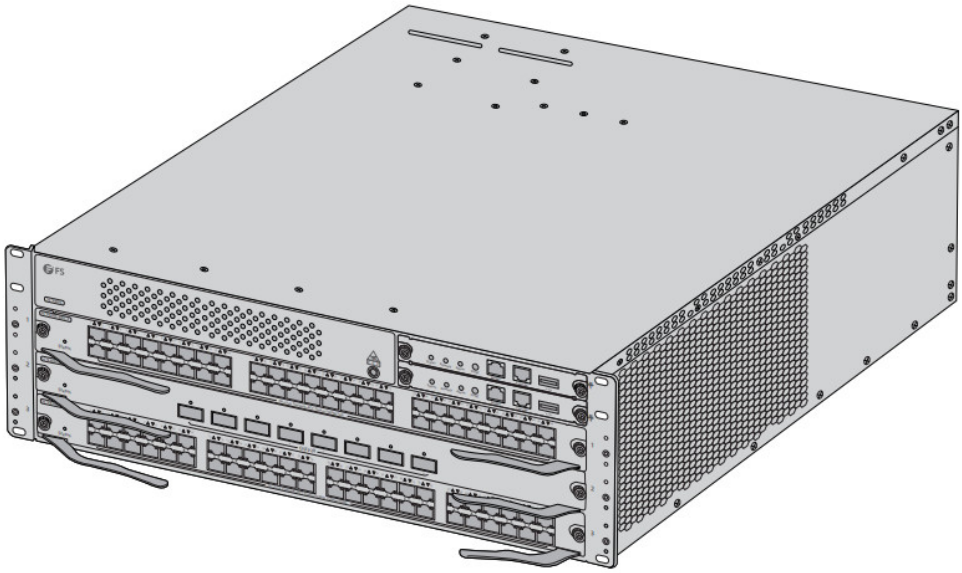
FS SC9405 Series Core Switches User Guide

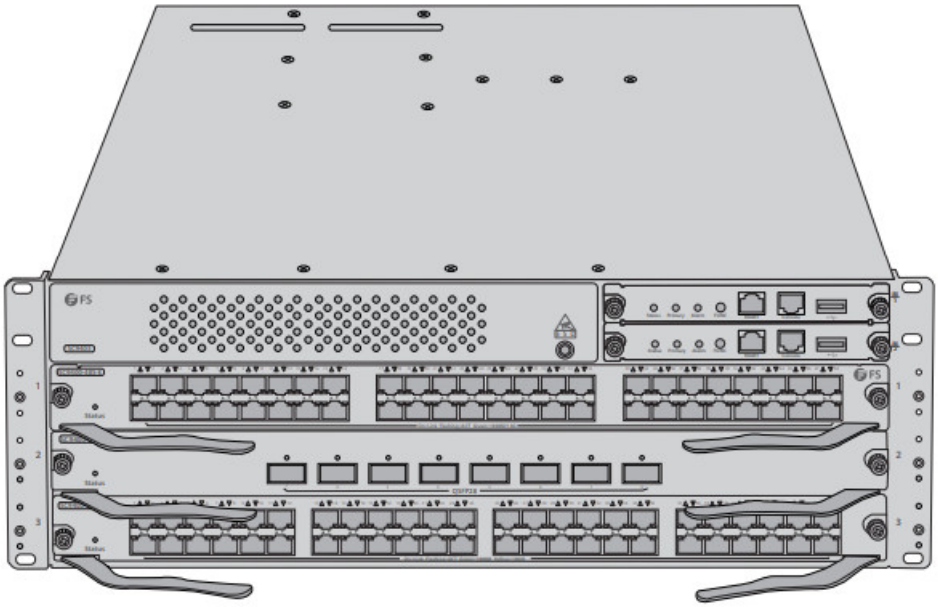
Series Core Switches
User Guide



Contents

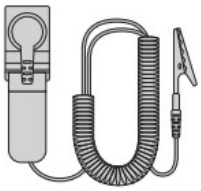
Introduction

Thank you for choosing SC9405 Series Core Switches. This guide is designed to familiarize you with the layout of the switches and describes how to deploy them in your network.



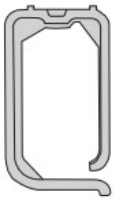
SC9405

Accessories



Anti-static Wrist Strap x1

Console Cable x1



Cable Management Bracket x6

M6 Screw x12

M3 Screw x8

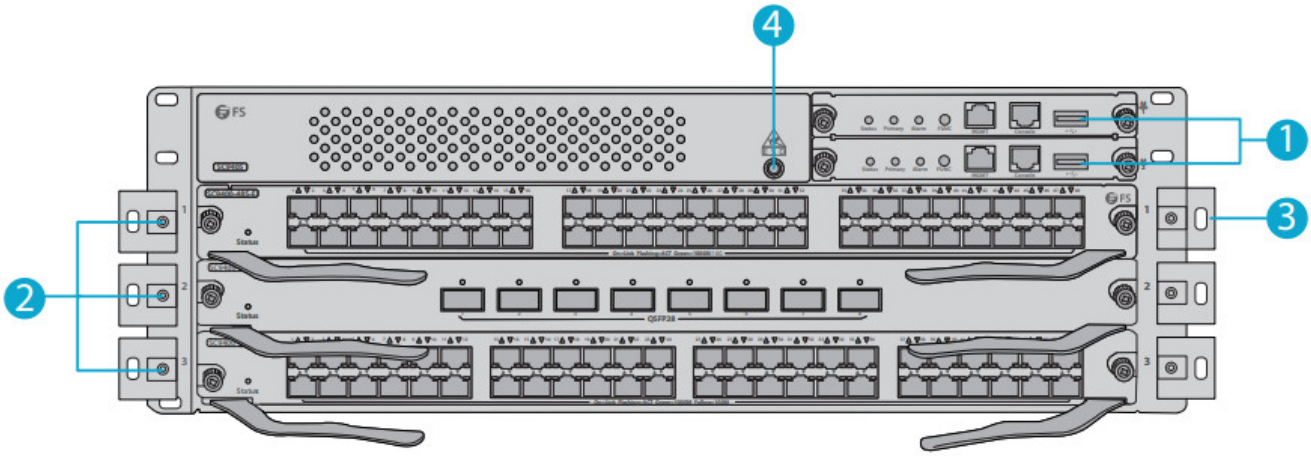
Grounding Cable x1

M6 Nut x12

Hareware Overview

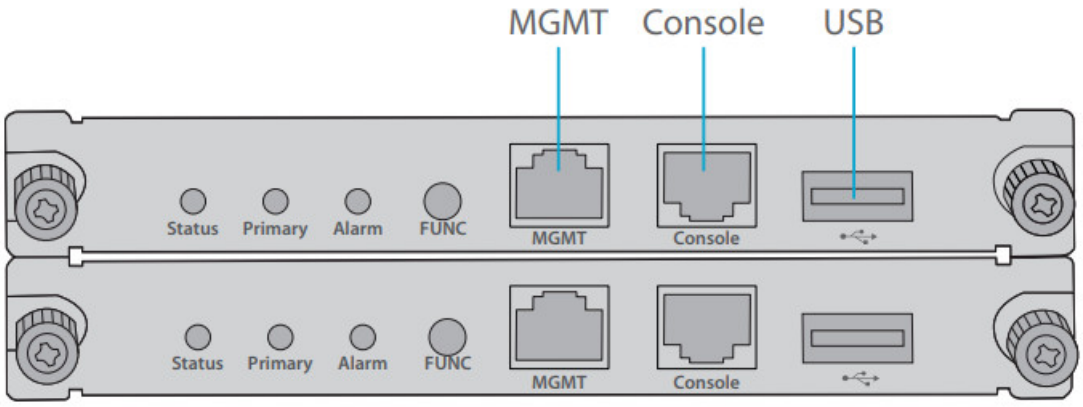
Front Panel

SC9405



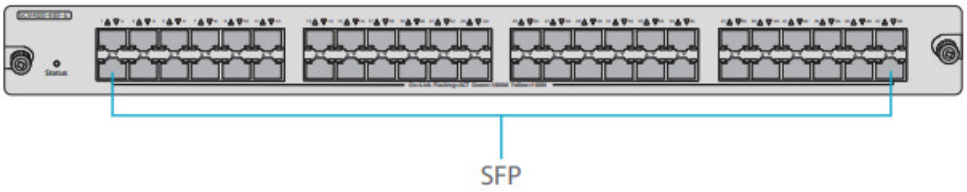
No.	Description
1	Supervisor module slots
2	Service module slots
3	Cable management bracket
4	Anti-static wrist strap socket

Front Panel Ports
SC94-EM-A

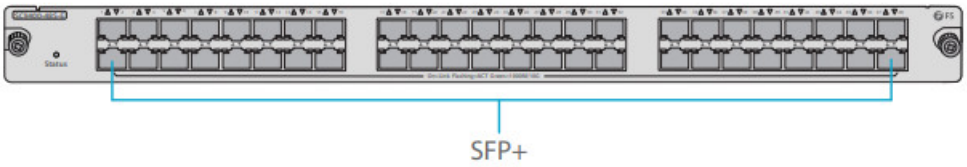


Ports	Description
USB	For storing logs, host version, alarms and other diagnosis information, facilitating online upgrade of switch software and storage of logs
Console	Using the RS-232 interface level and standard RJ-45 connector for system commissioning, configuration, maintenance, management, and host software loading
MGMT	10/100/1000BASE-T Ethernet port, using the RJ-45 connector to load programs.

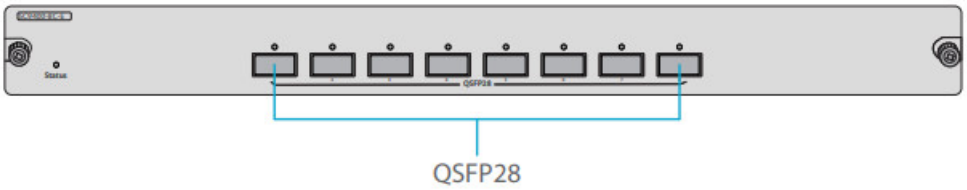
SC9400-48F-E



SC9400-48S-E



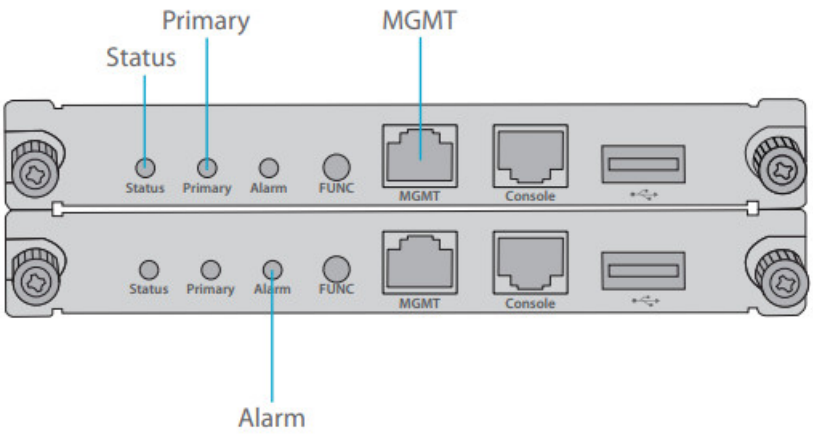
SC9400-8C-E



Front Panel LEDs

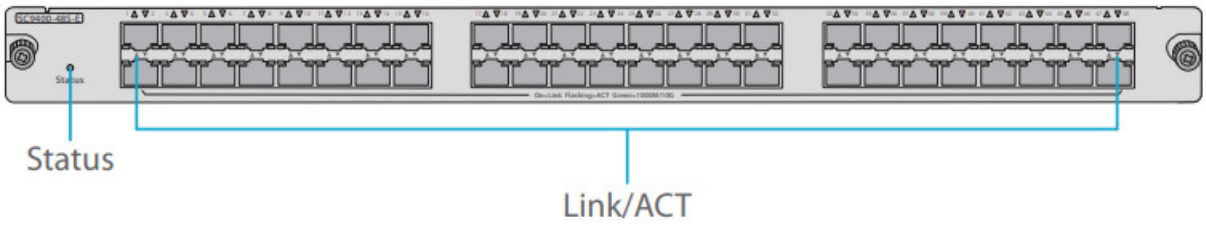
SC94-EM-A

SC94-EM-A



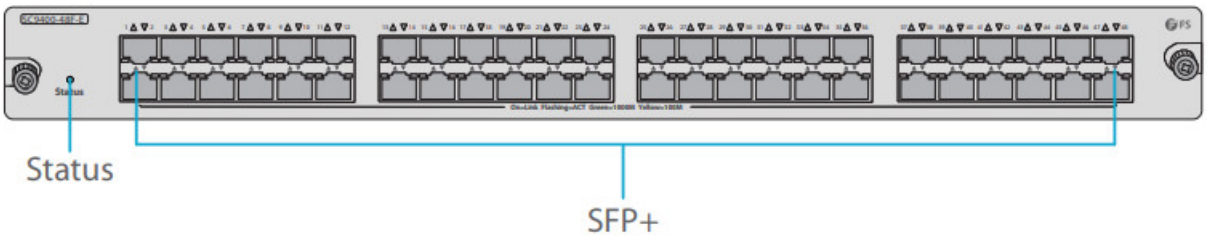
LEDs	State	Description
Status	Off	The module is powered off.
	Blinking green	Initialization is in progress. Continuous blinking indicates errors.
	Solid green	The switch is operational.
	Solid red	The module is faulty.
Primary	Off	The module acts as the standby supervisor module.
	Solid green	The module acts as the primary supervisor module.
	Off	No fault.
	Solid red	The whole system or a module fails to work. The device may be damaged if it c ontinues operating.
Alarm	Solid yellow	The temperature exceeds the threshold but the system continues operating.
MGMT	Off	The MGMT port is NOT connected.
	Green	The MGMT port is connected at 1000Mbps.
	Yellow	The MGMT port is connected at 10/100Mbps.
	Blinking	The MGMT port is transmitting or receiving data.

SC9400-48F-E



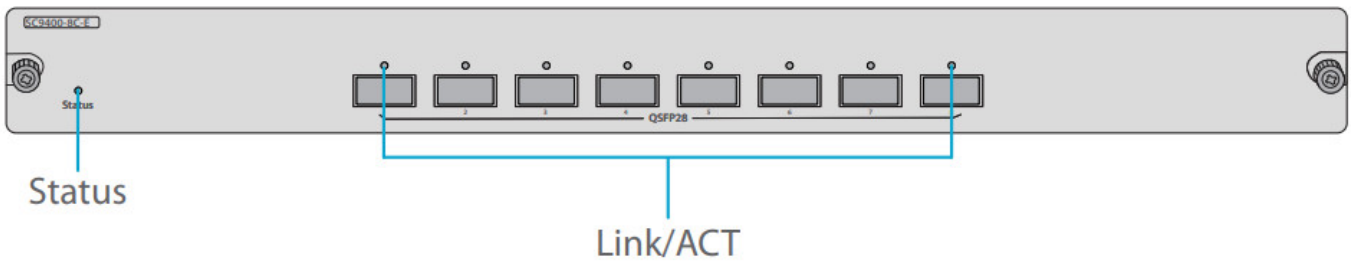
LEDs	State	Description
Status	Off	The module is powered off.
	Blinking green	Initialization is in progress. Continuous blinking indicates errors.
	Solid green	The switch is operational.
	Solid red	The module is faulty.
Li n k/A CT	Off	The port link is NOT connected.
	Solid green	The port is connected at 1000Mbps.
	Solid yellow	The port is connected at 100Mbps.
	Blinking	The port is transmitting and receiving data.

SC9400-48S-E



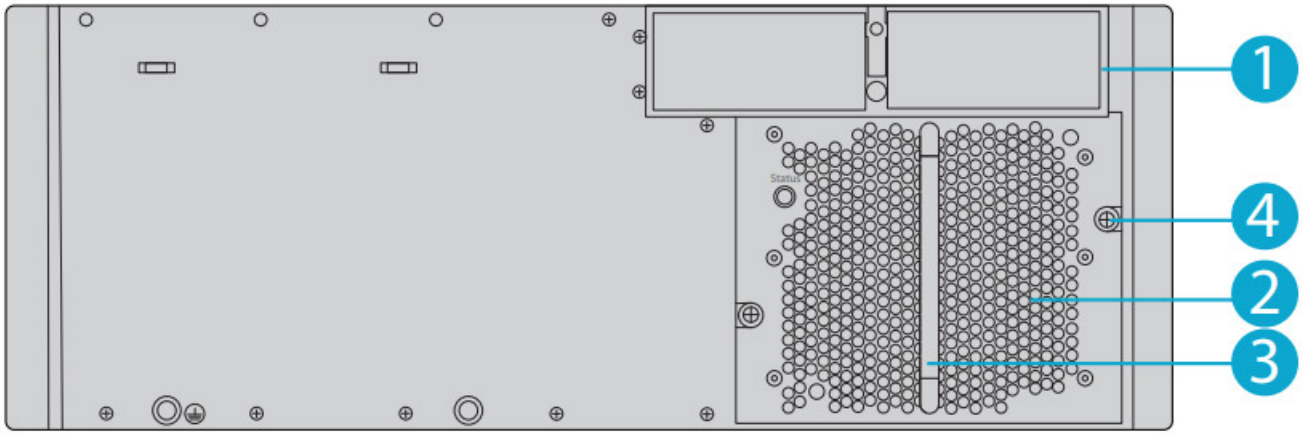
LEDs	State	Description
Status	Off	The module is powered off.
	Blinking green	Initialization is in progress. Continuous blinking indicates errors.
	Solid green	The switch is operational.
	Solid red	The module is faulty.
SFP	Off	The port link is NOT connected.
	Solid green	The port is connected at 1000Mbps.
	Solid yellow	The port is connected at 100Mbps.
	Blinking	The port is transmitting and receiving data.
SFP+	Off	The port link is NOT connected.
	Solid green	The port is connected.
	Blinking	The port is transmitting and receiving data.

SC9400-8C-E



LEDs	State	Description
Status	Off	The module is powered off.
	Blinking green	Initialization is in progress. Continuous blinking indicates errors.
	Solid green	The switch is operational.
	Solid red	The module is faulty.
Link/ACT	Off	The port link is NOT connected.
	Solid green	The port is connected.
	Blinking	The port is transmitting and receiving data.

Back Panel
SC9405



No.	Description
1	Power module slots
2	Fan tray
3	Handle of the fan tray
4	Captive screws of the fan tray

NOTE: Ensure the supervisor module, service module, and power supply module are removed from the enclosure before you move or transport the enclosure.

Installation Requirements

Before installation, make sure that you have the following conditions ready:

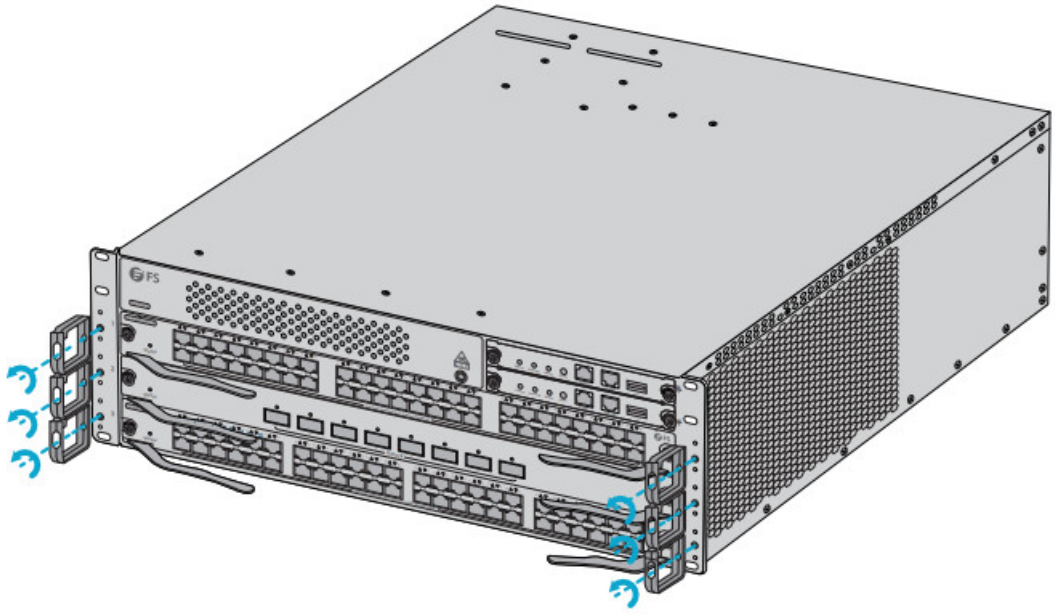
- Phillips screwdriver.
- Standard-sized, 19″ wide rack with a minimum of 1U height available in 4-post form hold.
- Category 5e or higher RJ-45 Ethernet cables for connecting network devices.

Site Environment

- Make sure that the temperature of installation site is maintained at 0°~50°C.
- Make sure that the relative humidity of installation site is maintained at 10%~90%.
- The installation site must be free from leaking, dripping water or heavy dew.
- Keep the installation site dust-free.
- The installation site must be well ventilated. Ensure that there is adequate air flow around the switch. Maintain a minimum clearance of 10cm around the enclosure.
- Be sure that the switch is level and stable to avoid any hazardous conditions.

- Ensure that the rack and working platforms are well earthed.

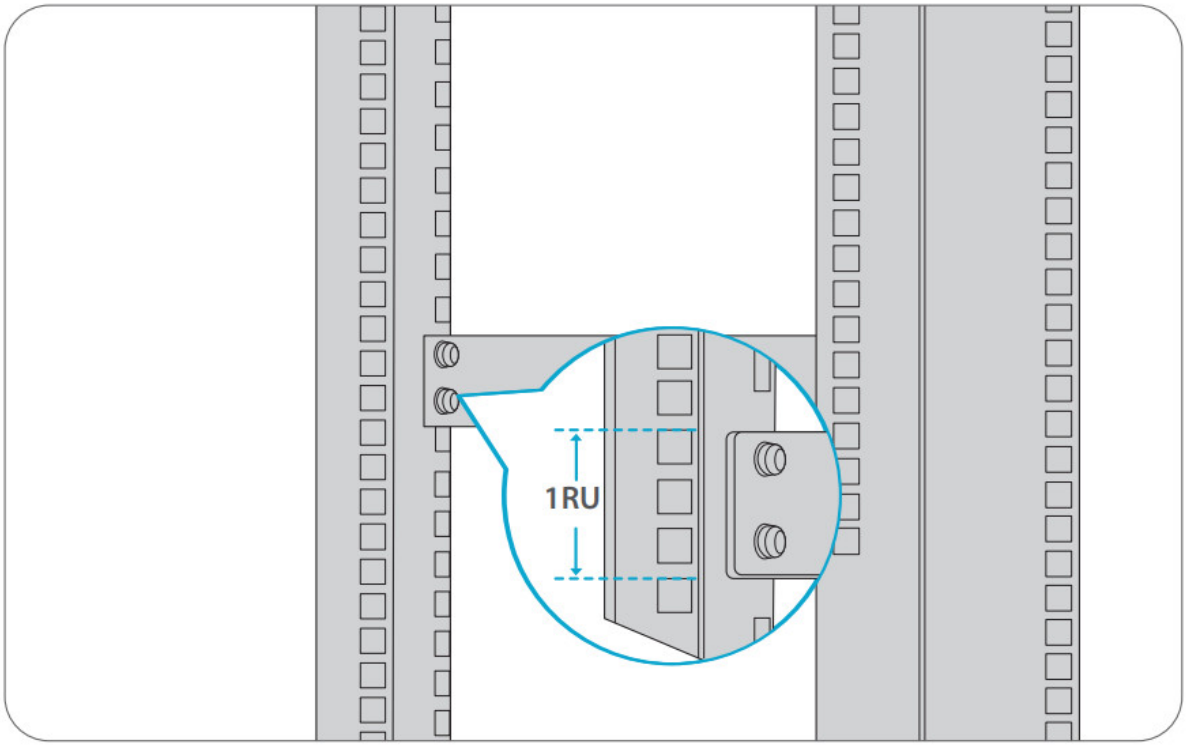
Mounting the Switch
Mounting Cable Management Brackets



1. Put three cable management brackets on each side respectively. Pay attention to the direction to mount cable management brackets.
2. Align the screw holes on the cable management bracket with those on the enclosure and tighten the screws.

NOTE: Make sure the antistatic wrist strap is grounded well and wear the antistatic wrist strap in this step and the followings.

Cabinet Mounting

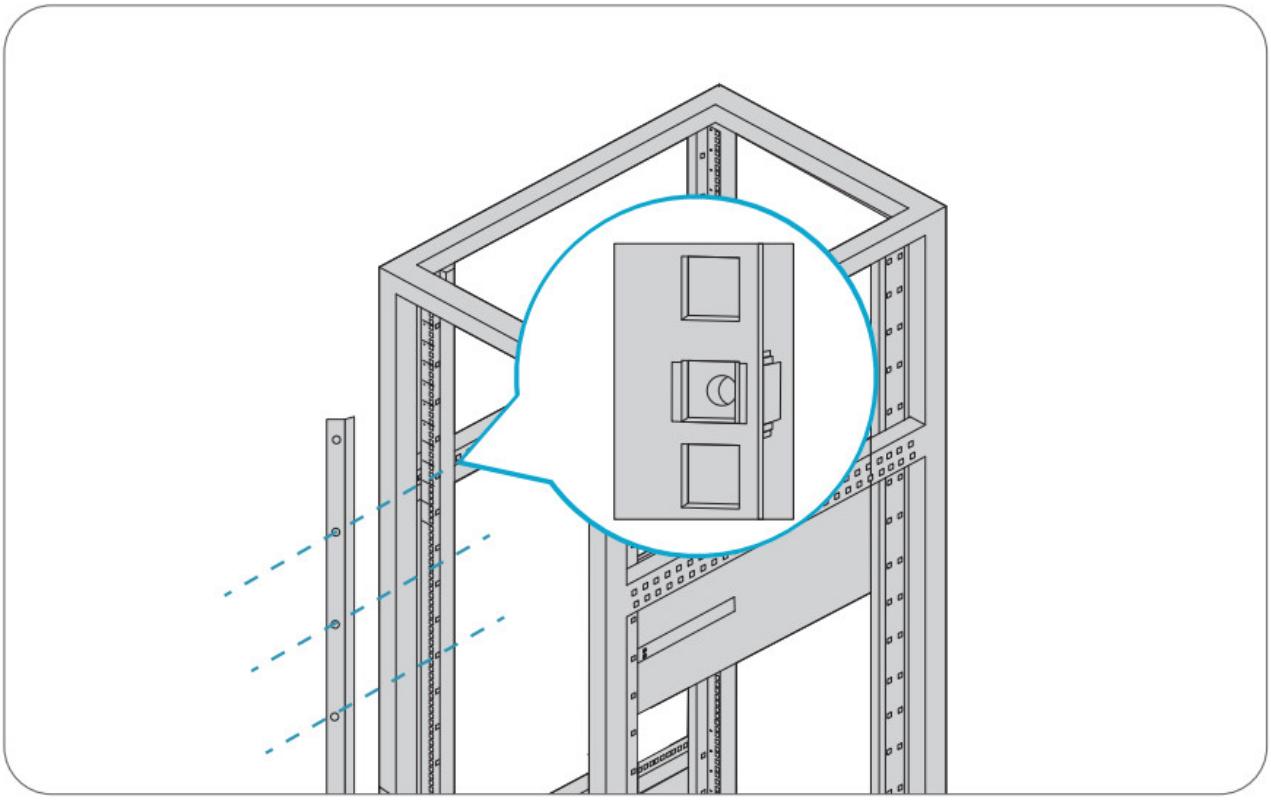


1. Mount the cabinet at the designed location as planned.
2. Install the appropriate cable management bracket and cables.
3. Install the tray and wiring layer on the rack according to the configuration of one rack with one cabinet installed or one rack with multiple cabinets installed.

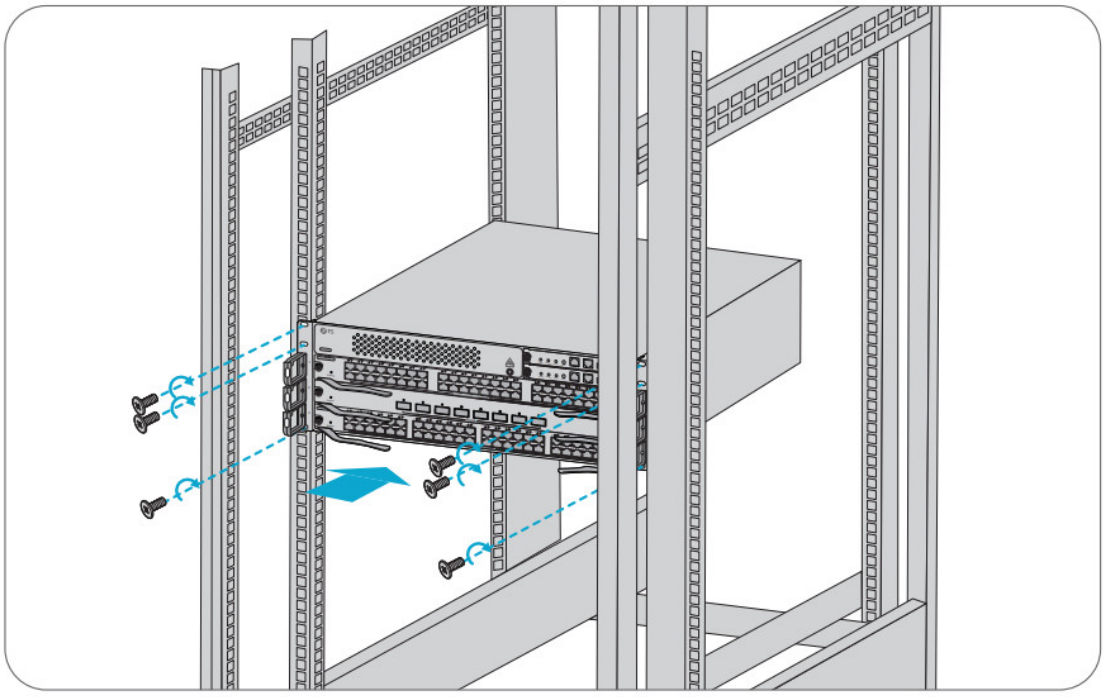
CAUTION:

1. When multiple cabinets are put side by side in the room, they should be aligned in a straight line, with an error less than 5mm.
2. All wiring inlets at the top and bottom of the cabinet should be installed with rodent-resistant nets where the seams should be no more than 1.5cm in diameter, to prevent rodents and other small animals from entering the cabinet.

Mounting the Switch to a Cabinet



1. Locate the position on the bracket for installing the slide rail. And locate the position on the other bracket through the carrying plane.
2. Install seven cage nuts on the marked square holes on each bracket.

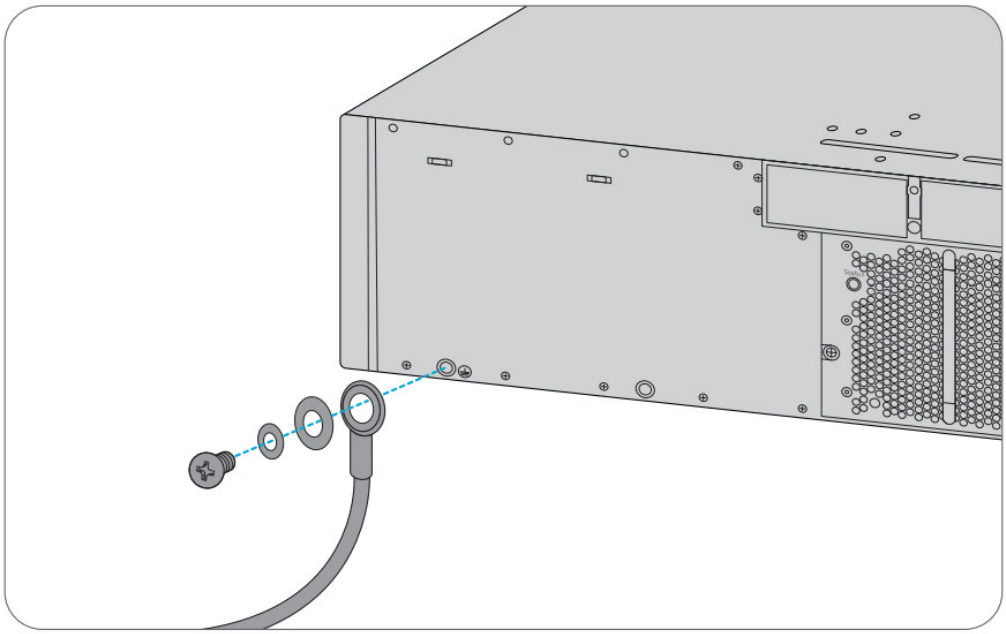


3. Place the switch on the sliding rail, and drive it smoothly into the cabinet until the front bracket reaches the square hole strip.
4. Align the installation holes on the bracket with the cage nuts on the square hole strip, and mount them with screws.

CAUTION: Usually, reserve at least 10mm between the front panel of the equipment and that of the cabinet after installation. Before mounting into a cabinet, address the following conditions:

1. Prepare the equipment and move it to the place near the cabinet where you can handle it easily.
2. Three people are recommended to carry or lift the switch. One is responsible for directing and the other two carrying or lifting the switch.

Grounding the Switch

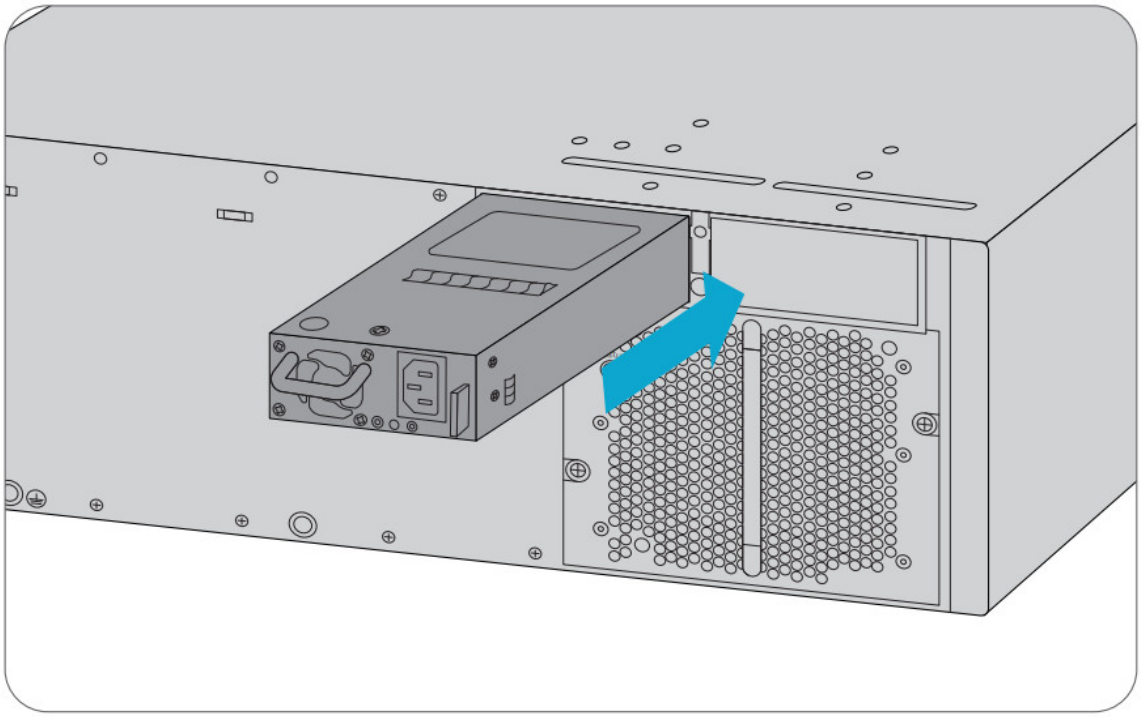


1. Remove the two screws on the rear of the switch.
2. Attach the one end of the grounding wire to the switch with the two screws. Connect the other end of the grounding wire to the grounding wire of the cabinet.

CAUTION:

1. The switch must be well-grounded. The grounding resistance shall be less than 1Ω.
2. The earth connection must not be removed unless all supply connections have beendisconnected.
3. The cross-sectional area of protective earthing conductor shall be at least 2.5mm² (12AWG).

Connecting the Power

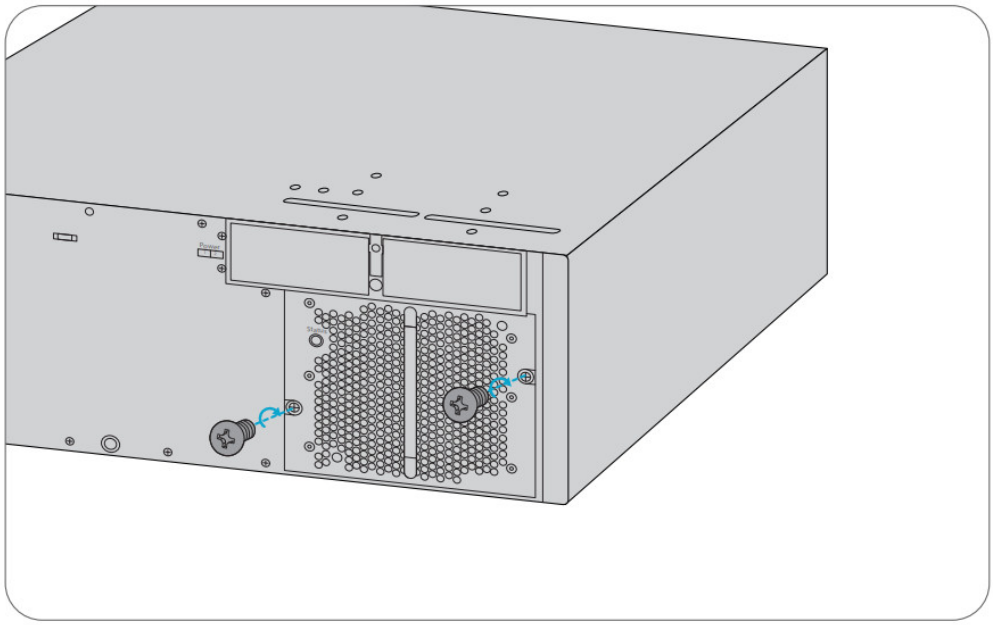


1. Loosen the captive screws on the blank panel covering the power slot at the rear of the enclosure.
2. Insert the power module into the slot along the rail until the power module clicks into place.

CAUTION:

1. Do not install power cord while the power is on.
2. Please make sure that the interval between two operation is greater than 30 seconds to hot swap a power supply.
3. Please do not touch the connecting finger part of the power supply which is removed after power off in case that capacitor discharge is not full.

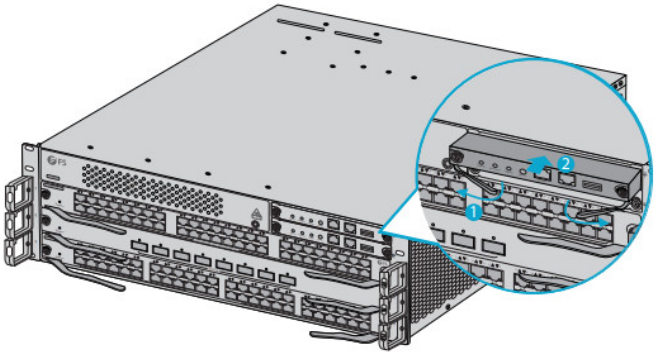
Installing Fans

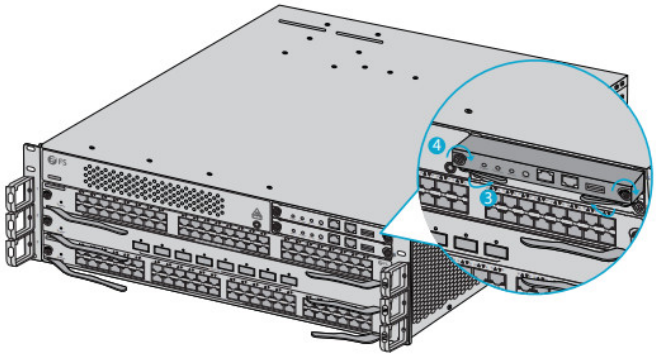


1. Install the fan tray into the fan slot in the rear panel. Note the direction identifier of the fan tray's name to ensure the correct direction.
2. Tighten the captive screws on the fan tray with a screwdriver.

CAUTION: Do not remove the fan tray forcibly. You can use the fan handle. Otherwise, component damage may occur, which causes deformation of the fan tray, and the fan tray cannot be removed.

Installing Modules





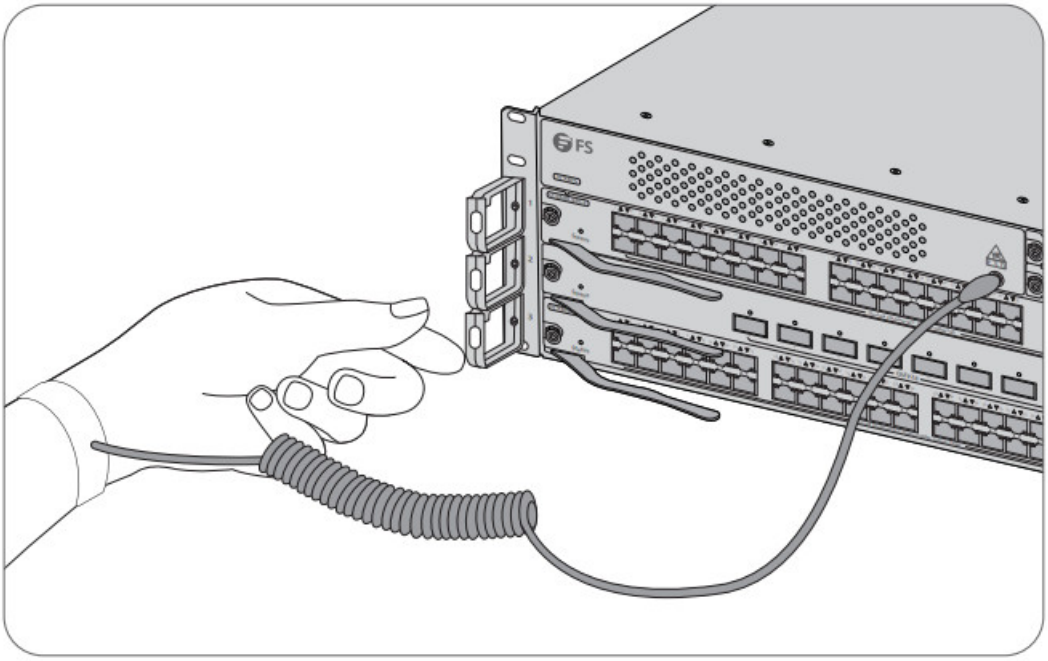
1. Pull out both levers.
2. Insert the module into the slot along the rail and drive it ahead smoothly.

3. Push both levers toward the slot.
4. Tighten captive screws on both sides of the panel.

CAUTION:

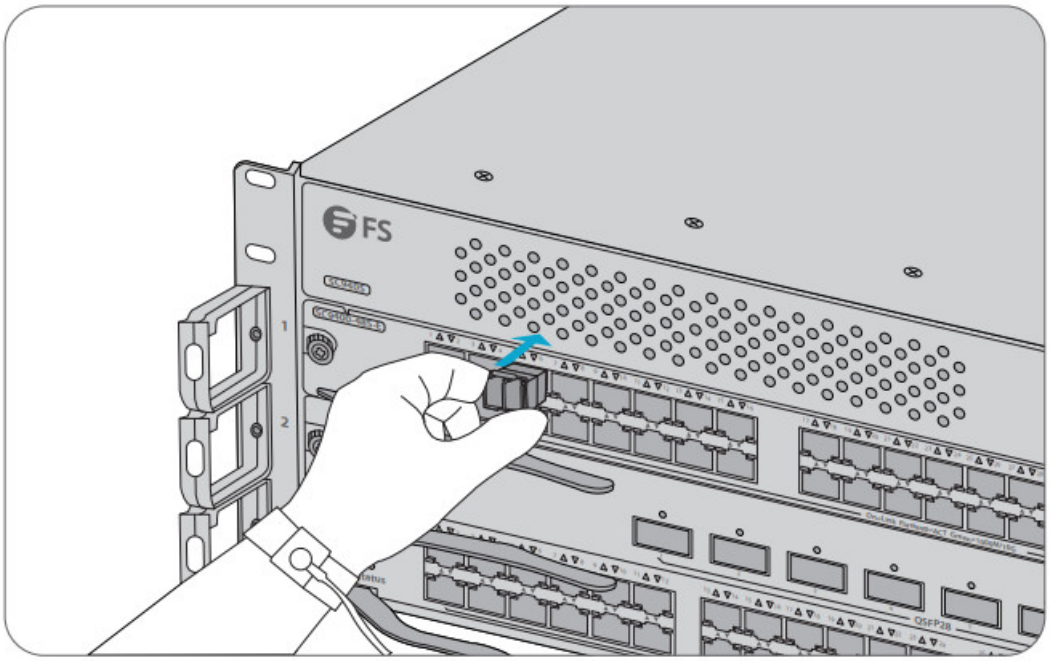
1. Do not hold the edge or collide the components on the PCB. Do not touch the connecting finger on the modules.
2. Do not plug/unplug a supervisor module, service module or switch fabric module with force, use the ejector.
3. If any module slot is unoccupied, install a filler panel to ensure proper airflow.

Installing Swappable Interface Modules (Optional)



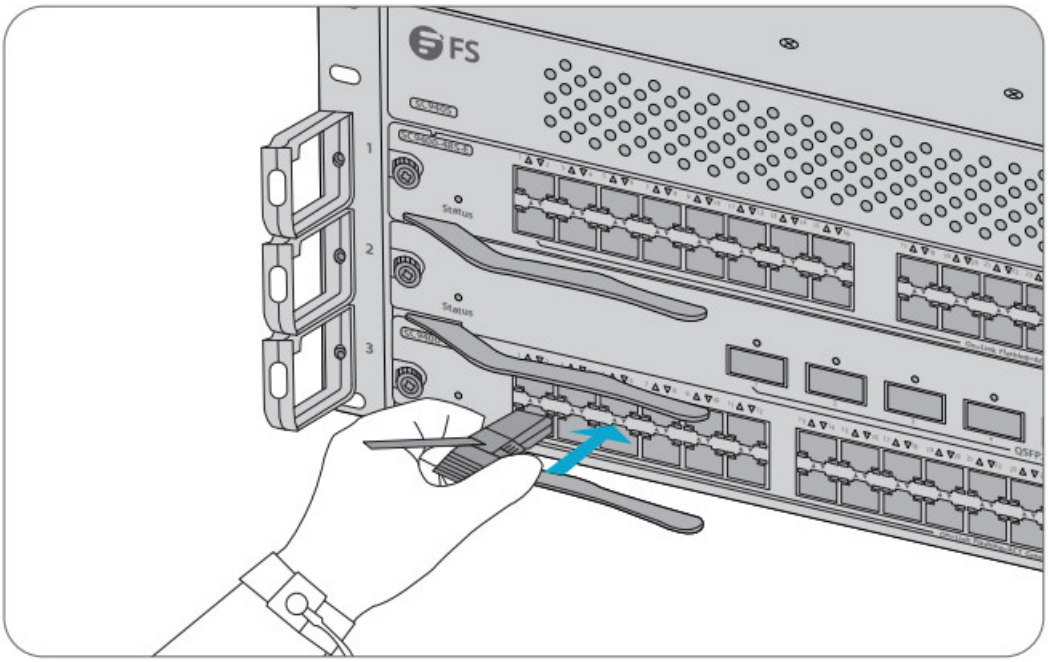
Wear an anti-static wrist strap and tighten the lock properly grounded. Install the SFP+/SFP/QSFP+ module. Do not touch the connecting finger.

Installing the SFP+/SFP Modules



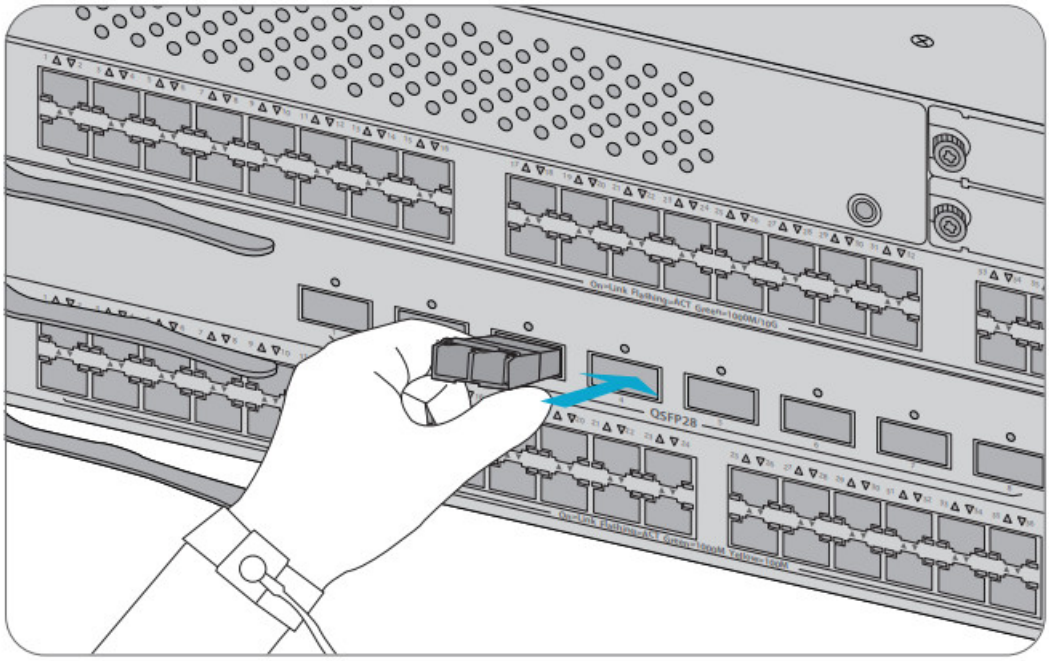
1. Turn up the handle of the module into the top bail-clasp latch. Hold both sides and push the module into place with a click sound.
2. Use the fiber optical patch cord to connect the SFP/SFP+ module to the fiber optical network. Select the patch cord with the connector corresponding to the port and the Link/ACT Status LED is on.

Installing the SFP+ Cables

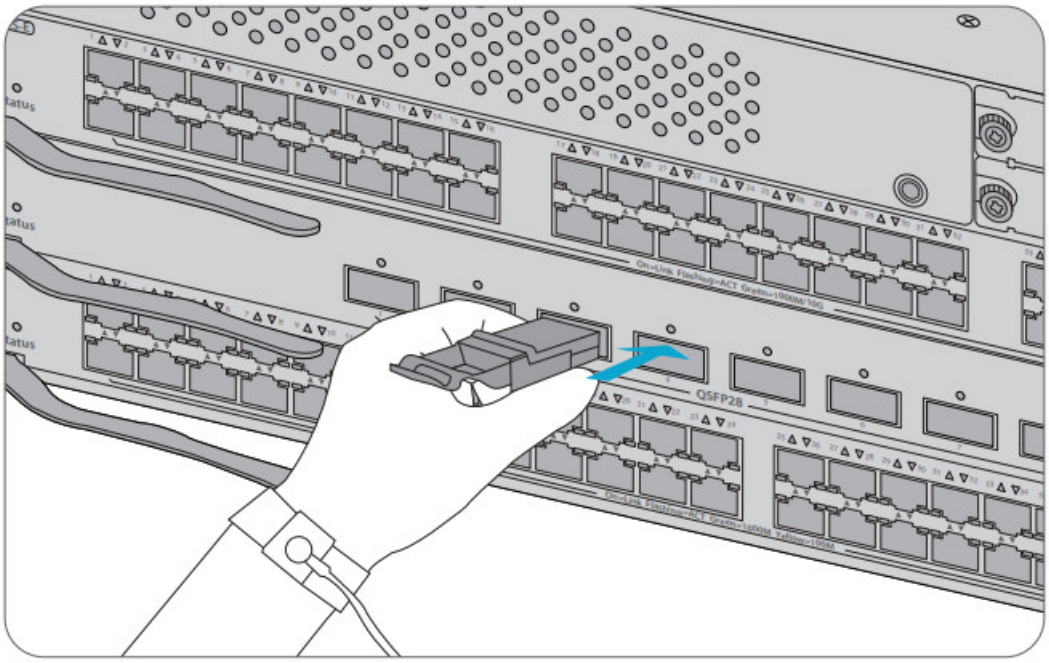


1. Push the module gently into the SFP+ module slot until a click is heard.
2. Connect the copper module to the Ethernet network through the connector, and the Link/ACT status is on.
3. Use an SFP+ cable to connect two SFP+ ports close to each other: Plug the SFP+ cable to the SFP+ port through the connector. Pay attention to the proper end for connection.

Installing QSFP28 Modules

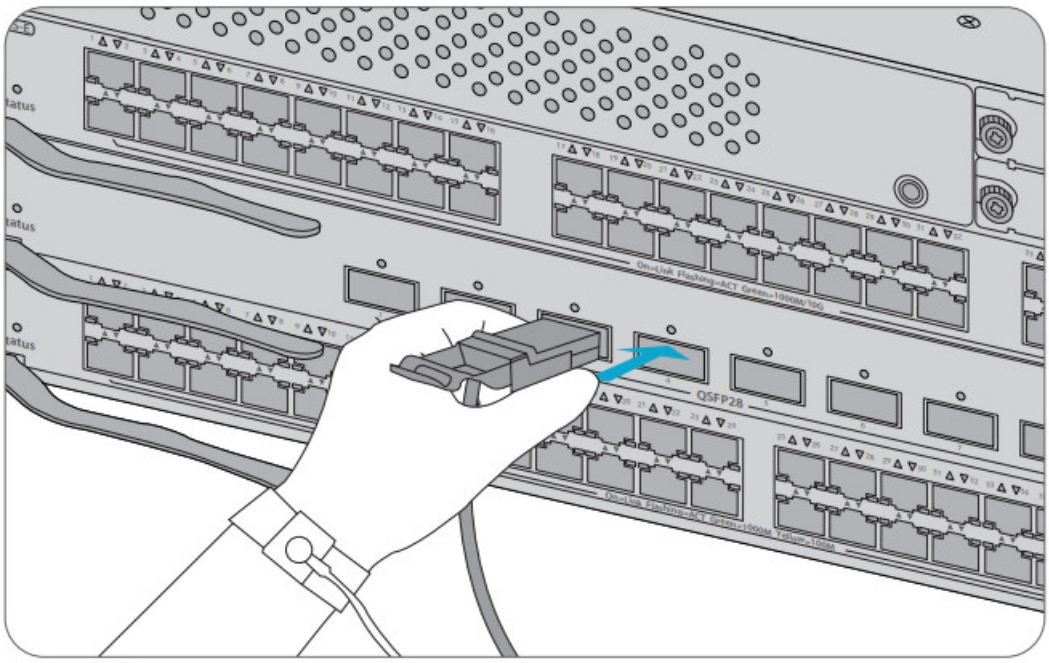


1. Turn up the handle of the module into the top bail-clasp latch. Hold both sides and push the module into place with a click sound.



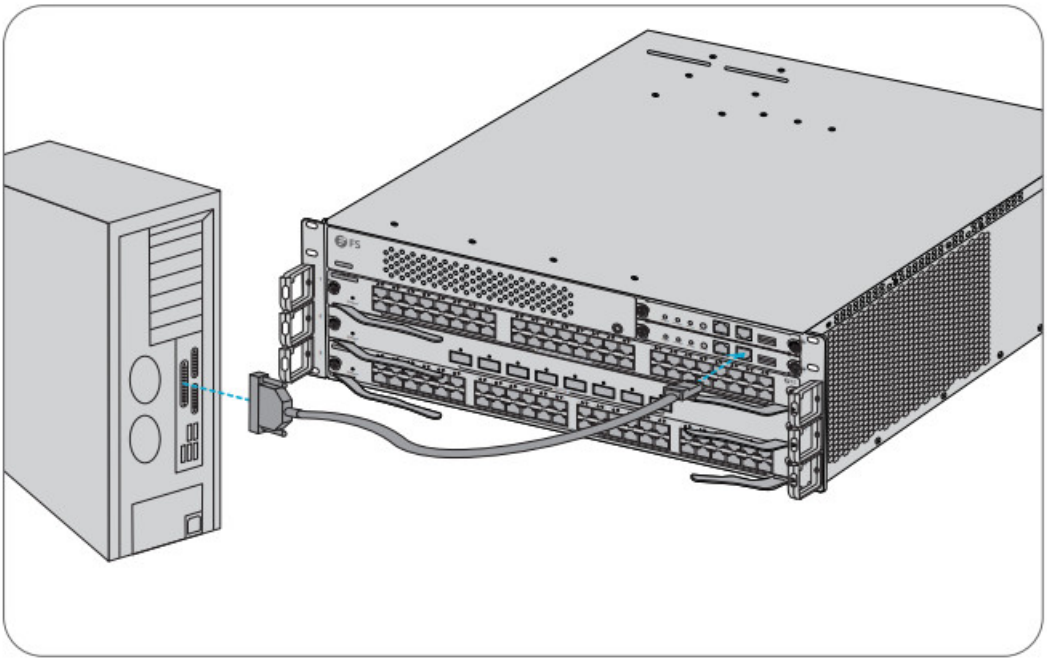
2. Push the module gently into the QSFP28 module slot until a click is heard.
3. Use the fiber optical patch cord to connect the QSFP28 module to the fiber optical network. Select the patch cord with the connector corresponding to the port, and the Link/ACT Status LED is on.

Installing QSFP28 Cables



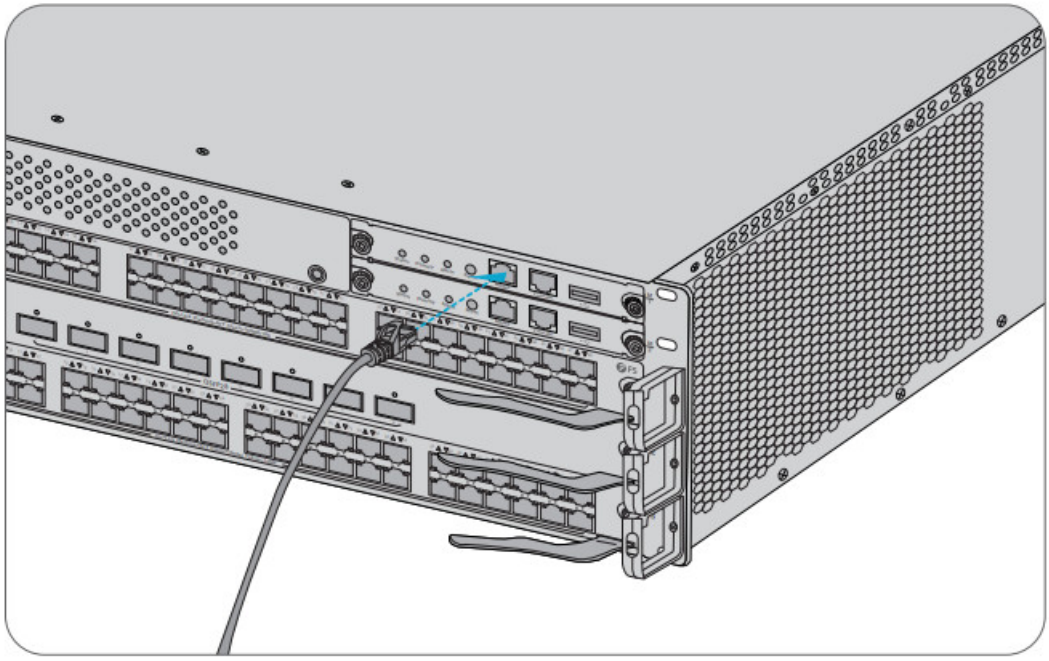
Hold the connector of a copper cable module with one hand and carry the cable to the front panel with the other. Push the module gently into the QSFP28 module slot until a click is heard, and the Link/ACT Status LED is on.

Connecting the Console Port



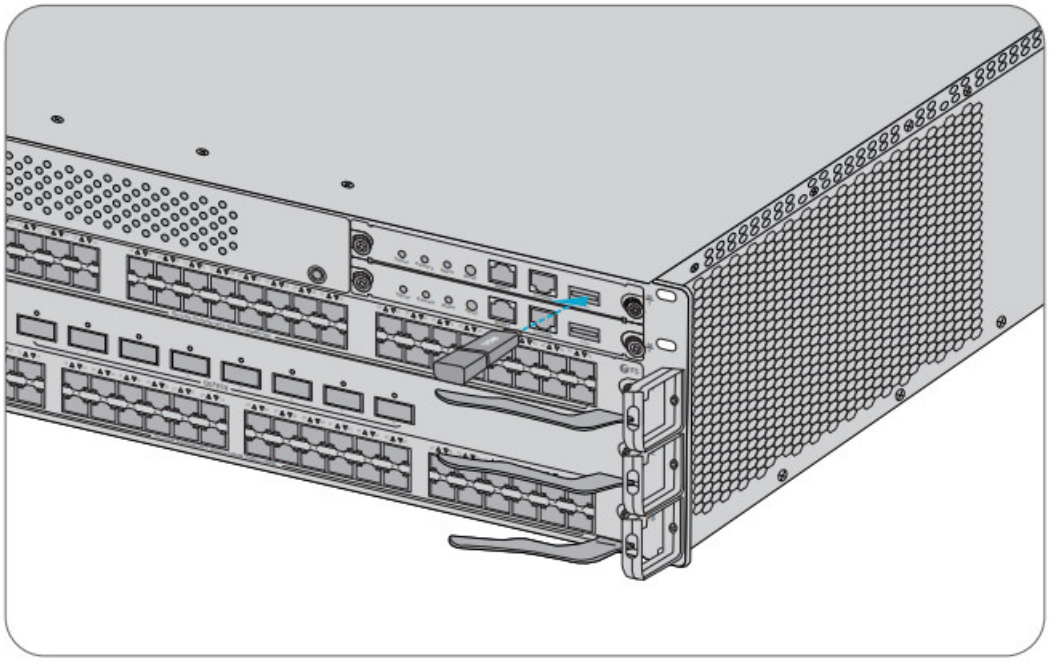
1. Insert the RJ-45 connector of the console cable into the console port of the switch.
2. Connect the DB9 female connector of the console cable to the serial port of the computer.

Connecting the MGMT Port



1. Connect one end of a standard RJ-45 Ethernet cable to the MGMT port of the switch.
2. Connect the other end of the cable to a computer.

Connecting the USB Port

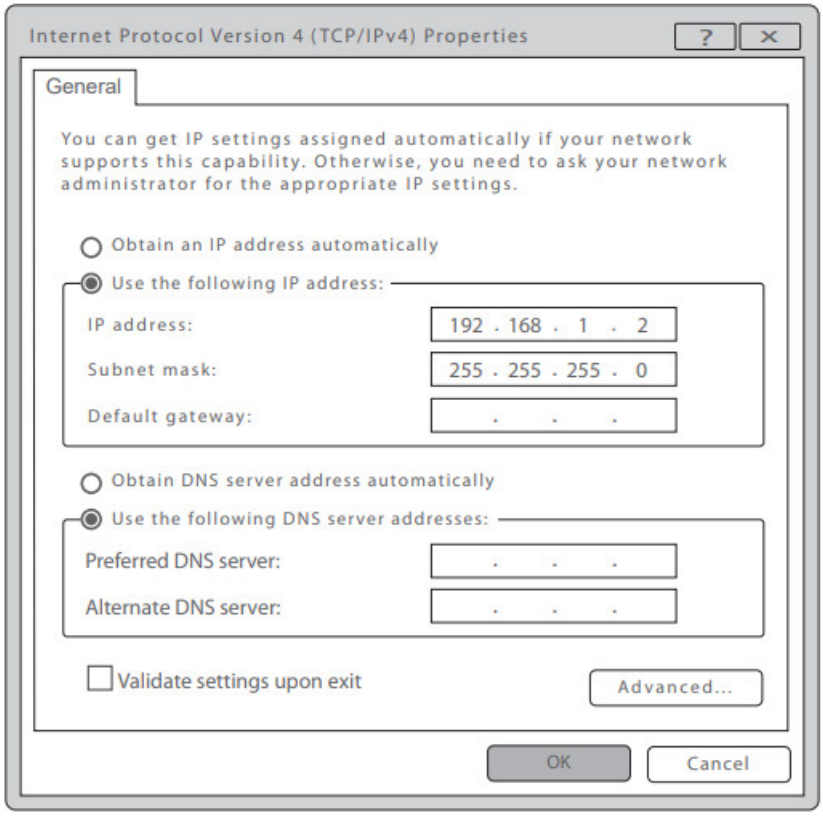


Insert the Universal Serial Bus (USB) flash disk to the USB port for software and configuration backup and offline software upgrade.

Configuring the Switch

Configuring the Switch via the Web-based Interface

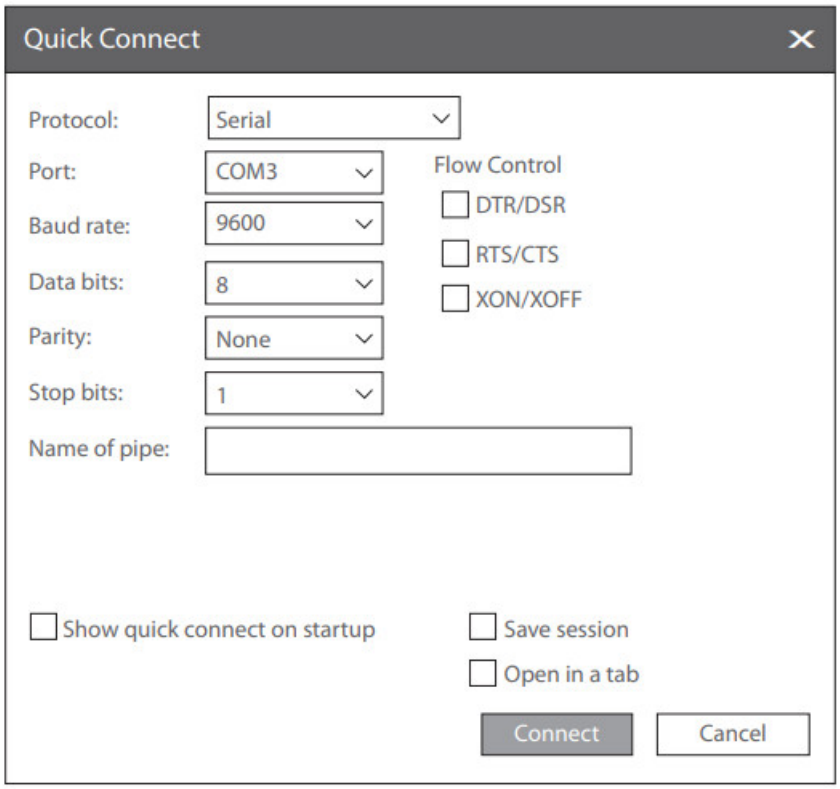
Step 1: Connect the computer to the Management port of the switch using the network cable.



Step 2: Set the IP address of the computer to 192.168.1.x. (“x” is any number from 2 to 254.)

Step 3: Open a browser, type http://192.168.1.1, and enter the default username and password, admin/admin.
Step 4: Click Login to display the web-based configuration page.

Configuring the Switch via the Console Port
Step 1: Connect a computer to the switch’s console port 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: 9600 bits per second, 8 data bits, no parity, 1 stop bit and no flow control.
Step 4: After setting the parameters, click Connect to enter.

Troubleshooting

AC Power Module Does Not Work

1. Place the switches of all the power modules to OFF.
2. Check if the cables have been correctly connected. Check whether the power cables are tightly connected to the power sockets and modules. Check whether the power modules are installed correctly. If necessary, pull out the power modules and check whether the connectors on the backboard of the power system are tightened.

Power LED Working Abnormally

1. Check if the service module is firmly inserted. If so, install the service module again and ensure that it is inserted into place before you tighten the fastening screws.
2. If the service module still does not work, check if the connector of the slot on the backplane is loose. If yes, insert the service module to another slot for a try. If the slot and connection are not the cause, return the service module for repair.

Fan Tray Does Not Work

Check if the connection between the fan tray and the backplane is secure and if the connector gets loose. If the connection is secure, you need to replace the fan tray. No Characters/Distorted Characters are Displayed on the Screen of the
Terminal Device

1. Check whether the console cable is correctly connected.
2. Check whether the console cable is broken.
3. Check whether the console port of the switch is the same as the port of the terminal device.
4. Check whether the console port configuration of the terminal device is correct.

Serial Port Console Has No Output

1. Check whether serial port cables are connected correctly and whether the connected serial port is identical with that configured on the super terminal.
2. Check whether the configuration of the serial port is the same as that described in Software Configuration Guide. If not, modify the serial port configuration parameters.

Link Cannot be Set up between Fiber Interfaces
Confirm whether the interface is a copper/fiber combo interface. If yes, it should be configured in fiber mode. Then, do as follows:

1. Check whether the receiving and sending ends are wrongly connected.
2. Check whether the optical module wavelength of the twosides is consistent.
3. Check whether the distance between the two sides exceeds the length indicated on the optical module.
4. Check whether the rates of the two sides match and whether the optical fiber type meets requirements. In addition, for ports supporting different rates, check whether rate modes are configured correctly.

Online Resources

- Download: **https://www.fs.com/products_support.html**
- Help Center: h**ttps://www.fs.com/service/fs_support.html**
- Contact Us: h**ttps://www.fs.com/contact_us.html**

Product Warranty

FS ensures our customers that if there are 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: This product enjoys a 3-year limited warranty against defect 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**

Compliance Information

FCC
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.

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 generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FS.COM GmbH hereby declares that this device is in compliance with the Directive 2014/30/EU and 2014/35/EU. A copy of the EU Declaration of Conformity is available at **www.fs.com/company/quality_control.html**

FS.COM LIMITED
24F, Infore Center, No.19, Haitian 2nd Rd,Binhai Community, Yuehai Street,Nanshan District, Shenzhen City
FS.COM GmbH
NOVA Gewerbepark Building 7, Am/Gfild 7, 85375 Neufahrn bei Munich, Germany
UKCA
Hereby, FS.COM Innovation Ltd declares that this device is in compliance with the Directive SI 2016 No. 1091 and SI 2016 No. 1101

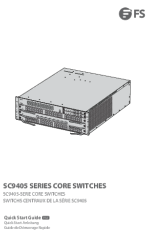
IC
CANICES-3(A)/NMB-3(A)
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

The digital apparatus complies with Canadian CAN ICES-3 (A)/NMB-3(A).

Q.C. PASSED

Documents / Resources

	FS SC9405 Series Core Switches [pdf] User Guide SC9405 Series Core Switches, SC9405 Series, Core Switches

References

- FS.com - Data Center, Enterprise, Telecom
- Quality Certification - FS.com
- Ein weltweit führender Anbieter von Hochgeschwindigkeits-Konnektivitätsgeräten und -lösungen. - FS.com Deutschland
- Contact Us - FS.com
- Kontakt - FS.com Deutschland
- Rückgaberecht - FS.com Deutschland
- Ein weltweit führender Anbieter von Hochgeschwindigkeits-Konnektivitätsgeräten und -lösungen. - FS.com Deutschland
- Technische Dokumente - FS.com Deutschland
- Hilfezentrum - FS.com Deutschland
- Fournisseur leader de solutions et matériels de connectivité à haut débit - FS.com France
- Comment Nous Contacter - FS.com France
- Fournisseur leader de solutions et matériels de connectivité à haut débit - FS.com France
- Documents techniques - FS.com France
- Centre d'aide - FS.com France
- Return Policy - FS.com
- Products Warranty - FS.com
- Technical Documents - FS.com
- Help Center - FS.com