Huawei CloudEngine S3710-H Series Switches Brochure

Huawei CloudEngine S3710-H series are simplified gigabit Ethernet switches that provide 24/48 x GE downlink ports, 4 x GE uplink ports.

Product Overview

CloudEngine S3710-H series switches are ideal for scenarios such as enterprise campus network access and gigabit to the desktop. Built on next-generation, high-performance hardware and software platform, CloudEngine S3710-H switches stand out with compelling features such as flexible Ethernet networking, and diversified security control.

Models and Appearances

The following models are available in the CloudEngine S3710-H series.

Models and appearances of the CloudEngine S3710-H series

Models and Appearances	Description
CloudEngine S3710-H24P4S-A	24 x 10/100/1000Base-T ports, 4 x GE SFP ports - PoE+ - Built-in AC - Forwarding performance: 42 Mpps - Switching capacity: 56 Gbps/520 Gbps*
CloudEngine S3710-H24T4S-A	24 x 10/100/1000Base-T ports, 4 x GE SFP ports - Built-in AC - Forwarding performance: 42 Mpps - Switching capacity: 56 Gbps/520 Gbps*
CloudEngine S3710-H48LP4S-A	48 x 10/100/1000Base-T ports, 4 x GE SFP ports - Built-in AC - PoE+ - Forwarding performance: 78 Mpps - Switching capacity: 104 Gbps/520 Gbps*
CloudEngine S3710-H48T4S-A	48 x 10/100/1000Base-T ports, 4 x GE SFP ports - Built-in AC - Forwarding performance: 78 Mpps - Switching capacity: 104 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

Flexible Ethernet Networking

● In addition to supporting traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), CloudEngine S3710-H is also designed with the industry's latest Ethernet Ring Protection Switching (ERPS) technology. ERPS is defined in ITU-T G.8032, and it implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.

● CloudEngine S3710-H supports Smart Link, which implements backup of uplinks. One CloudEngine S3710-H switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

Diversified Security Control

● CloudEngine S3710-H supports 802.1X authentication, MAC address authentication, and hybrid authentication on a per port basis, and implements dynamic policy delivery (VLAN, QoS, and ACL) to users.

● CloudEngine S3710-H 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 S3710-H 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 S3710-H supports strict ARP learning. This feature prevents ARP spoofing attackers from exhausting ARP entries so that users can connect to the Internet normally.

Easy Operation and Maintenance

● CloudEngine S3710-H 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 Easy Operation solution facilitates device deployment, upgrade, service provisioning, and other management and maintenance operations, and also greatly reduces O&M costs. CloudEngine S3710-H can be managed and maintained using Simple Network Management Protocol (SNMP) V1, V2, and V3, Command Line Interface (CLI), web-based network management system, or Secure Shell (SSH) V2.0. Additionally, it supports remote network monitoring (RMON), multiple log hosts, port traffic statistics collection, and network quality analysis, paving the way for network optimization and reconstruction.

● CloudEngine S3710-H supports MUX VLAN, which involves a principal VLAN and multiple subordinate VLANs. Subordinate VLANs are classified into group VLANs and separate VLANs. Ports in the principal VLAN can communicate with ports in subordinate VLANs. Ports in a subordinate group VLAN can communicate with each other, whereas ports in a subordinate separate VLAN cannot communicate with each other. CloudEngine S3710-H also supports VLAN-Based Spanning Tree (VBST) protocol.

Note:Only those switches with USB ports can USB-based deployment.

PoE Function

● **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 S3710-H 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 S3710-H supports the intelligent upgrade feature. Specifically, CloudEngine S3710-H 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

- CloudEngine S3710-H 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 S3710-H switch through Python scripts to quickly innovate functions and implement intelligent O&M.

Licensing

CloudEngine S3710-H 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 S3710-H24P4S-A	CloudEngine S3710-H24T4S-A	CloudEngine S3710-H48LP4S-A	CloudEngine S3710-H48T4S-A
Fixed port	24 x 10/100/1000BASE-T	24 x 10/100/1000BASE-T	48 x 10/100/1000BASE-T	48 x 10/100/1000BASE-T ports, 4 x GE SFP

Item	CloudEngine S3710-H24P4S-A	CloudEngine S3710-H24T4S-A	CloudEngine S3710-H48LP4S-A	CloudEngine S3710-H48T4S-A
	ports(PoE+), 4 x GE SFP ports	ports, 4 x GE SFP ports	ports(PoE+), 4 x GE SFP ports	ports
Dimensions (H x W x D)	43.6 mm x 442 mm x 220 mm	43.6 mm x 442 mm x 220 mm	43.6 mm x 442 mm x 220 mm	43.6 mm x 442 mm x 220 mm
Chassis height	1 U	1 U	1 U	1 U
Chassis weight (including packaging)	6.76 kg	5.87 kg	7.57 kg	6.39 kg
Power supply type	Built-in AC power	Built-in AC power	Built-in AC power	Built-in AC power
Rated input voltage	100 V AC to 240 V AC, 50/60 Hz	100 V AC to 240 V AC, 50/60 Hz	100 V AC to 240 V AC, 50/60 Hz	100 V AC to 240 V AC, 50/60 Hz
Input voltage range	• AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz	• AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz	• AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz	• AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz
Maximum power consumption	• 43.6 W (without PD) • 488.6 W (with PD, PD power consumption of 400 W)	33.4 W	• 52.48 W (without PD) • 474.7 W (with PD, PD power consumption of 380 W)	43 W
Noise	• Under normal temperature (sound power): 49.3dB (A) • Under high temperature (sound power): 63dB (A) • Under normal temperature (sound pressure): 37.3dB (A)	• Under normal temperature (sound power): 47dB (A) • Under high temperature (sound power): 51dB (A) • Under normal temperature (sound pressure): 35dB (A)	• Under normal temperature (sound power): 49.3dB (A) • Under high temperature (sound power): 63dB (A) • Under normal temperature (sound pressure): 37.3dB (A)	• Under normal temperature (sound power): 46.6dB (A) • Under high temperature (sound power): 54.3dB (A) • Under normal temperature (sound pressure): 34.6dB (A)
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.	• 0-1800 m altitude: -5°C to +45°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 +45°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	-40°C to +70°C	-40°C to +70°C
Relative humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)
Surge protection specification	±7 kV in common mode	±7 kV in common mode	±6 kV in common mode	±7 kV in common mode

Item	CloudEngine S3710-H24P4S-A	CloudEngine S3710-H24T4S-A	CloudEngine S3710-H48LP4S-A	CloudEngine S3710-H48T4S-A
(service port)				
Surge protection specification (power port)	• Differential mode: ± 6 kV • Common mode: ± 6 kV	• Differential mode: ± 6 kV • Common mode: ± 6 kV	• Differential mode: ± 6 kV • Common mode: ± 6 kV	• Differential mode: ± 6 kV • Common mode: ± 6 kV
Heat dissipation	Air-cooled heat dissipation and intelligent speed adjustment	Air-cooled heat dissipation and intelligent speed adjustment	Air-cooled heat dissipation and intelligent speed adjustment	Air-cooled heat dissipation and intelligent speed adjustment
Physical security	One Kensington lock slot, can be used to lock the device to mounting bracket			

Service Features

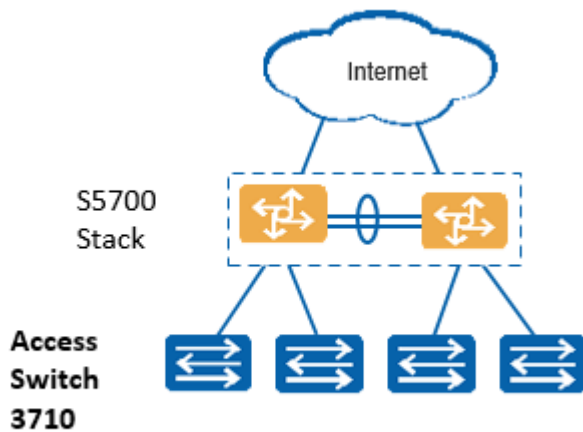| Item	Description
MAC address table	MAC address learning and aging
	10K MAC entries (MAX)
	Static, dynamic, and blackhole MAC address entries
	Packet filtering based on source MAC addresses
	Interface-based MAC learning limiting
VLAN features	4094 VLANs
	Voice VLAN
	MUX VLAN
	VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and interfaces
	VLAN Stacking
Ethernet loop protection	Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover
	ERPS (G.8032)
	STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)
	BPDU protection, root protection, and loop protection
	BPDU tunnel
Multicast	IGMPv1/v2/v3 snooping
	Multicast load balancing among member ports of a trunk
	Interface-based multicast traffic statistics
IP routing	Static route
	Up to 64 FIBv4 entries (MAX)
	Up to 64 FIBv6 entries (MAX)
IPv6 features	Up to 64 ND entries (MAX)

Item	Description
	Path MTU (PMTU)
	IPv6 ping, IPv6 tracert, and IPv6 Telnet
Reliability	LACP
	VRRP
	BFD
QoS/ACL	Rate limiting on packets sent and received by an interface
	Packet redirection
	Interface-based traffic policing and two-rate and three-color CAR
	Eight queues on each interface
	DRR, SP, and DRR+SP queue scheduling algorithms
	Re-marking of the 802.1p priority and DSCP priority
	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 interfaces
Security	Hierarchical user management and password protection
	DoS attack defense, ARP attack defense, and ICMP attack defense
	Binding of the IP address, MAC address, interface 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 an interface
	AAA authentication, RADIUS authentication, HWTACACS authentication, and NAC
	SSH V2.0
	Hypertext Transfer Protocol Secure (HTTPS)
	CPU defense
	Blacklist and whitelist
	DHCP Client, DHCP Snooping
	DHCPv6 Client, DHCPv6 Snooping
Management and maintenance	Cloud management based on Netconf/Yang
	Virtual Cable Test (VCT)
	Remote configuration and maintenance using Telnet
	SNMPv1/v2/v3
	RMON
	eSight and web-based NMS

Item	Description
	HTTPS
	LLDP/LLDP-MED
	System logs and multi-level alarms
	802.3az EEE
Interoperability	Supports VBST (Compatible with PVST/PVST+/RPVST)

Networking and Applications

Small-scale Enterprise Campus Network

CloudEngine S3710-H series switches make them suitable for use as access switches in a small-scale enterprise network. They provide a variety of access control policies to achieve centralized management and simplify configuration.

Ordering Information

Model	Product Description
CloudEngine S3710-H24P4S-A	CloudEngine S3710-H24P4S-A (24*10/100/1000BASE-T ports, 4*GE SFP ports, PoE+, AC power)
CloudEngine S3710-H24T4S-A	CloudEngine S3710-H24T4S-A (24*10/100/1000BASE-T ports, 4*GE SFP ports, AC power)
CloudEngine S3710-H48LP4S-A	CloudEngine S3710-H48LP4S-A (48*10/100/1000BASE-T ports, 4*GE SFP ports, PoE+, AC power)
CloudEngine S3710-H48T4S-A	CloudEngine S3710-H48T4S-A (48*10/100/1000BASE-T ports, 4*GE SFP ports, AC power)
L-MLIC-S37H	S37XX-H Series Basic SW,Per Device
N1-S37H-M-Lic	S37XX-H Series Basic SW,Per Device
N1-S37H-M-SnS-1Y	S37XX-H Series Basic SW,SnS,Per Device,1 Year
N1-S37H-M-SnS-3Y	S37XX-H Series Basic SW,SnS,Per Device,3 Year

Model	Product Description
N1-S37H-M-SnS-5Y	S37XX-H Series Basic SW,SnS,Per Device,5 Year
N1-S37H-M-SnS-10Y	S37XX-H Series Basic SW,SnS,Per Device,10 Year
N1-S37H-F-Lic	N1-CloudCampus,Foundation,S37XX-H Series,Per Device
N1-S37H-F-SnS-1Y	N1-CloudCampus,Foundation,S37XX-H Series,SnS,Per Device,1 Year
N1-S37H-F-SnS-3Y	N1-CloudCampus,Foundation,S37XX-H Series,SnS,Per Device,3 Year
N1-S37H-F-SnS-5Y	N1-CloudCampus,Foundation,S37XX-H Series,SnS,Per Device,5 Year
N1-S37H-F-SnS-10Y	N1-CloudCampus,Foundation,S37XX-H Series,SnS,Per Device,10 Year
N1-S37H-A-Lic	N1-CloudCampus,Advanced,S37XX-H Series,Per Device
N1-S37H-A-SnS-1Y	N1-CloudCampus,Advanced,S37XX-H Series,SnS,Per Device,1 Year
N1-S37H-A-SnS-3Y	N1-CloudCampus,Advanced,S37XX-H Series,SnS,Per Device,3 Year
N1-S37H-A-SnS-5Y	N1-CloudCampus,Advanced,S37XX-H Series,SnS,Per Device,5 Year
N1-S37H-A-SnS-10Y	N1-CloudCampus,Advanced,S37XX-H Series,SnS,Per Device,10 Year
N1-S37H-MToF-Lic	N1-Upgrade-Basic Software to Foundation,S37XX-H Series,Per Device
N1-S37H-MToF-SnS-1Y	N1-Upgrade-Basic Software to Foundation,S37XX-H Series,SnS,Per Device,1 Year
N1-S37H-MToF-SnS-3Y	N1-Upgrade-Basic Software to Foundation,S37XX-H Series,SnS,Per Device,3 Year
N1-S37H-MToF-SnS-5Y	N1-Upgrade-Basic Software to Foundation,S37XX-H Series,SnS,Per Device,5 Year
N1-S37H-MToF-SnS-10Y	N1-Upgrade-Basic Software to Foundation,S37XX-H Series,SnS,Per Device,10 Year
N1-S37H-FToA-Lic	N1-Upgrade-Foundation to Advanced,S37XX-H Series,Per Device
N1-S37H-FToA-SnS-1Y	N1-Upgrade-Foundation to Advanced,S37XX-H Series,SnS,Per Device,1 Year
N1-S37H-FToA-SnS-3Y	N1-Upgrade-Foundation to Advanced,S37XX-H Series,SnS,Per Device,3 Year
N1-S37H-FToA-SnS-5Y	N1-Upgrade-Foundation to Advanced,S37XX-H Series,SnS,Per Device,5 Year
N1-S37H-FToA-SnS-10Y	N1-Upgrade-Foundation to Advanced,S37XX-H Series,SnS,Per Device,10 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