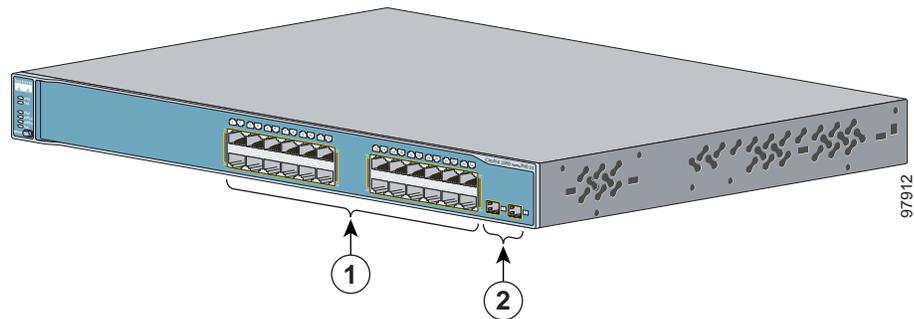# FastEthernet Switch Front Panel Descriptions

The 10/100 PoE ports on the Catalyst 3560-24PS switch are grouped in pairs. The first member of the pair (port 1) is above the second member (port 2) on the left, as shown in Figure 1-1. Port 3 is above port 4, and so on. The SFP module slots are numbered 1 and 2.

Figure 1-1   Catalyst 3560-24PS Switch Front Panel

1	10/100 ports	2	SFP module slots

When set for autonegotiation, the port senses the speed and duplex settings of the attached device and advertises its own capabilities. If the connected device also supports autonegotiation, the switch port negotiates the best connection (the fastest line speed that both devices support and full-duplex transmission if the attached device supports it) and configures itself accordingly. In all cases, the attached device must be within 328 feet (100 meters).

⚠

Warning **Voltages that present a shock hazard may exist on Power over Ethernet (PoE) circuits if interconnections are made using uninsulated exposed metal contacts, conductors, or terminals. Avoid using such interconnection methods, unless the exposed metal parts are located within a restricted access location and users and service people who are authorized within the restricted access location are made aware of the hazard. A restricted access area can be accessed only through the use of a special tool, lock and key or other means of security.** Statement 1072

The10/100 ports on the Catalyst 3560-24PS and 3560-48PS switches and the 10/100/1000 ports on the Catalyst 3560G-24PS and 3560G-48PS switches provide PoE support for devices compliant with IEEE 802.3af and also provide Cisco pre-standard PoE support for Cisco IP Phones and Cisco Aironet Access Points.

Each of the Catalyst 3560-24PS switch 10/100 ports or the Catalyst 3560G-24PS switch 10/100/1000 ports can deliver up to 15.4 W of PoE. On the Catalyst 3560-48PS or 3560G-48PS switches, any 24 of the 48 10/100 or 10/100/1000 ports can deliver 15.4 W of PoE, or any combination of the ports can deliver an average of 7.7 W of PoE at the same time, up to a maximum switch power output of 370 W.

On a per-port basis, you can control whether or not a Catalyst 3560 PoE port automatically provides power when an IP phone or an access point is connected. The Cluster Management Suite (CMS), Network Assistant, and the CLI provide two PoE settings for each 10/100 or 10/100/1000 PoE port: Auto and Never.

When you select the Auto setting, the port provides power only if a valid powered device, such as an IEEE 802.3af-compliant powered device, a Cisco pre-standard IP phone, or a Cisco pre-standard Cisco access point, is connected to it. The Auto setting is the default. However, when you select the Never setting, the port does not provide power even if a Cisco IP phone or an access point is connected to it.

Cisco enhanced power negotiation allows some powered devices, such as the Cisco 7970G IP Phone, to operate in high-power mode on Catalyst 3560 PoE switches. The powered device and the switch negotiate through power-negotiation Cisco Discovery Protocol (CDP) messages for an agreed-upon power-consumption level. The negotiation allows a high-power Cisco powered device that consumes more than 7 W to operate at its highest power mode. The powered device first boots up in low-power mode, consumes less than 7 W, and negotiates to obtain enough power to operate in high-power mode. The device changes to high-power mode only when it receives confirmation from the switch. High-power devices can operate in low-power mode on switches that do not support power-negotiation CDP.

For information about configuring and monitoring PoE ports, see the switch software configuration guide.

✎

Note You also can connect a Cisco IP Phone or Cisco Aironet Access Point to a Catalyst 3560 PoE switch 10/100 or 10/100/1000 port and to an AC power source for redundant power. The powered device might switch to the AC power source as its primary power source upon being connected to it. In that case, the PoE port becomes the backup power source for the powered device.

If the primary source fails, the second power source becomes the primary power source to the powered device. During the power transfer, an IP phone might reboot or reestablish link with the switch.

For information about Cisco IP Phones and Cisco Aironet Access Points, see the documentation that came with your IP phone or access point.

Note 100BASE-TX and 1000BASE-T traffic requires Category 5 cable. 10BASE-T traffic can use Category 3 or Category 4 cables.

When connecting the switch to workstations, servers, routers, and Cisco IP Phones, be sure that the cable is a straight-through cable. When connecting the switch to switches or hubs, use a crossover cable. When using a straight-through or crossover cable for 1000BASE-T connections, be sure to use a twisted four-pair, Category 5 cable for proper operation. Pinouts for the cables are described in Appendix B, "Connector and Cable Specifications."

Note You can use the **mdix auto** interface configuration command in the CLI to enable the automatic medium-dependent interface crossover (Auto-MDIX) feature. When the Auto-MDIX feature is enabled, the switch detects the required cable type for copper Ethernet connections and configures the interfaces accordingly. Therefore, you can use either a crossover or a straight-through cable for connections to a copper 10/100, 10/100/1000, or 1000BASE-T SFP module port on the switch, regardless of the type of device on the other end of the connection.

The Auto-MDIX feature is enabled by default on switches running Cisco IOS Release 12.2(18)SE or later. For releases between Cisco IOS Release 12.1(14)EA1 and 12.2(18)SE, the Auto-MDIX feature is disabled by default. For configuration information for this feature, see the switch software configuration guide or the switch command reference.

Note Many legacy powered devices, including older Cisco IP phones and access points that do not fully support IEEE 802.3af, might not support PoE when connected to the switches by a crossover cable.

SFP Module Slots

The SFP module slots support the SFP modules that are listed in the Catalyst 3560 release notes.

SFP Modules

The Catalyst 3560 switch uses Gigabit Ethernet SFP modules to establish fiber-optic and 1000BASE-T connections. These transceiver modules are field-replaceable, providing the uplink interfaces when inserted in an SFP module slot. You can use the SFP modules for Gigabit uplink connections to other switches. You use fiber-optic cables with LC or MT-RJ connectors to connect to a fiber-optic SFP module. You use Category 5 cable with RJ-45 connectors to connect to a copper SFP module.

The Catalyst 3560 models support these Cisco SFP modules:

- 1000BASE-LX
- 1000BASE-SX
- 1000BASE-ZX
- 1000BASE-T

- 100BASE-FX

- CWDM

For more information about these SFP modules, see your SFP module documentation.

SFP Module Patch Cable

The Catalyst 3560 switch supports the SFP module patch cable, a 1/2 meter, copper, passive cable with SFP module connectors at each end (see Figure 1-9). The patch cable can connect two Catalyst 3560 switches in a cascaded configuration.

Figure 1-9   SFP Module Patch Cable
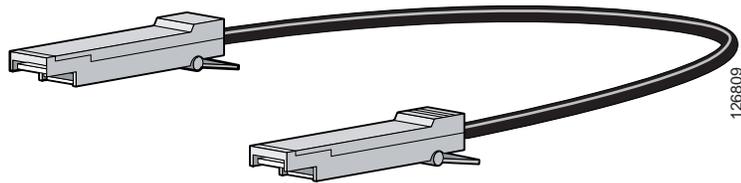
See "Inserting and Removing the SFP Module Patch Cable" section on page 2-18 for more information about using the SFP module patch cable.

LEDs

You can use the switch LEDs to monitor switch activity and its performance. Figure 1-10 shows the switch LEDs and the Mode button that you use to select one of the port modes.

All of the LEDs described in this section are visible in the CMS and Network Assistant GUIs. The switch online help describes how to use CMS or Network Assistant to configure and monitor individual switches and switch clusters.