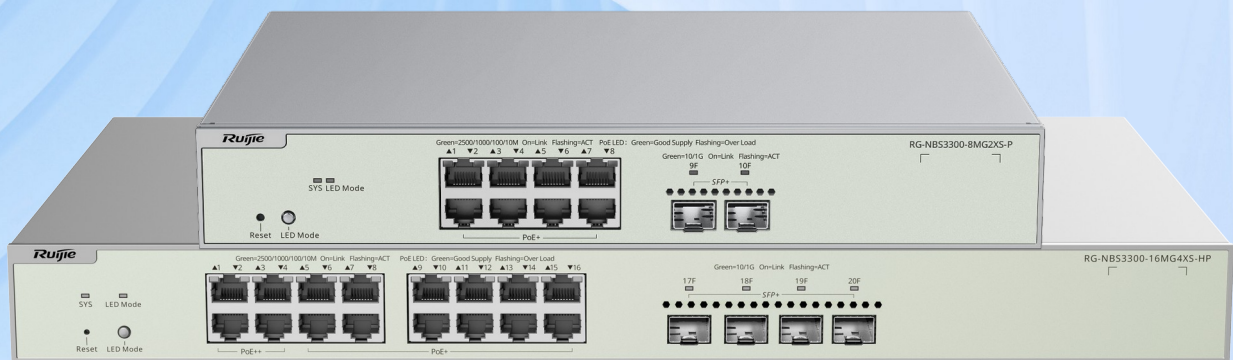# RG-NBS3300 Series

RG-NBS3300 Series Multi-Gigabit Layer 2 Cloud Managed Switch

**Datasheet**

01 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.

02 Product Appearance
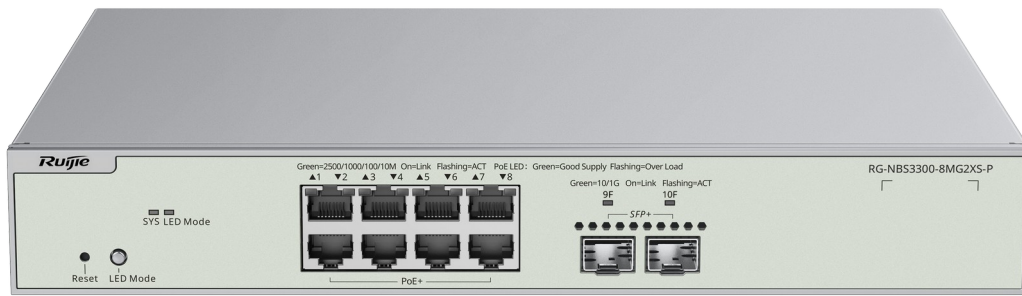
RG-NBS3300-16MG4XS-HP
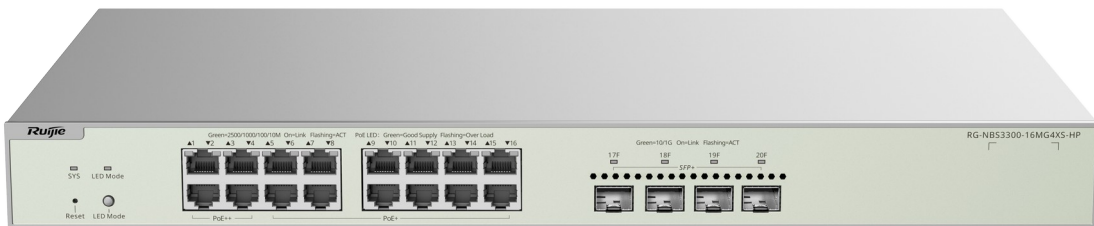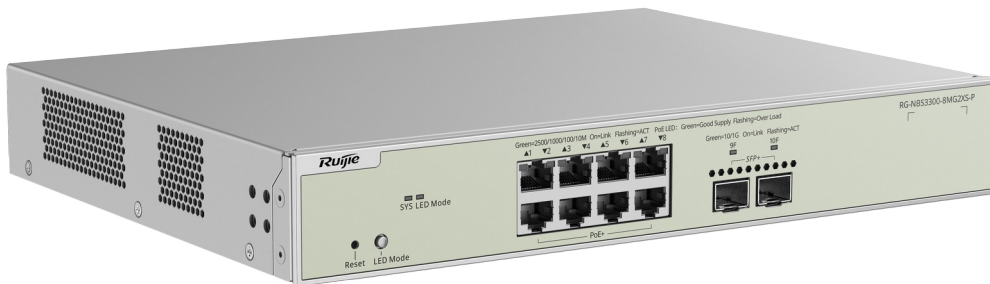

Front View of the RG-NBS3300-16MG4XS-HP

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

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

RG-NBS3300-8MG2XS-P

Front View of the RG-NBS3300-8MG2XS-P

Left View of the RG-NBS3300-8MG2XS-P
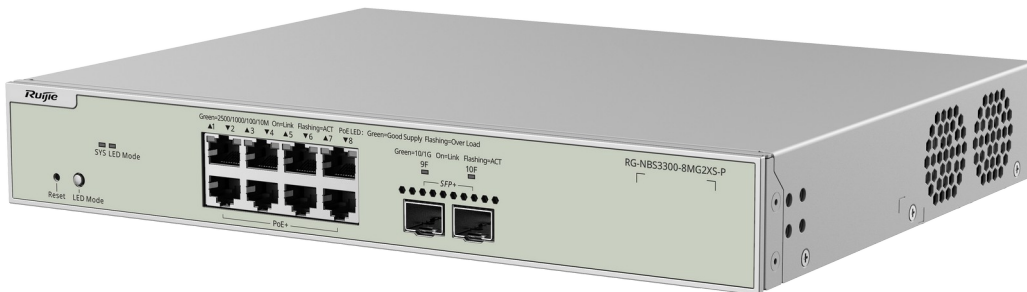
Right View of the RG-NBS3300-8MG2XS-P

03 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

RG-NBS3300-16MG4XS-HP
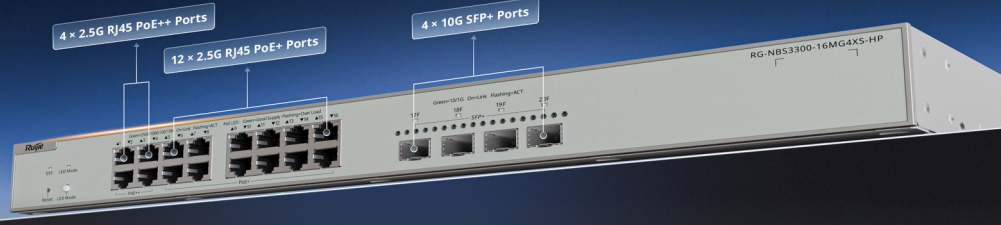
2.5G Ports for Wi-Fi 6/7 APs

4 x PoE++ Ports

PoE Budget 370 W

4 x 10G SFP+ Uplink Ports

Multiple Security Policies

RG-NBS3300-8MG2XS-P

8-Port Multi-Gigabit Layer 2 Managed Switch, 2 x SFP+ Uplink Ports

8 × 2.5G RJ45 PoE+ Ports

2 × 10G SFP+ Ports

RG-NBS3300-8MG2XS-P
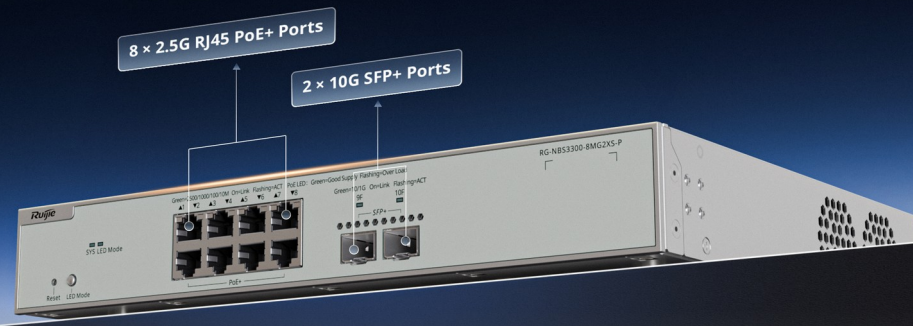
2.5G Ports for Wi-Fi 6/7 APs

PoE Budget 240 W

2 x 10G SFP+ Uplink Ports

Multiple Security Policies

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

WiFi 6 Wi-Fi 7 2.5G

CPP Protects the CPU from Attacks, Ensuring CPU Performance and Stability
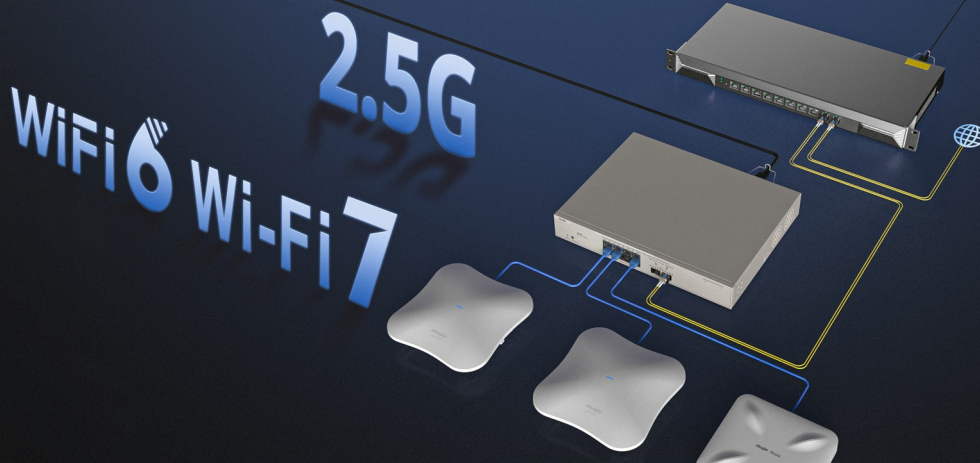
Enterprise-grade Quality Ensures High Performance

Link Aggregation   IGMP Snooping   VLAN
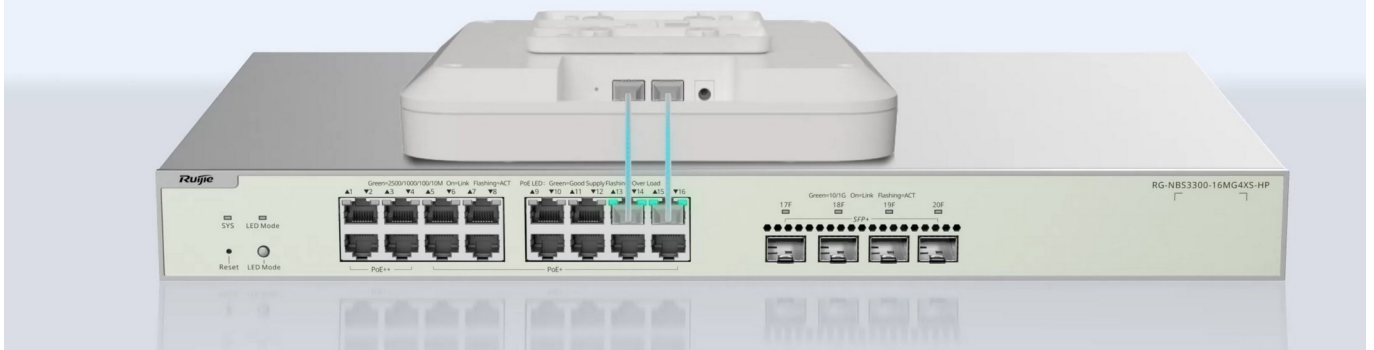
Cloud, Make Your Business Easy

- 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

04 Product Features

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 offer 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 valid IP addresses can send data packets 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.

05   Product Specifications

Hardware Specifications

Hardware Specifications	RG-NBS3300-16MG4XS-HP	RG-NBS3300-8MG2XS-P
Number of 10/100/1000/2500BASE-T Ports	16	8
Number of 10 Gbps Optical Ports (SFP+)	4	2
Number of PoE/PoE+ Ports	12	8
Number of PoE/PoE+/PoE++ Ports	4	N/A
Number of Fans	2	2
Power Supply Options	Single fixed power supply	Single fixed power supply
Forwarding Rate	119.04 Mpps	58.72 Mpps
Switching Capacity	160 Gbps	80 Gbps
MAC Address Table Size	16000	16000
ARP Table Size	1000	1000
Number of ACEs	Inbound: 1900 Outbound: 0	Inbound: 1900 Outbound: 0
Dimensions (W x D x H)	440 mm x 267.5 mm x 43.6 mm (17.32 in. x 10.55 in. x 1.72 in.)	300 mm x 233 mm x 43.6 mm (11.81 in. x 9.17 in. x 1.72 in.)
Power Supply	Rated voltage range: 100–240 V Maximum voltage range: 90–264 V Frequency: 50/60 Hz Rated current: 6 A	Rated voltage range: 100–240 V Maximum voltage range: 90–264 V Frequency: 50/60 Hz Rated current: 4.5 A
Power Consumption	No PoE load: <40 W Full PoE load: < 460 W	No PoE load: < 27 W Full PoE load: < 278 W
Max. PoE Power Budget	370 W	240 W
Airflow	Left to back	Left to right
Operating Temperature	0°C to 50°C (32°F to 122°F)	0°C to 50°C (32°F to 122°F)
Storage Temperature	–40°C to +70°C (–40°F to +158°F)	–40°C to +70°C (–40°F to +158°F)
Operating Humidity	10% to 90% RH (non-condensing)	10% to 90% RH (non-condensing)

Hardware Specifications	RG-NBS3300-16MG4XS-HP	RG-NBS3300-8MG2XS-P
Storage Humidity	5% to 95% RH (non-condensing)	5% to 95% RH (non-condensing)
Port Surge Protection	Common mode: 6 kV	Common mode: 6 kV
Power Supply Surge Protection	Common mode: 6 kV Differential mode: 6 kV	Common mode: 6 kV Differential mode: 6 kV
Net Weight	3.6 kg (7.94 lbs)	2.64 kg (5.82 lbs)
Gross Weight	5.24 kg (11.55 lbs)	3.45 kg (7.61 lbs)
Certification	CE; FCC	CE; FCC

Software Specifications

Software Specifications		RG-NBS3300-16MG4XS-HP	RG-NBS3300-8MG2XS-P
Ethernet Switching	Jumbo Frame	9216 Bytes (Global MTU)	
	VLAN	802.1Q VLAN	
		Port-based VLAN	
		Voice VLAN	
	STP	STP (IEEE 802.1D)	
		RSTP (IEEE 802.1W)	
	LLDP	LLDP	
		LLDP-MED	
IP Service	ARP	ARP	
	DHCP	DHCP Snooping	
		DHCP Client	
Multicast	IGMP	IGMP Snooping	
		IGMP Snooping v1	
		IGMP Snooping v2	
		IGMP Snooping v3 (Basic)	
		MVR Mode (MVR receiver ports can only be access ports.)	

Software Specifications		RG-NBS3300-16MG4XS-HP	RG-NBS3300-8MG2XS-P
Multicast	**IGMP**	IGMP Filtering	
		IGMP Fast Leave	
ACL and QoS	**ACL**	IP Standard ACL	
		MAC Extended ACL	
		IP Extended ACL	
		IPv6 ACL	
	QoS	Port-Level Rate Limiting (Ingress/Egress)	
Security	**802.1X**	IEEE 802.1X Authentication	
		Port-based Authentication	
		MAC-based Authentication	
		Global IEEE 802.1X Authentication Control	
		Force Authorized	
		Force Unauthorized	
		Port-based Single-Host Mode	
		PEAP Authentication for Windows 7/8/10/11 Clients	
		PEAP Authentication for macOS Clients	
		PEAP Authentication for Linux OS Clients	
	Management via Web Interface	Web Authentication	
		HTTP	
		HTTPS	
	IP-MAC-Port Binding	IP-MAC-Port Binding	
	ARP Anti-Spoofing	ARP Anti-Spoofing	
	IP Source Guard	IP Source Guard	
	CPU Protection Policy (CPP)	Hardware CPP	

Software Specifications		RG-NBS3300-16MG4XS-HP	RG-NBS3300-8MG2XS-P
Reliability	**RLDP**	RLDP	
NMS and Maintenance	**SPAN**	SPAN	
	NTP	NTP Client	
	SNMP	SNMP v1	
		SNMP v2c	
		SNMP v3	
	MQTT	MQTT	
	Self-Organizing Network	Self-Organizing Network	
	Network Management	Management via Ruijie Cloud	
	Ruijie Cloud	View Device Details on Ruijie Cloud	

06 Compliance

Model	NBS3300-8MG2XS-P	NBS3300-16MG4XS-HP
Safety	EN 62368-1:2014 IEC 62368-1:2018 UL 62368-1:2019 CSA C22.2 No 62368-1:19	
Emissions	FCC CFR 47 Part 15 Class A EN 55032 Class A EN 300386 Class A ICES-003 Class A	
Immunity		
EMC	EN 55035 EN 300386	
ESD	IEC 61000-4-2	
Radiated	IEC 61000-4-3	
EFT/Burst	IEC 61000-4-4	
Surge	IEC 61000-4-5	
Conducted	IEC 61000-4-6	
Voltage Dips and Short Interruptions	IEC 61000-4-11	
Harmonics	IEC 61000-3-2	
Flicker	IEC 61000-3-3	

07 Ordering Information

Model	Description
RG-NBS3300-16MG4XS-HP	16 x 10/100/1000/2500BASE-T Ethernet ports, 4 x SFP+ ports (non-combo ports) (ports 1 to 4 support PoE/PoE+/PoE++); support full PoE load and half PoE+ load; fixed single power supply
RG-NBS3300-8MG2XS-P	8 x 10/100/1000/2500BASE-T Ethernet ports, 2 x SFP+ ports (non-combo ports), support full PoE load and full PoE+ load; fixed single power supply
Mini-GBIC-GT	1000BASE-GT mini GBIC transceiver
MINI-GBIC-SX-MM850	1000BASE-SX, SFP transceiver, SM (850 nm, 500 m, LC)
MINI-GBIC-LX-SM1310	1000BASE-LX, SFP transceiver, SM (1310 nm, 10 km, LC)
MINI-GBIC-LH40-SM1310	1000BASE-LH, SFP transceiver, SM (1310 nm, 40 km, LC)
MINI-GBIC-ZX80-SM1550	1000BASE-ZX80, SFP transceiver, SM (1550 nm, 80 km, LC)
GE-SFP-LX20-SM1310-BIDI	SFP BiDi transceiver—Tx1310/Rx1550, 20 km, LC
GE-SFP-LX20-SM1550-BIDI	SFP BiDi transceiver—Tx1550/Rx1310, 20 km, LC
GE-SFP-LH40-SM1310-BIDI	SFP BiDi transceiver—Tx1310/Rx1550, 40 km, LC
GE-SFP-LH40-SM1550-BIDI	SFP BiDi transceiver—Tx1550/Rx1310, 40 km, LC
XG-SFP-SR-MM850	10G SFP+ transceiver with LC connector, max. distance: 300 m
XG-SFP-LR-SM1310	10G SFP+ transceiver with LC connector, max. distance: 10 km
XG-SFP-ER-SM1550	10G SFP+ transceiver with LC connector, max. distance: 40 km

08 Package Content

RG-NBS3300-16MG4XS-HP

Item	Quantity
RG-NBS3300-16MG4XS-HP switch	1
Rack-mount brackets	2
M4 x 8 mm Philips countersunk screws	8
User Manual	1
Rubber pads	4
Warranty Card	1
Power cord	1
Yellow/green ground wire	1
Power cord retention clip	1

RG-NBS3300-8MG2XS-P

Item	Quantity
RG-NBS3300-8MG2XS-P switch	1
Rack-mount brackets	2
M3 x 6 mm Philips countersunk screws	8
User Manual	1
Rubber pads	4
Warranty Card	1
Power cord	1
Yellow/green ground wire	1
Power cord retention clip	1

09   Warranty

For more information about warranty terms and period, contact your local sales agency.

- **Warranty terms:** https://www.ruijienetworks.com/support/servicepolicy

- **Warranty period:** https://www.ruijienetworks.com/support/servicepolicy/Service-Support-Summary/

Note: The warranty terms are subject to the terms of different countries and distributors.

10   More Information

To learn more about the product, please visit our website or contact your local sales representative.

- https://reyee.ruijie.com/en-global/products/sme/switches/rg-nbs3300-16mg4xs-hp/

- https://reyee.ruijie.com/en-global/products/sme/switches/rg-nbs3300-8mg2xs-p/