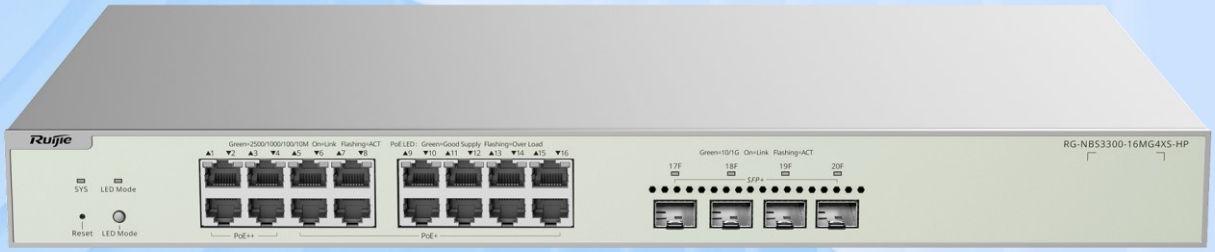
INNOVATION
Beyond Networks

RG-NBS3300-16MG4XS-HP

16-Port Multi-Gigabit Layer 2 Managed Switch with 4 x PoE++ Ports, 12 x PoE+ Ports, and 4 x SFP+ Uplink Ports



Highlights

- 2.5 Gbps ports smash the gigabit barrier and unlock the full potential of Wi-Fi 6/7 APs
- 802.3bt/at/af-compliant PoE++ ports with a total power supply of 370 W
- CPP protects the CPU from attacks, ensuring CPU performance and stability
- Enterprise-grade quality ensures high performance
- Multiple security policies protect your network
- Easy Cloud Management Anytime and Anywhere

Date: 2025.12.9

Product Overview

The RG-NBS3300 series switches launched by Ruijie Networks are next-generation multi-gigabit access switches that provide cost-effective, high-speed connectivity.
This series delivers both 1G and 2.5G access capabilities, along with 10G uplink ports to meet the demands of high-density environments.
The RG-NBS3300 series is designed for small and medium-sized enterprises, making it ideal for large-scale, high-density settings such as campuses, offices, and stadiums.

Product Pictures

Front View of the RG-NBS3300-16MG4XS-HP

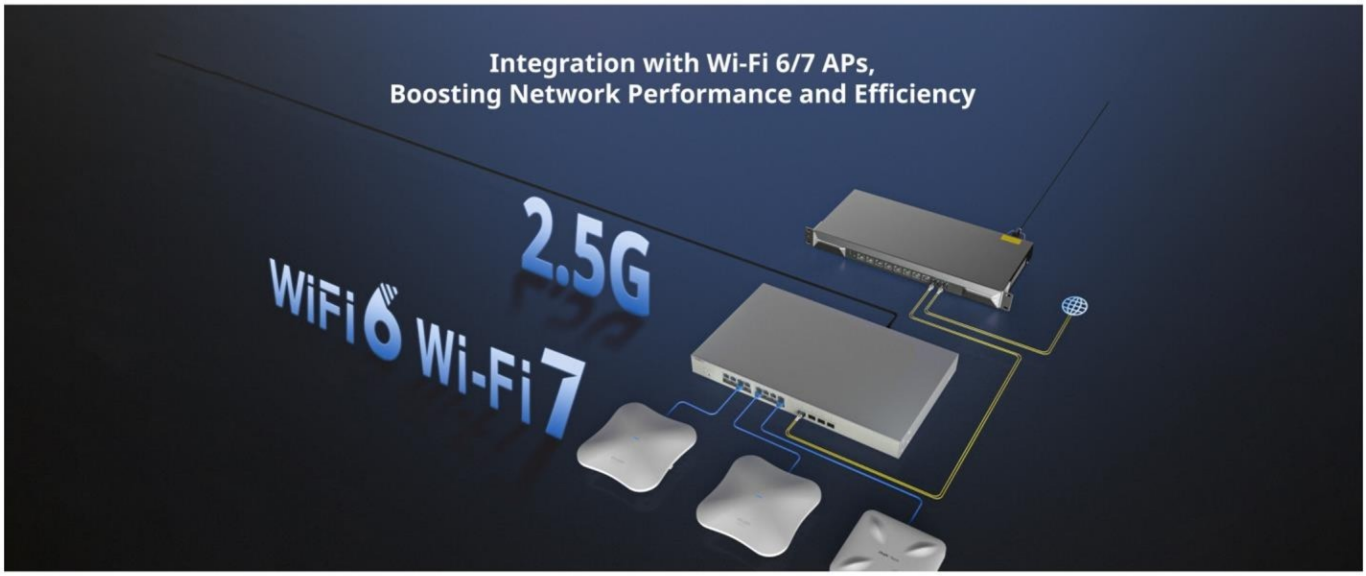
Left View of the RG-NBS3300-16MG4XS-HP

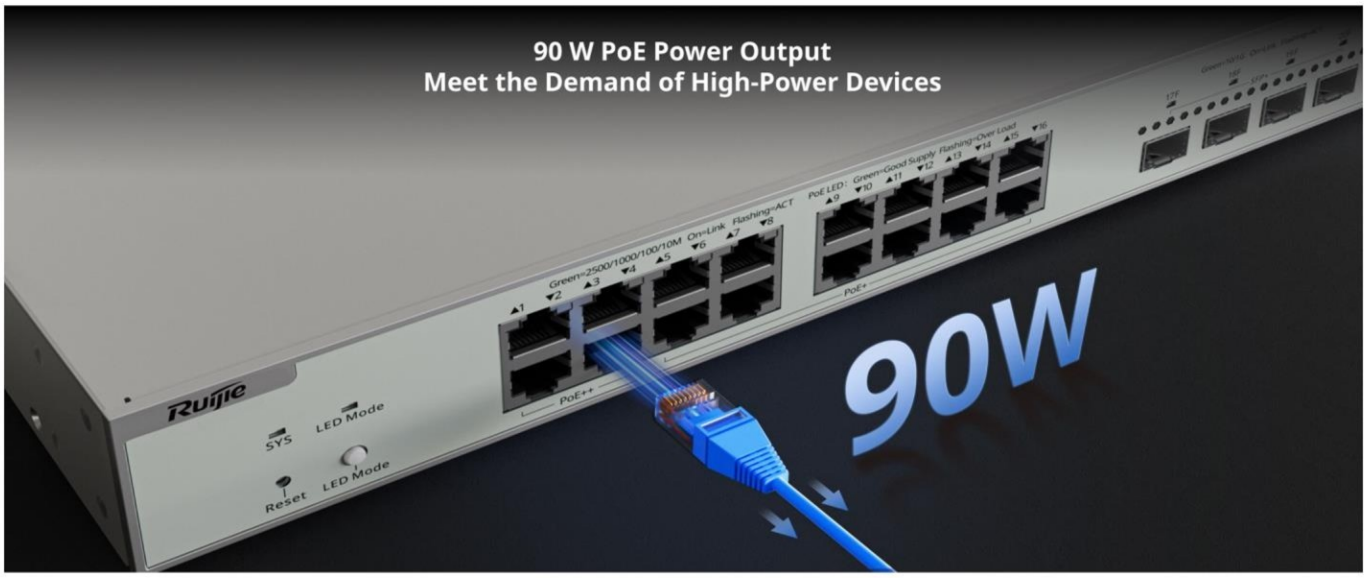
Right View of the RG-NBS3300-16MG4XS-HP

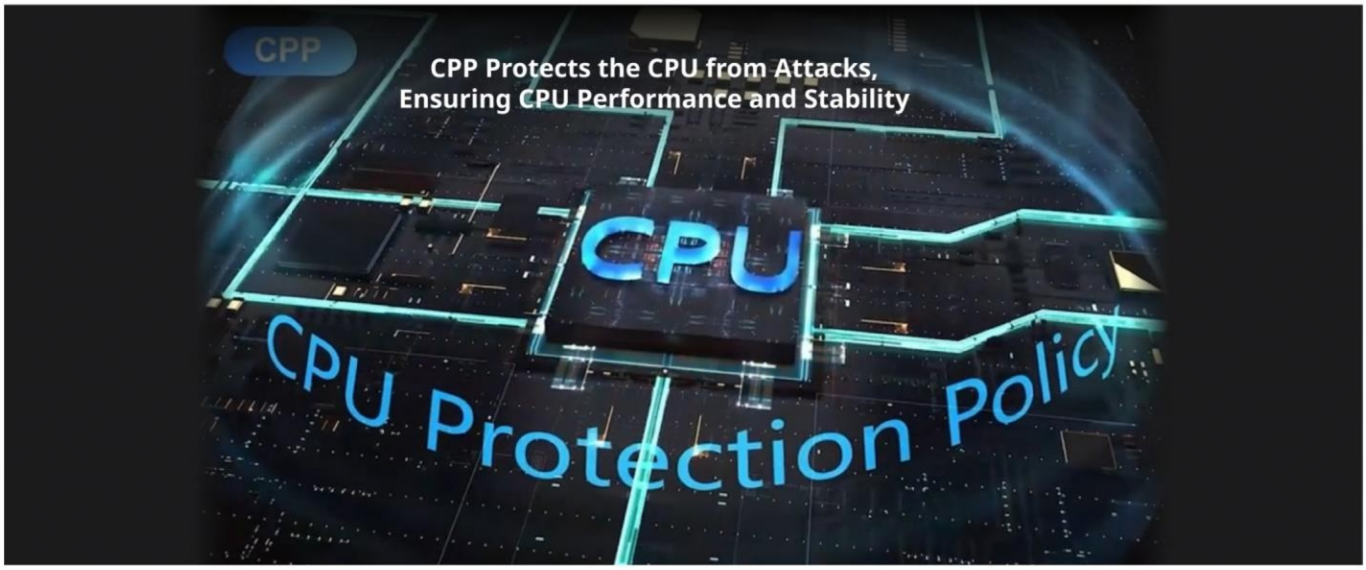
Product Highlights

- 2.5G ports smash the gigabit barrier, unlocking the full potential of Wi-Fi 6 and 7 access points
- IEEE 802.3bt/at/af-compliant PoE ports provide a power budget of 370 W
- The CPU Protect Policy (CPP) safeguards the CPU against attacks, ensuring CPU performance and stability
- Enterprise-grade quality ensures high performance
- Multiple security policies protect your network
- Ruijie Cloud enables easy management anytime, anywhere


RG-NBS3300-16MG4XS-HP
16-Port Multi-Gigabit Layer 2 Managed Switch, 4 x SFP+ Uplink Ports
4 × 2.5G RJ45 PoE++ Ports
12 × 2.5G RJ45 PoE+ Ports
4 × 10G SFP+ Ports
2.5G Ports for Wi-Fi 6/7 APs
4 x PoE++ Ports
PoE Budget 370 W
4 x 10G SFP+ Uplink Ports
Multiple Security Policies


Integration with Wi-Fi 6/7 APs,
Boosting Network Performance and Efficiency
2.5G
WiFi 6 Wi-Fi 7


90 W PoE Power Output
Meet the Demand of High-Power Devices
90W
Ruijie
SYS
LED Mode
Reset
LED Mode
PoE++
PoE+



Enterprise-grade Quality Ensures High Performance

Link Aggregation | IGMP Snooping | VLAN

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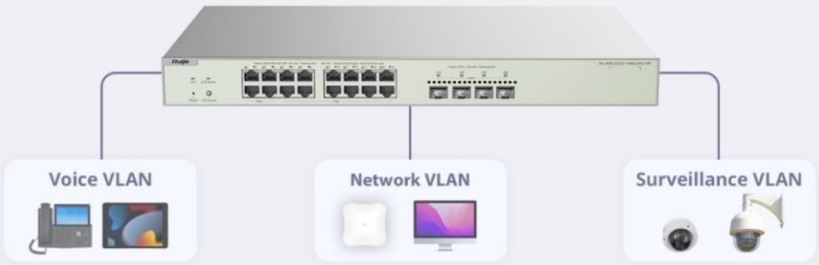
Enterprise-grade Quality Ensures High Performance

Link Aggregation | IGMP Snooping | **VLAN**



Cloud, Make Your Business Easy

- SON, Zero-Touch Provisioning on Ruijie Cloud
- Configure VLANs Using Ruijie Reyee App
- Monitor Switch Statistics Anytime, Anywhere
- Simplify Maintenance to Save Onsite Time and Costs

Product Highlights

High-Power PoE Power Supply

In previous scenarios involving PoE power supply, only the PoE (IEEE 802.3af) and PoE+ (IEEE 802.3at) standards were available. When power requirements exceed 30 W, PoE is no longer a viable option, necessitating the deployment of power cables for mains electricity and possibly even extra high voltage power. This creates significant challenges related to deployment costs, timelines, maintenance, and security. In compliance with the IEEE 802.3bt standard, the RG-NBS3300-16MG4XS-HP utilizes high-power PoE technology, achieving a maximum PoE output of 90 W per port to significantly enhance user experience.

CPU Protection Policy (CPP)

In a network environment, many malicious attacks are often carried out by forging numerous management and protocol packets. When a switch becomes overwhelmed with attack packets, it is unable to process normal management and protocol packets. This can significantly impact the switch's security and the overall stability of the network.

The CPP function of Ruijie switches offers effective protection against malicious network attacks by identifying and filtering out attack packets, mitigating the impact of attack packets on the switch, and ensuring that packets in different priority queues are handled properly. Additionally, the CPP offers flexible packet policy configuration, allowing network administrators to optimize settings for specific network environments, thereby enhancing both switch security and network stability.

Enterprise-grade Quality Ensures High Performance

Spanning Tree Protocol (STP):

STP prevents broadcast storms caused by loops and provides link redundancy, aiming to eliminate loops on Ethernet networks. It establishes a loop-free logical topology by selecting a primary path while blocking redundant paths.

Rapid Spanning Tree Protocol (RSTP):

RSTP, as an enhanced version of STP, enables faster convergence to meet the demands of modern networks.

Rapid Link Detection Protocol (RLDP):

RLDP is designed to detect link failures and report Ethernet link issues. It automatically shuts down or notifies users to manually shut down relevant ports based on user-configured failure handling methods, preventing erroneous traffic forwarding and avoiding Ethernet Layer 2 loops.

Internet Group Management Protocol (IGMP):

IGMP manages the membership between hosts and multicast groups, allowing hosts to join or leave a multicast group.

IGMP snooping:

IGMP snooping is a feature of network switches that allows them to monitor IGMP traffic, optimizing the forwarding of multicast traffic.

Voice VLAN:

Voice VLAN is a dedicated virtual local area network (VLAN) designed for voice traffic. It separates voice data from regular data traffic, prioritizes voice transmission, and enhances the quality of voice calls.

Multiple Security Policies Protect Your Network

DHCP snooping:

DHCP snooping is a network security feature that protects against Dynamic Host Configuration Protocol (DHCP) attacks by ensuring that only trusted DHCP servers can assign IP addresses to devices on the network. In large enterprise environments, DHCP Snooping effectively prevents internal attacks and enhances network stability and security.

Access Control List (ACL):

An ACL controls data traffic passing through a switch. It filters data packets based on user configurations, thereby enhancing both network security and performance.

IEEE 802.1X:

IEEE 802.1X is a network access control standard used for identity authentication on both wired and wireless networks. It uses port-based access control to ensure that only authenticated devices can access the network.

IP-MAC binding:

IP-MAC binding is a security technology that associates a specified source IP address and source MAC address with a switch port to prevent IP address spoofing and MAC address forgery. Packets can pass through the port only when they match the bound source IP address and MAC address.

ARP anti-spoofing:

ARP anti-spoofing is used to prevent ARP spoofing attacks. ARP spoofing occurs when an attacker sends forged ARP messages to intercept, modify, or disrupt network traffic. ARP anti-spoofing methods include: (1) Static ARP entries: ARP entries are manually configured to prevent dynamic updates and ensure consistency; and (2) ARP monitoring tools: Tools are used to monitor ARP traffic in real time, enabling the detection of abnormal activities.

IP source guard:

IP source guard is a security feature that prevents IP address spoofing attacks. It checks the source IP address of a data packet against the bound source MAC address and port to ensure that only data packets with authorized IP addresses are allowed to pass through the switch. If the IP address does not match, the switch discards the data packet.

Easy Management

Self-Organizing Network (SON):

SON is an automated network management technology designed to simplify and optimize the deployment, configuration, management, and maintenance of wireless communication networks. SON allows networks to dynamically adapt to actual demands through automated configuration and self-optimization, enhancing both efficiency and user experience.

Management via web interface:

Network devices and services can be configured, monitored, and managed conveniently on a web user interface (UI). It allows network administrators to easily access and manage network resources, whether on a LAN or over the Internet.

Easy cloud management anytime, anywhere

Management via Ruijie Reyee App

SNMP:

Simple Network Management Protocol (SNMP) is a protocol used for managing network devices. It operates on a client/server model that allows for remote monitoring and control of these devices.

SNMP consists of a management station and agents. The management station communicates with the agents using the SNMP protocol to retrieve information such as device status, configuration, and performance data. It can also configure and manage the devices.

SNMP can be used to manage a variety of network devices, including routers, switches, servers, and firewalls. Users can manage user accounts through the SNMP configuration interface and monitor and control devices using third-party software.

Product Information

Model	RG-NBS3300-16MG4XS-HP
Product Category	Layer 2+

Hardware Specifications

Model	RG-NBS3300-16MG4XS-HP
Product Information	
Warranty	5 years
Port Specifications	
Total number of RJ45 ports	16
Total number of optical ports	4
Number of 1GE combo ports	No
Number of 1GE SFP ports	No
Number of 10GE SFP+ ports	4
Number of 10/100BASE-T ports	No
Number of 10/100/1000/2500BASE-T ports	16
Number of 100/1000/2.5G/5G/10GBASE-T ports	No
Module slots	No
Reset button	1
DIP switch	No
Power Supply and Consumption	
PoE Out standard	Ports 1–4: PoE/PoE+/PoE++ (IEEE 802.3af/at/bt) Ports 5–16: PoE/PoE+ (IEEE 802.3af/at)
Number of PoE Out ports	16
Number of PoE/PoE+ Out ports	12
Number of PoE/PoE+/PoE++ Out ports	4

Hardware Specifications

Model	RG-NBS3300-16MG4XS-HP
PoE budget	370 W
PoE power pins	Ports 1–4: 1–2(-), 3– 6(+), 4–5(+), 7–8(-); Ports 5–16: 1–2 (+), 3–6 (-)
Power input	220 V AC power supply: ● 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: 6 A
Maximum power consumption	40 W (with no PoE load) 460 W (with full PoE load)
Power output	No
Power supply	Fixed power supply
System Specifications	
RAM	512 MB
Flash memory	256 MB
Forwarding rate	119.04 Mpps
Switching capacity	160 Gbps(bit/s)
Dimensions and Weight	
Casing	Metal
Product dimensions (W x D x H)	440 mm x 267.5 mm x 43.6 mm (17.32 in. x 10.53 in. x 1.72 in.)
Weight	3.6 kg (7.94 lbs) (without packaging materials)
Shipping weight	5.24 kg (11.55 lbs)
Environment and Reliability	
Hot swapping of fan modules	No
Fan	2 x fixed fans
Cooling	Air cooling, left-to-rear airflow
Acoustic noise	25°C (77°F): 40 dB
Mounting options	Rack

Hardware Specifications

Model	RG-NBS3300-16MG4XS-HP
Hot swapping of cables	Service ports support hot swapping of cables.
MTBF	400,000 hours
Operating temperature	0°C to +50°C (32°F to 122°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)
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.)
Corrosion class	No
ESD protection	Contact discharge: 6 kV Air discharge: 8 kV
Surge protection	Service port: ±6 kV for common mode Power connector: ±6 kV for both common mode and differential mode
Certification and Regulatory Compliance	
EMC	EN 55032 EN 61000-3-2 EN 61000-3-3 EN 55035 EN 300 386
Safety compliance	IEC 62368-1
Certification	CE, FCC

Software Specifications

Model	RG-NBS3300-16MG4XS-HP
Authentication	
RADIUS	Yes
802.1X authentication	Yes
Port-based 802.1X authentication	Yes
MAC address-based 802.1X authentication	Yes
Guest VLAN	Yes
Basic Configurations	
PoE watchdog	Yes
Online upgrade	Yes
Ethernet Switching	
Maximum number of VLANs	4094
Maximum number of MAC address entries	16000
Interface flow control	Yes
MAC address-based VLAN	No
IP subnet – based VLAN assignment	No
IEEE 802.1Q VLAN	Yes
Basic QinQ	No
VLAN configuration supported on LAN ports	Yes
Voice VLAN	Yes
STP (IEEE 802.1d)	Yes
RSTP (IEEE 802.1w)	Yes
MSTP (IEEE 802.1s)	Yes
LLDP	Yes

Software Specifications

Model	RG-NBS3300-16MG4XS-HP
LLDP-MED	Yes
Static MAC address	Yes
MAC address filtering	Yes
Static aggregation	Yes
LACP	Yes
Inbound or outbound rate limiting based on interface traffic	Yes
Gateway Features	
802.1p priority-based traffic classification	Yes
DSCP priority-based traffic classification	Yes
Egress queues based on 802.1p and DSCP priorities	Yes
SP	Yes
WRR	Yes
SP+WRR	Yes
Global QoS	Yes
Interface	
Jumbo frame length (MTU)	9216 bytes (interface configuration mode)
EEE	Yes
Cable test	Yes
IP Routing	
Maximum number of IPv4 static routes	64
IPv6 routing table size (network route)	128
Maximum number of IPv6 static routes	64

Software Specifications

Model	RG-NBS3300-16MG4XS-HP
IPv4 static route	Yes
IPv6 static route	Yes
OSPFv2	No
OSPFv3	No
IP Service	
Maximum number of ARP entries	1000
IPv4 routing table size (host route)	6000
ARP	Yes
IPv4 ping	Yes
IPv4 traceroute	Yes
IPv6	Yes
ICMPv6	Yes
IPv6 ping	Yes
IPv6 traceroute	Yes
DNS client	Yes
DNSv6 client	Yes
DHCP relay	Yes
DHCP server	No
DHCP client	Yes
Multicast	
IGMPv1 snooping	Yes
IGMPv2 snooping	Yes
Basic IGMPv3 snooping	Yes
Full IGMPv3 snooping	Yes

Software Specifications

Model	RG-NBS3300-16MG4XS-HP
IGMP filtering	Yes
IGMPv1, v2, and v3	No
Network Management and Monitoring	
Fan speed adjustment	Automatic speed adjustment
Port mirroring	Yes
Mirroring	Yes
HTTP login	Yes
HTTPS login	Yes
RLOG	Yes
SON	Yes
Syslog	Yes
Client auto-discovery	Yes
PoE service failure	Yes
PoE power overload	Yes
SSH	No
Camera detection	Yes
Loop alarm	Yes
MAC address entries	Yes
IP address pool conflicts	Yes
Full ARP table	Yes
eWeb management	Yes
Ruijie Cloud management	Yes
Ruijie Reyee App management	Yes
SNMPv1, v2c, and v3	Yes

Software Specifications

Model	RG-NBS3300-16MG4XS-HP
Reliability	
System dual backup	Yes (Only supported on devices with a factory-installed software version of ReyeeOS 2.320 or later)
Enabling dual backup for the partition Uboot (based on a single flash memory)	Yes
Load balancing	No
ERPS	Yes
Security	
Maximum number of ACEs	Number of ACEs in the inbound direction of an interface: 1900 Number of ACEs in the outbound direction of an interface: 0
Port isolation	Yes
Broadcast storm control	Yes
Multicast storm control	Yes
Unknown unicast storm control	Yes
DHCP snooping	Yes
Standard ACL	Yes
Extended MAC ACL	Yes
Extended IP ACL	Yes
IPv6 ACL	Yes
IP-MAC-port binding	Yes
ARP anti-spoofing	Yes
IP source guard	Yes
CPU Protection Policy	Yes
System Performance Capacity	
Recommended camera limit	200 W H265: 300 400 W H265: 150

Package Contents

Model	RG-NBS3300-16MG4XS-HP
Device	
Device	1
Accessories	
Rubber pad	4
Power cord retention clip	1
Screw	8 M4 x 8 mm cross recessed countersunk head screws
Grounding cable	1 x 1 m (3.28 ft.)
Power cord	1 x 1.5 m (4.92 ft.)
Rack-mount bracket	2
Manual	
User Manual	1
Warranty Card	1

Ruijie Networks Co., Ltd.

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