



Product Overview

HSGQ-9028 is a next-generation high-performance data center switch designed for high-performance cloud computing, data centers, and high-end campus networks. It features 16*SFP+ 10 Gigabit fiber module slots, 8*25G SFP28 ports, 4*40G/100G QSFP28 ports, 1*MGMT out-of-band management RJ45 interface, 1*Type-C Console management interface, and 1*USB 3.0 interface. It supports IPv4 / IPv6 dual protocol stacks, static routing, DHCP Server, DHCP Relay, and DHCP Snooping. It supports Layer 3 routing protocols, including RIP, RIPng, OSPFv2/v3, BGP-4 dynamic routing, and VRRP virtual routing redundancy protocols. It provides comprehensive security policies, robust QoS policies, and rich VLAN functionality, making it easy to manage and maintain, and meeting the networking needs of enterprise networks, campus network aggregation, carrier edge computing, and other application scenarios.

Features

- 16*(SFP+) 10 Gigabit optical ports + 8*25G SFP28 ports + 4*40G/100G QSFP28 ports + 1*Type-C Console interface + 1*MGMT out-of-band management port + 1*USB 3.0 interface;
- It adopts an ARM quad-core processor and supports switching capacity of up to 1.52Tbps, meeting the requirements of data centers for high performance, high capacity, high density and scalability;
- Standard configuration includes one hot-swappable AC100-240V power supply, two hot-swappable AC100-240V power supplies are optional.
- It supports RTC real-time clock function to meet the time continuity requirements of industrial equipment;
- Standard data center front and rear cooling airflow design;
- Supports temperature sensor and smart fan; built-in 4 smart fans;
- The intelligent fan management system supports automatic fan speed adjustment, effectively reducing fan speed, noise, and extending fan life;

- Supports STP/RSTP/MSTP link protection technologies and ERPS ring network protocol ;
- It supports two aggregation modes: static link aggregation and LACP dynamic link aggregation, which effectively increases link bandwidth and improves link reliability, while also enabling load balancing and link backup.
- Supports IPv4 / IPv6 dual protocol stack, static routing, DHCP Server, DHCP Relay, and DHCP Snooping ;
- Supports Layer 3 routing protocols, including RIP, RIPng, OSPFv2/v3, BGP-4 dynamic routing, and VRRP virtual route redundancy protocol;
- It has loop detection capabilities and adopts an intelligent resolution mechanism to achieve intelligent network self-healing;
- It supports Layer2 and Layer3 MPLS VPNs, and can build large-scale MPLS VPN core networks to meet the access needs of industry private network VPN users and enterprise network VPN users.
- It supports a high-precision BFD bidirectional link detection mechanism, and through linkage with Layer 2 and Layer 3 protocols, it can achieve millisecond-level fault detection and service recovery, thereby enhancing the reliability of the network system.
- Supports multiple management methods including Type-C Console, MGMT, Web CLI, Telnet, SSH, and SNMP (v1/v2c/v3);
- Supports bilingual (Chinese and English) web interface management, making product debugging simpler and more efficient;
- Supports MQTT protocol connection to EDMS cloud management platform, cloud platform supports local deployment and cloud deployment;
- Supports full firmware version upgrades via HTTP, TFTP, and FTP transfer methods.

Hardware Specifications

Product Name	HSGQ-9028
Network Standards	IEEE802.3, IEEE802.3u, IEEE 802.3ab, IEEE802.3z, IEEE802.3ae, IEEE 802.3by , IEEE 802.3bq, IEEE 802.3ba , IEEE802.3x, IEEE802.1x, IEEE802.1q, IEEE802.1p, IEEE802.1d, IEEE802.1w, IEEE802.1s, IEEE802.3ad , IEEE 802.1ab
Interface	16*SFP+ 10 Gigabit Fiber Optic Module Slots 8*25G SFP28 ports 4*40G/100G QSFP2 8-port 1*MGMT out-of-band management RJ45 interface 1*Type-C Console interface (115200,8,N,1) 1*USB 3.0 port
LED indicator light	PWR 1 (green), PWR 2 (green), MGMT (green), SYS (green), Port LED (green)
MAC Address Table	112 K
Jumbo Frame	12K Byte
Packet buffer	8MB
Forwarding Mode	Store-and-forward
Switching Capacity	1.52Tbps
Packet Forwarding Rate	1140Mpps
Power Supply	240W
Power Input	Standard configuration includes one hot-swappable AC100-240V power supply, 50Hz ±10%. Optional two hot-swappable AC100-240V power supplies, 50Hz ±10%
Fan	Built-in 4 smart fans, providing front and rear ventilation
Dimensions (L*W*H)	440x340x44mm
Static electricity standards	Contact ±6KV, air ±8KV
Operating temperature	-10℃ ~ 45 ℃
Storage temperature	-40 ℃ ~ 70 ℃
Operating humidity	10% ~ 90% Non-condensing
Storage humidity	5% ~ 90% Non-condensing
Mean Time Between Failures	50,000 hours

Software Specifications

L3 Features	DHCPv4 Server、DHCPv6 Server
	IPv4/IPv6 Static Route
	RIP v1/v2
	RIPng
	OSPF v2/v3
	BGP-4
	PIM
	VRRP V2/V3
System Info	Port Status
	Product Model、SN、Firmware Version、Hardware Version
	Memory Usage、CPU Usage
	HTTP/HTTPS/Web-Telnet
	OPEN API
NTP	NTP Client
	Supports domain name resolution
	Support RTC(real-time clock)
System Upgrade	Full firmware upgrade support over FTP/TFTP/Web
Device Management	Type-C Console
	Support SSH/Telnet/HTTP/HTTPS/SNMP/Web-Telnet/Cloud Management
	Timer Task
	Ping、Traceroute
	IPv4 and IPv6 dual protocol stack
	Supports MQTT protocol
	RMON (Remote Network Monitoring)
Access Management	IP-Based Access Control
	MAC-Based Access Control
	Port-Based Access Control
Management	View current config
	Upload/Download Configuration File
	Restore Factory
User Management	Supports multiple users with different permissions
	root group / admin group
	Supports multiple users working simultaneously
Port Config	Port Speed/Duplex Mode/Auto
	Flow Control (IEEE802.3x)
	EEE(IEEE802.3az)

	MTU
	Jumbo Frame
	Rate Limit, Ingress/Egress Rate Limit
	Traffic statistics
	Port Status alarm
	Storm Control (Broadcast/Multicast/Unicast)
	DDM
	Port Security
	Loop Detection
	Port Isolation
Link Aggregation	Manual Aggregation
	LACP Aggregation (IEEE802.3ad)
	Load Balance (SRC-MAC/DST-MAC/SRC-IP/DST-IP)
	Max groups and ports per group
Mirror	Port-Based Mirror, Support one to one, Many to one
	Support Ingress/Egress/Both
	Support 4 sets of mirror configuration
	CPU based Mirror
	Flow-based Mirror
	RSPAN Mirror
MAC Address Table	MAC Address Table
	MAC Aging Time
	MAC Filter (Sticky MAC)
	Static MAC Address
	Port-Based MAC address count limit
	Enable dynamic MAC address learning
	Clear MAC Address Table
	MAC Authentication
	Supports port-based MAC address drift prevention
VLAN	IEEE802.1Q 4K VLAN
	Port VLAN, Access/Trunk/Hybrid
	VLAN Translate
	VLAN QinQ
	Protocol VLAN
	Voice VLAN
	GVRP
LLDP	LLDP (IEEE802.1ab)
	LLDP-MED
Spanning-Tree	IEEE802.1d (STP) / 802.1w (RSTP) / 802.1s (MSTP)
	L2 Tunnel-BPDU Guard, Root Guard, BPDU filtering, BPDU Tunnel (12 protocol-tunnel), BPDU transparent

ERPS	ERPS v1
BFD	BFD (Bidirectional Forwarding Detection)
IGMP	IGMP Snooping v1/v2
	IGMP Proxy
	IGMP Fast leave
	Multicast-VLAN
	IPv6 MLD Snooping v1/v2
PIM	PIM-SM、PIM-SSM
VPN	MPLS (Multi-Protocol Label Switching)
	VxLAN Bridging
	EVPN VxLAN
DHCP	DHCP Server (IPv4/IPv6)
	DHCP Client (IPv4/IPv6)
	DHCP Relay (IPv4/IPv6)
	DHCP Snooping (IPv4/IPv6)
	DHCP Option82、Option18、Option37
Route	IPv4/IPv6 Static Route
	IPv6 ND (Neighbor Discovery)
	IPv6 PMTU
ARP	ARP Scanning Prevention
	ARP Spoofing Prevention
	ARP Guard
	Free ARP
	Dynamic ARP Inspection
	ARP Quantity Control
SNMP	SNMPv1/v2c/v3
	SNMP Trap
ACL	MAC-ACL, SRC/DST MAC
	IP-ACL, SIP/DIP/IP Protocol/SRC Port/DST Port
	VLAN/COS/SRC MAC/DST MAC/Tag/Untag/Time-Range
	Traffic Limit
	Packet-Filter
QoS	Trust COS/DSCP
	Trust Port
	SP/WRR/PQ/WRR+PQ Scheduling
	Based on VLAN/COS/DSCP PolicyMap Stream
	Traffic Classes (8 active priorities)
	Ingress Policing、CAR Stream Shaping
	Supports Tail-Drop/WRED congestion avoidance mechanisms
Alarm	System Alarm
	Support CPU and Memory threshold alarm

	Port alarm, supports port up/down alarm and rate alarm
	Alarm level configuration
Syslog	System log level configuration
	Support system log download
	Support operation log
	Support Syslog Server
	Enable CLI alarm
Security	Radius Client, Supports plaintext and ciphertext
	Tacacs+
	802.1x, Port-Based Authentication
	Openssl 1.1.0
	IP Source Guard, IP+MAC+Port+VLAN Binding
	Link Flap Detect
Deny DoS Attack	TCP Flag
	Support IP address verification
	Support port check
	Support ICMP attack detection
Redundant Backup	Smart Link
	Monitor Link

Ordering Information

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HSGQ-9028	16*10G+8*25G+4*40G/100G Data Center Switch