

H3C S5130 Series Ethernet Switch - Official Technical Overview & Hardware Datasheet

EXECUTIVE SUMMARY

The H3C S5130 Series Ethernet Switches represent a paradigm shift in enterprise access and aggregation networking. Engineered to deliver a harmonious blend of high-performance hardware, robust security, and intelligent manageability, the S5130 Series is meticulously designed to serve as the cornerstone of modern campus networks, Small and Medium-sized Enterprise (SME) infrastructures, and high-density access environments . This document serves as the definitive technical reference for network architects, system integrators, and IT professionals, providing a comprehensive deep-dive into the platform's architecture, key features, technical specifications, and deployment strategies. By integrating cutting-edge technologies such as Intelligent Resilient Framework (IRF2), Software-Defined Networking (SDN) readiness, and comprehensive security protocols, the S5130 Series not only addresses current network demands but also offers a future-proof pathway for evolving business needs. The series distinguishes itself through a variety of models, ranging from compact fanless units to power-over-Ethernet (PoE+) enabled switches, ensuring a tailored solution for every deployment scenario .



ARCHITECTURE & CHASSIS DESIGN

The H3C S5130 Series is built upon a high-availability, modular architecture that prioritizes performance and resilience. At its core, the series leverages a powerful hardware platform featuring a dedicated CPU, typically a 1 Core, 800MHz processor, complemented by 256MB of Flash memory and 512MB of SDRAM for efficient system operation and feature processing . The chassis design is optimized for density and flexibility, offering a variety of form factors to accommodate diverse rack space constraints, from compact 266mm depth units for space-limited deployments to standard 440mm depth for full-featured enterprise environments .

Central to the architecture is the support for H3C's proprietary IRF2 (Intelligent Resilient Framework 2) technology. This feature enables network administrators

to physically connect up to nine (9) individual S5130 switches and virtualize them into a single logical device . This not only simplifies network management by providing a single point of configuration but also dramatically enhances network scalability and reliability. IRF2 facilitates cross-device link aggregation, delivering load balancing and redundant links across the entire stack, while its patented 1:N redundancy ensures that if the master device fails, traffic continues to flow seamlessly through one of the slave units, preventing unplanned downtime .

The series is also designed with SDN in mind, supporting large network flow tables and OpenFlow. When integrated with an H3C SDN controller, the S5130S-EI series enables flexible network flow control and easy adoption of a simplified two-layer network architecture, drastically reducing network management complexity and operational costs .

HARDWARE FEATURES

The S5130 Series offers a rich suite of hardware features designed to meet the rigorous demands of enterprise access networks.

****Port Configuration and Interface Types:****

The portfolio includes a wide range of port densities and types to suit various

deployment roles. Fixed configurations are available with 8, 16, 24, and 48 ports of 10/100/1000Base-T Ethernet, providing flexible options for desktop connectivity and edge aggregation . To ensure high-speed uplink connectivity, the series integrates fixed SFP and SFP+ ports, offering up to 4 10GE SFP+ uplink ports on higher-end models like the S5130S-52P-EI, enabling non-blocking connectivity to distribution or core layers . For high-end models like the S5130-HI series, the switching capacity can reach up to 598Gbps / 5.98Tbps, with a forward rate of up to 252Mpps . Combo ports are also available on certain models, allowing the user to choose between a copper RJ-45 and an SFP fiber uplink, providing maximum deployment flexibility .

****Power over Ethernet (PoE+) and Green Design:****

Several models in the S5130S-EI series support Power over Ethernet Plus (PoE+), enabling them to power a wide range of networked devices such as IP phones, wireless access points (APs), and security cameras directly through the Ethernet cable. This eliminates the need for separate power supplies, simplifying cabling and reducing installation costs . The S5130S-28P-HPWR-EI-AC, for instance, offers robust PoE+ support for high-power consumption devices .

Complementing its performance is a commitment to energy efficiency. The series incorporates multiple green design features, including port auto-power-down, which reduces power consumption when a port is

administratively down or not connected, and EEE (Energy Efficient Ethernet) compliance, which reduces power consumption during periods of low data activity . Many of the 8-port, 12-port, and 24-port models feature a fanless design, significantly reducing noise and power consumption, making them ideal for office environments .

****Enhanced Surge Protection:****

The S5130S-EI series is equipped with professional-built surge protection technology, supporting an industry-leading 10KV service port surge protection capability. This feature is crucial for minimizing hardware failure due to electrical surges in harsh or unpredictable environments, ensuring high network availability and hardware longevity .

COMPLIANCE & STANDARDS

The H3C S5130 Series is engineered to adhere to a comprehensive set of international standards and compliance regulations, ensuring interoperability and reliability across diverse network environments.

****Safety and Environmental Standards:****

The switches are compliant with the EU RoHS safety standard, reflecting H3C's commitment to environmental responsibility by restricting the use of hazardous

substances . They meet stringent material and component quality standards to guarantee longevity and safety. The environmental specifications are rigorous, with a normal operating temperature range of -5 °C to 50 °C (with variances when using certain transceivers) and a storage temperature range of -40 °C to 70 °C, ensuring stable operation across a wide variety of deployment locations . The humidity tolerance is also broad, supporting 5% to 95% relative humidity (non-condensing) for operation and storage .

****Network and Protocol Standards:****

The series supports an extensive array of industry-standard network protocols across all layers. At Layer 2, it features comprehensive support for VLAN (including Port-based VLAN, Protocol VLAN, and Voice VLAN), Spanning Tree Protocols (STP, RSTP, MSTP, PVST), Link Aggregation (LACP), and robust ring protection with G.8032 Ethernet Ring Protection Switching (ERPS) and RRPP . Layer 3 capabilities include support for static routing, RIP, and OSPF, enabling complex inter-VLAN routing and scalable network topologies . Security is addressed through support for comprehensive authentication protocols like 802.1X, MAC Authentication, and Portal, as well as robust management security features like SSHv2 and SNMPv3 .

TECHNICAL SPECIFICATIONS

The following table provides a detailed breakdown of the technical parameters for key models within the H3C S5130 Series .

Parameter	S5130S-10P-EI	S5130S-28P-EI	S5130S-52P-EI	S5130-30S-HI
Form Factor	1RU (266x161x43.6 mm)	1RU (440x160x43.6 mm)	1RU (440x230x43.6 mm)	1RU (440x260x43.6 mm)
Fixed Ports	8x 10/100/1000B base-T	24x 10/100/1000B base-T	48x 10/100/1000B base-T	24x 10/100/1000B base-T
Uplink Ports	2x SFP	4x SFP	4x SFP+	4x 10G SFP+ & 2x QSFP+ (Stack)
Switching Capacity	20 Gbps	56 Gbps	104 Gbps	598 Gbps / 5.98 Tbps
Forwarding Rate	15 Mpps	42 Mpps	78 Mpps	216 Mpps
Power Supply	Fixed AC, Fanless	Fixed AC, Fanless	Fixed AC, 1 Fan	Fixed AC, Dual (Hot-Swappable on HI)

PoE+ Support	No	Optional (PWR models)	Optional (PWR models)	Optional (PWR-HI models)
Operating Temp.	-5°C to 50°C	-5°C to 50°C	-5°C to 50°C	0°C to 45°C
MTBF (Years)	168.61	150.86	115.68	Information Available on Request
Key Features	IRF2, SDN, Green Design	IRF2, SDN, Green Design, PoE+	IRF2, SDN, Green Design, PoE+, 10G Uplinks	High Performance, Advanced Security, Enhanced Stacking

ORDERING OPTIONS

The H3C S5130 Series is available in a wide variety of models to meet specific network requirements. The table above outlines several key variants. When selecting an S5130 switch, network architects should consider the following criteria:

- **Port Density and Type:** Determine the number of endpoints to connect. Choose between 24 or 48-port models. Consider if PoE+ is needed for powering devices.
- **Uplink Requirements:** Select a model with an appropriate number of 1GE SFP or 10GE SFP+ ports to match the bandwidth needed to the distribution or core layer.
- **Form Factor and Environment:** For constrained spaces or noise-sensitive areas, the compact, fanless models (e.g., S5130S-10P-EI) are ideal. For high-performance core roles, the full 440mm width models with higher switching capacity are recommended.
- **High-Availability Needs:** If high availability is required, select models that support dual, hot-swappable power supplies (typically found on the higher-end S5130-HI variants).



For definitive ordering part numbers (SKUs) and to confirm specific bundled options, please consult the official H3C price list or contact your authorized H3C channel partner.