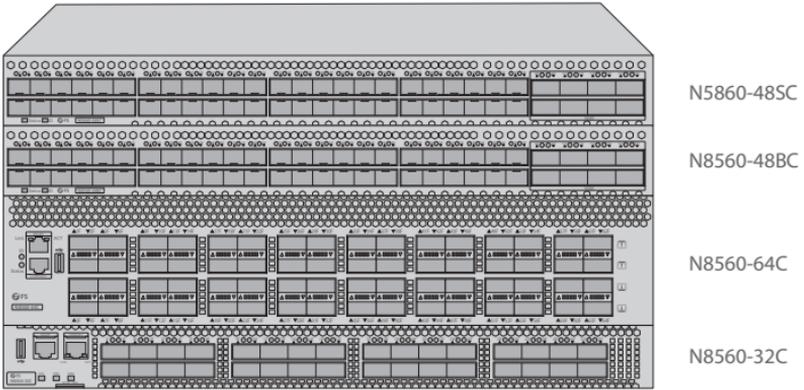# FS

N5860 and N8560 Series 10G/25G/100G Switches

L3 DATA CENTER SWITCHES

Quick Start Guide V1.0

Introduction

Thank you for choosing N5860 and N8560 Series 10G/25G/100G Switches. This guide is designed to familiarize you with the layout of the switch and describes how to deploy the switch in your network.

N5860-48SC

N8560-48BC

N8560-64C

N8560-32C
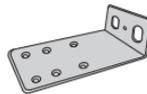
Accessories

N5860-48SC/N8560-48BC

Power Cord x2

Grounding Cable x1

Mounting Bracket x2

M4 Screw x14

M6 Screw x8

M6 Nut x8
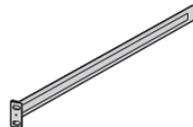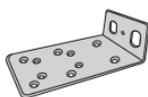

Slide Rail x2

Inner Rail x2
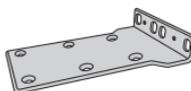
N8560-32C

Power Cord x2	Grounding Cable x1	Mounting Bracket x2	M4 Screw x12
M6 Screw x8	M6 Nut x8	Slide Rail x2	Inner Rail x2

N8560-64C

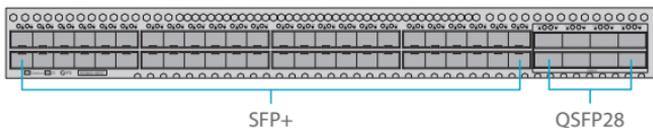|			
Power Cord x2	Grounding Cable x1	Mounting Bracket x2	M4 Screw x18
M6 Screw x8	M6 Nut x8	Slide Rail x2	Inner Rail x2

NOTE: The switches have dust plugs delivered with them. Keep the dust plugs properly and use them to protect idle optical ports.

Hardware Overview

Front Panel Ports

N5860-48SC

SFP+   QSFP28

N8560-48BC

SFP28   QSFP28

N8560-32C

USB   MGMT

CONSOLE   QSFP28

N8560-64C

MGMT   USB

CONSOLE   QSFP28
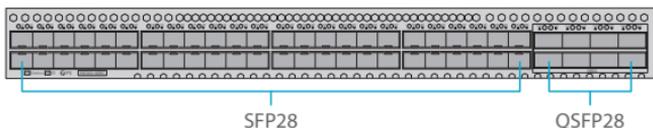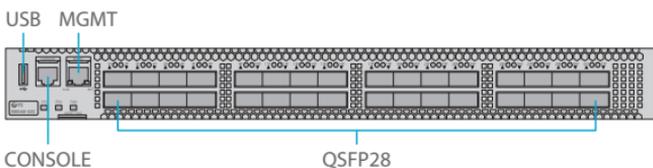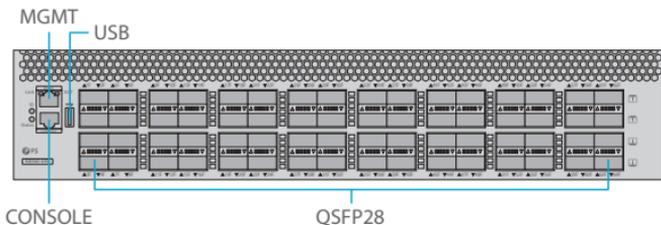
Ports	Description
SFP+	SFP+ ports for 1/10G connection
SFP28	SFP28 ports for 10/25G connection
QSFP28	QSFP28 ports for 40/100G connection

Ports	Description
USB	A USB management port for software and configuration backup and offline software upgrade
MGMT	An Ethernet management port
CONSOLE	An RJ45 console port for serial management

Back Panels

N5860-48SC

Grounding Point

Power Supply   Fan Slots   ASSET TAG   Power Supply

N8560-48BC

Grounding Point

Power Supply   Fan Slots   ASSET TAG   Power Supply

N8560-32C

Grounding Point

Power Supply   Fan Slots   Power Supply

N8560-64C

Fan Slots   Power Supply

Power Supply   ASSET TAG   Grounding Point
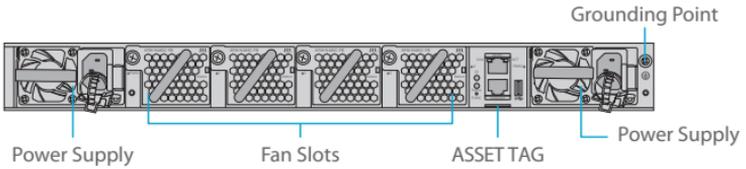
Back Panel Ports

N5860-48SC
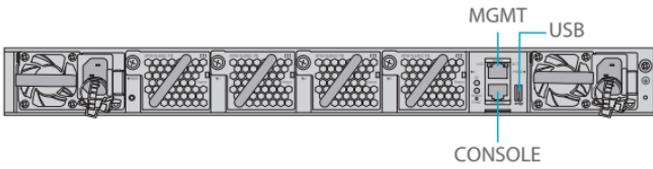
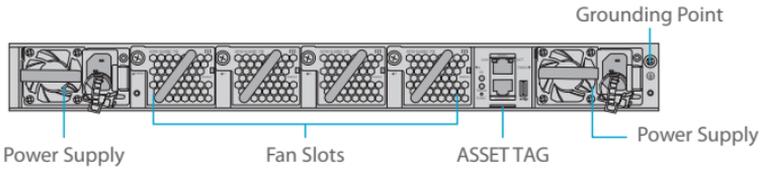

N8560-48BC
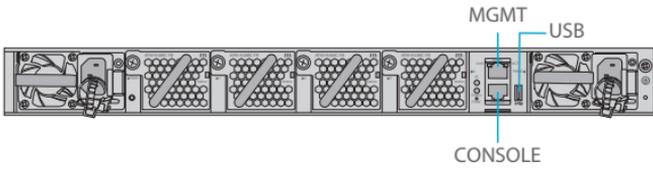
N8560-32C

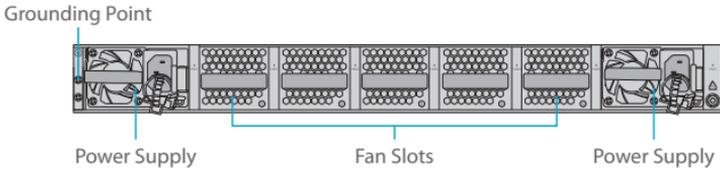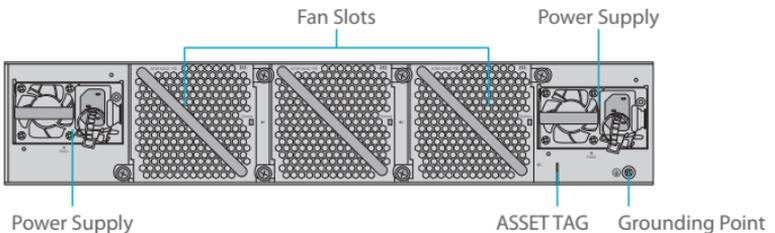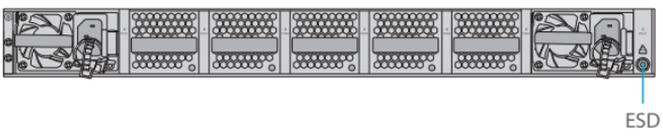| Ports	Description
USB	A USB management port for software and configuration backup and offline software upgrade
MGMT	An Ethernet management port
CONSOLE	An RJ45 console port for serial management
ESD	ESD port for wearing ESD wrist strap

Back Panel Button

N5860-48SC

N8560-48BC

FUNC

Button	Description
FUNC	Reserved function button

Front Panel LEDs

N5860-48SC

SFP+   QSFP28

Satus/ID

N8560-48BC

SFP28   QSFP28

Satus/ID

N8560-64C

Link/ACT

ID

Status   QSFP28
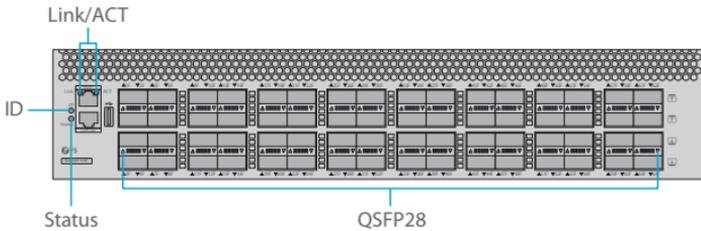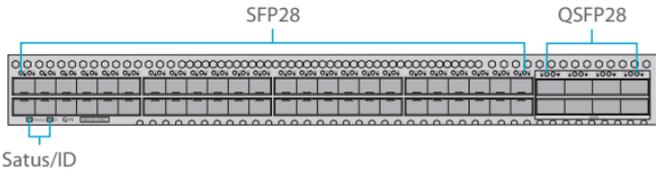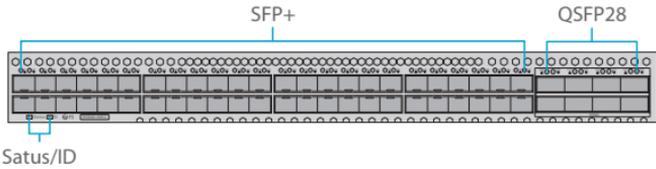
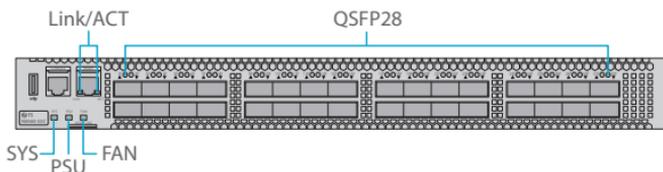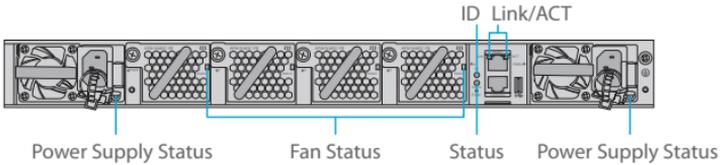| LEDs	Status	Description
Status	Off	The system is powered off.
	Solid Red	1. One of the power supply modules or fan modules fails.
		2. For N8560-64C: There are less than 2 fans. For N5860-48SC and N8560-48BC: There are less than 3 fans.
		3. The internal or partial temperature exceeds the warning working temperature, and the switching service resets.
	Blinking Green	The system is initializing.
	Solid Green	The system is operational.
	Solid Yellow	1. The temperature gets to the warning threshold.
		2. For N8560-64C: Only 2 fans are in the position. For N5860-48SC and N8560-48BC: Only 3 fans are in the position.
		3. One of the dual power supplies is not connected with AC power cord.
ID	Off	Device location is disabled.
	Solid Blue	Device location is enabled.
Link/ACT	Off	The port is not connected.
	Link Solid Green	The port is connected at 10/100/1000Mbps.
	ACT Blinking Yellow	The port is transmitting or receiving data.
SFP+	Off	The SFP+ port is NOT connected.
	Solid Green	The SFP+ port is connected at 1/10G.
	Blinking Green	The SFP+ port is transmitting or receiving data at 1/10G.
SFP28	Off	The SFP28 port is NOT connected.
	Solid Green	The SFP28 port is connected at 10/25G.
	Blinking Green	The SFP28 port is transmitting or receiving data at 10/25G.
QSFP28	Off	The QSFP28 port is NOT connected.
	Solid Green	The QSFP28 port is connected at 40/100G.
	Blinking Green	The QSFP28 port is transmitting or receiving data at 40/100G.

N8560-32C

Link/ACT   QSFP28

SYS — PSU — FAN

LEDs	Status	Description
SYS	Off	The system is powered off.
	Solid Red	1. One of the power supply modules or fan modules fails.
		2. There are less than 4 fans.
		3. The internal or partial temperature exceeds the warning working temperature, and the switching service resets.
	Blinking Green	The system is initializing.
	Solid Green	The system is operational.
	Solid Yellow	1. The temperature exceeds the threshold.
		2. One of the fans is not in the position.
		3. One of the dual power supplies is not connected with AC power cord.
PSU	Solid Red	The power supply module is in an abnormal state.
	Solid Green	The power supply module is operational.
	Solid Yellow	One of the dual power supplies is not connected with AC power cord.
FAN	Solid Red	1. The fan is in an abnormal state.
		2. There are less than 4 fans.
	Solid Green	The fan is operational.
	Solid Yellow	Only 4 fans are in the position.

LEDs	Status	Description
Link/ACT	Link Off	The port is not connected.
	Link Solid Green	The port is connected at 1000Mbps.
	Link Solid Yellow	The port is connected at 10/100Mbps.
	ACT Off	The port is not transmitting or receiving data.
	ACT Blinking Green	The port is transmitting or receiving data.
QSFP28	Off	The port is NOT connected.
	Solid Green	The port is connected at 100G.
	Blinking Green	The port is transmitting or receiving data at 100G.
	Solid Yellow	The port is connected at 40G.
	Blinking Yellow	The port is transmitting or receiving data at 40G.

Back Panel LEDs
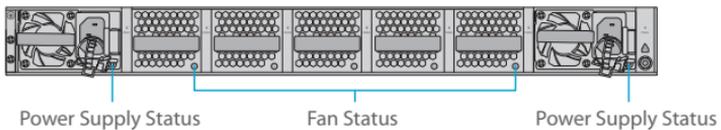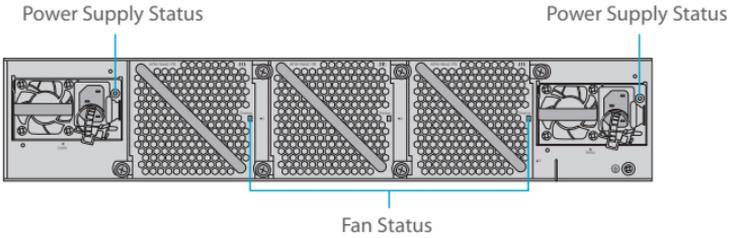
N5860-48SC

Power Supply Status   Fan Status   Status   Power Supply Status

N8560-48BC

Power Supply Status   ID Link/ACT Power Supply Status

Fan Status   Status

N8560-32C

Power Supply Status   Fan Status   Power Supply Status

N8560-64C

Power Supply Status   Power Supply Status
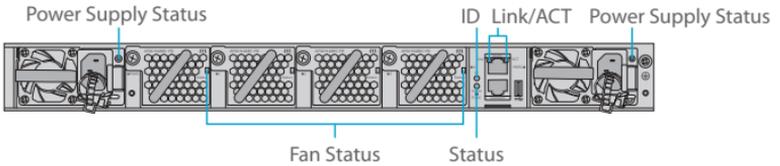
Fan Status

LEDs	Status	Description
Fan Status	Off	The fan is powered off.
	Solid Green	The fan is operational.
	Solid Red	The fan fails or stops.
Supply Status Power	Off	There is no power input or the power supply fails.
	Solid Green	The power input is normal.
	Solid Amber	1. An error occurs, e.g., overcurrent, overvoltage or fan fault.
		2. The AC power in redundancy is plugged out.
	Blinking Amber	An alarm is generated but the power module keeps working. The alarm may be caused by high power, high current, high temperature, or low fan rotation speed.
ID	Off	Device location is disabled.
	Solid Blue	Device location is enabled.
Link/ACT	Off	The port is not connected.
	Link Solid Green	The port is connected at 10/100/1000Mbps.
	ACT Blinking Yellow	The port is transmitting or receiving data.
Status	Off	The system is powered off.
	Solid Red	1. One of the modules of the system fails.
		2. There are less than 3 fans.
		3. The internal or partial temperature exceeds the warning working temperature, and the switching service resets.

LEDs	Status	Description
Status	Blinking Green	The system is initializing.
	Solid Green	The system is operational.
	Solid Yellow	1. The temperature gets to the warning threshold.
		2. Only 3 fans are in the position.
		3. One of the dual powers is not connected with the AC power cord.

Installation Requirements

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

- Phillips screwdriver.

- Standard-sized, 19" wide rack with a minimum of 1U height available. (2U for N8560-64C)

- Category 5e or higher RJ45 Ethernet cables, fiber optical cables and console cable for connecting network devices.

Site Environment：

- For N5860-48SC/N8560-48BC/N8560-64C, do not operate it in an area that exceeds an ambient temperature of 45℃. For N8560-32C, the operating temperature is 0℃-40℃.

- The installation site must be well ventilated. Ensure that there is adequate airflow around the switch.

- The switch should be installed at least 1U (44.45mm) away from devices to its sides. (2U 88.9mm for N8560-64C)

- Be sure that the switch is level and stable to avoid any hazardous conditions.

- Do not install the equipment in a dusty environment.

- The installation site must be free from leaking or dripping water, heavy dew, and humidity.

- Ensure rack and working platforms are well earthed.
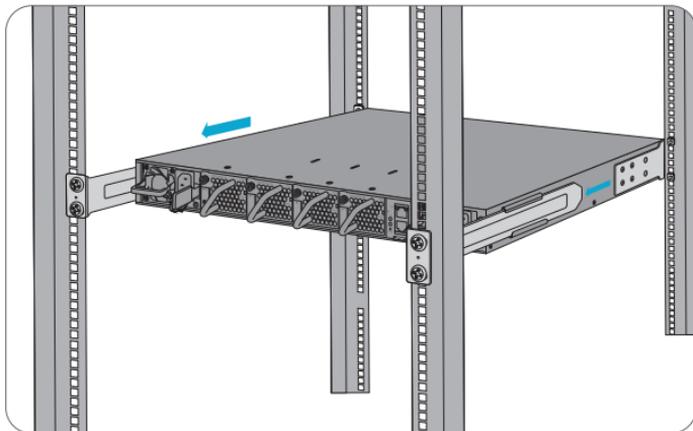
Mounting the Switch
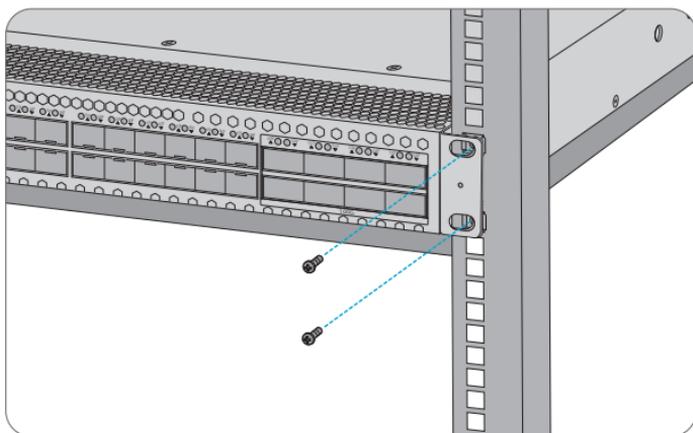
Rack Mounting
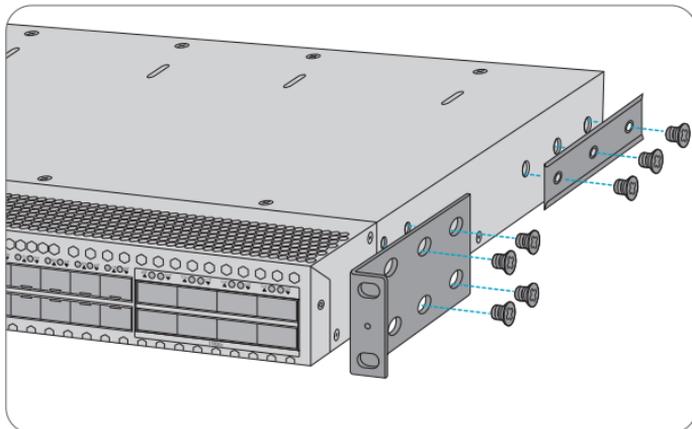
1. Secure the mounting brackets and inner rails to the two sides of the switch chassis with M4 screws.
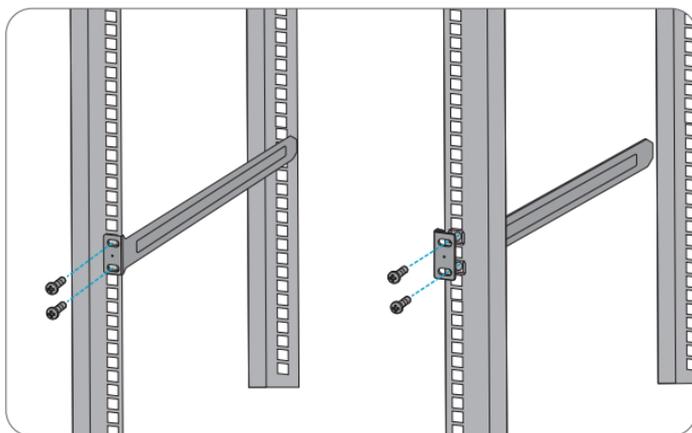
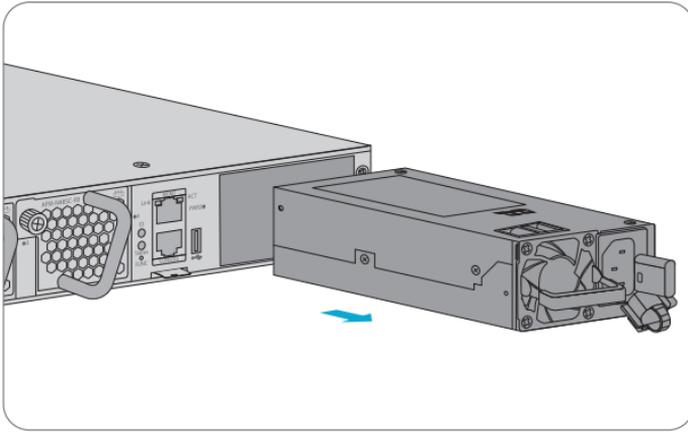2. Attach the slide rails to the rack using four M6 screws and nuts.

3. Align inner rails with the front of the slide rails. Slide the inner rails into the slide rails, keeping the pressure even on both sides.
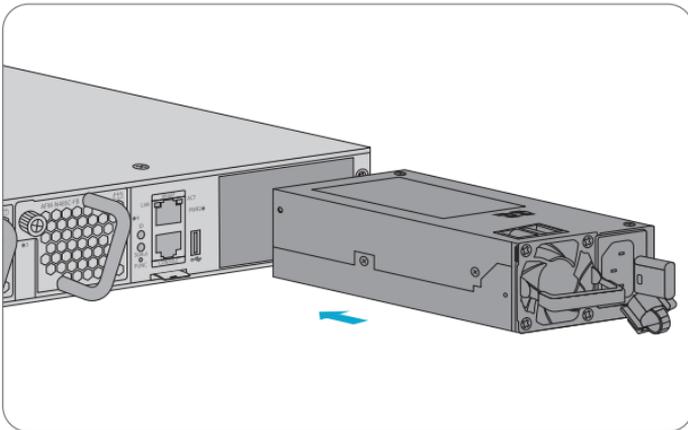

4. Attach the switch to the rack using four M6 screws and nuts.

Replacing the Power Supply Module

1. Press and hold the lock of the power module leftward and pull the module out by the handle.

2. Take the plane printed with power information as the top panel of the power module. Hold the handle of the power module with one hand, and support the bottom with the other hand. Horizontally push the power module into the slot. The power module is completely seated in the slot until a click is heard.

> **NOTE:** 1. Insert the power module steadily. Please pay attention to the direction of the power panel to avoid wrong insertion. If the position is not proper, pull the power supply module out slowly and re-insert it.
> 2. The power supply modules are factory-installed, please take steps above to replace the modules if necessary.

Replacing the Fan Module

N5860-48SC/N8560-48BC/N8560-64C
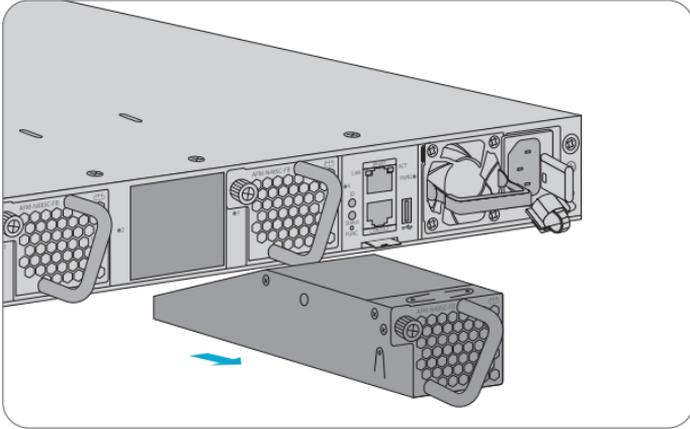
1. Loosen the captive screw(s) of the fan module with a screwdriver.
2. Hold the handle at the end of the fan module, and withdraw the fan module slowly.
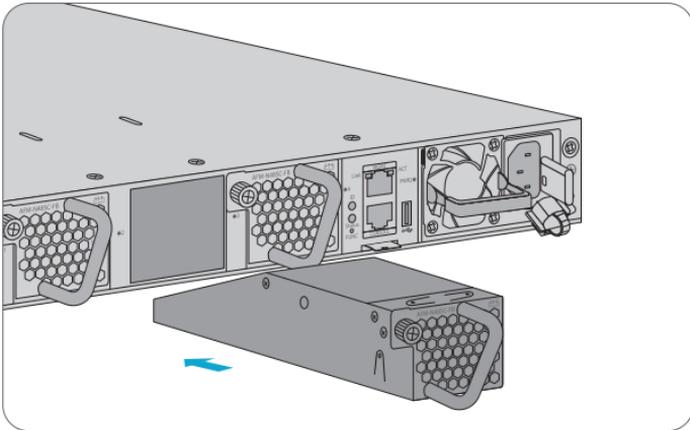
3. Hold the handle at the end of a new fan module. Insert the fan module to the chassis slowly until it is fully seated, and make sure that it is in good contact with the slot.
4. Tighten the captive screw(s) with a screwdriver to fix the fan module in the switch chassis.
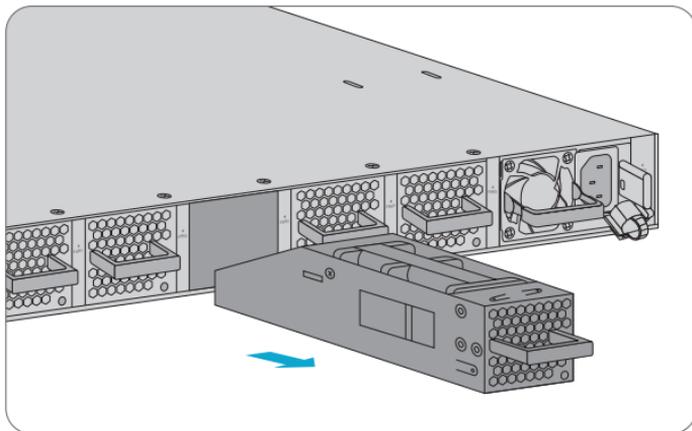
1. Hold the handle at the end of the fan module, then press the blue clasp and withdraw the fan module slowly.
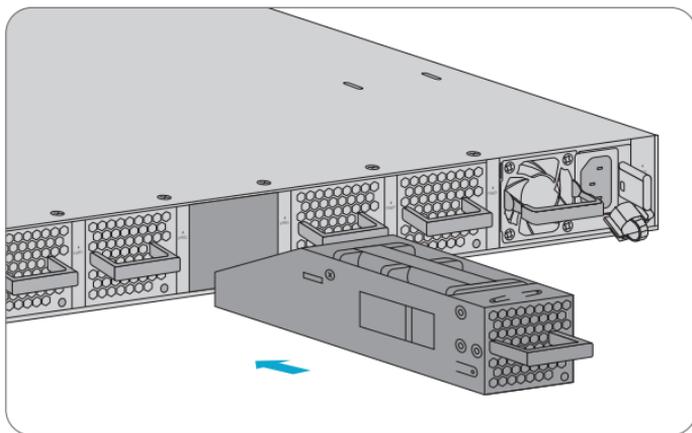

2. Hold the handle at the end of the new fan module, then press the blue clasp and Insert the fan module to the chassis slowly until it is fully seated, and make sure that it is in good contact with the slot.
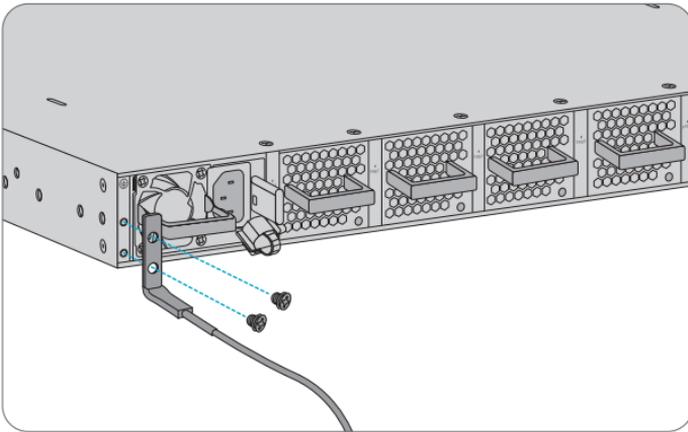
> **NOTE:** 1. If the screws cannot be tightened, it is probably because the fan module is not fully inserted. Please check it carefully.
> 2. The fan modules are factory-installed, please take steps above to replace the modules if necessary.

Grounding the Switch

N5860-48SC/N8560-48BC/N8560-64C
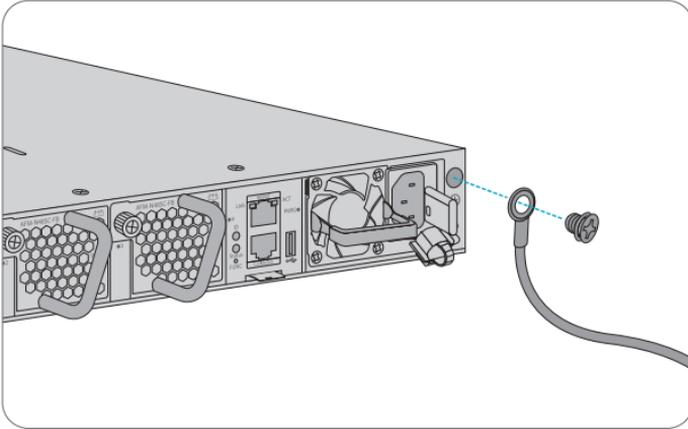
N8560-32C

1. Connect one end of the grounding cable to a proper earth ground, such as the rack in which the switch is mounted.

2. Secure the grounding lug to the grounding point on the switch back panel with the washers and screw.
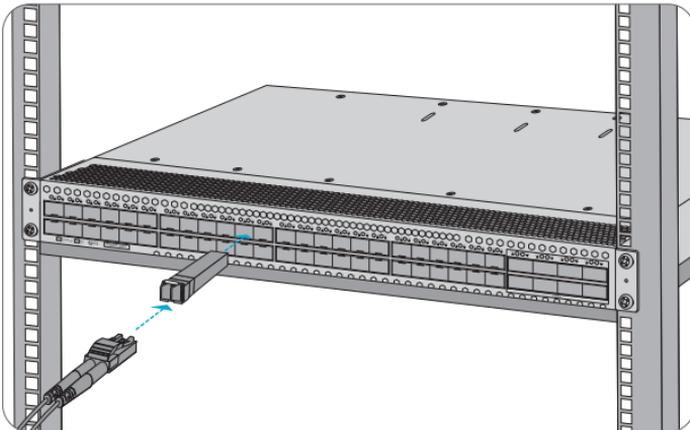
> **CAUTION:** The earth connection must not be removed unless all supply connections have been disconnected.
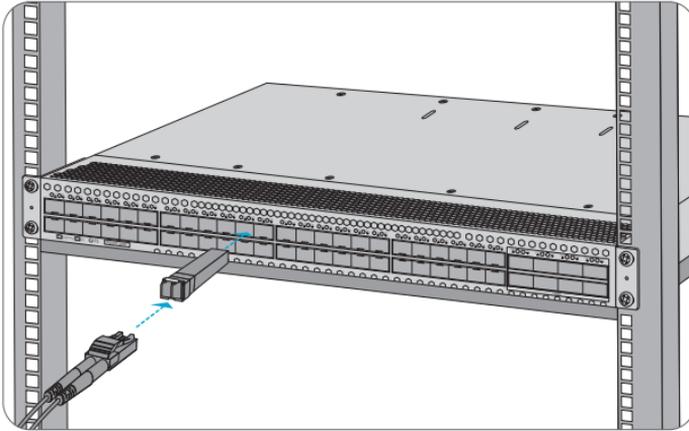
Connecting the Power
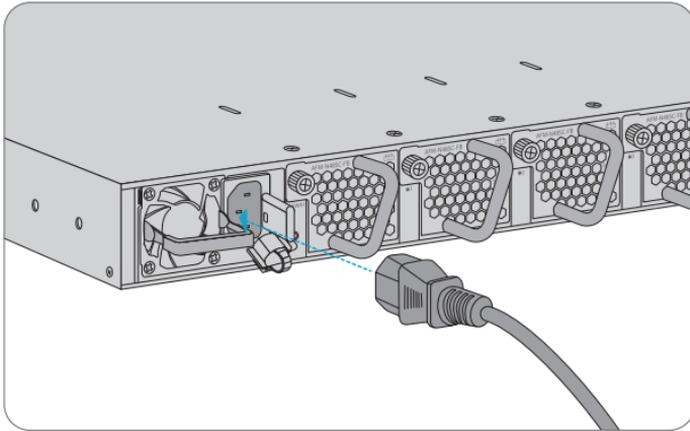
1. Plug the AC power cord into the power port on the back of the switch.
2. Connect the other end of the power cord to an AC power source.
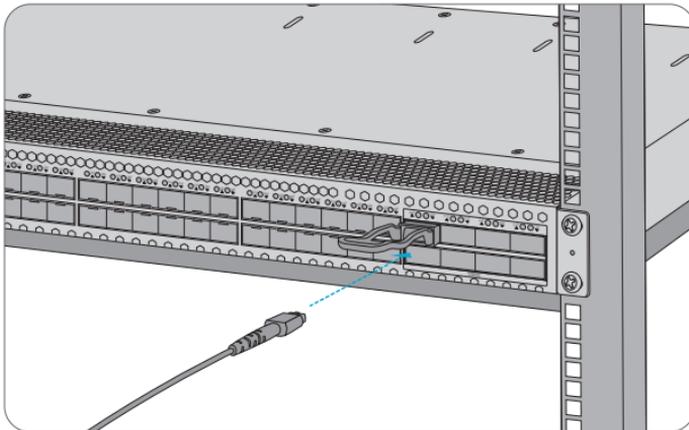
Connecting the SFP+ Ports

First install SFP+ transceivers and then connect fiber optic cables to the transceiver ports, or directly connect DAC cables to the SFP+ slots.

Connecting the SFP28 Ports

First install SFP28 transceivers and then connect fiber optic cables to the transceiver ports, or directly connect DAC cables to the SFP28 slots.

Connecting the QSFP28 Ports

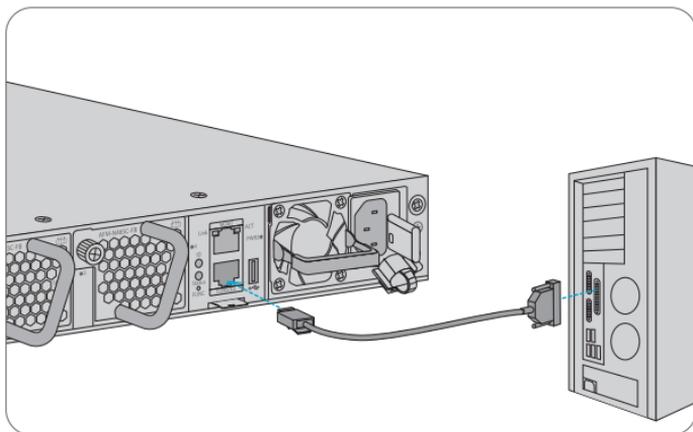First install QSFP28 transceivers and then connect fiber optic cables to the transceiver ports, or directly connect DAC cables to the QSFP28 slots.

WARNING: Laser beams will cause eye damage. Do not look into bores of transceivers or optical fibers without eye protection.

Connecting the Console Port

1. Insert the RJ45 connector into the RJ45 CONSOLE port of the switch.
2. Connect the DB9 female connector of the console cable to the RS-232 serial port on the computer.

Connecting the MGMT Port
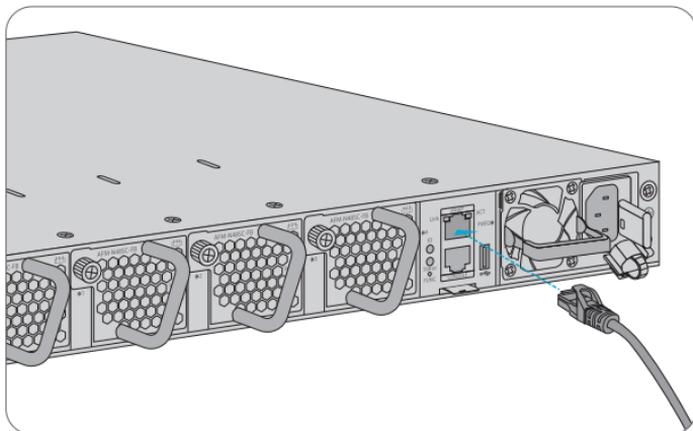
1. Connect one end of a standard RJ45 Ethernet cable to a computer.
2. Connect the other end of the cable to the MGMT port of the switch.

Connecting the USB Port
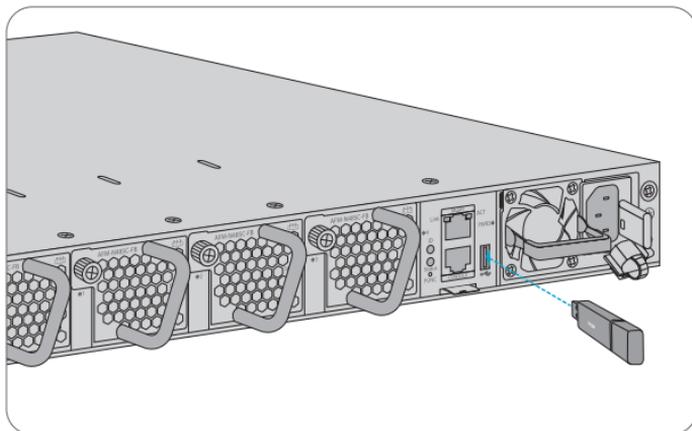
Insert the Universal Serial Bus (USB) flash disk to the USB port for software and configuration backup and offline software upgrade.

Configuration the Switch

Configuring the Switch Using the Console Port

Step 1: Connect a computer to the console port of the switch using the console cable.

Step 2: Start the terminal simulation software such as HyperTerminal on the computer.

Step 3: Set the parameters of the HyperTerminal: 115200 bits per second, 8 data bits, no parity, 1 stop bit and no flow control. (PS: The Baud rate of N8560-32C is 115200)

Step 4: After setting the parameters, click Connect to enter.

Quick Connect	✕
Protocol: Serial ⌄	
The port may be manually entered or selected from the list.	
Port: COM3 ⌄	
Baud rate: 115200 ⌄	┌─Flow Control─
Data bits: 8 ⌄	☐ DTR/DSR
Parity: None ⌄	☐ RTS/CTS
Stop bits: 1 ⌄	☐ XON/XOFF
Name of pipe:	
☐ Show quick connect on startup	☐ Save session
	☐ Open in a tab
	Connect Cancel

Troubleshooting

Power System Fault

The indicator on the front panel of the host is OFF. The Status indicator of the fan module is OFF, and the fan does not work. The indicator of the power module is OFF.

Please check the following:

First disconnect the power cord of the power module.

1. Whether the cables of the cabinet have been correctly connected.

2. Whether the cabinet power sockets are loosely connected to power modules.

3. Whether the power modules are installed correctly.

Serial Port Console Has No Output or Outputs Illegible Characters.

1. Check whether serial port cable is connected correctly, whether serial port cable is disconnected, and whether the connected serial port is identical with that configured on the HyperTerminal.
2. Check that the parameter configuration of the serial port matches that specified in the instructions.

The Newly-inserted Service Card Module Fails to Be Powered on.

1. Check whether the module is inserted correctly.
2. If the newly-inserted module still cannot be powered on even though the checking is ok, please contact us for technical support.

Support and Other Resources

- Download   **https://www.fs.com/download.html**

- Help Center   **https://www.fs.com/service/help_center.html**

- Contact Us   **https://www.fs.com/contact_us.html**

Product Warranty

FS ensures our customers that any damage or faulty items due to our workmanship, we will offer a free return within 30 Days from the day you receive your goods. This excludes any custom made items or tailored solutions.

Warranty: N5860 and N8560 series switches enjoy 5 years limited warranty against defects in materials or workmanship. For more details about warranty, please check at https://www.fs.com/policies/warranty.html

Return: If you want to return item(s), information on how to return can be found at https://www.fs.com/policies/day_return_policy.html