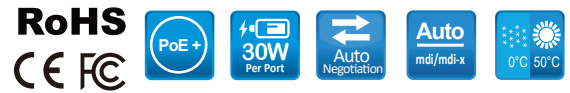


PSG-5116

16-Port L2 Managed Gigabit PoE Switch (223W)



Description



The PSG-5116 Gigabit managed switches are the latest generation of switches to provide increased Power Over Ethernet (PoE) output. Provide a range of physical interface types, multiple easy-to-deploy management interfaces, and advanced Layer 2 features (which is working on Layer 2 of OSI model). PSG-5116 helps provide a cost-efficient and flexible solution for building and expanding business networks. These switches can be deployed at the Enterprise's access level and in converged networks.

The PSG-5116 support 16 10/100/1000BASE-T ports. In addition, PSG-5116 support two gigabit SFP ports for optical connections using multimode or single mode SFP transceivers.

The PSG-5116 provide high performance, powerful L2 and L2+ features like enterprise-level QoS, advanced security protection and IP-MAC Access Control List (ACL) functions protect against broadcast storm, ARP and Denial-of-service (DoS) attacks, etc. An enterprise-level Quality of Services provides enhanced traffic management capabilities to move your data smoother and faster. Moreover, the easy to use web GUI interfaces and CLI, SNMP, SSH provide faster and easy setup and configuration with less downtime. PSG-5116 provide a reliable, scalable, secure solution for small medium and campus, ISP networks.

The PSG-5116's important management commands, such as downloading firmware or a configuration file, offer a sophisticated method of batch operations for multiple switches.

Features Highlight

Advanced Features

The PSG-5116 comes equipped with a complete L2 features, including MAC Address administration, Loop Detection, Spanning Tree Protocol (STP) IGMP snooping (IGMP v1/v2/v3 Snooping support up to 256 groups), port mirroring with one-to-one and Many-to-one capabilities, IEEE 802.3ad Link Aggregation Control Protocol (LACP) support up to 16 groups with maximum 8 ports per group. The IEEE 802.3x Flow Control function allows servers to directly connect to the switch for fast, reliable data transfers.

Network maintenance and Troubleshooting features include loopback detection and cable diagnostics tools used to remotely detect cable issues with cables attached to the switch. Loopback detection significantly speeds up troubleshooting by automatically detecting and shutting down switching loops. The fiber port transceiver information feature, designed primarily for administrators, determines the fiber transceiver connection status, quality and quickly discovers errors.

The PSG-5116 supports Auto Voice VLAN and Surveillance Mode, which allow voice and video traffic to be automatically or manually identified and handled differently to regular network traffic.

Surveillance Mode detects cameras and places them in a surveillance VLAN, Surveillance Mode also includes its own Web UI, making surveillance features easily accessible and simplifying management of your surveillance network.

Connectivity

- Support Auto-MDI/MDIX**
 Adjusts automatically to straight-through or crossover on all 10/100/1000 ports.
- Packet storm protection**
 Protects against broadcast, multicast, or unicast storms with user-defined thresholds.
- IEEE 802.3x flow control**
 Provides a mechanics allowing the receiving party of a connection to control the rate of the sending party. As a result of this, the throughput of data streams destined to slow clients increases because packets are no longer discarded but the throughput of streams destined to fast clients is reduced considerably.
- Port Mirroring**
 Port Mirroring, is a method of monitoring network traffic. With port mirroring enabled, the switch sends a copy of all network packets seen on one port (or an entire VLAN) to another port, where the packet can be analyzed.
- Jumbo frame supports up to 10 kilobytes frames**
 Enabling jumbo frames can improve network performance by making data transmissions more efficient. The CPUs on switches and routers can only process one frame at a time. By putting a larger payload into each frame, the CPUs have fewer frames to process. In return, this can reduce the amount of heat the network devices generate.
- Fully IPv6 capable**
 MLD snooping: Forwards IPv6 multicast traffic to the appropriate interface, preventing traffic flooding.

 IPv6 client : Enables switches to be managed and deployed in the IPv6 network.
- Link Layer Discovery Protocol (LLDP)**
 It's a layer 2 neighbor discovery protocol that allows devices to advertise device information to their directly connected peers/neighbors.

Features Highlight
Network Security Features

- **Access Control Lists**
 A permission-based systems that assign people in an organization different levels of access to files and information. Allows for traffic filtering. ACLs rules can be based on MAC-address or IP-address. Support IPv4 and IPv6 based network.
- **IEEE 802.1X and RADIUS network authentication**
 Protects against broadcast, multicast, or unicast storms with user-defined thresholds.
- **Port Isolation**
 Port isolation allows a network administrator to prevent traffic from being sent between specific ports. This can be configured in addition to an existing VLAN configuration, so even client traffic within the same VLAN will be restricted.
- **Port Security**
 Port Security helps secure the network by preventing unknown devices from forwarding packets. When a link goes down, all dynamically locked addresses are freed. You can limit the number of MAC addresses on a given port. Packets that have a matching MAC address (secure packets) are forwarded; all other packets (unsecure packets) are restricted.
- **ARP attack protection**
 ARP inspection is a security feature that rejects invalid and malicious ARP packets. The feature prevents a class of man-in-the-middle attacks, where an unfriendly station intercepts traffic for other stations by poisoning the ARP caches of its unsuspecting neighbors. The miscreant sends ARP requests or responses mapping another station's IP address to its own MAC address. PSG-5116 also support ARP inspection rate-limit and ARP inspection validate.
- **STP BPDU port protection**
 Blocks Bridge Protocol Data Unit (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks.
- **STP Root guard**
 Root Guard protects the Spanning Tree Protocol (STP) topology attack of replacing the original Root Bridge with a rogue Root Bridge. Protects the network by blocking malicious attacks or misconfiguration.
- **Denial of Services (DoS) Attack protection**
 Protects your network by blocking malicious DDoS attacks targeted at the switch itself. Support various kind of DDoS and DoS protection.
- **DHCP Snooping**
 DHCP Snooping is a layer 2 security technology incorporated into the operating system of a capable network switch that drops DHCP traffic determined to be unacceptable. DHCP Snooping prevents unauthorized (rogue) DHCP servers offering IP addresses to DHCP clients.
- **CPU Guard**
 Protect switch's CPU from high-speed attack packets in the network.
- **Port speed limit**
 Rate-limiting for all traffic operates on a per-port basis to allow only the specified bandwidth to be used for inbound or outbound traffic. When traffic exceeds the configured limit, it is dropped. This effectively sets a usage level on a given port and is a tool for enforcing maximum service level commitments granted to network users.
- **Management password**
 Provides security so that only authorized access to the web browser interface is allowed.

Performance

- **Speed duplex**
 Half/full-duplex with auto-negotiating capability on every port can doubles the throughput.
- **IGMP/MLD Snooping**
 Internet Group Management Protocol (IGMP) snooping constrains the flooding of IPv4 multicast traffic on VLANs on a device. It reduce flooding of packets and prevents denial of service attacks from unknown sources. The IPv6 equivalent – MLD Snooping is also supported.
- **Gigabit SFP Fiber ports**
 SFP ports enable Gigabit switches to connect to a wide variety of fiber and Ethernet cables in order to extend switching functionality throughout the network. Fiber is particularly suited for connecting at distance beyond 100 meter limitation of UTP cabling.

Layer 2 switching

- **VLAN support**
 Supports IEEE 802.1Q with 4094 VLAN ID.
- **VLAN Type**
 Port based VLAN, Access VLAN, Trunk VLAN, Hybrid VLAN, Voice VLAN, Surveillance VLAN and Management VLAN.
- **Spanning Tree**
 Supports standard IEEE 802.1D Spanning Tree Protocol (STP), IEEE 802.1w Rapid Spanning-Tree Protocol (RSTP) for rapid convergence, and IEEE802.1s Multiple Spanning Tree Protocol (MSTP).
- **BPDU filtering**
 BPDU filter is a feature used to filter sending or receiving BPDUs on a switchport. It is extremely useful on those ports which are configured as portfast ports as there is no need to send or receive any BPDU messages on of these ports.

Features Highlight

Layer 3 services

- **IPv4 and Ipv6 Client**
 Simplifies management of DHCP addresses in IPv4 and Ipv6 networks with multiple subnets.
- **IPv4 DHCP Server**
 Automatically provides and assigns IP addresses, default gateways and other network parameters to client devices. It relies on the standard protocol known as Dynamic Host Configuration Protocol or DHCP to respond to broadcast queries by clients.
- **Static IPv4 routing**
 It allows you to segment your network into separate workgroups and communicate across network segment without degrading application performance.
- **Address Resolution Protocol (ARP)**
 The job of the ARP is essentially to translate 32-bit addresses to 48-bit addresses and vice-versa. This is necessary because in IP Version 4 (IPv4), the most common level of Internet Protocol (IP) in use today, an IP address is 32-bits long, but MAC addresses are 48-bits long.

Resiliency and high availability

- **IEEE 802.3ad Link aggregation**
 Enables you to group Ethernet interfaces at the physical layer to form a single link layer interface, also known as a link aggregation group (LAG) or bundle in order to increase the bandwidth capability and to create resilient and redundant links. Link Aggregation also provides load balancing where the processing and communications activity is distributed across several links in a trunk so that no single link is overwhelmed. The PSG-5116 support maximum 8 port per LACP dynamic or static group, up to 16 group.

Energy Saving

- **IEEE 802.3az Energy-Efficient Ethernet (EEE)**
 EEE is very effective in reducing the total power consumed per port and it saves a lot of energy on the long run for organizations having a large number of network devices. EEE is very effective with edge devices (like computers, edge switches, etc.) and can save a lot of power when these devices are EEE compliant as their utilization pattern generally consists of long periods of silence and a few traffic bursts at (almost) full capacity.

PoE Support

- **IEEE 802.3af/at**
 PSG-5116 support 16 gigabit ports with Power-over-Ethernet capabilities, simplifying deployments with wireless access points, IP cameras, VOIP phones, and other powered devices. With switch's management interface, an administrator can control various PoE functions, such as manually control power distribution for each port, and PSE Timer configuration for powered devices. PSG-5116 support the IEEE 802.3af and 802.3at standards.

Network Management

- Simplified WEB management interface allows for easy configuration and "user-friendly" management
- Secure Web-management sessions with HTTPS
- SNMPv1, v2c: Conform to RFC1902, RFC1903, RFC1904, RFC1905, RFC1906, RFC1907
- The MIB II: Conform to RFC1213
- Ethernet MIB: Conform to RFC1643
- The Bridge MIB: Conform to RFC1493
- RMON : Support group 1, 2, 3, 9

Equipment Management

- Console port
- Telnet
- SSH
- CLI Interface
- Web GUI
- System CPU and memory utilization display
- System Log
- System Firmware Upgrade
- TFTP
- SNTP
- HTTP/HTTPS

Specifications

Standards	
IEEE 802.3	10Base-T (Ethernet)
IEEE 802.3u	100Base-TX (Fast Ethernet)
IEEE 802.3ab	1000Base-T (Gigabit Ethernet)
IEEE 802.3z	1000Base-X (SX/LX)
IEEE 802.3x	Flow Control
IEEE 802.3af/at	PoE/PoE+
IEEE 802.3ad	Link Aggregation (LACP)
IEEE 802.3az	Energy-Efficient Ethernet
IEEE 802.1Q	VLAN tagging
IEEE 802.1d	Spanning Tree Protocol (STP)
IEEE 802.1w	Rapid Spanning Tree Protocol (RSTP)
IEEE 802.1s	Multiple Spanning Tree Protocol (MSTP)
IEEE 802.1p	QoS
IEEE 802.1x	Port-based authentication
IEEE 802.1ab	LLDP
Interface	
Ports	16 x 10/100/1000BASE-T, RJ45 2 x Gigabit SFP port 1 x Console Port
Features	
Performance	Switch Capacity: 36Gbps Forwarding Rate: 26.78Mpps Flash Memory: 16MB SDRAM: 128MB Packet Buffer Memory: 4.1Mbits Jumbo Frame: 10KBytes Mac Address Table: 8K
Connectivity	Auto-negotiation, Auto MDI/MDI-X, Storm Control, Flow Control, Port Speed Limit
VLAN	4094 VLAN IDs available Port base VLAN, ACCESS VLAN, TRUNK VLAN, HYBRID VLAN, 802.1Q tagged VLAN, Voice VLAN, Surveillance VLAN
Internet Protocol	IPv4, IPv6
IGMP Snooping	IGMP v1/v2/v3 Snooping Support 256 Groups
MAC Address Administration	MAC address display/inquire, Static MAC settings, Dynamic MAC address administration, MAC address filtering
Loopback Detection	Provides support to enable loop detection
Spanning Tree Protocol	STP, RSTP, MSTP
Storm Control	Broadcast/Unknown-unicast/Unknown-multicast
Link Aggregation	Maximum 8 port per group and provides up to 16 group LACP with dynamic or static
Access Control List	Source MAC Address, Destination MAC Address, specify MAC Address, IP, TCP, UDP, IGMP, Source IP, Destination IP, specify IP
PoE/PoE+	PoE Scheduling, PoE Power on/off, Power budget information, Power budget control per port
Features	
Port Mirroring	One-to-one Many-to-one Mirroring port transmission, receiving and sending
Port Speed Limit	Egress and ingress speed limit
DHCP Snooping	Prevent illegal DHCP server
ARP Spoofing	Prevent the ARP request deception Prevent the ARP reply to cheat
L3 Support	IPv4 DHCP Server IPv4 Static Route (Up to 32 static routes)
RMON	Support group 1, 2, 3, 9
Network Management	SNMP v1/v2c, IPv4 Client, IPv6 Client, LLDP
Device Management	WEB management interface (GUI), System Information, System Log, System Upgrade, Configuration Management, TFTP, SNMP, HTTP, HTTPS
Power	
Available PoE Power	223 Watts
Power Supply	Internal Power Supply 100-240VAC, 50-60Hz
Mechanical and Environment	
LED Panel	Power, SYS, PoE, Link/Act, 10/100M, 1000M
Operating Temperature	0°C~50°C
Storage Temperature	-40°C~70°C
Operating Humidity	10 to 95% RH (non-condensing)
Storage Humidity	5 to 95% RH (non-condensing)
Dimension (WxHxD)	440 x 44 x 315mm
Mounting	19" Rack Mount with steel holder
Certifications	
Standard Compliance	FCC CE EN/IEC 60950-1 (UL 60950-1) RoHS
Ordering Information	
PSG-5116	16-Port L2 Managed Gigabit PoE Switch
Optional Accessories	
UT-9125D-00	SFP 1.25G, Multi-mode 850nm, 550m
UT-9125D-10	SFP 1.25G, Single-mode 1310nm, 10km
UT-9125D-20	SFP 1.25G, Single-mode 1310nm, 20km
UT-9113WD-20	SFP 1.25G Bi-Di, TX1310/RX1550, 20km
UT-9114WD-20	SFP 1.25G Bi-Di, TX1550/RX1310, 20km
UT-9125TSD	SFP 1.25G, 1000Base-T
UT-9125T	SFP 1.25G, 10/100/1000Base-T
Note :	
* The SFP communication distance upon the request (support 550m to 120km).	
* Specifications subject to change without notice.	