RG-S2910-H Series

PoE Switches

Datasheet

01 Product Overview

The RG-S2910-H series switch, launched by Ruijie Networks, embodies the design of security, high efficiency, and energy saving. It offers full gigabit access and flexible, scalable 10GE uplink data exchange capabilities, making it a next-generation gigabit Ethernet switch. With a new hardware architecture and Ruijie RGOS11.X modular operating system, the switch provides more resource entries, faster hardware processing performance, and better operation experience. The PoE models with different configurations can satisfy access needs of all the downlink ports of the system for PoE load and high bandwidth demand of 10GE uplink.

02 Product Appearance

RG-S2910-24GT4XS-UP-H
Front View of the RG-S2910-24GT4XS-UP-H

RG-S2910-24GT4SFP-UP-H
Front View of the RG-S2910-24GT4SFP-UP-H

03 Product Features

Network Security

With support for various types of ACLs, port security, IP-MAC-port binding, and other security technologies, the RG-S2910-H can effectively prevent various ARP spoofing and proactively protect against various DoS and DDoS attacks.

It supports Ruijie CPU Protection Policy (CPP) and Network Foundation Protection Policy (NFPP). The two technologies can be used to differentiate data flows destined for the CPU and assign priorities to queues for different processing. Moreover, the device delivers real-time bandwidth limiting to protect the CPU from being occupied by unauthorized traffic and malicious attacks, which guarantees stable CPU operation. It rate-limits ARP packets, ICMP request packets, and DHCP request packets sent by users on a network, and discards the packets of which the transmit rate exceeds the rate limit. It can also identify attacks and isolate users that launch attacks, ensuring secure and stable operation of the entire network.

VSU

Virtual Switching Unit (VSU) enables multiple physical devices to be virtualized into one logical device. The physical devices use the same IP address, Telnet process, and CLI for management, and support automatic version check and automatic configuration. In this context, a network administrator only manages one logical device, improving working efficiency and experience.

Simplified management: The network administrator can manage multiple switches uniformly without connecting to each switch for separate configuration and management.

Simplified network topology: A VSU serves as a switch on a network and connects to peripheral devices through aggregate links. Therefore, no Layer 2 loop occurs and MSTP configuration is not required. Various control protocols can run on the VSU.

Fault rectification within milliseconds: A VSU connects to peripheral devices through aggregate links. If one device or member link in the VSU malfunctions, data and services can be switched to another member link within only 50 ms to 200 ms.

High scalability: Devices can be added to or removed from a virtualized network, without affecting normal operation of other devices.

Increase in return on investment: Aggregate links are used for connecting the VSU to peripheral devices, implementing link redundancy and load balancing. All network devices and bandwidth resources are fully leveraged. Any type of 10GE ports can be used to establish a VSU over any data transmission cable, without requiring additional cable or expansion card configurations. There are no limitations on the port or cable types used, which maximizes user investment protection.

Standard Protocols for Easier Device Interworking

The RG-S2915-L series switches support the Ethernet Ring Protection Switching (ERPS) technology, which is a Layer 2 link redundancy protocol designed for the core Ethernet. The master device is used to block loops and restore links, and the non-master device directly reports the link status to the master device, without any processing from other non-master devices. Therefore, loop elimination and restoration time of ERPS is faster than that of STP. ERPS supports link restoration within milliseconds.

SDN for Future Service Development

The RG-S2910-H supports OpenFlow, and can be used with Ruijie Networks' Software-defined Networking (SDN) controller to easily realize large-scale 2-layer networking architecture. It also supports smooth upgrade of the entire network to an SDN network, which greatly simplifies network management while reducing maintenance costs.

04 Product Specifications

Hardware Specifications

Hardware Specifications	RG-S2910-24GT4SFP-UP-H	RG-S2910-24GT4XS-UP-H
Ports		
Fixed service port	24 x 10/100/1000M electrical ports supporting auto negotiation + 4 x 1GE SFP ports	24 x 10/100/1000M electrical ports supporting auto negotiation + 4 x 10GE/1GE SFP+ ports
System		
Switching capacity	56 Gbps	128 Gbps
Packet forwarding rate	42 Mpps	96 Mpps
Dimensions and Weight		
Dimensions (W x D x H)	440 mm x 260 mm x 44 mm (17.32 in. x 10.24 in. x 1.73 in.)	440 mm x 260 mm x 44 mm (17.32 in. x 10.24 in. x 1.73 in.)
Power Supply and Consumption		
Rated input voltage	AC input: rated voltage range 100 V to 240 V, frequency 50/60 Hz	
Maximum input voltage	AC input: rated voltage range 90 V to 264 V, frequency 50/60 Hz	
Input voltage	High voltage DC (HVDC) input: input voltage range 192 V to 290 V	
PoE power supply	24 x electrical ports supporting PoE and PoE+	24 x electrical ports supporting PoE and PoE+
Maximum output power of a PoE interface	Maximum PoE/PoE+ output power: 370 W	Maximum PoE/PoE+ output power: 370 W
Environment and Reliability		
Fan monitoring	Fan speed adjustment and fault alarms	
Operating temperature	0°C to 50°C (32°F to 122°F)	
Storage temperature	–40°C to +70°C (–40°F to +158°F)	
Operating humidity	10% to 90% RH	
Storage humidity	5% to 95% RH	
Operating altitude	–500 m to +5000 m (–1640.42 ft to +16404.20 ft)	

Software Specifications

Software Specifications	RG-S2910-24GT4SFP-UP-H	RG-S2910-24GT4XS-UP-H
VLAN	4K VLANs Interface-based VLAN assignment MAC address-based VLAN assignment Protocol-based VLAN assignment Private VLAN Voice VLAN IP subnet-based VLAN GVRP	
QinQ	Basic QinQ Selective QinQ	
ACL	Standard IP ACL Extended IP ACL Extended MAC ACL (hardware ACL based on the source MAC address, destination MAC address, and optional Ethernet type) Time range-based ACL Expert-level ACL (hardware ACL based on flexible combinations of the VLAN ID, Ethernet type, MAC address, IP address, TCP/UDP port ID, protocol type, and time range) ACL 80 IPv6 ACL Global ACL ACL redirection	
QoS	Rate limiting on an interface based on the ingress or egress Flow-based rate limiting on the ingress or egress 802.1p/DSCP/ToS traffic classification Eight priority queues per interface SP, WRR, DRR, SP+WFQ, SP+WRR, SP+DRR, and RED/WRED scheduling	
Mirroring	Common service interfaces and aggregate interfaces that can be configured as source and destination interfaces of mirroring 1:1, 1:N, N:1, and flow-based local and remote mirroring RSPAN and ERSPAN Cross-device traffic mirroring	
DHCP	DHCP server DHCP client DHCP snooping DHCP relay IPv6 DHCP snooping IPv6 DHCP client IPv6 DHCP relay	
Layer 2 protocols	IEEE 802.3, IEEE 802.3u, IEEE 802.3z, IEEE 802.3x, IEEE 802.3ad, IEEE 802.1p, IEEE 802.1x, IEEE 802.3ab, IEEE 802.1Q (GVRP), IEEE 802.1d, IEEE 802.1w, IEEE 802.1s IEEE 802.1s, and IGMP snooping v1/v2	

| Software Specifications	RG-S2910-24GT4SFP-UP-H	RG-S2910-24GT4XS-UP-H
Security	3-tuple binding (IP address, MAC address, and interface) 3-tuple binding (IPv6 address, MAC address, and interface) Invalid MAC address filtering Interface- and MAC address-based 802.1X authentication MAC address bypass authentication (MAB) Portal and Portal 2.0 authentication ARP check DAI Trusted ARP ARP spoofing prevention Broadcast or multicast storm suppression Unknown multicast suppression and multicast bandwidth suppression Hierarchical management and password protection RADIUS and TACAS+ AAA (IPv4/IPv6) for device login management SSH and SSHv2.0 BPDU guard IP source guard CPP and NFPP Port protection	
Cable diagnostics	Cable detection	
Energy Efficient Ethernet (EEE)	IEEE 802.3az-compliant EEE: When EEE is enabled, power consumption of interfaces is significantly reduced.	
Port sleeping	Port sleeping	
PoE	IEEE 802.3af, IEEE 802.3at, and IEEE 802.3bt Automatic and energy-efficient power supply management modes Warm start to implement uninterrupted power supply Interface priority Compatibility with non-standard PDs Scheduled power-on/off of PoE interfaces	
IP routing	IPv4/ IPv6 static route RIP, RIPng, OSPFv2, and OSPFv3 Routing policy	
IPv6 Basic protocols	IPv6 addressing, Neighbor Discovery (ND), IPv6 ACL, ICMPv6, IPv6 ping, and IPv6 tracert	
VSU features	VSU Local and remote stacking Cross-chassis link bundling within the stack	
Zero Touch Provisioning (ZTP)	CWMP (TR-069) standard protocol	
Management features	SNMP, CLI (Telnet/console), RMON, SSH, Syslog/debugging, NTP/SNTP, FTP, TFTP, web, and sFlow	

05 Typical Applications

With the design of security, efficiency, intelligence, and energy saving, the RG-S2910-H series can fully meet the networking requirements of the following scenarios:

- Full gigabit access to LANs within large-scale enterprise campuses, such as government buildings, colleges and universities, and large-scale manufacturing/energy/metallurgical units
- Gigabit access for commercial systems such as healthcare systems, libraries, convention centers, and websites
- Access of IP phones, WLAN access points, and HD cameras
- Flexible and diverse security control policies required to prevent network viruses and network attacks, and provide user access security

Scenario 1

The RG-S2910-H series switches and RG-S5750-H series (building aggregation switches), and core switch RG-N18000 constitute a network, to achieve 1000M desktop access as well as high-performance 10GE links from the aggregation layer to the core layer, to cope with increasing information amount of access users.
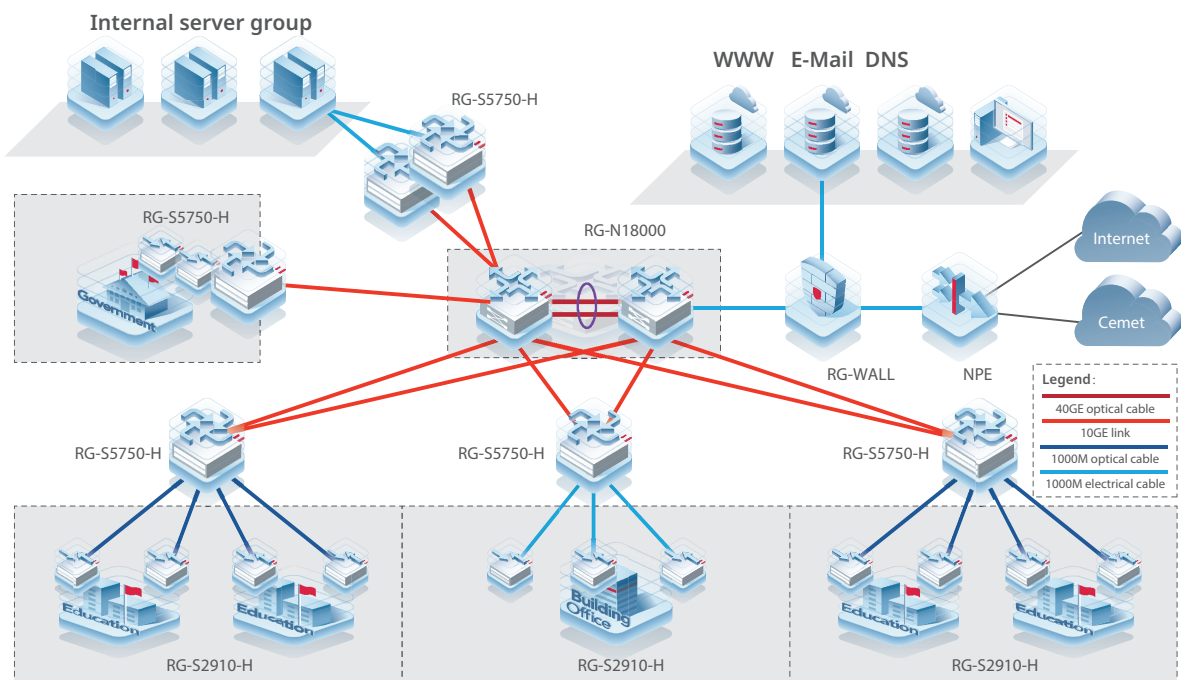
06 Ordering Guide

Perform the following steps to configure an RG-S2910-H:
- Purchase the chassis.
- Select optical modules based on interface requirements.

Models marked with asterisks (*) in the ordering information are available later.

07 Ordering Information

Chassis

Model	Description
RG-S2910-24GT4SFP-UP-H	24 x 10/100/1000M auto-negotiation electrical ports, 4 x 1000M non-multiplexed SFP ports, PoE/PoE+ remote power supply (mandatory)
RG-S2910-24GT4XS-UP-H	24 x 10/100/1000M auto-negotiation electrical ports, 4 x 1GE/10GE non-multiplexed SFP ports, PoE/PoE+ remote power supply (mandatory)