

## Product Datasheet

# 28-port Gigabit Managed Industrial Ethernet Switch

(GWS-IPS33028FM)



## OVERVIEW

The GWS-IPS33028FM is a gigabit managed industrial Ethernet fiber switch independently developed by GWS. It has 24\*10/100/1000Base-T adaptive RJ45 ports and 4\*100/1000Base-X uplink SFP fiber ports. Each port can support wire-speed forwarding.

The GWS-IPS33028FM has L2+ network management functions. It can support IPV4 management and static routing forwarding, complete security protection mechanisms, complete ACL/ QoS policies, and rich VLAN functions, making it easy to manage and maintain. Supports multiple network redundancy protocols RSTP (<50ms) to improve link backup and network reliability. When a one-way network fails, communication can be quickly restored to ensure uninterrupted communication of important transmissions. According to application needs, PoE power supply management, port flow control, VLAN division, QoS, and other application service configurations can be performed through network management methods such as Web, CLI, SNMP, and Telnet. It meets the needs of various industrial Ethernet application environments and is suitable for establishing economical, efficient, stable, and reliable communication networks in

industrial scenarios such as intelligent transportation, rail transportation, power industry, mining, petroleum, shipping, metallurgy, and green energy construction.

## FEATURE

### ■ Gigabit access, uplink SFP port

- ◇ Support non-blocking wire-speed forwarding.
- ◇ Support full-duplex based on IEEE 802.3x and half-duplex based on Backpressure.
- ◇ Support Gigabit RJ45 port and uplink SFP fiber port to meet the networking requirements of various scenarios.

### ■ Strong business processing capability

- ◇ Support IEEE 802.1Q VLAN.
- ◇ Ring network RSTP spanning tree protocol eliminates layer 2 loops and realizes link backup.
- ◇ Support IGMP Snooping V1/V2 to meet the needs of multi-terminal high-definition video surveillance and video conferencing access.
- ◇ Support QoS, three priority modes based on port, 802.1P-based and DSCP-based, and four queue scheduling algorithms: SP, WRR, and WFQ.
- ◇ Static aggregation and dynamic aggregation effectively increase link bandwidth, achieve load balancing, and link backup, and improve link reliability.
- ◇ Support ACL to filter data packets by configuring matching rules, processing operations, and time permissions to provide flexible security access control strategies.

### ■ Security

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

### ■ Stable and reliable

- ◇ CCC, CE, FCC, RoHS.
- ◇ Adopt self-developed power supply and redundant to provide long-term stable power output.
- ◇ The user-friendly panel can show the device status through the LED indicator of PWR and

Link.

- ◇ Low power consumption, no fan, galvanized steel metal housing, and excellent heat dissipation to ensure the stable operation of the switch.

■ **Easy O&M management**

- ◇ CPU monitoring, memory monitoring, and Ping detection.
- ◇ System logs and port traffic statistics facilitate network optimization and transformation.
- ◇ LLDP facilitates the network management system to query and determine the communication status of the link.
- ◇ Web network management, CLI (Console, Telnet), SNMP (V1/V2/V3), Telnet, and other diversified management and maintenance methods.

## TECHNICAL SPECIFICATION

Model	GWS-IPS33028FM
<b>Interface Characteristics</b>	
Fixed Port	1*Console port (115200,N,8,1) Power-off alarm switch (FAULT) 2*AC100-240V power input ports 24*10/100/1000Base-T RJ45 ports (Data) 4*100/1000Base-X uplink SFP fiber ports (Data) 2*DC12-48V power input ports (support anti-reverse protection)
Ethernet Port	Port 1-24 support 10/100/1000Base-T(X) 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	Gigabit optical fiber interface, default no include optical module (optional single-mode/ multi-mode, single fiber/ dual fiber optical module. LC)

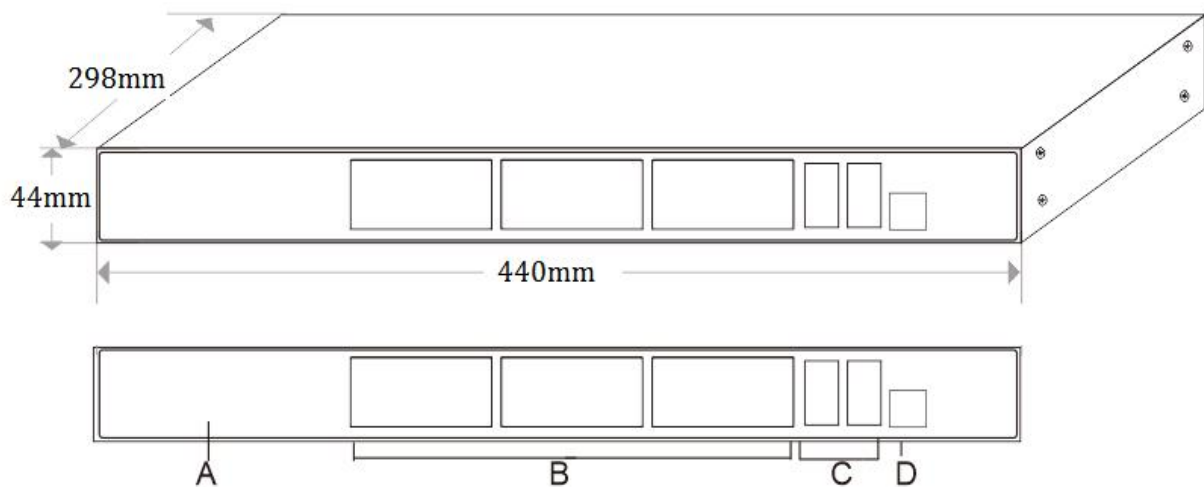
Optical Cable/ Distance	Multi-mode: 850nm/ 0-550m, Single-mode: 1310nm/ 0-40km, 1550nm/ 0-120km
<b>Chip Parameter</b>	
Network Management Type	L2+
Network Protocol	IEEE 802.3 10BASE-T, IEEE 802.3i 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3z 1000Base-X, IEEE 802.3x
Forwarding Mode	Store and Forward (Full Wire Speed)
Switching Capacity	56Gbps (non-blocking)
Forwarding Rate @64byte	41.7Mpps
CPU(Hz)	500M
DRAM	1G
Flash	256M
MAC	8K
Buffer Memory	4.1M
Jumbo Frame	10K
LED Indicator	Power: PWR (Yellow), System: SYS(Yellow), Network: Link (Yellow), Fiber port: L/A (Green)
Reset Switch	Yes, Press and release for 10 seconds to restore factory settings
<b>Power Supply</b>	
Total PWR / Input Voltage	60W/ (AC100-240V)
Power Consumption	Standby<18W, Full load<35W
Power Supply	Built-in power adapter, AC100~240V 50-60Hz, 0.56A
Power Supply	Alarm switch port, 2*AC power input ports, 2*DC12-48V input ports Dual input power port design: AC power supply priority to support anti-reverse connection protection, and automatically switches to DC

	connection when power fails.
<b>Physical Parameter</b>	
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)	440*298*44mm
Net /Gross Weight	3.9kg / 4.7kg
Installation	Desktop, 1U/19" cabinet
<b>Certification &amp; Warranty</b>	
Lightning Protection	<p>Protection level: IP40</p> <p>Lightning protection: 6KV 8/20us</p> <p>IEC61000-4-3(RS):10V/m (80~1000MHz)</p> <p>FCC Part 15/CISPR22(EN55022): Class B</p> <p>IEC61000-6-2(Common Industrial Standard)</p> <p>IEC61000-4-9(Pulsed magnet field): 1000A/m</p> <p>IEC61000-4-10(Damped oscillation): 30A/m, 1MHz</p> <p>IEC61000-4-12/18(Shockwave): CM 2.5kV, DM 1kV</p> <p>IEC61000-4-4(EFT): Power cable:±4kV, Data cable: ±2kV</p> <p>IEC61000-4-16(Common-mode transmission): 30V, 300V, 1s</p> <p>IEC61000-4-2(ESD): ±8kV contact discharge, ±15kV air discharge</p> <p>IEC61000-4-6(Radio frequency transmission): 10V(150kHz~80MHz)</p> <p>IEC61000-4-8(Power frequency magnetic field):100A/m,1000A/m,1-3s</p> <p>IEC61000-4-5(Surge): Power cable: CM±4kV/DM±2kV, Data cable: ±4kV</p>
Mechanical Properties	<p>IEC60068-2-6 (Anti Vibration), IEC60068-2-32 (Free Fall),</p> <p>IEC60068-2-27 (Anti Shock)</p>
Certification	CCC, CE mark, commercial, CE/LVD EN62368-1, FCC Part 15 Class B, RoHS
Warranty	5 years, lifelong maintenance.

Network Management Feature	
Interface	<p>IEEE802.3x flow control (Full duplex)</p> <p>Broadcast storm suppression based on port rate</p> <p>Port real-time traffic management (Flow Interval)</p> <p>Limit the rate of packet traffic on incoming and outgoing ports, mini granularity is 16Kbps and max is 1Gbps</p>
L3 Feature	IPV4 static route/ default route
VLAN	<p>Port-based VLAN (4K), VLAN based on the protocol</p> <p>IEEE802.1q, Port configuration of Access, Trunk, Hybrid</p>
Port Aggregation	<p>LACP dynamic aggregation, Static aggregation</p> <p>Max 5 aggregation groups and 8 ports per group</p>
Spanning Tree	RSTP (IEEE 802.1w)
ERPS	ERPSv2
Multicast	Multicast VLAN, User quick exit mechanism, IGMP Snooping v1/v2
Port Mirroring	Bidirectional data mirroring based on port
QoS	<p>802.1p/ DSCP priority mapping, Diff-Serv QoS</p> <p>Queue scheduling algorithm (SP, WRR, WFQ)</p> <p>Flow-based rate limiting, Flow-based packet filtering</p> <p>Flow-based based redirection, 8*Output queues of each port</p>
ACL	<p>Port-based and VLAN-delivered ACL</p> <p>The L2-L4 packet filtering function can match the first 80 bytes of the packet and provide information based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range to define the ACL.</p>
Security	<p>Port isolation, Port broadcast message suppression</p> <p>Port-based and Mac-based IEEE802.1X certification</p> <p>User hierarchical management and password protection</p> <p>AAA&amp;RADIUS certification, IP source address protection</p>
DHCP	DHCP Client, DHCP Snooping

<p>Management</p>	<p>Web network management (https), Ping detection</p> <p>GWS-NMS platform cluster management (LLDP+SNMP)</p> <p>One click recovery, View CPU real-time utilization status</p> <p>Link Layer Discovery Protocol (LLDP), System work log</p> <p>Console/ Telnet and CLI configuration, SNMP V1/V2/V3</p> <p>NTP clock, HTTP file upload and download management</p>
<p>System</p>	<p>Web browser: Mozilla Firefox 2.5 or higher, Google Chrome V42 or higher, Cat5 and above Ethernet cable</p> <p>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</p>

## DIMENSION



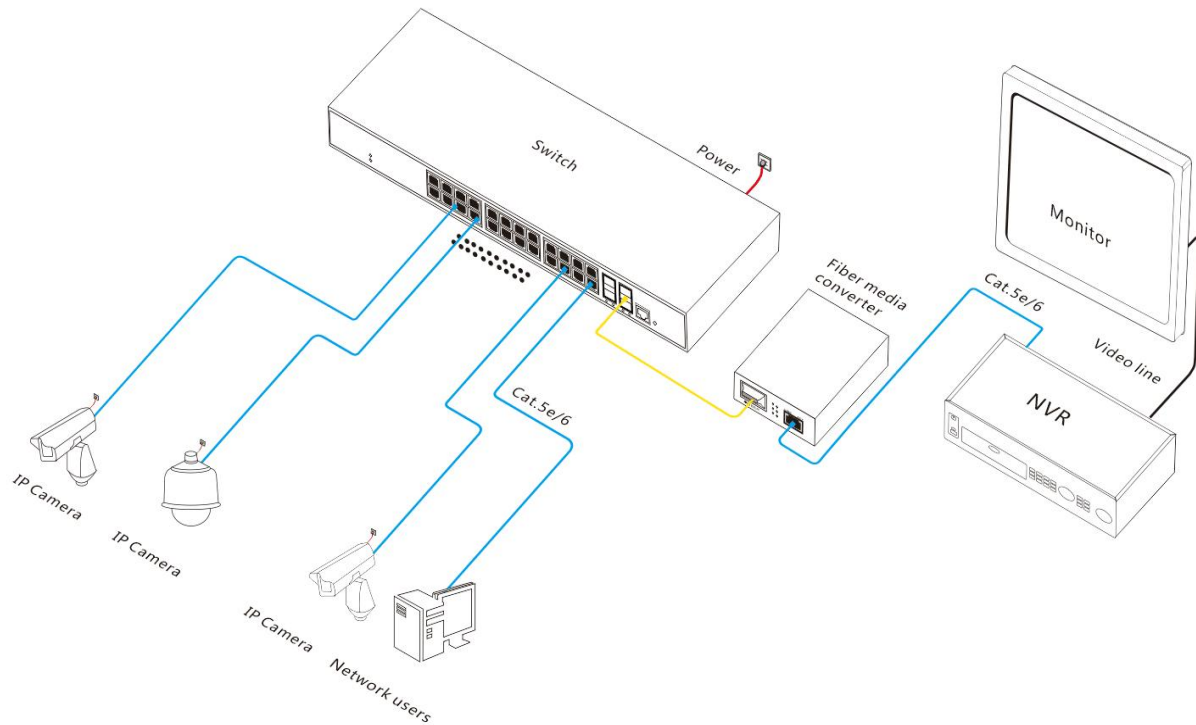
A. Working indicator

B. 24\*10/100/1000M RJ45 ports

C. 4\*100/1000M uplink SFP fiber ports

D. Console port

## APPLICATION



## ORDERING INFORMATION

Model	Description	Built-in Power Supply
GWS-IPS33028FM	L2+ managed industrial Ethernet fiber switch with 24*10/100/1000M RJ45 ports and 4*100/1000M uplink SFP fiber ports. It built-in power supply and supports 2AC+DC power input and 1U/19-inch cabinet installation.	2*30W

**Note:** The optical module is not included and needs to be purchased separately.



## PACKING LIST

Packing List	Content	Qty	Unit
	28-port gigabit managed industrial Ethernet switch	1	SET
	AC Power Cable	1	PC
	Mounting Kit	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-SC-G	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-SC-G	Industrial SFP optical module, 1.25G single-mode single fiber	PC

		TX1550nm/ RX1310nm, transmission distance: 20km, SC interface. supports DDM function and hot plugging.	
Power Module	2633	1.25G SFP optical module transfers to 10/100/1000M RJ45 port.	PC

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