



Ruijie RG-S2910-H

HPoE Switch Series Datasheet

Ruijie RG-S2910-H High Power over Ethernet (HPoE) Switch Series pushes the frontier with leading IEEE802.3bt standard, delivering 60W power output per port. The HPoE switch guarantees the best security, efficiency, stability and energy-saving experiences.

The HPoE switch is highly adaptive to a breadth of scenarios, eliminating rigid ties to expensive deployment costs, slow implementation cycle, unstable power supply, management complexity, and unsatisfactory security problems that alternative solutions have been struggling to solve. The switch fully addresses high PoE access needs for low power scenario as well as high power Wi-Fi hotspot application in outdoor venue.

Feature Highlights

- Up to 60 Watts per Port by High-power PoE Technology (IEEE 802.3bt)
- 4 NeverDie High Reliability Technology: NFPP, XCor, VSU, XSurge
- Up to 67+ Year MTBF (Mean Time Between Failure)
- Lifetime Free Cloud Management
- Built-in Layer 3 Routing Support
- Power Redundancy Support



RG-S2910-10GT2SFP-UP-H



RG-S2910-24GT4SFP-UP-H



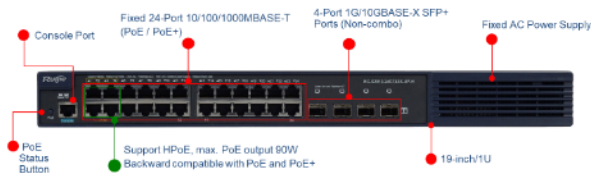
RG-S2910-24GT4XS-UP-H

Product Features

Wide Selection of Power Supply Standards

The RG-S2910-H HPoE switches support IEEE 802.3af, IEEE 802.3at and IEEE 802.3bt and are also backward compatible with earlier standards.

There used to be only two options available for remote power supply scenarios, namely PoE and PoE+ standards. The PoE standard would fail to meet the needs if more than 30W power is required. Instead, electrical wiring or even high power has to be deployed. Such implementation gives an enormous burden to total investment cost, completion schedule, post-sale maintenance, as well as installation safety. Based on IEEE 802.3bt, Ruijie delivers an innovation approach leveraging the HPoE power supply technology, maximizing user experience from the fundamental level.



Hardware Highlights (model: RG-S2910-24GT4XS-UP-H-4)

Carrier-class Reliability

All Ruijie enterprise switches including S2910, S5750 and above series are built-in with the below 4 NeverDie technologies, without additional cost and licensing fee, offering supreme reliability for enterprise campus environment.

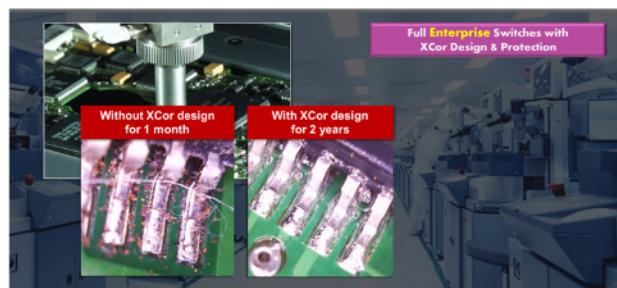
Firstly, XCor and XSurge are the hardware design principles to guarantee stable operation even in operating environments with power instability, high humidity, dust and corrosion. Moreover, NFPP technology is Ruijie's patented network protection for foundation protection against network DDoS. Lastly, VSU, which is Ruijie's switching virtualization technology, allows up to 9 devices to be unified as one virtual unit, simplifying network management and shortening the network convergence time by Multi-link aggregation (MLAG) technology.



4 NeverDie Technologies

Conformal Coating + Anti-Sulfur Resistors Protection

In environments with corrosive gas or high humidity, corrosion of electronic products will accelerate, affecting the reliability and shortening the lifetime. However, the deployment environments of access switches are different. There may be lack of temperature and humidity regulations, close to the source of pollution or the sea. Through the design for durability, all Ruijie enterprise switches have applied conformal coating and anti-sulfur resistors design, resulting in excellent insulation and protection against moisture, dust, corrosion, and salt spray to enhance environmental adaptability.



Full series of enterprise switches provide XCor protection

XSurge Power Protection

The XSurge power protection is important for protecting the critical communication system connected via the access switches. The surge protection offers up to 6kV lightning protection for the power supply and up to 8kV lightning protection for the communication port, which guarantees high-quality power supply with operating temperature from 0 °C to 50 °C.



NFPP Security Protection

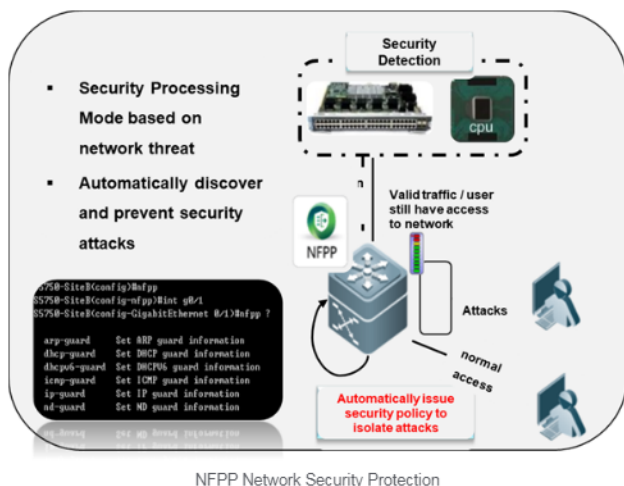
The Network Foundation Protection Policy (NFPP) is Ruijie's patented protection system for enhancing the anti-attack capability of a switch. When a switch encounters malicious attacks, NFPP employs a series of countermeasures, such as

rate-limiting, identifying and isolating the attack source, to ensure the normal control and management flows of the system, thereby protecting the computing and channel resources of the switch CPU.

More info:

Whitepaper download: https://ruijienetworks.com/service/document_40294

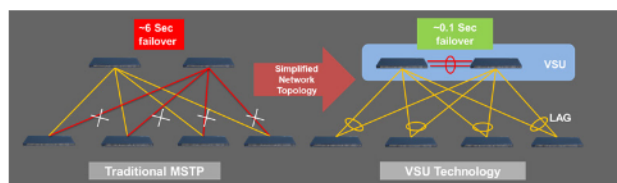
Live Demo: https://youtu.be/d5_vXk0WBMk



VSU Virtualization - Multi-Chassis Link Aggregation

All the RG-S2910-H models support Virtual Switch Unit (VSU) technology. It enables interconnection of several physical devices and virtualizes them into one logical unit. The logical device uses one single IP address, Telnet process, command-line interface (CLI), and enables auto version checking and configuration. From the user perspective, there is only one device to be managed and yet user can visualize benefits offered by several devices. Work efficiency and user experience are hence greatly enhanced. The VSU technology also offers multiple benefits below:

- Easy management:** Administrators can centrally manage all the devices at the same time. It is no longer necessary to configure and manage the switches one by one.
- Simplified typology:** The VSU is regarded as one switch in the network. By connection of aggregation link and peripheral network devices, MSTP protocol is unnecessary as there is no Layer 2 loop network. All protocols operate as one switch.
- Millisecond failover:** The VSU and peripheral devices are connected via the aggregation link. Upon failure event of any device or link, failover to another member link requires only 50 to 200ms.
- 100% Utilization for ALL Uplink Bandwidth:** The network is hot swappable. Any devices leaving or joining the virtualized network cause zero impact on other devices.



Ruijie VSU: Make complex things simple | Seamless Network Service Failover

Carrier-class Redundancy

The 802.1D, 802.1w and 802.1s Spanning Tree Protocols guarantee fast convergence and improves fault tolerance. These also maintain stable network operation and link load balancing. The feature ensures optimal network channel usage and improves redundant link utilization.

Virtual Router Redundancy Protocol (VRRP) is also available for network stability.

Another method to guarantee smooth network operation is Rogue Location Discovery Protocol (RLDP). The technology quickly detects link interruption and fiber link unidirectionality. It also prevents loop failure caused by connecting a hub or other devices to the port.

Ethernet Ring Protection Switching (ERPS) (G.8032) implements loop blocking and link recovery on the master device. Other devices directly report link status to the master device. Without passing through other standby devices, the failover time of loop interruption and recovery is hence faster than STP. The ERSP's link failover rate can be completed within milliseconds under ideal conditions.

With STP disabled, the basic link redundancy can still be maintained via Rapid Ethernet Uplink Protection Protocol (REUP). It enables even faster millisecond failover protection than that of the STP.

Software-defined Networking (SDN)

The RG-S2910-H switch series fully supports OpenFlow 1.3. It can fully collaborate with Ruijie's proprietary SDN controller to form a large-scale Layer 2 framework with ease. The feature ensures a smooth upgrade to SDN network. The RG-S2910-H series greatly simplifies the network management and minimizes deployment costs.

Energy Efficiency

Ruijie has put unswerving research effort in solving noise and energy consumption problems of conventional switches. The new RG-S2910-H switch series offers a total solution for such problems, providing a quieter work environment and resolving heavy energy use caused by the deployment of a large number of devices.

The RG-S2910-H switches adopt next-gen hardware architecture with an advanced energy-saving circuit design and component selection. The switches offer an overall energy deduction of 40%+ for maximized cost savings. Noise pollution level is also greatly reduced. All models in the series deploy axial flow fans supporting speed adjustment. The fans enable intelligent temperature control based on current ambient temperature. The design totally ensures stable operation, and minimizes power consumption and noise level at the same time.

Under the environment of PoE power supply, the RG-S2910-H switches offer auto, energy-saving and static modes to deal with various deployment challenges.

The auto-power-down mode is another feature highlight. When an interface is down for a certain period of time, the system will automatically power down that interface for extra energy efficiency. The switch series also supports an EEE energy saving function. The system will automatically turn an idle port into energy-saving mode. The system will regularly issue listening streams to the port. It will resume service upon receiving a new packet.

The RG-S2910-H switch series complies with RoHS standards adopted by the European Union on restricting the use of hazardous materials in the manufacture process. The series also fulfills SJ/T 11363/11364/11365 standards.

Simple and Easy Network Maintenance

The RG-S2910-H switch series supports varieties of management including central cloud management from small to large-scale remote sites.

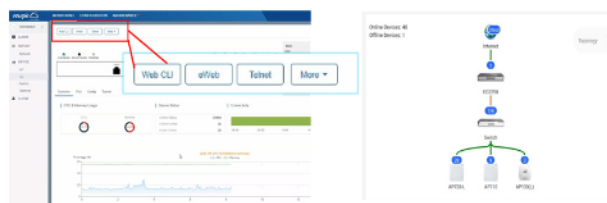
Traditionally, Ruijie enterprise switches provide command-line interface (CLI) and web management, which are more suitable for single device or small campus management. For large-scale campus, Ruijie provides 2 central management offerings:

a) On-premises Network Management System Cloud Management (i.e. RG-SNC, order separately)

For details, please visit RG-SNC website at: <https://www.ruijienetworks.com/products/software/network-management-software/rg-snc-smart-network-commander>

b) Public Cloud Management (i.e. Ruijie Cloud – Lifetime Free)

For details, please visit Ruijie Cloud website at: <https://www.ruijienetworks.com/products/smb/cloud-service/cloud-service/ruijie-cloud-solution>



Ruijie Cloud built-in with rich unified Monitoring / Configuration / Authentication / Reporting features



Ruijie RG-SNC is an on-premises network management system solution with user friendly GUI

Mobile Monitoring and Optimizing

Ruijie is committed to providing more simple networking experience for customers by launching a free mobile app (namely Ruijie Cloud) for unified device lifecycle management, which is not only for Ruijie access points, but also for switches and security gateways, from provisioning, monitoring, configurations to optimization. For details, please visit our official website at <https://www.ruijienetworks.com/products/smb/cloud-service/cloud-service/ruijie-cloud-solution/mobile-app>



Technical Specifications

Model	RG-S2910-24GT4SFP-UP-H	RG-S2910-24GT4XS-UP-H	RG-S2910-10GT2SFP-UP-H	
Ports	24 10/100/1000BASE-T ports (PoE/PoE+) 4 Gigabit SFP ports (non-combo) uplink, Port 1-4 for HPoE, AC	24 10/100/1000BASE-T ports (PoE/PoE+), 4 1G/10G SFP+ ports (non-combo) uplink, Port 1-4 for HPoE, AC	10 10/100/1000BASE-T ports (8 PoE/PoE+ ports), 2 Gigabit SFP ports (non-combo) uplink, Port 1-8 for HPoE, AC	
Management Ports	1 console port			
Switching Capacity	Up to 256Gbps			
Packet Forwarding Rate	42Mpps/96Mpps	Up to 96Mpps	Up to 18Mpps	
PoE	IEEE 802.3af, IEEE 802.3at and IEEE 802.3bt			
Port Buffer	1.5MB			
ARP Table	1,000	1,000	500	
MAC Address	16K			
Routing Table Size (IPv4/IPv6)	500 (IPv4/IPv6)	500 (IPv4/IPv6)	64 (IPv4/IPv6)	
ACL Entries	In: 1500 Out: 500	In: 1500 Out: 500	In: 750 Out: N/A	
VLAN	Port-based VLAN, MAC-based VLAN, Protocol-based VLAN, Private VLAN, Voice VLAN, IP subnet-based VLAN, GVRP			
QinQ	Basic QinQ, Flexible QinQ			
Port Mirroring	Support aggregation port as source and destination port of mirroring; Flow-based mirroring; VLAN-based mirroring; Many-to-one mirroring; One-to-many mirroring; Cross-device traffic mirroring; RSPAN; ERSPAN	Support aggregation port as source and destination port of mirroring; Flow-based mirroring; VLAN-based mirroring; Many-to-one mirroring; One-to-many mirroring; Cross-device traffic mirroring; RSPAN; ERSPAN	Support aggregation port as source and destination port of mirroring; Flow-based mirroring; VLAN-based mirroring; Many-to-one mirroring; One-to-many mirroring; RSPAN; ERSPAN	
Spanning Tree Protocols	IEEE802.1d STP, IEEE802.1w RSTP, standard 802.1s MSTP, Port fast, BPDU filter, BPDU guard, TC guard, TC protection, ROOT guard			
DHCP	DHCP server, DHCP client, DHCP snooping, DHCP relay, IPv6 DHCP snooping, IPv6 DHCP client, IPv6 DHCP relay			
Multiple Spanning Tree Protocol (MSTP) Instances	64			
SDN	OpenFlow			
VSU	VSU Stack Members	Up to 9 stack members ¹	Up to 9 stack members ¹	N/A
	VSL	4 BASE-X ports can be configured as VSL ²	4 BASE-X ports can be configured as VSL ²	N/A
Zero Configuration	CWMP(TR069)			
L2 Features	MAC, VLAN, Basic QinQ, Felix QinQ, Mirroring, STP, RSTP, MSTP, Broadcast storm control, IGMP v1/v2/v3 snooping, IGMP filter, IGMP fast leave, Jumbo frame, RLD, LLDP, REUP, G.8032			
Layer 2 Protocols	IEEE802.1d, IEEE802.1w, IEEE802.1s, IGMP Snooping v1/v2/v3			
Layer 3 Features	ARP, IPv4/v6			
IPv4 Features	Ping, Traceroute			
IPv6 Features	0-64 any length mask, ICMPv6, Neighbor Discovery, Manually configure local address, Automatically create local address, IPv6 Ping, IPv6 Tracert, IPv6 extender option head			
Basic IPv6 Protocols	IPv6 addressing, Neighbor Discovery (ND), IPv6 ACL, ICMPv6, IPv6 Ping, IPv6 Tracert			
IPv4 Routing Protocols	Static Routing, RIP, OSPFv1/v2			
IPv6 Routing Protocols	Static Routing, RIPng, OSPFv3			
G.8032	Support			
ACL	Standard IP ACL, Extended IP ACL, Extended MAC ACL, Expert ACL, ACL80, IPv6 ACL, ACL Logging, ACL Counter, ACL Remark, Global ACL, ACL Redirect			
QoS	802.1p/DSCP traffic classification; Multiple queue scheduling mechanisms, such as SP, WRR, DRR, SP+WRR, SP+DRR; Input / output port-based speed limit; Each port supports 8 queue priorities, Dynamic QoS	802.1p/DSCP traffic classification; Multiple queue scheduling mechanisms, such as SP, WRR, DRR, SP+WRR, SP+DRR; Input / output port-based speed limit; Each port supports 8 queue priorities, Dynamic QoS	802.1p/DSCP traffic classification; Multiple queue scheduling mechanisms, such as SP, WRR, DRR, SP+WRR, SP+DRR; Input port-based speed limit; Each port supports 8 queue priorities, Dynamic QoS	
Reliability	GR for RIP			

Note:

¹ Future release support. Latest models support up to 4 stack members.

² Only the 4 SFP/SFP+ ports can be configured as VSL. VSU is not supported between S2910-24GT4SFP-UP-H and S2910-24GT4XS-UP-H, as well as between S2910-24GT4SFP-UP-H V1.XX and S2910-24GT4SFP-UP-H V2.XX.

Model	RG-S2910-24GT4SFP-UP-H	RG-S2910-24GT4XS-UP-H	RG-S2910-10GT2SFP-UP-H
EEE Format	Support IEEE 802.3az standard		
Security	Binding of the IPv6 and MAC address; Port-based and MAC-based 802.1x; MAB; Portal and Portal 2.0 authentication; ARP-check; DAI; Gateway anti-ARP spoofing; Hierarchical management by administrators and password protection; RADIUS and TACACS+; SSH V1.5 and SSH V2.0; IP source guard; CPP, NFPP, Port protection		
Manageability	SNMPv1/v2c/v3, RMON(1, 2, 3, 9), SSH, Syslog / Debug, NTP / SNTP, FTP, TFTP, Web		
Smart Temperature Control	Temperature monitoring and alert		
Dimensions (W x D x H) (mm)	440×260×44	440×260×44	340×260×44
Rack Height	1RU		
MTBF	361712 hours	388055 hours	408710 hours
Lightning Protection on Power Port	Common Mode 4KV/Differential Mode 2K	Common Mode 4KV/Differential Mode 2K	Common Mode 6KV/Differential Mode 6KV
Lightning Protection on Communication Port	Common Mode 6KV		
Power Supply	AC input: Nominal voltage range: 100V to 240V AC Maximum voltage range: 90V to 264V AC Frequency: 50Hz to 60Hz		
Power Consumption	<460W	<460W	<630W
PoE Power Consumption	Total 370W PoE/PoE+/HPoE budget output power All 24 BASE-T ports support PoE (up to 24 ports) and PoE+ (up to 12 ports) All ports from Port 1-4 support HPoE output power of up to 60W per port	Total 370W PoE/PoE+/HPoE budget output power All 24 BASE-T ports support PoE (up to 24 ports) and PoE+ (up to 12 ports) All ports from Port 1-4 support HPoE output power of up to 60W per port	Total 520W PoE/PoE+/HPoE budget output power All ports from Port 1-8 support HPoE output power of up to 60W per port
Temperature	Operating temperature: 0°C to 50°C		
	Storage temperature: -40°C to 70°C		
Humidity	Operating humidity: 10% to 90%RH		
	Storage humidity: 5% to 95%RH		
Operating Altitude	-500m to 5,000m		

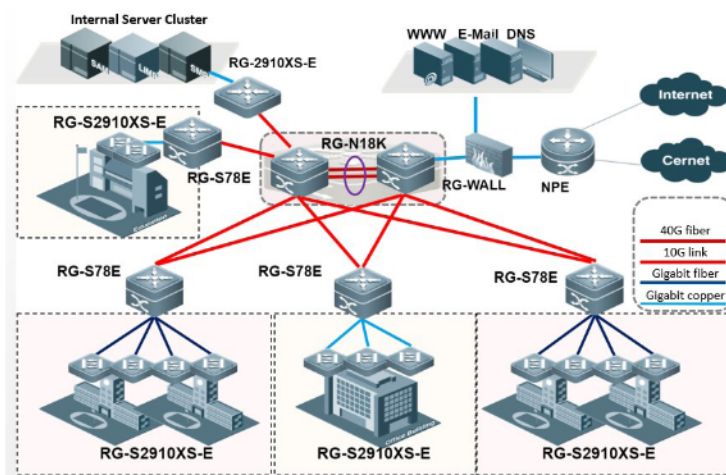
Typical Applications

The RG-S2910-H switch series features high security, efficiency and intelligence with superior energy-saving capacity. The series is suitable for the following scenarios:

- Full gigabit access to LANs of large-scale enterprises and institutions, such as government buildings, universities and large manufacturing/ energy/ metallurgy enterprises
- Full gigabit access to business systems, such as hospitals, libraries, exhibition centers and websites
- IP phones, WLAN access points and high-definition cameras access
- Full gigabit access to server clusters and 10G high-bandwidth uplink
- Secure access through flexible and diverse security control policies that can defend against network viruses and attacks

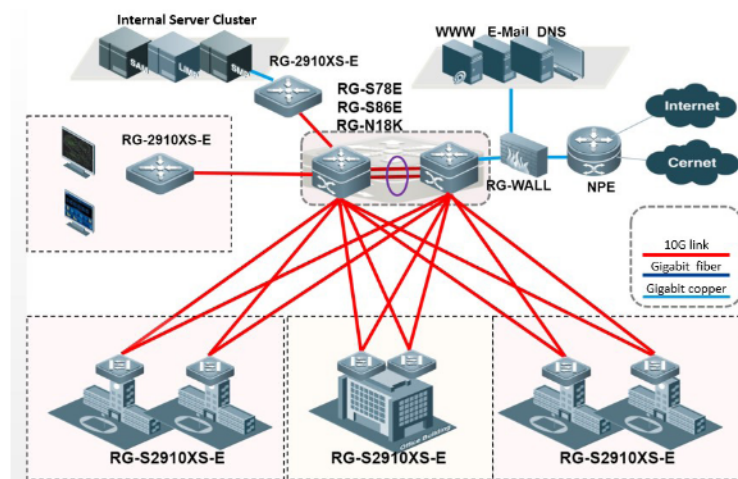
Scenario 1

The RG-S2910-H switch series switch is deployed with the RG-S5750E/P Series / the RG-S78E Series Aggregation Switches. Also teaming up the RG-N18K Series at the core, the deployment provides Gigabit Ethernet downlinks and 10 Gigabit Ethernet uplinks to meet the ever-increasing number of network nodes and demanding bandwidth requirements.



Scenario 2

The RG-S2910-H switch series switch can be deployed with RG-S78E Series/ RG-S86E Series/ RG-N18K Series to provide Gigabit Ethernet downlinks and 10 Gigabit Ethernet uplinks to the simplified core network architecture. Different combinations provide comprehensive coverage for network deployment of large, medium and small sizes. Not only does it simplify the network architecture, but also significantly enhances the stability and efficiency of the network system.



Ordering Information

Model	Description
RG-S2910-24GT4SFP-UP-H	24 10/100/1000BASE-T ports (PoE/PoE+) and 4 Gigabit SFP ports (non-combo) uplink, Port 1-4 for HPoE, AC
RG-S2910-24GT4XS-UP-H	24 10/100/1000BASE-T ports (PoE/PoE+) and 4 1G/10G SFP+ ports (non-combo) uplink, Port 1-4 for HPoE, AC
RG-S2910-10GT2SFP-UP-H	10 10/100/1000BASE-T ports (HPoE/PoE/PoE+) and 2 Gigabit SFP ports (non-combo) uplink, Port 1-8 for HPoE, AC
Optional Industrial Adapters and Accessories	
Mini-GBIC-SX-MM850	1000BASE-SX mini GBIC Transceiver (850nm)
Mini-GBIC-LX-SM1310	1000BASE-LX mini GBIC Transceiver (1310nm)
Mini-GBIC-LH40-SM1310	1000BASE-LH mini GBIC Transceiver (1310nm, 40km)
Mini-GBIC-ZX50-SM1550	1000BASE-ZX mini GBIC Transceiver (1550nm, 50km)
Mini-GBIC-ZX80-SM1550	1000BASE-ZX mini GBIC Transceiver (1550nm, 80km)
Mini-GBIC-ZX100-SM1550	1000BASE-ZX mini GBIC Transceiver (1550nm, 100km)
XG-SFP-AOC1M	10GBASE SFP+ Optical Stack Cable (included both side transceivers) for S2910 and S5750-H Series Switches, 1m
XG-SFP-AOC3M	10GBASE SFP+ Optical Stack Cable (included both side transceivers) for S2910 and S5750-H Series Switches, 3m
XG-SFP-AOC5M	10GBASE SFP+ Optical Stack Cable (included both side transceivers) for S2910 and S5750-H Series Switches, 5m



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