



Cisco

C1-N7710-B23S2E

Datasheet

Product Overview

- Cisco Nexus 7000 Series switches are the flagship solution in Cisco Unified Fabric. They are designed for critical data centers in global networks.
- These switches are ideal for enterprises, large cloud providers, and service providers seeking high reliability, scalability, and operational consistency.
- Consistency across the Nexus 7000 platform ensures familiar system architecture, ASIC technology, and NX-OS software experience.
- Integrated redundancy, seamless scalability, and advanced network features simplify large-scale deployment and future upgrades.

Product Highlights

- **Massive High-Density Ports:** Supports up to 384 x 10G, 192 x 40G, and 96 x 100G Ethernet ports, offering exceptional scalability for large deployments.
- **Advanced Supervisory Redundancy:** Dual dedicated supervisors, stateful switchover, and hitless ISSU ensure high system uptime and seamless upgrades.
- **Powerful Parallel Fabric Architecture:** Six fabric module slots achieve high active bandwidth for all modules, providing 21 Tbps forwarding or more.
- **Efficient Cooling and Flexibility:** Front-to-back airflow with variable-speed, redundant fans and options for air filters meet strict data center standards.

Detailed Features



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Component	Specification
Module Slots	2 Supervisors, 8 I/O Modules



Modular Scalability

The Cisco Nexus 7000 Series chassis are available in multiple slot configurations, enabling tailored deployments from compact 4-slot to massive 18-slot systems. All models share modular construction and integrated cable management, ensuring streamlined operation in dense data center environments.

Passive Midplane Architecture

This design ensures direct connectivity between fabric and I/O modules through optimized copper traces and physical connectors. The passive midplane maximizes bandwidth and reliability by minimizing signal loss and supports efficient hardware expansion as user needs evolve.

High-Performance Fabric System

Leveraging a scalable fabric architecture with up to five active fabric modules, the system supports forwarding capacities up to 18.7 Tbps in 18-slot models and 9.9 Tbps in 10-slot configurations. This ensures future-ready throughput for cloud-scale and enterprise workloads.

Energy Efficiency

Cisco Nexus 7000 power supplies feature up to 90% efficiency to minimize energy waste. Its fan modules automatically adjust speed based on cooling needs, reducing operational costs and environmental impact in modern data centers.

Smart Cooling and Power Design

The chassis uses intelligent fan trays that decrease fan power when slots are unused, further enhancing energy savings. This approach optimizes both airflow and silence, ensuring continuous operation even during partial load scenarios.

Device Virtualization Support

High port density, rich Layer 2 and Layer 3 support, and robust reliability features allow consolidation of multiple switches onto a single platform. Built-in virtualization capabilities help streamline networks and improve power utilization.

Nonstop Operations and Maintenance

Features such as In-Service Software Upgrades (ISSU), Stateful Supervisor Switchover (SSO), and front/back module access enable service continuity and minimize downtime, critical for data center and cloud installations.

Investment Protection

With its modular midplane (in 9-, 10-, 18-slot) and upgrade-friendly backplane (in 4-slot), the platform allows seamless technology refreshes. Organizations can upgrade as needed without complete system replacements, maximizing return on investment.

Technical Specifications

Product Specifications

Feature	Value
Chassis Type	10-Slot Modular Switch (Nexus 7710)
Supervisor Modules	2 × SUP2E (Active/Standby)
Fabric Modules	6 × Fabric-3 Modules (Included)
Power Supplies	Not Included (Supports 3.5kW HV AC/DC)
Rack Units	14RU
10G Ports	384
40G Ports	192
100G Ports	96
System Forwarding Capacity	42 Tbps
Max Local Switching Capacity	2.4 Tbps
Max Inter-Slot Switching Capacity	2.4 Tbps
Dimensions (H × W × D)	24.35 × 17.3 × 34 in (61.85 × 43.9 × 86.4 cm)



Feature	Value
Chassis Depth (with Cable Management)	40 in (101.6 cm)
Operating Temperature	32 to 104°F (0 to 40°C)
Humidity	5% to 90% (Non-condensing)
Altitude	-500 to 13,123 ft (Certified 0-6,500 ft)
Heat Dissipation	Max 52,500 BTU/hr (Configuration Dependent)
Seismic Rating	Zone 4 per GR-63
Floor Loading	122 lbs/sq. ft.
Minimum NX-OS Version	6.2.2 or Later
Network Management	Cisco DCNM
Programming Interfaces	XML, Python, OpenFlow, Cisco OnePK, TCL
Hot-Swap Components	Power Supplies, Fabric Modules, Fan Trays, Supervisor Engines
MIB Support	SNMPv3, v2c, v1
EMC Compliance	FCC Part 15 Class A, EN55022 Class A, VCCI Class A
Safety Compliance	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-N7710-B23S2E	C1-N7018	C1-N7706-EN-B22S2E
Form Factor	10-Slot Modular	18-Slot Modular	6-Slot Modular
Max 10G Ports	384	768	192
Max 40G Ports	192	384	96
Max 100G Ports	96	192	48
Switching Capacity	42 Tbps	83 Tbps	21 Tbps
Supervisor Modules	2 × SUP2E	2 × SUP2E	2 × SUP2E



Feature	C1-N7710-B23S2E	C1-N7018	C1-N7706-EN-B22S2E
Fabric Modules	6 × Fabric-3	6 × Fabric-3	3 × Fabric-3
Power Supplies (Max)	8	10	4
Rack Units	14RU	25RU	9RU
Network Management	Cisco DCNM	Cisco DCNM	Cisco DCNM
Typical Deployments	Large Data Center Core	Massive Data Center Core	Medium Data Center Core

Accessories

Category	Accessories
Included Accessories	- User Manual - Mounting Kit - Rack Screws
Optional Accessories	- Door Air Filter - Additional Supervisor Module - Power Supply Units



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References

[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