



Quick Start Guide



Cisco 350X Series Managed Switches

Welcome

Thank you for choosing the Cisco 350X Series Managed Switches. The switches are designed to be operational right out-of-the-box as standard layer 2 and 3 switches. Using the default configuration, your switch forwards packets between the connecting devices after power up.

This guide familiarizes you with the switch layout and describes how to deploy the switch in your network. For additional information, see www.cisco.com/go/350xswitches.

Package Contents

- Your Cisco 350X Series Managed Switch
- Power Cord
- Rack-Mount Kit and Rubber Feet
- DB-9 to RJ45 Serial Cable
- Quick Start Guide
- Pointer Card with China RoHS
- Technical Support Contacts
- EU Directives 1999/5/EC Compliance Information (for EU SKU only)

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Before You Begin

Before you begin the installation, make sure that you have the following:

- RJ-45 Ethernet cables for connecting network devices. A category 6a and higher cable is required for 10G ports; a category 5e and higher cable is required for all other ports.
- Console cable for using the console port to manage your switch.
- Tools for installing the hardware. The rack-mount kit packed with the switch contains four rubber feet for desktop placement, and two brackets and twelve screws for rack-mounting. If the supplied screws are lost, use replacement screws in the following size:
 - Diameter of the screw head: 6.9 mm
 - Length of face of screw head to base of screw: 5.9 mm
 - Shaft diameter: 3.94 mm

- Computer with Internet Explorer (version 9.0, 10.0, 11.0), or Firefox (version 36.0, 37.0 or higher), or Chrome (version 40,41,42 or higher) for using the web-based interface or the console port to manage your switch.

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Mounting the Cisco 350X Series Switches

Your switch can be installed in the following ways:

- Place the switch on a flat surface. To place the switch on a desktop, install the four rubber feet (included) on the bottom of the switch.
- Mount the switch in a standard rack (1 rack unit high).

Placement Tips

Do not deploy the switch in a location where any of the following conditions exist:

- **Ambient Temperature**—To prevent the switch from overheating, do not operate it in an area that exceeds an ambient temperature of 122°F (50°C).
- **Air Flow**—Be sure that there is adequate air flow around the switch.
- **Mechanical Loading**—Be sure that the switch is level and stable to avoid any hazardous conditions.
- **Circuit Overloading**—Adding the switch to the power outlet must not overload that circuit.

Rack Mounting

You can mount the switches in any standard size, 19-inch (about 48 cm) wide rack. The switch requires 1 rack unit (RU) of space, which is 1.75 inches (44.45 mm) high.

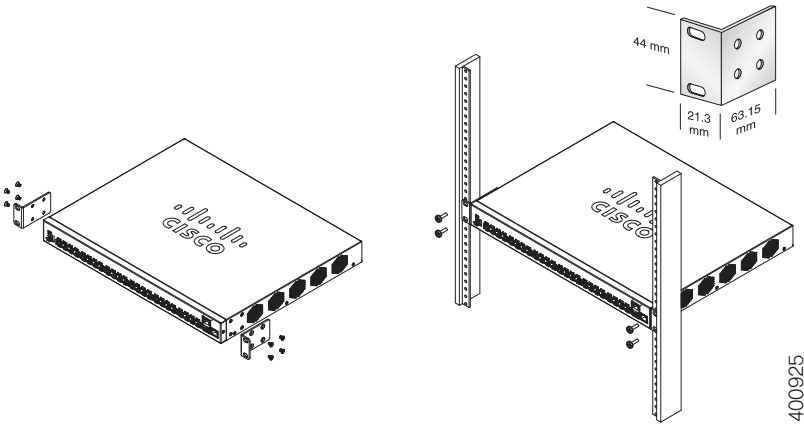


CAUTION

For stability, load the rack from the bottom to the top, with the heaviest devices on the bottom. A top-heavy rack is likely to be unstable and might tip over.

To install the switch into a 19-inch standard chassis:

- STEP 1** Place one of the supplied brackets on the side of the switch so that the four holes of the brackets align to the screw holes, and then use the four supplied screws to secure it.
- STEP 2** Repeat the previous step to attach the other bracket to the opposite side of the switch.
- STEP 3** After the brackets are securely attached, the switch is now ready to be installed into a standard 19-inch rack.



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Connecting Network Devices

To connect the switch to the network:

- STEP 1** Connect an Ethernet cable to the Ethernet port of a computer, printer, network storage, or other network devices.
- STEP 2** Connect the other end of the Ethernet cable to one of the numbered Ethernet ports of the switch.

The Ethernet port light turns green when the connection is active. Refer to [Cisco 350X Series Switch Features](#) for details about the different ports and LEDs on each switch.

STEP 3 Repeat **Step 1** and **Step 2** for each device that you want to connect to the switch.

NOTE A category 6a and higher cable is required for 10G ports; a category 5e or higher cable is required for all other ports. When you connect your network devices, do not exceed the maximum cabling distance of 100 meters (328 feet). It can take up to one minute for the attached devices or the LAN to be operational after it is connected. This is normal behavior.

Power over Ethernet Considerations



WARNING The switch is to be connected only to PoE networks without routing to the outside plant.

If your switch is one of the Power over Ethernet (PoE) models, consider the following power requirement:

350 Switches with Power Over Ethernet

Model	Power Dedicated to Poe	Number of Ports Supporting Poe	Poe Standard Supported
SG350X-24P	195 Watts	1–24	802.3af/at
SG350X-24MP	382 Watts	*60-Watt UPoE: ports 1, 2, 13, 14	60 -Watt PoE 802.3af/at, 4 pair PoE, Rest af/at
SG350X-48P	382 Watts	1–48	
SG350X-48MP	740 Watts	*60-Watt UPoE: ports 1, 2, 3, 4, 25, 26, 27, 28	

*60-Watt PoE extends the IEEE Power of Ethernet Plus standard to double the power per port to 60 Watts.



Consider the following when connecting switches capable of supplying PoE:

The PoE models of the switches are PSE (Power Sourcing Equipment) that are capable of supplying DC power to attaching PD (Powered Devices). These devices include VoIP phones, IP cameras, and wireless access points. The PoE switches can detect and supply power to pre-standard legacy PoE Powered Devices. Due to the support of legacy PoE, it is possible that a PoE switch acting as a PSE may mistakenly detect and supply power to an attaching PSE, including other PoE switches, as a legacy PD.

Even though PoE switches are PSE, and as such should be powered by AC, they could be powered up as a legacy PD by another PSE due to false detection. When this happens, the PoE switch may not operate properly and may not be able to properly supply power to its attaching PDs.

To prevent false detection, you should disable PoE on the ports on the PoE switches that are used to connect to PSEs. You should also first power up a PSE device before connecting it to a PoE switch. When a device is being falsely detected as a PD, you should disconnect the device from the PoE port and power recycle the device with AC power before reconnecting its PoE ports.

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Configuring the 350X Series Switches

Before You Begin

The switch can be accessed and managed by two different methods; over your IP network using the web-based interface, or by using the switch's command-line interface through the console port. Using the console port requires advanced user skills.

These are the default settings used when configuring your switch for the first time.

Parameter	Default Value
Username	cisco
Password	cisco
LAN IP	192.168.1.254

Configuring Your Switch Using the Web-based Interface

To access the switch with a web-based interface, you must know the IP address that the switch is using. The switch uses the factory default IP address of 192.168.1.254, with a subnet of /24.

When the switch is using the factory default IP address, the System LED flashes continuously. When the switch is using a DHCP server-assigned IP address or an administrator has configured a static IP address, the System LED is a steady green (DHCP is enabled by default).

NOTE If you are managing the switch through a network connection and the switch IP address is changed, either by a DHCP server or manually, your access to the switch will be lost. You must enter the new IP address that the switch is using into your browser to use the web-based interface. If you are managing the switch through a console port connection, the link is retained.

To configure the switch using the web-based interface:

STEP 1 Power on the computer and your switch.

STEP 2 For Cisco 350XG switches, connect the computer to the OOB port found on the front panel. For Cisco 350X switches, connect the computer to any network port.

STEP 3 Set up the IP configuration on your computer.

- a. If the switch is using the default static IP address of 192.168.1.254/24, you must choose an IP address for the computer in the range of 192.168.1.2 to 192.168.1.253 that is not already in use.
- b. If the IP addresses will be assigned by DHCP, make sure that your DHCP server is running and can be reached from the switch and the computer. You may need to disconnect and reconnect the devices for them to discover their new IP addresses from the DHCP server.

NOTE Details on how to change the IP address on your computer depend upon the type of architecture and operating system that you are using. Use your computers local Help and Support functionality and search for “IP Addressing.”

STEP 4 Open a web browser window. If you are prompted to install an ActiveX plug-in when connecting to the device, follow the prompts to accept the plug-in.

STEP 5 Enter the switch IP address in the address bar and press **Enter**. For example, **http://192.168.1.254**.

STEP 6 When the login page appears, choose the language that you prefer to use in the web-based interface and enter the username and password.

The default username is **cisco**. The default password is **cisco**. Usernames and passwords are both case sensitive.

STEP 7 Click **Log In**.

If this is the first time that you have logged on with the default username and password, the Change Password page opens. The rules for constructing a new password are displayed on the page.

STEP 8 Enter a new password and confirm the password.

NOTE Password complexity is enabled by default. The password must comply with the default complexity rules or it can be disabled temporarily by checking **Disable** next to **the Password Strength Enforcement** option.

STEP 9 Click **Apply**.



CAUTION

Make sure that any configuration changes made are saved before exiting from the web-based interface by clicking on the **Save** icon. Exiting before you save your configuration results in all changes being lost.

The Getting Started page opens. You are now ready to configure the switch. Refer to the Administration Guide or see the help pages for further information.

Configuring Your Switch Using the Console Port

To configure the switch using the console port:

-
- STEP 1** Connect a computer to the switch console port using the supplied console cable.
- STEP 2** Start a console port utility such as HyperTerminal on the computer.
- STEP 3** Configure the utility with the following parameters:
- 115200 bits per second
 - 8 data bits
 - no parity
 - 1 stop bit
 - no flow control
- STEP 4** Enter a username and password. The default username is **cisco**, and the default password is **cisco**. Usernames and passwords are both case sensitive.

If this is the first time that you have logged on with the default username and password, the following message appears:

```
Please change your password from the default
settings. Please change the password for better
protection of your network. Do you want to change
the password (Y/N) [Y]?
```

- STEP 5** Enter **Y**, and set a new administrator password.

NOTE Password complexity is enabled by default. The password must comply with the default complexity rules.



CAUTION

Make sure that any configuration changes made are saved before exiting.

You are now ready to configure the switch. Refer to www.cisco.com/go/350xswitches to locate the CLI Guide for your switch.

NOTE If you are not using DHCP on your network, set the IP address type on the switch to **Static** and change the static IP address and subnet mask to match your network topology. Failure to do so may result in multiple switches using the same factory default IP address of 192.168.1.254.

Stacking the Cisco 350XG Series Switches

Before configuring the switches as a stack, refer to the Administration Guide for additional details. Refer to the front panel graphics in [Cisco 350X Series Switch Features](#) to help with the stack port descriptions and supported modules.

By default, the ports on a switch function as regular Ethernet ports, except if you configure them to do stacking. You cannot mix the stack speeds between the switches or ports.



WARNING

Stack ports must be either configured with the same port speed or have the same speed capability on the module or cable plug in. If the port speed is configured as auto, then the module plugged into these two ports will need to have the same speed capability, otherwise the switch will not be able to form as a stack with multiple units.

A stack can have up to four Cisco 350XG series switches in it. Any 10G port of the switch can be used for stacking. The switch can only be stacked without Mesh topology.

The switches in the same stack are connected together through their stack ports. Depending on the type of stack ports and the desired speed, you may need Cat6a Ethernet cables and/or Cisco approved modules or cables for the Cisco 350XG switches.

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Cisco 350X Series Switch Features

This section describes the exterior of the switch to help familiarize you with your switch.

Product Models

Model	Description
SG350X-24	24-Port Gigabit Stackable Managed Switch
SG350X-24P	24-Port Gigabit PoE Stackable Managed Switch
SG350X-24MP	24-Port Gigabit PoE Stackable Managed Switch
SG350X-48	48-Port Gigabit Stackable Managed Switch
SG350X-48P	48-Port Gigabit PoE Stackable Managed Switch
SG350X-48MP	48-Port Gigabit PoE Stackable Managed Switch
SG350XG-24F	24-Port 10G SFP+ Stackable Managed Switch
SG350XG-24T	24-Port 10GBase-T Stackable Managed Switch
SG350XG-2F10	12-Port 10G Stackable Managed Switch
SG350XG-48T	48-Port 10GBase-T Stackable Managed Switch

Front Panel

The ports, LEDs, and Reset button are located on the front panel of the switch as represented in the following illustrations.

SG350XG-48T



SG350X-48



SG350X-24



Front Panel Ports

USB Port—The USB port connects the switch to a USB device so that you can save and restore the configuration files, firmware images, and SYSLOG files through the connected USB device.

RJ-45 Ethernet Ports—The RJ-45 Ethernet ports connect network devices, such as computers, printers, and access points, to the switch.

60-Watt PoE Ports—Highlighted in yellow, the 60-Watt PoE ports double the PoE power to 60W.

SFP+ Port (if present)—The small form-factor pluggable plus (SFP+) are connection points for modules so that the switch can link to other switches. These ports are also commonly referred to as mini 10GigaBit Interface Converter ports. The term SFP+ will be used in this guide.

- The SFP+ ports are compatible with Cisco modules MGBSX1, MGBLH1, MGBT1, MGBLX1, MGBBX1, as well as other brands of modules.
- The Cisco SFP+ 10G optical modules that are supported in the Cisco switches are: SFP-10G-SR, and SFP-10G-LR.
- The Cisco SFP+ Copper Cable modules for stacking that are supported in the Cisco switches are: SFP-H10GB-CU1M, SFP-H10GB-CU3M, and SFP-H10GB-CU5M.
- The SFP+ port is a combination port, shared with one other RJ-45 port. When the SFP+ is active, the adjacent RJ-45 port is disabled.
- The LEDs of the corresponding RJ-45 port flash green to respond to the SFP interface traffic.

SFP Port (if present)—The small form-factor pluggable (SFP) ports are connection points for modules, so the switch can link to other switches. These ports are also commonly referred to as miniGigaBit Interface Converter (miniGBIC) ports. The term SFP is used in this guide.

- SFP ports are compatible with Cisco modules MGBT1, MGBSX1, MGBLH1, MGBLX1, MGBBX1, MFELX1, MFEFX1, and MFEBX1, as well as other brands of modules.
- Some SFP interfaces are shared with one other RJ-45 port, called a combo port. When the SFP is active, the adjacent RJ-45 port is disabled.
- The LEDs of the corresponding RJ-45 port flash green to respond to the SFP interface traffic.

OOB Port (if present)—The Out of Band (OOB) port is a CPU's Ethernet port that can be used only as a management interface. Bridging between the OOB port and the in-band Layer 2 interface is not supported.

Front Panel LEDs

PoE (if present)—(Amber) Located on the right of the port. The LED lights steady when power is being supplied to a device attached to the corresponding port.

Master—(Green) The LED lights steady when the switch is a stack master.

System—(Green) The LED lights steady when the switch is powered on, and flashes when booting, performing self-tests, or acquiring an IP address. If the LED flashes Amber, the switch has detected a hardware failure, a firmware failure, and/or a configuration file error.

Stack ID—(Green) The LED lights steady when the switch is stacked and the corresponding number indicates its Stack ID.

LINK/ACT—(Green) Located on the left of each port. The LED lights steady when a link between the corresponding port and another device is detected, and flashes when the port is passing traffic.

XG—(Green) Located on the right of a 10G port. The LED lights steady when another device is connected to the port, is powered on, and a 10 Gbps link is established between the devices. When the LED is off, the connection speed is under 10 Gbps or nothing is cabled to the port.

Gigabit—(Green) Located on the right of the OOB port. The LED lights steady when another device is connected to the port, is powered on, and a 1000 Mbps link is established between the devices. When the LED is off, the connection speed is under 1000 Mbps or nothing is cabled to the port.

SFP+ (if present)—(Green) Located on the right of a 10G port. The LED lights steady when a connection is made through the shared port, and flashes when the port is passing traffic.

Reset Button

The switch can be reset by inserting a pin or paper clip into the **Reset** button opening on the front panel of the switch. See [Returning the Switches to the Factory Default Settings](#) for details.

Back Panel

The power port and console port are located on the back panel of the switch. The back panel of your particular switch may look different, and if your model has a fan, allow for adequate air circulation.



Power—Connects the switch to AC power.

Console—Connects a serial cable to a computer serial port so that it can be configured by using a terminal emulation program.

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Returning the Switches to the Factory Default Settings

To use the **Reset** button to reboot or reset the switch, do the following:

- To **reboot** the switch, press and hold the **Reset** button for less than ten seconds.
- To **restore** the switch to its factory default settings:
 - Disconnect the switch from the network or disable all DHCP servers on your network.
 - With the power on, press and hold the **Reset** button for more than ten seconds.

Troubleshoot Your Connection

If you cannot access your switch from the web-based interface, the switch may not be reachable from your computer. You can test network connections by using ping on a computer running Windows:

STEP 1 Open a command window by selecting **Start > Run** and enter **cmd**.

STEP 2 At the **Command** window prompt, enter **ping** and the switch IP address. For example, **ping 192.168.1.254** (the default static IP address of the switch).

If you can reach the switch, you should get a reply similar to the following:

```
Pinging 192.168.1.254 with 32 bytes of data:  
Reply from 192.168.1.254:bytes=32 time<1ms TTL=128
```

If you cannot reach the switch, you should get a reply similar to the following:

```
Pinging 192.168.1.254 with 32 bytes of data:  
Request timed out.
```

Possible Causes and Resolutions

The Switch is not Powering on

- Verify the power cord is plugged firmly into the switch and into the power outlet.
- Verify that the power outlet is active.
- Verify that the computer is on.

- Replace the power adapter, before replacing the switch, if the situation continues.

Bad Ethernet connection

- Check the LEDs for proper indications. See **Front Panel** for details.
- Check the connectors of the Ethernet cable to ensure that they are firmly plugged into the switch and your computer.
- Use a different Ethernet cable or port.

Bad Console port connection

- Verify the console cable connectors are firmly plugged into the switch and your computer.
- Verify the console port utility is configured with the correct parameters.

IP Addressing Issues

- The Cisco switches can also be accessed by the Cisco FindIT Network Discovery Utility that automatically discovers all Cisco Small Business devices in the same local network segment as your computer. You can view device information including the current IP address, download the latest firmware for the device, or launch the product configuration utility to view and configure the settings. For more information, see www.cisco.com/go/findit.
- Verify that you are using the correct IP address of the switch. Determine the current IP address of the switch from the CLI through the console port, Cisco FindIT, or from your network administrator. The System LED provides an indication of where the switch received the IP address (See **Front Panel** for details.)
- Make sure that no other device is using the same IP address as the switch.

No IP route

If the switch and your computer are in different IP subnets, you need one or more routers to route the packets between the two subnets.

Unusually long access time

Due to the standard spanning tree loop detection logic, adding new connections may take 30 to 60 seconds for the affected interfaces and/or LAN to become operational.

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Where to Go From Here

Cisco Support Community	www.cisco.com/go/smallbizsupport
Cisco Support and Resources	www.cisco.com/go/smallbizhelp
Phone Support Contacts	www.cisco.com/en/US/support/tsd_cisco_small_business_support_center_contacts.html
Cisco Firmware Downloads	www.cisco.com/go/smallbizfirmware Select a link to download firmware for Cisco Products. No login is required.
Cisco Open Source Requests	To receive a copy of the source code to which you are entitled under the applicable free/open source license(s) (such as the GNU Lesser/General Public License), please send your request to: externalopensource-requests@cisco.com In your requests please include the Cisco product name, version, and the 18 digit reference number (for example: 7XEEX17D99-3X49X081) found in the product open source documentation.
Cisco Partner Central (Partner Login Required)	www.cisco.com/web/partners/sell/smb
Product Documentation	
350X Series	www.cisco.com/go/350xswitches
Regulatory Compliance and Safety Information	www.cisco.com/en/US/docs/switches/lan/csb_switching_general/rcsi/Switch_RCSI.pdf
Warranty Information	www.cisco-warrantyfinder.com

**WARNING**

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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