

Cisco C1-N7702

Datasheet

Product Overview

- The Cisco Nexus 7000 Series is Cisco's flagship data center switch line, positioned as the backbone of unified fabric solutions.
- Designed for enterprise, cloud, and service provider environments, it supports large-scale mission-critical networks and high-density data centers.
- Key features include up to 83 Tbps system capacity, support for up to 768 native 10-Gbps, 384 40-Gbps, or 192 100-Gbps Ethernet ports.
- Uniform performance and operation are ensured by sharing a common system architecture, advanced ASICs, and consistent NX-OS software.
- Advanced monitoring, high-availability design, and seamless integration with automation tools simplify deployment and ongoing management.
- The Cisco Nexus 7000 Series provides the reliability and scalability essential for growing data centers, ensuring service continuity and investment protection.

Product Highlights

- **Flexible Port Choices:** Supports up to 48 x 1/10G, 24 x 40G, or 12 x 100G Ethernet ports for scalable connectivity in a compact 3RU design.
- **Dedicated Supervisor Module:** One dedicated half-slot supervisor delivers robust control and high availability operation.
- **Efficient Airflow and Cooling:** Front-to-back airflow and a smart fan tray with variable-speed fans maintain optimal operation and reduce power consumption.
- **Universal Module Support:** All modules, supervisor, and power supplies are front-accessible and interchangeable across the Cisco Nexus 7700 family for simplified maintenance.

Detailed Features



C1-N7702

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Component	Specification
Rack Space	3RU
Slot Configuration	1 supervisor, 1 I/O module
Fabric Modules	Not supported
Power Supply Slots	2



Highly Flexible Chassis Options

The Cisco Nexus 7000 Series is available in 18-slot, 10-slot, 9-slot, and 4-slot chassis options. Each provides optimized airflow and cable management, supporting different deployment sizes from medium enterprise to hyperscale data centers.

Passive Mid-Plane Engineering

All chassis use a passive mid-plane architecture. This design connects I/O and fabric modules using copper traces, enabling direct data transfers between modules for increased reliability and simpler upgrades.

Distributed Fabric for Throughput

A scalable, distributed fabric with up to five fabric modules and midplane support provides up to 550 Gbps per slot. The 9/10/18-slot units deliver up to 18.7 Tbps; the 4-slot chassis reaches 1.92 Tbps forwarding capacity.

Future-Ready Upgrade Path

The combination of midplane (9/10/18-slot) and backplane designs (4-slot) offers flexibility for future technology upgrades. This lets businesses scale and evolve infrastructure without major hardware replacement costs.

Efficient Power Design

Cisco Nexus 7000 Series uses power supplies rated up to 90% efficiency, ensuring reduced heat generation and improved system energy use compared to standard power supplies.

Dynamic Fan Modules

Chassis fan modules adjust automatically to changing thermal demands. At low utilization, they decrease speed, cutting overall energy draw without compromising cooling.

Integrated Virtualization & Density

The switch supports device virtualization, high-density port configurations, and advanced reliability. This allows for network consolidation, reducing waste and physical footprint in the data center.

Investment Protection & Reliability

Advanced system architecture and physical design ensure long service lifespans. The systems flexible upgrade path and broad module compatibility protect investments and facilitate long-term growth.

Technical Specifications

Product Specifications

Feature	Value
Chassis Type	2-Slot Modular Switch
Form Factor	3RU
Port Capacity	48 x 10 Gbps, 24 x 40 Gbps, 12 x 100 Gbps
Supervisor Modules	1 dedicated slot (supports redundant configuration)
I/O Modules	1 slot available
Fabric Modules	Not supported
Power Supply Slots	2 slots (hot-swappable)
System Forwarding Capacity	No fabric modules, all I/O modules operate at line rate
Max Local Switching Capacity	2.4 Tbps
Max Inter-Slot Switching Capacity	N/A
Dimensions (H x W x D)	5.15 x 17.3 x 29.1 in. (13.08 x 43.9 x 73.9 cm)
Chassis Depth (with cable management)	35.1 in. (89.15 cm)
Rack Compatibility	Standard 19-inch EIA rack (2-post or 4-post)
Airflow	Front-to-back



Feature	Value
Operating Temperature	32 to 104°F (0 to 40°C)
Operating Humidity	5 to 90% noncondensing
Operating Altitude	-500 to 13,123 ft. (certified 0-6,500 ft.)
Heat Dissipation	Max 6,650 BTU/hr (configuration-dependent)
Seismic Rating	Zone 4 per GR-63
Floor Loading	24 lbs/sq. ft.
Minimum NX-OS Version	7.2 or later
Network Management	Cisco DCNM
Programming Interfaces	XML, Scriptable CLI, Cisco DCNM web services, Python, TCL, Cisco IOS EEM, Cisco OnePK, OpenFlow
Redundancy	OIR of redundant power supplies
MIB Support	SNMPv3, v2c, v1
EMC	FCC Part 15 Class A, EN55022 Class A, VCCI Class A
Safety	UL/CSA/IEC/EN 60950-1
NEBS	SR-3580 Level 3 (validation in progress)
Options	Door air filter, Lockable front module doors, Power supply center cable management

Product Comparison

Feature	C1-N7702	C1-N7702-S2E-AC	C1-N7004-S2E
Chassis Type	2-Slot Modular Switch	2-Slot Modular Switch	4-Slot Modular Switch
Form Factor	3RU	3RU	7RU
Max Port Capacity	48 x 10G, 24 x 40G, 12 x 100G	48 x 10G, 24 x 40G, 12 x 100G	Up to 192 x 10G, 96 x 40G, 48 x 100G
Supervisor Modules	1 dedicated slot	1 dedicated slot	2 slots (redundant supported)
Fabric Module Support	Not supported	Not supported	Not required (direct interconnect)
Power Supply Slots	2 hot-swappable	2 hot-swappable	3 hot-swappable



Feature	C1-N7702	C1-N7702-S2E-AC	C1-N7004-S2E
Switching Capacity	2.4 Tbps	2.4 Tbps	Up to 1.92 Tbps
Airflow	Front-to-back	Front-to-back	Side-to-back
Dimensions (HxWxD)	5.15 x 17.3 x 29.1 in	5.15 x 17.3 x 29.1 in	12.25 x 17.3 x 24 in
Rack Compatibility	19-inch EIA	19-inch EIA	19-inch EIA

Accessories

Category	Accessories
Included Accessories	- Power Supply Module - Rack Mount Kit - Quick Start Guide
Optional Accessories	- Supervisor Module - I/O Expansion Module - Door Air Filter



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[1] Cisco Systems. (2023). Cisco Nexus 7000 Series Switches Data Sheet. Retrieved from https://www.cisco.com/c/en/us/products/collateral/switches/nexus-7000-series-switches/data_sheet_c78-728187.html