

24-Port 10/100/1000Mbps PoE + 4-Port Gigabit TP/SFP Combo Managed Switch



PLANET introduces the latest Managed Gigabit PoE Switch - WGSW-28040P series that is perfectly designed for SMB and SOHO network construction. Besides the hot IPv6 / IPv4 management and abundant L2 / L4 switching functions, the WGSW-28040P series applies Green technology to provide a quiet, energy saving, high speed and reliable office network environment. It benefits the SMB and SOHO users to build Gigabit network environment with the price as low as the Fast Ethernet Switches would cost. The WGSW-28040P series is quite suitable for next generation network deployment and offers the lowest total cost of ownership. It is the best investment for business expanding or upgrading its network infrastructure.

High Performance

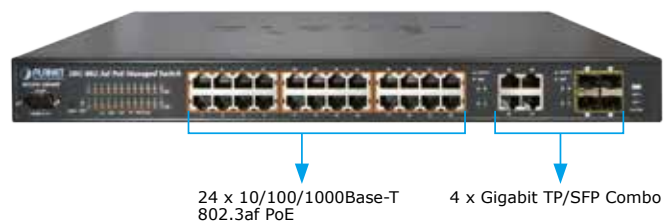
The WGSW-28040P series provides **28** Gigabit Ethernet ports in which including **4 shared Gigabit SFP** slots. It boasts high performance architecture of switch that is capable for providing the non-blocking switch fabric and wire-speed throughput as high as 56Gbps, which greatly simplifies the tasks of upgrading the LAN for catering to increasing bandwidth demands.

Easy Cabling Installation by Power over Ethernet

The PoE in-line power following the standard IEEE 802.3af makes the WGSW-28040P series able to power on 24 PoE compliant devices at the distance up to 100 meters through the 4-pair Cat 5/5e UTP wire. With data and power over Ethernet from one unit, it can easily build a power centrally-controlled IP phone system, IP camera system, or Wireless AP group for the enterprises. Adopting the PoE technology for a wire carrying both data and power, the WGSW-28040P series shall reduce cables deployment and the need for dedicated electrical outlets on the wall, ceiling or any unreachable place. Therefore, the WGSW-28040P series helps the SMBs lower the installation costs, simplify the installation effort and eliminate the need of electricians or extension cords.

IPv6 / IPv4 Dual Stack

By supporting IPv6 management features and also backward compatible with IPv4, the WGSW-28040P series helps the SMBs to step in the IPv6 era with the lowest investment but not need to replace the network facilities while the ISP constructs the IPv6 FTTx edge network.



Robust Layer 2 Features

The WGSW-28040P series can be programmed for advanced switch management functions such as dynamic Port link aggregation, 802.1Q VLAN and Q-in-Q VLAN, Multiple Spanning Tree protocol (MSTP), Loop and BPDU Guard, and IGMP Snooping. Via aggregation of supporting ports, the WGSW-28040P series allows the operation of a high-speed trunk combining multiple ports as a 16Gbps fat pipe and supports fail-over as well.

Efficient Traffic Control

The WGSW-28040P series 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 **storm control**, per port **bandwidth control**, 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 WGSW-28040P series is equipped with console, **WEB**, telnet and **SNMP** management interfaces. With the built-in Web-Based management interface, the WGSW-28040P series 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 WGSW-28040P series offers secure remote management by supporting **SSH** and **SSL** connection which encrypt the packet content at each session.

Powerful Security for User Management

PLANET WGSW-28040P 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 **802.1X Port-Based** authentication, which can be deployed with RADIUS, to ensure the port level security and block illegal users. With the **Protected Port** function, communication between edge ports can be prevented to guarantee user privacy. **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 Network Extension Solution

The four mini-GBIC slots built in the WGSW-28040P series are compatible with 1000Base-SX/LX and WDM SFP (Small Form Factor Pluggable) fiber-optic modules. The transmission distance can be extended from 550 meters (Multi-Mode fiber) up to above 10/20/30/40/50/70/120 kilometers (Single-Mode fiber or WDM fiber). It is well suited for applications in the enterprise data centers and distributions.

KEY FEATURES

PHYSICAL PORT

- **28-Port 10/100/1000Base-T** Gigabit RJ-45 copper with 24-Port **IEEE 802.3af PoE** Injector
- **4 1000Base-X** mini-GBIC/SFP slots, shared with Port-25 to Port-28
- **RS-232** DB9 console interface for Switch basic management and setup

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 and 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
 - Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
 - Private VLAN Edge (PVE / Port Isolation)
- 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
- Supports **Link Aggregation**
 - IEEE 802.3ad Link Aggregation Control Protocol (LACP)
 - Cisco ether-channel (Static Trunk)
 - Maximum 8 trunk groups, up to 8 ports per trunk group
 - Up to 16Gbps bandwidth (Duplex Mode)
- Provides Port Mirror (many-to-1)
- Port Mirroring to monitor the incoming or outgoing traffic on a particular port

POWER OVER ETHERNET

- Complies with IEEE 802.3af Power over Ethernet End-Span PSE
- Up to 24 ports for IEEE 802.3af devices powered
- Supports PoE Power up to 15.4 watts for each PoE ports
- Auto detect powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m
- PoE Management
- Per port PoE function enable / disable

QUALITY OF SERVICE

- Ingress / Egress Rate Limit per port bandwidth control
- 8 priority queues on all switch ports

- Traffic classification
 - Port-Based priority
 - IEEE 802.1p CoS
 - IP DSCP of IPv4 / IPv6 packets
- Strict priority and Weighted Round Robin (WRR) CoS policies
- DSCP remarking

MULTICAST

- Supports IGMP Snooping v1, v2 and v3
- Querier mode support
- IGMP Snooping v2 fast leave
- Unknown Multicast drop

SECURITY

- Storm Control support
 - Broadcast / Multicast / Unknown-Unicast / Unknown-Multicast
- Authentication
 - IEEE 802.1x Port-Based network access authentication
 - Built-in RADIUS client to co-operate with the RADIUS servers
- Access Control List
 - IP-Based ACL
 - MAC-Based ACL
- MAC Security
 - Static MAC
 - Source / Destination MAC Filtering
 - Port Security for Source MAC address entries filtering

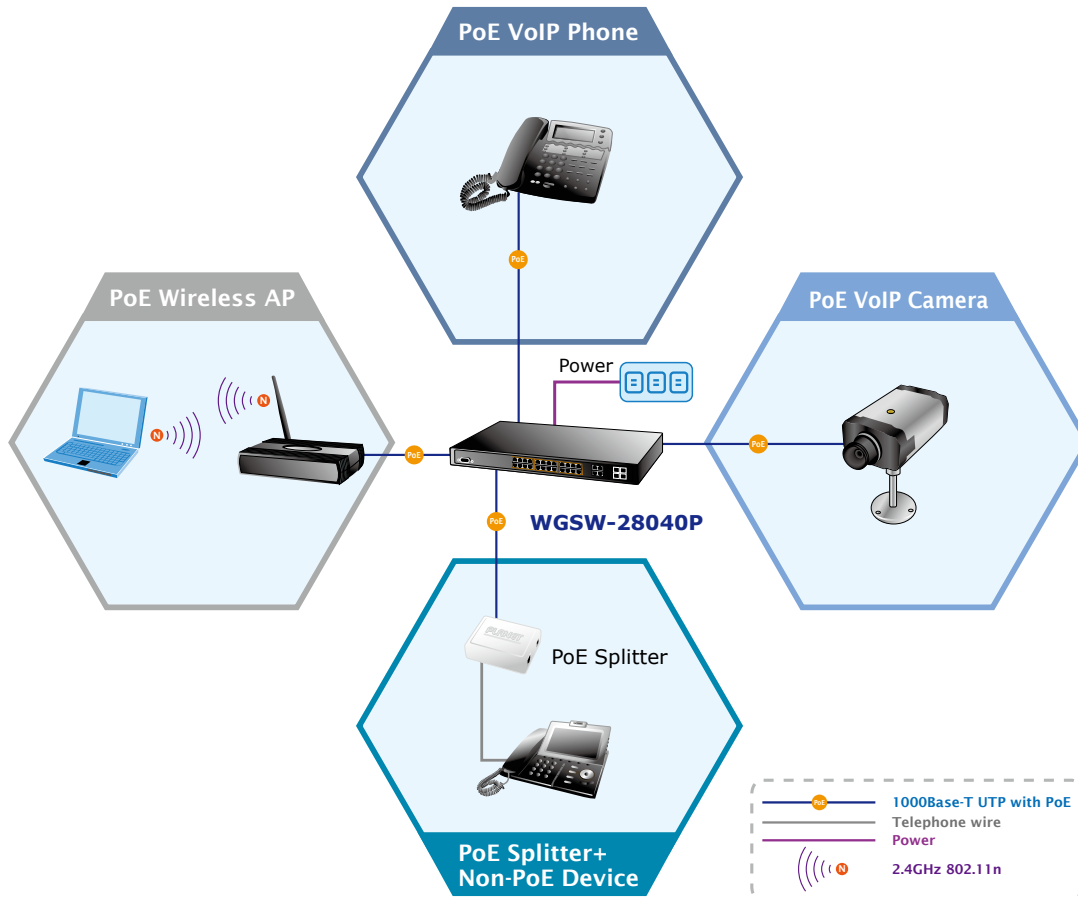
MANAGEMENT

- IPv6 / IPv4 Dual Stack
- Switch Management Interfaces
 - Console / Telnet Command Line Interface
 - Web switch management
 - SNMP v1, v2c switch management
 - SSH / SSL secure access
- Four RMON groups (history, statistics, alarms and events)
- SNMP trap for interface Link Up and Link Down notification
- Simple Network Time Protocol (SNTP)
- Built-in Trivial File Transfer Protocol (TFTP) client
- BOOTP and DHCP for IP address assignment
- Firmware upload / download via HTTP and TFTP
- Event message logging to remote Syslog server
- Reset button for system reboot or reset to factory default

APPLICATIONS

PoE IP Telephony Office

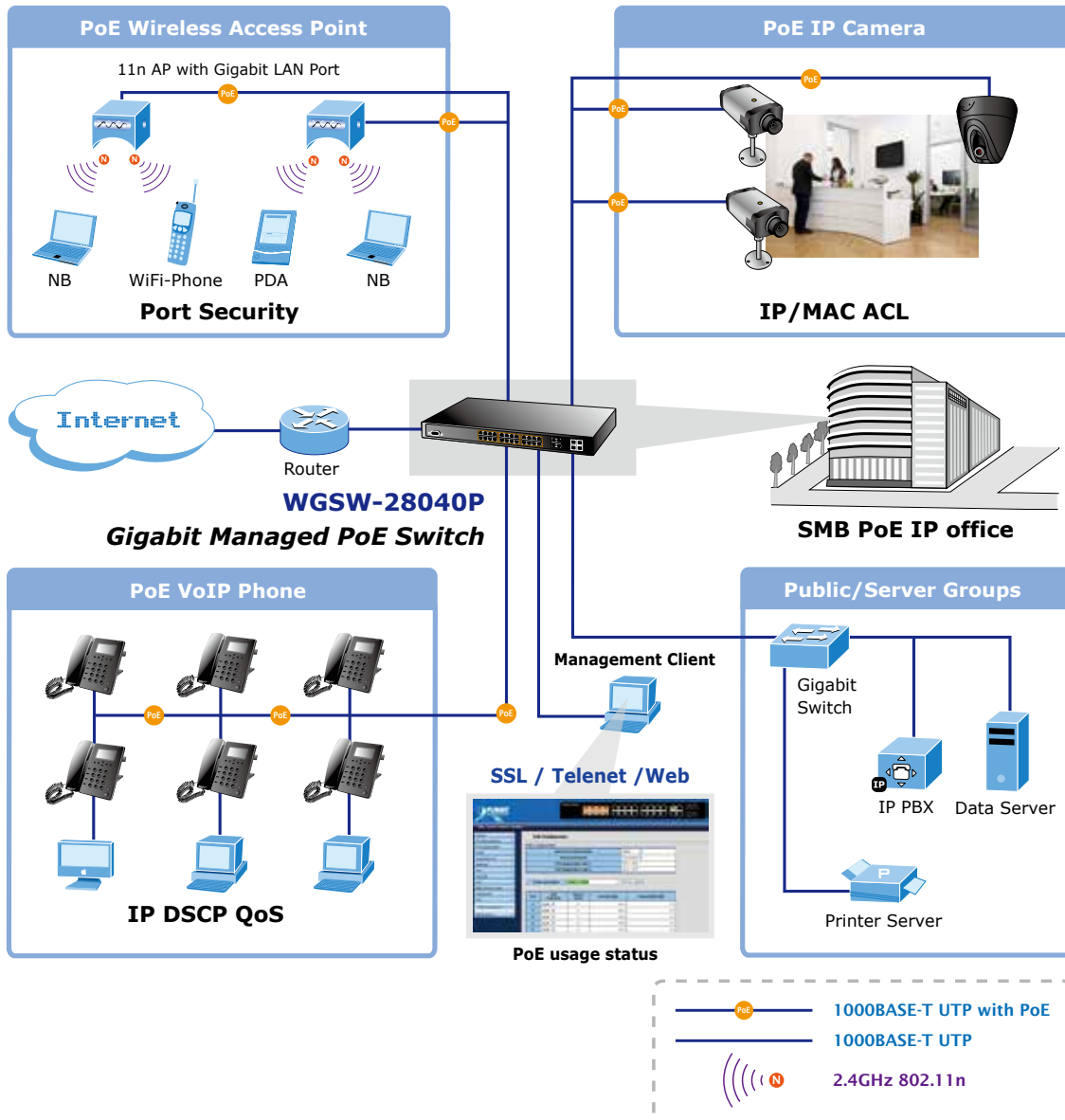
With the business office expansion, the additional telephones required could be installed in less cost via the implementation of PoE IP Telephony system than that of the traditional circuit wiring telephony system. PLANET WGSW-28040P series PoE Managed Switch helps SMBs to create an integrated data, voice, and powered network. The 802.3af compliant IP Phones can be installed without the need of additional power cables because the power can be provided via the standard Ethernet cable from the WGSW-28040P series. The WGSW-28040P series work perfectly with PoE IP Phones and Analog Telephony Adapters and its IP DSCP priority of QoS feature improves the voice communication quality. With the WGSW-28040P series, IP Telephony deployment becomes more reliable and cost effective, which helps SMBs save tremendous cost when upgrading from the traditional telephony to IP Telephony communications infrastructure.



APPLICATIONS

Department / Workgroup PoE Switch

Providing up to 24-Port PoE, in-line power interface, the WGSW-28040P series Managed PoE Switch can easily build a power centrally-controlled IP phone system, IP camera system, or Wireless AP group for the enterprises. For instance, IP cameras or Wireless APs can be easily installed for surveillance or wireless roaming demands in the office. Without the power-socket limitation, the PoE Switch makes the installation of cameras or Wireless LAN AP more easily and efficiently.



SPECIFICATION

Product	24-Port 10/100/1000Mbps PoE + 4-Port Gigabit TP/SFP Combo Managed Switch	
Model	WGSW-28040P	WGSW-28040P4
Hardware Specification		
Copper Ports	28 10/100/1000Base-T RJ-45 Auto-MDI / MDI-X ports	
SFP/mini-GBIC Slots	4 SFP interfaces, shared with Port-25 to Port-28	
Switch Processing Scheme	Store-and-Forward	
Switch Fabric	56Gbps / non-blocking	
Throughput @ 64Kbytes	41.67Mpps	
MAC Address Table	16K entries	
Share Data Buffer	448K bytes	
Flow Control	IEEE 802.3x Pause Frame for Full-Duplex Back pressure for Half-Duplex	
Jumbo Frame	9216 Bytes	
LED	PWR, SYS, LNK / ACT, PoE In-Use, 1000, PWR Alert, FAN 1 & 2 Alert	
Dimension (W x D x H)	440 x 300 x 44.5 mm, 1U height	
Weight	3.9kg	4.3kg
Power Consumption	Max. 202 Watts / 688.82 BTU	Max. 398 Watts / 1357.18 BTU
Power Requirement	AC 100~240V, 50/60Hz	
ESD Protection	6KV DC	
Power over Ethernet		
PoE Standard	IEEE 802.3af PoE	
PoE Power Supply Type	End-Span, PSE	
PoE Power Output	Per Port 48V DC Max. 15.4 Watts	
Power Pin Assignment	1/2(+), 3/6(-)	
PoE Power Budget	180 Watts	380 Watts
PoE Ability	Number of PD @ 7Watts	24
	Number of PD @ 15.4Watts	11
Layer 2 Function		
Basic Management Interfaces	Console, Telnet, Web Browser, SNMPv1, v2c	
Security Management Interfaces	SSH, SSL	
Port Configuration	Port disable / enable Auto-Negotiation 10/100/1000Mbps full and half duplex mode selection Flow Control disable / enable Port Description	
Port Status	Display each port's speed duplex mode, link status, flow control status, auto negotiation status, and trunk status	
VLAN	802.1Q Tagged Based VLAN Q-in-Q Up to 256 VLAN groups, out of 4094 VLAN IDs	
Link Aggregation	IEEE 802.3ad LACP / Static Trunk 8 groups of 8-Port trunk support	
QoS	<ul style="list-style-type: none"> 8-Level priority queue for switching Traffic classification based, Strict priority and WRR <ul style="list-style-type: none"> 802.1p priority IP DSCP field 	
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 2819 RMON MIB (Group 1) RFC 2737 Entity MIB RFC 3411 SNMP-MIB	

Standards Conformance

Regulation Compliance	FCC Part 15 Class A, CE
Standards Compliance	IEEE 802.3 10Base-T IEEE 802.3u 100Base-TX IEEE 802.3z 1000Base-SX/LX IEEE 802.3ab Gigabit 1000Base-T IEEE 802.3x Flow Control 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 802.3af Power over Ethernet
Environment	
Operating	Temperature: 0 ~ 50 Degree C Relative Humidity: 20 ~ 95% (non-condensing)
Storage	Temperature: -10 ~ 70 Degree C Relative Humidity: 20 ~ 95% (non-condensing)

ORDERING INFORMATION

WGSW-28040P	24-Port 10/100/1000Mbps PoE + 4-Port Gigabit TP/SFP Combo Managed Switch / 180W PoE budget
WGSW-28040P4	24-Port 10/100/1000Mbps PoE + 4-Port Gigabit TP/SFP Combo Managed Switch / 380W PoE budget

AVAILABLE MODULES FOR WGSW-28040P SERIES

MGB-GT	SFP-Port 1000Base-T Module
MGB-SX	SFP-Port 1000Base-SX mini-GBIC module - 220/550m
MGB-LX	SFP-Port 1000Base-LX mini-GBIC module - 10km
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