24-Port Gigabit PoE Managed Stackable Switch

Centralized Power Management for Enterprise and SMB Power over Gigabit Ethernet Networking

To applied with the more and more popular Gigabit PoE network applications, PLANET introduces new members in the SGSW-24040 Stackable Gigabit Ethernet Switch series- SGSW-24040P and SGSW-24040P4, the 24-Port Gigabit PoE Managed Stackable Switch. Besides supporting reliable stacking technology and advanced networking features, the SGSW-24040P and SGSW-24040P4 feature high performance Gigabit Power-over-Ethernet (PoE), which optimizes the installation and power management of network devices such as wireless access points (AP), Voice over IP (VoIP) phones, and security video cameras. The SGSW-24040P series PoE Switch also provides high scalability for current and future network infrastructure as they can flexibly work with PLANET SGSW series Gigabit Switch to meet the various networking requirements and simplify the network deployment and management.

The SGSW-24040P series Gigabit PoE Switch is ideally applicable for large scale of network deployment in the enterprises, Telecoms or campus. A high performance with cost-effective solution is achieved by the SGSW-24040P series PoE Switch providing Gigabit throughput and power supply to PoE compliant devices including 802.11n AP with Gigabit PoE LAN port, Mega-Pixel PoE IP Camera, PoE VoIP phones and etc. **Power** and **high speed data switching** are integrated into one unit and delivered over a single cable, eliminating costs and time for additional AC wiring. The Gigabit PoE Switch also eliminates the need for dedicated electrical outlets on the wall, ceiling or any unreachable place. A maximum of 15.4W is available on the Gigabit ports for powering PDs (Powered Device), with a maximum per device PoE delivery of 380W available for all ports to satisfy the increasing needs for power consumption of powered devices.

Cost-effective IPv6 Managed Gigabit Switch Solution for SMB

The SGSW-24040P series which supports both IPv4 and IPv6 management functions. It can work with original network structure (IPv4) and also support the new network structure (IPv6) in the future. With easy and friendly management interfaces and plenty of management functions included, the SGSW-24040P series is the best choice for ISP to build the IPv6 FTTx edge service and for SMB to connect with the IPv6 network.

High-Density, Resilient Deployment Switch solution for Growing Gigabit Networking

The new members in the SGSW-24040 series Switch, SGSW-24040P and SGSW-24040P4 provide 24 10/100/1000Mbps Gigabit Ethernet ports with IEEE 802.3af PoE injector, 4 shared Gigabit SFP slots, and 2 dedicated High-Speed HDMI-like interfaces for stacking with the series of switches. By applying the SGSW-24040 series Switch, up to 16 units, 384 Gigabit Ethernet ports can be managed by a stacking group and you can add ports and functionality as needed. The 2 built-in stacking ports providing 5Gbps bandwidth and up to 20Gbps Bi-directional speed, it can handle extremely large amounts of data in a secure topology linking for backbone or high capacity network server with 68Gbps switching fabric per unit. The stacking technology also enables the chassis-based switches to be integrated into SGSW-24040 series Managed Switch without the expensive up-front cost.

Robust Layer 2 Features

The SGSW-24040 series can be programmed for advanced switch management functions such as dynamic Port link aggregation, Q-in-Q VLAN, private VLAN, Multiple Spanning Tree protocol (MSTP), Layer 2 to Layer 4 QoS, bandwidth control and IGMP Snooping. The SGSW-24040 series provides 802.1Q Tagged VLAN, and the VLAN groups allowed will be maximally up to 255. Via aggregation of supporting ports, the SGSW-24040 series allows the operation of a high-speed trunk combining multiple ports. It enables maximum up to 12 groups of 16 ports for port link aggregation, and supports fail-over as well.

Efficient and Secure Management

For efficient management, the SGSW-24040 series Managed Ethernet Switch is equipped with console, WEB and SNMP management interfaces. With the built-in Web-Based management interface, the SGSW-24040 series offers an easy-to-use, platform-independent management and configuration facility. The SGSW-24040 series supports standard Simple Network Management Protocol (SNMP) and can be managed via any standard-based management software. For text-based management, the SGSW-24040 series can be accessed via Telnet and the console port. Moreover, the SGSW-24040 series offers secure remote management by supporting SSH, SSL and SNMPv3 connection which encrypt the packet content at each session.

Enhanced Security

The SGSW-24040 series 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 of 802.1x Port-Based and MAC-Based user and device authentication. With the private VLAN function, communications between edge ports can be protected to ensure user privacy. New SGSW-24040 series net Security also provides DHCP Snooping, IP Source Guard and Dynamic ARP Inspection functions to prevent IP snooping from attack and discard ARP packets with invalid MAC address. The network administrators can now construct highly secured corporate networks with considerably less time and effort than before.

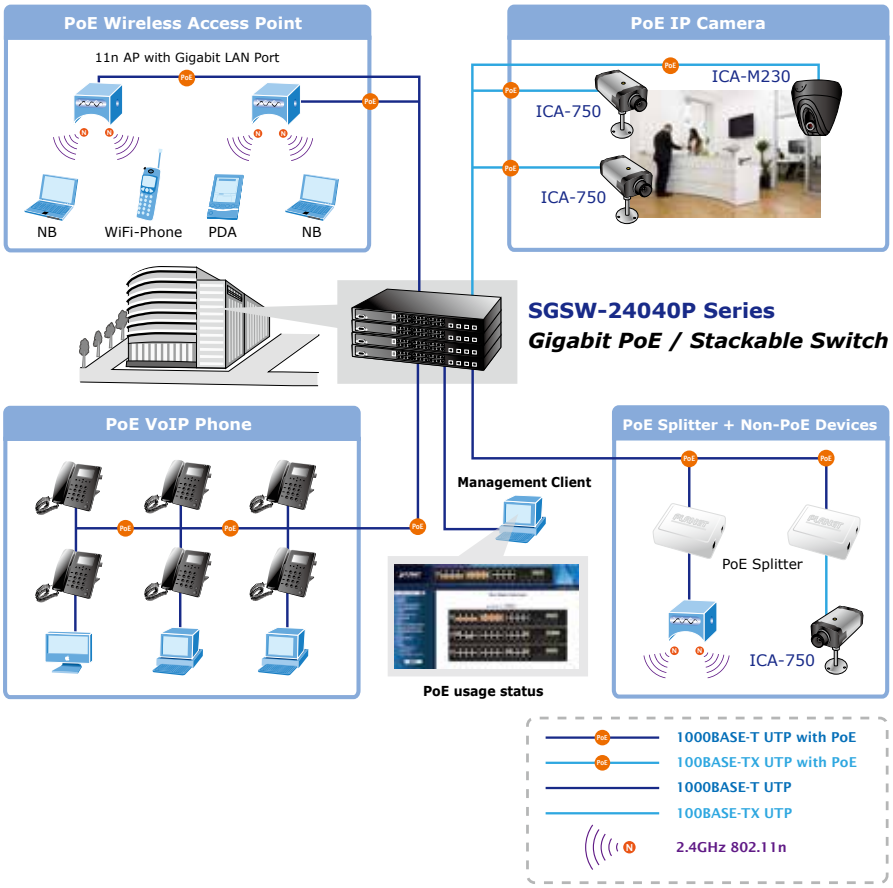
Flexibility and Extension Solution

The four mini-GBIC slots built in the SGSW-24040 series support Dual-Speed, 100Base-FX and 1000Base-SX/LX SFP (Small Form-factor Pluggable) fiber-optic modules, that means, the administrator now can flexibly choose the suitable SFP transceiver according to the transmission distance or the transmission speed required. The distance can be extended from 550 meters (Multi-Mode fiber) up to above 10/50/70/120 kilometers (Single-Mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.

APPLICATIONS

Department / Workgroup PoE Switch

Providing up to 24-Port Gigabit PoE, in-line power interface, the SGSW-24040P PoE Switch can easily build a central-controlled power network with 11n Gigabit wireless AP, IP phone system, or Mega-Pixel IP Camera system group for the enterprises. For instance, 24 cameras and wireless APs can be easily installed around the corner in the company for surveillance demands or a wireless roaming environment in the office. Without the power-socket limitation, the stackable PoE Switch makes the deployment of cameras or WLAN AP more easily and efficiently.



While video surveillance system becomes more and more important for visible security in the factory or warehouse, the IP cameras with PoE function would be a lot helpful for the surveillance deployment when the power outlet not easily found in the ceiling or in the outdoor. For example, in the factory operation or in the warehouse storage security, the PoE IP camera can be installed anywhere regardless of the restrictions of power outlet location. With the PoE Switch as the central control manager and offering remote power monitoring via Web interface or SNMP trap and SNMP monitoring, the manager can get the PoE devices status and alert immediately. The PoE IP cameras could also be controlled remotely, which increases the administrator management efficiency and improve the productivity.

Key Features

PHYSICAL PORT

- **24-Port 10/100/1000Base-T** Gigabit RJ-45 with **IEEE 802.3af PoE** Injector
- **4 100/1000Base-X** mini-GBIC/SFP slots, shared with Port-21 to Port-24
- **2 HDMI-like 5GbE** Stacking interfaces
- **RS-232 DB9** console interface for Switch basic management and setup

POWER OVER ETHERNET

- Complies with IEEE 802.3af Power over Ethernet End-Span PSE
- Up to 24 IEEE 802.3af devices powered
- Supports PoE Power up to 15.4 Watts for each PoE ports
- Auto detect powered device (PD)
- Circuit protection prevent power interference between ports
- Remote power feeding up to 100m
- PoE Management
  - Total PoE power budget control
  - Pert port PoE function enable/disable
  - PoE Port Power feeding priority
  - Per PoE port power limit
  - Per port PoE power schedule
  - PD classification detection
  - Over Temperature Protection
  - PoE Temperature Threshold
  - PoE power Usage Threshold
  - PoE events alarm by SNMP Trap, e-Mail and Syslog

STACKING

- Hardware stack up to **16** units and **384** Gigabit ports
- **Single IP address stack management**
- Stacking architecture supports Chain and Ring mode
- Plug and Play connectivity
- Mirror across stack
- Link Aggregation groups spanning multiple switches in a stack
- Hardware learning with MAC table synchronization across stack

LAYER 2 FEATURES

- Prevents packet loss with back pressure (Half-Duplex) and IEEE 802.3x PAUSE frame flow control (Full-Duplex)
- High performance of Store-and-Forward architecture, broadcast storm control and runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Supports **VLAN**
  - IEEE 802.1Q Tagged VLAN
  - Up to 255 VLANs groups, out of 4041 VLAN IDs
  - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
  - Private VLAN Edge (PVE)
- Supports **Spanning Tree Protocol**
  - STP, IEEE 802.1d (Spanning Tree Protocol)
  - RSTP, IEEE 802.1w (Rapid Spanning Tree Protocol)
  - MSTP, IEEE 802.1s Multiple Spanning Tree Protocol, spanning tree by VLAN
  - BPDU Guard
- Support **Link Aggregation**
  - 802.3ad Link Aggregation Control Protocol (LACP)
  - Cisco ether-channel (Static Trunk)
  - Maximum 12 trunk groups, up to 16 ports per trunk group
  - Up to 32Gbps bandwidth (Duplex Mode)
- Provide Port Mirror (many-to-1)
- Port Mirroring to monitor the incoming or outgoing traffic on a particular port

QUALITY OF SERVICE

- Ingress Shaper and Egress Rate Limit per port bandwidth control
- 4 priority queues on all switch ports
- Traffic classification:
  - IEEE 802.1p CoS
  - TOS / DSCP / IP Precedence of IPv4/IPv6 packets
  - IP TCP/UDP port number
  - Typical network application
- Strict priority and Weighted Round Robin (WRR) CoS policies
- Supports QoS and In/Out bandwidth control on each port
- Traffic-policing policies on the switch port
- QoS Control List Wizard makes QoS creation and configuration easier and more quickly
- DSCP remarking
- Voice VLAN

MULTICAST

- Supports IGMP Snooping v1, v2 and v3
- Querier mode support
- IGMP Snooping port filtering and throttling
- Multicast VLAN Registration (MVR)MAC

SECURITY

- IEEE 802.1x Port-Based / MAC-Based network access authentication
- Built-in RADIUS client to co-operate with the RADIUS servers
- TACACS+ login users access authentication
- RADIUS / TACACS+ users access authentication
- IP-Based Access Control List (ACL)
- MAC-Based Access Control List
- Source MAC / IP address binding
- **DHCP Snooping** to filter un-trusted DHCP messages
- **Dynamic ARP Inspection** discards ARP packets with invalid MAC address to IP address binding
- **IP Source Guard** prevents IP spoofing attacks
- Auto DoS rule to defend DoS attack
- IP address access management to prevent unauthorized intruder

MANAGEMENT

- Switch Management Interfaces
  - Console / Telnet Command Line Interface
  - Web switch management
  - SNMP v1, v2c, and v3 switch management
  - SSH / SSL secure access
- Four RMON groups (history, statistics, alarms, and events)
- IPv6 IP Address / NTP / DNS management
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- Firmware upload/download via HTTP / TFTP
- DHCP Relay and Relay Option 82
- User Privilege levels control
- NTP (Network Time Protocol)
- Link Layer Discovery Protocol (LLDP) Protocol
- Cable Diagnostic technology provides the mechanism to detect and report potential cabling issues
- Reset button for system reboot or reset to factory default
- PLANET Smart Discovery Utility for deploy management
- ICMPv6

SPECIFICATION

Product		24-Port Gigabit PoE Managed Stackable Switch	
Model		SGSW-24040P	SGSW-24040P4
Hardware Specification			
Copper Ports		24 10/ 100/1000Base-T RJ-45 Auto-MDI/MDI-X ports with IEEE 802.3af PoE injector	
SFP/mini-GBIC Slots		4 1000Base-SX/LX/BX SFP interfaces, shared with Port-21 to Port-24 100Base-FX SFP transceiver compatible	
Console		1 x RS-232 DB9 serial port (115200, 8, N, 1)	
Switch Processing Scheme		Store-and-Forward	
Switch Fabric		68Gbps	
Address Table		8K entries	
Share data Buffer		1392 kilobytes	
Flow Control		IEEE 802.3x Pause Frame for Full-Duplex Back pressure for Half-Duplex	
Jumbo Frame		10Kbytes	
LED		System: Power, Master, FAN Alert, PoE Power Alert Ports: 10/100/1000 Link/Act, PoE In-Use, SFP Link, Stack Port Link	
Reset Button		< 5 sec: System reboot > 5 sec: Factory Default	
Dimension (W x D x H)		440 x 300 x 44.5 mm, 1U height	
Weight		4.5 KG	
Power Consumption		Max. 290 watts / 989 BTU	Max. 430 watts / 1467 BTU
Power Requirement		AC 100~240V, 50/60Hz	
ESD Protection		6KV DC	
Power over Ethernet			
PoE Standard		IEEE 802.3af Power over Ethernet / PSE	
PoE Power Supply		End-Span	
PoE Power Output		Per Port 48V DC, 350mA . Max. 15.4 Watts	
Power Pin Assignment		1/2(+), 3/6(-)	
PoE Power Budget		220 Watts	380 Watts
PoE Ability	Number of PD@7Watts	24	24
	Number of PD@15.4Watts	14	24

Layer 2 function	
Basic Management Interfaces	Console, Telnet, Web Browser, SNMPv1, v2c
Secure Management Interfaces	SSH, SSL, SNMP v3
Port configuration	Port disable/enable. Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow Control disable / enable Bandwidth control on each port
VLAN	802.1Q Tagged Based VLAN Port-Based VLAN Q-in-Q Private VLAN Edge (PVE) Up to 256 VLAN groups, out of 4094 VLAN IDs
Spanning Tree Protocol	IEEE 802.1D Spanning Tree IEEE 802.1w Rapid Spanning Tree IEEE 802.1s Multiple Spanning Tree Up to 8 MST instances
Link Aggregation	IEEE 802.3ad LACP / Static Trunk Support 12 groups of 16-Port trunk support
QoS	Traffic classification based, Strict priority and WRR 4-level priority for switching - Port Number - 802.1p priority - 802.1Q VLAN tag DSCP/TOS field in IP Packet Policy-Based QoS
IGMP Snooping	IGMP (v1/v2/v3) Snooping, up to 255 multicast Groups IGMP Querier mode support
Access Control List	IP-Based ACL / MAC-Based ACL Up to 256 entries
SNMP MIBs	RFC-1213 MIB-II IF-MIB RFC-1493 Bridge MIB RFC-1643 Ethernet MIB RFC-2863 Interface MIB RFC-2665 Ether-Like MIB RFC-2737 Entity MIB RFC-2618 RADIUS Client MIB RFC-2819 RMON MIB (Group 1, 2, 3 and 9) RFC-2933 IGMP-STD-MIB RFC3411 SNMP-Frameworks-MIB IEEE 802.1X PAE LLDP MAU-MIB Power over Ethernet
Standards Conformance	
Regulation Compliance	FCC Part 15 Class A, CE
Safety	UL, cUL
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX/100Base-FX IEEE 802.3z Gigabit SX/LX IEEE 802.3ab Gigabit 1000T 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 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 IEEE 802.3af Power over Ethernet

Environment		
Operating	Temperature:	0 ~ 50 Degree C
	Relative Humidity:	20 ~ 95% (non-condensing)
Storage	Temperature:	-40 ~ 70 Degree C
	Relative Humidity:	20 ~ 95% (non-condensing)

Ordering Information

SGSW-24040P	24-Port Gigabit PoE Managed Stackable Switch / 220W
SGSW-24040P4	24-Port Gigabit PoE Managed Stackable Switch / 380W

Relative Product

SGSW-24040	24-Port 10/100/1000Mbps with 4 Shared SFP Managed Stackable Switch
SGSW-24040R	24-Port 10/100/1000Mbps with 4 Shared SFP Managed Stackable Switch / -48V DC Redundant Power
SGSW-24240	24-Port 100/1000 SFP Slots with 8 Shared TP Managed Stackable Switch
SGSW-24240R	24-Port 100/1000 SFP Slots with 8 Shared TP Managed Stackable Switch / -48V DC Redundant Power

Accessories

CB-STX50	0.5 Meter 5Gbps Stacking Cable with Crossed-HDMI connector
CB-STX200	2 Meter 5Gbps Stacking Cable with Crossed-HDMI connector

Relative PoE Product

POE-152S	IEEE 802.3af Power over Ethernet Splitter with 5V/12 DC output (10/100/1000Mbps)
POE-E101	IEEE 802.3af Power over Ethernet Extender
WNAP-3000PE	802.11n Enterprise PoE Access Point, 10/100/1000Base-T PoE Port
WNAP-1120PE	802.11n Wireless Access Point with PoE
WNAP-C3220	300Mbps 802.11n Wireless Ceiling Mount Range Extender
ICA-HM120	H.264 Mega-Pixel Box IP Camera
ICA-HM126	Full HD H.264 Box IP Camera
ICA-HM131	H.264 Full-HD Fixed Dome IP Camera
ICA-HM135	H.264 Mega-Pixel 20M IR Vandal Proof Dome IP Camera
VIP-254PT	SIP PoE IP Phone
VIP-255PT	Multi-Language PoE IP Phone
VIP-560PT	Professional Enterprise PoE IP Phone
VIP-156PE	802.3af PoE SIP Analog Telephone Adapter

Available Modules for SGSW-24040P / SGSW-24040P4

MFB-FX	SFP-Port 100Base-FX Transceiver (1310nm) -2km
MFB-F20	SFP-Port 100Base-FX Transceiver (1310nm) – 20km
MFB-F40	SFP-Port 100Base-FX Transceiver (1310nm) – 40km
MFB-F60	SFP-Port 100Base-FX Transceiver (1310nm) - 60KM
MFB-FA20	SFP-Port 100Base-BX Transceiver (WDM,TX:1310nm) -20km
MFB-FB20	SFP-Port 100Base-BX Transceiver (WDM,TX:1550nm) -20km
MGB-GT	SFP-Port 1000Base-T Module
MGB-SX	SFP-Port 1000Base-SX mini-GBIC module
MGB-LX	SFP-Port 1000Base-LX mini-GBIC module
MGB-L30	SFP-Port 1000Base-LX mini-GBIC module-30km
MGB-L50	SFP-Port 1000Base-LX mini-GBIC module-50km
MGB-L70	SFP-Port 1000Base-LX mini-GBIC module-70km
MGB-L120	SFP-Port 1000Base-LX mini-GBIC module-120km
MGB-LA10	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module-10km
MGB-LB10	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module-10km
MGB-LA20	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module-20km
MGB-LB20	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module-20km
MGB-LA40	SFP-Port 1000Base-LX (WDM,TX:1310nm) mini-GBIC module-40km
MGB-LB40	SFP-Port 1000Base-LX (WDM,TX:1550nm) mini-GBIC module-40km

PLANET Technology Corporation
11F, No. 96, Min Chuan Road, Hsin Tien, Taipei, Taiwan, R.O.C.
Tel: 886-2-2219-9518 Fax: 886-2-2219-9528
Email: sales@planet.com.tw www.planet.com.tw
VoIP Gateway: vip.planet.com.tw