



Cisco

C1-N7004-S2E-R

Datasheet



Product Overview

- The Cisco Nexus 7000 Series defines Cisco's high-end modular core switching product line, built for large-scale enterprise and cloud data centers.
- Designed for mission-critical environments, it targets organizations needing reliable, scalable, and highly available network infrastructure for data center and campus aggregation.
- Featuring up to 17 Tbps fabric capacity, 1/10/40/100GE modular connectivity, and the robust Cisco NX-OS operating system to deliver seamless performance and scalability.
- It offers integrated redundancy, advanced virtualization, and real-time system upgrades—distinctive for agile, always-on data center operations.
- Simplified management and operational flexibility make deployment and network changes smooth, reducing risk during upgrades and expansions.
- Ideal for regional or global companies, the Nexus 7000 Series helps future-proof your infrastructure with reliable uptime, expansion options, and pervasive services.

Product Highlights

- **High-Density Modular Connectivity:** Supports up to 96 × 1/10GE, 12 × 40GE, and 4 × 100GE ports for flexible and scalable aggregation.
- **Redundant Supervisors for Reliability:** Dual, dedicated supervisor slots offer system-level redundancy and high network availability.
- **Optimized Cooling Architecture:** Side-to-rear airflow and top-mounted fan tray enable higher rack density in 7RU footprint.
- **Front Access Design:** All modules and components, including PSU and fan trays, are accessible from the front for easy maintenance.

Detailed Features



C1-N7004-S2E-R

 [Quote](#) | [Help](#)

Component	Specification
Rack Space	7RU
Chassis Slots	4 (2 supervisor, 2 I/O module)
Power Supply Slots	4



Versatile Modular Chassis Lineup

The Cisco Nexus 7000 Series offers four chassis types 18-slot, 10-slot, 9-slot, and compact 4-slot all supporting front-accessible modules and tailored airflow designs for varied deployments. Each chassis is purpose-built for unique data center requirements, ensuring optimal physical flexibility and cable management regardless of deployment scale or rack constraints.

Passive Mid-Plane Architecture

A robust passive mid-plane design connects fabric and I/O modules directly, providing high-speed interconnection without active electronic components. This design improves reliability, simplifies maintenance, and reduces potential points of failure promoting long-term stability in high-demand environments.

Distributed Crossbar Fabric

All intermodule switching leverages crossbar fabric ASICs on each I/O and fabric module. The Nexus 7000-4 chassis uses a direct backplane-trace design to interconnect fabric ASICs on installed I/O modules, ensuring non-blocking throughput and high performance for core enterprise applications.

Scalable Forwarding Capacity

9-slot, 10-slot, and 18-slot chassis can scale up to 550 Gbps per slot. The 4-slot chassis delivers up to 1.92 Tbps, powered by its intrinsic fabric design for high packet processing, supporting demanding aggregation and high-speed access layers seamlessly.

Investment Protection Architecture

Innovative midplane and backplane engineering allow flexible upgrades and technology refreshes as enterprise needs evolve. This future-ready design minimizes forklift upgrades, ensuring maximum return on your network investment over years of use.

Comprehensive Redundancy Options

Supports N+1 or N+N power redundancy, 1+1 supervisor redundancy, and fabric redundancy. This engineered resiliency protects your mission-critical services, ensuring nonstop operation under component or system failure events.

Purpose-Built Cooling and Airflow

Each chassis type features optimized cooling from side-to-side or front-to-back airflow to easily swappable fan trays. Intelligent cooling maintains performance even at high port densities, enabling energy-efficient and reliable 24/7 operation.

Unified Fabric Integration

Core to Cisco's Unified Fabric, the Nexus 7000 enables seamless L2/L3 convergence, advanced virtualization, and integration with Cisco solutions. It supports hybrid deployments and cloud migrations, streamlining operational complexity and boosting service agility.

Technical Specifications

Product Specifications

Feature	Value
Chassis Type	4-slot modular (7RU)
Included Components	1 × N7004 chassis, 2 × SUP2E supervisor modules (for redundancy)
Power Supplies	Not included (must be purchased separately)
Form Factor	7 rack units (7RU)
Slot Capacity	4 slots total (2 slots for SUP2E, 2 slots for I/O modules)
Fabric Architecture	8.8 Tbps crossbar switching fabric
Port Density	Up to 32 × 10G ports per line card, supports 40G/100G modules with appropriate line cards
Network Processor	Broadcom StrataXGS
Switching Capacity	2.2 Tbps per slot (max aggregate)



Feature	Value
Forwarding Rate	720 Mpps
Buffer Memory	16MB shared per slot
Supervisor Redundancy	1+1 active/standby
Fabric Redundancy	N+1 with additional fabric modules
Power Redundancy	N+1 or N+N (with additional PSUs)
Cooling	Front-to-back airflow with hot-swappable fans
Operating System	Cisco NX-OS
Management Interfaces	CLI (NX-OS style), Web UI (HTTP/HTTPS), SNMPv3, XML API
Supported Protocols	IPv4/IPv6, MPLS, VXLAN, BGP, OSPF, EIGRP, PIM, IGMP
Dimensions (W × D × H)	17.3 in × 24.9 in × 7 in (43.9 cm × 63.2 cm × 17.8 cm)
Rack Mounting	Standard 19" rack compatible
Operating Temperature	32°F to 104°F (0°C to 40°C)
Min Operating Temperature	32°F (0°C)
Max Operating Temperature	104°F (40°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Min Storage Temperature	-40°F (-40°C)
Max Storage Temperature	158°F (70°C)
Humidity	5% to 95% non-condensing
Altitude	-60 m to 3,000 m
Power Supply Options	N7K-AC-6.0KW (AC), N7K-DC-6.0KW (DC)
Typical Power Consumption	1500W-3000W (depends on configuration)
Compliance	RoHS, CE, FCC

Product Comparison

Feature	C1-N7004-S2E-R	C1-N9K-C93180YC-EX	C9200L-48T-4X-E
Chassis Type	4-slot modular, 7RU	1RU fixed, compact	1RU fixed, compact
Switching Capacity	Up to 8.8 Tbps	Up to 3.6 Tbps	176 Gbps



Feature	C1-N7004-S2E-R	C1-N9K-C93180YC-EX	C9200L-48T-4X-E
Max Ports Supported	Up to 96 × 1/10G, 12 × 40G, 4 × 100G	48 × 25G SFP28 + 6 × 100G QSFP28	48 × 1G + 4 × 10G SFP+
Supervisor Redundancy	1+1 active/standby	Not supported	Not supported
Power Redundancy	N+1/N+N	Redundant PSUs supported	Redundant PSUs supported
OS Platform	Cisco NX-OS	Cisco NX-OS	Cisco IOS XE
Advanced Protocols	VXLAN, MPLS, BGP, OSPF, EIGRP, PIM	VXLAN, EVPN, MPLS, BGP	OSPF, EIGRP, static
Management Options	CLI, Web UI, SNMPv3, XML API	CLI, Web UI, SNMP	CLI, Web UI, SNMP, Bluetooth
Use Case	Core/Data Center Agg/ Modular setup	Spine/Leaf, High-scale DC ToR	Campus/Enterprise access

Accessories

Category	Accessories
Included Accessories	- Supervisor Modules (2x SUP2E) - Chassis Base Frame - Mounting Kit
Optional Accessories	- Power Supply Units (N7K-AC-6.0KW, N7K-DC-6.0KW) - I/O Modules (10G/40G/100G line cards) - Fan Tray Assembly



Support & Warranty



24/7 Online
Service



3-Year Premium
Warranty



Professional
Technical Support



100% Low Price
Guarantee



100% Quality
Assurance



100% Money
Back Guarantee

About Us



Router-switch.com, headquartered in Hong Kong since 2002, has been a trusted global leader in ICT distribution for 23 years. We provide cutting-edge networking, cybersecurity, data center, and AI solutions to meet evolving business needs. Our wide range includes products from top brands like Cisco, Arista, Aruba, Fortinet, Mellanox, and Huawei, ensuring access to the latest technology and innovations.

18,000+

global customers

600,000+

end-users

200+

countries & regions

23

years experience

500+

global vendors

100,000+

SKUs available

700+

local sales experts

50-98%

off global list prices

Contact Us

Email

High Connectivity: sales@router-switch.com

Expert Technical Support: ccie-support@router-switch.com

Cooperative Partnerships: ccie-support@router-switch.com

Phone

USA: +1-626-655-0998

Hong Kong: +852-25925389 / +852-25925411

Follow Us

Facebook: [@Routerswitchdotcom](https://www.facebook.com/Routerswitchdotcom)

LinkedIn: [Router-switch.com](https://www.linkedin.com/company/router-switch.com)

X: [@routerswitchcom](https://twitter.com/routerswitchcom)

Instagram: [@routerswitchdotcom](https://www.instagram.com/routerswitchdotcom)

Global Footprint

Global Warehouses & Service Centers Across Continents.



Global Branches

Headquarters (Hong Kong)

Rm 605, 6/F, Fa Yuen Comm Bldg, 75-77 Fa Yuen St, Mongkok, Kowloon, Hong Kong, China

USA Branch

3592 Rosemead Blvd, B #220, Rosemead, CA 91770, USA

Shenzhen Branch

Jingfeng Building, 1001 Shangbu South Road, Futian District, Shenzhen, China

UK Branch

Third Floor, 207 Regent Street, London W1B 3HH, UK



References

[1] Cisco. (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_C78-437762.html