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Refurbished CISCO N3K-C3048-FA-L3 Datasheet

CISCO > SWITCHES

Cisco Nexus 3000 Series Switches

Cisco Nexus 3048 10 Gigabit Transceiver Support Matrix[1]

Part Number	
SFP-10G-SR	10GBASE-SR SFP+ module (multimode fiber [MMF])
SFP-10G-SR-S	Cisco 10GBASE-SR SFP+ Module for MMF
SFP-10G-LR	10GBASE-LR SFP+ module (single-mode fiber [SMF])
SFP-10G-LRM	Cisco 10GBASE-LRM SFP+ Module for MMF and SMF
SFP-10G-ZR	Cisco multirate 10GBASE-ZR, 10GBASE-ZW and OTU2e SFP+ Module for SMF
SFP+ DWDM	Cisco 10GBASE DWDM SFP+, Type 40
SFP-H10GB-CU1M	10GBASE-CU SFP+ cable 1m (Twinax cable)
SFP-H10GB-CU3M	10GBASE-CU SFP+ cable 3m (Twinax cable)
SFP-H10GB-CU5M	10GBASE-CU SFP+ cable 5m (Twinax cable)
SFP-H10GB-ACU7M	10GBASE-CU SFP+ Cable 7 Meter, active
SFP-H10GB-ACU10M	10GBASE-CU SFP+ Cable 10 Meter, active
SFP-10G-AOC1M-10M	10GBASE-AOC SFP+ Cable 1 Meter – 10 Meter

Benefits of Cisco NX-OS Software

Feature	
Feature	Benefit
Common software throughout the data center: Cisco NX-OS runs on all Cisco data center switch platforms: Cisco Nexus 7000, 5000, 4000, 3000, 2000, and 1000V Series.	Simplification of data center operating environment End-to-end Cisco Nexus and Cisco NX-OS fabric No retraining necessary for data center engineering and operations teams
Software compatibility: Cisco NX-OS interoperates with Cisco products running any variant of Cisco IOS Software and also with any networking OS that conforms to the networking standards listed as supported in this data sheet.	Transparent operation with existing network infrastructure Open standards No compatibility concerns
Modular software design: Cisco NX-OS is designed to support distributed multithreaded processing. Cisco NX-OS modular processes are instantiated on demand, each in a separate protected memory space. Thus, processes are started and system resources allocated only when a feature is enabled. The modular processes are governed by a real-time preemptive scheduler that helps ensure timely processing of critical functions.	Robust software Fault tolerance Increased scalability Increased network availability
Troubleshooting and diagnostics:	Quick problem isolation and resolution

Cisco NX-OS is built with unique serviceability functions to enable network operators to take early action based on network trends and events, enhancing network planning and improving network operations center (NOC) and vendor response times. Cisco Smart Call Home and Cisco Online Health Management System (OHMS) are some of the features that enhance the serviceability of Cisco NX-OS.	Continuous system monitoring and proactive notifications Improved productivity of operations teams
Ease of management: Cisco NX-OS provides a programmatic XML interface based on the NETCONF industry standard. The Cisco NX-OS XML interface provides a consistent API for devices. Cisco NX-OS also supports Simple Network Management Protocol (SNMP) Versions 1, 2, and 3 MIBs.	Rapid development and creation of tools for enhanced management Comprehensive SNMP MIB support for efficient remote monitoring
Using the Cisco Nexus Data Broker software and Cisco Plug-in for OpenFlow agent, the Cisco Nexus 3048 Switch can be used to build a scalable, cost-effective, and programmable tap or SPAN aggregation infrastructure. This approach replaces the traditional purpose-built matrix switches with these switches. You can interconnect these switches to build a multilayer topology for tap or SPAN aggregation infrastructure.	Scalable and cost effective Robust traffic filtering capabilities Traffic aggregation from multiple input ports across different switches Traffic replication and forwarding to multiple monitoring tools
Role-based access control (RBAC): With RBAC, Cisco NX-OS enables administrators to limit access to switch operations by assigning roles to users. Administrators can customize access and restrict it to the users who require it.	Tight access control mechanism based on user roles Improved network device security Reduction in network problems arising from human errors

Cisco NX-OS Software Package in the Cisco Nexus 3048

System default (no license required)	Comprehensive Layer 2 feature set: VLAN, IEEE 802.1Q Trunking, vPC, Link Aggregation Control Protocol (LACP), Unidirectional Link Detection (UDLD; standard and aggressive), Multiple Spanning Tree Protocol (MSTP), Rapid Spanning Tree Protocol (RSTP), Spanning Tree Protocol guards, and Transparent VLAN Trunk Protocol (VTP) Security: Authentication, authorization, and accounting (AAA); Dynamic Host Configuration Protocol (DHCP) snooping; storm control; configurable Control-Plane Policing (CoPP); and private VLAN (PVLAN) Management features: Cisco DCNM support, console, Secure Shell Version 2 (SSHv2) access, Cisco Discovery Protocol, SNMP, and syslog
Base license (N3K□ C3048□ BAS1K9)	Layer 3 IP routing: Inter-VLAN routing (IVR), static routes, RIPv2, access control list (ACLs), OSPFv2 (limited to 256 routes), EIGRP stub, Hot Standby Router Protocol (HSRP), Virtual Router Redundancy Protocol (VRRP), and Unicast Reverse-Path Forwarding (uRPF) Multicast: PIM-SM, SSM, and MSDP
LAN Enterprise license (N3K-C3048-LAN1K9)	Advanced Layer 3 IP routing: OSPFv2, EIGRP, BGP, and Virtual Route Forwarding lite (VRF-lite)
Cisco Nexus Data Broker license (NDB-FX-SWT-K9)	License for using the tap and SPAN aggregation functions with Cisco Nexus Data Broker; only the Base license is needed for this feature

Software Features

Description

Description	Specification
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 vPC Cisco EtherChannel technology (up to 16 ports per EtherChannel) LACP: IEEE 802.3ad Advanced PortChannel hashing based on Layer 2, 3, and 4 information Jumbo frames on all ports (up to 9216 bytes) Storm control (unicast, multicast, and broadcast) PVLANs
Layer 3	Layer 3 interfaces: Routed ports on interfaces, switch virtual interfaces (SVIs), PortChannels, and subinterfaces (total = 1024) 32-way ECMP 2000 ingress and 1000 egress ACL entries Routing protocols: Static, RIP v2, EIGRP, OSPFv2, and BGP Bidirectional Flow Detection (BFD) for 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 uRPF with ACL; strict and loose modes Jumbo frame support (up to 9216 bytes)
Multicast	Multicast: PIM-SM Version 2 and SSM Bootstrap router (BSR), Automatic Rendezvous Point (Auto-RP), and Static RP MSDP and Anycast-RP Internet Group Management Protocol (IGMP) Versions 2, and 3
Quality of service (QoS)	Layer 2 IEEE 802.1p (class of service [CoS]) 8 hardware queues per port Per-port QoS configuration CoS trust Port-based CoS assignment Modular QoS CLI (MQC) compliance ACL-based QoS classification (Layers 2, 3, and 4) MQC CoS marking Differentiated services code point (DSCP) marking Weighted Random Early Detection (WRED) CoS-based egress queuing Egress strict-priority queuing Egress port-based scheduling: Weighted Round-Robin (WRR) Explicit Congestion Notification (ECN)
Security	Ingress ACLs (standard and extended) on Ethernet Standard and extended Layer 3 to 4 ACLs: IPv4, Internet Control Message Protocol (ICMP), TCP, User Datagram Protocol (UDP), etc. VLAN-based ACLs (VACLs) Port-based ACLs (PACLs) Named ACLs ACLs on virtual terminals (vtys) DHCP snooping with Option 82 Port number in DHCP Option 82 DHCP relay Dynamic Address Resolution Protocol (ARP) inspection CoPP
Cisco Nexus Data Broker	Topology support for tap and SPAN aggregation Support for QinQ to tag input source tap and SPAN ports Traffic load balancing to multiple monitoring tools Traffic filtering based on Layer 1 through Layer 4 header information Traffic replication and forwarding to multiple monitoring tools Robust RBAC Northbound Representational State Transfer (REST) API for all programmability support
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 Port-based locator and beacon LEDs Configuration rollback SSHv2 Telnet AAA AAA with RBAC RADIUS TACACS+ Syslog Syslog generation on system resources (for example, FIB tables) 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 Cisco Switched Port Analyzer (SPAN) on physical, PortChannel and VLAN interfaces Encapsulated Remote Switched Port Analyzer (ERSPAN) Ingress and egress packet counters per interface PTP (IEEE1588) boundary clock Network Time Protocol (NTP) Cisco OHMS Comprehensive bootup diagnostic tests Cisco Call Home Cisco DCNM Advanced buffer monitoring

Regulatory Standards Compliance: Safety and EMC

Regulatory compliance	Products should comply with CE Markings per directives 2004/108/EC and 2006/95/EC
Safety	UL 60950-1 Second Edition CAN/CSA-C22.2 No. 60950-1 Second Edition EN 60950-1 Second Edition IEC 60950-1 Second Edition AS/NZS 60950-1 GB4943
EMC: Emissions	47CFR Part 15 (CFR 47) Class A AS/NZS CISPR22 Class A CISPR22 Class A EN55022 Class A ICES003 Class A VCCI Class A EN61000-3-2 EN61000-3-3 KN22 Class A CNS13438 Class A
EMC: Immunity	EN55024 CISPR24 EN300386 KN24

The next steps...

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