CHAPTER 1

Product Overview

The Catalyst 2960-S family of switches, also referred to as the *switch*, are Ethernet switches to which you can connect devices such as Cisco IP Phones, Cisco Wireless Access Points, workstations, and other network devices such as servers, routers, and other switches.

Some models of the switches support stacking through the Cisco FlexStack technology. Unless otherwise noted, the term *switch* refers to a standalone switch and to a switch stack.

- Switch Models, page 1-1
- Front Panel, page 1-2
- Rear Panel, page 1-17
- Management Options, page 1-20

Switch Models

Table 1-1 Switch Models and Descriptions

Switch Model	Supported Software Image	Description
Catalyst 2960S-48FPD-L[1]	LAN Base	48 10/100/1000 Power over Ethernet Plus (PoE+) ports (PoE budget of 740 W) and 2 small form-factor pluggable (SFP)+[2] module slots.
Catalyst 2960S-48LPD-L[1]	LAN Base	48 10/100/1000 PoE+ ports (PoE budget of 370 W) and 2 SFP+ module slots
Catalyst 2960S-24PD-L[1]	LAN Base	24 10/100/1000 PoE+ ports (PoE budget of 370 W) and 2 SFP+ module slots
Catalyst 2960S-48TD-L[1]	LAN Base	48 10/100/1000 ports and 2 SFP+ module slots
Catalyst 2960S-24TD-L[1]	LAN Base	24 10/100/1000 ports and 2 SFP+ module slots
Catalyst 2960S-48FPS-L[1]	LAN Base	48 10/100/1000 PoE+ ports (PoE budget of 740 W) and 4 SFP[3] module slots
Catalyst 2960S-48LPS-L[1]	LAN Base	48 10/100/1000 PoE+ ports (PoE budget of 370 W) and 4 SFP module slots
Catalyst 2960S-24PS-L[1]	LAN Base	24 10/100/1000 PoE+ ports (PoE budget of 370 W) and 4 SFP module slots

Table 1-1 Switch Models and Descriptions (continued)

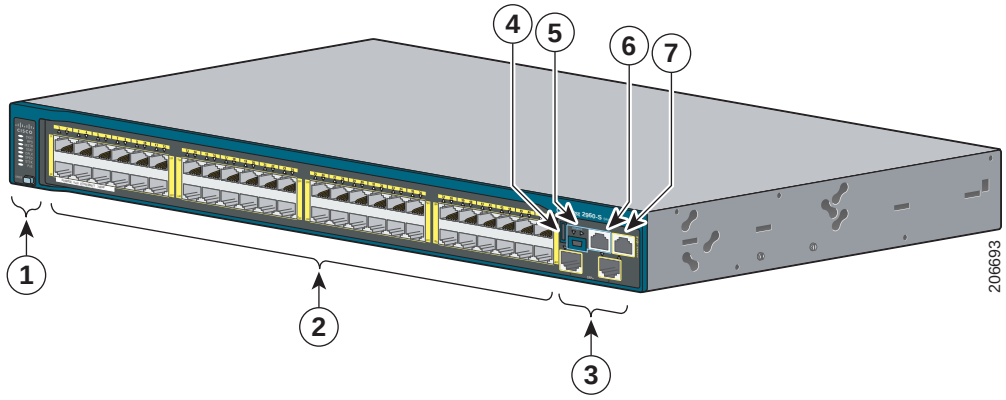
Switch Model	Supported Software Image	Description
Catalyst 2960S-48TS-L[1]	LAN Base	48 10/100/1000 ports and 4 SFP module slots
Catalyst 2960S-24TS-L[1]	LAN Base	24 10/100/1000 ports and 4 SFP module slots
Catalyst 2960S-48TS-S	LAN Lite	48 10/100/1000 ports and 2 SFP module slots
Catalyst 2960S-24TS-S	LAN Lite	24 10/100/1000 ports and 2 SFP module slots
Catalyst 2960S-F48FPS-L[1]	LAN Base	48 10/100 PoE+ ports (PoE budget of 740 W) and 4 SFP module slots
Catalyst 2960S-F48LPS-L[1]	LAN Base	48 10/100 PoE+ ports (PoE budget of 370 W) and 4 SFP module slots
Catalyst 2960S-F48TS-L[1]	LAN Base	48 10/100 ports and 4 SFP module slots
Catalyst 2960S-F24PS-L[1]	LAN Base	24 10/100 PoE+ ports (PoE budget of 370 W) and 2 SFP module slots
Catalyst 2960S-F24TS-L[1]	LAN Base	24 10/100 ports and 2 SFP module slots
Catalyst 2960S-F48TS-S	LAN Lite	48 10/100 ports and 2 SFP module slots
Catalyst 2960S-F24TS-S	LAN Lite	24 10/100 ports and 2 SFP module slots

1. Support Cisco FlexStack technology.
2. SFP+ = 10 Gigabit uplink.
3. SFP = 1 Gigabit uplink.

Front Panel

The 24- and 48-port switch front panels include the 10/100 or the 10/100/1000 Ethernet ports, or the 10/100 or 10/100/1000 PoE ports, SFP or SFP+ module slots, the universal serial bus (USB) ports, the console ports, and the LEDs. All the 24- and 48-port switches have similar components. See Figure 1-1, Figure 1-2, Figure 1-3, and Figure 1-4 for examples.

Figure 1-1 Catalyst 2960S-48FPD-L Front Panel

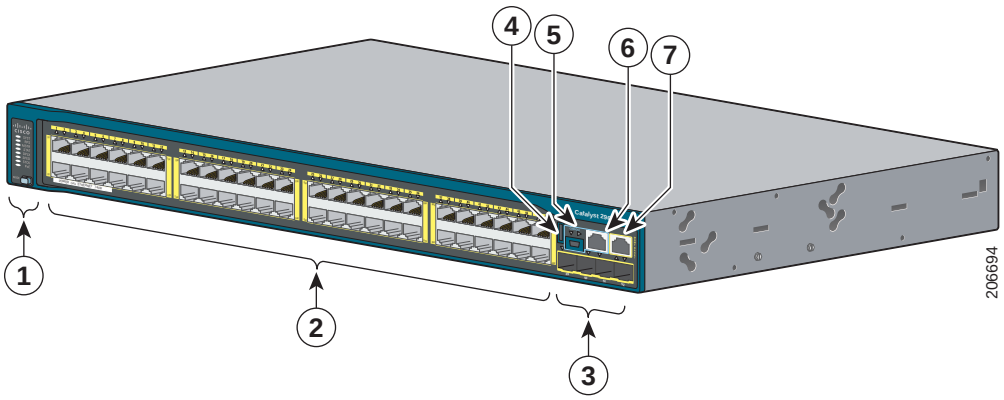


1	Mode button and switch LEDs	**5**	USB mini-Type B (console) port

2	10/100/1000 PoE+ ports[1]	**6**	RJ-45 console port
3	SFP+ module slots	**7**	Ethernet management port
4	USB Type A port		

1. Port numbering is from left to right, with port 1 on the far left. The first member of the pair (port 1) is above the second member (port 2). Module slot numbers are 1 and 2.

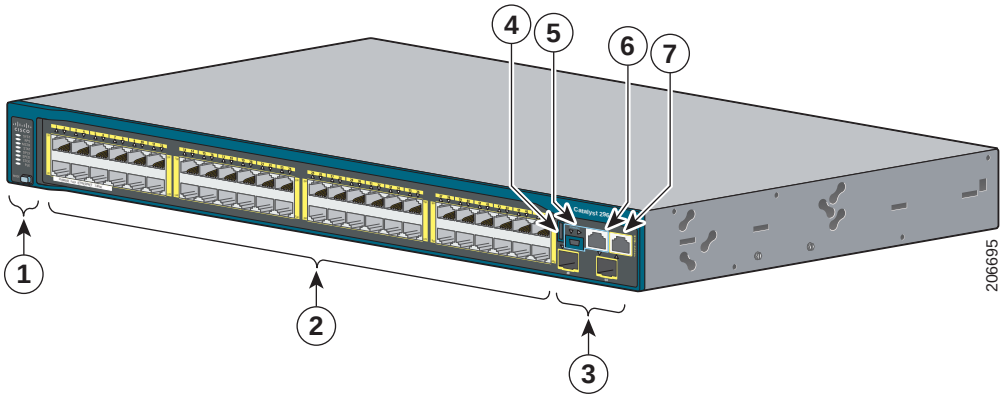
Figure 1-2 Catalyst 2960S-48TS-L Front Panel



1	Mode button and switch LEDs	**5**	USB mini-Type B (console) port
2	10/100/1000 ports[1]	**6**	RJ-45 console port
3	SFP module slots	**7**	Ethernet management port
4	USB Type A port		

1. Port numbering is from left to right, with port 1 on the far left. The first member of the pair (port 1) is above the second member (port 2). Module slot numbers are 49, 50, 51, and 52.

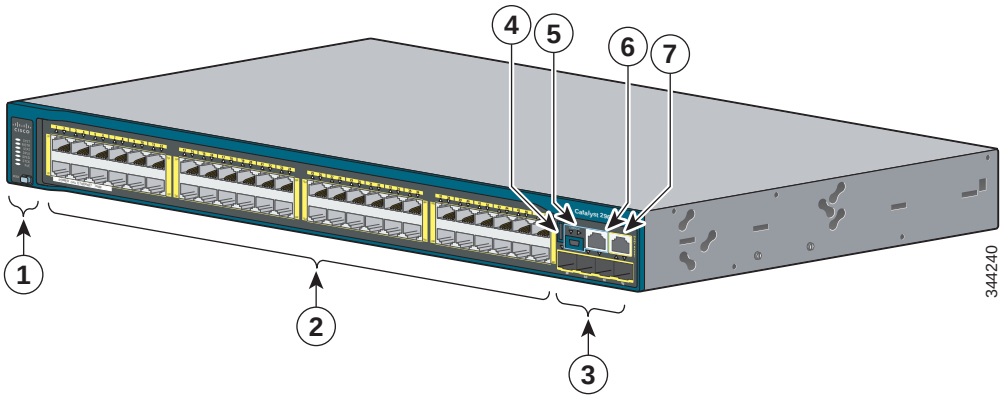
Figure 1-3 Catalyst 2960S-48TS-S Front Panel



1	Mode button and switch LEDs	**5**	USB mini-Type B (console) port
2	10/100/1000 ports[1]	**6**	RJ-45 console port
3	SFP module slots	**7**	Ethernet management port
4	USB Type A port		

1. Port numbering is from left to right, with port 1 on the far left. The first member of the pair (port 1) is above the second member (port 2). Module slot numbers are 49 and 50.

Figure 1-4 Catalyst 2960S-F48FPS-L Front Panel



1	Mode button and switch LEDs	**5**	USB mini-Type B (console) port
2	10/100 POE+ ports[1]	**6**	RJ-45 console port
3	SFP module slots	**7**	Ethernet management port
4	USB Type A port		

1. Port numbering is from left to right, with port 1 on the far left. The first member of the pair (port 1) is above the second member (port 2). Module slot numbers are 49, 50, 51, and 52.

10/100 PoE+ Ports

The ports provide PoE+ support for devices compliant with IEEE 802.3af, IEEE 802.3at, and ePoE and also provide Cisco prestandard PoE support for Cisco IP Phones and Cisco Aironet Access Points.

The maximum switch power output is either 740 W or 370 W, depending on the switch model. Intelligent power management allows flexible power allocation across all ports.

For switches with a 740 W power budget, you can budget the PoE and PoE+:

- 15.4 W of PoE output on all ports
- 30 W of PoE+ on 24 ports

For switches with a 370 W power budget, you can budget the PoE and PoE+:

- 15.4 W of PoE output on 24 ports
- 7.7 W of PoE output on 48 ports
- 30 W of PoE+ on 12 ports
- Total power budget can be allocated among the ports

On a per-port basis, you control whether or not a port automatically provides power when an IP phone or an access point is connected.

The 10/100 PoE ports use RJ-45 connectors with Ethernet pinouts. The maximum cable length is 328 feet (100 meters). The 10BASE-T and 100BASE-TX traffic requires Category 5, Category 5e, or Category 6 unshielded twisted pair (UTP) cable. The 10BASE-T traffic can use Category 3 or Category 4 UTP cable.

Cisco intelligent power management capabilities include enhanced power negotiation, power reservation, and per-port power policing. For information about configuring and monitoring PoE ports, see the switch software configuration guide on Cisco.com.

For information about port connections and port specifications, see the "10/100 and 10/100/1000 PoE+ Port Connections" section on page 1-24 and Appendix 1, "Connector and Cable Specifications."

Note The output of the PoE circuit has been evaluated as a Limited Power Source (LPS) per IEC 60950-1.

10/100/1000 PoE+ Ports

The ports provide PoE+ support for devices compliant with IEEE 802.3af, IEEE 802.3at, and ePoE and also provide Cisco prestandard PoE support for Cisco IP Phones and Cisco Aironet Access Points.

The maximum switch power output is either 740 W or 370 W, depending on the switch model. Intelligent power management allows flexible power allocation across all ports.

For switches with a 740 W power budget, you can budget the PoE and PoE+:

- 15.4 W of PoE output on all ports
- 30 W of PoE+ on 24 ports

For switches with a 370 W power budget, you can budget the PoE and PoE+:

- 15.4 W of PoE output on 24 ports
- 7.7 W of PoE output on 48 ports
- 30 W of PoE+ on 12 ports

- Total power budget can be allocated among the ports

On a per-port basis, you control whether or not a port automatically provides power when an IP phone or an access point is connected.

The 10/100/1000 PoE ports use RJ-45 connectors with Ethernet pinouts. The maximum cable length is 328 feet (100 meters). The 100BASE-TX and 1000BASE-T traffic requires Category 5, Category 5e, or Category 6 unshielded twisted pair (UTP) cable. The 10BASE-T traffic can use Category 3 or Category 4 UTP cable.

Cisco intelligent power management capabilities include enhanced power negotiation, power reservation, and per-port power policing. For information about configuring and monitoring PoE ports, see the switch software configuration guide on Cisco.com.

For information about port connections and port specifications, see the "10/100 and 10/100/1000 PoE+ Port Connections" section on page 1-24 and Appendix 1, "Connector and Cable Specifications."

Note The output of the PoE circuit has been evaluated as a Limited Power Source (LPS) per IEC 60950-1.

10/100 Ports

The 10/100 ports use RJ-45 connectors with Ethernet pinouts. The maximum cable length is 328 feet (100 meters). The 100BASE-TX traffic requires Category 5, Category 5e, or Category 6 unshielded twisted pair (UTP) cable. The 10BASE-T traffic can use Category 3 or Category 4 UTP cable.

For information about port connections and port specifications, see the "10/100 and 10/100/1000 Port Connections" section on page 1-26 and Appendix 1, "Connector and Cable Specifications."

10/100/1000 Ports

The 10/100/1000 ports use RJ-45 connectors with Ethernet pinouts. The maximum cable length is 328 feet (100 meters). The 100BASE-TX and 1000BASE-T traffic requires Category 5, Category 5e, or Category 6 unshielded twisted pair (UTP) cable. The 10BASE-T traffic can use Category 3 or Category 4 UTP cable.

For information about port connections and port specifications, see the "10/100 and 10/100/1000 Port Connections" section on page 1-26 and Appendix 1, "Connector and Cable Specifications."

Management Ports

- Ethernet management port
- RJ-45 console port (EIA/TIA-232)
- USB mini-Type B console port (5-pin connector)

You can connect the switch to a host such as a Windows workstation or a terminal server through the Ethernet management port, the RJ-45 console port, or the USB console port (USB mini-Type B port). The 10/100 Ethernet management port connection uses a standard RJ-45 crossover or straight-through cable. The RJ-45 console port connection uses the supplied RJ-45-to-DB-9 female cable. The USB console port connection uses a USB Type A to 5-pin mini-Type B cable. The USB console interface speeds are the same as the RJ-45 console interface speeds.

If you use the USB console port, the Cisco Windows USB device driver must be installed on any PC connected to the console port (for operation with Microsoft Windows).

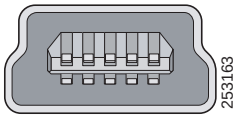
Note For information about downloading the Cisco USB device driver, see the "Installing the Cisco Microsoft Windows USB Device Driver" section on page 1-3.

With the Cisco Windows USB device driver, you can connect and disconnect the USB cable from the console port without affecting Windows HyperTerminal operations. Mac OS X or Linux require no special drivers.

The console output always goes to both the RJ-45 and the USB console connectors, but the console input is active on only one of the console connectors at any one time. The USB console takes precedence over the RJ-45 console. When a cable is connected into the USB console port, the RJ-45 console port becomes inactive. Conversely, when the USB cable is disconnected from the USB console port, the RJ-45 port becomes active.

Note The 4-pin mini-Type B connectors resemble 5-pin mini-Type B connectors. They are not compatible. Use only the 5-pin mini-Type B. See Figure 1-5.

Figure 1-5 USB Mini-Type B Port



You can use the command-line interface (CLI) to configure an inactivity timeout which reactivates the RJ-45 console if the USB console has been activated and no input activity has occurred on the USB console for a specified time period.

After the USB console deactivates due to inactivity, you cannot use the CLI to reactivate it. Disconnect and reconnect the USB cable to reactivate the USB console. For information on using the CLI to configure the USB console interface, see the switch software guide.

USB Type A Port

The USB Type A interface provides access to external USB FLASH devices (also known as thumb drives or USB keys).

The interface supports Cisco USB flash drives with capacities from 64 MB to 1 GB.

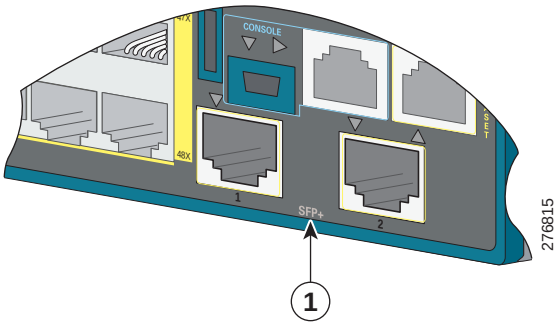
Cisco IOS software provides standard file system access to the flash device: read, write, erase, and copy, as well as the ability to format the flash device with a FAT file system.

For more information about the switch management ports, see the switch software configuration guide and the command reference on Cisco.com and the "Connector and Cable Specifications" section on page 1-1.

SFP and SFP+ Module Slots

The switch has either two or four 1-Gigabit SFP or two 10-Gigabit SFP+ module slots. The slots marked *SFP+* support both SFP and SFP+ modules. The *SFP* slots support only the SFP modules. Figure 1-6 shows a switch with the SFP+ slots.

Figure 1-6 SFP+ Slots



1	SFP+ module slots

Table 1-2 lists the switches that support the SFP modules. Table 1-3 lists the switches that support the SFP+ modules.

Table 1-2 Supported SFP Modules

Switch Models	Supported SFP Modules
All 2960-S models	GLC-LH-SM= GLC-SX-MM=
Catalyst 2960S-48FPS-L Catalyst 2960S-48LPS-L Catalyst 2960S-24PS-L Catalyst 2960S-48TS-L Catalyst 2960S-24TS-L Catalyst 2960S-F48FPS-L Catalyst 2960S-F48LPS-L Catalyst 2960S-F24PS-L Catalyst 2960S-F48TS-L Catalyst 2960S-F24TS-L Catalyst 2960S-48FPD-L Catalyst 2960S-48LPD-L Catalyst 2960S-24PD-L Catalyst 2960S-48TD-L Catalyst 2960S-24TD-L	GLC-BX-D= GLC-BX-U= GLC-ZX-SM= CWDM-SFP-1470= CWDM-SFP-1490= CWDM-SFP-1510= CWDM-SFP-1530= CWDM-SFP-1550= CWDM-SFP-1570= CWDM-SFP-1590= CWDM-SFP-1610=
Catalyst 2960S-48FPS-L Catalyst 2960S-48LPS-L Catalyst 2960S-24PS-L Catalyst 2960S-48TS-L Catalyst 2960S-24TS-L Catalyst 2960S-F48FPS-L Catalyst 2960S-F48LPS-L Catalyst 2960S-F24PS-L Catalyst 2960S-F48TS-L Catalyst 2960S-F24TS-L	GLC-FE-100BX-D= GLC-FE-100BX-U= GLC-FE-100LX=
Catalyst 2960S-48FPS-L Catalyst 2960S-48LPS-L Catalyst 2960S-24PS-L Catalyst 2960S-48TS-L Catalyst 2960S-24TS-L Catalyst 2960S-48TS-S Catalyst 2960S-24TS-S Catalyst 2960S-F48FPS-L Catalyst 2960S-F48LPS-L Catalyst 2960S-F24PS-L Catalyst 2960S-F48TS-L Catalyst 2960S-F24TS-L Catalyst 2960S-F48TS-S Catalyst 2960S-F24TS-S	GLC-GE-100FX= GLC-FE-100FX= GLC-T=
Catalyst 2960S-48TS-S Catalyst 2960S-24TS-S Catalyst 2960S-F48TS-S Catalyst 2960S-F24TS-S	GLC-ZX-SM=

Table 1-3 Supported SFP+ Modules

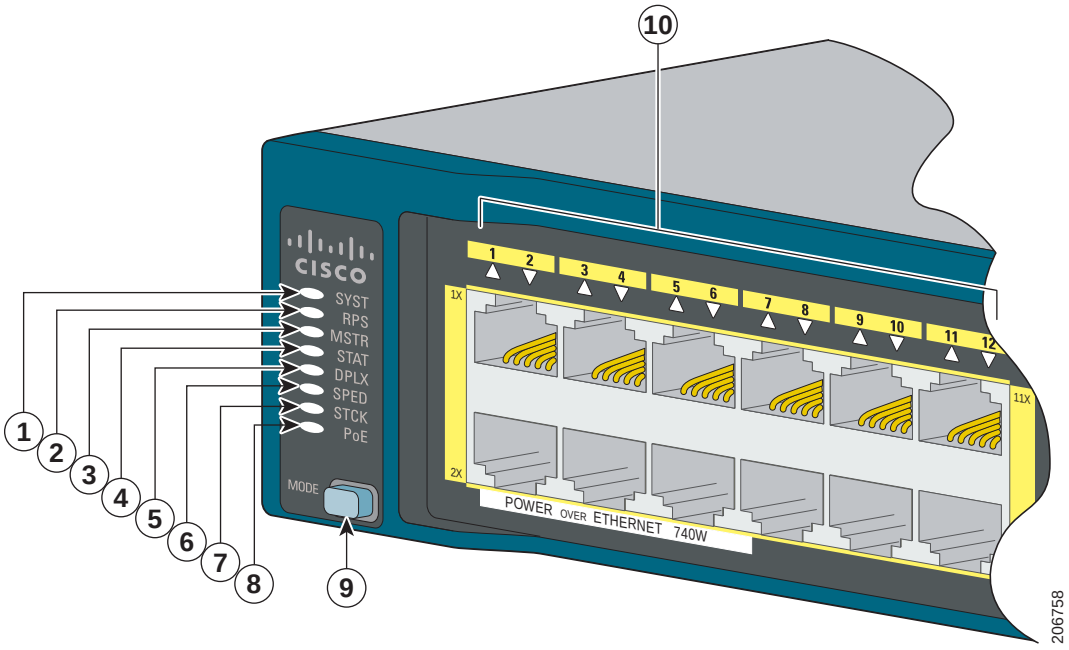
Switch Models	Supported SFP+ Modules
Catalyst 2960S-48FPD-L Catalyst 2960S-48LPD-L Catalyst 2960S-24PD-L Catalyst 2960S-48TD-L Catalyst 2960S-24TD-L	SFP-10G-LR= SFP-10G-SR= SFP-10G-LRM= SFP-H10GB-CU1M= SFP-H10GB-CU3M= SFP-H10GB-CU5M=

For information about SFP modules, see the SFP module documentation and the "Installing SFP and SFP+ Modules" section on page 1-20. For cable specifications, see Appendix 1, "Connector and Cable Specifications."

LEDs

You can use the switch LEDs to monitor switch activity and its performance. Figure 1-7 shows the switch LEDs and the Mode button that you use to select a port mode.

Figure 1-7 Switch LEDs and Mode Button



1	System LED	**6**	Speed LED
2	RPS[1] LED	**7**	Stack LED[2]
3	Master LED[2]	**8**	PoE LED[3]
4	Status LED	**9**	Mode button
5	Duplex LED		

1. RPS = redundant power system—only on switch models that support RPS.
2. Only on switch models that support stacking.
3. Only on switch models that support PoE.

System LED

Table 1-4 System LED

Color	System Status
Off	System is not powered on.
Green	System is operating normally.
Amber	System is receiving power but is not functioning properly.

For information on the System LED colors during power-on self-test (POST), see the "Switch POST Results" section on page 1-1.

RPS LED

Note The RPS LED is not present on the Catalyst 2960S-F48FPS-L, 2960S-F48LPS-L, 2960S-F24PS-L, 2960S-F48TS-L, 2960S-F24TS-L, 2960S-F48TS-S, and 2960S-F24TS-S switches—these models do not support RPS.

Table 1-5 RPS LED

Color	RPS Status
Off	RPS is off or not properly connected.
Green	RPS is connected and can provide back-up power.
Blinking green	RPS is connected but is unavailable. It is providing power to another device (redundancy has been allocated to the other device).
Amber	The RPS is in standby mode or in a fault condition. See the RPS documentation.
Blinking amber	The power supply in a switch has failed, and the RPS is providing power to the switch (redundancy has been allocated to this device).

For information about the Cisco RPS 2300, see the "Related Publications" section.

Master LED

Table 1-6 Master LED

Port Mode	Description
Off	Switch is not the stack master.
Green	Switch is the stack master or a standalone switch.
Amber	An error occurred when the stack was electing the stack master switch, or another type of stack error occurred.

Port LEDs and Modes

The port and module slots each has a port LED. As a group or individually, the LEDs show information about the switch and about the ports. Table 1-7 lists the mode LEDs and their associated port modes and meanings.

Table 1-7 Port Mode LEDs

Mode LED	Port Mode	Description
STAT	Port status	The port status. This is the default mode.
DUPLX	Port duplex	The port duplex mode: full duplex or half duplex. **Note** The ports operate only in full-duplex mode.
SPEED	Port speed	The port operating speed: 10, 100, 1000 Mb/s, or 10 Gb/s.
STACK	Stack member status Stack port status	The stack member status. The stack port status. See the "Stack LED" section on page 1-15 information.
PoE	PoE port power	The PoE status.

Table 1-8 PoE Mode LED

Color	PoE Status
Off	PoE mode is not selected. No port has been denied power or is in a fault condition.
Green	PoE mode is selected, and the port LEDs show the PoE status.
Blinking amber	PoE mode is not selected. At least one port was denied power, or at least one port has a PoE fault.

To select or change a mode, press the Mode button until the desired mode is highlighted. When you change port modes, the meanings of the port LED colors also change.

Table 1-9 Meanings of LED Colors in Different Modes

Port Mode	Port LED Color	Meaning
PoE	Off	PoE is off. If the powered device is receiving power from an AC power source, the port LED is off even if the powered device is connected to the switch port.
	Green	PoE is on. The port LED is green only when the switch port is providing power.
	Alternating green and amber	PoE is denied because providing power to the powered device will exceed the switch power capacity.
	Blinking amber	PoE is off due to a fault. ⚠ **Caution** Noncompliant cabling or powered devices can cause a PoE port fault. Use only standard-compliant cabling to connect Cisco prestandard IP Phones and wireless access points or IEEE 802.3af-compliant devices. You must remove any cable or device that causes a PoE fault.
	Amber	PoE for the port is disabled. (PoE is enabled by default.)

Table 1-9 Meanings of LED Colors in Different Modes (continued)

Port Mode	Port LED Color	Meaning
STAT (port status)	Off	No link or port was administratively shut down.
	Green	Link present.
	Blinking green	Activity. Interface is sending or receiving data.
	Alternating green-amber	Link fault. Error frames can affect connectivity, and errors such as excessive collisions, cyclic redundancy check (CRC) errors, and alignment and jabber errors are monitored for a link-fault indication.
	Amber	Port is blocked by Spanning Tree Protocol (STP) and is not forwarding data. After a port is reconfigured, the port LED can remain amber for up to 30 seconds as STP searches the switch for possible loops.
	Blinking amber	Port is blocked by STP and is sending and receiving packets.
DUPLX (duplex)	Off	Port is operating in half duplex.
	Green	Port is operating in full duplex.
SPEED	**10/100 and 10/100/1000 ports**	
	Off	Port is operating at 10 Mb/s.
	Green	Port is operating at 100 Mb/s.
	Blinking green	Port is operating at 1000 Mb/s.
	SFP module ports	
	Off	Port is operating at 10 Mb/s.
	Green	Port is operating at 100 Mb/s.
	Blinking green	Port is operating at 1000 Mb/s.
	SFP+ module ports	
	Off	Port is not operating.
	Blinking green	Port is operating at 10 Gb/s.
	Green	Port is operating at 1 Gb/s.
STACK (stack member)	Off	No stack member has that member number.
	Blinking green	Stack member number.
	Green	Member numbers of other stack member switches.

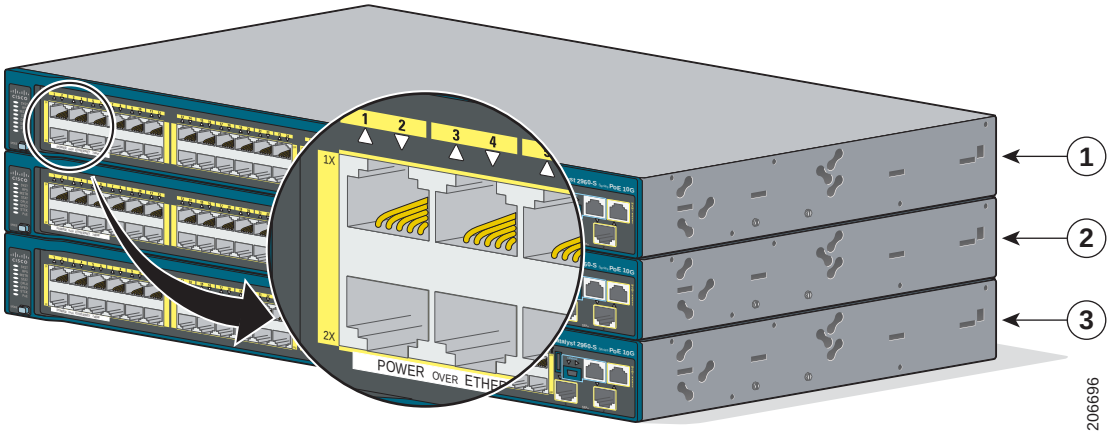
If your switches are stacked and you press the Mode button on any switch, all the switches display the same selected mode. For example, if you press the mode button on the stack master to display SPEED, all the other stack members display SPEED.

Even if PoE mode is not selected, this LED still shows PoE problems if they are detected.

Stack LED

The stack LED shows the sequence of member switches in a stack. Up to four switches can be members of a stack. The first four port LEDs show the switch member number. Figure 1-8 shows the LEDs on the first switch, which is stack member number 1. For example, if you press the Mode button and select Stack, the port LED 1 blinks green. The LEDs for port 2 and 3 are solid green, as these represent the member numbers of other stack members. The other port LEDs are off because there are no more members in the stack.

Figure 1-8 Stack LED



1	Stack member 1	**3**	Stack member 3
2	Stack member 2		

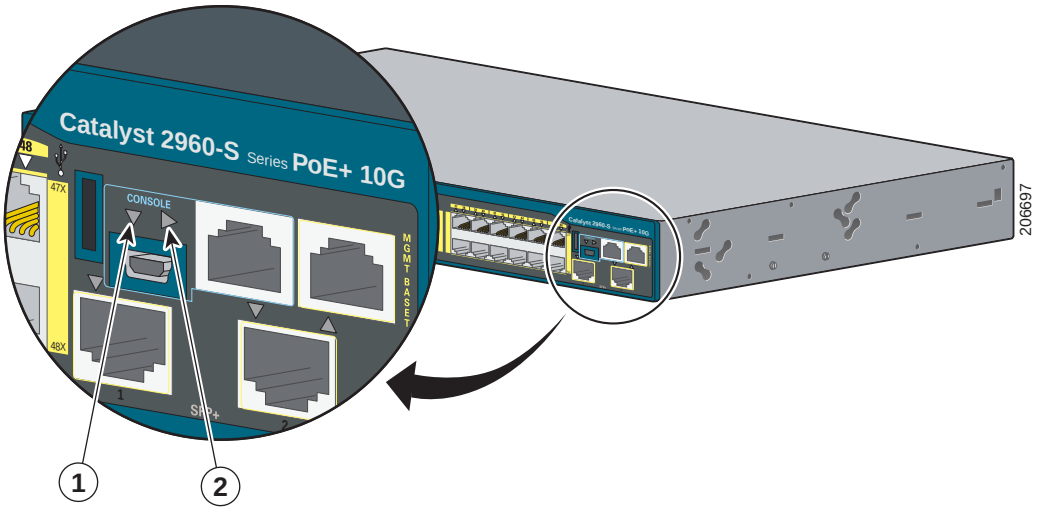
When you select the Stack LED, the respective Stack LEDs are green when the stack ports (on the switch rear panel) are up, and the respective Stack LEDs are amber when the ports are down. SFP+ module port LEDs 1 and 2 on the switch show the status for stack ports 1 and 2, respectively.

If the port LEDs are green on all the switches in the stack, the stack is operating at full bandwidth. If any port LED is not green, the stack is not operating at full bandwidth.

Console LEDs

The console LEDs show which console port is in use.

Figure 1-9 Console LEDs



1	USB console LED
2	RJ-45 console LED

If you connect a cable to a console port, the switch automatically uses that port for console communication. If you connect two console cables, the USB console port has priority.

Table 1-10 lists the console and USB port LED colors and their meanings.

Table 1-10 RJ-45 and USB Console LEDs

LED	Color	Description
RJ-45 console port	Green	RJ-45 console port is active. When this LED is on, the USB console port LED is off.
	Off	The port is not active, and the USB console port is active.
USB console port	Green	USB console port is active. When this LED is on, the RJ-45 console port LED is off.
	Off	The port is not active, and the RJ-45 console port is active.

Ethernet Management Port LED

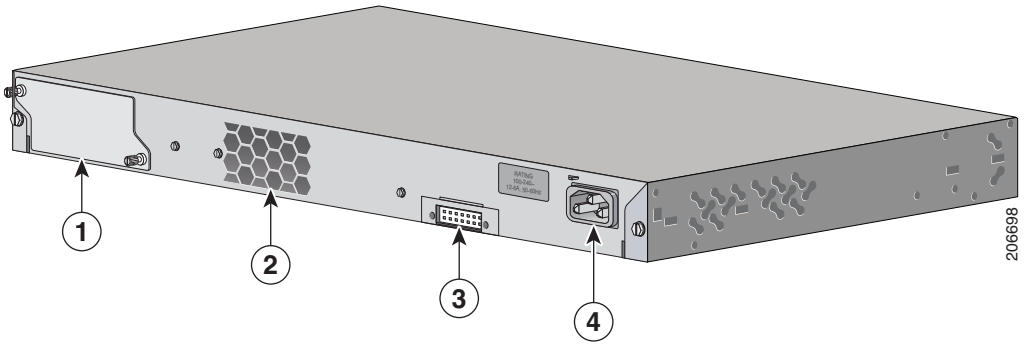
Table 1-11 Ethernet Management Port LED

Color	Description
Green	Active link to PC.
Off	Inactive link.
Amber	POST failure.

Rear Panel

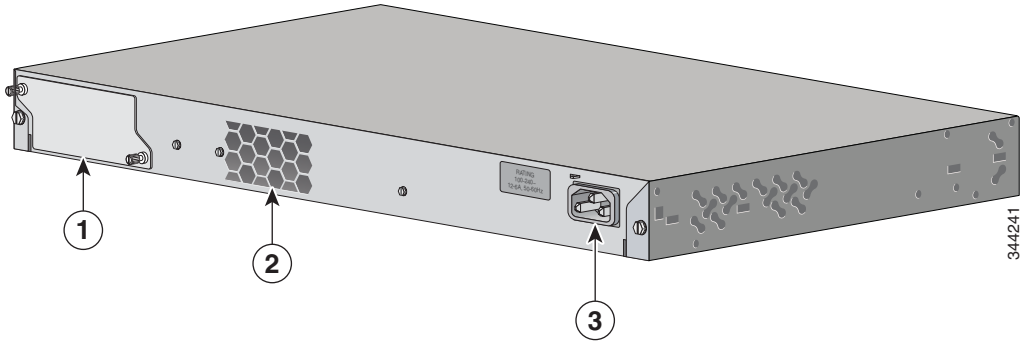
The rear panel of the stacking-capable switches have a FlexStack module slot, a fan exhaust, and an AC power connector. The stacking-capable switch is available with or without an RPS connector. See Figure 1-10 and Figure 1-11.

Figure 1-10 Catalyst 2960-S Switch Rear Panel with Stacking Module Slot and RPS connector



1	FlexStack module slot and cover	**3**	RPS connector
2	Fan exhaust	**4**	AC power connector

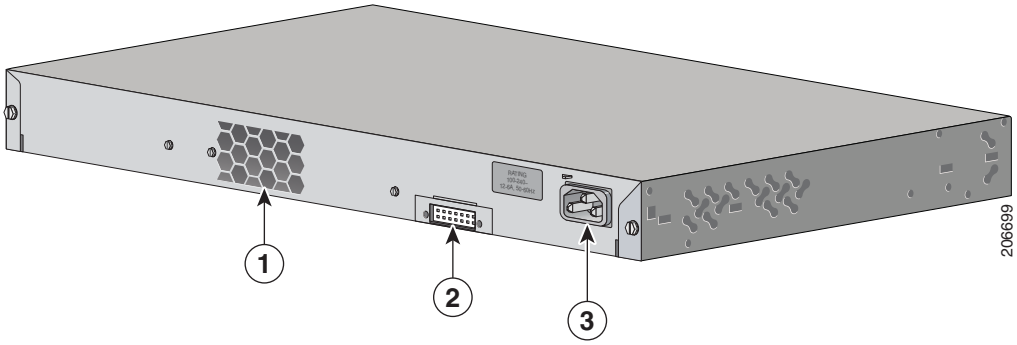
Figure 1-11 Catalyst 2960-S Switch Rear Panel with Stacking Module Slot and without RPS connector



1	FlexStack module slot and cover	**3**	AC power connector
2	Fan exhaust		

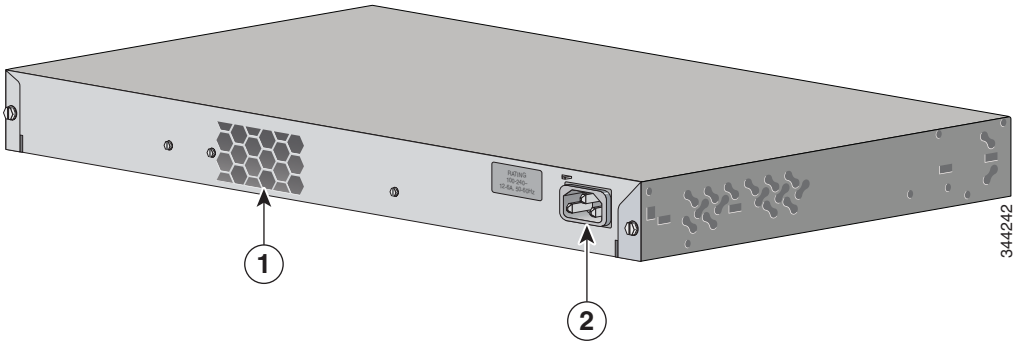
The rear panel of the nonstacking-capable switches have a fan exhaust, and an AC power connector. The nonstacking-capable switch is available with or without an RPS connector. See Figure 1-12 and Figure 1-13.

Figure 1-12 Catalyst 2960-S Switch Rear Panel with an RPS connector



1	Fan exhaust	**3**	AC power connector
2	RPS connector		

Figure 1-13 Catalyst 2960-S Switch Rear Panel without an RPS connector



1	Fan exhaust	**2**	AC power connector

FlexStack Ports

The stacking-capable switch models support stacking with the optional stack kit. It has the FlexStack module (hot-swappable) to insert in the slot in the switch rear panel, and a 0.5-meter FlexStack cable to connect the FlexStack module ports.

For FlexStack module installation, see "Installing the FlexStack Module" section on page 1-7. For stack cabling, see "Connecting the FlexStack Cables" section on page 1-17.

Caution Use only approved cables, and connect only to other Catalyst 2960-S switches. Equipment might be damaged if connected to other nonapproved Cisco cables or equipment.

RPS Connector

Note RPS is not supported on the Catalyst 2960S-F48FPS-L, 2960S-F48LPS-L, 2960S-F24PS-L, 2960S-F48TS-L, 2960S-F24TS-L, 2960S-F48TS-S, and 2960S-F24TS-S switches.

The Cisco RPS 2300 (model PWR-RPS2300) supports the Catalyst 2960-S switch.

Warning **Attach only the following Cisco RPS model to the RPS receptacle: RPS2300.** Statement 370

Connect the switch and the redundant power system to different AC power sources.

Use this cable for the RPS: CAB-RPS2300-E.

Cisco RPS 2300

The Cisco RPS 2300 is a redundant power system that can support six external network devices and provide power to one or two failed devices at a time. It senses when the internal power supply of a connected device fails and provides power to the failed device, preventing loss of network traffic. For information, see the "Related Publications" section.

The Cisco RPS 2300 has two output levels: –52 V and 12 V with a total maximum output power of 2300 W.

All supported and connected switches can simultaneously communicate with the RPS 2300. You can configure these RPS 2300 features through the switch software:

- Enable RPS active or standby mode for each connected switch
- Configure switch priority for RPS support
- List the connected switches and the power-supply module sizes
- Obtain reports when a switch is powered by the RPS
- Obtain status reports for the RPS power-supply module
- Read and monitor backup, failure, and exception history

AC Power Connector

The switch is powered through the internal power supply. The internal power supply is an autoranging unit that supports input voltages between 100 and 240 VAC. Use the supplied AC power cord to plug it into an AC power outlet.

Management Options

- Cisco Network Assistant

  Cisco Network Assistant is a PC-based network management GUI application for LANs of small and medium-sized businesses. You can use the GUI to configure and manage switch clusters or standalone switches. Cisco Network Assistant is available at no cost and can be downloaded from this URL:

  http://www.cisco.com/pcgi-bin/tablebuild.pl/NetworkAssistant

  For information on starting the Network Assistant application, see the *Getting Started with Cisco Network Assistant* guide on Cisco.com.

- Device manager

  You can use the device manager in the switch memory to manage individual and standalone switches. This web interface provides configuration and monitoring from anywhere in your network. For information, see the switch getting started guide and the device manager online help.

- Cisco IOS CLI

  You can configure and monitor the switch and switch cluster members from the CLI. Access the CLI by connecting your management station to the switch console port or by using Telnet from a remote management station. See the switch command reference on Cisco.com for information.

- CiscoWorks application

  The CiscoWorks LAN Management Solution (LMS) is a suite of management tools that simplify the configuration, administration, monitoring, and troubleshooting of Cisco networks. See the LMS documentation for information:

  http://cisco.com/go/lms

- CiscoView application

  The CiscoView device-management application displays the switch image that you can use to view switch status and performance information and set configuration parameters. The CiscoView application, which you purchase separately, can be a standalone application or part of a Simple Network Management Protocol (SNMP) platform. For information, see the CiscoView documentation at this URL: http://www.cisco.com/en/US/products/sw/cscowork/ps4565/tsd_products_support_series_home.html

- Cisco Configuration Engine

  The Cisco Configuration Engine is network management software that automates initial configurations and configuration updates. It generates device-specific configuration changes, sends them to the device, executes the configuration change, and logs the results. For information about Cisco Configuration Engine, see the software configuration guide on Cisco.com.

- SNMP network management

  You can manage switches from a Simple Network Management Protocol (SNMP)-compatible management station that is running platforms such as HP OpenView or SunNet Manager. The switch supports a comprehensive set of Management Information Base (MIB) extensions and four Remote Monitoring (RMON) groups. See the switch software configuration guide on Cisco.com and the documentation that came with your SNMP application for information.

- Cisco Security Manager

  Cisco Security Manager (Security Manager) manages security policies on Cisco security devices. Security Manager supports integrated provisioning of firewall, IPS, and VPN (site-to-site, remote access, and SSL) services across devices. For information, see the *User Guide for Cisco Security Manager 3.2.2*.

- Catalyst Smart Operations

  The Smart Install feature provides a single point of management (director) in a network. You can use it to provide a zero touch image and configuration upgrade of newly deployed switches and image and configuration downloads for any client switches. For information, see the *Cisco Smart Install Configuration Guide* on Cisco.com.

  Auto Smartports macros dynamically configure ports based on the device type detected on the port. When the switch detects a new device, it applies the appropriate Auto Smartports macro on the port. For information about configuring Auto Smartports, see the switch software configuration guide on Cisco.com.

Network Configurations

See the switch software configuration guide on Cisco.com for network configuration concepts and examples of using the switch to create dedicated network segments and interconnecting the segments through Fast Ethernet and Gigabit Ethernet connections.