IES-3082GC

EN50155 10-port managed Ethernet switch with 8x10/100Base-T(X) and 2xGigabit combo ports, SFP socket

Features

➢ Leading EN50155-compliant Ethernet switch for rolling stock application

➢ World's fastest Redundant Ethernet Ring: O-Ring (recovery time < 10ms over 250 units of connection)

➢ Open-Ring support the other vendor's ring technology in open architecture

➢ O-Chain allow multiple redundant network rings

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

➢ STP/RSTP/MSTP supported

➢ Support PTP Client (Precision Time Protocol) clock synchronization

➢ Support Modbus TCP protocol

➢ IGMP v2/v3 (IGMC 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

➢ Support LLDP (Link Layer Discovery Protocol)

➢ Supports DDM (Digital Diagnostic Monitoring) function

➢ Hardware watchdog support

➢ Operating temperature detect support

➢ Event notification through Syslog, Email, SNMP trap, and Relay Output

➢ Port lock to prevent access from unauthorized MAC address

➢ Windows utility (Open-Vision) support centralized management and configurable by Web-based ,Telnet, Console (CLI)

➢ Support two Gigabit combo ports

➢ Rigid IP-30 housing design

➢ DIN-Rail and wall mounting enabled

Introduction

IES-3082GC is managed redundant ring Ethernet switch with 8x10/100Base-T(X) ports and 2xGigabit combo ports which is compliant with EN50155 request.　The Ethernet switch is designed for industrial applications, such as rolling stock, vehicle, and railway applications.　With completely support of Ethernet redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection), Open-Ring and MSTP/RSTP/STP (IEEE 802.1s/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. IES-3082GC support new DDM (Digital Diagnostic Monitoring) function, which can monitor instantly the status of

electronic voltage, current and temperature.   IES-3082GC also provided machine operating temperature detects function, which can monitor operating temperature every time.   IES-3082GC provided hardware watchdog function, which can keep machine working all the time.   All function of IES-3082GC can be managed centralized by a powerful windows utility — Open-Vision.   In addition, the wide operating temperature range from -40 to 70°C can satisfy most of operating environment.   Therefore, the switch is one of the most reliable choice for highly-managed and Fiber Ethernet application.
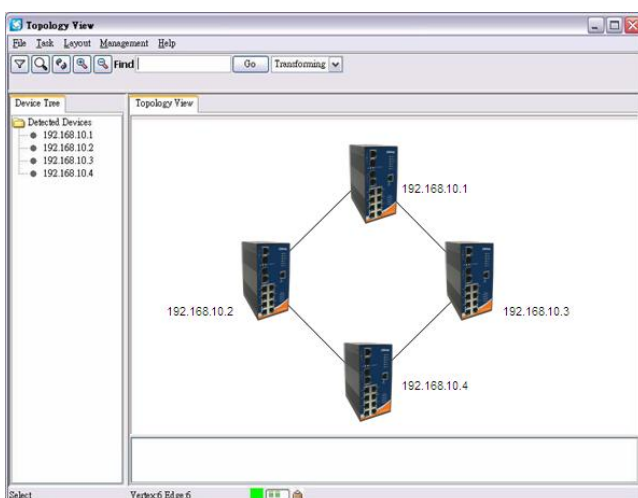
Open-Vision

ORing's switches are intelligent switches.   Being 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.
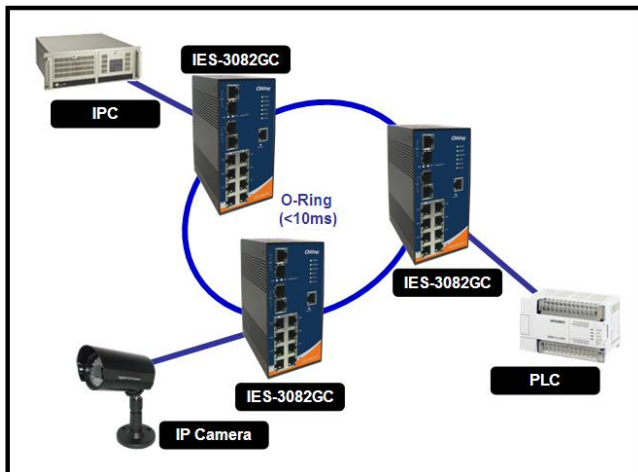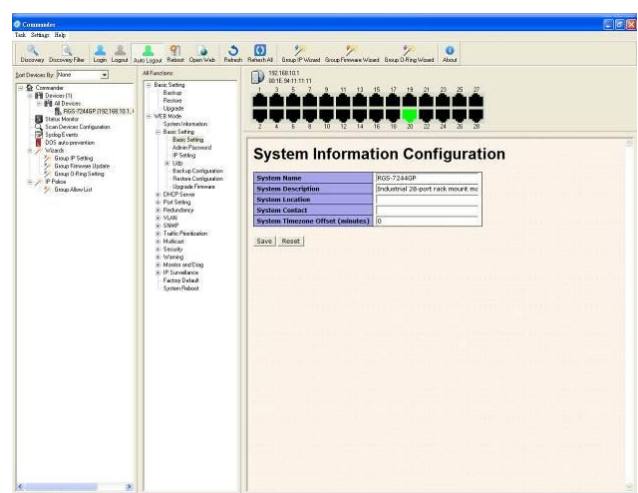

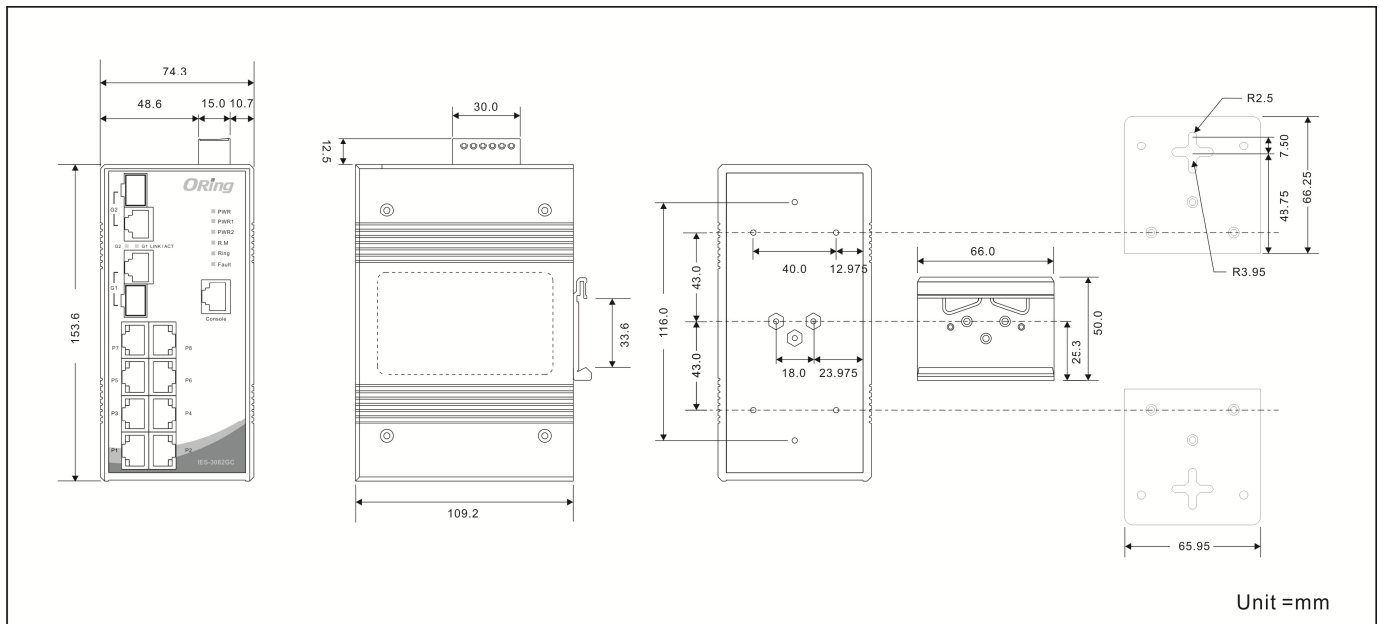*Network connection*
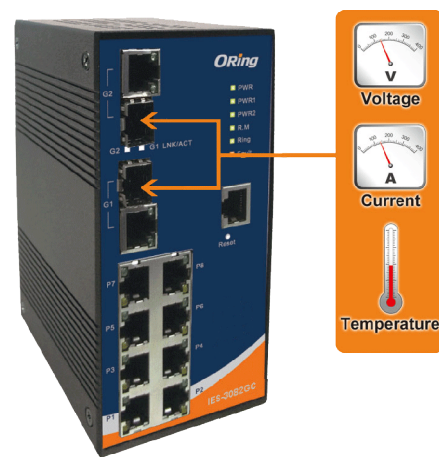
DDM function

Topology View

Monitoring and Configuration interface

Dimension

Unit =mm

Specifications

ORing Switch Model	IES-3082GC
Physical Ports	
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX	8
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 802.1D for STP (Spanning Tree 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	8192 MAC addresses
Priority Queues	4
Processing	Store-and-Forward
Switch Properties	Switching latency: 7 us Switching bandwidth: 5.6Gbps 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 Supports Q-in-Q VLAN for performance & security to expand the VLAN space

	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 10ms 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 for multicast filtering
	Port configuration, status, statistics, monitoring, security
	SNTP for synchronizing of clocks over network
	Support 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
	Open-Ring
	O-Chain
	MRP
	STP/RSTP/MSTP
Warning / Monitoring System	Relay output for fault event alarming
	Syslog server / client to record and view events
	Include SMTP for event warning notification via email
	Event selection support
DDM Function	Voltage / Current / Temperature
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
O-Ring Indicator	Green : Indicate system operated in O-Ring mode
R.M. indicator	Green : Indicate system operated in O-Ring Master mode
Fault indicator	Amber : Indicate unexpected event occurred
10/100Base-T(X) RJ45 Port Indicator	Green for port Link/Act. Amber for Duplex/Collision
10/100/1000Base-T(X) RJ45 Port Indicator	Green for Link/Act. Amber for 100Mbps indicator
100/1000Base-X Fiber Port Indicator	Green for port Link/Act.

Fault contact

Relay	Relay output to carry capacity of 1A at 24VDC

Power

Redundant Input Power	Dual DC inputs. 12~48VDC on 6-pin screw type terminal block
Power Consumption (Typ.)	8.5 Watts
Overload Current Protection	Present
Reverse polarity protection	Present

Physical Characteristic

Enclosure	IP-30
Dimension (W x D x H)	74.3(W) x 109.2(D) x 153.6(H)mm (2.93 x 4.30 x 6.05 inches)
Weight (g)	1140 g

Environmental

Storage Temperature	-40 to 85°C (-40 to 185°F)
Operating Temperature	-40 to 70°C (-40 to 158°F)
Operating Humidity	5% to 95% Non-condensing

Regulatory approvals

EMI	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN50121-4, EN55011)
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

IES-3AABCC

Code Definition	10/100Base-T(X) Port Number	Additional Port Number	Additional Port Type
Option	**- 08:** 8 ports	**- 2:** 2 ports	**-GC:** Gigabit combo with SFP

Available Model	Model Name	Description
	IES-3082GC	EN50155 10-port managed Ethernet switch with 8x10/100Base-T(X) and 2xGigabit combo ports, SFP socket

Packing List

- IES-3082GC 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

- 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
- SFP100 series : 100Mbps SFP optical transceiver
- SFP 1G series : 1Gbps SFP optical transceiver
- DR-75 series : 75 Watts DIN-Rail power supply