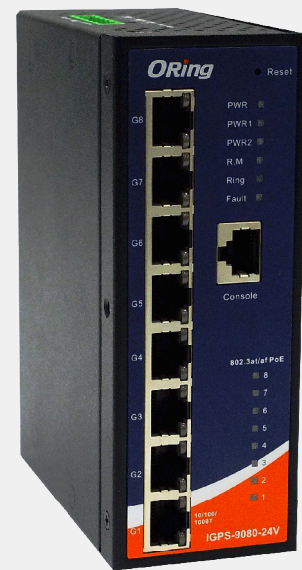# IGPS-9080 Series

Industrial 8-port managed Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E.

Features

➢ Supports 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

➢ Supports standard IEC 62439-2 MRP (Media Redundancy Protocol) function

➢ 8 port P.S.E. fully compliant with IEEE802.3at standard, provide up to 30 Watts per port

➢ Supports PoE scheduled configuration and PoE auto-ping check function

➢ Supports IEEE 1588v2 clock synchronization (-NP model is not supported)

➢ Supports IPV6 new internet protocol version

➢ Supports Modbus TCP protocol

➢ Supports IEEE 802.3az Energy-Efficient Ethernet technology

➢ Provided HTTPS/SSH protocol to enhance network security

➢ Supports SMTP client

➢ Supports IP-based bandwidth management

➢ Supports application-based QoS management

➢ Supports 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 & 802.1Q VLAN Network Management

➢ Supports ACL, TACACS+ and 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

➢ Supports LLDP Protocol

➢ Rigid IP-30 housing design

➢ DIN-Rail and wall mounting enabled

Introduction

   IGPS-9080 series are managed redundant ring PoE Ethernet switches with 8x10/100/1000Base-T(X) P.S.E. ports.   These switches support 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-9080 series 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-9080 series 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 $^{\circ}$C to 70 $^{\circ}$C.   IGPS-9080 series 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 choices for highly-managed Ethernet application.

- O-Ring : O-Ring is ORing's proprietary redundant ring technology, with recovery time of less 30 milliseconds and up to 250 nodes.　The O-Ring redundant ring technology can protect mission-critical application from network interruptions or temporary malfunction with its fast recover technology.
- Open-Ring : Open-Ring is an enhanced redundant technology that makes ORing's switches compatible with other vendor's proprietary redundant ring technologies.　It enables ORing's switches to form a single ring with other vendor's switch.　In cases where the ring is setup using proprietary technology, ORing offers a compatibility service where ORing can make its switches compatible with your particular network requirements.
- O-Chain : O-Chain is the revolutionary network redundancy technology that provides the add-on network redundancy topology for any backbone network, O-Chain allows multiple redundant network rings of different redundancy protocols to join and function together as a larger and more robust compound network topology.　O-Chain providing ease-of-use while maximizing fault-recovery swiftness, flexibility, compatibility, and cost-effectiveness in one set of network redundancy topology.
- MRP : Media Redundancy Protocol (MRP) is a data network protocol standardized by the IEC 62439-2. It allows rings of Ethernet switches to overcome any single failure with recovery time much faster than achievable with Spanning Tree Protocol.
- 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 1588v2 Technology : The IEEE 1588v2 technology can fulfill precision time synchronization requirements for protection and control applications.
- Modbus TCP : This is a Modbus variant used for communications over TCP/IP networks.
- IEEE 802.3az Energy-Efficient Ethernet : This is a set of enhancements to the twisted-pair and backplane Ethernet family of networking standards that will allow for less power consumption during periods of low data activity. The intention was to reduce power consumption by 50% or more.
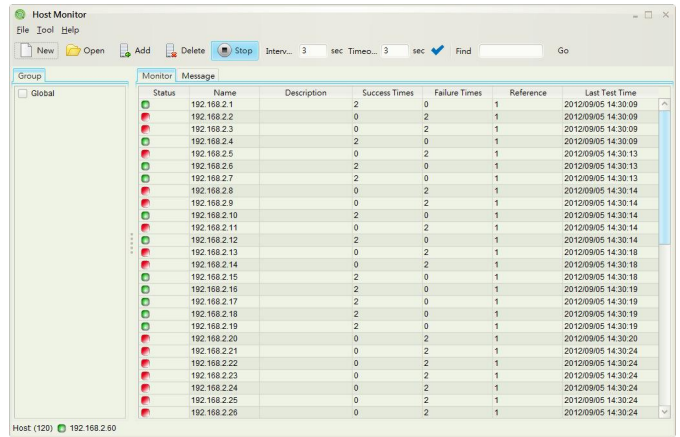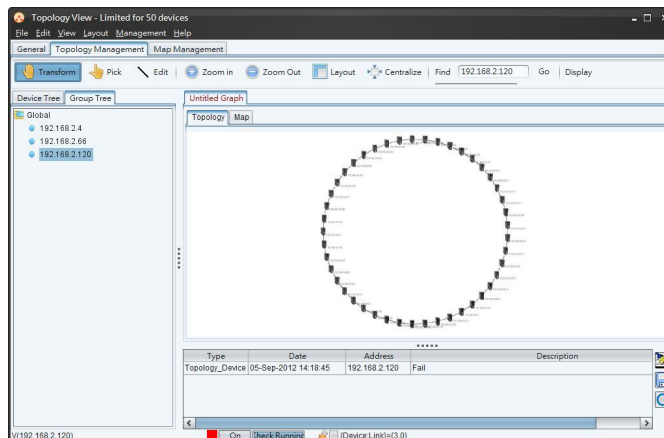
Open-Vision

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.
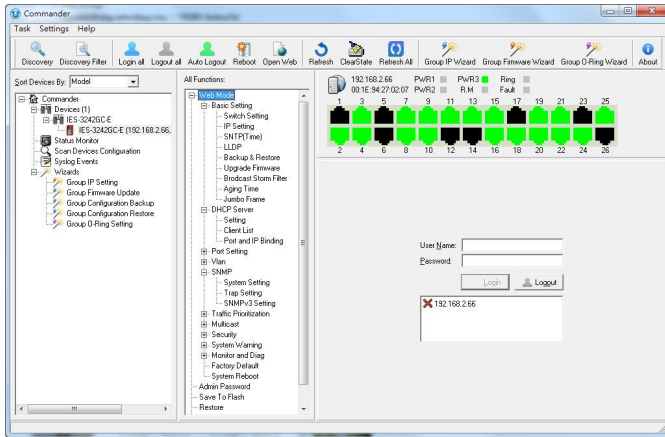
Commander   *Host Monitor*

Topology View

PoE Pin Definition

- ● 10/100Base-T(X) P.S.E. RJ-45 port

RJ-45 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 -

● 1000Base-T P.S.E. RJ-45 port

RJ-45 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-

Dimension

Unit =mm
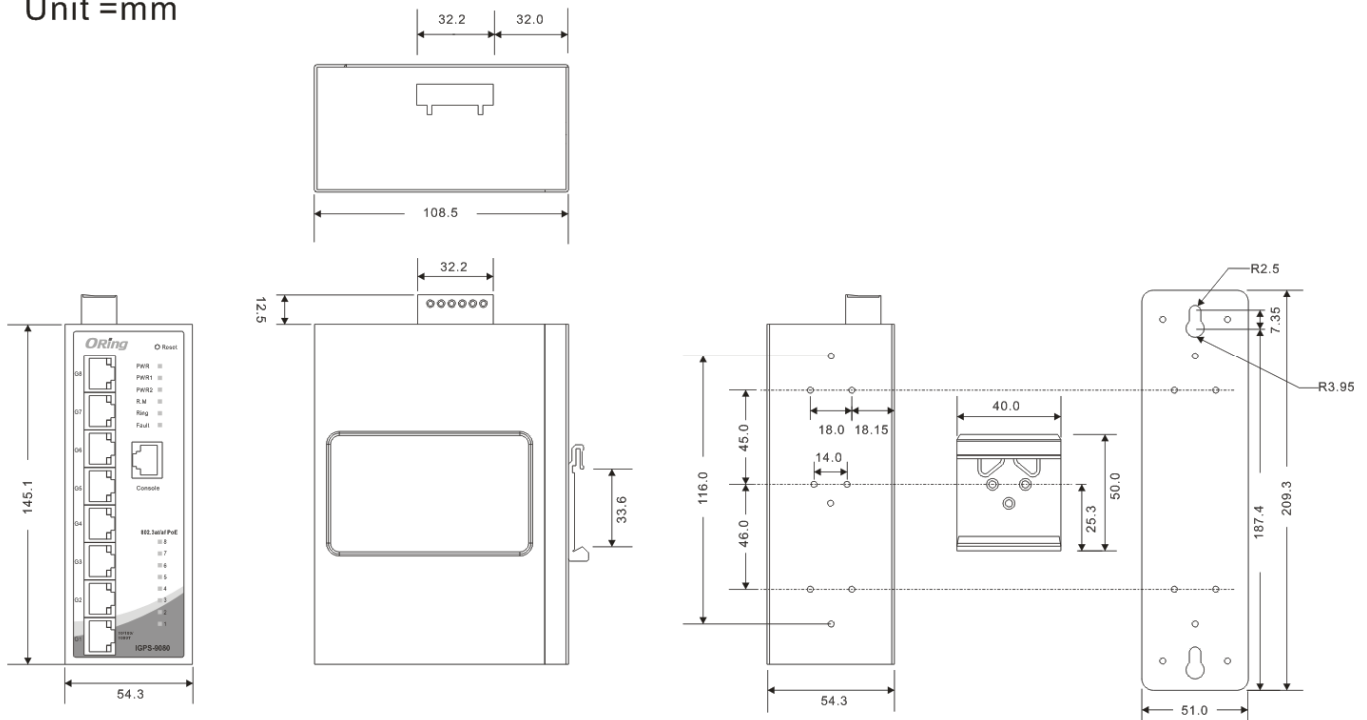
Specifications

ORing Switch Model	IGPS-9080 (Preliminary)	IGPS-9080-NP (Prelimenary)	IGPS-9080-24V	IGPS-9080-NP-24V
Physical Ports				
10/100/1000Base-T(X) with P.S.E. Ports in RJ45 Auto MDI/MDIX	8			
Technology				
Ethernet Standards	IEEE 802.3 for 10Base-T			

	IEEE 802.3u for 100Base-TX	
	IEEE 802.3ab for 1000Base-T	
	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 1588v2 clock synchronization	
	IEEE 802.3at PoE specification (up to 30 Watts per port for P.S.E.)	
PoE Output Watts	240 Watts Max.	12 ~24VDC : 60Watts Max. 24 ~ 57VDC : 120Watts Max.
MAC Table	8k	
Priority Queues	8	
Processing	Store-and-Forward	
Switch Properties	Switching latency: 7 us Switching bandwidth: 16Gbps Max. Number of Available VLANs: 256 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 (802.1Q) 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 IGMP Snooping IP-based bandwidth management Application-based QoS management DOS/DDOS auto prevention Port configuration, status, statistics, monitoring, security DHCP Server/Client/Relay 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. 115200bps, 8, N, 1	
LED Indicators		
Power Indicator (PWR)	Green : Power LED x 3	
Ring Master Indicator (R.M.)	Green : Indicates that the system is operating in O-Ring Master mode	
O-Ring Indicator (Ring)	Green : Indicates that the system operating in O-Ring mode Green Blinking : Indicates that the Ring is broken.	
Fault Indicator (Fault)	Amber : Indicate unexpected event occurred	
10/100/1000Base-T(X) RJ45 Port Indicator	Green for port Link/Act. Dual color LED for speed indicator : Green (1000M) / Amber (100M) / Off-light (10M).	
PoE Indicator	Green LED x 8	
Fault Contact		
Relay	Relay output to carry capacity of 1A at 24VDC	
Clock Synchronization		
IEEE 1588v2 Support	Supported	Unsupported
Power		

Redundant Input power	Dual DC inputs. 50~57VDC on 6-pin terminal block		Dual DC inputs. 12~57VDC on 6-pin terminal block	
Power consumption (Typ.) (PoE output not included)	11 Watts	11 Watts	12 Watts	12 Watts
Overload current protection	Present			
Reverse Polarity Protection	Not Present			
Physical Characteristic				
Enclosure	IP-30			
Dimension (W x D x H)	54.1(W)x106.1(D)x145.4(H) mm (2.13x4.18x5.72 inch.)			
Weight (g)	773 g	771 g	779 g	777 g
Environmental				
Storage Temperature	-40 to 85ºC (-40 to 185ºF)			
Operating Temperature	-40 to 70ºC (-40 to 158ºF)			
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			

Ordering Information

IGPS-9AAB-CC-DDD

Code Definition	10/100/1000Base-T(X) P.S.E. Port Number	Additional Port Number	IEEE 1588v2 function	Voltage supported type
Option	**- 08:** 8 ports	**- 0:** 0 port	**- NP:** unsupported IEEE 1588v2	**- 24V:** 24VDC power inputs supported

	Model Name	Description
Available Model	**IGPS-9080 (Preliminary)**	Industrial 8-port managed Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E.
	IGPS-9080-NP (Preliminary)	Industrial 8-port managed Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E.
	IGPS-9080-24V	Industrial 8-port managed Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X) P.S.E., 24VDC power inputs
	IGPS-9080-NP-24V	Industrial 8-port managed Gigabit PoE Ethernet switch with 8x10/100/1000Base-T(X)

		P.S.E., 24VDC power inputs

Packing List

- IGPS-9080 series x 1
- ORing Tools CD x 1
- Quick Installation Guide x 1
- DIN-Rail Kit x 1
- Wall-mount Kit x 2
- Console Cable x 1

Optional Accessories

- Open-Vision M500 : Powerful Network Management Windows Utility Suit, 500 IP devices