# Cisco Catalyst 2960-L Series Switches

## General

**Q.** What is the Cisco Catalyst 2060-L switch?

**A.** The Cisco® Catalyst® 2960-L switch is one of the new Gigabit Ethernet switches that provide entry-level enterprise-class Layer 2 access for branch offices, conventional workspaces, and out-of-wiring closet applications. Designed for operational simplicity to lower total cost of ownership, they enable secure and energy-efficient business operations with a range of Cisco IOS® Software features.

**Q.** What models are available?

**A.** Table 1 lists available models.

**Table 1.**     Available Models

| Product ID | 10/100/1000 Ethernet Ports | Uplink Interfaces | Dimensions (H x D x W) | Weight |
|---|---|---|---|---|
| **WS-C2960L-8TS-LL** | 8 | 2 SFP | 1.73 x 8.45 x 10.56 in. (4.4 x 21.5 x 26.8 cm) | 4.45 lb (2.02 kg) |
| **WS-C2960L-8PS-LL** | 8 | 2 SFP | 1.73 x 9.45 x 10.56 in. (4.4 x 24 x 26.8 cm) | 5.64 lb (2.56 kg) |
| **WS-C2960L-16TS-LL** | 16 | 2 SFP | 1.73 x 8.45 x 10.56 in. (4.4 x 21.5 x 26.8 cm) | 4.53 lb (2.06 kg) |
| **WS-C2960L-16PS-LL** | 16 | 2 SFP | 1.73 x 9.45 x 10.56 in. (4.4 x 24 x 26.8 cm) | 5.73 lb (2.6 kg) |
| **WS-C2960L-24TS-LL** | 24 | 4 SFP | 1.73 x 9.45 x 17.5 in. (4.4 x 24 x 44.5 cm) | 6.61 lb (3.0 kg) |
| **WS-C2960L-24PS-LL** | 24 | 4 SFP | 1.73 x 10.45 x 17.5 in. (4.4 x 26.5 x 44.5 cm) | 7.63 lb (3.46 kg) |
| **WS-C2960L-48TS-LL** | 48 | 4 SFP | 1.73 x 9.45 x 17.5 in. (4.4 x 24 x 44.5 cm) | 7.21 lb (3.27 kg) |
| **WS-C2960L-48PS-LL** | 48 | 4 SFP | 1.73 x 11.5 x 17.5 in. (4.4 x 29.2 x 44.5 cm) | 10.25 lb (4.65 kg) |

**Q.** What pluggable transceiver modules are supported by the Cisco Catalyst 2960-L switches?

**A.** Refer to the Cisco Transceiver Module Compatibility Matrixes for a complete list of supported modules.

**Q.** What input voltage is required by the Cisco Catalyst 2960-L?

**A.** The AC input voltage range is 100V–240V. The AC frequency range is 50Hz–60Hz.

**Q.** Can the Cisco Catalyst 2960-L be stacked?

**A.** The 2960-L does not support stacking. The 2960-L switches support clustering for single IP management.

**Q.** What are the flash and DRAM sizes on the switches?

**A.** All the switches have 256 MB flash and 512 Mb DRAM.

**Q.** Do the Cisco Catalyst switches support line rate?

**A.** Yes, all switches are nonblocking line-rate switches.

**Q.** What is the software supported on the 2960-L?

**A.** The Cisco Catalyst 2960-L supports the classic Cisco IOS Software.

**Q.** How do you manage the Cisco Catalyst 2960-L?

**A.** The 2960-L can be configured and managed with a CLI or an on-box GUI.

**Q.** How can a new Cisco Catalyst 2960-L box be configured?

**A.** The 2960-L switch supports a day-zero GUI that can be used for the initial configuration of the switch.

The switch can also be configured with the CLI using the console port (RJ 45 or USB type B).

**Q.** Does the Cisco Catalyst 2960-L support routing?

**A.** No, the 2960-L does not support routing. A default gateway can be configured on the switch pointing to the next hop router.

**Q.** What is the switch database management (SDM) template for Cisco Catalyst 2960-L switches?

**A.** Cisco Catalyst 2960-L switches support unique default templates that cannot be modified.

The switch supports this level of features for 1 SVIs and 64 VLANs:

- Number of IPv4 multicast groups: 1024

- Number of unicast MAC addresses: 8192

- Number of IPv4/IPv6/MAC access control entries: 988

**Q.** What is the license level on the Cisco Catalyst 2960-L?

**A.** The 2960-L has a LAN lite feature set.

**Q.** Can the license on the Cisco Catalyst 2960-L be upgraded?

**A.** No, the license level on the 2960-L is fixed. It cannot be upgraded.

## Switch Mounting

**Q.** What mounting options are available with the Cisco Catalyst 2960-L?

**A.** The switches are designed for easy and flexible mounting. They can be mounted vertically or horizontally, using one of the following options:

- 8-/16-port SKUs:
  - Magnet mount (on a desk, wall, or shelf)
  - DIN rail mount
  - Rack mount (with rack mount kit)

- 24-/48-port SKUs:
  - Rack mount (with rack mount kit)
  - Wall mount
  - On a desk or shelf

For more information about switch mounting options, see the Cisco Catalyst 2960-L Switch Hardware Installation Guide.

**Q.** What are the recommended switch orientations?

**A.** Following are the recommended switch orientation options:

- 8-/16-port SKUs:
  - Upright (on a table)
  - Inverted (under a desk)
  - Vertical (on wall, ports facing down)
- 24-/48-port SKUs
  - Upright (in a rack)
  - Vertical (on wall, ports facing down)

**Q.** What are best practices for mounting the fanless switches in closets, under tables, or in other closed environments?

**A.** Be sure that temperature around the unit does not exceed its maximum limit. Switches are rated to 113°F/45°C (WS-C2960-16PS-LL is rated to 104°F/40°C). Best practices allow for at least 3 inches (7.6 cm) of clearance on all sides and ventilation openings and at least 1.75 inches (4 cm) of clearance above each switch if placed in a rack. Access to ports should be sufficient for unrestricted cabling. The rear-panel power connector should be within reach of an AC power receptacle. When wall-mounting the switch, have the switch align with ports facing down. For more information about best installation practices, see the Cisco Catalyst 2960-L Switch Hardware Installation Guide.

## Hardware

**Q.** Are all the 2960-L models fanless?

**A.** No, the WS-C2960L-48PS-LL has a fan.

**Q.** What is the use of the mode button on the switch?

**A.** The mode button is used for resetting the switch, entering day-zero setup mode, or changing an LED mode.

**Q.** Do the switches have a front panel out-of-band (OOB) Ethernet management interface?

**A.** No, the switches do not support the OOB Ethernet management interface.

**Q.** What can I do with the USB Type A port located on the front of the Cisco Catalyst 2960-L Series?

**A.** As additional storage, the USB Type A port can be used to perform software upgrades, store configurations, and write memory core dumps for troubleshooting purposes. The switch supports Cisco 64 MB, 256 MB, 512 MB, 1 GB, 4 GB, and 8 GB flash drives.

**Q.** Can a third-party USB flash drive be used with the Cisco Catalyst 2960-L?

**A.** No, third-party USBs are not supported.

**Q.** How does cooling work in the Cisco Catalyst 2960-L Series switches?

**A.** Because most of the PIDs of 2960-L Series switches do not have fans, they are cooled by convection. Only the WS-C2960-48PS-LL has a fan inside.

**Q.** What is the noise level on the Cisco Catalyst 2960-L switches?

**A.** The switches are silent and produce ambient noise levels. Noise levels for the WS-C2960-48PS-LL:

- Sound pressure at 25°C ambient: LpA (typical) = 35dBA, LpAD (maximum) = 39dBA
- Sound power at 25°C ambient: LwA (typical) = 4.8B, LwAD (maximum) = 5.2B

## Management

**Q.** Do the Cisco Catalyst 2960-L switches support Smart Install?

**A.** Yes. The switches support Smart Install client functionality.

**Q.** Do the Cisco Catalyst 2960-L switches support the Network Plug and Play (PnP) agent?

**A.** Yes. PnP technology automates the installation and configuration of Cisco IOS Software using an embedded PnP agent on Cisco Catalyst switches. It requires a preconfigured network PnP server that manages sites; site devices; and their images, configurations, files, and licenses for deployment.

**Q.** What is the default baud rate of the serial port on the Cisco Catalyst 2960-L?

**A.** The default baud rate is 9600.

**Q.** Can both console ports be used simultaneously?

**A.** No. When the USB console is used, the RJ-45 console receives the output of the USB console as well. This design allows the administrator to see when the USB console port is in use. This capability is useful for remote administrators.

**Q.** Does the switch support autobaud on the console port?

**A.** No.

## Power and PoE

**Q.** Do Cisco Catalyst 2960-L switches support field-replaceable power supplies?

**A.** No. Power supplies on all the models are built into the switch.

**Q.** Does the switch support PoE?

**A.** Yes, the 2960-L supports PoE. The models that support PoE and the PoE budget are listed in Table 2.

**Table 2.**    Models That Support PoE

| Product ID | Available PoE Power |
|---|---|
| WS-C2960L-8TS-LL | – |
| WS-C2960L-8PS-LL | 67W |
| WS-C2960L-16TS-LL | – |
| WS-C2960L-16PS-LL | 120W |
| WS-C2960L-24TS-LL | – |
| WS-C2960L-24PS-LL | 195W |
| WS-C2960L-48TS-LL | – |
| WS-C2960L-48PS-LL | 370W |

**Q.** What is the maximum power that can be drawn from a port on the PoE switch?

**A.** A maximum of 30W can be supported on a single port.

**Q.** What are the power management features the 2960-L supports?

**A.** The 2960-L supports IEEE 802.3az Energy Efficient Ethernet (EEE) and Cisco EnergyWise®.

**Q.** Can the switches be powered using RPS/XPS?

**A.** No.

## QoS and Security

**Q.** Does 2960-L support QoS?

**A.** The Cisco Catalyst 2960-L Series Switches offer intelligent traffic management that keeps everything flowing smoothly. Flexible mechanisms for marking, classification, and scheduling deliver superior performance for data, voice, and video traffic, all at wire speed. Primary QoS features include:

- Up to four egress queues per port and strict priority queuing so that the highest priority packets are serviced ahead of all other traffic
- Weighted round robin (WRR) scheduling and weighted tail drop (WTD) congestion avoidance

**Q.** What is the egress buffer size?

**A.** The egress buffer is 1.5 Mb on all 2960-L switches.

**Q.** How do Cisco Catalyst compact switches help keep unauthorized users from accessing the network?

**A.** Cisco Catalyst 2960-L switches provide superior Layer 2 threat defense capabilities for mitigating man-in-the-middle attacks (such as MAC, IP, and ARP spoofing). They also provide storm control protection and dynamic ARP inspection.

These switches also support advanced security features such as protected port, port-based ACLs, port security, TACACS+, and RADIUS authentication.

**Q.** What Cisco cyberthreat defense security features do the Cisco Catalyst 2960-L switches support?

**A.** The 2960-L switches support threat defense features such as port security, DHCP snooping, and dynamic ARP inspection.

**Q.** How can I protect administration passwords and traffic going to the switch during configuration or troubleshooting?

**A.** To protect administration traffic during the configuration or troubleshooting of a switch, the best approach is to encrypt the data using both Secure Shell (SSH) Protocol and Simple Network Management Protocol (SNMP) v3.

## GUI

**Q.** Does the 2960-L support a GUI to perform a day-zero switch installation?

**A.** Yes, the 2960-L supports a day-zero GUI to help with easy deployment of the switch without the need for a CLI. For more details, refer to the day-zero setup document.

**Q.** Does support for GUI require any additional files to be loaded on the 2960-L?

**A.** No the tar Cisco IOS Software file contains all the files required for web GUI support.

**Q.** What browsers can be used for the web GUI?

**A.** You can use these browsers:

- IE version 8 or later
- Chrome
- Firefox
- Safari

## Hardware and Warranty

**Q.** What are the hardware warranty and return policy on the Cisco Catalyst 2960-L switches?

**A.** Cisco Catalyst 2960-L Series Switches come with an enhanced limited lifetime warranty (E-LLW). The E-LLW provides the same terms as Cisco's standard limited lifetime warranty but adds next-business-day delivery of replacement hardware, where available, and 90 days of 8x5 Cisco Technical Assistance Center (TAC) support.

**Q.** What is the software update policy for the Cisco Catalyst 2960-L?

**A.** Customers with Cisco Catalyst LAN Lite software feature sets will be provided with maintenance updates and bug fixes designed to maintain the compliance of the software with published specifications, release notes, and industry standards compliance as long as the original end user continues to own or use the product or up to one year from the end-of-sale date for this product, whichever occurs earlier.

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