# N3K-C3548P-10GX Datasheet

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## 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.

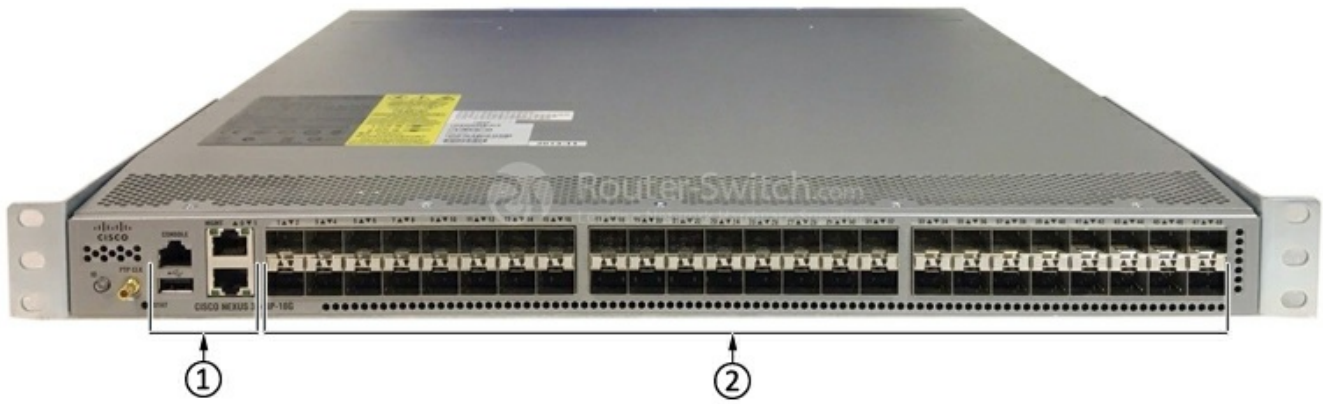
### Quick Specs

**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)<br>1 x 1-PPS timing port, with the RF1.0/2.3 QuickConnect connector type<br>1 x 10/100/1000-Mbps management port<br>1 x RS-232 serial console port<br>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)<br>1 x 1-PPS timing port, with the RF1.0/2.3 QuickConnect connector type*<br>**2 × 10/100/1000-Mbps management ports**<br>1 x RS-232 serial console port<br>**1 x USB port** | 48 x fixed SFP+ ports (1 or 10 Gbps)<br>1 x 1-PPS timing port, with the RF1.0/2.3 QuickConnect connector type<br>**1 x 10/100/1000-Mbps management port**<br>1 x RS-232 serial console port<br>**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)<br>● Dual redundant hot-swappable power supplies<br>● Four individual redundant hot-swappable fans<br>● One 1-PPS timing port, with the RF1.0/2.3 QuickConnect connector type*<br>● One 10/100/1000-Mbps management port<br>● One RS-232 serial console port<br>● Two USB ports<br>● Locator LED<br>● Locator LED button |
| Performance | ● 960-Gbps switching capacity<br>● Forwarding rate of 720 mpps<br>● Line-rate traffic throughput (both Layer 2 and 3) on all ports<br>● 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** | | | |
| | **Mode** | **Normal Mode** | **Warp Mode** |
| Hardware tables and scalability | Number of MAC addresses | 64,000 | 8000 |
| | 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<br>Multiple Spanning Tree (MST) Protocol: 64 | |
| | Number of EtherChannels | 24 | |
| | Number of ports per EtherChannel | 24 | |
| | Buffer size | 6 MB shared among 16 ports; 18 MB total | |
| | Boot flash memory | 2 GB (3524P and 3548P models)<br>4 GB (3524X and 3548X models) | |
| Power | Number of power supplies | 2 (redundant) | |
| | Power supply types | ● AC (forward and reversed airflow)<br>● 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<br>● Forward airflow:Port-side exhaust (air enters through fan tray and power supplies and exits through ports)<br>● Reversed airflow: Port-side intake (air enters through ports and exits through fan tray and power supplies)<br>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<br>● Up to 5 days at maximum (85%) humidity<br>● Recommend ASHRAE data center environment | |
| | Relative humidity (nonoperating) | 5 to 95% noncondensing | |
| | Altitude | 0 to 10,000 ft (0 to 3000m) | |

| | | |
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| | Mean time between failure (MTBF) | 317,030 hours |
| **Software Features** | | |
| Layer 2 | ● Layer 2 switch ports and VLAN trunks<br>● IEEE 802.1Q VLAN encapsulation<br>● Support for up to 4096 VLANs<br>● Rapid Per-VLAN Spanning Tree Plus (PVRST+) (IEEE 802.1w compatible)<br>● MSTP (IEEE 802.1s): 64 instances<br>● Spanning Tree PortFast<br>● Spanning Tree Root Guard<br>● Spanning Tree Bridge Assurance<br>● Cisco EtherChannel technology (up to 24 ports per EtherChannel)<br>● LACP: IEEE 802.3ad, IEEE 802.1ax<br>● Advanced PortChannel hashing based on Layer 2, 3, and 4 information<br>● Jumbo frames on all ports (up to 9216 bytes)<br>● Storm control (multicast and broadcast)<br>● Link-level flow control (IEEE 802.3x)<br>● vPC | |
| Layer 3 | ● Layer 3 interfaces: Routed ports on interfaces, switch virtual interfaces (SVIs), PortChannels, and subinterfaces (total: 1024)<br>● 24-way Equal-Cost Multipath (ECMP)<br>● 4096 ACL entries<br>● Routing protocols: Static, RIPv2, EIGRP, OSPF, and BGP<br>● HSRP and VRRP<br>● ACL: Routed ACL with Layer 3 and 4 options to match ingress and egress ACLs<br>● VRF: VRF-Lite (IP VPN), VRF-aware unicast (BGP, OSPF, and RIP), and VRF-aware multicast<br>● VRF route leaking<br>● Jumbo frame support (up to 9216 bytes) | |
| Multicast | ● Multicast: PIMv2, PIM Sparse Mode (PIM-SM), SSM, and BiDir<br>● Bootstrap router (BSR), Auto-RP, and Static RP<br>● MSDP and Anycast RP<br>● Internet Group Management Protocol (IGMP) Versions 2 and 3 | |
| Security | ● Ingress ACLs (standard and extended) on Ethernet<br>● Standard and extended Layer 3 to 4 ACLs include IPv4, Internet Control Message Protocol (ICMP), TCP, and User Datagram Protocol (UDP)<br>● VLAN-based ACLs (VACLs)<br>● Port-based ACLs (PACLs)<br>● Named ACLs<br>● ACLs on virtual terminals (VTYs)<br>● Dynamic Host Configuration Protocol (DHCP) relay<br>● Control Plane Policing (CoPP) | |
| Cisco Nexus Data Broker | ● Topology support for tap and SPAN aggregation<br>● Traffic load balancing to multiple monitoring tools<br>● Time stamping using PTP<br>● Packet truncation<br>● Traffic filtering based on Layer 1 through Layer 4 header information<br>● Traffic replication and forwarding to multiple monitoring tools<br>● Robust RBAC<br>● Northbound Representational State Transfer (REST) API for all programmability support | |

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| Management | ● Power On Auto Provisioning (POAP)<br>● Python scripting<br>● Switch management using 10/100/1000-Mbps management or console ports<br>● CLI-based console to provide detailed out-of-band management<br>● In-band switch management<br>● Locator and beacon LEDs<br>● Configuration rollback<br>● SSHv2<br>● Telnet<br>● AAA<br>● AAA with RBAC<br>● RADIUS<br>● TACACS+<br>● Syslog<br>● Embedded packet analyzer<br>● SNMP v1, v2, and v3<br>● Enhanced SNMP MIB support<br>● XML (NETCONF) support<br>● Remote monitoring (RMON)<br>● Advanced Encryption Standard (AES) for management traffic<br>● Unified username and passwords across CLI and SNMP<br>● Microsoft Challenge Handshake Authentication Protocol (MS-CHAP)<br>● Digital certificates for management between switch and RADIUS server<br>● Cisco Discovery Protocol Versions 1 and 2<br>● RBAC<br>● SPAN on physical, PortChannel, and VLAN<br>● ERSPAN Versions 2 and 3<br>● Ingress and egress packet counters per interface<br>● Network Time Protocol (NTP)<br>● Cisco OHMS<br>● Comprehensive bootup diagnostic tests<br>● Cisco Call Home<br>● Cisco DCNM<br>● Active buffer monitoring<br>● PTP (IEEE 1588) boundary clock | |
| **Management and Standards Support** | | |
| MIB support | Generic MIBs<br>● SNMPv2-SMI<br>● CISCO-SMI<br>● SNMPv2-TM<br>● SNMPv2-TC<br>● IANA-ADDRESS-FAMILY-NUMBERS-MIB<br>● IANAifType-MIB<br>● IANAiprouteprotocol-MIB<br>● HCNUM-TC<br>● CISCO-TC<br>● SNMPv2-MIB<br>● SNMP-COMMUNITY-MIB<br>● SNMP-FRAMEWORK-MIB<br>● SNMP-NOTIFICATION-MIB<br>● SNMP-TARGET-MIB<br>● SNMP-USER-BASED-SM-MIB<br>● SNMP-VIEW-BASED-ACM-MIB<br>● CISCO-SNMP-VACM-EXT-MIB<br>Ethernet MIBs<br>● CISCO-VLAN-MEMBERSHIP-MIB<br>Configuration MIBs<br>● ENTITY-MIB<br>● IF-MIB<br>● CISCO-ENTITY-EXT-MIB<br>● CISCO-ENTITY-FRU-CONTROL-MIB<br>● CISCO-ENTITY-SENSOR-MIB<br>● CISCO-SYSTEM-MIB<br>● CISCO-SYSTEM-EXT-MIB<br>● CISCO-IP-IF-MIB<br>● CISCO-IF-EXTENSION-MIB<br>● CISCO-NTP-MIB<br>● CISCO-IMAGE-MIB<br>● CISCO-IMAGE-UPGRADE-MIB | Monitoring MIBs<br>● NOTIFICATION-LOG-MIB<br>● CISCO-SYSLOG-EXT-MIB<br>● CISCO-PROCESS-MIB<br>● RMON-MIB<br>● CISCO-RMON-CONFIG-MIB<br>● CISCO-HC-ALARM-MIB<br>Security MIBs<br>● CISCO-AAA-SERVER-MIB<br>● CISCO-AAA-SERVER-EXT-MIB<br>● CISCO-COMMON-ROLES-MIB<br>● CISCO-COMMON-MGMT-MIB<br>● CISCO-SECURE-SHELL-MIB<br>Miscellaneous MIBs<br>● CISCO-LICENSE-MGR-MIB<br>● CISCO-FEATURE-CONTROL-MIB<br>● CISCO-CDP-MIB<br>● CISCO-RF-MIB<br>Layer 3 and Routing MIBs<br>● UDP-MIB<br>● TCP-MIB<br>● OSPF-MIB<br>● OSPF-TRAP-MIB<br>● BGP4-MIB<br>● CISCO-HSRP-MIB<br>● PIM-MIB |

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| Standards | ● IEEE 802.1D: Spanning Tree Protocol<br>● IEEE 802.1p: CoS Prioritization<br>● IEEE 802.1Q: VLAN Tagging<br>● IEEE 802.1s: Multiple VLAN Instances of Spanning Tree Protocol<br>● IEEE 802.1w: Rapid Reconfiguration of Spanning Tree Protocol<br>● IEEE 802.3z: Gigabit Ethernet<br>● IEEE 802.3ad: Link Aggregation Control Protocol (LACP)<br>● IEEE 802.1ax: Link Aggregation Control Protocol (LACP)<br>● IEEE 802.3ae: 10 Gigabit Ethernet<br>● IEEE 802.3ba: 40 Gigabit Ethernet<br>● IEEE 802.1ab: LLDP |
| RFC | BGP<br>● RFC 1997: BGP CommunitiesAttribute<br>● RFC 2385: Protection of BGP Sessions with the TCP MD5 Signature Option<br>● RFC 2439: BGP Route Flap Damping<br>● RFC 2519: A Framework for Inter-Domain Route Aggregation<br>● RFC 2545: Use of BGPv4 Multiprotocol Extensions<br>● RFC 2858: Multiprotocol Extensions for BGPv4<br>● RFC 3065: Autonomous System Confederations for BGP<br>● RFC 3392: Capabilities Advertisement with BGPv4<br>● RFC 4271: BGPv4<br>● RFC 4273: BGPv4 MIB: Definitions of Managed Objects for BGPv4<br>● RFC 4456: BGP Route Reflection<br>● RFC 4486: Subcodes for BGP Cease Notification Message<br>● RFC 4724: Graceful Restart Mechanism for BGP<br>● RFC 4893: BGP Support for Four-Octet AS Number Space<br>OSPF<br>● RFC 2328: OSPFVersion 2<br>● 8431RFC 3101: OSPF Not-So-Stubby-Area (NSSA) Option<br>● RFC 3137: OSPF Stub Router Advertisement<br>● RFC 3509: Alternative Implementations of OSPF Area Border Routers<br>● RFC 3623: Graceful OSPF Restart<br>● RFC 4750: OSPF Version 2 MIB<br>RIP<br>● RFC1724: RIPv2 MIB Extension<br>● RFC 2082: RIPv2 MD5 Authentication<br>● RFC 2453: RIP Version 2<br>● IP Services<br>● RFC 768: User Datagram Protocol (UDP)<br>● RFC 783: Trivial File Transfer Protocol (TFTP)<br>● RFC 791: IP<br>● RFC 792: Internet Control Message Protocol (ICMP)<br>● RFC 793: TCP<br>● RFC 826: ARP<br>● RFC 854: Telnet<br>● RFC 959: FTP<br>● RFC 1027: Proxy ARP<br>● RFC 1305: Network Time Protocol (NTP) Version 3<br>● RFC 1519: Classless Interdomain Routing (CIDR)<br>● RFC 1542: BootP Relay<br>● RFC 1591: Domain Name System (DNS) Client<br>● RFC 1812: IPv4 Routers<br>● RFC 2131: DHCP Helper<br>● RFC 2338: VRRP<br>IP Multicast<br>● RFC 2236: InternetGroup Management Protocol, version 2<br>● RFC 3376: Internet Group Management Protocol, Version 3<br>● RFC 3446: Anycast Rendezvous Point Mechanism Using PIM and MSDP<br>● RFC 3569: An Overview of SSM<br>● RFC 3618: Multicast Source Discovery Protocol (MSDP)<br>● RFC 4601: Protocol Independent Multicast - Sparse Mode (PIM-SM): Protocol Specification (Revised)<br>● RFC 4607: Source-Specific Multicast for IP<br>● RFC 4610: Anycast-RP using PIM<br>● RFC 5015: PIM BiDir<br>● RFC 5132: IP Multicast MIB |

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