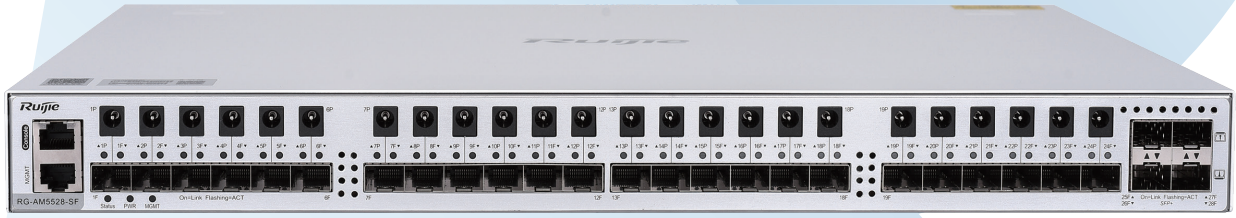


RG-AM5528-SF

All-Optical i-Share+ Master AP

Scan QR Code
For More Enquiry

Product Pictures

RG-AM5528-SF Front View

RG-AM5528-SF Side View

Product Overview

The RG-AM5528-SF Series APs are all-optical i-Share+ master access points (APs) for Ruijie SOE Solution based on the Simplified Optical Campus Solution. The SOE Solution is oriented to complex application environments, such as wireless dormitory networks, hotels, and dense office networks.

RG-AM5528-SF supports the i-Share mode and provides four uplink 10G SFP ports and 24 downlink 1G/2.5G SFP ports, which are connected to micro APs in 24 rooms through hybrid cables with up to 2.976 Gbps wireless bandwidth in each room. RG-AM5528-SF meets high-performance access requirements in dormitories, offices, and other environments.

RG-AM5528-SF also supports the common mode, provides layer-2 (L2) switching, and can access other APs through hybrid cables.

In addition, RG-AM5528-SF fully considers wireless network security, radio frequency (RF) control, mobile access, service quality guarantee, seamless roaming, and other factors to complete data forwarding and security and access control of wireless users.

Product Features

Simplified Optical Ethernet Solution Architecture

Fiber to Room and Exclusive Bandwidth

Ruijie SOE Solution adopts the architecture of fiber to room and one fiber for each room. Each room has exclusive line and bandwidth resources without needing to consider the optical split ratio. The traditional passive optical network (PON) solution architecture utilizes 1:8 or 1:16 optical splitting, which can hardly meet high bandwidth application requirements. Ruijie SOE Solution implements room-level high-speed optical networks and makes full use of Wi-Fi 6 to bring high-speed wireless network services.

Simplified Construction: Free Optical Fiber Deployment

Compared with traditional Ethernet cables, optical fibers feature long communication distance, small size, and long service life.

Based on the technical base of the All-Optical i-Share+ solution, Ruijie SOE Solution uses hybrid cables, which ensure at least 1.1 km lossless transmission. Even in modern high buildings, wired signals in the building's weak-current equipment room can reach each room through optical fibers. This solution architecture helps customers reduce relay devices in buildings, significantly reduces the network management difficulty, and ensures flat network management.

Compared with traditional copper cables, the hybrid cables used for Ruijie SOE Solution feature small cross-sectional area and high flexibility, and have obvious advantages over Ethernet cables in terms of cable tray design, construction and cabling convenience, and cabling aesthetics, bringing great convenience in the early intelligent weak current design, mid-phase construction, and later management and maintenance.

Ethernet cables only have a 3 to 5 years lifespan on average. However, optical fibers have a lifespan of 10 years, which helps customers eliminate subsequent cable O&M.

Open, Compatible, and Intelligent O&M

Standard optical fiber networking is adopted. Customers can reuse original device deployment and access optical fibers and devices of other vendors on the market to protect benefits and original investments.

The SOE Solution inherits the management mode of the i-Share solution. In i-Share mode, micro APs do not need to be configured manually, and power over Ethernet (PoE) switches do not need to be deployed. It is an optimal choice for future wireless network development towards high performance, high density, small scale, and microcell.

Flexible Expansion and Worry-free Service

Ruijie SOE Solution fully considers room-level bandwidth expansion in future service upgrades. With one optical fiber deployed in each room, the optical split ratio does not need to be re-calculated. The optical fibers automatically adapt to the port bandwidth, and the deployed cables do not need to be adjusted. To ensure bandwidth upgrade in rooms, only the all-optical i-Share+ master AP and micro AP need to be replaced.

Intelligent Power Supply and Worry-free Security

In Ruijie SOE Solution, the All-Optical i-Share+ AP panel has 24 power supply ports, and the maximum output power of PoE power supply is 480 W. It can bear 24 Mirco APs (AF power supply) in 1100 m. This solves the department coordination, electricity use security, and charging fee allocation issues of local power supply and dramatically improves O&M convenience.

Multi-Level Distributed System Architecture

Performance Comes First: Multi-Level Distributed Architecture

Ruijie SOE Solution adopts the multi-tier distributed architecture. The master AP (RG-AM5528-SF) adopts the distributed architecture. Different modules are used for data forwarding and service management, and 10G uplink interfaces are used to eliminate data transmission bottlenecks. The RF modules of micro APs deployed in rooms use independent CPUs for data processing and forwarding and an independent RF chip for multi-user air interface scheduling. The multi-tier distributed architecture design of all-optical i-Share+ master AP + micro AP brings high performance to the SOE Solution.

High Performance and Reliability

Intelligent Local Forwarding

RG-AM5528-SF integrates Ruijie Networks intelligent local forwarding technology and breaks through the bottleneck in the traffic of AP controllers (ACs). The data forwarding mode

of RG-AM5528-SF can be pre-configured through the Ruijie RG-WS series AC. Then, this AP determines whether data needs to be forwarded by the AC based on the SSID name or user VLAN, or be sent to a wired network for data exchange.
With the local forwarding technology, the AP classifies data that is sensitive to delay and requires highly real-time transmission, and forwards it through a wired network. In this way, the traffic pressure of the AC is greatly relieved, and the AP better adapts to heavy-traffic transmission on 802.11ax networks.

Roaming Access
Cooperated with the RG-WS series AC, RG-AM5528-SF ensures seamless rooming of wireless users between L2 and L3 networks. Wireless users will not feel data access interruption when they move between RG-AM5528-SF APs.

Abundant QoS Policies
RG-AM5528-SF supports abundant QoS policies, such as bandwidth limitation in WLAN, AP, and STA modes and bandwidth guarantee for key data applications first.
The multicast-to-unicast technology supported by RG-AM5528-SF solves the video lagging problem caused by packet loss or long delay in Video on Demand (VoD) and other multicast applications on wireless networks, and enhances the experience in the use of multicast video services on wireless networks.

Wireless IPv6 Access
RG-AM5528-SF supports IPv6 features, ensuring IPv6 forwarding on wireless networks. IPv4 and IPv6 users can automatically connect to ACs through tunnels to bear IPv6 applications on wireless networks.

Flexible and Complete Security Policies

User Data Encryption Security
RG-AM5528-SF supports a complete data security protection mechanism. The WEP, TKIP, and AES encryption technologies are supported to ensure data transmission security of the wireless network.

RF Security
With Ruijie Networks unified NMS RG-WIS and RG-WS series AC, RG-AM5528-SF can enable the RF probe scanning mechanism, discover illegal access points or other RF interference sources in real time, and provide corresponding alarms to the NMS in real time, enabling the network administrators to monitor the potential threats and usage in each wireless environment anytime.

Multiple Easy-to-Use Authentication Modes
RG-AM5528-SF not only supports traditional web page authentication and 802.1x client authentication to manage users' network access behavior but also provides convenient authentication methods for customers based on actual scenarios. It cooperates with the RG-WS series AC and micro AP to ensure MAB authentication and SM-based or QR code-based visitor authentication.
Users need to enter their usernames and passwords only for the first time when accessing a network by using STAs via MAB authentication. They can directly access the network with no need to enter the usernames and passwords again in their future access.
When visitors access a wireless network via SM-based authentication, an authentication page pops up, on which visitors can register accounts by using their mobile numbers and access the Internet by using the usernames and passwords in their received SMs.
QR code-based authentication is another convenient way for visitors to access the Internet. After accessing a wireless network, visitors can receive a QR code prompt. They can access the network after being authorized by the visited employees. Visitor behaviors are directly linked with the visited employees, providing better security.

DHCP Snooping
DHCP snooping is supported to allow the DHCP responses from trusted ports only. This prevents setting up a DHCP server without permission of the administrator, disrupting the distribution and management of IP addresses, and affecting the normal network access of users. On the basis of DHCP snooping, dynamic ARP monitoring and source IP address detection are performed to prevent ARP host spoofing and source IP address spoofing in the environment in which the DHCP server dynamically allocates IP addresses.

Anti-ARP Spoofing
Address Resolution Protocol (ARP) viruses or attacks are a type of common and influential network attack. RG-AM5528-SF supports ARP spoofing prevention in multiple modes. Regardless of whether clients automatically obtain addresses from the DHCP server or use static IP addresses, RG-AM5528-SF records clients' authentic IP+MAC addresses and compare addresses in ARP packets with recorded IP+MAC addresses when ports receive the ARP packets from hosts. RG-AM5528-SF forwards only ARP packets whose addresses match the recorded IP+MAC addresses and discards fake ARP packets.

In this way, ARP spoofing is shielded outside the network, and network users are protected from ARP virus attacks.

Proactive Defending Against Various DoS Attacks

Computers may be infected with viruses due to network openness or attackers may launch attacks on network devices and servers for various purposes, resulting in network unavailability. The common ARP flood attacks can lead to the failure of the gateway to respond to requests. Internet Control Message Protocol (ICMP) flood attacks can paralyze network devices due to high CPU load. DHCP request flood attacks deplete addresses of the DHCP server, and users cannot obtain IP addresses for network access.

RG-AM5528-SF adopts the innovative Network Foundation Protection Policy (NFPP) technology to limit the rate of ARP packets, ICMP requests, DHCP requests, and other packets sent to networks. RG-AM5528-SF discards packets whose rate exceeds the threshold, identifies attack behaviors, and isolates users launching attacks. In this way, the basic networks are protected from network attacks, and therefore the network stability is guaranteed.

Management Information Security

Through the Secure Shell (SSH) and Simple Network Management Protocol version 3 (SNMPv3), RG-AM5528-SF can encrypt management information in the telnet and SNMP processes, to ensure information security of management devices and prevent hackers from attacking and controlling the devices. Based on source IP address control, Telnet access control provides more precise device management and control. This ensures that only the devices with IP addresses configured by administrators can log in to the AP, thereby enhancing the network management security.

Abundant Management Policies

Zero-Configuration Installation

RG-AM5528-SF does not need to be pre-configured before installation. During on-site installation and subsequent maintenance, re-configuration is not required for product replacement. Configuration information can be automatically inherited from the AC to complete configuration, which dramatically reduces the implementation and maintenance workload and costs.

Comprehensive Remote Management

The working parameters of RG-AM5528-SF deployed in any position, such as security settings, and VLAN division can be centrally processed by the remote RG-WS series AC. This reduces local management resource consumption and centralizes the management permission, improving the security and management efficiency of the wireless network.

Web GUI Management

RG-AM5528-SF performs web GUI management through the AC. O&M personnel can complete wireless configuration easily and manage the wireless network in an all-round manner. On the AC Web GUI, O&M personnel can manage the AP as well as STAs connected to the AP, and restrict the rates and network access behaviors of the STAs. With the GUI, O&M personnel can plan, manage, and maintain wireless networks conveniently.

Product Specifications

Hardware Specifications

Dimensions and Weight

Dimensions and Weight	RG-AM5528-SF
Dimensions (W x D x H)	Main unit: 442 mm x 315 mm x 43.6 mm (17.40 in. x 12.40 in. x 1.72 in.) Shipping: 538 mm x 438 mm x 173 mm (21.18 in. x 17.24 in. x 6.81 in.)
Rack height	1 RU
Weight	Main unit: 4.6 kg (10.14 lbs) Shipping: 6.38 kg (14.06 lbs)
Mounting	Rack-mount

System Specifications

System Specifications	RG-AM5528-SF
Memory	1 GB DDR4
Flash memory	4 GB

Port Specifications

Port Specifications	RG-AM5528-SF
Fixed service port	Uplink: 4 x 10GE SFP+ ports that can only switch between 10GE SFP+ mode and 1GE SFP mode simultaneously. Separate mode switching is not supported. Downlink: 24 x 1GE/2.5GE SFP ports and 24 x PoE-out ports. Ports 1 to 20 support PoE/PoE+, and each port supports up to a 30 W PoE power supply. Ports 21 to 24 support PoE/PoE+/PoE++, and each port supports up to 90 W PoE power supply. The maximum PoE output power is 480 W.
Fixed management port	1 x RJ45 console port 1 x 10/100/1000BASE-T MGMT port
Status LED	24 x PoE LEDs 24 x 1000/2.5GBASE-X SFP port LEDs 4 x SFP+ port LEDs 1 x system status LED 1 x power LED 1 x MGMT port LED

Power Supply and Consumption

Power Supply and Consumption	RG-AM5528-SF
Input power supply	One 550 W built-in power module (AC input and DC output) • Input voltage: 176 V AC to 240 V AC Frequency: 50 Hz to 60 Hz Rated input current: 4 A • Output voltage: 12 V DC for the master AP and 54 V DC for the external unit
Maximum power consumption	Without load: < 42 W With full load: < 530 W

Environment and Reliability

Environment and Reliability	RG-AM5528-SF
Temperature	Operating temperature: 0°C to 45°C (32°F to 113°F) Storage temperature: –40°C to +70°C (–40°F to +158°F) Note: At an altitude in the range of 1,800–5,000 m (5,905.51–16,404.20 ft.), every time the altitude increases by 220 m (721.78 ft.), the maximum temperature decreases by 1°C (1.8°F).
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.)

Environment and Reliability	RG-AM5528-SF
Humidity	Operating humidity: 10% RH to 90% RH (non-condensing) Storage humidity: 5% RH to 95% RH (non-condensing)
Surge protection	AC power connector • Differential mode: ± 6 kV • Common mode: ± 6 kV Hybrid cable connector • Differential mode: ± 2 kV • Common mode: ± 6 kV
Fan	Fan speed adjustment Fan fault alarm
Mean Time Between Failure (MTBF)	69.23 years at the operating temperature of 25°C (77°F)

Software Specifications

Basic Function	RG-AM5528-SF
Applicable software version	RGOS12.5(4)B0404P1 or later
Security and Authentication	
ACL	IPv6 ACL Time range-based ACL Egress ACL based on a Layer 2 physical interface or aggregate interface Ingress ACL based on a Layer 2 physical interface or aggregate interface Egress ACL based on a Layer 3 interface Ingress ACL based on a Layer 3 interface
CPP	CPU Protect Policy (CPP)
NFPP	Network Foundation Protection Policy (NFPP)
Routing and Switching	
MAC	MAC address learning and aging Static and dynamic MAC addresses Source MAC address filtering Limitation on the number of MAC addresses learned on an interface
Ethernet	Jumbo frame length: 1,518 bytes IEEE802.1p and IEEE802.1Q Optical module information display, alarms about faults, and diagnosis parameter measurement (QSFP+/SFP+/SFP)
VLAN	Interface-based VLAN assignment Maximum number of SVIs: 1,000 Maximum number of VLANs: 4,094 VLAN ID range: 1 to 4,094
ARP	ARP entry aging, gratuitous ARP learning, and proxy ARP Maximum number of ARP entries: 24,000 ARP check
IPv4 services	Static and dynamic IPv4 addresses DHCP server and DHCP client DHCP snooping DNS client and DNS proxy NTP server, NTP client, and SNTP client

Basic Function	RG-AM5528-SF
IPv6 services	Static and dynamic IPv6 addresses. Neighbor Discovery (ND), IPv6 ND proxy, ICMPv6, and IPv6 ping DNSv6 client NTPv6 server and NTPv6 client
IP routing	IPv4/IPv6 static routing Maximum number of static IPv4 routes: 1,000 Maximum number of static IPv6 routes: 1,000 Static black hole routing
Multicast	Multicast-to-unicast conversion IGMP snooping
Network Management and Monitoring	
Network management	SNMPv1/v2c/v3 Fault detection and alarm
Network management platform	Web management (Eweb)
User access management	Console, Telnet, SSH, TFTP client, TFTP server, FTP server and FTP client

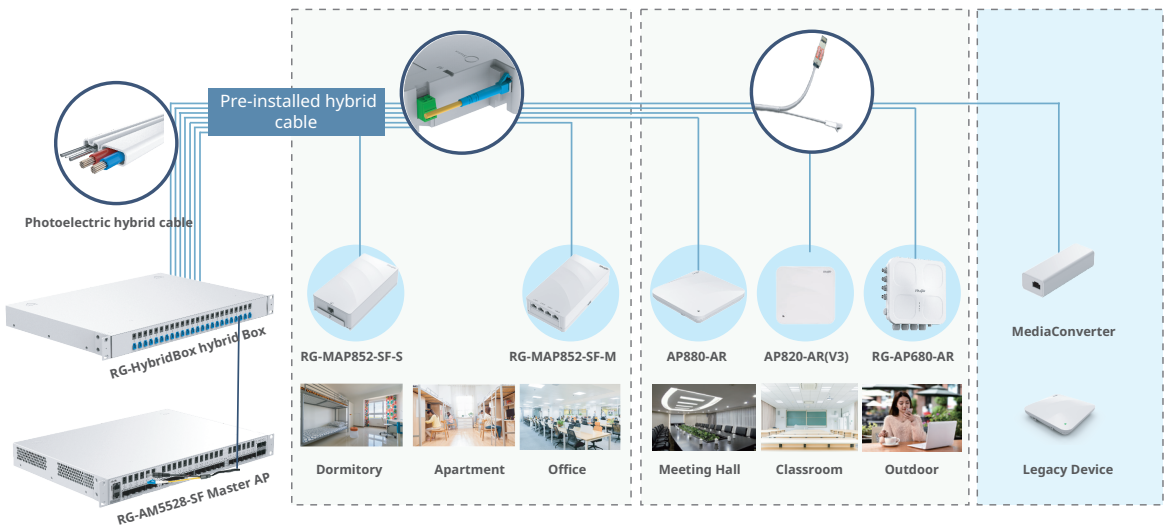
Regulatory Compliance

Regulatory Compliance	RG-AM5528-SF
Regulatory compliance	EN 55032, EN 55035, EN 61000-3-3, EN IEC 61000-3-2, EN 300 386, IEC 62368-1, and EN 62368-1

* For more country-specific regulatory information and approvals, contact your local sales agency.

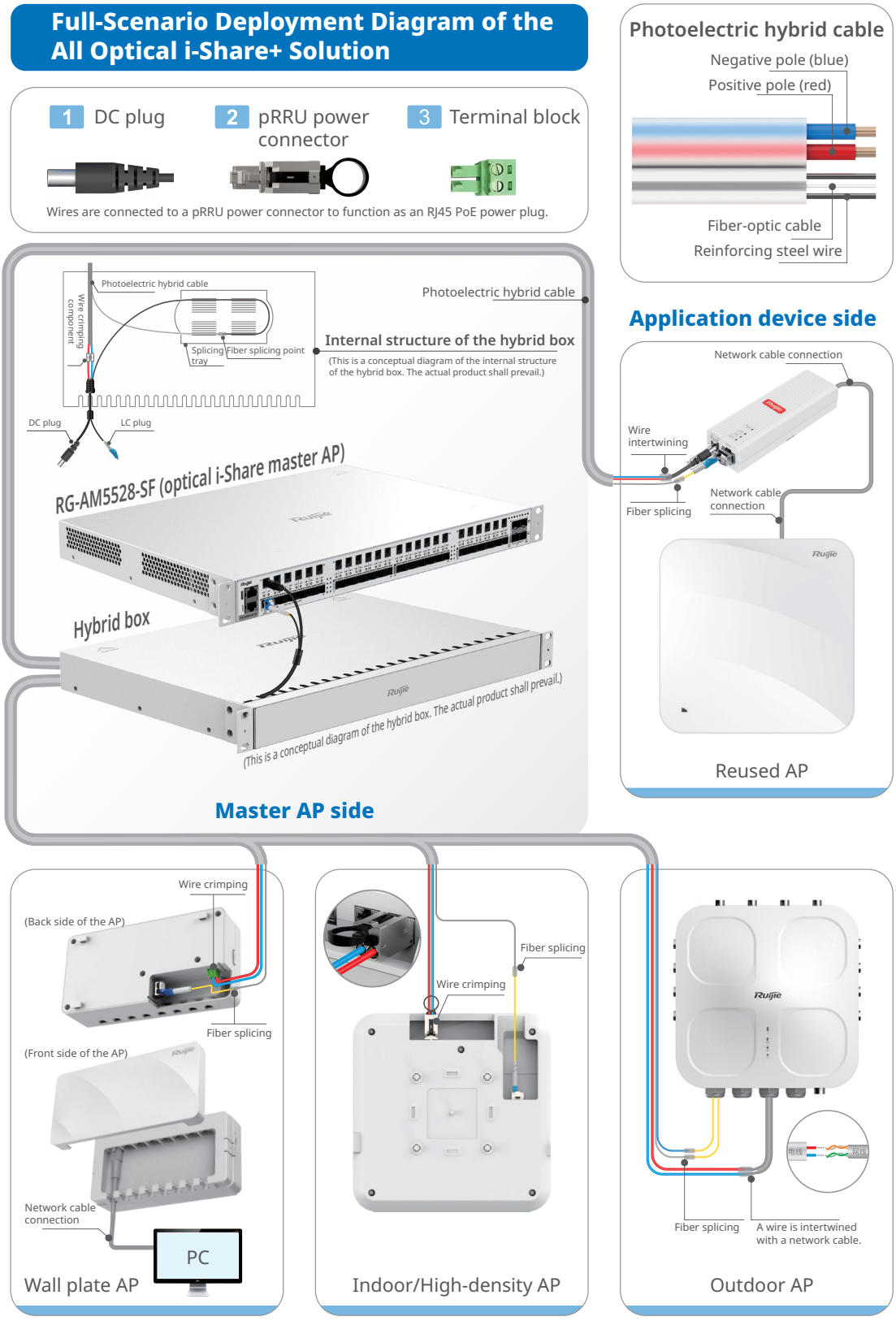
Typical Applications

General Scenarios



Full-Scenario Coverage | UItra high bandwidth | Long POE distance | Easy O&M

Full-Scenario Deployment Diagram of the All Optical i-Share+ Solution



Application features:

SOE Solution implements long-distance optical communication and high bandwidth deployment through hybrid cables. It also effectively solves the problem of AP power supply. It supports wireless coverage in all scenarios using the preceding three connection methods.

Ordering Information

Main Unit

Model	Description
RG-AM5528-SF	All-optical i-Share+ master AP for Ruijie SOE Solution 24 x downlink 1G/2.5G SFP ports and 24 x PoE/PoE+ power supply ports. Four power supply ports support PoE/PoE/PoE++ power supply. 4 x uplink 10G SFP+ ports, low noise, and power supply included In i-Share+ mode, each master AP occupies eight wireless controller licenses.
RG-MAP852-SF-S	Universal IEEE 802.11ax-compliant dual-radio wall plate micro AP for Ruijie SOE Solution 1 x SFP port 1 x 10/100/1000Base-T Ethernet port with auto-negotiation 2.4 GHz and 5 GHz frequency bands A wireless data rate of up to 1.775 Gbps per device BOB structure One 1G optical module of the master AP
RG-MAP852-SF-M	Universal IEEE 802.11ax-compliant dual-radio wall plate micro AP for Ruijie SOE Solution 1 x 2.5G SFP port 4 x10/100/1000Base-T Ethernet ports with auto-negotiation 2.4 GHz and 5 GHz frequency bands A wireless data rate of up to 2.976 Gbps per device Support for Bluetooth Wall-mounted, ceiling-mounted, and junction box-mounted One 2.5G optical module for the micro AP and one 2.5G optical module for the master AP are delivered with this AP.
GE-SFP-LX03-SM1550-BIDI	SFP BIDI Transceiver-TX1550/RX1310, 3km, LC
GE-SFP-LX03-SM1310-BIDI	SFP BIDI Transceiver-TX1310/RX1550, 3km, LC
2.5G-SFP-LX03-SM1550-BIDI-I	SFP 2.5G BIDI Transceiver-TX1550/RX1310, 3km, LC
2.5G-SFP-LX03-SM1310-BIDI-I	SFP 2.5G BIDI Transceiver-TX1310/RX1550, 3km, LC
XG-SFP-SR-MM850	10GBASE-SR, SFP+ Transceiver, MM (850nm, 300m, LC)
XG-SFP-LR-SM1310	10GBASE-SR, SFP+ Transceiver (1310nm, 10km, LC)
XG-SFP-ER-SM1550	10GBASE-SR, SFP+ Transceiver (1550nm, 40km, LC)
XG-SFP-ZR-SM1550	10GBASE-SR, SFP+ Transceiver (1550nm, 80km, LC)
RG-HybridBox	The hybrid box for Ruijie SOE Solution supports input of 24 hybrid pigtails and output of 24 hybrid cables, which is used to connect the hybrid pigtails to the hybrid cables.
RG-OEHC-SM-1B6A2-2x0.5-I-305	Indoor single-core 2 × 0.5 mm^2 hybrid cable, single roll, with a length of 305 m
RG-OEHC-SM-2B6A2-2x0.4-I-305	Indoor dual-core 2 x 0.4 mm^2 photoelectric hybrid cable, single roll, with a length of 305 m (1000.66 ft)

Model	Description
RG-OEHC-SM-2B6A2-2x1.0-I-305	Indoor dual-core 2 x 1.0 mm^2 photoelectric hybrid cable, single roll, with a length of 305 m (1000.66 ft)
RG-OEHC-SM-2B6A2-2x1.5-O-1000	Outdoor dual-core 2 x 1.5 mm^2 hybrid cable, single roll, with a length of 1000 m

Note: Currently, only some supported optical transceiver models are displayed. For more information about optical transceiver models, contact Ruijie pre-sales engineers.

Package Contents

Name	Quantity
RG-AM5528-SF master AP	1
Mounting bracket	2
Rubber pad	4
Warranty Card and Hazardous Substance Table	1
M4 x 8 mm Phillips countersunk screw	8
Grounding wire	1
Ruijie wireless product management software (pre-installed on the AP)	1
AC power cord	1
Power cord retention clip	1

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.

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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
- Email support: EBGITSC@ruijie.com.cn

Ruijie Networks Co., Ltd.

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