![GWS logo]

Product Datasheet

10-port Gigabit Bypass Managed Industrial PoE Switch
(GWS-IPS33010PFM-BY)

OVERVIEW

The GWS-IPS33010PFM-BY is a Gigabit bypass managed industrial PoE fiber switch independently developed by GWS. It has 8*10/100/1000M adaptive RJ45 ports and 2*100/1000M uplink SFP fiber ports. Port 1-8 can support IEEE 802.3 af/at PoE standard and the single-port PoE power up to 30W. As a PoE power supply device, it can automatically detect and identify the electrical equipment that meets the standard and supply power through the cable. It can supply the PoE terminal equipment, such as wireless AP, IP camera, network telephone, and industrial sensors to meet the demand for a high-density PoE power supply network environment. The switch integrates the Bypass optical switching module. When the power supply of the switch is interrupted, the optical fiber is automatically switched to the bypass-through state to avoid communication interruption due to switch failure and ensure the reliability of network transmission. It is suitable for intelligent transportation, rail transit, electric power, mining, metallurgy and green energy, and industrial scenes such as construction setting up a cost-effective and stable communication network.

The GWS-IPS33010PFM-BY has L2+ network management functions, supports IPV4 static routing forwarding, and has complete security protection mechanisms, perfect ACL/QoS strategies, and rich VLAN functions for easy management and maintenance. It supports multiple network redundancy protocols STP/RSTP/MSTP (<50ms) to improve link backup and network reliability. When a unidirectional network fails, communication can be quickly restored to ensure uninterrupted communication of important applications. PoE power supply management, routing address management, port flow control, VLAN division, IGMP, security policy, and other application business configurations can be performed through Web, CLI, SNMP, Telnet, and other network management methods according to application needs.

FEATURE

■ Gigabit access

◇ Support non-blocking wire-speed forwarding.

◇ Support full-duplex based on IEEE802.3x and half-duplex based on Backpressure.

◇ Support Gigabit RJ45 port and SFP port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

◇ Support physical single-mode single fiber optical path (Bypass) function, pure hardware switching, short switching time, does not affect the data transmission rate and improves the stability of the network system.

■ Smart PoE power supply

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

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

◇ 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.

◇ 8*10/100/1000Base-T RJ45 ports can support PoE power to meet the needs of security monitoring, teleconferencing system, wireless coverage, and other scenarios.

■ **Strong business processing ability**

◇ Support Access, Trunk, and Hybrid port configuration.

◇ Support IEEE 802.1Q VLAN. Users can divide VLAN according to their needs.

◇ Support STP/RSTP/MSTP production tree protocol, eliminate layer 2 loops and realize link backup.

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

◇ Support IGMP Snooping V1/V2/V3 to meet the multi-terminal high-definition video surveillance and video conference access requirements.

◇ 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.

■ **Security**

◇ Support port isolation and port broadcast storm suppression.

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

◇ Support 802.1X authentication to provide authentication functions for LAN computers, and control the authorization status of controlled ports according to the authentication results.

■ **Stable and reliable**

◇ CCC, CE, FCC, RoHS.

◇ The user-friendly pane 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.

◇ Support HTTPS, SSHV1/V2, and other encryption methods, making management more secure.

◇ Support RMON, system log, and port traffic statistics to facilitate network optimization and transformation.

◇ Support LLDP to facilitate the network management system to query and judge the communication status of the link.

◇ Support Web network management, CLI (Console, Telnet), SNMP (V1/V2/V3), Telnet, and other diversified management and maintenance methods.

TECHNICAL SPECIFICATION

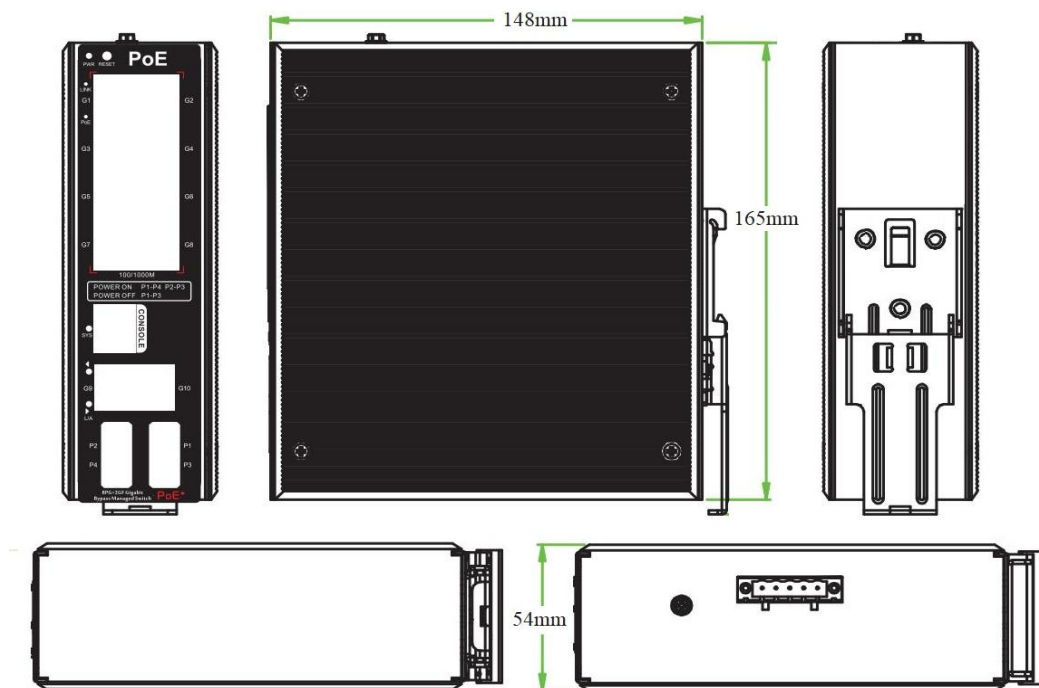| Model	GWS-IPS33010PFM-BY
Interface Characteristics	
Fixed Port	2 set bypass optical fiber ports 1*Console RS232 port (115200,N,8,1) 2*100/1000Base-X uplink SFP ports (Data) 8*10/100/1000Base-T PoE ports (Data/Power) 2 set V+, V- redundant DC power ports (5P industrial Phoenix terminal)
Bypass Optical Port	Power ON: P1-P4 intercommunication, P2-P3 intercommunication Power OFF: P1-P3 Pass-through
Ethernet Port	Port 1-8 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)
Optical Fiber Port	Default no include optical module (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)
Optical Cable/ Distance	Multi-mode: 850nm/ 0-500m, Single-mode: 1310nm/ 0-40km, 1550nm/

	0-120km
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 802.3z 1000Base-X, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	20Gbps (non-blocking)
Forwarding Rate@64byte	14.88Mpps
CPU (Hz)	500M
DRAM	1G
Flash	128M
MAC	8K
Buffer Memory	4M
Jumbo Frame	10K
LED Indicator	PoE: PoE (Green), Fiber port: L/A (Green), Power: PWR (Yellow), System: SYS (Yellow), Network: Link (Yellow)
PoE& Power Supply	
PoE Port	Port 1-8
PoE Management	PoE working status display, Port PoE out on/off
Power Supply Pin	1/2 (+) 3/6 (-)
Max Power Per Port	30W, IEEE 802.3 af/at
Power Consumption	Standby<6W, Full load af<120W, at<240W
Input Voltage/ Interface	DC48-57V, 5P industrial phoenix terminal, support anti-reverse protection.
Power Supply	No, optional 48V/120W or 48V/240W industrial power supply
Physical Parameter	
Operation Temp/ Humidity	-40°C~+75°C, 5%~90% RH Non condensing
Storage Temp/ Humidity	-40°C~+85°C, 5%~95% RH Non condensing
Dimension (L*W*H)	165*148*54mm

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Net /Gross Weight	0.9kg/ 1.1kg
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 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	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class A, RoHS
Warranty	5 years, lifelong maintenance.
Network Management Feature	
Interface	IEEE 802.3x flow control (Full duplex) Port real-time traffic management (Flow Interval) Broadcast storm suppression based on port rate Limit the speed of the message traffic at the inbound and outbound ports, mini granularity is 16Kbps and max 1Gbps
L3 Feature	IPV4 static routing/ default routing, max 128 entries L2+ network management, ARP protocol max 1024 entries

VLAN	Port configuration of Access, Trunk, Hybrid 4K VLAN based on port, IEEE802.1q, VLAN based on the protocol
Port Aggregation	LACP dynamic aggregation, Static aggregation, Max 5 aggregation groups and 8 ports per group.
Spanning Tree	STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s)
Multicast	Multicast VLAN, Fast log out, IGMP Snooping v1/v2/V3, Max 1024 multicast groups
Port Mirroring	Bidirectional data mirroring based on port
QoS	Diff-Serv QoS, Priority Mark/ Remark Queue scheduling mechanism (SP, WRR, SP+WRR) 8*output queues of each port, 802.1p/DSCP priority mapping Flow-based packet filtering, Flow-based redirection, Flow-based rate limiting
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	ARP inspection, Anti-DoS attack, IP-MAC-VLAN-Port binding AAA & RADIUS, IEEE802.1X & MAC address authentication Broadcast storm control, Backup for host datum, IP source protection Mac black holes, User hierarchical management and password protection SSH 2.0, SSL, Port isolation, ARP message speed limit, MAC learning limit
DHCP	DHCP Client, DHCP Snooping, DHCP Server
Management	Web network management (HTTPS), NTP clock FTP, TFTP file upload and download management System work log, Cable status check, Ping detection CPU real-time utilization status check, SNMP V1/V2/V3 Link Layer Discovery Protocol (LLDP), One-click restore GWS-NMS platform cluster management (LLDP+SNMP)

|	Console/ Telnet/ SSH2.0, CLI command line configuration
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

PHYSICAL CONNECTION

G9—P2
G10—P4
SW1—P1
SW2—P3
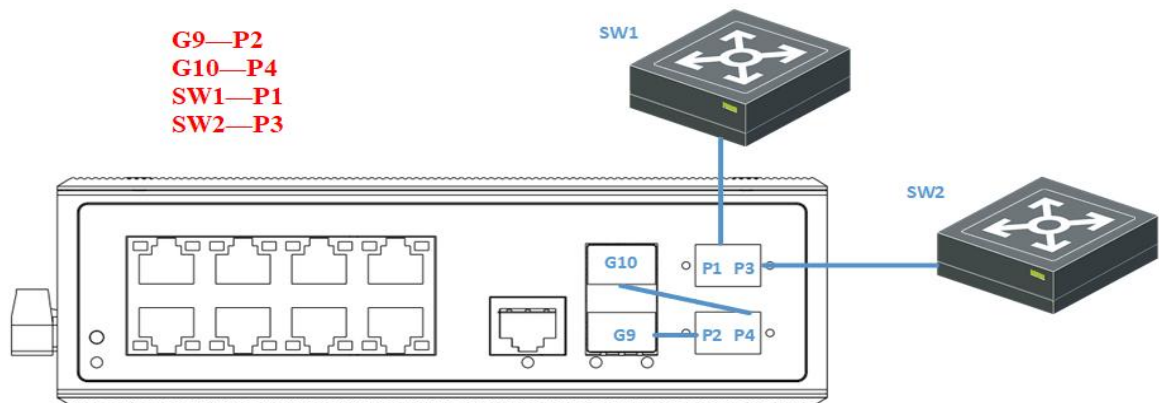
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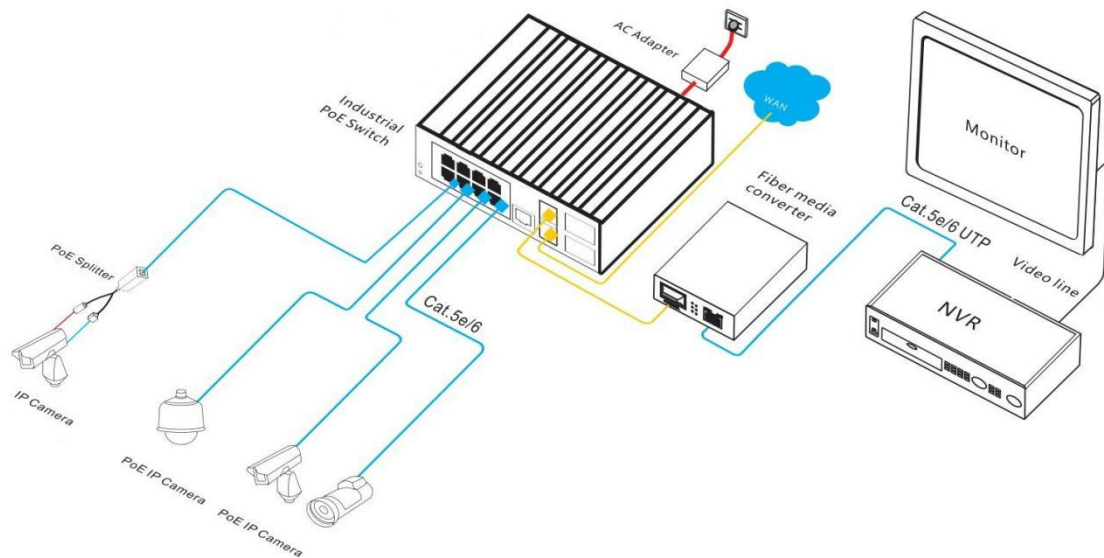
ORDERING INFORMATION

Model	Description	Recommended Power Supply
GWS-IPS33010PFM-BY	L2+ managed bypass industrial PoE 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.	120W/240W

Note: The optical module and power supply are not included and need to be purchased.

PACKING LIST

	Content	Qty	Unit
Packing List	10-port Gigabit bypass managed industrial PoE switch	1	Set
	RJ45-DB9 Adapter Cable	1	PC
	User Guide	1	PC
	Warranty Card and Certificate of Conformity	1	PC

OPTICAL MODULE

Product	Model	Description	Unit
1.25G Optical Module	2630-G	Industrial SFP optical module, 1.25G multi-mode dual fiber 850nm, transmission distance: 550m, LC interface, supports DDM function and hot plugging.	PC
	2632-G	Industrial SFP optical module, 1.25G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	PC
	2612-T-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	PC
	2613-R-G	Industrial SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging.	PC
	2612-T-G-SC	Industrial SFP optical module, 1.25G single-mode single fiber TX1310nm/ RX1550nm, transmission distance: 20km, SC interface, supports DDM function and hot plugging.	PC
	2613-R-G-SC	Industrial SFP optical module, 1.25G single-mode single fiber TX1550nm/ RX1310nm, transmission distance: 20km, SC interface, supports DDM function and hot plugging.	PC

POWER SUPPLY

Product	Model	Description	Unit
120W DIN Rail Industrial Power Supply	GWS-DP120-48	DIN Rail 120W single set of output power supply Input Voltage: AC100V-240V 50-60Hz, 2.3A Output Voltage: DC48V, 2.5A Operation Temperature: -40℃ to 70℃	PC

| 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 |

RELATED PRODUCT

Model	Description
GWS-IPS33006PFM-BY	L2+ managed bypass industrial PoE fiber switch with 2*100/1000M uplink SFP fiber ports and 4*10/100/1000M RJ45 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.

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