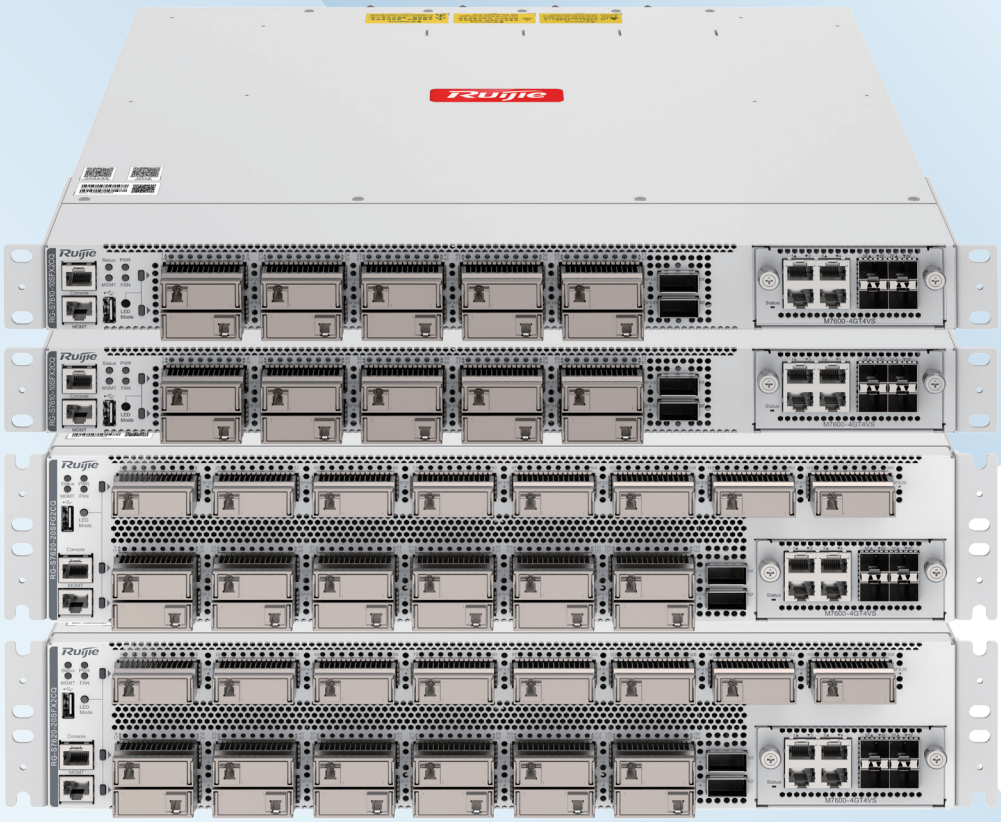
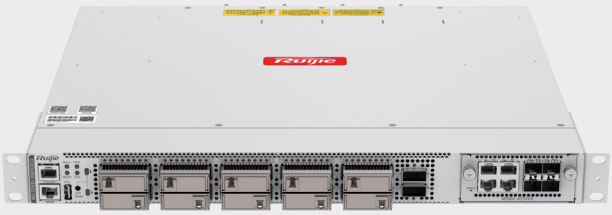


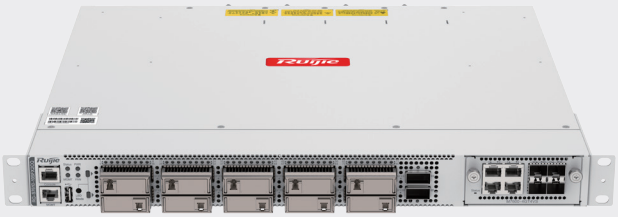
RG-S7600 Series
Switches

Scan QR Code
For More Enquiry

Product Pictures



RG-S7610-10SFG2CQ



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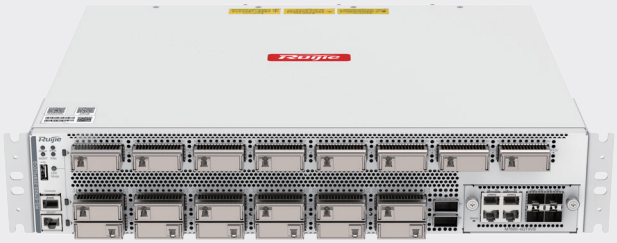

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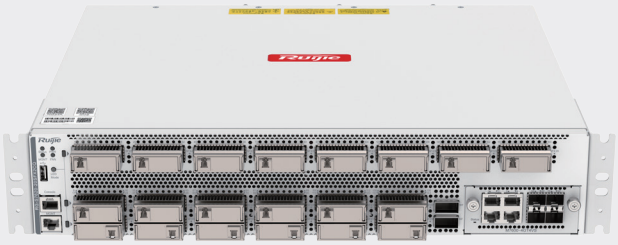


RG-S7620-20SFX2CQ

Product Overview

RG-S7600 series switches are next-generation and ultra-high-density core switches developed by Ruijie Networks for all-optical network scenarios.

By leveraging CWDM technology, the RG-S7610 series switch integrates 10 SFG/SFX interfaces in a 1 RU space (equivalent to 80 SFP interfaces or 80 SFP+ logical interfaces), and the RG-S7620 series switch integrates 20 SFG/SFX interfaces in a 2 RU space (equivalent to 160 SFP interfaces or 160 SFP+ logical interfaces).

The RG-S7600 series switches, designed for all-optical networking scenarios and combined with CWDM technology, integrate CWDM wavelength division multiplexing technology based on traditional Ethernet interfaces. The switch integrates the CWDM combiner to transparently transmit services from the core layer to the access layer, effectively reducing the number of interfaces on the core device. This also significantly simplifies cabling, coping with future application expansion and simplified deployment.

The RG-S7600 series are available in four models: RG-S7610-10SFG2CQ, RG-S7610-10SFX2CQ, RG-S7620-20SFG2CQ, and RG-S7620-20SFX2CQ.

The RG-S7600 series switches can serve as core devices for small- and medium-sized networks, as well as aggregation devices for large- and medium-sized networks.

Product Highlights

- SFX/SFG interfaces (each SFX/SFG interface is equivalent to eight SFP+/SFP channels), two 100G uplink interfaces that can be backward compatible with 40G, and expansion modules that can be flexibly configured
- Fixed switch and CWDM combiner
- VSU virtualization technology, delivering flexible networking and high performance
- Multiple hardware-level protection, ensuring continuous device operation without downtime
- Core device for small- and medium-sized networks and aggregation device for large- and medium-sized networks

Product Features

Ultra-High-Density CWDM Fixed Switch

It provides SFX/SFG interfaces (each SFX/SFG interface is equivalent to eight SFP+/SFP channels). Each switch has two 100G uplink interfaces that can be backward compatible with 40G. It can be flexibly configured with expansion modules to connect to servers and common switches.

Integrated Functions of the Fixed Switch and CWDM Combiner, Realizing Simplified Management and Easy Deployment

The switch incorporates CWDM technology into the switch based on traditional Ethernet interfaces. It can transparently transmit services from the core layer to the access layer, effectively reducing the number of interfaces occupied on the core device and greatly simplifying cabling.

VSU, Allowing Flexible Networking and High Performance

With VSU technology, multiple physical devices are virtualized into one logical device, enabling unified operation and management while significantly reducing network nodes and simplifying O&M. It achieves rapid link fault switchover in milliseconds, ensuring uninterrupted transmission of critical services.

Product Specifications

Hardware Specifications

Hardware Specifications	RG-S7610-10SFG2CQ	RG-S7610-10SFX2CQ	RG-S7620-20SFG2CQ	RG-S7620-20SFX2CQ
Interface Specifications				
Fixed port	10 x SFG 1000M hyper-converged ports 2 x 100G fixed ports (100G/40G, and 4 x 25G/4 x 10G)	10 x SFX 10G hyper-converged ports 2 x 100G fixed ports (100G/40G, and 4 x 25G/4 x 10G)	20 x SFG 1000M hyper-converged ports 2 x 100G fixed ports (100G/40G, and 4 x 25G/4 x 10G)	20 x SFX 10G hyper-converged ports 2 x 100G fixed ports (100G/40G, and 4 x 25G/4 x 10G)

Hardware Specifications	RG-S7610-10SFG2CQ	RG-S7610-10SFX2CQ	RG-S7620-20SFG2CQ	RG-S7620-20SFX2CQ
Fan module slot	4 x fan module slots (3+1 redundancy, at least three fan modules configured)	4 x fan module slots (3+1 redundancy, at least three fan modules configured)	3 x fan module slots (2+1 redundancy, at least two fan modules configured)	3 x fan module slots (2+1 redundancy, at least two fan modules configured)
Power module slot	2 (1+1 redundancy)	2 (1+1 redundancy)	2 (1+1 redundancy)	2 (1+1 redundancy)
Fixed management port	1 x console port, 1 x MGMT port, and 1 x USB 2.0 port	1 x console port, 1 x MGMT port, and 1 x USB 2.0 port	1 x console port, 1 x MGMT port, and 1 x USB 2.0 port	1 x console port, 1 x MGMT port, and 1 x USB 2.0 port
System Specifications				
Packet forwarding rate	714 Mpps	1786 Mpps	833 Mpps	2976 Mpps
System switching capacity	960 Gbps	2.4 Tbps	1.12 Tbps	4 Tbps
Number of MAC addresses	128,000	128,000	128,000	128,000
ARP table size	96,000	96,000	96,000	96,000
Number of IPv4 unicast routes	350,000 (shared with IPv6 routing)	350,000 (shared with IPv6 routing)	350,000 (shared with IPv6 routing)	350,000 (shared with IPv6 routing)
Number of IPv4 multicast routes	4000	4,000	4,000	4,000
Number of IPv6 unicast routes	65,000	65,000	65,000	65,000
Number of IPv6 multicast routes	2,000	2,000	2,000	2,000
Number of ACEs	Ingress: 28,000 Egress: 4,000			
Number of VSU members	4			

Hardware Specifications	RG-S7610-10SFG2CQ	RG-S7610-10SFX2CQ	RG-S7620-20SFG2CQ	RG-S7620-20SFX2CQ
Expansion module type and slot	M7600-2CQ (100G/40G, and 4 x 25G/4 x 10G) M7600-4GT4VS (optical port supporting 25G/10Gbase-R and 1000base-X) 1 x expansion module slot	M7600-2CQ (100G/40G, and 4 x 25G/4 x 10G) M7600-4GT4VS (optical port supporting 25G/10Gbase-R and 1000base-X) 1 x expansion module slot	M7600-2CQ (100G/40G, and 4 x 25G/4 x 10G) M7600-4GT4VS (optical port supporting 25G/10Gbase-R and 1000base-X) 1 x expansion module slot	M7600-2CQ (100G/40G, and 4 x 25G/4 x 10G) M7600-4GT4VS (optical port supporting 25G/10Gbase-R and 1000base-X) 1 x expansion module slot
Dimensions and Weight				
Dimensions (W x D x H)	442 mm x 388 mm x 44 mm (17.40 in. x 15.28 in. x 1.73 in.), 1 RU	442 mm x 388 mm x 44 mm (17.40 in. x 15.28 in. x 1.73 in.), 1 RU	442 mm x 388 mm x 88 mm (17.40 in. x 15.28 in. x 3.46 in.), 2 RU	442 mm x 388 mm x 88 mm (17.40 in. x 15.28 in. x 3.46 in.), 2 RU
Weight (full configuration)	10 kg (including four fan modules and two power modules)	10 kg (including four fan modules and two power modules)	10.4 kg (excluding packaging, power modules, and expansion modules)	10.4 kg (excluding packaging, power modules, and expansion modules)
CPU and Memory				
CPU	2.2 GHz quad-core processor	2.2 GHz quad-core processor	2.2 GHz quad-core processor	2.2 GHz quad-core processor
Memory and storage	SDRAM: DDR4 4 GB (compatibility with 8 GB) Flash memory: 16 GB BootROM: 16 MB	SDRAM: DDR4 4 GB (compatibility with 8 GB) Flash memory: 16 GB BootROM: 16 MB	SDRAM: DDR4 4 GB (compatibility with 8 GB) Flash memory: 16 GB BootROM: 16 MB	SDRAM: DDR4 4 GB (compatibility with 8 GB) Flash memory: 16 GB BootROM: 16 MB
Power and Consumption				
Maximum power consumption	< 300 W	< 300 W	< 450 W	< 450 W
Maximum output power	RG-PA550I II-F: 550 W			
Rated input voltage	RG-PA550I II-F: AC input: 100 V AC to 240 V AC; 50/60 Hz HVDC input: 240 V DC			
Maximum input voltage	RG-PA550I II-F: AC input: 90 V AC to 264 V AC; 47/63 Hz HVDC input: 192 V DC to 288 V DC			

Hardware Specifications	RG-S7610-10SFG2CQ	RG-S7610-10SFX2CQ	RG-S7620-20SFG2CQ	RG-S7620-20SFX2CQ
Environment and Reliability				
MTBF	> 200,000 hours			
Heat dissipation	Front-to-rear airflow			
Operating temperature	0°C to 45°C (32°F to 113°F)			
Storage temperature	–40°C to +70°C (–40°F to +158°F)			
Operating humidity	10% to 90% RH (non-condensing)			
Storage humidity	5% to 90% RH (non-condensing)			
Operating altitude	0 m to 1,800 m (0 ft. to 5905.51 ft.)			
Operating noise	< 50 dB (closed space)/78 dB (open space)			
Interface surge protection	Communication port: 4 kV on the MGMT port			

Software Specifications

Device Model	RG-S7610-10SFG2CQ	RG-S7610-10SFX2CQ	RG-S7620-20SFG2CQ	RG-S7620-20SFX2CQ
Ethernet switching	Jumbo frame (maximum length: 9,216 bytes)			
	Maximum number of VLANs that can be created: 4,094			
	Voice VLAN			
	Super-VLAN and private VLAN			
	MAC address-based, port-based, protocol-based, and IP subnet-based VLAN assignment			
	GVRP			
	Basic QinQ and selective QinQ			
	STP (IEEE 802.1.d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)			

Device Model	RG-S7610-10SFG2CQ	RG-S7610-10SFX2CQ	RG-S7620-20SFG2CQ	RG-S7620-20SFX2CQ
Ethernet switching	ERPS (G.8032)			
	LLDP/LLDP-MED			
IP service	Static ARP			
	DHCP client			
	DHCP relay			
	DHCP server			
	DHCP snooping			
	DHCPv6 server, DHCPv6 client, DHCPv6 relay, and DHCPv6 snooping			
	Neighbor Discovery (ND) and ND snooping			
	GRE tunnel			
IP routing	IPv4/IPv6 static routing			
	RIP and RIPng			
	OSPFv2 and OSPFv3 Graceful restart (GR)			
	IPv4 IS-IS IPv6 IS-IS			
	BGP4 and BGP4+			
	IPv4/IPv6 VRF			
	IPv4/IPv6 PBR			
Multicast	IGMPv1/v2/v3			
	IGMPv1/v2/v3 snooping			
	IGMP fast leave			
	PIM-SM			
	PIM-DM			
	PIM-SSM for IPv4 and IPv6			
	MSDP to achieve inter-domain multicast			

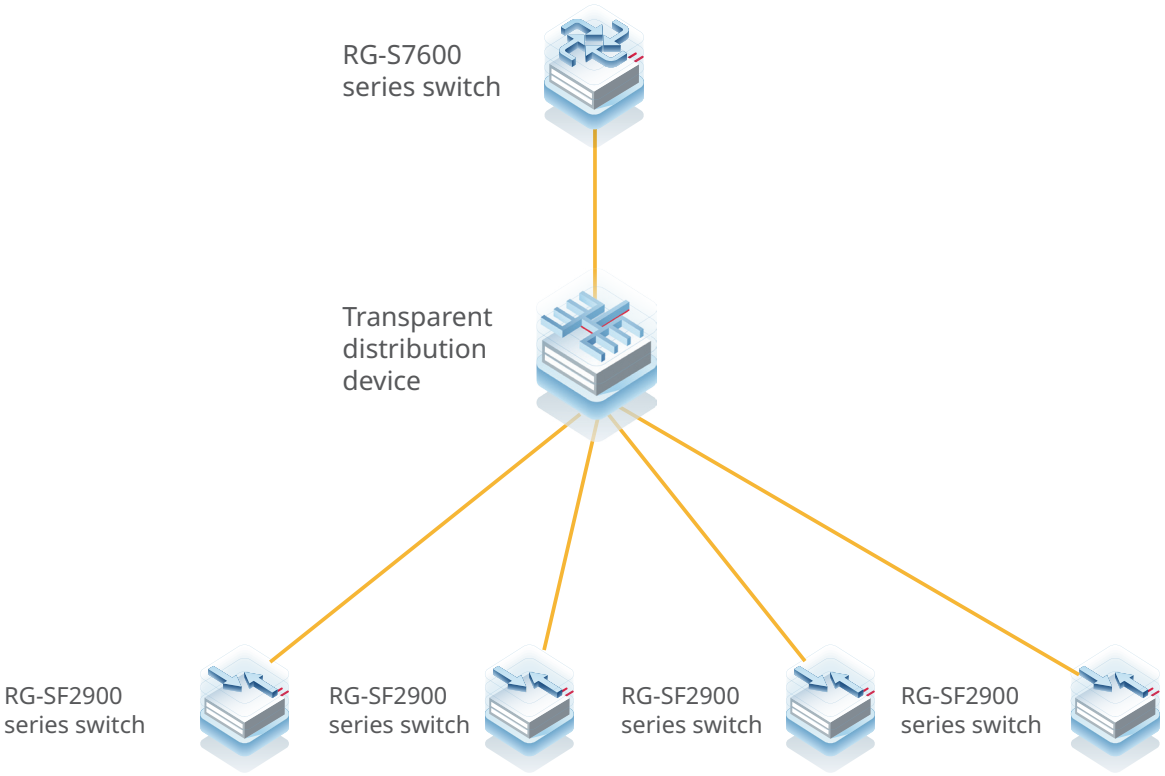
Device Model	RG-S7610-10SFG2CQ	RG-S7610-10SFX2CQ	RG-S7620-20SFG2CQ	RG-S7620-20SFX2CQ
Multicast	MLDv1 and MLDv2			
	MLD snooping			
	PIM-SMv6			
	Multicast source IP address check Multicast source port check			
	Multicast querier			
MPLS	6PE/6VPE model interconnection with the IPv4/IPv6 MPLS backbone network			
	MPLS MIB (RFC 1273, RFC 4265, and RFC 4382) (MPLS MIB, MPLS L3VPN STD MIB, MPLS LSR STD MIB, and MPLS VPN MIB)			
ACL and QoS	Standard IP ACLs (hardware ACLs based on IP addresses)			
	Extended IP ACLs (hardware ACLs based on IP addresses or TCP/UDP port numbers)			
	Extended MAC ACLs (hardware ACLs based on source MAC addresses, destination MAC addresses, and optional Ethernet type)			
	Expert-level ACLs (hardware ACLs based on the source and destination IP addresses and ports, and protocol type)			
	IPv6 ACL			
	ACL 80			
	Expert-level ACLs (hardware ACLs based on			
	ACL redirection			
	Port-based rate limiting			
	Traffic classification based on 802.1p priorities, DSCP priorities, and IP precedences			
	Congestion management: SP, WRR, DRR, WFQ, SP+WRR, SP+DRR, and SP+WFQ			
	Congestion avoidance: tail drop, RED, and WRED			
	Eight queues on each port			
Security	Multiple AAA modes			
	RADIUS authentication and authorization			
	TACACS+			

Device Model	RG-S7610-10SFG2CQ	RG-S7610-10SFX2CQ	RG-S7620-20SFG2CQ	RG-S7620-20SFX2CQ
Security	IEEE 802.1X authentication, MAC address bypass (MAB) authentication, and interface-based and MAC address-based 802.1X authentication			
	Web authentication			
	Hypertext Transfer Protocol Secure (HTTPS)			
	SSHv1 and SSHv2			
	Global IP-MAC binding			
	Port security			
	IP source guard			
	SAVI			
	ARP spoofing prevention			
	CPP and NFPP			
	Various attack defense functions including NFPP, ARP anti-spoofing, DHCP/DHCPv6 attack defense, ICMP attack defense, ND attack defense, IP scanning attack defense, and customizing attack defense packet types			
	Loose and strict RPF uRPF ignoring default routes			
Reliability	REUP			
	Rapid Link Detection Protocol (RLDP), Layer 2 link connectivity detection, unidirectional link detection, and VLAN-based loop control			
	Data Link Detection Protocol (DLDP)			
	IPv4 VRRP v2/v3 and IPv6 VRRP v3			
	BFD			
	Link monitoring, fault notification, and remote loopback based on 802.3ah (EFM)			
	Hot swapping of power modules and fan modules			
Device Virtualization	VSU			
NMS and Maintenance	RSPAN and ERSPAN			
	sFlow (network detection technology based on packet sampling, which is mainly used for traffic statistics and analysis in heavy-traffic scenarios)			

Device Model	RG-S7610-10SFG2CQ	RG-S7610-10SFX2CQ	RG-S7620-20SFG2CQ	RG-S7620-20SFX2CQ
NMS and Maintenance	NTP and SNTP			
	FTP and S TFTP			
	SNMP v1/v2/v3			
	RMON (1, 2, 3, 9) Various types of RMON groups, including event groups, alarm groups, history groups, and statistics groups, as well as private alarm extension groups			
	NETCONF			
	CWMP			
	gRPC			
	OpenFlow Special 1.0/1.3 Flow table analysis defined by all protocols Transmission of specified packets to the controller Configuring the controller's IP address and port Notifying port status changes to the controller			
VXLAN	EVPN VXLAN tunnel establishment VLAN access to VXLAN IPv4 over IPv4 Distributed gateway IPv6 over IPv4 Using an SVI to connect to the VXLAN network Using a routed interface to connect to the VXLAN network Proxy ARP (replying with the actual MAC address)) ND proxy (replying with the actual MAC address) ND reply (replying with the actual MAC address) VXLAN EVPN VXLAN static route Anycast gateway VXLAN bridging mode VXLAN routing mode Proxy ARP (replying with the gateway MAC address) Configuring the UDP port number in VXLAN packets Static VXLAN tunnel creation			

Typical Applications

Core Device on a Small- or Medium-sized Network, or Aggregation Device on a Large- or Medium-sized Network



Ordering Guide

Perform the following steps to configure an RG-S7600:

- Select the chassis based on the specific product model.
- Select power modules based on power supply requirements. At least one power module is required.
- Select expansion modules as required.

Note: The item marked with the asterisk (*) will be available in the future.

Ordering Information

Chassis, Power Module, and Expansion Module

Model	Description
RG-S7610-10SFG2CQ	CWDM switch, 1 RU, 10 x SFG 1000M interfaces, and 2 x 100G fixed uplink interfaces
RG-S7610-10SFX2CQ	CWDM switch, 1 RU, 10 x SFX 1000M interfaces, and 2 x 100G fixed uplink interfaces
RG-S7620-20SFG2CQ	CWDM switch, 2 RU, 20 x SFG 1000M interfaces, and 2 x 100G fixed uplink interfaces
RG-S7620-20SFX2CQ	CWDM switch, 2 RU, 20 x SFX 1000M interfaces, and 2 x 100G fixed uplink interfaces
RG-PA550I II-F	550 W AC power module
M7600-2CQ	Expansion module, 2 x 100G optical interfaces
M7600-4GT4VS	Expansion module, 4 x electrical interfaces, and 4 x 1G/10G/25G optical interfaces