Huawei CloudEngine S6780-H Series Switches Datasheet

Huawei CloudEngine S6780-H series switches are next-generation GE to 400GE flexible cards designed for high-end campus networks.

Introduction

Huawei CloudEngine S6780-H series switches are next-generation enterprise-class flexible card switches that offer high performance, high reliability, cloud management, and intelligent operations and maintenance (O&M). They build on an industry-leading software and hardware platform and are purpose-built with security, IoT, and cloud in mind. With these traits, CloudEngine S6780-H can be widely used in enterprise campuses, colleges/universities, data centers, and other scenarios.

CloudEngine S6780-H series switches offer GE/10GE/25GE/40GE/100GE/400GE port types and cards, flexibly adapting to diversified network bandwidth requirements. They also support cloud management and implement cloud-managed network services throughout the full lifecycle from planning, deployment, monitoring, experience visibility, and fault rectification, all the way to network optimization, greatly simplifying network management.

CloudEngine S6780-H series switches support free mobility, enables consistent user experience no matter the user location or IP address, fully meeting enterprises' demands for mobile offices.

CloudEngine S6780-H series switches support VXLAN to implement network virtualization, achieving multi-purpose networks and multi-network convergence for greatly improved network capacity and utilization. As such, CloudEngine S6780-H series switches are an ideal choice for building next-generation IoT converged networks in terms of cost, flexibility, and scalability.

Product Overview

Models and Appearances

The following models are available in CloudEngine S6780-H series switches.

Appearance	Description
 CloudEngine S6780-H4Z	• Supports four half-width flexible cards and flexible combinations of seven types of cards: 24 x 1000M/10GBASE-T ports, 2 x 100GE QSFP28 24 x GE/2.5G/10GE SFP+，2 x 40/100GE QSFP28 24 x GE/2.5G/10GE/25GE SFP28，2 x 40/100GE QSFP28 10 x 40/100GE QSFP28 16 x 40GE QSFP 16 x 40/100GE QSFP28 8 x GE/2.5G/10GE/25GE SFP28，4x 400GE QSFP-DD • 1+1 power backup

Appearance	Description
	• Forwarding performance: 2400 Mpps • Switching capacity: 14.4Tbps /16Tbps

Subcards

The following table lists the subcards applicable to the CloudEngine S6780-H

Technical specifications of the subcards applicable to the CloudEngine S6780-H series

Subcards	Technical Specifications	Applied Switch Model
XSIC-M26B000	• 24*1000M/10GE BASE-T + 2* 40GE/100GE QSFP28 • Dimensions without packaging (H x W x D) [mm(in.)]: 41.7 mm x 206 mm x 173 mm (1.64 in. x 8.11 in. x 6.81 in.) • Weight without packaging [kg(lb)]: 1.3 kg (2.87 lb) • Typical power consumption [W]: 63W • Maximum power consumption [W]: 87 W • Maximum heat dissipation [BTU/hour]: 296.8 BTU/hour	CloudEngine S6780-H4Z
XSIC-X26B000	• 24*10GE SFP+ ports and 2*100GE QSFP28 • Dimensions without packaging (H x W x D) [mm(in.)]: 41.7 mm x 206 mm x 173 mm (1.64 in. x 8.11 in. x 6.81 in.) • Weight without packaging [kg(lb)]: 1.14 kg (2.51 lb) • Typical power consumption [W]: 67W • Maximum power consumption [W]: 143 W • Maximum heat dissipation [BTU/hour]: 487.93 BTU/hour	CloudEngine S6780-H4Z
XSIC-Y26B000	• 24*25GE SFP28 ports and 2*100GE QSFP28 • Dimensions without packaging (H x W x D) [mm(in.)]: 41.7 mm x 206 mm x 173 mm (1.64 in. x 8.11 in. x 6.81 in.) • Weight without packaging [kg(lb)]: 1.14 kg (2.51 lb) • Typical power consumption [W]: 81W • Maximum power consumption [W]: 148 W • Maximum heat dissipation [BTU/hour]: 504.99 BTU/hour	CloudEngine S6780-H4Z
XSIC-L16Q000	• 16*40GE QSFP • Dimensions without packaging (H x W x D) [mm(in.)]: 41.7 mm x 206 mm x 173 mm (1.64 in. x 8.11 in. x 6.81 in.) • Weight without packaging [kg(lb)]: 1.3 kg (2.87 lb) • Typical power consumption [W]: 156W • Maximum power consumption [W]: 230 W • Maximum heat dissipation [BTU/hour]: 784.78 BTU/hour	CloudEngine S6780-H4Z
XSIC-C10H000	• 10*100GE QSFP28 • Dimensions without packaging (H x W x D) [mm(in.)]: 41.7 mm x 206 mm x 173 mm (1.64 in. x 8.11 in. x 6.81 in.) • Weight without packaging [kg(lb)]: 1.1 kg (2.43 lb) • Typical power consumption [W]: 102W • Maximum power consumption [W]: 154 W • Maximum heat dissipation [BTU/hour]: 525.46 BTU/hour	CloudEngine S6780-H4Z
XSIC-C16H000	• 16*100GE QSFP28	CloudEngine S6780-H4Z

Subcards	Technical Specifications	Applied Switch Model
	• Dimensions without packaging (H x W x D) [mm(in.)]: 41.7 mm x 206 mm x 173 mm (1.64 in. x 8.11 in. x 6.81 in.) • Weight without packaging [kg(lb)]: 1.3 kg (2.87 lb) • Typical power consumption [W]: 210W • Maximum power consumption [W]: 272W • Maximum heat dissipation [BTU/hour]: 928.09 BTU/hour	
XSIC-D12B000	• 8*25GE SFP28 ports and 4*400GE QSFP-DD • Dimensions without packaging (H x W x D) [mm(in.)]: 41.7 mm x 206 mm x 181.3 mm (1.64 in. x 8.11 in. x 7.14 in.) • Weight without packaging [kg(lb)]: 1.02 kg (2.25 lb) • Typical power consumption [W]: 130W • Maximum power consumption [W]: 215 W • Maximum heat dissipation [BTU/hour]: 733.6 BTU/hour	CloudEngine S6780-H4Z

Fan Module

The following table lists the fan module on CloudEngine S6780-H series switches.

Fan Module	Technical Specifications	Applied Switch Model
 FAN-180E-B	• Dimensions (W x D x H): 82 mm x 169.3 mm x 82 mm • Number of fans: One counter-rotating fan, with two fan blades • Weight without packaging [kg(lb)]: 0.846 kg (1.87 lb) • Maximum power consumption: 86 W • Maximum fan speed: 13200RPM (Front), 11340RPM (Rear) • Maximum airflow: 180 CFM • Hot swapping: Supported	• CloudEngine S6780-H4Z

Power Supply

The following table lists the power supplies on CloudEngine S6780-H series 100GE.

Power Module	Technical Specifications	Applied Switch Model


PAC1K2S12-PB
	• Dimensions (H x W x D): 39.6 mm x 66 mm x 215 mm
	• Weight without packaging [kg(lb)]: 0.844 kg
	• Rated input voltage range:
	  – 200V AC～240V AC；50/60Hz
	  – 100V AC～130V AC；50/60Hz
	  – 240V DC
	• Maximum input voltage range:
	  – AC：90V AC～290V AC；45Hz～65Hz
	  – High-voltage DC：190V DC～290V DC
	• Maximum input current:
	  – 100V AC～130V AC：10A
	  – 200V AC～240V AC：8A
		• CloudEngine S6780-H4Z

Power Module	Technical Specifications	Applied Switch Model
	– 240V DC：8A • Maximum output current: 100 A • Maximum output power: 1200 W • Hot swapping: Supported	
 PDC1K2S12-CE	• Dimensions (H x W x D): 39.6 mm x 66.0 mm x 215 mm (1.56 in. x 2.6 in. x 8.46 in.) • Weight without packaging [kg(lb)]: 1.0 kg (2.2 lb) • Rated input voltage [V]: – +48 V DC – -48 V DC to -60 V DC • Input voltage range [V]: – +40 V DC to +57 V DC – -38.4 V DC to -72 V DC • Maximum input current: 38 A • Maximum output current: 100 A • Maximum output power: 1200 W • Hot swapping: Supported	• CloudEngine S6780-H4Z
 PAC2KS12-PB	• Dimensions (H x W x D): 39.6 mm x 66 mm x 215 mm • Weight without packaging [kg(lb)]: 1 kg (2.20 lb) • Rated input voltage range: 100 V AC to 240 V AC, 50 Hz/60 Hz 240 V DC • Maximum input voltage range: AC: 90 V AC to 290 V AC; 45 Hz to 65 Hz High-voltage DC: 190 V DC to 290 V DC • Maximum input current: 100 V AC to 240 V AC: 10 A 240 V DC: 10 A • Maximum output current: 100 V AC to 130 V AC: 75 A 200 V AC to 220 V AC: 150 A 220 V AC to 240 V AC: 166.7 A 240 V DC: 166.7 A • Maximum output power: 100 V AC to 130 V AC: 900 W 200 V AC to 220 V AC: 1800 W 220 V AC to 240 V AC: 2000 W 240 V DC: 2000 W • Hot swapping: Supported	• CloudEngine S6780-H4Z

Power Module	Technical Specifications	Applied Switch Model
 PDC2K2S12-CE	• Dimensions (H x W x D): 39.6 mm x 66.0 mm x 215 mm (1.56 in. x 2.6 in. x 8.46 in.) • Weight without packaging [kg(lb)]: 1.2 kg (2.65 lb) • Rated input voltage range: – +48 V DC – -48 V DC to -60 V DC • Maximum input voltage range: – +40 V DC to +57 V DC – -38.4 V DC to -72 V DC • Maximum input current [A]: 63 A • Rated output current [A]: 181.07 A • Rated output voltage: 12.15 V • Rated output power: 2200 W • Hot swapping: Supported	• CloudEngine S6780-H4Z

The S6780-H uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy.

Product Features and Highlights

High-density Access, Providing Superior Capacity

- 8*25GE+4*400GE card (XSIC-D12B000): provides 8*25GE SFP28 ports and 4*400GE QSFP-DD ports. 25GE ports support 10GE/GE, 400GE ports support 100GE/40GE and 1-to-4 split (4*100GE).
- 16*100GE Card (XSIC-C16H000): provides 16*100GE QSFP28 ports, 100GE ports support 40GE, and support one-to-four split (4*25G/4*10G).
- 10*100GE card (XSIC-C10H000): provides 10*100GE QSFP28 ports, 100GE ports support 40GE, and support one-to-four split (4*25G/4*10G).
- 16*40GE Card (XSIC-L16Q000): provides 16*40GE QSFP ports, 40GE ports support one-to-four split (4*10G).
- 24*25GE+2*100GE card (XSIC-Y26B000): provides 24*25GE SFP28 ports and 2*100GE QSFP28 ports. 25GE ports support 10GE/GE, 100GE ports support 40GE and one-to-four splitting (4x25G/4x10G).
- 24*10GE+2*100GE card (XSIS-X26B000): provides 24*10GE SFP+ ports and 2*100GE QSFP28 ports. 10GE ports support GE, 100GE ports support 40GE and one-to-four splitting (4x25G/4x10G).

Note: For details about port split restrictions, check Interface Description in the product documentation.

Wired and Wireless Convergence

- By integrating WLAN AC capabilities, CloudEngine S6780-H eliminates the need to purchase additional WLAN AC hardware. CloudEngine S6780-H can manage up to 1K APs.
- CloudEngine S6780-H 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 S6780-H 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 S6780-H series switches can manage 16 APs by default . You can purchase licenses for more AP management on demand.

Enable Networks to be More Agile for Services

- Built-in high-speed and flexible processor chips, with their flexible packet processing and traffic control capabilities, CloudEngine S6780-H series switches are close to services, meeting current and future challenges, and helping customers build scalable networks.
- CloudEngine S6780-H series switches support fully customizing the forwarding mode, forwarding behavior, and search algorithm of traffic. New services are implemented through microcode programming. Customers do not need to replace new hardware and new services can be rolled out within six months.
- CloudEngine S6780-H series switches provide open interfaces and user-defined forwarding processes to meet customized service requirements of enterprises. Enterprises can use multi-layer open interfaces to develop new protocols and functions independently. They can also hand over their requirements to vendors and jointly develop them to build an enterprise-dedicated campus network.

Delivering Abundant Services More Agilely

- With the unified user management function, the CloudEngine S6780-H series switches 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. The unified user management function supports various authentication methods, including 802.1x, MAC address, and is capable of managing users based on user groups, domains, and time ranges. These functions visualize user and service management and boost the transformation from device-centric management to user experience-centric management.
- The CloudEngine S6780-H series switches provide excellent quality of service(QoS) capabilities and supports queue scheduling and congestion control algorithms. Additionally, it adopts innovative priority queuing and multi-level scheduling mechanisms to implement fine-grained scheduling of data flows, meeting service quality requirements of different user terminals and services.

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.
- Three IFIT modes are available: application-level quality measurement, tunnel-level quality measurement, and native-IP IFIT measurement. Currently, CloudEngine S6780-H series switches support native-IP IFIT measurement only. By providing in-band measurement capabilities, CloudEngine S6780-H series switches can monitor indicators such as the delay and packet loss rate of service flows in real time. CloudEngine S6780-H series switches also offer visualized O&M capabilities to centrally manage and control networks and graphically display performance data. Designed with IFIT capabilities featuring high measurement precision and easy deployment, CloudEngine S6780-H series switches are ideal for constructing an intelligent O&M system and stand out with future-proof scalability.

Flexible Ethernet Networking

- In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the CloudEngine S6780-H series switches support Huawei-developed Smart Ethernet Protection (SEP) technology and the latest Ethernet Ring Protection Switching (ERPS) standard. SEP is a ring protection protocol specific to the Ethernet link layer, and applies to various ring network topologies, such as open ring topology, closed ring topology, and cascading ring topology. This protocol is reliable, easy to maintain, and implements fast service switching within 50 ms. ERPS is defined in ITU-T G.8032. It implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.
- CloudEngine S6780-H series switches support Smart Link and Virtual Router Redundancy Protocol (VRRP), which implement backup of uplinks. One CloudEngine S6780-H series switch can connect to multiple core switches through multiple links, significantly improving reliability of aggregation devices.

Mature IPv6 Features

- The CloudEngine S6780-H series swithes are developed based on the mature, stable VRP and supports IPv4/IPv6 dual stacks, IPv6 routing protocols (RIPng, OSPFv3, BGP4+, and IS-IS for IPv6). With these IPv6 features, the CloudEngine S6780-H 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 S6780-H series switches support the iStack function that 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 a stack's ports, bandwidth, and processing capability by simply adding member switches. iStack also simplifies device configuration and management. After a stack is set up, multiple physical switches can be virtualized into one logical device. You can log in to any member switch in the stack to manage all the member switches in it.

Cloud-based 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.

VXLAN Features

- VXLAN is used to construct a Unified Virtual Fabric (UVF). As such, multiple service networks or tenant networks can be deployed on the same physical network, and service and tenant networks are 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 the network construction costs, and improving network resource utilization.
- This series switches are VXLAN-capable and allow centralized and distributed VXLAN gateway deployment modes. These switches also support the BGP EVPN protocol for dynamically establishing VXLAN tunnels and can be configured using NETCONF/YANG.

Link Layer Security

- Huawei switches support post-quantum cryptography (PQC) algorithms and encryption capabilities within transport security protocols, effectively defending against decryption threats posed by quantum computing to deliver future-proof quantum-resistant security for network infrastructure.
- CloudEngine S6780-H models support MACsec. MACsec protects transmitted Ethernet data frames through identity authentication, data encryption, integrity check, and anti-replay protection, reducing the risks of information leakage and malicious network attacks. With MACsec, these switch models are able to address strict information security requirements of customers in industries such as government and finance.

Open Programmability System(OPS)

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

Intelligent O&M

- This series switches provides telemetry technology to collect device data in real time and send the data to Huawei campus network analyzer(iMaster NCE-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

- Switches support the intelligent upgrade feature. Specifically, switches obtain the version upgrade path and download 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.

Product Specifications

The following table describes the functions and features available on the CloudEngine S6780-H series switches.

Functions and Features

Category	Service Feature
MAC address table	Automatic MAC address learning, synchronization, and aging
	Static MAC address and dynamic MAC address management
	Static, dynamic, and blackhole MAC address entries
	Packet filtering based on source MAC addresses
	MAC address learning limiting based on ports
VLAN	Support for 4K VLANs simultaneously
	Voice VLAN
	MUX VLAN
	Super-VLAN and sub-VLAN
	VLAN stacking and VLAN mapping
	LNP, VCMP, and GVRP
	Basic QinQ and selective QinQ
Layer 2 ring network protocol	Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protective switchover
	ERPS (G.8032) support, enabling less than 50 ms switchover upon a fault
	STP (IEEE 802.1d), RSTP (IEEE 802.1w), MSTP (IEEE 802.1s), and VBST
	BPDU protection, root protection, and loop protection
	BPDU tunnel
	SEP
Detection protocol	LBDT, L2PT, and DLDP
	Smart Link and Monitor Link
	802.1ag, 802.3ah, and Y.1731
Multicast	PIM DM, PIM SM, and PIM SSM
	IGMP v1/v2/v3, IGMP v1/v2/v3 snooping, and MLD snooping
	IPv4/IPv6 multicast routing and multicast load balancing
	Multicast VPN
	IP multicast over VXLAN, including Layer 2/Layer 3 multicast over VXLAN
	Multicast traffic statistics on a per-port basis
	Multicast VLAN and static multicast MAC
IP services	Dual-stack IPv4 and IPv6
	ARP
	Neighbor discovery (ND)
	DNS, mDNS
	DHCPv4 client, DHCPv4 relay, DHCPv4 server, and DHCPv4 snooping

	DHCPv6 client, DHCPv6 relay, DHCPv6 server, and DHCPv6 snooping
	URPF
	6to4 Tunnel、6over4 Tunnel、4over6 Tunnel、6PE
	IPv4/v6 ping, tracert, and telnet
IP routing	Static route, routing policy, and policy-based routing
	RIPv1/v2, RIPng, OSPFv2, OSPFv3, IS-IS, ISISv6, BGP, and BGP4+
MPLS	MPLS LDP
	MPLS TE
	MPLS QoS
VPN	MPLS L2VPN (VPLS/VPWS) and MPLS L3VPN
	MPLS BGP VPN
	GRE
Segment routing	SRv6 BE (L3 EVPN)
	BGP EVPN
	SRv6 configuration through NETCONF
VXLAN	VXLAN distributed gateway and centralized gateway modes
	BGP EVPN
	VXLAN Layer 2 forwarding
	VXLAN Layer 3 forwarding
	VXLAN configuration through NETCONF and SDN-based automated wired network deployment
	VXLAN over IPv6 (static)
	VXLAN-Routing, VXLAN-Bridge, VXLAN-Tunnel, and VXLAN-Access
Reliability	LACP
	M-LAG
	VRRP
	BFD
	LLDP
	1588v2
User access and authentication	Multiple authentication modes, including AAA, RADIUS, RADIUS over DTLS, and HWTACACS
	Policy association
	Endpoint identification and unauthorized access prevention
	NAC Authentication in an M-LAG Scenario
	Free mobility
	802.1X, MAC address, and Portal authentication

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
	SP, DRR, WDRR, SP+DRR, and SP+WDRR queue scheduling algorithms
	WRED
	Marking of 802.1p and DSCP priorities of packets
	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 source port number/destination port number, protocol type, and VLAN ID
	Rate limiting in each queue and traffic shaping on ports
	VLAN slicing
Security features	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
	ARP security features including ARP snooping, ND snooping, ARP conflict detection, Dynamic ARP Inspection (DAI), and Egress ARP Inspection (EAI).
	Blackhole MAC addresses
	Unknown unicast, unknown multicast, and broadcast storm control on a per-port basis
	IEEE 802.1X authentication, with per-port maximum user limits
	IP Source Guard (IPSG)
	Public Key Infrastructure (PKI)
	SSH v2.0
	HTTPS
	MACsec
	CPU attack defense, CPU protection
	Blacklist and whitelist mechanisms
	Host Intrusion Prevention System (HIPS) and Federal Information Processing Standard (FIPS)
	Source Address Validation Improvement (SAVI)
Network management and monitoring	iStack and fast stack upgrade, Up to 9 switches in a stack
	SNMPv1/v2c/v3
	NETCONF/YANG-based cloud management
	Management via the eSight or web system
	RMON

	iPCA, Netstream, sFlow, NQA, and Telemetry
	Port mirroring, traffic mirroring, RSPAN, and ERSPAN
	Packet loss visibility
	Application identification
	iFlow-based full-flow quality degradation analysis
	USB-based deployment, deployment through the registration query center, and SZTP
	RESTCONF, gRPC, and EVA
Network maintenance	Telnet for remote configuration and maintenance
	Ping and traceroute
	Virtual Cable Test (VCT)
	FTP, SFTP, and TFTP file management
	Time management
	CPU and memory resource monitoring
	System logs and hierarchical alarms
	Hot patching
	User operation logs
	IEEE 802.3az Energy-Efficient Ethernet (EEE)
	Configuration rollback
	Webmaster-based management
Wireless management (integrated WAC): Basic WLAN services	Hot backup for devices with integrated WAC functionality in cluster mode
	2.4 GHz & 5 GHz load balancing
	5 GHz-prior access
Wireless management (integrated WAC): AP management	Up to 1K APs managed
	IPv4 network between an AP and a WAC
	AP blacklist
	AP whitelist
	Setting of the AP access control mode
	AP configuration and management
	AP LLDP topology awareness
Wireless management (integrated WAC): Wireless user management	User roaming within a WAC
	AP-based user location
	802.1X authentication
	MAC address authentication
	Portal authentication
Wireless management (integrated	Direct forwarding over Layer 2/Layer 3 networks

WAC): CAPWAP	Tunnel forwarding over Layer 2/Layer 3 networks
	CAPWAP tunnel encryption
Wireless management (integrated WAC): RF management	802.11a/b/g/n
	802.11ac wave1/wave2
	802.11ax
	802.11be
	Sets RF interference monitoring and avoidance
	Detects co-channel interference, adjacent-channel interference, and interference from other devices and STAs
	Automatically selects channels and power when APs go online
	Dynamically optimizes power and channels
Wireless management (integrated WAC): WLAN QoS	Rate limiting of upstream and downstream traffic on the air interface based on the VAP
	Rate limiting of upstream and downstream traffic on the air interface based on users
	CAR for WLAN users
Interoperability	VBST (compatible with PVST/PVST+/RPVST)

NOTE

This content is applicable only to regions outside mainland China. Huawei reserves the right to interpret this content.

Hardware Specifications

The following table lists hardware specifications of the CloudEngine S6780-H series 100GE switches.

Item		CloudEngine S6780-H4Z
Physical specifications	Chassis dimensions (H x W x D, mm)	88.1 mm x 442.0 mm x 600.0 mm (3.47 in. x 17.40 in. x 23.62 in.)
	Chassis height	2U
	Chassis weight (full configuration weight, including weight of packaging materials)	21.3 kg (46.96 lb), including two power filler panels, without power modules, cards, and card filler panels 24.02 kg (52.95 lb), including four card filler panels and two power filler panels, without power modules and cards
Management port	ETH management port	Supported
	Console port (RJ45)	Supported
	USB port	USB 2.0
CPU	Frequency	2 GHz
	Cores	16
Memory	Memory (RAM)	8GB
	Flash	Physical space: 4GB
Power supply system	Power supply type	• 1200 W AC (pluggable) • 1200 W DC (pluggable)

Item		CloudEngine S6780-H4Z
		• 2000 W AC (pluggable) • 2200 W DC (pluggable)
	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
	Maximum voltage range	• AC input: 90 V AC to 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
	Maximum input current	The current specifications are related to the pluggable power module. For details, see Pluggable Power Modules.
	Typical power consumption	Configured with four XSIC-C16H000 cards: 940 W Configured with four XSIC-L16Q000 cards: 724 W Configured with four XSIC-C10H000 cards: 508 W Configured with four XSIC-D12B000 cards: 621 W Configured with four XSIC-Y26B000 cards: 423 W Configured with four XSIC-X26B000 cards: 366 W Configured with four XSIC-M26B000 cards: 560 W
	Maximum power consumption	Configured with four XSIC-C16H000 cards: - 1306 W (two 2000 W AC power modules, 220 V input) Configured with four XSIC-L16Q000 cards: - 1138 W (two 1200 W AC power modules, 110 V input) Configured with four XSIC-C10H000 cards: - 832 W (two 1200 W AC power modules, 110 V input) Configured with four XSIC-D12B000 cards: - 1078 W (two 1200 W AC power modules, 110 V input) Configured with four XSIC-Y26B000 cards: - 796 W (two 1200 W AC power modules, 110 V input) Configured with four XSIC-X26B000 cards: - 788 W (two 1200 W AC power modules, 110 V input) Configured with four XSIC-M26B000 cards: - 1023 W (two 1200 W AC power modules, 110 V input)
	Static power consumption [W]	Configured with four XSIC-C16H000 cards: 593 W Configured with four XSIC-L16Q000 cards: 539 W Configured with four XSIC-C10H000 cards: 295 W Configured with four XSIC-D12B000 cards: 299 W Configured with four XSIC-Y26B000 cards: 259 W Configured with four XSIC-X26B000 cards: 259 W Configured with four XSIC-M26B000 cards: 363 W
Heat dissipation system	Heat dissipation mode	Air cooling for heat dissipation, intelligent fan speed adjustment
	Number of fan modules	3
	Airflow direction	Air intake from front, air exhaustion from rear (front-to-

Item		CloudEngine S6780-H4Z
		rear)
Environment parameters	Long-term operating temperature	–5°C to +45°C (23°F to 113°F) at an altitude of 0 to 1800 m (0 to 5906 ft.) The operating temperature ranges from –5°C to +40°C (23°F to 104°F) when QSFP-DD-400G-LR8 optical modules are used.
	Storage temperature	–40°C to +70°C (–40°F to +158°F)
	Long-term operating relative humidity [RH]	5% to 95%, non-condensing
	Operating altitude	0-5000 m
	Noise at normal temperature (acoustic power) [dB(A)]	86.1 dB(A)
	Noise at normal temperature (acoustic pressure) [dB(A)]	74.1 dB(A)
	Surge protection specification (power port)	• Configured with AC power modules: ±6 kV in differential mode and ±6 kV in common mode • Configured with DC power modules: ±2 kV in differential mode and ±4 kV in common mode
Reliability	MTBF (year)[2]	48.4
	MTTR (hour)	2
	Availability	> 0.99999
Certification		• EMC certification • Safety certification • Manufacturing certification **NOTE** For details about certifications, see the section Safety and Regulatory Compliance.

NOTE

1: The power consumption under different load conditions is calculated according to the ATIS standard. Additionally.

2: The reliability parameter values are calculated based on the typical configuration of the device. The parameter values vary according to the modules configured by the customer.

Performance Specification

Entries	S6780-H series switches
Number of dynamic MAC address entries	Up to 512K
Number of static MAC address entries	1024
Maximum number of VLANs	4094
Number of VLANIF interfaces	4094
IPv4 routing entries	Up to 2048000
IPv6 routing entries	Up to1024000

Entries	S6780-H series switches
Number of ARP entries	Up to 140K
Number of ND entries	Up to 128K
ACL scale entries	34K@160 bits or 17K@320b (inbound direction) + 2K@320 bits (outbound direction) The maximum number of VLAN ACLs is 1.5K@320 bits (K = 1024).
IPv4/IPv6 multicast L2 entries	32K/16K
IPv4/IPv6 multicast L3 entries	32K/16K
Device buffer (byte)	72MB
Jumbo frames	9500(Max)

Licensing

Licensing

This series switches 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.

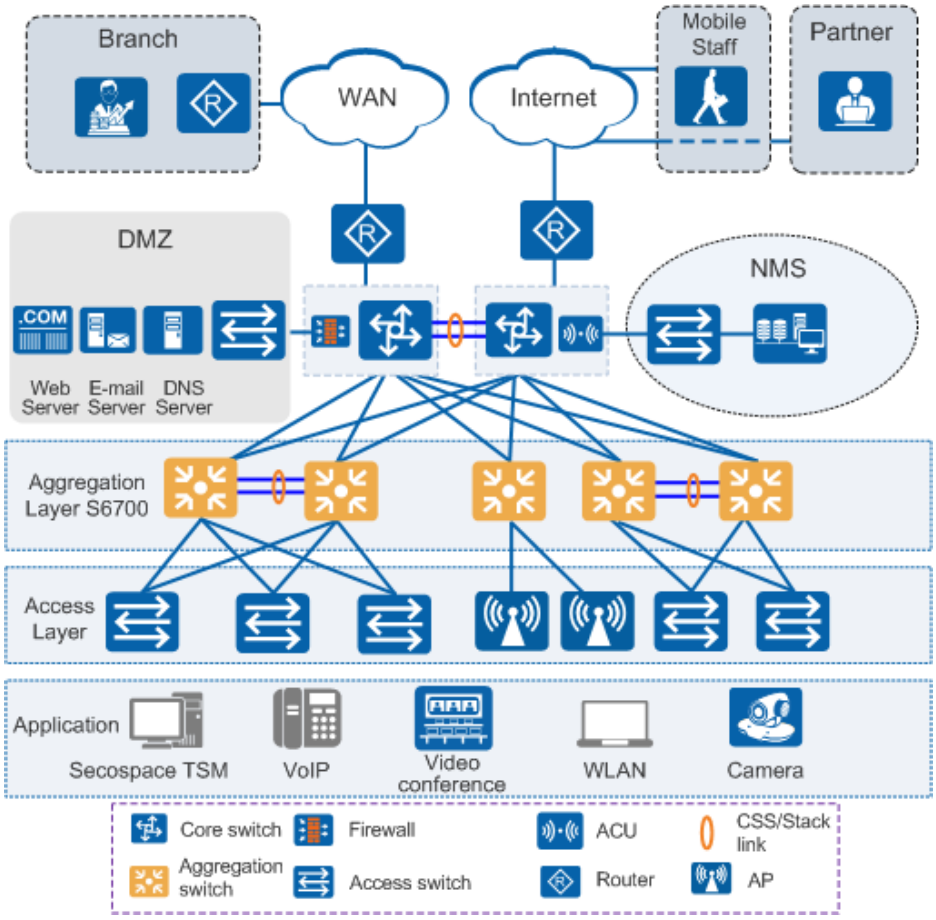
Software Package Features in N1 Mode

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: • NE management: Device management, topology management and discovery • User access authentication	×	√	√
Automation and intelligent O&M: Basic functions for intelligent network analysis of CampusInsight.	×	√	√
Advanced network automation and intelligent O&M: VXLAN, free mobility, Endpoint plug&play of iMaster NCE-Campus and Application analysis function of CampusInsight.	×	×	√

Networking and Applications

Large-scale Enterprise Campus Network

CloudEngine S6780-H series 100GE switches can be deployed at the aggregation layer of a large-scale enterprise campus network, creating a highly reliable, scalable, and manageable enterprise campus network.



Product Accessories

Optical Modules and Fibers

40GE/100GE QSFP28 ports support optical modules and cables

- QSFP+ optical module
- QSFP28 optical module
- 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables
- 10 m QSFP+ to QSFP+ AOC cable
- 1 m QSFP28 to QSFP28 high-speed copper cable
- 10 m QSFP28 to QSFP28 AOC cable

Stack Cables

CloudEngine S6780-H series switches support service port stacking. The applicable stack cables are as follows:

Port Supporting Stacking	Stack Cable	Rate of a Single Port
100GE QSFP28 Ethernet optical port	• All QSFP+ optical modules supported by the device and the matching optical fibers • 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed cables • 10 m QSFP+ to QSFP+ AOC cable (Note: The preceding cables can be used only after the port rate decreases.)	40 Gbit/s
	• All QSFP28 optical modules supported by the	100 Gbit/

Port Supporting Stacking	Stack Cable	Rate of a Single Port
	device and the matching optical fibers • 1 m and 3 m QSFP28 to QSFP28 high-speed cables • 10 m QSFP28 to QSFP28 AOC cable • 2 m QSFP28 dedicated stack cable (zero-configuration stacking supported from V600R023C00)	

Safety and Regulatory Compliance

The following table lists the safety and regulatory compliance of the CloudEngine S6780-H series 100GE switches.

Certification Category	Description
Safety	• IEC 60950-1 and all country deviations • EN 60950-1 • UL 60950-1 • CAN/CSA 22.2 No.60950-1 • GB 4943
Electromagnetic Compatibility (EMC)	• EMI • FCC CFR47 Part 15 Class A • EN55022 Class A • CISPR 22 Class A • EN61000-3-2/IEC-1000-3-2, Power line harmonics • EN61000-4-3/IEC-1000-4-3, Radiated immunity • EN61000-4-2/IEC-1000-4-2, ESD • EN61000-4-4/IEC-1000-4-4, EFT • EN61000-4-5/IEC-1000-4-5, Surge Signal Port • EN61000-4-6/IEC-1000-4-6, Low frequency conducted immunity • EN61000-4-11/IEC-1000-4-11, Voltage dips and sags • EN61000-4-29/IEC61000-4-29, Voltage dips and sags • EMC Directive 89/336/EEC • EMC Directive 2004/108/EC • VCCI V-3 Class A • ICES-003 Class A • AS/NZS CISPR 22 Class A • CNS 13438 Class A • GB9254 Class A

NOTE

- EMC: electromagnetic compatibility
- CISPR: International Special Committee on Radio Interference
- EN: European Standard
- ETSI: European Telecommunications Standards Institute
- CFR: Code of Federal Regulations
- FCC: Federal Communication Commission

- IEC: International Electrotechnical Commission
- AS/NZS: Australian/New Zealand Standard
- VCCI: Voluntary Control Council for Interference
- UL: Underwriters Laboratories
- CSA: Canadian Standards Association
- IEEE: Institute of Electrical and Electronics Engineers

MIB and Standards Compliance

Supported MIBs

Category	MIB
Public MIB	• BRIDGE-MIB • DISMAN-NSLOOKUP-MIB • DISMAN-PING-MIB • DISMAN-TRACEROUTE-MIB • ENTITY-MIB • EtherLike-MIB • IF-MIB • IP-FORWARD-MIB • IPv6-MIB • LAG-MIB • LLDP-EXT-DOT1-MIB • LLDP-EXT-DOT3-MIB • LLDP-MIB • NOTIFICATION-LOG-MIB • NQA-MIB • OSPF-TRAP-MIB • P-BRIDGE-MIB • Q-BRIDGE-MIB • RFC1213-MIB • RIPv2-MIB • RMON2-MIB • RMON-MIB • SAVI-MIB • SNMP-FRAMEWORK-MIB • SNMP-MPD-MIB • SNMP-NOTIFICATION-MIB • SNMP-TARGET-MIB • SNMP-USER-BASED-SM-MIB • SNMPv2-MIB • TCP-MIB • UDP-MIB
Huawei-proprietary MIB	• HUAWEI-AAA-MIB • HUAWEI-ACL-MIB • HUAWEI-ALARM-MIB

Category	MIB
	• HUAWEI-ALARM-RELIABILITY-MIB • HUAWEI-BASE-TRAP-MIB • HUAWEI-BRAS-RADIUS-MIB • HUAWEI-BRAS-SRVCFG-EAP-MIB • HUAWEI-BRAS-SRVCFG-STATICUSER-MIB • HUAWEI-CBQOS-MIB • HUAWEI-CDP-COMPLIANCE-MIB • HUAWEI-CONFIG-MAN-MIB • HUAWEI-CPU-MIB • HUAWEI-DAD-TRAP-MIB • HUAWEI-DC-MIB • HUAWEI-DATASYNC-MIB • HUAWEI-DEVICE-MIB • HUAWEI-DHCPR-MIB • HUAWEI-DHCPS-MIB • HUAWEI-DHCP-SNOOPING-MIB • HUAWEI-DIE-MIB • HUAWEI-DNS-MIB • HUAWEI-DLDP-MIB • HUAWEI-ELMI-MIB • HUAWEI-ERPS-MIB • HUAWEI-ERRORDOWN-MIB • HUAWEI-ENERGYMNGT-MIB • HUAWEI-EASY-OPERATION-MIB • HUAWEI-ENTITY-EXTENT-MIB • HUAWEI-ENTITY-TRAP-MIB • HUAWEI-ETHARP-MIB • HUAWEI-ETHOAM-MIB • HUAWEI-FLASH-MAN-MIB • HUAWEI-FWD-RES-TRAP-MIB • HUAWEI-GARP-APP-MIB • HUAWEI-GTSM-MIB • HUAWEI-HGMP-MIB • HUAWEI-HWTACACS-MIB • HUAWEI-IF-EXT-MIB • HUAWEI-INFOCENTER-MIB • HUAWEI-IPPOOL-MIB • HUAWEI-IPV6-MIB • HUAWEI-ISOLATE-MIB • HUAWEI-L2IF-MIB • HUAWEI-L2MAM-MIB • HUAWEI-L2VLAN-MIB • HUAWEI_LDT-MIB • HUAWEI-LLDP-MIB • HUAWEI-MAC-AUTHEN-MIB

Category	MIB
	• HUAWEI-MEMORY-MIB • HUAWEI-MFF-MIB • HUAWEI-MFLP-MIB • HUAWEI-MSTP-MIB • HUAWEI-MULTICAST-MIB • HUAWEI-NAP-MIB • HUAWEI-NTPV3-MIB • HUAWEI-PERFORMANCE-MIB • HUAWEI-PORT-MIB • HUAWEI-PORTAL-MIB • HUAWEI-QINQ-MIB • HUAWEI-RIPv2-EXT-MIB • HUAWEI-RM-EXT-MIB • HUAWEI-RRPP-MIB • HUAWEI-SECURITY-MIB • HUAWEI-SEP-MIB • HUAWEI-SNMP-EXT-MIB • HUAWEI-SSH-MIB • HUAWEI-STACK-MIB • HUAWEI-SWITCH-L2MAM-EXT-MIB • HUAWEI-SWITCH-SRV-TRAP-MIB • HUAWEI-SYS-MAN-MIB • HUAWEI-TCP-MIB • HUAWEI-TFTPC-MIB • HUAWEI-TRNG-MIB • HUAWEI-XQOS-MIB

NOTE

For more information about MIBs supported by CloudEngine S6780-H series 100GE switches, visit: https://support.huawei.com/enterprise/en/switches/s6700-pid-6691593?category=reference-guides

Standards Compliance

The following table lists the standards that CloudEngine S6780-H series 100GE switches comply with.

Standard Organization	Standard or Protocol
IETF	• RFC 768 User Datagram Protocol (UDP) • RFC 792 Internet Control Message Protocol (ICMP) • RFC 793 Transmission Control Protocol (TCP) • RFC 826 Ethernet Address Resolution Protocol (ARP) • RFC 854 Telnet Protocol Specification • RFC 951 Bootstrap Protocol (BOOTP) • RFC 959 File Transfer Protocol (FTP) • RFC 1058 Routing Information Protocol (RIP) • RFC 1112 Host extensions for IP multicasting • RFC 1157 A Simple Network Management Protocol (SNMP)

Standard Organization	Standard or Protocol
	• RFC 1256 ICMP Router Discovery • RFC 1305 Network Time Protocol Version 3 (NTP) • RFC 1349 Internet Protocol (IP) • RFC 1493 Definitions of Managed Objects for Bridges • RFC 1542 Clarifications and Extensions for the Bootstrap Protocol • RFC 1643 Ethernet Interface MIB • RFC 1757 Remote Network Monitoring (RMON) • RFC 1901 Introduction to Community-based SNMPv2 • RFC 1902-1907 SNMP v2 • RFC 1981 Path MTU Discovery for IP version 6 • RFC 2131 Dynamic Host Configuration Protocol (DHCP) • RFC 2328 OSPF Version 2 • RFC 2453 RIP Version 2 • RFC 2460 Internet Protocol, Version 6 Specification (IPv6) • RFC 2461 Neighbor Discovery for IP Version 6 (IPv6) • RFC 2462 IPv6 Stateless Address Auto configuration • RFC 2463 Internet Control Message Protocol for IPv6 (ICMPv6) • RFC 2474 Differentiated Services Field (DS Field) • RFC 2475 An Architecture for Differentiated Services • RFC 2740 OSPF for IPv6 (OSPFv3) • RFC 2863 The Interfaces Group MIB • RFC 2597 Assured Forwarding PHB Group • RFC 2598 An Expedited Forwarding PHB • RFC 2571 SNMP Management Frameworks • RFC 2865 Remote Authentication Dial In User Service (RADIUS) • RFC 3046 DHCP Option82/Relay • RFC 3376 Internet Group Management Protocol, Version 3 (IGMPv3) • RFC 3513 IP Version 6 Addressing Architecture • RFC 3579 RADIUS Support For EAP • RFC 4271 A Border Gateway Protocol 4 (BGP-4) • RFC 4760 Multiprotocol Extensions for BGP-4 • draft-grant-tacacs-02 TACACS+ • RFC5340 OSPF for IPv6 • RFC 5798 Virtual Router Redundancy Protocol (VRRP) Version 3 for IPv4 and IPv6 • RFC 6241 Network Configuration Protocol (NETCONF) • RFC 6020 YANG - A Data Modeling Language for the Network Configuration Protocol (NETCONF) • RFC 7348 Virtual eXtensible Local Area Network (VXLAN): A Framework for Overlaying Virtualized Layer 2 Networks over Layer 3 Networks • RFC 8365 A Network Virtualization Overlay Solution Using Ethernet VPN (EVPN)
IEEE	• IEEE 802.1D Media Access Control (MAC) Bridges • IEEE 802.1p Traffic Class Expediting and Dynamic Multicast Filtering • IEEE 802.1Q Virtual Bridged Local Area Networks • IEEE 802.1ad Provider Bridges

Standard Organization	Standard or Protocol
	• IEEE 802.2 Logical Link Control • IEEE Std 802.3 CSMA/CD • IEEE Std 802.3ab 1000BASE-T specification • IEEE Std 802.3ad Aggregation of Multiple Link Segments • IEEE Std 802.3ae 10GE WEN/LAN Standard • IEEE Std 802.3x Full Duplex and flow control • IEEE Std 802.3z Gigabit Ethernet Standard • IEEE 802.1ax/IEEE802.3ad Link Aggregation • IEEE 802.3ah Ethernet in the First Mile. • IEEE 802.1ag Connectivity Fault Management • IEEE 802.1ab Link Layer Discovery Protocol • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1w Rapid Spanning Tree Protocol • IEEE 802.1s Multiple Spanning Tree Protocol • IEEE 802.1x Port based network access control protocol • IEEE 802.3az Automatic power adjustment on Ethernet interfaces • IEEE 802.3ad Port Trunk, LACP
ITU	• ITU SG13 Y.17ethoam • ITU SG13 QoS control Ethernet-Based IP Access • ITU-T Y.1731 ETH OAM performance monitor
ISO	• ISO 10589 IS-IS Routing Protocol
MEF	• MEF 2 Requirements and Framework for Ethernet Service Protection • MEF 9 Abstract Test Suite for Ethernet Services at the UNI • MEF 10.2 Ethernet Services Attributes Phase 2 • MEF 11 UNI Requirements and Framework • MEF 13 UNI Type 1 Implementation Agreement • MEF 15 Requirements for Management of Metro Ethernet Phase 1 Network Elements • MEF 17 Service OAM Framework and Requirements • MEF 20 UNI Type 2 Implementation Agreement • MEF 23 Class of Service Phase 1 Implementation Agreement • Xmodem XMODEM/YMODEM Protocol Reference

NOTE

The listed standards and protocols are fully or partially supported by Huawei switches. For details, visit http://e.huawei.com/en or contact your local Huawei sales office.

Ordering Information

The following table lists ordering information of CloudEngine S6780-H series 100GE switches.

Model	Product Description
CloudEngine S6780-H4Z	S6780-H4Z mainframe (4*subcard slots, without power module)

Model	Product Description
PAC1K2S12-PB	1200W AC power module
PDC1K2S12-CE	1200W DC power module
PAC2KS12-PB	2000W AC power module
PDC2K2S12-PB	2200W DC power module
FAN-180E-B	Fan Box (B, Fan Panel Side Exhaust)

100GE interface card		Version
XSIC-C16H000	XSIC-C16H000 (Interface card with 16*100GE QSFP28 ports)	V600R24C00 or later versions
XSIC-C10H000	XSIC-C10H000 (Interface card with 10*100GE QSFP28 ports)	V600R24C00 or later versions

40GE interface card		Version
XSIC-L16Q000	XSIC-L16Q000 (Interface card with 16*40GE QSFP ports)	V600R24C00 or later versions

25GE interface card		Version
XSIC-D12B000	XSIC-D12B000 (Interface card with 8*25GE SFP28 ports and 4*400GE QSFP-DD ports)	V600R24C00 or later versions
XSIC-Y26B000	XSIC-Y26B000 (Interface card with 24*25GE SFP28 ports and 2*100GE QSFP28 ports)	V600R24C00 or later versions

10GE Optical interface card		Version
XSIC-X26B000	XSIC-X26B000 (Interface card with 24*10GE SFP+ ports and 2*100GE QSFP28 ports)	V600R24C00 or later versions

10GE Electrical interface card		Version
XSIC-M26B000	XSIC-M26B000 (Interface card with 24*1000M/10GBASE-T ports and 2*100GE QSFP28 ports)	V600R24C10 or later versions

License	Product Description
L-MLIC-S67H	S67XX-H Series Basic SW,Per Device
N1-S67H-F-Lic	N1-CloudCampus,Foundation,S67XX-H Series,Per Device
N1-S67H-F-SnS	N1-CloudCampus,Foundation,S67XX-H Series,SnS,Per Device

License	Product Description
N1-S67H-A-Lic	N1-CloudCampus,Advanced,S67XX-H Series,Per Device
N1-S67H-A-SnS	N1-CloudCampus,Advanced,S67XX-H Series,SnS,Per Device
N1-S67H-FToA-Lic	N1-Upgrade-Foundation to Advanced,S67XX-H,Per Device
N1-S67H-FToA-SnS	N1-Upgrade-Foundation to Advanced,S67XX-H,SnS,Per Device
N1-AM-30-Lic	N1-CloudCampus, Add-On Package, Access Management, Per 30 Endpoints
N1-AM-30-SnS1Y	N1-CloudCampus, Add-On Package, Access Management, Software Subscription and Support, Per 30 Endpoints, 1 Year
N1-EPNP-30-Lic	N1-CloudCampus, Add-On Package, Endpoints Plug and Play, Per 30 Endpoints
N1-EPNP-30-SnS1Y	N1-CloudCampus, Add-On Package, Endpoints Plug and Play, Software Subscription and Support, Per 30 Endpoints, 1 Year
N1-APP-X7FSwitch	N1-CloudCampus, Add-On Package, Intelligent Application Analysis, X7 Series Fixed Switch, Per Device
N1-APP-X7FSwitch-SnS1Y	N1-CloudCampus, Add-On Package, Intelligent Application Analysis, X7 Series Fixed Switch, Software Subscription and Support, Per Device, 1 Year
N1-S67H-A-NVXLAN-Lic	N1-CloudCampus,Advanced non-vxlan,S67XX-H Series,Per Device
N1-S67H-A-NVXLAN-SnS1Y	N1-CloudCampus,Advanced non-vxlan,S67XX-H Series,SnS,Per Device,1 Year
N1-S67H-F2A-NVXLAN-Lic	N1-Upgrade-Foundation to Advanced non-vxlan,S67XX-H,Per Device
N1-S67H-F2A-NVXLAN-SnS1Y	N1-Upgrade-Foundation to Advanced non-vxlan,S67XX-H,SnS,Per Device,1 Year

More Information

For more information about the 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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