N3K-C3636C-R Datasheet

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Overview

N3K-C3636C-R is the Nexus 3636C-R switch, with 36p QSFP28 MACSEC. The Cisco Nexus 3636C-R switch is a high-speed, high-density 10-, 25-, 40-, or 100-Gigabit Ethernet (GE) switch designed for the data center spine. The large buffers and routing table sizes of the 3636C-R also make this switch an alternative for a wide range of applications, such as IP storage, demilitarized zone (DMZ), big data, and edge routing. The switch comes in a compact 1-Rack-Unit (1RU) form factor and provides extensive Layer 2 and Layer 3 functions. It is part of the R-Series family and runs industry-leading Cisco® NX-OS Software.

Quick Specs

Table 1 shows the Quick Specs.

Product Code	**N3K-C3636C-R**
Physical	·1RU fixed-form-factor switch ·36 QSFP28 ports; each supports native 100-GE and 40-GE mode ·2 redundant power supplies ·3 redundant fans ·Lane select LED button ·Management, console, and USB flash-memory ports
Performance	·7.2-Tbps switching capacity ·Forwarding rate of up to 3.34 bpps ·Line-rate traffic throughput (both Layer 2 and 3) on all ports for packet size larger than 115 bytes ·Configurable Maximum Transmission Unit (MTU) of up to 9216 bytes (jumbo frames)
Physical dimensions (H x W x D)	1.65 x 17.3 x 31.22 in. (4.2 x 44 x 79.3 cm) 1.72 x 17.3 x 26.85 in. (4.4 x 43.9 x 68.2 cm)
Weight	35.627.1 lb (12.316.1 kg)

Product Details

The Cisco Nexus 3636C-R provides the following main benefits:

1. Wire-rate Layer 2 and 3 switching on all ports with up to 7.2 Terabits per second (Tbps) and up to 3.34 billion packets per second (bpps)

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

3.High performance and scalability with an 8-core CPU, 32 GB of DRAM, and 16 GB of dynamic buffer allocation, making the switch excellent for massively scalable data centers and big-data applications

4. MACSec capability

5. Higher TCAM capability

6. Flexibility:

(1)Fiber cabling solutions are available for 10-, 25-, 40-, 50-, and 100-Gbps connectivity, including Active Optical Cable (AOC) and Direct-Attached Cable (DAC).

(2) Configurable QSFP28 Uplinks to work as 4 x 25-Gbps or 4 x 10-Gbps port.

7. High availability:

(1)Virtual Port Channel (VPC) technology provides Layer 2 multipathing by eliminating the Spanning Tree Protocol. It also enables fully used bisectional bandwidth and simplified Layer 2 logical topologies without the need to change the existing management and deployment models.

(2) Advanced maintenance capabilities include hot and cold patching and Graceful Insertion and Removal (GIR) mode.

(3) The switch uses hot-swappable Power-Supply Units (PSUs) and fans.

8. NX-OS operating system with comprehensive, proven innovations:

(1) Power-On 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)EtherAnalyzer is a built-in packet analyzer for monitoring and troubleshooting control-plane traffic that is based on the popular Wireshark open-source network protocol analyzer.

(4)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
NXA-FAN-65CFM-PI	Nexus Fan, 65CFM, port side intake airflow
NXA-FAN-65CFM-PE	Nexus Fan, 65CFM, port side exhaust airflow
NXA-PAC-2KW-PI	Nexus 9000 2KW AC Power Supply, Port-side Intake
NXA-PAC-2KW-PE	Nexus 9000 2KW AC Power Supply, Port-side Exhaust
NXA-PDC-2KW-PI	Nexus 9000 2KW DC Power Supply, Port-side Intake
NXA-PDC-2KW-PE	Nexus 9000 2KW DC Power Supply, Port-side Exhaust

Compare to Similar Items

Table 3 shows the comparison.

Product Code	N3K-C3132C-Z	N3K-C3636C-R
Ports	32 fixed 100 Gigabit Ethernet QSFP28 ports	36 QSFP28 ports; each supports native 100-GE and 40-GE mode
Physical dimensions (H x W x D)	17.3W x 1.72H x 18.5D" (43.9 x 4.36 x 46.99cm)	1.65 x 17.3 x 31.22 in. (4.2 x 44 x 79.3 cm) 1.72 x 17.3 x 26.85 in. (4.4 x 43.9 x 68.2 cm)
Weight	19.2 lb. with PSU and fan 13.8 lb. without PSU and fan	35.627.1 lb (12.316.1 kg)

Specification

N3K-C3636C-R Specification		
Physical	· 1RU fixed-form-factor switch · 36 QSFP28 ports; each supports native 100-GE and 40-GE mode · 2 redundant power supplies · 3 redundant fans · Lane select LED button · Management, console, and USB flash-memory ports	
Performance	· 7.2-Tbps switching capacity · Forwarding rate of up to 3.34 bpps · Line-rate traffic throughput (both Layer 2 and 3) on all ports for packet size larger than 115 bytes · Configurable Maximum Transmission Unit (MTU) of up to 9216 bytes (jumbo frames)	
Hardware tables and scalability	Number of MAC addresses	750,000
	Number of Virtual LANs (VLANs)	4096
	Number of spanning-tree instances	· Rapid Spanning Tree Protocol (RSTP): 512 ·Multiple Spanning Tree Protocol (MSTP): 64
	Number of Access Control List (ACL) entries	· 7000 ingress

	Routing table	·Maximum number of Longest-Prefix-Match (LPM) routes: 128,000 ·Maximum number of IP host entries:750,000 ·Maximum number of MAC address entries: 192,000 ·Maximum number of Layer 3 multicast entries: 64,000
	Number of EtherChannels	256 (with VPC)
	Number of ports per EtherChannel	32
	Buffer size	16 GB
	System memory	32 GB
	Boot-flash memory	128 GB
	Frequency	50 to 60 Hz
Power	Power-supply types	AC (forward and reverse airflow) DC (port- side exhaust)
	Typical operating power	921 Watt (W)
	Maximum power	1,341W
	AC Power-Supply Units (PSUs) · Input voltage · Frequency · Power-supply efficiency	· 100 to 240 VAC · 50 to 60 Hz · 89–91% at 220V
	Maximum heat dissipation	2,631 MBtuTU
	· Forward and reverse airflow schemes ◦Forward airflow: Port-side exhaust (air enters through fan tray and power supplies and exits through ports) ◦Reverse airflow: Port-side intake (air enters through ports and exits through fan tray and power supplies) · Redundant fans Hot-swappable (must swap within 31 minutes)	
	Measured sound power (maximum) · Fan speed (PE): 50% duty cycle · Fan speed (PE): 90% duty cycle · Fan speed (PI) 50% duty cycle · Fan speed (PI) 90% duty cycle · Fan speed: 100% duty cycle	· 74.6 dBA · 87.5 dBA · 76.2 dBA · 90.0 dBA
Cooling	· Dimensions (height x width x depth) 1.65 x 17.3 x 31.22 in. (4.2 x 44 x 79.3 cm) 1.72 x 17.3 x 26.85 in. (4.4 x 43.9 x 68.2 cm)	
Sound	· Weight	· 35.627.1 lb (12.316.1 kg)
Environment	Temperature: Operating	32 to 104°F (0 to 40°C)
	Temperature: Storage	–40 to 158°F (–40 to 70°C)
	Relative humidity: Operating	· 10– to 85% noncondensing ·Up to 5 days at maximum (85%) humidity Recommend American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) data center environment
	Relative humidity: Storage	5 –to 95% noncondensing
	Altitude	· 0– to 10,000 ft (0 to 3000m)
	Mean Time Between Failures (MTBF)	194,870 hours

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Support and Resources

Cisco Nexus 3636C-R Switch Data Sheet

Transition Guide

Select and Upgrade Cisco Data Center Switch

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