Huawei CloudEngine S5735R-S-V2 Series Switches Brochure

Huawei CloudEngine S5735R-S-V2 series are standard gigabit Ethernet switches that provide GE electrical downlink ports and 10GE uplink ports.

Product Overview

CloudEngine S5735R-S-V2 series switches are developed based on next-generation high-performing hardware and software platform. CloudEngine S5735R-S-V2 switches support simplified operations and maintenance (O&M), and flexible Ethernet networking. It also provides enhanced Layer 3 features and mature IPv6 features. CloudEngine S5735R-S-V2 switches can be used in various scenarios. For example, it can be used as an access or aggregation switch on a campus network or as an access switch for Metropolitan Area Network.

Models and Appearances

The following models are available in the CloudEngine S5735R-S-V2 series.

Models and appearances of the CloudEngine S5735R-S-V2 series

Models and Appearances	Description
 CloudEngine S5735R-S24P4X-V2	• 24 x 10/100/1000Base-T ports, 4 x 10 GE SFP+ ports • 3 power supplies, N+1 power supply backup • PoE+ • Forwarding performance: 96 Mpps • Switching capacity*: 128 Gbps/520 Gbps
 CloudEngine S5735R-S48P4X-V2	• 48 x 10/100/1000Base-T ports, 4 x 10 GE SFP+ ports • 3 power supplies, N+1 power supply backup • PoE+ • Forwarding performance: 132 Mpps • Switching capacity*: 176 Gbps/520 Gbps
 CloudEngine S5735R-S24T8J4X-XA-V2	• 24 x 10/100/1000Base-T ports, 8 x 2.5 GE SFP+ ports(or 2*10GE SFP+ ports), 4 x 10 GE SFP+ ports • Built-in dual AC power, 1+1 power supply backup • Forwarding performance: 126 Mpps • Switching capacity*: 168 Gbps/520 Gbps
	• 48 x 10/100/1000Base-T ports, 4 x 10 GE SFP+ ports • Built-in dual AC power, 1+1 power supply backup

Models and Appearances	Description
CloudEngine S5735R-S48T4X-XA-V2	• Forwarding performance: 132 Mpps • Switching capacity*: 176 Gbps/520 Gbps

*Note：The value before the slash (/) refers to the device's switching capability, while the value after the slash (/) means the system's switching capability.

Features and Highlights

Powerful Service Processing Capability

- CloudEngine S5735R-S-V2 supports a broad set of Layer 2/Layer 3 multicast protocols, such as PIM SM, PIM DM, PIM SSM, and IGMP snooping. This capability is ideal for high-definition video backhaul and video conferencing access.
- CloudEngine S5735R-S-V2 provides multiple Layer 3 features including OSPF, IS-IS, BGP, and VRRP, meeting enterprises' access and aggregation service needs and enabling a variety of voice, video, and data applications.

Multiple Security Control Mechanisms

- CloudEngine S5735R-S-V2 supports MAC address authentication, 802.1X authentication, and implements dynamic delivery of policies (VLAN, QoS, and ACL) to users.
- CloudEngine S5735R-S-V2 provides a series of mechanisms to defend against DoS attacks and user-targeted attacks. DoS attacks are targeted at switches and include SYN flood, Land, Smurf, and ICMP flood attacks. User-targeted attacks include bogus DHCP server attacks, IP/MAC address spoofing, DHCP request flood, and changing of the DHCP CHADDR value.
- CloudEngine S5735R-S-V2 sets up and maintains a DHCP snooping binding table, and discards the packets that do not match the table entries. The DHCP snooping trusted port feature ensures that users connect only to the authorized DHCP server.
- CloudEngine S5735R-S-V2 supports strict ARP learning, which protects a network against ARP spoofing attacks to ensure that users can connect to the Internet normally.

Multiple Reliability Mechanisms

- CloudEngine S5735R-S-V2 is equipped with two pluggable power modules that work in 1+1 redundancy backup mode. Mixed installation of AC and DC power modules is supported, allowing for flexible configuration of AC or DC power modules according to service requirements.
- In addition to supporting traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), CloudEngine S5735R-S-V2 is also designed with the industry's latest Ethernet Ring Protection Switching (ERPS) technology. This protocol is reliable, easy to maintain, and implements fast protection switching within 50 ms. ERPS is defined in ITU-T G.8032, and it implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.
- CloudEngine S5735R-S-V2 supports Smart Link, which implements backup of uplinks. One CloudEngine S5735R-S-V2 switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

Easy Network deployment

- CloudEngine S5735R-S-V2 supports Huawei Easy Operation, a solution that provides zero-touch deployment, replacement of faulty devices without additional configuration, USB-based deployment, batch device configuration, and batch remote upgrade. The capabilities facilitate device deployment, upgrade, service provisioning, and other management and maintenance operations, and also greatly reduce O&M costs. CloudEngine S5735R-S-V2 can be managed using SNMP v1/v2c/v3, CLI, web-based network management system, or SSH v2.0. Additionally, it supports RMON, multiple log hosts, port traffic statistics collection, and network quality analysis, which facilitate network optimization and reconstruction.

Mature IPv6 Technologies

- CloudEngine S5735R-S-V2 uses the mature, stable VRP platform and supports IPv4/IPv6 dual stack, IPv6 RIPng.
- CloudEngine S5735R-S-V2 can be deployed on a pure IPv4 network, a pure IPv6 network, or a shared IPv4/IPv6 network, helping achieve IPv4-to-IPv6 transition.

Intelligent Stack (iStack)

- CloudEngine S5735R-S-V2 supports intelligent stack (iStack). This technology combines multiple switches into a logical switch. Member switches in a stack implement redundancy backup to improve device reliability and use inter-device link aggregation to improve link reliability.
- iStack provides high network scalability. You can increase ports, bandwidth, and processing capacity of a stack by simply adding member switches to the stack.
- iStack also simplifies device configuration and management. After a stack is set up, multiple physical switches are virtualized into one logical device. You can log in to any member switch in the stack to manage all the member switches in the stack. CloudEngine S5735R-S-V2 support stacking through electrical ports.

Network Slicing Functions

- CloudEngine S5735R-S-V2 provides a range of VLAN 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.

PoE Function

CloudEngine S5735R-S-V2 PoE models can support PoE++(up to 90W power supply), Meeting high-power power supply requirements for Wi-Fi 6 APs, IP cameras, and Video phones.

- **Perpetual PoE**: When a PoE switch is abnormal Power-off or the software version is upgraded, the power supply to PDs is not interrupted. This capability ensures that PDs are not powered off during the switch reboot.
- **Fast PoE**: PoE switches can supply power to PDs within seconds after they are powered on. This is different from common switches that generally take 1 to 3 minutes to start to supply power to PDs. When a PoE switch reboots due to a power failure, the PoE switch continues to supply power to the PDs immediately after being powered on without waiting until it finishes reboot. This greatly shortens the power failure time of PDs.

Intelligent O&M

- CloudEngine S5735R-S-V2 provides telemetry technology to collect device data in real time and send the data to Huawei campus network analyzer CampusInsight. The CampusInsight 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 experience.

Intelligent Upgrade

- CloudEngine S5735R-S-V2 supports the intelligent upgrade feature. Specifically, CloudEngine S5735R-S-V2 obtains the version upgrade path and downloads the newest version for upgrade from the Huawei Online Upgrade Platform (HOUP). The entire upgrade process is highly automated and achieves one-click upgrade. In addition, preloading the version is supported, which greatly shortens the upgrade time and service interruption time.
- The intelligent upgrade feature greatly simplifies device upgrade operations and makes it possible for the customer to upgrade the version independently. This greatly reduces the customer's maintenance costs. In addition, the upgrade policies on the HOUP platform standardize the upgrade operations, which greatly reduces the risk of upgrade failures.

Cloud Management

- The Huawei cloud management platform allows users to configure, monitor, and inspect switches on the cloud, reducing on-site deployment and O&M manpower costs and decreasing network OPEX. Huawei switches support both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI).

OPS(Open Programmability System)

- CloudEngine S5735R-S-V2 supports Open Programmability System (OPS), an open programmable system based on the Python language. IT administrators can program the O&M functions of a CloudEngine S5735R-S-V2 switch through Python scripts to quickly innovate functions and implement intelligent O&M.

Licensing

CloudEngine S5735R-S-V2 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 deploying Huawei CloudCampus Solution in the on-premises scenario, as it greatly enhances the customer experiences in purchasing and upgrading software services with simplicity.

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 Service Features	√	√	√
Basic network automation based on the iMaster NCE-Campus: • Basic automation: Plug-and-play • Basic monitoring: Application visualization • NE management: Image and topology management and discovery • User access authentication	×	√	√
Advanced network automation and intelligent O&M: CampusInsight basic functions	×	×	√

Product Specifications

Item	CloudEngine S5735R-S24P4X-V2	CloudEngine S5735R-S48P4X-V2
Fixed port	24 x 10/100/1000Base-T ports, 4 x 10 GE SFP+ ports	48 x 10/100/1000Base-T ports, 4 x 10 GE SFP+ ports
Dimensions (H x W x D)	43.6 mm x 442 mm x 420 mm	43.6 mm x 442 mm x 420 mm
Chassis height	1 U	1 U
Chassis weight (including packaging)	7.74 kg	8 kg
Power supply type	• 600 W PoE AC (pluggable) • 1000 W PoE AC (pluggable) • 1000 W PoE DC (pluggable)	• 600 W PoE AC (pluggable) • 1000 W PoE AC (pluggable) • 1000 W PoE DC (pluggable)
Rated voltage range	• AC input: 100 V AC to 130 V, 200 V AC to 240 V AC, 50/60 Hz • High-Voltage DC input: 240 V DC • DC input: -48 V DC to -60 V DC	• AC input: 100 V AC to 130 V, 200 V AC to 240 V AC, 50/60 Hz • High-Voltage DC input: 240 V DC • DC input: -48 V DC to -60 V DC
Maximum voltage range	• AC input: 90 V AC to 290 V AC, 45 Hz to 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 V AC to 290 V AC, 45 Hz to 65 Hz • High-Voltage DC input: 190 V DC to 290 V DC • DC input: -38.4 V DC to -72 V DC

Item	CloudEngine S5735R-S24P4X-V2	CloudEngine S5735R-S48P4X-V2
Long-term operating temperature	• 0-1800 m altitude: -5°C to +50°C • 1800-5000 m altitude: The operating temperature reduces by 1ºC every time the altitude increases by 220 m.	• 0-1800 m altitude: -5°C to +50°C • 1800-5000 m altitude: The operating temperature reduces by 1ºC every time the altitude increases by 220 m.
Storage temperature	-40°C to +70°C	-40°C to +70°C
Relative humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)
Surge protection specification (power port)	• AC power port: ±6 kV in differential mode, ±6 kV in common mode • DC power port: ±2 kV in differential mode, ±4 kV in common mode	• AC power port: ±6 kV in differential mode, ±6 kV in common mode • DC power port: ±2 kV in differential mode, ±4 kV in common mode
Heat dissipation	Air-cooled heat dissipation and intelligent speed adjustment	Air-cooled heat dissipation and intelligent speed adjustment

Item	CloudEngine S5735R-S24T8J4X-XA-V2	CloudEngine S5735R-S48T4X-XA-V2
Fixed port	24 x 10/100/1000Base-T ports(PoE+), 4 x 10 GE SFP+ ports,2 stack ports	24 x 10/100/1000Base-T ports(PoE++), 4 x 10 GE SFP+ ports,2 stack ports
Dimensions (H x W x D)	43.6 mm x 442 mm x 420 mm	43.6 mm x 442 mm x 420 mm
Chassis height	1 U	1 U
Chassis weight (including packaging)	6.85 kg	6.82 kg
Power supply type	Built-in dual AC power	Built-in dual AC power
Rated voltage range	• AC input: 100 V AC to 240 V AC, 50/60 Hz • High-Voltage DC input: 240 V DC • DC input: -48 V DC to -60 V DC	• AC input: 100 V AC to 240 V AC, 50/60 Hz • High-Voltage DC input: 240 V DC • DC input: -48 V DC to -60 V DC
Maximum voltage range	• AC input: 90 V AC to 290 V AC, 45 Hz to 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 V AC to 290 V AC, 45 Hz to 65 Hz • High-Voltage DC input: 190 V DC to 290 V DC • DC input: -38.4 V DC to -72 V DC
Long-term operating temperature	• 0-1800 m altitude: -5°C to +50°C • 1800-5000 m altitude: The operating temperature reduces by 1ºC every time the altitude increases by 220 m.	• 0-1800 m altitude: -5°C to +50°C • 1800-5000 m altitude: The operating temperature reduces by 1ºC every time the altitude increases by 220 m.
Storage temperature	-40°C to +70°C	-40°C to +70°C
Relative humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)
Surge protection specification (power port)	±6 kV in differential mode, ±6 kV in common mode	±6 kV in differential mode, ±6 kV in common mode
Heat dissipation	Air-cooled heat dissipation and intelligent speed adjustment	Air-cooled heat dissipation and intelligent speed adjustment

Service Features

Item	Description
MAC address table	IEEE 802.1d compliance
	32K MAC entries(MAX)
	MAC address learning and aging
	Static, dynamic, and blackhole MAC address entries
	Packet filtering based on source MAC addresses
VLAN	4K VLANs
	Voice VLAN
	MUX VLAN
	VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports
	Basic QinQ & Selective QinQ
Reliability	Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover
	STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)
	ERPS (G.8032)
	BPDU protection, root protection, and loop protection
	LLDP
IP routing	Static route, RIPv1/v2, RIPng, OSPF, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+, ECMP, VRRP, VRRP6, Routing Policy, Policy-Based Routing
	Up to 8192 FIBv4 entries
	Up to 3072 FIBv6 entries
IPv6 features	Up to 3072 ND entries
	Path MTU (PMTU)
	IPv6 ping, IPv6 tracert, and IPv6 Telnet
Multicast	PIM DM, PIM SM, PIM SSM
	IGMP v1/v2/v3, IGMP v1/v2/v3 snooping, MLD Snooping and IGMP fast leave
	Multicast load balancing among member ports of a trunk
	Port-based multicast traffic statistics
	Multicast VLAN
QoS/ACL	Rate limiting on packets sent and received by a port
	Packet redirection
	Port-based traffic policing and two-rate three-color CAR
	Eight queues on each port
	DRR, SP and DRR+SP queue scheduling algorithms
	Re-marking of the 802.1p priority and DSCP priority

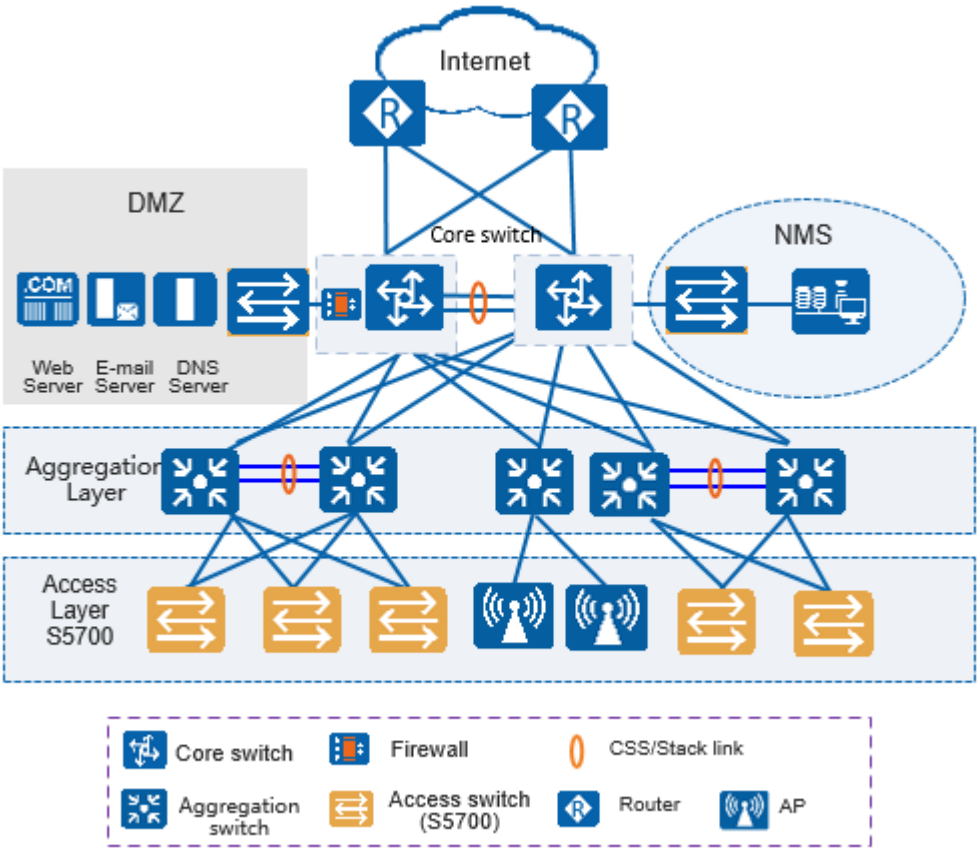
Item	Description
	Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, and VLAN ID
	Rate limiting in each queue and traffic shaping on ports
	Network Slicing（VLAN）
Security	Hierarchical user management and password protection
	DoS attack defense, ARP attack defense, and ICMP attack defense
	Binding of the IP address, MAC address, port number, and VLAN ID
	Port isolation, port security, and sticky MAC
	Blackhole MAC address entries
	Limit on the number of learned MAC addresses
	IEEE 802.1x authentication and limit on the number of users on a port
	AAA authentication, RADIUS authentication, HWTACACS authentication, and NAC
	SSH v2.0
	HTTPS
	CPU defense
	Blacklist and whitelist
	IEEE 802.1x authentication, MAC address authentication
	DHCPv4 client/relay/server/snooping
	DHCPv6 client/relay
	Attack source tracing and punishment for IPv6 packets such as ND, DHCPv6
Management and maintenance	iStack
	Cloud management based on Netconf/Yang
	Virtual cable test
	SNMP v1/v2c/v3
	RMON
	Web-based NMS
	System logs and alarms of different levels
	802.3az EEE
	IFIT
	Port mirroring
	Registration Center Deployment
	iPCA/sFlow/NQA/Telemetry
	1588V2 TC
	WebMaster

Item	Description
Interoperability	Supports VBST (Compatible with PVST/PVST+/RPVST)

Networking and Applications

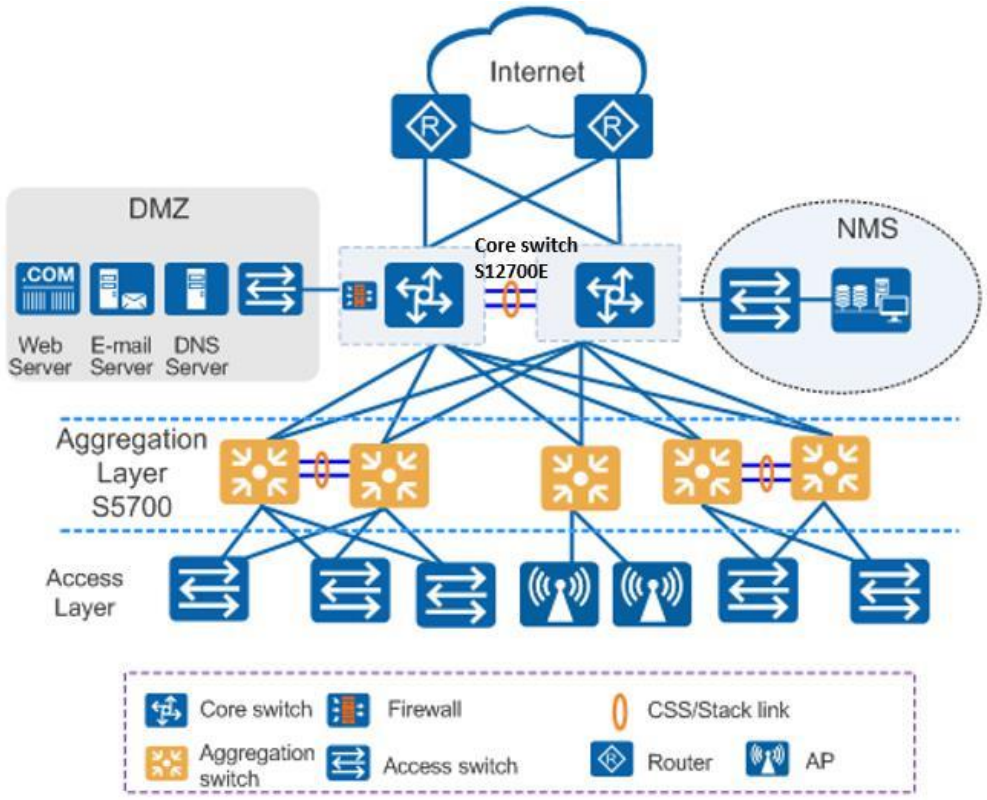
Large-Scale Enterprise Campus Network

CloudEngine S5735R-S-V2 series switches can be deployed at the access layer of a campus network to build a high-performance and highly reliable enterprise network.



Small- or Medium-scale Enterprise Campus Network

CloudEngine S5735R-S-V2 series switches can be deployed at the aggregation layer of a campus network to build a high-performance, multi-service, and highly reliable enterprise network.



Ordering Information

The following table lists ordering information of the CloudEngine S5735R-S-V2 series switches.

Model	Product Description
CloudEngine S5735R-S24P4X-V2	CloudEngine S5735R-S24P4X-V2 (24 x 10/100/1000Base-T ports, 4 x 10 GE SFP+ ports, PoE+, without power module)
CloudEngine S5735R-S48P4X-V2	CloudEngine S5735R-S48P4X-V2 (48 x 10/100/1000Base-T ports, 4 x 10 GE SFP+ ports, PoE+, without power module)
CloudEngine S5735R-S24T8J4X-XA-V2	CloudEngine S5735R-S24T8J4X-XA-V2 (24*10/100/1000BASE-T ports, 8*2.5GE SFP ports (or 2*10GE SFP+ ports), 4*10GE SFP+ ports, dual built-in AC power)
CloudEngine S5735R-S48T4X-XA-V2	CloudEngine S5735R-S48T4X-XA-V2 (48*10/100/1000BASE-T ports, 4*10GE SFP+ ports, dual built-in AC power)
PAC600S56-EB	600 W AC PoE power module
PAC1000S56-EB	1000 W AC PoE power module
PDC1000S56-EB	1000 W DC PoE power module
N1-S57S-M-Lic	S57XX-S Series Basic SW, Per Device
N1-S57S-M-SnS1Y	S57XX-S Series Basic SW, SnS, Per Device, 1Year
N1-S57S-F-Lic	N1-CloudCampus, Foundation, S57XX-S Series, Per Device
N1-S57S-F-SnS1Y	N1-CloudCampus, Foundation, S57XX-S Series, SnS, Per Device, 1Year
N1-S57S-A-Lite-Lic	N1-CloudCampus,Advanced-Lite,S57XX-S, Per Device
N1-S57S-A-Lite-SnS-3Y	N1-CloudCampus,Advanced-Lite,S57XX-S,SnS,Per Device,3 Year
N1-S57S-FToA-Lite-Lic	N1-Upgrade-Foundation to Advanced-Lite,S57XX-S,Per Device

Model	Product Description
N1-S57S-FToA-Lite-SnS-3Y	N1-Upgrade-Foundation to Advanced-Lite,S57XX-S,SnS,Per Device,3 Year

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

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