Cisco

C1-C2960X-48LPD-L

Datasheet

Product Overview

- Cisco's Catalyst 2960-X and 2960-XR Series represent a proven line of enterprise switches focused on high-performance campus and branch connectivity.

- These switches are engineered for organizations such as enterprises, education sites, and distributed offices who demand secure, reliable, and scalable access.

- Offering up to 48 Gigabit Ethernet ports, dual 10G SFP+ uplinks, and hardware-accelerated packet forwarding, these units provide robust physical and data throughput.

- Distinctive features include stacking support for flexible scaling, advanced PoE+ options, and comprehensive Layer 2/3 services for broad use flexibility.

- Streamlined management is provided through Cisco IOS, with easy onboarding, automation, and remote troubleshooting, reducing operational demands for IT teams.

- With the 2960-X/XR, businesses across geographies achieve secure, efficient network expansion, supported by Cisco's advanced software, security, and resiliency.

Product Highlights

- **High-Density Gigabit Ports:** Supports 24 or 48 Gigabit Ethernet ports for maximum device connectivity with line-rate, non-blocking switching.

- **Flexible Uplink Choices:** Equipped with either 4 × 1G SFP or 2 × 10G SFP+ uplinks, ideal for varied network topologies and high-speed aggregation.

- **Advanced Power Management:** Integrated PoE+ with up to 740W power budget and Perpetual PoE for uninterrupted device support even during reboots.

- **Comprehensive Management & Resiliency:** Offers web UI, CLI, SNMP, stacking options, and robust security and network reliability with flexible power supply choices.

Detailed Features

C1-C2960X-48LPD-L

Component	Specification
Uplink Interfaces	2 x 10G SFP+
Ports	48 x 10/100/1000
PoE Power Budget	370W
Switching Capacity	216 Gbps
Maximum Stacking Number	8

Comprehensive Network Security

The 2960-X/XR Series supports MAC-based VLAN assignments, advanced 802.1X features, TrustSec, device profiling, and Trust Anchor Technology. This multilayer approach restricts unauthorized access and applies granular security policies across wired access networks, ensuring compliance and integrity at every point of connection.

Intelligent QoS Management

With up to eight egress queues per port and advanced queuing mechanisms like Shaped Round Robin and Weighted Tail Drop, the switches deliver robust performance for voice, video, and critical business traffic. Flow-based rate limiting and up to 256 policers per port guarantee prioritized, congestion-free services across diverse workloads.

Scalability and Deployment Optimization

Customizable Switching Database Manager (SDM) templates enable tailored RAM and TCAM resource allocation for varying deployment demands. Administrators can optimize for MAC, routing, QoS, and security table scaling, protecting investment and maximizing returns as network requirements grow.

High Availability and Resiliency

Features like cross-stack EtherChannel and Flex Links deliver rapid failover and redundancy. Stacking up to eight units with high stack bandwidth ensures minimized downtime. Power redundancy options with field-replaceable supplies enhance business continuity in mission-critical environments.

Operational Simplicity

Cisco SmartOperations tools automate LAN deployment, configuration, and monitoring. Features such as AutoSecure CLI, automated DHCP configuration, and seamless stacking upgrades streamline management, cutting operating costs and onboarding time for new devices.

Energy Efficient Performance

Industry-leading power management tools and PoE scheduling offer reduced energy consumption. Switches dynamically adjust based on device requirements, making the 2960-X/XR among the greenest in the segment and supports sustainability strategies for enterprise IT.

Layer 3 Route Intelligence

Support for advanced routing protocols, including OSPF, static routing, and RIP, makes these switches suitable for complex Layer 2/3 access environments. This ensures seamless traffic segmentation, dynamic path selection, and high-performance routed access for expanding networks.

Integrated Device Management

Multiple management toolsweb UI, CLI, SNMP, Bluetooth, and Cisco DNA Centeroffer localized or centralized control. With complete visibility and automation options, troubleshooting and policy management are simplified, improving network uptime and service quality.

Technical Specifications

Product Specifications

Feature	Value
Product Model	WS-C2960X-48LPD-L
Enclosure Type	Rack-mountable - 1U
Ports	48 x 10/100/1000 + 2 x 10G SFP+
Network Management Interface	10/100 Mbps Ethernet (RJ-45)
Available PoE Power	370W
Forwarding Bandwidth (Gbps)	108Gbps
Maximum Stacking Number	8
Stack Bandwidth	80 G
Forwarding Performance	130.9Mpps
Switching Bandwidth	216Gbps
Maximum Active VLANs	1023

Feature	Value
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, full duplex
Status Indicators (System)	System, RPS, Stack link status, link duplex, PoE, 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	0.48KVA
Width	17.5 Inches (44.5 cm)
Depth	14.5 Inches (36.8 cm)
Height	1.75 Inches (4.5 cm)
Weight	12.9 lb (5.9 Kg)
Package Weight	23.48 lb (10.65 Kg)
Rack Mounting Kit	optional
MTBF in hours	277,960
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	23ºF to 122ºF (-5ºC to 50ºC)
Short-term Exception up to 10,000 feet	23ºF to 113ºF (-5ºC to 45ºC)
Short-term Exception up to 13,000 feet	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)
Operating Relative Humidity	10% to 95% noncondensing
Storage Relative Humidity	10% to 95% noncondensing

Product Comparison

Feature	C1-C2960X-48LPD-L	C9200L-48T-4G-E	C9200L-24P-4G-E
Fixed Ports	48 x 10/100/1000 + 2 x 10G SFP+	48 x 10/100/1000 + 4 x 1G SFP	24 x 10/100/1000 PoE+ + 4 x 1G SFP
PoE Power Budget	370W	None	370W
Switching Bandwidth	216Gbps	104Gbps	56Gbps
Maximum Stacking Number	8	8	8
MAC Address Table Size	16K	16K	16K
Layer 3 Routing Support	Static, RIP, OSPF	Static, RIP	Static, RIP
Management Interfaces	Web UI, CLI, SNMP, USB/RJ45	Web UI, CLI, SNMP, USB	Web UI, CLI, SNMP, USB
Redundant Power Supply	Supported (optional)	Supported (optional)	Supported (optional)

Accessories

Category	Accessories
Included Accessories	- Power Cord - Mounting Bracket - Console Cable
Optional Accessories	- SFP Transceiver Module - Stacking Cable - Redundant Power Supply

Support & Warranty

24/7 Online Service

3-Year Premium Warranty

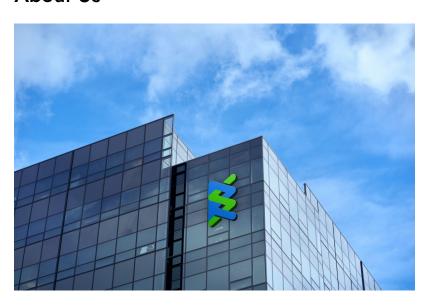Professional Technical Support

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References

[1] Cisco. (2023). Catalyst 2960-X Series Switches Datasheet. Retrieved from https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-2960-x-series-switches/datasheet_c78-728232.html#SwitchModelsandConfigurations