

**HORED** 丰润达®

**20 Ports Gigabit Managed  
Industrial PoE Switch  
IS1016GPS-4F**

**Product brochure**

Shenzhen Fengrun Technology Co., Ltd

## Product Introduction

IS1016GPS-4F is a 20-port gigabit managed industrial Ethernet switch with 16 gigabit PoE RJ45 ports and 4 gigabit optical SFP ports. Each POE port can provide up to 30W of power and can be used for the Powered Devices (PDs) which is compatible with IEEE802.3af/at. It is especially suitable for application scenarios which it is difficult to provide AC power and want to save the wiring costs. EMC Class 4 protection performance; corrugated high-strength aluminum profile shell, IP40 grade, low power consumption design, anti-vibration DIN-rail installation, operating temperature of -40°C-75°C, can work in harsh environments. IS1016GPS-4F can also support various network management functions: RSTP, VLAN, QoS, SNMPv1/v2c/v3, IEEE802.1X, SSH/SSL, port mirror, port aggregation, etc. The IS1016GPS-4F is a reliable solution for intelligent transportation, video surveillance and other harsh industrial environments by its rich redundancy, switching and security management features.



# Highlights

## Port 6KV lightning protection

- All ports support 6KV lightning protection, PSE short circuit protection, PoE overload, power supply over temperature protection, over voltage protection, surge current protection and other protection features.

## AI smart button

- AI Loop Protect: Using the RUN-Ring technology, when the main link of the network transmission fails, the system automatically switches to the backup link, and the fault recovery time can reach as fast as 10ms.
- AI PoE: Detection of PD port and reboot the device automatically when device crash.
- AI VLAN: Isolating ports 1-16 from each other, so that can suppress network storms effectively and improve network performance.
- AI Extend: 1-16 ports support 250 meters long-distance power supply (CAT 5e network cable is suggested).

## Powerful application capabilities

- Support 802.1Q VLAN, MAC VLAN, IP VLAN, users can divide VLAN flexibly as needed.
- Support QoS, 8 port queues, support port priority, 802.1P priority, DSCP priority, support SP, WRR, SP+WRR, WFQ priority scheduling algorithm.
- Support ACL, support L2 (Layer 2) ~ L4 (Layer 4) packet filtering function, provide flexible and secure access control policy.
- Supports IGMP v1/v2/v3 Snooping and MLD v1/v2 Snooping to meet the requirements of multi-terminal HD video surveillance or video conferencing.
- It supports the fast leave mechanism and querier of Layer 2 multicast, and supports Layer 2 IPv4 static multicast and Layer 2 IPv6 static multicast.

## Full security mechanism

- Completed security authentication mechanism: It supports IEEE 802.1x, Radius, Tacacs+, etc.
- The loop detection mechanism can ensure the stable operation of the network for a long time.
- High security features such as port isolation in VLAN, DHCP-Snooping and IP+MAC+port binding, etc., to further ensure user data security.
- Support multi protections like ARP, IP source and DoS.
- Support declining user access by the port numbers, IP address, and MAC address.

## Diverse reliability protection

- Support STP (IEEE 802.1d), RSTP (IEEE 802.1w) and MSTP (IEEE 802.1s) protocols to eliminate Layer 2 loops and implement link backup.
- Supports loop protection, root bridge protection, TC protection, BPDU protection, and BPDU filtering.
- Supports relay alarm output functions such as power failure, port disconnection, and PoE power supply abnormality.
- EMC Class4 and anti-jamming capability.

## Powerful POE

- Support the 802.3af/at standard and has a built-in high-power power supply to meet the needs of POE scenarios such as CCTV, wireless coverage, and IP telephony.
- Support PoE power limit, and set the priority of PoE ports. When the power exceeds the limit, the high-priority ports have priority.
- Support setting the time period of PoE power supply, and users can adjust it according to the real needs.
- Support to check the status of PoE chip like temperature, output power and other parameters in real time through the web page.

## Flexible and convenient management and maintenance

- Support various management methods such as Console, Telnet, and SSH.
- Support simple and efficient WEB management (HTTP, HTTPS, SSL V3)
- Support TFTP mode to upload and download files.
- Support SNMP V1/V2/V3
- Support Hored Apollo cloud platform, which can realize all-round remote operation and maintenance such as automatic device discovery, network topology management, and remote configuration management of devices.

## Compliance

EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A

EMS:

IEC61000-4-2 (ESD):  $\pm 8\text{kV}$  (contact),  $\pm 15\text{kV}$  (air)

IEC61000-4-3 (RS):  $10\text{V/m}$  (80MHz-2GHz)

IEC61000-4-4 (EFT): Power Port:  $\pm 4\text{kV}$ ; Data Port:  $\pm 2\text{kV}$

IEC61000-4-5 (Surge): Power Port:  $\pm 2\text{kV/DM}$ ,  $\pm 4\text{kV/CM}$ ; Data Port:  $\pm 6\text{kV}$

IEC61000-4-6 (CS):  $3\text{V}$  (10kHz-150kHz);  $10\text{V}$  (150kHz-80MHz)

IEC60068-2-6 (Vibration)

IEC60068-2-27 (Shock)

IEC60068-2-32 (Free Fall)

# Specifications

<b>Hardware</b>	
<b>Network Interface</b>	<ul style="list-style-type: none"> <li>• 16-Port 10/100/1000Mbps RJ45</li> <li>• 4-Port 10/100/1000Mbps SFP module</li> <li>• Console ports x1</li> </ul>
<b>Network Protocol</b>	<ul style="list-style-type: none"> <li>• IEEE802.3, IEEE802.3i, IEEE802.3u, IEEE802.3ab, IEEE802.3z, IEEE802.3ad, IEEE802.3x, IEEE802.3af/at, IEEE802.1p, IEEE802.1q, IEEE802.1w, IEEE802.1d, IEEE802.1s</li> </ul>
<b>Performance</b>	<ul style="list-style-type: none"> <li>• Switching capacity:40Gbps (Non-Block )</li> <li>• Forwarding ratet : 29.8Mpps</li> <li>• Packet buffer : 4.1Mb</li> <li>• Forwarding model: Store and forward</li> </ul>
<b>LED Indicator</b>	<ul style="list-style-type: none"> <li>• Power Indicator : P1,P2</li> <li>• System Indicator : SYS</li> <li>• Alarm Indicator : ALM</li> <li>• SFP Port Indicator : Link&amp;Act F1~F2</li> <li>• RJ45 Port Indicator : POE&amp;Link&amp;Act 1~8</li> </ul>
<b>POE Pin</b>	<ul style="list-style-type: none"> <li>• 1/2 ( + ) , 3/6/(-) ;</li> </ul>
<b>Power Supply</b>	<ul style="list-style-type: none"> <li>• Input voltage: 48-56V DC</li> <li>• Input port: Pluggable 5 pin terminals block, 5.08mm pitch (support dual DC power source backup, built-in overcurrent protection, support anti-reverse connection)</li> <li>• No-load power: 6W@52V DC</li> <li>• Full load power: 486W@52V DC (POE full load output)</li> <li>• Max. power for single port: 30W</li> </ul>
<b>Physical Parameter</b>	<ul style="list-style-type: none"> <li>• Casing : Corrugated high-strength metal housing, IP40</li> <li>• Installation : DIN-Rail</li> <li>• Dimension ( LxWxH ) : 164mm×130mm×78.8mm</li> </ul>
<b>Environmental Condition</b>	<ul style="list-style-type: none"> <li>• Operating Temperature : -40~75°C</li> <li>• Storage Temperature : -40~85°C</li> <li>• Operating Humidity : 5%~95% RH (non-condensing)</li> <li>• Storage Humidity : 0%~95% RH (non-condensing)</li> </ul>
<b>Certification</b>	<ul style="list-style-type: none"> <li>• CE/ROHS/FCC</li> </ul>

<b>Software</b>	
<b>Protocol</b>	IEEE 802.3: Ethernet Media Access Control (MAC) protocol IEEE 802.3i: 10BASE-T Ethernet IEEE 802.3u: 100BASE-TX fast Ethernet IEEE 802.3ab: 1000BASE-T gigabit Ethernet IEEE 802.3z: 1000BASE-X gigabit Ethernet(fiber) IEEE 802.3ad: Comply link aggregation standard IEEE 802.3x: Flow control IEEE 802.1p: About the traffic priority of the second layer of Qos / Cos protocol (multicast filtering) IEEE 802.1q: VLAN Bridge operation IEEE 802.1d: STP spanning tree IEEE 802.1s: MSTP spanning tree IEEE 802.1w: RSTP spanning tree IEEE 802.3af IEEE 802.3at
<b>AI Button</b>	AI Loop Protect AI PoE AI VLAN AI Extend
<b>DHCP</b>	DHCP Snooping
<b>VLAN</b>	4K VLAN 802.1Q VLAN、MAC VLAN ,IP VLAN Voice VLAN
<b>MAC Table</b>	IEEE 802.1d Support MAC address automatic learning and aging Support static, dynamic, filtering address table
<b>Security</b>	Password protection Decline user access by port number, IP address and MAC address HTTPS、SSL V3、TLS V1、SSH V1/V2 Support IP-MAC-PORT ternary binding ARP Protection、IP source Protection、DoS Protection Support DHCP Snooping and DHCP attack protection Support 802.1X authentication, AAA Support port security, port isolation Support CPU protection

<b>Software</b>	
<b>PoE Management</b>	Support PoE total power limit Support PoE chip status view Support PoE port priority setting Support PoE power time period setting
<b>ACL</b>	Support L2 (Layer 2) ~ L4 (Layer 4) packet filtering function Support port mirroring, port redirection, flow rate limit, QoS remarking
<b>QoS</b>	Support 16 port queues Support port priority, 802.1P priority, DSCP priority Support SP, RR, WRR, priority scheduling algorithm
<b>Spanning Tree</b>	Support STP(IEEE 802.1d) , RSTP(IEEE 802.1w) and MSTP(IEEE 802.1s) Support loop protection, root bridge protection, TC protection, BPDU protection, BPDU filtering
<b>Multicast</b>	Support IGMP v1/v2 Snooping Support multicast VLAN Supports multicast filtering, packet statistics, and unknown multicast discards
<b>Storm Suppression</b>	Multicast suppression Broadcast suppression Unknown unicast suppression
<b>Link Aggregation</b>	Static aggregation Dynamic aggregation Support IP, MAC, and hybrid load balancing modes Up to 32 aggregation groups
<b>IPv6</b>	IPv6 Ping、 IPv6 Tracert、 IPv6 Telnet IPv6 SSH 、 IPv6 SSL
<b>Management and Maintenance</b>	WEB management ( HTTP、 HTTPS、 SSL V3 ) CLI ( Telnet, SSH V1/V2, Local serial port ) SNMP V1/V2/V3 LLDP、 RMON ARP protection, IP source protection, DoS protection CPU monitoring, memory monitoring System log, grading warning Support Ping, Tracert detection, cable detection