

H3C S5500-EI



S5500-52C-EI/S5500-52C-PWR-EI



S5500-28C-EI/S5500-28C-PWR-EI



S5500-28F-EI

Overview

The H3C® S5500-EI Series delivers outstanding security, reliability and multi-service support capabilities for robust switching at the edge or aggregation layer of large enterprise and campus networks, or in the core layer of medium- and small-sized enterprise networks. The series is comprised of Layer 2/3/4 Gigabit Ethernet switches that can accommodate the most demanding applications, providing resilient and secure connectivity and the latest traffic-prioritization technologies to optimize applications on converged networks.

Designed for maximum flexibility, these switches are available with 24 or 48 Gigabit ports. Power over Ethernet (PoE) and non-PoE models are offered, with optional 10-Gigabit expansion capability and SFP mini-GBIC Gigabit combo ports for fiber flexibility. The all-SFP model with dual power supplies, for highest availability applications, allows for very flexible fiber with copper Gigabit connectivity.

Multiple S5500-EI units can be stacked together, up to nine units high, using patented IRF (Intelligent Resilient Framework) technology. With IRF, it is easy to build fully redundant networks, with aggregated ports spread across multiple units, with all units presenting themselves with a single simplified management interface.

Each of the five H3C S5500-EI models comes in a convenient, stackable 1U-high enclosure:

S5500-28C-EI. 24 10/100/1000Mbps Ethernet ports, 4 SFP Gigabit ports (Combo) and two extension slots.

S5500-52C-EI. 48 10/100/1000Mbps Ethernet ports, 4 SFP Gigabit ports (Combo) and two extension slots.

S5500-28C-PWR-EI. 24 10/100/1000Mbps Ethernet PoE ports, 4 SFP Gigabit ports (Combo) and two extension slots.

S5500-52C-PWR-EI. 48 10/100/1000Mbps Ethernet PoE ports, 4 SFP Gigabit ports (Combo) and two extension slots.

S5500-28F-EI. 24 SFP Gigabit ports, 8 10/100/1000Mbps Ethernet ports (Combo) and two extension slots

Key Benefits

High Expandability for Investment Protection

All models in the H3C S5500-EI Series include auto-sensing 10-, 100- and 1000-Mbps connections, giving you the ability to gradually upgrade your edge connections to higher bandwidth while retaining full compatibility with slower desktops. Support for dual-speed SFPs facilitates connections to both 100 and 1000 MB fiber cabling, making network migration easier.

Two expansion slots, each supporting available 1- or 2-port 10-Gigabit extension modules, allow for the adoption of 10-Gigabit interfaces for high bandwidth unit-to-unit local connections and uplinks, helping you to protect your network investment.

Every S5500-EI model has the ability to pass and route IPv4 and IPv6 data. As an IPv4/IPv6 dual-stack platform, the switches are IPv4- and IPv6-ready, supporting the major L3 routing protocols, multicast protocols and policy routing mechanisms and ensuring a seamless migration from IPv4 to IPv6.

Premium Security

Multiple layers of security are built into each S5500-EI Switch. Management access can be limited to known stations and unauthorized access can be prevented by encrypting management traffic with SSH for CLI access, SSL/HTTPS for Web access and SNMPv3 for SNMP management access.

Advanced processor queuing mechanisms help prevent Denial of Service (DOS) attacks while DHCP snooping ensures that devices can only receive an IP address from a legitimate DHCP server on the network. Enhanced Access Control Lists (ACLs) restrict users to certain areas of your network. Unicast Reverse Path Finding (uRPF) technology verifies the authenticity of a route from the receiving interface to the source address, deleting the data packet if the route does not exist and preventing malicious network attacks that are based on source address spoofing.

Key Benefits (continued)

Advanced network access control features, including IEEE 802.1X and MAC-based network login, help ensure that only authorized users get access to the network.

Multilayer Reliability

H3C S5500-EI switches interoperate with a number of link reliability technologies including Rapid Ring Protection Protocol (RRPP), a fast ring protection mechanism created by H3C. If a link or node on the Ethernet ring fails, RRPP rapidly moves traffic to a backup link, ensuring normal operations without impacting network convergence time. Other network resiliency features include Spanning Tree, Rapid Spanning Tree and Multiple Spanning Tree protocol support.

Hardware resiliency, delivered with available redundant power system support, allows for the continued operation of the switch in the event of a power supply failure, and supplements power for full PoE operation across all ports. For high-availability fiber connections, the S5500-28F-EI comes with dual 1+1 redundant power supplies with dual power inputs. All switches in this family include fault detection and alarms, power supply and fan monitoring, and remote management.

Convergence-Ready Support

Built-in PoE enables certain models of the S5500-EI to power network-attached equipment, significantly reducing costs associated with terminal equipment cabling and management. Industry-standard IEEE 802.3af Power over Ethernet speeds deployment of VoIP, wireless access points and network-attached video surveillance camera systems.

The voice VLAN technology embedded in this family ensures the highest level of security and performance by placing voice traffic on a virtual voice network. By identifying voice streams at their ports and adding corresponding access ports to voice VLANs, the switches provide dedicated channels for voice traffic. Priority rules are then issued to ensure that voice streams are transmitted before data or video streams and conversation quality is optimal.

Unparalleled Quality of Service

The H3C S5500-EI offers L2-L4 packet filtering and delivers flow classification based on source IP and MAC addresses, destination IP and MAC addresses, ports, protocols or VLANs. The switches also offer flexible queue scheduling algorithms that support settings based on ports and queues and include three scheduling modes: Strict Priority (SP), Weighted Round Robin (WRR) and SP+WRR. Committed Access Rate (CAR) provides minimum granularity of 64 kbps. Outbound and inbound port mirroring monitors and duplicates data packets for network detection and troubleshooting.

Powerful, Integrated Management Capabilities

The S5500-EI supports Simple Network Management Protocol (SNMP) versions 1/2c/3 and open network management platforms such as OpenView.

The switches may also be managed via Command Line Interface (CLI), Web network management, TELNET and via clustering management, making equipment management more convenient. Encryption modes such as SSH2.0, SNMPv3 and HTTPS are embedded in the switch, ensuring that management traffic is highly secure.

MAC-based and protocol-based VLANs, combined with ACL policies in the global or VLAN mode, minimize hardware resources and simplify configuration. Inbound and outbound packets are randomly sampled and collected according to a set ratio with the sFlow function. LLDP and LLDP-MED are supported for standards-based neighbor discovery.

Redundant Power System Support

Four H3C S5500-EI models support a redundant power system (RPS) connection.

RPS units provide these benefits:

- ▶ For PWR switches, an RPS can deliver more power budget for IEEE 802.3af Power over Ethernet than what the switches alone can provide. For example, the 48-port PWR switch has a PoE power budget of 370 Watts, which means that approximately half of the ports can provide the full 802.3af PoE power of 15.4 Watts. With an RPS providing power, all 48-ports can provide a full 15.4 Watts of PoE power.
- ▶ They deliver redundant power to switches so there is continued operation should the main switch unit power supply fail. This allows for continuous operation of advanced Enterprise networks, particularly important for converged networks running IP phones on the network.

H3C switches are compatible with H3C® RPS solutions.

H3C RPS Systems

H3C Redundant Power Systems are enterprise-class power redundancy systems that work with many H3C fixed-configuration switches, including the S5500-EI series.

There are three H3C RPS models:

- ▶ The H3C RPS 1000 is 1U high and provides multiple power output connections to support multiple switch units at the same time. Two power rectifiers can be installed for 1+1 load sharing and power redundancy. It supports switches with -54V RPS connections, and delivers sufficient power to fully provision all PoE ports of a switch with full power redundancy.
- ▶ The RPS 800 provides selective DC outputs of +12V and -54V. This is a fixed-configuration 1U high unit with a single power rectifier and a single power connection. Sufficient redundant power is available for provisioning a single S5500-EI 48- or 24-port non-PoE unit.
- ▶ The RPS 500 provides selective DC outputs of +12V and -54V. This is a fixed-configuration 1U high unit with a single power rectifier and a single power connection. Sufficient redundant power is available for provisioning a single S5500-EI 24-port non-PoE unit.

The table below summarizes RPS support for the H3C S5500-EI series

RPS Support

Switch 4800G Model	RPS Support	H3C RPS 1000	H3C RPS 800	H3C RPS 500
PWR 24-Port	Yes [-48V]	Yes	No	No
PWR 48-Port	Yes [-48V]	Yes	No	No
24-Port	Yes [+12V]	Yes	Yes	Yes
48-Port	Yes [+12V]	Yes	Yes	No
24-Port SFP	No - use 2x PSU for power redundancy			

Table 1. RPS support for the H3C S5500-EI.

Service and Support

H3C Global Services offers the resources and talents of a major corporation plus more than two decades of experience in resolving network challenges and delivering business benefits to enterprises around the world.

Global support with a personalized, local focus in the local language helps drive productivity and minimize expenses. Because H3C understands both the technology and the business, we're the partner you need to remain strong and competitive.

Suggested Service, Support and Training Offerings

H3C Guardian SM Maintenance Service	This service provides comprehensive on-site support and includes advance hardware replacement, expedited telephone technical support and software upgrades
H3C Express SM Maintenance Service	This service provides speedy access to H3C shipment of advance hardware replacements (including a four-hour option), expedited telephone technical support and software upgrades
Network Health Check	An activity-auditing service focused on improving network performance and productivity Includes traffic monitoring, utilization analysis, problem identification, and asset deployment recommendations Extensive report provides blueprint for action
Network Installation and Implementation Services	Experts set up and configure equipment and integrate technologies to maximize functionality and minimize business disruption For large and complex sites, implementation services include personalized configuration, project management, extended testing and coaching on network administration
Project Management	Provides extra focus and resources that special projects demand H3C engineers manage entire process from initial specifications to post-project review Using structured methodology, requirements are identified, projects planned and progress of implementation activities tracked
Global Education and Training	Self-paced and instructor-led technology and product courses, plus certification programs

For additional information, please visit www.h3cnetworks.com/services

Product Warranty

The H3C S5500-EI has a 1-year hardware warranty that includes the power supply and fan assembly.

Specifications (Specifications apply to all models, unless otherwise noted)

Features	S5500-28C-EI	S5500-52C-EI	S5500-28C-PWR-EI	S5500-52C-PWR-EI	S5500-28F-EI
Switching Capacity (Full duplex)	128Gbps	176Gbps	128Gbps	176Gbps	128Gbps
Throughput	95.2Mpps	130.9Mpps	95.2Mpps	130.9Mpps	95.2Mpps
Dimensions (mm) (H×W×D)	43.6 x 440 × 300		43.6 x 440 × 420		43.6 x 440 × 360
Weight (kg)	4	4.5	6	6.5	6.3
Management Port	1 console interface				
Fixed Ports	24 10/100/1000Mbps Ethernet ports, 4 Gigabit SFP ports, (Combo)	48 10/100/1000Mbps Ethernet ports, 4 Gigabit SFP ports, (Combo)	24 10/100/1000Mbps Ethernet ports, 4 Gigabit SFP ports, (Combo)	8 10/100/1000Mbps Ethernet ports, 4 Gigabit SFP ports, (Combo)	24 Gigabit SFP ports, 8 10/100/1000 Ethernet ports, (Combo)
Extension Slot	2 extension slots				
Optional Interface Modules	<ul style="list-style-type: none"> • 1-port 10GE XFP interface module • 2-port 10GE XFP interface module • 2-port 10GE CX4 interface module • 2-port Gigabit SFP interface module 				
PoE	No	No	Yes	Yes	No
Port Aggregation	<ul style="list-style-type: none"> • LACP link aggregation • Manual aggregation • Static aggregation • 14/26 aggregation groups, each supporting at most 8GE ports or 4 10GE ports 				
Flow Control	<ul style="list-style-type: none"> • IEEE 802.3x flow control and back pressure 				
VLAN	<ul style="list-style-type: none"> • 4094 port-based VLANs • MAC-based VLANs • QinQ • Voice VLAN • GVRP 				
MAC Address Table	<ul style="list-style-type: none"> • 32K MAC addresses • 1K static MAC addresses • Blackhole MAC addresses • Supports setting the maximum number of MAC addresses that can be learned at a port 				
IPv4 Routing	<ul style="list-style-type: none"> • RIP v1/v2, maximally supporting 2K IPv4 routes • OSPF v1/v2, maximally supporting 12K IPv4 routes • BGP, maximally supporting 12K IPv4 routes • Multi-CE (VRF Lite) • VRRP 		<ul style="list-style-type: none"> • ISIS Routing • Multicast VLAN • Route Policy • Routing policies • Policy Based Routing 		
IPv6 Routing	<ul style="list-style-type: none"> • RIPng, maximally supporting 2K IPv6 routes • OSPFv3, maximally supporting 6K IPv6 routes • BGP4+ for IPv6, maximally supporting 6K IPv6 routes • ECMP • VRRP • Policy Based Routing 				
IPv6 over IPv4 Tunnel	<ul style="list-style-type: none"> • Manual configuration of tunnels • 6to4 tunnels • ISATAP tunnels 				
IPv4 Multicast	<ul style="list-style-type: none"> • IGMP Snooping • PIM-DM • PIM-SSM • MVR, MVR+ 	<ul style="list-style-type: none"> • IGMP v1/v2/v3 • PIM-SM • MSDP 			
IPv6 Multicast	<ul style="list-style-type: none"> • MLD v1/v2, MLD Snooping v1/v2 • MSDP for IPv6 • PIM-SM/DM/SSM 				

Specifications (continued)

Features		S5500-28C-EI	S5500-52C-EI	S5500-28C-PWR-EI	S5500-52C-PWR-EI	S5500-28F-EI
Broadcast Suppression		<ul style="list-style-type: none"> Storm suppression based on port rate percentage Storm suppression based on PPS 				
STP		<ul style="list-style-type: none"> STP/RSTP/MSTP <ul style="list-style-type: none"> • 16 instances for MSTP STP Root Guard <ul style="list-style-type: none"> • BPDU Guard 				
QoS/ACL		<ul style="list-style-type: none"> Bidirectional CAR (Committed Access Rate) 8 output queues at each port Three scheduling modes: Strict Priority (SP), Weighted Round Robin (WRR) and SP+WRR L2 - L4 packet filtering and provide flow classification based on the source MAC address, destination MAC address, source IP address (IPv4/IPv6), destination IP address (IPv4/IPv6), port, protocol or VLAN Time Range ACL policies in the ingress direction and the egress direction Port-based and VLAN-based ACL VLAN mapping 				
Mirror		<ul style="list-style-type: none"> Flow mirroring Local and remote port mirroring 				
Security		<ul style="list-style-type: none"> Portal, EAD AAA, RADIUS, and HWTacacs+ authentication SSH2.0 IP Source Check, ARP detection URPF Port isolation Port security Binding of IP+MAC+port HTTPS 				
802.1x		<ul style="list-style-type: none"> Port-based authentication and MAC-based authentication Guest VLAN 				
MCE		<ul style="list-style-type: none"> MCE (Multi-VRF) 				
Loading and Upgrade Management		<ul style="list-style-type: none"> Via the XModem, File Transfer Protocol (FTP), and Trivial File Transfer Protocol (TFTP) Configuration via CLI, Telnet, and Console port IMC (Intelligent Management Centre) HGMPv2 Smart Link Power alarms SNMP v1/v2/v3, RMON WEB management NTP Power Link Fan and temperature alarms 				
Maintenance		<ul style="list-style-type: none"> VCT (Virtual Cable Test) function Device Link Detection Protocol (DLDP) OAM NQA - Network Quality Assessment Port loopback detection 				
Input Voltage	AC	Rated voltage range: 100V to 240V AC, 50 or 60Hz Maximum voltage range: 90V to 264V AC, 47 or 63Hz				
	DC	Rated voltage range: 10.8V to 13.2V DC		Rated voltage range: -52V to -55V DC		Rated voltage range: -48V to -60V DC
Power Consumption (in full configuration)		AC:67W DC:105W	114W	575W (AC input), Dissipated power: 93W PoE power: 370W 485W (DC input) Dissipated power: 115W PoE power: 370W	640W (AC input), Dissipated power: 147W PoE power: 370W 910W (DC input) Dissipated power: 170W PoE power: 740W	68W
Noise Parameter		42.6dBA (low speed) 49.7dBA (high speed)	41.3dBA (low speed) 50.1dBA (high speed)	48.1dBA (low speed) 51.1dBA (high speed)	49.5dBA (low speed) 54.1dBA (high speed)	45.3dBA (low speed) 50.4dBA (high speed)
MTBF (years)		35.1 (AC input) 30.6 (DC input)	27.2	30.8	25.5	13.4 (AC input) 13.4 (DC input)
Environment		<ul style="list-style-type: none"> Operating temperature: 0°C to 45°C Relative Humidity: 10% to 90%, non-condensing 				

Selection of Optical Modules

SFP Module	Central Wavelength	User Interface Connector Type	Specification and Maximum Transmission Distance of Interface Cable	Quantity	Remarks
1000BASE-SX-SFP	850nm	LC	50/125 μ m multi-mode fiber, 550m	0 – 24 (S5500-28F-EI)	Optional
			62.5/125 μ m multi-mode fiber, 275m		Optional
1000BASE-LX-SFP	1310nm		9/125 μ m single-mode fiber, 10km	0 – 4 (except for S5500-28F-EI)	Optional
1000BASE-LH-SFP			9/125 μ m single-mode fiber, 40km		Optional
1000BASE-ZX-LR-SFP	1550nm		9/125 μ m single-mode fiber, 40km		Optional
1000BASE-ZX-VR-SFP			9/125 μ m single-mode fiber, 70km		Optional

FE SFP Optical Interface Modules

SFP Module	Central Wavelength	User Interface Connector Type	Specification and Maximum Transmission Distance of Interface Cable	Quantity	Remarks
100BASE-FX-MM-SFP	1310nm	LC	50/125 μ m multi-mode fiber, 2km	0 – 24 (S5500-28F-EI)	Optional
			9/125 μ m single-mode fiber, 15km		Optional
100BASE-FX-SM-SFP			9/125 μ m single-mode fiber, 40km	0 – 4 (except for S5500-28F-EI)	Optional
100BASE-FX-SM-LR-SFP	Optional				
100BASE-FX-SM-VR-SFP	1550nm		9/125 μ m single-mode fiber, 80km		Optional

XFP Optical Interface Modules

SKU No.	SFP Module	Central Wavelength	User Interface Connector Type	Specification and Maximum Transmission Distance of Interface Cable	Quantity	Remarks
0231A494	XFP-SX-MM850	850nm	LC	50/125 μ m multi-mode fiber, 300m	0 – 4	Optional
0231A438	XFP-LX-SM1310	1310nm	LC	9/125 μ m single-mode fiber, 10km	0 – 4	Optional
0231A72X	XFP-LH40-SM1550	1550nm	LC	9/125 μ m single-mode fiber, 40km	0 – 4	Optional

Ordering Information

Switch Selection

SKU No.	Product Name	Description
0235A253	H3C S5500-28C-EI	24 Port Premium Gigabit Switch with enhanced IPv4/IPV6 and 4 Combo Ports
0235A24S	H3C S5500-28C-EI-DC	24 Port Premium Gigabit Switch with enhanced IPv4/IPV6 and 4 Combo Ports DC Power Supply
0235A24U	H3C S5500-28F-EI	24 SFP Port Premium Gigabit Switch with enhanced IPv4/IPV6 and 8 Combo Ports
0235A259	H3C S5500-28F-EI-DC	24 SFP Port Premium Gigabit Switch with enhanced IPv4/IPV6 and 8 Combo Ports DC Power
0235A24X	H3C S5500-52C-EI	48 Port Premium Gigabit Switch with enhanced IPv4/IPV6 and 4 Combo Ports
0235A255	H3C S5500-28C-PWR-EI	24 Port Premium Gigabit Switch with enhanced IPv4/IPV6 and 4 Combo Ports and PoE
0235A251	H3C S5500-52C-PWR-EI	48 Port Premium Gigabit Switch with enhanced IPv4/IPV6 and 4 Combo Ports and PoE

Extended Modules

SKU No.	Product Name	Description
0231A30M	H3C S5500-SI 1-port 10GE XFP	XFP
0231A27N	H3C S5500-SI 2-port 10GE XFP	XFP
0231A27P	H3C S5500-SI 2-Port 10GE Local Connection	CX4
0231A833	H3C S5500-EI 2-Port Gigabit Ethernet SFP	SFP

SFPs

SKU No.	Product Name	Description
0231A320	H3C 100BASE-FX SFP Transceiver, Multi-Mode	1310nm, 2km, LC
0231A564	H3C 100BASE-LX SFP Transceiver, Single Mode	1310nm, 15km, LC
0231A089	H3C 100BASE-LH40 SFP Transceiver, Single Mode	1310nm, 40km, LC
0231A090	H3C 100BASE-LH80 SFP Transceiver, Single Mode	1550nm, 80km, LC
0231A562	H3C 1000BASE-SX SFP Transceiver, Multi-Mode	850nm, 550m, LC
0231A563	H3C 1000BASE-LX SFP Transceiver, Single Mode	1310nm, 10km, LC
02312170	H3C 1000BASE-LH40 SFP Transceiver, Single Mode	1310nm, 40km, LC
02312172	H3C 1000BASE-LH40 SFP Transceiver, Single Mode	1550nm, 40km, LC
02312173	H3C 1000BASE-LH70 SFP Transceiver, Single Mode	1550nm, 70km, LC
0231A11U	H3C 1000BASE-LX BIDI SFP Transceiver, Single Mode	TX1310/RX1490, 10km, LC
0231A11V	H3C 1000BASE-LX BIDI SFP Transceiver, Single Mode	TX1490/RX1310, 10km, LC

XFPs

SKU No.	Product Name	Description
0231A494	H3C 10GBASE-SR XFP, Multi-Mode	850nm, 300m, LC
0231A438	H3C 10GBASE-LR/LW XFP, Single Mode	1310nm, 10km, LC
0231A72X	H3C 10GBASE-ER/EW XFP, Single Mode	1550nm, 40km, LC

Ordering Information (continued)

RPS (for S5500-28C-PWR-EI, S5500-52C-PWR-EI)

SKU No.	Product Name	Description
0213A01S	H3C RPS 1000-A3 Redundant Power System	1 Power Rectifier Unit and 5 connector cables
0213A01G	H3C Flatpack1500-M	RPS 1000 Power Rectifier Unit
0404A053	H3C RPS 1000 JD5 Cable A	JD5 connector

RPS (for S5500-52C-EI)

SKU No.	Product Name	Description
0213A02R	H3C RPS 800-A Redundant Power System	RPS 800-A3 Redundant Power System
0404A03V	H3C RPS 500/800 Cable V	1m length

RPS (for S5500-28C-EI)

SKU No.	Product Name	Description
0213A01T	H3C RPS 500-A3 Redundant Power System	RPS 500-A3 Redundant Power System
0404A08G	H3C RPS 500/800 Cable V	1m length

Extended Power Modules (for S5500-28F-EI)

SKU No.	Product Name	Description
0231A73P	H3C S5500 DC Power Supply	150W
0231A66A	H3C S5500 AC Power Supply	150W

Local Connection Cables

SKU No.	Product Name	Description
0231A72D	H3C S5500-SI Local Connection Cable	CX4, 50cm
0231A72E	H3C S5500-SI Local Connection Cable	CX4, 100cm
0231A72F	H3C S5500-SI Local Connection Cable	CX4, 300cm



The energy efficient H3C S5500-EI is Certified Green in the 2009 Miercom Green Switches Industry Assessment.

Visit www.H3Cnetworks.com for more information about H3C enterprise solutions.