

# RG-S6910-3C

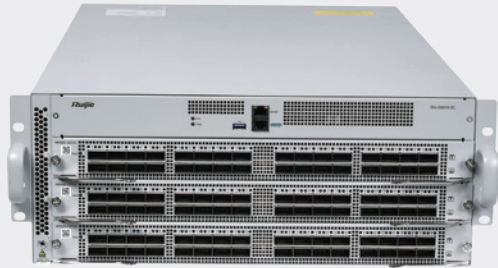
## Data Center Switch Datasheet



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## Product Pictures



Front View



Rear View



Isometric View

## Product Overview

RG-S6910-3C is a new-generation high-performance, high-density fixed switch released 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 Features

## Building a Next-Generation Data Center Network

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The next-generation data center networks require switches to offer higher performance and bandwidth within unit space. RG-S6910-3C offers a maximum of 96×100GbE ports or 24×400GbE 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 Reliability Protection

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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 the normal operation of the device. The switch provides fault detection and alarm functions for power modules and fans. It automatically adjusts the fan speed based on temperature changes, to better adapt to the environment in data centers. The device also supports device-level and link-level reliability protection as well as overcurrent protection, overvoltage protection and overheating 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

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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 manual tunneling, automatic tunneling, 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 numerous 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+. Appropriate routing protocols can be selected to upgrade an existing network to an IPv6 network or build a new IPv6 network.

## Hardware-based Traffic Visualization

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The chip hardware enables the switch to visualize the end-to-end traffic of complex networks involving multiple paths and nodes. Then, users can focus on monitoring the forwarding path and delay of each session, raising the troubleshooting efficiency by more than ten times.

## All-Round Management Performance

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The switch provides various management interfaces such as the console interface, management interface, and USB interface, and supports Simple Network Management Protocol (SNMP) v1/v2/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 ensures more secure management.

In addition, the device supports the switched port analyzer (SPAN), remote SPAN (RSPAN), and encapsulated remote SPAN (ERSPAN). It can analyze network traffic, take proper management and maintenance measures accordingly, and clearly present the network service traffic. Multiple network traffic analysis reports generated by the device can provide a basis for users to optimize the network structure and adjust resource deployment timely.

# Technical Specifications

Parameter	Description
Model	RG-S6910-3C
Ports	100GbE ports
Number of expansion slots	Three expansion slots, with each slot supporting 32×100GbE ports
Expansion module	Four power module slots Six fan module slots
Management port	One management port, one console port, and one USB port
Switching capacity	19.2 Tbps
Packet forwarding rate	4000 Mpps
802.1q VLAN	4000
L2 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
L3 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

Parameter		Description
Model		RG-S6910-3C
Security functions		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 modes		SNMP v1/v2/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
Dimensions (W × H × D)		442 mm × 173.6 mm × 735 mm (4 RU)
Operating temperature		0°C to 40°C
Operating humidity		10% to 90% RH (non-condensing)
Weight		About 42 kg (including four power modules, six fans, and three subcard modules)
Maximum power		2100 W
Input voltage	AC	Rated voltage range: 100 VAC to 240 VAC, 50 Hz to 60 Hz Maximum voltage range: 90 VAC to 264 VAC, 50 Hz to 60 Hz
	High-voltage DC	Input voltage range: 192 VDC to 288 VDC

## 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

Model	Description
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

## Information About 100GbE Optical Modules

Model	Description
100G-QSFP-SR-MM850	100GbE SR optical modules, QSFP28 package, MPO connector, and 850 nm wavelength The transmission distance is 100 m when OM4 optical fibers are used and 70 m when OM3 optical fibers are used.
100G-QSFP-iLR4-SM1310	100GbE iLR optical modules, QSFP28 package, LC connector, and 1310 nm wavelength The maximum transmission distance is 2 km (applicable to single-mode optical fibers).
100G-QSFP-LR4-SM1310	100GbE LR optical modules, QSFP28 package, LC connector, and 1310 nm wavelength The maximum transmission distance is 10 km (applicable to single-mode optical fibers).



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