



## TYPE: Sepitam-PS412G-QXM

**12\*10/100/1000Mbps auto-sensing RJ45 ports +  
4\*10G SFP Fiber ports, Managed Ethernet Switch**



### Overview

**Sepitam-PS412G-QXM** is a Layer 2+ managed Gigabit PoE Switch that features intelligent PoE functions to improve the availability of critical business applications. It provides IPv6/IPv4 management and built-in L2+ Gigabit Switching engine along with 8\*10/100/1000BASE-T ports featuring 30-watt 802.3at PoE+ and 4 additional Gigabit Ethernet ports and **4\*10G SFP+ fiber slots**. With a total power budget up to 150W for different kinds of PoE applications, can provides quick, safe and cost-effective Power over Ethernet network solutions to security IP surveillance for small businesses and enterprises.

The **Sepitam-PS412G-QXM** is programmed for advanced switch management functions such as 802.1Q VLAN and Q-in-Q VLAN, Multiple Spanning Tree protocol (MSTP), loop and BPDU guard, IGMP snooping, and MLD snooping. Also, the Link Layer Discovery Protocol (LLDP) is the Layer 2 protocol included to help discover basic information about neighboring devices on the local broadcast domain.

### Features

- ◆ Support L2+ Switching features including 802.1Q VLAN, Mirroring, Port isolation, IGMP Snooping, DHCP Snooping, LLDP, POE+ management, IP Source Guard, ARP inspection, ACLs etc.
- ◆ Support spanning tree STP(802.1D) and RSTP(802.1W) and MSTP(802.1s).
- ◆ Support enhanced management through WEB, CLI, TELNET, SSH, SNMP.
- ◆ Support cable diagnosis and SFP DDM.
- ◆ Support PoE management, like PoE schedule, PoE PD-alive.
- ◆ Support G.8032 quick ring protocol. Self-recovery time <20ms.
- ◆ Support IEEE1588 v2, transparent clock(TC)
- ◆ Support DDM, SFP digital diagnostics monitoring



- ◆ Support IPV4 and IPV6 static routing functions
- ◆ Support memory and CPU monitoring
- ◆ 4KV surge protection, 6KV contact/8KV air protection

## Technical Specifications

Model	Sepitam-PS412G-QXM
Ethernet Ports	12-10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports
Fiber Ports	4*1G/10GBASE-X SFP interfaces, supports 1G/10Gbps dual mode
PoE Ports	8*802.3af/802.3at PoE Ports
Switch Architecture	Store-and-Forward
Switch Fabric	104 Gbps/non-blocking
Throughput	77.38Mpps @64 bytes
Address Table	32K entries
Share Data Buffer	32 Mb
Jumbo Frame	9600 Bytes
SDRAM	2Gb
Flash Memory	128Mb
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Reset Button	>2 sec.: Factory default and reset
Power Supply	100~240V AC, 50/60Hz, 4A (max.)
Power Consumption	Max.150 watts/1122 BTU
PoE Standards	IEEE 802.3af Power over Ethernet/PSE IEEE 802.3at Power over Ethernet Plus/PSE
PoE Power Supply Type	Per Port 52V DC, 300mA. Max. 15.4 watts (IEEE 802.3af) Per Port 52V DC, 600mA. Max. 30 watts (IEEE 802.3at)



LED Indicators	<p>Power: Green</p> <p>Solid on- power work normal, off- power disconnected</p> <p>System: Green</p> <p>Blink -work normally, solid on- soft work abnormal, fast Blink - soft upgrade</p> <p>PoE: Yellow</p> <p>Solid on- PoE work normally, Off- PoE doesn't work, Blink - PoE overload10/100/1000T RJ45 Interfaces(Port 1 to Port 12): 1000 LNK/ACT (Green)</p> <p>Blink - port connected with data transmission; Solid on- port connected without data transmission</p> <p>1G/10G SFP Interfaces (Port 13 to Port 16): Blue</p> <p>Blink- port connected with data transmission; Solid on- port connected without data transmission</p>
EMC	<p>Surge Immunity: 4KV Per: IEC61000-4-5</p> <p>ESD Protection: ESD Level 4 Per: IEC61000-4-2</p> <p>EFT Level 4 Per: IEC61000-4-4</p>
Dimension	280x213x44.5mm
Weight	2.5kg
Working Temperature	-10 °C to 45°C
Storage Temperature	-20°C to 70 °C
MTBF	50,000hrs

## Layer 2 functions:

Port configuration	<p>Auto-negotiation</p> <p>Flow Control</p> <p>Port Mirror: TX/RX/BOTH; Many-to-1 monitor</p> <p>CPU Mirror</p> <p>Traffic statistics</p>
Link Aggregation	<p>Static link aggregation</p> <p>LACP (Dynamic Trunk/Static Trunk)</p> <p>Algorithm based on Source/Destination MAC</p> <p>Algorithm based on Source/Destination IP</p>



MAC Table	<p>Aging Time</p> <p>Static MAC address</p> <p>Dynamic MAC address management</p>
VLAN	<p>4094 Active VLANs</p> <p>4094 VID</p> <p>802.1Q Tag VLAN</p> <p>Port VLAN</p> <p>Protocol VLAN</p> <p>MAC VLAN</p> <p>Voice VLAN</p> <p>802.1ad Q-in-Q tunneling</p> <p>Private VLAN (Protected port)</p> <p>GARP/GVRP</p>
ACL	<p>512ACLs</p> <p>L2, L3 e L4</p> <p>Time-based ACL</p> <p>IP ACL</p> <p>MAC ACL</p> <p>MAC-IP ACL</p> <p>User-Defined ACL</p> <p>ICMPv6</p>
Spanning tree	<p>802.1D Spanning Tree Protocol (STP)</p> <p>802.1w Rapid Spanning Tree Protocol (RSTP)</p> <p>802.1s Multiple Spanning Tree Protocol (MSTP)</p> <p>Loop Guard</p> <p>Root Guard</p> <p>TC-BPDU Guard</p> <p>BPDU Guard</p> <p>BPDU Filter</p>
Ring Protection	<p>&lt;20ms G.8032 ERPS Ring</p> <p>Fast Ring</p>



Multicast	<p>1024 groups</p> <p>IGMP v1/v2/v3 Snooping, Fast Leave</p> <p>MLD Snooping</p> <p>Multicast VLAN</p> <p>IGMP filter</p> <p>MVR</p> <p>Multicast Routing</p>
QOS	<p>8 mapping IDs to 8 level priority queues</p> <p>CoS port-based</p> <p>CoS 802.1p-based</p> <p>CoS DSCP-based</p> <p>Scheduling algorithms SP, WRR, SP+WRR</p> <p>Storm Control (Broadcast, Multicast, Unknown Unicast)</p> <p>Bandwidth control per port</p> <p>SWRR, DWRR for Scheduling</p> <p>Flow Redirect</p> <p>Precedence</p> <p>TOS</p> <p>Rate Limiting ( Ingress/Egress )</p> <p>Stri Priority</p>
Security Features	<p>Port Security</p> <p>MAC address filter</p> <p>ARP Association (Manual, ARP scanning, DHCP snooping)</p> <p>ARP Protection</p> <p>AAA</p> <p>DAI</p> <p>DoS (Denial of Service)</p> <p>Classification of packages based on: End.MAC, IP End, TCP / UDP Ports, Protocol Type;</p> <p>802.1x Authentication (port-based e MAC-based)</p> <p>TACACS/TACACS+ Authentication</p> <p>RADIUS Authentication</p> <p>DHCP Filter</p> <p>Guest VLAN</p> <p>SSLv2/SSLv3/TLSv1</p> <p>SSHv1/SSHv2</p> <p>Restriction of WEB access based on: IP Address, And. MAC and Port;</p> <p>Port Isolation</p> <p>Loopback detection</p>



Management	<p>SNMP v1/v2c/v3 with Full Private MIBs</p> <p>RMON 4 groups</p> <p>WEB (HTTP/HTTPS)</p> <p>CLI (Telnet, Console, SSHv1/v2)</p> <p>Firmware upgrade via console/web/TFTP</p> <p>Configuration Backup/Reload</p> <p>Dual Firmware</p> <p>LLDP</p> <p>Configuration Export/Import</p> <p>CDP Aware</p> <p>OAM (IEEE802.3ah)</p> <p>CFM (IEEE802.1ag)</p> <p>sFlow</p> <p>Telnet client</p>
Synchronization, IEEE1588	Support IEEE1588v2 transparent clock
Other Features	<p>DNS Client</p> <p>DHCP Relay</p> <p>DHCP Client</p> <p>DHCP Snooping</p> <p>DHCP Option 66</p> <p>DHCP Option 67</p> <p>DHCP Option 82</p> <p>NTP/SNTP Client</p> <p>UPNP</p> <p>UDLD</p>
PoE management	<p>Total PoE power budget control</p> <p>Per port PoE function enable/disable</p> <p>PoE admin-mode control</p> <p>PoE port power feeding priority</p> <p>Per PoE port power limitation</p> <p>PD classification detection</p> <p>PD alive check</p> <p>PoE schedule</p> <p>Soft-reboot PoE Non-stop</p>



Maintenance	Cable Diagnostics Ping SFP DDM (Digital Diagnostics Monitoring) Thermal protection System log (Local and Remote) Memory and CPU Monitoring Tracert/ Tracert 6
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**Layer 3 functions:**

Static Routing	IPv4 Unicast: Static Routing(Software Base) IPv6 Unicast: Static Routing(Software Base)
IPV6	IPv6 neighbor discovery (ND) Path maximum transmission unit (MTU) discovery Internet Control Message Protocol (ICMP) version 6 TCPv6/UDPv6 Ping6 Telnet(v6) Http/Https Interface IPV6 ACL IPV6



# Technical Specification of Sepitam-PS412G-QXM

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