**Product Datasheet**

# 28-port 10G Uplink Managed Industrial PoE Switch
## (GWS-IPS36028PFM)



## OVERVIEW

The GWS-IPS36028PFM is a 10G uplink managed industrial PoE switch independently developed by GWS. It has 24*10/100/1000Base-T adaptive RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Port 1-24 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 the power-receiving equipment that meets the standard and supply power through the network cable. It can supply power to PoE terminal equipment such as wireless AP, IP cameras, VoIP phones, and industrial sensors through a network cable. It also meets the network environment that needs a high-density PoE power supply. It is suitable for intelligent transportation, rail transit, electric power, mining, metallurgy, green energy, and industrial scenes such as shipping, metallurgy, and green energy construction forming a cost-effective, stable, and reliable communication network.

The GWS-IPS36028PFM has L2+ network management function to support IPV4/IPV6 management, full line-speed forwarding of static routes, complete security protection mechanism, complete ACL/QoS policy and rich VLAN functions for easy management and maintenance. Supports multiple network redundancy protocols STP/ RSTP/ MSTP (<50ms) and ITU-T G.8032 (<20ms) ERPS to improve link backup and network reliability. When a one-way network fails, communication can be quickly restored to ensure

important continuous communication of applications. According to application needs, PoE power supply management, port flow control, VLAN division, STP, RSTP, and other application configurations can be performed through Web, CLI, and SNMP network management methods.

## FEATURE

■ **Gigabit line speed access, uplink 1/10G SFP+ fiber 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 1/10G SFP+ fiber port combination, which enables users to flexibly build networking to meet the needs of various scenarios.

■ **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.

◇ The PoE port supports the priority mechanism. When the remaining power is insufficient, the power of the high-priority port is given priority to avoid overloading of the device.

◇ 24*10/100/1000Base-T RJ45 ports support PoE power, meeting the PoE power requirements of security monitoring, industrial automation systems, 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.

◇ Self-developed power supply, high redundancy, providing a long-term and stable PoE power output.

◇ Low power consumption, with fan, galvanized steel metal housing, and excellent heat dissipation to ensure stable operation of the switch.

■ **Easy O&M management**

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

◇ HTTPS, SSLV3, SSH V1/V2, and other encryption methods make management more secure.

◇ RMON, 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-IPS36028PFM | GWS-IPS36028PFM-at |
|---|---|---|
| **Interface Characteristics** | | |
| Fixed Port | 2*AC100-240V input ports<br><br>1*Console RS232 port (115200, N, 8,1)<br><br>4*1/10G uplink SFP+ fiber ports (Data)<br><br>24*10/100/1000Base-T PoE ports (Data/Power)<br><br>2*DC48-57V input ports (support reverse polarity protection) | |
| Ethernet Port | Port 1-24 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)<br><br>100BASE-TX: Cat5 or later UTP (≤100 meters)<br><br>1000BASE-T: Cat5e or later UTP (≤100 meters) | |
| Optical Fiber Port | 1/10G SFP+ 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/ 0~550m (1.25G), 850nm/ 0~300m(10G), 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 802.3ae 10GBase-SR/LR, IEEE 802.3x | |
| Forwarding Mode | Store and Forward (Full wire speed) | |

| | |
|---|---|
| Switching Capacity | 176Gbps (non-blocking) |
| Forwarding Rate@64byte | 95.23Mpps |
| CPU | 500MHz |
| DRAM | 2G |
| FLASH | 128M |
| MAC | 32K |
| Buffer Memory | 32M |
| Jumbo Frame | 9.6K |
| LED Indicator | Power: PWR (Green), System: SYS (Green), PoE: PoE (Green), Fiber port: L/A (Green), Network: Link (Yellow) |
| Reset Switch | Yes |
| **PoE& Power Supply** | |
| PoE Port | Port 1-24 |
| PoE Management | PoE power supply total power limit configuration<br><br>Power delay start, PoE work and time scheduling<br><br>Port PoE working status display, Port PoE output priority configuration<br><br>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 |
| Total PWR/ Input Voltage | 400W/ (AC100-240V) | 600W/ (AC100-240V) |
| Power Consumption | Standby<25W, Full Load<400W | Standby<30W, Full Load<600W |
| Power Supply | Built-in power supply, AC100~240V 50-60Hz, 5.0A | Built-in power supply, AC100~240V 50-60Hz, 6.6A |
| Power Input Port | Alarm switch port, 2*AC power input ports, 2*DC48-57V input ports<br><br>Dual input power port design: AC power supply priority to support anti-reverse connection protection, and automatically switches to DC connection when power fails. | |
| **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) | 440*378*44.5mm | |
| Net /Gross Weight | 5.4kg/ 6.2kg | 6.2kg/ 7.0kg |
| Installation | Desktop, 1U/19" cabinet | |
| **Certification & Warranty** | | |
| Lightning Protection | IEC61000-4-3 (RS):10V/m (80-1000MHz)<br><br>FCC Part 15/CISPR22 (EN55022): Class A<br><br>IEC61000-6-2 (Common Industrial Standard)<br><br>IEC61000-4-9 (Pulsed magnet field): 1000A/m<br><br>IEC61000-4-10 (Damped oscillation): 30A/m 1MHz<br><br>IEC61000-4-12/18 (Shockwave): CM2.5kV, DM1kV<br><br>Protection level: IP30, Lightning protection: 6KV 8/20us<br><br>IEC61000-4-4(EFT): Power cable: ±4kV, data cable: ±2kV<br><br>IEC61000-4-16 (Common-mode transmission): 30V, 300V, 1s<br><br>IEC61000-4-2 (ESD): ±8kV contact discharge, ±15kV air discharge<br><br>IEC61000-4-6 (Radio frequency transmission): 10V(150kHz~80MHz)<br><br>IEC61000-4-8 (Power frequency magnetic field): 100A/m, 1000A/m, 1s-3s<br><br>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<br><br>Broadcast storm control based on port speed<br><br>Port temperature protection setting, IEEE 802.3x flow control (Full duplex)<br><br>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<br><br>L2+ network management, IPV4/IPV6 dual stack management<br><br>L3 routing and forwarding, and communication between different network segments and different VLAN |
| VLAN | Access, Trunk, and Hybrid port configurations<br><br>Port-based VLAN (4K), IEEE802.1q, QinQ configuration<br><br>Voice VLAN, Protocol-based VLAN, MAC address-based VLAN |
| Port Aggregation | LACP, Static aggregation, Max 14 aggregation groups and 8 ports per group. |
| Spanning Tree | STP (IEEE802.1d), RSTP (IEEE802.1w), MSTP (IEEE802.1s) |
| Ring Network Protocol | G.8032 (ERPS), Recovery time less than 20ms. 255 Ring at most, Max 1024 devices per ring. |
| 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 Rate Limiting, Flow-based redirection<br><br>Queue Scheduling Algorithm (SP, WRR, SP+WRR)<br><br>Flow-based Packet Filtering, 8*Output queues of each port<br><br>802.1p/ DSCP priority mapping, Diff-Serv QoS, Priority Mark/ Remark |
| ACL | ACL distribution based on port and VLAN<br><br>L2-L4 packet filtering function, matching the first 80 bytes message, and provides ACL definitions based on source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN, etc. |
| Security | Mac black holes, IP source protection<br><br>IEEE802.1X & MAC address authentication<br><br>Broadcast storm control, Backup for host datum<br><br>SSH 2.0, SSL, Port isolation, ARP message speed limit<br><br>User hierarchical management and password protection |

| | |
|---|---|
| | Anti-DoS attack, AAA & RADIUS & TACACS+ certification |
| | IP-MAC-VLAN-Port binding, ARP inspection, MAC learning limit |
| DHCP | DHCP Client, DHCP Snooping, DHCP Server, DHCP Relay |
| Management | NTP clock, One click restore, SNMP V1/V2/V3 |
| | System work log, Web network management (https) |
| | Ping detection, Link Layer Discovery Protocol (LLDP) |
| | GWS-NMS platform cluster management (LLDP+SNMP) |
| | Cable status check, Viewing CPU Instant Utilization Status |
| | Console/ AUX Modem/ Telnet/ CLI command line configuration |
| | FTP, TFTP, Xmodem, SFTP file upload and download management |
| 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



378mm

44.5mm

440mm

A          B          C  D
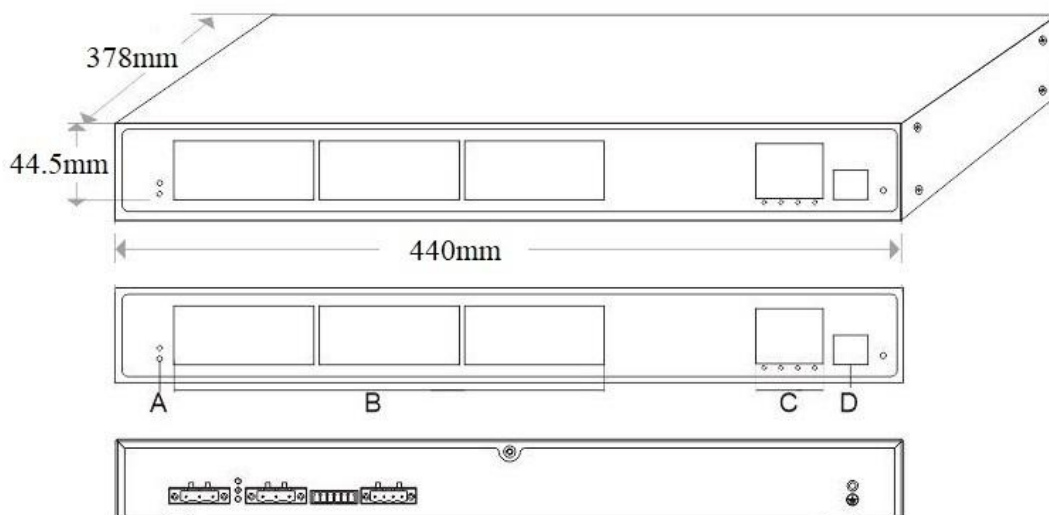
A. Working indicator                    B. 24*10/100/1000M PoE ports
C. 4*1/10G uplink SFP+ fiber ports      D. Console port

# APPLICATION
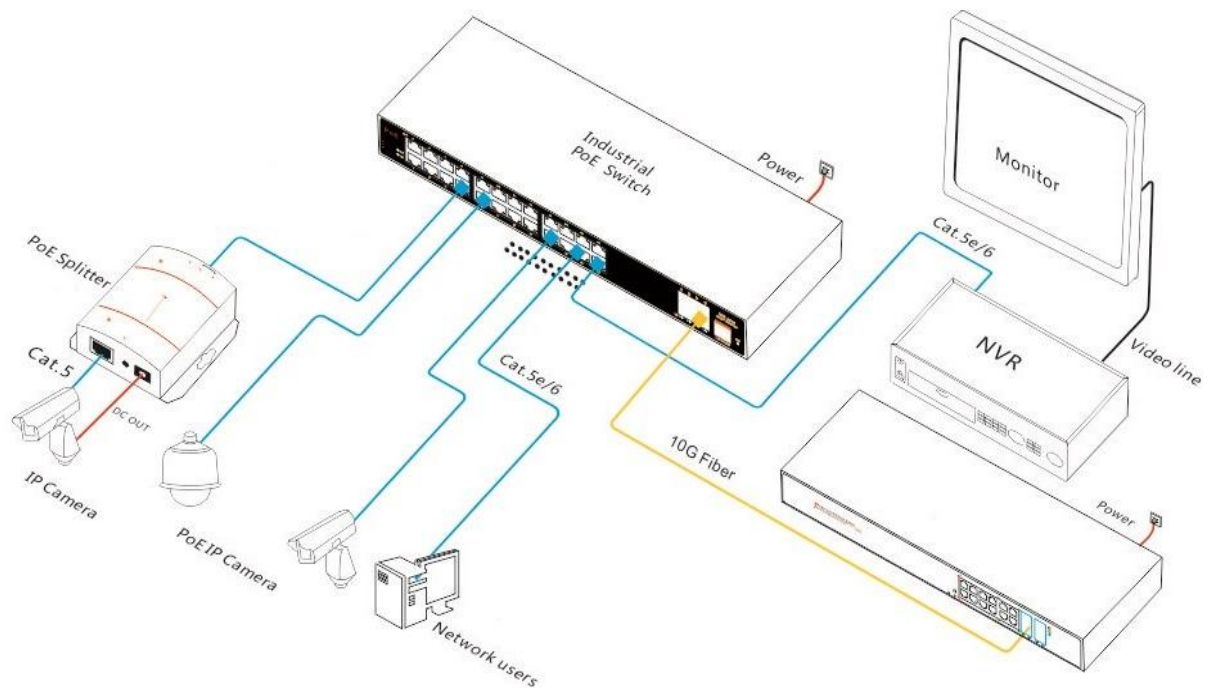


# ORDERING INFORMATION

| Model | Description | Built-in Power Supply |
|-------|-------------|-----------------------|
| GWS-IPS36028PFM | L2+ managed industrial PoE switch with 24*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Port 1-24 can support IEEE 802.3 af/at PoE standard. It built-in power supply and 1U/19" cabinet installation. | 400W |
| GWS-IPS36028PFM-at | | 600W |
| **Note:** The optical module is not included need to be purchased separately. | | |

# PACKING LIST

| Content | Qty | Unit |
|---|---|---|
| **Packing List** | | |
| 28-port 10G uplink managed industrial PoE switch | 1 | Set |
| RJ45-DB9 Adapter Cable | 1 | PC |
| AC Power Cable | 1 | PC |
| Mounting Kits (Hanging Ear) | 1 | Set |
| 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 |

| 10G Optical Module | | | |
|---|---|---|---|
| | | TX1550nm/ RX1310nm, transmission distance: 20km, SC interface, supports DDM function and hot plugging. | |
| | 6630-G | Industrial SFP+ optical module, 10G multi-mode dual fiber 850nm, transmission distance: 300m, LC interface, supports DDM function and hot plugging. | PC |
| | 7832-G | Industrial SFP+ optical module, 10G single-mode dual fiber 1310nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging. | PC |
| | 7832-33-G | Industrial SFP+ optical module, 10G single-mode single fiber TX1330nm/ RX1270nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging. | PC |
| | 7832-27-G | Industrial SFP+ optical module, 10G single-mode single fiber TX1270nm/ RX1330nm, transmission distance: 20km, LC interface, supports DDM function and hot plugging. | PC |

## RELATED PRODUCT

| Model | Description |
|---|---|
| GWS-IPS36036PFM | L2+ managed industrial PoE switch with 24*10/100/1000M RJ45 ports and 8*100/1000M uplink SFP fiber ports and 4*1/10G uplink SFP+ fiber ports. Port 1-24 can support IEEE 802.3 af/at PoE standard. It built-in power supply and 1U/19" cabinet installation. |
| GWS-IPS36048PFM | L2+ managed industrial PoE switch with 48*10/100/1000M RJ45 ports and 4*1/10G uplink SFP+ fiber ports. Port 1-48 can support IEEE 802.3 af/at PoE standard. It built-in power supply and 1U/19" cabinet installation. |

## CONTACT US

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