N3K-C3264Q Datasheet

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Overview

N3K-C3264Q is the Nexus 3264Q, 64 QSFP+ ports, 2RU switch. The Cisco Nexus 3264Q Switch is a Low Latency, ultra-high-density, power-efficient, 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 with latency between 515-700ns. It runs the same modern Cisco NX-OS image that also supports the Cisco Nexus 9000 Series Switches. It provides a comprehensive feature set and simplifies image management. The robust programmability features help enable organizations to run today's applications while also preparing them for demanding and changing application needs such as big data, cloud services, and virtualization.

Quick Specs

Table 1 shows the Quick Specs.

Product Code	N3K-C3264Q
Physical	· 2RU fixed form-factor switch · 64 QSFP+ ports; each supports native 40 Gigabit Ethernet. · 2 redundant power supplies · 3+1 redundant fans · Management, console, and USB flash-memory ports
Performance	· 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 unit (MTU) of up to 9216 bytes (jumbo frames)
Physical dimensions (H x W x D)	3.39 x 17.41 x 22.32 in. (88.4 x 442 x 566 mm)
Weight	32.8 lb (14.9 kg)

Product Details

The Cisco Nexus 3264Q provides the following main benefits:

1. 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)

2.Robust programmability, with support for Cisco NX-API, Linux containers, XML and JavaScript Object Notation (JSON) APIs, OpenStack plug-in, Python, and Puppet and Chef configuration and automation tools

3.High performance and scalability with a two-core CPU with 8 GB DRAM making it excellent for massively scalable data centers and big data applications

4. Flexibility

(1)Cisco QSFP 40-Gbps bidirectional (BiDi) transceiver technology allows the reuse of existing 10-Gbps cabling, for a smooth transition from 10 to 40 Gigabit Ethernet infrastructure in data centers.

(2)Both fiber and copper cabling solutions are available for 40-Gbps connectivity, including 40G BiDi, 40G active optical cable (AOC), 40G twinax cable, and 40G LR4 optics as well as QSA for 10G connectivity.

5. High availability

(1)Virtual PortChannel (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.

(2)The 64-way equal-cost multipath (ECMP) routing enables the use of Layer 3 fat-tree designs. This feature allows organizations to prevent network bottlenecks, increase resiliency, and add capacity with little network disruption.

(3) Advanced reboot capabilities include hot and cold patching and fast reboot capabilities.

(4) The solution uses hot-swappable power-supply units (PSUs) and fans.

6. Modern NX-OS operating system with comprehensive, proven innovations

(1) PowerOn Auto Provisioning (POAP) enables touchless bootup and configuration of the switch, drastically reducing provisioning time.

(2) Cisco Embedded Event Manager (EEM) and Python scripting enable automation and remote operations in the data center.

(3) Advanced buffer monitoring reports real-time buffer utilization per port and per queue, which allows organizations to monitor traffic bursts

and application traffic patterns.

(4)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.

(5)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-40G-SR4-S=	40GBASE-SR4 (IEEE 802.3ba Spec.) QSFP+ transceiver module for MMF, MPO/MTP connector
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-H40G-CU3M	40GBASE-CR4 passive copper cable, 3m
QSFP-H40G-CU1M	40GBASE-CR4 passive copper cable, 1m
WSP-Q40GLR4L	40GBASE-LR4 QSFP transceiver module for SMF, duplex LC connector, up to 2km
QSFP-40G-CSR4	40GBASE-CSR4 QSFP+ transceiver module for MMF, MPO/MTP connector, 300 m reach with OM3 fiber
QSFP-40GE-LR4-S	40GBASE-LR4 QSFP+ transceiver module for SMF, duplex LC connector, 10 km reach
NXA-PAC-650W-PI	Nexus 9300 650W AC PS, Port-side Intake
NXA-PAC-650W-PE	Nexus 9300 650W AC PS, Port-side Exhaust
N9K-C9300-FAN3	Nexus 9300 Fan Module, Port side intake, Spare
N9K-C9300-FAN3-B	Nexus 9300 Fan Module, Port side Exhaust, Spare
L-N3K-LAN1K9=	Nexus 3000 LAN Enterprise License, eDelivery

Compare to Similar Items

Table 3 shows the comparison.

Product Code	N3K-C3548P-XL	N3K-C3264Q
Ports	48 fixed SFP+ ports (1 or 10 Gbps)	64 QSFP+ ports; each supports native 40 Gigabit Ethernet
Physical dimensions (H x W x D)	1.72 x 17.3 x 18.38 in. (4.36 x 43.9 x 46.7 cm)	3.39 x 17.41 x 22.32 in. (88.4 x 442 x 566 mm)
Weight	17.4 lb (7.9 kg)	32.8 lb (14.9 kg)

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Specification

N3K-C3264Q Specification		
Physical	· 2RU fixed form-factor switch · 64 QSFP+ ports; each supports native 40 Gigabit Ethernet. · 2 redundant power supplies · 3+1 redundant fans · Management, console, and USB flash-memory ports	
Performance	· 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 unit (MTU) of up to 9216 bytes (jumbo frames)	
Hardware tables and scalability	Number of VLANS	MSTP: 4096
	Number of spanning-tree instances	· MSTP: 64 · RPVST+: 512
	Number of access control list (ACL) entries	· 7000 ingress · 1000 egress
	Routing table	·Maximum number of longest prefix match (LPM) routes: 128K · Maximum number of IP host entries:72K · Maximum number of MAC address entries: 136K · Maximum Number of L3 Multicast: 64K
	Number of EtherChannels	256 (With VPC)
	Number of ports per EtherChannel	32
	Switch ASIC Buffer size	16 MB shared
	System memory	8 GB
	Log Flash	64 GB
Power	Frequency	50 to 60 Hz
	Power supply types	AC
	Typical operating power	285 watts (W)
	Maximum power	715W
	AC PSUs · Input voltage · Frequency · Efficiency	· 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	1160 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)	3.39 x 17.41 x 22.32 in. (88.4 x 442 x 566 mm)
Environment	Weight	32.8 lb (14.9 kg)
	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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Support and Resources

📄 **Cisco Nexus 3264Q Switch Data Sheet**

Transition Guide

📄 **Select and Upgrade Cisco Data Center Switch**

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