SLX 9740 Installation Guide Setup, Configuration, and Best Pratices

Setup, Configuration, and Best Practices

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September 2025

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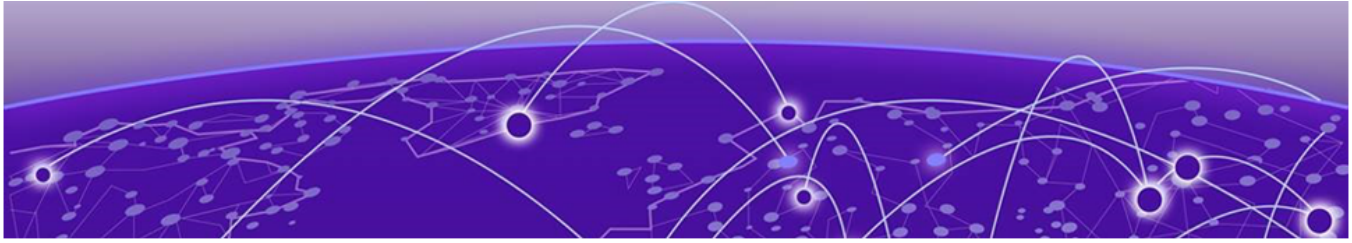

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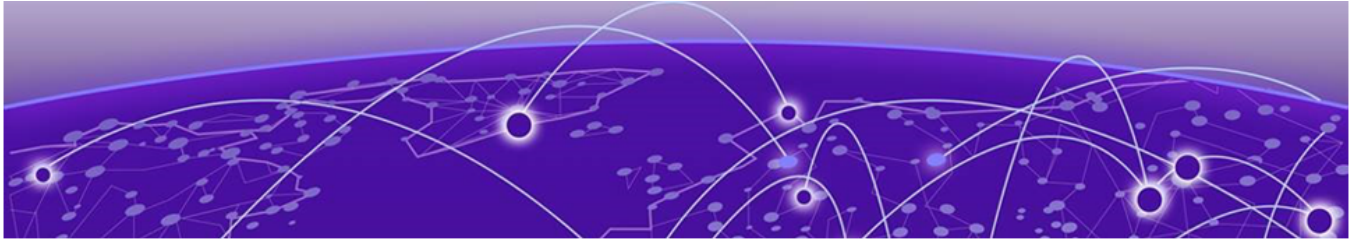

Abstract

This installation guide for the Extreme Networks SLX 9740-40C and SLX 9740-80C high-density fixed-form factor switch routers provides comprehensive setup, configuration, and maintenance procedures for carrier-class networking equipment. The SLX 9740-40C delivers 40 x 100GbE/40GbE QSFP28 ports while the SLX 9740-80C provides 80 x 100GbE/40GbE ports, both supporting 4.0-8.0 Tbps switch fabric capacity and breakout configurations for 10GbE/25GbE connectivity. The guide covers rack installation procedures for four-post and two-post configurations, hot-swappable power supply installation (1600W AC/DC options with front-to-back or back-to-front airflow), fan module replacement, and transceiver management. Key technical specifications include 600K MAC addresses, 4,096 VLANs, 128K IPv4 routes, operating temperatures from 0-40°C (front-to-back airflow) or 0-25°C (back-to-front airflow), and management via CLI, REST API, NETCONF, or SNMP interfaces. The documentation addresses environmental requirements, power specifications, cable management, troubleshooting procedures, LED status monitoring, and regulatory compliance standards for enterprise data center and service provider deployments requiring advanced MPLS, Carrier Ethernet, and VXLAN overlay capabilities.

Introduction to the SLX 9740 Installation Guide

This guide is intended for use by network administrators responsible for installing and setting up network equipment. It assumes a basic working knowledge of:

- Local area networks (LANs)
- Ethernet concepts
- Ethernet switching and bridging concepts
- Routing concepts
- Simple Network Management Protocol (SNMP)
- Basic equipment installation procedures

See the *Extreme SLX-OS Management Configuration Guide* and the *Extreme SLX-OS Command Reference* for your version of the SLX-OS operating system for information about configuring Extreme Networks devices.

Note
If the information in an installation note or release note shipped with your Extreme Networks equipment differs from the information in this guide, follow the installation or release note.

Read the following topics to learn about:

- The meanings of text formats used in this document.
- Where you can find additional information and help.
- How to reach us with questions and comments.

Text Conventions

Unless otherwise noted, information in this document applies to all supported environments for the products in question. Exceptions, like command keywords associated with a specific software version, are identified in the text.

When a feature, function, or operation pertains to a specific hardware product, the product name is used. When features, functions, and operations are the same across an entire product family, such as Extreme Networks switches or routers, the product is referred to as *the switch* or *the router*.

Table 1: Notes and warnings

Icon	Notice type	Alerts you to...
	Tip	Helpful tips and notices for using the product
	Note	Useful information or instructions
	Important	Important features or instructions
	Caution	Risk of personal injury, system damage, or loss of data
	Warning	Risk of severe personal injury

Table 2: Text

Convention	Description
`screen displays`	This typeface indicates command syntax, or represents information as it is displayed on the screen.
The words *enter* and *type*	When you see the word *enter* in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says *type*.
Key names	Key names are written in boldface, for example **Ctrl** or **Esc**. If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press **Ctrl**+**Alt**+**Del**
Words in italicized type	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles.
NEW!	New information. In a PDF, this is searchable text.

Table 3: Command syntax

Convention	Description
bold text	Bold text indicates command names, keywords, and command options.
italic text	Italic text indicates variable content.

Table 3: Command syntax (continued)

Convention	Description
[ ]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{ **x** | **y** | **z** }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
x | **y**	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, such as passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, *member*[*member*...].
\	In command examples, the backslash indicates a "soft" line break. When a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

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Current Product Documentation
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The Hub

A forum for Extreme Networks customers to connect with one another, answer questions, and share ideas and feedback. This community is monitored by Extreme Networks employees, but is not intended to replace specific guidance from GTAC.

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For immediate support: (800) 998 2408 (toll-free in U.S. and Canada) or 1 (408) 579 2800. For the support phone number in your country, visit www.extremenetworks.com/support/contact.

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- Your Extreme Networks service contract number, or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any actions already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

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The User Enablement team at Extreme Networks has made every effort to ensure that this document is accurate, complete, and easy to use. We strive to improve our documentation to help you in your work, so we want to hear from you. We welcome all feedback, but we especially want to know about:

- Content errors, or confusing or conflicting information.

- Improvements that would help you find relevant information.
- Broken links or usability issues.

To send feedback, email us at Product-Documentation@extremenetworks.com.

Provide as much detail as possible including the publication title, topic heading, and page number (if applicable), along with your comments and suggestions for improvement.

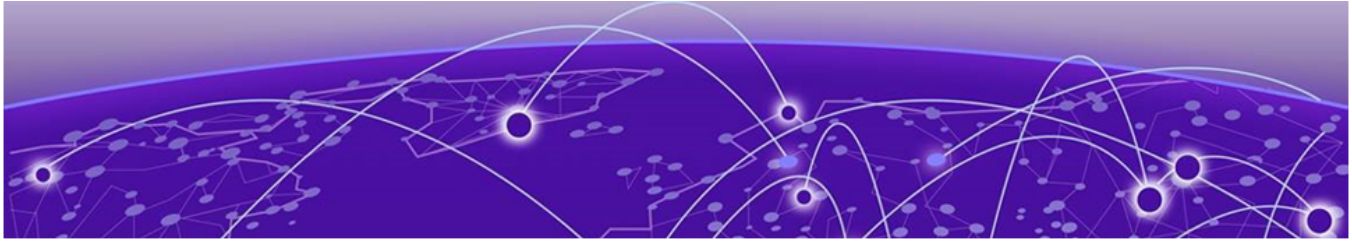
New in this Guide

The following sections describe the recent documentation revisions for this guide. Use this information to locate the latest updates.

September 2025 Revisions

The following table lists the documentation updates for September, 2025.

Description	Section
Updates for determining switch airflow direction	Install Internal Power Supplies on page 51 Power Supply Airflow Direction Requirements on page 66



Overview

The SLX 9740 are high density, fixed form factor switch routers with 80 x 100 GbE or 40 x 100 GbE ports to deliver the scale and performance needed to address the explosive growth in network bandwidth, devices and services.

This platform provides carrier-class advanced features that leverage proven Extreme Networks routing, MPLS, Carrier Ethernet, and VXLAN overlay technology, deployed in the most demanding service providers, internet exchange points (IXPs) and large enterprise data centers.

Management

The switch supports connections using the RJ45 serial console port or the Ethernet management ports to view and manage the switch configuration. For more information on switch connection methods, see Manage Your Switch. For switch connection details, see Connect to a Management Console.

After connecting to your switch, it can be flexibly configured and operated though the CLI for manual configuration, or REST or the NETCONF/YANG APIs, or SNMP. For more information about switch configuration and operation methods, see Manage Your Switch.

Note
There is also a Type A USB 2.0 port labeled USB on the front panel that can interface with USB storage devices.

Cooling

Each switch is cooled by hot-swappable field replaceable fan modules. The switch supports both front-to-back and back-to-front airflow for switch cooling. Switch fans are not responsible for cooling the power supplies; power supplies have integrated cooling fans that operate independently of the switch fan. Fan modules are ordered separately for the base SLX 9740 switch. Fan modules are included with other switches.

For more information about the fan modules used in the switch, see Fan Modules for Use with Your Switch on page 21.

Power Supplies

Each SLX 9740-40C switch supports two hot-swappable modular AC or DC power supplies. Each SLX 9740-80C switch supports four hot-swappable modular AC or DC power supplies. The power supplies provide enough power for the needs of the switch. Power supplies have integrated cooling fans that operate independently of the switch fans for power supply cooling and are not responsible for cooling the switch. Power supplies are ordered separately for the base SLX 9740 switch. Power supplies are included with other switches.

For more information about the power supplies used in the switch, see Power Supplies for Use with Your Switch on page 23.

Operating Temperatures

All SLX 9740 switches with front-to-back airflow support an operating range from 0°C (32°F) to 40°C (104°F) up to 1,800 m (6,000 ft).

All SLX 9740 switches with back-to-front airflow support an operating range from 0°C (32°F) to 25°C (77°F) up to 1,800 m (6,000 ft).

Feature Licensing

Table 4: SLX 9740 Switch License Option

Part number	Description
SLX9740-ADV-LIC-P	Extreme SLX 9740-40C and SLX 9740-80C Advanced Feature License for BGP-EVPN and Integrated Application Hosting

For information about licensing option for SLX-OS support for SLX 9740 switches, see the *Extreme SLX-OS Software Licensing Guide*.

SLX 9740-40C Switch Features

The SLX 9740-40C includes the following switches:

SLX 9740-40C, 9740-40C

The SLX 9740-40C, 9740-40C base switch includes two unpopulated power supply slots and six unpopulated fan slots. Fan modules and power supply modules must be ordered separately.

SLX 9740-40C-AC-F

The SLX9740-40C-AC-F switch includes two internal AC power supplies and six fan modules. Airflow for both the fan modules and the powers supply modules is front-to-back.

SLX 9740-40C-AC-R

The SLX9740-40C-AC-R switch includes two internal AC power supplies and six fan modules. Airflow for both the fan modules and the powers supply modules is back-to-front.

SLX 9740-40C-DC-F

The SLX9740-40C-DC-F switch includes two internal AC power supplies and six fan modules. Airflow for both the fan modules and the powers supply modules is front-to-back.

SLX 9740-40C-DC-R

The SLX9740-40C-DC-R switch includes two internal AC power supplies and six fan modules. Airflow for both the fan modules and the powers supply modules is back-to-front.

The front panel of the switch includes:

- **1** = System status LEDs
- **2** = 100GE/40GE QSFP28 ports
- **3** = 10/100/1000BASE-T RJ45 out-of-band management port
- **4** = USB Type A port
- **5** = RJ-45 Serial console port

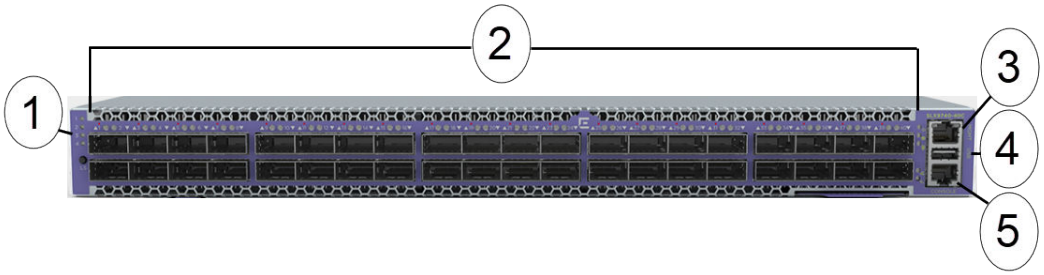


Figure 1: SLX 9740-40C Front Panel

The rear panel of the switch includes:

- **1** = 2 x Power supplies
- **2** = 6 x Fan modules

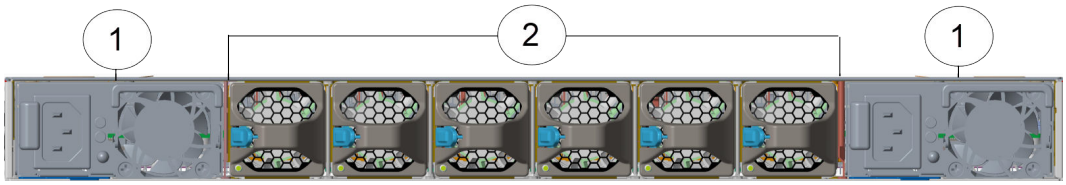


Figure 2: SLX 9740-40C Rear Panel

SLX 9740-80C Switch Features

The SLX 9740-80C includes the following switches:

SLX 9740-80C, 9740-80C

The SLX 9740-80C, 9740-80C base switch includes four unpopulated power supply slots and four unpopulated fan slots. Fan modules and power supply modules must be ordered separately.

SLX 9740-80C-AC-F

The SLX 9740-80C-AC-F switch includes four internal AC power supplies and four fan modules. Airflow for both the fan modules and the powers supply modules is front-to-back.

SLX 9740-80C-AC-R

The SLX 9740-80C-AC-R switch includes four internal AC power supplies and four fan modules. Airflow for both the fan modules and the powers supply modules is front-to-back.

SLX 9740-80C-DC-F

The SLX 9740-80C-DC-F switch includes four internal AC power supplies and four fan modules. Airflow for both the fan modules and the powers supply modules is front-to-back.

SLX 9740-80C-DC-R

The SLX 9740-80C-DC-R switch includes four internal AC power supplies and four fan modules. Airflow for both the fan modules and the powers supply modules is front-to-back.

The front panel of the switch includes:

- **1 =** System status LEDs
- **2 =** 100GE/40GE QSFP28 ports
- **3 =** 10/100/1000BASE-T RJ45 out-of-band management port
- **4 =** USB Type A port
- **5 =** RJ-45 Serial console port

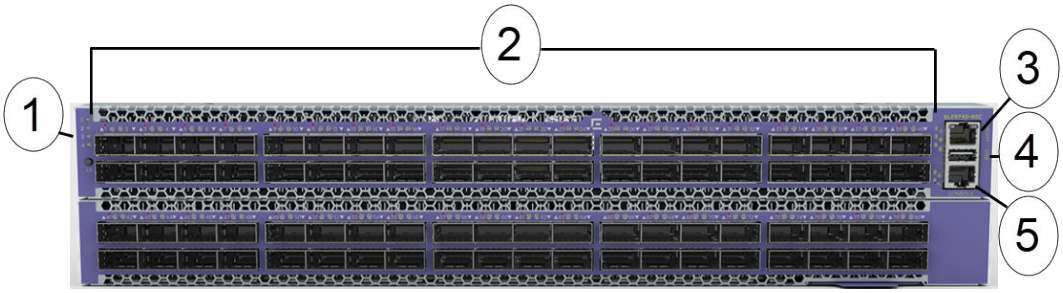


Figure 3: SLX 9740-80C Front Panel

The rear panel of the switch includes:

- **1 =** 2 x Power supplies
- **2 =** 6 x Fan modules

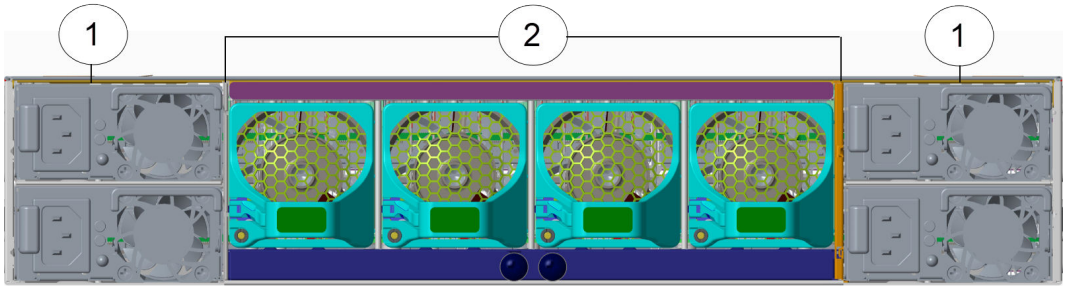
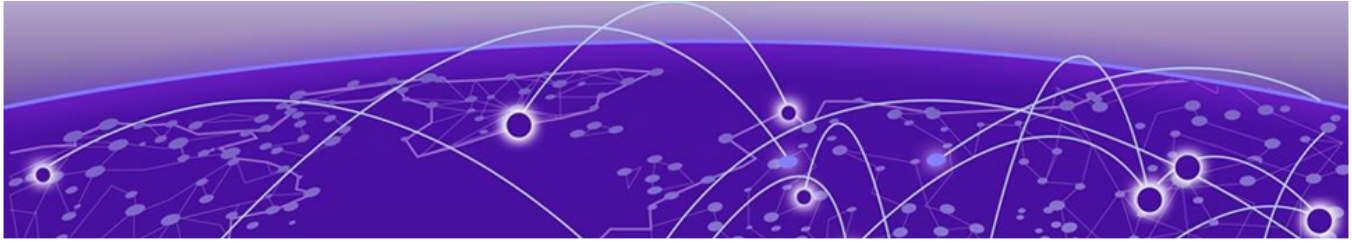


Figure 4: SLX 9740-80C Front Panel



Manage Your Switch

Each switch can be flexibly managed though the CLI for manual configuration, or through REST or NETCONF/YANG APIs.

Connect to Your Switch

You can use the following methods to connect to the switch.

RJ45 serial console port

Attach an RJ45 to DB9 adapter cable to the RJ45 serial console port on the switch to connect a terminal to manage the switch locally. The RJ45 serial console port is located on the front panel of the switch.

Ethernet management port

Attach an Ethernet cable to the Ethernet management port to connect the system to an out-of-band management network to manage the switch. An Ethernet management port provides dedicated remote access to the switch using TCP/IP. The switch uses an Ethernet management port only for host operation, not for switching or routing.

Alternatively, attach an Ethernet cable directly to the Ethernet management port and a laptop to view and locally manage the switch configuration.

The Ethernet management port is located on the front panel of the switch. It supports 10/100/1000 Mbps speeds.

For switch connection details, see Establish a Serial Connection on page 55.

Configure and Operate Your Switch

The switch supports flexible configuration and operation through the following methods.

Generic command-line interface (CLI)

The command line interface (CLI) is a powerful tool for managing and configuring switches and network settings. The CLI interface can be accessed through Telnet or Secure Shell (SSH2). For more information, see the *Extreme SLX-OS Management Configuration Guide*.

REST API

The REST API (Representational State Transfer Application Programming Interface) can be used for managing and configuring switches through a programmatic interface. It is HTTP-based and allows clients to interact with the server and operational data. It can be used for out-of-band and in-band management through

an Ethernet connection. The REST API can be accessed through the RESTCONF interface after it has been enabled in the operating system. Refer to the REST API guide for the switch operating system for more information.

NETCONF Interface

NETCONF (Network Configuration Protocol) is a protocol used for managing and configuring network devices. NETCONF APIs allow for programmatic access to the switch configuration and operational data. It can be used for in-band management through an Ethernet connection. NETCONF must be enabled in the operating system on the switch and can be accessed using a NETCONF client. Refer to the NETCONF API guide for the switch operating system for more information.

Simple Network Management Protocol (SNMP)

SNMP provides facilities to manage and monitor network resources using agents, managers, the SNMP protocol, and Management Information Bases (MIBs). SNMP must be configured on the switch and accessed through an SNMP manager. For more information, see the *Extreme SLX-OS Management Configuration Guide*.

Fan Modules for Use with Your Switch

Fan Modules on page 22

The switch is designed to run with hot-swappable field replaceable fan modules that provide the cooling needed for the switch to operate. The switch can include up to six fan modules for the SLX 9740-40C, or four fan modules for the the SLX 9740-80C. The fan modules can be removed and replaced without special tools. The device can continue operating during the replacement (hot-swap).

Switch fans are not responsible for cooling the power supplies; power supplies have integrated cooling fans that operate independently of the switch fan.The switch supports both front-to-back and back-to-front airflow for switch cooling. All installed fan modules must blow air in the same direction and must match the airflow direction of the installed power supplies. Fan module slots are located on the rear panel of the switch.

Precautions Specific to Fan Modules

Warning
Be careful not to accidently insert your fingers into the fan tray while removing it from the chassis. The fan may still be spinning at a high speed.

Caution
Disassembling any part of the power supply and fan assembly voids the warranty and regulatory certifications. There are no user-serviceable parts inside the power supply and fan assembly.

Note
Ensure that the airflow direction of the power supply unit matches that of the installed fan tray. Fan modules with a red latch provide front-to-back airflow and fan modules with a blue latch provide back-to-front airflow.

Caution
If you do not install a fan module or a power supply in a slot, you must keep the slot filler panel in place. If you run the chassis with an uncovered slot, the system will overheat.

Fan Modules

Two fan module options are available for SLX 9740-40C switches:

- Part number XN-FAN-003-F provides front-to-back airflow for switch cooling.
- Part number XN-FAN-003-R provides back-to-front airflow for switch cooling.

Two fan module options are available for SLX 9740-80C switches:

- Part number XN-FAN-004-F provides front-to-back airflow for switch cooling.
- Part number XN-FAN-004-R provides back-to-front airflow for switch cooling.

Fan modules are ordered separately for the base SLX 9740 switch. Fan modules are included with other switches.

For information on installing or replacing a fan module, see Replace Fan Modules on page 72.

LEDs on the switch provide information on the unit's operational status. See Monitor the Switch on page 77 for details.

Power Supplies for Use with Your Switch

The switch is designed to run with either two internal power supplies, for the SLX 9740-40C, or four internal power supplies, for the SLX 9740-80C. The power supplies provide all of the power needed for the switch to operate. You can remove and replace a power supply module (hot-swap) without interrupting the switch's operation as long as there is a functional power supply in the switch.

Power supplies have integrated cooling fans that operate independently of the switch fans for power supply cooling and are not responsible for cooling the switch. All installed power supplies must blow air in the same direction and must match the airflow direction of the installed fan modules. Power supply slots are located on the rear panel of the switch.

Table 5: Supported SLX 9740 Power Specifications

Part number	Description
SLX 9740-40C, 9740-40C	AC Input: 100-120VAC, 50/60Hz, 7A Max (for PSU FSG059 for each PS)
	AC Input: 200-240VAC, 50/60Hz, 4A Max (for PSU FSG059 and FSE023) or +/- 48vdc, 15A Max (for PSU FSK010) for each PSU
SLX9740-80C, 9740-80C	AC Input: 100-120VAC, 50/60Hz, 7A Max (for PSU FSG059 for each PSU)
	AC Input: 200-240VAC, 50/60Hz, 4A Max (for PSU FSG059 and FSE023) or +/- 48vdc, 15A Max (for PSU FSK010) for each PSU, minimum *2

Precautions Specific to Power Supply Modules

Warning
Make sure you use a power cord displaying the mark of the safety agency that defines the regulations for power cords in your country. The mark is your assurance that the power cord can be used safely with the device.

Warning
If the installation requires a different power cord than the one supplied with the device, make sure you use a power cord displaying the mark of the safety agency that defines the regulations for power cords in your country. The mark is your assurance that the power cord can be used safely with the device.

Caution
Disassembling any part of the power supply and fan assembly voids the warranty and regulatory certifications. There are no user-serviceable parts inside the power supply and fan assembly.

Caution
If you do not install a fan module or a power supply in a slot, you must keep the slot filler panel in place. If you run the chassis with an uncovered slot, the system will overheat.

1600 W AC Power Supplies

Two AC power supply options, with front-to-back or back-to-front airflow, are are available for the switch:

- Part number XN-ACPWR-1600W-F provides 1600W AC power with front-to-back airflow for power supply cooling.
- Part number XN-ACPWR-1600W-R provides 1600W AC power with back-to-front airflow for power supply cooling.

Power supplies are ordered separately for the base SLX 9740 switch. Power supplies are included with other switches.

The 1600 W AC power supply has a (C14) power inlet that requires a (C13) power cord.

Note
AC power input cords are not provided with AC power supplies. You can order an appropriate cord from Extreme Networks or from your local supplier. The power cord must meet the requirements listed in Power Cord Requirements for AC-Powered Switches and AC Power Supplies on page 91.

LEDs on the power supplies provide information on the unit's operational status. The LEDs are located on the end of the power supply unit, arranged vertically to the left of the power cord receptacle. The following tables describe the meanings of the LEDs on the DC power supply.

Table 6: 1600 W AC Power Supply LED Status Indications

Label and Color	Description	State	Meaning
! Amber	Fault indicator	On (Solid	PSU fault
		Off	No PSU fault

Table 6: 1600 W AC Power Supply LED Status Indications (continued)

Label and Color	Description	State	Meaning
DC (Green)	DC output good	On (Solid	DC output OK
		Off or blinking	DC output fail
AC (Green)	AC input good	On	AC input OK
		Off	AC input fail

For information on installing or replacing a power supply, see Replace Power Supplies on page 65.

1600 W DC Power Supply

One DC power supply option, with front-to-back airflow, is available for the switch:

- Part number XN-DCPWR-1600W-F provides 1600W AC power with front-to-back airflow for power supply cooling.

Power supplies are ordered separately for the base SLX 9740 switch. Power supplies are included with other switches.

LEDs on the power supplies provide information on the unit's operational status. The LEDs are located on the end of the power supply unit, arranged vertically to the left of the power cord receptacle. The following tables describe the meanings of the LEDs on the DC power supply.

Table 7: 1600 W DC Power Supply LED Status Indications

Label and Color	Description	State	Meaning
! Amber	Fault indicator	On (Solid)	PSU fault
		Off	No PSU fault
OUT OK (Green)	DC output good	On (Solid)	DC output OK
		Off or blinking	DC output fail
IN OK (Green)	DC input good	On	DC input OK
		Off	DC input fail

For information on installing or replacing a power supply, see Replace Power Supplies on page 65.

Site Preparation

By carefully planning your site, you can maximize the performance of your existing network and ensure that it is ready to migrate to future networking technologies.

The information in this chapter is intended for the system administrator, network equipment technician, network manager, or facilities manager responsible for installing and managing the network hardware. The chapter assumes a working knowledge of local area network (LAN) operations, and a familiarity with communications protocols that are used on interconnected LANs.

Only qualified service personnel should install, maintain, or remove a switch, chassis, or its components. Qualified service personnel have had appropriate technical training and experience that is necessary to be aware of the hazards to which they are exposed when performing a task and of measures to minimize the danger to themselves or other people.

Note
Before installing or removing any components of the system, and before carrying out any maintenance procedures, read the safety information in the Technical Specifications on page 82 topic.

Plan Your Site

To install your equipment successfully, you should plan the site carefully. The site planning process has three major parts:

1. Meeting site requirements.

   The physical installation site must meet the following requirements for a safe and successful installation:

   - Building and electrical code requirements
   - Environmental, safety, and thermal requirements for the equipment you plan to install
   - Equipment rack requirements

2. Evaluating and meeting cable requirements.

   After examining your physical site and verifying that all environment requirements are met, evaluate and compare your existing cable plant with the requirements of the Extreme Networks equipment to determine if you need to install new cables.
3. Meeting power requirements.

   To run your equipment safely, you must meet the specific power requirements for each switch and external power supply unit installed in the system.

   For power specifications of the switches, see the specific switch listings in Technical Specifications on page 82.

Operating Environment Requirements

Verify that your site meets all environmental and safety requirements.

Virtually all areas of the United States are regulated by building codes and standards. During the early planning stages of installing or modifying your network, it is important that you develop a thorough understanding of the regulations that pertain to your location and industry.

Meet Building and Electrical Codes

Building and electrical codes vary depending on your location. Comply with all code specifications when planning your site and installing cable. This section lists resources for obtaining additional information.

For information about major building codes, consult the following organization:

International Code Council (ICC)
5203 Leesburg Pike
Falls Church, VA 22041 USA
www.iccsafe.org

The organizations listed in Table 8 are authorities on electrical codes.

Table 8: Authorities on Electrical Codes

Organization	Address	Web Site URL
National Electrical Code (NEC) Classification (USA only) Recognized authority on safe electrical wiring. Federal, state, and local governments use NEC standards to establish their own laws, ordinances, and codes on wiring specifications. The NEC classification is published by the National Fire Protection Association (NFPA).	NFPA 1 Batterymarch Park Quincy, MA 02169 USA	www.nfpa.org/
Underwriters' Laboratory (UL) Independent research and testing laboratory. UL evaluates the performance and capability of electrical wiring and equipment to determine whether they meet certain safety standards when properly used. Acceptance is usually indicated by the words "UL Approved" or "UL Listed."	UL 333 Pfingsten Road Northbrook, IL 60062 USA	www.ul.com
National Electrical Manufacturing Association (NEMA) (USA only) Organization of electrical product manufacturers. Members develop consensus standards for cables, wiring, and electrical components.	NEMA 1300 N. 17th Street Rosslyn, VA 22209 USA	www.nema.org
Electronic Components Industry Association (ECIA) Trade association that develops technical standards, disseminates marketing data, and maintains contact with government agencies in matters relating to the electronics industry.	ECIA 111 Alderman Drive Suite 400 Alpharetta, GA 30005 USA	www.ecianow.org
Federal Communications Commission (FCC) (USA only) Commission that regulates all interstate and foreign electrical communication systems that originate in the United States according to the Communications Act of1934. The FCC regulates all U.S. telephone and cable systems.	FCC 445 12th Street S.W. Washington, DC 20554 USA	www.fcc.gov

Set Up the Wiring Closet

Be aware of the following recommendations for your wiring closet:

- Make sure that your system is easily accessible for installation and service. See Rack Specifications and Recommendations on page 30 for more information.
- Use appropriate AC or DC power, power distribution, and grounding for your specific installation.

- Use a vinyl floor covering in your wiring closet. (Concrete floors accumulate dust, and carpets can cause static electricity.)
- Prevent unauthorized access to wiring closets by providing door locks. Install the equipment in a secured, enclosed, and restricted access location, ensuring that only qualified service personnel have access to the equipment.
- Provide adequate overhead lighting for easy maintenance.
- Be sure that each wiring closet has a suitable ground. All equipment racks and equipment installed in the closet should be grounded.
- Be sure that all system environmental requirements are met, such as ambient temperature and humidity.

Note
Consult an electrical contractor for commercial building and wiring specifications.

Control the Temperature

Extreme Networks equipment generates a significant amount of heat. It is essential that you provide a temperature-controlled environment for both performance and safety.

Install the equipment only in a temperature- and humidity-controlled indoor area that is free of airborne materials that can conduct electricity. Too much humidity can cause a fire. Too little humidity can produce electrical shock and fire.

Observe these additional thermal recommendations for the location where you plan to install your equipment:

- Ensure that the ventilation in the wiring closet is adequate to maintain a temperature below the maximum operating temperature for the equipment.
- Install a reliable air conditioning and ventilation system.
- Keep the ventilation in the wiring closet running during non-business hours; otherwise, the equipment can overheat.
- Maintain a storage temperature between -40°C (-40°F) and 70°C (158°F).

Table 9 summarizes the behavior of Extreme Networks switches when they experience high operating temperatures.

Safeguards are built into all Extreme Networks switches and power supply units to minimize the risk of fire.

Table 9: Thermal Shutdown and Restart Behavior

Switch Model(s)	Behavior
All switches	When internal system temperatures exceed the thermal shutdown temperature limit (typically about 20°C higher than normal system operating temperatures), the system's power supplies are turned off and the switch shuts down. The system remains in the OFF state until the system has sufficient time to cool and the internal thermal sensor measures a temperature lower than the maximum specified ambient temperature, at which time the system restarts automatically. Alternately, you can restart the system by removing and then restoring all line power to the system. The internal sensor must still measure a system temperature that is lower than the maximum specified ambient temperature, so recovery might not be immediate.

Control the Humidity Level

To maximize equipment life, keep operating humidity between 50% and 70% relative humidity (non-condensing) during typical operation.

The equipment can operate between 5% and 95% relative humidity (non-condensing) for short intervals.

Protect Your System from ESD (Electrostatic Discharge)

Your system must be protected from static electricity or ESD. Take the following measures to ensure optimum system performance:

- Remove materials that can cause electrostatic generation (such as synthetic resins) from the wiring closet.

  Check the appropriateness of floor mats and flooring.
- Connect metal chassis, conduit, and other metals to ground using dedicated grounding lines.
- Use electrostatically safe equipment.

  If you are working with pluggable interface modules, wear an ESD-preventive wrist strap and connect the metal end to a grounded equipment rack or other source of ground.

Rack Specifications and Recommendations

Racks should conform to conventional standards.

In the United States, use EIA Standard RS-310C: Racks, Panels, and Associated Equipment. In countries other than the United States, use IEC Standard 297. In addition,

verify that your rack meets the basic mechanical, space, and earthquake requirements that are described in this section.

Mechanical Recommendations for the Rack

Use equipment racks that meet the following mechanical recommendations:

- Use an open style, 19-inch rack to facilitate easy maintenance and to provide proper ventilation.
- Use a rack made of steel or aluminum.
- The rack should use the universal mounting rail hole pattern that is identified in IEC Standard 297.
- The rack should have designated earth grounding connections (typically on the base).
- The rack must meet earthquake safety requirements equal to that of the installed chassis.
- The mounting holes should be flush with the rails to accommodate the chassis.
- The rack should support approximately 270 kg (600 lb).

Ground the Rack

The rack must be properly grounded.

Use a rack grounding kit and a ground conductor that is carried back to earth or to another suitable building ground.

At a minimum, follow these guidelines to ground equipment racks to the earth ground:

- CAD weld appropriate wire terminals to building I-beams or earth ground rods.
- For a DC-powered switch, use a minimum 6 AWG stranded copper wire for grounding.

  AC-powered switches do not need separate chassis grounding.
- Position the earth ground as close to the equipment rack as possible to maintain the shortest wiring distance possible.
- Use a ground impedance tester or micro-ohm meter to test the quality of earth ground connection at the chassis. This will ensure good grounding between the chassis, rack, and earth ground.

Note
Because building codes vary worldwide, consult an electrical contractor to ensure proper equipment grounding for your specific installation.

Provide Adequate Space for the Rack

Provide enough space in front of and behind the switch so that you can service it easily.

Allow a minimum of 48 inches (122 cm) in front of the rack and 30 inches (76 cm) behind the rack. When using a relay (two-post) rack, provide a minimum of 24 inches (61 cm) of space behind the mounted equipment. Extra room on each side is optional.

Warning
Extreme Networks switches do not have a switch for turning power to the unit on and off. For systems using an AC power supply, power to the switch is disconnected by removing the wall plug from the electrical outlet.

Be sure that cables and other equipment do not block the switch's air intake or outflow.

Depending on other conditions in the equipment room, it may be possible to install the switches closer to each other; consult your Extreme Networks Customer Support representative for guidance.

Secure the Rack

The rack should be attached to the wiring closet floor with 9.5 mm (3/8 in) lag screws or equivalent hardware. The floor under the rack should be level within 5 mm (3/16 in). Use a floor-leveling cement compound if necessary or bolt the racks to the floor as shown.

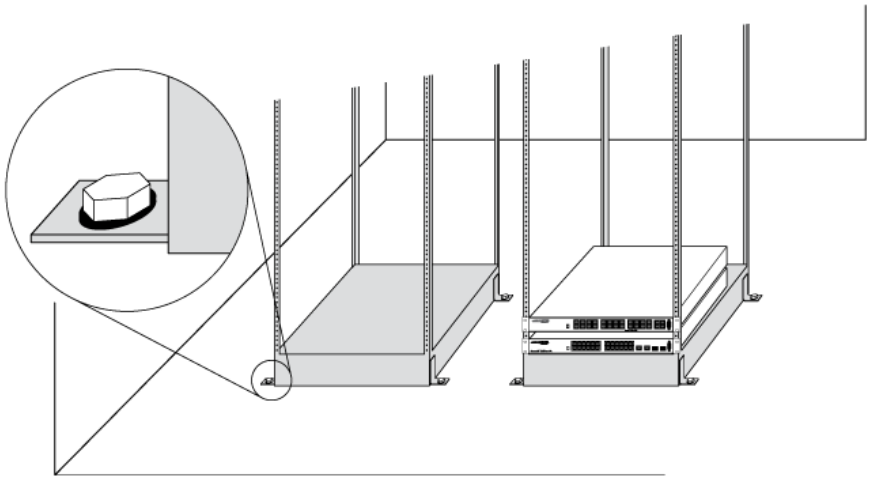


Figure 5: Properly Secured Rack

Brace open equipment racks if the channel thickness is less than 6.4 mm (1/4 in).

Evaluate and Meet Cable Requirements

Use professional consultants for site planning and cabling.

The Building Industry Consulting Service International (BICSI) Registered Communications Distribution Designer (RCDD), which is globally recognized as a standard in site planning and cabling, can be used.

For information, visit www.bicsi.org.

Label Cables and Keep Accurate Records

A reliable cable labeling system is essential when planning and installing a network.

Keeping accurate records helps you to:

- Relocate devices easily.
- Make changes quickly.
- Isolate faults in the distribution system.
- Locate the opposite end of any cable.
- Know the types of network devices that your cabling infrastructure can support.

Follow these guidelines when setting up a cable labeling system suitable for your installation:

- Identify cables by securely attaching labels to all cable ends.
- Assign a unique block of sequential numbers to the group of cables that run between each pair of wiring closets.
- Assign a unique identification number to each equipment rack.
- Identify all wiring closets by labeling the front panel of your Extreme Networks equipment and other hardware.
- Keep accurate and current cable identification records.
- Post records near each equipment rack. For each cable drop, include information about the cable source, destination, and jumper location.

Install Cable

When you connect cable to your network equipment, keep the following things in mind.

- Examine cable for cuts, bends, and nicks.
- Support cable using a cable manager that is mounted above connectors to avoid unnecessary weight on the cable bundles.
- Use cable managers to route cable bundles to the left and right of the network equipment to maximize accessibility to the connectors.
- Provide enough slack, approximately 5 to 7.5 cm (2 to 3 in), to provide proper strain relief as shown in Figure 6 on page 34.
- Bundle cable using hook-and-loop straps to avoid injuring cables.
- If you build your own cable, be sure that connectors are properly crimped.
- When installing a patch panel using twisted pair wiring, untwist no more than 2.5 cm (1 in) of the cable to avoid radio frequency (RF) interference.
- Discharge the RJ45 Ethernet cable before plugging it into a port on the switch.

Caution
Unshielded twisted pair (UTP) cable can build up electrostatic charges when being pulled into a new installation. Before connecting any category 5 UTP cable to the switch, discharge ESD from the cable by plugging the RJ45 connector into a LAN static discharge device or use an equivalent method.

- Use plenum-rated cable when it is necessary for safety and fire rating requirements. Consult your local building codes to determine when it is appropriate to use plenum-rated cable, or refer to IEC standard 850.
- Keep all ports and connectors free of dust.

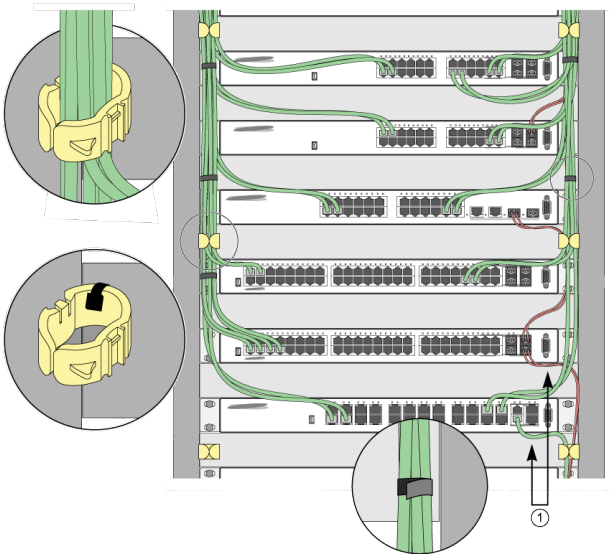


Figure 6: Properly Installed and Bundled Cable

1 = Ensure adequate slack and bend radius

Handle Fiber Optic Cable

Fiber optic cable must be handled carefully during installation.

Every cable has a minimum bend radius, and fibers will be damaged if the cables are bent too sharply. It is also important not to stretch the cable during installation. Ensure that the bend radius for fiber optic cables is equal to at least 5 cm (2 in) for each 90-degree turn as shown in Figure 7.

Note
Kinks and sharp bends can destroy or impair the cable's ability to convey light pulses accurately from one end of the cable to the other. Use care in dressing the optical fiber cables: provide satisfactory strain relief to support the cable and maintain an adequate bend radius at all cable turns, particularly where the cable connects to the I/O module.

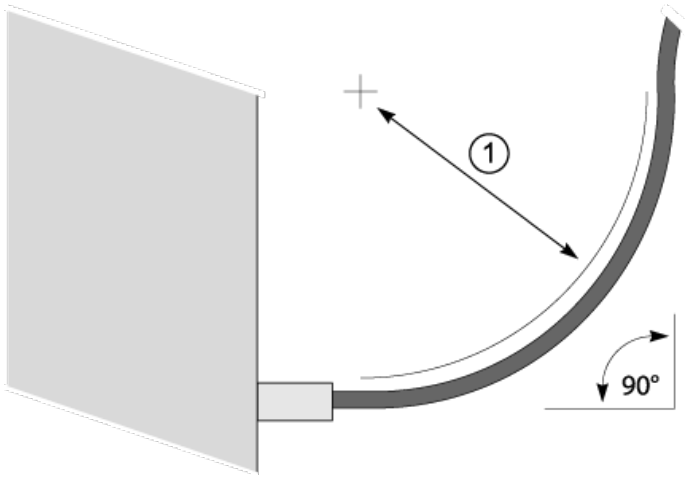


Figure 7: Bend Radius for Fiber Optic Cable
1 = Minimum 5 cm (2 in) radius in 90° bend

Cable Distances and Types

Refer to the Extreme Optics website for descriptions of optics and cables, as well as a complete list of supported cable lengths, and a list of the cable types that are compatible with your equipment.

Use RJ45 Connector Jackets

Use RJ45 cable with connector jackets that are flush with the connector or that have connectors with a no-snag feature.

Using cable with jackets that are wider than the connectors can cause:

- Connectors that are not properly aligned with the port.
- Crowded cable installation, which can cause connectors to pop out of the port.

Figure 8 shows examples of recommended and non-recommended connector jacket types.

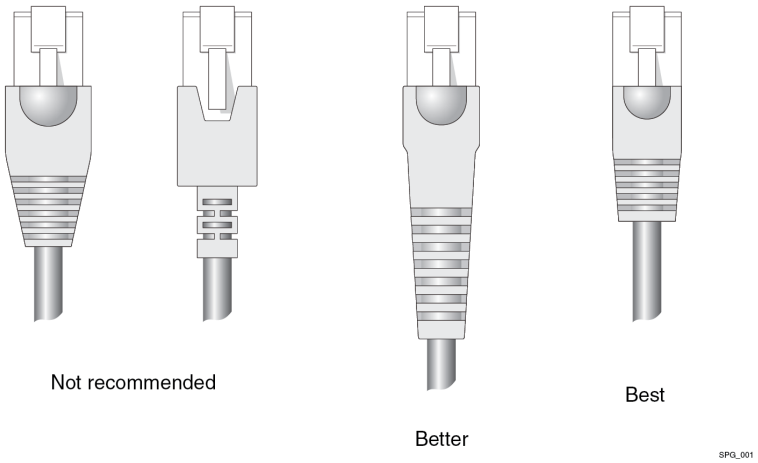


Figure 8: RJ45 Connector Jacket Types

Prevent Radio Frequency Interference (RFI)

If you use UTP cabling in an installation, take precautions to avoid radio frequency (RF) interference.

RF interference can cause degradation of signal quality, and, in an Ethernet network environment, can cause excessive collisions, loss of link status, or other physical layer problems that can lead to poor performance or loss of communication.

To prevent RF interference, avoid the following situations:

- Attaching UTP cable to AC power cables
- Routing UTP cable near antennas, such as a ham radio antenna
- Routing UTP cable near equipment that could exhibit RF interference, such as ARC welding equipment
- Routing UTP cable near electrical motors that contain coils
- Routing UTP cable near air conditioner units
- Routing UTP cable near electrical transformers

In areas or applications where these situations cannot be avoided, use fiber optic cabling or shielded twisted pair cabling.

Meet Power Requirements

Observe the following requirements and precautions for powering your hardware.

Power Supply Requirements

Follow these recommendations when you plan power supply connections for your equipment:

- Place the equipment in an area that accommodates the power consumption and component heat dissipation specifications.
- Be sure that your power supply meets the site DC power or AC power requirements of the network equipment.
- When you connect power to installed equipment, do not make this connection through an extension cord or power strip.
- If your switch includes more than one power supply, connect each power supply to a different, independent power source.

  If a power source fails, it will affect only the switch power supply to which it is connected. If all switch power supplies are connected to a single power source, the entire switch is vulnerable to a power source failure.
- In regions that are susceptible to electrical storms, the best practice is to plug your system into a surge suppressor.

For detailed power specifications for your equipment, see Technical Specifications on page 82.

Power Cord Requirements

Most Extreme Networks switches do not ship with power cords. Visit www.extremenetworks.com/product/powercords/ for information on selecting and purchasing the correct power cords for use with specific Extreme Networks equipment. The web page provides specifications for power cords in each country so that you can purchase cords locally.

UPS (Uninterruptible Power Supply) Requirements

A UPS (uninterruptible power supply) is a device that sits between a power supply (such as a wall outlet) and a device (such as a switch) to prevent outages, sags, surges, and bad harmonics from adversely affecting the performance of the device.

A UPS traditionally can perform the following functions:

- Absorb relatively small power surges.
- Smooth out noisy power sources.
- Continue to provide power to equipment during line sags.
- Provide power for a period of time after a blackout has occurred.

In addition, some UPS devices or UPS-plus-software combinations provide the following functions:

- Automatically shut down equipment during long power outages.
- Monitor and log power supply status.
- Display the voltage (current draw) of the equipment.
- Restart equipment after a long power outage.
- Display the voltage currently on the line.
- Provide alarms on certain error conditions.
- Provide short-circuit protection.

Select a UPS

To determine UPS requirements for your switch, answer these questions:

- What are the amperage requirements?
- What is the longest potential time period that the UPS would be required to supply backup power?
- Where will the UPS be installed?
- What is the maximum transition time that the installation will allow? (See Provide a Suitable UPS Transition Time on page 38.)

Note
Use a UPS that provides online protection.

Calculate Volt-Amperage Requirements

To determine the size of UPS that you need:

1. Locate the voltage and amperage requirements for each piece of equipment.

These numbers are usually found on a sticker on the back or bottom of your equipment.

2. Multiply the numbers together to get Volt-Amperes (VA):

   VA = Volts x Amperes
3. Add the VA from all the pieces of equipment together to find the total VA requirement.

To determine the minimum volt-amperage requirements for your UPS, add 30% to the total.

Provide a Suitable UPS Transition Time

UPS transition time is the time required for the UPS to change from providing AC power derived from the utility (or mains) supply to providing AC power derived from the battery backup. UPS transition time is sometimes called *UPS transfer time*.

UPS transition times vary between UPS models and implementations, but shorter transition times are preferred. For Extreme Networks stacking products, a UPS transition time of 20 milliseconds or less ensures optimum performance and minimizes service interruptions.

For high-availability and fault-tolerant installations in which the switches use redundant power supply units (PSUs), ensure that each PSU in a switch is connected to a different UPS and that each UPS is powered by an independent AC supply. This will prevent service interruptions when a power source is lost, or when a UPS unit fails. (Note that a single, appropriately sized UPS can power PSUs in multiple switches. The recommendation is simply that for any given switch, the two PSUs should be connected to different UPS units.)

Follow Applicable Industry Standards

Always follow applicable industry standards.

For more information, see the following ANSI/TIA/EIA standards:

- ANSI/TIA/EIA-568-A—the six subsystems of a structured cabling system
- ANSI/TIA/EIA-569-A—design considerations
- ANSI/TIA/EIA-606—cabling system administration
- ANSI/TIA/EIA-607—commercial building grounding and bonding requirements

You can access these standards at: or .

Install Your Switch

Before you attempt to install or remove an Extreme Networks switch, read the precautions in Safety Considerations for Installation on page 40.

Extreme Networks switches fit into standard 19-inch equipment racks.

A four-post rack-mounting kit is provided with the switch. A two-post kit can be ordered separately.

The installation process includes the following tasks:

1. Prepare to install the switch. See What You Will Need for the Installation on page 40.
2. See Attach the Switch to a Rack or Cabinet.
3. Install optional components: optical transceivers and cables. See the instructions in Install Optional Components on page 51.
4. If your switch does not come with an installed internal power supply, install one or two power supplies. See Install Internal Power Supplies on page 51.

   Note
   Be aware of whether the power supply you are installing is AC-powered or a DC-powered. The installation instructions are different depending upon what type of power is used.

5. Connect network interface cables. See Connect Network Interface Cables on page 52.
6. Power up the switch. See Turn on the Switch on page 53.
7. Perform initial network connection and configuration. See Activate and Verify the Switch on page 55.

Safety Considerations for Installation

Read the information in this chapter thoroughly before you attempt to install or remove an Extreme Networks switch.

Ensure that proper ESD (electrostatic discharge) controls are in use before switch maintenance is performed. This includes but is not limited to wrist straps that are grounded to the switch housing and earth grounds.

Warning
Connect the chassis ground wire **before** you connect any power cables.
Disconnect the ground wire **after** you disconnect all power cables.

Take care to load the equipment rack so that it is not top-heavy. Start installing equipment at the bottom of the rack and work up.

Do not cover vents that would restrict airflow.

What You Will Need for the Installation

Ensure that you have followed the guidance in Site Preparation on page 26, and ensure that you have the appropriate people and tools on hand.

Installing Extreme Networks switches is easiest when there are two people to maneuver the switch and attach mounting hardware.

Provide enough space in front of and behind the switch so that you can service it easily. Ensure that a minimum of 122 cm (48 in) in front of the rack and 76 cm (30 in) behind the rack.

If your switch has internal power supplies, make sure they have the same airflow direction as the fans in the switch.

Check the *Quick Reference Guide* for your switch to see what hardware is provided in the switch packaging. Most Extreme Networks switches come with the following hardware:

- Two rack mounting brackets (ears) adaptable for either a front-mount or mid-mount installation.
- Two long mounting brackets (rails) or slider kits for mounting in a four-post installation.
- Screws for attaching mounting hardware to the switch housing.

You need the following additional tools and equipment. These are not provided with your switch:

- Screwdriver for securing the rack mounting screws.
- #2 Phillips magnetic screwdriver to attach bracket screws that are provided with the switch.
- AC power cord. For switches with removable AC power supplies, a separate power cord is needed for each installed power supply. The cord must meet the

requirements listed in Power Cord Requirements for AC-Powered Switches and AC Power Supplies on page 91.

- ESD-preventive wrist strap for installing optional ports at the back of the switch.
- Grounding lugs.

Attach the Switch to a Rack or Cabinet

The SLX 9740 switch can be attached to a standard 19-inch equipment rack, in either of the following ways:

- Four-post rack, using the mounting kit provided (part number XN-4P-RKMT301 for SLX 9740-80C or part number XN-4P-RKMT302 for SLX9740-40C). The kit includes:
  - Two slider assemblies including inner rail (member) or intermediate rail (member), and outer rail (member).
  - Two front mounting ears with black thumb screws in the middle (for SLX 9740-40C), or a black thumb screw and handle (for SLX 9740-80C). These pieces attach directly to both sides of the device housing.
  - Mounting ears - Black rack ears with a thumb screw in the middle (2 count)
  - Black mounting ear screws (6 count)
  - Grounding screws - M4 screws to install the lug cables (not provided) to the rack on SLX 9740-40c (4 count).
  - Rail screws - M4 screws to secure the inner rail to the device (2 count).
- Two-post rack, using mounting brackets (part number XN-2P-RKMT299 for SLX 9740-40C or part number XN-2P-RKMT300 for SLX 9740-80C) to attach the middle of the switch to the posts (not provided). The two-post rack mounting kit can be ordered separately.

Note
Take care to load the rack so that it is not top-heavy. Start installing equipment at the bottom and work up.

Attach the Device to a Four-Post Rack

Note

- When you install Extreme Networks switches, we recommend that you have two people to maneuver the switch and the mounting hardware.
- Take care to load the rack so that it is not top-heavy. Start installing equipment at the bottom and work up.

To attach your device to a four-post rack, follow these steps:

1. On the sides of the device, screw on the mounting ears. For SLX9740-80C, screw the mounting ears to the top of the switch router, aligned with ports 1-40.

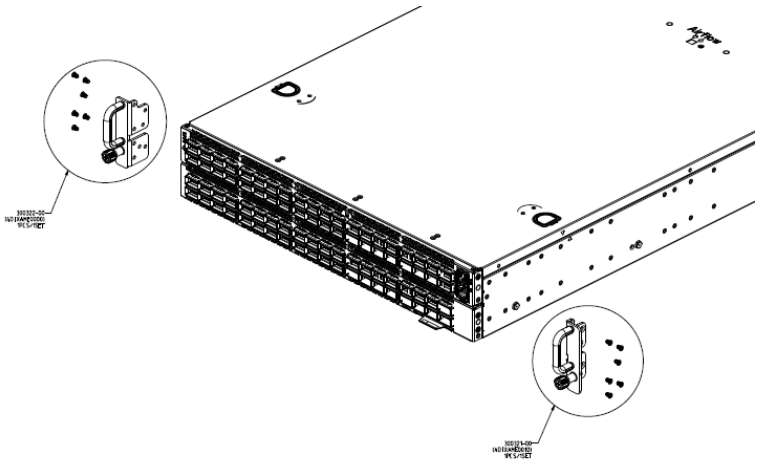


Figure 9: Mounting ears

2. Pull the inner rail out until it is fully extended, then push the disconnect latch forward to release the inner rail from the middle rail and remove the inner rail.

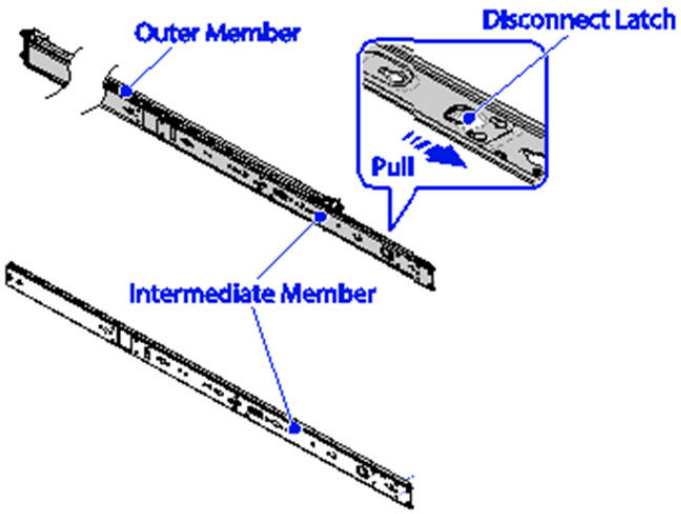


Figure 10: Remove inner rail

3. Align the hooks on the device with the holes in the inner rail, and then slide the inner rail backward until it is locked in place.
4. Secure the inner rail to the device with one M4 rail screw per side. Repeat this step to install another inner rail.

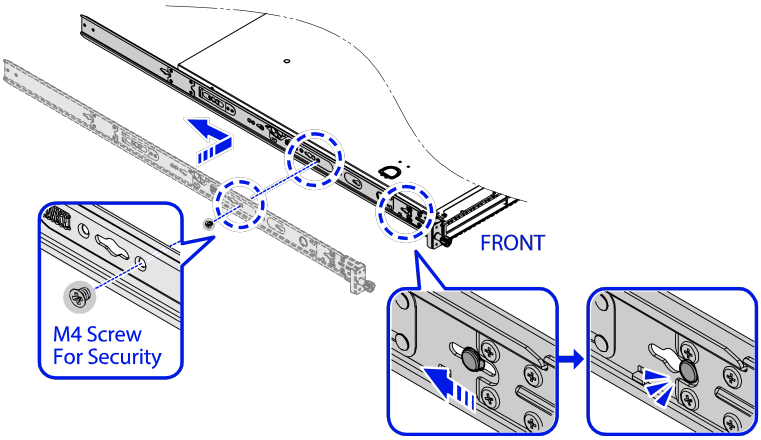


Figure 11: Outer rail installation - front

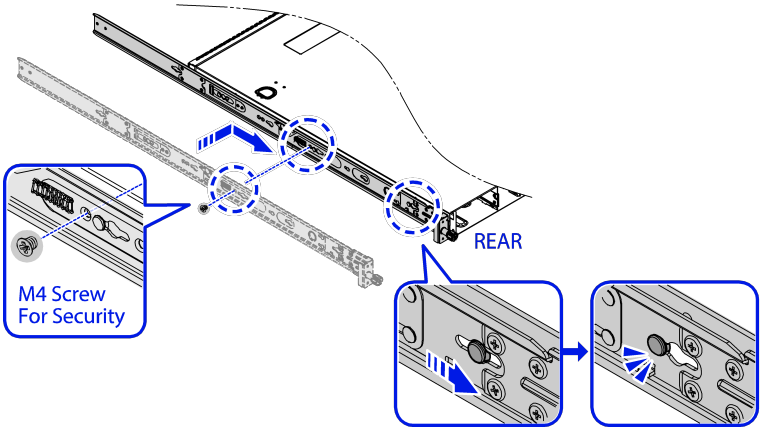


Figure 12: Outer rail installation - rear

5. For the front brackets, pull the latch and install the outer rail by aligning the hooks with the front rack holes. Then release the latch to lock the hooks into place.
6. For the rear brackets, align and push the rail firmly into the rear rack until it clicks into place. Make sure the L-shaped bracket is facing inward.

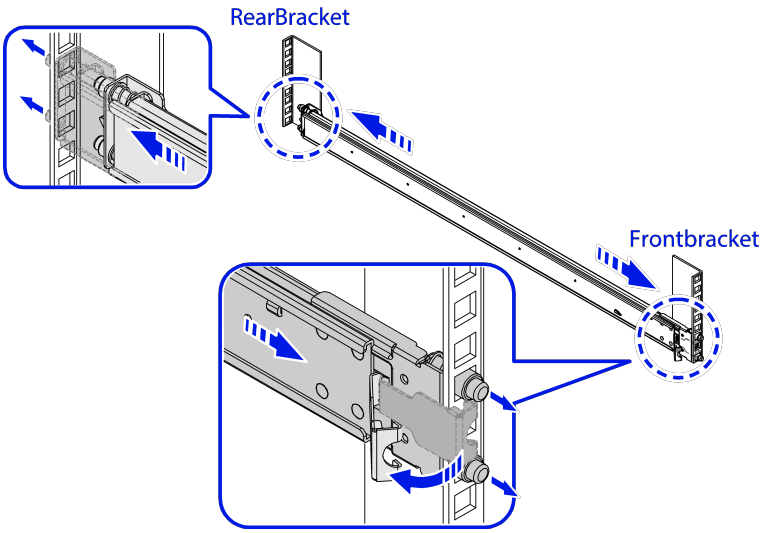


Figure 13: Install outer rail

7. Slide the inner rails on the device into the middle rails and push the device all the way to the rear of the rack.

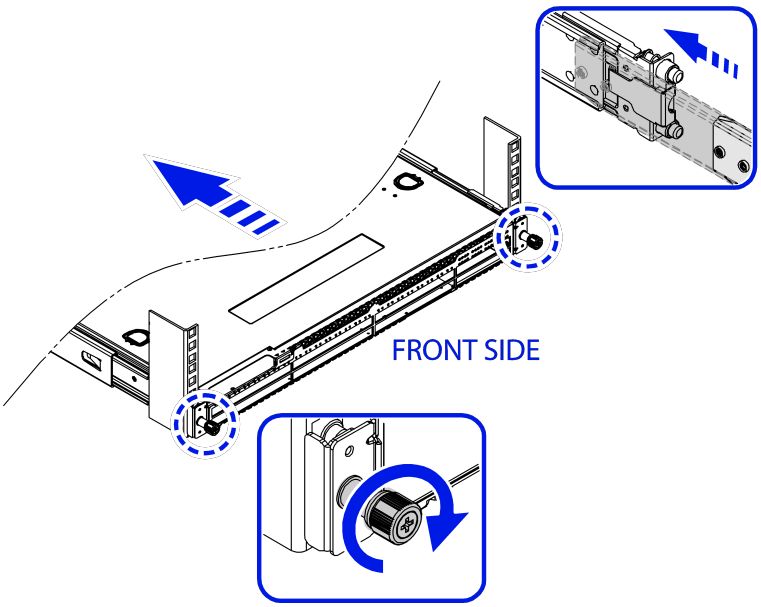


Figure 14: Securing rails - front

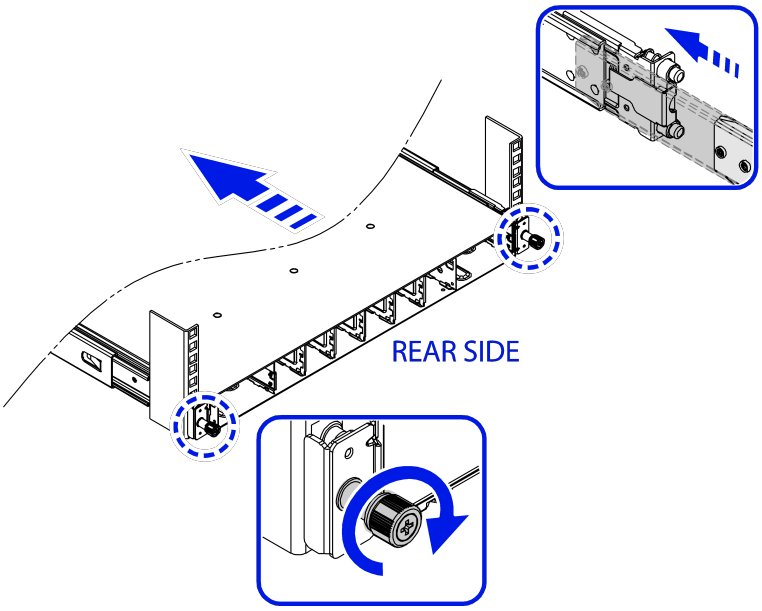


Figure 15: Securing rails - rear

8. Screw the mounting ear thumbscrews into the rack rails to hand tightness.

   The completed assembly is shown in the Figure

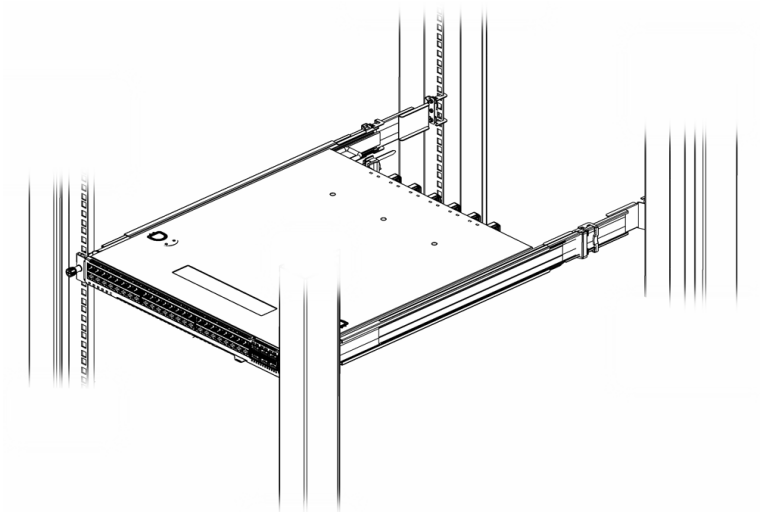


Figure 16: Completed Installation: Switch in 4-Post Rack

9. Install the ground lug cables to the rack using the four screws provided.

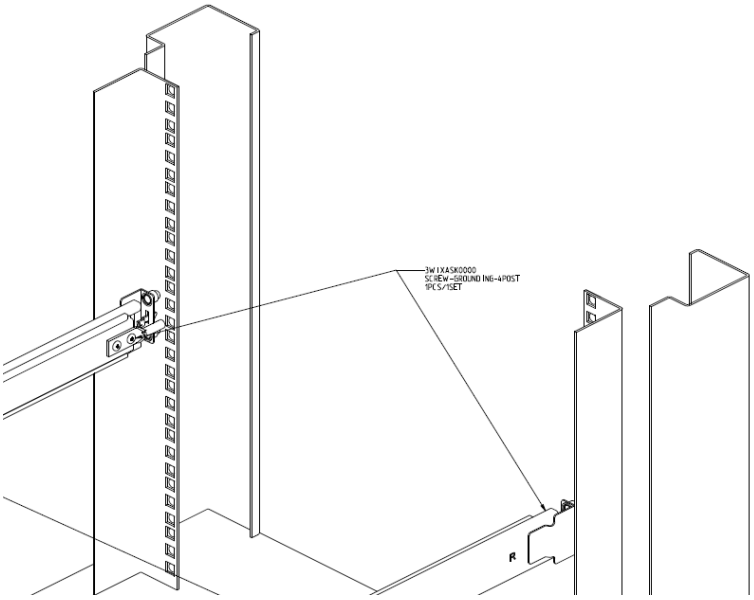


Figure 17: 4-post grounding location

10. Verify that the device is leveled and is firmly attached to the rack.
11. Push the disconnect latch to release the device when removing the device after it is fully extended.

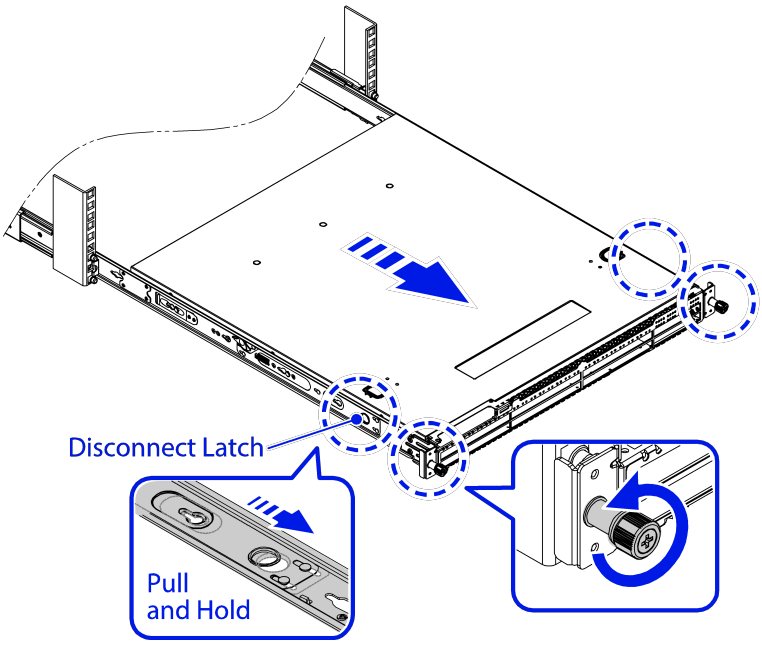


Figure 18: Disconnect latch for removal

If your device comes with installed AC power supplies, skip to the topic: Turn on the Switch on page 53.

If your device does not have an installed power supply, install one or two power supplies using the instructions in Install Internal Power Supplies on page 51.

Attach the Device to a Two-Post Rack

You can attach your device to a two-post rack in mid-mount configuration.

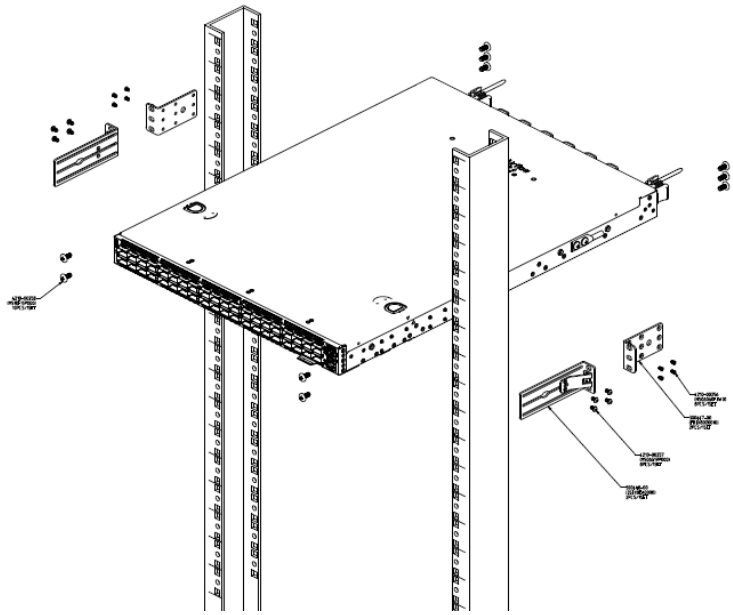


Figure 19: SLX 9740-40C 2-post rack components

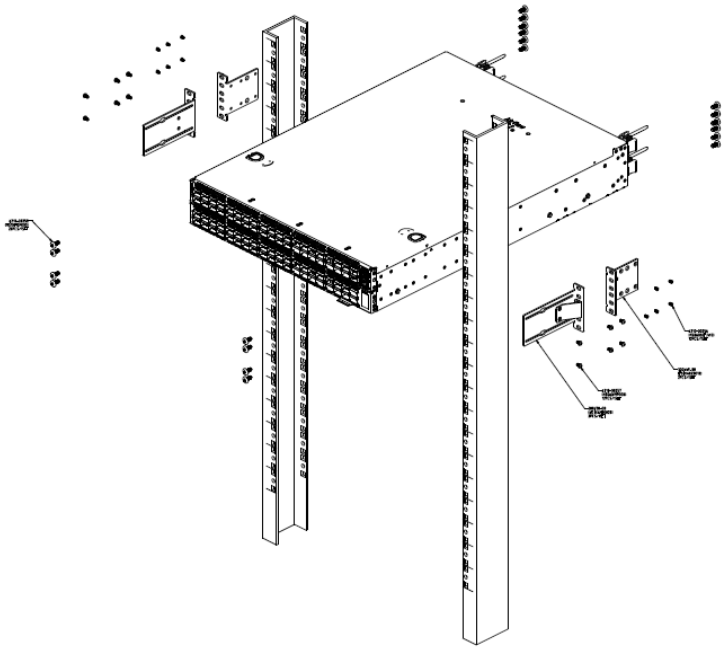


Figure 20: SLX 9740-80C 2-post rack components

To attach your device to a two-post rack, follow these steps:

1. On one side of the device, attach one of the short mounting brackets to the device housing.

   a. Position the bracket so that the flange (ear) is positioned slightly more than halfway between the front and back of the device, as shown in Figure 21.

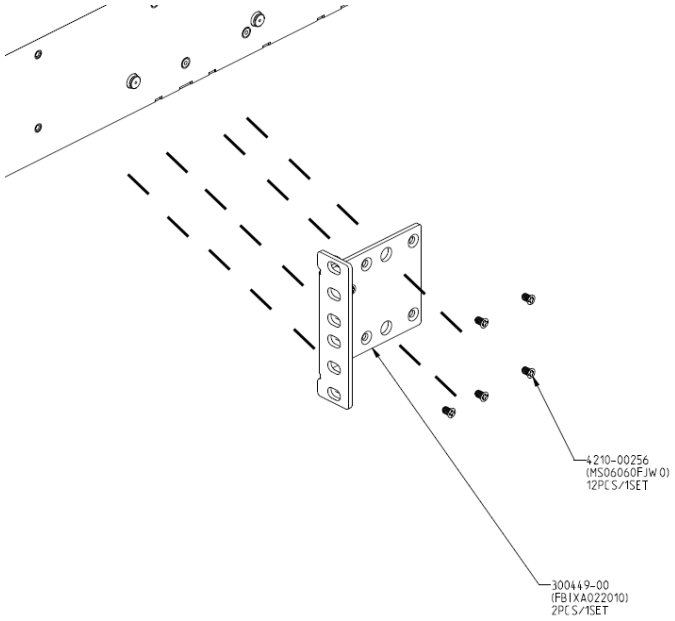


Figure 21: Attaching a Short Mounting Bracket (Ear): Middle of Device

   b. Use six small mounting screws (provided) to attach the bracket to the device.
2. Attach the other short mounting bracket to the other side of the switch housing, as you did in step 1.a.
3. Attach a long mounting bracket to one side of the device router housing and to the rack post.

   a. Position the long bracket over the holes between the front and the middle of the device. Orient it so that its flange (ear) rests against the rack post.

      See Figure 21.

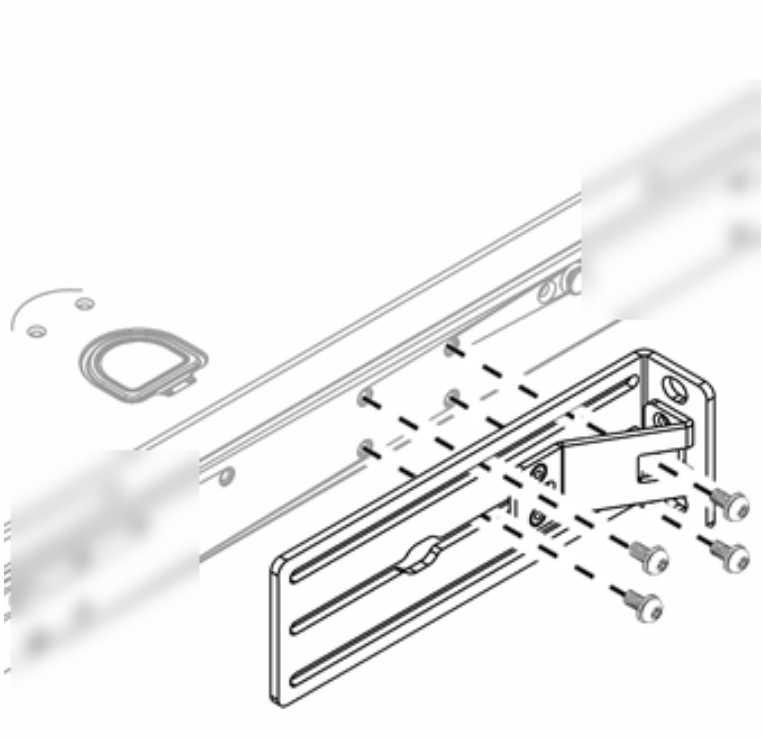


Figure 22: Attaching a Long Mounting Bracket: Middle of Device Router

b. Use six small mounting screws (provided) to attach the bracket to the device.
c. Secure the long bracket to the rack post. (Rack-mounting screws are not provided.)

4. Repeat step 3 to attach the other long bracket on the other side of the device.
5. Tilting the device slightly, lift it into the rack so that the mounting brackets align with the rack posts.

   If the device cannot be tilted (because other equipment is mounted directly above and below), remove one or both short mounting brackets from the device. Lift the device into position, secure the flanges (ears) on the long brackets to the rack posts, and then reattach the short brackets.
6. Secure the flanges (ears) on both sides of the device to the rack posts, using screws that are appropriate for the rack. (Rack-mounting screws are not provided.)

   See Figure 23 for the completed installation.

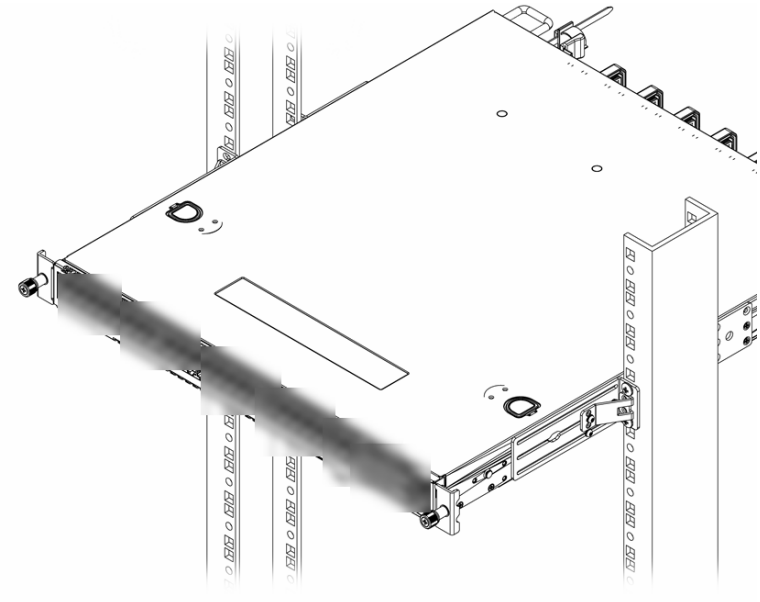


Figure 23: Two-Post Mid-Mount: Complete

7. For Extreme 8820-40C, install the ground lug cables to the rack using an M6 screw and the four screws provided (grounding screws for 2-post installation shipped with the device in a separate bag).

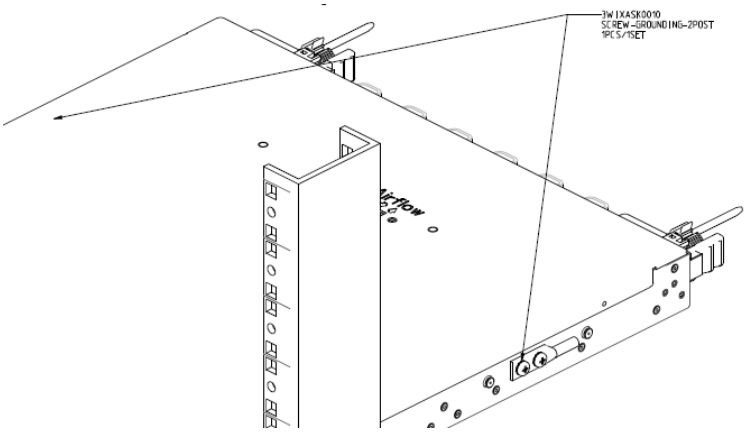


Figure 24: SLX 9740-40C grounding location

8. Verify that the device is level and is firmly attached to the rack.

If your device comes with installed AC power supplies, skip to the topic: Turn on the Switch on page 53.

If your device does not have an installed power supply, install one or two power supplies using the instructions in Install Internal Power Supplies on page 51.

Install Internal Power Supplies

If your switch does not come with an installed power supply, you can install one or two power supplies. All installed power supplies must blow air in the same direction and must match the airflow direction of the installed fan modules.

To determine the airflow direction of the powers supplies in the switch, enter the following command from the command line (CLI):

```
show environment power
```

The `Airflow` environment variable identifies the direction of the airflow for the power supplies. Valid values include:

- `Port Side Intake provides` front-to-back airflow.
- `Port Side Exhaust` provides back-to-front airflow.

For installation instructions, see Replace Power Supplies on page 65.

Install Optional Components

After the switch is secured to the rack, install optional components.

Extreme Networks switches support the use of pluggable transceivers and cables in the SFP, SFP+, SFP28, QSFP-DD, QSFP+, and QSFP28 formats.

For a list of the optical components supported with Extreme Networks devices, see the Extreme Optics website.

Pluggable Transceiver Modules

Extreme Networks offers several optical transceiver modules for transmitting and receiving data over optical fiber rather than through electrical wires.

Optical Cables

Direct-attach copper and fiber cables provide connections between populated SFP, SFP+, SFP28, QSFP-DD, QSFP+, and QSFP28 ports.

Breakout cables

The copper breakout cables are terminated with optical connectors and are available in 1m, 3m, 5m, or greater lengths. No additional connectors or cabling are required when using the copper breakout. When using the fiber breakout cables, additional 10Gb optics are required.

The SLX 9740 groups ports together for breakout configuration. The port groups are called Port Macros (PM). Each PM consists of four contiguous ports. There are 9 PMs in the SLX 9740-40C and 18 PMs in the SLX 9740-80C. PM numbering begins with 0. PM0 has ports 0/1-0/4, PM1 has ports 0/5-0/8, PM2 has ports 0/9-0/12, and so on.

Only the odd ports can be split to 4x10Gb or 4x25Gb using the breakout cables: 0/1, 0/3, 0/9, 0/11, 0/13, 0/15, 0/17, 0/19, 0/21, 0/23, 0/25, 0/27, 0/29, 0/31, 0/33, 0/35, 0/37, 0/39, 0/41, 0/43, 0/49, 0/51, 0/53, 0/55, 0/57, 0/59, 0/61, 0/63, 0/65, 0/67, 0/69, 0/71, 0/73, 0/75, 0/77, and 0/79. Breaking out these ports using the breakout cables results in 72 interfaces for the SLX 9740-40C and 144 interfaces for the SLX 9740-80C.

Ports 5-8 and 45-48 cannot be broken up and are supported only in 100Gb. For any PM, 40Gb and 10Gb ports cannot coexist with 25Gb ports. The following configurations are not supported:

PM Configuration	Examples
If any port is configured as a 40Gb port or a 4x10Gb breakout port, a 4x25Gb breakout port cannot be configured unless the 40Gb ports are removed as part of the breakout operation.	• If 0/3 or 0/4 is a 40Gb port, 0/1 cannot be configured as a 4x25Gb breakout port. • If 0/1 is a 4x10Gb breakout port, 0/3 cannot be configured as a 4x25Gb breakout port. • If 0/3 is 4x10Gb breakout, 0/1 cannot be configured as a 4x25Gb breakout port. • If 0/1 or 0/2 is 40Gb port, 0/1 can be configured as a 4x25Gb breakout port because 0/1 and 0/2 are removed. • If 0/3 or 0/4 is 40Gb port, 0/3 can be configured as a 4x25Gb breakout port because 0/3 and 0/4 are removed.
If a 4x25Gb breakout port is configured, no 40Gb or 4x10Gb ports can be configured.	• If 0/1 is configured as 4x25G breakout, 0/3 or 0/4 cannot be configured as a 40Gb port. • If 0/1 is configured as 4x25Gb breakout, 0/3 cannot be configured as a 4x10Gb breakout port. • If 0/3 is configured as 4x25Gb breakout port, 0/1 or 0/2 cannot be configured as a 40Gb port. • If 0/3 is configured as a 4x25Gb breakout port, 0/1 cannot be configured as a 4x10Gb breakout port.

See the Extreme Optics website to determine the appropriate optics.

Connect Network Interface Cables

Use the appropriate type of cable to connect the ports of your switch to another switch or router.

Cable Type	Maximum DIstance
CAT5E	55 meters
CAT6	55 meters
CAT6A	100 meters

Working carefully, one port at a time, do the following:

1. Verify that you have identified the correct cable for the port.
2. Use an alcohol wipe or other appropriate cleaning agent to clean the cable connectors; make sure they are free of dust, oil, and other contaminants.
3. If you are using optical fiber cable, align the transmit (Tx) and receive (Rx) connectors with the correct corresponding connectors on the switch or the I/O module.
4. Press the cable connectors into their mating connectors on the switch or I/O module until the cable connector is firmly seated.
5. Repeat the preceding steps for the remaining cables on this or other switches or I/O modules.
6. Dress and secure the cable bundle to provide appropriate strain relief and protection against bends and kinks.

Turn on the Switch

Use the following instructions to turn on the switch

Note
The switch does not have a power button, so connecting the power cable at both ends turns the switch on.

Connect AC Power

An AC power cord is not included with the AC power supply. You can purchase AC power cords for use in the US and Canada from Extreme Networks or from your local supplier. The cord must meet the requirements listed in Power Cord Requirements for AC-Powered Switches and AC Power Supplies on page 91.

To turn on the switch, connect one end of the power cord to the AC power input socket on the device and connect the other end to an AC power outlet.

Note
The grounding connection in the power receptacle and in the power cord properly ground the power supply and extend that grounding to the switch.

If the power supply LEDs do not turn green, refer to the LED descriptions in Power Supplies for Use with Your Switch on page 23.

When the power supply LED has turned green, follow the instructions in Activate and Verify the Switch on page 55.

Connect DC Power

Use the following instructions to connect the device to a DC power source.

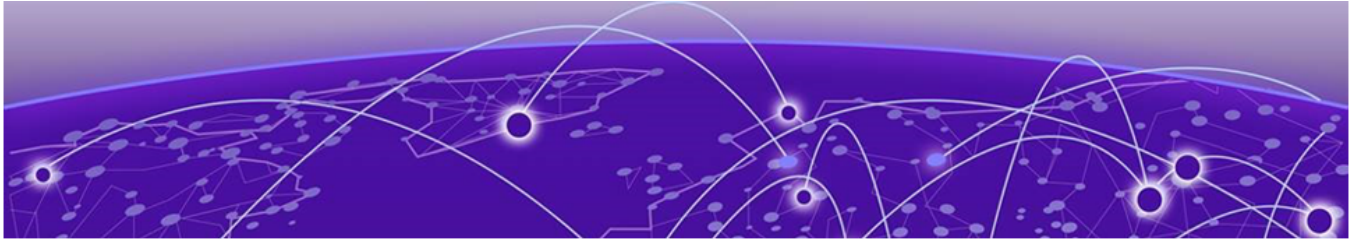
1. Verify that the DC circuit is de-energized.
2. Verify that the ground wire is connected to the grounding lug on the rear of the switch.

The grounding lug is identified by the international symbol for earth ground: 

3. Verify that the DC power input cables are properly connected to the DC power supplies at the rear of the switch.
4. Energize the circuit.

If the power supply LEDs do not turn green, refer to the LED descriptions in Power Supplies for Use with Your Switch on page 23.

When the power supply LED has turned green, follow the instructions in Activate and Verify the Switch on page 55.



Activate and Verify the Switch

After you have installed your Extreme Networks switch in the rack, installed all required and and optional components, connected network cables, and powered the switch on, use the instructions in the following topics to configure the software on the switch and prepare it for use.

Establish a Serial Connection

To establish a serial connection to the console port on the device, complete the following steps.

1. Verify that the device is powered on by verifying that all power LED indicators on the management and interface ports, power supply and fan modules display a steady green light.
2. Connect the RJ-45 serial cable provided with the device to the management Ethernet port of the device.

   Note
   The console or serial port is intended primarily for the initial setting of the IP address.

3. Access the device using a terminal emulator application (such as HyperTerminal in a Windows environment or Tip in a LINUX environment).

4. Disable any serial communication programs running on the workstation (such as synchronization programs).
5. Open a terminal emulator application (such as HyperTerminal on a PC, or TERM, Tip, or Kermit in a LINUX environment), and configure the application as follows:
   - In a Windows environment:

Parameter	Value
Bits per second	115200
Data bits	8
Parity	None
Stop bits	1
Flow control	None

Note
Flow control is not supported on the serial consoles when attached to remote terminal servers and must be disabled to ensure proper operation.

   - In a LINUX environment, enter the following string at the prompt:

```
tip /dev/ttyb -115200
```

     If ttyb is already in use, use ttya instead and enter the following string at the prompt:

```
tip /dev/ttya -115200
```

     When the terminal emulator application stops reporting information, press **Enter**. You receive the following login prompt:

```
SLX login:
```

   - Follow the steps to log into the switch and initial configuration steps in Configure the Switch for Use on page 56.

Configure the Switch for Use

To perform the initial login and complete the initial configuration tasks, follow these steps from the management console.

1. Log in to the console using *admin* as the default login name and *password* as the default password.

   As login to the device occurs, you are prompted to change the device passwords.

```
Please change passwords for switch default accounts now.
Use Control-C to exit or press 'Enter' key to proceed.
```

2. Press **Enter** to step through a procedure to change the passwords as shown in the following example. To skip modifying the password, press **Ctrl+C**.

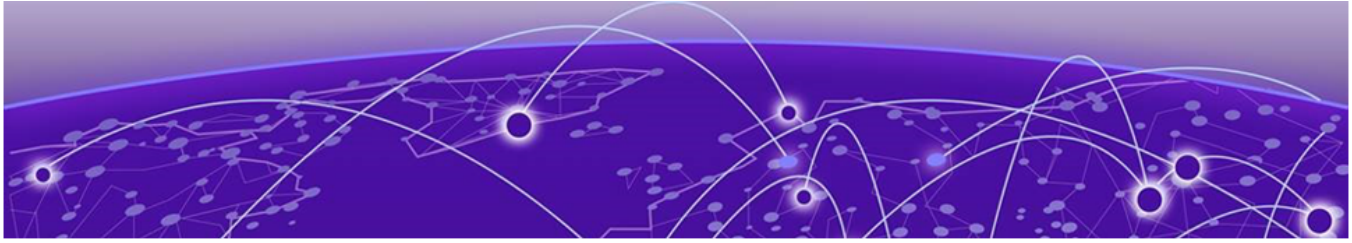
```
Warning:  Access to  the Root  and Factory accounts may be
required  for proper  support  of  the switch.  Please  ensure  the Root
and Factory passwords are  documented in a secure location.  Recovery of
a lost Root or Factory password will result in fabric downtime.

for user - admin
Changing password for admin
Enter old password:
Enter new password:
Re-type new password:
passwd: all authentication tokens updated successfully
```

   Passwords can be 8 through 40 characters long. They must begin with an alphabetic character. They can include numeric characters, the period (.), and the underscore (_) only. Passwords are case-sensitive, and they are not displayed when you enter them on the command line. For more information on passwords, refer to *Extreme SLX-OS Security Configuration Guide* for the Extreme 8820 device.

The switch is ready for use.

To configure other switch features, see *Extreme SLX-OS Layer 2 Switching Configuration Guide* .



Transceivers and Cables

SLX 9740 switch routers require QSFP28 optics for 100GbE connectivity, and 40GbE-to-10GbE breakouts for 10GbE connectivity.

For current information about transceivers and cables that is supported by this device, refer to Extreme Optics website and to the current *SLX-OS 20.2.1 for ExtremeRouting SLX 9740 Release Notes* .

Supported Transceivers and Cables

SLX 9740 switch routers require QSFP28 optics for 100GbE connectivity, and 40GbE-to-10GbE breakouts for 10GbE connectivity.

For current information about transceivers and cables that are supported by this device, refer to the Extreme Optics website and to the current *SLX-OS20.2.1 for ExtremeRouting SLX 9740 Release Notes* .

Time and Items Required

The installation or replacement procedure for one transceiver takes less than 5 minutes. Ensure that the following items are available:

- Required number of compatible power cables
- Required number of supported Extreme-branded transceivers
- Required number of compatible fiber-optic cables
- Optical transceiver extraction tool (for 10 Gbps transceiver only)

Note
Most Extreme devices come with a transceiver extraction tool and holster. The extraction tool is designed to remove transceivers from modules where the space is limited.

Figure 25: Optical transceiver extraction tool

Precautions Specific to Transceivers and Cables

Warning
All fiber-optic interfaces use Class 1 lasers.

Warning
Use only optical transceivers that are qualified by Extreme Networks, Inc. and comply with the FDA Class 1 radiation performance requirements defined in 21 CFR Subchapter I, and with IEC 60825 and EN60825. Optical products that do not comply with these standards might emit light that is hazardous to the eyes.

Caution
Do not use the port cover tabs to lift the module. They are not designed to support the weight of the module, which can fall and be damaged.

Caution
Before plugging a cable into any port, be sure to discharge the voltage stored on the cable by touching the electrical contacts to ground surface.

Cleaning the Fiber-Optic Connectors

To avoid problems with the connection between the fiber-optic transceiver (SFP+, QSFP, or QSFP28) and the fiber cable connectors, Extreme strongly recommends cleaning both connectors each time you disconnect and reconnect them. Dust can accumulate on the connectors and cause problems such as reducing the optic launch power.

To clean the fiber cable connectors, Extreme recommends using a fiber-optic reel-type cleaner. When not using an SFP+ or QSFP connector, make sure to keep the protective covering in place.

Managing Cables

The minimum radius that a 50 micron cable can be bent under full tensile load is 5.1 cm (2 in.). For a cable under no tensile load, that minimum is 3.0 cm (1.2 in.). Cables can be

organized and managed in a variety of ways, for example, using cable channels on the sides of the rack or patch panels to minimize cable management. Following is a list of additonal recommendations:

- Plan for rack space required for cable management before installing the device.
- Leave at least 1 m (3.28 ft) of slack for each port cable. This provides room to remove and replace the device, allows for inadvertent movement of the rack, and helps prevent the cables from being bent to less than the minimum bend radius.
- For easier maintenance, label the fiber-optic cables and record the devices to which they are connected.
- Keep LEDs visible by routing port cables and other cables away from the LEDs.
- Do not route the cables in front of air vents.
- Use Velcro ® type straps to secure and organize fiber-optic cables.
- Route the cables away from LEDs to keep them visible.
- Use the cable management comb that attaches to the chassis for simple cable management. The comb can be installed without service disruption.

Caution
Before plugging a cable into any port, be sure to discharge the voltage stored on the cable by touching the electrical contacts to ground surface.

Note
Do not use tie wraps with optical cables because they are easily overtightened and can damage the optic fibers.

Breakout Cables

The copper breakout cables are terminated with optical connectors and are available in 1m, 3m, 5m, and greater lengths. No additional connectors or cabling are required when using the copper breakout. When using the fiber breakout cables, additional 10Gb optics are required.

For the SLX 9740 switch router interfaces 0/25 to 0/36 support up to 48 10GbE or 48 25GgE ports in breakout mode by using the following optics.

For 4 x 10Gbe breakout:

- 4 SFP+ 40GbE-to-10GbE copper breakout cables in 1m, 3m, or 5m or greater lengths.
- 40G-QSFP-SR4-INT (with fiber breakout cables and additional 10GbE optics).
- 40G-QSFP-ESR4 (with fiber breakout cables and additional 10GbE optics).

For 4x 25GbE breakout:

- 100G-QSFP-4SFP-P-XXX

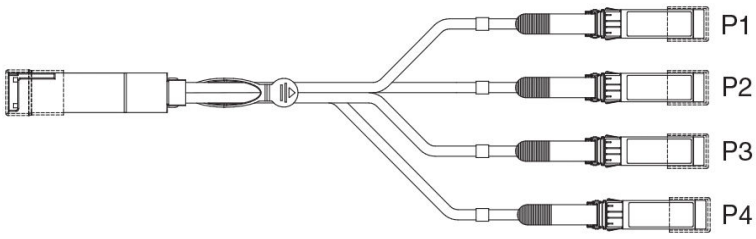


Figure 26: QSFP+ to 4 SFP+ (4 x 10 GbE) direct-attach copper breakout cable

Remove and Replace Components

Use the information in the following topics to remove or replace components.

Remove the Switch from a Rack

These procedures assume that you have attached the device to the rack as described in Attach the Switch to a Rack or Cabinet.

Note
Read all of the information in this chapter thoroughly before attempting to remove a switch from a rack.

To remove or reposition a device after you have mounted it in a rack, follow these steps.

1. Disconnect the device from its power source or sources.
2. Remove all cables and transceivers.
3. To remove a device from a four-post rack, do the following:
   a. Push the disconnect latch to release the device after it is fully extended.

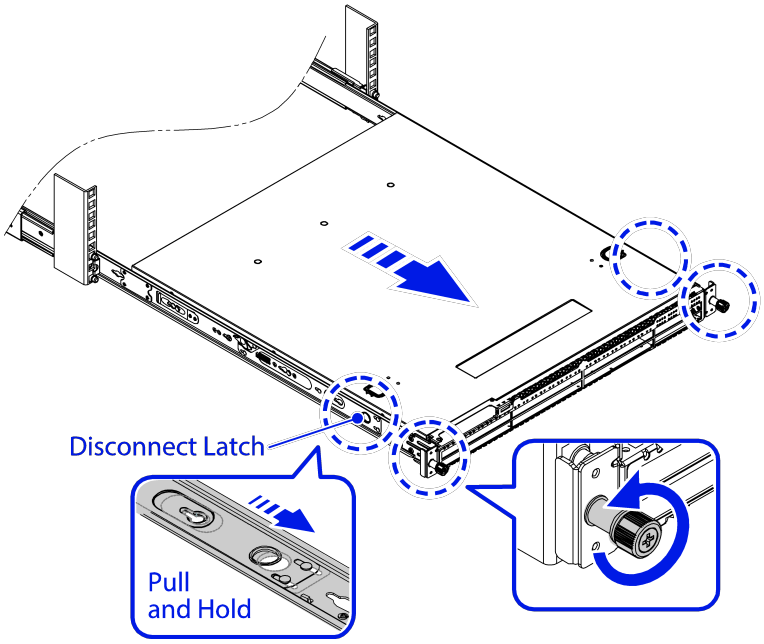


Figure 27: Disconnect latch for removal

b. Disengage the retainers that are connecting the mounting brackets with the sliding rails on both sides.
c. Carefully slide the device out of the slider assembly and place it on a flat surface.

   You can leave the slider assemblies in place. If you want to remove them, continue with the next step.
d. On one of the slider assemblies, push the rear clamp until it separates from the rear rack post.

   See the diagram below

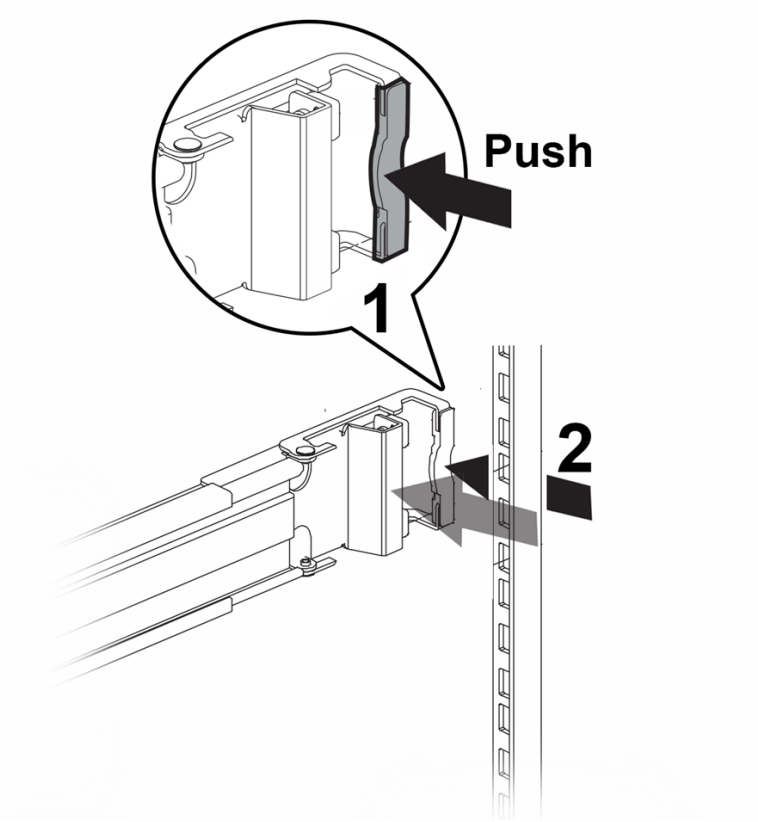


Figure 28: Removing the Slider Assembly: Rear Rack Post

e. Release the tab that holds the front of the slider assembly to the front rack post, and pull the pegs out.

   See the diagram below

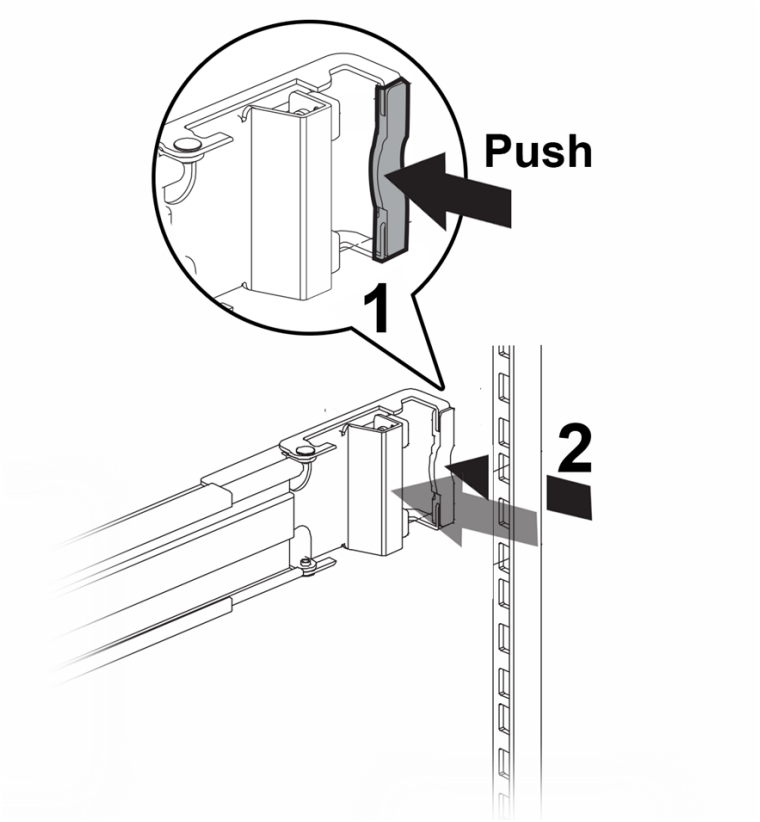


Figure 29: Removing the Slider Assembly: Front Rack Post

f. Repeat steps 3.d on page 63 and step 3.e to remove the second slider assembly.

4. To remove a device from a two-post rack, do the following:

   a. Carefully supporting the weight of the device, unscrew the mounting brackets from the rack.
   b. Tilt the device so that the brackets are clear of the rack posts, and carefully lift it out of the rack.

      If the device cannot be tilted (because other equipment is mounted directly above and below), remove one or two mounting brackets from the device and then slide the device out.

If you plan to use the device again later, we recommend storing it with the mounting brackets attached.

Replace Power Supplies

For switches with replaceable power supplies, refer to the following information to replace the power supplies. SLX 9740-40C switches have two power supply slots. SLX 9740-80C switches have four power supply slots. In a switch with a redundant power configuration, you can replace one power supply without powering down the switch ("hot swapping"). Power supply slots are located on the rear panel of the switch.

Images in this topic might show switches that are not identical to the ones you are using. However, the procedure for replacing a power supply is the same for all Extreme Networks switches.

Note
Read all of the information in this chapter thoroughly before attempting to replace a power supply.

Power Supply Airflow Direction Requirements

All installed power supplies must blow air in the same direction and must match the airflow direction of the installed fan modules.

To determine the airflow direction of the powers supplies in the switch, enter the following command from the command line (CLI):

```
show environment power
```

The `Airflow` environment variable identifies the direction of the airflow for the power supplies. Valid values include:

- `Port Side Intake provides` front-to-back airflow.
- `Port Side Exhaust` provides back-to-front airflow.

Replace a Power Supply

SLX 9740 switches support the following power supplies:

- Part number XN-ACPWR-1600W-F provides 1600W AC power with front-to-back airflow for power supply cooling.
- Part number XN-ACPWR-1600W-R provides 1600W AC power with back-to-front airflow for power supply cooling.
- Part number XN-DCPWR-1600W-F provides 1600W AC power with front-to-back airflow for power supply cooling.

Warning
To prevent an electrical hazard, make sure that the AC power cord is not connected to the power supply before you install the power supply in the power supply slot.

Warning
Make sure that the AC or DC power supply circuit is not overloaded. Use proper overcurrent protection, such as a circuit breaker, to prevent overcurrent conditions. You can use up to a 30-Amp breaker.

Use the following instructions to remove and replace a power supply in the switch.

Remove a Power Supply

Caution
Disconnect the AC power cord from the wall outlet and from the power supply before removing an AC power supply. Ensure that the DC circuit is de-energized before removing a DC power supply.

Use the following instructions to remove a power supply.

1. Attach an ESD-preventive wrist strap to your bare wrist and connect the metal end to an appropriate ground point on the rack.

   Caution
   Power supplies can become very hot during operation. Wear thermal protective gloves when you remove a power supply from an operating switch.

2. Note the orientation and the airflow direction of the installed power supply, and the location of the latching tab on the power supply.
3. Push the latching tab toward the power supply handle and pull outward on the handle to disengage the power supply internal connectors.

   Note
   If you are not installing a replacement power supply, install a cover over the unoccupied power supply bay. Unoccupied bays must always be covered to maintain proper system ventilation and EMI levels.

Replace or Install a Power Supply

Use the following instructions to replace or install a power supply.

1. Attach an ESD-preventive wrist strap to your bare wrist and connect the metal end to an appropriate ground point on the rack.
2. If necessary, remove a blank panel from the back of the switch.
3. Ensure that the orientation of the power supply is correct, and that the new power supply's airflow direction (front-to-back or back-to-front) is compatible with the installed fan modules and any other installed power supplies.
4. Carefully slide the power supply all the way into the power supply slot.

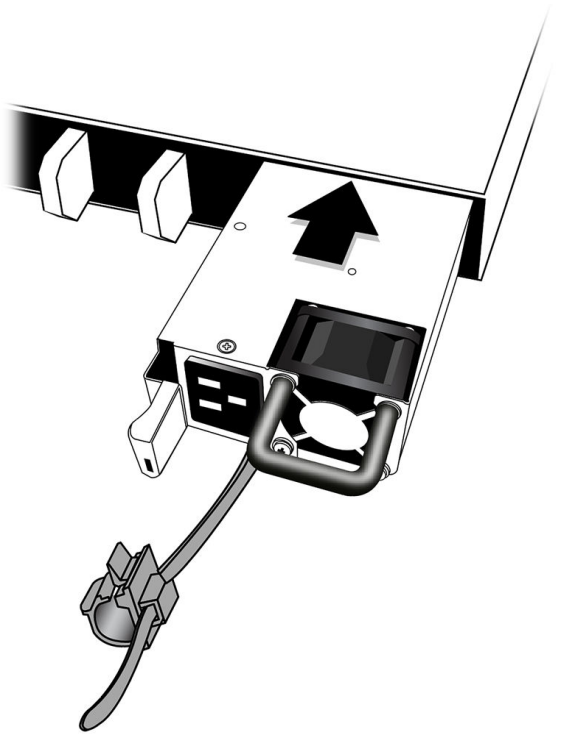


Figure 30: Install a Power Supply

5. Push the power supply in until the latch snaps into place.

   Do not slam the power supply into the switch.

   Note
   Be sure to install a cover over any unoccupied power supply slots. Unoccupied power supply slots must always be covered to maintain proper system ventilation and EMI levels.

To install or replace a second power supply repeat this procedure.

- After installing an AC power supply, connect the power cord to the power supply and to a grounded AC power outlet.

  Warning
  Always make sure that the source outlet is properly grounded before plugging the AC power cord into the AC power supply.

  If the power supply is equipped with a power cord retainer, use the retainer to secure the power cord to the power supply.

- After installing a DC power supply, ground the power supply and connect the power supply to the power source.

  Warning
  Connect the chassis ground wire before you connect any power cables.

Connect an AC Power Supply to an AC Power Outlet Using the Retainer

1. Connect the AC power cord.
   a. If necessary, slide the plastic cord retainer farther away from the back of the switch.
   b. Connect the AC power cord to the input connector.
   c. Open the clip and slip it over the barrel of the connector.

      The diagram below - Power Supply with Power Cord and Retainer Attached shows the power supply with the power cord and retainer in place.

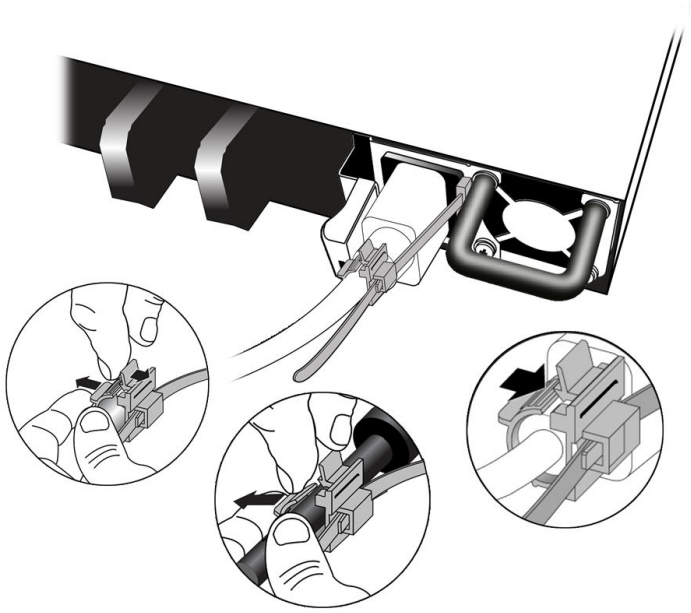


Figure 31: Power Supply with Power Cord and Retainer Attached

   d. Snap the clip firmly around the connector.
2. Connect the other end of the power cord to an AC power outlet.

   Note
   Always make sure that the source outlet is properly grounded before plugging the AC power cord into the AC power supply.

Leave the ESD strap permanently connected to the rack, so that the strap is always available when you need to handle ESD-sensitive components.

Connect a DC Power Supply to a DC Power Source

After installing the DC power supply, connect it to the DC power source with either cable wires or a power supply cable.

Required Tools and Materials for Installing a DC Power Supply

You need the following tools and materials to connect a DC power supply to the source voltage.

- Connection hardware appropriate to the installation site:
  - Hardware for connecting the power wires to the DC source
  - Hardware for connecting the ground wire to the site grounding point
- #1 cross-head (Phillips) screwdriver
- ESD-preventive wrist strap
- Thermal protective gloves (for removal of a warm power supply)

Preparing the Cables for a DC Power Supply

Connecting the Ground Wire to a DC Power Supply

Follow these steps to connect the ground wire to a DC power supply.

1. Verify that the DC circuit is de-energized.
2. Attach an ESD-preventive wrist strap to your bare wrist and connect metal end to an appropriate ground point on the rack.
3. Connect the ground wire to the grounding point on the power supply, which is labeled GND.

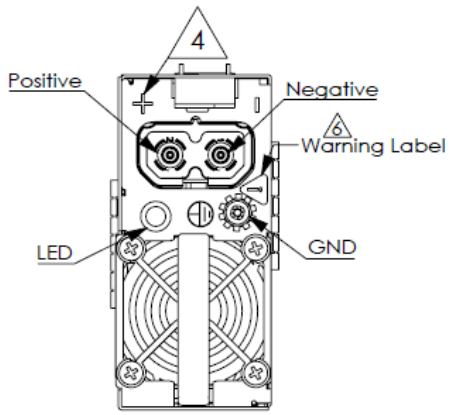


Figure 32: Front view of the DC power supply

Directly beneath the grounding point, you will see the international symbol for earth ground –  – on the body of the switch.

a. Attach mm ring lug to the 6 AWG ground wire.
b. Secure the ring lug with a 5mm hex socket and tighten.

c. Gently tug the ground wire to make sure it is fastened securely.

4. Connect the other end of the wire to a known reliable earth ground point at your site.

Connecting a DC Power Supply to the Source Voltage

Warning
Always make sure that the DC circuit is de-energized before connecting or disconnecting the DC power cables on the DC power supply.

Caution
Provide proper connection and strain relief on the DC power cables in accordance with all local and national electrical codes.

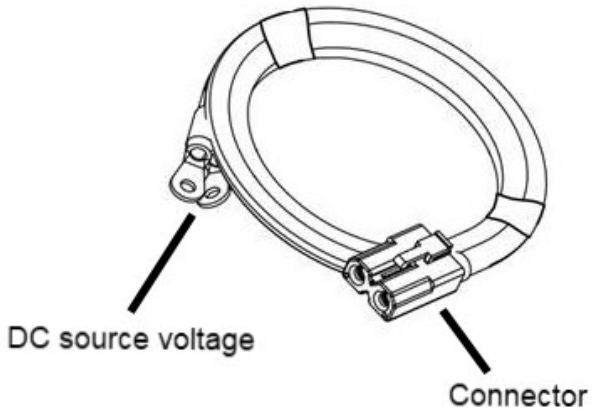
The DC power connection at your facility must be made by a qualified electrician.

If the power supply came with power supply cable wires, use these instructions:

1. Verify that the DC circuit is de-energized.
2. Attach an ESD-preventive wrist strap to your bare wrist and connect the metal end to an appropriate ground point on the rack.
3. Attach one end of the DC power supply wires to the power supply DC power terminals, wrapping the wire around the terminals. Make note of the polarity.
4. Make sure the screws are tight with no wire touching the ground screw.
5. Connect the other end of DC power supply wires to the DC source voltage, matching the polarity. Use hardware appropriate to the installation site and following local and national electrical codes.

If the power supply came with a power supply cable, use these instructions:

1. Verify that the DC circuit is de-energized.
2. Attach an ESD-preventive wrist strap to your bare wrist and connect the metal end to an appropriate ground point on the rack.
3. Plug the connector that contains the negative (V+DC) and positive (V-DC) wires to the power supply.



4. Connect the cables to the DC source voltage, using hardware appropriate to the installation site and following local and national electrical codes.

Power up to the switch. See Turn on the Switch on page 53 for more information.

Leave the ESD strap permanently connected to the rack, so that the strap is always available when you need to handle ESD-sensitive components.

Replace Fan Modules

For switches with replaceable fan modules, refer to the following information to replace the fan modules. You can replace fan modules as needed while the switch is operating ("hot swapping"). Fan module slots are located on the rear panel of the switch.

Do not operate a chassis for more than a few minutes with a missing fan module. To ensure internal chassis air pressure is maintained and to avoid loss of traffic due to modules overheating and shutting down, leave a failed fan module installed until you have a replacement.

Images in this topic might show switches that are not identical to the ones you are using. However, the procedure for replacing a fan module is the same for all Extreme Networks switches.

Note
Read all of the information in this chapter thoroughly before attempting to replace a fan module.

Fan Airflow Direction Requirements

All installed fan modules must blow air in the same direction and must match the airflow direction of the installed power supplies. Before you begin, have the replacement fan module on hand so that you can complete the replacement promptly. The switch can overheat if left without adequate cooling for an extended time.

Replace a Fan Module

Two fan module options are available for SLX 9740-40C switches:

- Part number XN-FAN-003-F provides front-to-back airflow for switch cooling.
- Part number XN-FAN-003-R provides back-to-front airflow for switch cooling.

Two fan module options are available for SLX 9740-80C switches:

- Part number XN-FAN-004-F provides front-to-back airflow for switch cooling.
- Part number XN-FAN-004-R provides back-to-front airflow for switch cooling.

Note
The operating system software cannot display the airflow direction.

Remove a Fan Module

Use the following instructions to remove a fan module.

1. Gently pull the tab on the end of the fan module.

The fan module is held in place by spring clips. As you pull, the clips disengage and the fan stops.

2. Slide the fan module out of the switch and set it aside.

Install a Fan Module

Use the following instructions to install a fan module.

1. Verify that the airflow direction on the replacement fan module matches that of the installed power supplies and any fan modules.
2. Carefully slide the replacement fan module into the switch.

Note
Do not force the installation. If the fan assembly does not slide in easily, ensure that it is correctly oriented before continuing.

Push until the fan module snaps into place. The fan automatically starts to operate.

Replace Transceivers

Use these instructions to remove and replace or install transceivers.

Remove a transceiver

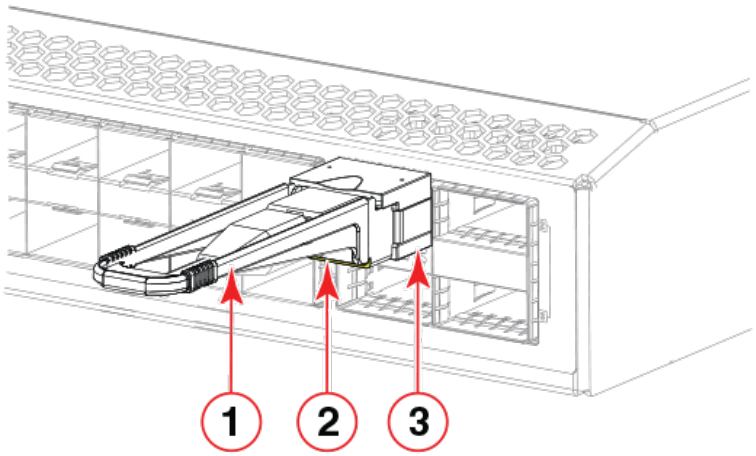
Use these instructions to remove a transceiver.

1. Remove any cables that are inserted into the transceiver.

Note
If your transceiver has an integrated cable, you cannot remove the cable.

2. Grasp the transceiver pull tab and gently pull the transceiver straight out from the port.

Note
Grasp the pull tab near the body of the transceiver to reduce the chances of bending the pull tab. As the transceiver may be hot, always use the pull tab and avoid touching the transceiver body.



1 = Pull tab
2 = QSFP28 cable
3 = QSFP28 transceiver

Figure 33: Replacing a QSFP28 optical transceiver into blade port

Replace or install a transceiver

While non-Extreme optics are supported, Extreme-qualified transceivers are recommended. The port might not become operational or it may have a higher error rate using unqualified transceivers.

The following additional notes apply to the QSFP28 transceivers:

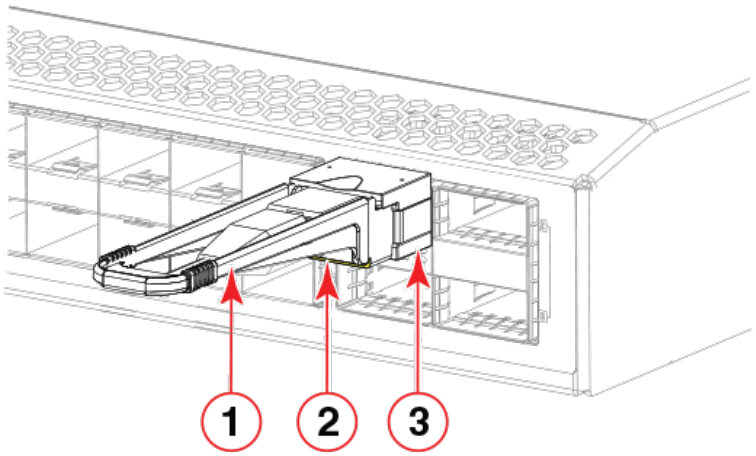
- While non-Extreme optics are supported,Extreme-qualified transceivers are recommended.

  If using 40GbE-to-10GbE breakouts, each QSFP28 transceiver contains four individual 10 GbE ports. Be aware that any problems with one port could affect all four ports in the quad if the QSFP28 must be replaced.
- Some QSFP28 transceivers have an integrated cable attached. You do not need to install a separate cable.

To insert an QSFP28 transceiver and cable, complete the following steps.

1. Push the transceiver into the port using the pull tab. Transceivers are keyed so that they can only be inserted with the correct orientation. If a transceiver does not slide in easily, ensure that it is correctly oriented. Push the correctly oriented transceiver into the port until it is firmly seated and the latching mechanism clicks.

   Note
   Always use the transceiver pull tab to insert or remove the QSFP28 transceivers, as the transceiver might be hot.



1 = Pull tab
2 = QSFP28 cable
3 = QSFP28 transceiver

Figure 34: Replacing a QSFP28 optical transceiver into blade port

After insertion, the LEDs have the following status:

- Off - no link
- On - link, no traffic
- Rapid flash - link with traffic
- Slow flash (one second on, one second off) - beaconing feature

2. Position the cable so that the key (the ridge on one side of the cable connector) is aligned with the slot in the transceiver. Insert the cable into the transceiver until the latching mechanism clicks.

Note
If your transceiver has an integrated cable, you do not need to install a cable.

When both ends of the cable are inserted and the link is fully established, the LED displays steady green.

Note
Cables are keyed so that they can be inserted in only one way. If a cable does not slide in easily, ensure that it is correctly oriented. Do not insert any unsupported cable intended for another type of transceiver into a regular QSFP28 transceiver. You may damage the cable as well as the transceiver.

3. Organize cables to avoid covering LEDs and air vents so that LCs can be removed. Refer to Managing Cables on page 59 for more information.

Breakout Cables

The copper breakout cables are terminated with optical connectors and are available in 1m, 3m, 5m, and greater lengths. No additional connectors or cabling are required

when using the copper breakout. When using the fiber breakout cables, additional 10Gb optics are required.

For the SLX 9740 switch router interfaces 0/25 to 0/36 support up to 48 10GbE or 48 25GgE ports in breakout mode by using the following optics:

- 4 SFP+ 40GbE-to-10GbE copper breakout cables in 1m, 3m, or 5m or greater lengths.
- 40G-QSFP-SR4-INT (with fiber breakout cables and additional 10GbE optics).
- 40G-QSFP-ESR4 (with fiber breakout cables and additional 10GbE optics).

For 4x 25GbE breakout:

- 100G-QSFP-4SFP-P-XXX

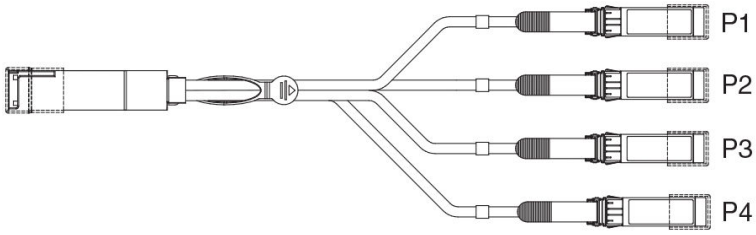
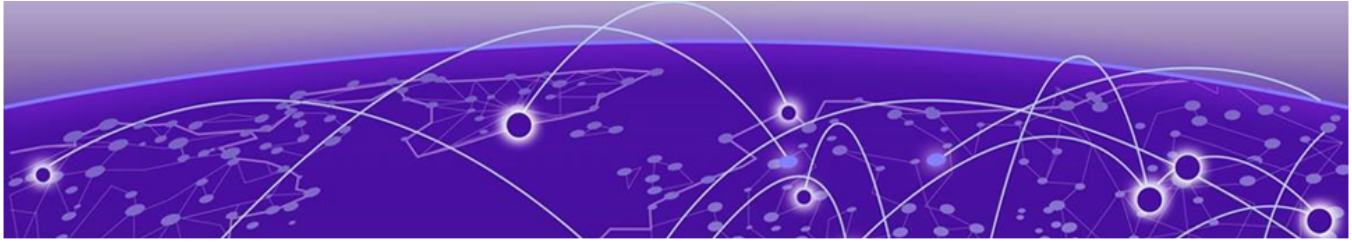


Figure 35: QSFP+ to 4 SFP+ (4 x 10 GbE) direct-attach copper breakout cable

Verify Transceiver Operation

To verify operation of a transceiver, view the LEDs on the transceiver. To find the LED locations on the interface modules, refer to SLX 9740 System Status LED Locations on page 77. After you have connected and configured the ports for Ethernet connectivity and connected the cable to another active port, the LED becomes solid green. When traffic is detected on the port, the light becomes blinking green.

You can also enter the `show interface status` and `show ip interface brief` commands to verify proper transceiver operation.



Monitor the Switch

The following topics help you monitor the status of the switch as it is running.

System Status LEDs

The Extreme Networks switch is engineered for reliability and requires no routine operational steps or maintenance. You can monitor the device by paying attention to the following information:

- The LEDs showing the status of system components
- The LEDs showing the status of system components

The following commands can be especially helpful in monitoring the health status of various switch components. For details about these commands, refer to *Extreme SLX-OS Monitoring Configuration Guide* for the SLX 9740 switch.

- `show chassis`
- `show system`
- `show slots`
- `show linecard`
- `show environment fan`
- `show environment power`
- `show environment sensor`
- `show environment temp`

SLX 9740 System Status LED Locations

The SLX 9740 switch router has the following LEDs on the front panel:

- One power single-color status LED (green)
- One status bicolor status LED (green and amber)
- One fan bicolor status LED (green and amber)
- One PSU bicolor status LED (green and amber)

The figure below shows the LEDs on the SLX 9740 switch router front panel.

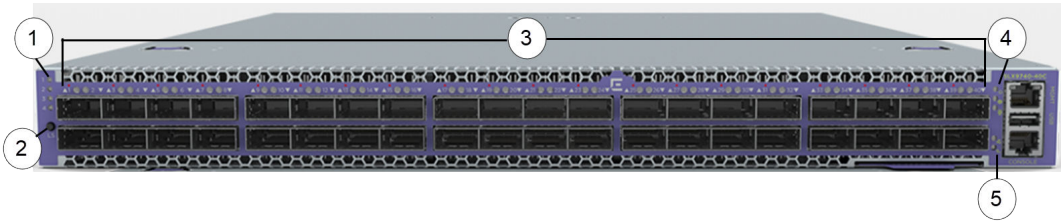


Figure 36: SLX 9740 switch router LEDs

1 = Power LED
2 = Locater LED
3 = Status Port LEDs
4 = Management port LEDs
5 = Console port LEDs

SLX 9740 System Status LEDs

System status LEDs are located on the panel front of the switch. The following table describes the colors and the states for the LEDs.

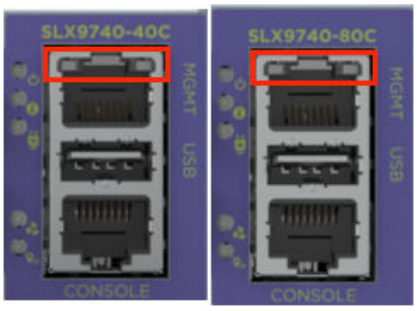


Figure 37: SLX 9740 System LEDs

Table 10: SLX 9740 System Status LEDs

LED Function/state	Meaning	Possible cause
Power		
Off	No power	Some Power rails are dropping below specification
Solid green	Valid power. All monitored voltages are nominal	
Status (bicolor)		
Blinking amber-green	Attention	TBD by SW
Solid amber	Fault/initial state	This LED is lit during the reboot
Solid green	Board is operational	
Power Supply Output Status (On PSU)		

Table 10: SLX 9740 System Status LEDs (continued)

LED Function/state	Meaning	Possible cause
Off	No power	
Blinking green	Stand-by	Standby output enabled with no power supply warning or fault detected
Solid green	Power GOOD	Main output and standby output enabled with no power supply warning or fault detected
Blinking amber	Warning	Power supply warning detected as per PMBus STATUS_X reporting bytes
Solid amber	FAULT	Power supply fault detected as per PMBus STATUS_X reporting bytes
Fan Status LED (On Fan FRU)		
Off (no light)	No power	
Solid green	Fan operates per specification (Normal)	
Solid amber	Fan needs attention/ replacement	

1 Gb RJ-45 Management Port LEDs

The management port includes two LEDs that are both amber and green. The LEDs are located on each side of the RJ-45 port. The LED on the left side is labeled Speed and the LED on the right side is labeled Link/Activity. The following table describes the meaning of the colors and states for the LEDs.

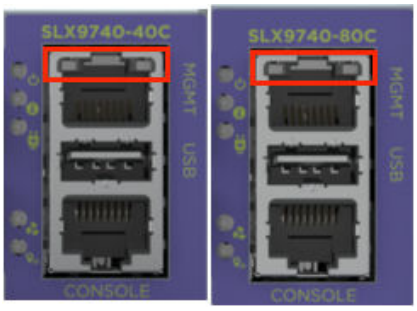


Figure 38: 1 Gb RJ45 Management Port LEDs

Table 11: 10/100/1000Base-T RJ-45 Management Port LEDs

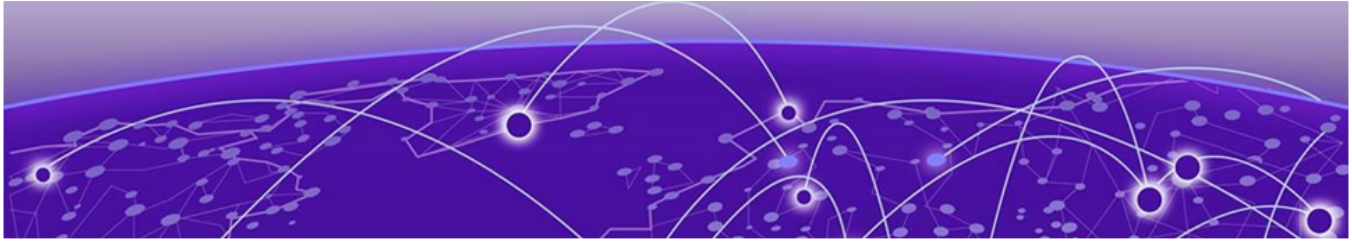
LED	Color/State	Description
Speed	Off	The port is operating at 10 Mbps.
	Solid amber	The port is operating at 1 Gbps.
	Solid green	The port is operating at 100 Mbps.
Link/Activity	Off	No link.
	Solid green	The port has established a link. There is no data activity.
	Blinking green	The port has established a link and there is data activity.

QSFP28 Port LEDs

Each port has one LED to indicate channel status. A channel selector switch enables you to display the status of individual channels. The selected channel is indicated in the display. The following table describes the states for the LED.

QSFP28 Channel	Description
0 (Default) - Port and all channels/lanes	(Default) Indicate the state of the port (all 4 lanes)
1	Indicates the link state and speed on Lane 1
2	Indicates the link state and speed on Lane 2

QSFP28 Channel	Description
3	Indicates the link state and speed on Lane 3
4	Indicates the link state and speed on Lane 4



Technical Specifications

This following topics contain technical specifications for the hardware products described in this document.

SLX 9740 Technical Specifications

External Interfaces

Part number	Description
SLX 9740-40C, 9740-40C	SLX 9740-40C, 9740-40C switch router with two unpopulated power supply slots and six unpopulated fan slots. Supports 40x100GE/40GE QSFP28 ports.
SLX 9740-40C-AC-F	SLX 9740-40C-AC-F switch router AC with front-to-back airflow. Supports 40x100GE/ 40GE QSFP28 ports with dual power supplies, six fans.
SLX 9740-80C, 9740-80C	SLX 9740-80C, 9740-80C switch router with four unpopulated power supply slots and four unpopulated fan slots. Supports 80x100GE/40GE QSFP28 ports.
SLX 9740-80C-AC-F	SLX 9740-80C-AC-F switch router AC with front-to-back airflow. Supports 80x100GE/ 40GE QSFP28 ports with quad power supplies, four fans.

Weights and Dimensions

Switch	Weight	Physical Dimensions
SLX9740-40C	10.55 kg (23.28 lb)	Height: 4.31 cm (1.7 in) Width: 45.00 cm (17.72 in) Length (base switch): 64.00 cm (25.2 in) Length (40C-AC-F switch): 67.00 cm (26.38 in)
SLX9740-40C switch with two AC PSUs (-F and -R switches)	13.62 kg (30.04 lb)	
SLX9740-80C	20.61 kg (45.45 lb)	Height: 8.66 cm (3.41 in) Width: 45.00 cm (17.72 in) Length (base switch): 64.00 cm (25.2 in) Length (80C-AC-F switch): 67.00 cm (26.38 in)
SLX9740-80C switch with four AC PSUs (-F and -R switches)	26.48 kg (58.40 lb)	
XN-FAN-003-F: Fan unit, front-to-back or FAN-003-R: Fan unit back-to-front for SLX9740-40C	0.12 kg (0.28 lb)	Height: 4.01 cm (1.58 in.) Width: 4.01 cm (1.58 in.) Length: 13.99 cm (5.51 in.)
XN-FAN-004-F: Fan unit, front-to-back or FAN-004-R: Fan unit back-to-front for SLX9740-80C	0.31 kg (0.70 lb)	Height: 5.99 cm (2.36 in.) Width: 4.01 cm (2.36 in.) Length: 15.49 cm (6.1 in.)
XN-4P-RKMT302 - Four-post rack mount kit for SLX9740-40C (included with switch)	2.83 kg (6.26 lb)	Height: 5.00 cm (1.97 in) Width: 7.01 cm (2.76 in) Length: 72.00 cm (28.35 in)
XN-4P-RKMT301 - Four-post rack mount kit for SLX9740-80C (included with switch)	2.95 kg (6.52 lb)	
XN-2P-RKMT299 - Two-post rack mount kit for SLX9740-40C (ordered separately)	0.45 kg (0.99 lb	Height: 4.2 cm (1.65 in) Width: 2.4 cm (0.93 in) Length: 12.5 cm (4.92 in)
XN-2P-RKMT300 - Two-post rack mount kit for SLX9740-80C (ordered separately)	0.70 kg (1.54 lb)	Height: 8.99 cm (3.54 in) Width: 10.16 cm (4.00 in) Length: 13.00 cm (5.12 in)
1600 W power supply – AC front-to-back or back-to-front airflow	1.15 kg (2.53 lb)	Height: 4.01 cm (1.58 in) Width: 8.63 cm (3.4 in) Depth: 24.00 cm (9.45 in)
1600 W power supply – DC front-to-back airflow		Height: 4.01 cm (1.58 in) Width: 8.63 cm (3.4 in) Depth: 25.50 cm (10.04 in)

Software Specifications

Software Specifications	Description
Connector options	• 40 100 GbE/40GbE ports for 9740-40C • 80 100 GbE/40GbE ports for 9740-80C • 72 (18x4) 10/25 GbE ports for 9740-40C • 144 (36x4) 10/25 GbE ports for 9740-80C • Out-of-band Ethernet management: 10/100/1000 Mbps RJ-45 • Console management: RJ45 serial port • Storage: USB port, standard-A plug
Maximum MAC addresses	600K (default profile) 190K (route profile)
Switch fabric capacity (data rate, full duplex)	4.0 Tbps in each direction (front panel ports, 40x100Gbps) for 9740-40C 8.0 Tbps in each direction (front panel port, 80x100Gbps) for 9740-80C
Maximum VLANs	4,096
Maximum ACLs (IPv4/IPv6/L2)	2,000
Maximum members in a standard LAG	64
Maximum number of MCT switches	2
Maximum number of Bridge Domains	4,096
Maximum IPv4 unicast routes	128,000
Maximum IPv6 unicast routes	10,000
Maximum IPv4 host routes	47,000
Maximum IPv6 host routes	33,000
Maximum jumbo frame size	9,216 bytes

Software Specifications	Description
QoS priority queues (per port)	8
IEEE Compliance	• IEEE 802.1D Spanning Tree Protocol • IEEE 802.1s Multiple Spanning Tree • IEEE 802.1w Rapid Reconfiguration of Spanning Tree Protocol • IEEE 802.3 Ethernet • IEEE 802.3ad Link Aggregation with LACP • IEEE 802.3ab 1000BASE-T • IEEE 802.3z 1000BASE-X • IEEE 802.3ba / 80 2.3bm 40 GBASE-X and 100 GBASE-X • IEEE 802.1Q VLAN Tagging • IEEE 802.1p Class of Service Prioritization and Tagging • IEEE 802.1v VLAN Classification by Protocol and Port • IEEE 802.1AB Link Layer Discovery Protocol (LLDP) • IEEE 802.3x Flow Control (Pause Frames) • IEEE 802.3ae 10 GBASE-X • IEEE 802.3 10 GBASE-T (up to 100 m using Cat6a cabling or better) • IEEE 802.3bj • IEEE 802.3by

Acoustic Noise

Switch	Bystander Sound Pressure (at 27°C)	Declared Sound Power (at 27°C)
SLX9740-40C-AC-F (SLX 9740-40C with front-to- back airflow	55 dB(A)	7.5 bels
SLX9740-40C-AC-R (SLX 9740-40C with back-to- front airflow	59.4 dB(A)	7.9 bels

Switch	Bystander Sound Pressure (at 27°C)	Declared Sound Power (at 27°C)
SLX9740-80C-AC-F (SLX 9740-80C with front-to- back airflow	59.5 dB(A)	7.8 bels
SLX9740-80C-AC-R (SLX 9740-80C with back-to- front airflow)	66.7 dB(A)	8.5 bels

CPU and Memory

Table 12: CPU and Memory

Both Switches
2.2GHz 64-bit CPU
2 x 16 Gb DDR4 SO-DIMM memory, 128 Gb SSD
16MB BIOS SPI Flash Memory
8 GB Deep Buffer for each BCM88690 MAC ASIC

Mean Time Between Failures

Table 13: SLX 9740 Mean Time Between Failures (MTBF)

Switch	Mean Time Between Failures
SLX9740-40C-AC-F	189,747 hrs @ 25°C
SLX9740-80C-AC-F	131,836 hrs @ 25°C
SLX9740-40C-DC-F	189,747 hrs @ 25°C

Power Specifications

Three 1600 W power supply units are available for use with SLX 9740 switches:

- Part number XN-ACPWR-1600W-F provides 1600W AC power with front-to-back airflow for power supply cooling.
- Part number XN-ACPWR-1600W-R provides 1600W AC power with back-to-front airflow for power supply cooling.
- Part number XN-DCPWR-1600W-F provides 1600W AC power with front-to-back airflow for power supply cooling.

Power Supply Options

SLX 9740 Switch	**1600 W AC power supply:** Part # XN-ACPWR-1600W-F (front-to-back): AC Input: 100-120/200-240 VAC, 50/60 Hz Part # XN-ACPWR-1600W-R (back-to-front): AC Input: 200-240 VAC, 50/60 Hz 7A max. for PSU FSG059 for each PSU for SLX9740-40C 4A max. for PSU FSG059 and FSE023 for each PSU for SLX9740-40C; for SLX9740-80C, min. 2 PSUs provided. PSU Input Socket: IEC 320 C14 Power cord input plug: IEC 320 C13
	1600 W DC power supply: Part # XN-DCPWR-1600W-F (front-to-back) DC Input: +/- 48VDC 15A Max (for PSU FSK010) for each PSU for SLX9740-40C +/- 48VDC 15A Max (for PSU FSK010) for each PSU, min. x2 for SLX9740-80C

Maximum Power and Heat Dissipation

	SLX 9740-80C (Fans high, all ports 100% traffic, 4 PSU)	SLX 9740-40C (Fans high, all ports 100% traffic, 2 PSU)
Maximum Heat Dissipation	6592.26 BTU/hr	3524.74 BTU/hr
Maximum Power Dissipation	1932W	1033W

1600 W Power Supplies Technical Specifications

Table 14: Power Specifications (AC Power Supplies)

Voltage input range	90 to 264 V ~
Nominal input ratings	For FSG059: AC 100-120V ~, 50/60Hz, 13A max.; 200-240V ~, 50/60Hz, 10A max. For FSE023: 200-240V ~, 50/60Hz, 10A max.
Nominal input current at full loads	10 A at 90 V ~ (low-line) 3.7 A at 230 V ~ (high-line)

Table 14: Power Specifications (AC Power Supplies) (continued)

Line frequency range	47 to 63 Hz
Maximum inrush current	35 A
Output	For FSG059: +12V/133A (for input 200-240VAC or 240VDC), +12V/83A (for input 100-120VAC), +12Vsb/2.5A. Total output power not to exceed 1600W (200-240VAC or 240Vdc). Total output power not to exceed 1000W (100-120VAC). For FSG023: +12V/133A, +12Vsb/2.5A. Total output power not to exceed 1600W.
Efficiency	Low Line: 88% at 50% load and 86% at 100% load High Line: 90% at 50% and 100% loads

Table 15: Power Specifications (DC Power Supplies)

Nominal input	-48 to -60 VDC
DC Voltage input range	+/-39VDC to +/-72VDC, 15A max.
Inrush Current	21 A peak
DC Output	+12.2V/131A, +12Vsb/2.5A
Power (W)	1600 W

Table 16: Power Supply Environmental Specifications

Operating temperature (front- to-back airflow)	0°C to 45°C (normal operation)
Operating temperature (back- to-front airflow)	0°C to 45°C (normal operation)
Storage temperature	-40°C to 70°C
Operating humidity	5% to 95% relative humidity, non-condensing
Operational shock	30 m/s^2 (3 G)

Environmental

Environmental Standards

EN/ETSI 300 019-2-1 v2.1.2 (2000 - 2009) - Class 1.2 Storage
EN/ETSI 300 019-2-2 v2.1.2 (1999 - 09) - Class 2.3 Transportation

EN/ETSI 300 019-2-3 v2.1.2 (2003 - 04) - Class 3.1e Operational
EN/ETSI 300 753 (1997-10) - Acoustic Noise
ASTM D3580 Random Vibration Unpackaged 1.5G

Temperature Range

- Front-to-back airflow: 0°C to 40°C (32°F to 104°F) up to 1800m (6,000 ft)
- Back-to-front airflow: 0°C to 25°C (32°F to 77°F) up to 1800m (6,000 ft

Other Operating Conditions

Humidity: 5% to 90% relative humidity, non-condensing
Altitude: 0 to 4,500 meters (14,763 feet)
Storage temperature: -25°C to 55°C (-13°F to 131°F)
Operational shock (half sine): 30 m/s^2 (3 G), 11 ms, 60 shocks
Operational random vibration: 3 to 500 Hz at 1.5 G rms

Storage & Transportation Conditions (Packaged)

Transportation temperature: -40°C to 70°C (-40°F to 158°F)
Humidity: 5% to 95% relative humidity, non-condensing
Packaged shock (half sine): 180 m/s^2 (18 G), 6 ms, 600 shocks
Packaged sine vibration: 5 to 62 Hz at velocity 5 mm/s, 62 to 500 Hz at 0.2 G
Packaged random vibration: 5 to 20 Hz at 1.0 ASD w/–3 dB/ oct. from 20 to 200 Hz
14 drops minimum on sides and corners at 42 in (<15 kg box)

Standards

North American ITE

UL 62368-1 (US)
UL 60950-1 (US)
CAN/CSA 22.2 #62368-1-14, Canada
CAN/CSA 22.2 #60950-1-07, Canada
Complies with FCC 21 CFR Chapter 1, Sub-chapter J in accordance with FDA & CDRH requirements (US Laser Safety)
CDRH Letter of Approval (US FDA Approval)

European ITE

EN 62368-1
EN 60950-1
EN 60825-1 Class 2 (Lasers Safety)
2014/35/EU Low Voltage Directive

International ITE

AS/NZS 60950-1 (Australia /New Zealand)
CB Report & Certificate per IEC 60950-1 + National Differences
CB Report & Certificate IEC 62368-1

EMI/EMC Standards

North America EMC for ITE

FCC 47 CFR part 15 Class A (USA)
ICES-003 Class A (Canada)

European EMC standards

EN 55032 Class A
EN 55024
EN 55011
EN 61000-3-2 (Harmonics)
EN 61000-3-3 (Flicker)
EN 300 386 (EMC Telecommunications)
2014/30/EU EMC Directive

International EMC certifications

IEC 61000-4-2/EN 61000-4-2 Electrostatic Discharge, 8kV Contact, 16kV Air, Criteria B
IEC 61000-4-3/EN 61000-4-3 Radiated Immunity 10V/m, Criteria A
IEC 61000-4-4/EN 61000-4-4 Transient Burst, 2kV, Criteria B
IEC 61000-4-5/EN 61000-4-5 Surge, 1kV L-L, 2kV L-G, Level 3 Criteria B
IEC 61000-4-6/EN 61000-4-6 Conducted Immunity, 0.15-80 Mhz, 10Vrms, 80%AM (1kHz) Criteria A
IEC/EN 61000-4-11 Power Dips & Interruptions, >30%, 25 periods, Criteria C
CISPER 32 Class A (International Emissions)
CISPER 24 Class A (International Immunity)
CISPER 11:2009 ED 5.0 Group 1, Class A
AS/NZS CISPER 32

Country Specific

VCCI Class A (Japan)
ACMA RCM (Australia)
CCC Mark (China)
KCC Mark, EMC Approval (Korea)
BSMI (Taiwan)
ANATEL (Brazil)

NoM (Mexico)
EAC mark (Russiam Belarus, Kazhakstan)
NRCS (South Africa)

Telecom Standards

EN/ETSI 300 386:2008 (EMC Telecommunications)
EN/ETSI 300 019 (Environmental for Telecommunications)
MEF9 and MEF14 certified for EPL, EVPL, and ELAN

IEEE 802.3 Media Access Standards

IEEE 802.3ab 1000BASE-T
IEEE 802.3z 1000BASE-X
IEEE 802.3ae 10GBASE-X
IEEE 802.3ba 40GBASE-X

Power Cord Requirements for AC-Powered Switches and AC Power Supplies

An AC power cord is not included with the AC power supply.

Power cords used with AC-powered switches or AC power supplies must meet the following requirements:

- The power cord must be agency-certified for the country of use.
- The power cord must have an appropriate AC connector for connection to the switch or power supply. See the power supply documentation for the appropriate power cord.
- The power cord must have an appropriately rated and approved wall plug applicable to the country of installation.

For details about obtaining AC power cords for use in your country, refer to http://www.extremenetworks.com/product/powercords/.

Safety and Regulatory Information

Warning
Read the following safety information thoroughly before installing Extreme Networks products. Failure to follow this safety information can lead to personal injury or damage to the equipment.

Only trained and qualified service personnel (as defined in IEC 60950-1 and AS/NZS 3260) should install, replace, or perform service to Extreme Networks and their components. Qualified personnel have read all related installation manuals, have the technical training and experience necessary to be aware of the hazards to which they are exposed in performing a task, and are aware of measures to minimize the danger to themselves or other persons.

If you are located in the United States, install the system in accordance with the U.S. National Electrical Code (NEC).

Considerations Before Installing

Consider the following items before you install equipment.

- For equipment designed to operate in a typical Telco environment that is environmentally controlled, choose a site that has the following characteristics:
  - Temperature-controlled and humidity-controlled, such that the maximum ambient room temperature shall not exceed 50°C (122°F).
  - Clean and free from airborne materials that can conduct electricity.
  - Well ventilated and away from sources of heat including direct sunlight.
  - Away from sources of vibration or physical shock.
  - Isolated from strong electromagnetic fields produced by electrical devices.
- For equipment designed to be installed in environments that are not environmentally controlled, such as outdoor enclosures, see the product data sheet or for environmental conditions, temperature, and humidity.

- Establish at least 3 inches clearance on all sides for effective ventilation. Do not obstruct the air intake vent on the front, side, or rear ventilation grills. Locate the system away from heat sources.
- Make sure that your equipment is placed in an area that accommodates the power consumption and component heat dissipation specifications.
- Make sure that your power supplies meet the site DC power or AC power requirements of all the network equipment.
- Racks for Extreme Networks equipment must be permanently attached to the floor. Failure to stabilize the rack can cause the rack to tip over when the equipment is removed for servicing.
- Do not operate the system unless all modules, faceplates, front covers, and rear covers are in place. Blank faceplates and cover panels are required for the following functions:
  - Preventing exposure to hazardous voltages and currents inside the equipment
  - Containing electromagnetic interference (EMI) that might disrupt other equipment
  - Directing the flow of cooling air through the equipment
- Ultimate disposal of this product should be handled according to all national laws and regulations.

General Safety Precautions

Follow these guidelines:

- Do not try to lift objects that you think are too heavy for you.
- When you install equipment in a rack, load heavier devices in the lower half of the rack first to avoid making the rack top-heavy.
- Use only tools and equipment that are in perfect condition. Do not use equipment with visible damage.
- Route cables in a manner that prevents possible damage to the cables and avoids causing accidents, such as tripping.
- Do not place a monitor or other objects on top of the equipment. The chassis cover is not designed to support weight.
- To reduce the risk of fire, use only #26 AWG or larger telecommunications line cord. Use only copper conductors.
- Do not work on the system or connect or disconnect cables during periods of lightning activity.
- This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor.

Maintenance Safety

When you perform maintenance procedures on Extreme Networks equipment, follow these recommendations:

- Use only authorized accessories or components approved for use with this system. Failure to follow these instructions may damage the equipment or violate required safety and EMC regulations.
- This system contains no customer serviceable components. Do not attempt to repair a chassis, power supply, module, or other component. In the event of failure, return the defective unit to Extreme Networks for repair or replacement, unless otherwise instructed by an Extreme Networks representative.
- To remove power from the system, you must unplug all power cords from wall outlets. The power cord is the disconnect device to the main power source.
- Disconnect all power cords before working near power supplies, unless otherwise instructed by a product-specific maintenance procedure.
- Replace a power cord immediately if it shows any signs of damage.
- When you work with optical devices, power supplies, or other modular accessories, put on an ESD-preventive wrist strap to reduce the risk of electronic damage to the equipment. Connect the other end of the strap to an appropriate grounding point on the equipment rack or to an ESD jack on the chassis if one is provided. Leave the ESD-preventive wrist strap permanently attached to the equipment rack or chassis so that it is always available when you need to handle components that are sensitive to ESD.
- Install all cables in a manner that avoids strain. Use tie wraps or other strain relief devices.

Cable Routing for LAN Systems

Extreme Networks equipment meets the requirements for LAN system equipment.

LAN systems are designed for intra-building installations; that is, cable runs between devices must be in the same building as the connected units, except under the conditions listed in the next paragraph.

As allowed in the USA by the National Electrical Code (NEC), this equipment can be connected between buildings if any one of the following conditions is true:

- Cable runs between buildings are less than 140 feet long.
- Cable runs between buildings are directly buried.
- Cable runs between buildings are in an underground conduit, where a continuous metallic cable shield or a continuous metallic conduit containing the cable is bonded to each building grounding electrode system.

Caution
Failure to follow these requirements for cable routing conditions may expose the user to electrical shock and expose the unit to damage that can cause errors.

Warning

The Ethernet ports of the equipment and its sub-assemblies are suitable only for intra-building connections (within the same building) or for connections to unexposed wiring or cabling. (See the conditions listed above.) The Ethernet ports of this equipment or its sub-assemblies must not be metallically connected to interfaces that connect to the outside plant (OSP) or its wiring. Ethernet interfaces are designed for use only as intra-building interfaces (described as Type 2 or Type 4 ports in GR-1089-CORE, Issue 6) and require isolation from the exposed OSP wiring. The addition of Primary Protectors is not sufficient protection to connect these interfaces metallically to OSP wiring.

Install Power Supply Units and Connect Power

For the ratings and power input requirements of each power supply unit, see Technical Specifications on page 82 or the data sheet for the power supply at www.extremenetworks.com.

Warning

Be sure to satisfy the requirements listed in this section when you install Extreme Networks power supplies or connect power.

When you install any power supply:

- Do not use excessive force when you insert a power supply into the bay.
- Do not attempt to open the power supply enclosure for any reason; the power supply does not contain user-serviceable parts. In the event of failure, return the defective power supply to Extreme Networks for repair or replacement.
- Do not put your hand into an open power supply bay when a power supply is not present.
- Before you work on equipment that is connected to power lines, remove all jewelry, including watches. Metal objects heat up when they are connected to power and ground and can cause serious burns or weld the metal object to the terminals.
- An electrical arc can occur when you connect or disconnect the power with power applied. This could cause an explosion in hazardous area installations. Be sure that power is removed from the device.
- When you install or replace equipment, always make the ground connection first and disconnect the ground connection last.

When you install DC power supplies or connect DC power:

- Extreme Networks DC power supplies do not have switches for turning the unit on and off. Make sure that the DC circuit is de-energized before connecting or disconnecting the DC power cord at the DC input power socket.

- Connect the system or power supply only to a DC power source that complies with the safety extra-low voltage (SELV) requirements in IEC 60950-based safety standards.

Note
Because building codes vary worldwide, consult an electrical contractor to ensure proper equipment grounding and power distribution for your specific installation and country.

Warning
Extreme Networks power supplies do not have switches for turning the unit on and off. Disconnect all power cords to remove power from the device. Make sure that these connections are easily accessible.

Extreme Networks alimentations n'ont pas de contact pour mettre l'appareil sous et hors tension. Débranchez tous les cordons d'alimentation pour couper l'alimentation de l'appareil. Assurez-vous que ces connexions sont facilement accessibles.

Select Power Supply Cords

You can purchase a power cord for your product and for your specific country from your local Extreme Networks Channel Account Manager or Sales Manager, or you can purchase a cord from your local supplier. Requirements for the power cord are listed in the Technical Specifications for your product.

To locate a Sales Manager or Partner in your region, visit www.extremenetworks.com/partners/where-to-buy.

Note
This equipment is not intended to be directly powered by power distribution systems where phase-phase voltages exceed 240 VAC (2P+PE), such as those used in Norway, France, and other countries. For these applications, use a transformer to step down the voltage to < 240 VAC from phase-phase, or make a connection to a (P+N+PE) power distribution where voltages do not exceed 240 VAC.

All installations should confirm that the product is reliably grounded according to the country's local electrical codes.

Battery Notice

Warning: This product contains a battery used to maintain product information. If the battery should need replacement it must be replaced by Service Personnel. Please contact Technical Support for assistance.

Risk of explosion if battery is replaced by an incorrect type. Dispose of expended battery in accordance with local disposal regulations.

Attention: Ce produit renferme une pile servant à conserver les renseignements sur le produit. Le cas échéant, faites remplacer la pile par le personnel du service de réparation. Veuillez communiquer avec l’assistance technique pour du soutien.

Il y a risque d’explosion si la pile est remplacée par un type de pile incorrect. Éliminez les piles usées en conformité aux règlements locaux d'élimination des piles.

Regulatory Statements

The following regulatory statements apply to the switch.

CE statement

Important
This is a Class A product. In a domestic environment, this product might cause radio interference, and the user might be required to take corrective measures.

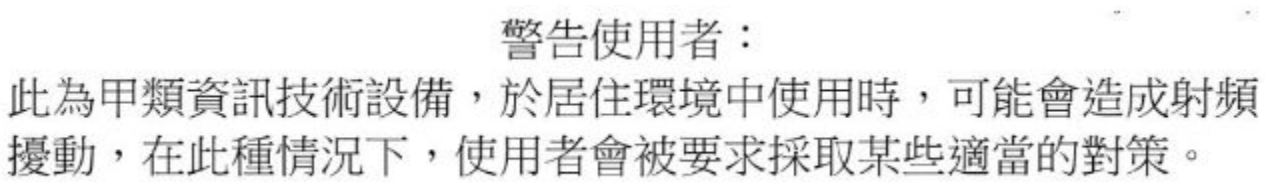
The standards compliance label on this device contains the CE mark which indicates that this system conforms to the provisions of the following European Council directives, laws, and standards:

- Electromagnetic Compatibility (EMC) Directive 2014/30/EU
- Low Voltage Directive (LVD) 2014/35/EU
- EN 55032/EN 55024 (European Immunity Requirements)
  - EN61000-3-2/JEIDA (European and Japanese Harmonics Spec)
  - EN61000-3-3

China and Taiwan: Restriction of Hazardous Substances (ROHS)

For more information, see https://www.extremenetworks.com/company/legal/restriction-of-hazardous-substances/.

BSMI Statement (Taiwan)



Warning:

This is 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.

Canadian requirements

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations, ICES-003 Class A.

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

China CCC statement

China-CCC Warning statements

在维修的时候一定要断开所有电源 (English translation"disconnect all power sources before service")

For non tropical use:

安全说明和标记	汉文	"仅适用于非热带气候条件下安全使用。"
	藏文	[illegible]
	蒙古文	"ᠬᠥᠳᠢᠨ᠎ᠠ᠋ ᠭᠠᠵᠠᠷ ᠲᠤᠬᠠᠢᠯᠠᠪᠠᠯ ᠬᠡᠷᠡᠭᠯᠡᠭᠡᠳᠦᠭᠡᠢ ᠭᠠᠵᠠᠷ ᠳᠤᠰᠬᠠᠢᠯᠠᠭᠰᠠᠨ ᠤ ᠳᠠᠷᠠᠭᠠ ᠬᠡᠷᠡᠭᠯᠡᠭᠡᠳᠦᠭᠡᠢ"
	壮文	Dan hab yungh youq gij dienheiq diuzgen mbouj dwg diegndat haenx ancienz sawjyungh.
	维文	غەيرى ئىسسىق بەلباغ ھاۋا كىلىماتى شارائىتىدىلا بىخەتەر ئىشلەتكىلى بولىدۇ

For altitude 2000 meter and below:

安全说明和标记	汉文	仅适用于海拔2000m以下地区安全使用。
	藏文	[illegible]
	蒙古文	"ᠲᠤᠭᠠᠭᠤᠷ ᠳᠡᠭᠰ᠎ᠡ ᠠᠰᠠᠭᠠᠵᠤ ᠪᠤᠢ 2000ᠮᠠᠲᠠᠷ ᠳᠤᠭᠤᠶᠢᠯᠠᠬᠤ ᠭᠠᠵᠠᠷ ᠳᠤᠰᠬᠠᠢᠯᠠᠭᠰᠠᠨ ᠤ ᠳᠠᠷᠠᠭᠠ ᠬᠡᠷᠡᠭᠯᠡᠭᠡᠳᠦᠭᠡᠢ"
	壮文	Dan hab yungh youq gij digih haijbaz 2000m doxroengz haenx ancienz sawjyungh.
	维文	دېڭىز يۈزىدىن 2000 مېتر تۆۋەن رايونلاردىلا بىخەتەر ئىشلەتكىلى بولىدۇ

Warning for Class A:

声 明

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

English translation of above statement

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.

Australia (RCM)

Warning

This equipment is compliant with Class B of CISPR 32. In a residential environment, this equipment may cause radio interference.

Federal Communications Commission (FCC) Notice

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.

Note
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 designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment uses, generates, and can radiate radio frequency energy and if not installed in accordance with the operator's manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

WARNING: Changes or modifications made to this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Germany statement

Machine noise information regulation - 3. GPSGV, the highest sound pressure level value is 70.0 dB(A) in accordance with EN ISO 7779.

Maschinenlärminformations-Verordnung - 3. GPSGV, der höchste Schalldruckpegel beträgt 70.0 dB(A) gemäss EN ISO 7779.

KCC statement (Republic of Korea)

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

Class A device (Broadcasting Communication Device for Office Use): This device obtained EMC registration for office use (Class A), and may be used in places other than home. Sellers and/or users need to take note of this.

Japan (VCCI Class A)

Warning
This is a Class A product based on the standard of the VCCI Council. If this equipment is used in a domestic environment, radio interference may occur, in which case the user may be required to take corrective actions.

この装置は、クラスA機器です。この装置を住宅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。 VCCI-A

Japan power cord

注意 – 添付の電源コードを他の装置や用途に使用しない
添付の電源コードは本装置に接続し、使用することを目的として設計され、その安全性が確認されているものです。決して他の装置や用途に使用しないでください。火災や感電の原因となる恐れがあります。

English translation of above statement

ATTENTION: Never use the power cord packed with your equipment for other products.