



Cisco

C1-N7710-B23S2E-R

Datasheet



Product Overview

- Cisco Nexus 7000 Series is Cisco's flagship modular switch line for next-generation, high-performance data centers.
- The C1-N7710-B23S2E-R is suited for mission-critical data centers and large enterprise cloud environments.
- The switch offers advanced redundancy, consistent operations, and hot-swappable components for uninterrupted uptime.
- Centralized management and unified NX-OS software platform streamline complex network deployments and simplify maintenance.

Product Highlights

- **High Port Density:** Supports up to 384 × 1G/10G, 192 × 40G, or 96 × 100G Ethernet ports, ideal for large data centers and cloud deployments.
- **Redundant Supervisor Design:** Features two half-slot supervisor modules for full redundancy with seamless switchover and hitless software upgrades.
- **Parallel Fabric Architecture:** Six fabric module slots and parallel forwarding fabric deliver up to 21 Tbps system forwarding capacity.
- **Advanced Cooling & Power:** Front-to-back airflow with three redundant, hot-swappable fan trays and up to eight high-efficiency power supplies.

Detailed Features



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Component	Specification
Module Slots	2 supervisors, 8 I/O modules



Modular Scalability for Any Deployment

The Cisco Nexus 7000 Series comes in four chassis sizes, from 4 to 18 slots, supporting a variety of data center and enterprise network scales. The passive mid-plane design enables future upgrades and expansion without full hardware replacement, maximizing both flexibility and long-term value.

Passive Mid-Plane Architecture

All chassis in the Nexus 7000 Series use a passive mid-plane providing direct copper traces and physical connectors that enable high-speed data transfers between fabric and I/O modules. This design improves reliability and eliminates single points of failure linked to active backplanes.

High-Performance Distributed Fabric

A fully distributed fabric connects up to five modules across the midplane, delivering up to 550 Gbps per slot and up to 18.7 Tbps total in the largest configuration. This architecture is ideal for environments demanding non-blocking bandwidth and rapid scaling.

Efficient Power Utilization

Power supplies in the Nexus 7000 Series deliver up to 90% efficiency. Combined with intelligent power sharing and modular supply options, this results in less energy waste and better cost control for large-scale, always-on network environments.

Smart Thermal Management

Fan modules are adaptive, balancing thermal load while saving power in low-demand modes. Unused fan rows can be powered down automatically, enhancing efficiency and operational lifespan.

Integrated Cable Management

Purpose-built cable management is integrated into every chassis form factor, streamlining installation and maintenance. All modules and cables are front-accessible, minimizing downtime and simplifying site changes.

Comprehensive Virtualization Support

Support for device virtualization and multi-system consolidation reduces equipment overhead while boosting reliability and availability. This is critical for organizations adapting to virtualized enterprise or multi-tenant data center environments.

Investment Protection

Nexus 7000s modular, upgrade-ready design protects your hardware investment as networking needs evolve. The platform supports seamless technology upgrades, minimizing total cost of ownership and future-proofing your infrastructure.

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	32–104°F (0–40°C)
Humidity	5% to 90% Noncondensing
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 Compliance	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-R	C1-N7706-B26S2E-R	C1-N7009-B2S2E-R
Chassis Slots	10 Slots	6 Slots	9 Slots
Supervisor Modules	2 × SUP2E (Active/Standby)	2 × SUP2E (Active/Standby)	2 × Supervisor Modules
Max 10G Ports	384	192	336
Max 40G Ports	192	96	72
Max 100G Ports	96	48	24
System Forwarding Capacity	42 Tbps	21 Tbps	8.8 Tbps



Feature	C1-N7710-B23S2E-R	C1-N7706-B26S2E-R	C1-N7009-B2S2E-R
Power Supplies Supported	8 (3.5kW HV AC/DC)	4	6
Rack Space	14RU	9RU	14RU
Fabric Module Slots	6	3	5
Cooling	3 Redundant Fan Trays	2 Redundant Fan Trays	Redundant Fan Trays
Management	Cisco DCNM, XML, Python, OpenFlow	Cisco DCNM	Cisco DCNM, CLI
Hot Swap Components	Yes	Yes	Yes
Operating Temperature	0–40°C	0–40°C	0–40°C

Accessories

Category	Accessories
Included Accessories	- Chassis Base Frame - Installation Guide - Mounting Hardware
Optional Accessories	- Supervisor Module SUP2E - Fabric Module (Fabric-3) - Power Supply Unit 3.5kW HV AC/DC



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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