IGS-R9884DGPP+

Industrial Layer-3 20-port managed Gigabit Ethernet switch with 8x10/100/1000Base-T(X), 8x10 0/1G/2.5GBase-X, SFP socket, and 4x1G/10GBase-X, SFP+ socket

Features

- Support static routing and route redistribution for IPv4
- Support IPv4 routing protocols – RIP v2
- Supports **O-Ring** (recovery time < 30ms over 250 units of connection) and MSTP (RSTP/STP compatible) for Ethernet Redundancy
- **O-Chain** allow multiple redundant network rings
- Support standard IEC 62439-2 **MRP***NOTE (Media Redundancy Protocol) function
- Supports IPv6 new internet protocol version
- Supports Modbus TCP protocol
- Provided HTTPS/SSH protocol to enhance network security
- Supports SMTP client and NTP server protocol
- 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 port mirror function to monitor port data
- Support ACL 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
- Support LLDP Protocol
- Support **DBU-01** backup unit device to quickly backup/restore configuration
- Rigid IP-30 housing design, DIN-Rail and wall mounting enabled





Introduction

IGS-R9884DGPP+ is Layer-3 20-port managed redundant ring Ethernet switches, that provided 8x10/100/1000Base-T(X) copper ports, 8x100/1G/2.5GBase-X with SFP socket and also provided 4x1G/10GBase-X with SFP+ socket. IGS-R9884DGPP+ supports static routing、RIP and VRRP basic layer-3 protocol. With completely support of Ethernet Redundancy protocol, **O-Ring** (recovery time < 30ms over 250 units of connection), O-Chain and MSTP (RSTP/STP compatible) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. And support wide operating temperature from -20℃ to 60℃. IGS-R9884DGPP+ also be managed centralized and convenient by very powerful windows utility – "**Open-Vision**", as well as 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 power substation application.

***NOTE: This function is available by request only.**

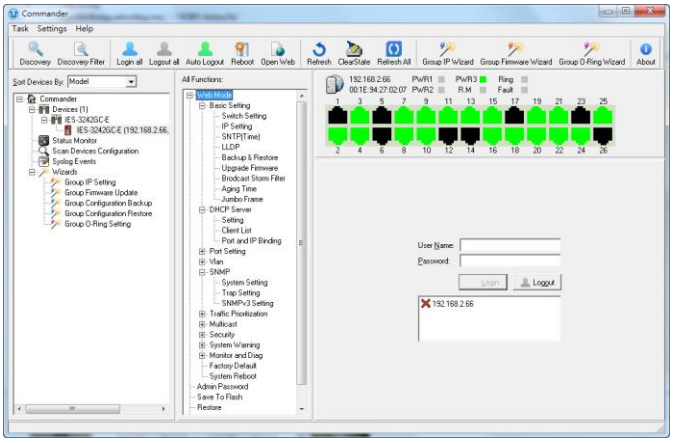
- **O-Ring :** O-Ring is ORing's proprietary redundant ring technology, with recovery time of less 30 milliseconds and up to 250 nodes. The O-Ring redundant ring technology can protect mission-critical application from network interruptions or temporary malfunction with its fast recover technology.
- **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*NOTE :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.
- **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.

***NOTE: This function is available by request only.**

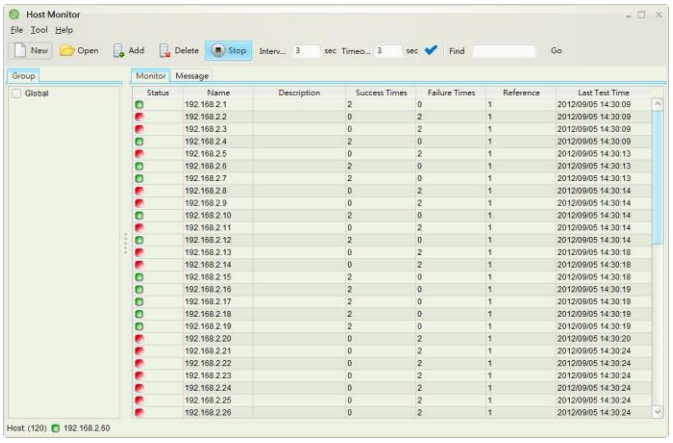
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Open-Vision

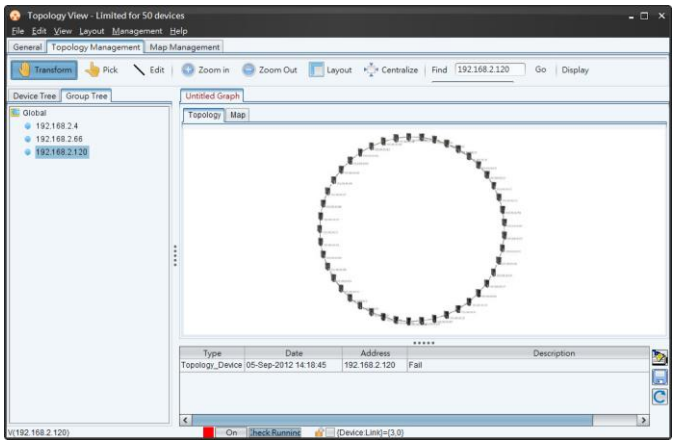
ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial network.



Commander



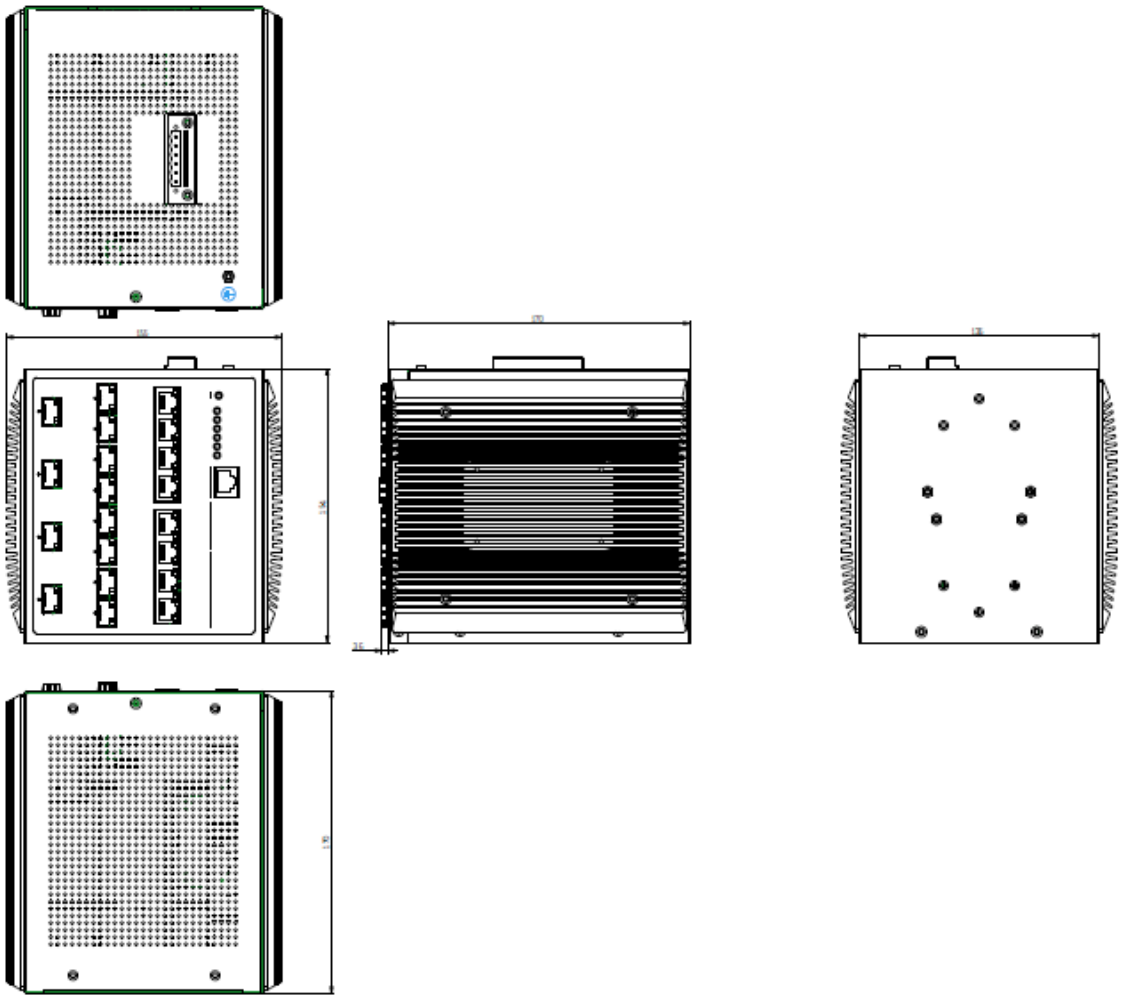
Host Monitor



Topology View

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Dimension



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Specifications

Switch Model	IGS-R9884DGPP+
Physical Ports	
10/100/1000Base-T(X) Ports with RJ45 Auto MDI/MDIX	**8**
100/1G/2.5Gbase-X Ports in SFP	**8**
1G/10Gbase-X with SFP+	**4**
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3ab for 1000Base-T IEEE 802.3z for 1000Base-X IEEE 802.3ae for 10Gigabit Ethernet 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)
MAC Table	32k
Packet Buffer	32Mbits
Jumbo frame	Up to 9K Bytes
Priority Queues	8
Processing	Store-and-Forward
Switch Properties	Switching latency: 7 us Switching bandwidth: 136Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 256 for each VLAN Port rate limiting: User Define
Security Features	Device Binding security feature Enable/disable ports, MAC based port security Port based network access control (802.1x) MAC-based authentication MAC address limit VLAN (802.1Q) to segregate and secure network traffic Radius centralized password management SNMPv3 encrypted authentication and access security Https / SSH enhance network security Web and CLI authentication and authorization Authorization (15 levels) IP source guard
Software Features	Hardware routing, RIP and static routing VRRP (Virtual Router Redundancy Protocol) IEEE 802.1D Bridge, auto MAC address learning/aging and MAC address (static) MSTP (RSTP/STP compatible) 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 v2/v3 Snooping IP-based bandwidth management Application-based QoS management DOS/DDOS auto prevention Port configuration, status, statistics, monitoring, security DHCP Server/Client/Relay Modbus TCP SMTP Client NTP server
Network Redundancy	O-Ring O-Chain MRP*NOTE

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

	MSTP (RSTP/STP compatible)
RS-232 Serial Console Port	RS-232 in RJ-45 connector with console cable. 115200bps, 8, N, 1
LED Indicators	
System Ready Indicator (PWR)	Green: Indicates that the system ready. The LED is blinking when the system is upgrading firmware
Power Indicator (PWR1 / PWR2)	Green: Power LED x 2
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 Link/Act Dual color LED for speed indicator : Green for 1000Mbps, Amber for 100Mbps, Off-light for 10Mbps
100/1G/2.5GBase-X SFP Port Indicator	Green for port Link/Act.
1G/10GBase-X SFP+ Port Indicator	Green for port Link/Act.
Fault Contact	
Relay	Relay output to carry capacity of 1A at 24VDC
Power	
Redundant power input modular	Dual DC inputs. 12~48VDC (Max. rating : 60VDC) at terminal block
Power consumption (Typ.)	26 Watts
Overload current protection	Present
Reverse Polarity Protection	Present
Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	135 (W) x 154 (H) x 170 (D)mm
Environmental	
Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-20 to 60°C (-4 to 140°F)
Operating Humidity	5% to 95% Non-condensing
Regulatory Approvals	
EMC	EN 55022, EN 55024(CE EMC), FCC, EN 61000-6-2, EN 61000-6-4,IEC 61000-3-2 ,IEC 61000-3-3
EMI	CISPR 22, EN 55011, FCC Part 15B Class A
EMS	EN 61000-4-2 (ESD), EN 61000-4-3 (RS), EN 61000-4-4 (EFT), EN 61000-4-5 (Surge), EN 61000-4-6 (CS), EN 61000-4-8 (PFMF), EN 61000-4-11 (DIP)
Shock	IEC 60068-2-27
Free Fall	IEC 60068-2-31 (IEC 60068-2-32)
Vibration	IEC 60068-2-6
Safety	EN60950-1
Warranty	5 years

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Ordering Information

IGS-R9ABCDDDEE

Code Definition	10/100/1000 Base-T(X) Port Number	Additional 1 Port Number	Additional 2 Port Number	Additional 1 Port Type	Additional 2 Port Type Power Inputs Type
Option	**- 8:** 8 ports	**- 8:** 8 ports	**- 4:** 4 ports	**-DGP:** 1G/2.5GBase-X SFP port	**-P+:** 10Gigabit SFP+ port

	Model Name	Description
Available Model	**IGS-R9884DGPP+**	Industrial Layer-3 20-port managed Gigabit Ethernet switch with 8x10/100/1000Base-T(X), 8x100/1G/2.5GBase-X, SFP socket, and 4x1G/10GBase-X, SFP+ socket

Packing List

- **IGS-R9884DGPP+ x 1**
- **DIN-Rail Kit x 1**
- **ORing Tool CD Card x 1**
- **Wall-mount Kit x 2**
- **Quick Installation Guide x 1**
- **Console Cable x 1**

Optional Accessories

- **Open-Vision M500 : Powerful Network Management Windows Utility Suit, 500 IP devices**
- **DR-45 series : 45 Watts DIN-Rail power supply**
- **DR-120 series : 120 Watts DIN-Rail power supply**
- **DR-75 series : 75 Watts DIN-Rail power supply**
- **SFP1G series : 1Gbps SFP optical transceiver**
- **SFP10G series : 10Gbps SFP optical transceiver**
- **DBU-01 : Data backup unit device**

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000