IGS-3032GC

> ➤ *Industrial 5-port managed Gigabit Ethernet switch with 3x10/100/1000Base-T(X) and 2xGigabit combo ports, SFP socket*

Features

- Designed for Railway application and fully compliant with the requirement of EN50155 standard
- Fastest Redundant Ethernet Ring: **O-Ring** (recovery time < 30ms over 250 units of connection)
- **O-Chain** allow multiple redundant network rings
- Support standard IEC 62439-2 **MRP*****NOTE** (Media Redundancy Protocol) function
- STP/RSTP/MSTP supported
- Support **PTP Client** (Precision Time Protocol) clock synchronization
- Support Modbus/TCP protocol
- Support jumbo frame up to 9Kbytes
- IGMP v2/v3 (IGMP snooping support) for filtering multicast traffic
- Port Trunking for easy of bandwidth management
- SNMP v1/v2c/v3 support for secured network management
- RMON for traffic monitoring
- Event notification through Syslog, Email, SNMP trap, and Relay Output
- Windows utility (**Open-Vision**) support centralized management and configurable by Web-based ,Telnet, and Console (CLI) configurations
- Supports jumbo frame up to 9KBytes
- Rigid IP-30 housing design
- DIN-Rail and wall mounting enabled
- Support LLDP Protocol

Introduction

IGS-3032GC is a full gigabit managed Redundant Ring Ethernet switch with 3x10/100/1000Base-T(X) and 2xGigabit combo ports. The switch is designed for Railway application and fully compliant with the requirement of EN50155 standard. With completely support of Ethernet Redundancy protocol, O-Ring (recovery time < 30ms over 250 units of connection), O-Chain, MRP***NOTE** and MSTP/RSTP/STP (IEEE 802.1 s/w/D) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. Another Open-Ring technology is also supported which can applied for other vendor's proprietary ring. 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. IGS-3032GC can be managed centralized and convenient by a powerful windows utility – Open-Vision. The redundant DC power inputs guarantee a non-stop operation. The backup power input will take over immediately when the primary DC power input fails. IGS-3032GC provides relay outputs that can be set up to indicate events with urgency to notify or warn the technicians, so they can quickly respond to the message in priority. In addition, with it's rugged design for railway certification, i.e., EN50155 standard, make IGS-3032GC to be solid and reliable for railway traffic communication and transportation application. Therefore, the switch is one of the most reliable choice for highly-managed and Fiber Ethernet railway application.
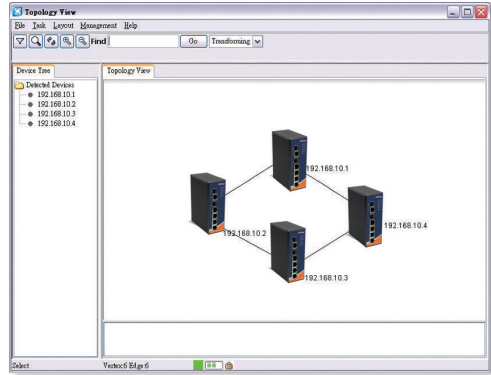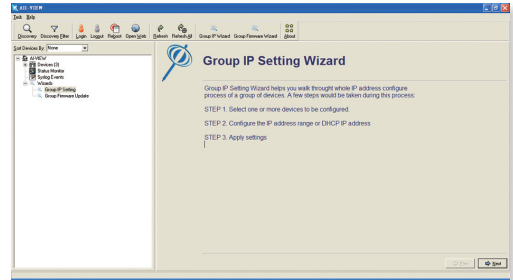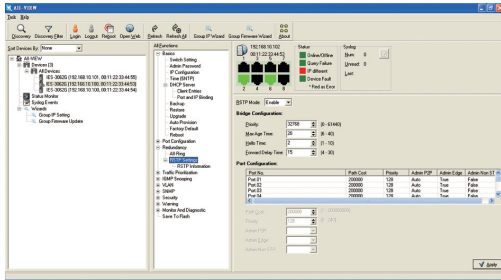
ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial network.
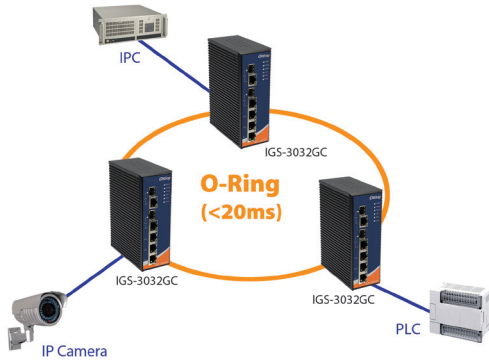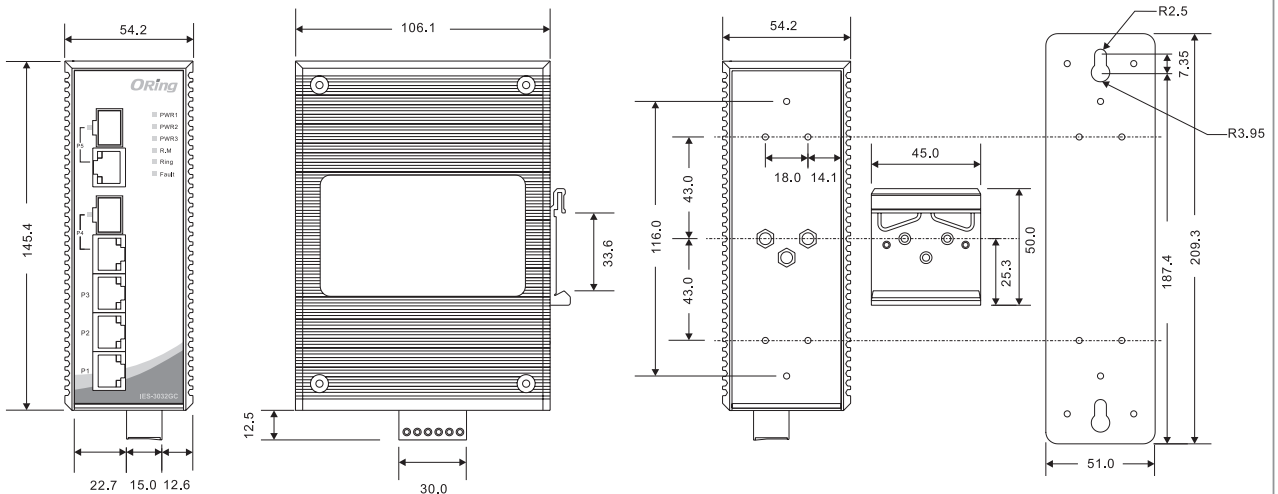
Network connection

Topology View

Monitoring and Configuration interface

Dimensions

(Unit=mm)

Specifications

ORing Switch Model	IGS-3032GC
Physical Ports	
10/100/1000Base-T(X) Ports in RJ45 Auto MDI/MDIX	**3**
Gigabit Combo Ports with 10/100/1000Base-T(X) and 100/1000Base-X SFP Port	**2**
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3z for 1000Base-X 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 802.1D for STP (Spanning Tree Protocol) IEEE 802.1D-2004 for RSTP:2004 (Rapid Spanning Tree Protocol 2004) 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	8192 MAC addresses
Priority Queues	4
Processing	Store-and-Forward
Jumbo Frame	Up to 9 kbytes
Switch Properties	Switching latency : 7 µs Switching bandwidth : 10 Gbps Max. Number of Available VLANs : 4096 IGMP multicast groups : 1024 Port rate limiting : User Define
Security Features	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 SNMP v1/v2c/v3 encrypted authentication and access 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 v2/v3 (IGMP Snooping support) for multicast filtering Port configuration, status, statistics, monitoring, security PTP Client (Precision Time Protocol) clock synchronization DHCP Server / Client support Port Trunk support MVR (Multicast VLAN Registration) support Modbus TCP
Network Redundancy	O-Ring O-Chain MRP***NOTE** STP / RSTP / MSTP
RS-232 Serial Console Port	RS-232 in RJ45 connector with console cable. 9600bps, 8, N, 1
LED Indicators	
Power indicator	Green : Power LED x 3
R.M. indicator	Green : Indicates that the system is operating in O-Ring Master mode
Ring indicator	Green : Indicates that the system is operating in O-Ring mode
Fault indicator	Amber : Indicates unexpected event occurred
10/100/1000Base-T(X) RJ45 Port Indicator	Green for port Link/Act. Amber for 100Mbps indicator
100/1000Base-X SFP Port Indicator	Green for port Link/Act.

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

Fault contact	
Relay	Relay output to carry capacity of 1A at 24VDC
Power	
Redundant Input Power	Triple DC inputs: +12 ~ +48VDC or -12 ~ -48VDC on 7-pin terminal block, 12 ~ 45VDC on power jack
Power Consumption (Typ.)	10 Watts
Overload Current Protection	Present
Reverse Polarity Protection	Present on terminal block
Physical Characteristics	
Enclosure	IP-30
Dimension (W x D x H)	54.2(W)x106.1(D)x145.4(H) mm (2.13x4.18x5.72 inch.)
Weight (g)	820g
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	
EMC	C CE EMC (EN 55024, EN 55032), FCC Part 15B, EN 50155(EN 50121-1, EN 50121-3-2)
EMI	EN 55032, CISPR32, EN 61000-3-2, EN 61000-3-3, FCC Part 15B class A
EMS	EN 55024 (IEC/EN 61000-4-2 (ESD), IEC/EN 61000-4-3 (RS),IEC/EN 61000-4-4 (EFT), IEC/EN 61000-4-5 (Surge), IEC/EN 61000-4-6 (CS), IEC/EN 61000-4-8(PFMF), IEC/EN 61000-4-11 (DIP))
Shock	IEC60068-2-27
Free Fall	IEC60068-2-32
Vibration	IEC60068-2-6
Safety	EN60950-1
Other	EN 50155 (IEC 61373)
MTBF	601791.9803 hrs
Warranty	5 years

Ordering Information

IGS-3 AA B CC

Code Definition	10/100/1000Base-T(X) Port Number	Additional Port Number	Additional Port Type
Option	- 03 : 3 ports	- 2 : 2 ports	-GC : Gigabit Combo port

Available Model	Model Name	Description
	IGS-3032GC	Industrial 5-port managed Gigabit Ethernet switch with 3x10/100/1000Base-T(X) and 2xGigabit combo ports, SFP socket

Packing List
- IGS-3032GC x 1
- DIN-Rail Kit x 1
- ORing Tool CD x 1
- Wall-mount Kit x 1
- Quick Installation Guide x 1
- Console Cable x 1

Optional Accessories (Can be purchased separately)
- Open-Vision M500 : Powerful Network Management Windows Utility Suit, 500 IP devices
- SFP100 series : 100Mbps SFP optical transceiver
- SFP 1G series : 1Gbps SFP optical transceiver
- DR/SDR/DRP Series DIN-Rail power supply