Cisco

C1-C2960X-24PD-L

Datasheet

Product Overview

- Cisco C1-C2960X-24PD-L belongs to the Catalyst 2960-X Series, delivering high-performance enterprise network access.

- Designed for campus networks and branch locations, it meets the requirements of business, education, and healthcare sectors.

- With 24 Gigabit Ethernet ports and 2 x 10G SFP+ uplinks, it ensures strong throughput and scalable stacking for growing networks.

- Key features such as Power over Ethernet Plus (PoE+), advanced Layer 2/3 options, and energy-efficient operation set it apart.

- Centralized device onboarding and various management interfaces support smooth deployments, daily monitoring, and quick troubleshooting.

- Whether for distributed offices or educational campuses, the C1-C2960X-24PD-L helps build secure, resilient, and efficient network foundations.

Product Highlights

- **Full-Gigabit Connectivity:** 24 x 10/100/1000 Ethernet ports deliver stable high-speed data transmission and support PoE+ power for connected devices.

- **Flexible Uplink Options:** 2 x 10G SFP+ uplinks provide flexible network expansion and high-bandwidth connections for aggregation or core links.

- **Advanced Network Management:** Features web UI, CLI, SNMP, and Bluetooth access, as well as integration with Cisco Prime and DNA Center.

- **High Reliability and Scalability:** Supports FlexStack-Plus stacking and redundant power supplies, ensuring network availability and effortless expansion.

Detailed Features

C1-C2960X-24PD-L

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Component	Specification
10/100/1000 Ethernet Ports	24
Uplink Interfaces	2 SFP+
Cisco IOS Software Image	LAN Base
Available PoE Power	370W
Stacking Capability	FlexStack-Plus and FlexStack-Extended

Enterprise Security Tools

The C1-C2960X-24PD-L integrates MAC-based VLAN assignment, Cisco TrustSec, 802.1X, and IPv6 First-Hop Security. These capabilities limit unauthorized network access, control user authentication at the port level, and actively defend against modern Layer 2 and IPv6-related threats. Flexible Authentication and RADIUS integration add robust policy enforcement, essential for regulated environments.

Comprehensive Device Management

Device sensors and classifiers enable deep device identification for seamless onboarding, including BYOD environments. Integration with Cisco ISE enhances adaptability to dynamic user profiles and access scenarios. This granular device visibility supports precise, identity-based policy enforcement across enterprise deployments and increases operational agility as user diversity grows.

Trust Anchor Technology

Trust Anchor Technology provides robust system integrity by verifying Cisco IOS images at boot-up. This process checks firmware signatures, device identity, and license status, guaranteeing only trusted software runs on your switch. The single firmware image simplifies updates and strengthens security, crucial for organizations prioritizing authenticity and compliance.

Intelligent QoS Capabilities

The switch enables up to eight egress queues per port, strict priority scheduling, and granular rate limiting for multiservice traffic. Shaped Round Robin and Weighted Tail Drop ensure reliable performance even during congestion. This advanced QoS empowers organizations to optimize voice, video, and critical data on converged networks, achieving predictable and consistent application delivery.

Flexible Scalability

SDM templates for LAN Base and IP Lite let administrators optimize memory allocation for MAC, routing, security, and QoS features. This dynamic resource adjustment ensures the switch can scale with evolving network requirements, maximizing hardware efficiency. It is especially valuable in enterprise or service provider environments where scalability is needed without manual hardware upgrades.

Redundancy and Resiliency

Cross-stack EtherChannel configuration increases link redundancy across stacked switches. Flex Links offer backup paths with convergence under 100 milliseconds, and optional dual field-replaceable power supplies minimize downtime. Such redundancy ensures continuous service in mission-critical settings, supporting high availability and business continuity plans.

Operational Efficiency

SmartOperations tools streamline LAN design, deployment, and troubleshooting. Automating repetitive tasks reduces operational overhead and total cost of ownership. DHCP auto-configuration and centralized version management simplify initial rollout and ongoing switch upgrades, therefore accelerating project timelines and minimizing disruptions across distributed locations.

Energy-Efficient Power Management

Ciscos advanced energy management aligns with industry-leading green initiatives. Intelligent PoE and dynamic power allocation cut unnecessary consumption, lowering operational expenses. These features make the C1-C2960X-24PD-L ideal for organizations seeking both robust performance and environmental responsibility in their access layer infrastructure.

Technical Specifications

Product Specifications

Feature	Value
Enclosure Type	Rack-mountable - 1U
Ports	24 x 10/100/1000 + 2 x 10G SFP+
Network Management Interface	10/100 Mbps Ethernet (RJ-45)
Available PoE Power	370W
Forwarding Bandwidth	108Gbps
Maximum Stacking Number	8
Stack Bandwidth	80 G
Forwarding Performance	95.2Mpps

Feature	Value
Switching Bandwidth	216Gbps
Maximum Active VLANs	1023
MAC Address Table Size	16K (default)
CPU Model	APM86392
CPU Frequency	600MHz dual core
RAM	256 MB
Flash Memory	64 MB
Status Indicators Per-port	Link integrity, disabled, activity, speed, and full duplex
Status Indicators System	System, RPS, Stack link status, link duplex, PoE, and link speed
Console Ports	USB (Type-B), Ethernet (RJ-45)
Stacking Cable	Optional
Power Redundancy Option	PWR-RPS2300
Voltage Range (Auto)	110V-240V
Power Consumption Operational	0.49KVA
Width	17.5 Inches (44.5 cm)
Depth	14.5 Inches (36.8 cm)
Height	1.75 Inches (4.5 cm)
Weight	12.7 lb (5.7 Kg)
Package Weight	20.26 lb (9.19 Kg)
Rack Mounting Kit	optional
MTBF in hours	325,780
Operating Temperature (up to 5000 ft/1500 m)	23ºF to 113ºF (-5ºC to 45ºC)
Operating Temperature (up to 10,000 ft/3000 m)	23ºF to 104ºF (-5ºC to 40ºC)
Short-term Exception at Sea Level*	23ºF to 131ºF (-5ºC to 55ºC)
Short-term Exception up to 5000 feet (1500 m)*	23ºF to 122ºF (-5ºC to 50ºC)
Short-term Exception up to 10,000 feet (3000 m)*	23ºF to 113ºF (-5ºC to 45ºC)
Short-term Exception up to 13,000 feet (4000 m)*	23º to 104ºF (-5ºC to 40ºC)
Storage Temperature up to 15,000 feet (4573 m)	-13º to 158ºF (-25º to 70ºC)
Operating Altitude	Up to 10,000 Feet (Up to 3000 Meters)
Storage Altitude	Up to 13,000 (Up to 4000 Meters)

Feature	Value
Operating Relative Humidity	10% to 95% noncondensing
Storage Relative Humidity	10% to 95% noncondensing

Product Comparison

Feature	C1-C2960X-24PD-L	C1-C2960X-48TD-L	C1-C2960X-48FPS-L
Fixed Ports	24 x 10/100/1000Base-T + 2 x 10G SFP+	48 x 10/100/1000Base-T + 2 x 10G SFP+	48 x 10/100/1000Base-T + 2 x 10G SFP+
PoE+ Power Budget	370W	None	740W
Stacking Support	FlexStack-Plus / FlexStack-Extended	FlexStack-Plus / FlexStack-Extended	FlexStack-Plus / FlexStack-Extended
Switching Capacity	216 Gbps	216 Gbps	216 Gbps
Forwarding Rate	95.2 Mpps	107.1 Mpps	107.1 Mpps
Software Image	LAN Base	LAN Base	LAN Base
Management Interfaces	Web UI, CLI, SNMP, Bluetooth, USB, RJ-45	Web UI, CLI, SNMP, Bluetooth, USB, RJ-45	Web UI, CLI, SNMP, Bluetooth, USB, RJ-45
Redundant Power Supply	Optional	Optional	Optional
Best Use Case	PoE+ access, mid-size enterprise, campus	High-density non-PoE access	Full PoE+ high-density with max power budget

Accessories

Category	Accessories
Included Accessories	- Power Adapter - Rack Mounting Kit - Console Cable
Optional Accessories	- SFP Transceiver - Redundant Power Supply - Stacking Cable

Support & Warranty

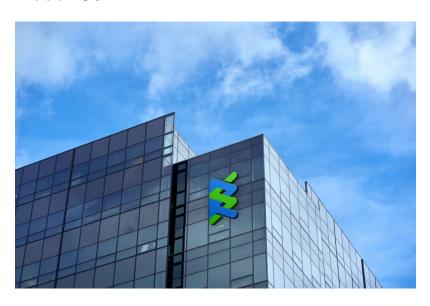| 24/7 Online Service | 3-Year Premium Warranty | Professional Technical Support | 100% Low Price Guarantee | 100% Quality Assurance | 100% Money Back Guarantee |

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Global Footprint

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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 Catalyst 2960-X Series Switches Data Sheet. Retrieved from https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-2960-x-series-switches/datasheet_c78-728232.html#SwitchModelsandConfigurations