Huawei CloudEngine S8700 Series Switches Datasheet

Huawei CloudEngine S8700 series switches are next-generation modular aggregation/access switches designed specially for premium campus networks. These flagship switches deliver optimal user experience, reduce network operational costs, and offer unmatched network security and trustworthiness.

Product Overview

Huawei CloudEngine S8700 series switches ("CloudEngine S8700") are next-generation modular aggregation/access switches ideal for premium campus networks in the Wi-Fi 6/7 era. They are available in three models — CloudEngine S8700-4 with 4 slots, S8700-6 with 6 slots and CloudEngine S8700-10 with 10 slots — and come with ultra-high densities of GE, 10GE, 25GE, 40GE, and 100GE access ports, helping quickly build a future-proof campus network with simplified architecture.

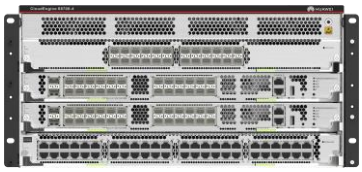
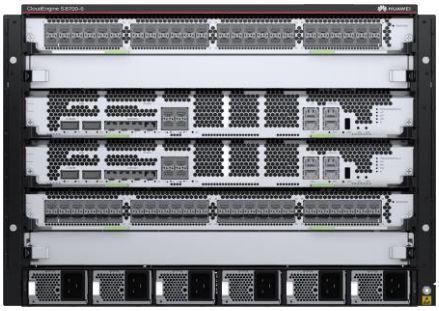
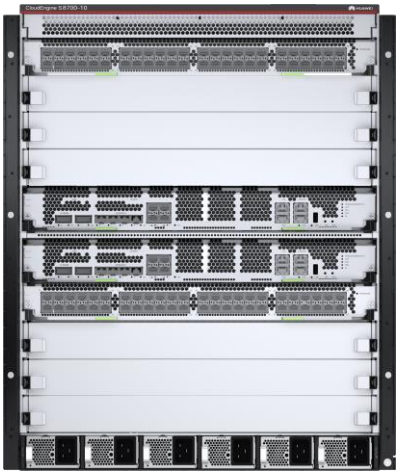
CloudEngine S8700 offers customers a trusted system and secure data access. All key components of CloudEngine S8700, including the main control boards, power modules, and fan modules, adopt a redundancy design for carrier-grade reliability.

With all these traits, CloudEngine S8700 is an ideal choice of aggregation/access nodes needed to build future-proof cloud campus networks, helping customers achieve their digital transformation goals.

Highlights of CloudEngine S8700 include:

- High-density access: Up to 72 10GE SFP+ ports per board and 624 10GE SFP+ ports per chassis — which are 10GE capable — facilitate unified access for high densities of terminals.
- Ultra-high reliability: Redundancy design for key components ensures carrier-grade reliability. The dual-active detection (DAD) mechanism for the two main control boards automatically switches over services upon detecting a fault in any main control board, ensuring service continuity.
- Super power over Ethernet (PoE): Innovative optical-electrical synergy technology supports PoE power supply at ultra-long distances. Up to 90 W PoE++ on a single port supplies power to APs, IP phones, and other high-power terminals.
- Energy saving: Innovative "Y + Psi (ψ)"-type front-to-rear air duct design for heat dissipation and mixed-flow fan technology deliver low power consumption, low noise, strong heat dissipation, and energy saving.

Models and Appearances

		
CloudEngine S8700-4	CloudEngine S8700-6	CloudEngine S8700-10

Product Model	Product Description
CloudEngine S8700-4	• Two SRUs work in active/standby mode for 1:1 hot standby. By default, the SRU with a smaller slot ID is the active SRU, and the SRU with a larger slot ID is the standby SRU. The SRU can provide service ports • 2 slots for SRU (Switch Routing Unit), 2 slots for LPU (Line Processing Unit) • Port density per chassis: 96 x FE, 96 x GE, 64 x 10 GE, 8 x 100GE • Switching capacity: 2 Tbit/s
CloudEngine S8700-6	• Two SRUs work in active/standby mode for 1:1 hot standby. By default, the SRU with a smaller slot ID is the active SRU, and the SRU with a larger slot ID is the standby SRU. The SRU can provide service ports • 2 slots for SRU (Switch Routing Unit), 4 slots for LPU (Line Processing Unit) • Port density per chassis: 288 x FE, 288 x GE, 288 x 10 GE, 64 x 25 GE, 16 x 40 GE, 16 x 100 GE • Switching capacity: 7.2 Tbit/s
CloudEngine S8700-10	• Two SRUs work in active/standby mode for 1:1 hot standby. By default, the SRU with a smaller slot ID is the active SRU, and the SRU with a larger slot ID is the standby SRU. The SRU can provide service ports. • 2 slots for SRU (Switch Routing Unit), 8 slots for LPU (Line Processing Unit) • Port density per chassis: 576 x FE, 576 x GE, 576 x 10 GE, 128 x 25 GE, 32 x 40 GE, 32 x 100 GE • Switching capacity: 8 Tbit/s

Features and Highlights

Switch Highlights

Leading Architecture Built for Next-Generation Networks

- CloudEngine S8700 uses fully programmable chips that adapt to the changing service forwarding processes driven by protocol evolution and technology advances. It enables fast and flexible provisioning of new services simply by upgrading software, without having to replace hardware, thereby protecting customers' investments. In contrast, traditional Application

Specific Integrated Circuit (ASIC) chips use a fixed forwarding architecture and follow a fixed forwarding process. For this reason, new services cannot be provisioned until new hardware is developed to support the services, which can take one to three years.

- In addition to having capabilities of traditional switches, CloudEngine S8700 offers fully programmable open interfaces and supports user-defined forwarding processes to meet service customization requirements of enterprises. Enterprises can use the multi-layered open interfaces to develop new protocols and functions independently or jointly with equipment vendors to build campus networks meeting their own needs.

Wired and Wireless Convergence

- By integrating WLAN AC capabilities, CloudEngine S8700 eliminates the need to purchase additional WLAN AC hardware. Each CloudEngine S8700 can manage up to 5K APs (CloudEngine S8700-4 can manage up to 1K APs).
- CloudEngine S8700 supports the unified user management function that authenticates both wired and wireless users, ensuring a consistent user experience no matter whether they are connected to the network through wired or wireless access devices. CloudEngine S8700 supports various authentication methods, including 802.1X, MAC address authentication, and is capable of managing users based on user groups, domains, and time ranges. These functions intuitively control user and service management and enable the transformation from data switching-centered management to service experience-centered management.

Note: The CloudEngine S8700 series switches can manage 16 APs by default . You can purchase licenses for more AP management on demand.

Powerful Service Processing Capability and Flexible Network Scalability

- CloudEngine S8700 is highly scalable to seamlessly evolve to higher bandwidth and easily upgrade port speeds, and is also compatible with currently used cards, protecting investments.
- Ultra-high densities of GE, 10GE, and multi-GE ports help to build an all-10GE core in enterprise campuses and data centers.
- With a multi-service routing and switching platform, CloudEngine S8700 meets service transmission requirements at the access, aggregation, and core layers of enterprise networks, and provides wireless, voice, video, and data services, helping to build an all-service network with high availability and low latency.
- CloudEngine S8700 supports a broad set of Layer 2 and Layer 3 multicast protocols, such as Protocol-Independent Multicast (PIM) Sparse Mode (SM), PIM Dense Mode (DM), PIM Source-Specific Multicast (SSM), and Internet Group Management Protocol (IGMP) snooping. This capability greatly facilitates high-definition video surveillance and videoconferencing access for multiple terminals.

Carrier-Grade Reliability for Worry-free Service Running

- CloudEngine S8700 provides redundant backup for key components, including main control boards, power modules, and fan modules, all of which are hot swappable.
- The main control boards work in 1:1 forwarding backup mode and offer dual data forwarding planes to implement fast service switchover. This design ensures hitless performance of the entire system when a single main control board is faulty, maximizing user experience.
- Innovative high-density miniaturized power modules adopt the pooling design and support N+N backup, N+1 backup, and N+0 non backup. With such designs, a power failure does not affect the running of the entire system.
- The modular dual-fan box is designed. When one fan in the module is faulty, other fans can adjust the speed intelligently to ensure heat dissipation of the system.

Innovative Energy-Saving Design for Intelligent Power Consumption Control

- CloudEngine S8700 uses innovative energy-saving chips capable of dynamically adjusting power on all ports based on traffic volume, with idle ports entering sleep mode to reduce power consumption.
- CloudEngine S8700 supports intelligent Power over Ethernet (PoE) and uses different energy management modes depending on the powered device (PD) type, providing flexible energy management.
- CloudEngine S8700 also supports Energy Efficient Ethernet (IEEE 802.3az), whereby transceivers on line cards can quickly transition to the lower power idle state to reduce power consumption when no traffic is being transmitted.
- The fan module automatically adjusts the fan speed based on the ambient temperature to reduce power consumption.
- The front-to-back airflow meets the airflow requirements of the equipment room to avoid cascading heating.

Super PoE Capability Ideal for Connectivity of Everything on a Next-Generation Campus

- CloudEngine S8700 is also equipped with a high-density multi-GE line card (10GE capable), which supports up to 90 W PoE++ on a single port, supplying power to Wi-Fi 6/7 access points (APs), HD cameras, and videoconferencing endpoints.
- CloudEngine S8700 also provides the perpetual PoE capability. When CloudEngine S8700 reboots (for example, when the software version is upgraded), the power supply to PDs connected to CloudEngine S8700 is not interrupted. This ensures uninterrupted power supply to PDs during the switch restart.

Innovative hybrid optical-electrical access drives campus network media transformation and accelerates enterprise green and low-carbon transformation.

- The S8700 provides 48 x 10GE combo ports, meeting requirements for 10GE optical port interconnection and PoE++ power supply. For example, the ports can be connected to downstream switches, Wi-Fi 6/7 APs, or other wired terminals.
- Using hybrid cables 2.0, the switch can provide PoE++ for devices (such as Wi-Fi 6/7 APs) over a distance of up to 300 m, far exceeding the PoE limitation of 100 m.
- With optical data transmission, the switch can provide up to 10 Gbit/s access for connected devices, reaching ultra-fast upstream transmission.
- The switch can be easily upgraded through optical module replacement to provide higher bandwidth (for example, from 10 Gbit/s to 25 Gbit/s, 40 Gbit/s, or even 100 Gbit/s) without additional cabling, maximizing customers' return on investment (ROI).

Comprehensive Security Protection to Fend Off Security Threats In and Outside of Enterprises

- The S8700 supports MACsec that provides hop-by-hop secure data transmission. MACsec is suitable for meeting high requirements on data confidentiality in scenarios such as governments and financial institutions.
- Comprehensive Network Admission Control (NAC) solutions for enterprise networks: The S8700 supports MAC address authentication, 802.1X authentication, policy association, and free mobility to ensure the security of various access modes, such as dumb terminal access, mobile access, and centralized IP address allocation.
- Two-level CPU protection mechanism: The S8700 supports CPU hardware queues and separates the data plane from the control plane, which helps to defend against DoS attacks and unauthorized access while preventing control plane overloading.

Virtualization for a Multi-Purpose Network

- CloudEngine S8700 is designed with abundant Virtual Extensible LAN (VXLAN) features. Specifically, it supports centralized and distributed VXLAN gateway deployment modes, dynamically establishes VXLAN tunnels through Border Gateway Protocol Ethernet Virtual Private Network (BGP EVPN), and allows configuration through NETCONF/YANG.
- By using VXLAN, CloudEngine S8700 constructs a Unified Virtual Fabric (UVF). As such, multiple service networks or tenant networks can be deployed on the same physical network while being isolated from each other. This capability truly achieves 'one network for multiple purposes'. The resulting benefits include enabling data transmission of different services or customers, reducing network construction costs, and improving network resource utilization.

High Performance IPv6 Service Processing Allows Seamless Transition from IPv4 to IPv6

- CloudEngine S8700 software and hardware platforms support the IPv4/IPv6 dual stack, various tunneling technologies, IPv6 static routing, RIPng, OSPFv3, BGP+, and IPv6 IS-IS, allowing for pure IPv6 networking and combined IPv4 and IPv6 networking.

Comprehensive Network Slicing Functions

- CloudEngine S8700 provides a comprehensive range of network slicing functions to meet diversified SLA requirements of different services and customers. Service isolation and bandwidth guarantee are implemented based on QoS. Slices can be completely isolated from each other without affecting each other. Traffic is isolated at the physical layer, and network slicing is performed for services on the same physical network. The Network Slicing technology can be used at the access, aggregation, and core layers to meet differentiated SLA requirements of new services on campus networks.

Fine-Grained Network Management and Visualized Fault Diagnosis

- In-situ Flow Information Telemetry (IFIT) is an in-band Operations, Administration, and Maintenance (OAM) measurement technology that uses service packets to measure real performance indicators of an IP network, such as the packet loss rate and delay. IFIT can significantly improve the timeliness and effectiveness of network O&M, thereby promoting the development of intelligent O&M.

- IFIT supports application-level quality measurement, tunnel-level quality measurement, and native-IP IFIT measurement. Currently, the device supports only native-IP IFIT measurement. Unless otherwise specified, IFIT in the following sections refers to native-IP IFIT measurement.
- IFIT provides in-band measurement capabilities to monitor indicators such as the delay and packet loss rate of service flows in real time.
- IFIT provides visualized O&M capabilities to centrally manage and control networks and graphically display performance data.
- IFIT has high measurement precision and is easy to deploy. It helps construct an intelligent O&M system and has future-oriented scalability.

Openness and Programmability

- CloudEngine S8700 supports the Open Programmability System (OPS), an open programmable system based on the Python language. IT administrators can program the O&M functions of CloudEngine S8700 through Python scripts to quickly innovate functions and implement intelligent O&M.

Service Configuration Rollback for More Stable Network Running

- CloudEngine S8700 supports configuration rollback. When an exception, such as a configuration error or fault, occurs, configurations can be rolled back to those at the specified time. This ensures stable service running.

Solution Benifits

Simplified Management

- Deployment automation: CloudEngine S8700 supports VXLAN and BGP EVPN, and builds an Unified Virtual Fabric (UVF) to automate deployment of up to 512 Virtual Networks (VNs). In this way, multiple service networks or tenant networks can be deployed and isolated from each other on the same physical network, truly achieving one network for multiple purposes.
- Policy automation: CloudEngine S8700 uses SDN to automate deployment of wired and wireless user policies and implement refined management and control, achieving free mobility.

Audio and video assurance

- **High compatibility: centralized application identification**

Traditionally, many high-end fixed access switches have to be deployed at the access layer to enable application identification. Huawei's solution achieves this with the high-quality experience assurance card. Specifically, application identification can be supported at the core/aggregation layer, and DSCP and 802.1p priorities of service packets can be modified and carried on the entire network. This solution is compatible with Huawei and non-Huawei switches at the access layer. This is beneficial for new network construction and legacy network migration scenarios.

- **Robust assurance: application-level service assurance**

Unlike 5 tuple-based QoS in the industry, Huawei's solution supports application-based QoS and Network Slicing. This effectively addresses the pain points of variable IP addresses and ports during SaaS-like conferencing, and achieves more accurate service identification and scheduling.

- **Easy O&M: real-time visibility into application faults**

iPCA 2.0 measures real service flows, and CampusInsight intuitively displays network-wide application and experience quality on a dashboard. All of these help locate network faults in minutes.

Note: CloudEngine S8700-6/10 supports high-quality experience assurance board. Experience assurance scope in R23C00: Teams, Webex, Zoom, XYLink, DingTalk, HUAWEI CLOUD Meeting, and Tencent Meeting.

Intelligent O&M

- CloudEngine S8700 provides telemetry technology to collect device data in real time and send the data to Huawei campus network analyzer CampusInsight. The CampusInsight then analyzes network data based on the intelligent fault identification algorithm, accurately displays the real-time network status, effectively demarcates and locates faults in a timely manner, and identifies network problems that affect user experience, accurately guaranteeing user experiences.
- CloudEngine S8700 supports NetStream for real-time collection and analysis of network traffic statistics. It supports NetStream V5, V8, and V9 packet formats and reduces loads on the network collector. NetStream supports real-time traffic sampling, traffic attribute analysis, and traffic exception traps. This function help you monitor real-time traffic information and analyze device throughput, so as to make decisions on network structure optimization and capacity expansion.

Licensing

CloudEngine S8700 supports both the traditional feature-based licensing mode and the latest Huawei IDN One Software (N1 mode for short) licensing mode. The N1 mode is ideal for on-premises deployment modes for enterprise campus networks, and greatly enhances the customer experiences in purchasing and upgrading software services with simplicity.

The following table describes software package features in N1 mode.

Switch Functions	N1 Basic Software	N1 Foundation Software Package	N1 Advanced Software Package
Basic network functions: Layer 2 functions, IPv4, IPv6, and others Note: For details, see the Functions and Features	√	√	√
Basic network automation based on the Agile Controller: • Basic automation: Plug-and-play, SSID, and AP group management • NE management: Device management, topology management and discovery • User access authentication	×	√	√
Advanced network automation and intelligent O&M: VXLAN, Free Mobility, IPCA, CampusInsight basic functions	×	×	√

Product Specifications

Functions and Features

Category	Service Features	CloudEngine S8700-4	CloudEngine S8700-6	CloudEngine S8700-10
User management	Unified user management	Yes	Yes	Yes
	802.1X, MAC, authentication	Yes	Yes	Yes
	Traffic- and duration-based accounting	Yes	Yes	Yes
	User authorization based on user groups, domains, and time ranges	Yes	Yes	Yes
	HTTP/HTTPS Access	Yes	Yes	Yes
MAC address	Maximum number of MAC entries	384K(MAX)	384K(MAX)	384K(MAX)
	Automatic MAC address learning and aging	Yes	Yes	Yes
	Static, dynamic, and blackhole MAC address entries	Yes	Yes	Yes
	Source MAC address filtering	Yes	Yes	Yes
	MAC address learning limiting based on ports and VLANs	Yes	Yes	Yes
VLAN	4K VLANs	Yes	Yes	Yes

Category	Service Features	CloudEngine S8700-4	CloudEngine S8700-6	CloudEngine S8700-10
	Access mode, Trunk mode and Hybrid mode	Yes	Yes	Yes
	Default VLAN	Yes	Yes	Yes
	VLAN stacking	Yes	Yes	Yes
	QinQ and enhanced selective QinQ	Yes	Yes	Yes
	Dynamic VLAN assignment based on MAC addresses	Yes	Yes	Yes
	VLAN mapping	Yes	Yes	Yes
ARP	ARP Snooping	Yes	Yes	Yes
IP routing	IPv4 dynamic routing protocols such as RIP, OSPF, IS-IS, and BGP	Yes	Yes	Yes
	IPv6 dynamic routing protocols such as RIPng, OSPFv3, ISISv6, and BGP4+	Yes	Yes	Yes
Segment Routing	SRv6 BE (L3 EVPN)	Yes	Yes	Yes
	BGP EVPN	Yes	Yes	Yes
	SRv6 configuration through NETCONF	Yes	Yes	Yes
MPLS	MPLS-LDP	Yes	Yes	Yes
	MPLS-L3VPN	Yes	Yes	Yes
	MPLS QoS	Yes	Yes	Yes
Multicast	IGMPv1/v2/v3, IGMP v1/v2/v3 Snooping and MLD Snooping	Yes	Yes	Yes
	PIM-DM, PIM-SM, PIM-SSM and PIMv6	Yes	Yes	Yes
	Fast-leave mechanism	Yes	Yes	Yes
	Multicast traffic control	Yes	Yes	Yes
	Multicast querier	Yes	Yes	Yes
	Multicast protocol packet suppression	Yes	Yes	Yes
	Multicast VLAN	Yes	Yes	Yes
VxLAN	Centralized gateway	Yes	Yes	Yes
	Distributed gateway	Yes	Yes	Yes
	BGP-EVPN	Yes	Yes	Yes
	Configures VxLANs through NETCONF	Yes	Yes	Yes
QoS	Traffic classification based on Layer 2 headers, Layer 3 protocols, Layer 4 protocols, and 802.1p priority	Yes	Yes	Yes
	Actions such as ACL, Committed Access Rate (CAR), re-marking, and scheduling	Yes	Yes	Yes
	Queuing algorithms, such as PQ, DRR, WDRR, and PQ+DRR, PQ+WDRR	Yes	Yes	Yes

Category	Service Features	CloudEngine S8700-4	CloudEngine S8700-6	CloudEngine S8700-10
	Congestion avoidance mechanisms such as WRED and tail drop	Yes	Yes	Yes
	Traffic shaping	Yes	Yes	Yes
	Network Slicing(VxLAN/SRv6/VLAN)	Yes	Yes	Yes
Native-IP IFIT	Marks the real service packets to obtain real-time count of dropped packets and packet loss ratio	Yes	Yes	Yes
	The statistical period can be modified	Yes	Yes	Yes
	Two-way frame delay measurement	Yes	Yes	Yes
Ring network protection	STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s).	Yes	Yes	Yes
	BPDU protection, root protection, and loop protection	Yes	Yes	Yes
	G.8032 Ethernet Ring Protection Switching (ERPS)	Yes	Yes	Yes
	Smart Ethernet Protection(SEP)	Yes	Yes	Yes
Reliability	M-LAG	Yes	Yes	Yes
	CSS	Yes	Yes	Yes
	Link Aggregation Control Protocol (LACP) and E-Trunk	Yes	Yes	Yes
	Virtual Router Redundancy Protocol (VRRP) and Bidirectional Forwarding Detection (BFD) for VRRP	Yes	Yes	Yes
	BFD for BGP/IS-IS/OSPF/static routes	Yes	Yes	Yes
	Eth-OAM 802.1ag	Yes	Yes	Yes
	Smart Link	Yes	Yes	Yes
System Management	Terminal access services such as console port login, Telnet, and SSH	Yes	Yes	Yes
	Network management protocols, such as SNMPv1/v2/v3	Yes	Yes	Yes
	File uploading and downloading through FTP, TFTP and SFTP	Yes	Yes	Yes
	BootROM upgrade and remote in-service upgrade	Yes	Yes	Yes
	Hot patches	Yes	Yes	Yes
	User operation logs	Yes	Yes	Yes
	Open Programmability System (OPS)	Yes	Yes	Yes
	Streaming Telemetry	Yes	Yes	Yes
	Port Mirroring	Yes	Yes	Yes
	Registration Center Deployment	Yes	Yes	Yes

Category	Service Features	CloudEngine S8700-4	CloudEngine S8700-6	CloudEngine S8700-10
	GVRP	Yes	Yes	Yes
	NTP	Yes	Yes	Yes
	iPCA、NetStream、NQA、Telemetry	Yes	Yes	Yes
Security and management	MACsec	Yes	Yes	Yes
	NAC	Yes	Yes	Yes
	RADIUS and HWTACACS authentication for login users	Yes	Yes	Yes
	Command line authority control based on user levels, preventing unauthorized users from using command configurations	Yes	Yes	Yes
	Defense against DoS attacks, Transmission Control Protocol (TCP) SYN Flood attacks, User Datagram Protocol (UDP) Flood attacks, broadcast storms, and heavy traffic attacks	Yes	Yes	Yes
	IPv6 RA Guard	Yes	Yes	Yes
	CPU hardware queues to implement hierarchical scheduling and protection for protocol packets on the control plane	Yes	Yes	Yes
	Remote Network Monitoring (RMON)	Yes	Yes	Yes
	Secure boot (need to use MPU that supports secure boot)	Yes	Yes	Yes
	ND snooping	Yes	Yes	Yes
Wireless management (integrated WLAN AC): Basic WLAN services	Hot backup for devices with integrated WLAN AC functionality in cluster mode	Yes	Yes	Yes
	2.4G & 5G load balancing	Yes	Yes	Yes
	5G-prior access	Yes	Yes	Yes
Wireless management (integrated WLAN AC): AP management	Total number of managed APs*	10K	10K	10K
	An IPv4 network between an AP and a WLAN AC	Yes	Yes	Yes
	AP blacklist	Yes	Yes	Yes
	AP whitelist	Yes	Yes	Yes
	Sets the AP access control mode	Yes	Yes	Yes
	AP configuration and management	Yes	Yes	Yes
	AP LLDP topology awareness	Yes	Yes	Yes
Wireless management (integrated WLAN AC): Wireless user	User roaming within a WLAN AC	Yes	Yes	Yes
	AP-based user location	Yes	Yes	Yes
	802.1X authentication	Yes	Yes	Yes
	MAC address authentication	Yes	Yes	Yes

Category	Service Features	CloudEngine S8700-4	CloudEngine S8700-6	CloudEngine S8700-10
management	Portal authentication	Yes	Yes	Yes
Wireless management (integrated WLAN AC): CAPWAP	Direct data forwarding on L2/L3 networks	Yes	Yes	Yes
	Tunnel-based data forwarding on L2/L3 networks	Yes	Yes	Yes
	CAPWAP tunnel encryption	Yes	Yes	Yes
Wireless management (integrated WLAN AC): RF management	802.11a/b/g/n	Yes	Yes	Yes
	802.11ac wave1/wave2	Yes	Yes	Yes
	802.11ax	Yes	Yes	Yes
	Sets RF interference monitoring and avoidance	Yes	Yes	Yes
	Detects co-channel interference, adjacent interference, and interference from other devices and STAs	Yes	Yes	Yes
	Automatically selects channels and power when APs go online	Yes	Yes	Yes
	Dynamic power and channel optimization	Yes	Yes	Yes
Wireless management (integrated WLAN AC): WLAN QoS	Rate limiting of upstream and downstream traffic on the air interface based on the VAP	Yes	Yes	Yes
	Rate limiting of upstream and downstream traffic on the air interface based on users	Yes	Yes	Yes
	CAR for WLAN users	Yes	Yes	Yes
Interoperability	Interoperable with VBST (compatible with PVST/PVST+/RPVST)	Yes	Yes	Yes

**Note: LSG7SRUDX1H0 matching CloudEngine S8700-4, and LSG7SRUEX1H0 matching CloudEngine S8700-6, the management AP specifications are 1K. LSG7SRUEX5H0 matching CloudEngine S8700-4, and LSG7SRUFX5H0 matching CloudEngine S8700-6, the management specifications are 5K.*

Hardware Specifications

Item	CloudEngine S8700-4	CloudEngine S8700-6	CloudEngine S8700-10
Dimensions without packaging (H x W x D) [mm(in.)]	219.5 mm x 442 mm x 504.5 mm (8.64 in. x 17.40 in. x 19.86 in.)	352.8 mm x 442 mm x 515.5 mm (13.89 in. x 17.40 in. x 20.30 in.)	575 mm x 442 mm x 515.5 mm (22.64 in. x 17.40 in. x 20.30 in.)
Chassis height [U]	5 U	8 U	13 U
Weight without packaging (base configuration) [kg(lb)]	23 kg (50.71lb)	32.88 kg (72.49 lb)	39.84 kg (87.85 lb)
Weight without packaging (full configuration) [kg(lb)]	42.72 kg (94.18lb)	64.24 kg (141.65 lb)	97.35 kg (214.66 lb)
Switching capacity	2Tbps	7.2Tbps	8Tbps
Main Control Board Slots	2	2	2
Service Card Slots	2	4	8

Item	CloudEngine S8700-4	CloudEngine S8700-6	CloudEngine S8700-10
Fan Slots	1	2	2
System Power Supplies	6	6	6
Redundant MPUs	The control unit and switching unit work in hot standby (1:1) mode.	The control unit and switching unit work in hot standby (1:1) mode.	The control unit and switching unit work in hot standby (1:1) mode.
Redundant power supply	• DC input: The N+0 and N+1 modes are supported. The N+1 mode is recommended. • AC input: The N+0, N+1, and N+N modes are supported. The N+1 mode is recommended.	• Dual-power input: The N+0 and N+1 modes are supported. The N+1 mode is recommended. • Single-power input: The N+0, N+1, and N+N modes are supported. The N+1 mode is recommended.	• Dual-power input: The N+0 and N+1 modes are supported. The N+1 mode is recommended. • Single-power input: The N+0, N+1, and N+N modes are supported. The N+1 mode is recommended.
Redundant fans	The fan module can tolerate the failure of a single fan. When a single fan in the fan module is faulty, the system can work properly for a short period of time. However, you are advised to replace the faulty fan module immediately.	Fan modules work in hot standby mode. The system can operate properly for a short time after a single fan module fails. You are advised to replace the faulty fan module immediately.	Fan modules work in hot standby mode. The system can operate properly for a short time after a single fan module fails. You are advised to replace the faulty fan module immediately.
Rated input voltage [V]	• DC input: –48 V DC/–60 V DC/48 V DC • AC input: 110 V AC/220 V AC, 50/60 Hz • High-voltage DC input: 240 V DC	• DC input: –48 V DC/–60 V DC/48 V DC • AC input: 110 V AC/220 V AC, 50/60 Hz • High-voltage DC input: 240 V DC	• DC input: –48 V DC/–60 V DC/48 V DC • AC input: 110 V AC/220 V AC, 50/60 Hz • High-voltage DC input: 240 V DC
Input voltage range [V]	• DC input: -38.4 V DC to -72 V DC • AC input: 90–290 V AC; 45–65 Hz • High-voltage DC input: 190 V DC to 290 V DC	• DC input: -38.4 V DC to -72 V DC • AC input: 90–290 V AC; 45–65 Hz • High-voltage DC input: 190 V DC to 290 V DC	• DC input: -38.4 V DC to -72 V DC • AC input: 90–290 V AC; 45–65 Hz • High-voltage DC input: 190 V DC to 290 V DC
Maximum power consumption [W]	638 W (full configuration, without PoE)	1560 W (full configuration, without PoE)	2914 W (full configuration, without PoE)
Maximum power output capability (including the system power output and PoE power output) [W]	• Configured with six 1000 W AC power modules: 6000 W • Configured with six 600 W DC power modules: 3600 W • Configured with six 1000 W DC power modules: 1000 W • Intermixing of N 1000 W power modules and M 600 W DC power modules: (N+M) x 600 W	• Configured with six 2500 W/3000 W AC&240 V DC power modules: 15000 W (220 V AC input or 240 V DC input; the output power of a single power module is 2500 W) • Configured with six 2200 W DC power modules: 13200 W • Intermixing of N 2500 W/3000 W AC&240 V DC power modules and M 2200 W DC power	• Configured with six 2500 W/3000 W AC&240 V DC power modules: 15000 W (220 V AC input or 240 V DC input; the output power of a single power module is 2500 W) • Configured with six 2200 W DC power modules: 13200 W • Intermixing of N 2500 W/3000 W AC&240 V DC power modules and M 2200 W DC power

Item	CloudEngine S8700-4	CloudEngine S8700-6	CloudEngine S8700-10
		modules: (N+M) x 2200 W **NOTE** In V600R021C10 and later versions, the 3000 W output capability of the AC power module (2500 W/3000 W AC&240 V DC power module) can be enabled using a command.	modules: (N+M) x 2200 W **NOTE** In V600R021C10 and later versions, the 3000 W output capability of the AC power module (2500 W/3000 W AC&240 V DC power module) can be enabled using a command.
Long-term operating temperature [°C(°F)]	-5°C to 45°C (23°F to 113°F) at an altitude of -60 m to 1800 m (-197 ft. to 5906 ft.)	-5°C to 45°C (23°F to 113°F) at an altitude of -60 m to 1800 m (-197 ft. to 5906 ft.)	-5°C to 45°C (23°F to 113°F) at an altitude of -60 m to 1800 m (-197 ft. to 5906 ft.)
Short-term operating temperature [°C(°F)]	55°C (131°F) at an altitude of -60 m to 1800 m (-197 ft. to 5906 ft.) **NOTE** 1.Under the short-term operating temperature, the system supports only optical modules with less than or equal to 10 km transmission distances.	55°C (131°F) at an altitude of -60 m to 1800 m (-197 ft. to 5906 ft.) **NOTE** 1.When the PAC3KS54-DF (2500 W/3000 W AC&240 V DC power module) is used, the device can work at 55°C (131°F) for a short period only when the system works in the N+1 power supply mode (the output power of a single power module is less than 2100 W). 2.Under the short-term operating temperature, the system supports only optical modules with less than or equal to 10 km transmission distances.	55°C (131°F) at an altitude of -60 m to 1800 m (-197 ft. to 5906 ft.) **NOTE** 1.When the PAC3KS54-DF (2500 W/3000 W AC&240 V DC power module) is used, the device can work at 55°C (131°F) for a short period only when the system works in the N+1 power supply mode (the output power of a single power module is less than 2100 W). 2.Under the short-term operating temperature, the system supports only optical modules with less than or equal to 10 km transmission distances.
Relative humidity	5% to 95% (non-condensing)		
Heat dissipation mode	Air intake from the front and exhaust from the rear; Air extraction and heat dissipation, intelligent speed adjustment		

Hardware Introduction

SRU

The Switch Routing Unit (SRU), Integrates the control and switching functions and provides the control plane, monitoring plane, and service switching plane for the system.

Models and Appearance	Description	Supported Version
 LSG7SRUDX0H0	S8700-4 main control unit D, supporting 2*10G SFP+, 24*GE SFP (HTM)	V600R022C00 and later versions
	S8700-4 main control unit D, supporting 4*25GE+8*10GE/GE+12*1000BASE-T+4*GE Combo, or	V600R023C10 and later versions

Models and Appearance	Description	Supported Version
LSG7SRUDX1H0	2*25GE+6*10GE+20*1000BASE-T+4*GE Combo, or 4*25GE/10GE+8*10GE/GE ports(HTM)	
 LSG7SRUEX1T0	S8700-6 main control unit E, supporting 1*100G QSFP28 or 2*40G QSFP+or 4*25G SFP28 or 8*10G SFP+ ports (HTM),Standard	V600R021C10 and later versions
 LSG7SRUEX1T1	S8700-6 main control unit E, supporting 1*100G QSFP28 or 2*40G QSFP+or 4*25G SFP28 or 8*10G SFP+ ports (HTM),Enhanced	V600R021C10 and later versions
 LSG7SRUEX1H0	S8700-6 main control unit E, supporting 4*25GE+8*10GE/GE+12*1000BASE-T+4*GE Combo, or 2*25GE+6*10GE+20*1000BASE-T+4*GE Combo, or 4*25GE/10GE+8*10GE/GE ports(HTM)	V600R023C10 and later versions
 LSG7SRUEX5H0	S8700-6 main control unit E, supporting 1*100GE+2*40GE+12*10GE, or 1*100GE+8*25GE, or 3*100GE service ports(HTM)	V600R023C10 and later versions
 LSG7SRUFX1T0	S8700-10 main control unit F, supporting 1*100G QSFP28 or 2*40G QSFP+or 4*25G SFP28 or 8*10G SFP+ ports (HTM),Standard	V600R021C10 and later versions
 LSG7SRUFX1T1	S8700-10 main control unit F, supporting 1*100G QSFP28 or 2*40G QSFP+or 4*25G SFP28 or 8*10G SFP+ ports (HTM),Enhanced	V600R021C10 and later versions
 LSG7SRUFX5H0	S8700-10 main control unit F, supporting 1*100GE+2*40GE+12*10GE, or 1*100GE+8*25GE, or 3*100GE service ports(HTM)	V600R023C10 and later versions

The following table lists the functions of SRU.

Parameter	LSG7SRUDX0H0	LSG7SRUEX1T0	LSG7SRUFX1T0
Basic functions	Integrates the control unit, switching unit, and monitoring unit, and supports 2 x 10GE + 24 x GE or 8 x 10GE Combo ports. These service ports are controlled by the active SRU. If this card is the standby SRU, restart will not affect service running. **NOTE** By default, ports on an SRU work in 2*10GE + 24*GE mode. To switch the working mode of the ports, run the port combination-mode command.	Integrates the control unit, switching unit, and monitoring unit, and supports 1 x 100GE, 2 x 40GE, 4 x 25GE, or 8 x 10GE combo ports. These service ports are controlled by the active SRU. If this card is the standby SRU, restart will not affect service running. **NOTE** By default, ports on an SRU work in 8*10GE mode. To switch the working mode of the ports, run the port combination-mode command.	

Parameter	LSG7SRUDX0H0	LSG7SRUEX1T0	LSG7SRUFX1T0
Redundancy backup	Supports 1:1 hot standby. The SRU is mandatory. One or two SRUs can be installed on each switch. When one SRU is configured, you can install it in any SRU slot. When two SRUs are configured, they can work in hot standby function to deliver higher reliability. The two SRUs monitor each other. That is, when the active SRU fails, the standby SRU automatically becomes the active one, ensuring service continuity.		
Hot swapping	Supported. Before the active SRU is removed, it is recommended that an active/standby switchover is performed.		
Memory	8GB (not expandable)		
Storage(Flash)	• SATA: 8 GB by default;	• SATA: 8 GB by default;	
Dimensions without packaging (H x W x D) [mm(in.)]	55.4 mm x 433.0 mm x 292.9 mm (2.18 in. x 17.05 in. x 11.53 in.)	55.4 mm x 433.0 mm x 292.9 mm (2.18 in. x 17.05 in. x 11.53 in.)	55.4 mm x 433.0 mm x 292.9 mm (2.18 in. x 17.05 in. x 11.53 in.)
Weight without packaging [kg(lb)]	3.5 kg (7.72 lb)	3.5 kg (7.72 lb)	4.01 kg (8.84 lb)
Typical power consumption [W]	103W	109 W	156 W
Maximum power consumption [W]	121W	172 W	241 W
Static power consumption [W]*	86 W	103 W	150 W

Parameter	LSG7SRUDX1H0	LSG7SRUEX1H0
Basic functions	Integrates the control unit, switching unit, and monitoring unit, and supports 4*25GE+8*10GE/GE+12*1000BASE-T+4*GE Combo, or 2*25GE+6*10GE+20*1000BASE-T+4*GE Combo, or 4*25GE/10GE+8*10GE/GE ports. These service ports are controlled by the active SRU. If this card is the standby SRU, restart will not affect service running.	Integrates the control unit, switching unit, and monitoring unit, and supports 4*25GE+8*10GE/GE+12*1000BASE-T+4*GE Combo, or 2*25GE+6*10GE+20*1000BASE-T+4*GE Combo, or 4*25GE/10GE+8*10GE/GE ports. These service ports are controlled by the active SRU. If this card is the standby SRU, restart will not affect service running.
Redundancy backup	Supports 1:1 hot standby. The SRU is mandatory. One or two SRUs can be installed on each switch. When one SRU is configured, you can install it in any SRU slot. When two SRUs are configured, they can work in hot standby function to deliver higher reliability. The two SRUs monitor each other. That is, when the active SRU fails, the standby SRU automatically becomes the active one, ensuring service continuity.	
Hot swapping	Supported. Before the active SRU is removed, it is recommended that an active/standby switchover is performed.	
Memory	8GB (not expandable)	
Storage(Flash)	• SATA: 8 GB by default;	• SATA: 8 GB by default;
Dimensions without packaging (H x W x D) [mm(in.)]	38.9 mm x 433.0 mm x 292.9 mm (2.18 in. x 17.05 in. x 11.53 in.)	55.4 mm x 433.0 mm x 292.9 mm (2.18 in. x 17.05 in. x 11.53 in.)
Weight without packaging [kg(lb)]	3.34 kg (7.72 lb)	3.46 kg (7.72 lb)
Typical power consumption [W]	153W	155 W

Parameter	LSG7SRUDX1H0	LSG7SRUEX1H0
Maximum power consumption [W]	178W	183 W

Parameter	LSG7SRUEX5H0	LSG7SRUFX5H0
Basic functions	Integrates the control unit, switching unit, and monitoring unit, and supports 1*100GE+2*40GE+12*10GE, or 1*100GE+8*25GE, or 3*100GE ports. These service ports are controlled by the active SRU. If this card is the standby SRU, restart will not affect service running.	Integrates the control unit, switching unit, and monitoring unit, and supports 1*100GE+2*40GE+12*10GE, or 1*100GE+8*25GE, or 3*100GE ports. These service ports are controlled by the active SRU. If this card is the standby SRU, restart will not affect service running.
Redundancy backup	Supports 1:1 hot standby. The SRU is mandatory. One or two SRUs can be installed on each switch. When one SRU is configured, you can install it in any SRU slot. When two SRUs are configured, they can work in hot standby function to deliver higher reliability. The two SRUs monitor each other. That is, when the active SRU fails, the standby SRU automatically becomes the active one, ensuring service continuity.	
Hot swapping	Supported. Before the active SRU is removed, it is recommended that an active/standby switchover is performed.	
Memory	8GB (not expandable)	
Storage(Flash)	• SATA: 8 GB by default;	• SATA: 8 GB by default;
Dimensions without packaging (H x W x D) [mm(in.)]	55.4 mm x 433.0 mm x 292.9 mm (2.18 in. x 17.05 in. x 11.53 in.)	55.4 mm x 433.0 mm x 292.9 mm (2.18 in. x 17.05 in. x 11.53 in.)
Weight without packaging [kg(lb)]	3.66 kg (7.72 lb)	3.78 kg (7.72 lb)
Typical power consumption [W]	216W	222 W
Maximum power consumption [W]	285W	313W

Interface Card

An interface card, or called LPU, processes all traffic on the network data plane of a switch.

25GE Interface Card

Parameter	LSG7Y16SX1E0
Appearance	
Description	16-port 25GE interface card (SFP28)
Dimensions without packaging (H x W x D) [mm(in.)]	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)
Weight without packaging [kg(lb)]	2.63 kg (5.80 lb)
Typical power consumption [W]	69 W
Maximum power consumption [W]	87 W
Static power consumption [W]*	52 W

GE Interface Card

Parameter	LSG7G24TX1E0	LSG7G48TX1E0	LSG7G48VX1E0	LSG7G48SX1E0
Appearance				
Description	24-port 10/100/1000BASE-T interface card (RJ45)	48-port 10/100/1000BASE-T interface card (RJ45)	48-port 10/100/1000BASE-T PoE++ interface card (RJ45, PoE++)	48-port 100/1000BASE-X interface card (SFP)
Dimensions without packaging (H x W x D) [mm(in.)]	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)
Weight without packaging [kg(lb)]	2.67 kg (5.89 lb)	2.91 kg (6.42 lb)	3.29 kg (7.25 lb)	3.07 kg (6.77 lb)
Typical power consumption [W]	50 W	72 W	77 W (without PoE)	106 W
Maximum power consumption [W]	58 W	86 W	88 W (without PoE)	138 W
Static power consumption [W]*	37 W	54 W	54 W	75 W

GE/10GE Interface Card

Parameter	LSG7X24BX1E0	LSG7X52BX1E0
Appearance		
Description	20-port 100/1000BASE-X and 4-port 100M/1G/10GBASE-X interface card (SFP, SFP+)	16-port 100M/1GBASE-X, 12-port 100M/1G/10GBASE-X, and 24-port 10/100/1000BASE-T interface card (SFP, SFP+,RJ45)
Dimensions without packaging (H x W x D) [mm(in.)]	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)
Weight without packaging [kg(lb)]	2.63 kg (5.80 lb)	3.05 kg (6.72 lb)
Typical power consumption [W]	63 W	92 W
Maximum power consumption [W]	74 W	109 W
Static power consumption [W]*	47 W	61 W

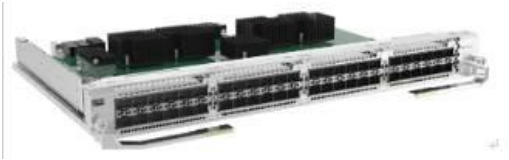
MultiGEInterface Card

Parameter	LSG7M24VX1E1	LSG7M48VX1E0	LSG7M48VX1E1
Appearance			
Description	24-port 100M/1G/2.5G/5G/10G multi-GE PoE++ interface card (RJ45, PoE++)	48-port 100M/1G/2.5G/5G/10G multi-GE PoE++ interface card (RJ45, PoE++)	48-port 100M/1G/2.5G/5G/10G multi-GE PoE++ interface card (RJ45, PoE++)
Dimensions without packaging (H x W x D) [mm(in.)]	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)
Weight without packaging [kg(lb)]	3.45 kg (7.61 lb)	3.95 kg (8.71 lb)	3.95 kg (8.71 lb)
Typical power consumption [W]	86 W (without PoE)	131 W (without PoE)	149 W (without PoE)
Maximum power consumption [W]	112 W (without PoE)	214 W (without PoE)	194 W (without PoE)
Static power consumption [W]*	63 W (without PoE)	111 W (without PoE)	101 W (without PoE)

10GE Interface Card

Parameter	LSG7X24SX1E0	LSG7X48SX1E0	LSG7X72SX1E0
Appearance			
Description	24-port 100M/1G/10GBASE-X interface card (SFP+)	48-port 100M/1G/10GBASE-X interface card (SFP+)	72-port 100M/1G/10GBASE-X interface card (SFP+)
Dimensions without packaging (H x W x D) [mm(in.)]	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)
Weight without packaging [kg(lb)]	2.63 kg (5.80 lb)	3.07 kg (6.77 lb)	2.63 kg (5.80 lb)
Typical power consumption [W]	64 W	112 W	230 W
Maximum power consumption [W]	100 W	154 W	287 W

10GE hybrid optical-electricalInterface Card

Parameter	LSG7X48PX1E0
Appearance	
Description	48-port 100M/1G/10GBASE-X PoE++ Hybrid interface card (SFP+,PoE++)

Parameter	LSG7X48PX1E0
Dimensions without packaging (H x W x D) [mm(in.)]	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)
Weight without packaging [kg(lb)]	3.4 kg (7.50 lb)
Typical power consumption [W]	113 W (without PoE)
Maximum power consumption [W]	163 W (without PoE)
Static power consumption [W]*	68 W (without PoE)

100GE Interface Card

Parameter	LSG7C04HX1E1
Appearance	
Description	4-port 100GBASE-X interface card (QSFP28)
Dimensions without packaging (H x W x D) [mm(in.)]	45.2 mm x 433.0 mm x 292.9 mm (1.78 in. x 17.05 in. x 11.53 in.)
Weight without packaging [kg(lb)]	2.6 kg
Typical power consumption [W]	79 W
Maximum power consumption [W]	91 W

NOTE

1: The Static power consumption is calculated under 0% service traffic load conditions according to the ATIS standard. Additionally, the EEE function is enabled and there is no PoE power output.

The Typical power consumption is calculated under 30% service traffic load conditions according to the ATIS standard. Additionally, the EEE function is enabled and there is no PoE power output.

Power Module

Power Module Backup Modes

The S8700 series switches support three backup modes of power modules: N+N, N+1 and N+0. N indicates the number of power modules configured for the chassis. The value of N depends on the maximum power actually required by the system. Ensure that the total maximum output power of N power modules (N x maximum output power of each power module) is larger than the maximum power actually required by the system. Currently, the backup mode can only be configured through the CLI. By default, the N+1 backup mode is used.

Description of power backup modes:

Backup Mode	Description	Product Support
N+N	Applies only to AC&240 V DC power modules. • System power supply is not affected if no more than N power modules are removed or fail. • The maximum output power of the system is the total maximum output power of N power modules. The first N represents mandatory power modules, and the second N represents optional power modules. NOTE	1+1, 2+2, and 3+3 backup

Backup Mode	Description	Product Support
	• The N+N backup mode is often used when two power supply systems are available. In this case, the first N represents mandatory power modules for the first power supply system, and the second N represents mandatory power modules for the second power supply system. The use of double power supply systems provides backup for both power modules and power supply systems. • When using the N+N backup mode, equally divide the power modules into two groups and connect the two groups of power modules to two independent power supply systems. This configuration provides backup of power supply systems to enhance system reliability.	
N+1	• System power supply is not affected if one power module is removed or fails. • The maximum output power of the system is the total maximum output power of N power modules. • N power modules are mandatory, and one power module is optional. **NOTE** When the sum of the maximum power of N power modules is smaller than the maximum output power of the system, and the maximum output power of the system is smaller than the sum of the maximum power of N+1 power modules, the system generates an alarm.	1+1, 2+1, 3+1, 4+1, and 5+1 backup
N+0	• System power supply is affected once any power module is removed or fails. • The maximum output power of the system is the total maximum output power of N power modules. • N power modules are mandatory, and there are no optional power modules.	1+0, 2+0, 3+0, 4+0, 5+0, and 6+0 mode

Power Module Specifications

Parameter	PDC2K2S54-DF	PAC3KS54-DF
Appearance		
Description	2200W DC Power Module (Front to Back, Power panel side intake)	2500 W/3000 W AC&240 V DC Power Module (Front to Back, Power panel side intake)
Dimensions without packaging (H x W x D) [mm(in.)]	39.6 mm x 66 mm x 350 mm (1.56 in. x 2.60 in. x 13.78 in.)	39.6 mm x 66 mm x 349 mm (1.56 in. x 2.60 in. x 13.74 in.)
Weight without packaging [kg(lb)]	1.5 kg (3.31 lb)	1.5 kg (3.31 lb)
Rated input voltage [V]	-48 V DC/-60 V DC/48 V DC	• AC input: 110 V AC/220 V AC, 50/60 Hz • HVDC input: 240 V DC
Input voltage range [V]	• -38.4 V DC to -72 V DC • 38.4 V DC to 57.6 V DC	• AC input: 90–290 V AC; 45–65 Hz (When the input voltage ranges from 90 V AC to 176 V AC, the maximum output power is 1500 W. When the input voltage ranges from 176 V AC to 200 V AC, the maximum output power is 2300 W. If the input

Parameter	PDC2K2S54-DF	PAC3KS54-DF
		voltage ranges from 200 V AC to 290 V AC, the maximum output power is 2500 W.) • High-voltage DC input: 190 V DC to 290 V DC (When the input voltage ranges from 190 V DC to 200 V DC, the maximum output power is 2300 W. When the input voltage ranges from 200 V DC to 290 V DC, the maximum output power is 2500 W.)
Maximum input current [A]	63 A	16 A
Rated output voltage [V]	53.5 V	53.5 V
Rated output power [W]	2200 W	2500 W/3000 W **NOTE** The default maximum output power is 2500 W. In V600R021C10 and later versions, up to 3000 W output power can be enabled using a command.
Power dissipation Mode	Heat dissipation with fan	Heat dissipation with fan
Hot swapping	Supported	Supported

Parameter	PAC600S56-EB	PAC1000S56-EB	PDC1000S56-EB
Appearance			
Description	600 W AC & 240 V DC Power Module (66mm Width Case, Back to Front, Power panel side exhaust)	1000 W AC & 240 V DC Power Module (66mm Width Case, Back to Front, Power panel side exhaust)	1000 W PoE DC Power Module (66mm Width Case, Back to Front, Power panel side exhaust)
Dimensions without packaging (H x W x D) [mm(in.)]	40 mm x 66 mm x 215 mm (1.57 in. x 2.60 in. x 8.46 in.)	40 mm x 66 mm x 215 mm (1.57 in. x 2.60 in. x 8.46 in.)	40 mm x 66 mm x 215 mm (1.57 in. x 2.60 in. x 8.46 in.)
Weight without packaging [kg(lb)]	1.1kg (2.43 lb)	1.1kg (2.43 lb)	2kg(4.41 lb)
Rated input voltage [V]	• AC input: 100~130V AC, 50/60 Hz; 200~240V AC, 50/60Hz • HVDC input: 240 V DC	• AC input: 100~130V AC, 50/60 Hz; 200~240V AC, 50/60Hz • HVDC input: 240 V DC	-48V DC～-60V DC
Input voltage range [V]	• AC input: 90~290V AC, 45/66 Hz; • HVDC input: 190~290 V DC	• AC input: 90~290V AC, 45/65 Hz; • HVDC input: 190~290 V DC	-38.4V DC～-72V DC
Maximum input current [A]	• 100V AC～130V AC：8A • 200V AC～240V AC：8A	• 100V AC～130V AC：12A • 200V AC～240V AC：8A	30A

Parameter	PAC600S56-EB	PAC1000S56-EB	PDC1000S56-EB
	• 240V DC：4A	• 240V DC：4A	
Rated output voltage [V]	56V	56 V	56 V
Rated output power [W]	• 100V AC～130V AC input：300W • 200V AC～240V AC or 240V DC input：600W	• 100V AC～130V AC input：900W • 200V AC～240V AC or 240V DC input：1000W	1000W
Power dissipation Mode	Heat dissipation with fan	Heat dissipation with fan	Heat dissipation with fan
Hot swapping	Supported	Supported	Supported

Parameter	PAC1K5S54-PF		
Appearance			
Description	1500 W AC & 240 V DC Power Module (66mm Width Case, Back to Front, Power panel side exhaust)		
Dimensions without packaging (H x W x D) [mm(in.)]	39.6 mm x 66 mm x 350 mm		
Weight without packaging [kg(lb)]	1.2kg		
Rated input voltage [V]	• AC input: 110V AC/220V AC, 50/60 Hz; • HVDC input: 240 V DC		
Input voltage range [V]	• AC input: 90~290V AC, 45/65 Hz; • HVDC input: 190~290 V DC		
Maximum input current [A]	10A		
Rated output voltage [V]	53.5V or 55V		
Rated output power [W]	1500W		
Power dissipation Mode	Air cooling and heat dissipation		
Hot swapping	Supported		

Fan Module

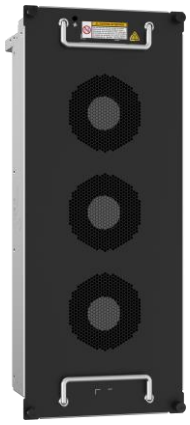
The heat dissipation system of S8700 series switches consists of fan modules.

- Fan modules installed at the rear of the device cool the SRUs and LPUs in the chassis through front-to-back airflow (from the perspective of the cabinet), ensuring a normal operating temperature range for the chassis.
- Power modules have their own fans, which take the heat generated by power modules out of the chassis through front-to-back airflow. These fans ensure that the power modules work in a normal temperature range.

Fan Module Functions

Function	Description
Basic function	The fan module dissipates heat for the chassis so that the chassis can work properly and efficiently within the operating temperature range.
Noise reduction	When a fan module is powered on, it rotates at 40% of its full speed. If the fan module fails to establish communication with the SRU 5 minutes later, the fan module rotates at 70% of its full speed. If such communication still fails to be established 5 minutes later, the fan module rotates at its full speed to ensure heat dissipation of the system.
Automatic fan speed adjustment	After the fan module communicates with the SRU normally, the SRU controls the speed of the fan module according to temperature of cards in the chassis.
Alarm report	The fan module can report alarms on fan module failures and communication failures.

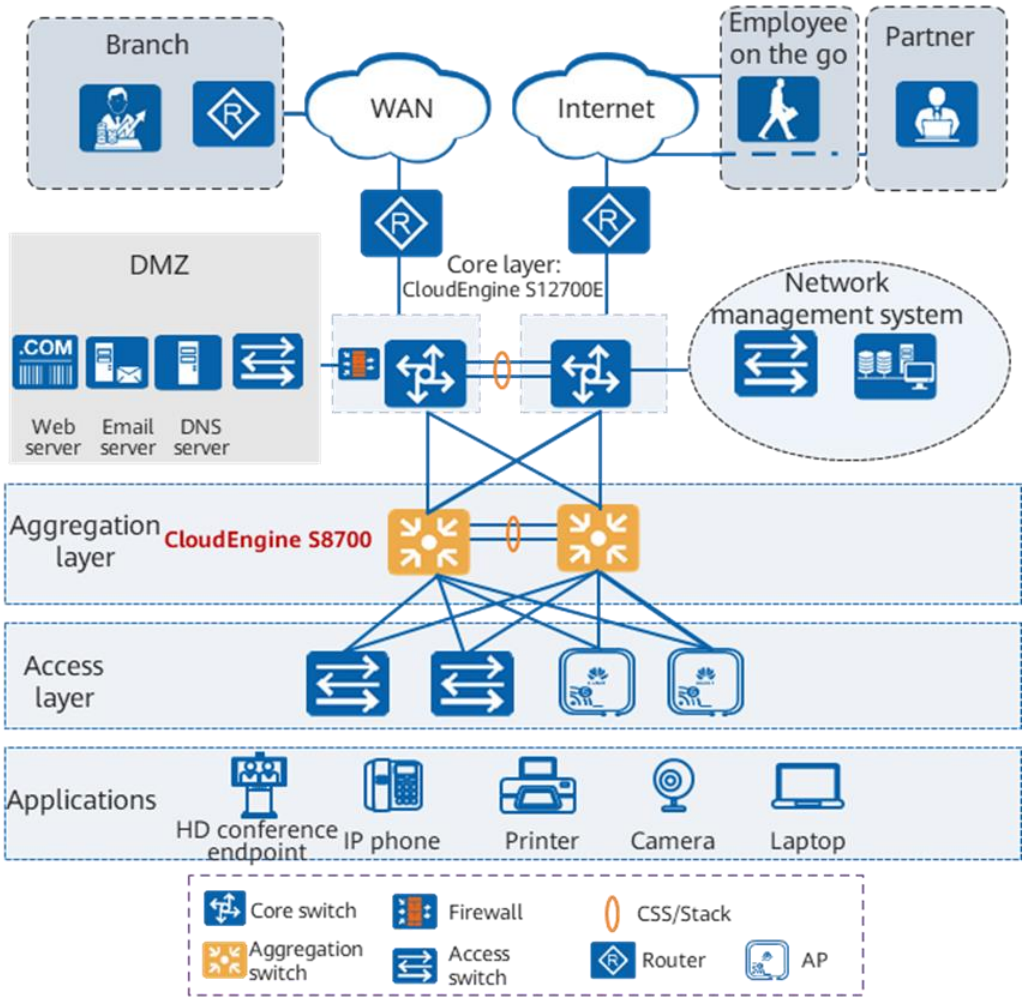
Fan Module Specifications

Parameter	FAN-240SO-B	FAN-240SM-B	FAN-480SM-B
Appearance			
Description	• Single-layer fan module with three fans • Applicable to S8700-4	• Single-layer fan module with two fans • Applicable to S8700-6	• Single-layer fan module with four fans • Applicable to S8700-10
Dimensions without packaging (H x W x D) [mm(in.)]	411.0 mm x 104.3 mm x 167.2 mm (16.18 in. x 4.11 in. x 6.59 in.)	291.6 mm x 128.8 mm x 138.7 mm (11.48 in. x 5.07 in. x 5.46 in.)	514.4 mm x 128.8 mm x 138.7 mm (20.25 in. x 5.07 in. x 5.46 in.)
Weight without packaging [kg(lb)]	3.05 kg (6.72 lb)	2.92 kg (6.44 lb)	4.98 kg (10.98 lb)
Number of fans	3	2	4
Maximum power consumption [W]	120W	180 W	360 W

Networking and Applications

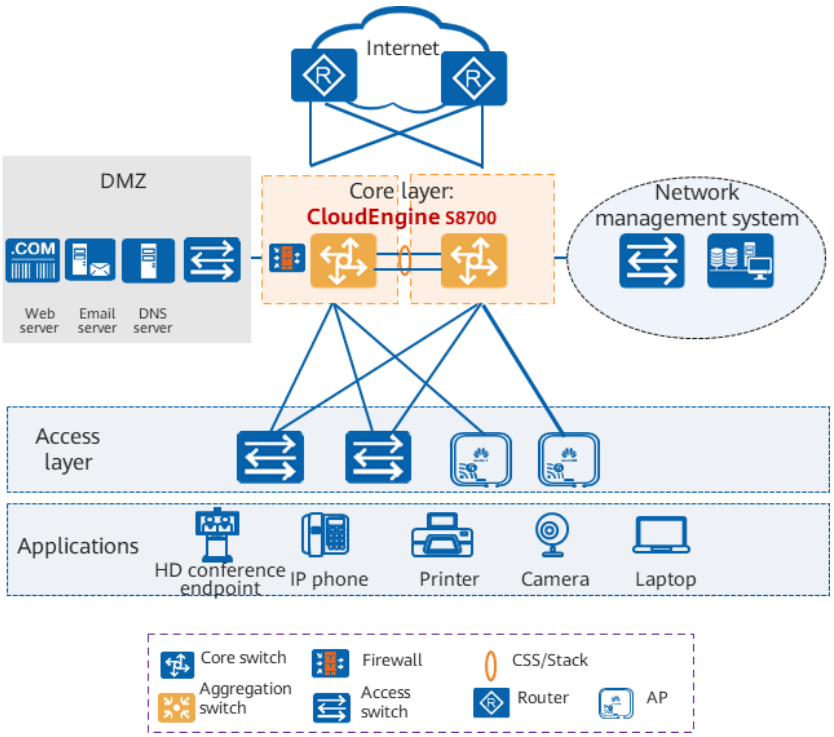
Large Enterprise Campus Networks

- As shown in the figure above, the large enterprise campus network uses three-layer networking architecture, where CloudEngine S8700 functions as the aggregation switch. With abundant GE, 10GE, and multi-GE interface cards, as well as powerful PoE capabilities, CloudEngine S8700 can also be used as access switches, providing large-bandwidth access and power supply for APs.
- With CloudEngine S8700, enterprises can build a future-proof campus network featuring strong reliability, high-density access, and high energy efficiency



Small/Midsize Enterprise Campus Networks

- On a simplified small or midsize enterprise campus network shown in the figure above, CloudEngine S8700 functions as the core switch. With 10GE optical interface cards, CloudEngine S8700 can also be used as the central switch to work with remote desktop switches.
- In addition, CloudEngine S8700 is equipped with abundant GE, 10GE, and multi-GE interface cards and offers powerful PoE capabilities, making it an ideal access switch that provides large-bandwidth access and power supply for APs.
- With CloudEngine S8700, enterprises can embrace a future-proof campus network with stand-out features such as strong reliability, high-density access, and high energy efficiency



Ordering Information

Hardware ordering

CloudEngine S8700 Basic Configuration	
ES1BA66E0000	Assembly cabinet (600 mm x 600 mm x 2200 mm)
LSS8704SP0	S8700-4 assembly chassis
ES1BS8706SP0	S8700-6 assembly chassis
ES1BS8710SP0	S8700-10 assembly chassis
FAN-240SO-B	S8700-4 fan module with three fans
FAN-240SM-B	S8700-6 fan module with two fans
FAN-480SM-B	S8700-10 fan module with four fans

Bundles	
S8700-06-B01	S8700-6 basic engine bundle (including one assembly chassis, two SRUEs)
S8700-10-B01	S8700-10 basic engine bundle (including one assembly chassis, two SRUFs)
SRU	
LSG7SRUDX0H0	S8700-4 main control unit D, supporting 2*10GE +24*GE , or 8*10G ports(SFP/SFP+)(HTM)
LSG7SRUDX1H0	S8700-4 main control unit D, supporting 4*25GE+8*10GE/GE+12*1000BASE-T+4*GE Combo, or 2*25GE+6*10GE+20*1000BASE-T+4*GE Combo, or 4*25GE/10GE+8*10GE/GE ports(HTM)
LSG7SRUEX1T0	S8700-6 main control unit E, supporting 1*100G QSFP28 or 2*40G QSFP+or 4*25G SFP28 or 8*10G SFP+ ports (HTM),Standard
LSG7SRUEX1T1	S8700-6 main control unit E, supporting 1*100G QSFP28 or 2*40G QSFP+or 4*25G SFP28 or

Bundles	
	8*10G SFP+ ports (HTM),Enhanced
LSG7SRUEX1H0	S8700-6 main control unit E, supporting 4*25GE+8*10GE/GE+12*1000BASE-T+4*GE Combo, or 2*25GE+6*10GE+20*1000BASE-T+4*GE Combo, or 4*25GE/10GE+8*10GE/GE ports(HTM)
LSG7SRUEX5H0	S8700-6 main control unit E, supporting 1*100GE+2*40GE+12*10GE, or 1*100GE+8*25GE, or 3*100GE service ports(HTM)
LSG7SRUFX1T0	S8700-10 main control unit F, supporting 1*100G QSFP28 or 2*40G QSFP+or 4*25G SFP28 or 8*10G SFP+ ports (HTM),Standard
LSG7SRUFX1T1	S8700-10 main control unit F, supporting 1*100G QSFP28 or 2*40G QSFP+or 4*25G SFP28 or 8*10G SFP+ ports (HTM),Enhanced
LSG7SRUFX5H0	S8700-10 main control unit F, supporting 1*100GE+2*40GE+12*10GE, or 1*100GE+8*25GE, or 3*100GE service ports(HTM)

Power Module	
PAC3KS54-DF	2500 W/3000 W AC & 240 V DC power module (front-to-back, power panel side intake)
PDC2K2S54-DF	2200 W DC Power Module (Front to Back, Power panel side intake)
PAC600S56-EB	600 W AC & 240 V DC Power Module (66mm Width Case, Back to Front, Power panel side exhaust)
PAC1000S56-EB	1000W AC&240V DC Power Module(66mm Width Case, Back to Front, Power panel side exhaust)
PDC1000S56-EB	POE1000W DC Power Module (66mm Width Case, Back to Front, Power panel side exhaust)
PAC1K5S54-PF	1500W AC&240VDC Power Module (Front to Back, Power panel side intake)

100GE interface card		Version
LSG7C04HX1E1	4-Port 100G Ethernet Optical Interface Card (QSFP28)	V600R23C10 or later versions

40GE interface card		Version
LSG7C04HX1E0	4-port 40G BASE-X interface card	V600R23C00 or later versions

Experience Assurance Card		Version
LSG700VSX1E0	High-quality Experience Assurance Card	V600R23C00 or later versions

25GE interface card		Version
LSG7Y16SX1E0	16-port 25G BASE-X interface card(SFP28)	V600R22C00 or later versions↵

10GE Hybird optical-electrical interface card		Version
LSG7X48PX1E0	48-port 100M/1G/2.5G/10GBASE-X PoE++ hybrid interface card (SFP+,	V600R021C10 or

10GE Hybird optical-electrical interface card		Version
	PoE++)	later versions

10GE Optical Interface Card		Version
LSG7X48SX1E0	48-port 100M/1G/2.5G/10GBASE-X interface card (SFP+)	V600R021C00 or later versions
LSG7X24SX1E0	24-port 100M/1G/2.5G/10GBASE-X interface card (SFP+)	V600R021C00 or later versions

100M/1G/2.5G/5G/10G Multi-GE Interface Card		Version
LSG7M24VX1E1	24-port 100M/1G interface card (RJ45, PoE++,optional RTU upgrade to 2.5/5/10G)	V600R22C00 or later versions
LSG7M48VX1E0	48-port 100M/1G/2.5G/5G/10G multi-GE PoE++ interface card (RJ45, PoE++)	V600R021C00 or later versions
LSG7M48VX1E1	48-port 100M/1G interface card (RJ45, PoE++,optional RTU upgrade to 2.5/5/10G)	V600R021C00 or later versions

GE/10GE Hybrid Interface Card		Version
LSG7X52BX1E0	16-port 100M/1GBASE-X, 12-port 100M/1G/10GBASE-X, and 24-port 10/100/1000BASE-T interface card (SFP, SFP+,RJ45)	V600R021C00 or later versions
LSG7X24BX1E0	20-port 100M/1000M/2.5GBASE-X and 4-port 100M/1G/2.5G/10GBASE-X interface card (SFP, SFP+)	V600R021C10 or later versions

1/2.5GE Optical Interface Card		Version
LSG7G48SX1E0	48-port 100M/1000M/2.5GBASE-X interface card (SFP)	V600R021C00 or later versions

GE Electrical Interface Card		Version
LSG7G48TX1E0	48-port 10/100/1000BASE-T interface card (RJ45)	V600R021C00 or later versions
LSG7G48VX1E0	48-port 10/100/1000BASE-T PoE++ interface card (RJ45, PoE++)	V600R021C10 or later versions
LSG7G24TX1E0	24-port 10/100/1000BASE-T interface card (RJ45)	V600R021C10 or later versions

Software ordering

Software	
L-MLIC-S87	S87 Series Basic SW,Per Device
L-1GUPG2.5G-	Modular switch, 1G to 2.5G Electronic RTU License, 12-port

Software	
MODULAR	
L-1GUPG5G-MODULAR	Modular switch, 1G to 5G Electronic RTU License, 12-port
L-1GUPG10G-MODULAR	Modular switch, 1G to 10G Electronic RTU License, 12-port
L-2.5GUPG5G-MODULAR	Modular switch, 2.5G to 5G Electronic RTU License, 12-port
L-2.5GUPG10G-MODULAR	Modular switch, 2.5G to 10G Electronic RTU License, 12-port
L-5GUPG10G-MODULAR	Modular switch, 5G to 10G Electronic RTU License, 12-port
L-EA-S87	S87 Series,Experience Assurance Function License, Per Device
N1 License	
N1-S87-M-Lic	S87 Series Basic SW,Per Device
N1-S87-M-SnS	S87 Series Basic SW,SnS,Per Device
N1-S87-F-Lic	N1-CloudCampus,Foundation,S87 Series,Per Device
N1-S87-F-SnS	N1-CloudCampus,Foundation,S87 Series,SnS,Per Device
N1-S87-A-Lic	N1-CloudCampus,Advanced,S87 Series,Per Device
N1-S87-A-SnS	N1-CloudCampus,Advanced,S87 Series,SnS,Per Device
N1-S87-FToA-Lic	N1-Upgrade-Foundation to Advanced,S87 Series,Per Device
N1-S87-FToA-SnS	N1-Upgrade-Foundation to Advanced,S87 Series,SnS,Per Device

More Information

For more information about Huawei Campus Switches, visit http://e.huawei.com or contact us in the following ways:

- Global service hotline: http://e.huawei.com/en/service-hotline
- Logging in to the Huawei Enterprise technical support website: http://support.huawei.com/enterprise/
- Sending an email to the customer service mailbox: support_e@huawei.com

Copyright © Huawei Technologies Co., Ltd. 2024. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions

HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and

Huawei Technologies Co., Ltd.

Address:Huawei Industrial Base Bantian, Longgang Shenzhen 518129 People's Republic of China

Website:e.huawei.com

recommendations in this document do not constitute a warranty of any kind, express or implied.