RG-CF10S Series

Next-Generation High-Performance Firewalls

Datasheet
V1.0

01 Product Overview

Introduction

As new hot spots such as social networking, cloud computing, and big data have emerged, the Internet has entered an unprecedented era of prosperity. However, the information security problems accompanied have become increasingly complex, bringing huge challenges to the traditional security construction model. Drawing on years of technological expertise and in line with the development trend of next-generation firewalls, Ruijie Networks has unveiled the RG-CF10S series cloud-managed firewalls to cater for ever-changing demands of today's market. This firewall can be installed in a standard 19-inch rack and features high performance and flexible expansion.

Product Features and Benefits

The RG-CF10S series firewalls use a DPDK-based high-performance network forwarding service platform to provide intelligent quick deployment, active asset discovery, intelligent policy manager, one-click fault analysis, and service health diagnosis, simplifying device deployment and O&M. They have rich security functions, including intrusion prevention, antivirus, port scan, traffic learning, application control, and defense against DoS/DDoS attacks. They also support unified management on the cloud platform, data synchronization to the cloud for analysis and reporting, remote monitoring and O&M, policy translation for device replacement, batch configuration, and automatic inspection.

In addition, you can expand the performance of the RG-CF10S series firewalls by purchasing performance licenses.

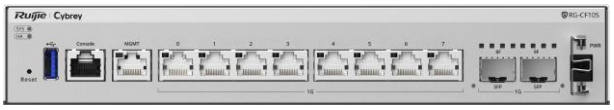
Model	Firewall	IPS	NGFW	Threat Protection	Port
RG-CF10S	6–8 Gbps	1.1–1.7 Gbps	900–1.5 Gbps	600–1.2 Gbps	8 x RJ45 ports (WAN or LAN) 2 x GE SFP ports
RG-CF10S-LTE	6–8 Gbps	1.1–1.7 Gbps	900–1.5 Gbps	600–1.2 Gbps	8 x RJ45 ports (WAN or LAN) 2 x GE SFP ports LTE (Built-in)

Applicable Industries and Scenarios

The RG-CF10S series can be deployed at an Internet egress, area boundary, and data center boundary, and for branch uplink.

02 Product Appearance

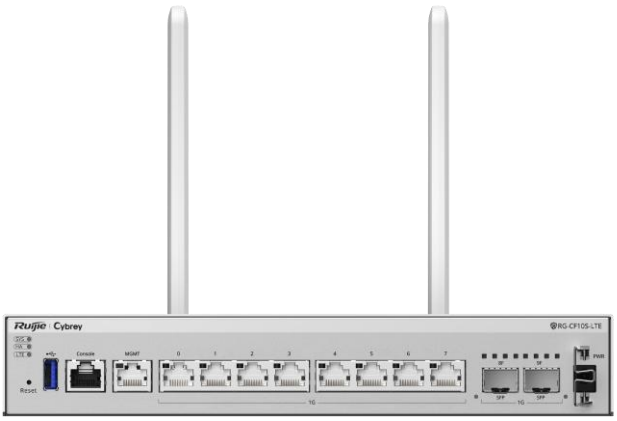
RG-CF10S



Front View

Rear View

RG-CF10S-LTE



Front View

Rear View

Appearance Design

The unique mounting bracket design allows rapid deployment, simplifying the installation process. In a complex equipment room environment, only one person is needed to complete the device installation and securing processes.

Hardware Security

The RG-CF10S series firewalls feature an independent, cost-effective chip for decryption, eliminating the need for CPU sharing. By leveraging the self-developed NTOS system for Layer 7 forwarding, the firewalls optimize the decryption process while ensuring high performance and reliability.

All-New Hardware Design, Higher Reliability

A voltage or grid exception may incur a storage component failure. To mitigate this risk, the firewalls incorporate monitoring and spare components to enhance the shock resistance of storage components, thereby reducing device damages and data loss.

03 Product Highlights

- Built on high-performance hardware, the firewalls offer enhanced encryption and decryption capabilities for full traffic, ensuring robust security.
- Security risks are easier to detect, enabling efficient risk tracing and handling.
- Threat intelligence (TI) databases from leading sources like Google and Kaspersky are integrated to achieve superior risk detection.
- With a built-in AI engine, the firewalls collaborate with cloud-based AI to detect and analyze unknown threats such as polymorphic and slow attacks based on behavior characteristics and contextual correlation, improving threat detection and protection effectiveness by over 20%.
- By transforming the troubleshooting capabilities of senior engineers into product functions, the firewalls provide you with a one-stop troubleshooting wizard.
- In the industry-first policy simulation space, you can foresee the effects of security policy adjustment, realizing zero-risk policy adjustment.
- Simple cloud O&M allows you to manage network and security devices on the entire network via a mobile app.

04 Product Features

High Effectiveness: All-in-One Security

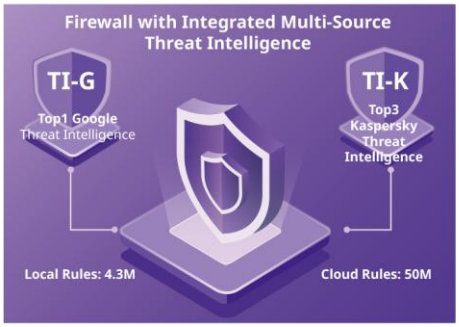
App Control | DNS Inspection | Multi-Source Threat Intelligence | URL Filtering | SSL Decryption | IPS | AV | WAF | Behavior-AI Detection

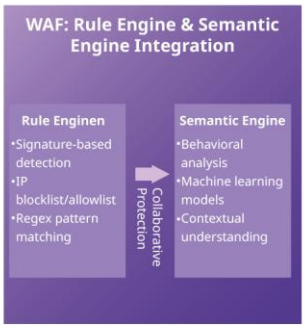
URL & App filtering: Top-tier BrightCloud with AI-driven URL detection, improving URL filtering by 20%.

TI: Dual TI engines (Google & Kaspersky), improving IP and domain protection by 20%.

WAF: Dual-engine WAF (rule + semantic), improving web protection by 30%.

Abnormal behavior: Built-in AI engine for behavior-based detection, improving unknown threat protection by 30%.





All-in-One Capabilities: One firewall delivers built-in app control and URL filtering, IPS, AV, Google & Kaspersky threat intelligence, WAF, and AI-based unknown threat detection.

Lower CapEx and Higher Performance

CPU Only
CPU-only decryption slows down performance, leaving 90% of encrypted threats undetected.

CPU + Fixed Chip
Any performance upgrade requires hardware replacement.

CPU + Programmable Chip
NTOS works seamlessly with FPGA to continuously boost performance.

A firewall delivers over 20% higher decryption and threat protection performance, and seamlessly scales with your business. There is no need to rip and replace infrastracture, saving 10% in procurement costs and over 20% in hardware upgrade costs.

Easier Security and Lower OpEx

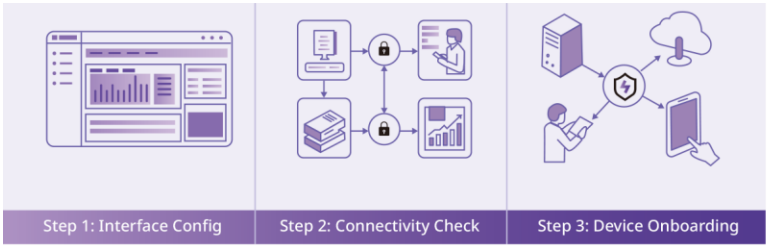
Analysis: Smart cloud correlation for massive alerts, automatically generating and pushing event notifications.

Traceability: One-click tracing for security incidents, covering events, locations, and root causes.

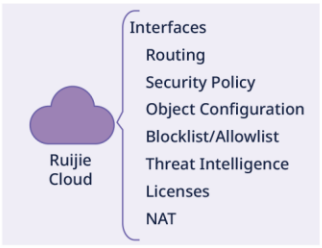
Control: Dashboards and reports for network & asset security posture, providing precise improvement recommendations.

No dedicated analyzer product or security experts are required. Event handling time for alert collection, analysis, tracing, and response is reduced from 3 days to just 0.5 days, saving 20% in OpEx.

Easy O&M and Lower OpEx

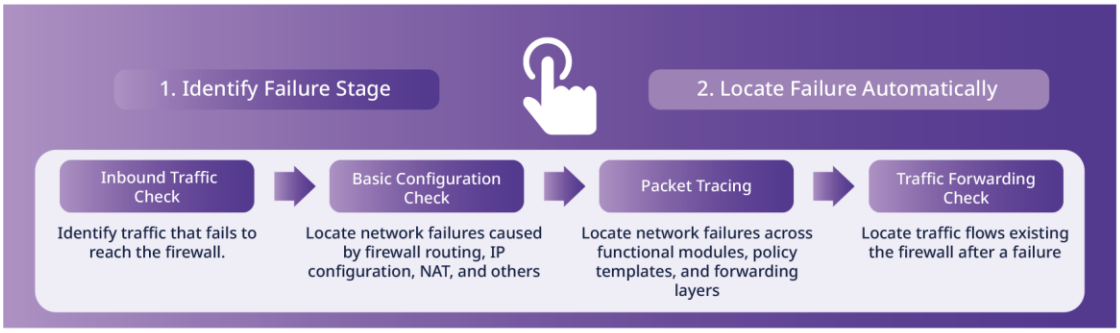


3-step deployment to go live, reducing onboarding time from 5 hours to 1

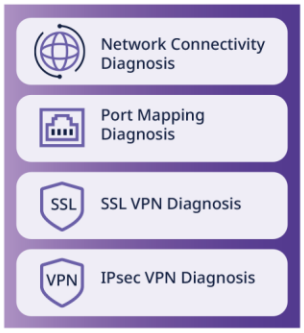


Remote cloud management, eliminating on-site visits

Traffic learning and policy simulation, cutting policy setup time from 8 hours to 1



No on-site visits needed. One-click fault diagnosis powered by Cloud AI



Firewall Diagnosis Center

No additional management product is required, reducing deployment time from 3 days to 1 day. Troubleshooting & recovery time is reduced from 1 day to 3 hours, saving 30% in OpEx.

Intelligent Service Diagnostic Center

- **Fault Analysis**

The RG-CF10S series firewalls are developed to transform the troubleshooting capabilities of senior engineers into product functions and provide you with a one-stop troubleshooting wizard. In the diagnostic center, automatic troubleshooting can be conducted based on the paths that clients use to access target resources, and fault information and handling suggestions are displayed. This greatly improves the efficiency of troubleshooting and saves additional expenses for troubleshooting.

- **Packet Tracing**

In the diagnostic center, you can also analyze and trace packet processing of each security service module on the device, and check detailed information of packet tracing records to accelerate network fault troubleshooting and locating.

Port Scan and Traffic Learning, Simple Firewall Onboarding

- **Onboarding Configuration**

To perform firewall onboarding, you can conduct **Port Scan** to automatically identify the IP address and port number of a service system, and then enable **Traffic Learning** to automatically detect the service access relationship on the live network. You can also generate access control policies based on ports with one click, and complete firewall onboarding without professional knowledge.

- **Server Port Check**

In routine O&M, server ports need to be checked to meet high security requirements and formulate refined security policies. In traditional mode, server ports need to be manually verified with the customers, which takes a long time. With port scan and traffic learning, this process can be completed in one day, which greatly improves efficiency and lowers technical thresholds.

Policy Simulation Space to Foresee Effects, Zero-Risk Policy Adjustment

You can add, delete, and modify a policy in the simulation space, use the policy to match the real traffic to analyze the difference in traffic matching before and after the policy adjustment, and adjust the policy accordingly. In this way, policies can be adjusted without service interruption, and O&M personnel do not need to stay up late to adjust policies in off-peak hours. The risk of policy adjustment is minimized, and refined policy adjustment can be achieved.

05 Product Specifications

Product Performance

Firewall	IPS1	NGFW1,2	Threat Protection1,3
6 Gbps	1.1 Gbps	900 Mbps	600 Mbps
7 Gbps	1.4 Gbps	1.2 Gbps	900 Mbps
8 Gbps	1.7 Gbps	1.5 Gbps	1.2 Gbps

Combination of product and performance licenses (Threat Protection):

Threat Protection 600 Mbps: RG-CF10S series chassis

Threat Protection 900 Mbps: RG-CF10S series chassis + 1 x RG-CF10S-300M-LIC performance license

Threat Protection 1.2 Gbps: RG-CF10S series chassis + 2 x RG-CF10S-300M-LIC performance licenses

System Performance and Capacity	RG-CF10S Series
Firewall throughput of IPv4 packets (1518-byte UDP packets)4	6–8 Gbps
SSL inspection throughput	530 Mbps
Concurrent sessions (TCP)	700,000
New sessions per second (TCP)	105,000
Firewall policies	3,000
SSL VPN throughput	1.5 Gbps
Concurrent SSL VPN users (recommended maximum, tunnel mode)	500
IPsec VPN throughput	3.5 Gbps
Gateway-to-gateway IPsec VPN tunnels	200

Note:

All performance values are the maximum values and may vary depending on system configuration.

1. The performance values of IPS (mixed traffic), application control, NGFW, and threat protection are measured with logging enabled.

2. NGFW performance is measured with firewall, IPS, and application control enabled.

3. Threat protection performance is measured with firewall, IPS, application control, and malware protection enabled.

4. Firewall throughput is the maximum forwarding performance (1518-byte UDP packets) of hardware.

Hardware Specifications

• Dimensions and Weight

Dimensions and Weight	RG-CF10S Series
Product dimensions (W x D x H)	260 mm x 170 mm x 43.6 mm (10.24 in. x 6.69 in. x 1.72 in.; without rubber pads)
Shipping dimensions (W x D x H)	315 mm x 222 mm x 112 mm (12.40 in. x 8.74 in. x 4.41 in.)
Product weight	1.6 kg (3.53 lbs)
Shipping weight	2.5 kg (5.51 lbs)
Form factor	1 RU rack

• Port Specifications

Port Specifications	RG-CF10S Series
Fixed service port	8 x 10/100/1000BASE-T ports 2 x GE SFP ports
Fixed management port	1 x RJ45 MGMT port 1 x RJ45 console port
USB port	2 x USB 3.0 ports
4G port	1 x 4G port (only RG-CF10S-LTE)

• Storage Specifications

Storage	RG-CF10S Series
Hard disk	No hard disk for factory delivery.

• Power Supply and Consumption

Power Supply and Consumption	RG-CF10S Series
Power supply	Built-in single power module: •Rated input voltage: 12 V •Rated input current: 3 A
Max. power consumption	RG-CF10S: < 15 W RG-CF10S-LTE: < 18 W

• Environment and Reliability

Environment and Reliability	RG-CF10S Series
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% RH to 90% RH (non-condensing)
Storage humidity	5% RH to 95% RH (non-condensing)
Noise level	43.7 dB
Operating altitude	0–5000 m (0–16404 ft.)
Compliance	EMC SZEM2302000974ATV LVD SZES2302001034AT

Software Specifications

• Network

Network	RG-CF10S Series
Physical interface	Configuring interfaces as LAN or WAN interfaces; three IP address assignment modes for WAN interfaces: PPPoE, DHCP, and static IP modes Configuring routing or transparent mode for interfaces
Sub-interface	Configuring sub-interfaces and VLAN IDs
Bridge interface	Configuring interfaces in transparent mode as bridge interfaces
Static route	Configuring IPv4 static routes
PBR	Configuring policy-based routing (PBR)
Routing table	Overall routing information of a device
DHCP server	DHCP server; configuring DHCP address pools
Address management list	Assigned DHCP address list
DNS server	Configuring DNS addresses for devices
Link detection	Link detection and link detection logs
VPN	SSL VPN and IPsec VPN
VRRP	VRRP functions
High availability	Deployment with redundancy to achieve automatic switchover between active and passive devices, ensuring service continuity
SD-WAN	Integration with cloud platforms to achieve unified orchestration and monitoring of multiple branches

Object

Object	RG-CF10S Series
Address/Address group	Configuring address objects in IP address/range format
Zone	Configuring security zones
Application and application group	Configuring application types in application/application group mode
Service/Service group	Configuring service objects; common default port services supported
Time plan	Configuring time objects; one-off time plans and cyclic time plans supported
Virus protection template	Configuring content object templates; predefined virus protection templates supported
	Configuring virus protection templates; configuring templates based on protocols and directions; setting excluded viruses; deep scan not supported, quick scan supported
Intrusion prevention template	Configuring content object templates; predefined intrusion prevention templates supported
	Configuring intrusion prevention templates; configuring rule filters based on objects, severity, protocols, and threat types; setting excluded rules
SSL proxy certificate	Adding, importing, deleting, viewing, and downloading SSL proxy certificates; configuring a global SSL proxy certificate
Server certificate	Importing, deleting, viewing, and downloading server certificates
Security rule base	Viewing default security rules in the IPS library
Content identification	URL category and keyword configuration
User authentication	User management, user import, authentication server configuration, real-name user information synchronization, and authentication policy configuration

Policy

Policy	RG-CF10S Series
Traffic learning	Traffic learning to record destination IP addresses and port numbers as well as abnormal traffic
	Export of traffic learning logs
NAT	NAT and NAT policies
Policy import	Batch import of NAT policies
ALG	Common NAT ALG services in NAT policies
Server mapping	Server port mapping in NAT policies
Address pool	NAT address pool status display in NAT policies
Security policy	Configuring security policies; customizing policies based on parameters including objects, contents, and zones; policy list

Policy	RG-CF10S Series
Security policy	Batch import of security policies
Simulation policy	Simulating policy execution in the simulation space to check whether uncertain security policies can achieve expected effects
Policy configuration wizard	Security policy configuration wizard for conducting port scan, performing configurations, testing configurations, and other steps to generate security policies
Policy optimization	Sorting out configured security policies and analyzing policies to identify redundant, expired, and conflicting policies
Policy lifecycle	Full lifecycle display of security policies, including detailed records of policy changes
Port scan	Port scan of configured IP ranges for all ports or selected ports; policy creation prompt for scan results
DoS/DDoS attack defense	Different DDoS attack defense policies in security defense
ARP attack defense	Anti-ARP spoofing, ARP flooding suppression, and other functions in security defense
Local defense	Configuring local defense policies in security defense
Blocklist/Allowlist	Configuring global blocklists and allowlists
SSL proxy policy	Configuring SSL proxy policies; customizing policies based on parameters including objects, contents, and zones; policy list
SSL proxy template	Configuring SSL proxy templates; setting the template type to protecting client or server
SSL proxy allowlist	Configuring domain name allowlists and application allowlists
Behavior analysis	Configuring analysis policies, templates, and allowlists
AI detection engine	AI-powered stealthy attack and abnormal behavior detection

- **System**

System	RG-CF10S Series
Administrator	Creating device administrators, including account names, passwords, and description
Administrator role	Setting multiple administrator roles and assigning different permissions
Clock configuration	Configuring system time; NTP service configuration supported
Service parameter	Configuring service ports for a device, including web (HTTPS), SSH, and other ports
Authorization management	Managing licenses of devices, including license import and activation
Device information	Viewing device information, including the product name, SN, and MAC address, version information, running time, and license information
System restart	Restarting the system on the web UI
System upgrade	Upgrading the system
Patch installation	Downloading and installing patches for upgrade

System	RG-CF10S Series
Configuration backup	Import and export of device configurations
Factory settings restoration	Restoring factory settings on the web UI
Signature library upgrade	Automatic signature library upgrades based on the latest versions on the cloud. Virus Protection Signature Library (Deep Scan) not included
Cloud management platform	Enabling or disabling unified management on the cloud management platform
Device binding	Adding devices to the cloud management platform by scanning a QR code
Ping	Ping for troubleshooting
Tracert	Tracert for troubleshooting
Packet obtaining tool	Tool for obtaining packets and exporting results
One-click collection	Collecting fault information with one click
Device health	Device health diagnosis
Service diagnosis	Service continuity diagnosis
Breakdown record	Breakdown information records
Device log retention	Device log retention
Factory settings restoration	Restoring factory settings on the web UI

- **O&M**

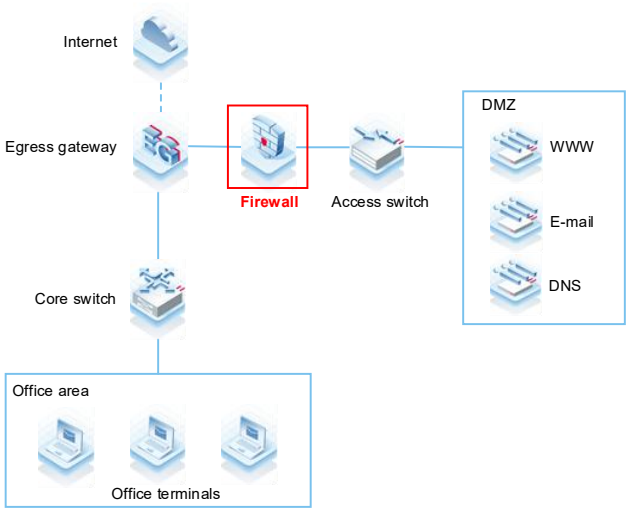
System	RG-CF10S Series
Dashboard	Providing insights into the network's security status and network operation status
Reports	Local reports unavailable; storage hard disk required; logging in to Ruijie Cloud or Ruijie Security Cloud Platform to subscribe to reports after enabling UX Improvement Plan
Fault diagnosis	Fault diagnosis helps quickly locate and resolve network and security issues
Session Log	Not supported; storage hard disk required
Dashboard	Providing insights into the network's security status and network operation status

06 Typical Applications

Security Defense at Area Boundary

The RG-CF10S series firewalls can be deployed at an area boundary to meet LAN application requirements, improve information security, and guarantee LAN service security. The firewalls can bring the following benefits:

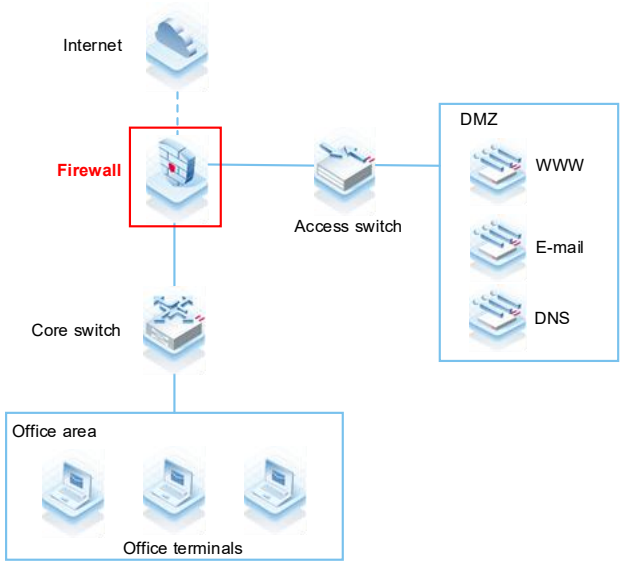
- Generate refined access control policies based on servers.
- Effectively defend against external attacks and viruses to protect key enterprise services.
- Help users identify and control applications.



Small and Medium-Sized Internet Egress

The RG-CF10S series firewalls can satisfy the needs of small and medium-sized Internet egress, improve information security, and guarantee egress network security. The firewalls can bring the following benefits:

- Meet the needs of small and medium-sized Internet egress scenarios.
- Effectively defend against external attacks and viruses to protect key services of users.
- Help users identify and control applications.



07 Ordering Information

Model	Description
RG-CF10S	Desktop Firewall – Threat Protection Throughput: 600 Mbps to 1.2 Gbps, 8 x RJ45 Ports, 2 x SFP Slots, Integrated 64 GB eMMC Storage, Single Power Module
RG-CF10S-LTE	Desktop Firewall – Integrated LTE Module, Threat Protection Throughput: 600 Mbps to 1.2 Gbps, 8 x RJ45 Ports, 2 x SFP Slots, Integrated 64 GB eMMC Storage, Single Power Module
RG-CF10S-UTP-LIS-1Y	RG-CF10 Series 1-Year All-in-One Security Feature License (IPS+AV+TI-G+TI-K+URL+APP+AI+WAF)
RG-CF10S-UTP-LIS-1M	RG-CF10 Series 1-Month All-in-One Security Feature License (IPS+AV+TI-G+TI-K+URL+APP+AI+WAF)
RG-CF10S-300M-LIC	RG-CF10 Series Threat Protection Throughput License – Each Additional License Enables 300 Mbps Expansion, with a Maximum Total Throughput of 1.2 Gbps
RG-CF10S-600M-Bundle-1Y	RG-CF10S + RG-CF10S-UTP-LIS-1Y
RG-CF10S-600M-Bundle-3Y	RG-CF10S + RG-CF10S-UTP-LIS-1Y x 3
RG-CF10S-600M-Bundle-5Y	RG-CF10S + RG-CF10S-UTP-LIS-1Y x 5
RG-CF10S-900M-Bundle-1Y	RG-CF10S + RG-CF10S-300M-LIC + RG-CF10S-UTP-LIS-1Y
RG-CF10S-900M-Bundle-3Y	RG-CF10S + RG-CF10S-300M-LIC + RG-CF10S-UTP-LIS-1Y x 3
RG-CF10S-900M-Bundle-5Y	RG-CF10S + RG-CF10S-300M-LIC + RG-CF10S-UTP-LIS-1Y x 5
RG-CF10S-1.2G-Bundle-1Y	RG-CF10S + RG-CF10S-300M-LIC x 2 + RG-CF10S-UTP-LIS-1Y
RG-CF10S-1.2G-Bundle-3Y	RG-CF10S + RG-CF10S-300M-LIC x 2 + RG-CF10S-UTP-LIS-1Y x 3
RG-CF10S-1.2G-Bundle-5Y	RG-CF10S + RG-CF10S-300M-LIC x 2 + RG-CF10S-UTP-LIS-1Y x 5
RG-CF10S-LTE-600M-Bundle-1Y	RG-CF10S-LTE + RG-CF10S-UTP-LIS-1Y
RG-CF10S-LTE-600M-Bundle-3Y	RG-CF10S-LTE + RG-CF10S-UTP-LIS-1Y x 3
RG-CF10S-LTE-600M-Bundle-5Y	RG-CF10S-LTE + RG-CF10S-UTP-LIS-1Y x 5
RG-CF10S-LTE-900M-Bundle-1Y	RG-CF10S-LTE + RG-CF10S-300M-LIC + RG-CF10S-UTP-LIS-1Y
RG-CF10S-LTE-900M-Bundle-3Y	RG-CF10S-LTE + RG-CF10S-300M-LIC + RG-CF10S-UTP-LIS-1Y x 3
RG-CF10S-LTE-900M-Bundle-5Y	RG-CF10S-LTE + RG-CF10S-300M-LIC + RG-CF10S-UTP-LIS-1Y x 5
RG-CF10S-LTE-1.2G-Bundle-1Y	RG-CF10S-LTE + RG-CF10S-300M-LIC x 2 + RG-CF10S-UTP-LIS-1Y
RG-CF10S-LTE-1.2G-Bundle-3Y	RG-CF10S-LTE + RG-CF10S-300M-LIC x 2 + RG-CF10S-UTP-LIS-1Y x 3
RG-CF10S-LTE-1.2G-Bundle-5Y	RG-CF10S-LTE + RG-CF10S-300M-LIC x 2 + RG-CF10S-UTP-LIS-1Y x 5

08 Ordering Guide

The RG-CF10S series firewalls provide one GE SFP port and one 10GE SFP+ port. The following table lists the optional optical transceivers.

Model	Description
MINI-GBIC-SX-MM850	1G SR module, SFP form factor, LC, 550 m (1,804.46 ft.) over MMF
MINI-GBIC-LX-SM1310	1G LX module, SFP form factor, LC, 10 km (32,808.40 ft.) over SMF
Mini-GBIC-GT	1G SFP copper module, SFP form factor, RJ-45, 100 m (328.08 ft.) over Cat 5e/6/6a
MINI-GBIC-LH40-SM1310	1G LH module, SFP form factor, LC, 40 km (131,233.60 ft.) over SMF
XG-SFP-LR-SM1310	10G LR module, SFP+ form factor, LC, 10 km (32,808.40 ft.) over SMF
XG-SFP-ER-SM1550	10G ER module, SFP+ form factor, LC, 40 km (131,233.60 ft.) over SMF
XG-SFP-AOC1M	10G SFP+ AOC cable, 1 m (3.28 ft.)
XG-SFP-AOC3M	10G SFP+ AOC cable, 3 m (9.84 ft.)
XG-SFP-AOC5M	10G SFP+ AOC cable, 5 m (16.40 ft.)

09 Package Contents

Item	Quantity
RG-CF10S series chassis (with the nameplate at the bottom)	1
Power cord	1
Power cord retention clip	1
Grounding wire	1
Rubber pad	1
L-shaped rack-mount bracket	4
M4 x 8 mm cross recessed countersunk head screw	1
Console cable	1
Ethernet cable	1
Warranty Card	1
User Manual	1

10 Warranty Information

Security Defense at Area Boundary

For more information about warranty terms and period, visit the official Ruijie website or 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/regions and distributors.

11 More Information

Security Defense at Area Boundary

For more information about Ruijie Networks, visit the official Ruijie website or contact your local sales agency:

- Ruijie Networks official website: https://www.ruijie.com/
- Online support: https://www.ruijie.com/support
- Hotline support: https://www.ruijie.com/support/hotline
- Email support: service_rj@ruijie.com