Huawei CloudEngine S5735I-S-V2 Series Industry Switches Brochure

Huawei CloudEngine S5735I-S-V2 series industry switches are standard gigabit Ethernet switches that provide 8 x GE downlink ports and 4 x GE/10GE uplink ports.

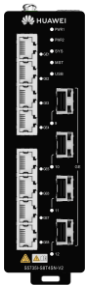
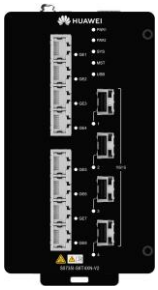
Product Overview

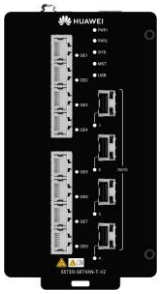
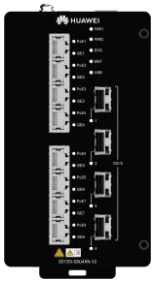
Huawei CloudEngine S5735I-S-V2 series industry switches (S5735I-S-V2 for short) are next-generation standard Layer 3 gigabit switches that provide flexible all-gigabit access and GE/10GE uplink ports.

Industry switches have an industrial-grade operating temperature range as well as professional outdoor surge protection to withstand harsh outdoor environments. As such, they can be widely used in access scenarios such as Safe City and Ethernet to the x (ETTx).

Models and Appearances

Models and appearances of the CloudEngine S5735I-S-V2 series

Models and Appearances	Description
 CloudEngine S5735I-S8T4SN-V2	• 8 x 10/100/1000Base-T Ethernet ports, 4 x GE SFP ports, 1 x DI/DO, 1 x RS485 • DC external or AC adapter • 1+1 power supply backup • Forwarding performance: 18 Mpps • Switching capacity*:24 Gbps/520 Gbps
 CloudEngine S5735I-S8T4XN-V2	• 8 x 10/100/1000Base-T Ethernet ports, 4 x 10GE SFP+ ports, 1 x DI/DO, 1 x RS485 • DC external or AC adapter • 1+1 power supply backup • Forwarding performance: 72 Mpps • Switching capacity*:96 Gbps/520 Gbps

Models and Appearances	Description
 CloudEngine S5735I-S8T4XN-T-V2**	• 8 x 10/100/1000Base-T Ethernet ports, 4 x 10GE SFP+ ports, 1 x DI/DO, 1 x RS485 • DC external or AC adapter • 1+1 power supply backup • Forwarding performance: 72 Mpps • Switching capacity*:96Gbps /520 Gbps
 CloudEngine S5735I-S8U4XN-V2	• 8 x 10/100/1000Base-T Ethernet ports, 4 x 10GE SFP+ ports, 1 x DI/DO, 1 x RS485 • DC external or AC adapter • 1+1 power supply backup • PoE++ • Forwarding performance: 72 Mpps • Switching capacity*:96Gbps /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.

**Note：‘-T ’means Trusted Platform Module(HTM), support hardware root of trust and measurement startup.

Features and Highlights

Powerful Service Processing Capability

- CloudEngine S5735I-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 S5735I-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 S5735I-S-V2 supports MAC address authentication, 802.1X authentication, and implements dynamic delivery of policies (VLAN, QoS, and ACL) to users.
- CloudEngine S5735I-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 S5735I-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 S5735I-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 S5735I-S-V2 supports a single power module or two power modules. When two power modules are used, the power modules work in 1+1 backup mode. The can be directly connected to an external DC power supply or powered by a power module.
- In addition to supporting traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), CloudEngine S5735I-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 S5735I-S-V2 supports Smart Link, which implements backup of uplinks. One CloudEngine S5735I-S switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

Easy Network deployment

- CloudEngine S5735I-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 S5735I-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.

Note: CloudEngine S5735I-S8T4SN-V2 doesn't support USB port.

Mature IPv6 Technologies

- CloudEngine S5735I-S-V2 uses the mature, stable VRP platform and supports IPv4/IPv6 dual stack, IPv6 RIPng.
- CloudEngine S5735I-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 S5735I-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 S5735I-S-V2 support stacking through electrical ports.

Note: iStack will be supported in R22C10 version, DI/DO & RS485 ports are unavailable when member switches in a stack.

PoE Function

CloudEngine S5735I-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 S5735I-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 S5735I-S-V2 supports the intelligent upgrade feature. Specifically, CloudEngine S5735I-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

- CloudEngine S5735I-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 S5735I-S-V2 switch through Python scripts to quickly innovate functions and implement intelligent O&M.

Licensing

CloudEngine S5735I-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	×	×	√

Note: Only V600R022C01 and later versions can support N1 mode

Product Specifications

Item	CloudEngine S5735I-S8T4SN-V2	CloudEngine S5735I-S8T4XN-V2 CloudEngine S5735I-S8T4XN-T-V2	CloudEngine S5735I-S8U4XN-V2
Fixed port	8 x 10/100/1000BASE-T ports, 4 x GE SFP ports	8 x 10/100/1000BASE-T ports, 4 x 10GE SFP+ ports	8 x 10/100/1000BASE-T ports, 4 x 10GE SFP+ ports

Item	CloudEngine S5735I-S8T4SN-V2	CloudEngine S5735I-S8T4XN-V2 CloudEngine S5735I-S8T4XN-T-V2	CloudEngine S5735I-S8U4XN-V2
Console port	1 x RS485		
Alarm port	1 x DI (Monitoring alarm input port), 1 x DO (Shorts and Opens alarm output port)		
Dimensions (H x W x D)	150.0 mm x 46.0 mm x 133.0 mm	150.0 mm x 86.0 mm x 133.0 mm	150.0 mm x 86.0 mm x 133.0 mm
Mounting	DIN rail	DIN rail	DIN rail
Weight (with packaging)	1.23kg	2.11kg	2.21kg
IP level	IP40	IP40	IP40
Power supply type	60W AC (AC power adapter) or DC external,1:1 hot backup	60W AC (AC power adapter) or DC external,1:1 hot backup	240W AC (AC PoE power adapter) or DC external,1:1 hot backup
Rated voltage range	• DC input: 12V DC～48V DC	• DC input: 12V DC～48V DC	• DC input: 56V DC
Maximum voltage range	• DC input: 9.6V DC～60V DC	• DC input: 9.6V DC～60V DC	• DC input: 54–57 V DC (PoE/PoE+/PoE++) or 48 V DC (PoE)
Maximum power consumption	18.59 W	20.35 W	• 21.7 W (without PD) • 421.7 W (with PD, PD power consumption of 400 W)*
Typical power consumption (30% of traffic load)	17.44 W	19.94 W	20.45 W
Operating temperature	0–1800 m altitude, industry optical modules: -40°C to +60°C (installed in the sealing cabinet) -40°C to +70°C (installed in the ventilation cabinet, with the wind speed of at least 80 LFM) -40°C to +75°C (installed in the ventilation cabinet shipped with fans running at a speed of at least 200 LFM)	0–1800 m altitude, industry optical modules: -40°C to +65°C (installed in the sealing cabinet) -40°C to +70°C (installed in the ventilation cabinet, with the wind speed of at least 40 LFM) -40°C to +75°C (installed in the ventilation cabinet shipped with fans running at a speed of at least 200 LFM)	0–1800 m altitude, industry optical modules: -40°C to +60°C (installed in the sealing cabinet) -40°C to +70°C (installed in the ventilation cabinet, with the wind speed of at least 80 LFM) -40°C to +75°C (installed in the ventilation cabinet shipped with fans running at a speed of at least 200 LFM)
Storage temperature	NA	NA	NA
Ingress protection level	IP40	IP40	IP40
Power supply surge protection	• Using DC power modules: ±2 kV in differential mode, ±1 kV in common mode	• Using DC power modules: ±2 kV in differential mode, ±1 kV in common mode	• Using DC power modules: ±2 kV in differential mode, ±1 kV in common mode
Service port surge	Common mode: ±7 kV	Common mode: ±7 kV	Common mode: ±7 kV

Item	CloudEngine S5735I-S8T4SN-V2	CloudEngine S5735I-S8T4XN-V2 CloudEngine S5735I-S8T4XN-T-V2	CloudEngine S5735I-S8U4XN-V2
protection			
Noise under normal temperature (27°C, sound power)	Noise-free (no fans), < 30 dB(A)	Noise-free (no fans), < 30 dB(A)	Noise-free (no fans), < 30 dB(A)
Relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing	5% to 95%, noncondensing
Heat dissipation	Natural heat dissipation	Natural heat dissipation	Natural heat dissipation

**Note:The maximum PoE output power varies with the temperature. For details, check the product documentation.*

Service Features

Item	Description
MAC address table	IEEE 802.1d compliance
	32K MAC entries
	MAC address learning and aging
	Static, dynamic, and blackhole MAC address entries
	Packet filtering based on source MAC addresses
VLAN	4094 VLANs
	Voice VLAN
	MUX VLAN
	VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports
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
IP routing	Static route, RIPv1/v2, RIPng, OSPF, OSPFv3, ECMP, IS-IS, IS-ISv6, BGP, BGP4+, VRRP, and VRRP6
	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

Item	Description
	IGMP v1/v2/v3, IGMP v1/v2/v3 snooping and IGMP fast leave
	Multicast load balancing among member ports of a trunk
	Port-based multicast traffic statistics
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
	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
	Profinet RT, Ethernet/IP, Modbus TCP, and OPC UA mainstream industrial protocol forwarding
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

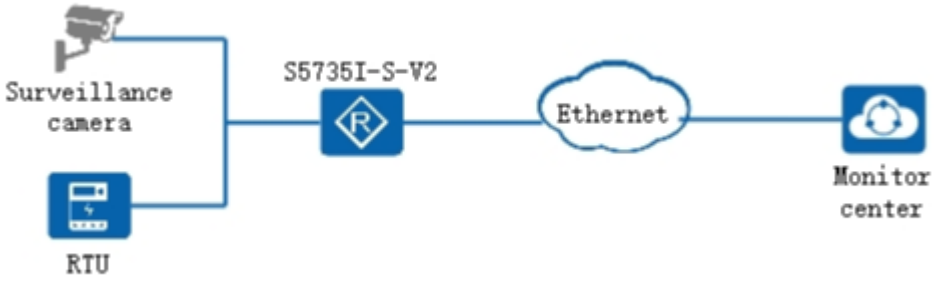
Item	Description
	Web-based NMS
	System logs and alarms of different levels
	802.3az EEE
Interoperability	Supports VBST (Compatible with PVST/PVST+/RPVST)

Note: iStack will be supported in R22C10 version, DI/DO & RS485 ports are unavailable when member switches in a stack.

Networking and Applications

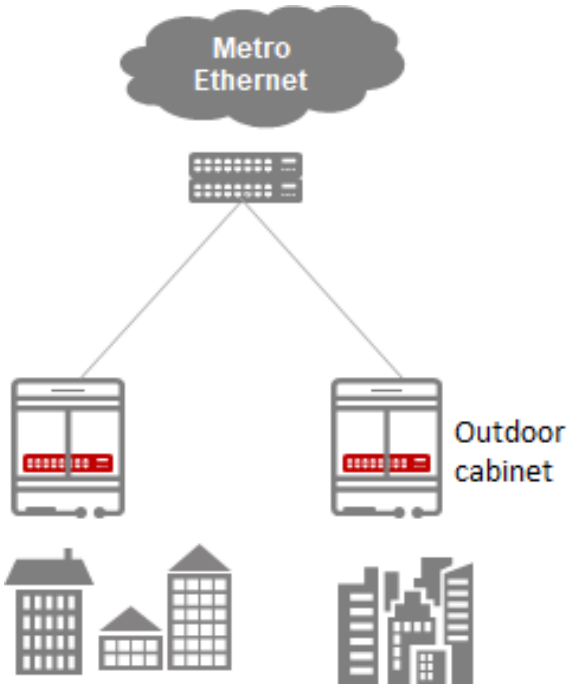
Video surveillance application, outdoor cabinet

CloudEngine S5735I-S-V2 series switches supports extended operating temperature range, with professional surge protection capabilities, suitable for outdoor environment. CloudEngine S5735I-S-V2 series switch can be used for safe city scenario to provide remote access for the camera.



ETTx scenario

CloudEngine S5735I-S-V2 series switches supports extended operating temperature and provides GE access and 10GE uplinks for ETTx access scenarios.



Power Specifications

Specification	60W Power Module	240W Power Module
Models and Appearances		
Power specifications	• Rated input voltage range: – 100 V AC to 240 V AC, 50/60 Hz – 100V DC to 250 V DC • Rated output voltage: – 12 V DC	• Rated input voltage range: – 100 V AC to 240 V AC, 50/60 Hz – 100V DC to 250 V DC • Rated output voltage: – 56 V DC
Power	60 W	240 W
Weight	0.9 kg	1.47 kg
Dimensions (H x W x D)	40 mm x 150 mm x 133 mm	60 mm x 150 mm x 133 mm
Storage temperature	–40°C to +85°C	–40°C to +85°C
Operating temperature	–40°C to +70°C	–40°C to +70°C
Installation mode	Installed on the DIN rail	Installed on the DIN rail
Operating humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)

Ordering Information

Module	Description
CloudEngine S5735I-S8T4SN-V2	CloudEngine S5735I-S8T4SN-V2(8x10/100/1000BASE-T ports, 4xGE SFP ports, AC power)
CloudEngine S5735I-S8T4XN-V2	CloudEngine S5735I-S8T4XN-T-V2(8x10/100/1000BASE-T ports, 4x10GE SFP+ ports, AC power)
CloudEngine S5735I-S8T4XN-T-V2	CloudEngine S5735I-S8T4XN-T-V2(8x10/100/1000BASE-T ports, 4x10GE SFP+ ports, HTM, AC power)
CloudEngine S5735I-S8U4XN-V2	CloudEngine S5735I-S8U4XN-V2(8x10/100/1000BASE-T ports, 4x10GE SFP+ ports,PoE++, AC power)
PAC60S12-AN	Industrial 60 W AC power module,DIN RAIL, used in S5735I-S8T4SN-V2 & S5735I-S8T4XN-T-V2

Module	Description
PAC240S56-CN	Industrial 240W PoE power module, DIN RAIL, used in S5735I-S8U4XN-V2
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
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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