



RG-S6910-3C

Next-Generation Data Center and Cloud Computing Core Switch



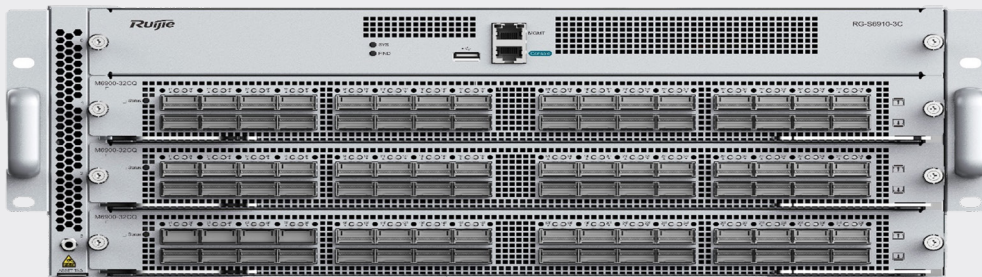
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Ruijie

Product Overview

The RG-S6910-3C is a next-generation high-performance, high-density fixed switch launched by Ruijie Networks. It offers 96×100GbE ports in a space of 4 RU, and can meet the networking requirements of small-, medium-, and large-sized data centers.

Product Appearance



RG-S6910-3C Front View

Product Features

Building a Next-Generation Data Center Network

The next-generation data center networks require switches to offer higher performance and bandwidth within a specified space. RG-S6910-3C offers a maximum of 96×100GbE ports in a space of 4 RU and a buffer capacity of 16 GB, to better meet the evolution requirements of next-generation data center networks.

Carrier-Class High Reliability

The RG-S6910-3C supports 2+2 power redundancy and 5+1 fan redundancy. All power modules and fan modules can be hot-swapped without affecting service continuity on the switch. The switch provides fault detection and alarm functions for power modules and fan modules. It automatically adjusts the fan speed based on ambient temperature to adapt to environment changes in data centers. The device also supports device-level and link-

level reliability protection as well as overcurrent protection, overvoltage protection and over temperature protection. In addition, the product integrates various link reliability mechanisms such as graceful restart (GR), bidirectional forwarding detection (BFD). When multiple services and heavy traffic are carried over the network, these mechanisms can reduce the impact of exceptions on network services and enhance the overall reliability.

IPv4/IPv6 Dual-Stack Protocols and Multilayer Switching

The hardware of RG-S6910-3C supports IPv4 and IPv6 protocol stacks and multilayer line-rate switching. The hardware processes IPv4 and IPv6 packets in a differentiated manner. The switch also integrates multiple tunneling technologies (such as manually configured tunnels, automatic tunnels, and Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunneling). Users can flexibly work out IPv6 inter-network communication

solutions by using this switch based on IPv6 network planning and network conditions.

The device supports various IPv4 routing protocols, including static routing, Routing Information Protocol (RIP), Open Shortest Path First (OSPF), Intermediate System to Intermediate System (IS-IS), Border Gateway Protocol version 4 (BGP4). Users can select required routing protocols based on network environments, to flexibly build networks.

The device also supports abundant IPv6 routing protocols, including static routing, Routing Information Protocol next generation (RIPng), OSPFv3, and BGP4+. Users can flexibly select an IPv6 routing protocol to upgrade the live network to an IPv6 network or establish a new IPv6 network.

Hardware-based Traffic Visualization

The chip hardware enables the switch to visualize the end-to-end traffic of complex networks involving multiple paths and nodes. This enables centralized monitoring of the forwarding path and latency for each session, improving fault location efficiency by over ten times.

All-Round Management Performance

The switch provides various management interfaces such as the console interface, management interface, and USB interface, and supports Simple Network Management Protocol (SNMP) v1/v2c/v3, Google remote procedure call (gRPC), and universal network management platform. CLI-based management, telnet, and cluster management supported by the device, which facilitates device management. The supported encryption modes such as SSH2.0 and SSL enhance management security.

In addition, the switch supports the switched port analyzer (SPAN), remote switched port analyzer (RSPAN), and multiple SPAN monitoring ports, making network traffic monitoring intuitive. The switch provides various network traffic analysis reports to help you promptly optimize the network architecture and schedule resources.

Technical Specifications

Hardware Specifications

Item	RG-S6910-3C
Dimensions (W x D x H)	442 mm x 735 mm x 173.6 mm (17.40 in. x 28.94 in. x 6.83 in.)
Rack height	4 RU
Unit weight	22.9 kg (50.49 lbs., empty chassis) 32 kg (70.55 lbs., a chassis with four power modules and six fan modules)
Switching capacity	19.2 Tbps
Packet forwarding rate	4000 Mpps
Management port	1 x RJ45 console port 1 x RJ45 MGMT port
USB port	1 x USB 2.0 port (Type A connector)
Module slot	3 x expansion module slots 4 x power module slots 6 x fan module slots
Power consumption	Maximum power consumption: 2046 W Typical power consumption: 1092 W Static power consumption: 760 W
Power input	RG-PA1200I-F (AC input) Rated input voltage: 100 V AC to 127 V AC, 200 V AC to 240 V AC, 50 Hz/60 Hz Maximum input voltage: 90 V AC to 140 V AC, 180 V AC to 264 V AC, 47 Hz to 63 Hz Rated input current: 13.8 A (100 V AC to 127 V AC) 8.5A (200 V AC to 240 V AC) Power port type: C14 RG-PA1200I-F (HVDC input): Rated input voltage: 240 V DC Maximum input voltage: 180 V DC to 300 V DC Rated current: 6.5 A Power port type: C14
Temperature	Operating temperature: 0°C to 40°C (32°F to 104°F) Storage temperature: -40°C to +70°C (-40°F to +158°F) Note: At altitudes ranging from 2000 m (6561.68 ft.) to 5000 m (16,404.20 ft.), the maximum temperature decreases by 1°C (1.8°F) for every 200 m (656.17 ft.) increase in elevation.
Humidity	Operating humidity: 10% RH to 90% RH (non-condensing) Storage humidity: 5% RH to 95% RH (non-condensing)

Altitude	Operating altitude: ≤ 5,000 m (16,404.20 ft.) Storage altitude: ≤ 5000 m (16,404.20 ft.)
Cooling	Air cooling, front-to-rear airflow (port-side intake)

Software Specifications

Item	RG-S6910-3C
Layer 2 Protocols	IEEE 802.3ae (10GBase), IEEE 802.3ak, IEEE 802.3an, IEEE 802.3x, IEEE 802.3ad (link aggregation), IEEE 802.1p, IEEE 802.1Q, IEEE 802.1D (STP), IEEE 802.1w (RSTP), IEEE 802.1s (MSTP), IGMP Snooping, Jumbo Frame (9 KB), IEEE 802.1ad (QinQ), GVRP
Layer 3 Protocols (IPv4)	BGP4, OSPFv2, RIPv1, RIPv2, MBGP, LPM Routing, Policy-based Routing, Route-policy, ECMP, WCMP, VRRP, IGMP v1/v2/v3, PIM-SSM/SM/DM, MSDP, Any-RP
IPv6 Basic Protocols	Neighbor Discovery, ICMPv6, Path MTU Discovery, DNSv6, DHCPv6, ICMPv6, ICMPv6 redirection, ACLv6, TCP/UDP for IPv6, SNMP v6, Ping/Traceroute v6, IPv6 RADIUS, Telnet/SSH v6, FTP/TFTP v6, NTP v6, IPv6 MIB support for SNMP, VRRP for IPv6, IPv6 QoS
IPv6 Features	Static routing, ECMP, PBR, OSPFv3, RIPng, BGP4+, MLDv1/v2, PIM-SMv6, manual tunneling, IPv4 over IPv6 tunneling
Visualization	gRPC sFLOW and IPFIX
QoS	Mapping of 802.1p, DSCP, and ToS priorities, ACL-based traffic classification, priority marking/remarking, multiple queue scheduling mechanisms available including SP, WFQ, and SP+WRR
HA Design	GR for RIP/OSPF/BGP, BFD, REUP dual-link fast switching and RLDP unidirectional link detection, 1+1 power redundancy and fan redundancy, and hot swap for all cards and power modules
Security Features	Network foundation protection policy, CPP, DDoS attack defense, illegitimate packet detection, data encryption, source IP spoofing prevention, IP scanning prevention, RADIUS/TACACS, IPv4/v6 packet filtering by basic ACL, extended ACL or VLAN-based ACL, plaintext-based and MD5 ciphertext-based authentication for OSPF, RIPv2, and BGPv4 packets, telnet login and password mechanisms for restricted IP addresses, uRPF, broadcast packet suppression
Management Mode	SNMP v1/v2c/v3, telnet, console, MGMT, RMON, SSHv1/v2, FTP/TFTP, NTP, syslog, and SPAN/RSPAN/ERSPAN
Other Protocols	DHCP Client, DHCP Relay, DHCP Server, DNS Client, UDP relay, ARP Proxy, and Syslog

Ordering Guide

The configuration procedure for RG-S6910-3C series switches is as follows:

- Select the chassis and the expansion modules.
- Select fan and power modules.
- Select optical transceivers based on port requirements.

Ordering Information

Chassis, Expansion Cards, Fan Modules, and Power Modules

Model	Description
RG-S6910-3C	Three expansion slot, four power module slots, and six fan module slots The power module model is RG-PA1200I-F and the fan model is M2EFAN I-F.
M6900-32CQ	32-port 100GbE card
RG-PA1200I-F	RG-S6910-3C power module, supporting 2+2 redundancy, hot swapping, and front-to-rear ventilation design
M2EFAN I-F	RG-S6910-3C fan module, supporting 5+1 redundancy, hot swapping, and front-to-rear ventilation design

40G Optical Transceivers

Product Model	Description
40G-QSFP-iLR4-SM1310	40G iLR4 module, QSFP+ form factor, Duplex LC, 2 km (6,561.68 ft.) over SMF
40G-QSFP-LR4-SM1310	40G LR4 module, QSFP+ form factor, Duplex LC, 10 km (32,808.40 ft.) over SMF
40G-QSFP-LSR-MM850	40G LSR module, QSFP+ form factor, MPO, 400 m (1,312.34 ft.) over MMF
40G-QSFP-SR-MM850	40G SR module, QSFP+ form factor, MPO, 150 m (492.13 ft.) over MMF
40G-QSFP-LX4-SM1310	40G LX4 module, QSFP+ form factor, Duplex LC connector, 150 m (492.13 ft.) over OM3/OM4 MMF, or 2 km (6,561.68 ft.) over SMF
40G-AOC-30M	40G QSFP+ AOC, 30 m (98.43 ft.)
40G-AOC-5M	40G QSFP+ AOC, 5 m (16.40 ft.)

100GBASE Series Optical Modules

Product Model	Description
100G-QSFP-SR-MM850	100G SR module, QSFP28 form factor, MPO, 850 nm, 100 m (328.08 ft.) over MMF
100G-QSFP-ILR4-SM1310	100G iLR4 module, QSFP28 form factor, Duplex LC, 1310 nm, 2 km (6,561.68 ft.) over SMF
100G-QSFP-LR4-SM1310	100G LR4 module, QSFP28 form factor, Duplex LC, 1310 nm, 10 km (32,808.40 ft.) over SMF
100G-QSFP-ER4-SM1310	100G ER4 module, QSFP28 form factor, Duplex LC, 1310 nm, 40 km (131,233.59 ft.) over SMF
100G-AOC-5M	100G QSFP28 AOC, 5 m (16.40 ft.)
100G-AOC-10M	100G QSFP28 AOC, 10 m (32.81 ft.)

Warranty

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

- Warranty terms: <https://www.ruijie.com/support/servicepolicy>
- Warranty period: <https://www.ruijie.com/support/servicepolicy/Service-Support-Summary/>

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.ruijie.com/>
- Online support: <https://www.ruijie.com/support>
- Hotline support: <https://www.ruijie.com/support/hotline>
- Email support: service_rj@ruijie.com



Ruijie Networks Co., Ltd.

For more information, visit www.ruijie.com or call 86-400-620-8818.