Juniper Networks EX4600-40F-AFI

Juniper Networks EX4600 Series Switch User Manual

Comprehensive instructions for setup, operation, maintenance, and troubleshooting of your Juniper Networks EX4600 switch.

1. INTRODUCTION

The Juniper Networks EX4600 Series Ethernet Switch is a high-performance, compact solution designed for data center top-of-rack and aggregation deployments. This manual provides essential information for the safe and efficient installation, configuration, operation, and maintenance of your EX4600 switch.
The EX4600 model features 24 SFP+/SFP ports, 4 QSFP+ ports, 2 expansion slots, redundant fans, and 2 AC power supplies with rear-to-front airflow, ensuring robust and reliable network connectivity.

2. SAFETY INFORMATION

Please read and understand all safety warnings and instructions before installing or operating the EX4600 switch. Failure to comply with these guidelines may result in injury, damage to the equipment, or voiding of the warranty.

- **Electrical Safety:** Ensure the power source matches the voltage requirements of the switch. Use only approved power cords. Disconnect power before performing any maintenance.

- **Grounding:** Always ensure the switch is properly grounded to prevent electrical shock.

- **Handling:** The switch is heavy. Use proper lifting techniques or assistance to prevent injury.

- **Environment:** Operate the switch in a well-ventilated area within the specified temperature and humidity ranges. Do not block ventilation openings.

- **Laser Safety:** This product may contain Class 1 laser transceivers. Do not stare into optical ports or directly view with optical instruments.

3. PACKAGE CONTENTS

Verify that your EX4600 package contains the following items. If any items are missing or damaged, contact your Juniper Networks representative.

- Juniper Networks EX4600 Series Ethernet Switch

- AC Power Cords (quantity 2)

- Rack Mount Kit (brackets, screws)

- Console Cable (RJ-45 to DB-9)

- Documentation (Quick Start Guide, Safety Information)

4. PHYSICAL OVERVIEW

4.1 Front Panel

Image Description: This image displays the front panel of the Juniper Networks EX4600 switch. It features 24 SFP+/SFP ports on the left, followed by 4 QSFP+ ports, and then two USB ports and a console port on the right side. The Juniper Networks logo is visible on the top cover.

4.2 Console and Management Ports

Image Description: A close-up view of the management section of the EX4600 switch. It shows the console port (CON), a management Ethernet port (C0), a USB port, and LED indicators for Alarm (ALM), System (SYS), Master (MST), and ID. The model number EX4600 is clearly visible.

4.3 Power Supplies

Image Description: This image shows the two hot-swappable AC power supply modules installed in the rear of the EX4600 switch. Each module has a power input connector and a handle for easy removal and installation. LED indicators for AC and DC status are visible between the modules.

4.4 Rear Panel and Fan Modules

Image Description: The rear panel of the EX4600 switch, showcasing the multiple hot-swappable fan modules. These modules are designed for rear-to-front airflow, indicated by the 'AIR IN' labels. The power supply bays are also visible on the right side of the image.

5. SETUP

5.1 Rack Mounting

1. Attach the rack-mount brackets to the sides of the switch using the provided screws.

2. Align the switch with the rack posts and secure it using appropriate rack screws. Ensure the switch is level and fully supported.

5.2 Connecting Power

1. Ensure the power switches on the power supply modules are in the OFF position.

2. Connect the AC power cords to the power supply modules on the rear of the switch.

3. Plug the other end of the power cords into a grounded AC power outlet.

4. Flip the power switches on the power supply modules to the ON position. The power supply LEDs should illuminate.

5.3 Connecting Network Cables

1. Insert SFP+ or SFP transceivers into the 24 front-panel ports as required.

2. Insert QSFP+ transceivers into the 4 front-panel ports as required.

3. Connect appropriate fiber optic or copper cables to the transceivers.

4. For management access, connect an Ethernet cable to the dedicated management port (C0) and/or a console

cable to the console port (CON).

6. OPERATING

6.1 Initial Power On

Once power is connected and switched on, the EX4600 switch will begin its boot sequence. Monitor the system LEDs for status indications. The SYS LED will turn green once the operating system has loaded successfully.

6.2 Basic Configuration

To perform initial configuration, connect a terminal emulator to the console port (CON) using the provided console cable. Use the following settings for your terminal emulator:

- Baud rate: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

Log in using the default credentials (if applicable, refer to Juniper Networks documentation for specific Junos OS versions) and configure basic network parameters such as IP address, subnet mask, default gateway, and management access.

6.3 LED Indicators

The EX4600 switch features several LEDs to indicate system status:

- **ALM (Alarm):** Indicates system alarms. Red for critical, amber for major/minor.
- **SYS (System):** Indicates system status. Green for normal operation, blinking green during boot, amber for issues.
- **MST (Master):** Indicates master role in a Virtual Chassis configuration.
- **ID (Identification):** Used to visually locate the switch in a rack.
- **Port LEDs:** Indicate link status and activity for each network port.

7. MAINTENANCE

7.1 Fan Module Replacement

The EX4600 fan modules are hot-swappable. To replace a fan module:

1. Grasp the handle of the fan module to be replaced.
2. Pull the handle to unseat the module from its slot.
3. Carefully slide the old module out of the chassis.
4. Align the new fan module with the empty slot and gently slide it in until it seats firmly.
5. Ensure the module is fully inserted and secured.

7.2 Power Supply Replacement

The EX4600 power supply modules are hot-swappable. To replace a power supply:

1. Disconnect the power cord from the power supply to be replaced.
2. Flip the power switch on the module to the OFF position.

3. Grasp the handle of the power supply module.

4. Pull the handle to unseat the module from its slot.

5. Carefully slide the old module out of the chassis.

6. Align the new power supply module with the empty slot and gently slide it in until it seats firmly.

7. Connect the power cord and flip the power switch to the ON position. Verify the power supply LEDs.

7.3 Cleaning

Regularly inspect the switch for dust accumulation, especially around ventilation openings. Use a soft, dry cloth to clean the exterior. For internal cleaning, it is recommended to consult Juniper Networks support or a qualified technician.

8. TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your EX4600 switch.

Issue	Possible Cause	Solution
Switch does not power on	No power to power supplies; faulty power cord; power supply failure.	Verify power cord connections and power outlet. Check power supply LEDs. Replace faulty power cords or power supplies.
Link LED is off on a connected port	Incorrect cable; faulty transceiver; port disabled; peer device off.	Ensure correct cable type and proper connection. Verify transceiver is seated correctly. Check port status in CLI. Ensure peer device is powered on.
Cannot access console	Incorrect console cable; incorrect terminal settings; faulty console port.	Use the correct console cable. Verify terminal emulator settings (9600, 8, N, 1, None). Try a different console port or cable if available.
ALM LED is amber or red	System alarm (e.g., fan failure, temperature warning, power supply issue).	Check system logs for specific alarm details. Inspect fan modules and power supplies. Ensure proper ventilation.

9. TECHNICAL SPECIFICATIONS

Specification	Detail
Model Number	EX4600-40F-AFI
Brand	Juniper Networks
Manufacturer	JUNIPER
Number of Ports	24 x SFP+/SFP, 4 x QSFP+
Interface Type	SFP, SFP+, QSFP+
Power Supplies	2 x AC (redundant, hot-swappable)

Specification	Detail
Cooling	Redundant fan modules, rear-to-front airflow
Item Weight	20 pounds (approx. 9.07 kg)
Date First Available	February 8, 2016
UPC	190801063912, 703510601025
ASIN	B01BKURFH4

10. WARRANTY AND SUPPORT

10.1 Warranty Information

This product may come with a limited warranty. For specific warranty terms and conditions, please refer to the documentation provided with your purchase or contact your reseller. Some sellers may offer a 1-year warranty from the date of delivery for used or refurbished units, and a 30-day return policy may apply.

10.2 Technical Support

For technical assistance, product documentation, software downloads, and further support, please visit the official Juniper Networks support website or contact your authorized Juniper Networks partner. Ensure you have your product model number and serial number available when seeking support.