N3K-C3548P-10GX Datasheet





Overview

The Cisco Nexus 3548P-10GX (N3K-C3548P-10GX) is 1 rack unit (RU) switch with 48 fixed 1- and 10-Gigabit Ethernet small form-factor pluggable (SFP+) ports, 1 fixed 10/100/1000 management port, 1 console port, and 2 USB ports. This switch supports both port-side exhaust and port-side intake airflow schemes. It requires one AC or DC power supply for operations, but it can have a second power supply for redundancy.

Quick Specs

Table 1 shows the Quick Spec.

Product Code	N3K-C3548P-10GX
Enclosure Type	1 RU
Switching Capacity	960-Gbps
Forwarding Rate	720 Mpps
Configurable Maximum Transmission Units (MTUs)	Up to 9216 bytes (jumbo frames)
Ports	48 x fixed SFP+ ports (1 or 10 Gbps) 1 x 1-PPS timing port, with the RF1.0/2.3 QuickConnect connector type 1 x 10/100/1000-Mbps management port 1 x RS-232 serial console port 2 x USB ports
Number of power supplies	2
Typical operating power	112W
Dimensions (H x W x D)	4.36 x 43.9 x 46.7 cm
Net Weight	7.9 Kg

Product Details

Figure 1 shows the front panel of the N3K-C3548P-10G for reference. It's similar with N3K-C3548P-10GX except that N3K-C3548P-10GX supports 2 USB ports and only 1 management port.



Note:

(1)	Management, Console, and USB ports	
(2)	48 x fixed small form-factor pluggable (SFP+) ports	

· The switch also offers dual redundant hot-swappable power supplies and four individual redundant hot-swappable fans on the back panel.

The Accessories

Table 2 shows recommended accessories.

Models	Description	
N3548-ALGK9=	Nexus 3500 Algo Boost License Spare	
N3548-LAN1K9=	Nexus 3548 Layer 3 LAN Enterprise License Spare	
GLC-SX-MMD	Cisco GLC-SX-MMD 1000BASE-SX SFP transceiver module, MMF, 850nm, DOM	
GLC-LH-SMD	Cisco GLC-LH-SMD 1000BASE-LX/LH SFP transceiver module, MMF/SMF, 1310nm, DOM	
SFP-10G-SR	10GBASE-SR SFP Module	
SFP-H10GB-CU1M	Cisco Direct-Attach Twinax Copper Cable Assembly with SFP+ Connectors SFP-H10GB-CU1M	
SFP-H10GB-CU5M	SFP-H10GB-CU5M,5M Passive Copper Twinax Cable F, Nexus,24AWG cable assembly	

Compare to Similar Items

Table 3 shows the comparison of similar items.

Product Code	N3K-C3548P-10G	N3K-C3548P-10GX
Enclosure Type	1 RU	1 RU
Switching Capacity	960-Gbps	960-Gbps
Forwarding Rate	720 Mpps	720 Mpps
Ports	48 x fixed SFP+ ports (1 or 10 Gbps) 1 x 1-PPS timing port, with the RF1.0/2.3 QuickConnect connector type* 2 x 10/100/1000-Mbps management ports 1 x RS-232 serial console port 1 x USB port	48 x fixed SFP+ ports (1 or 10 Gbps) 1 x 1-PPS timing port, with the RF1.0/2.3 QuickConnect connector type 1 x 10/100/1000-Mbps management port 1 x RS-232 serial console port 2 x USB ports

Get more information

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Specification

N3K-C3548P-10GX Specification		
Physical	 48 fixed SFP+ ports (1 or 10 Gbps) Dual redundant hot-swappable power supplies Four individual redundant hot-swappable fans One 1-PPS timing port, with the RF1.0/2.3 QuickConnect connector type* One 10/100/1000-Mbps management port One RS-232 serial console port Two USB ports Locator LED Locator LED button 	
Performance	 960-Gbps switching capacity Forwarding rate of 720 mpps Line-rate traffic throughput (both Layer 2 and 3) on all ports Configurable MTUs of up to 9216 bytes (jumbo frames) 	

Typical operating power	• 112W	
Maximum power	• 213W	
Typical heat dissipation	• 383 BTUs per hr	
Maximum heat dissipation	• 727 BTUs per hr	
Hardware Specifications		

Hardware Specifications				
	Mode	Normal Mode	Warp Mode	
Hardware tables and scalability	Number of MAC addresses	64,000	8000	
Scalability	Number of IPv4 unicast routes	24,000	4000	
	Number of IPv4 hosts	64,000	8000	
	Number of IPv4 multicast routes	8000	8000	
	Number of VLANS	4096		
	Number of ACL entries	4096		
	Number of spanning-tree instances	Rapid Spanning Tree Protocol (RSTP): 512 Multiple Spanning Tree (MST) Protocol: 64		
	Number of EtherChannels	24		
	Number of ports per EtherChannel	24	24	
	Buffer size	6 MB shared among 16 ports; 18 MB total		
	Boot flash memory	2 GB (3524P and 3548P models) 4 GB (3524X and 3548X models)		
Power	Number of power supplies	2 (redundant)		
	Power supply types	AC (forward and reversed airflow) DC (forward and reversed airflow)		
	Input voltage	100 to 240 VAC		
	Frequency	50 to 60 Hz		
	Power supply efficiency	89 to 91% at 220V		
Cooling	Forward and reversed airflow schemes • Forward airflow:Port-side exhaust (air enters through fan tray and power supplies and exits through ports) • Reversed airflow: Port-side intake (air enters through ports and exits through fan tray and power supplies) Four individual, hot-swappable fans (3+1 redundant)			
Environment	Dimensions (height x width x depth)	1.72 x 17.3 x 18.38 in. (4.36 x 43.9 x 46.7 cm)		
	Weight	17.4 lb (7.9 kg)		
	Operating temperature	32 to 104° F (0 to 40°C)		
	Storage temperature	-40 to 158° F (-40 to 70°C)		
	Relative humidity (operating)	 10 to 85% noncondensing Up to 5 days at maximum (85%) humidity Recommend ASHRAE data center environment 		
	Relative humidity (nonoperating)	5 to 95% noncondensing		
	Altitude	0 to 10,000 ft (0 to 3000m)		

	Mean time between failure (MTBF)	317,030 hours		
	Software Features			
Layer 2 Layer 2 switch ports and VLAN trunks IEEE 802.1Q VLAN encapsulation Support for up to 4096 VLANs Rapid Per-VLAN Spanning Tree Plus (PVRST+) (IEEE 802.1w compatible) MSTP (IEEE 802.1s): 64 instances Spanning Tree PortFast Spanning Tree Root Guard Spanning Tree Bridge Assurance Cisco EtherChannel technology (up to 24 ports per EtherChannel) LACP: IEEE 802.3ad, IEEE 802.1ax Advanced PortChannel hashing based on Layer 2, 3, and 4 information Jumbo frames on all ports (up to 9216 bytes) Storm control (multicast and broadcast) Link-level flow control (IEEE 802.3x) vPC				
Layer 3	 Layer 3 interfaces: Routed ports on interfaces, switch virtual interfaces (SVIs), PortChannels, and subinterfaces (total: 1024) 24-way Equal-Cost Multipath (ECMP) 4096 ACL entries Routing protocols: Static, RIPv2, EIGRP, OSPF, and BGP HSRP and VRRP ACL: Routed ACL with Layer 3 and 4 options to match ingress and egress ACLs VRF: VRF-Lite (IP VPN), VRF-aware unicast (BGP, OSPF, and RIP), and VRF-aware multicast VRF route leaking Jumbo frame support (up to 9216 bytes) 			
Multicast	 Multicast: PIMv2, PIM Sparse Mode (PIM-SM), SSM, and BiDir Bootstrap router (BSR), Auto-RP, and Static RP MSDP and Anycast RP Internet Group Management Protocol (IGMP) Versions 2 and 3 			
Security	Ingress ACLs (standard and extended) on Ethernet Standard and extended Layer 3 to 4 ACLs include IPv4, Internet Control Message Protocol (ICMP), TCP, and User Datagram Protocol (UDP) VLAN-based ACLs (VACLs) Port-based ACLs (PACLs) Named ACLs ACLs on virtual terminals (VTYs) Dynamic Host Configuration Protocol (DHCP) relay Control Plane Policing (CoPP)			
Cisco Nexus Data Broker				

Management

- Power On Auto Provisioning (POAP)
- Python scripting
- Switch management using 10/100/1000-Mbps management or console ports
- CLI-based console to provide detailed out-of-band management
- In-band switch management
- Locator and beacon LEDs
- Configuration rollback
- SSHv2
- Telnet
- AAA
- AAA with RBAC
- RADIUS
- TACACS+
- Syslog
- Embedded packet analyzer
- SNMP v1, v2, and v3
- Enhanced SNMP MIB support
- XML (NETCONF) support
- Remote monitoring (RMON)
- Advanced Encryption Standard (AES) for management traffic
- Unified username and passwords across CLI and SNMP
- Microsoft Challenge Handshake Authentication Protocol (MS-CHAP)
- Digital certificates for management between switch and RADIUS server
- Cisco Discovery Protocol Versions 1 and 2
- RBAC
- SPAN on physical, PortChannel, and VLAN
- ERSPAN Versions 2 and 3
- Ingress and egress packet counters per interface
- Network Time Protocol (NTP)
- Cisco OHMS
- Comprehensive bootup diagnostic tests
- Cisco Call Home
- Cisco DCNM
- Active buffer monitoring
- PTP (IEEE 1588) boundary clock

Management and Standards Support

MIB support

Generic MIBs

- SNMPv2-SMI
- CISCO-SMI
- SNMPv2-TM
- SNMPv2-TC
- IANA-ADDRESS-FAMILY-NUMBERS-MIB
- IANAifType-MIB
- IANAiprouteprotocol-MIB
- HCNUM-TC
- CISCO-TC
- SNMPv2-MIB
- SNMP-COMMUNITY-MIB
- SNMP-FRAMEWORK-MIB
- SNMP-NOTIFICATION-MIB
- SNMP-TARGET-MIB
- SNMP-USER-BASED-SM-MIB
- SNMP-VIEW-BASED-ACM-MIB
- CISCO-SNMP-VACM-EXT-MIB

Ethernet MIBs

- CISCO-VLAN-MEMBERSHIP-MIB
- Configuration MIBs
- ENTITY-MIB
- IF-MIB
- CISCO-ENTITY-EXT-MIB
- CISCO-ENTITY-FRU-CONTROL-MIB
- CISCO-ENTITY-SENSOR-MIB
- CISCO-SYSTEM-MIB
- CISCO-SYSTEM-EXT-MIB
- CISCO-IP-IF-MIB
- CISCO-IF-EXTENSION-MIB
- CISCO-NTP-MIB
- CISCO-IMAGE-MIB
- CISCO-IMAGE-UPGRADE-MIB

Monitoring MIBs

- NOTIFICATION-LOG-MIB
- CISCO-SYSLOG-EXT-MIB
- CISCO-PROCESS-MIB
- RMON-MIB
- CISCO-RMON-CONFIG-MIB
- CISCO-HC-ALARM-MIB

Security MIBs

- CISCO-AAA-SERVER-MIB
- CISCO-AAA-SERVER-EXT-MIB
- CISCO-COMMON-ROLES-MIB
- CISCO-COMMON-MGMT-MIB
- CISCO-SECURE-SHELL-MIB

Miscellaneous MIBs

- CISCO-LICENSE-MGR-MIB
- CISCO-FEATURE-CONTROL-MIB
- CISCO-CDP-MIB
- CISCO-RF-MIB

Layer 3 and Routing MIBs

- UDP-MIB
- TCP-MIB
- OSPF-MIB
- OSPF-TRAP-MIB
- BGP4-MIB
- CISCO-HSRP-MIB
- PIM-MIB

Standards • IEEE 802.1D: Spanning Tree Protocol • IEEE 802.1p: CoS Prioritization • IEEE 802.1Q: VLAN Tagging • IEEE 802.1s: Multiple VLAN Instances of Spanning Tree Protocol • IEEE 802.1w: Rapid Reconfiguration of Spanning Tree Protocol • IEEE 802.3z: Gigabit Ethernet • IEEE 802.3ad: Link Aggregation Control Protocol (LACP) • IEEE 802.1ax: Link Aggregation Control Protocol (LACP) • IEEE 802.3ae: 10 Gigabit Ethernet • IEEE 802.3ba: 40 Gigabit Ethernet • IEEE 802.1ab: LLDP RFC • RFC 1997: BGP CommunitiesAttribute • RFC 2385: Protection of BGP Sessions with the TCP MD5 Signature Option • RFC 2439: BGP Route Flap Damping • RFC 2519: A Framework for Inter-Domain Route Aggregation • RFC 2545: Use of BGPv4 Multiprotocol Extensions • RFC 2858: Multiprotocol Extensions for BGPv4 • RFC 3065: Autonomous System Confederations for BGP • RFC 3392: Capabilities Advertisement with BGPv4 RFC 4271: BGPv4 • RFC 4273: BGPv4 MIB: Definitions of Managed Objects for BGPv4 • RFC 4456: BGP Route Reflection • RFC 4486: Subcodes for BGP Cease Notification Message RFC 4724: Graceful Restart Mechanism for BGP • RFC 4893: BGP Support for Four-Octet AS Number Space OSPF • RFC 2328: OSPFVersion 2 • 8431RFC 3101: OSPF Not-So-Stubby-Area (NSSA) Option RFC 3137: OSPF Stub Router Advertisement • RFC 3509: Alternative Implementations of OSPF Area Border Routers • RFC 3623: Graceful OSPF Restart • RFC 4750: OSPF Version 2 MIB RFC1724: RIPv2 MIB Extension • RFC 2082: RIPv2 MD5 Authentication • RFC 2453: RIP Version 2 IP Services • RFC 768: User Datagram Protocol (UDP) • RFC 783: Trivial File Transfer Protocol (TFTP) • RFC 791: IP • RFC 792: Internet Control Message Protocol (ICMP) • RFC 793: TCP RFC 826: ARP • RFC 854: Telnet • RFC 959: FTP • RFC 1027: Proxy ARP • RFC 1305: Network Time Protocol (NTP) Version 3 RFC 1519: Classless Interdomain Routing (CIDR) • RFC 1542: BootP Relay • RFC 1591: Domain Name System (DNS) Client • RFC 1812: IPv4 Routers • RFC 2131: DHCP Helper RFC 2338: VRRP IP Multicast • RFC 2236: InternetGroup Management Protocol, version 2 • RFC 3376: Internet Group Management Protocol, Version 3 • RFC 3446: Anycast Rendezvous Point Mechanism Using PIM and MSDP • RFC 3569: An Overview of SSM • RFC 3618: Multicast Source Discovery Protocol (MSDP) • RFC 4601: Protocol Independent Multicast - Sparse Mode (PIM-SM): Protocol Specification (Revised) RFC 4607: Source-Specific Multicast for IP RFC 4610: Anycast-RP using PIM • RFC 5015: PIM BiDir

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• RFC 5132: IP Multicast MIB

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