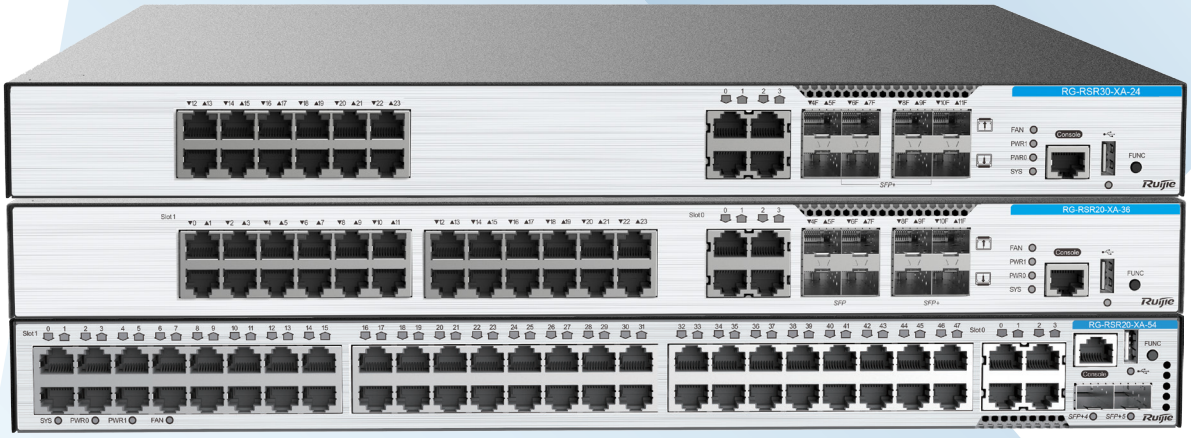
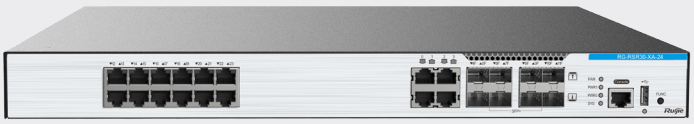


RG-RSR20-XA Series

Multi-service Access Routers

Scan QR Code
For More Enquiry

Product Pictures



RG-RSR20-XA-24

RG-RSR20-XA-36

RG-RSR20-XA-54

Product Overview

The RG-RSR20-XA series multi-service access router is the next-generation fixed access router innovatively launched by Ruijie Network to cope with enterprise network cloud architecture and cloud service demands.

It integrates routing, switching, security, and other access network applications, while comprehensively improving the performance, port density, rate, reliability, and other aspects. It can provide a low-cost integrated solution for enterprise edge networks, satisfying diversified application needs and trends of future service expansion.

It comes with a built-in stateful firewall function, providing excellent capabilities to defend against traffic attacks. It also boasts a wide range of software features, including Multiprotocol Label Switching (MPLS), Virtual Private Network (VPN), multicast, IPv6, and Network Address Translation (NAT). Additionally, it offers rich backup solutions and QoS features, without the need for separate software licenses or service cards, saving investment costs.

It supports the next-generation expansion module HSIC card. The HSIC card supports up to 10 Gbps bus bandwidth, and various types of HSIC cards are available to support more combined applications. The HSIC module is hot-swappable, which is only available on a high-end router. The line card can be added or replaced online without affecting forwarding of other services. The router also supports power module redundancy, which enhances device reliability.

The RG-RSR20-XA series is available in three models: RG-RSR20-XA-24, RG-RSR20-XA-36, and RG-RSR20-XA-54.

It is suitable for small- and medium-sized branch scenarios of finance, government, and enterprise customers, providing an ideal choice for the low-cost and multi-service access needs of this scenario.

Product Highlights

Full-Featured Service Router in Diverse Scenarios

- Routing, switching, security (IPsec), egress (NAT)
- GE/10GE rates

Carrier-Class Reliability

- BOOT dual planes, ensuring stable operation with 99.999% uptime
- Redundancy of key components such as fan modules and power modules

Product Features

Multi-service Integration and All-in-One

Advanced Hardware Architecture

Multi-core processor and distributed hardware architecture, meeting diversified network access needs

Distributed hardware architecture that separates the control plane from the forwarding plane, and delivers excellent forwarding performance and reliability

Powerful Routing Capabilities

IPv4/IPv6 static routing and dynamic routing protocols including the Open Shortest Path First (OSPF), Routing Information Protocol (RIP), Intermediate System to Intermediate System (IS-IS), and Border Gateway Protocol (BGP), adapting to different networking requirements of various industries

Policy-based routing (PBR) used to flexibly control and schedule network traffic, satisfying routing requirements of finance, government, and enterprise networks

High-performance flow table, fast forwarding technologies, and functions such as Graceful Restart (GR), Fast Reroute (FRR), and Bidirectional Forwarding Detection (BFD), realizing fast convergence of traditional routing protocols on large-sized networks

Comprehensive Switching Characteristics

Layer 2 Ethernet interfaces extended to integrate functions of a switch and a router, reducing the investment in network construction and maintenance costs

Layer 2 Ethernet interfaces that support complete switching features and provide 1000M line-speed forwarding

Rich VPN Features

Internet Protocol Security (IPsec), Generic Routing Encapsulation (GRE) and other VPN applications

Multiprotocol Label Switching (MPLS) L3VPN applications

Layer 2 Tunneling Protocol (L2TP) for Virtual Private Dialup Network (VPDN) applications, and L2TP pass-through for Network Address Translation (NAT) applications

Various Security Features

Built-in encryption engine, substantially improving encryption and decryption performance

Rich security features, including the IDS/IPS, firewall, IPsec VPN, Secure Shell (SSH), intrusion defense, DDoS defense, attack defense, anti-ARP spoofing, DHCP snooping, and digital certificate

Authentication, Authorization, and Accounting (AAA), and RADIUS and TACACS+ authentication

802.1X authentication, MAC address authentication, web authentication, and other access authentication modes

All-round MPLS Functions

All-round MPLS protocol L3VPN, providing a high-performance, secure, and hierarchical MPLS VPN solution

Distributed multicast VPN, enabling high-performance multicast services on an MPLS VPN network to cope with multicast services such as video conferencing and distance learning

MPLS Label Distribution Protocol (LDP) FRR for fast label switched path (LSP) switching

Complete IPv6 Solutions

IPv4/IPv6 dual stack, and multiple IPv6 routing technologies such as static routing, Equal-cost Multi-path Routing (ECMP), PBR, OSPFv3, RIPng, BGP4+, and IS-ISv6, supporting future deployment of large-scale IPv6 networks

Video features and optimization

Diverse multicast functions including Internet Group Management Protocol (IGMP), Protocol Independent Multicast - Dense Mode (PIM-DM), and PIM Sparse Mode (PIM-SM) to meet video application requirements

Ease of Use and Management

Command line interface (CLI), web, Simple Network Management Protocol (SNMP), CPE WAN Management Protocol (CWMP), and other modes

Onboarding through Zero Touch Provisioning (ZTP), and onsite configuration import and software upgrade through the USB flash drive and wizard, avoiding complex CLI operations, simplifying device deployment, and greatly improving deployment efficiency

High Reliability

BFD, BFD for static routes, and BFD for RIP/OSPF/BGP/IS-IS, achieving FRR and millisecond-level switching

Hot swapping of line cards: Services are not affected when line cards are added or replaced online, which improves the device reliability.

The RG-RSR20-XA series supports dual power module redundancy to enhance reliability.

Product Specifications

Hardware Specifications

Hardware Specifications	RG-RSR20-XA-24	RG-RSR20-XA-36	RG-RSR20-XA-54
Port Specifications			
Fixed service port	WAN ports: ● 4 x 10GE SFP+ ports ● 4 x 1GE SPF ports ● 4 x 10/100/1000BASE-T ports LAN ports (supporting LAN/WAN switching): ● 12 x 10/100/1000BASE-T ports	WAN ports: ● 4 x 10GE SFP+ ports ● 4 x 1GE SPF ports ● 4 x 10/100/1000BASE-T ports LAN ports (supporting LAN/WAN switching): ● 24 x 10/100/1000BASE-T ports	WAN ports: ● 2 x 10GE SFP+ ports ● 4 x 10/100/1000BASE-T ports LAN ports (supporting LAN/WAN switching): ● 48 x 10/100/1000BASE-T ports
Fixed management port	1 x RJ45 console port	1 x RJ45 console port	1 x RJ45 console port
USB	1 x USB 2.0 port (Type-A connector)	1 x USB 2.0 port (Type-A connector)	1 x USB 2.0 port (Type-A connector)
Module slot	4 x expansion module slots 2 x power module slots	4 x expansion module slots 2 x power module slots	4 x expansion module slots 2 x power module slots
System Specifications			
Switching capacity	224 Gbps		
Packet forwarding rate	4 Mpps		

Hardware Specifications	RG-RSR20-XA-24	RG-RSR20-XA-36	RG-RSR20-XA-54
Number of MAC addresses	Number of global MAC addresses: 10,000 Number of static MAC addresses: 4,000		
ARP table size	24,000		
Number of IPv4 unicast routes	100,000		
Number of IPv4 multicast routes	2,048		
Number of IPv6 unicast routes	100,000		
Number of IPv6 multicast routes	1,024		
Number of IGMP Groups	1,000		
Number of MLD Groups	1,000		
Number of ACEs	4,000		
Dimensions and Weight			
Unit dimensions (W x D x H)	440 mm x 420 mm x 44 mm (17.32 inch. x 16.56 in. x 1.73 in.)		
Rack height	1 RU		
Unit weight	< 7.8 kg (17.19 lbs, full configuration without packaging materials, with the nameplate at the bottom)		
Power supply and consumption			
Maximum power consumption	150 W		
Power module redundancy	1+1 redundancy		
Power input	RG-PA150IB-F (AC input): ● Rated input voltage: 100 V AC to 240 V AC, 50 Hz to 60 Hz ● Maximum input voltage: 90 V AC to 264 V AC, 47 Hz to 63 Hz ● Maximum input current: 3 A RG-PD150IB-F (DC input): ● Rated input voltage: -48V~-60V DC ● Maximum input voltage: -36V~-75V DC ● Maximum input current: 5 A		
Power output	RG-PA150IB-F (AC input): ● Output voltage: 12 V ● Maximum output corrent: 12.5 A RG-PD150IB-F (DC input): ● Output voltage: 12 V ● Maximum output corrent: 12.5 A		
Maximum output power	RG-PA150IB-F: 150 W RG-PD150IB-F: 150 W		

Hardware Specifications	RG-RSR20-XA-24	RG-RSR20-XA-36	RG-RSR20-XA-54
Environment and Reliability			
Temperature	Operating temperature: 0°C to 50°C (32°F to 122°F) Storage temperature: –40°C to 70°C (–40°F to +158°F)		
Humidity	Operating humidity: 10% to 90% RH (non-condensing) Storage humidity: 5% to 95% RH (non-condensing)		
Altitude	Operating altitude: 0 m to 5,000 m (0 ft. to 16,404.20 ft.) Storage altitude: 0 m to 5,000 m (0 ft. to 16,404.20 ft.)		
Surge protection	6 kV		

Software Specifications

RG-RSR20-XA Series	
Model	Description
Ethernet switching	Jumbo frame length: 2000 bytes
	Voice VLAN
	MAC address-based and interface-based VLAN assignment
	STP (IEEE 802.1.d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)
	LLDP/LLDP-MED
IP service	DHCP server, DHCP relay, DHCP client, and DHCP snooping
	Static and dynamic NAT and VPN NAT
	DHCPv6 client, DHCPv6 relay, and DHCPv6 snooping
	Neighbor Discovery (ND)
	IPv6 GRE tunnel
IP routing	IPv4/IPv6 static routing
	RIP v1/v2 and RIPng
	OSPFv2 and OSPFv3
	GR

RG-RSR20-XA Series	
Model	Description
IP routing	IS-ISv4 and IS-ISv6
	BGP and BGP4+
	Routing policies
	IPv4/IPv6 VRF
	IPv4 and IPv6 PBR
Multicast	IGMPv1/v2/v3
	Static multicast routing
	PIM-DM, PIM-SM, PIM-SSM, and other multicast routing protocols
	PIM-SSM for IPv4 and IPv6
	MSDP for inter-domain multicast
	MLDv1/v2
	PIM-SMv6
MPLS	MPLS forwarding Two MPLS VPN modes: inter-AS Option B and Option C MPLS L3VPN
	6PE/6VPE interconnection with IPv4/IPv6 MPLS backbone network
	MPLS MIB (RFC 1273, 4265, 4382)
ACL and QoS	Standard IP ACLs
	Extended IP ACLs
	Extended MAC ACLs
	Expert-level ACLs (ACLs based on source and destination IP addresses and ports, and specified protocol)
	IPv6 ACLs

RG-RSR20-XA Series	
Model	Description
Security	Multiple AAA modes
	RADIUS authentication and authorization
	TACACS+
	IEEE802.1X authentication, MAC address bypass (MAB) authentication, and interface-based and MAC address-based 802.1X authentication
	MAC address allowlist, and bindings of VLAN IDs, interface numbers, and MAC addresses
	SSHv1 and SSHv2
	ICMP (interface discards ICMP traffic of which the rate exceeds the threshold)
	Port security
	L2TP, IPsec VPN(AES-128,AES-256), and GRE uRPF Login authentication and password security
	CPP
	Strict and loose RPF uRPF ignoring default routes
Reliability	RLDP, Layer 2 link connectivity detection, unidirectional link detection, and VLAN-based loop control
	DLDP
	IPv4 VRRP v2/v3 and IPv6 VRRP
	ECMP
	BFD
	GR for OSPF/IS-IS/BGP BFD for VRRP, OSPF, BGP4, IS-IS, IS-ISv6, MPLS, and static routing
SDN technology	NETCONF
NMS and maintenance	SPAN and ERSPAN
	NTP and SNTP

RG-RSR20-XA Series	
Model	Description
NMS and maintenance	NTP server and NTP client
	FTP and TFTP
	SNMP v1/v2/v3
	System operation logging
	Command line through console, AUX Modem, Telnet, and SSH
	RMON (1, 2, 3, 9)
	CWMP
	gRPC

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

Protocol Compliance

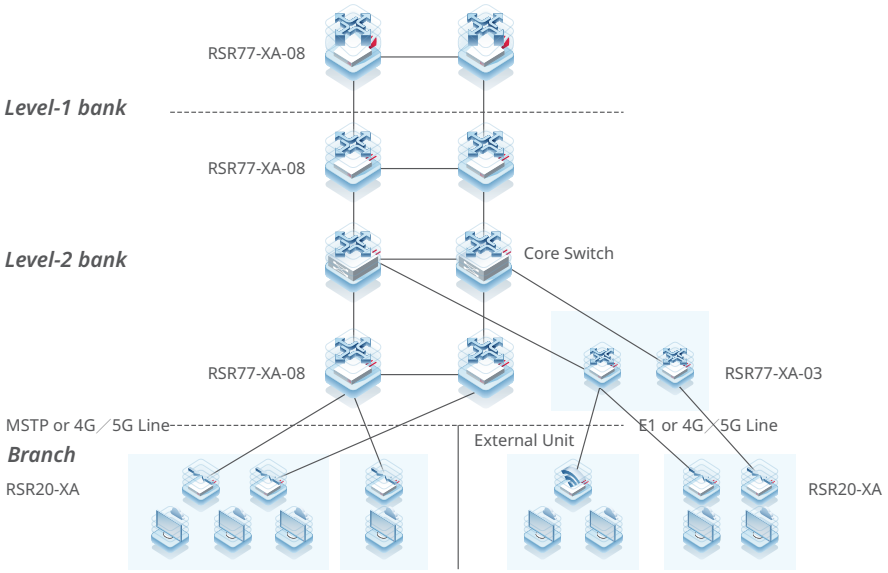
RG-RSR20-XA Series	
Organization	Standards and Protocol
IETF	RFC 1058 Routing Information Protocol (RIP) RFC 1157 A Simple Network Management Protocol (SNMP) RFC 1305 Network Time Protocol Version 3 (NTP) RFC 1349 Internet Protocol (IP) RFC 1350 TFTP Protocol (revision 2) RFC 1519 CIDR RFC 1583 OSPF Version 2 RFC 1591 Domain Name System Structure and Delegation RFC 1643 Ethernet Interface MIB RFC 1757 Remote Network Monitoring (RMON) RFC 1812 Requirements for IP Version 4 Router RFC 1901 Introduction to Community-based SNMPv2 RFC 1902-1907 SNMP v2 RFC 1918 Address Allocation for Private Internet RFC 1981 Path MTU Discovery for IP version 6

RG-RSR20-XA Series	
Organization	Standards and Protocol
IETF	RFC 1997 BGP Communities Attribute RFC 2131 Dynamic Host Configuration Protocol (DHCP) RFC 2132 DHCP Options and BOOTP Vendor Extensions RFC 2236 IGMP RFC 2328 OSPF Version 2 RFC 2385 Protection of BGP Sessions via the TCP MD5 Signature Option RFC 2439 BGP Route Flap Damping RFC 2460 Internet Protocol, Version 6 (IPv6) RFC 2461 Neighbor Discovery for IP Version 6 (IPv6) RFC 2462 IPv6 Stateless Address Auto configuration RFC 2463 Internet Control Message Protocol for IPv6 (ICMPv6) RFC 2545 Use of BGP 4 Multiprotocol Extensions for IPv6 Inter Domain Routing RFC 2571 SNMP Management Frameworks RFC 2711 IPv6 Router Alert Option RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol RFC 2863 The Interfaces Group MIB RFC 2918 Route Refresh Capability for BGP 4 RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only) RFC 2934 Protocol Independent Multicast MIB for IPv4 RFC 3046 DHCP Option82 RFC 3065 Autonomous System Confederation for BGP RFC 3101 OSPF Not so stubby area option RFC 3137 OSPF Stub Router Advertisement sFlow RFC 3417 (SNMP Transport Mappings) RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) RFC 3509 Alternative Implementations of OSPF Area Border Routers RFC 3513 IP Version 6 Addressing Architecture RFC 3623 Graceful OSPF Restart RFC 3768 VRRP RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6 RFC 3973 PIM Dense Mode RFC 4022 MIB for TCP RFC 4271 A Border Gateway Protocol 4 (BGP 4) RFC 4273 Definitions of Managed Objects for BGP 4 RFC 4360 BGP Extended Communities Attribute RFC 4456 BGP Route Reflection: An Alternative to Full Mesh Internal BGP (IBGP) RFC 4486 Subcodes for BGP Cease Notification Message RFC 4552 Authentication/Confidentiality for OSPFv3 RFC 4724 Graceful Restart Mechanism for BGP RFC 4750 OSPFv2 MIB partial support no SetMIB RFC 4760 Multiprotocol Extensions for BGP 4 RFC 4940 IANA Considerations for OSPF RFC 5065 Autonomous System Confederation for BGP RFC 5187 OSPFv3 Graceful Restart

RG-RSR20-XA Series	
Organization	Standards and Protocol
IETF	RFC 5340 OSPFv3 for IPv6 RFC 5492 Capabilities Advertisement with BGP 4 RFC 6620 FCFS SAVI RFC 768 User Datagram Protocol (UDP) RFC 783 TFTP Protocol (revision 2) RFC 792 Internet Control Message Protocol (ICMP) RFC 793 Transmission Control Protocol (TCP) RFC 813 Window and Acknowledgement Strategy in TCP RFC 815 IP datagram reassembly algorithms RFC 826 Ethernet Address Resolution Protocol (ARP) RFC 854 Telnet Protocol RFC 959 File Transfer Protocol (FTP) RFC 4251 The Secure Shell (SSH) Protocol RFC 4252 SSHv6 Authentication RFC 4253 SSHv6 Transport Layer RFC 4254 SSHv6 Connection RFC 4291 IP Version 6 Addressing Architecture RFC 4292 IP Forwarding Table MIB RFC 4293 Management Information Base for the Internet Protocol (IP) RFC 4443 ICMPv6 RFC 4861 IPv6 Neighbor Discovery RFC 5424 Syslog Protocol RFC 5798 VRRP RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms RFC 6241 Network Configuration Protocol (NETCONF)
IEEE	IEEE 802.2 Logical Link Control IEEE 802.1AB 2005 IEEE 802.1ab Link Layer Discovery Protocol IEEE 802.1ad Provider Bridges IEEE 802.1ax/IEEE802.3ad Link Aggregation IEEE 802.1D Media Access Control (MAC) Bridges IEEE 802.1D Spanning Tree Protocol IEEE 802.1Q Virtual Bridged Local Area NetworksVLAN IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.1x Port based network access control protocol IEEE Std 802.3ab 1000BASE-T IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE Std 802.3ae 10GE WEN/LAN Standard IEEE Std 802.3x Full Duplex and flow control IEEE Std 802.3z Gigabit Ethernet Standard

Typical Applications

Financial Branch Network Access

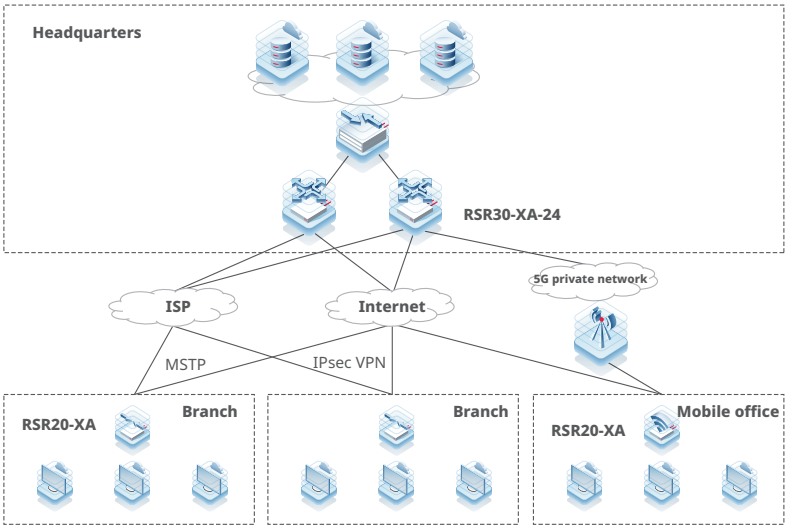


Networking:

The RSR77XA series high-end routers are used in the provincial level-1 and level-2 banks, and the RSR20-XA routers are deployed on a branch network to meet multi-service access requirements.

The RG-RSR20-XA series supports Ethernet, and other access modes.

Enterprise Branch Interconnection



Networking:
The RSR30-XA series routers are deployed in the headquarters, and the RSR20-XA series routers are deployed in branches.
The RG-RSR20-XA series supports GE and other access modes.
It supports IPsec VPN, AAA, digital certificates, and other technologies.

Ordering Guide

Perform the following steps to configure an RG-RSR20-XA:
- Select the chassis based on the specific product model.
- Select a power module according to power supply requirements of the device. At least one power module is required.
- Select line cards as needed.
- Select accessories such as optical modules, antennas, cables, and adapters according to interface types.

Models marked with asterisks (*) in the ordering information are available later.

Ordering Information

Chassis

Model	Description
RG-RSR20-XA-24	RG-RSR20-XA-24 chassis, 12 x Fixed WAN ports (4 x 10GE SFP+ ports, 4 x 1GE SPF ports, and 4 x 10/100/1000BASE-T ports) and 12 x 10/100/1000BASE-T LAN ports (LAN/WAN port switching), 4 x Expansion module slots, 1 x USB 2.0 port (Type-A connector), 1 x RJ45 console port
RG-RSR20-XA-36	RG-RSR20-XA-36 chassis, 12 x Fixed WAN ports (4 x 10GE SFP+ ports, 4 x 1GE SPF ports, and 4 x 10/100/1000BASE-T ports) and 24 x 10/100/1000BASE-T LAN ports (LAN/WAN port switching), 4 x Expansion module slots, 1 x USB 2.0 port (Type-A connector), 1 x RJ45 console port
RG-RSR20-XA-54	RG-RSR20-XA-54 chassis, 6 x Fixed WAN ports (2 x 10GE SFP+ ports and 4 x 10/100/1000BASE-T ports) and 48 x 10/100/1000BASE-T LAN ports (LAN/WAN port switching), 4 x Expansion module slots, 1 x USB 2.0 port (Type-A connector), 1 x RJ45 console port

Expansion Module

Model	Description
HSIC-2E1/CE1	2 Port Channeled E1 port HSIC module

Power Module

Model	Description
RG-PA150IB-F	150 W AC power module
RG-PD150IB-F	150 W DC power module

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

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/servicepolicy/Service-Support-Summany/

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

Ruijie Networks Co., Ltd.

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