N5K-C5548UP-FA Datasheet

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Overview

N5K-C5548UP-FA is Nexus 5548 UP Chassis, including 32 fixed unified ports, Front-to-Back Airflow, 2 750W AC Power Supplies, Fan Trays, 1 Expansion Slot. Unified ports support traditional Ethernet, Fibre Channel (FC), and Fibre Channel over Ethernet (FCoE).

Quick Specs

Figure 1 shows the appearance of Cisco Nexus 5548UP, N5K-C5548UP-FA is its chassis.

Table 1 shows the Quick Specs of N5K-C5548UP-FA.

Product Code	N5K-C5548UP-FA
Product Type	Switch Chassis
Ethernet Technology	10 Gigabit Ethernet
Number of Total Expansion Slots	33
Expansion Slots	1
Expansion Slot Type	SFP+
Performance	Layer 2 hardware forwarding at 960 Gbps or 714.24 mpps; Layer 3 performance of up to 160 Gbps or 240 mpps
Form Factor	1RU
Fixed Ports	32 fixed unified ports
Power Supplies	2 x 750W AC Power Supplies
PoE (RJ-45) Port	No
Fan Modules	2
Airflow	Front-to-back (port-side exhaust) cooling The Cisco Nexus 5548UP alternatively supports back-to-front (port-side intake) cooling (all fan and power supply modules in the same chassis must support the same direction of airflow)
Manageable	Yes
Physical (height x width x depth)	1.72 x 17.3 x 29.5 in. (4.4 x 43.9 x 74.9 cm)

Weight with two 1100W power supplies, 3 unified port expansion modules, and 4 fan modules	35 lb (15.88 kg)

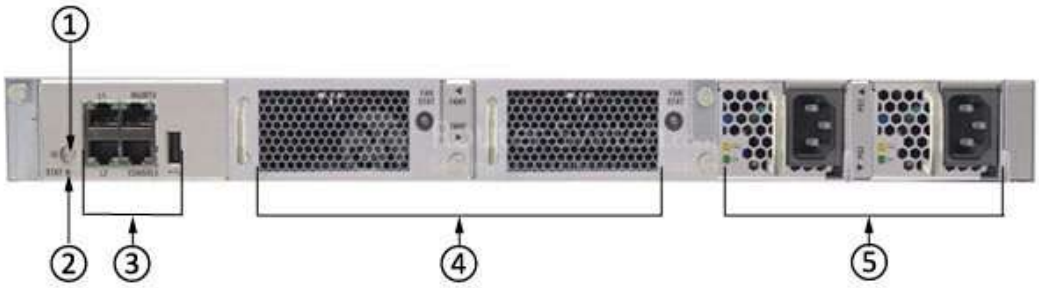
Product Details

Figure 2 shows the front panel of Cisco Nexus 5548UP. N5K-C5548UP-FA is its chassis.

Note:

(1)	ID LED
(2)	Status LED
(3)	32 fixed unified ports Unified ports support traditional Ethernet, Fibre Channel (FC), and Fibre Channel over Ethernet (FCoE).
(4)	Expansion module

Figure 3 shows the back panel of Cisco Nexus 5548UP. N5K-C5548UP-FA is its chassis.



Note:

(1)	ID LED
(2)	Status LED
(3)	Management (10/100/1000) ports, console port, and USB port
(4)	Two fan modules
(5)	Two power supplies

The Accessories

Table 2 shows the recommended elements for theN5K-C5548UP-FA.

Category	Model	Description
Nexus 5500 Expansion Slot	N55-M16UP	Nexus 5500 Unified Ports Module 16p, Spare
Nexus 5500 L2 and L3 Options	N55-D160L3-V2	Nexus 5548 Layer 3 Daughter Card, Version 2
N5K Transceiver and Cable	SFP-H10GB-CU1M	10GBASE-CU SFP+ Cable 1 Meter
	SFP-H10GB-ACU7M	Cisco Direct-Attach Active Optical Cables with SFP+ Connectors, SFP-H10GB-ACU7M
License	N55-48P-SSK9	Nexus 5500 Storage License, 48 Ports

Compare to Similar Items

Table 3 shows the comparison of N5K-C5548UP-FA, N5K-C5596UP-FA and N5K-C5596T-FA.

Product Code	N5K-C5548UP-FA	N5K-C5596UP-FA	N5K-C5596T-FA
Form Factor	1RU	2RU	2RU
Fixed Ports	32 fixed unified ports	48 fixed unified ports	32x10GT/16xSFP+ Fixed Ports
Power Supplies	2 750W AC Power Supplies	2 1100W AC Power Supplies	2 1100W AC Power Supplies
Fan Modules	2	4	4
Expansion Slots	1	3	3
Airflow	Front-to-Back	Front-to-Back	Back-to-Front

Get more information

Do you have any question about the N5K-C5548UP-FA?

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Specification

N5K-C5548UP-FA Specifications	
Performance	● Layer 2 hardware forwarding at 960 Gbps or 714.24 mpps; Layer 3 performance of up to 160 Gbps or 240 mpps ● MAC address table entries: 32,000 ● Low-latency cut-through design that provides predictable, consistent traffic latency regardless of packet size, traffic pattern, or enabled features on 10 Gigabit Ethernet interfaces ● Line-rate traffic throughput on all ports
Interfaces	● 32 fixed ports configurable as 1 and 10 Gigabit Ethernet and FCoE or 8/4/2/1-Gbps native Fibre Channel; additional interfaces through one expansion module ● Expansion modules ● 16-port 1 and 10 Gigabit Ethernet and FCoE module ● 8-port 8/4/2/1-Gbps Fibre Channel plus 8-port 1 and 10 Gigabit Ethernet and FCoE module ● Unified port module consisting of 16 ports configurable as 8/4/2/1-Gbps Fibre Channel or 1 and 10 Gigabit Ethernet and FCoE ● 4-port QSFP expansion module ● 12-port 10G BASE-T module (Cisco Nexus 5596T only) ● Layer 3 module (Cisco Nexus 5596UP and 5596T only; one per system) ● Layer 3 daughter card (Cisco Nexus 5548P and 5548UP only; one per system) ● Extension through the Cisco Nexus 2000 Series

Layer 2 Features	• 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) • Multiple Spanning Tree Protocol (MSTP) (IEEE 802.1s): 64 instances • Spanning Tree PortFast • Spanning Tree root guard • Spanning Tree Bridge Assurance • Cisco EtherChannel technology (up to 16 ports per EtherChannel) • Cisco vPC technology • Enhanced vPC enable vPC between Cisco Nexus 5000 and 2000 Series as well as between Cisco Nexus 3000 Series and end host • vPC configuration synchronization • Link Aggregation Control Protocol (LACP): IEEE 802.3ad • Advanced port channel hashing based on Layer 2, 3, and 4 information • Jumbo frames on all ports (up to 9216 bytes) • Pause frames (IEEE 802.3x) • Storm control (unicast, multicast, and broadcast) • Private VLANs • Private VLAN over trunks (isolated and promiscuous) • Private VLANs over vPC and EtherChannels • VLAN Remapping • Cisco FabricPath • EvPC and vPC+ with FabricPath • Cisco Adapter FEX • Cisco Data Center VM FEX • Support for up to 24 fabric extenders on each Cisco Nexus 5500 platform
Layer 3 Features	• Layer 3 interfaces: Routed ports on Cisco Nexus 5500 platform interfaces, switch virtual interface (SVI), port channels, subinterfaces, and port channel subinterfaces for a total of 4096 entries • Support for up to 8000 prefixes and up to 16000 IPv4 and 8000 IPv6 host entries • Support for up to 8000 multicast routes • Support for up to 8000 IGMP groups • Support for 1000 VRF entries • Support for up to 4096 VLANs • 16-way equal-cost multipathing (ECMP) • 1664 ingress and 2048 egress access control list (ACL) entries • Routing protocols: Static, Routing Information Protocol Version2 (RIPv2), Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First Version 2 (OSPFv2), and Border Gateway Protocol (BGP) • IPv6 Routing Protocols: Static, Open Shortest Path First Version 3 (OPFv3), Border Gateway Protocol (BGPv6), Enhanced Interior Gateway Routing Protocol (EIGRPv6) • IPv6 VRF Lite • Hot-Standby Router Protocol (HSRP) and Virtual Router Redundancy Protocol (VRRP) • ACL: Routed ACL with Layer 3 and 4 options to match ingress and egress ACL • Multicast: Protocol Independent Multicast Version 2 (PIMv2) sparse mode, Source Specific Multicast (SSM), Multicast Source Discovery Protocol (MSDP), Internet Group Management Protocol Versions 2, and 3 (IGMP v2, and v3), and Multicast VLAN Registration (MVR) • Virtual Route Forwarding (VRF): VRF-lite (IP VPN); VRF-aware unicast; and BGP-, OSPF-, RIP-, and VRF-aware multicast • Unicast Reverse Path Forwarding (uRFP) with ACL; strict and loose modes • Jumbo frame support (up to 9216 bytes) • Support for up to 16 fabric extender on each Nexus 5500 with L3 modules • RFC 896
QoS	• Layer 2 IEEE 802.1p (CoS) • 8 hardware queues per port • Per-port QoS configuration • CoS trust • Port-based CoS assignment • Modular QoS CLI (MQC) compliance - IPv4 and IPv6 • ACL-based QoS classification (Layers 2, 3, and 4) • MQC CoS marking • Per-port virtual output queuing • CoS-based egress queuing • Egress strict-priority queuing • Egress port-based scheduling: Weighted Round-Robin (WRR) • Control Plan Policing (CoPP) - IPv4 and IPv6

Security	• Ingress ACLs (standard and extended) on Ethernet and virtual Ethernet ports • Standard and extended Layer 2 ACLs: MAC addresses, protocol type, etc. • Standard and extended Layer 3 to 4 ACLs: IPv4 and IPv6, Internet Control Message Protocol (ICMP and ICMPv6), TCP, User Datagram Protocol (UDP), etc. • VLAN-based ACLs (VACLs) • Port-based ACLs (PACLs) • Named ACLs • Optimized ACL distribution • ACLs on virtual terminals (VTYs) • ACL logging on management interface • Dynamic Host Configuration Protocol (DHCP) snooping with Option 82 • Dynamic Address Resolution Protocol (ARP) Inspection • IP source guard • DHCP relay • Cisco CTS (Authentication and Policy download from ACS) • Ethernet Port Security • IPv6 RACL • IPv6 PACL • IPv6 VACL
High-Availability Features	• In-Service Software Upgrade (ISSU) for Layer 2 • Hot-swappable field-replaceable power supplies, fan modules, and expansion modules • 1:1 power redundancy • N:1 fan module redundancy
Management	• 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 on Cisco Nexus 2000 Series • Port-based locator and beacon LEDs • Configuration synchronization • Module preprovisioning • Configuration rollback • Secure Shell Version 2 (SSHv2) • Telnet • AAA • AAA with RBAC • RADIUS • TACACS+ • Syslog (8 servers) • Embedded packet analyzer • SNMPv1, v2, and v3 (IPv4 & IPv6) • 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 • Switched Port Analyzer (SPAN) on physical, port channel, VLAN, and Fibre Channel interfaces • Encapsulated Remote SPAN (ERSPAN) • Ingress and egress packet counters per interface • Network Time Protocol (NTP) • Cisco GOLD • Comprehensive bootup diagnostic tests • Call Home • Smart Call Home • Cisco Fabric Manager • Cisco DCNM • CiscoWorks LAN Management Solution (LMS)
Data Center Bridging	• CEE- and IEEE-compliant PFC (per-priority Pause frame support) • PFC link distance support: 3000m • CEE-compliant DCBX Protocol • CEE- and IEEE-compliant Enhanced Transmission Selection

Fibre Channel and FCoE Features (Requires Storage Services License)	• T11 standards-compliant FCoE (FC-BB-5) • T11 FCoE Initialization Protocol (FIP) (FC-BB-5) • Any 10 Gigabit Ethernet port configurable as FCoE • SAN administration separate from LAN administration • FCP • Fibre Channel forwarding (FCF) • Fibre Channel standard port types: E, F, and NP • Fibre Channel enhanced port types: VE, TE, and VF • F-port trunking • F-port channeling • Direct attachment of FCoE and Fibre Channel targets • Up to 240 buffer credits per native Fibre Channel port • Up to 32 VSANs per switch • Fibre Channel (SAN) port channel • Native Interop Mode 1 • Native Interop Mode 2 • Native Interop Mode 3 • Native Interop Mode 4 • VSAN trunking • Fabric Device Management Interface (FDMI) • Fibre Channel ID (FCID) persistence • Distributed device alias services • In-order delivery • Port tracking • Cisco N-Port Virtualization (NPV) technology • N-port identifier virtualization (NPIV) • Fabric services: Name server, registered state change notification (RSCN), login services, and name-server zoning • Per-VSAN fabric services • Cisco Fabric Services • Diffie-Hellman Challenge Handshake Authentication Protocol (DH-CHAP) and Fibre Channel Security Protocol (FC-SP) • Distributed device alias services • Host-to-switch and switch-to-switch FC-SP authentication • Fabric Shortest Path First (FSPF) • Fabric binding for Fibre Channel • Standard zoning • Port security • Domain and port • Enhanced zoning • SAN port channels • Cisco Fabric Analyzer • Fibre Channel traceroute • Fibre Channel ping • Fibre Channel debugging • Cisco Fabric Manager support • Storage Management Initiative Specification (SMI-S) • Boot from SAN over VPC/EVPC
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
Layer 3 MIBs	• UDP-MIB • TCP-MIB • OSPF-MIB • BGP4-MIB • CISCO-HSRP-MIB

Fibre Channel MIBs	• CISCO-ST-TC • CISCO-FC-FE-MIB • CISCO-FCSP-MIB • CISCO-PORT-TRACK-MIB • CISCO-PSM-MIB • CISCO-FC-SPAN-MIB • CISCO-PORT-CHANNEL-MIB • CISCO-RSCN-MIB • CISCO-NS-MIB • CISCO-FCS-MIB • CISCO-DM-MIB • FIBRE-CHANNEL-FE-MIB • CISCO-FC-ROUTE-MIB • CISCO-FSPF-MIB • CISCO-ZS-MIB • CISCO-ZS-EXT-MIB • CISCO-VSAN-MIB • CISCO-CFS-MIB • CISCO-FCPING-MIB • CISCO-FCTRACEROUTE-MIB • CISCO-FDMI-MIB • CISCO-FC-DEVICE-ALIAS-MIB • CISCO-WWNMGR-MIB • FCMGMT-MIB • CISCO-VEDM-MIB • CISCO-FCOE-MIB
Ethernet MIBs	• CISCO-VLAN-MEMBERSHIP-MIB • CISCO-Virtual-Interface-MIB
Configuration MIBs	• ENTITY-MIB • IF-MIB • CISCO-ENTITY-EXT-MIB • CISCO-ENTITY-FRU-CONTROL-MIB • CISCO-ENTITY-SENSOR-MIB • CISCO-FLASH-MIB • CISCO-SYSTEM-MIB • CISCO-SYSTEM-EXT-MIB • CISCO-IP-IF-MIB • CISCO-IF-EXTENSION-MIB • CISCO-SERVER-INTERFACE-MIB • CISCO-NTP-MIB • CISCO-IMAGE-MIB • CISCO-IMAGE-CHECK-MIB • CISCO-IMAGE-UPGRADE-MIB • CISCO-CONFIG-COPY-MIB • CISCO-ENTITY-VENDORTYPE-OID-MIB • CISCO-BRIDGE-MIB
Monitoring MIBs	• DIFFSERV-DSCP-TC • NOTIFICATION-LOG-MIB • DIFFSERV-MIB • CISCO-CALLHOME-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-RADIUS-MIB • CISCO-SECURE-SHELL-MIB • TCP/IP MIBs • INET-ADDRESS-MIB • TCP-MIB • CISCO-TCP-MIB • UDP-MIB • IP-MIB • CISCO-IP-PROTOCOL-FILTER-MIB • CISCO-DNS-CLIENT-MIB • CISCO-PORTSECURITY- MIB

Miscellaneous MIBs	• START-MIB • CISCO-LICENSE-MGR-MIB • CISCO-FEATURE-CONTROL-MIB • CISCO-CDP-MIB • CISCO-RF-MIB • CISCO-ETHERNET-FABRIC-EXTENDER-MIB • CISCO-BRIDGE-MIB
Industry Standards	• IEEE 802.1D: Spanning Tree Protocol • IEEE 802.1p: CoS prioritization • IEEE 802.1Q: VLAN tagging • IEEE 802.1Qaz: Enhanced transmission selection • IEEE 802.1Qbb: Per-priority Pause • IEEE 802.1s: Multiple VLAN instances of Spanning Tree Protocol • IEEE 802.1w: Rapid reconfiguration of Spanning Tree Protocol • IEEE 802.3: Ethernet • IEEE 802.3ad: LACP with fast timers • IEEE 802.3ae: 10 Gigabit Ethernet • SFF 8431 SFP+ CX1 support • RMON • IEEE 1588-2008: Precision Time Protocol (Boundary Clock)
Fibre Channel Standards	• FC-PH, Revision 4.3 (ANSI/INCITS 230-1994) • FC-PH, Amendment 1 (ANSI/INCITS 230-1994/AM1 1996) • FC-PH, Amendment 2 (ANSI/INCITS 230-1994/AM2-1999) • FC-PH-2, Revision 7.4 (ANSI/INCITS 297-1997) • FC-PH-3, Revision 9.4 (ANSI/INCITS 303-1998) • FC-PI, Revision 13 (ANSI/INCITS 352-2002) • FC-PI-2, Revision 10 (ANSI/INCITS 404-2006) • FC-PI-4, Revision 7.0 • FC-FS, Revision 1.9 (ANSI/INCITS 373-2003) • FC-FS-2, Revision 0.91 • FC-LS, Revision 1.2 • FC-SW-2, Revision 5.3 (ANSI/INCITS 355-2001) • FC-SW-3, Revision 6.6 (ANSI/INCITS 384-2004) • FC-GS-3, Revision 7.01 (ANSI/INCITS 348-2001) • FC-GS-4, Revision 7.91 (ANSI/INCITS 387-2004) • FC-BB-5, Revision 2.0 for FCoE • FCP, Revision 12 (ANSI/INCITS 269-1996) • FCP-2, Revision 8 (ANSI/INCITS 350-2003) • FCP-3, Revision 4 (ANSI/INCITS 416-2006) • FC-MI, Revision 1.92 (INCITS TR-30-2002, except for FL-ports and Class 2) • FC-MI-2, Revision 2.6 (INCITS TR-39-2005, except for FL-ports and Class 2) • FC-SP, Revision 1.6 • FC-DA, Revision 3.1 (INCITS TR-36-2004, except for FL-ports, SB-ports and Class 2) • Class of Service: Class 3, Class F • Fibre Channel standard port types: E and F • Fibre Channel enhanced port types: SD and TE
Physical Specifications	
SFP+ Optics	Cisco Nexus 5500 platform supports 10 Gigabit Ethernet SFP+ copper Twinax cables for short distances and SFP+ optics (10GBASE-SR, 10GBASE-LR, 10GBASE-ER, GLC-ZX-SM and Cisco Nexus 2000 Series Fabric Extender Transceiver [FET-10G]) for longer distances. SFP+ has several advantages compared to other 10 Gigabit Ethernet connectivity options: • Small 10 Gigabit Ethernet form factor • Optical interoperability with XENPAK, X2, and XFP interface types • Low power consumption • Hot-swappable device • Cisco Nexus 5500 platform products support 8-Gbps Fibre Channel-compatible SFP+ for native Fibre Channel connectivity options; 8-Gbps Fibre Channel-compatible short-reach and 10-km long-reach SFP transceiver modules operate at 8/4/2 Gbps and are supported in the 8-Gbps-capable native Fibre Channel ports on expansion modules and unified ports
Physical (height x width x depth)	1.72 x 17.3 x 29.5 in. (4.4 x 43.9 x 74.9 cm)
Operating temperature	32 to 104°F (0 to 40°C)
Nonoperating (storage) temperature	-40 to 158°F (-40 to 70°C)
Humidity	5 to 95% (noncondensing)
Altitude	0 to 10,000 ft (0 to 3000m)
Weight	35 lb (15.88 kg)

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