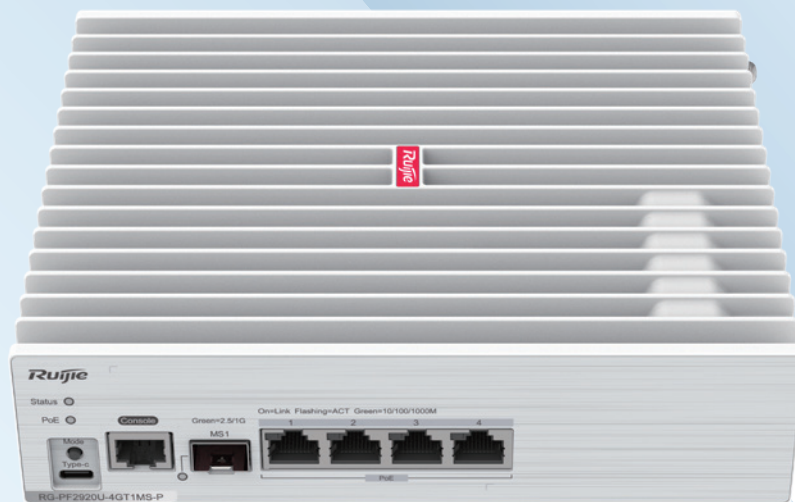




RG-PF2920 Series SOE Switch



Scan QR Code
For More Enquiry

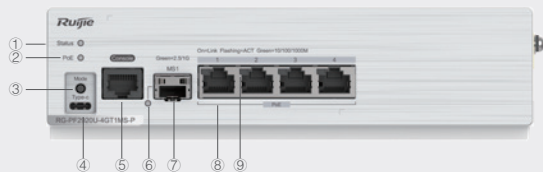
Ruijie

Product Pictures

RG-PF2920U-4GT1MS-P



Front View of RG-PF2920U-4GT1MS-P



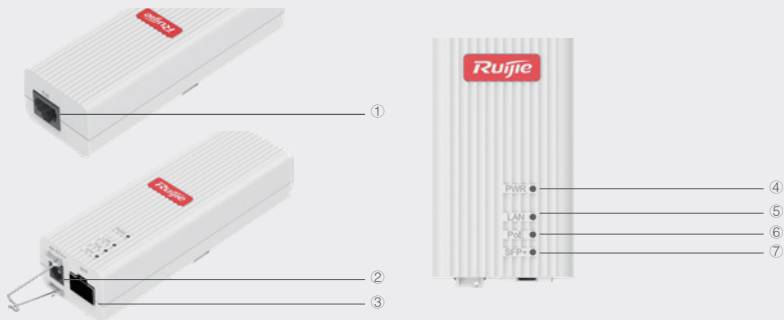
RG-PF2920U-4GT1MS-P Front Panel

Notes:	1. System status LED	2. PoE LED	3. Mode button
	4. Type-C port [powered by 5 V only]	5. Console port	6. Optical port LED
	7. 1G/2.5GBase-X optical port	8. 10/100/1000Base-T auto-negotiation Ethernet port	9. Ethernet port LED

RG-PF2920-DPBOX-P



Front View of the RG-PF2920-DPBOX-P



RG-PF2920-DPBOX-P Front Panel

Notes:	1. 10/100/1000Base-T auto-negotiation Ethernet port	2. DC power connector	3. SFP port
	4. Power LED	5. Ethernet electrical port LED	
	6. Ethernet electrical port PoE LED	7. SFP port LED	

Product Overview

The RG-PF2920 series switches, released by Ruijie Networks, can be used in Simplified Optical Ethernet Solution (SOE) for all-optical network scenarios in the trend of replacing copper cables with fiber optic cables. In the Ruijie Networks Power over Fiber (PoF) Solution, a PoF switch provides remote power supplies for an RG-PF2920 series switch, which implements integration of power supply and transmission over one hybrid cable. The switches adopt a new hardware architecture design to reduce noise, save energy, and implement flexible installation. They are equipped with built-in power supplies, metal housings, and network ports, ensuring reliability and stability. They are suitable for indoor scenarios. With Ruijie's modular OS, the PF2920 series switches support the PoF solution, and implement lifecycle management, security control, plug and play, and intelligent O&M through software-defined networking (SDN).

The RG-PF2920U-4GT1MS-P series switches provide 4 x 10/100/1000MBase-T Ethernet electrical ports, 1 x 1G/2.5GBase-X optical port, and 1 x console port on the front panel. The switches also provide standard PoE/PoE+ ports in the downlink to connect powered devices, such as cameras and wireless access points (APs). The RG-PF2920-DPBOX-P series switches provide 1 x 10/100/1000MBase-T Ethernet electrical port and 1 x GE SFP optical port on the front panel. RG-PF2920I-DPBOX-P does not provide network management features.

RG-PF2920 Series Port Specifications (PoE Models)

Model	10/100/1000Base-T Ethernet Electrical Port	GE SFP Port	2.5GE SFP Port	Console Port
RG-PF2920U-4GT1MS-P	4	N/A	1	1
RG-PF2920-DPBOX-P	1	1	N/A	N/A

RG-PF2920 Series PoE Specifications

Model	PoE Ports	Max. PoE/PoE+ Power per Port	Overall Max. PoE Power
RG-PF2920U-4GT1MS-P	Ports 1-4	30 W	60 W
RG-PF2920-DPBOX-P	Port 1	30 W	30 W

| Product Features

Ruijie Networks PoF Solution

Ruijie Networks PoF Solution is the next-generation network architecture released by Ruijie Networks for the office network, production network, device network, warehouse network, and other campus network application scenarios. With hybrid cables to the room, unchanged Ethernet architecture, simple networking, and software-defined networking (SDN) technology, Ruijie Networks PoF Solution provides high-bandwidth, low-latency, highly flexible, and simplified O&M network bearer for campus services in the era of Internet of Everything (IoE). This solution supports service evolution in the next decade and guarantees the application experience and investment value.

As an end device connected to a hybrid cable, the RG-PF2920 series switch provides nearby access, service expansion, direct power supply, and high-bandwidth services for terminals in an indoor environment. To better support the all-optical network and deep integration with the service environment, the RG-PF2920 series switch provides the following features:

- Integration of power supply and transmission over fiber optic cables: integrated deployment and O&M
- As silent as a falling leaf
- Energy saving and sustainable
- Compact size and multiple installation methods, enabling flexible and fast installation, as well as low requirements for the installation environment
- Enterprise-class high availability
- Advanced security features: sound security protection policies safeguarding device migration from ELV rooms to an indoor environment
- Intelligent O&M: zero-touch provisioning, zero-touch replacement, and optical fiber O&M mode similar to that of cables

Integrated Power Supply and Transmission over One Hybrid Cable

The RG-PF2920 series switches are used in the Ruijie Networks PoF Solution. On the basis of the traditional SOE solution, the PoF solution introduces hybrid cables to provide the following benefits: centralized power supply from the core equipment room to end devices, no need for high voltage deployment for indoor switches, remote

power supply for network devices, unified management of network and power supply systems, simplified installation of SOE switches, and lower construction costs. This significantly reduces the capital expenditures (CapEx) and operational expenditures (OpEx) of campus networking.

As Silent as a Falling Leaf

The RG-PF2920 series switches adopt a next-generation hardware architecture, which enables the devices to be as silent as a falling leaf (4-port devices use the fanless design). The generated noise is lower than 35 dB. In the perception of noise, 30 dB to 40 dB is an ideal sound level for a quiet environment. Ruijie products comply with the national standard GB/T 18313-2001 of China and the noise is lower than 20 dB, which meets the standard of sleeping in the living room at night.

Energy Saving and Sustainable

RG-PF2920 series switch caters to China's call for energy saving. Ruijie carries out an in-depth study on noise and energy consumption issues in traditional switches and integrates advanced energy saving design into the RG-PF2920 series switches. The switches fully get rid of loud noise produced when deployed in an indoor environment and excessive energy consumption arising from the mass deployment of indoor SOE switches. The RG-PF2920 series switches adopt advanced energy-saving circuit design, low power consumption design, and component selections to ensure deep energy saving. The Energy Efficient Ethernet (EEE) Low Power Idle (LPI) mode can be configured on ports and the power consumption of device components is reduced by 20%. In addition, the series switches comply with the Restriction of Hazardous Substances (RoHS) standard for materials and security.

Compact Size and Multiple Installation Methods, Enabling Flexible and Fast Installation as well as Low Requirements for Installation Environment

Traditional switches are rack-mounted and can be installed only in standard cabinets in ELV rooms. If they need to be

deployed indoors, there are strict installation requirements. The RG-PF2920 series switches are approximately four fifth the size of an A4 paper, featuring a compact and elegant design with a sleek white appearance, meeting the aesthetic expectations of various indoor environments. The unique design of the integrated pack and mounting bracket supports various installation methods, such as standard cabinet mounting, indoor wall mounting, rack mounting, and bridge mounting. The RG-PF2920 series switches support power supply over hybrid cables, which offers convenient and flexible installation options. The RG-PF2920 series switches can be installed anywhere as long as they can be connected to hybrid cables.

Enterprise-Class High Availability

All the SOE switches adopt the full metal housing and metal network port design. The metal housings can protect devices against external mechanical collisions and ensure normal operation of the devices. Industrial-grade materials enhance the temperature resistance by 10°C (50°C) compared to ordinary devices, resulting in a 50% increase in lifespan and Mean Time Between Failures (MTBF) compared to traditional devices. In addition, the innovative power grid fluctuation resisting design and electrical surge protection design defend the switches against radio wave interference and 8 kV surge on ports, thereby ensuring the device stability and reliability.

The RG-PF2920 series switches support the Rapid Spanning Tree Protocol (RSTP) protocol, which helps achieve fast convergence, improve the fault tolerance capability, and ensure stable network operation and link load balancing. This way, network channels can be used appropriately.

Advanced Security Features: Sound Security Protection Policies, Ensuring that Devices Can Be Moved from ELV Rooms to an Indoor Environment

The RG-PF2920 series switches provide a unique hardware CPU protection mechanism: CPU Protect Policy (CPP). It classifies data traffic sent to the CPU, processes the traffic by queue priority, and limits the bandwidth rate as required. This protection mechanism fully protects the CPU against illegitimate traffic occupancy, malicious attacks, and resource consumption, thereby ensuring the CPU security and protecting the switches.

When new terminals connect to the network, the SDN controller automatically matches their information with the user information database maintained by the controller. The controller checks the validity of the terminals by utilizing templates and thresholds configured by administrators in advance, and performs actions such as granting access, isolating, or pending approvals. While assessing terminal validity, the controller also tracks changes in terminal locations to ensure that policies migrate with users. Furthermore, terminals belonging to the same department or serving for services of the same type can be added to a policy group for centralized management, reducing inefficiencies caused by repetitive tasks for administrators. For dumb terminals such as printers and VoIP in the network, potential attacks initiated by unauthorized users who simulate MAC addresses of dumb terminals can be prevented through MAC address restrictions.

Intelligent O&M: Zero-Touch Provisioning, Zero-Touch Replacement, and Optical Fiber O&M Mode Similar to Cables

The RG-PF2920 series switches support plug and play of devices during network deployment and at the O&M stage, allowing users to conduct O&M independently without professional after-sale intervention. When connecting to a network, the switches obtain IP addresses through DHCP, and start self-test to automatically obtain predefined configurations for specific areas, services, and devices to configure ports, including VLANs, security, and manageability. This minimizes required work and professional knowledge. When a switch is faulty or needs to be replaced after its service life expires, the intelligent zero replacement technology automatically identifies and adapts to the model after replacement, and enables the new switch to synchronize with the port configuration and services of the old switch.

On a network built using all-optical links, the optical module quantity and O&M complexity are greater than those on a network built using Ethernet cables. The PoF solution provides the optical module/optical link alarm and O&M prompt functions. Alarm locations can be visualized in the topology to facilitate fault locating and optical link troubleshooting, greatly improving management and O&M efficiency.

Product Specifications

Hardware Specifications

Model (PoE)	RG-PF2920U-4GT1MS-P	RG-PF2920-DPBOX-P
Fixed ports	4 x 10M/100M/1000M auto-negotiation electrical ports 1 x 1000M/2.5G SFP port	1 x 10M/100M/1000M auto-negotiation electrical port 1 x GE SFP port
Switching capacity	13 Gbps	N/A
Packet forwarding rate	9.7 Mpps	N/A
SFP port	2500Base-X and 1000Base-X supported	1000Base-X supported
Power supply	Powered by a hybrid cable from the PoF switch Maximum voltage range: 42 V DC to 57 V DC Rated voltage range: 44 V DC to 56 V DC Rated current: 1.3 A	Powered by a hybrid cable from the PoF switch Rated voltage: 44 V DC to 57 V DC Rated current: 0.75 A
Leakage current to ground	≤ 3.5 mA	N/A
EEE	Supported	Not supported
PoE	Ethernet electrical ports 1–4 support PoE. Max. overall PoE output power: 60 W The maximum number of PoE devices supported by the switch is determined by the PoE output power of the switch and the actual power of the PoE devices.	1 x downlink POE/POE+ port
Overall power consumption	Without PoE load: ≤ 15 W With PoE full load: ≤ 75 W	Without PoE load: ≤ 3 W Overall power (PoE+) ≤ 33 W
Operating temperature	Installed in a rack or unconfined space: 0°C to 45°C (32°F to 113°F) at a height below 1,800 m (1.12 miles) above the sea level Installed on a workbench or in an ELV box: 0°C to 40°C (32°F to 104°F) at a height below 1,800 m (1.12 miles) above the sea level Note: At a height ranging from 1800 m (1.12 miles) to 5000 m (3.11 miles) above the sea level, the maximum operating temperature decreases by 1°C (1.8°F) for every increase in altitude of 220 m (721.78 ft.).	Installed in a rack or unconfined space: 0°C to 45°C (32°F to 113°F) at a height below 1,800 m (1.12 miles) above the sea level Installed on a workbench or in an ELV box: 0°C to 40°C (32°F to 104°F) at a height below 1,800 m (1.12 miles) above the sea level Note: At a height ranging from 1800 m (1.12 miles) to 5000 m (3.11 miles) above the sea level, the maximum operating temperature decreases by 1°C (1.8°F) for every increase in altitude of 220 m (721.78 ft.).
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	10% to 90% RH

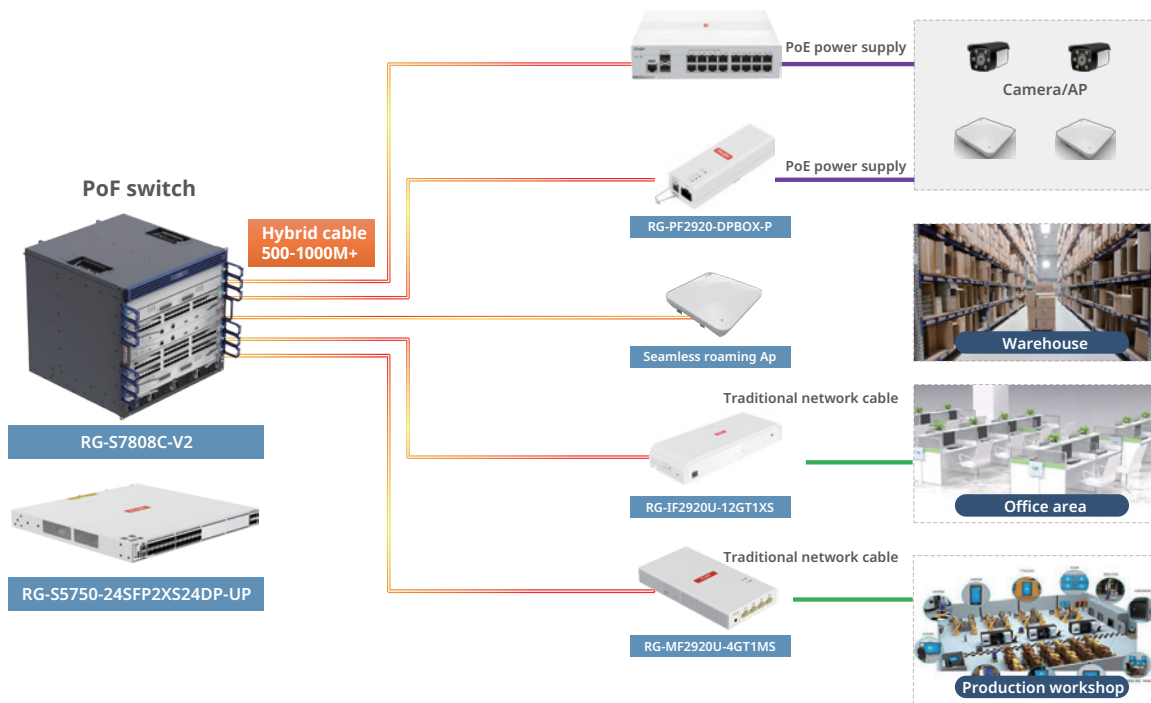
Model (PoE)	RG-PF2920U-4GT1MS-P	RG-PF2920-DPBOX-P
Storage humidity	5% to 90% RH	5% to 95% RH
Fan	Fanless design, natural cooling	Fanless design, natural cooling
Intelligent temperature control	The temperature alarm and overheat protection functions are supported.	Not supported
Electromagnetic compatibility (EMC)	GB/T9254.1	GB/T9254.1
Safety standard	GB 4943.1	GB 4943.1
Dimension (W x D x H)	200 mm x 170 mm x 55 mm (7.87 in. x 6.69 in. x 2.17 in.)	120 mm x 25 mm x 40 mm (4.72 in. x 0.98 in. x 1.57 in.)
Weight	1.5 kg (3.30 lbs, including the package)	0.2 kg (0.44 lbs, including the package)

Software Specifications

Model (PoE)	RG-PF2920U-4GT1MS-P	RG-PF2920-DPBOX-P
802.1Q VLAN	4K IEEE 802.1Q VLANs Port-based VLAN	Not supported
DHCP	DHCP client	Not supported
Security	Filtering of invalid MAC addresses Broadcast storm suppression Password protection CPP Port protection	Not supported
EEE	APD port sleeping	Not supported
Management	CLI-based configuration and management not required, visualized Web management IoT MQTT Syslog/Debug and SNMP	Not supported

Applications

Hybrid Cable Application Scenarios



Cable Specifications	PowerSupply Distance 15.4W 【802.3 af】	Power Supply Distance 30W 【802.3 at】	Power Supply Distance 60W 【802.3 bt】	Power Supply Distance 90W 【802.3 bt】
Hybrid cable, 0.5 mm ² 【OEHC-0.5-1000M】	502 m	154 m	-	-
Hybrid cable, 1.5 mm ² 【OEHC-1.5-1000M】	1474 m	453 m	226 m	146 m 【If using the RG-PF2920-4GT1MS-P. The distance can be more than 260m】

Ordering Guide

Perform the following steps to configure an RG-PF2920 series switch:

- Purchase the chassis.
- Select optical modules based on port requirements.

Models marked with asterisks (*) in the ordering information will be available in the future.

| Ordering Information

Model	Description
RG-PF2920U-4GT1MS-P	The 4-port PoE/PoE+ switch provides 1 x uplink GE optical port and 4 x downlink 10M/100M/1000M auto-negotiation electrical ports, and is connected to the hybrid cable (1 x GE/2.5GE SFP port and a round DC plug). The switch supports PoE/POE+ power supply of 4 x 15 W (or 2 x 30 W). A fanless design is adopted, and an optical link fault LED is provided.
RG-PF2920-DPBOX-P	The single-port media converter is connected to a hybrid cable in the uplink direction (GE SFP port + circular DC socket) and provides a PoE/PoE+ port in the downlink direction.



Ruijie Networks Co., Ltd.

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