

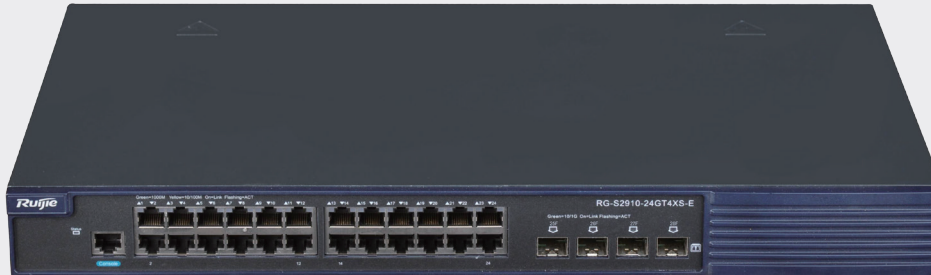


RG-S2910XS-E Series Switch



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Product Pictures



RG-S2910-24GT4XS-E



RG-S2910-48GT4XS-E

Product Overview

Ruijie RG-S2910XS-E is a collection of next-gen Gigabit switches architected for superior security, switch delivers non-blocking/wire-speed,high performance and outstanding energy efficiency.The series delivers full Gigabit access and unparalleled scalability to 10G performance. With the all-new hardware architecture and Ruijie's latest RGOS11. X modular operating system, the RG-S2910XS-E switches offer larger table capacity, faster hardware processing performance and a better operation experience than anything previous. The RG-S2910XS-E switches guarantee high-density user access and leading aggregation performance with ease.

Product Highlights

- 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

Product Features

Carrier-class Reliability

All Ruijie enterprise switches including S2910, S5750 and above series are built-in with the below 4NeverDie 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.

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.

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:

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

VSU Virtualization - Multi-Chassis Link Aggregation

All the RG-S2910XS-E 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.

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-S2910XS-E 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-S2910XS-E 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-S2910XS-E 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-S2910XS-E 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-S2910XS-E 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-S2910XS-E 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-S2910XS-E 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>

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>

Product Specifications

Hardware Specifications

Hardware Specifications	RG-S2910-24GT4XS-E	RG-S2910-48GT4XS-E
Interface Specifications		
Fixed service port	24 x 10/100/1000 BASE-T ports 4 x 1G/10G BASE-X SFP+ ports (non- combo)	48 10/100/1000 BASE-T ports 4 x 1G/10G BASE-X SFP+ ports (non- combo)
Fans modules	Fixed fans	Fixed fans
Management Ports	1 console port	1 console port
System Specifications		
Switching capacity	128Gbps	176Gbps
Packet forwarding rate	96Mpps	132Mpps
Port Buffer	1.5MB	
RAM	512MB	
ARP Table	1,000	
MAC Address	16K	
Routing Table Size (IPv4/IPv6)	500 (IPv4/IPv6)	
ACL Entries	In: 1,500 Out: 500	
Lightning Protection on Power Port	Common Mode 6KV/Differential Mode 6KV	
Lightening Protection on Communication Port	Common Mode 6KV	
Dimensions and Weight		
Dimensions (W x D x H)	440 × 260 × 43.6	440 × 260 × 43.6
Weight	≤3.5kg	≤4kg

Hardware Specifications	RG-S2910-24GT4XS-E	RG-S2910-48GT4XS-E
Rack Height	1RU	1RU
Power and Consumption		
Rated input voltage	AC input: 100V to 240V AC HVDC input: 192V to 290V DC	AC input: 100V to 240V AC HVDC input: 192V to 290V DC
Maximum input voltage	90V to 264V AC	90V to 264V AC
Input current	0.5A to 0.1A	0.8A to 0.5A
Power Consumption	24W	50W
Environment and Reliability		
MTBF (hours)	>200K	
Fan monitoring	Auto fan speed adjustment; Fan malfunction alerts; Fan status check	
Operating temperature	0°C to 50°C	
Storage temperature	-40°C to 70°C	
Operating humidity	10% to 90%RH	
Storage humidity	5% to 95%RH	
Operating altitude	-500m to 5,000m	
Safety Standards	IEC 60950-1, EN 60950-1	
Emission Standards	EN 300 386, EN 55022/55032, EN 61000-3-2, EN 61000-3-3, EN 55024, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11	

Software Specifications

Software Specifications	RG-S2910-24GT4XS-E	RG-S2910-48GT4XS-E
VLAN	4K 802.1q VLANs Port-based VLAN MAC-based VLAN Protocol-based VLAN Private VLAN Voice VLAN QinQ IP subnet-based VLAN GVRP Guest VLAN	

Software Specifications	RG-S2910-24GT4XS-E	RG-S2910-48GT4XS-E
QinQ	Basic QinQ Flexible QinQ N:1 VLAN switching 1:1 VLAN switching	
Link Aggregation	AP, LACP (maximum 8 ports can be aggregated), Cross devices AP, Flow balance	
ACL	Standard/Extended/Expert ACL Extended MAC ACL ACL 80 IPv6 ACL ACL logging ACL counter ACL remark Global ACL ACL redirect Time-based ACL Router ACL VLAN ACL Port-Based ACL	
QoS	802.1p/DSCP/TOS traffic classification; Multiple queue scheduling mechanisms, such as SP, WRR, DRR, SP+WFQ, SP+WRR, SP+DRR Input / output port-based speed limit Port-based traffic recognition Each port supports 8 queue priorities Flow-based rate limiting with the minimum granularity of 8Kbps Dynamic QoS	
Mirroring	Over devices mirroring VLAN-based mirroring VLAN-filtering mirroring AP-port mirroring, RSPAN ERSPAN Note: RG-S2910-10GT2SFP-P-E supports Many-to-one mirroring, One-to-many mirroring, Flow-based mirroring	
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, Spanning Tree Root Guard (STRG)	
DHCP	DHCP server DHCP client DHCP snooping DHCP relay IPv6 DHCP snooping IPv6 DHCP client IPv6 DHCP relay DHCP Snooping Option 82	
Multiple Spanning Tree Protocol (MSTP) Instances	64	
Layer 2 protocols	IEEE802.3, IEEE802.3u, IEEE802.3z, IEEE802.3x, IEEE802.3ad, IEEE802.1p, IEEE802.1x, IEEE802.3ab, IEEE802.1Q (GVRP), IEEE802.1d, IEEE802.1w, IEEE802.1s	

Software Specifications	RG-S2910-24GT4XS-E	RG-S2910-48GT4XS-E
Maximum Aggregation Port (AP)	128	
SDN	OpenFlow 1.0 & 1.3	
VSU (Virtual Switch Unit)	Support (up to 9 stack members to ensure the effectiveness of the use, 4 members are recommended), Local and distant stacking, Cross-chassis link aggregation in the stack, Stacking via 10G Ethernet ports # All models support the features above except RG-S2910-10GT2SFP-P-E	
Zero Configuration	CWMP(TR069)	
Energy Efficient Ethernet (EEE)	IEEE 802.3az-compliant EEE: When EEE is enabled, power consumption of interfaces is significantly reduced.	
L2 Features	MAC, EEE, ARP, VLAN, Basic QinQ, Felix QinQ, Link aggregation, Mirroring, STP, RSTP, MSTP, Broadcast/ Multicast/Unknown unicast storm control, IGMP v1/v2/v3 snooping, IPv6 MLD Snooping v1/v2, IGMP SGVL/ IVGL, IGMP querier, IGMP filter, IGMP fast leave, DHCP, Jumbo frame, RLDP, LLDP, REUP, G.8032 ERPS, Layer 2 protocol tunnel	
IP routing	IPv4/ IPv6 static route RIP, RIPng, OSPFv2, and OSPFv3 Routing policy	
IPv6 Basic protocols	IPv6 addressing, Neighbor Discovery (ND), ICMPv6, IPv6 Ping and IPv6 Tracert	
Other Protocols	FTP, TFTP, DNS client, DNS static	
IPv4 Features	Ping, Traceroute	
IPv6 Features	ICMPv6, IPv6 Ping, IPv6 Tracert, Manually configure local address, Automatically create local address	
VSU features	VSU (virtualization technology for virtualizing multiple devices into 1); RIP GR; ERPS (G.8032); REUP dual-link fast switching technology; RLDP (Rapid Link Detection Protocol)	
Management features	SNMPv1/v2c/v3 CLI (Telnet / Console) RMON (1, 2, 3, 9) SSH Syslog/Debug NTP/SNTP, FTP, TFTP Web sFLOW HTTP or HTTPS Note: RG-S2910-10GT2SFP-P-E supports SNMPv2c, CLI (Telnet / Console), Syslog, RMON (1, 2, 3, 9), Web	
EEE Format	Support IEEE 802.3az standard	
Hot Patch	Support	

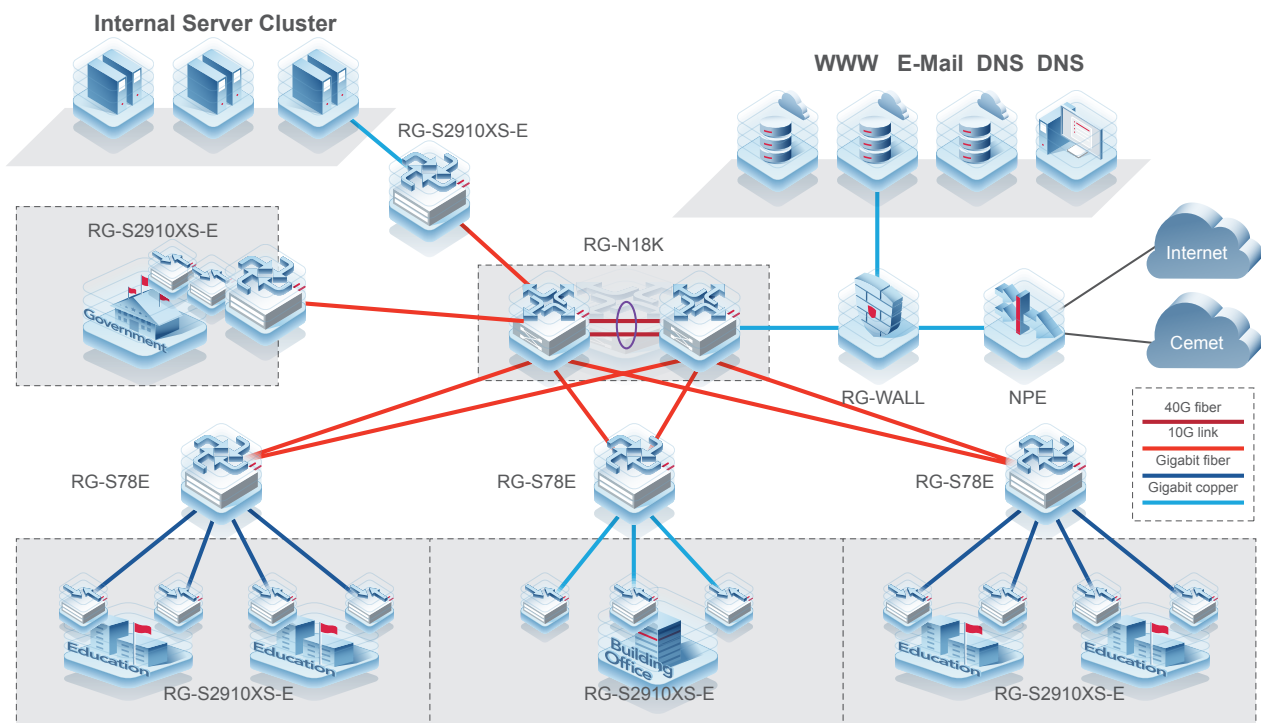
Typical Applications

The RG-S2910XS-E 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

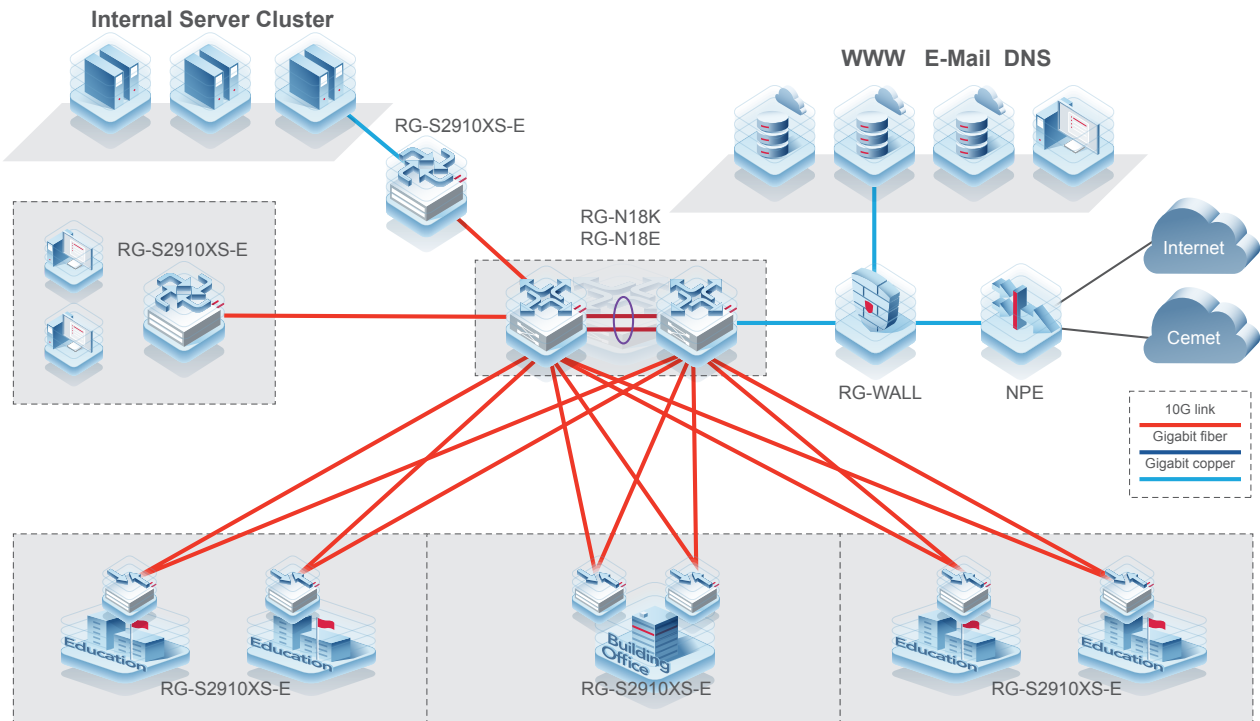
Scenario 1

The RG-S2910XS-E 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-S2910XS-E Series Switch can be deployed with RG-N18K Series/RG-N18E 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-S2910-24GT4XS-E	24 10/100/1000BASE-T Ports, 4 1G/10GBASE-X SFP+ Ports (non-combo), AC
RG-S2910-48GT4XS-E	48 10/100/1000BASE-T Ports, 4 1G/10GBASE-X SFP+ Ports (non-combo), AC
Optional 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)

Model	Description
XG-SFP-SR-MM850	10GBASE-SR, SFP+ Transceiver, MM (850nm, 300m, LC)
XG-SFP-LR-SM1310	10GBASE-SR, SFP+ Transceiver (1310nm, 10km, LC)
XG-SFP-ER-SM1550	10GBASE-SR, SFP+ Transceiver (1550nm, 40km, LC)
GE-SFP-LX20-SM1310-BIDI	Gigabit SFP BIDI Transceiver (TX1310/RX1550, 20km, LC)
GE-SFP-LX20-SM1550-BIDI	Gigabit SFP BIDI Transceiver (TX1550/RX1310, 20km, LC)
GE-SFP-LH40-SM1310-BIDI	Gigabit SFP BIDI Transceiver (TX1310/RX1550, 40km, LC)
GE-SFP-LH40-SM1550-BIDI	Gigabit SFP BIDI Transceiver (TX1550/RX1310, 40km, LC)
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

Warranty

For more information about warranty terms and period, contact your local sales agency:

- Warranty terms: <https://www.ruijienetworks.com/support/servicepolicy>
- Warranty period: https://www.ruijienetworks.com/support/service_41

Note: The warranty terms are subject to the terms of different countries and distributors.

More Information

For more information about Ruijie Networks, visit the official Ruijie website or contact your local sales agency:

- Ruijie Networks official website: <https://www.ruijienetworks.com/>
- Online support: <https://www.ruijienetworks.com/support>
- Hotline support: <https://www.ruijienetworks.com/support/hotline>
- Email support: service_rj@ruijienetworks.com

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