

Product Specification

24-Port 10/100/1000T 802.3at PoE + 2-Port 100/1000X SFP Managed Switch

GS-4210-24P2S

Version 1.0

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Change History:

Revision:	Date:	Author:	Change List
Version 1.0	2014/7/28	Marc Liao	Initial Release

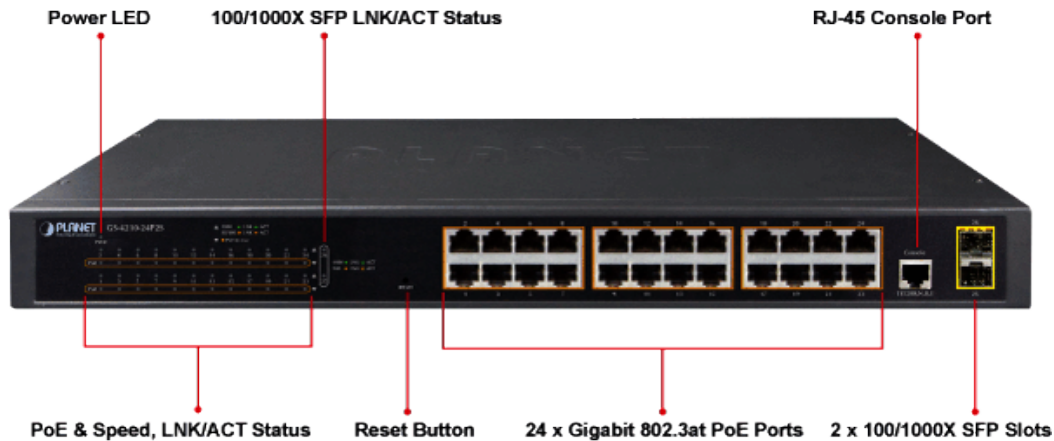
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1. PRODUCT DESCRIPTION



Cost-Optimized Managed PoE+ Switch for Small and Medium Businesses

PLANET GS-4210-24P2S is an ideal Gigabit PoE Switch which provides cost-effective advantage to local area network and is widely accepted in the SMB office network. It offers **intelligent Layer 2 data packet switching and management functions**, **friendly web user interface** and **stable operation**. The model complies with **IEEE 802.3at Power over Ethernet Plus (PoE+)** at an affordable price. The GS-4210-24P2S is equipped with **24 10/100/1000Base-T** Gigabit Ethernet ports and **2 100/1000Base-X** SFP interfaces with inner power system. Its **24** Gigabit Ethernet ports integrated with 802.3at PoE+ injector function on all ports. It offers a rack-mountable, affordable, safe and reliable power solution for SMBs deploying Power over Ethernet networks, or requiring enhanced data security and network traffic management.



IEEE 802.3at/af Compliant Power Source Switch

The PoE in-line power following the **IEEE 802.3at/af standard** makes the GS-4210-24P2S able to deliver Gigabit speed data and up to **30 watts** of power per port to 24 PoE compliant powered devices (PDs) with a combined power output budget of up to 300 watts. The GS-4210-24P2S provides more flexibility in power requirement for all kinds of PDs with affordable installation costs.

Robust Layer 2 Features

The GS-4210-24P2S can be programmed for advanced switch management functions such as dynamic port link aggregation, 802.1Q VLAN, Spanning Tree protocol (STP), Rapid Spanning Tree protocol (RSTP) and Multiple Spanning Tree protocol (MSTP), IGMP Querier and IGMP Snooping. Via aggregation of supporting ports, the GS-4210-24P2S allows the operation of a high-speed trunk to combine with multiple ports such as a 32Gbps fat pipe and supports fail-over as well. The Link Layer Discovery Protocol (LLDP) feature is also included and used to discover basic information about neighboring devices on the local broadcast domain.

Efficient Traffic Control

The GS-4210-24P2S is loaded with robust QoS features and powerful traffic management to enhance services to business-class data, voice, and video solutions. The functionality includes broadcast / multicast / unicast **storm control**, per port **bandwidth control**, 802.1p / CoS / IP DSCP QoS priority and remarking. It guarantees the best performance at VoIP and video stream transmission, and empowers the enterprises to take full advantages of the limited network resources.

Enhanced and Secure Management

For efficient management, the GS-4210-24P2S is equipped with **console**, **Web**, **Telnet** and **SNMP** management interfaces. With the built-in Web-based management interface, the GS-4210-24P2S offers an easy-to-use, platform-independent management and configuration facility. By supporting standard Simple Network Management Protocol (SNMP), the switch can be managed via any standard management software. For text-based management, the switch can be accessed via Telnet and the console port. Moreover, the GS-4210-24P2S offers secure remote management by supporting **HTTPS** and **SNMPv3** connections which encrypt the packet content at each session.

Powerful Security

The GS-4210-24P2S offers comprehensive Layer 2 to Layer 4 **Access Control List (ACL)** for enforcing security to the edge. It can be used to restrict network access by denying packets based on source and destination IP address, TCP/UDP ports or defined typical network applications. Its protection mechanism also comprises **802.1X port-based** authentication, which can be deployed with RADIUS to ensure the port level security and block illegal users. The **Port Security** allows limiting the number of users on a given port. The network administrators can now construct highly-secured corporate networks with considerably less time and effort than before.

Flexible Extension Solution

The two mini-GBIC slots built in the GS-4210-24P2S are compatible with the **100Base-FX / 1000Base-SX/LX** SFP (Small Form-factor Pluggable) fiber transceiver to uplink to backbone switch and monitor center in long distance. The distance can be extended from 550 meters to 2km (multi-mode fiber) up to above 10/20/30/40/50/60/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

2. PRODUCT FEATURES

▶ **Physical Port**

- **24-port 10/100/1000Base-T** Gigabit RJ-45 copper
- **2 100/1000Base-X** mini-GBIC/SFP slots
- RJ-45 console interface for switch basic management and setup
- Reset button for system factory default and reboot

▶ **Power over Ethernet**

- Complies with IEEE 802.3at High Power over Ethernet
- Complies with IEEE 802.3af Power over Ethernet
- Up to 24 ports of IEEE 802.3af / 802.3at devices powered
- Supports PoE Power up to 30.8 watts for each PoE port
- 300-watt PoE budget
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m
- PoE Management
 - Total PoE power budget control
 - Per port PoE function enable/disable
 - PoE Port Power feeding priority
 - Per PoE port power limitation
 - PoE delay
 - PD classification detection

▶ **Layer 2 Features**

- Prevents packet loss with back pressure (half-duplex) and IEEE 802.3x pause frame flow control (full-duplex)
- High performance Store and Forward architecture, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Supports **VLAN**
 - IEEE 802.1Q tagged VLAN, up to 256 VLAN groups, out of 4094 VLAN IDs
 - Protocol VLAN
- Supports **Spanning Tree Protocol**
 - STP (Spanning Tree Protocol)
 - RSTP (Rapid Spanning Tree Protocol)
 - MSTP (Multiple Spanning Tree Protocol)
 - STP BPDU Guard, BPDU Filtering and BPDU Forwarding
- Supports **Link Aggregation**
 - IEEE 802.3ad Link Aggregation Control Protocol (LACP)
 - Maximum 8 LACP groups, up to 16 ports per LACP group
 - Cisco ether-channel (Static Trunk)
 - Maximum 8 trunk groups, up to 8 ports per trunk group

- Provides port mirror (many-to-1)

▶ **Quality of Service**

- Ingress / Egress Rate Limit per port bandwidth control
- Storm Control support
 - Broadcast / Unknown-Unicast / Unknown-Multicast
- Traffic classification
 - IEEE 802.1p CoS
 - DSCP / IP Precedence of IP packets
- Strict priority and Weighted Round Robin (WRR) CoS policies

▶ **Multicast**

- Supports IGMP Snooping v2 and v3
- IGMP Querier mode support
- IGMP Snooping port filtering
- Up to 256 multicast groups

▶ **Security**

- Authentication
 - IEEE 802.1X port-based network access authentication
 - Built-in RADIUS client to co-operate with the RADIUS servers
 - DHCP Option 82
 - RADIUS / TACACS+ login user access authentication
- Access Control List
 - IPv4 IP-based ACL
 - IPv4 IP-based ACE
 - MAC-based ACL
 - MAC-based ACE
- MAC Security
 - Static MAC
 - MAC Filtering
- Port Security for Source MAC address entries filtering
- DHCP Snooping to filter distrusted DHCP messages

▶ **Management**

- Switch Management Interface
 - Local Command Line Interface
 - Web switch management
 - Telnet Command Line Interface
 - SNMP v1, v2c and v3
 - HTTPs secure access
- Built-in Trivial File Transfer Protocol (TFTP) client
- Static and DHCP for IP address assignment
- System Maintenance
 - Firmware upload / download via HTTP / TFTP
 - Configuration upload / download through HTTP / TFTP

- Hardware reset button for system reboot or reset to factory default
- SNTP Network Time Protocol
- Link Layer Discovery Protocol (LLDP) Protocol and LLDP-MED
- SNMP trap for interface Link Up and Link Down notification
- Event message logging to remote Syslog server
- Four RMON groups (history, statistics, alarms and events)
- PLANET Smart Discovery Utility

3. PRODUCT SPECIFICATION

3.1 MAIN COMPONENT

Switch ASIC:	Realtek RTL8382M x1
Gigabit Ethernet PHY:	Realtek RTL8218B x2
POE Control	Microsemi PD69100 x1 Microsemi PD69108 x3
CPU:	MIPS-4KEc 500MHz (integrated with RTL8382M)
Flash:	16Mbytes
DDR RAM:	128Mbytes
Power Supply:	Gospell G0591-33012520A x 1, 51V/6A+5V/5A (330 watts)

3.2 FUNCTION SPECIFICATION

Product	GS-4210-24P2S
Hardware Specifications	
Copper Ports	24 x 10/100/1000Base-T RJ45 Auto-MDI/MDI-X Ports
PoE Injector Port	24 802.3af / 802.3at PoE Injector Ports
SFP/mini-GBIC Slots	2 100/1000Base-X SFP interfaces, supporting 100/1000Mbps dual mode
Console	1 x RS-232-to-RJ45 serial port (115200, 8, N, 1)
Switch Architecture	Store-and-Forward
Switch Fabric	52Gbps / non-blocking
Switch Throughput@64 bytes	38.6Mpps @64 bytes
MAC Address Table	8K entries
Shared Data Buffer	4.1 megabits
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Jumbo Frame	9216 bytes
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
LED	System: Power (Green) 10/100/1000T RJ45 Interfaces (Port 1 to Port 24): 1000 LNK / ACT (Green), 10/100 LNK/ACT (Orange), PoE (Orange) 100/1000Mbps SFP Interfaces (Port 25 to Port 26): 1000 LNK / ACT (Green), 100 LNK/ACT (Orange)
Thermal Fan	2
Power Consumption / Dissipation	Max. 330 watts / 1122 BTU
Enclosure	Metal
Power over Ethernet	
PoE Standard	IEEE 802.3af Power over Ethernet / PSE IEEE 802.3at Power over Ethernet Plus / PSE
PoE Power Output	Per Port 52V DC, 300mA. Max. 15.4 watts (IEEE 802.3af) Per Port 52V DC, 600mA. Max. 30 watts (IEEE 802.3at)
PoE Power Budget	300 watts
Number of PDs, 7 watts	24
Number of PDs, 15.4 watts	19
Number of PDs, 30 watts	9
Layer 2 Functions	
Port Mirroring	TX / RX / Both Many-to-1 monitor
VLAN	802.1Q tagged-based VLAN Up to 256 VLAN groups, out of 4094 VLAN IDs Protocol VLAN

Link Aggregation	IEEE 802.3ad LACP supports 8 groups of 16-port trunk and static trunk supports 8 groups of 8-port trunk
Spanning Tree Protocol	STP / RSTP / MSTP
Multicast	IGMP (v2/v3) Snooping IGMP Querier Up to 256 multicast groups
Access Control List	IPv4 IP-based ACL / MAC-based ACL / IPv4 IP-based ACE / MAC-based ACE
QoS	8 mapping ID to 8 level priority queues - Port Number - 802.1p priority - DSCP field in IP Packet Traffic classification based, Strict priority and WRR
Security	IEEE 802.1X – port-based authentication Built-in RADIUS client to co-operate with RADIUS server RADIUS / TACACS+ user access authentication MAC filter Static MAC address DHCP Snooping and DHCP Option82 STP BPDU Guard, BPDU Filtering and BPDU Forwarding
Management Functions	
Basic Management Interfaces	RJ45 Console / Web browser / Telnet / SNMP v1, v2c, v3 Firmware upgrade by HTTP / TFTP protocol through Ethernet network Remote / Local Syslog System log LLDP protocol SNTP
Secure Management Interfaces	HTTPs, SNMP v3
SNMP MIBs	RFC 3635 Ethernet-like MIB RFC 2863 Interface Group MIB RFC 2819 RMON (1, 2, 3, 9) RFC 1493 Bridge MIB
Standards Conformance	
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX/100Base-FX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000Base-T IEEE 802.3x Flow Control and Back pressure IEEE 802.3ad Port Trunk with LACP IEEE 802.1D Spanning Tree protocol IEEE 802.1w Rapid Spanning Tree protocol IEEE 802.1s Multiple Spanning Tree protocol IEEE 802.1p Class of Service IEEE 802.1Q VLAN Tagging IEEE 802.1x Port Authentication Network Control IEEE 802.1ab LLDP IEEE 802.3af Power over Ethernet

	<p>IEEE 802.3at High Power over Ethernet RFC 768 UDP RFC 793 TFTP RFC 791 IP RFC 792 ICMP RFC 2068 HTTP RFC 1112 IGMP version 1 RFC 2236 IGMP version 2 RFC 3376 IGMP version 3</p>
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3.3 PHYSICAL SPECIFICATIONS:

■ **Dimensions:**

445 x 207 x 45 mm (W x D x H, 1U height)

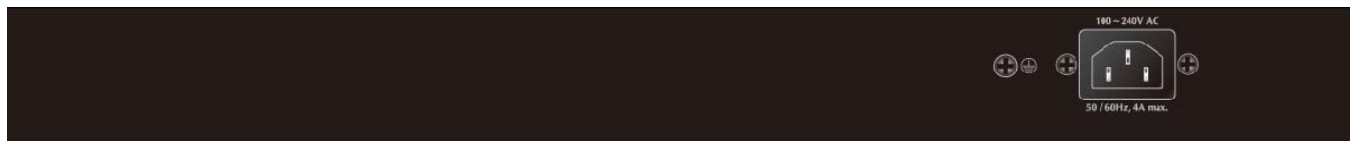
■ **Weight:**

2.8Kg

■ **Front Panel:**



■ **Rear Panel:**



■ **LED Definition**

➤ **System**

LED	Color	Function
PWR	Green	Lights to indicate that the Switch has power.

➤ **10/100/1000Base-T Interfaces**

LED	Color	Function
1000 LNK/ACT	Green	Lights: To indicate the link through that port is successfully established at 1000Mbps. Blink: To indicate that the switch is actively sending or receiving data over that port.
10/ 100 LNK/ACT	Orange	Lights: To indicate the link through that port is successfully established at 10Mbps or 100Mbps. Blink: To indicate that the switch is actively sending or receiving data over that port.
PoE In-Use	Orange	Lights: To indicate the port is providing 52V DC in-line power. Off: To indicate the connected device is not a PoE Powered Device (PD)

■ 100 / 1000Base-X SFP Interfaces

LED	Color	Function
1000 LNK/ACT	Green	Lights: To indicate the link through that port is successfully established at 1000Mbps. Blink: To indicate that the switch is actively sending or receiving data over that port.
100 LNK/ACT	Orange	Lights: To indicate the link through that port is successfully established at 100Mbps. Blink: To indicate that the switch is actively sending or receiving data over that port.

3.4 ENVIRONMENTAL SPECIFICATION

Operating:

- Temperature: 0°C ~ 50 degrees C
- Relative Humidity: 5% ~ 95% (non-condensing)

Storage:

- Temperature: -10°C ~ 70 degrees C
- Relative Humidity: 5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

Input Voltage:	100~240V AC, 50/60Hz, 4A (max.)	
Power Consumption (System on):	110V: 12watts	40BTU
	220V: 10 watts	34BTU
Power Consumption (Ethernet Full Load):	110V: 23watts	78BTU
	220V: 21 watts	71BTU
Power Consumption (PoE Full Load):	110V:300watts *	1023BTU
	220V:300watts *	1023BTU

* With total PoE power output be limited at 300 watts

3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

3.7 REALIABILITY

MTBF > 50,000 hrs @ 25 degrees C

3.8 BASIC PACKAGING

- The GS-4210-24P2S x 1
- Quick Installation Guide x 1
- Rubber Feet x 4
- Power Cord x 1
- RS-232 to RJ-45 Console Cable x 1
- SFP Dust Cap x 2
- Rack-mount Accessory Kit x 1

3.9 PACKING DIMENSION

Dimension: Box	555 mm (W) × 295 mm (D) × 88 mm (H)
Dimension: Carton	580 mm (W) × 395 mm (D) × 325 mm (H)
Weight(Total):	4.1kg (Gross Weight)
	4pcs in one carton (16.3kg)