RG-S7800C & RG-S7800C-X Series
Multi-service Core Switch

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Product Pictures

RG-S7805C

RG-S7808C

RG-S7810C

RG-S7810C-X

M78-PSE-X

Product Overview

The RG-S7800C and RG-S7800C-X series switches, multi-service core switches released by Ruijie Networks for next-generation converged networks, integrate features of campus networks and data centers.

Using the modular operating system (OS), the RG-S7800C and RG-S7800C-X support IPv4, IPv6, and other network services, satisfying application requirements of the Ethernet in the future. In addition, it supports Virtual Switching Unit (VSU) that simplifies customers' network architecture and improves O&M efficiency.

The RG-S7800C and RG-S7800C-X series switches can be deployed on MANs, campus networks, and data centers based on service requirements. They lay a foundation for high-performance networks that support IoT service lifecycle management, mobility applications, and cloud applications.

Product Highlights

- Employs the advanced Clos multi-level multi-plane architecture to separate the control plane from the forwarding plane. This ensures non-blocking switching at line rate among all interfaces, and delivers continuous bandwidth upgrade and service support capabilities.
- Provides highly-efficient energy-saving system and power supply system, supports dynamic power management, and is equipped with intelligent fan modules for multi-level speed regulation, significantly reducing energy consumption.
- Uses RGOS modular operating system to provide more entries, faster hardware processing, and better operation experience.
- Provides open and programmable RGOS modular operating system. Basic functions are incorporated into the main version, and custom functions are released in app mode, ensuring stability of the basic functions.
- Supports the x86 platform, which supports containers, allows third-party management applications to be installed, and makes it easy for customizing functions.
- Rectifies faults related to processes online in seconds, without interrupting network operation.
- Supports Python that allows applications across platforms.
- Supports high-speed access to northbound interfaces, with the performance of up to thousands of operations. It can associate with the controller to upgrade the man-machine interface to machine-machine interface.
- Upgrades and extends functions online to ensure nonstop services.
- Is suitable for a mobile network or an IoT of a large campus where thousands of terminals are deployed; automatically isolates multiple service networks, which is independent of interfaces and locations. This simplifies deployment.
- Securely connects to and isolates IoT terminals and users.
- Copes with lossless operation of services on a mobile network or the Internet with its high bandwidth, achieving service continuity.
- Is used as the core device of a campus network or the IoT service, with powerful performance and high reliability to intelligently connect to IoT terminals and mobile terminals.

Product Features

On-demand Resource Allocation Based on Virtualization

The RG-S7800C and RG-S7800C-X series switches adopt VSU to virtualize multiple physical devices into one logical device for unified operation and management, substantially reducing network nodes and lowering network O&M personnel's workload. They can implement fast switchover within 50 ms to 200 ms upon link failures, ensuring nonstop transmission of key services and enhancing network reliability. The inter-device link aggregation technology implements dual active uplinks for access servers and switches, doubling the bandwidth of effective connections. The virtualized devices support Layer 2 and Layer 3 interoperability of IPv4/IPv6 (inner)-based VXLANs.

Carrier-Class High Reliability

The RG-S7800C and RG-S7800C-X series switches support hot patching to realize online patch upgrade.

The RG-S7800C and RG-S7800C-X series switches support GR for OSPF/IS-IS/BGP and BFD for VRRP/OSPF/BGP4/IS-IS/IS-ISv6/static routing, and implement the millisecond-level fault detection mechanism through protocols, with the fault detection time less than 50 ms.

The switches support 1+1 hardware monitoring system for centralized monitoring of cards, fans, power supplies, and environment.

The RG-S7800C and RG-S7800C-X provide visualized

hardware health status, making it easy for a network administrator to monitor the fan status, power, temperature, and onboard voltage. In particular, the network administrator can identify voltage exceptions during routine inspection and handle the exceptions in a timely manner, thereby preventing system breakdown caused by such exceptions.

The RG-S7800C and RG-S7800C-X employ the fault isolation technology to monitor the optical module status. If an optical module is faulty, the optical module is isolated and has no impact on the running of other interfaces or the switch. After the faulty optical module is replaced, the corresponding interface is restored immediately.

In the RG-S7810C-X, all line cards, and active and standby supervisor modules are connected to the same switch fabric module. When any switch fabric module fails, the system can automatically allocate traffic to the remaining switch fabric modules.

Clos Architecture for Non-Blocking Switching

The RG-S7800C and RG-S7800C-X feature advanced Clos multi-level multi-plane architecture, which can separate the control plane from the forwarding plane. That is, it can be independently configured with switch fabric modules and supervisor modules to ensure non-blocking switching at line rate among all ports, delivering continuous bandwidth upgrade and service support capabilities.

It uses the complete orthogonal design for line cards and switch fabric modules. Traffic is transmitted to the switch fabric module through the orthogonal connector for switching, with zero cabling on the backplane and low transmission loss. This greatly reduces signal attenuation and improves the service traffic transmission efficiency in the switch.

SDN

The RG-S7800C and RG-S7800C-X support OpenFlow and NETCONF, and allows the live network to be smoothly upgraded to a software-defined networking (SDN) network. This substantially reduces network maintenance costs while greatly simplifying network management.

High Energy Efficiency

The RG-S7800C and RG-S7800C-X use the low voltage power supply design for the internal system, and highly-efficient power modules guarantee highly efficient power supply.

The multi-core CPU supports dynamic power management to save power at low loads.

The intelligent fan modules support 256-level speed regulating and precise temperature control, saving energy and reducing noise. This allows the RG-S7800C and RG-S7800C-X to run at a high temperature for a long time and adapt to severe environments, greatly lowering power consumption.

RG-S7810C-X and RG-S7808C (used with the M7808C-CM-X supervisor module) support the Coarse Wavelength Division Multiplexing (CWDM) solution with the passive aggregation layer, facilitating the O&M of the aggregation nodes and saving energy. They also support installation of high-density CWDM cards M7800C-8SFG-XB and M7800C-8SFX-XB. Each CWDM card provides eight hyper-converged ports that support 64 Gigabit/10 Gigabit logical interfaces. The operating wavelength range of the optical module on the hyper-converged port is from 1271 nm to 1571 nm. Each wavelength is physically isolated from each other, eliminating mutual interference. Therefore, a bandwidth of Gigabit or 10 Gigabit can be achieved between the access switch and the hyper-converged port, effectively fulfilling the needs of high-bandwidth services.

Ease of Network Maintenance

The RG-S7800C and RG-S7800C-X support the hardware monitoring system in 1+1 redundancy mode to centrally monitor status parameters such as the card, fan module, power module, power supply, and environment parameters.

The RG-S7800C and RG-S7800C-X support routine network diagnosis and maintenance based on the Simple Network Management Protocol (SNMP), Remote Network Monitoring (RMON), Syslog, and other features. A network administrator can use various management and maintenance modes such as command line interface (CLI), web network management, and Telnet to facilitate device management.

Telemetry based on gRPC enables it to periodically collect information about CPU, memory, and other components.

With simplified optical management software and service template embedded in the RG-S7800C and RG-S7800C-X, the RG-S7800C and RG-S7800C-X can be deployed quickly. In addition to network service planning, the RG-S7800C and RG-S7800C-X support plug and play, zero-touch replacement, zero-touch provisioning (ZTP), and optical link fault detection and alarms.

Product Specifications

Hardware Specifications (with -CM Series Supervisor Module)

Port Specifications

Port Specifications	RG-S7805C	RG-S7808C	RG-S7810C
Module slot	2 x supervisor module slots 3 x line card slots 2 x power module slots 1 x fan module slot	2 x supervisor module slots 6 x line card slots 4 x power module slots 2 x fan module slots	2 x supervisor module slots 8 x line card slots (slot 7 does not support the EB line card) 2 x switch fabric module slots 4 x power module slots 2 x fan module slots
Supervisor module	M7805C-CM II	M7808C-CM II	M7810C-CM M7810C-CM-F
Switch fabric module	/	M7808C-CM II (switch fabric module integrated with supervisor module)	M7810C-FE-D I (must be used with M7810C-CM) M7810C-FE-F I (must be used with M7810C-CM-F) M7810C-CM, M7810C-CM-F (switch fabric module integrated with supervisor module)
line card	M7805C-CM II supports the following 9 modules: • M7800C-32XS4QXS-DA • M7800C-24GT24SFP4XS-EB • M7800C-24SFP/12GT4XS-EB • M7800C-48GT4XS-EB • M7800C-48SFP4XS-EB • M7800C-48GT-FA • M7800C-48SFP-FA • M7800C-48XS-FB • M7800C-8CQ-FB *1	M7808C-CM II supports the following 9 modules: • M7800C-32XS4QXS-DA • M7800C-24GT24SFP4XS-EB • M7800C-24SFP/12GT4XS-EB • M7800C-48GT4XS-EB • M7800C-48SFP4XS-EB • M7800C-48GT-FA • M7800C-48SFP-FA • M7800C-48XS-FB • M7800C-8CQ-FB *1	M7810C-CM supports the following 5 modules: • M7800C-32XS4QXS-DA • M7800C-24GT24SFP4XS-EB • M7800C-24SFP/12GT4XS-EB • M7800C-48GT4XS-EB • M7800C-48SFP4XS-EB M7810C-CM-F supports the following 4 modules: • M7800C-48GT-FA • M7800C-48SFP-FA • M7800C-48XS-FB • M7800C-8CQ-FB *1
Power module	RG-PA300I-F RG-PA460I-F RG-PA1000I-F	RG-PA600I-F RG-PA1600I-F	RG-PA600I RG-PA1600I
Fan module	M05C-FAN (pre-installed 1)	M08-FAN (pre-installed 2)	M10C-FAN (pre-installed 2)

Port Specifications	RG-S7805C	RG-S7808C	RG-S7810C
Module management port	M7805C-CM II: • 1 x RJ45 console port • 1 x RJ45 MGMT port	M7808C-CM II: • 1 x RJ45 console port • 1 x RJ45 MGMT port	M7810C-CM: • 1 x RJ45 console port • 1 x RJ45 MGMT port M7810C-CM-F: • 1 x RJ45 console port *2 • 1 x mini USB console port *2 • 1 x RJ45 MGMT port
USB	M7805C-CM II: 1 x USB 2.0 port (no capacity limit, 2G/4G/8G/16G/32G capacity tested)	M7808C-CM II: 2 x USB 2.0 ports (no capacity limit, 2G/4G/8G/16G/32G capacity tested)	M7810C-CM: 1 x USB 2.0 port M7810C-CM-F: 1 x USB 2.0 port (no capacity limit, 2G/4G/8G/16G/32G capacity tested)

*1 Note: FA/FB series cannot be used with EB series or DA series.
*2 Note: Only one console port is allowed to be used at the same time. The mini USB console port has a higher priority.

System Specifications

System specifications	RG-S7805C	RG-S7808C	RG-S7810C
System packet forwarding rate *3	4500 Mpps	9000 Mpps	12000 Mpps
System switching capacity *4	6000 Gbps	12000 Gbps	16000 Gbps
CPU	Supervisor module: • M7805C-CM II: quad-core CPU, each core with the clock speed of 1.0 GHz Line card • EB card: quad-core CPU, each core with the clock speed of 1.0 GHz • DA/FA/FB card: quad-core CPU, each core with the clock speed of 1.5 GHz	Supervisor module: • M7808C-CM II: quad-core CPU, each core with the clock speed of 1.5 GHz Line card • EB card: quad-core CPU, each core with the clock speed of 1.0 GHz • DA/FA/FB card: quad-core CPU, each core with the clock speed of 1.5 GHz	Supervisor module: • M7810C-CM, M7810C-CM-F: quad-core CPU, each core with the clock speed of 1.5 GHz Line card • EB card: quad-core CPU, each core with the clock speed of 1.0 GHz • DA/FA/FB card: quad-core CPU, each core with the clock speed of 1.5 GHz Switch fabric module • M7810C-FE-D I, M7810C-FE-F I: quad-core CPU, each core with the clock speed of 1.5 GHz
Real-time clock (RTC)	M7805C-CM II: supported	M7808C-CM II: supported	M7810C-CM/M7810C-CM-F: supported

System specifications	RG-S7805C	RG-S7808C	RG-S7810C
BootROM	M7805C-CM II: 8 MB EB card: 8 MB DA/FA/FB card: 16 MB	M7808C-CM II: 16 MB EB card: 8 MB DA/FA/FB card: 16 MB	M7810C-CM/M7810C-CM-F: 16 MB EB card: 8 MB DA/FA/FB card: 16 MB M7810C-FE-D I/M7810C-FE-F I: 16 MB
Flash memory	M7805C-CM II: 1 GB EB card: 512 MB DA/FA/FB card: 8 GB	M7808C-CM II: 8 GB EB card: 512 MB DA/FA/FB card: 8 GB	M7810C-CM/M7810C-CM-F: 8 GB EB card: 512 MB DA/FA/FB card: 8 GB M7810C-FE-D I/M7810C-FE-F I: 8 GB
Memory	M7805C-CM II: 4 GB DDR3 EB card: 1 GB DDR3 DA card: 1 GB DDR4 FA/FB card: 2 GB DDR4	M7808C-CM II: 4 GB DDR4 EB card: 1 GB DDR3 DA card: 1 GB DDR4 FA/FB card: 2 GB DDR4	M7810C-CM/M7810C-CM-F: 4 GB DDR4 EB card: 1 GB DDR3 DA card: 1 GB DDR4 FA/FB card: 2 GB DDR4 M7810C-FE-D I: 1 GB DDR4 M7810C-FE-F I: 2 GB DDR4
Switch buffer	EB: 4 MB FB: 32 MB FA: 8 MB DA: 16 MB	EB: 4 MB FB: 32 MB FA: 8 MB DA: 16 MB	EB: 4 MB FB: 32 MB FA: 8 MB DA: 16 MB

*3 means the system's packet forwarding rate.
*4 means the system's switching capacity.

Power Supply and Consumption

Power supply and consumption	RG-S7805C	RG-S7808C	RG-S7810C
Power supply	2 x pluggable power modules	4 x pluggable power modules	4 x pluggable power modules
Power input	RG-PA300I-F (AC input): • Rated input voltage: 100 V AC to 240 V AC; 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC; 47 Hz to 63 Hz • Maximum input current: 5 A RG-PA460I-F (AC input): • Rated input voltage: 100 V AC to 240 V AC; 50/60 Hz • Maximum input voltage: 90 V AC to 290 V AC; 45 Hz to 63 Hz • Maximum input current: 6 A RG-PA1000I-F (AC input): • Rated input voltage: 100 V AC to 240 V AC; 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC; 47 Hz to 63 Hz • Maximum input current: 10 A	RG-PA600I-F (AC input): • Rated input voltage: 100 V AC to 240 V AC, 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC, 47 Hz to 63 Hz • Maximum input current: 10 A RG-PA1600I-F (AC input): • Rated input voltage: 100 V AC to 240 V AC, 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC, 47 Hz to 63 Hz • Maximum input current: 16 A	RG-PA600I (AC input): • Rated input voltage: 100 V AC to 240 V AC, 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC, 47 Hz to 63 Hz • Maximum input current: 8 A RG-PA1600I (AC input): • Rated input voltage: 100 V AC to 240 V AC; 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC; 47 Hz to 63 Hz • Maximum input current: 16 A

Power supply and consumption	RG-S7805C	RG-S7808C	RG-S7810C
Maximum output power	RG-PA300I-F: 300 W RG-PA460I-F: 460 W RG-PA1000I-F: • 100 V AC to 176 V AC: 800 W • 176 V AC to 240 V AC: 1000 W	RG-PA600I-F: 600 W RG-PA1600I-F: • 100 V AC to 176 V AC: 1200 W • 176 V AC to 240 V AC: 1600 W	RG-PA600I: 600 W RG-PA1600I: • 100 V AC to 176 V AC: 1200 W • 176 V AC to 240 V AC: 1600 W
Module power consumption	M05C-FAN: < 80 W M7805C-CM II: < 21 W	M08-FAN: < 88 W M7808C-CM II: < 50 W	M10C-FAN: < 216 W M7810C-CM: < 50 W M7810C-CM-F: < 110 W
	M7800C-32XS4QXS-DA: < 210 W M7800C-24GT24SFP4XS-EB: < 88 W M7800C-24SFP/12GT4XS-EB: < 85 W M7800C-48GT4XS-EB: < 70 W M7800C-48SFP4XS-EB: < 101 W M7800C-48GT-FA: < 75 W M7800C-48SFP-FA: < 95 W M7800C-48XS-FB: < 160 W M7800C-8CQ-FB: < 130 W		

Dimensions and Weight

Dimensions and Weight	RG-S7805C	RG-S7808C	RG-S7810C
Unit dimensions (W x D x H)	442 mm x 451 mm x 175 mm (17.40 in. x 17.76 in. x 6.89 in.)	442.0 mm x 465.0 mm x 441.7 mm (17.40 in. x 18.31 in. x 17.39 in.)	442.5 mm x 560.0 mm x 442.0 m (17.42 in. x 22.05 in. x 17.40 in.)
Shipping dimensions (W x D x H)	750.0 mm x 600.0 mm x 455.0 mm (29.53 in. x 23.62 in. x 17.91 in.)	710.0 mm x 590.0 mm x 735.0 mm (27.95 in. x 23.23 in. x 28.94 in.)	845.0 mm x 685.0 mm x 770.0 mm (33.27 in. x 26.97 in. x 30.31 in.)
Rack height	4 RU	10 RU	10 RU
Unit weight	12.42 kg (27.38 lbs, empty chassis with 1 fan module)	35.60 kg (78.48 lbs, empty chassis with 2 fan modules)	43.60 kg (96.01 lbs, empty chassis with 2 fan modules)
Shipping weight	28.05 kg (61.84 lbs)	43.93 kg (96.85 lbs)	68.30 kg (150.58 lbs)

Environment and Reliability

Environment and reliability	RG-S7805C	RG-S7808C	RG-S7810C
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: –500 m to +5,000 m (–1,640.42 ft. to +16,404.20 ft.) Storage altitude: –500 m to +5,000 m (–1,640.42 ft. to +16,404.20 ft.)		
Mean time between failure (MTBF)	216,000 hours (about 24 years)	216,000 hours (about 24 years)	342,000 hours (about 39 years)

Environment and reliability	RG-S7805C	RG-S7808C	RG-S7810C
Fan	1 x pluggable fan module (pre-installed)	2 x pluggable fan modules (pre-installed)	2 x pluggable fan modules (pre-installed)
Heat dissipation	Supervisor module: right-to-left airflow Line card: right-to-rear airflow Power module: built-in fan modules drawing air outward, front-to-rear airflow	Supervisor module: right-to-rear airflow Line card: right-to-rear airflow Power module: front-to-rear airflow	Supervisor module: front-to-rear airflow Line card: side-to-rear airflow FE card: front-to-rear airflow
Acoustic noise	27°C (80.6°F): 70 dB Max Noise: 77 dB	27°C (80.6°F): 70 dB Max Noise: 77 dB	27°C (80.6°F): 70 dB Max Noise: 77 dB
Supervisor module redundancy	1+1 redundancy	1+1 redundancy	1+1 redundancy (same model)
Power module redundancy	1+1 redundancy (same model)	N+M redundancy (same model)	N+M redundancy (same model)
Fan redundancy	Not supported	1+1 redundancy	1+1 redundancy
Module hot swapping	Supported	Supported	Supported
Power module hot swapping	Supported	Supported	Supported
Fan module hot swapping	Supported	Supported	Supported
Cable hot swapping	All ports on line cards support hot swapping of cables. The switch-mode power supply supports hot swapping of power cords.		
Power supply monitoring	Monitoring of the model, temperature, power, and voltage of the power supply module Power supply failure alarming Control of line card power-on based on the power supply status		
Fan monitoring	Fan speed adjustment: 256 levels Fan failure alarming		
Temperature monitoring	Over-temperature alarming		
ESD	ESD contact/air discharge: 6 kV/8 kV ESD susceptibility contact/air discharge: 8 kV/15 kV		
Surge protection	MGMT port: 4 kV Service port: 4 kV Power port: 6 kV		

Certifications and regulatory compliance

Certifications and regulatory compliance	RG-S7805C	RG-S7808C	RG-S7810C
Safety regulation	IEC 62368-1		

Certifications and regulatory compliance	RG-S7805C	RG-S7808C	RG-S7810C
EMC regulation	EN 300386, EN 55032 Class A, EN 55035, EN IEC 61000-3-2, EN 61000-3-3, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11		
RoHS	European RoHS Directive 2011/65/EU & Amendment(EU) 2015/863		

Hardware Specifications (with -X Series Supervisor Module)

Port Specifications

Port specifications	RG-S7805C	RG-S7808C	RG-S7810C-X
Module slot	2 x supervisor module slots 3 x line card slots 2 x power module slots 1 x fan module slot	2 x supervisor module slots 6 x line card slots 4 x power module slots 2 x fan module slots	2 x supervisor module slots 8 x line card slots 4 x switch fabric module slots 4 x power module slots 2 x fan module slots
Supervisor module	M7805C-CM-X	M7808C-CM-X	M7810C-CM-X
Switch fabric module	/	M7808C-CM-X (switch fabric module integrated with supervisor module)	M7810C-FE-X I M7810C-FE-X II
line card	M7800C-48GT4XS-XA M7800C-48SFP4XS-XA M7800C-24GT8SFP8XS-XA M7800C-32XS-XA M7800C-52XS-XB M7800C-12CQ-XB M7800C-48XT-P-XB	M7800C-48GT4XS-XA M7800C-48SFP4XS-XA M7800C-24GT8SFP8XS-XA M7800C-32XS-XA M7800C-52XS-XB M7800C-12CQ-XB M7800C-48XT-P-XB M7800C-8SFG-XB M7800C-8SFX-XB	M7800C-48GT4XS-XA M7800C-48SFP4XS-XA M7800C-24GT8SFP8XS-XA M7800C-32XS-XA M7800C-52XS-XB M7800C-12CQ-XB M7800C-48XT-P-XB M7800C-8SFG-XB M7800C-8SFX-XB
Power module	RG-PA300I-F RG-PA460I-F RG-PA1000I-F	RG-PA600I-F RG-PA1600I-F	RG-PA600I RG-PA1600I RG-PD600I
Fan module	M05C-FAN (pre-installed 1)	M08-FAN (pre-installed 2)	M10C-FAN (pre-installed 2)
Module management port	M7805C-CM-X: • 1 x RJ45 console port • 1 x RJ45 MGMT port	M7808C-CM-X: • 1 x RJ45 console port • 1 x RJ45 MGMT port	M7810C-CM-X: • 1 x RJ45 console port • 1 x RJ45 MGMT port M7810C-FE-X I/II: • 1 x RJ45 console port
USB	M7805C-CM-X: 1 x USB 2.0 port (no capacity limit, 2G/4G/8G/16G/32G capacity tested)	M7808C-CM-X: 1 x USB 2.0 port (no capacity limit, 2G/4G/8G/16G/32G capacity tested)	M7810C-CM-X: 1 x USB 2.0 port (no capacity limit, 2G/4G/8G/16G/32G capacity tested)

System Specifications

System specifications	RG-S7805C	RG-S7808C	RG-S7810C-X
System packet forwarding rate *3	4500 Mpps	9000 Mpps	14300 Mpps
System switching capacity *4	6000 Gbps	12000 Gbps	19200 Gbps
CPU	Supervisor module: • M7805C-CM-X: quad-core processor, each core 2.2 GHz Line card: • XA/XB series line card: quad-core processor, each core 2.2 GHz	Supervisor module: • M7808C-CM-X: quad-core processor, each core 2.2 GHz Line card: • XA/XB series line card: quad-core processor, each core 2.2 GHz	Supervisor module: • M7810C-CM-X: quad-core processor, each core 2.2 GHz Line card: • XA/XB series line card: quad-core processor, each core 2.2 GHz
Real-time clock (RTC)	M7805C-CM-X: supported	M7808C-CM-X: supported	M7810C-CM-X: supported
BootROM	M7805C-CM-X: 16 MB XA/XB card: 16 MB	M7808C-CM-X: 16 MB XA/XB card: 16 MB	M7810C-CM-X: 16 MB M7810C-FE-X I/II: 16 MB XA/XB card: 16 MB
Flash memory	M7805C-CM-X: 8 GB XA/XB card: 8 GB	M7808C-CM-X: 8 GB XA/XB card: 8 GB	M7810C-CM-X: 8 GB M7810C-FE-X I/II: 8 GB XA/XB card: 8 GB
Memory	M7805C-CM-X: 4 GB DDR4 XA/XB card: 4 GB DDR4	M7808C-CM-X: 4 GB DDR4 XA/XB card: 4 GB DDR4	M7810C-CM-X: 4 GB DDR4 M7810C-FE-X I: 1 GB DDR4 M7810C-FE-X II: 4 GB DDR4 XA/XB card: 4 GB DDR4
Switch buffer	XA series line card (excluding M7800C-32XS-XA): 4 MB XB series line card: 35 MB M7800C-32XS-XA: 35 MB	XA series line card (excluding M7800C-32XS-XA): 4 MB XB series line card: 35 MB M7800C-32XS-XA: 35 MB	XA series line card (excluding M7800C-32XS-XA): 4 MB XB series line card: 35 MB M7800C-32XS-XA: 35 MB

*3 means the system's packet forwarding rate.
*4 means the system's switching capacity.

Power Supply and Consumption

Power supply and consumption	RG-S7805C	RG-S7808C	RG-S7810C-X
Power supply	2 x pluggable power modules	4 x pluggable power modules	4 x pluggable power modules
Power input	RG-PA300I-F (AC input): • Rated input voltage: 100 V AC to 240 V AC; 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC; 47 Hz to 63 Hz • Maximum input current: 5 A RG-PA460I-F (AC input): • Rated input voltage: 100 V AC to 240 V AC; 50/60 Hz • Maximum input voltage: 90 V AC to 290 V AC; 45 Hz to 63 Hz	RG-PA600I-F (AC input): • Rated input voltage: 100 V AC to 240 V AC, 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC, 47 Hz to 63 Hz • Maximum input current: 10 A RG-PA1600I-F (AC input): • Rated input voltage: 100 V AC to 240 V AC, 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC, 47 Hz to 63 Hz	RG-PA600I (AC input): • Rated input voltage: 100 V AC to 240 V AC, 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC, 47 Hz to 63 Hz • Maximum input current: 8 A RG-PA1600I (AC input): • Rated input voltage: 100 V AC to 240 V AC; 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC; 47 Hz to 63 Hz

Power supply and consumption	RG-S7805C	RG-S7808C	RG-S7810C-X
Power input	• Maximum input current: 6 A RG-PA1000I-F (AC input): • Rated input voltage: 100 V AC to 240 V AC; 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC; 47 Hz to 63 Hz • Maximum input current: 10 A	• Maximum input current: 16 A	• Maximum input current: 16 A RG-PD600I (DC input): • Rated input voltage: –48 V DC • Maximum input voltage: –40 V DC to –75 V DC • Maximum input current: 20 A
Maximum output power	RG-PA300I-F: 300 W RG-PA460I-F: 460 W RG-PA1000I-F: • 100 V AC to 176 V AC: 800 W • 176 V AC to 240 V AC: 1000 W	RG-PA600I-F: 600 W RG-PA1600I-F: • 100 V AC to 176 V AC: 1200 W • 176 V AC to 240 V AC: 1600 W	RG-PA600I: 600 W RG-PA1600I: • 100 V AC to 176 V AC: 1200 W • 176 V AC to 240 V AC: 1600 W RG-PD600I: 600 W
Module power consumption	M05C-FAN: < 80 W M7805C-CM-X: < 40 W	M08-FAN: < 88 W M7808C-CM-X: < 62 W M7800C-8SFG-XB: < 250 W M7800C-8SFX-XB: < 250 W	M10C-FAN: < 216 W M7810C-CM-X: < 60 W M7810C-FE-X I: < 50 W M7810C-FE-X II: < 160 W M7800C-8SFG-XB: < 250 W M7800C-8SFX-XB: < 250 W
	M7800C-48GT4XS-XA: < 85 W M7800C-48SFP4XS-XA: < 117 W M7800C-24GT8SFP8XS-XA: < 95 W M7800C-32XS-XA: < 149 W M7800C-52XS-XB: < 250 W M7800C-12CQ-XB: < 240 W M7800C-48XT-P-XB: < 300 W		

If the PoE function is used, you need to separately configure the PoE power chassis M78-PSE-X and the power module RG-PA1600I-PL for M7800C-48XT-P-XB.

Hardware Specifications	M78-PSE-X
Fixed service port	2 x PoE out ports
Module slot	2 x power module slots
Power module	RG-PA1600I-PL
Power supply	2 x pluggable power modules
Power input	RG-PA1600I-PL (AC input): • Rated input voltage: 100 V AC to 240 V AC, 50/60 Hz • Maximum input voltage: 90 V AC to 264 V AC; 47 Hz to 63 Hz • Maximum input current: 16 A
Maximum output power	RG-PA1600I-PL • 100 V AC to 176 V AC: 1200 W • 176 V AC to 240 V AC: 1600 W
PoE output power	Each PoE out port provides up to 1,440 W of power

Hardware Specifications	M78-PSE-X
Unit dimensions (W x D x H)	400.0 mm x 420.0 mm x 44.7 mm (15.75 in. x 16.54 in. x 1.76 in.)
Unit weight	5.0 kg (11.02 lbs)
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)
Mean time between failure (MTBF)	4,289,000 hours (about 489 years)
Power module redundancy	1+1 redundancy (same model)

Dimensions and Weight

Dimensions and Weight	RG-S7805C	RG-S7808C	RG-S7810C-X
Unit dimensions (W x D x H)	442 mm x 451 mm x 175 mm (17.40 in. x 17.76 in. x 6.89 in.)	442.0 mm x 465.0 mm x 441.7 mm (17.40 in. x 18.31 in. x 17.39 in.)	442.5 mm x 560.0 mm x 442.0 mm (17.42 in. x 22.05 in. x 17.40 in.)
Shipping dimensions (W x D x H)	750.0 mm x 600.0 mm x 455.0 mm (29.53 in. x 23.62 in. x 17.91 in.)	710.0 mm x 590.0 mm x 735.0 mm (27.95 in. x 23.23 in. x 28.94 in.)	845.0 mm x 685.0 mm x 770.0 mm (33.27 in. x 26.97 in. x 30.31 in.)
Rack height	4 RU	10 RU	10 RU
Unit weight	12.42 kg (27.38 lbs, empty chassis with 1 fan module)	35.6 kg (78.48 lbs) (empty chassis and fan modules)	43.55 kg (96.01 lbs) (empty chassis and fan modules)
Shipping weight	35.6 kg (78.48 lbs, empty chassis with 2 fan modules)	43.55 kg (96.01 lbs, empty chassis with 2 fan modules)	68.30 kg (150.58 lbs)

Environment and Reliability

Environment and reliability	RG-S7805C	RG-S7808C	RG-S7810C-X
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: –500 m to +5,000 m (–1,640.42 ft. to +16,404.20 ft.) Storage altitude: –500 m to +5,000 m (–1,640.42 ft. to +16,404.20 ft.)		
Mean time between failure (MTBF)	216,000 hours (about 24 years)	216,000 hours (about 24 years)	342,000 hours (about 39 years)
Fan	1 x pluggable fan module (pre-installed)	2 x pluggable fan modules (pre-installed)	2 x pluggable fan modules (pre-installed)

Environment and reliability	RG-S7805C	RG-S7808C	RG-S7810C-X
Heat dissipation	Supervisor module: right-to-left airflow Line card: right-to-rear airflow Power module: built-in fan modules drawing air outward, front-to-rear airflow	Supervisor module: right-to-rear airflow Line card: right-to-rear airflow Power module: front-to-rear airflow	Supervisor module: front-to-rear airflow Line card: side-to-rear airflow FE card: front-to-rear airflow
Acoustic noise	27°C (80.6°F): 70 dB Max Noise: 77 dB	27°C (80.6°F): 70 dB Max Noise: 77 dB	27°C (80.6°F): 70 dB Max Noise: 77 dB
Supervisor module redundancy	1+1 redundancy	1+1 redundancy	1+1 redundancy
Power module redundancy	1+1 redundancy (same model)	N+M redundancy (same model)	N+M redundancy (same model)
Fan redundancy	Not supported	1+1 redundancy	1+1 redundancy
Module hot swapping	Supported	Supported	Supported
Power module hot swapping	Supported	Supported	Supported
Fan module hot swapping	Supported	Supported	Supported
Cable hot swapping	All ports on line cards support hot swapping of cables. The switch-mode power supply supports hot swapping of power cords.		
Power supply monitoring	Monitoring of the model, temperature, power, and voltage of the power supply module Power supply failure alarming Control of line card power-on based on the power status		
Fan monitoring	Fan speed adjustment: 256 levels Fan failure alarming		
Temperature monitoring	Over-temperature warning		
ESD	ESD contact/air discharge: 6 kV/8 kV ESD susceptibility contact/air discharge: 8 kV/15 kV		
Surge protection	MGMT port: 4 kV Service port: 4 kV Power port: 6 kV		

Certifications and Regulatory Compliance

Certifications and Regulatory Compliance	RG-S7805C	RG-S7808C	RG-S7810C-X
Safety regulation	IEC 62368-1		
EMC regulation	EN 300386, EN 55032 Class A, EN 55035, EN IEC 61000-3-2, EN 61000-3-3, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11		
RoHS	European RoHS Directive 2011/65/EU & Amendment(EU) 2015/863		

Software Specifications (with -CM Series Supervisor Module)

Feature	RG-S7800C Series
Ethernet switching	Jumbo frame (maximum length: 9,216 bytes)
	802.3az EEE
	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)
	ERPS (G.8032)
	LLDP/LLDP-MED
IP service	Static and dynamic ARP
	DHCP client
	DHCP relay
	DHCP server
	DHCP snooping
	DNS
	DHCPv6 client, DHCPv6 relay, and DHCPv6 snooping
	Neighbor Discovery (ND) and ND snooping
	Manual tunnel, automatic tunnel, and ISATAP tunnel for IPv6
	GRE tunnel
IP routing	Static routing
	RIP and RIPng
	OSPFv2 and OSPFv3
	GR

Feature	RG-S7800C Series
IP routing	IPv4/IPv6 IS-IS
	BGP4 and BGP4+
	EVPN
	IPv4/IPv6 VRF
	Policy-based routing (PBR)
	IPv4 and IPv6 ECMP
Multicast	IGMP v1/v2/v3
	IGMP snooping v1/v2/v3
	IGMP proxy
	IGMP fast leave
	PIM-DM, PIM-SM, and PIM-SSM
	PIM-SSM for IPv4 and IPv6
	MSDP to achieve inter-domain multicast
	MLDv1 and MLDv2
	Multicast static routing
	MLD v1/v2 snooping
	PIM-SMv6
	Multicast source IP address check Multicast source port check
MPLS	MPLS IPv6
	MPLS L3VPN
	MPLS 6VPE
	MPLS MIB (RFC 1273, RFC 4265, and RFC 4382)
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 flexible combinations of the VLAN ID, Ethernet type, MAC address, IP address, TCP/UDP port number, protocol type, and time range)

Feature	RG-S7800C Series
ACL and QoS	ACL80 and IPv6 ACL
	Applying ACLs globally (hardware ACLs based on flexible combinations of the VLAN ID, Ethernet type, MAC address, IP address, TCP/UDP port number, protocol type, and time range)
	ACL redirection
	Port traffic identification
	Port-based rate limiting
	802.1p
	Traffic classification based on 802.1p priorities, DSCP priorities, and IP precedences
	CAR
	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	AAA
	RADIUS authorization and accounting
	TACACS+
	Portal authentication, RADIUS, and TACACS+ login authentication
	IEEE802.1X 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
	ICMP
	Port security
	IP source guard
	DAI
	SAVI
	ARP spoofing prevention

Feature	RG-S7800C Series
Security	CPU Protect Policy (CPP) and NFPP
	Various attack defense functions, including NFPP and ARP anti-attack
	uRPF Login authentication and password security Unknown multicast packets are not sent to the CPU, and unknown unicast packets can be suppressed.
Reliability	Rapid Ethernet Uplink Protection (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
	VRRP for the super-VLAN
	BFD
	RG-S7805C, RG-S7808C, RG-S7810C: 1+1 redundancy for supervisor modules
	RG-S7805C: 1+1 redundancy for power supply RG-S7808C, RG-S7810C: N+M redundancy for power supply
	RG-S7805C: fan redundancy is not supported RG-S7808C, RG-S7810C: 1+1 fan redundancy
	Hot swapping of components
	Hot patch and online installation of patches
	GR for OSPF/IS-IS/BGP
	BFD for VRRP/OSPF/BGP4/ISIS/ISISv6/static routing
Device virtualization	VSU
NMS and maintenance	SPAN, RSPAN, and ERSPAN
	sFlow
	NTP
	SNTP
	FTP, TFTP, and Xmodem
	SNMP v1/v2c/v3
	RMON (1, 2, 3, 9)

Feature	RG-S7800C Series
NMS and maintenance	NETCONF
	CWMP
	gRPC
	OpenFlow Special 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
	Web-based NMS
	Console/Telnet/SSH2.0 CLI configuration Fault alarms and auto-recovery System operation logging
VXLAN	Layer 2 and Layer 3 VXLAN gateways

Software Specifications (with -X Series Supervisor Module)

Software Specifications	RG-S7800C-X Series
Ethernet switching	Jumbo frame (maximum length: 9,216 bytes)
	802.3az EEE
	Maximum number of VLANs that can be created: 4,094
	Voice VLAN
	GVRP
	IP subnet-based VLAN
	MAC VLAN
	Port-based VLAN
	Private VLAN
	protocol-based VLAN
	Super-VLAN
	Basic QinQ and selective QinQ
	STP (IEEE 802.1.d)

Software Specifications	RG-S7800C-X Series
Ethernet switching	RSTP (IEEE 802.1w)
	MSTP (IEEE 802.1s)
	ERPS (G.8032)
	LLDP/LLDP-MED
Device Virtualization	VSU
SDN	OpenFlow 1.3 NETCONF
IP service	Static and dynamic ARP
	DHCP client
	DHCP relay
	DHCP server
	DHCP snooping
	DNS
	DHCPv6 client
	DHCPv6 relay
	DHCPv6 snooping
	Neighbor Discovery (ND) and ND snooping
	FTP Server
	FTP Client
	NTP server
	NTP Client
	SNTP Client
	TFTP Client
	TFTP Server
IP routing	Static routing
	BGP4

Software Specifications	RG-S7800C-X Series
IP routing	BGP4+
	IS-ISv4
	IS-ISv6
	OSPFv2
	OSPFv3
	RIP
	RIPng
	GR
	Routing Policy
	ECMP
	IPv4/IPv6 VRF
	Policy-based routing (PBR)
Multicast	IGMP v1/v2/v3
	IGMP snooping v1/v2
	IGMP proxy
	IGMP fast leave
	PIM-DM
	PIM-SM
	PIM-SSM for IPv4 and IPv6
	MSDP to achieve inter-domain multicast
	MLDv1 and MLDv2
	Multicast static routing
	MLD v1/v2 snooping
	PIM-SMv6
	Multicast source IP address check

Software Specifications	RG-S7800C-X Series
Multicast	Multicast source port check
MPLS	MPLS L3VPN
	MPLS 6VPE
	MPLS IPv6
	MPLS forwarding
	LDP
	LSP
VXLAN	VXLAN Layer 2 bridge
	VXLAN Layer 3 gateway
	EVPN VXLAN
ACL and QoS	Standard IP ACL
	extended IP ACL
	extended MAC ACL
	Layer 2 and Layer 3 port ACL
	VLAN ACL
	Expert-level ACL
	ACL 80
	IPv6 ACL
	Applying ACLs globally
	ACL COUNTER
	ACL LOGGING
	ACL REMARK
	802.1P
	SP
	WRR

Software Specifications	RG-S7800C-X Series
ACL and QoS	SP+WFR
	other queue scheduling mechanisms
	RED/WRED
	Rate limiting based on the inbound or outbound interface
	MPLS QOS
Reliability	RG-S7805C, RG-S7808C, RG-S7810C -X: 1+1 redundancy for supervisor modules
	RG-S7805C: 1+1 redundancy for power supply RG-S7808C, RG-S7810C-X: N+M redundancy for power supply
	RG-S7805C: fan redundancy is not supported RG-S7808C, RG-S7810C-X: 1+1 fan redundancy
	Hot swapping of all components
	Hot patching function for online patch upgrade
	GR
	BFD
	VRRP
	VRRP+
	Faulty optical port isolation
	Dual physical chips for boot systems
Security	NFPP
	CPP
	DAI
	port security
	IP source guard
	802.1X authentication
	MAC address-based authentication
	Portal authentication

Software Specifications	RG-S7800C-X Series
Security	RADIUS
	TACACS+ login authentication
	uRPF
	SSHv2
	IPv6 SAVI
	Login authentication and password security
	providing encrypted security channels for user login
	Unknown multicast packets are not sent to the CPU, and unknown unicast packets can be suppressed.
NMS and maintenance	Console/AUX Modem/Telnet/SSH2.0 CLI configuration
	File upload and download management using FTP, TFTP, and Xmodem
	SNMP V1/V2c/V3
	RMON
	CWMP
	GRPC
	Fault alarm and auto-recovery
	System operation logging
	sFlow
	SPAN
	RSPAN
	ERSPAN
	VLAN mirroring
	Web-based NMS
Energy-Saving Design	IEEE 802.3az Energy Efficient Ethernet

Protocol Compliance

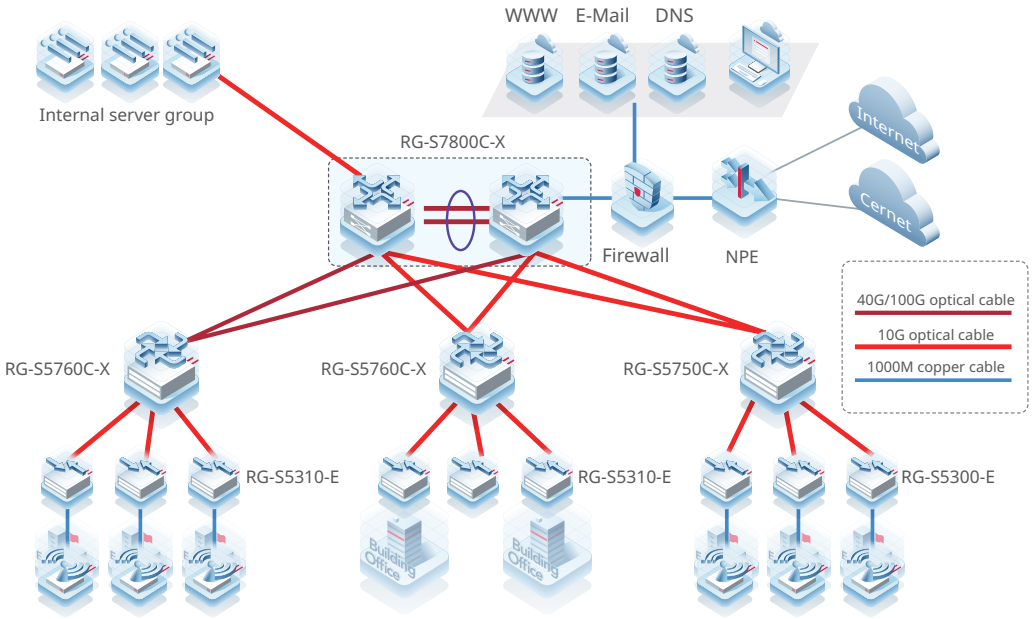
Organization	Standards and Protocol
IETF	RFC 1157 A Simple Network Management Protocol (SNMP) RFC 1305 Network Time Protocol Version 3 (NTP) RFC 1349 Internet Protocol (IP) RFC 1350 TFTP Protocol (revision 2) RFC 1519 CIDR RFC 1591 Domain Name System Structure and Delegation RFC 1643 Ethernet Interface 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 2131 Dynamic Host Configuration Protocol (DHCP) RFC 2132 DHCP Options and BOOTP Vendor Extensions RFC 2571 SNMP Management Frameworks RFC 2863 The Interfaces Group MIB RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only) RFC 3046 DHCP Option82 RFC 3417 (SNMP Transport Mappings) RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) RFC 4022 MIB for TCP 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 1058 Routing Information Protocol (RIP) RFC 1583 OSPF Version 2 RFC 1981 Path MTU Discovery for IP version 6 RFC 1997 BGP Communities Attribute 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 2711 IPv6 Router Alert Option

Organization	Standards and Protocol
IETF	RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol RFC 2865 Remote Authentication Dial In User Service (RADIUS) RFC 2918 Route Refresh Capability for BGP 4 RFC 2934 Protocol Independent Multicast MIB for IPv4 RFC 3065 Autonomous System Confederation for BGP RFC 3101 OSPF Not so stubby area option RFC 3137 OSPF Stub Router Advertisement sFlow RFC 3509 Alternative Implementations of OSPF Area Border Routers RFC 3513 IP Version 6 Addressing Architecture RFC 3575 IANA Considerations for RADIUS RFC 3579 RADIUS Support For EAP RFC 3623 Graceful OSPF Restart RFC 3768 VRRP RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6 RFC 3973 PIM Dense Mode 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 RFC 5340 OSPFv3 for IPv6 RFC 5492 Capabilities Advertisement with BGP 4 RFC 6620 FCFS SAVI
IEEE	IEEE 802.1D Spanning Tree Protocol IEEE 802.1s Multiple Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.2 Logical Link Control 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 802.1Q Virtual Bridged Local Area Networks (VLAN) IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE Std 802.3x Full Duplex and flow control

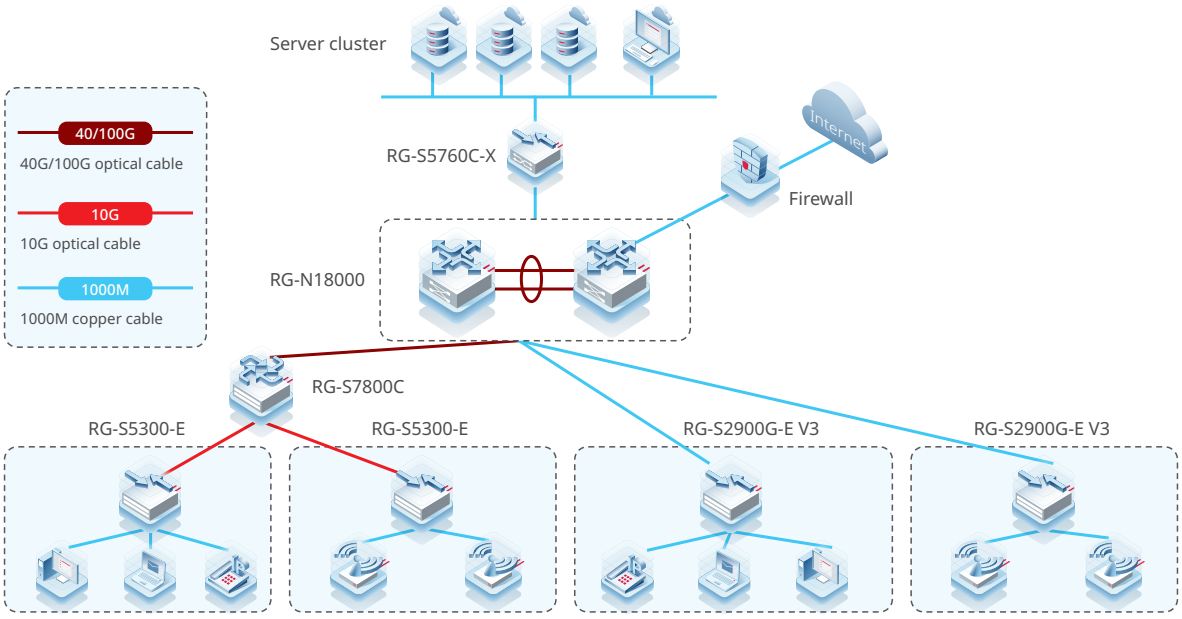
Typical Applications

The RG-S7800C and RG-S7800C-X series switches serve as core devices on a small- or medium-sized network and aggregation devices on a large-sized network.

Serving as Core Devices on a Small- or Medium-sized Network



Serving as Aggregation Devices on a Large-Sized Network



Ordering Guide

Follow the steps to order the RG-S7800C and RG-S7800C-X series switches:

- Select the switch chassis and supervisor module based on the specific product model.
- Select the switch fabric module based on service requirements.
- Select the line card based on service requirements. Before ordering a line card, contact the online customer service personnel for the details about the line card.
- Select the power module based on power supply requirements. At least one power module must be selected.

Ordering Information

Switch Chassis

Model	Description
RG-S7805C	RG-S7805C switch, which can accommodate three line cards and two supervisor modules (supporting -CM series and -X series supervisor modules)
RG-S7808C	RG-S7808C switch, which can accommodate six line cards and two supervisor modules (supporting -CM series and -X series supervisor modules)
RG-S7810C	RG-S7810C switch, which can accommodate eight service cards, two supervisor modules, and two switch fabric modules (supporting -CM series supervisor modules)
RG-S7810C-X	RG-S7810C-X switch, which can accommodate eight line cards, two supervisor modules, and four switch fabric modules (supporting -X series supervisor modules)

Supervisor Modules

Model	Description
M7805C-CM II	S7805C high-performance 2nd-generation supervisor module
M7808C-CM II	S7808C high-performance 2nd-generation supervisor module
M7810C-CM	S7810C high-performance 1st-generation supervisor module
M7810C-CM-F	S7810C high-performance 2nd-generation supervisor module
M7805C-CM-X	RG-S7805C high-performance supervisor module
M7808C-CM-X	RG-S7808C high-performance supervisor module
M7810C-CM-X	RG-S7810C-X high-performance supervisor module

Notes:

- Different models cannot be interchanged.
- Mandatory item, 1+1 redundancy supported, and at least one supervisor module must be configured.

Switch Fabric Modules

Model	Description
M7810C-FE-D I	RG-S7810C switch fabric module I
M7810C-FE-F I	RG-S7810C 2nd-generation switch fabric module
M7810C-FE-X I	RG-S7810C-X 1st-generation switch fabric module
M7810C-FE-X II	RG-S7810C-X 2nd-generation switch fabric module

Line Cards

Working with -CM series supervisor module

Model	Description
M7800C-32XS4QXS-DA	32 x 1GE/10GE SFP+ ports (LC) and 4 x 40GE QSFP+ ports (MPO), supporting splitting a 40GE port into 4 x 10GE optical ports
M7800C-24GT24SFP4XS-EB	24 x 10/100/1000BASE-T ports (RJ45), 24 x 100M/1GE SFP ports (LC) and 4 x 1GE/10GE SFP+ ports (LC)
M7800C-24SFP/12GT4XS-EB	24 x 100M/1GE SFP ports (LC), 12 x 10/100/1000BASE-T combo ports (RJ45) and 4 x 1GE/10GE SFP+ ports (LC)
M7800C-48GT4XS-EB	48 x 10/100/1000BASE-T ports (RJ45) and 4 x 1GE/10GE SFP+ ports (LC)
M7800C-48SFP4XS-EB	48 x 100M/1GE SFP ports (LC) and 4 x 1GE/10GE SFP+ ports (LC)
M7800C-48GT-FA	48 x 10/100/1000BASE-T ports (RJ45)
M7800C-48SFP-FA	48 x 100M/1GE SFP ports (LC)
M7800C-48XS-FB	48 x 1GE/10GE SFP+ ports (LC)
M7800C-8CQ-FB	8 x 40GE/100GE QSFP28 ports (LC)

Notes:

- EB series line cards only interchanged with DA series line cards.
- DA series line cards only interchanged with EB series line cards.
- FA/FB series line cards cannot be interchanged with EB/DA series line cards.

Working with -X series supervisor module

Model	Description
M7800C-48GT4XS-XA	48 x 10/100/1000BASE-T ports (RJ45) and 4 x 1GE/10GE SFP+ ports (LC)
M7800C-48SFP4XS-XA	48 x 100M/1GE SFP ports (LC) and 4 x 1GE/10GE SFP+ ports (LC)

Model	Description
M7800C-24GT8SFP8XS-XA	24 x 10/100/1000BASE-T ports (RJ45), 8 x 100M/1GE SFP ports (LC) and 8 x 1GE/10GE SFP+ ports (LC)
M7800C-32XS-XA	32 x 1GE/10GE SFP+ ports (LC)
M7800C-52XS-XB	52 x 1GE/10GE SFP+ ports (LC)
M7800C-12CQ-XB	12 x 40GE/100GE QSFP28 ports (MPO/LC). One 100GE port can be split into four 25GE ports and one 40GE port can be split into four 10GE ports.
M7800C-48XT-P-XB	48 x 100/1000/2.5G/5G/10GBASE-T ports (RJ45), supporting PoE/PoE+. Each PoE port provides up to 30 W of power. The maximum power is 1440 W over 48 ports (30 W x 48). 1 x PoE in port receives PoE/PoE+ power supply. If the PoE function is used, you need to separately configure the PoE power chassis M78-PSE-X and the power module RG-PA1600I-PL for M7800C-48XT-P-XB.
M7800C-8SFG-XB	8 x SFG ports (64 x 1GE logical channels). CWDM line card for RG-S7810C-X and RG-S7808C (used with the M7808C-CM-X supervisor module)
M7800C-8SFX-XB	8 x SFX ports (64 x 10GE logical channels) with each port backward compatible with the Gigabit rate. CWDM line card for RG-S7810C-X and RG-S7808C (used with the M7808C-CM-X supervisor module)

Power Chassis and Modules

Model	Description
RG-PA300I-F	300 W AC power module, supporting redundancy, 10 A power cord, used with RG-S7805C
RG-PA460I-F	460 W AC power module, supporting redundancy, 10 A power cord, used with RG-S7805C
RG-PA600I	600 W AC power module, supporting redundancy, 10 A power cord, used with RG-S7810C & RG-S7810C-X
RG-PA600I-F	600 W AC power module, supporting redundancy, 10 A power cord, used with RG-S7808C
RG-PA1000I-F	1000 W AC power module, supporting redundancy, 10 A power cord, used with RG-S7805C
RG-PA1600I	1600 W AC power module, supporting redundancy, 16 A power cord, used with RG-S7810C & RG-S7810C-X
RG-PA1600I-F	1600 W AC power module, supporting redundancy, 16 A power cord, used with RG-S7808C
M78-PSE-X	PoE power chassis. 2 x PoE out ports can power two PoE line cards through specialized PoE cables. 2 x power module slots, used together with RG-PA1600I-PL (working with -X series supervisor module)
RG-PA1600I-PL	1600 W PoE AC power module, supporting redundancy, 16 A power cord, used with M78-PSE-X (working with -X series supervisor module)
RG-PD600I	600 W DC power module, supporting redundancy, 20 A power cord, used with RG-S7810C-X

Optical Transceivers and Cables

1GE

Model	Description
Mini-GBIC-GT	1000BASE-X to 1000BASE-T, copper SFP transceiver, RJ45, 100 m over Cat 5e/6/6a The port needs to be configured with auto-negotiation
MINI-GBIC-SX-MM850	1000BASE-SX, SFP transceiver, 850 nm, Duplex LC, 500 m over MMF
MINI-GBIC-LX-SM1310	1000BASE-LX, SFP transceiver, 1310 nm, Duplex LC, 10 km over SMF
MINI-GBIC-LH40-SM1310	1000BASE-LH, SFP transceiver, 1310 nm, Duplex LC, 40 km over SMF
MINI-GBIC-ZX80-SM1550	1000BASE-ZX, SFP transceiver, 1550 nm, Duplex LC, 80 km over SMF
GE-SFP-LX20-SM1310-BIDI	1000BASE-LX, SFP transceiver, TX1310/RX1550, BiDi LC, 20 km over SMF
GE-SFP-LX20-SM1550-BIDI	1000BASE-LX, SFP transceiver, TX1550/RX1310, BiDi LC, 20 km over SMF
GE-SFP-LH40-SM1310-BIDI	1000BASE-LH, SFP transceiver, TX1310/RX1550, BiDi LC, 40 km over SMF
GE-SFP-LH40-SM1550-BIDI	1000BASE-LH, SFP transceiver, TX1550/RX1310, BiDi LC, 40 km over SMF
GE-SFP-LX03-SM1310-BIDI-I	1000BASE-LX, SFP transceiver, TX1310/RX1550, BiDi LC, 3 km over SMF
GE-SFP-LX03-SM1550-BIDI-I	1000BASE-LX, SFP transceiver, TX1550/RX1310, BiDi LC, 3 km over SMF

Note: BiDi transceivers must be used in pairs. If one end uses GE-SFP-LX20-SM1310-BIDI, the other end must use GE-SFP-LX20-SM1550-BIDI.

10GE

Model	Description
XG-SFP-SR-MM850	10GBASE-SR, SFP+ transceiver, 850nm, Duplex LC, 300 m over MMF
XG-SFP-LR-SM1310	10GBASE-LR, SFP+ transceiver, 1310nm, Duplex LC, 10 km over SMF
XG-SFP-ER-SM1550	10GBASE-ER, SFP+ transceiver, 1550nm, Duplex LC, 40 km over SMF
XG-SFP-ZR-SM1550	10GBASE-ZR, SFP+ transceiver, 1550nm, Duplex LC, 80 km over SMF
XG-SFP-LR10-SM1270-BIDI-I	10GBASE-LR, SFP+ transceiver, TX1270/RX1330, BiDi LC, 10 km over SMF
XG-SFP-LR10-SM1330-BIDI-I	10GBASE-LR, SFP+ transceiver, TX1330/RX1270, BiDi LC, 10 km over SMF
XG-SFP-AOC1M	10GBASE, SFP+ active optical cable (AOC), 1 m, including one cable and two optical transceivers
XG-SFP-AOC3M	10GBASE, SFP+ active optical cable (AOC), 3 m, including one cable and two optical transceivers
XG-SFP-AOC5M	10GBASE, SFP+ active optical cable (AOC), 5 m, including one cable and two optical transceivers

Note: BiDi transceivers must be used in pairs. If one end uses XG-SFP-LR10-SM1270-BIDI-I, the other end must use XG-SFP-LR10-SM1330-BIDI-I.

40GE

Model	Description
40G-QSFP-LSR-MM850	40GBASE-LSR, QSFP+ transceiver, 850 nm, MPO 1 x 12, 400 m over OM4 MMF, 300 m over OM3 MMF
40G-QSFP-LR4-SM1310	40GBASE-LR4, QSFP+ transceiver, 1310 nm, Duplex LC, 10 km over SMF
40G-QSFP-iLR4-SM1310	40GBASE-iLR4, QSFP+ transceiver, 1310 nm, Duplex LC, 2 km over SMF
40G-QSFP-LX4-SM1310	40GBASE-LX4, QSFP+ transceiver, 1310 nm, Duplex LC, 150 m over OM3/OM4 MMF, 2 km over SMF
40G-AOC-5M	40GBASE, QSFP+ active optical cable (AOC), 5 m, including one cable and two optical transceivers

100GE

Model	Description
100G-QSFP-SR-MM850	100GBASE-SR, QSFP28 transceiver, 850 nm, MPO 1 x 12, 100 m over OM4 MMF, 70 m over OM3 MMF
100G-QSFP-LR4-SM1310	100GBASE-LR4, QSFP28 transceiver, 1310 nm, Duplex LC, 10 km over SMF
100G-AOC-10M	100GBASE, QSFP28 active optical cable (AOC), 10 m, including one cable and two optical transceivers

CWDM Transceiver

Model	Description
SFG-LR-SM	1GBASE-LR, core switch-side SFG CWDM transceiver, integration of 8 different wavelengths, BiDi LC, 10 km over SMF
SFM-LR-SM	2.5GBASE-LR, core switch-side SFM CWDM transceiver, integration of 8 different wavelengths, BiDi LC, 10 km over SMF
SFX-LR-SM	10GBASE-LR, core switch-side SFX CWDM transceiver, integration of 8 different wavelengths, BiDi LC, 10 km over SMF

Package Contents

Item	RG-S7805C	RG-S7808C	RG-S7810C	RG-S7810C-X
Chassis	1	1	1	1
Fan module	1 (M05C-FAN, pre-installed)	2 (M08-FAN, pre-installed)	2 (M10C-FAN, pre-installed)	2 (M10C-FAN, pre-installed)

Item	RG-S7805C	RG-S7808C	RG-S7810C	RG-S7810C-X
Console cable	1	/	/	/
Kelly earth wire external member	1	1	1	1
Chutes	6	12	16	16
M3x10 screw	8 (two redundant spares)	14 (two redundant spares)	18 (two redundant spares)	18 (two redundant spares)
M6x16 screw	12 (six redundant spares)	10 (two redundant spares)	8	8
M6 cage nut	12 (six redundant spares)	10 (two redundant spares)	8	8
Antistatic wrist strap	1	1	1	1
Quick installation Guide	/	/	/	1
Network Product Warranty Manual and Hazardous Substance Statement (50 years)	1	1	1	1
Ruijie Networks Backbone Product Management Software BMS	1 (pre-installed)	1 (pre-installed)	1 (pre-installed)	1 (pre-installed)

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-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.ruijie.com/
- Online support: https://www.ruijie.com/support
- Hotline support: https://www.ruijie.com/support/hotline
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