alhua
TECHNOLOGY

DH-S5500-48GT4GF

New-generation Environment-friendly & Energy-saving Ethernet Switches

Features

· High Performance and Scalability

· Diversified Security Policies

· Enhanced Multiservice Capabilities

· Professional Lightning Protection Functions

· Environment Friendliness and Energy Saving

· Ease of Use in Network Management

Product Overview

The DH S5500 series Ethernet switches are environment-friendly and energy-saving full 1000M Ethernet switches, which offer a variety of service features and are widely used to access enterprise networks and campus networks. These products provide more comprehensive security access policies and more powerful network management and maintenance usability while satisfying high-performance access.

Key Features

· High Performance and Scalability

The DH S5500 series switches support line-rate forwarding for all ports, meeting user requirements for high bandwidths. The DH S5500 series switches support at least two or four 1000M uplink ports, and the SFP ports support 100M/1000M optical modules, thereby reducing costs and facilitating subsequent upgrades for users. The DH S5500 series switches support the stacking of up to 32 devices, a maximum of 1,664 100/1000M ports can be configured, and hybrid stacking of devices with different ports is supported. The switches support the plug-and-play function and single IP address management function. This significantly reduces system expansion costs, thereby protecting user investments.

· Diversified Security Policies

The DH S5500 series switches support the following anti-attack capabilities:
1) Distinctive ARP intrusion detection function: effectively prevents hackers or attackers from initiating ARP spoofing attacks by using ARP packets (where this type of attack is increasing prevailing nowadays);
2) IP Source Guard feature: defends the switches from illegal address forgery (including MAC address spoofing, IP address spoofing, and MAC/IP address spoofing) and DoS attacks;
3) Trusted ports of DHCP Snooping: effectively prevent unauthorized DHCP servers, thereby ensuring the authenticity and consistency of DHCP environments.

The DH S5500 series switches support families of port security characteristics, which can effectively prevent MAC address–based attacks and implement MAC address–based traffic policing.
The DH S5500 series switches provide two authentication modes (including 802.1X and MAC authentication), support client software version detection and Guest VLAN functions, and may further implement proxy detection and dual network adaptor detection in conjunction with intelligent management centers. These functions enable the DH S5500 series switches to check and control the legality of users, to minimize damages to network security from illegal users.
The DH S5500 series switches provide multi-level reliability protection, and supports Ethernet OAM and CFD, thereby improving Ethernet management and maintenance capabilities and ensuring stable network operation.
The DH S5500 series switches support Smart Link and Monitor Link, to provide more efficient and reliable backup for double uplinks.
The DH S5500 series switches support RRPP, to provide faster topological convergence for ring networks and higher reliability for data transmission.

· Enhanced Multiservice Capabilities

The DH S5500 series switches support port rate limiting and flow-based rate limiting, to prevent malicious occupation of network bandwidths and also provide an effective means of refined network bandwidth management.

The DH S5500 supports a variety of queue scheduling algorithms, which can place packets with different priorities into the output queues of ports.
The DH S5500 series switches support a variety of IPv6 management functions and IPv6 service features.

· Professional Lightning Protection Functions

The DH S5500 series switches adopt a professional built-in lightning protection technology, and support the industry-leading 7 KV lightning protection capability for service ports. Therefore, even if the switches work in a harsh environment, a rate of failure of the devices caused by lightning strikes can be greatly reduced.

· Environment Friendliness and Energy Saving

The DH S5500 series switches are new-generation environment-friendly and energy-saving Ethernet switches launched by Zhejiang Dahua Technologies Co., Ltd. Multiple techniques are used on the DH S5500 series switches, to ensure environment friendliness and energy saving. The techniques include:
1) Auto-power-down (automatic energy saving on ports): If a status of an interface remains "down" for a specific period of time, the system automatically stops supplying power to the interface, and the interface automatically enters the power saving mode.
2) One-click power saving: Power consumption is reduced by controlling on and off of indicators on the device and controlling the energy saving mode of ports.
3) EEE energy saving function: If a port remains idle for a specific period of time, the system enables the energy saving mode of the port. When packets need to be transmitted or received, listening code streams sent periodically are used to wake up the port to resume services, thereby achieving an energy saving effect.

The DH S5500 series switches comply with the RoHS standards.

· Ease of Use in Network Management

The DH S5500 series switches support the following network management features:
1) Remote upgrades via FTP and TFTP
2) SNMP v1/v2/v3
3) General network management platforms (for example, Open View), and intelligent management centers
4) Command line interface (CLI), web-based network management, and Telnet, to facilitate device management
5) Encryption modes such as SSH2.0, to ensure more secure management

Technical Specification

Model	DH-S5500-48GT4GF
Switching capacity	256 Gbit/s
Packet forwarding rate	78Mpps
Management port	One console port
Fixed port	48 x 10/100/1000Base-T Ethernet port 4 x 1000Base-X Ethernet port
Port aggregation	Supports the following port aggregation features: ●LACP ●Manual port aggregation ●A maximum of eight ports in each aggregation group
Layer-2 ring network protocol	Supports STP, RSTP, and MSTP.
VLAN	Supports the following VLAN features: ●Port-based VLANs (4,000 VLANs) ●MAC address–based VLANs ●Protocol-based VLANs ●GVRP ●QinQ and flexible QinQ ●VLAN mapping ●Guest VLANs
DHCP	Supports the following DHCP features: ●DHCP Server ●DHCP Client ●DHCP Relay ●DHCP Snooping ●DHCP Snooping Option82
IPv4	Supports IPv4 static routing, RIP, and OSPF.
IPv6	Supports the following IPv6 features: ●IPv4 and IPv6 dual-protocol stack ●IPv6 static routing ●ND and PMTUD ●Pingv6, Telnetv6, FTPv6, TFTPv6, and ICMPv6
Multicast	Supports the following multicast features: ●IGMP Snooping and fast leave ●MLD Snooping ●Multicast VLANs
Stacking	Supports hybrid stacking of a maximum of 32 devices.
Mirroring	Supports port mirroring and flow mirroring.
ACL	Supports the following ACL features: ●Packet filtering on L2 to L4 ●Match of the previous 80 bytes in a packet ●ACL definition based on the source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port scope, and VLAN ●ACL issuance based on ports or VLANs ●ACLs based on time ranges ●Hardware-based IPv6 ACL and QoS
QoS	Supports the following QoS features: ●Diff-Serv QoS ●Eight output queues on each port ●802.1P/DSCP priority mapping ●Queue scheduling mechanisms ●Priority marking and remarking ●Flow-based packet filtering ●Flow-based redirection ●Flow-based rate limiting ●Voice VLANs
Security	Supports the following security features: ●Level-based user management and password protection ●Guest VLANs ●IEEE 802.1X authentication and centralized MAC address authentication ●Rapid EAD deployment ●AAA, RADIUS, and HWTACACS authentication ●Restriction on the number of learned MAC addresses ●MAC address black holes ●SSH 2.0, providing secure encrypted channels for user login ●SSL, ensuring the security of data transmission ●HABP ●Validity verification of SAVI source addresses ●Port isolation ●Rate limiting for ARP packets ●Protection of source IP addresses ●Detection of ARP intrusion ●Defense against DoS attacks ●Suppression of broadcast packets ●Active/Standby data backup mechanism ●IP address + port binding, IP address + MAC address binding, port + MAC address binding, IP address + MAC address + port binding, and IP address + MAC address + port + VLAN binding ●CPU protection
Reliability	Supports the following reliability features: ●Ethernet OAM ●CFD ●Smart Link, for providing efficient and reliable link backup, load sharing and rapid convergence for double-uplink networking ●Monitor Link, for monitoring the uplink status and providing more efficient link backup and switching in conjunction with the Smart Link ●DLDP, for detecting unidirectional available links ●RRPP
System management	Supports the following system management features: ●Configuration through the Console, AUX Modem, Telnet, and SSH2.0 CLI ●File downloading and uploading over FTP, TFTP, Xmodem, and SFTP ●SNMP v1/v2c/v3 ●RMON ●Virtual Cable Test (VCT) ●TR069 ●NTP clock ●System operation logs ●Cluster management ●Intelligent management centers
Ambient humidity	Operation ambient humidity: 5%–95% (non-condensing) Storage ambient humidity: 5%–95% (non-condensing)
Environment protection standard	China RoHS, and EEE
Weight (full configuration)	≤ 3.4 kg
Static power consumption	20 W
Power consumption (at full load)	≤ 32 W
Input voltage	AC: 100 V–240 V AC, 50/60 Hz
Dimensions (length x width x height) (unit: mm)	440 x 238 x 44