

User Manual



IS108GPS-4F

12-port Gigabit managed PoE switch

Installation ManualIntroduction

<User Manual> mainly introduces the hardware features, installation methods, and precautions during the installation of IS108GPS-4F.

This manual includes the following sections:

Chapter 1: Product introduction. Briefly describe the basic functions and features of the switch, detailed hardware and software specifications and appearance information.

Chapter 2: Hardware Connections. Guide the connection of switch with other devices and precautions.

Chapter 3: Product Installation. Guide the hardware installation method and precautions.

Chapter 4: Product Packaging and Use Recommendations.

Chapter 1 Product Introduction

1.1 Product introduction

The IS108GPS-4F is a Gigabit-managed industrial PoE switch that provides 8 Gigabit PoE ports and 4 Gigabit SFP ports. Each PoE port can provide up to 46W for IEEE802.3af /at compatible powered devices (PDs). It is especially suitable for applications where AC power is not easily available or high wiring costs. With EMC industrial grade 4 protection; corrugated high-strength aluminum profile housing, IP40 grade, low power design, seismic rail mounting, -40°C-75°C operating temperature, it can work in harsh environments; IS108GPS-4F also supports Apollo cloud one-stop management platform for status checking and management monitoring,to make it become a reliable solution for Intelligent transportation, video surveillance and other harsh industrial environments.

1.2 Features

- Full Gigabit Ethernet port

8 full Gigabit RJ45 PoE network port, and 4 Gigabit SFP ports, breaking the traditional 100M limitation, data transmission will not stuck

- Broadcom high performance industrial grade chip for more stable performance

Broadcom high-performance industrial-grade chips that dramatically increase network data processing rates

- Powerful working environment

EMC industrial grade 4 protection; corrugated high-strength aluminum profile housing, IP40 grade, low power design, seismic rail mounting, -40°C-75°C operating temperature, can work in harsh environments

- Support Apollo cloud platform one-stop management

Support cloud platform to visualize management of switches and

attached power devices, making operation and maintenance management easier

1.3 Software and hardware specifications

Hardware specification

Chip	Broadcom high performance chip
Flash	16MB
RAM	64MB DDR
Port	8 10/100/1000M RJ45 port
	4 1000M SFP port
PoE Power supply	810/100/1000Mbps RJ45 port support 802.3af/atPoE power supply
	The maximum power supply of the whole machine is240W
	The maximum power per port is 46W
Indicator	12Link/Act indicator
	8POEindicator
	ALMAalarm indicator
	P1、 P2Power Indicator 1SYSIndicator
Performance	Forward mode: store and forward
	Backplane bandwidth: 24Gbps
	Packet forwarding rate: 17.8Mpps
	Support 8K MAC address table depth

Standard protocol	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 (optical fiber) IEEE 802.3ad: Standard method for performing link aggregation IEEE 802.3x: Flow Control IEEE 802.1p: LAN Layer 2 Qos/Cos protocol for traffic prioritization (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
Industry Standard	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): 10V/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): 3V (10kHz-150kHz); 10V (150kHz-80MHz) IEC60068-2-6 (Vibration) IEC60068-2-27 (Shock) IEC60068-2-32 (Free Fall)
Operation environment	Working temperature: $-40 \sim 75\text{ }^{\circ}\text{C}$ Storage temperature: -40 to $75\text{ }^{\circ}\text{C}$ Relative humidity: 5% to 95% (no condensation)
Certification	CE, FCC, RoHS
Mean time between failures(MTBF)	100,000 hrs
Warranty	3 years
Lightning protection	Network port: $\pm 6\text{KV}$ power port: $\pm 4\text{KV}$
ESD	Contact: $\pm 8\text{KV}$ Air: $\pm 15\text{KV}$
Physical specification	Input: 48-56VDC
	Housing: IP40 grade protection, corrugated high strength metal housing
	Installation: DIN rail mounting
	Size: 163mm $\times$ 46.5mm $\times$ 110mm, weight: 1kg

Software specification

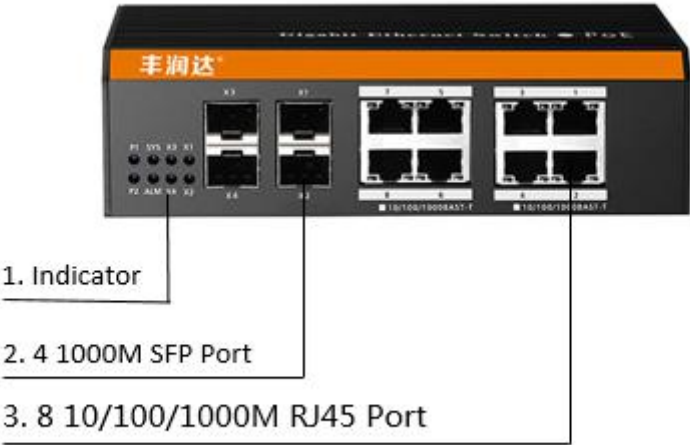
Global control button	AI PoE
	AI Loop Protect
	AI VLAN
	AI Extend
Hardware watchdog	Support
Traffic Statistics	Support
Port energy saving	Support
DHCP	Support DHCP Snooping
VLAN	Support 4KVLANs
	Support 802.1Q VLAN、 MAC VLAN ,IP VLAN
	Voice VLAN
MACaddress	Follow the IEEE 802.1d standard
	Support MAC address automatic learning and aging
	Support static, dynamic, filtering address table
Safety features	Password protection
	Support restrict user access based on port number, IP address, and MAC address
	Support HTTPS、 SSL V3、 TLS V1、 SSH V1/V2

	Support IP-MAC-PORT ternary binding
	Support 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
POE management	Support PoE power limit
	Support viewing of PoE chip status
	Support to set PoE port priority
	Support to set PoE power supply time period
QoS	Support 8 port queues
	Support port priority, 802.1P priority, DSCP priority
	Supports SP, WRR, and RR priority scheduling algorithms
	Supports automatic identification, management and retrieval of information about attached devices
Spanning tree	Supports STP (IEEE 802.1d), RSTP (IEEE 802.1w) and MSTP (IEEE 802.1s) protocols
	Support loop protection, root bridge protection, TC protection, BPDU protection,

	BPDU filtering
Multicast	Support IGMP v1/v2 Snooping
	Support fast leave mechanism
	Support multicast VLAN
	Supports multicast filtering, packet statistics, and unknown multicast discards.
Storm suppression	Support multicast suppression
	Support broadcast suppression
	Support unknown unicast suppression
Link aggregation	Support static aggregation
	Support dynamic aggregation
	Support IP, MAC, hybrid load balancing mode
	Supports up to 32 aggregation groups
IPv6	Support IPv6 Ping、IPv6 Tracert、IPv6 Telnet
	Support IPv6 SSH 、IPv6 SSL
Management and maintenance	Support WEB network management (HTTP, HTTPS, SSL V3)
	Support CLI (Telnet, SSH V1/V2, local serial port)
	Support SNMP V1/V2/V3 ,
	Support LLDP、RMON
	Support ARP protection, IP source protection, DoS protection
	Support SNMP protocol

	Support Apollo cloud platform one-stop management and maintenance
	Support CPU monitoring, memory monitoring
	Support system log, grading warning
	Support Ping, Tracert detection, cable detection

1.4 Appearance



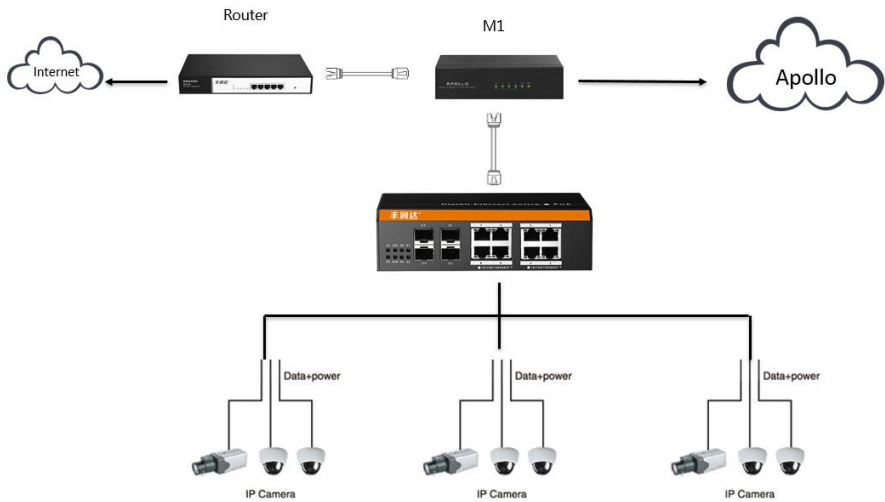
Indicator	Status	Description
P1、 P2	On	The corresponding power supply working normally.
	Off	The corresponding power supply is not connected or working abnormal.
SYS	Blinking	System is running normally
	Off / always bright	System operation is abnormal / start unsuccessful
ALM	On	Alarm start up
	Off	Alarm not triggered
Link/ACT F1-F4	Blinking	SFP port is working normal
	Off	SFP port is working abnormally / port is not connected

Chapter 2. Hardware Connection

2.1 Connect to RJ45 port

Use the network cable to connect the switch to the RJ45 port of network device. Normally, the switch's downlink port has POE power supply enabled by default. It can support POE power supply to AP, bridge, network camera and other PDs which comply with

IEEE802.3af and IEEE802.3at standards.



2.2 Connect to the SFP port

The SFP port of the IS108GPS-4F supports only Gigabit fiber modules. It is recommended to use standard SFP module products.

The process of installing a fiber module on a switch is as follows:

1. Grasp the fiber module from the side and insert it smoothly along the SFP port slot of the switch until the fiber module is in close contact with the switch;
2. Confirm the Rx and Tx ports of the fiber module when

connecting. Insert one end of the fiber into the Rx and Tx ports to ensure that the Tx and Rx ends of the interface are correctly connected, and the other end of the fiber is connected to another device.

3. After power-on, check the status of the corresponding indicator. If the indicator is on, the link is up. If not, please check the line and confirm that the peer device is enabled.



Attention:

It is not allowed to excessively bend the fiber, and its radius of curvature should be no less than 10cm;

Ensure the cleanliness of the fiber end face;

Please do not look directly into the fiber optic connector with your eyes, as this may cause eye damage.

2.3 Check before power-on

Check that the power supply of the power outlet meets the switch specifications.

Check that the power supply, switch, and rack are properly grounded.

Check whether the switch is connected to other network devices.

2.4 Device initialization

The switch will automatically initialize after the power is turned on and the power switch is turned on.

The indicator light will appear as follows:

After the power is turned on, the power indicator remains steady, the SYS light enters the blinking state, and the system runs normally.

The indicator of each port indicates the connection status of each port, indicating that the switch has started to work normally.

Chapter 3 Product Installation

Before installation, confirm the operating environment of the equipment: power supply voltage, installation space, installation method, etc. Please carefully confirm the following installation requirements:

- Check for cables and connectors required for installation

- Check whether the cable is in place (not more than 100m) according to reasonable configuration requirements.

- The product does not provide mounting components, the user must prepare the components of the selected installation type: screws, nuts and tools to ensure reliable installation

Power requirements : 12-56V DC(12-48V nonsupport PoE , support data exchange only)

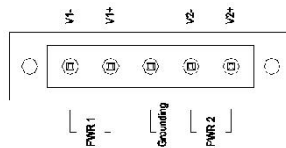
Environmental requirements:

Working temperature: -40 ~ 75 ° C

Storage temperature: -40 to 75 ° C

Relative humidity: 5% to 95% (no condensation)

Power input



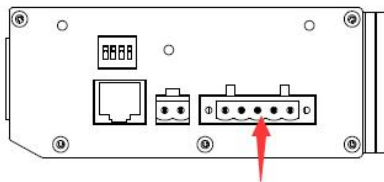
5pin 5.08mm terminal

Input range : 12-56VDC

P1&P2 dual redundant power supply,

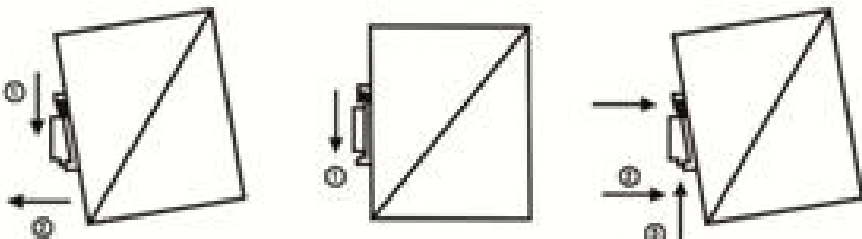
Support reverse connection protection

Ground protection



Connect to ground

Rail mounting



Chapter 4, Packing list and userecommendations

4. 1 Product packaging

Item	Quantity	Description
Switch	1 set	\
Phoenix terminal	1*5,1*2 each per one unit	Connect to power and alarm switch
Warranty card	1 piece	For after-sales maintenance
User Manual	1 copy	Used to guide users to install switches

4.2 Recommendations

1. For safety reasons, non-professionals should not open the product casing;
2. Pay attention to the danger of strong electricity and safe protection when the product is powered on;

3. Do not use the switch in a humid environment to prevent water from entering the fuselage through the casing, resulting in damage to the machine;

4. In the state of power-on of the product, please do not plug and unplug the cable if non special case;

5. Please do not place heavy objects on the switch to avoid accidents;

6. It is recommended to use the switch indoors. It is recommended to add a waterproof box when using it outdoors.

Note: The pictures in the manual are for reference only, whichever is subject to the actual product.