GIGABIT PoE SWITCH INDUSTRIAL

Quick Installation Guide

IGPS-9084GP

Industrial Managed Gigabit PoE Switch

⊱ Introduction

IGPS-9084GP is managed redundant ring PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E. ports and 4x100/1000Base-X SFP ports. With completely support of Ethernet Redundancy protocol, O-Ring (recovery time < 30ms over 250 units of connection) and MSTP (RSTP/STP compatible) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. **IGPS-9084GP** also support Power over Ethernet, a system to transmit electrical power up to 30 watts, along with data, to remote devices over standard twisted-pair cable in an Ethernet network. Each **IGPS-9084GP** switch has 8x10/100/1000Base-T(X) P.S.E. (Power Sourcing Equipment) ports. P.S.E. is a device (switch or hub for instance) that will provide power in a PoE connection. And support wide operating temperature from -40℃ to 70℃.

IGPS-9084GP can also be managed centralized and convenient by Open-Vision, Except the Web-based interface, Telnet and console (CLI) configuration. Therefore, the switch is one of the most reliable choice for highly-managed and Fiber Ethernet application.

• **IP-based Bandwidth Management :** The switch provide advanced IP-based bandwidth management which can limit the maximum bandwidth for each IP device. User can configure IP camera and NVR with more bandwidth and limit other device bandwidth.

• **Application-Based QoS :** The switch also support application-based QoS. Application-based QoS can set highest priority for data stream according to TCP/UDP port number.

• **Device Binding Function :** Oring special Device Binding function can only permit allowed IP address with MAC address to access the network. Hacker cannot access the IP surveillance network without permission. It can avoid hacker from stealing video privacy data and attacking IP camera, NVR and controllers.

• **Advanced DOS/DDOS Auto Prevention :** The switch also provided advanced DOS/DDOS auto prevention. If there is any IP flow become big in short time, the switch will lock the source IP address for certain time to prevent the attack. It's hardware based prevention so it can prevent DOS/DDOS attack immediately and completely.

• **IEEE 1588 Technology :** The IEEE 1588 technology can fulfill precision time synchronization requirements for protection and control applications.
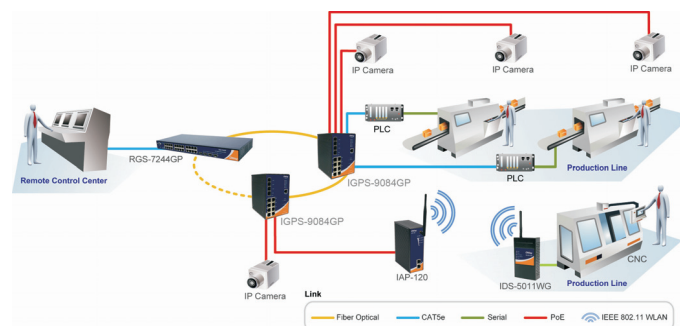
ORing Industrial Networking Corp.

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⊱ Specifications

ORing Switch Model	IGPS-9084GP
Physical Ports	
10/100/1000Base-T(X) P.S.E. Port in RJ45 Auto MDI/MDIX	8
100/1000Base-X SFP Port	4
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T, IEEE 802.3u for 100Base-T(X), IEEE 802.3ab for 1000Base-T IEEE 802.z for 1000Base-X, IEEE 802.3x for Flow control, IEEE 802.3ad for LACP (Link Aggregation Control Protocol) IEEE 802.1p for COS (Class of Service), IEEE 802.1Q for VLAN Tagging, IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol), IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol), IEEE 802.1x for Authentication, IEEE 802.1AB for LLDP (Link Layer Discovery Protocol) IEEE 802.3at PoE specification (up to 30 Watts per port for P.S.E.)
MAC Table	8K
Priority Queues	4
Processing	Store-and-Forward
Switch Properties	Switch latency: 7 us Switch bandwidth: 24Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 128 for each VLAN Port rate limiting: User Define
Jumbo frame	Up to 9.6K Bytes
Security Features	Device Binding security feature Enable/disable ports, MAC based port security Port based network access control (802.1x) VLAN (802.1) to segregate and secure network traffic Radius centralized password management SNMPv3 encrypted authentication and access security Https / SSH enhance network security
Software Features	STP/RSTP/MSTP (IEEE 802.1D/w/s) Redundant Ring (O-Ring)with recovery time less than 30ms over 250 units TOS/Diffserv supported Quality of Service (802.1p) for real-time traffic VLAN (802.1Q) with VLAN tagging and GVRP supported IGMP Snooping IP based bandwidth management Application based QoS management DOS/DDOS auto prevention Port configuration, status, statistics, monitoring, security DHCP Client/Server SMTP Client Modbus TCP
Network Redundancy	O-Ring Open-Ring O-Chain MRP MSTP (RSTP/STP compatible)
RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. Baud rate setting: 115200bps, 8, N, 1
LED Indicators	
Power Indicator	Green: Power LED x3
PoE Indicator	Green: PoE LED x 8
R.M. Indicator	Green: Flashing to indicate system operated in O-Ring Master mode
O-Ring indicator	Green: Indicate system operated in O-Ring mode
Fault Indicator	Amber: Indicate unexpected event occurred
10/100/1000Base-T(X) RJ45 Port Indicator	Green for port Link/Act. Amber for Duplex/colision indicator
100/1000Base-X SFP Port Indicator	Green for port Link/Act.
Fault Contact	
Relay	Relay output to carry capacity of 1A at 24 VDC
Power	
Redundant Input power	Dual DC input 50~57VDC on 6-pin terminal block
Power consumption(Typ.)	13.2 Watts
Overload current protection	Present
Reverse polarity protection	Not Present
Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	96.4(W)x108.5(D)x154(H) mm (3.8x4.27x6.06 inch.)
Weight (g)	1230g
Environmental	
Storage Temperature	-40 to 85℃ (-40 to 185℉)
Operating Temperature	-40 to 70℃ (40 to 158℉)
Operating Humidity	5% to 95% Non-condensing
Regulatory Approvals	
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), EN61000-4-3 (RS), EN61000-4-4 (EFT), EN61000-4-5 (Surge),EN61000-4-6 (CS), EN61000-4-8, EN61000-4-11

Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1
Warranty	5 years

⊱ Features

▷ **Support O-Ring (recovery time < 30ms over 250 units of connection) and MSTP (RSTP/STP compatible) for Ethernet Redundancy**
▷ **Open-Ring support the other vendor's ring technology in open architecture**
▷ **O-Chain allow multiple redundant network rings**
▷ **Support standard IEC 62439 MRP (Media Redundancy Protocol) function**
▷ **8 ports 10/100/1000Base-T(X) P.S.E. fully compliant with IEEE802.3 at standard, provide up to 30 Watts per port**
▷ **Support PoE scheduled configuration and PoE auto-ping check function**
▷ **Support IEEE 1588v2 clock synchronization**
▷ **Support IPV6 new internet protocol version**
▷ **Support Modbus TCP protocol**
▷ **Support IEEE 802.3az Energy-Efficient Ethernet technology**
▷ **Provided HTTPS/SSH protocol to enhance network security**
▷ **Support SMTP client**
▷ **Supports IP based bandwidth management**
▷ **Supports application based QoS management**
▷ **Support Device Binding security function**
▷ **Supports DOS/DDOS auto prevention**
▷ **IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic**
▷ **Supports SNMP v1/v2c/v3, RMON and 802.1Q VLAN Network Management**
▷ **Support ACL, 802.1x User Authentication for security**
▷ **Supports 9.6K Bytes Jumbo Frame**
▷ **Multiple notification for warning of unexpected event**
▷ **Web-based, Telnet, Console (CLI), and Windows utility (Open-Vision) configuration**
▷ **Support LLDP Protocol**
▷ **Rigid IP-30 housing design**
▷ **DIN-Rail and wall mounting enabled**

⊱ PoE Pin Definition

● **10/100Base-T(X) P.S.E. RJ-45 Port**

RJ45 Pin Definition	
Pin No.	Description
# 1	TD+ with PoE Power input +
# 2	TD- with PoE Power input +
# 3	RD+ with PoE Power input -
# 6	RD- with PoE Power input -

● **100Base-T P.S.E. RJ-45 Port**

RJ45 Pin Definition	
Pin No.	Description
# 1	BI_DA+ with PoE Power input +
# 2	BI_DA- with PoE Power input +
# 3	BI_DB+ with PoE Power input -
# 4	BI_DC+
# 5	BI_DC-
# 6	BI_DB- with PoE Power input -
# 7	BI_DD+
# 8	BI_DD-

GIGABIT PoE SWITCH INDUSTRIAL
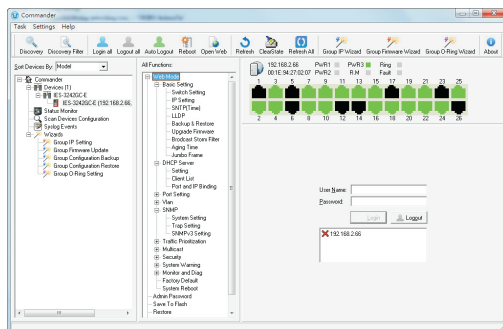
Quick **I**nstallation **G**uide

IGPS-9084GP
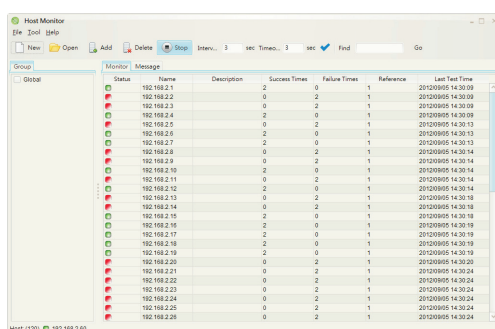
Industrial Managed Gigabit PoE Switch

Open-Vision

ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial network
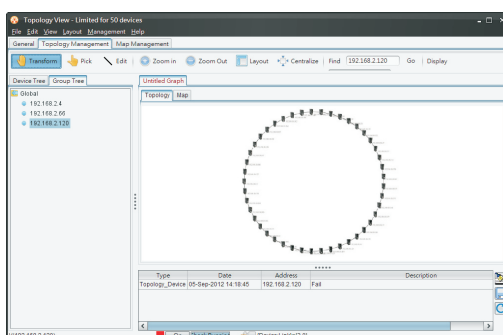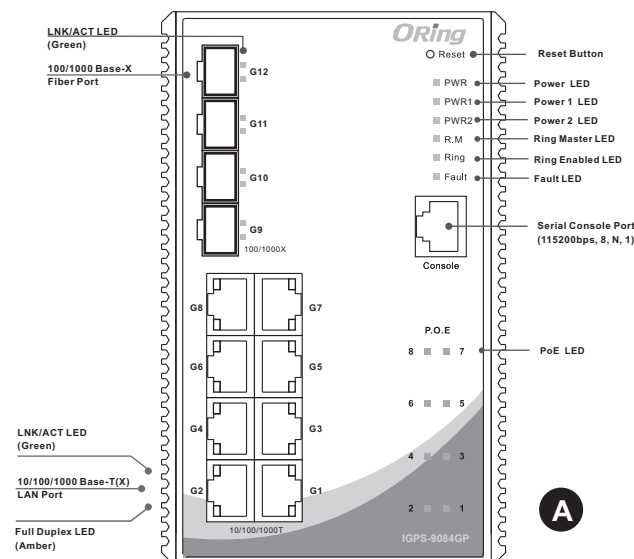
Commander

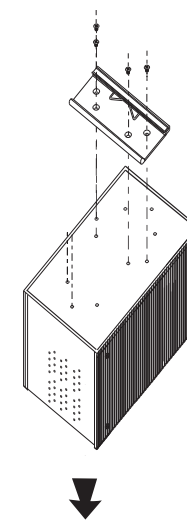### Host Monitor

Topology View

Packing list

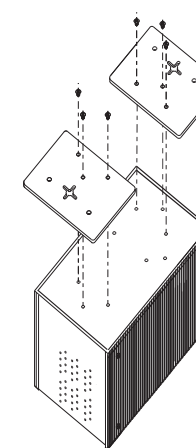| Model name	Front Panel	Model Description	Accessory
IGPS-9084GP	Ⓐ	Industrial 12-port managed Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E. ports and 4x100/1000Base-X, SFP socket	①X 1, ②X 8, ③X 4, ④X 6, ⑤X 1, ⑥X 1, ⑦X 2, ⑧X 1, ⑨X 1

Front Panel

LNK/ACT LED (Green)
100/1000 Base-X Fiber Port
G12
G11
G10
G9
100/1000X

Reset — Reset Button
PWR — Power LED
PWR1 — Power 1 LED
PWR2 — Power 2 LED
R,M — Ring Master LED
Ring — Ring Enabled LED
Fault — Fault LED

Serial Console Port (115200bps, 8, N, 1)
Console

G8 G7
G6 G5
G4 G3
G2 G1
10/100/1000T

P.O.E
8 ■■ 7 — PoE LED
6 ■■ 5
4 ■■ 3
2 ■■ 1

LNK/ACT LED (Green)
10/100/1000 Base-T(X) LAN Port
Full Duplex LED (Amber)

IGPS-9084GP

Ⓐ

Accessory

① 6-Pin Terminal block
② Dust Cover (RJ-45)
③ Dust Cover (SFP)

④ Flat Screw (M3 X5)
⑤ CD
⑥ QIG

⑦ Wall-mounted kit
⑧ Console Cable
⑨ 88mm DIN-Rail kit

Installation

DIN-Rail Install Step

Wall-mounted Install Step

Power Connection Guide

Power Supply
+24V   GND
Warning Device

Power Supply 50-57 VDC   V+ V-   V- V+   Power Supply 50-57 VDC

PWR-2 Fault PWR-1
1A@24V

V2- V2+   V1- V1+   DC 50-57V

Frame Ground