Manuals+

FS S5850-24S2Q 24 Port 10Gb Ethernet L3 Managed Switch

Introduction

The FS S5850-24S2Q is a high-performance enterprise/data centre-grade switch from

FS (FeiShu / FS.COM). It's a 1U rack-mount managed switch providing 24 × 10Gb SFP+ downlink ports and 2 × 40Gb QSFP+ uplink ports. As a Layer-3 switch, it supports full routing protocols and is designed for environments that need high bandwidth, low latency, redundancy, and advanced management features. It's usually used in aggregation, campus backbone or small/medium data centers.

Specifications

Feature	Details
Ports / Interfaces	24 × 10Gb SFP+ downlink ports; 2 × 40Gb QSFP+ uplink ports
Switching Capacity	640 Gbps
Forwarding Rate	~480 million packets per second (Mpps)
Latency	Approx. 0.66 µs
Memory / Storage	RAM ~2 GB; Flash ~8 GB (eMMC)
Packet Buffer	~9 MB
MAC Table Size	~96,000 entries
Jumbo Frame Support	Up to 9,600 bytes
Layer-3 Protocols Supported	Static routing, RIP, OSPF, BGP; IPv4 and IPv6 dual-stack
Layer-2 Features	VLANs, QinQ, STP (Spanning Tree), MLAG (Multi-Chassis Link Aggregation)

Feature	Details
Redundancy / Reliability	Heat-dissipating design with redundant hot-swappable power supplies (1+1), redundant / variable speed fans; front-to-back airflow
Management / Security	CLI, Web UI, SNMP, SSH, RADIUS, TACACS+, ACLs, 802.1X, etc.
Environmental	Operating temp ~0-45°C; storage -40 to 70°C; humidity non-condensing (typical ranges ~10-90%)
Power & Form Factor	1 RU rack-mount chassis; dual AC power supply versions; power consumption depends on load and configuration.

Usage Scenarios

1. **Campus Backbone / Aggregation Layer**

   As traffic from access switches converges, the S5850-24S2Q can handle uplinks to the core or other aggregation nodes, thanks to its 40Gb uplink ports and high throughput. Enables efficient compartmentalisation of traffic.

2. **Data Centre / Server-Rack Core**

   Useful for smaller data centre racks or small-medium data centres as a top-of-rack or mid-tier aggregation switch, especially where many servers need 10Gb connectivity.

3. **High-Speed Connectivity / Uplink**

   For organisations that need to connect 10Gb devices (servers, storage arrays, blade chassis), plus require high-capacity uplinks to other switches or chassis (e.g. via the 40Gb QSFP+ ports).

4. **Redundant Network Topologies**

   With support for MLAG, VRRP, LACP, etc., it allows building resilient network topologies (active/active, failover) to reduce single points of failure.

5. **Mixed Protocol / IPv6 Deployment**

   Since it supports both IPv4 and IPv6, and the standard routing protocols, it's suitable where migration to IPv6 is planned, or where dual-stack is required.

Introduction

Thank you for choosing the Managed L2/L3 Routing Switches. This guide is designed to familiarise you with the layout of the switches and describes how to deploy them in your network.
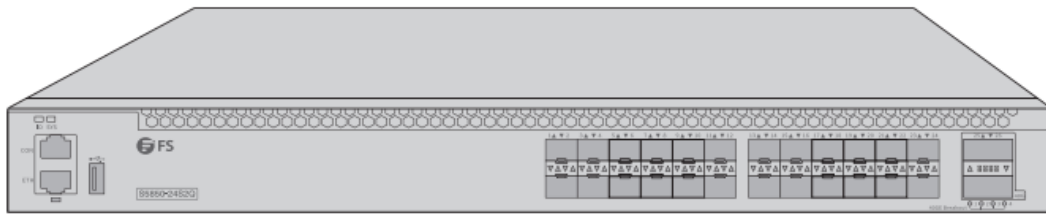
S5850-24S2Q/S5850-24S2Q-PE

Accessories

Power Cord x2

Console Cable x1
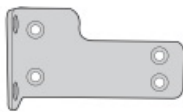

Network Cable x1

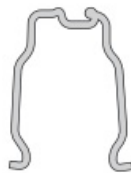Grounding Cable x1

Rubber Pad x4

M4 Screw x8

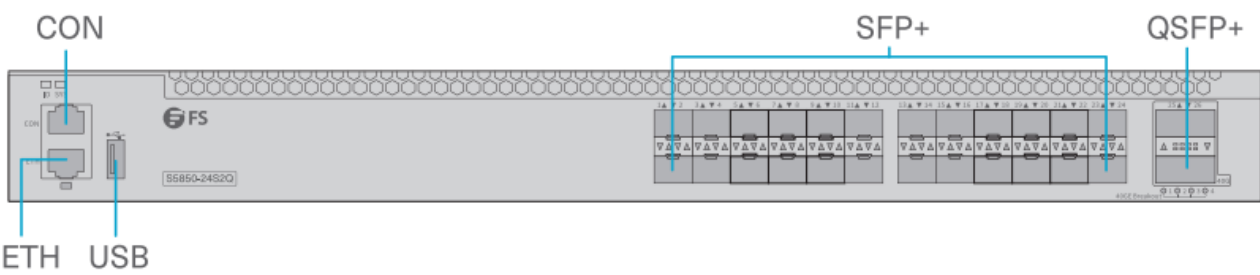Mounting Bracket x2

Spring Clip x2

M6 Screw x4

M6 Cage Nut x4

NOTE: This power cord cannot be used with other devices, and other power cords should not be used with this device.
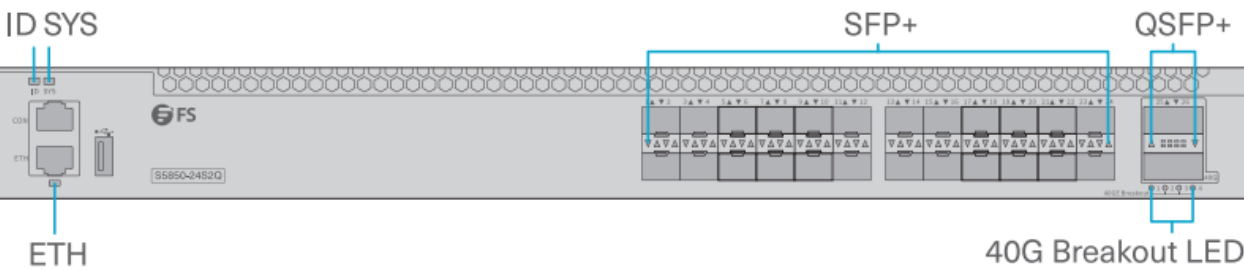
Hardware Overview

Front Panel Ports

| Port	Description
SFP+	SFP+ ports for 1/10G transceivers
QSFP+	QSFP+ ports for 40G or 4×10G connection
CON	An RJ45 console port for serial management
ETH	An Ethernet management port
USB	A USB management port for software/configuration backup and offline software upgrade

Front Panel LEDs

ID	Blue	ID indication function enable.
	Off	ID indication function disable.
	Green	The system is normally running.

SYS	Amber	The system occurs alarm or error.
	Off	No power or no system runs or runs abnormally .
ETH	Green	Port is linked.
	Blinking Green	Port is receiving or transmitting packets.
	Off	Port is not linked.
SFP+	Green	10G port is linked.
	Blinking Green	The SFP+ port is transmitting or receiving packets at 10 G.
	Amber	1G port is linked.
	Blinking Amber	The SFP+ port is transmitting or receiving packets at 1 G.
	Off	Port is not linked.
QSFP+	Green	40G port is linked.
	Blinking Green	The QSFP+ port is transmitting or receiving packets at 40G.
	Amber	The port is in breakout mode.
	Blinking Amber	The breakout port is transmitting or receiving packets.
	Off	Port is not linked.
Breakout	Loop Blinking	One or more 40G ports are in breakout mode.
	Off	None of the 40G ports is in breakout mode.

Back Panel

Grounding Point

3 Fixed Fans

2 Hot-swappable Power Supplies
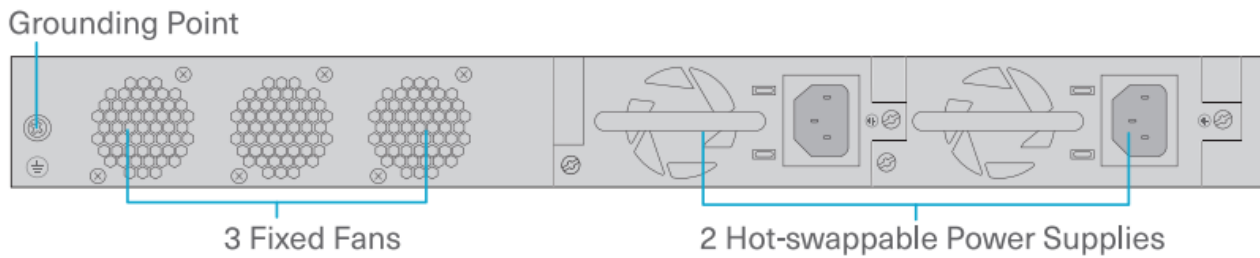
Installation Requirements

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

- Phillips screwdriver.
- M6 Screws.
- Standard-sized, 1 9″ wide rack with a minimum of 1 U height available.
- Category 5e or higher RJ-45 Ethernet cables for connecting the network devices.

Site Environment:

- Do not operate it in an area that exceeds an ambient temperature of 450 C.
- The installation site must be well ventilated. Ensure that there is adequate air flow around the switch.
- 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.
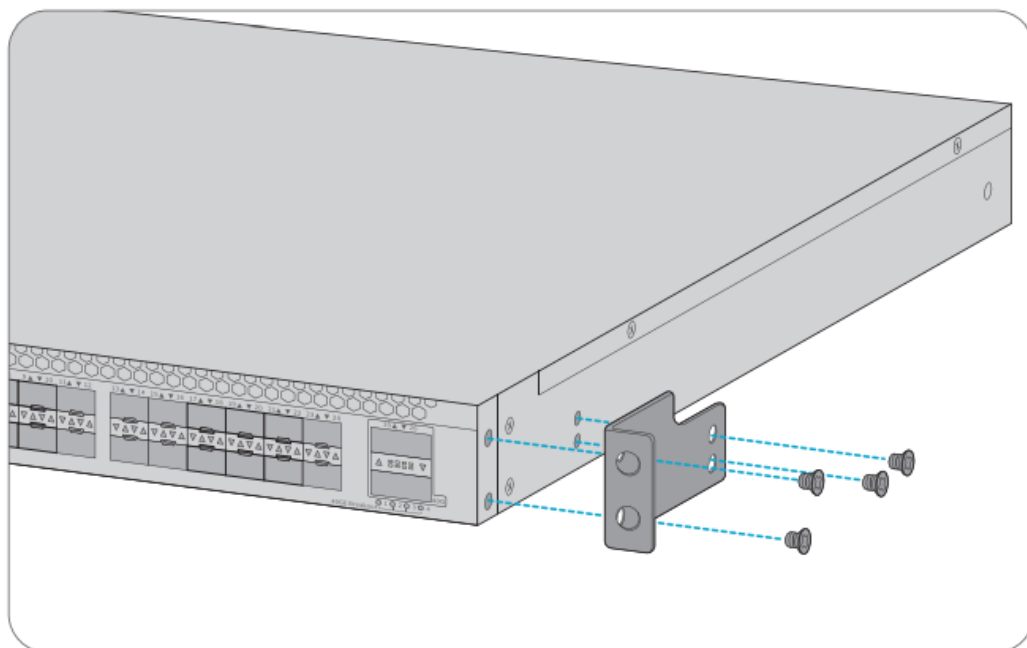- Ensure rack and working platforms are well earthed.

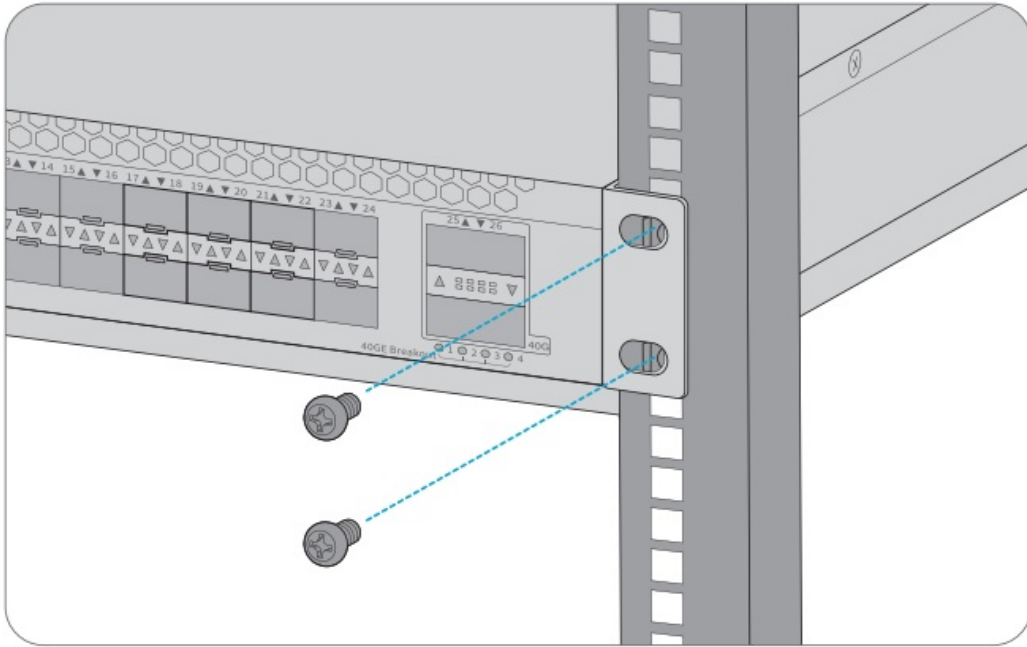## Mounting the Switch

Desk Mounting
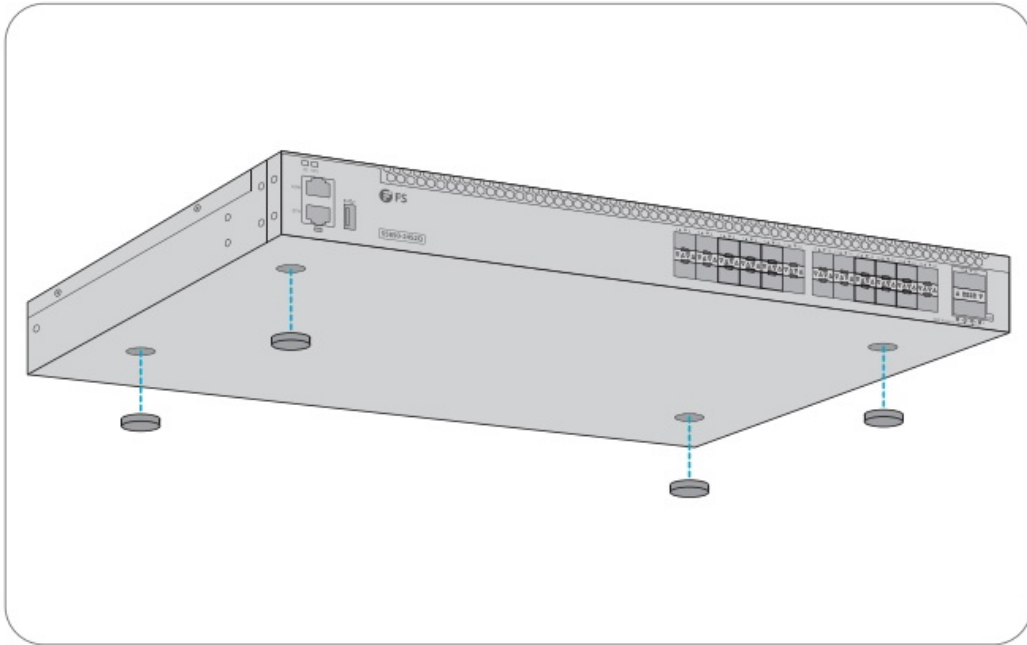
1. Attach four rubber pads to the bottom.

2. Place the chassis on a desk.
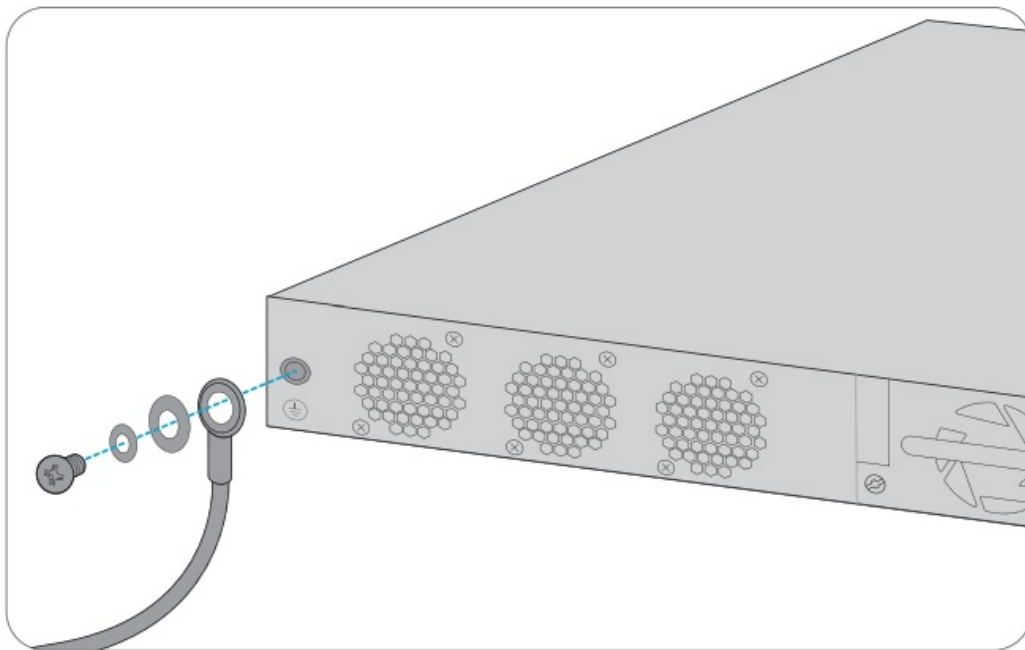
Rack Mounting

1. Secure the mounting brackets to the two sides of the switch with eight M4 screws.

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

Grounding the Switch

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 washer and screws.

CAUTION: The earth connection must not be removed unless all supply connections have been disconnected.
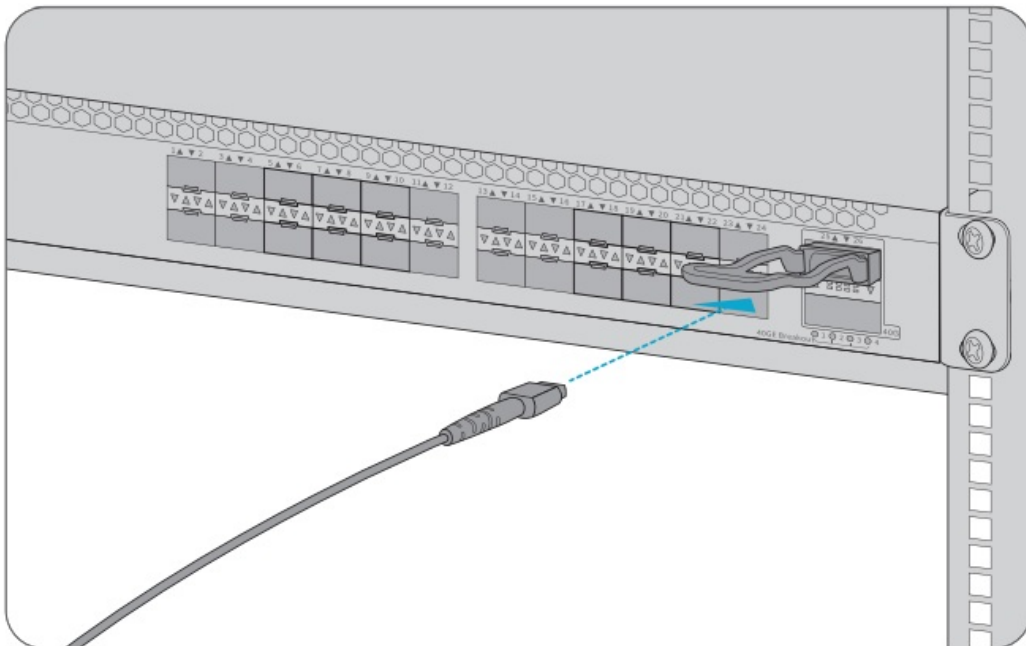
Connecting the SFP+ Ports
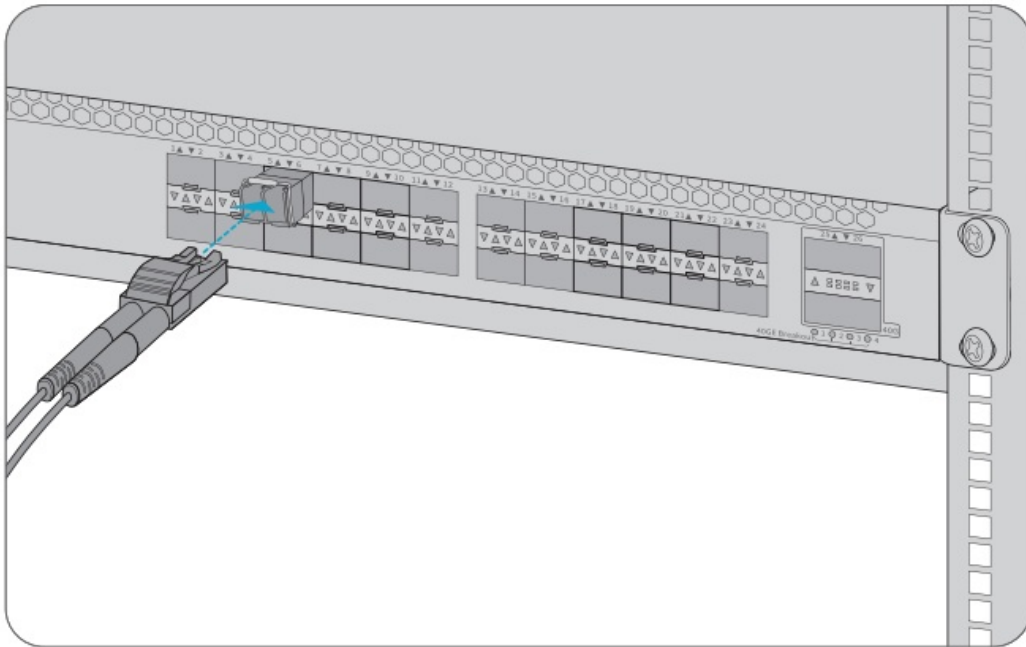
First install SFP+ transceivers and then connect fiber optic cabling to the transceiver ports, or directly connect DAC cables to the SFP+ slots.

CAUTION: Laser beams will cause eye damage. Do not look into bores of optical R.N modules or optical fibers without eye protection.
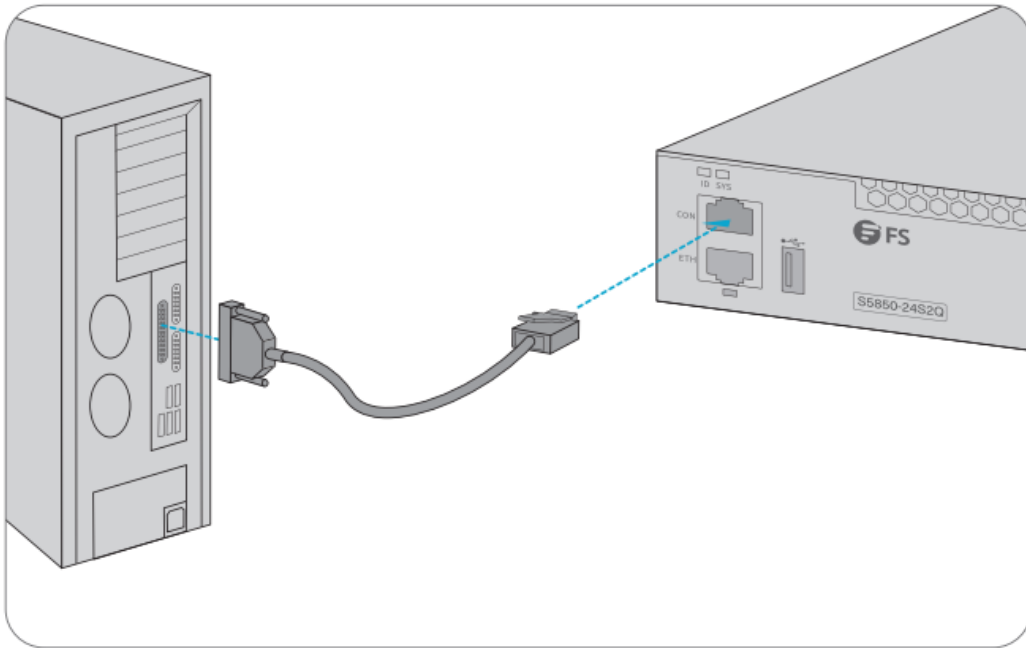
Connecting the QSFP+ Ports

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

Connecting the Management Ports

Connecting the Console Port

1. Insert the RJ45 connector of the console cable into the RJ45 console port on the front of the switch.
2. Connect the other end of the console cable to the RS-232 serial port on the computer.

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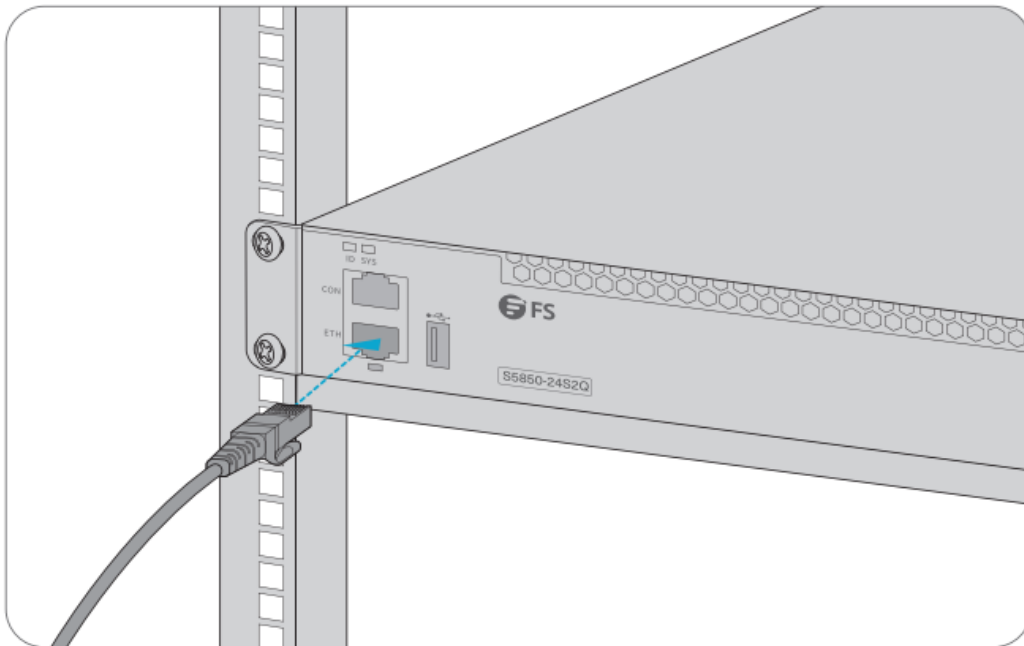
1. Connect one end of a standard RJ45 Ethernet cable to a computer.
2. Connect the other end of the cable to the ETH port on the front of the switch.

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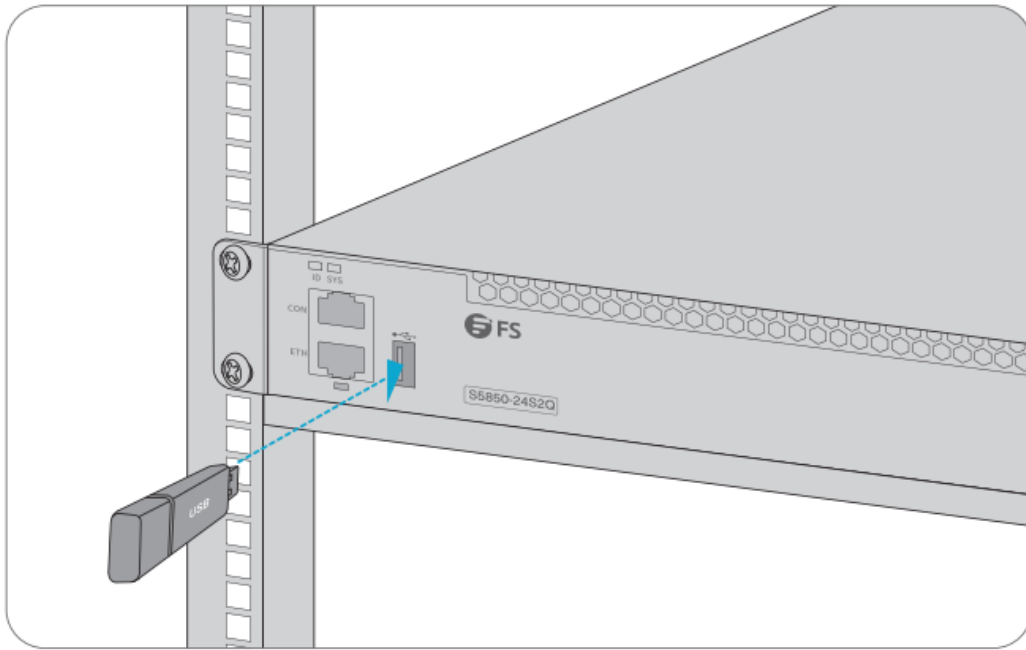
Insert the Universal Serial Bus (USB) flash disk to the USB port for software and configuration backup and offline software upgrade.

Connecting the Power
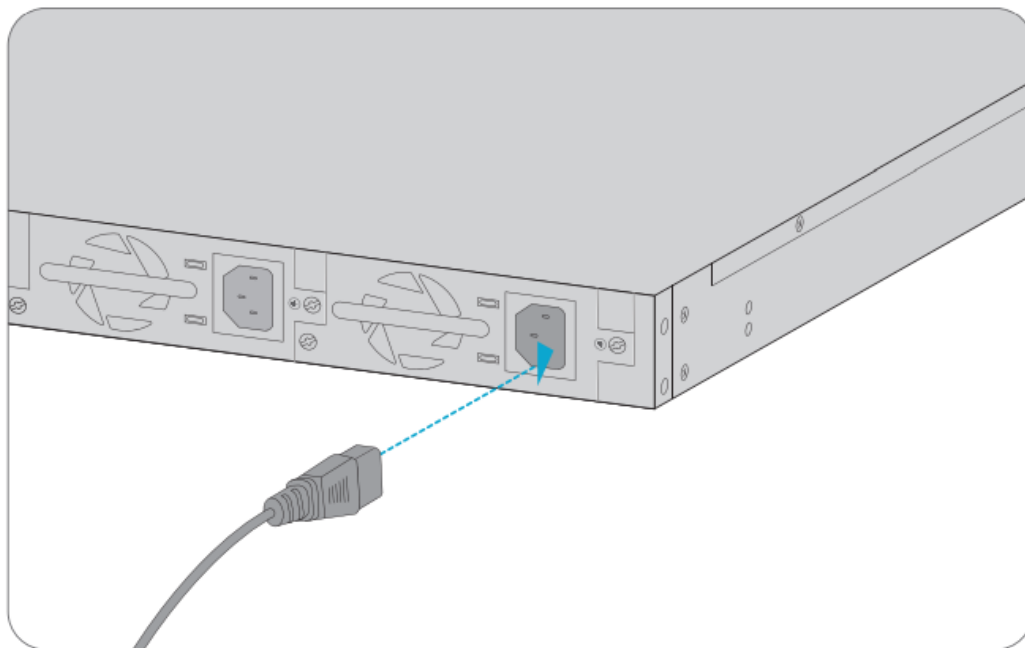
1. Plug the AC power cord into the power port on the back of the switch.
2. Connect the other end of the power cord to an AC power source.

WARNING: Do not install power cables while the power is on.

Configuring the Switch

Configuring the Switch Using 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.). Set the subnet mask of the computer to 255.255.255.0.
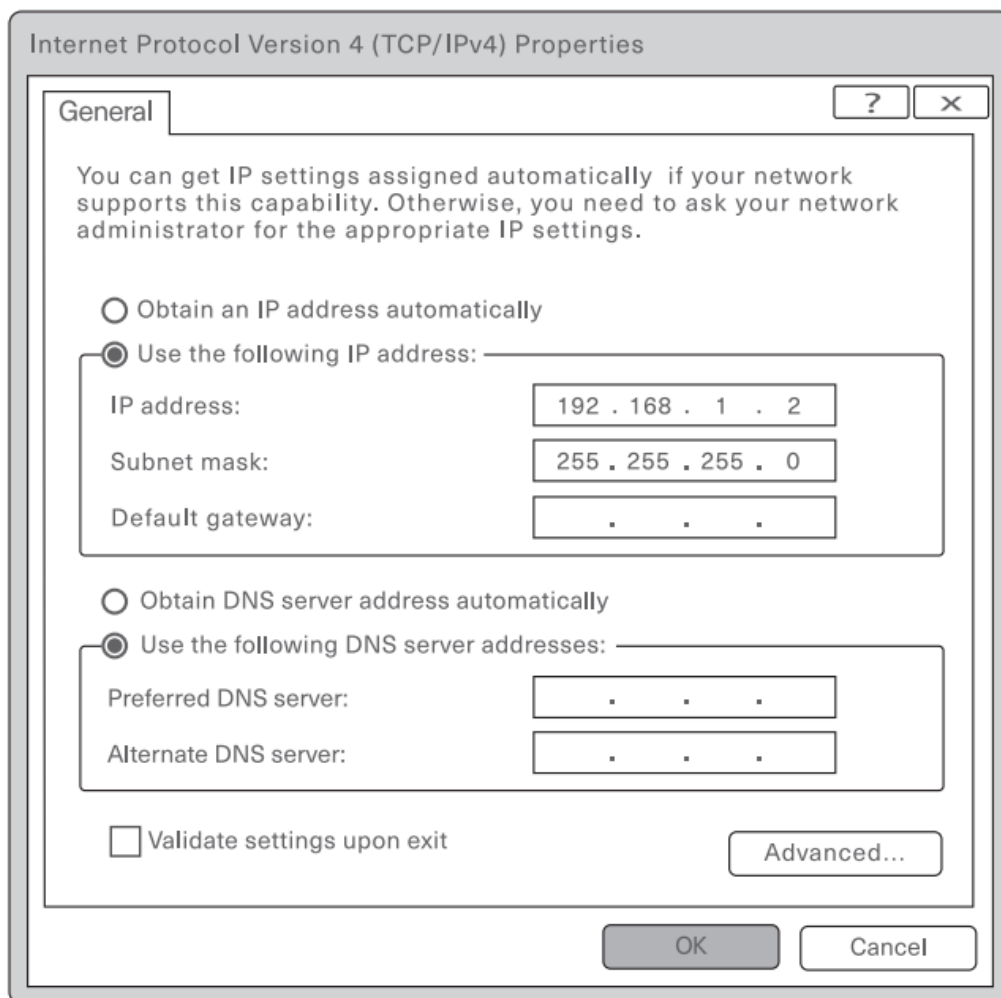- **Step 3:** Open a browser, type http://1 92.168.1.1, and enter the default username and password, admin/admin.
- **Step 4:** Click Sign In to display the web-based configuration page.

Internet Protocol Version 4 (TCP/IPv4) Properties

| General | ? | × |

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
◉ Use the following IP address:

IP address: 192 . 168 . 1 . 2
Subnet mask: 255 . 255 . 255 . 0
Default gateway: .   .

○ Obtain DNS server address automatically
◉ Use the following DNS server addresses:

Preferred DNS server: .   .
Alternate DNS server: .   .

☐ Validate settings upon exit   Advanced...

OK   Cancel

Configuring the Switch Using the Console Port

- **Step 1 :** Connect a computer to the switch's console port using the supplied console cable.
- **Step 2:** Start the terminal simulation software such as HyperTerminal on the computer.

- **Step 3:** Set the parameters of the HyperTerminal: 1 15200 bits per second, 8 data bits, no parity, 1 stop bit and no flow control.

- **Step 4:** Enter the default username and password, admin/admin.

Troubleshooting

Loading Failure Troubleshooting

After loading fails, the system will keep running in the original version. At this time, users should re-check if physical port connections are good. If some ports are not connected, then reconnect them to ensure that physical connections are correct, and begin reloading. If physical connections are correct, then check the loading process information displayed on the super terminal to verify if there are input errors. If there are input errors, correct them and reload.

User Password Lost Troubleshooting

If the system password is lost or forgotten, the following method can be used to reset the password:

1. Connect the console port of the switch to the computer through the console cable.

2. Press Ctrl + b to enter the U-Boot mode.
3. Start the system with an empty configuration file with no password.
   - Bootrom#boot_flash_nopass
   - Bootrom#Do you want to revert to the default config

NOTE: Forgetting your username and password and restoring them through the console port may cause configuration loss and business interruption. Please remember your username and password.

Configuration System Troubleshooting

1. Make sure the power supply is normal and the console cable is properly connected.
2. Check if the console cable is the right type.
3. Check if the control cable driver is properly installed on the computer.
4. Ensure the parameters of the HyperTerminal are correct.

Product Warranty

- FS ensures our customers that for 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:** The products enjoy a 5-year limited warranty against defects in materials or workmanship. For more details about the warranty, please check at https://www.fs.com/policies/warranty.html
- Return: If you want to return the item(s), information on how to return can be found at https://www.fs.com/policies/day-return-policy.html

Online Resource

For additional technical documents, visit: https://www.fs.comtechnical-documents.html

Download the FS App

Scan the QR code to download and install the FS app from the App Store or Google Play Store or go to https://www.fs.com/appdownload.html

Safety

- **Power Supply Safety**

  Use proper grounding for the chassis. Ensure that power cords are certified, properly rated, and that redundant power supplies (if used) are connected to separate circuits if possible to avoid single circuit failures.

- **Proper Ventilation** / **Cooling**

  Rack the switch in equipment racks with adequate airflow. Since it has front-to-back airflow, do not block intake or exhaust vents. Overheating can lead to performance degradation or failure.

- **Environmental Conditions**

  Keep ambient temperature and humidity within the ranges specified to avoid condensation or thermal stress. Sudden temperature changes can cause moisture or internal thermal shock.

- **Handling of Fiber Optics** / **Transceivers**

When inserting or removing SFP / QSFP modules, ensure proper ESD protection. Handle transceivers carefully to avoid damaging the optic ports or connectors.

- **Firmware** / **Configuration Security**

Change default passwords, disable unused services (e.g. Telnet if not needed), keep firmware updated to fix vulnerabilities. Use secure management (SSH, role-based access) rather than insecure protocols where possible.
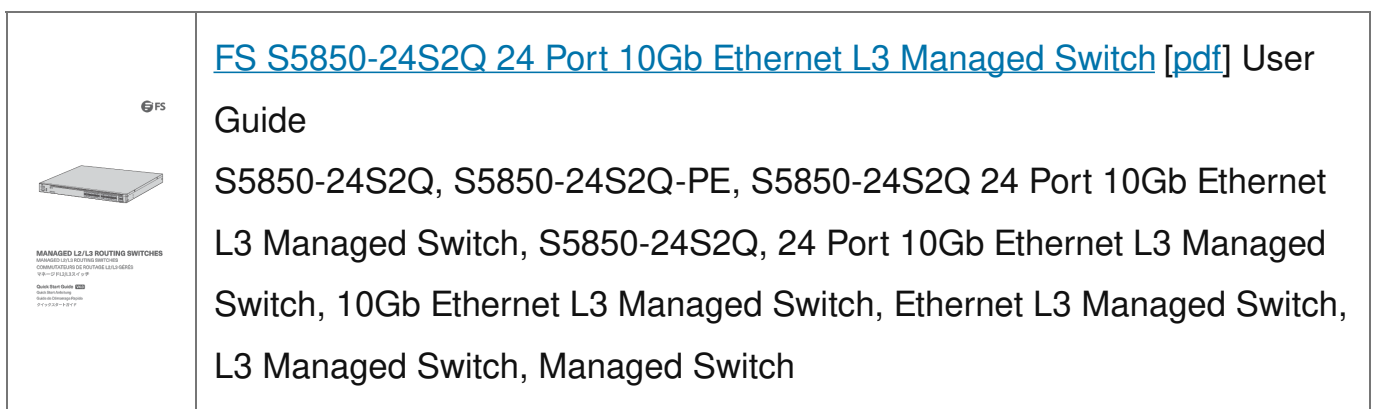
- **Power-Off Procedures**

Before doing hardware maintenance (fan or power supply replacement), ensure proper power-off or hot-swap per manual instructions. But since some parts are hot-swappable (PSUs, fans), ensure you follow procedure to avoid electrical shock.

FAQs

Q1: Can the switch work in a mixed-speed environment (1Gb, 10Gb, 40Gb)?

A1: Yes. The S5850-24S2Q includes 24 SFP+ ports which can accept 1Gb or 10Gb modules (depending on the transceivers used), and 2 QSFP+ uplinks at 40Gb. So you can connect either slower devices (1Gb) or full 10Gb, plus higher capacity 40Gb uplinks to core/distribution switches. Just ensure you use compatible transceivers and that the SFP+ modules are rated for the desired speed.

Documents / Resources

	FS S5850-24S2Q 24 Port 10Gb Ethernet L3 Managed Switch [pdf] User Guide
	S5850-24S2Q, S5850-24S2Q-PE, S5850-24S2Q 24 Port 10Gb Ethernet L3 Managed Switch, S5850-24S2Q, 24 Port 10Gb Ethernet L3 Managed Switch, 10Gb Ethernet L3 Managed Switch, Ethernet L3 Managed Switch, L3 Managed Switch, Managed Switch

References

- User Manual

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🏷 10Gb Ethernet L3 Managed Switch, 24 Port 10Gb Ethernet L3 Managed Switch, Ethernet L3 Managed Switch, FS, L3 Managed Switch, Managed Switch, S5850-24S2Q, S5850-24S2Q 24 Port 10Gb Ethernet L3 Managed Switch, S5850-24S2Q-PE

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