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Overview

N3K-C3164Q-40GE is the Nexus 3164Q, 64 QSFP+ ports, 2RU switch. The Cisco Nexus 3164Q Switch is an ultra-high density, power efficient, 10/40-Gbps switch designed for the data center. This compact, two-rack-unit (2RU) model offers wire-rate Layer 2 and Layer 3 switching on all ports. It runs the enhanced version of the Cisco NX-OS Software operating system, that also supports Nexus 9000 series switches. It provides customer comprehensive features while simplifying image management. The rich programmability features enable organizations to run today's applications while also being prepared for the demanding and changing application needs such as big data, cloud, and virtualization.

Quick Specs

Table 1 shows the Quick Specs.

Product Code	N3K-C3164Q-40GE
Physical	<ul style="list-style-type: none"> · 2 RU fixed form-factor switch · 64 QSFP+ ports; each supports native 40 Gigabit Ethernet and 4 x 10 Gigabit Ethernet modes · 2 redundant power supplies · 3+1 redundant fans · Management, console, and USB flash-memory ports
Performance	<ul style="list-style-type: none"> · 5.12 Tbps switching capacity · Forwarding rate up to 3.8 bpps · Line-rate traffic throughput (both Layer 2 and 3) on all ports · Configurable maximum transmission units (MTUs) of up to 9216 bytes (jumbo frames)
Physical dimensions (H x W x D)	3.48 x 17.41 x 22.32in. (88.4 x 442 x 566 mm)
Weight	37 lb (16.8kg)

Product Details

The Cisco Nexus N3K-C3164Q-40GE provides the following main benefits:

- Wire-rate Layer 2 and 3 switching on all ports up to 5.12 terabits per second (Tbps) and up to 3.8 billion packets per second (bpps).
- Rich Programmability, with support for NX-API, Linux Containers, XML/JavaScript Object Notation (JSON) APIs, Openstack plugin, Python, and Puppet/Chef configuration and automation tools.
- High Performance and Scalability with 6 core CPU, 16GE DRAM and 64 GB SSD, with 48 Mbytes of dynamic buffer allocation. Ideal for massively scalable data centers and big data applications.
- Flexibility
 - The QSFP port can be configured to work as four 10-Gbps ports, offering deployment flexibility, up to a maximum of 256 10G ports.
 - The Cisco® Quad Small Form-Factor (QSFP) 40-Gbps Bidirectional (BiDi) Transceiver technology allows the reuse of existing 10G cabling, a smooth transition from 10 to 40 Gigabit Ethernet infrastructures in data centers.
 - Both fiber and copper cabling solutions for both 10-Gbps and 40-Gbps, with the SFP options of Bidi, AOC, SR4 fiber optics.
- High availability
 - Virtual PortChannel (vPC) technology provides Layer 2 multipathing through the elimination of Spanning Tree Protocol. It also enables fully utilized bisectonal 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 allows organizations to prevent network bottlenecks, increase resiliency, and add capacity with little network disruption.
 - Advanced reboot capabilities include hot/cold pathching and Fast Reboot capabilities.
 - Hot swappable power-supply units (PSUs) and fans.
- Purpose-built Cisco NX-OS operating system with comprehensive, proven innovations
 - PowerOn Auto Provisioning (POAP) enables touchless bootup and configuration of the switch, drastically reducing provisioning time.
 - Cisco Embedded Event Manager (EEM) and Python scripting enable automation and remote operations in the data center.
 - Advanced buffer monitoring reports real-time buffer utilization per port and per queue, which allows organizations to monitor traffic bursts and application traffic patterns.

- o EtherAnalyzer is a built-in packet analyzer for monitoring and troubleshooting control-plane traffic and is based on the popular Wireshark open source network protocol analyzer.
- o Complete Layer 3 unicast and multicast routing protocol suites are supported, including Border Gateway Protocol (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).

The Accessories

Table 2 shows the supported accessories.

Model	Description
QSFP-40G-SR-BD	Cisco QSFP40G BiDi Short-reach Transceiver
QSFP-H40G-AOC1M	QSFP 40G Active Optical Cable 1m
QSFP-H40G-AOC2M	QSFP 40G Active Optical Cable 2m
QSFP-H40G-AOC3M	QSFP 40G Active Optical Cable 3m
QSFP-H40G-AOC5M	QSFP 40G Active Optical Cable 5m
QSFP-H40G-AOC7M	QSFP 40G Active Optical Cable 7m
QSFP-H40G-AOC10M	QSFP 40G Active Optical Cable 10m
QSFP-4X10G-AOC1M	QSFP to 4 x SFP 10Gbps Active Optical Cable 1m
QSFP-4X10G-AOC2M	QSFP to 4 x SFP 10Gbps Active Optical Cable 2m
QSFP-4X10G-AOC3M	QSFP to 4 x SFP 10Gbps Active Optical Cable 3m
QSFP-4X10G-AOC5M	QSFP to 4 x SFP 10Gbps Active Optical Cable 5m
QSFP-4X10G-AOC7M	QSFP to 4 x SFP 10Gbps Active Optical Cable 7m
QSFP-4X10G-AOC10M	QSFP to 4 x SFP 10Gbps Active Optical Cable 10m
QSFP-4SFP10G-CU5M	QSFP to 4 x SFP 10-Gbps passive copper splitter cable, 5m
QSFP-4SFP10G-CU3M	QSFP to 4 x SFP 10-Gbps passive copper splitter cable, 3m
QSFP-4SFP10G-CU1M	QSFP to 4 x SFP 10-Gbps passive copper splitter cable, 1m
QSFP-H40G-CU3M	40GBASE-CR4 passive copper cable, 3m
QSFP-H40G-CU1M	40GBASE-CR4 passive copper cable, 1m
QSFP-40G-SR4	40GBASE-SR4 QSFP transceiver module with MPO connector
QSFP-40G-CSR4	40GBASE-CSR4 QSFP+ transceiver module for MMF, MPO/MTP connector, 300 m reach with OM3 fiber
QSFP-40GE-LR4	40GBASE-LR4 QSFP+ transceiver module for SMF, 4 CWDM lanes in 1310 nm window Muxed inside module, duplex LC connector, 10 km reach
N9K-C9300-FAN3	Nexus 9300 Fan Module, Port side intake, Spare
N9K-PAC-1200W	Nexus 3164 1200W AC Power Supply, Port side intake
L-N3K-LAN1K9=	Nexus 3000 LAN Enterprise License, eDelivery

Compare to Similar Items

Table 3 shows the comparison.

Product Code	N3K-C3164Q-40GE	N3K-C3264Q
Ports	64 QSFP+ ports; each supports native 40 Gigabit Ethernet and 4 x 10 Gigabit Ethernet modes	64 QSFP+ ports; each supports native 40 Gigabit Ethernet

Physical dimensions (H x W x D)	3.48 x 17.41 x 22.32in. (88.4 x 442 x 566 mm)	3.39 x 17.41 x 22.32 in. (88.4 x 442 x 566 mm)
Weight	37 lb (16.8kg)	32.8 lb (14.9 kg)

Get More Information

Do you have any question about the Cisco N3K-C3164Q-40GE?

Contact us now via [Live Chat](#) or sales@router-switch.com.

Specification

N3K-C3164Q-40GE Specification		
Physical	<ul style="list-style-type: none"> · 2 RU fixed form-factor switch · 64 QSFP+ ports; each supports native 40 Gigabit Ethernet and 4 x 10 Gigabit Ethernet modes · 2 redundant power supplies · 3+1 redundant fans · Management, console, and USB flash-memory ports 	
Performance	<ul style="list-style-type: none"> · 5.12 Tbps switching capacity · Forwarding rate up to 3.8 bpps · Line-rate traffic throughput (both Layer 2 and 3) on all ports · Configurable maximum transmission units (MTUs) of up to 9216 bytes (jumbo frames) 	
Hardware tables and scalability	Number of VLANs	MSTP: 4096
	Number of spanning-tree instances	MSTP: 64 RPVST+: 507
	Number of access control list (ACL) entries	4000 to 16000 ingress 1000 to 4000 egress
	Routing table	Maximum number of longest prefix match (LPM) routes 128,000 Maximum number of IP host entries 120,000 Maximum number of MAC address entries 96,000
	Number of EtherChannels	256
	Number of ports per EtherChannel	32
	Buffer size	48 MB shared
	System memory	16 GB
Power	Frequency	50 to 60 Hz
	Power supply types	AC
	Typical operating power	803 Watts (W) with SR4 optics at 100% load; 2 PSUs
	Maximum power	1100 Watts (W)
	AC PSUs <ul style="list-style-type: none"> · Input voltage · Frequency · Efficiency 	<ul style="list-style-type: none"> · 200 to 240 VAC · 50 to 60 Hz · 93% at 220V
	Typical heat dissipation	2739 BTU/hr (with SR4 optics at 100% load)
	Maximum heat dissipation	3753 BTU/hr
Cooling	Port-side intake and port-side exhaust options Port-side intake: Yes Port-side exhaust: Post FCS	

Dimensions	· Dimensions (height x width x depth)	3.48 x 17.41 x 22.32in. (88.4 x 442 x 566 mm)
Environment	Weight	37 lb (16.8kg)
	Operating temperature	32 to 104°F (0 to 40°C)
	Storage temperature	-40 to 158°F (-40 to 70°C)
	Operating relative humidity	· 10 to 85% noncondensing · Up to 5 days at maximum (85%) humidity Recommend ASHRAE data center environment
	Storage relative humidity	5% to 95% noncondensing
	Altitude	0 to 10,000 ft (0 to 3000m)

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