Gbps SFP+ downlinks and 6  $\times$  40/100 Gbps QSFP28 uplinks for scalable data center Top of Rack deployments

### Ultra-Low Latency & High Throughput

< 1  $\mu$ s latency with 3.6 Tbps switching capacity and 1.2 billion pps forwarding

### Wire-Rate MACsec Encryption

Encrypt traffic at layer 2 on all ports for secure east-west data flows

### Cloud-Scale Architecture

Native support for Cisco ACI and VXLAN EVPN, plus segment routing and BGP for automated, policy-based fabrics

### Intelligent Buffer Management

Approximate Fair Dropping (AFD) and Elephant Trap (ETRAP) optimize performance under

congestion

## Comprehensive Scalability

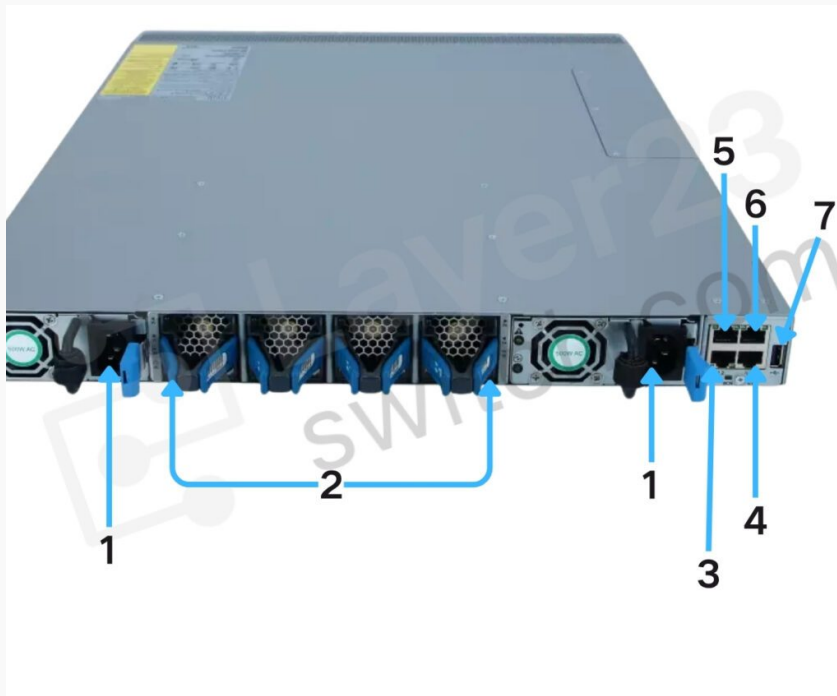
Up to 1.79 million IPv4/IPv6 routes, 512 K MAC addresses, 16 000 VRFs, and 64 ECMP paths

### Nexus 9300 100GE Fiber Switches Comparison

Parameter	Nexus 93180YC-EX	Nexus 93180YC-FX	Nexus 93180YC-FX3	Nexus 93240YC-FX2	Nexus 93360YC-FX2	Nexus 93400LD-H1
<b>Usage</b>	ACI leaf, top of rack, FEX aggregation, powered by Cloud Scale	ACI leaf, top of rack, FEX aggregation, powered by Cloud Scale	ACI leaf, top of rack, FEX aggregation, powered by Cloud Scale	ACI leaf, top of rack, FEX aggregation, powered by Cloud Scale	ACI leaf, top of rack, FEX aggregation, powered by Cloud Scale	ACI leaf, NX-OS, top of rack, powered by Cloud Scale
<b>Form Factor</b>	1 RU	1 RU	1 RU	1.2 RU	2 RU	1 RU
<b>Throughput (Tbps)</b>	3.6	3.6	3.6	4.8	7.2	8
<b>1/10GE Fiber Ports</b>	48	48	48	48	96	48
<b>25GE Ports</b>	48	48	48	48	96	48
<b>40GE Ports</b>	6	6	6	12	12	4
<b>100GE Ports</b>	6	6	6	12	12	16
<b>Latency (µs)</b>	~1	~1	~1	~1	~1	~2
<b>Buffer (MB)</b>	40	40	40	40	40	40

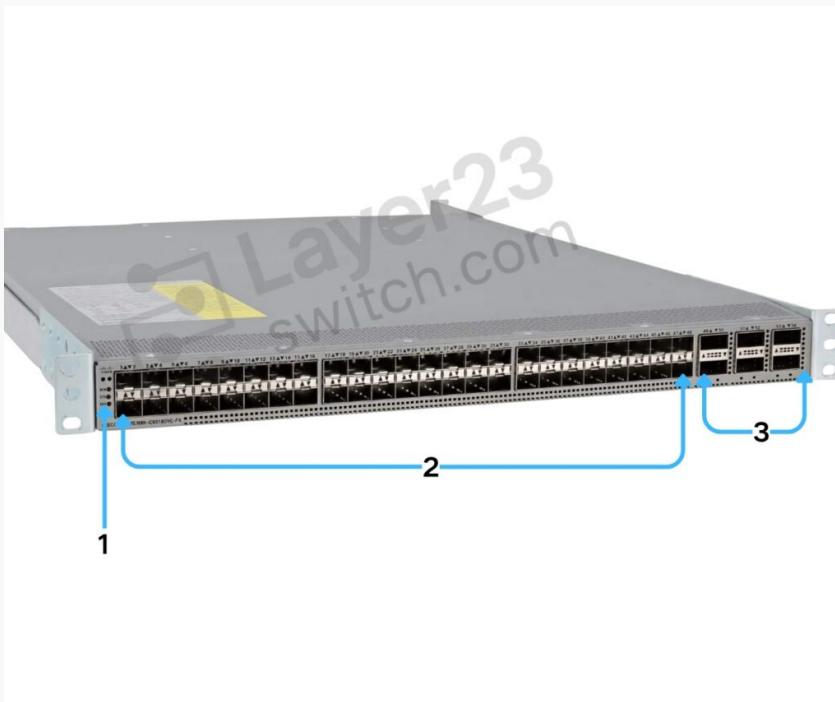
<b>Power Supply (W) (2/switch)</b>	650	500	650	1100	1200	1400
<b>Typical Power (W)</b>	210	260	375	298	210	394
<b>SyncE &amp; Hybrid PTP</b>	n/a	n/a	Yes (ITU-T G8275.1/G 8275.2*)	n/a	n/a	Yes (PTP with Class C 1588)
<b>Minimum Software Version</b>	NXOS-703I 4.2/ACI-N9KDK9-11.3	NXOS-703I 7.1/ACI-N9KDK9-12.2A	NXOS-10.1.1/9.3.7 ACI-15.1.3/5.1.3	NXOS-703I 7.3/ACI-N9KDK9-14.0	NXOS-9.3.1/ACI-14.1.2/4.1.2	NXOS-CS-10.4.2F

## Nexus N9K-93180YC-FX Front Panel



1	Two power supplies (one used for operations and one used for redundancy) (AC power supplies shown) with power supply slot 1 on the left and slot 2 on the right.	5	L1 (software defined port)
2	Four fan modules with fan slot 1 on the left and fan slot 4 on the right	6	Out-of-band management port (RJ-45 port)
3	L2 (software defined port)	7	USB port used for saving or copying functions
4	Console port (RS232 port)	8	Out-of-band management port (RJ-45 port)

## Nexus N9K-93180YC-FX Rear Panel



1	Chassis LEDs (Beacon [BCN], Status [STS], and Environment [ENV])	3	6 40/100-Gigabit QSFP28 optical ports for uplink connections to
2	48 10/25-Gigabit SFP28 ports to		

## Specification

Parameter	Value	Parameter	Value
<b>Form Factor</b>	1-RU chassis	<b>Ports (Downlink/Uplink)</b>	48 × 1/10/25 Gbps SFP+; 6 × 40/100 Gbps QSFP28
<b>Switching Capacity</b>	3.6 Tbps	<b>Forwarding Rate</b>	1.2 bpps
<b>Latency</b>	< 1 μs	<b>CPU</b>	6 cores
<b>System Memory</b>	Up to 32 GB	<b>SSD Drive</b>	128 GB
<b>System Buffer</b>	40 MB	<b>Management Port</b>	1 × RJ-45 (OOB)
<b>USB Ports</b>	1 × USB 2.0	<b>Serial Port</b>	1 × RS-232
<b>Power Supplies</b>	Up to 2 (500 W AC, 930 W DC, 1200 W HVAC/HVDC)	<b>Typical Power</b>	260 W (AC/DC)
<b>Maximum Power</b>	425 W (AC/DC)	<b>Input Voltage (AC)</b>	100–240 V; HVAC 200–277 V
<b>Input Voltage (DC)</b>	–48 to –60 V; HVDC –240 to –380 V	<b>Frequency</b>	50–60 Hz
<b>Fans &amp; Airflow</b>	4 modules; port-side intake/exhaust	<b>Dimensions (HxWxD)</b>	1.72 × 17.3 × 22.5 in (4.4 × 43.9 × 57.1 cm)
<b>Weight (Chassis)</b>	17.4 lb (7.9 kg)	<b>Acoustic Noise</b>	57 dBA (40%), 68.9 dBA (70%), 77.4 dBA (100%)
<b>MTBF</b>	238,470 hours	<b>Operating Temp.</b>	32–104 °F (0–40 °C)
<b>Non-operating Temp.</b>	–40–158 °F (–40–70 °C)	<b>Operating Humidity</b>	5–95% non-condensing
<b>Altitude</b>	0–13,123 ft (0–4000 m)	<b>IPv4 LPM Routes</b>	1,792,000 entries
<b>IPv4 Host Entries</b>	1,792,000 entries	<b>IPv6 LPM Routes</b>	896,000 entries
<b>IPv6 Host Entries</b>	1,792,000 entries	<b>MAC Address Entries</b>	512,000 entries
<b>Multicast Routes</b>	128,000 routes	<b>IGMP Snooping Groups</b>	8,000 shipping; 32,000 max
<b>Fabric Extenders</b>	Up to 16 Cisco Nexus 2000	<b>ACL Entries</b>	5,000 ingress; 2,000 egress
<b>VLANs</b>	4,096	<b>VRF Instances</b>	1,000 shipping; 16,000 max
<b>ECMP Paths</b>	64	<b>Port Channels</b>	512
<b>Links per Port Channel</b>	32	<b>SPAN Sessions</b>	4
<b>RPVST VLANs</b>	3,967	<b>HSRP Groups</b>	490
<b>NAT Entries</b>	1,023	<b>MST Instances</b>	64

Parameter	Value	Parameter	Value
Queues	8 hardware queues		

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