Product Datasheet

16-port Gigabit Managed Industrial PoE Switch
(GWS-IPS33016PM)

OVERVIEW

The GWS-IPS33016PM is a Gigabit managed industrial PoE fiber switch independently developed by GWS. It has 16*10/100/1000Base-T adaptive RJ45 ports. Port 1-16 can support IEEE 802.3 af/at PoE standard and the single-port PoE power reaches 30W. As a PoE power supply device, it can automatically detect and recognize power-receiving devices that meet the standard and supply power through the network cable. It can supply power to PoE terminal equipment such as wireless AP, IP camera, VoIP, and industrial sensors through the network cable. It also meets the network environment that needs a high-density PoE power supply. It is suitable for intelligent transportation, rail transit, power industry, mining, petroleum, and industrial scenes such as shipping, metallurgy, and green energy construction forming a cost-effective,

stable, and reliable communication network.

The GWS-IPS33016PM has L2+ network management functions, supports IPV4/IPV6 management, static route forwarding, complete security protection mechanisms, complete ACL/QoS policies, and rich VLAN functions for easy management and maintenance. Supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) and (ITU-T G.8032) ERPS (<20ms) to improve link backup and network reliability. When a one-way network fails, communication can be quickly restored to ensure uninterrupted communication for important applications. According to application needs, PoE management, port management, routing address management, port flow control, VLAN division, IGMP, security policy, and other business configurations are performed through network management methods such as Web, CLI, SNMP, and Telnet.

FEATURE

■ **Gigabit access**

◇ Support non-blocking wire-speed forwarding.

◇ Support full-duplex based on IEEE 802.3x and half-duplex based on Backpressure.

◇ Support line-speed Gigabit Ethernet port, which facilitates flexible networking of users and meets networking requirements in various scenarios.

■ **Smart PoE power supply**

◇ Comply with IEEE 802.3 af/at PoE standard, automatically identify PoE devices for power supply, and not damage non-PoE devices.

◇ PoE network management, realize PoE port power allocation, priority setting, port power status viewing, time scheduling, etc.

◇ Priority system for PoE port, it will supply power to the high priority level port first when the power budget is insufficient and avoid overwork of the device.

◇ 16*10/100/1000Base-T RJ45 ports can support PoE power supply to meet the needs of security monitoring, teleconferencing system, wireless coverage, and other scenarios.

■ **Security**

◇ Port isolation and storm control.

◇ IP+MAC+port+VLAN quadruple flexible combination binding function.

◇ 802.1X authentication provides authentication functions for LAN computers and controls the authorization status of controlled ports according to the authentication results.

■ **Strong business processing ability**

◇ Support ERPS ring network and STP/ RSTP/ MSTP to eliminate layer 2 loops and realize link backup.

◇ Support IEEE802.1Q VLAN, Users can flexibly divide VLAN, Voice VLAN, and QinQ configuration according to their needs.

◇ Support static and dynamic aggregation to effectively increase link bandwidth, realize load balancing, link backup, and improve link reliability.

◇ Support QoS, port-based, 802.1P-based, and DSCP-based three priority modes and four queue scheduling algorithms: Equ, SP, WRR, and SP+WRR.

◇ Support ACL to filter data packets by configuring matching rule processing operations and time permissions, and provide flexible security access control policies.

◇ Support IGMP V1/V2/V3 multicast protocol, IGMP Snooping meets multi-terminal high-definition video surveillance and video conference access requirements.

■ **Stable and reliable**

◇ CCC, CE, FCC, RoHS.

◇ The user-friendly panel can show the device status through the LED indicator of PWR, SYS, Link, L/A, and PoE.

◇ Low power consumption, aluminum alloy housing, and excellent heat dissipation to ensure the stable operation of the switch.

■ **Easy O&M management**

◇ Support CPU monitoring, memory monitoring, Ping detection, and cable length detection.

◇ HTTPS, SSLV3, SSHV1/V2, and other encryption methods are more secure in management.

◇ RMON, system log, and port traffic statistics are convenient for network optimization and transformation.

◇ LLDP is convenient for the network management system to query and judge the communication status of the link.

◇ Support diverse management and maintenance methods such as Web network management, CLI command line (Console, Telnet), SNMP (V1/V2/V3), Telnet, etc.

TECHNICAL SPECIFICATION

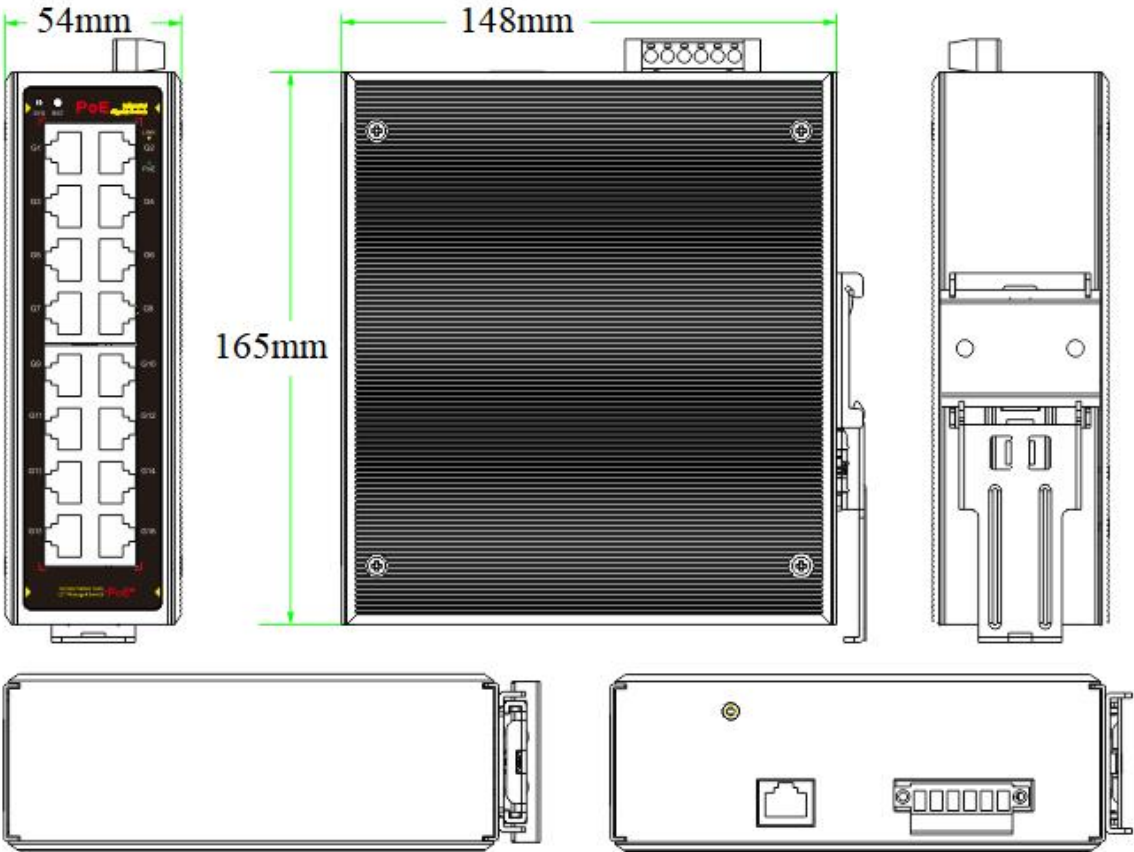| Model	GWS-IPS33016PM
Interface Characteristics	
Fixed Port	Power-off alarm switch (FAULT) 1*RS232 Console port (115200,N,8,1) 16*10/100/1000Base-T PoE ports (Data/Power) 2 set V+, V- redundant DC power ports (6P industrial Phoenix terminal)
Ethernet Port	Port 1-16 can support 10/100/1000Base-T auto-sensing, full/ half duplex MDI/ MDI-X self-adaption
Twisted Pair Transmission	10BASE-T: Cat3,4,5 UTP (≤100 meters) 100BASE-TX: Cat5 or later UTP (≤100 meters) 1000BASE-T: Cat5e or later UTP (≤100 meters)
Chip Parameter	
Network Management Type	L2+
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	52Gbps (non-blocking)
Forwarding Rate@64byte	23.81Mpps
CPU(Hz)	416M
DRAM	1G

FLASH	128M
MAC	8K
Buffer Memory	4M
Jumbo Frame	9.6K
LED Indicator	Power: PWR(Green), PoE: PoE (Green), System: SYS(Green), Network: Link (Yellow)
PoE& Power Supply	
PoE Port	Port 1-16
PoE Management	PoE power supply total power limit configuration Power delay start, PoE work, and time scheduling Port PoE working status display, Port PoE output priority configuration Port PoE output power distribution, PoE on/off, af/at power distribution
Power Supply Pin	1/2 (+) 3/6 (-)
Max Power Per Port	30W, IEEE 802.3 af/at
Power Consumption	Standby<10W, Full Load af<240W, at<480W
Input Voltage/ Interface	DC48-57V, 6P industrial Phoenix terminal, support anti-reverse protection.
Power Supply	No, optional 48V/240W or 48V/480W industrial power supply
Physical Parameter	
Operation Temp/ Humidity	-40~+80°C, 5%~90% RH Non condensing
Storage Temp/ Humidity	-40~+85°C, 5%~95% RH Non condensing
Dimension (L*W*H)	165*148*54mm
Net /Gross Weight	1.1kg / 1.3kg
Installation	Desktop, 35mm DIN Rail
Certification & Warranty	
Lightning Protection	IEC61000-4-3 (RS):10V/m (80~1000MHz) FCC Part 15/CISPR22 (EN55022): Class A IEC61000-6-2 (Common Industrial Standard) IEC61000-4-9 (Pulsed magnet field): 1000A/m

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	IEC61000-4-10 (Damped oscillation): 30A/m 1MHz
	IEC61000-4-12/18 (Shockwave): CM 2.5kV, DM 1kV
	Protection level: IP40, Lightning protection: 6KV 8/20us
	IEC61000-4-4(EFT): Power cable: ±4kV, data cable: ±2kV
	IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s
	IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge
	IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz)
	IEC61000-4-8 (Power frequency magnetic field): 100A/m, 1000A/m, 1s-3s
	IEC61000-4-5 (Surge): Power cable: CM±4kV/ DM±2kV, data cable: ±4kV
Mechanical Properties	IEC60068-2-6 (Anti Vibration), IEC60068-2-27 (Anti Shock),IEC60068-2-32 (Free Fall)
Certification	CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class A, RoHS
Warranty	5 years, lifelong maintenance.
Network Management Feature	
Interface	Port green Ethernet Energy-saving setting Broadcast storm control based on port speed Port temperature protection setting, IEEE 802.3x flow control (Full-duplex) The speed limit of the message flow in the access port, mini particle size is 64Kbps.
L3 Feature	ARP protocol max 1024 entries Static routing/ default routing max 128 entries L2+ network management, IPV4/IPV6 dual stack management L3 routing and forwarding, and communication between different network segments and different VLAN
VLAN	Access, Trunk, and Hybrid port configurations Port-based VLAN (4K), IEEE802.1q, QinQ configuration

	Voice VLAN, Protocol-based VLAN, MAC address-based VLAN
Port Aggregation	LACP dynamic aggregation, Static aggregation, Max 8 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Ring Network Protocol	G.8032 (ERPS), 250 Ring at most, Max 250 devices per ring. Recovery time less than 20ms.
Multicast	MLD Snooping, Multicast VLAN, IGMP Snooping v1/v2/v3, Max 1024 multicast groups, Fast log out
Port Mirroring	Bidirectional data mirroring based on port
QoS	Flow-based redirection, Flow-based rate limiting Flow-based packet filtering, Priority Mark/Remark 8*Output queues of each port, 802.1p/ DSCP priority mapping Queue Scheduling Algorithm (SP, WRR, SP+WRR), Diff-Serv QoS
ACL	Port-based Issuing ACL, ACL based on port and VLAN L2 to L4 packet filtering, matching first 80 bytes message. Provide ACL based on MAC, Destination MAC address, IP Source, Destination IP, IP Protocol Type, TCP/UDP Port, TCP/UDP Port Range, and VLAN, etc.
Security	SSH 2.0, SSL, Port isolation, ARP message speed limit User hierarchical management and password protection AAA & RADIUS & TACACS+ certification, MAC learning limit IEEE802.1X & MAC address authentication, ARP inspection IP-MAC-VLAN-Port binding, Anti-DoS attack, IP source protection Broadcast storm control, Backup for host datum, Mac black holes
DHCP	DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay
Management	CPU real-time utilization status view, SNMP V1/V2/V3 GWS-NMS platform cluster management (LLDP+SNMP) Console/ AUX Modem/ Telnet/ SSH2.0, CLI configuration Cable length status detection, NTP clock, One-key recovery, LLDP FTP, TFTP, Xmodem, SFTP file upload and download management

	Ping detection, System work log, Web network management (HTTPS)
System	Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, Mac OS X) installed on each computer in the network Cat5 and above Ethernet cable

DIMENSION

APPLICATION
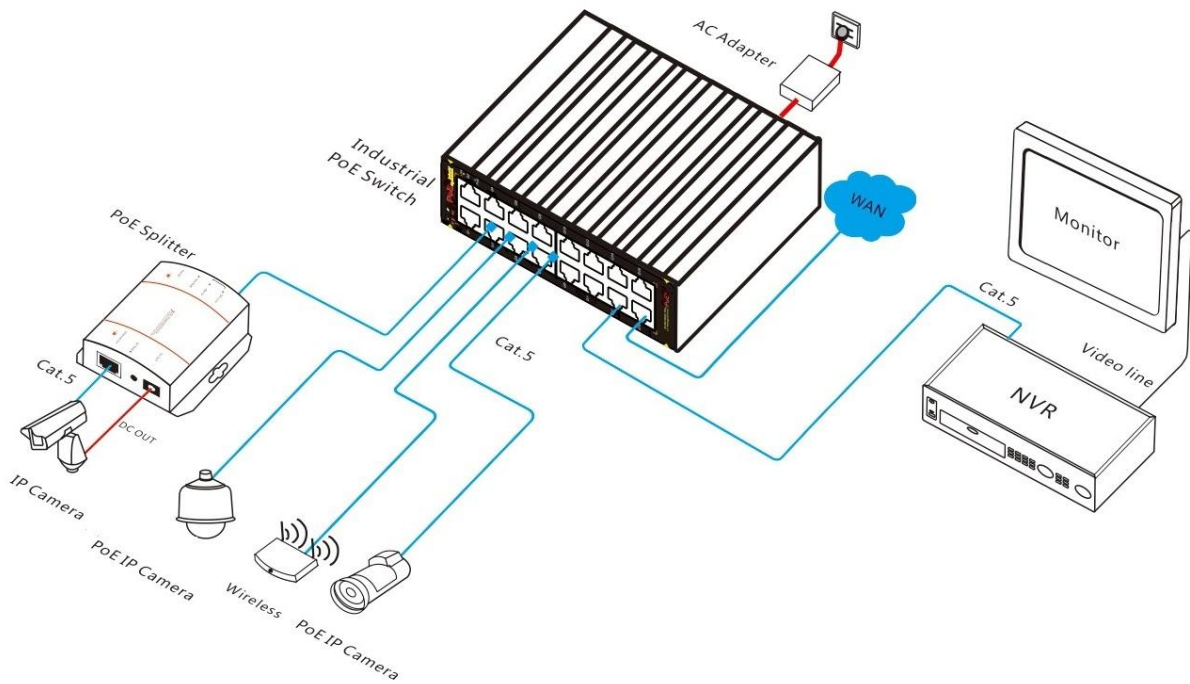
ORDERING INFORMATION

Model	Description	Recommended Power Supply
GWS-IPS33016PM	L2+ managed industrial PoE switch with 16*10/100/1000M RJ45 ports. Port 1-16 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.	240W/480W

Note: The power supply is not included and needs to be purchased.

PACKING LIST

	Content	Qty	Unit
Packing List	16-port Gigabit managed industrial PoE switch	1	Set
	RJ45-DB9 Adapter Cable	1	PC
	User Guide	1	PC
	Warranty Card and Certificate of Conformity	1	PC

POWER SUPPLY

Product	Model	Description	Unit
240W DIN Rail Industrial Power Supply	GWS-DP240-48	DIN Rail 240W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 3.0A Output Voltage: DC48V, 5.0A Operation Temperature: -40℃ to +70℃	PC
480W DIN Rail Industrial Power Supply	GWS-DP480-48	DIN Rail 480W single set of output power supply Input Voltage: AC100V~240V 50-60Hz, 5.0A Output Voltage: DC48V, 10A Operation Temperature: -40℃ to +70℃	PC

RELATED PRODUCT

Model	Description
GWS-IPS33064PFM	L2+ managed industrial PoE fiber switch with 4*10/100/1000M RJ45 ports and 2*100/1000M uplink SFP fiber ports. Port 1-4 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
GWS-IPS33108PFM	L2+ managed industrial PoE fiber switch with 8*10/100/1000M RJ45 ports and 2*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
GWS-IPS33148PFM	L2+ managed industrial PoE fiber switch with 10*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
GWS-IPS33168PFM	L2+ managed industrial PoE fiber switch with 8*10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE

	802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
GWS-IPS33168PFM-4GF	L2+ managed industrial PoE fiber switch with 12*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.
GWS-IPS33024PM	L2+ managed industrial PoE switch with 24*10/100/1000M RJ45 ports. Port 1-16 can support IEEE 802.3 af/at PoE standard. It can support dual DC redundant power input and DIN rail mounting.

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