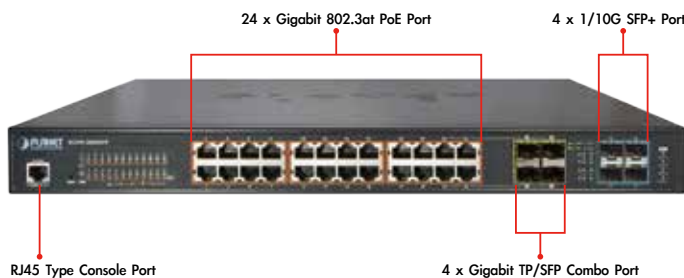# L2+ 24-Port 10/100/1000Mbps 802.3at PoE + 4-Port 10G SFP+ Managed Switch with Hardware Layer3 IPv4/IPv6 Static Routing

Cost-effective 10Gbps Uplink Capacitated Managed PoE+ Switch for Large Surveillance Applications

The XGSW-28040HP is the latest generation of PLANET Managed Gigabit PoE Switches featuring PLANET intelligent PoE functions to improve the availability of critical business applications. It provides IPv6/IPv4 Layer 3 static routing and built-in L2/L4 Gigabit Switching engine along with 24 10/100/1000Base-T ports featuring 30-watt 802.3at PoE+, 4 Gigabit SFP fiber slots and 4 10Gbps SFP+ fiber slots. With total power budget up to 440 watts for different kinds of PoE applications, it provides a quick, safe and cost-effective Power over Ethernet network solution to IP security surveillance for small businesses and enterprises.

24 x Gigabit 802.3at PoE Port   4 x 1/10G SFP+ Port

RJ45 Type Console Port   4 x Gigabit TP/SFP Combo Port

Flexible and Extendable 10Gbps Ethernet Solution

10G Ethernet is a big leap in the evolution of Ethernet. Each of the SFP+ slot supports dual-speed, 10GBase-SR/LR or 1000Base-SX/LX, meaning the administrator now can flexibly choose the suitable SFP/SFP+ transceiver according to the transmission distance or the transmission speed required to extend the network efficiently. With its 4-port, 10G Ethernet link capability, the XGSW-28040HP provides broad bandwidth and powerful processing capacity.

Physical Port

- 24-Port 10/100/1000Base-T RJ45 copper with IEEE 802.3at / 802.3af Power over Ethernet Injector function
- 4 100/1000Base-X mini-GBIC/SFP slots, shared with Port-21 to Port-24 compatible with 100Base-FX SFP
- 4 10GBase-SR/LR SFP+ slots, compatible with 1000Base-SX/ LX/BX SFP
- RJ45 to RS-232 DB9 console interface for standard management and setup

Power over Ethernet

- Complies with IEEE 802.3at High Power over Ethernet End-Span PSE
- Complies with IEEE 802.3af Power over Ethernet End-Span PSE
- Up to 24 ports of IEEE 802.3af / 802.3at devices powered
- Supports PoE Power up to 30.8 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100 meters
- PoE Management
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE Port Power feeding priority
  - Per PoE port power limitation
  - PD classification detection
  - PD alive-check
  - PoE schedule
  - PD power recycling schedule

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
- Storm Control support
  - Broadcast / Unicast / Unknown-unicast
- Supports VLAN
  - IEEE 802.1Q Tagged VLAN
  - Up to 255 VLANs groups, out of 4095 VLAN IDs

Centralized Power Management for Gigabit Ethernet PoE Networking

To fulfill the needs of higher power required PoE network applications with Gigabit speed transmission, the XGSW-28040HP features high-performance Gigabit IEEE 802.3af PoE (up to 15.4 watts) and IEEE 802.3at PoE+ (up to 30 watts) on all ports. It perfectly meets the power requirement of PoE VoIP phone and all kinds of PoE IP cameras such as IR, PTZ, speed dome cameras or even box type IP cameras with built-in fan and heater for high power consumption.

The XGSW-28040HP's PoE capabilities also help to reduce deployment costs for network devices as a result of freeing from restrictions of power outlet locations. Power and data switching are integrated into one unit, delivered over a single cable and managed centrally. It thus eliminates cost for additional AC wiring and reduces installation time.
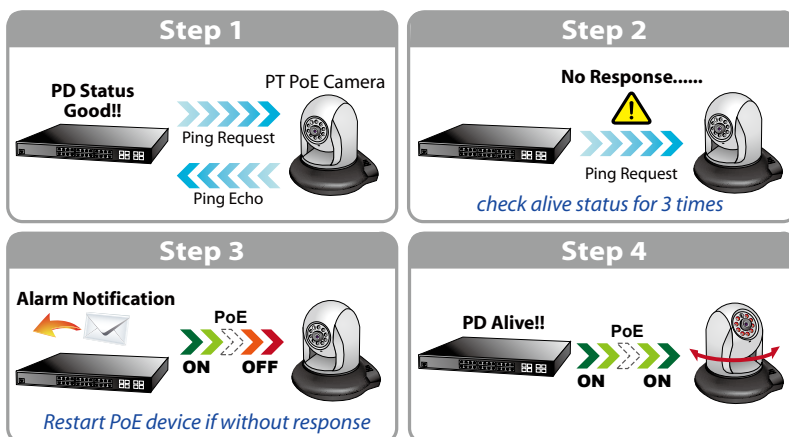
Built-in Unique PoE Functions for Surveillance Management

As a managed PoE Switch for surveillance network, the XGSW-28040HP features intelligent PoE Management functions:

* PD ALIVE Check
* Scheduled Power Recycle
* SMTP/SNMP Trap Event Alert
* PoE Schedule

Intelligent Powered Device Alive Check

The XGSW-28040HP can be configured to monitor connected PD (Powered Device) status in real-time via ping action. Once the PD stops working and it is without response, the XGSW-28040HP will resume the PoE port power and bring the PD back to work. It will greatly enhance the network reliability through the PoE port resetting the PD's power source and reduce administrator management burden.

Step 1
PD Status Good!!
PT PoE Camera
Ping Request
Ping Echo

Step 2
No Response......
Ping Request
check alive status for 3 times

Step 3
Alarm Notification
PoE
ON   OFF
Restart PoE device if without response

Step 4
PD Alive!!
PoE
ON   ON

- Provider Bridging (VLAN Q-in-Q) support (IEEE 802.1ad)
- Private VLAN Edge (PVE)
- Protocol-based VLAN
- MAC-based VLAN
- IP Subnet-based VLAN
- Voice VLAN
* 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
* Supports Link Aggregation
    - 802.3ad Link Aggregation Control Protocol (LACP)
    - Cisco ether-channel (Static Trunk)
    - Maximum 14 trunk groups, up to 8 ports per trunk group
    - Up to 16Gbps bandwidth (full duplex mode)
* Provides Port Mirror (many-to-1)
* Port Mirroring to monitor the incoming or outgoing traffic on a particular port
* Loop protection to avoid broadcast loops

Layer 3 IP Routing Features

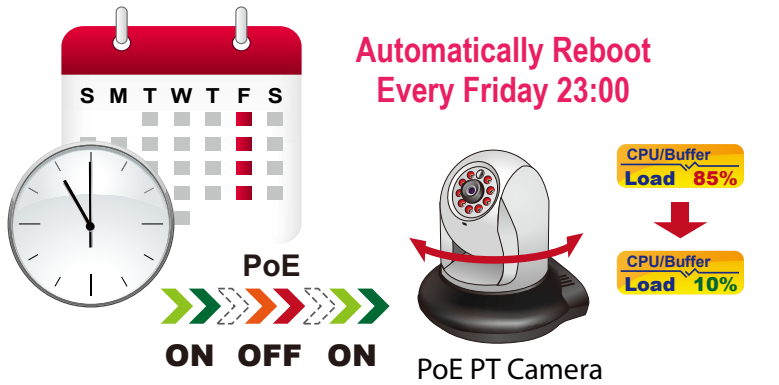* Supports maximum 128 static routes and route summarization

Quality of Service

* Ingress Shaper and Egress Rate Limit per port bandwidth control
* 8 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
* Traffic-policing policies on the switch port
* DSCP remarking

Multicast

* Supports IGMP Snooping v1, v2 and v3
* Supports MLD Snooping v1 and v2
* Querier mode support
* IGMP Snooping port filtering
* MLD Snooping port filtering
* MVR (Multicast VLAN Registration)

Scheduled Power Recycle

The XGSW-28040HP allows each of the connected PDs (Powered Devices) to reboot in a specific time each week. Therefore, it will reduce the chance of PD (Powered Device) crash resulting from buffer overflow.
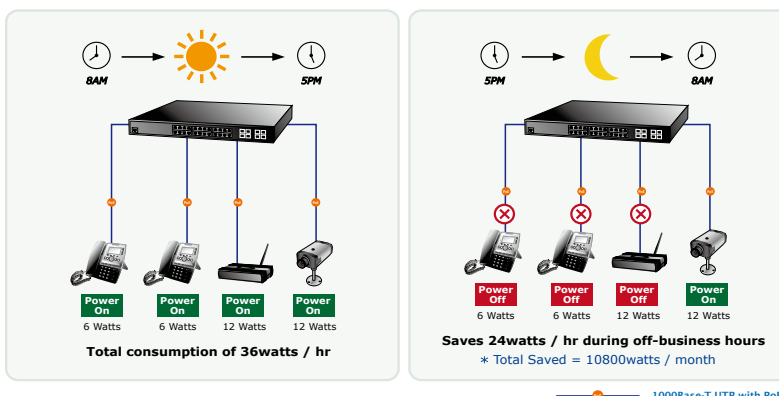
Automatically Reboot Every Friday 23:00

PoE

ON OFF ON

PoE PT Camera

CPU/Buffer Load 85%

CPU/Buffer Load 10%

SMTP/SNMP Trap Event Alert

Though most NVR or camera management software offers SMTP email alert function, the XGSW-28040HP further provides event alert function to help to diagnose the abnormal device owing to whether or not there is a break of the network connection, loss of PoE power or the rebooting response by PD Alive Check process.

PoE Schedule for Energy Saving

Besides being used for IP surveillance, the XGSW-28040HP is certainly applicable to construct any PoE network including VoIP and wireless LAN. Under the trend of energy saving worldwide and contributing to the environmental protection on the Earth, the XGSW-28040HP can effectively control the power supply besides its capability of giving high watts power. The "PoE schedule" function helps you to enable or disable PoE power feeding for each PoE port during specified time intervals and it is a powerful function to help SMB or Enterprise save power and money.

8AM → 5PM

Power On — 6 Watts
Power On — 6 Watts
Power On — 12 Watts
Power On — 12 Watts

Total consumption of 36watts / hr

5PM → 8AM

Power Off — 6 Watts
Power Off — 6 Watts
Power Off — 12 Watts
Power On — 12 Watts

Saves 24watts / hr during off-business hours
* Total Saved = 10800watts / month

1000Base-T UTP with PoE

Security

- IEEE 802.1X Port-based / MAC-based network access authentication
- IEEE 802.1X Authentication with Guest VLAN
- Built-in RADIUS client to cooperate with the RADIUS servers
- RADIUS / TACACS+ users access authentication
- IP-based Access Control List (ACL)
- MAC-based Access Control List (ACL)
- Source MAC / IP address binding
- DHCP Snooping to filter distrusted DHCP messages
- Dynamic ARP Inspection discards ARP packets with invalid MAC address to IP address binding
- IP Source Guard prevents IP spoofing attacks
- 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 Address / NTP 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 Option 82
- User Privilege levels control
- NTP (Network Time Protocol)
- Link Layer Discovery Protocol (LLDP)
- SFP-DDM (Digital Diagnostic Monitor)
- Cable Diagnostic technology provides the mechanism to detect and report potential cabling issues
- ICMPv6 / ICMPv4 Remote Ping
- Reset button for system reboot or reset to factory default
- SMTP / Syslog / SNMP Trap remote alarm
- System Log
- PLANET Smart Discovery Utility for deploy management

Redundant Data Protection

- ITU-T G.8032 Ethernet Ring Protection Switching

Solution for IPv6 Networking

Faced with the increasingly large number of IP cameras and wireless APs deployed in all kinds of applications, more and more network facilities start to support the IPv6 protocol for the next-generation networking. By supporting IPv6 / IPv4 dual stack and plenty of management functions with easy and friendly management interfaces, the XGSW-28040HP is the best choice for IP surveillance, VoIP and wireless service providers to connect with the IPv6 network.

It also helps the SMB 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.
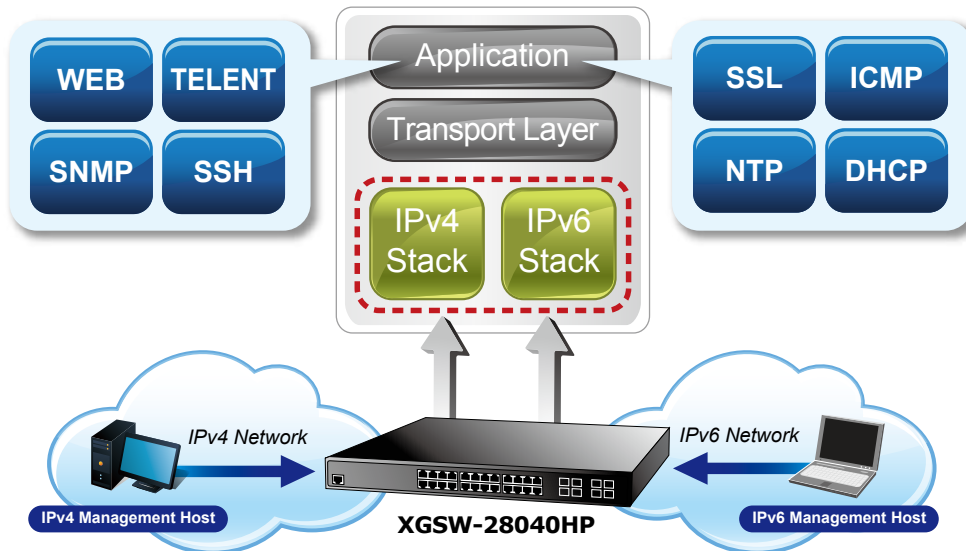
IPv4 and IPv6 VLAN Routing for Secure and Flexible Management

To help customers stay on top of their businesses, the XGSW-28040HP switch not only provides ultra high transmission performance and excellent layer 2 technologies, but also offers IPv4/IPv6 VLAN routing feature which allows to cross over different VLANs and different IP addresses for the purpose of having a highly secured, flexible management and simpler networking application.

Enhanced Security

The XGSW-28040HP offers a 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 and MAC-based user and device authentication. With the private VLAN function, communication between edge ports can be prevented to ensure user privacy. Furthermore, the XGSW-28040HP 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.

Robust Layer 2 Features

The XGSW-28040HP 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 2/4 QoS, bandwidth control and IGMP/MLD Snooping. The XGSW-28040HP also provides 802.1Q Tagged VLAN, and the VLAN groups allowed will be maximally up to 256. Via aggregation of supporting ports, the XGSW-28040HP allows the operation of a high-speed trunk combining multiple ports. It enables up to 14 groups of 8 ports for trunk maximum and supports connection fail-over as well.

Excellent Traffic Control

The XGSW-28040HP is loaded with powerful traffic management and QoS features to enhance connection services by SMBs and enterprises. The QoS features include wire-speed Layer 4 traffic classifiers and bandwidth limitation that are particular useful for multi-tenant unit, multi business unit, Telco, or Network Service Provide applications. It also empowers the enterprises to take full advantages of the limited network resources and guarantees the best performance in VoIP and Video conferencing transmission.

User-friendly Secure Management

The XGSW-28040HP Managed Switch is equipped with console, WEB and SNMP management interfaces. With the built-in Web-based management interface, the XGSW-28040HP offers an easy-to-use, platform-independent management and configuration facility. The XGSW-28040HP supports standard Simple Network Management Protocol (SNMP) and can be managed via any management software that supports SNMP protocol. For text-based management, the XGSW-28040HP can be accessed via Telnet and the console port. Moreover, the XGSW-28040HP offers secure remote management by supporting SSH, SSL and SNMPv3 connection which encrypt the packet content at each session.

Flexibility and Extension Solution

The four mini-GBIC slots built in the XGSW-28040HP series support dual speed as it features 100Base-FX and 1000Base-SX/LX SFP (Small Form-factor Pluggable) fiber-optic modules. Now the administrator can flexibly choose a suitable SFP transceiver according to not only the transmission distance, but also the transmission speed required. The distance can be extended from 550 meters to 2km (multi-mode fiber) and up to above 10/20/30/40/50/70/120 kilometers (single-mode fiber or WDM fiber). They are well suited for applications within the enterprise data centers and distributions.
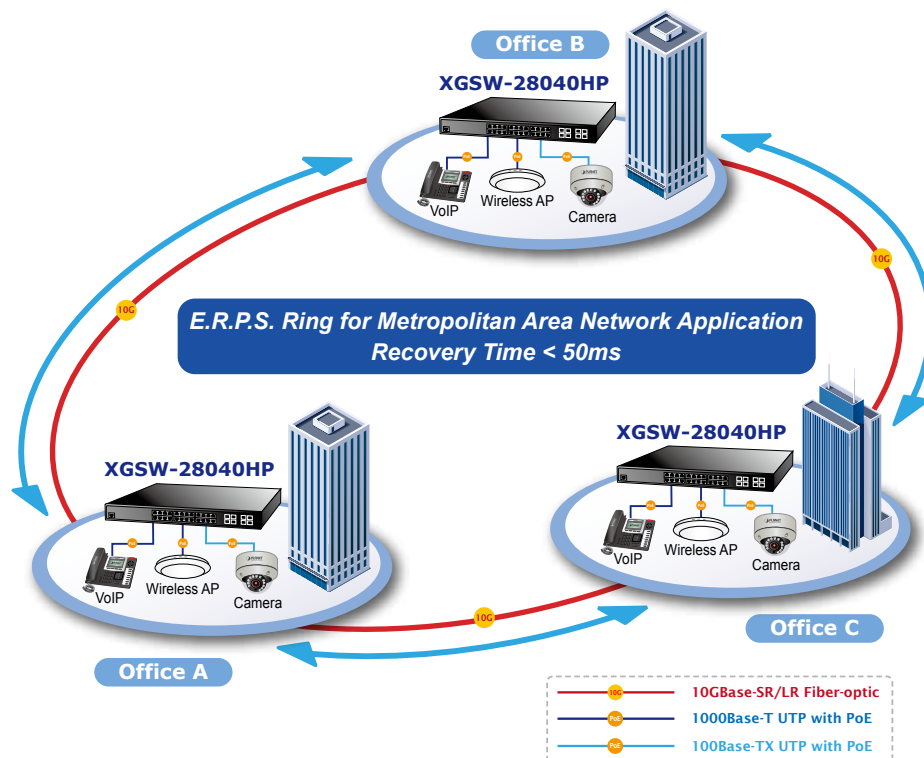
Intelligent SFP Diagnosis Mechanism

The XGSW-28040HP supports SFP-DDM (Digital Diagnostic Monitor) function that greatly helps network administrator to easily monitor real-time parameters of the SFP, such as optical output power, optical input power, temperature, laser bias current, and transceiver supply voltage.

Applications

Redundant Ring, Fast Recovery for Metropolitan Area Network
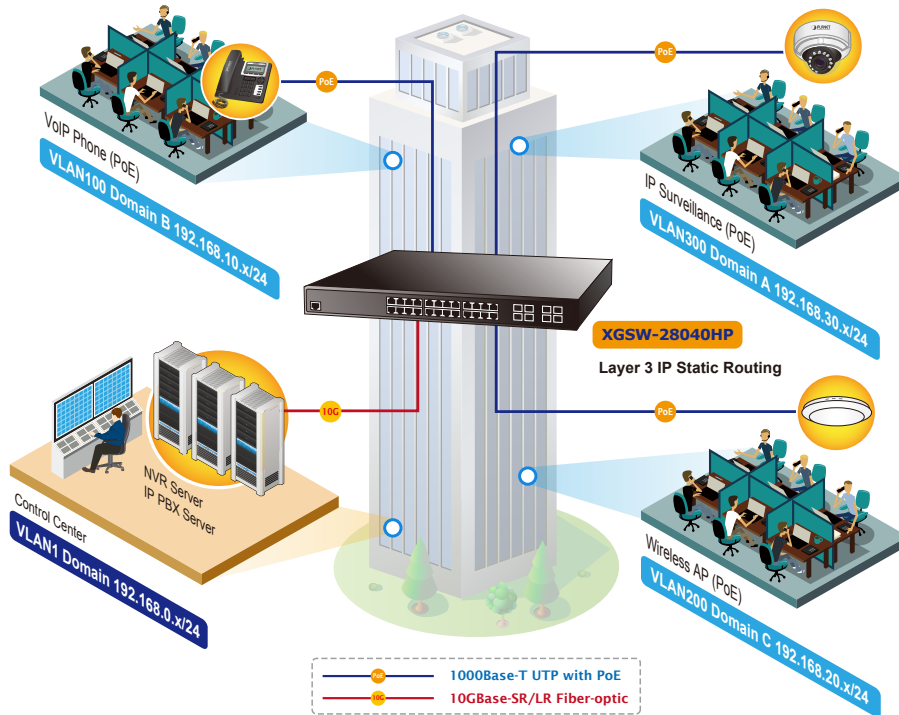
The XGSW-28040HP supports redundant ring technology and features strong rapid self-recovery capability to prevent interruptions and external intrusions. It incorporates advanced ITU-G.8032 Ethernet Ring Protection Switching technology and IEEE standard Multiple Spanning Tree Protocol (802.1s MSTP) into customer's IP surveillance network to enhance system reliability and uptime in harsh factory environments. The XGSW-28040HP also protects customer's network connectivity with switching recovery capability that is used for implementing fault tolerant ring and mesh network architectures. If the network was interrupted accidentally, the fault recovery times could be less than 50ms to quickly bring the network back to normal operation.

Office B
XGSW-28040HP
VoIP · Wireless AP · Camera

E.R.P.S. Ring for Metropolitan Area Network Application Recovery Time < 50ms

XGSW-28040HP
VoIP · Wireless AP · Camera
Office A

XGSW-28040HP
VoIP · Wireless AP · Camera
Office C

10GBase-SR/LR Fiber-optic
1000Base-T UTP with PoE
100Base-TX UTP with PoE

Layer 2+ VLAN Static Routing and PoE Application

The XGSW-28040HP features both IEEE 802.3af and High Power IEEE 802.3at Power over Ethernet (PoE) that combine up to 30-watt power output per port, and PoE budget is up to 440 watts which can deploy up to 24 PoE PD devices. With the built-in robust IPv4 / IPv6 Layer 3 traffic routing protocols, the XGSW-28040HP ensures reliable routing between VLANs and network segments. The routing protocols can be applied by VLAN interface with up to 128 routing entries. The XGSW-28040HP is certainly a cost-effective and ideal solution for enterprises.

VLAN Routing + PoE Applications

VoIP Phone (PoE)
VLAN100 Domain B 192.168.10.x/24

IP Surveillance (PoE)
VLAN300 Domain A 192.168.30.x/24

XGSW-28040HP
Layer 3 IP Static Routing

NVR Server
IP PBX Server
Control Center
VLAN1 Domain 192.168.0.x/24

Wireless AP (PoE)
VLAN200 Domain C 192.168.20.x/24

1000Base-T UTP with PoE
10GBase-SR/LR Fiber-optic

Specifications

Model	XGSW-28040HP
Hardware Specifications	
Copper Ports	24 10/100/1000Base-T RJ45 auto-MDI/MDI-X ports
SFP/mini-GBIC Slots	4 100/1000Base-X SFP interfaces, shared with Port-21 to Port-24 Compatible with 100Base-FX SFP transceiver
SFP+ Slots	4 10GBase-SR/LR SFP+ interface (Port-25 to Port-28) Compatible with 1000Base-SX/LX/BX SFP transceiver
Console	1 x RS-232-to-RJ45 serial port (115200, 8, N, 1)
Switch Architecture	Store-and-Forward
Switch Fabric	128Gbps / non-blocking
Throughput	95Mpps@64Bytes
Address Table	16K entries, automatic source address learning and ageing
Share Data Buffer	32M bits
Flow Control	IEEE 802.3x pause frame for full-duplex Back pressure for half-duplex
Jumbo Frame	10K bytes
Reset Button	< 5 sec: System reboot > 5 sec: Factory default
Dimensions (W x D x H)	440 x 300 x 44.5 mm, 1U height
Weight	4887g

LED	**System:**
	  PWR (Green), SYS (Green), Ring (Green), R.O. (Green)
	  PWR1 (Green), PWR2 (Green), FAN1 (Green), FAN2 (Green)
	10/100/1000T RJ45 Interfaces (Port 1 to Port 24):
	  10/100/1000Mbps LNK/ACT (Green)
	  PoE In-Use (Orange)
	100/1000Mbps SFP Combo Interfaces (Port 21 to Port 24):
	  1000Mbps (Green), LNK/ACT (Orange)
	1/10Gbps SFP+ Interfaces (Port 25 to Port 28):
	  10Gbps LNK/ACT (Green), 1Gbps LNK/ACT (Orange)

Power Requirements	100~240V AC, 50/60Hz
Power Consumption	502 watts / 1712.8 BTU Max.
ESD Protection	6KV DC
Power over Ethernet	
PoE Standard	IEEE 802.3af / 802.3at PoE / PSE
PoE Power Supply Type	End-span
PoE Power Output	Per Port 56V DC, Max. 30.8 watts
Power Pin Assignment	1/2(+), 3/6(-)
PoE Power Budget	440 watts (max.) @ 25 degrees C 380 watts (max.) @ 50 degrees C
PoE Ability	PD @ 7 watts	24 units
	PD @ 15.4 watts	24 units
	PD @ 30.8 watts	14 units
Layer 2 Functions	
Port Configuration	Port disable / enable Auto-negotiation 10/100/1000Mbps full and half duplex mode selection Flow control disable / enable
Port Status	Display each port's speed duplex mode, link status, flow control status, auto-negotiation status, trunk status
Port Mirroring	TX / RX / Both Many-to-1 monitor
VLAN	802.1Q Tagged based VLAN Q-in-Q tunneling Private VLAN Edge (PVE) MAC-based VLAN Protocol-based VLAN Voice VLAN IP Subnet-based VLAN MVR (Multicast VLAN Registration) Up to 255 VLAN groups, out of 4094 VLAN IDs
Link Aggregation	IEEE 802.3ad LACP / Static Trunk 16 groups of 8-Port trunk supported

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
QoS	Traffic classification based, Strict priority and WRR 8-Level priority for switching - Port Number - 802.1p priority - 802.1Q VLAN tag - DSCP/TOS field in IP packet
IGMP Snooping	IGMP (v1/v2/v3) Snooping, up to 255 multicast groups IGMP Querier mode support
MLD Snooping	MLD (v1/v2) Snooping, up to 255 multicast groups MLD Querier mode support
Access Control List	IP-based ACL / MAC-based ACL Up to 256 entries
Bandwidth Control	Per port bandwidth control Ingress: 100Kbps~1000Mbps Egress: 100Kbps~1000Mbps
Layer 3 Functions	
IP Interfaces	Max. 128 VLAN interfaces
Routing Table	Max. 32 routing entries
Routing Protocols	IPv4 hardware Static Routing IPv6 hardware Static Routing
Management	
Basic Management Interfaces	Console / Telnet / Web browser / SNMP v1, v2c
Secure Management Interfaces	SSH, SSL, SNMP v3
SNMP MIBs	RFC 1213 MIB-II RFC 1493 Bridge MIB RFC 1643 Ethernet MIB RFC 2863 Interface MIB RFC 2665 Ether-Like MIB RFC 2819 RMON MIB (Group 1, 2, 3 and 9) RFC 2737 Entity MIB RFC 2618 RADIUS Client MIB RFC 2863 IF-MIB RFC 2933 IGMP-STD-MIB RFC 3411 SNMP-Frameworks-MIB RFC 4292 IP Forward MIB RFC 4293 IP MIB RFC 4836 MAU-MIB IEEE 802.1X PAE LLDP Power over Ethernet MIB
Standards Conformance	
Regulation Compliance	FCC Part 15 Class A, CE
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 802.3ae 10Gb/s Ethernet 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 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet PLUS 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 RFC 3376 IGMP version 3 RFC 2710 MLD version 1 FRC 3810 MLD version 2

Environment	
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -10 ~ 70 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

Related Products

XGSW-28040HP	L2+ 24-Port 10/100/1000Mbps 802.3at PoE + 4-Port 10G SFP+ Managed Switch with Hardware Layer3 IPv4/IPv6 Static Routing
XGSW-28040	L2+ 24-Port 10/100/1000Mbps + 4-Port 10G SFP+ Managed Switch with Layer3 IPv4/IPv6 Static Routing

Related PoE Products

ICA-2200	Full HD PoE Box IP Camera
ICA-2250VT	Industrial PoE Plus Outdoor IR IP Camera
ICA-2500	5 Mega-pixel PoE Box IP Camera
ICA-3250V	Full HD Outdoor IR PoE IP Camera
ICA-3350V	3 Mega-pixel Vari-focal Bullet IR IP Camera
ICA-4200V	Full HD 20M IR Vari-focal Dome IP Camera
ICA-4500V	5 Mega-pixel 20M IR Vari-focal Dome IP Camera
ICA-5250	Full HD Ultra-mini Vandal Dome
ICA-5350V	3 Mega-pixel Vandalproof IR IP Camera
ICA-HM127	3 Mega-pixel H.264 Box IP Camera
ICA-HM132	H.264 2 Mega-pixel 20M IR Vari-focal Dome IP Camera
ICA-HM136	H.264 2 Mega-pixel 20M IR Vandalproof Dome IP Camera
ICA-HM351	2 Mega-pixel 35M IR Outdoor Box PoE IP Camera
ICA-HM620	2 Mega-pixel PoE Plus Speed Dome Internet Camera
POE-162S	IEEE 802.3at Gigabit High Power over Ethernet Splitter
POE-E201	IEEE 802.3at Power over Ethernet Extender
WNAP-C3220	802.11n Wireless Ceiling-mount PoE Access Point
WNAP-1120PE	802.11n Wireless Access Point with PoE
WNAP-W2200	802.11n 300Mbps In-Wall Access Point w/ USB Charger (EU Type)
WDAP-C7400	900Mbps Dual Band Ceiling-mount Wireless Access Point
WDAP-C7200AC	1200Mbps 802.11ac Dual Band Ceiling-mount Wireless Access Point
ICF-1700	Touch Screen Internet Multimedia Phone
VIP-256PT	802.3af PoE SIP IP Phone
VIP-2020PT	Enterprise HD PoE IP Phone (2-Line)
VIP-5060PT	Professional HD PoE IP Phone (6-Line)

Available SFP/SFP+ Transceiver for XGSW-28040HP

10Gbps SFP+ Transceivers

MTB-LR	1-Port 10GBase-LR SFP+ Fiber optical module 10KM
MTB-SR	1-Port 10GBase-SR SFP+ Fiber optical module 300M
CB-DASFP-0.5M	10G SFP+ Direct Attached Copper Cable – 0.5M
CB-DASFP-2M	10G SFP+ Direct Attached Copper Cable – 2M

1Gbps SFP Transceivers

MGB-GT	SFP-Port 1000Base-T Module 100M
MGB-SX	SFP-Port 1000Base-SX mini-GBIC module 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
MGB-TLX	SFP-Port 1000Base-LX mini-GBIC module 10KM (-40~75°C)
MGB-TSX	SFP-Port 1000Base-SX mini-GBIC module 550M (-40~75°C)
MGB-TL30	SFP-Port 1000Base-LX mini-GBIC module 30km (-40~75°C)
MGB-TL70	SFP-Port 1000Base-LX mini-GBIC module 70km (-40~75°C)

100Mbps SFP Transceivers

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
MFB-TFX	SFP-Port 100Base-FX Transceiver (1310nm) 2km (-40~75°C)
MFB-TF20	SFP-Port 100Base-FX Transceiver (1310nm) 20km (-40~75°C)

C-XGSW28040HP