PS1042GqX

L2+ Managed 2.5GbE PoE Switch

Overview

PS1042GqX L2+ Managed Switch is next-generation 4 ports 10M/100M/1G RJ45 + 4 ports 100M/1G/2.5G RJ45 + 2 ports 10G SFP+ Ethernet Switch offering powerful L2 and basic L3 features with better functionality and usability that delivers the best cost performance and lower total cost of ownership in enterprise networks via fiber or copper connections.

The PS1042GqX supports 8 PoE+(PoE output max. 30W per port). This switch provides high HW performance and environment flexibility for SMBs and Enterprises.

They are ideal to deliver management simplicity, optimum user experience, and lower cost. The embedded Device Managed System is designed to be extremely easy-to-use/manage/install IP Phone, IP Cam, or Wifi-AP for 802.11ac Wireless Enterprise Applications.

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Key Features

- L2+ Managed features provide easier manageability, robust security and QoS.
- ITU-T G.8031 Ethernet Linear Protection Switching (EPS)
- ITU-T G.8032 Ethernet Ring Protection Switching (ERPS)
- IEEE 1588v2 PTP
- PoE Port configuration and scheduling
- 802.3at high power PoE plus standard
- IEEE 802.3az EEE Energy Efficient Ethernet standard for green Ethernet

Benefits

- Feature-rich Ethernet Switch for Enterprise-class

  The switch delivers advanced functionality in L2+ managed switch including Layer 3 static route, DHCP server, IPv6 support, LLDP, etc. It also has comprehensive security features such as IP source guard and ACL to guard your network from unauthorized access.

  It helps users to build on the market-leading price/performance with L2+ Managed GbE PoE switch, and provide secure, reliable and ease of use for enterprise/SMB deployments.

- Lowing Total Cost of Ownership (TCO) with Energy-efficient Design

  It is designed to help customers to reduce power consumption and lower the TCO by Energy Efficient Ethernet (IEEE 802.3az) features. It can be used for customers to build a green Ethernet networking environment.

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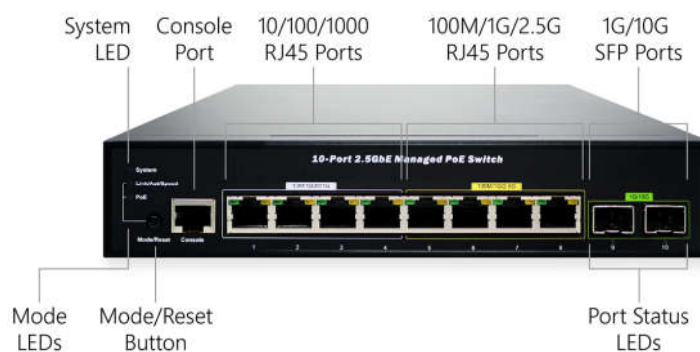
Specifications

Port Configuration

Total Ports	RJ45 (100M/1G/2.5G)	RJ45 (10M/100M/1G)	Uplinks (1G/10G)	Console
10	4	4	2	RJ45

Hardware Performance

Forwarding Capacity (Mpps)	Switching Capacity (Gbps)	Mac Table (K)	Jumbo Frames (K)
101.19	68	16	14000

Environmental Range

Operating Temperature		Storage Temperature		Altitude	
Fahrenheit	Centigrade	Fahrenheit	Centigrade	Feet	Meters
32 to 104	0 to 40	-4 to 158	-20 to 70	< 10000	<3000

Dimension, Weights, Humidity

Dimension (WxHxD)		Weight		Operating Humidity
Millimeter	Inches	Kilograms	Pounds	
220x 44x 242.4	8.66x 1.73x 9.54	1.9	4.2	10% to 90% non-condensing

Voltage and Frequency

AC Input Voltage and Frequency	
Voltage	100-240 VAC
Frequency	50~60 Hz
PSU Output Power	
● 54VDC/150W	

PoE Power Capacity

Available PoE Power	Number of Ports That Support PoE(15.4W), PoE+(30.0W)
130W	Each of port 1 - 8 support PoE/ PoE+ within available PoE Power

Compliance Information

Certification
CE, FCC Class A Others by Request

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Software Features

Ring Management	
ITU-T G.8031	Supports ITU-T G.8031 Ethernet Linear Protection Switching
ITU-T G.8032	Supports ITU-T G.8032 Ethernet Ring Protection Switching

Layer 2 Switching	
Spanning Tree Protocol (STP)	• Standard Spanning Tree 802.1d: Spanning Tree Protocol is an OSI layer-2 protocol which ensures a loop free topology for any bridged LAN • Rapid Spanning Tree (RSTP) 802.1w: Rapid Spanning Tree Protocol, which provides for faster spanning tree convergence after a topology change • Multiple Spanning Tree (MSTP) 802.1s: Multiple Spanning Tree Protocol. The MSTP protocol provides for multiple spanning tree instances
VLAN	• 802.1Q tag-based VLAN: Supports up to 4K VLANs simultaneously (out of 4096 VLAN IDs) • Port-based VLAN: A port member of a VLAN can be isolated to other isolated ports on the same VLAN and Private VLAN • Private VLAN Edge (PVE): Private VLANs are based on the source port mask, and there are no connections to VLANs. This means that VLAN IDs and Private VLAN IDs can be identical • Voice VLAN: The Voice VLAN feature enables voice traffic forwarding on the Voice VLAN • Guest VLAN: The IEEE 802.1X Guest VLAN feature allows a guest VLAN to be configured for each 802.1X port on the device to provide limited services to non-802.1X-compliant clients • Q-in-Q (double tag) VLAN: Business customers of service providers often have specific requirements for VLAN IDs and the number of VLANs to be supported • 802.1v Protocol VLAN: Classifying multiple protocols into a single VLAN often imposes VLAN boundaries that are inappropriate for some of the protocols, requiring the presence of a non-standard entity to relay between VLANs the frames bearing the protocols for which the VLAN boundaries are inappropriate • MAC-based VLAN: The MAC-based VLAN feature allows incoming untagged packets to be assigned to a VLAN and thus classify traffic based on the source MAC address of the packet • IP Subnet-Based VLAN: In an IP subnet–based VLAN, all the end workstations in an IP subnet are assigned to the same VLAN. In this VLAN, users can move their workstations without reconfiguring their network addresses • Management VLAN: Management VLAN is used for managing the switch from a remote location by using protocols such as telnet, SSH, SNMP, syslog etc
LACP Trunking	Link Aggregation Control Protocol (LACP) IEEE 802.3ad: Controls whether LACP is enabled on this switch port. LACP will form an aggregation when 2 or more ports are connected to the same partner • Up to 5 groups • Up to 16 ports per group
GARP VLAN Registration Protocol (GVRP)	GVRP stands for GARP (Generic Attribute Registration Protocol) VLAN Registration Protocol. It's a Layer 2 network protocol, for automatic configuration of switches in a VLAN network
DHCP Relay	• Relay of DHCP traffic to DHCP server in different VLAN • Works with DHCP Option 82

IGMP v1/v2/v3 Snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters. Supports 1024 multicast groups
IGMP Querier	IGMP querier is used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router
IGMP Proxy	IGMP snooping with proxy reporting or report suppression actively filters IGMP packets in order to reduce load on the multicast router
MLD v1/v2 Snooping	Delivers IPv6 multicast packets only to the required receivers
Multicast VLAN Registration (MVR)	It uses a dedicated manually configured VLAN, called the multicast VLAN, to forward multicast traffic over Layer 2 network in conjunction with IGMP snooping
Layer 3 Switching	
IPv4 Static Routing	IPv4 Unicast: Static Routing
IPv6 Static Routing	IPv6 Unicast: Static Routing
Quality of Service	
Hardware Queue	Supports 8 hardware queues
Classification	- Port based: Traffic QoS by Port 802.1p: VLAN priority based Layer 2 CoS QoS, Class of service is a parameter used in data and voice protocols to differentiate the types of payloads contained in the packet being transmitted - DSCP based Differentiated Services (DiffServ) Layer 3 DSCP QoS: IP packets can carry either an IP precedence (IPP) value or a Differentiated Services Code Point (DSCP) value. QoS supports the use of either value because DSCP values are backward-compatible with IP precedence values - Classification and re-marking TCP/IP ACLs: QoS by ACL
Rate Limiting	- Ingress policer - Egress shaping and rate control - Per port
Scheduling	Strict priority and weighted round-robin (WRR): Weighted Round Robin is a scheduling algorithm that uses weights assigned to queues to determine how much data will be emptied from a queue before moving to the next queue
Security	
ACLs	Supports up to 512 entries. Drop or rate limitation based on: - Source and destination MAC, VLAN ID or IP address, protocol, port - Differentiated services code point (DSCP) / IP precedence - TCP/ UDP source and destination ports 802.1p priority - Ethernet type - Internet Control Message Protocol (ICMP) packets - TCP flag
Port Security	Locks MAC addresses to ports, and limits the number of learned MAC address
IP Source Guard	Prevents illegal IP address from accessing to specific port in the switch
Storm Control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port

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IEEE 802.1X	• IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions • Supports IGMP-RADIUS based 802.1X • Dynamic VLAN assignment
TACACS+	Supports TACACS+ authentication. Switch as a client
Secure Shell (SSH)	SSH secures Telnet traffic in or out of the switch, SSH v1 and v2 are supported
Secure Sockets Layer (SSL)	SSL encrypts the http traffic, allowing advanced secure access to the browser-based management GUI in the switch
HTTPs and SSL (Secured Web)	Hyper Text Transfer Protocol Secure (HTTPS) is the secure version of HTTP
BPDU Guard	The BPDU guard, an enhancement to STP, removes a node that reflects BPDUs back in the network. It enforces the STP domain borders and keeps the active topology predictable by not allowing any network devices behind a BPDU guard-enabled port to participate in STP
DHCP Snooping	A feature acts as a firewall between untrusted hosts and trusted DHCP servers
Loop Protection	To prevent unknown unicast, broadcast and multicast loops in Layer 2 switching configurations.
Management	
IEEE 1588v2 PTP	Support IEEE 1588 v2 PTP (Precision Time Protocol)
DHCP	• DHCP Server: Support DHCP server to assign IP to DHCP clients • DHCP client: The Dynamic Host Configuration Protocol (DHCP) is a standardized network protocol used on Internet Protocol (IP) networks for dynamically distributing network configuration parameters, such as IP addresses for interfaces and services
Event/Error Log	Support SNMP Trap/Syslog/SMTP
SNMP	SNMP version1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)
Remote Monitoring (RMON)	Embedded RMON agent supports RMON groups 1,2,3,9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring and analysis
Firmware Upgrade	• Web browser upgrade (HTTP/ HTTPs) and TFTP • Upgrade through console port as well
Configuration Export/Import	update of the firmware controlling the switch
Port Mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to N-1 (N is Switch's Ports) ports can be mirrored to single destination port. A single session is supported
IEEE 802.1ab (LLDP)	• Used by network devices for advertising their identities, capabilities, and neighbors on an IEEE 802ab local area network • Support LLDP-MED (ANSI/TIA-1057) extensions
UPnP	The Universal Plug and Play Forum, an industry group of companies working to enable device-to-device interoperability by promoting Universal Plug and Play

CDP Aware	The CDP operation is restricted to decoding incoming CDP frames (The switch doesn't transmit CDP frames). CDP frames are only decoded if LLDP on the port is enabled
s-Flow	The industry standard for monitoring high speed switched networks. It gives complete visibility into the use of networks enabling performance optimization, accounting/billing for usage, and defense against security threats
Web GUI Interface	Built-in switch configuration utility for browser-based device configuration
CLI	For users to configure/manage switches in command line modes
Dual Image	Independent primary and secondary images for backup while upgrading
NTP	Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched
Switch Management	- HTTP/HTTPs - SSH - DHCP Client/ DHCPv6 Client - Telnet Client - IPv6 Management
Diagnostics	- Cable diagnostics - Ping - Syslog
Power over Ethernet (PoE)	
Port Configuration	Supports per port PoE configuration function
PoE Scheduling	Supports per port PoE scheduling to turn on/off the PoE devices (PDs).
Auto-checking	Check the link status of PDs. Reboot PDs if there is no responses
Power Delay	The switch provides power to the PDs based on delay time when PoE switch boots up, in order to protect switch from misuse of the PDs
Soft-Reboot PoE Non-stop	The switch will keep providing power to the PDs while during soft-reboot.