



# Cisco Catalyst 2960-L Series Switch Datasheet



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## OVERVIEW

Cisco® Catalyst® 2960-L Series Switches are fixed-configuration, Gigabit Ethernet switches that provide enterprise-class access switching for branch offices, out-of-the-wiring-closet applications, and critical Internet of Things (IoT) deployments, as well as small and medium-sized businesses. They operate on Cisco IOS® Software and support simple device management as well as network management. The Cisco Catalyst 2960-L Series provides easy device onboarding, configuration, monitoring, and troubleshooting. These fully managed switches offer advanced Layer 2 and basic Layer 3 features as well as Power over Ethernet Plus (PoE+) power. The 2960-L Series delivers enhanced network security, network reliability, and operational efficiency.

## APPEARANCE

**Figure 1.** Cisco Switch Catalyst 2960L 8 Ports



**Figure 2.** Cisco Switch Catalyst 2960L 8 PoE Ports



**Figure 3.** Cisco Switch Catalyst 2960L 16 Ports



**Figure 4.** Cisco Switch Catalyst 2960L 16 PoE Ports



**Figure 5.** Cisco Switch Catalyst 2960L 24 Ports



**Figure 6.** Cisco Switch Catalyst 2960L 24 PoE Ports



**Figure 7.** Cisco Switch Catalyst 2960L 48 Ports



**Figure 8.** Cisco Switch Catalyst 2960L 48 PoE Ports



## Key Features

Cisco Catalyst 2960-L Series Switches features:

- 8, 16, 24, or 48 Gigabit Ethernet data or PoE+ ports with line-rate forwarding
- 2 or 4 fixed 1 Gigabit Ethernet Small Form-Factor Pluggable (SFP) uplinks or 4 fixed 10 Gigabit Ethernet SFP+ uplinks
- Perpetual PoE+ support with a power budget of up to 370W
- Cisco IOS enhanced LAN Lite software
- Device management support with:
  - Intuitive web UI, over-the-air access via Bluetooth, Command-Line Interface (CLI), Simple Network Management Protocol (SNMP), RJ-45 or USB console access, and virtual stacking
  - Network management with Cisco Prime®, Cisco Network Plug and Play, and Cisco DNA™ Center
- Security with 802.1X support for connected devices, Switched Port Analyzer (SPAN), and Bridge Protocol Data Unit (BPDU) Guard
- Basic Layer 3 features with Static routing and Routing Information Protocol (RIP)
- Fanless operation with operating temperature up to 45° C
- Compact design with a depth of less than 11.5 inches
- Reliability with higher Mean Time Between Failures (MTBF) and an Enhanced Limited Lifetime Warranty (E-LLW)

PRODUCT SPECIFICATIONS OF CISCO SWITCH CATALYST 2960L

Model	8 Ports	16 Ports	24 Ports (1/10G uplinks)	48 Ports (1/10G uplinks)
<b>Console ports</b>				
RJ45 Ethernet	1	1	1	1
USB mini-B	1	1	1	1
USB-A port for storage and Bluetooth console	1	1	1	1
<b>Memory and processor</b>				
CPU	ARMv7 800 MHz	ARMv7 800 MHz	ARMv7 800 MHz	ARMv7 800 MHz
DRAM	512 MB	512 MB	512 MB	512 MB
Flash memory	256 MB	256 MB	256 MB	256 MB
<b>Performance</b>				
Forwarding bandwidth	10 Gbps	18 Gbps	1G: 28 Gbps	1G: 52 Gbps
			10G: 64 Gbps	10G: 88Gpbs
Switching bandwidth	20 Gbps	36 Gbps	1G: 56 Gbps	1G: 104 Gbps
			10G: 128 Gbps	10G: 176 Gbps
Forwarding rate (64-byte L3 packets)	14.88 Mpps	26.78 Mpps	41.67 Mpps	77.38 Mpps

<b>Model</b>	<b>8 Ports</b>	<b>16 Ports</b>	<b>24 Ports (1/10G uplinks)</b>	<b>48 Ports (1/10G uplinks)</b>
Unicast MAC addresses	8000	8000	8000	8000
IPv4 unicast direct routes	542	542	542	542
IPv4 unicast indirect routes	256	256	256	256
IPv6 unicast direct routes	414	414	414	414
IPv6 unicast indirect routes	128	128	128	128
IPv4 multicast routes and IGMP groups	1024	1024	1024	1024
IPv6 multicast groups	1024	1024	1024	1024
IPv4/MAC security ACEs	384	384	256	256
IPv6 security ACEs	384	384	384	384
Maximum active VLANs	64	64	64	64
VLAN IDs available	4094	4094	4094	4094



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Maximum STP instances	64	64	64	64
Maximum SPAN sessions	1	1	1	1
MTU-L3 packet	9198 bytes	9198 bytes	9198 bytes	9198 bytes
Jumbo Ethernet frame	10,240 bytes	10,240 bytes	10,240 bytes	10,240 bytes
MTBF in hours (data)	2,448,133	2,416,689	2,412,947	1,370,769
MTBF in hours (PoE)	315,044	313,496	909,838	437,970
<b>Environment</b>				
<b>Operating temperature</b>				
Up to 5,000 ft (1500 m)	23°F to 113°F (-5°C to 45°C)	23°F to 113°F (-5°C to 45°C)	23°F to 113°F (-5°C to 45°C)	23°F to 113°F (-5°C to 45°C)
	WS-C2960L-16PS-LL has maximum operating temperature of 40°C (up to 5,000 ft) and 35°C (up to 10,000 ft).			
Up to 10,000 ft (3000 m)	23°F to 104°F (-5°C to 40°C)	23°F to 104°F (-5°C to 40°C)	23°F to 104°F (-5°C to 40°C)	23°F to 104°F (-5°C to 40°C)
Operating altitude	10,000 ft (3000 m)	10,000 ft (3000 m)	10,000 ft (3000 m)	10,000 ft (3000 m)

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Operating relative humidity	5% to 90% at 40°C		5% to 90% at 40°C		5% to 90% at 40°C		5% to 90% at 40°C	
Storage temperature	-13° to 158°F (-25° to 70°C)		-13° to 158°F (-25° to 70°C)		-13° to 158°F (-25° to 70°C)		-13° to 158°F (-25° to 70°C)	
Storage altitude	15,000 ft (4500m)		15,000 ft (4500 m)		15,000 ft (4500 m)		15,000 ft (4500 m)	
Storage relative humidity	5% to 95% at 65°C		5% to 95% at 65°C		5% to 95% at 65°C		5% to 95% at 65°C	
Storage altitude	Note: Minimum ambient temperature for cold start is 0°C (32°F).							
Electrical	Data	PoE	Data	PoE	Data	PoE	Data	PoE
Voltage (auto ranging)	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in
Frequency	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz
Current	0.13A to 0.22A	0.22A to 0.27A	0.16A to 0.26A	0.24A to 0.28A	0.20A to 0.33A	0.21A to 0.26A	0.29A to 0.48A	0.37A to 0.64A

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	0.04 kVA	0.11 kVA	0.05 kVA	0.19 kVA	0.06 kVA	0.24 kVA	0.09 kVA	0.48 kVA
<b>Power rating (maximum consumption)</b>								
<b>Power consumption (watts)</b>								
0% traffic	13.0	19.9	14.9	21.9	1G: 16.5	1G: 17.5 2	1G: 24.36	1G: 27.24
					10G: 17.04	10G: 16.6 8	10G: 25.8	10G: 27
10% traffic	14.8	22.0	19.3	27.1	1G: 23.04	1G: 24	1G: 33	1G: 39.24
					10G: 22.92	10G: 23.1 6	10G: 38.04	10G: 39.12
100% traffic	14.9	22.0	19.3	27.1	1G: 23.64	1G: 24	1G: 33.6	1G: 40.32
					10G: 23.64	10G: 23.7 6	10G: 39.36	10G: 40.56
Weighted average	14.2	21.3	17.8	25.4	1G: 21.06	1G: 21.8 4	1G: 30.32	1G: 35.6

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					10G: 21.2	10G: 21.2	10G: 34.4	10G: 35.56
<p>Note: The wattage rating on the power supply does not represent actual power draw. It indicates the maximum power draw possible by the power supply. This rating can be used for facility capacity planning. For PoE switches, cooling requirements are smaller than total power draw because a significant portion of the load is dissipated in the endpoints.</p>								
<b>Acoustic noise (48-port PoE only)</b>								
Sound pressure	LpA (typical)				35 dB			
	LpAD (maximum)				39 dB			
Sound power	LwA (typical)				4.8 B			
	LwAD (maximum)				5.2 B			
	Note: Bystander positions operating mode at 77°F (25°C) ambient.							
<b>Safety and compliance</b>								
Safety	UL 60950-1 Second Edition, CAN/CSA-C22.2 No. 60950-1 Second Edition, EN 60950-1 Second Edition, IEC 60950-1 Second Edition, AS/NZS 60950-1							
EMC: emissions	47CFR Part 15 (CFR 47) Class A, AS/NZS CISPR22 Class A, CISPR22 Class A, EN55022 Class A, ICES003 Class A, VCCI Class A, EN61000-3-2, EN61000-3-3, KN22 Class A, CNS13438 Class A							
EMC: immunity	EN55024 (including EN 61000-4-5), CISPR24, EN300386, KN24							
Environmental	Reduction of Hazardous Substances (RoHS) including Directive 2011/65/EU							

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Telco	Common Language Equipment Identifier (CLEI) code			
U.S. government certifications	USGv6 and IPv6 Ready Logo			
<b>Connectors and interfaces</b>				
Ethernet interfaces	10BASE-T ports: RJ-45 connectors, 2-pair Category 3, 4, or 5 Unshielded Twisted Pair (UTP) cabling			
	100BASE-TX ports: RJ-45 connectors, 2-pair Category 5 UTP cabling			
	1000BASE-T ports: RJ-45 connectors, 4-pair Category 5 UTP cabling			
	1000BASE-T SFP-based ports: RJ-45 connectors, 4-pair Category 5 UTP cabling			
Indicator LEDs	Per-port status: link integrity, disabled, activity, speed, and full duplex			
	System status: system, PoE, and link speed			
Console cables	CAB-CONSOLE-RJ45 Console cable 6 ft. with RJ-45			
	CAB-CONSOLE-USB Console cable 6 ft. with USB Type A and mini-B connectors			
Power	Use the supplied AC power cord to connect the AC power connector to an AC power outlet			
<b>Management</b>				
	BRIDGE-MIB	CISCO-PORT-QOS-MIB	IF-MIB	

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	CISCO-CABLE-DIAG-MIB CISCO-CDP-MIB CISCO-CLUSTER-MIB CISCO-CONFIG-COPY-MIB CISCO-CONFIG-MAN-MIB CISCO-DHCP-SNOOPING-MIB CISCO-ENTITY-VENDORTYPE-OID-MIB CISCO-ENVMON-MIB CISCO-ERR-DISABLE-MIB CISCO-FLASH-MIB CISCO-FTP-CLIENT-MIB CISCO-IGMP-FILTER-MIB CISCO-IMAGE-MIB CISCO-IP-STAT-MIB CISCO-LAG-MIB CISCO-MAC-NOTIFICATION-MIB	CISCO-PORT-SECURITY-MIB CISCO-PORT-STORM-CONTROL-MIB CISCO-PRODUCTS-MIB CISCO-PROCESS-MIB CISCO-RTTMON-MIB CISCO-SMI-MIB CISCO-STP-EXTENSIONS-MIB CISCO-SYSLOG-MIB CISCO-TC-MIB CISCO-TCP-MIB CISCO-UDLDP-MIB CISCO-VLAN-IFTABLE CISCO-VLAN-MEMBERSHIP-MIB CISCO-VTP-MIB ENTITY-MIB ETHERLIKE-MIB IEEE8021-PAE-MIB IEEE8023-LAG-MIB	INET-ADDRESS-MIB OLD-CISCO-CHASSIS-MIB OLD-CISCO-FLASH-MIB OLD-CISCO-INTERFACES-MIB OLD-CISCO-IP-MIB OLD-CISCO-SYS-MIB OLD-CISCO-TCP-MIB OLD-CISCO-TS-MIB RFC1213-MIB RMON-MIB RMON2-MIB SNMP-FRAMEWORK-MIB SNMP-MPD-MIB SNMP-NOTIFICATION-MIB SNMP-TARGET-MIB SNMPv2-MIB TCP-MIB	

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	CISCO-MEMORY-POOL-MIB  CISCO-PAGP-MIB  CISCO-POE-EXTENSIONS-MIB			UDP-MIB
<b>Standards</b>				
	IEEE 802.1D Spanning Tree Protocol  IEEE 802.1p CoS Prioritization  IEEE 802.1Q VLAN  IEEE 802.1s  IEEE 802.1w  IEEE 802.1X  IEEE 802.1ab (LLDP)  Bluetooth Ver 4.0	IEEE 802.3ad  IEEE 802.3af and IEEE 802.3at  IEEE 802.3ah (100BASE-X single/multimode fiber only)  IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports  IEEE 802.3 10BASE-T  IEEE 802.3u 100BASE-TX		IEEE 802.3ab 1000BASE-T  IEEE 802.3z 1000BASE-X  RMON I and II standards  SNMP v1, v2c, and v3  IEEE 802.3az  IEEE 802.3ae 10 Gigabit Ethernet  IEEE 802.1ax
<b>RFC compliance</b>				
	RFC 768 - UDP  RFC 783 - TFTP		RFC 1256 - Internet Control Message	

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	RFC 791 - IP RFC 792 - ICMP RFC 793 - TCP RFC 826 - ARP RFC 854 - Telnet RFC 951 - Bootstrap Protocol (BOOTP) RFC 959 - FTP RFC 1112 - IP Multicast and IGMP RFC 1157 - SNMP v1 RFC 1166 - IP Addresses	Protocol (ICMP) Router Discovery RFC 1305 - NTP RFC 1492 - TACACS+ RFC 1493 - Bridge MIB RFC 1542 - BOOTP extensions RFC 1901 - SNMP v2C RFC 1902-1907 - SNMP v2 RFC 1981 - Maximum Transmission Unit (MTU) Path Discovery IPv6	FRC 2068 - HTTP RFC 2131 - DHCP RFC 2138 - RADIUS RFC 2233 - IF MIB v3	



## CISCO SWITCH CATALYST 2960L BASIC ORDERING INFORMATION

SKU	10/100/1000 Ethernet ports	Uplink interfaces	Available PoE power	Fanless	Dimensions (H x D x W)	Weight
<a href="#">WS-C2960L-8TS-LL</a>	8	2 SFP	–	Y	1.73 x 8.45 x 10.56 in. (4.4 x 21.5 x 26.8 cm)	3.33 lb (1.51kg)
<a href="#">WS-C2960L-8PS-LL</a>	8	2 SFP	67W	Y	1.73 x 9.45 x 10.56 in. (4.4 x 24 x 26.8 cm)	4.50 lb (2.04kg)
<a href="#">WS-C2960L-16TS-LL</a>	16	2 SFP	–	Y	1.73 x 8.45 x 10.56 in. (4.4 x 21.5 x 26.8 cm)	3.41 lb (1.55kg)
<a href="#">WS-C2960L-16PS-LL</a>	16	2 SFP	120W	Y	1.73 x 9.45 x 10.56 in. (4.4 x 24 x 26.8 cm)	4.65 lb (2.11kg)
<a href="#">WS-C2960L-24TS-LL</a>	24	4 SFP	–	Y	1.73 x 9.45 x 17.5 in. (4.4 x 24 x 44.5 cm)	6.04 lb (2.74kg)
<a href="#">WS-C2960L-24PS-LL</a>	24	4 SFP	195W	Y	1.73 x 10.45 x 17.5 in.	7.41 lb (3.36kg)

SKU	10/100/1000 Ethernet ports	Uplink interfaces	Available PoE power	Fanless	Dimensions (H x D x W)	Weight
					(4.4 x 26.5 x 44.5 cm)	
<a href="#">WS-C2960L-48TS-LL</a>	48	4 SFP	–	Y	1.73 x 9.45 x 17.5 in. (4.4 x 24 x 44.5 cm)	6.57 lb (2.98kg)
<a href="#">WS-C2960L-48PS-LL</a>	48	4 SFP	370W	N	1.73 x 11.5 x 17.5 in. (4.4 x 29.2 x 44.5 cm)	10.08 lb (4.57kg)
<a href="#">WS-C2960L-24TQ-LL</a>	24	4 SFP+	–	Y	1.73 x 9.45 x 17.5 in (4.4 x 24 x 44.5 cm)	6.06 lb (2.75kg)
<a href="#">WS-C2960L-24PQ-LL</a>	24	4 SFP+	195W	Y	1.73 x 10.45 x 17.5 in (4.4 x 26.5 x 44.5 cm)	7.39 lb (3.35kg)
<a href="#">WS-C2960L-48TQ-LL</a>	48	4 SFP+	–	Y	1.73 x 9.45 x 17.5 in (4.4 x 24 x 44.5 cm)	6.68 lb (3.03kg)
<a href="#">WS-C2960L-48PQ-LL</a>	48	4 SFP+	370W	N	1.73 x 11.5 x 17.5 in (4.4 x 29.2 x 44.5 cm)	9.81 lb (4.54kg)

## ADDITIONAL INFORMATION

[Cisco Catalyst 2960-L Series Switches: Small LAN Lite Switches with PoE](#)

[How to Configure a Virtual Stack on Cisco Catalyst 2960-L?](#)

[Configuring High Availability on Virtual Stacking](#)

[FlexStack vs. Virtual Stacking](#)

## WHERE TO BUY

**Want to buy this series of products? please contact:**

- Tel: +1-626-239-8066 (USA)/ +852-3050-1066 / +852-3174-6166
- Fax: +852-3050-1066 (Hong Kong)
- Email: [sales@router-switch.com](mailto:sales@router-switch.com) (Sales Inquiries)

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## SOURCES

[https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-2960-l-series-switches/data\\_sheet-c78-737665.html](https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-2960-l-series-switches/data_sheet-c78-737665.html)