

S51 Series Switches

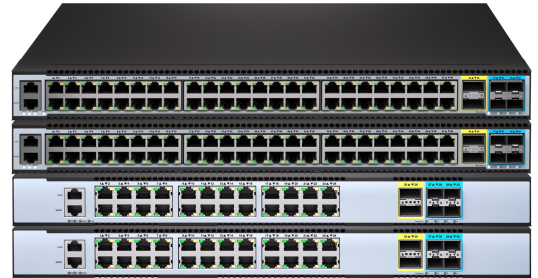
Datasheet

Version: V1.2

Release Date: 2026/3

Product Overview

The S51 Series features high-performance Layer 3 Access 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

- Multi-Rate Connectivity: Flexible port density supporting 100M/1G/10G/25G/40G speeds to accommodate diverse campus and data center uplinks.
- High-Power PoE++: Industry-leading 802.3bt support providing up to 90W per port for Wi-Fi 7 APs and high-draw IoT 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.
- Line-Rate Security: MACsec (AES-CMAC) encryption for secure, hardware-based switch-to-switch link protection.

The S51 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
S5148G-4X2Q-EI	○	○	X	○	○	2	2
S5148G-4X2Q-SI	○	X	X	○	X	1	4
S5148GP-4X2Q-EI	○	○	48	○	X	2	2
S5148GP-4X2Q-SI	○	X	48	○	X	1	4

Items	AC	DC	PoE Ports	AFO	AFI	Power Input	FAN
S5148GPB-4X2Q-EI	○	○	48	○	X	2	2
S5124G-4X2Q-EI	○	○	X	○	○	2	2
S5124G-4X2Q-SI	○	X	X	○	X	1	4
S5124GP-4X2Q-EI	○	○	X	○	○	2	2
S5124GP-4X2Q-SI	○	X	24	○	X	1	4
S5124GPB-4X2Q-EI	○	○	24	○	○	2	2

Family of the S51 Series switches

Models	Ethernet Ports	Management	PSU 1/PSU 2	Cooling
S5148G-4X2Q-EI	48 x 10/100/1000Mb Base-T(PoE+ 30W) + 4 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 RS232 Ethernet: 1G Port	500W AC/500W AC hot-swappable Modules	2 x Fan Modules (Front to Rear airflow)
S5148G-4X2Q-SI	48 x 10/100/1000Mb Base-T + 4 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 RS232 Ethernet: 1G Port	Fixed one power supply	4 x fixed Fans (Front to Rear airflow)
S5148GP-4X2Q-EI	48 x 10/100/1000Mb Base-T(PoE++ 90W) + 4 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 RS232 Ethernet: 1G Port	1200W AC/1200W AC hot-swappable Modules	2 x Fan Modules (Front to Rear airflow)
S5148GP-4X2Q-SI	48 x 10/100/1000Mb Base-T(PoE+ 30W) + 4 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 RS232 Ethernet: 1G Port	Fixed one power supply	4 x fixed Fans (Front to Rear airflow)
S5148GPB-4X2Q-EI	48 x 10/100/1000Mb Base-T(PoE++ 90W) + 4 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 RS232 Ethernet: 1G Port	1200W AC/1200W AC hot-swappable Modules	2 x Fan Modules (Front to Rear airflow)
S5124G-4X2Q-SI	24 x 10/100/1000Mb Base-T + 4 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 RS232 Ethernet: 1G Port	Fixed one power supply	4 x fixed Fans (Front to Rear airflow)
S5124G-4X2Q-EI	24 x 10/100/1000Mb Base-T + 4 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 RS232 Ethernet: 1G Port	120W AC/120W AC hot-swappable Modules	2 x Fan Modules (Front to Rear airflow)

Models	Ethernet Ports	Management	PSU 1/PSU 2	Cooling
S5124GP-4X2Q-EI	24 x 10/100/1000Mb Base-T(PoE+ 30W) + 4 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 RS232 Ethernet: 1G Port	500W AC/500W AC hot-swappable Modules	2 x Fan Modules (Front to Rear airflow)
S5124GP-4X2Q-SI	24 x 10/100/1000Mb Base-T(PoE+ 30W) + 4 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 RS232 Ethernet: 1G Port	Fixed one power supply	4 x fixed Fans (Front to Rear airflow)
S5124GPB-4X2Q-EI	24 x 10/100/1000Mb Base-T(PoE++ 90W) + 4 x 25G SFP28 + 2 x 40G QSFP+	Console: RJ45 RS232 Ethernet: 1G Port	500W AC/500W AC hot-swappable Modules	2 x Fan Modules (Front to Rear airflow)

Product Specifications

Model	Switch capacity (bidirectional)	Throughput	Dimensions (W x H x D)	Consum Weight(kg) ption(W) (Net/Gross)	
S5148G-4X2Q-EI	456Gbps	678.53Mpps	44.2*4.4*41	60	7.16/9kg
S5148G-4X2Q-SI	456Gbps	678.53Mpps	44.2*4.4*32.1	72	4.09/6.33kg
S5148GP-4X2Q-EI	456Gbps	678.53Mpps	44.2*4.4*41	72	7.76/10kg
S5148GP-4X2Q-SI	456Gbps	678.53Mpps	44.2*4.4*32.1	86	5.38/7.62kg
S5148GPB-4X2Q-EI	456Gbps	678.53Mpps	44.2*4.4*41	72	8.36/10.6kg
S5124G-4X2Q-EI	408Gbps	607.10Mpps	44.2*4.4*41	60	6.67/9kg
S5124G-4X2Q-SI	408Gbps	607.10Mpps	44.2*4.4*32	51	3.9/6.14kg
S5124GP-4X2Q-EI	408Gbps	607.10Mpps	44.2*4.4*37.1	51	7.36/9.6kg
S5124GP-4X2Q-SI	408Gbps	607.10Mpps	44.2*4.4*37.1	70	6.96/9.2kg
S5124GPB-4X2Q-EI	408Gbps	607.10Mpps	44.2*4.4*41	54	7.36/9.6kg

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

Management

The S51 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.

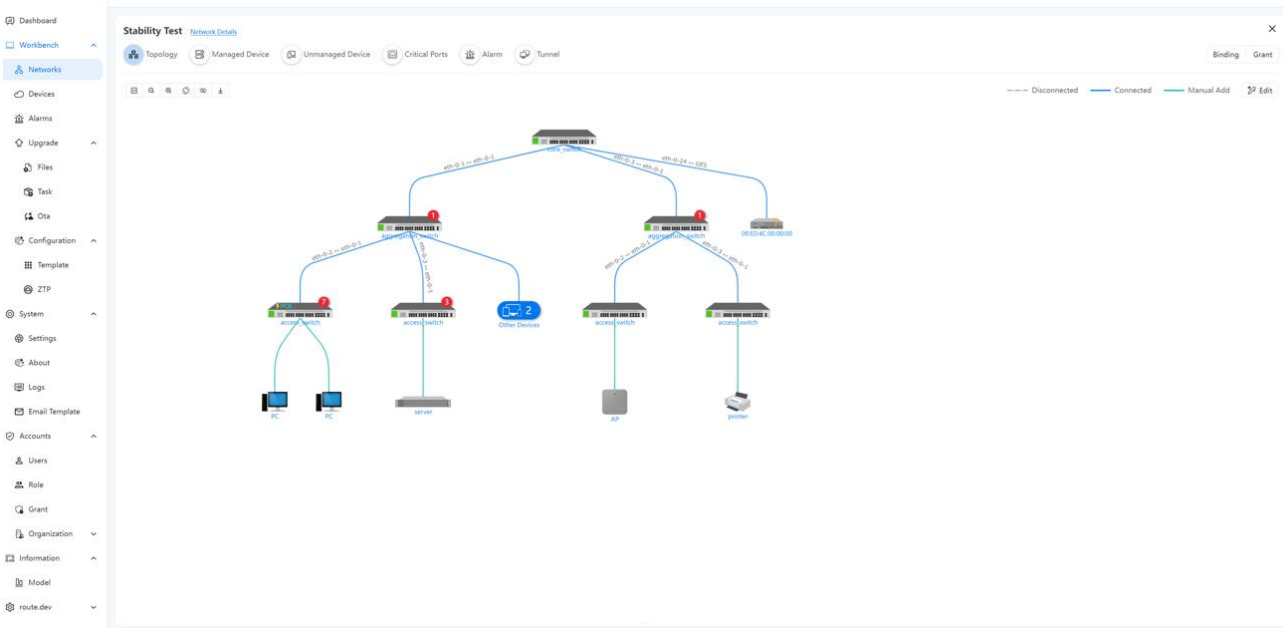
Cloud management

Leveraging deep expertise in campus and enterprise networking, ETHERNEXION introduces the UniCloud Management System. By integrating intelligent automation, UniCloud 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".

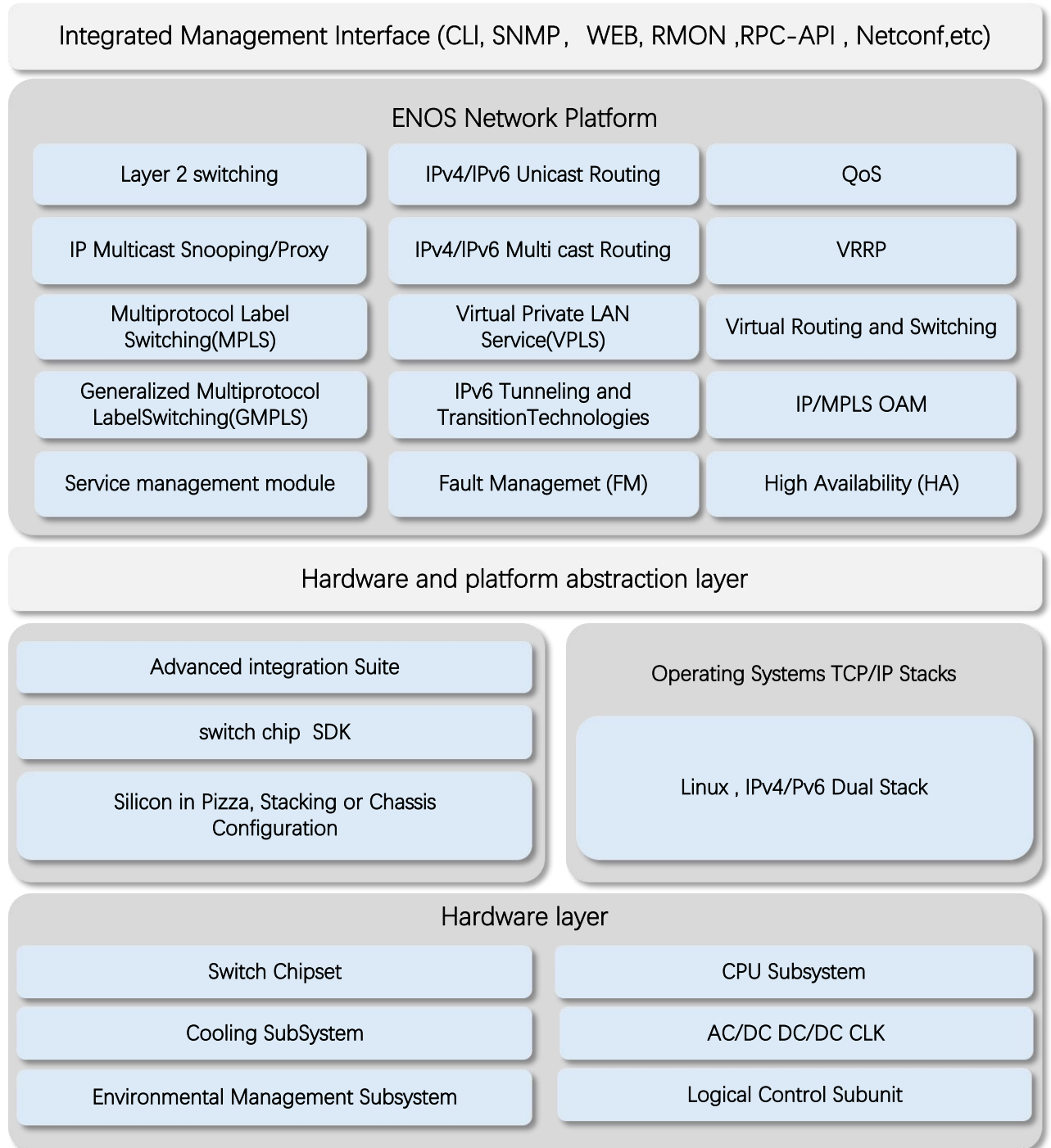


Visual WEB GUI

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

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
S5148G-4X2Q-EI	1G Enterprise and Campus Network switch, with 48*1G Base-T,4*25G SFP28,2*40G QSFP+,Dual power supply modules, 2 Intelligent fan modules
S5148G-4X2Q-SI	1G Enterprise and Campus Network switch, with 48*1G Base-T,4*25G SFP28,2*40G QSFP+,One fixed power supply,4 Fixed fans
S5148GP-4X2Q-EI	1G Enterprise and Campus Network switch, with 48*1G Base-T(PoE+ 30W),4*25G SFP28,2*40G QSFP+,Dual power supply modules, 2 Intelligent fan modules
S5148GP-4X2Q-SI	1G Enterprise and Campus Network switch, with 48*1G Base-T(PoE+ 30W),4*25G SFP28,2*40G QSFP+,One fixed power supply,4 Fixed fans
S5148GPB-4X2Q-EI	1G Enterprise and Campus Network switch, with 48*1G Base-T(PoE++ 90W),4*25G SFP28,2*40G QSFP+,Dual power supply modules, 2 Intelligent fan modules
S5124G-4X2Q-EI	1G Enterprise and Campus Network switch, with 24*1G Base-T,4*25G SFP28,2*40G QSFP+, Dual power supply modules, 2 Intelligent fan modules
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S5124GP-4X2Q-EI	1G Enterprise and Campus Network switch, with 24*1G Base-T(PoE+ 30W),4*25G SFP28,2*40G QSFP+, Dual power supply modules, 2 Intelligent fan modules
S5124GP-4X2Q-SI	1G Enterprise and Campus Network switch, with 24*1G Base-T(PoE+ 30W),4*25G SFP28,2*40G QSFP+,One fixed power supply,4 Fixed fans
S5124GPB-4X2Q-EI	1G Enterprise and Campus Network switch, with 24*1G Base-T (PoE++ 90W),4*25G SFP28,2*40G QSFP+, Dual power supply modules, 2 Intelligent fan modules

AC/DC Power Supplies use for all models

Items	Description
PSU-120-AC-AFO	S51-Series 120W AC power supply (Front to Rear Airflow)
PSU-120-DC-AFO	S51-Series 120W DC power supply (Front to Rear Airflow)
PSU-500-AC-AFO	S51-Series 500W AC power supply (Front to Rear Airflow)
PSU-500-DC-AFO	S51-Series 500W DC power supply (Front to Rear Airflow)
PSU-550-AC-AFO	S51-Series 550W AC power supply (Front to Rear Airflow)
PSU-550-DC-AFO	S51-Series 550W DC power supply (Front to Rear Airflow)
PSU-1200-AC-AFO	S51-Series 1200W AC power supply (Front to Rear Airflow)
PSU-1200-DC-AFO	S51-Series 1200W DC power supply (Front to Rear 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 is an innovation-driven technology enterprise specializing in high-performance networking and communication solutions. Dedicated to creating tangible value for global clients, the company delivers a comprehensive portfolio of enterprise-grade, carrier-class hardware and intelligent, cloud-managed software. Ethernexion empowers enterprises, data centers, and small-to-medium service providers by providing high-performance, ultra-reliable, and highly cost-effective solutions that optimize operational efficiency and maximize return on investment. Driven by technical excellence, Ethernexion is committed to being a trusted partner in building scalable, secure, and future-ready network infrastructures.

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