Installing the S25P System

December 15, 2008 **100-00058-02**

Note: The country-specific warnings and statements of compliance have been moved to "Agency Compliance" on page 34, in Chapter 5, "S25P Specifications," on page 33.

Feedback on Documentation?
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Contents

Preface About this Guide

This guide provides site preparation recommendations, step-by-step procedures for rack mounting and desk mounting, inserting optional modules, and connecting to a power source.

After you have completed the hardware installation and power-up of the S25P, refer to the *SFTOS™ Configuration Guide* for software configuration information and the *SFTOS™ Command Reference* for detailed Command Line Interface (CLI) information.

Information Symbols and Warnings

The following graphic symbols are used in this document to bring attention to hazards that exist when handling the S25P and its components. Please read these alerts and heed their warnings and cautions.

Table 1 describes symbols contained in this guide.

Table 1 Information Symbols

Symbol	Warning	Description
	Danger	This symbol warns that improper handling and installation could result in bodily injury. Before you begin work on this equipment, be aware of hazards involving electrical circuitry, networking environments, and instigate accident prevention procedures.
	Caution	This symbol informs you that improper handling and installation could result in equipment damage or loss of data.
	Warning	This symbol informs you that improper handling may reduce your component or system performance.
	Note	This symbol informs you of important operational information.

Danger: The installation of this equipment shall be performed by trained and qualified personnel only. Read this guide before installing and powering up this equipment. This equipment contains two power cords. Disconnect both power cords before servicing.

Danger: Class 1 laser product.
Attention: Produit laser de classe 1
Warnung: Laserprodukt der Klasse 1

This equipment contains optical transceivers, which comply with the limits of Class 1 laser radiation. Visible and invisible laser radiation may be emitted from the aperture of the optical transceiver ports when no cable is connected. Avoid exposure to laser radiation and do not stare into open apertures.

Warning: Building Supply Notice for AC Power Supply Use

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors).

Attention: Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du local. Vérifier qu'un fusible ou qu'un disjoncteur de 120 V alt., 15 A U.S. maximum (240 V alt., 10 A international) est utilisé sur les conducteurs de phase (conducteurs de charge).

Warnung: Dieses Produkt ist darauf angewiesen, daß im Gebäude ein Kurzschluß- bzw. Überstromschutz installiert ist. Stellen Sie sicher, daß eine Sicherung oder ein Unterbrecher von nicht mehr als 240 V Wechselstrom, 10 A (bzw. in den USA 120 V Wechselstrom, 15 A) an den Phasenleitern (allen stromführenden Leitern) verwendet wird.

Warning: Building Supply Notice for DC Power Supply Use

An external disconnect must be provided and be easily accessible. Force10 Networks recommends the use of a 60A circuit breaker.

ATTENTION: Un interrupteur externe doit être fournis et doit être facilement accessible. Force10 Networks recommande l'utilisation d'un disjoncteur de 60Ampères.

WARNUNG: Eine leicht zugängliche Tren Force10 Networks nvorrichtung muss in der Verdrahtung eingebaut sein. Force10 Networks empfiehlt einen 60A Sicherungsautomaten zu benutzen.

Caution: Wear grounding wrist straps when handling this equipment to avoid ESD damage.

Caution: Earthing (AKA grounding) connection essential before connecting supply. Always make the ground connection first and disconnect it last.

Caution: Disposal of this equipment should be handled according to all national laws and regulations. See Product Recycling and Disposal on page 45.

Caution: This unit has more than one power supply connection; all connections must be removed to remove all power from the unit.
ATTENTION: Cette unité est équipée de plusieurs raccordements d'alimentation. Pour supprimer tout courant électrique de l'unité, tous les cordons d'alimentation doivent être débranchés.

WARNUNG: Diese Einheit verfügt über mehr als einen Stromanschluß; um Strom gänzlich von der Einheit fernzuhalten, müssen alle Stromzufuhren abgetrennt sein.

Caution: Lithium Battery Notice
Danger of explosion if battery is replaced with incorrect type. Replace only with the same type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

ACHTUNG - Explosionsgefahr wenn die Battery in umgekehrter Polarität eingesetzt wird. Nur miteinem gleichen oder ähnlichen, vom Hersteller empfohlenen Typ, ersetzen. Verbrauchte Batterien müssen per den Instructionen des Herstellers verwertet werden.

ATTENTION - Il y a danger d'explosion s'il a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du meme type ou d'un type equivalent recommande par le constructeur. Mettre au rebut les batteries usagees conformement aux instructions du fabricant.

Note: Other cautionary statements appear in context elsewhere in this book.

Related Publications

The S25P can run on either FTOS or SFTOS. Depending on which software your S25P contains, refer to the following documents:

Table 2 Documentation

FTOS Documentation	SFTOS Documentation
FTOS Configuration Guide for the S-Series	*SFTOS Configuration Guide*
SFTOS Command Reference for the S-Series	*SFTOS Command Reference*
S-Series and FTOS Release Notes	*S-Series and SFTOS Release Notes*
	S25P Quick Reference

The FTOS and SFTOS *Documentation CD-ROM*s contain the S-Series hardware guides and the FTOS and SFTOS files listed above, respectively, except for the *Release Note*s. The CD-ROMs also have:

- **MIBs**: Files for all SNMP MIBs supported by the software
- **Data sheets**: Links to Force10 product data sheets
- **Security**: Description and supporting files for setting up SSH, SSL, and HTTPS access to the switch
- **Training**: PDF files of the slide shows used in training

Note: Documentation CD-ROMs do not have software. For the most recent documentation and software, please visit iSupport (registration for access to some sections is required):

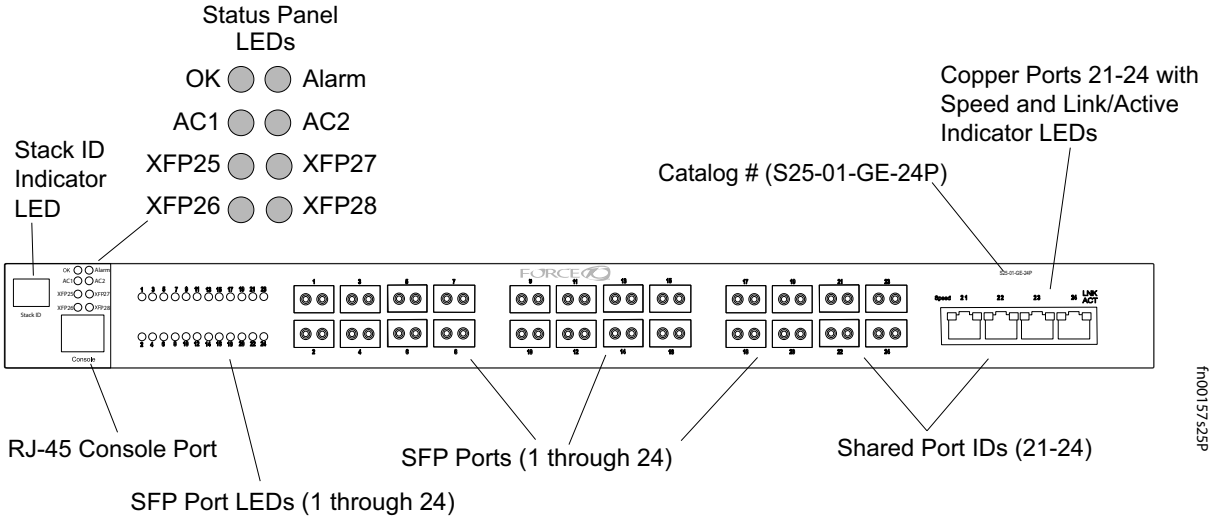
https://www.force10networks.com/CSPortal20/Main/SupportMain.aspx

The iSupport website also has a section for S-Series techtips and FAQs. For more information in this book on technical support, see Technical Support on page 39.

Chapter 1 S25P System Overview

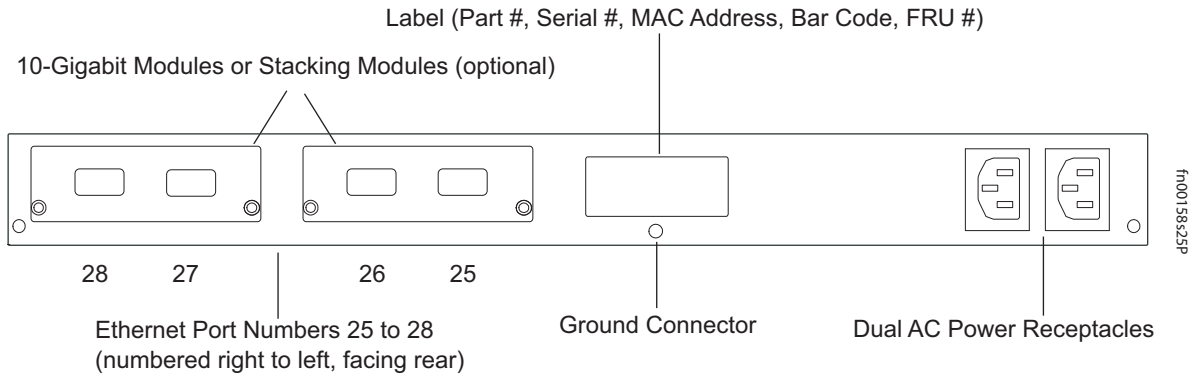
The Force10 Networks S25P (Cat# S25-01-GE-24P) is a high performance, low cost, stackable, Layer 2 switch/Layer 3 router that supports 24 SFP (small form-factor pluggable) ports, four built-in 10/100/1000 Base-T ports, and up to four 10-Gigabit (10GbE) ports (XFP or CX4), in two expansion slots. As highlighted in Figure 1, the front panel of the S25P contains a status panel that displays activity of the XFP ports in the rear panel (Figure 2). For stacking details, see Connecting Stack Ports (optional) on page 25.

Figure 1 The S25P (Front View)



Note: The LEDs labeled AC1 and AC2 are DC1 and DC2 on the **S25P-DC** (cat.# S25-01-GE-24P-DC).

Figure 2 The S25P (Rear View)



Note: For the back panel of the **S25P-DC**, see Figure 4 on page 15 and Supplying Power on page 27.

Equipment

The following items are necessary to install the S25P system:

- The switch
- At least one grounded AC power source per S25P
- One AC cable is included to connect the AC power source to the S25P (power cables are not supplied for the S25P-DC)
- Bracket ears for rack installation (supplied)
- Screws for rack installation (supplied) and #2 Phillips screwdriver (not supplied)

Other optional components are:

- Stacking cables for connecting S-Series switches in a stack
- Optical networking components (see Chapter 4, Installing Ports, on page 29)
- Stacking components (see Ports, below)

Features

- S25P CPU and switch processor
- 32MB internal Flash memory
- 256MB RAM
- Stackable switch features
- 19-inch rack-mountable
- Standard 1U chassis height
- Six built-in fans
- Two internal AC power supplies acting in load-sharing mode
- Up to 16384 MAC address entries supported with hardware-assisted aging
- Supports 9252-byte jumbo frames in FTOS, 9216-byte jumbo frames in SFTOS
- Back-pressure support at half-duplex, IEEE 802.3x flow control at full duplex
- Extensive LED system with per-port LEDs

Ports

- 24 SFP ports capable of using 100/1000 Base-T or 1000 Base-X using auto-media detect
- Four shared RJ45 10/100/1000 Base-T ports
- Console port (see Accessing the Console Port on page 29): Supplied with console cable (straight-through Ethernet copper cable) and terminal adapter (DB-9 to RJ-45)
- Two expansion slots that accept any combination of the following optional, high-capacity uplink modules:
  - 10GbE XFP (two ports)
  - 10GbE CX4 (two ports)
  - 12G Stacking (two ports)
  - 24G Stacking (one port)

  See Inserting Optional Modules (10-Gigabit or Stacking) on page 17 and Connecting Stack Ports (optional) on page 25.

System Status

S25P status can be derived in several ways, including physical LED displays and boot menu options, both discussed here, along with CLI **show** commands,and SNMP traps. For details on those options, see the *Command Reference* and *Configuration Guide* for your software (FTOS or SFTOS).

LED Displays

As shown in Figure 1, the S25P front panel contains several sets of LEDs:

- Stack ID: This is the LED at the far left of the front panel labeled “STACK ID”. See Stack ID in Table 3. For more on unit numbering, see Stacking on page 24.
- Status indicator LEDs on the left side of the front panel, described in Table 4.
- Each port has status indicator LEDs, described in Table 3.

Table 3 Port LED Displays

Feature	Description
10/100/1000 Port LED*	Speed LED (left side of each port) Green — A valid 1000Mbps link is established on this port. Amber — A valid 100Mbps link is established on this port. Off — No link or a valid 10Mbps link is established on this port. Link/Active LED (right side of each port) Green — Link up on this port Blinking Green — Activity, transmitting, or receiving packet at this port Off — No link detected at this port
SFP Port LED*	Link/Activity LED Green — A valid 1000Mbps link is established on this port. Blinking Green — Activity, transmitting or receiving packet in link up state Solid Amber– A valid 100Mbps link is established on this port. Blinking Amber – Activity, transmitting, or receiving packet in link up, 100Mbps state. Off — No link detected at this port
XFP Port LED	Link/Activity LED (Each XFP port has a status LED on the module and in the Status Display at the left front of the switch) Green — Link up on this port Blinking Green — Activity, transmitting or receiving packet in link up state Off — No Link detected at this port

* The LEDs for a 10/100/1000 copper port (numbered 21 through 24) are inactive if the shared SFP port (also labeled 21 through 24) is enabled.

Note: As suggested by the footnote above, the fiber SFP ports have priority over the four 10/100/1000 ports with the same number.

The following table describes the LED status indicators on the left side of the front panel.

Table 4 Status Panel LED Display

Label	LED Color	Description
		Left Side of the Status Panel
OK	Green	Unit is online.
	Blinking Green	Unit is booting up (blinking rate is 16 Hz).
	Amber	Error during boot-up.
	Off	Unit is powered off.
AC1	Green	Power supply 1 is present and OK.
	Amber	Power supply 1 is present but failed (option).
	Off	Power supply 1 is not present.
XFP25*	Green	A valid 10G link is established on the port.
	Blinking Green	Transmitting or receiving packets on the port.
	Off	No link is established on the port.
XFP26*	Green	A valid 10G link is established on the port.
	Blinking Green	Transmitting or receiving packets on the port.
	Off	No link is established on the port.
Stack ID	Green	The 7-segment LED indicates the stack ID of this unit. Starting with FTOS 7.8.1.0: • "**A**" is displayed to the left of the stack ID if the unit is a standalone or master (management) unit. • "**B**" is displayed for a standby unit. • "**0**" continues to be displayed next to the stack ID, as before, for the other units.
		Right Side of the Status Panel
Alarm	Amber	Minor alarm: Fan or temperature is operating outside parameters.
	Red	Major alarm
	Off	No alarm
AC2	Green	Power supply 2 is present and OK.
	Amber	Power supply 2 is present but failed (option).
	Off	Power supply 2 is not present.
XFP27*	Green	A valid 10G link is established on the port.
	Blinking Green	Transmitting or receiving packets on the port.
	Off	No link is established on the port.
XFP28*	Green	A valid 10G link is established on the port.
	Blinking Green	Transmitting or receiving packets on the port.
	Off	No link is established on the port.

*Each of the four XFP LEDs on the front panel also indicate the status of a CX4 installed in the port.

Chapter 2 Site Preparation

This chapter describes requirements and procedures to install your S25P system, in the following topics:

For detailed S25P specifications, refer to Chapter 5, S25P Specifications, on page 33.

Note: Install the S25P into a rack or cabinet before installing any optional components.

Site Selection

Make sure that the area where you install your S25P chassis meets the following safety requirements:

- Near an adequate power source. Connect the system to the appropriate branch circuit protection as defined by your local electrical codes.
- Ambient temperature between 32° – 122°F (0° – 40°C).
- Relative humidity that does not exceed 85% non-condensing.
- In a dry, clean, well-ventilated and temperature-controlled room, away from heat sources such as hot air vents or direct sunlight.
- Away from sources of severe electromagnetic noise.
- Positioned in a rack, cabinet, or on a desktop with adequate space in the front, rear, and sides of the unit for proper ventilation, and access.

Cabinet Placement

The cabinet must meet the following criteria:

- Minimum cabinet size and airflow are according to the EIA standard.
- Minimum of 5 inches (12.7 cm) between the side intake and exhaust vents and the cabinet wall.

Rack Mounting

When you prepare your equipment rack, ensure that the rack is earth ground. The equipment rack must be grounded to the same ground point used by the power service in your area. The ground path must be permanent.

Fans and Airflow

Ventilation is side-to-side, with six fans on the left side of the switch that operate at a constant speed. For proper ventilation, position the S25P chassis in an equipment rack (or cabinet) with a minimum of five inches (12.7 cm) of clearance around the side intake and exhaust vents. When two S25P systems are installed side by side, position the two S25P chassis at least 5 inches (12.7 cm) apart to permit proper airflow. The acceptable ambient temperature ranges are listed in Environmental Parameters on page 33.

As listed in Table 4, “Status Panel LED Display,” on page 12, the front panel of the S25P has an Alarm status LED, which is green when the switch is operating within required temperature parameters and all components are operating normally, including fans. The LED is amber when the temperature or components are outside expected parameters, red in a major alarm.

SFTOS logs a temperature warning message when a temperature of 77 degrees C is reached, and logs another message when the temperature returns to normal. The Command Line Interface (CLI) also reports an alarm.

Use the **show logging** command to see the log messages. For details, see the System Logs chapters of the *SFTOS Command Reference* and *SFTOS Configuration Guide*.

In a stack, each unit has its own temperature monitoring and control. Status logging is identified by unit in the system log.

Fan replacement in the field is not offered as an option.

Power

The S25P comes standard with two AC power supplies acting in load-sharing mode; see Figure 2 on page 9. Use the power cords shipped with the S25P to connect it to AC power outlets, ideally on separate circuits. Several versions of the power cord are available, based on country requirements.

Caution: The power supply cord is used as the main disconnect device; ensure that the socket-outlet is located/installed near the equipment and is easily accessible.

S25P-DC

As shown below, the right side (as you face the back of the unit) of the S25P-DC contains two terminal blocks for two DC power supply inputs acting in load-sharing mode. The left terminal block, as you face the back, corresponds to the DC2 status LED on the front left of the switch; DC1 is on the right.

Figure 3 The S50N-DC Rear View

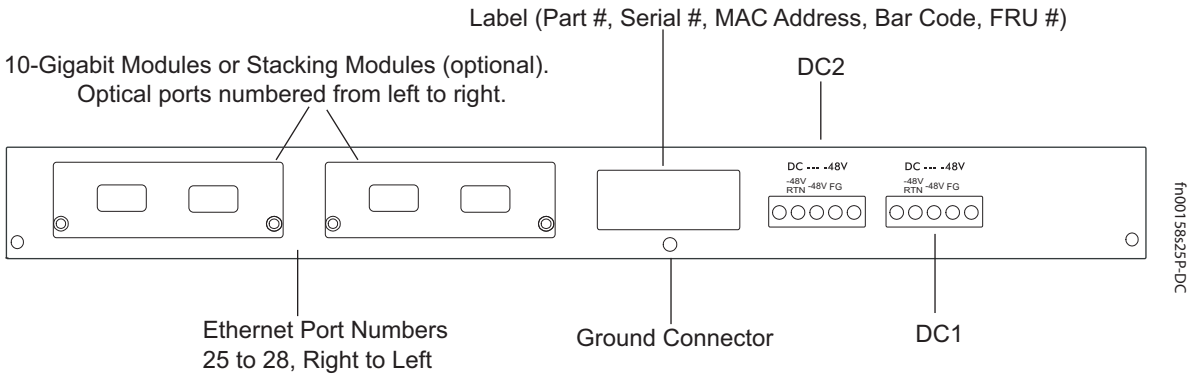


Figure 4 The S50N-DC Rear View

For details on connecting to a power source, see Supplying Power on page 27.

Storing Components

If you do not install your system and components immediately, Force10 Networks recommends that you properly store the S25P and all optional components until you are ready to install them. Follow these storage guidelines:

- Storage temperature should remain constant, in the range from -40° to 158° F (-40°C to 70° C).
- Storage humidity should be within 10 to 90% (relative humidity), non-condensing
- Store on a dry surface or floor, away from direct sunlight, heat, and air conditioning ducts.
- Store in a dust-free environment.

Tools Required

S-Series switches are shipped fully assembled, encased in foam. A utility knife is useful for cutting the packing tape, and a Philips #2 screwdriver is required for attaching rack screws, and is also used for making some attachments, including DC cables and rear cover plates.

Warning: Electrostatic discharge (ESD) damage can occur when components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the S25P and its accessories. After you remove the original packaging, place the S25P and its components on an antistatic surface.

Chapter 3 Installing the S25P

To install the S25P system, Force10 Networks recommends that you complete the installation procedures in the order presented in this chapter:

- Inserting Optional Modules (10-Gigabit or Stacking)
- Installing the Switch on a Tabletop on page 19
- Installing the Switch in a Rack or Cabinet on page 19
- Stacking on page 24
- Supplying Power on page 27
  - S25P-DC on page 28

Warning: As with all electrical devices of this type, take all the necessary safety precautions to prevent injury when installing this system. Electrostatic discharge (ESD) damage can occur if components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the S25P and its components.

Inserting Optional Modules (10-Gigabit or Stacking)

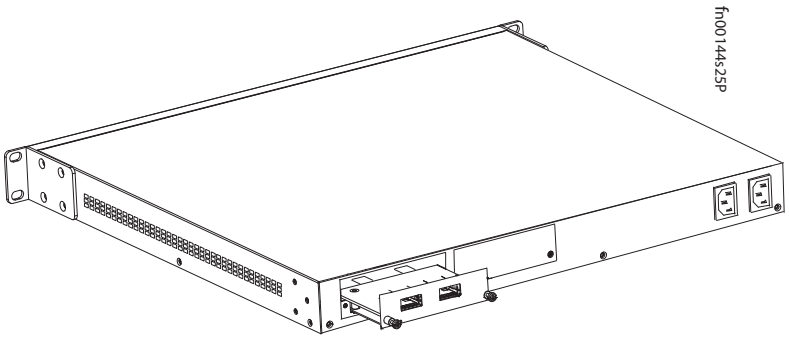
The S25P (catalog name S25-01-GE-24P) has two expansion slots in the back of the chassis, for which there are four modules available:

Module Description	Catalog Name
2-port 10GbE XFP (optical connection)	S50-01-10GE-2P
2-port 10GbE CX4 (copper connection)	S50-01-10GE-2C
2-port 12GbE Stacking	S50-01-12G-2S
1-port 24GbE Stacking	S50-01-24G-1S

The system supports inserting the modules in any combination of slots (although connecting all four ports of two 12G stacking modules is not supported, nor is connecting one kind of stack port to anything other than the same kind of stack port). The ports are numbered 25 through 28, from left to right as you face the front of the chassis. So, for clarity in the use of the CLI in port assignment, if you are only using one XFP or CX4 module, insert it in the left-most expansion slot.

Note: The 10G modules cannot be used for stacking. See Connecting Stack Ports (optional) on page 25.

To install a module, follow the steps below:

Step	Task
1	If the switch is on, save the running configuration, if desired (and different from the startup configuration) with the command **write memory**. Then power down the system by unplugging it from its power source. **Caution:** Removing a module from a running system will lock up the switch, requiring a power cycle.
2	Use a #2 Phillips screwdriver to remove either a module faceplate or an existing module. Note that these slots, when used for 10G Ethernet ports, are assigned port numbers from left to right as you face the front of the switch. So, for clarity in programming ports, you might favor using the left-most slot for the first 10G module.
3	Grasping the module faceplate, remove the module from its packaging and slide it into the slot until the module faceplate is flush with the switch. **Figure 5** Inserting Rear Module 
4	Secure the captive screws on either side of the module.
5	The optical XFP 10-Gigabit module (catalog name S50-01-10GE-2P) requires additional XFP transceiver inserts, which are not included in the module kit (see Installing XFPs on page 32) or the installation instructions that come with the transceiver). The CX4 module (catalog name S50-01-10GE-2C) ports do not require inserts. **Caution:** You can connect a CX4 cable to an XFP port through a CX4 XFP converter (catalog number GP- XFP-1CX4) in the slot. However, an XFP port does not support the use of the **cx4-cable-length** command, discussed next. If you are installing a CX4 module, and you are connecting the ports with a cable substantially shorter or longer than 5m, use the **cx4-cable-length** command to set the signal strength. Use **cx4-cable-length long** for a longer cable, **cx4-cable-length short** for a shorter cable. For details, see the *Command Reference* for your software. **Note:** Take care not to connect CX4 ports to 12G stack ports in the switch. The receptacles and cables are the same, but they are incompatible. CX4 ports are labeled as such; stack ports are not labeled. You can order several cable lengths of each type; they are not part of the module kit. For details, see *Using CX4 Cables* (CX4 Cable Matrix) in the S-Series tech tips on iSupport: https://www.force10networks.com/CSPortal20/KnowledgeBase/ToolTipsSSeries.aspx For details on enabling ports, see the *Configuration Guide* for your software.

Installing the Switch on a Tabletop

The S25P can be positioned on a stable tabletop. Four rubber standoffs are provided for that purpose in the plastic bag in the switch shipping box. Keep the following in mind when using a tabletop for your S25P:

- Ensure that your tabletop is stable and can handle the weight of the S25P or a stack of switches, if that is the case, along with any added external power supplies.
- Position the table for proper ventilation and easy access to separate power outlets for each device.

Installing the Switch in a Rack or Cabinet

The S25P provides three rack-mounting methods:

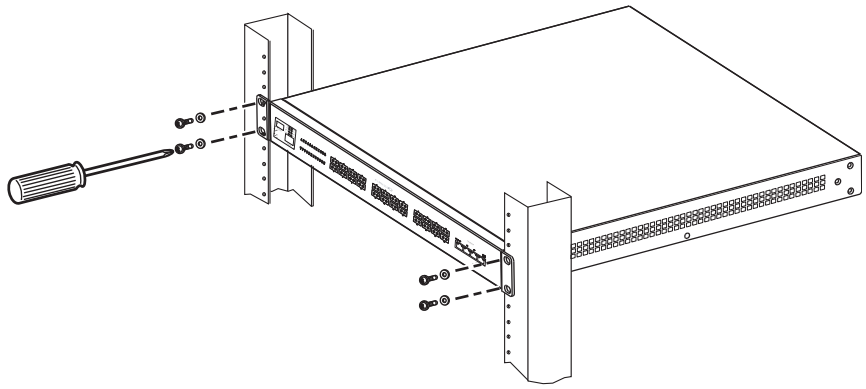
- Two-Post Rack Mounting
- Four-Post Rack-mounting with Threaded Rails
- Four-Post Rack-mounting with Cage Nuts

Two-Post Rack Mounting

The S25P is shipped with the universal front-mounting brackets (rack ears) attached. Ensure that there is adequate clearance surrounding the rack to permit access and airflow. If you are installing two S25P switches side-by-side, position the two chassis at least 5 inches (12.7 cm) apart to permit proper airflow.

Position the chassis in the rack. Secure the chassis with two of the supplied screws through each bracket and onto the rack post.

Figure 6 S25P Two-post (Front-mounted) Rack-mounting

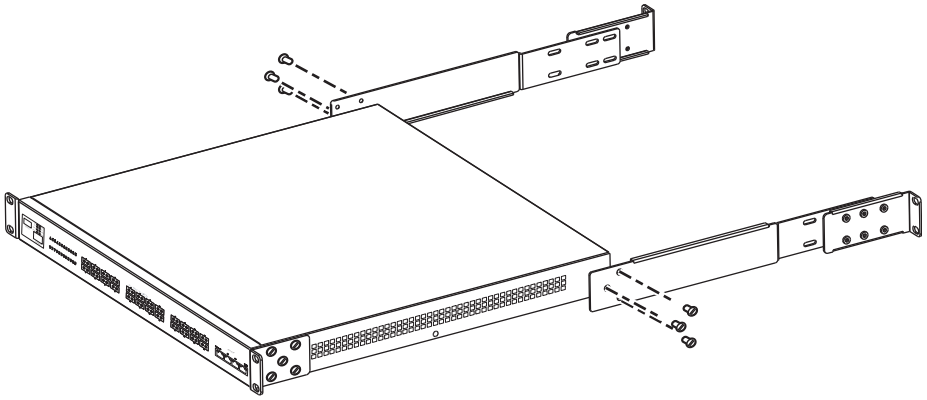


Four-Post Rack-mounting with Threaded Rails

Ensure that there is adequate clearance surrounding the cabinet or rack to permit access and airflow. If you are installing two S25P switches side-by-side, position the two S25P chassis at least 5 inches (12.7 cm) apart to permit proper airflow. Follow the steps below to install a switch into a 4-post 19-inch equipment rack, using the attached front mounting brackets and the optional adjustable rear-mounting brackets.

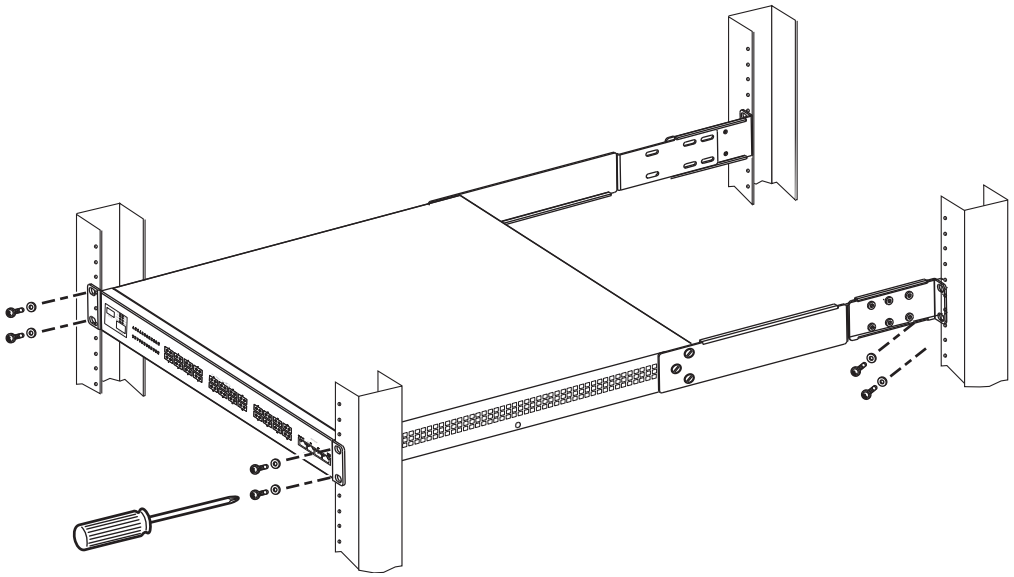
Step	Task
1	Align the three screw holes of the adjustable rear mounting bracket with the three holes in the S25P chassis, and secure the mounting bracket with three screws.

Figure 7 Four-Post Rack-mounting with Threaded Rails



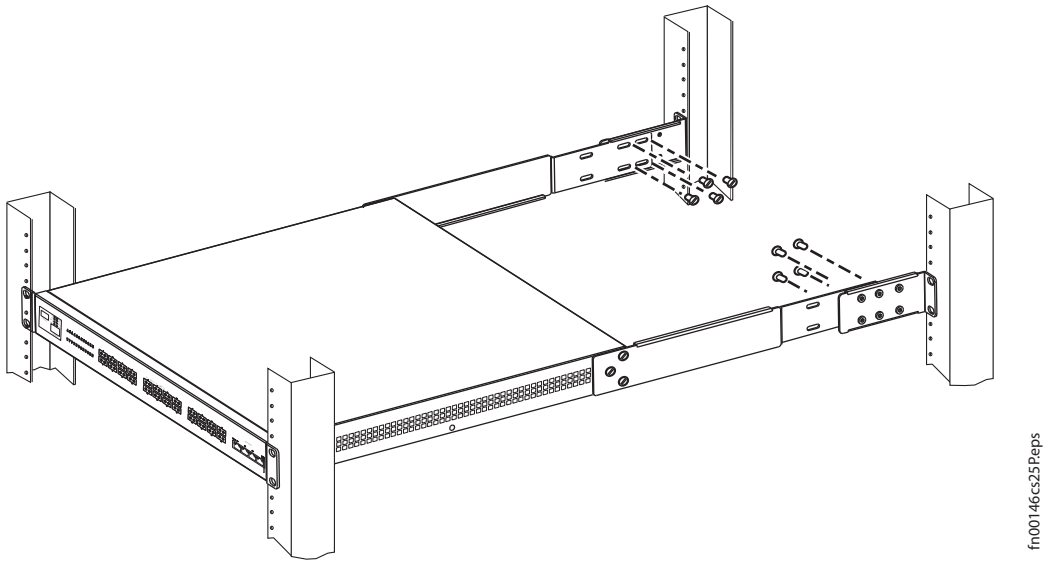
2	Insert the S25P into the rack, and secure the chassis to the front post with two screws. Then secure the chassis to the rear posts with two screws.

Figure 8 Four-Post Rack-mounting with Threaded Rails .



Step	Task
3	Set the adjustable rear mounting bracket to the length (one of three lengths) for your bracket. Secure the length with the four screws.

Figure 9 Four-post Rack-mounting with Threaded Rails .

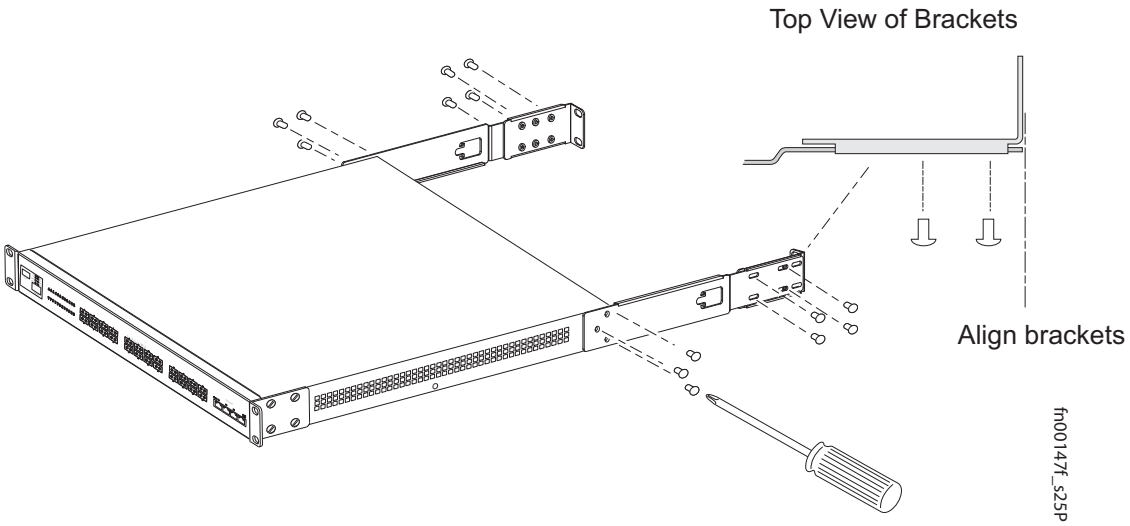


Four-Post Rack-mounting with Cage Nuts

Ensure that there is adequate clearance surrounding the cabinet or rack to permit access and airflow. If you are installing two S25P systems side-by-side, position them at least 5 inches (12.7 cm) apart. Follow the steps below to install the S25P chassis into a four-post rack mounting with cage nuts.

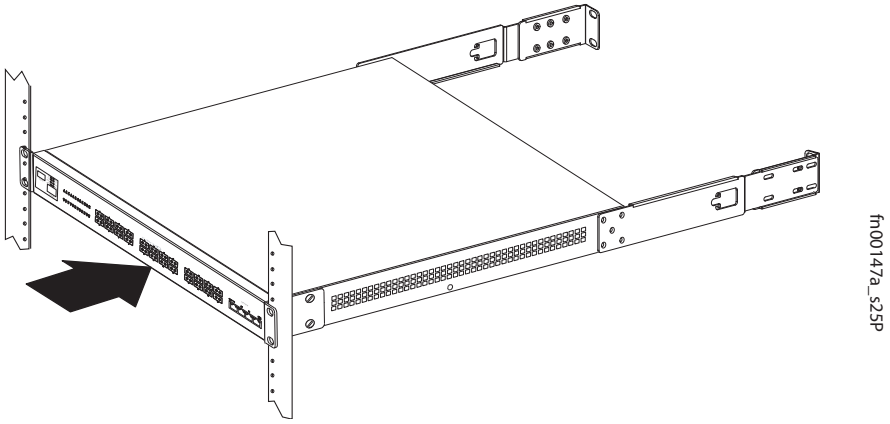
Step	Task
1	Attach the two rear brackets to the side panels. Align the three holes in the bracket with the three holes on the S25P chassis, and secure the brackets to the chassis using the screws.

Figure 10 Four-Post Rack-mounting with Cage Nuts



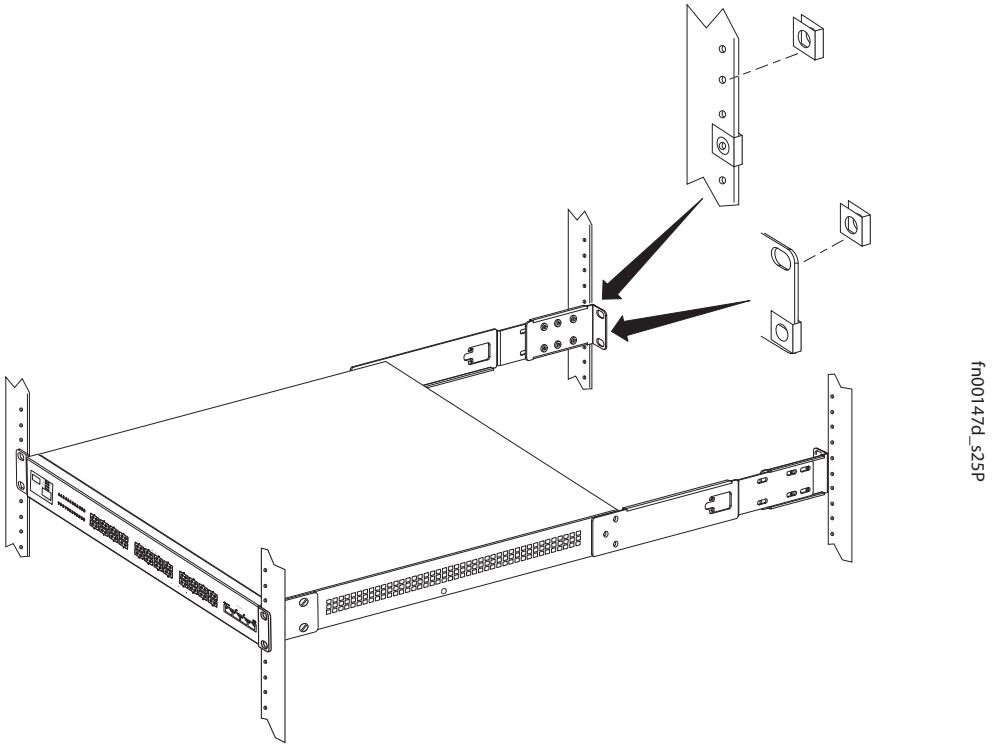
2	Align and secure the adjustable bracket onto the rear bracket.
3	Insert the S25P chassis into the rear of the rack. Position and secure the chassis with two screws into each front bracket flange and into the rack post.

Figure 11 Four-Post Rack-mounting with Cage Nuts



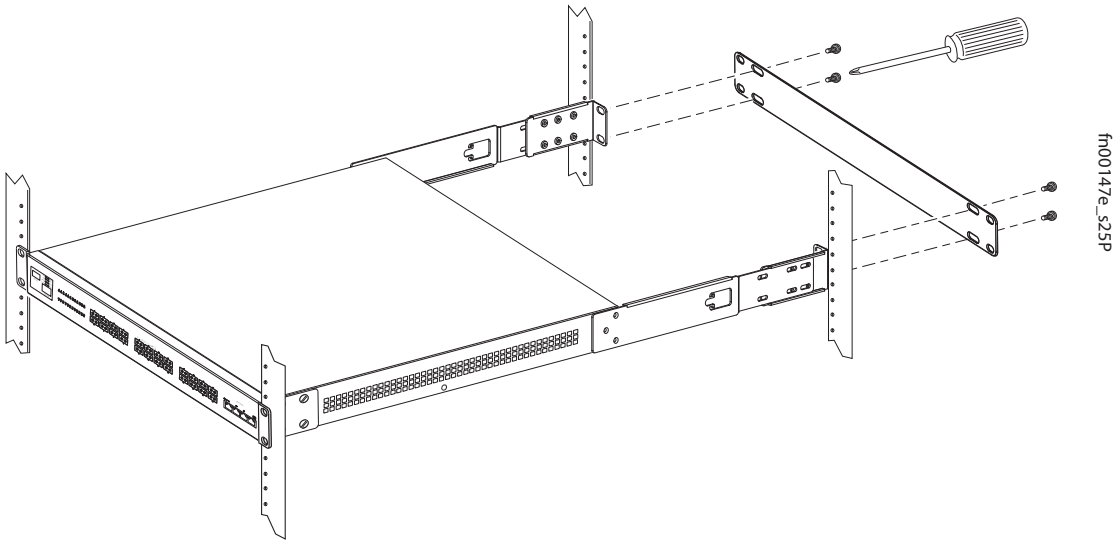
Step	Task
4	Position the cage nuts over the holes on each bracket flange and each rack post.

Figure 12 Four-Post Rack-mounting with Cage Nuts



5	Align the rack filler panel to the rear bracket and rack posts. Secure by inserting two screws into the hole in the filler panel through to the holes in the rack post.

Figure 13 Four-Post Rack-mounting with Cage Nuts



Stacking

You can add units to a stack, remove them, renumber them, or move them in the stack. The units can continue running in the stack as you add new units, but new units should be powered down during the connection.

All units in a stack must run the same version of FTOS. If you attempt to attach a unit with a different FTOS version to an existing stack, the CLI will display an error, and the unit will not be added until you install identical software.

The order in which the units come on-line or are added to or removed from the stack can affect how the stack identifies them, and how the units identify themselves, influencing unit numbers, stack management assignment, and other elements of the configuration file.

How units are identified within the stack is determined by the identification algorithm. The algorithm has the units self-identify as Unit 1 through Unit [last] based on the order in which they come online. So, when setting up a new stack, you should have no trouble forcing the identification of the management unit and unit IDs by methodically supplying power to the units in your preferred sequence.

Similarly, when you add a brand new unit to the stack, the unit will be gracefully added as Unit [last] (the lowest unused number) with the current configuration.

If you have a pre-configured unit to add to the stack, but you want to make sure that the configuration does not override the configuration of the stack, it is best to add the unit while it is powered down, in order to avoid stack management conflicts.

Using SFTOS Stacking Commands

If the switch is running SFTOS, the commands available to manage stacking are described in the Stacking chapters of the *SFTOS Command Reference* and the *SFTOS Configuration Guide*.

You can execute **clear config** on the switch to start a clean configuration. Then pre-configure it, as recommended in Best Practices in the Stacking chapter of the *SFTOS Configuration Guide.*

You can use the SFTOS CLI to make stack identification changes on the fly:

- Renumber units: **switch renumber**
- Assign a new management unit: **movemanagement**
- Remove a unit from stack membership: **no member**

You can also use commands such as **switch priority** and **member** that override the default unit identification algorithms.

Use the **show switch** command to see the current assignment of the management unit.
Use the **show switch** *unit* command to see the serial number of the designated unit.

For details on and other stacking commands, see the Stacking chapter in the *SFTOS Configuration Guide* and the Stacking Commands chapter in the *SFTOS Command Reference.*

Using FTOS Stacking Commands

While the S-Series hardware has built-in stacking controls, you can use FTOS to manage stacking, such as assign unit IDs, influence the management unit (master unit) selection algorithm, pre-configure a unit to be added to a stack, etc. The following commands provide a sample of that functionality:

- Use the **stack-unit** *unit* **priority** *1-14* command to configure the ability of an S-Series switch to become the management unit of a stack.
- Use the **stack-unit** *unit* **provision** {**S25N**|**S25P**|**S25V**|**S50N**|**S50V**} command on the management unit to pre-configure a stacking ID of a switch that will join the stack.
- Use the **stack-unit** *unit* **renumber** *unit* command to renumber a standalone S-Series or any stack member.
- Use the **show system brief** command to see the current assignment of the management unit.
- Use the **show system stack-unit** *unit* command to see the serial number of the designated unit and other system details.
- Use the **show system stack-ports** command to see the stacking topology and status.

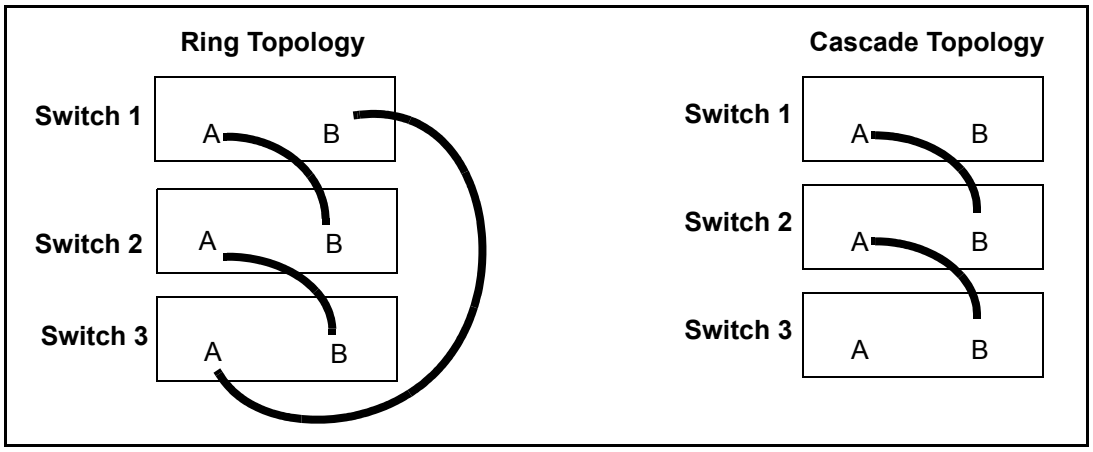
For details on using FTOS to remove a unit from a stack or use other stacking commands, see the Stacking Commands chapter in the *FTOS Command Reference* and the S-Series Stacking chapter in the *FTOS Configuration Guide*.

Connecting Stack Ports (optional)

The S25P contains two expansion slots in the rear, in either of which you can insert stacking modules for converting the switch into a virtual slot in a single virtual switch, comprised of any S-Series model running the same software. The S25P system includes two optional choices in stacking modules — a single-port 24G module and a two-port (12G each) module. You cannot interconnect the two types. If you use single-port 24G modules, you can insert one in each expansion slot to accomplish the ring topology (see Figure 15).

You can connect the S-Series while they are powered down or up. You can use either a ring topology or cascade topology connection (see Figure 14). Use the special stacking cables to connect them. Force10 recommends that you mount the switches before you make your stack port connections.

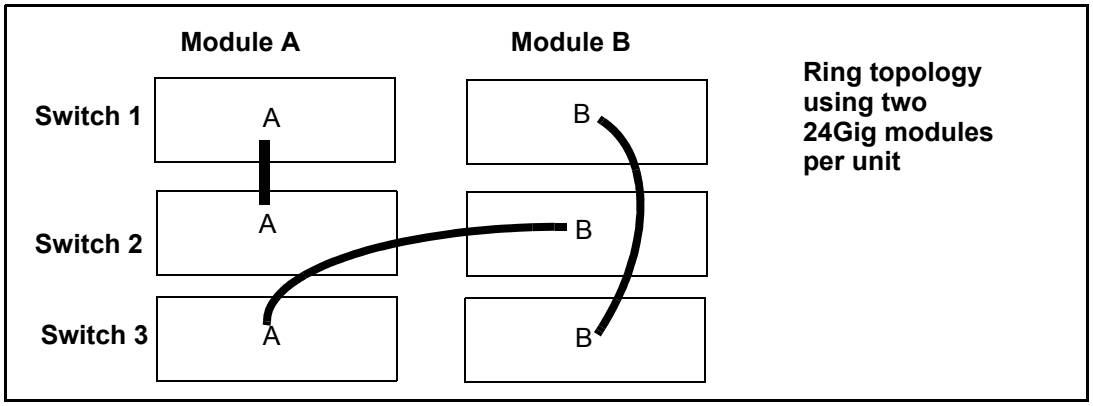
Figure 14 Switch Stacking Topologies (showing dual-port modules)



While the diagram, above, shows A-B port connections, the ports are bi-directional, so you can connect A to A and/or B to B, as shown below in examples of two-switch (Figure 16 on page 26) and three-switch (Figure 17 on page 27) ring topologies.

Figure 15 shows the use of 24G stacking ports in each of the two rear modules to create a ring. Of course, this topology does not allow the use of the rear modules for XFP ports. A cascade topology, removing the stack port modules in the B slots of switches 1 and 2, would free those slots for use by XFP modules.

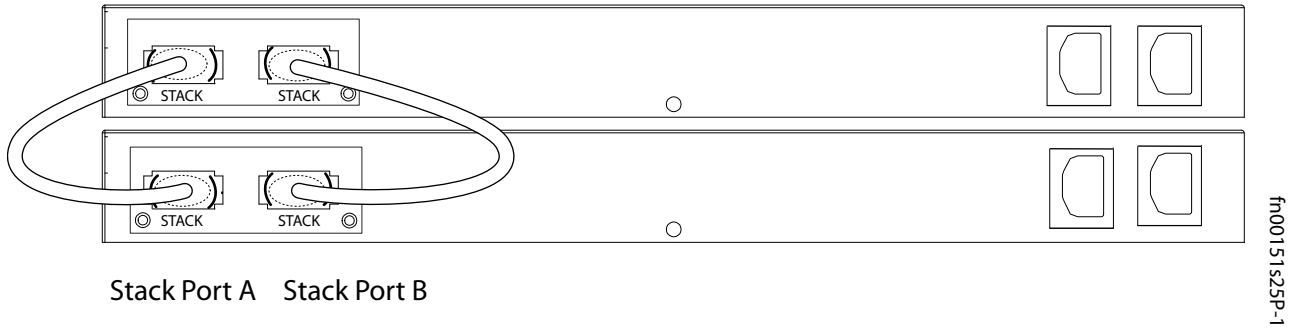
Figure 15 Stacking Topology Using 24G Single-port Modules



Connecting Two Switches

Insert one end of the special stacking cable into a stack port, and insert the other end into a stack port of the adjacent switch. Optionally, insert a second cable into the other open stack port, as shown in Figure 14. The second cable provides both backup connectivity and increased data transfer between the units.

Figure 16 Stack Ports of Two S25P Switches Connected in a Ring



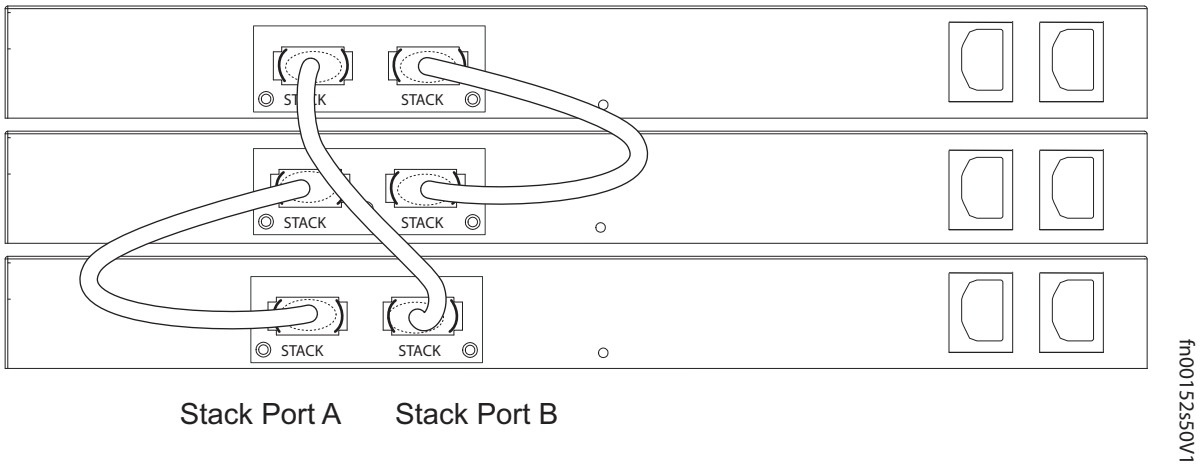
Note: These diagrams and instructions use “Stack Port A” and “Stack Port B” for clarifying the connections, but the modules are not labeled.

Connecting Three Switches

Force10 recommends the ring topology, as outlined above (Figure 14 on page 25), for stacking S-Series switches, providing redundant connectivity. Using the example of three switches in the stack (Figure 16):

1. Starting with the switch at the bottom of the stack, insert one end of the first cable into Stack Port A.
2. Insert the other end of the first cable into Stack Port A of the middle switch.
3. Insert the second cable into Stack Port B of the middle and top switches.
4. Connect the remaining cable to the top and bottom switches by inserting one end of the cable into the open Stack Port B of the bottom switch and the other end of the cable into Stack Port A of the top switch.

Figure 17 S25P Rear View Showing Ring Topology Stacking



Supplying Power

Supply power to the units in a stack only after they are mounted and the stack ports are connected. There is no on/off switch, and the stack members partly determine the stack management unit from the order in which they come online (see below).

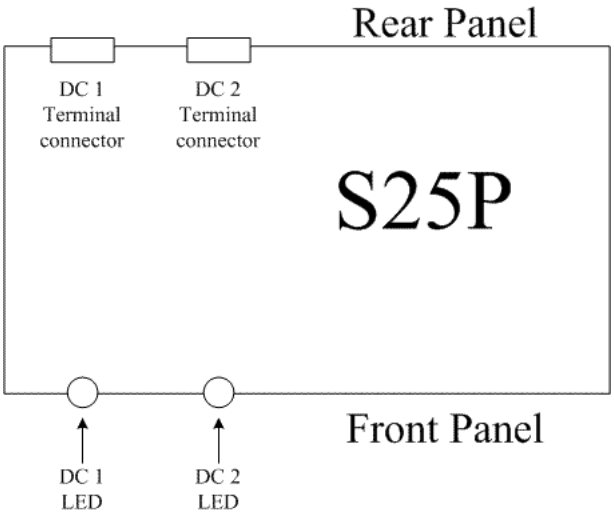
Danger: To prevent electrical shock, make sure the switch is grounded properly. If you do not ground your equipment correctly, excessive emissions can result. Use a qualified electrician to ensure that the power cables meet your local electrical requirements. See other relevant cautions in Information Symbols and Warnings on page 5.

The S25P switch has two AC receptacles in the rear of the chassis (see Figure 2 on page 9). The system can use either power source independently, or act in load-sharing mode. Failover is hitless.

Connect the supplied AC power cord first to either receptacle of the S25P (on the right as you face the rear of the chassis) and then to the power source (see Power Requirements on page 34). Ensure that the cord is secure. If you connect both AC power supplies, ideally you would connect them to separate circuits.

S25P-DC

As shown below (see also Figure 4 on page 15), the S25P-DC (cat. name S25-01-GE-24P-DC) has two DC terminal blocks on the left side (as you face the front of the switch). The terminal block on the left corresponds to the DC1 status LED on the front left of the switch; DC2 is on the right.



You must provide your own cables to connect to the power source. Cables must be sized for 11.5 A service at -48VDC input (per NEC in the United States. Internationally, follow local safety codes.) Before you make the cable connections, apply a coat of antioxidant paste to unplated metal contact surfaces. File unplated connectors, braided straps, and bus bars to a shiny finish.

1. Make sure that the remote power source (the circuit breaker panel) is in the OFF position.
2. Remove the safety cover from the DC terminal block.
3. Connect the grounding cable to the FG terminal first, then connect the opposite end to the appropriate grounding point at your site to ensure an adequate chassis ground.
4. Connect the -48 V and -48 V RTN (Return) cables to the switch terminals and then to the remote power sources, ideally on separate circuit breakers.
5. Replace the safety covers on the DC terminal blocks.
6. If you are connecting both terminal blocks, do not supply power until both terminal blocks are connected. You can supply power to either one or both. The S25P-DC uses the power supplies in load-sharing mode and does not set a precedence for either power source. Failover is hitless.

Chapter 4 Installing Ports

This chapter contains these major sections:

- Accessing the Console Port
- Installing Optics on page 30
  - — Installing SFPs on page 31
  - — Installing XFPs on page 32

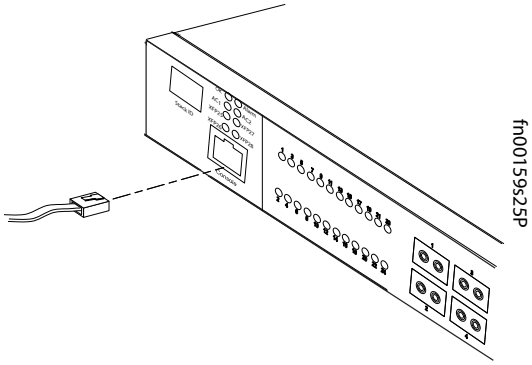
Accessing the Console Port

Connect the RJ-45/DB-9 adapter that is shipped with the S25P system to the RJ-45 cable.

Console port pinout:

Pin 1 = NC
Pin 2 = NC
Pin 3 = RXD
Pin 4 = GND
Pin 5 = GND
Pin 6 = TXD
Pin 7 = NC
Pin 8 = NC

Figure 18 Console Port of S25P



Set your initial console terminal settings to match the default console settings on the switch:

- 9600 baud rate
- No parity
- 8 data bits
- 1 stop bit
- No flow control (console port only)

After establishing a connection, you can modify the settings to match at each end of the connection.

To access the console port, use the following procedure.

Step	Task
1	Install the RJ-45 copper cable that is shipped with the S25P system into the console port.

Caution: You must install a straight-through RJ-45 copper cable (a standard Ethernet cable) into the console port. This is different from many other implementations that require an Ethernet crossover cable (or rollover cable). If connecting to a terminal server and using a crossover cable, daisychain another crossover cable to effectively get a straight-through cable connection. Many console terminal servers use octopus cables that are crossover cables. To accommodate the octopus cable, connect an additional crossover cable, as above, to effectively install a straight-through cable.

Step	Task (Continued)
2	If necessary, connect the RJ-45/DB-9 adapter that is shipped with the S25P system to the end of the RJ-45 cable that will connect to your terminal.
3	Verify your terminal default settings match the default settings, as listed above, on the console port:
4	If you use the console port to download software to the switch, you will probably want to raise the console baud rate. Establish a connection with the default settings to verify the connection. Then use the **lineconfig** command to access the Line Config mode, and use the **serial baudrate** command to raise the baud rate on the console port. (Match the settings in your terminal access program.)

If your system is running SFTOS, see the Getting Started chapter of the *SFTOS Configuration Guide* for other console port details, such as setting the console timeout.

Installing Optics

This section contains two subsections:

- Installing SFPs on page 31
- Installing XFPs on page 32

The S25N and S25V each have four receptacles at the right end of their faceplates that accommodate 10/100/1000 SFP optical transceivers.

On the back of the switches, there are two bays that accept either stacking modules or 10GbE modules (CX4 or XFP). A 10GbE module contains two ports. 10GbE modules should only be inserted or removed when the switch is powered down, as detailed in Inserting Optional Modules (10-Gigabit or Stacking) on page 19 in Chapter 3, Installing the Switch.

SFP and XFP transceivers can be inserted or removed while the switch is running.

Caution: Before connecting a transceiver to a source, check the receive power of the transceiver with an optical power meter. Generally, Force10 specified optics are **not** to be subjected to receive power higher than that stipulated by the optic specification. If the optic is exposed to optical power in excess of the specification, there is a high likelihood that it will be damaged.
Optical specifications for Force10 branded devices are at the following URL:
http://www.force10networks.com/products/mediaspecifications.asp

Force10 Networks offers various types of SFP and XFP transceivers. For details, see:
http://www.force10networks.com/products/specifications.asp

Installing SFPs

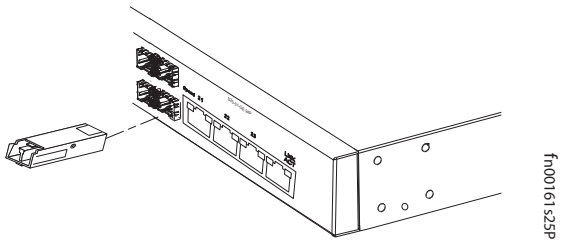
Note: Starting with FTOS 7.8.1.0, when a copper SFP2 module with catalog number GP-SFP2-1T is used in the S25P switch, the SFP speed can be manually set with the **speed** command. When the speed is set to 10 or 100 Mbps, the **duplex** command can also be executed.

To install an SFP transceiver into an open optical port at the right front of the switch, use the follow steps:

Warning: Electrostatic discharge (ESD) damage can occur if components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the S25P and its components.

Step	Task
1	Position the SFP so it is in the upright position. (The SFP has a key that prevents it from being inserted incorrectly.)
2	Insert the SFP into the port until it gently snaps into place.

Figure 19 Front View of S25P with SFP



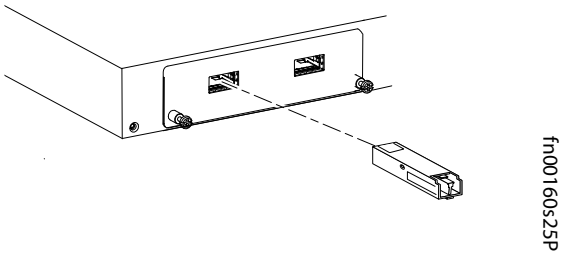
Installing XFPs

To install an XFP into one of the two ports in the optional 10GbE optical module (see Inserting Optional Modules (10-Gigabit or Stacking) on page 17) on the back of the switch, follow the procedure below:

Warning: Electrostatic discharge (ESD) damage can occur if components are mishandled. Always wear an ESD-preventive wrist or heel ground strap when handling the S25P and its components.
Warning: Do not look directly into any optical port. Failure to follow this warning could result in physical harm. For details, see Information Symbols and Warnings on page 5.

Step	Task
1	Position the XFP so it is in the upright position. (The XFP has a key that prevents it from being inserted incorrectly.)
2	Insert the XFP into the port until it gently snaps into place.

Figure 20 Rear View of S25P with XFP



Caution: You can insert and connect SFP and XFP transceivers while the switch is operating. You can also disconnect and remove the transceivers while the switch is operating. However, inserting or removing the XFP module is not supported; it can crash or lock up the switch, requiring a reboot.

Note: The CX4 module does not use transceivers. However, you can use a CX4 cable with an XFP port by inserting a CX4 XFP converter (catalog name GP- XFP-1CX4) into the slot. An XFP port does not support the use of the **cx4-cable-length** command. For details, see Inserting Optional Modules (10-Gigabit or Stacking) on page 17 in Chapter 3, Installing the S25P.

For enabling ports with FTOS, see the *FTOS Configuration Guide*.
With SFTOS, see the *SFTOS Configuration Guide* or the *S50V and S50N Quick Reference*.

Chapter 5 S25P Specifications

Chassis Physical Design

Parameter	Specifications
Weight (chassis weight with factory-installed components)	14.41 pounds (approx.) (6.54 kg)
Height	1.73 inches (4.4 cm)
Width	17.32 inches (44 cm) (19" rack-mountable)
Depth	16.73 inches (42.5 cm) (standard 1 rack unit – 1RU)
Rack clearance required	Front: 5-inches (12.7 cm) Rear: 5-inches (12.7 cm)

Environmental Parameters

Parameter	Specifications
Temperature	• Operating range: 32° to 122°F (0° to 50°C) • Non-operating (storage temperature): -40° to 158°F (-40° to 70°C)
Maximum Thermal Output	S25P: 305 BTU/Hour S25P-DC: 262 BTU/Hour
Maximum altitude	No performance degradation to 10,000 feet (3,048 meters)
Relative humidity	10 to 85% non-condensing (operating) 5 to 95% non-condensing (storage)
Shock	designed to meet MIL-STD-810
Vibration	Telcordia GR-63-CORE
ISO 7779 A-weighted sound pressure level	45.1 dBA at 73.4°F (23°C)

Power Requirements

Parameter	Specifications
Nominal Input Voltage	S25P: 90 – 254 VAC, 47/63 Hz S25P-DC: -48 VDC
Maximum Current Draw	S25P: 2 A @ 100/120 VAC; 1 A @ 200/240 VAC S25P-DC: 3.6 A @ -48 VDC
Minimum AC Current Draw	.25 A @ 254 VAC .56 A @ 90 VAC
Maximum Power Consumption	S25P: 90W S25P-DC: 77W

Note: S25P and S25P-DC switches contain a lithium battery. The switch contains no user-serviceable parts. For details on recycling the switch or any of its components, see Product Recycling and Disposal on page 36.

Agency Compliance

The S25P is designed to comply with the following safety and agency requirements.

USA Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designated to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy. If it is not installed and used in accordance to the instructions, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to take whatever measures necessary to correct the interference at their own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Force10 Networks is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications in the equipment. Unauthorized changes or modification could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Canadian Department of Communication Statement

Industry Canada Class A emission compliance statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

European Union EMC Directive Conformance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Force 10

Networks cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of this product, including the fitting of non-Force10 option cards.
This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment. .

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

European Community Contact
Force10 Networks, EMEA - Central
Dahlienweg 19
66265 Heusweiler
Germany
http://www.force10networks.com/german/
Tel: +49 172 6802630
Email: EMEA Central Sales

Japan: VCCI Compliance for Class A Equipment

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

This is Class A product based on the standard of the Voluntary Control Council For Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

Danger: AC Power cords are for use with Force10 Networks equipment only. Do not use Force10 Networks AC power cords with any unauthorized hardware.

本製品に同梱いたしております電源コードセットは、本製品専用です。本電源コードセットは、本製品以外の製品ならびに他の用途でご使用いただくことは出来ません。製品本体には同梱された電源コードセットを使用し、他製品の電源コードセットを使用しないで下さい。

Korea (MIC certification)

Korean Class A Warning Statement

이기기는 업무용으로 전자파 적합등록을 받은 기기이오니, 판매자 또는 사용자는 이점을 주의하시기 바라며, 만약 잘못 구입하셨을 때에는 구입한 곳에서 비업무용으로 교환하시기 바랍니다.

Safety Standards and Compliance Agency Certifications

- CUS UL (60950-1, 1st Edition)
- CSA 60950-1-03, 1st Edition
- IEC60950-1 1st Ed including all National Deviations and Group Differences
- EN 60950-1, 1st Edition
- EN 60825-1, 1st Edition
- EN 60825-1 Safety of Laser Products—Part 1: Equipment Classification Requirements and User's Guide
- EN 60825-2 Safety of Laser Products—Part 2: Safety of Optical Fibre Communication Systems
- FDA Regulation 21CFR 1040.10 and 1040.11

Electromagnetic Compatibility (EMC)

Emissions

- Australia/New Zealand: AS/NZS CISPR 22: 2006, Class A
- Canada: ICES-003, Issue-4, Class A
- Europe: EN55022 2006 (CISPR 22: 2006), Class A
- Japan: VCCI V3/ 2007.04 Class A
- USA: FCC CFR47 Part 15, Subpart B, Class A

Immunity

- EN 300 386 v1.3.3: 2005 EMC for Network Equipment
- EN 55024 1998 + A1: 2001 + A2: 2003
    - EN 61000-3-2 Harmonic Current Emissions
    - EN 61000-3-3 Voltage Fluctuations and Flicker
    - EN 61000-4-2 ESD
    - EN 61000-4-3 Radiated Immunity
    - EN 61000-4-4 EFT
    - EN 61000-4-5 Surge
    - EN 61000-4-6 Low Frequency Conducted Immunity

Product Recycling and Disposal

This switch must be recycled or discarded according to applicable local and national regulations. Force10 Networks encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Force10 offers a variety of product return programs and services in several countries to assist equipment owners in recycling their IT products.

Waste Electrical and Electronic Equipment (WEEE) Directive for Recovery, Recycle and Reuse of IT and Telecommunications Products

Force10 switches are labeled in accordance with European Directive 2002/96/EC concerning waste electrical and electronic equipment (WEEE). The Directive determines the framework for the return and recycling of used appliances as applicable throughout the European Union. This label, as shown in Figure 21 on page 37 is applied to various products to indicate that the product is not to be thrown away, but rather reclaimed upon end of life per this Directive.

Figure 21 The European WEEE symbol

In accordance with the European WEEE Directive, electrical and electronic equipment (EEE) is to be collected separately and to be reused, recycled, or recovered at end of life. Users of EEE with the WEEE marking per Annex IV of the WEEE Directive, as shown above, must not dispose of end of life EEE as unsorted municipal waste, but use the collection framework available to customers for the return, recycling and recovery of WEEE. Customer participation is important to minimize any potential effects of EEE on the environment and human health due to the potential presence of hazardous substances in EEE.

Force10 Networks products, which fall within the scope of the WEEE, are labeled with the crossed-out wheelie-bin symbol, as shown above, as required by WEEE.

For information on Force10 product recycling offerings, see the WEEE Recycling instructions on iSupport at: https://www.force10networks.com/CSPortal20/Support/WEEEandRecycling.pdf.
For more information, contact the Force10 Technical Assistance Center (TAC) (see Contacting the Technical Assistance Center on page 41).

Notice to Recyclers

To open the case:

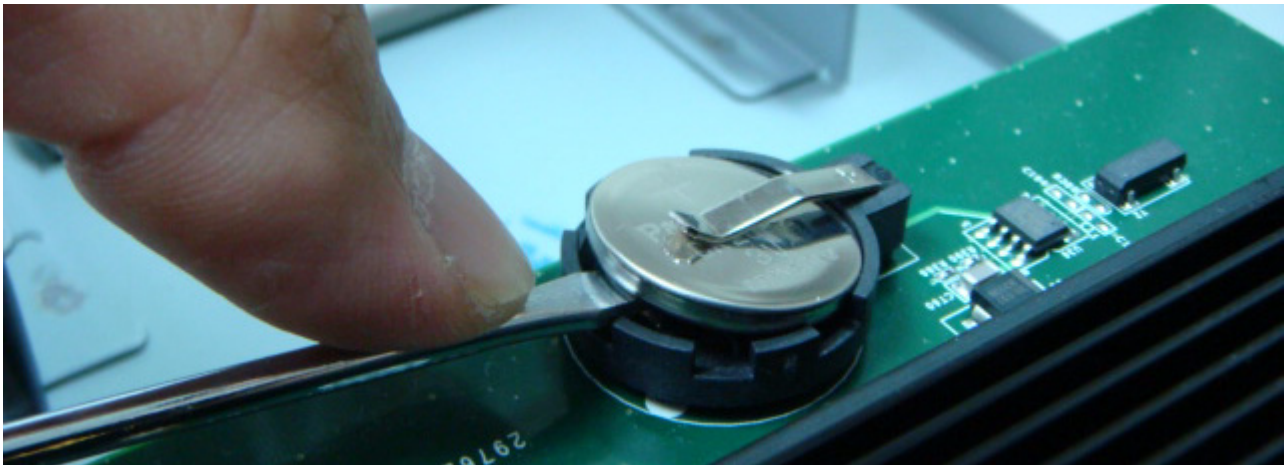
1 Remove the small phillips screws that connect the top to the body. There should be three evenly spaced across the rear and three evenly spaced along each side.

2 Slide the top backwards until its front flange slides free of the faceplate, then lift it off.

To remove the lithium closed-cell clock battery (clearly visible towards the right rear of switch):

1 Insert a small, flat screw driver blade under the battery and in one of the slots of the plastic retainer underneath the battery.

2 Lever the battery up against the coin cell clip (the hold-down lead on top of the battery) far enough to provide room for the battery to be lifted above the edge of its retainer, as shown in the photograph, below.



Batteries or packaging for batteries are labeled in accordance with European Directive 2006/66/EC concerning batteries and accumulators and waste batteries and accumulators. The Directive determines the framework for the return and recycling of used batteries and accumulators as applicable throughout the European Union. This label is applied to various batteries to indicate that the battery is not to be thrown away, but rather reclaimed upon end of life per this Directive.

In accordance with the European Directive 2006/66/EC, batteries and accumulators are labeled to indicate that they are to be collected separately and recycled at end of life. The label on the battery may also include a chemical symbol for the metal concerned in the battery (Pb for lead, Hg for mercury and Cd for cadmium). Users of batteries and accumulators must not dispose of batteries and accumulators as unsorted municipal waste, but use the collection framework available to customers for the return, recycling and treatment of batteries and accumulators.

Customer participation is important to minimize any potential effects of batteries and accumulators on the environment and human health due to the potential presence of hazardous substances. For proper collection and treatment, contact your local Force10 Networks representative.

Figure 22 The European WEEE symbol

For California:

Perchlorate Material — Special handling may apply.
See: http://www.dtsc.ca.gov/hazardouswaste/perchlorate

The foregoing notice is provided in accordance with California Code of Regulations Title 22, Division 4.5 Chapter 33. Best Management Practices for Perchlorate Materials.

Appendix A Technical Support

This appendix contains these major sections:

The iSupport Website

iSupport provides a range of documents and tools to assist you with effectively using Force10 equipment and mitigating the impact of network outages. Through iSupport you can obtain technical information regarding Force10 products, access to software upgrades and patches, and open and manage your Technical Assistance Center (TAC) cases. Force10 iSupport provides integrated, secure access to these services.

The i-Support website (see Figure 24, below) (http://www.force10networks.com/support/) contains a publicly available interface that includes access to techtips, white papers, and user manuals. After you get an account and log in, the available documentation expands to other types, including bug lists, error message decoder, release notes. You can even track your own Force10 inventory.

Once you are logged in, the following five tabs become available:

- **Home:** Summary of open cases, RMA management, and field notices
- **Service Request**: Case management
- **Software Center:** Software downloads, bug fixes, and bug tracking tool
- **Documents:** User documentation, FAQs, field notices, technical tips, and white papers
- **Support Programs:** Information on the suite of Force10 support and professional support services.

Figure 23 Support Policies section of iSupport

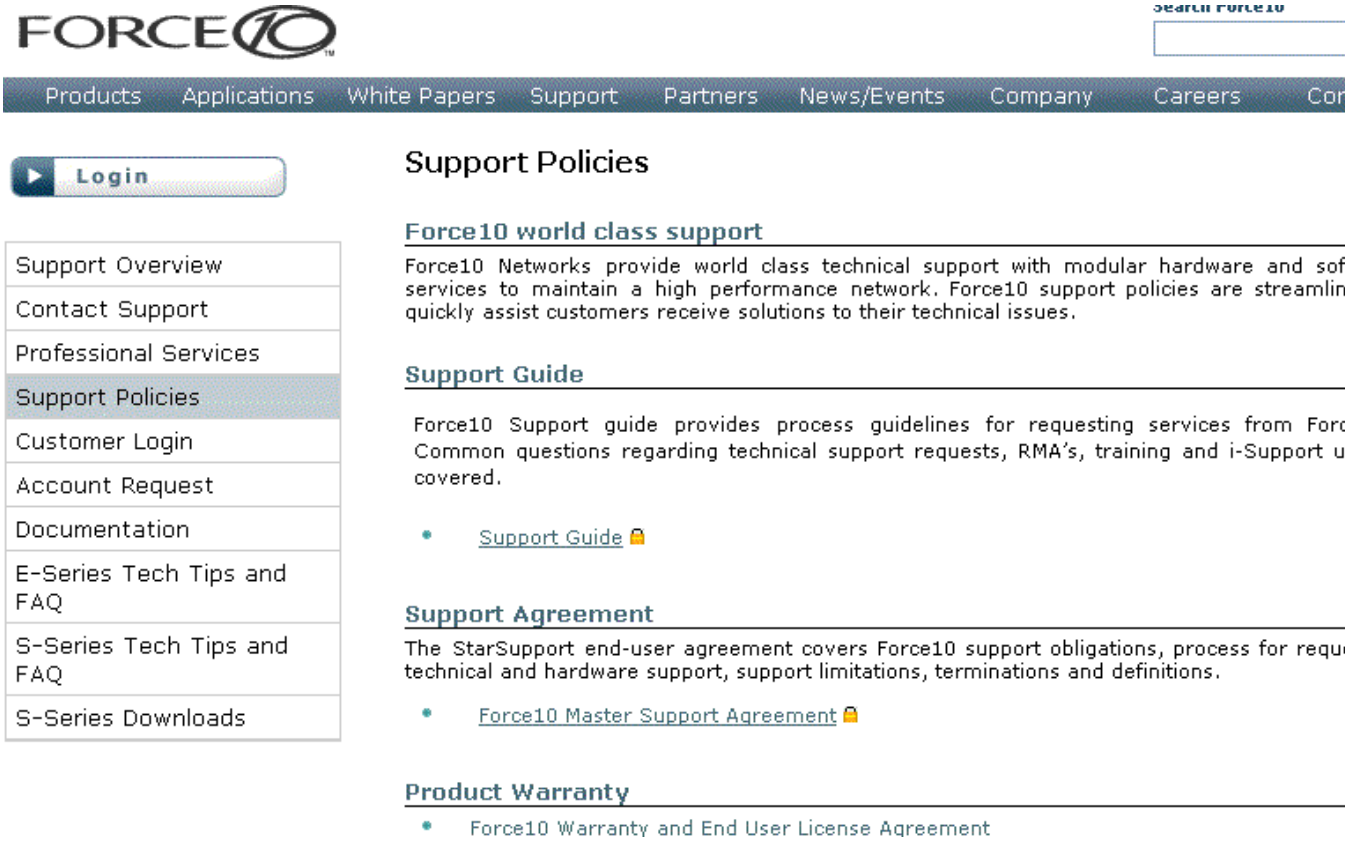


Figure 24 Support Policies section of iSupport

The screenshot above shows the Support Policies section of iSupport. The *Support Guide*, available on that page, details the types of information and services that you can access through iSupport and through various types of support contracts.

Accessing iSupport Services

The URL for iSupport is http://www.force10networks.com/support/. To access iSupport services you must have a userid and password. If you do not have one, you can request one at the website:

1. On the Force10 Networks iSupport page, click the **Account Request** link.
2. Fill out the User Account Request form, and click **Send**. You will receive your userid and password by E-Mail.
3. To access iSupport services, click the **LOGIN** link, and enter your userid and password.

Contacting the Technical Assistance Center

How to Contact Force10 TAC	Log in to iSupport at http://www.force10networks.com/support/, and select the **Service Request** tab.

Information to Submit When Opening a Support Case	• Your name, company name, phone number, and E-mail address
	• Preferred method of contact
	• Model number
	• Serial Number (see Locating Serial Numbers on page 42)
	• Software version number
	• Symptom description
	• Screen shots illustrating the symptom, including any error messages. These can include:
	  • Output from the **show tech-support** [**non-paged**] command (This report is very long, so the storage buffer in your terminal program should be set high.)
	  • Output from the **show logging eventlog** [*unit*] command, where *unit* is the stack ID of the member unit that experienced the failure (This report is included as a section in the output of **show tech-support**.)
	  • Console captures showing the error messages
	  • Console captures showing the troubleshooting steps taken
	  • Saved messages to a syslog server, if one is used

Managing Your Case	Log in to iSupport, and select the **Service Request** tab to view all open cases and RMAs.
Downloading Software Updates	Log in to iSupport, and select the **Software Center** tab.
Technical Documentation	Log in to iSupport, and select the **Documents** tab. This page can be accessed without logging in via the **Documentation** link on the iSupport page.
Contact Information	E-mail: support@force10networks.com Web: http://www.force10networks.com/support/ Telephone: US and Canada: 866.965.5800 International: 408.965.5800

Locating Serial Numbers

You can use the **show switch** *unit* command in the CLI to access the serial number of the designated switch (*unit* = stack ID). The serial number of the chassis is located on a sticker on the back of the chassis in the middle. The serial number is below the bar code and has 11 numbers (integers).

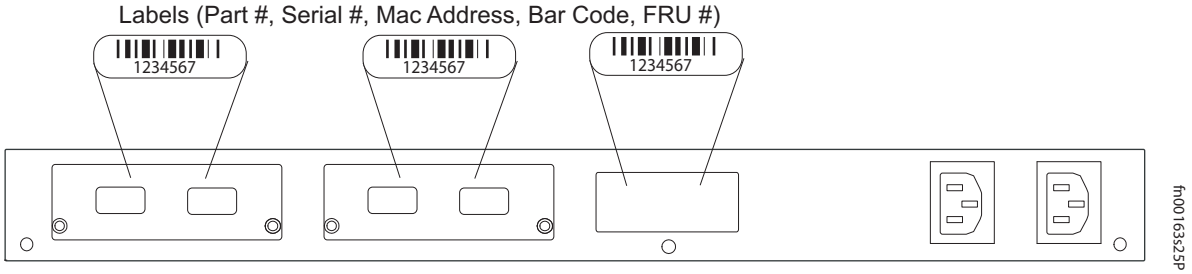


Figure 25 Serial Numbers on Back of Chassis

The serial numbers of the optional data modules (10G Ethernet and Stacking) are located on labels on their faces (some early-production modules have the PN on their baseboards). For serial numbers of the SFP optics, you can also access them through the CLI with either the **show hardware** or **show running-config** commands.

Requesting a Hardware Replacement

To request replacement hardware, follow these steps:

Step	Task
1	Determine the part number and serial number of the component. To list the numbers for all components installed in the chassis, use the **show hardware** command.

2	Request a Return Materials Authorization (RMA) number from TAC by opening a support case. Open a support case by:
	• Using the Create Service Request form on the iSupport page (see Contacting the Technical Assistance Center, above).
	• Contacting Force10 directly by E-mail or by phone (see Contacting the Technical Assistance Center, above). Provide the following information when using E-mail or phone:
	  • Part number, description, and serial number of the component.
	  • Your name, organization name, telephone number, fax number, and e-mail address.
	  • Shipping address for the replacement component, including a contact name, phone number, and e-mail address.
	  • A description of the failure, including log messages. This generally includes:
	  • Output from the **show tech-support** [**non-paged**] command (This report is very long, so the storage buffer in your terminal program should be set high.)
	  • Output from the **show logging eventlog** [*unit*] command, where *unit* is the stack ID of the member unit that experienced the failure (This report is included as a section in the output of **show tech-support**.)
	  • Console captures showing the error messages
	  • Console captures showing the troubleshooting steps taken
	  • Saved messages to a syslog server, if one is used

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