

S54 Series Switches

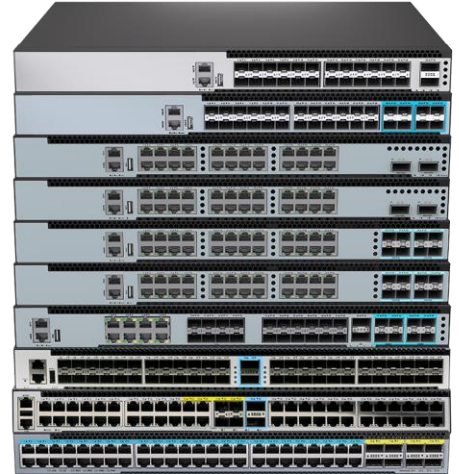
Datasheet

Version: V1.2

Release Date: 2026/3

Product Overview

The S54 Series features high-performance Layer 3 Access / Aggregation switches powered by a next-generation MAC SoC. Leveraging advanced hardware processes, the series provides full Layer 3 networking capabilities for high-speed enterprise and operator environments



Highlight features

- High-Power PoE: Support for 802.3bt (PoE++) delivering up to 90W per port for high-draw IoT and Wi-Fi 7 devices.
- Unified Converged Core: Full MPLS (L2/L3 VPN) stack to support multi-tenant, converged network architectures.
- Carrier-Grade Reliability: MLAG support for Active-Active redundancy, providing device-level failover and hitless upgrades.
- Data Center Fabric: Hardware-accelerated VXLAN with BGP-EVPN control plane for scalable overlay networks.
- Line-Rate Security: MACsec (AES-CMAC) encryption for secure, hardware-based switch-to-switch link protection.
- Nanosecond Precision: IEEE 1588 PTP (Precision Timing Protocol) for time-sensitive synchronization.
- Advanced Routing: Comprehensive L2/IPv4/IPv6 stack including OSPF, BGP, and PIM (Multicast).

The S5-54 Series ensures high availability through redundant, hot-swappable power supplies—supporting both AC and DC—and four field-replaceable fan modules. While the standard configuration features front-to-rear (AFO) airflow, rear-to-front (AFI) customization is available to meet specific cooling requirements.

Feasible PSU and airflow

Items	AC	DC	PoE Ports	AFO	AFI	Power Input	FAN
S5448T-4X2C-EI	○	○	X	○	○	2	4
S5448T-4X2C-SI	○	X	X	○	X	1	4
S5448X-2C-SI	○	X	X	○	X	1	4
S5424T-2C-EI	○	○	X	○	○	2	2
S5424T-2C-SI	○	X	X	○	X	1	4
S5424TP-2C-EI	○	○	24	○	X	2	2
S5424T-8N-EI	○	○	X	○	○	2	2
S5424TP-8N-EI	○	○	24	○	X	2	2
S5424X-2C-EI	○	○	X	○	○	2	2
S5424X-2C-SI	○	X	X	○	X	1	4
S5424X-8N-EI	○	○	X	○	○	2	2
S5412X-8G8S8N2Q-EI	○	○	X	○	○	2	2
S5412X-8G8S8N2Q-SI	○	X	X	○	X	1	4
S5424XH-2C-EI	○	○	X	○	○	1	1
S5424XH-2C-SI	○	X	X	○	X	1	2
S5412X12TH-2C-EI	○	○	X	○	○	1	1
S5412X12TH-2C-SI	○	X	X	○	X	1	3
S5424TH-2C-EI	○	○	X	○	○	1	1
S5424TH-2C-SI	○	X	X	○	X	1	3

Family of the S54-Series switches

Models	Ethernet Ports	Management	PSU 1/PSU 2	Cooling
S5448T-4X2C-EI	48 x100M/1G/2.5G/5G/10G Base-T + 4 x 10G SFP+ + 2 x 100G QSFP 28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	350W / 350W CRPS	4 x Fan Modules (front-to-back airflow)
S5448T-4X2C-SI	48 x100M/1G/2.5G/5G/10G Base-T + 4 x 10G SFP+ + 2 x 100G QSFP 28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	Fixed single power supply	4 x fixed fans (front-to-back airflow)
S5448X-2C-SI	48 x 10G SFP+ + 2 x 100G QSFP 28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	Fixed single power supply	4 x fixed fans (front-to-back airflow)
S5424T-2C-EI	24 x100M/1G/2.5G/5G/10G Base-T+2 x 100G QSFP28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	350W / 350W CRPS	2 x Fan Modules (front-to-back airflow)
S5424T-2C-SI	24*100M/1G/2.5G/5G/10G Base-T+2 x 100G QSFP28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	Fixed single power supply	4 x fixed fans (front-to-back airflow)
S5424TP-2C-EI	24*100M/1G/2.5G/5G/10G Base-T(PoE++ 90W) + 2 x 100G QSFP 28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	600W / 600W (by default)	2 x Fan Modules (front-to-back airflow)
S5424T-8N-EI	24 x100M/1G/2.5G/5G/10G Base-T+8 x 25G SFP28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	350W /350W CRPS	2 x Fan Modules (front-to-back airflow)
S5424TP-8N-EI	24*100M/1G/2.5G/5G/10G Base-T(PoE++ 90W) + 8 x 25G SFP 28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	600W / 600W (by default)	2 x Fan Modules (front-to-back airflow)
S5424X-2C-EI	24 x 10G SFP+ + 2 x 100G QSFP 28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	350W / 350W CRPS	2 x Fan Modules (front-to-back airflow)

Models	Ethernet Ports	Management	PSU 1/PSU 2	Cooling
S5424X-2C-SI	24 x 10G SFP+ + 2 x 100G QSFP 28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	Fixed single power supply	4 x fixed fans (front-to-back airflow)
S5424X-8N-EI	24 x 10G SFP+ + 8 x 25G SFP 28	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	350W / 350W CRPS	2 x Fan Modules (front-to-back airflow)
S5412X-8G8S8N2Q-EI	12 x 10G SFP+ + 8 x 1G Base-T + 8 x 1G SFP + 8 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	350W / 350W CRPS	2 x Fan Modules (front-to-back airflow)
S5412X-8G8S8N2Q-SI	12 x 10G SFP+ + 8 x 1G Base-T + 8 x 1G SFP + 8 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 to RS232 Ethernet: 1G Port Storage: USB	Fixed single power supply	4 x fixed fans (front-to-back airflow)
S5424XH-2C-EI	24 x 10G SFP+ + 2 x 100G QSFP28	Console: RJ45 RS232 Ethernet: 1G Port	550W CRPS	1 x Fan Module (front-to-back airflow)
S5424XH-2C-SI	24 x 10G SFP+ + 2 x 100G QSFP28	Console: RJ45 RS232 Ethernet: 1G Port	150W Fixed single power supply	2 x fixed fans (front-to-back airflow)
S5412X12TH-2C-EI	12 x 10G SFP+ + 12 x 10G Base-T + 2 x 100G QSFP28	Console: RJ45 RS232 Ethernet: 1G Port	350W CRPS	1 x Fan Module (front-to-back airflow)
S5412X12TH-2C-SI	12 x 10G SFP+ + 12 x 10G Base-T + 2 x 100G QSFP28	Console: RJ45 RS232 Ethernet: 1G Port	Fixed single power supply	3 x fixed fans (front-to-back airflow)
S5424TH-2C-EI	24 x 10G Base-T + 2 x 100G QSFP28	Console: RJ45 RS232 Ethernet: 1G Port	350W CRPS	1 x Fan Module (front-to-back airflow)
S5424TH-2C-SI	24 x 10G Base-T + 2 x 100G QSFP28	Console: RJ45 RS232 Ethernet: 1G Port	300W Fixed single power supply	3 x fixed fans (front-to-back airflow)

Product Specifications

Model	Switch capacity (bidirectional)	Throughput	Dimensions (W x H x D) cm	Consum Weight(kg) ption(W)(Net/Gross)	
S5448T-4X2C-EI	1440Gbps	2142.72Mpps	44.2 x 4.4 x 38	TBD	TBD
S5448T-4X2C-SI	1440Gbps	2142.72Mpps	44.2 x 4.4 x 37.1	TBD	TBD
S5448X-2C-SI	1360Gbps	2023.68Mpps	44.2 x 4.4 x 29	87	4.03/6.5
S5424T-2C-EI	880Gbps	1309.44Mpps	44.2 x 4,4 x 35.7	106	5kg/9kg
S5424T-2C-SI	880Gbps	1309.44Mpps	44.2 x 4.4 x 35.7	112	5kg/9kg
S5424TP-2C-EI	880Gbps	1309.44Mpps	44.2 x 4.4 x 35.7	112	6.69kg/8.8kg
S5424T-8N-EI	880Gbps	1309.44Mpps	44.2 x 4.4 x 35.6	76	6.96kg/10kg
S5424TP-8N-EI	880Gbps	1309.44Mpps	44.2 x 4.4 x 35.6	116	6.96kg/10kg
S5424X-2C-EI	880Gbps	1309.44Mpps	44.2 x 4.4 x 35.7	64	5kg/9kg
S5424X-2C-SI	880Gbps	1309.44Mpps	44.2 x 4.4 x 29	55	5kg/8.5kg
S5424X-8N-EI	880Gbps	1309.44Mpps	44.2 x 4.4 x 35.7	76	6.96kg/10kg
S5412X-8G8S8N2Q-EI	832Gbps	1238.02Mpps	44.2 x 4.4 x 35.7	72	6.96kg/9kg
S5412X-8G8S8N2Q-SI	832Gbps	1238.02Mpps	44.2 x 4.4 x 29.1	TBD	6.96kg/9kg
S5424XH-2C-EI	880Gbps	1309.44Mpps	21.5x4.4x35.5	64	3.5kg/7.5kg
S5424XH-2C-SI	880Gbps	1309.44Mpps	21.5x4.4x35.5	38	2.7kg/5kg
S5412X12TH-2C-EI	880Gbps	1309.44Mpps	21.5x4.4x35.6	81	3.5kg/5kg
S5412X12TH-2C-SI	880Gbps	1309.44Mpps	21.5x4.4x35.6	TBD	3kg/5kg
S5424TH-2C-EI	880Gbps	1309.44Mpps	21.5x4.4x35.6	101	3.5kg/4.4kg
S5424TH-2C-SI	880Gbps	1309.44Mpps	21.5x4.4x35.6	98	3kg/4kg

Product Specifications

CPU

- Dual-core processor, ARM A53

Memory

- eMMC: 8GB on all models
- DRAM: 2GB on all models

MTBF

- EI \geq 90000H
- SI \geq 70000H

Environmental ranges

- Operating temperature: 0°C to 45°C
- Storage temperature: -40°C to 70°C
- Running Humidity: 10% to 90% (No condensation)
- Store Humidity: 5 to 95% (No condensation)

Temperature alarm

- Alarm threshold: 50°C

The S54 Series supports a comprehensive range of management options, including CLI, Web-based, and Cloud-managed platforms. Administrators can utilize SNMP v1/v2/v3, Telnet, and FTP, while security is bolstered by SSH2.0. Additionally, integrated OAM support ensures streamlined operations and more convenient network maintenance.

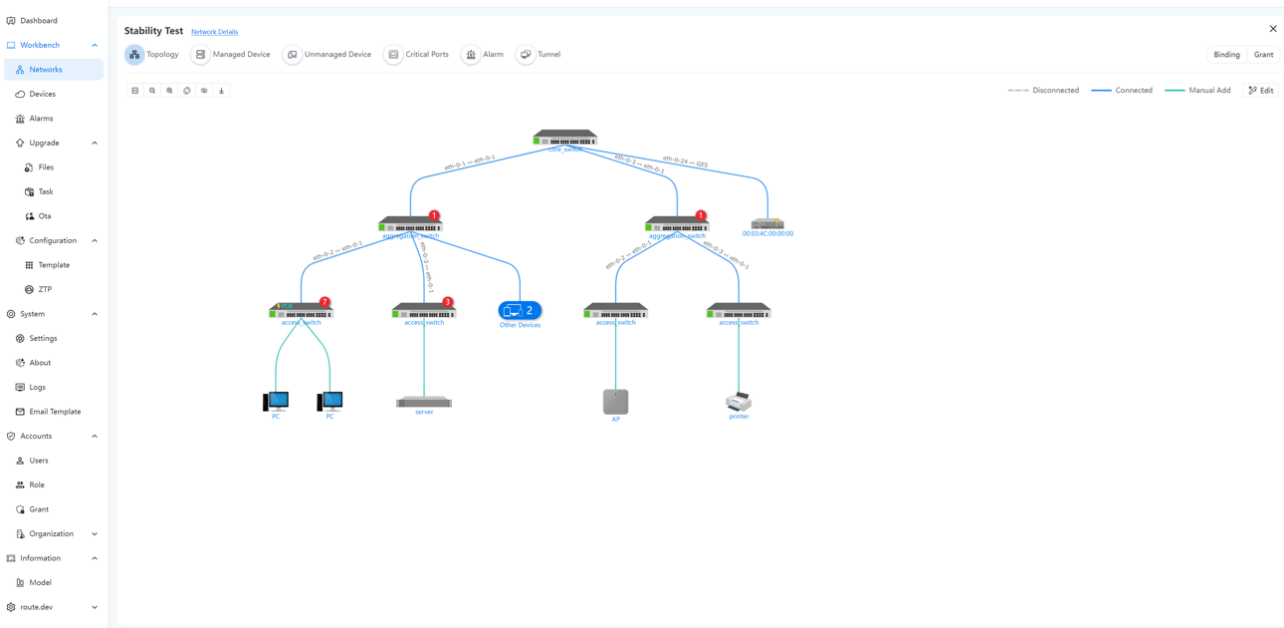
Cloud management

Leveraging deep expertise in campus and enterprise networking, ETHERNEXION introduces the Cloud Management System (DHCS). By integrating intelligent automation, DHCS streamlines network maintenance, reduces operational costs, and ensures a secure, high-performance environment tailored to evolving user demands.

The platform designed to provide digital solutions for the entire lifecycle of network elements, including switches, routers, and wireless APs:

- **Unified Device Management:** Provides a centralized platform for managing configuration policies, firmware upgrades, and statistical analysis of device operating data.
- **Remote O&M Capabilities:** Utilizing a lightweight reverse proxy (FRP) and an integrated WebTerminal (SSH/Telnet), the system enables secure, cross-network access to intranet devices with latency under 200ms.
- **Automated Deployment & Topology:** Supports Zero-Touch Deployment for large-scale automation. It also uses LLDP to automatically discover and draw intuitive, real-time network topology maps.
- **Advanced Monitoring:** Includes a distributed MQTT engine for real-time status reporting (latency <50ms) and a multimodal database architecture (MySQL, InfluxDB, Redis, Elasticsearch) for efficient data analysis and logging.
- **Security & Access Control:** Features a multi-level RBAC permission system, high-risk command interception, and WAF protection to block network attacks.

The following is a diagram illustrating cloud-managed ETHERNEXION switches. For more detailed information, please refer to “ETHERNEXION Cloud Controller specification”.



Visual WEB GUI

ENOS allows you to quickly configure common configuration items using a visual WEB GUI, which lowers the application threshold for users.

The screenshot displays the ENOS Visual WEB GUI interface. On the left is a navigation menu with options: Monitor, Configuration, Maintenance, and Network. The main content area is titled 'Monitor' and includes a 'Device Information' section with the following data:

Product ID:	Software:	Hardware Version: 1.1	Uptime: 0 days, 6 hours, 42 minutes
Location: --	Image Name: ulmage-h1023a-e680.d	EPLD Version: 0.2	Device Name: 564BX
WebImage Name:	Serial Number:	Contact: --	BootRom Version: v1.0.2
MAC Address: D8-5B-22-00-02-02			

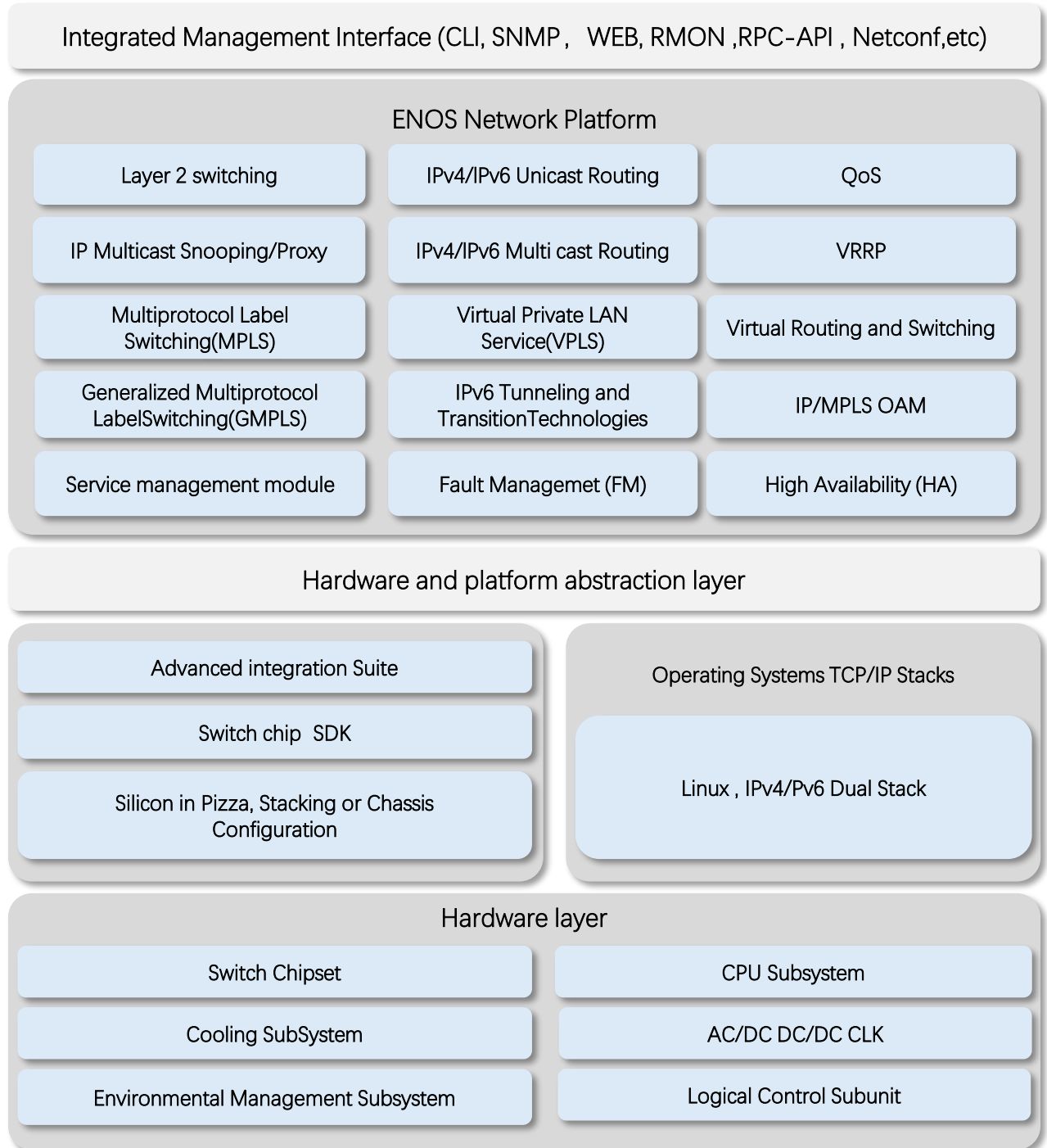
Below the device information is an 'Interface Panel' showing a grid of ports. A legend indicates 'Active' (green), 'Inactive' (grey), and 'Shutdown' (black). The panel shows various ports (1-24, 25-48) and their status. Below the interface panel are three monitoring charts:

- Usage:** CPU Usage is 7.53% and Memory Usage is 36.94%.
- Temperature:** A bar chart showing temperatures for 'AROUND_CHIP' and 'SWITCH_CHIP'.
- Fan:** A bar chart showing fan status for four fans (1-1, 1-2, 1-3, 1-4), all marked as 'OK'.

At the bottom, there is an 'Auto refresh' dropdown set to 'Manual' and a 'Refresh' button. The footer contains the text 'Copyright ©. All Rights Reserved.'

Software Specifications

ETHERNEXION implements a unified software platform, and the software capabilities supported by the devices are listed in the document ['ENOS Software features'](#) .



- * All ETHERNEXION switches use a normalized software platform and image package file
- * Unified software version iteration plan
- * Unified user experience

Ordering Information

Items	Description
S5448T-4X2C-EI	10G Data Center Switch with 48*10G Base-T, 4*10G SFP+, 2*100G QSFP28, Dual power supply modules, 4 Intelligent fan modules
S5448T-4X2C-SI	10G Enterprise and Campus Network Switch with 48*10G Base-T, 4*10G SFP+, 2*100G QSFP28, Fixed single power supply , 4 Fixed Fans
S5448X-2C-SI	10G Enterprise and Campus Network Switch with 48*10G SFP+, 2*100G QSFP28, Fixed single power supply , 4 Fixed Fans
S5424T-2C-EI	10G Data Center Switch with 24*10G Base-T, 2*100G QSFP28, Dual power supply modules, 2 Intelligent Fan modules
S5424T-2C-SI	10G Enterprise and Campus Network Switch with 24*10G Base-T, 2*100G QSFP28, Fixed single power supply, 4 Fixed Fans
S5424TP-2C-EI	10G Enterprise and Campus Network Switch with 24*10G Base-T (PoE++90W), 2*100G QSFP28, Dual power supply modules, 2 Intelligent fan modules
S5424T-8N-EI	10G Enterprise and Campus Network Switch with 24*10G Base-T, 8*25G QSFP28, Dual power supply modules, 2 Intelligent fan modules
S5424TP-8N-EI	10G Enterprise and Campus Network Switch with 24*10G Base-T (PoE++90W), 8*25G QSFP28, Dual power supply modules, 2 Intelligent fan modules
S5424X-2C-EI	10G Data Center Switch with 24*10G SFP+, 2*100G QSFP28, Dual power supply modules , 2 Intelligent fan modules
S5424X-2C-SI	10G Enterprise and Campus Network Switch with 24*10G SFP+, 2*100G QSFP28, Single Fixed power supply, 4 Fixed Fans
S5424X-8N-EI	10G Data Center Switch with 24*10G SFP+, 8*25G SFP28, Dual power supply modules, 2 Intelligent Fan modules
S5412X-8G8S8N2Q-EI	10G Enterprise and Campus Network Switch with 12*10G SFP+ , 8*1G Base-T, 8*1G SFP, 8*25G SFP28, 2*40G QSFP+ , Dual power supply modules, 2 Intelligent fan modules
S5412X-8G8S8N2Q-SI	10G Enterprise and Campus Network Switch with 12*10G SFP+ , 8*1G Base-T, 8*1G SFP, 8*25G SFP28, 2*40G QSFP+, Single Fixed power supply, 4 Fixed Fans

Items	Description
S5424XH-2C-EI	10G enterprise switch, with 24*10G SFP+ , 2*100G QSFP28, One power supply module(C13), 2 Intelligent fan modules.
S5424XH-2C-SI	10G enterprise switch, with 24*10G SFP+ , 2*100G QSFP28, One fixed Single power supply(C13), 2 fixed Fans.
S5412X12TH-2C-EI	10G enterprise switch, with 12*10G SFP+ , 12*10G Base-T, 2*100G QSFP28, One power supply module(C13), 1 Intelligent fan module
S5412X12TH-2C-SI	10G enterprise switch, with 12*10G SFP+ , 12*10G Base-T, 2*100G QSFP28, One fixed Single power supply(C13), 3 fixed Fans.
S5424TH-2C-EI	10G enterprise switch, with 24*10G Base-T, 2*100G QSFP28, One power supply module(C13), 2 Intelligent fan modules.
S5424TH-2C-SI	10G enterprise switch, with 24*10G Base-T, 2*100G QSFP28, One fixed Single power supply(C13), 2 fixed Fans.

AC/DC Power Supplies use for all models

Items	Description
PSU-350-AC-AFO	S54 Series 350 W AC power supply (front-to-back airflow)
PSU-550-AC-AFO	S54 Series 550 W AC power supply (front-to-back airflow)
PSU-550-AC-AFO	S54 Series 550 W AC power supply (front-to-back airflow)
PSU-600-AC-AFO	S54 Series 600 W AC POE power supply (front-to-back airflow)
PSU-600-DC-AFO	S54 Series 600 W DC POE power supply (front-to-back airflow)

Items	Description
PSU-900-AC-AFO	S54 Series 900 W AC POE power supply (front-to-back airflow)
PSU-900-DC-AFO	S54 Series 900 W DC POE power supply (front-to-back airflow)
PSU-1200-AC-AFO	S54 Series 1200 W AC POE power supply (front-to-back airflow)
PSU-1200-DC-AFO	S54 Series 1200 W DC POE power supply (front-to-back airflow)

Software Licenses

Items	Description
Software License	EB, Basic L3 software features, Preinstalled
Software License	MS, L3 enhance features software license key
Software License	MA, MPLS features software license key

Accessory

- Mounting components pack
- Power Cord
- Serial Console cable

About ETHERNEXION:

ETHERNEXION - A technology-oriented company specializing in the development of ethernet switch products. EtherNexion is headquartered in Singapore, with a manufacturing base in Thailand and a business expansion office in India. With the continuous evolution of technology, ETHERNEXION has launched a range of differentiated ethernet switch products. Currently, the company's product line covers a range from 1G to 800G and can be used in scenarios such as enterprise networks, carrier networks, data centers, and AI computing. Currently, the main cooperation model for the company is OEM/ODM, dedicated to providing customers with flexible and end-to-end customized products and technical consulting services. Becoming the most trusted business partner for customers has always been the company's mission and principle.

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