IES-3082GC

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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***NOTE (Media Redundancy Protocol) function
- STP/RSTP:2004/MSTP supported
- Support IPV6 new internet protocol version
- Support **PTP Client** (Precision Time Protocol) clock synchronization
- Provided HTTPS/SSH protocol to enhance network security
- 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
- Support TACACS+ and 802.1x User Authentication for security
- Hardware watchdog support
- Operating temperature detect support





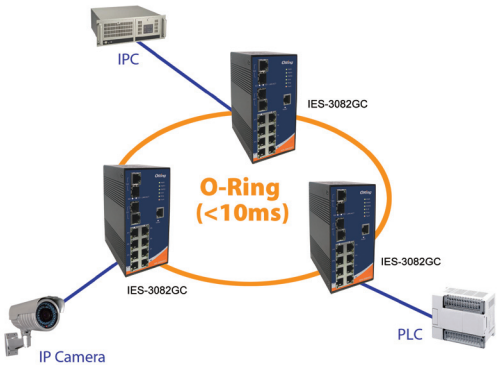
***NOTE: This function is available by request only**

Introduction

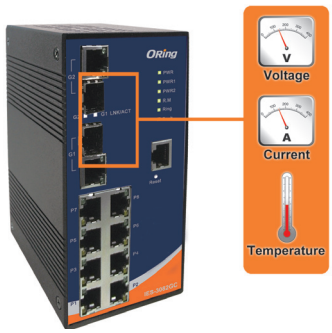
IES-3082GC is managed redundant ring Ethernet switch with 8x10/100Base-T(X) ports and 2xGigabit combo ports which is compliant with EN50155 request. The Ethernet switch is designed for industrial applications, such as rolling stock, vehicle, and railway applications. With completely support of Ethernet redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection), Open-Ring and MSTP/RSTP:2004/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

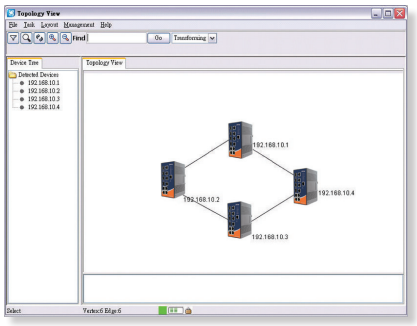
ORing's switches are intelligent switches. Being different from other traditional redundant switches, ORing provides a set of Windows utility (**Open-Vision**) for user to manage and monitor all of industrial Ethernet switches on the industrial network



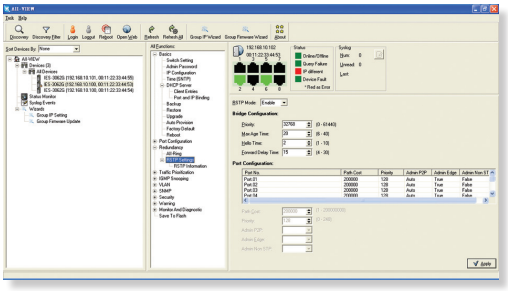
Network connection

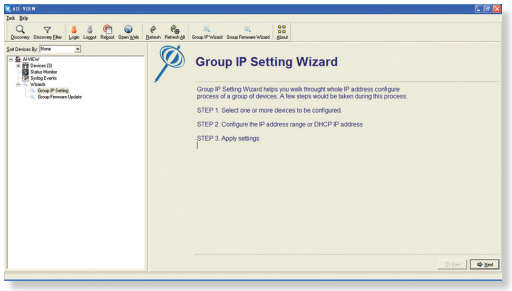


DDM function



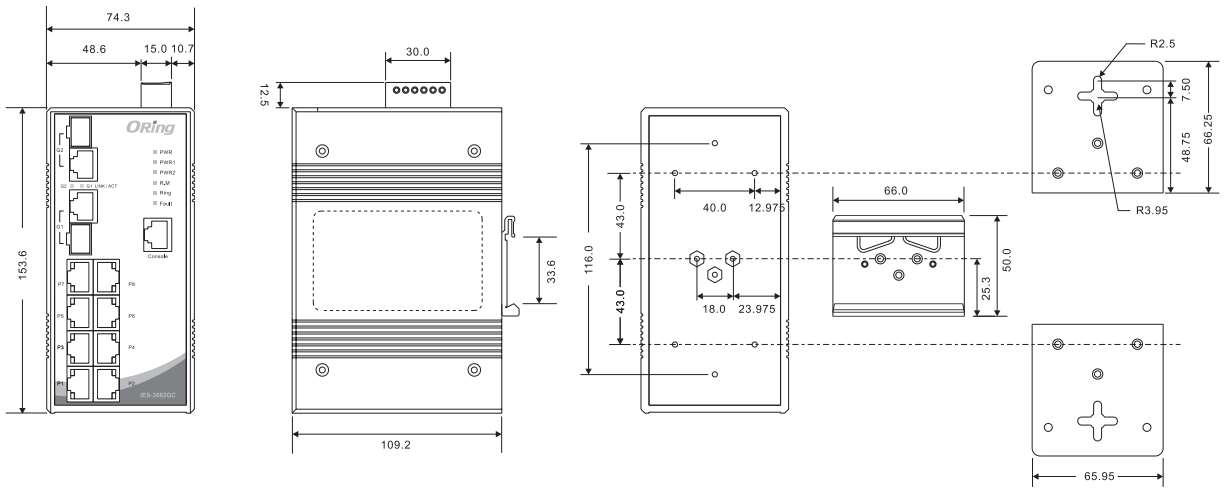
Topology View





Monitoring and Configuration interface

Dimensions



(Unit=mm)

Specifications

ORing Switch Model	IES-3082GC
Physical Ports	
10/100Base-T(X) Port in RJ45 Auto MDI/MDIX	8
Gigabit combo Port 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
Switch Properties	Switching latency : 7 µs 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 Https / SSH enhance network security
Software Features	STP/RSTP:2004/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 v2/v3 (IGMP snooping support) 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 STP RSTP:2004 MSTP MRP***NOTE**
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	RS-232 in RJ45 connector with console cable. 9600bps, 8, N, 1
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
O-Ring Indicator	Green : Indicates that the system is operating in O-Ring mode
Fault Indicator	Amber : Indicates unexpected event occurred

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

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 port Link/Act. Amber for 100Mbps indicator
100/1000Base-X SFP 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 terminal block
Power Consumption (Typ.)	8.5 Watts
Overload Current Protection	Present
Reverse Polarity Protection	Present on terminal block
Physical Characteristics	
Enclosure	IP-30
Dimensions (W x D x H)	74.3(W) x 109.2(D) x 153.6(H) mm (2.93x4.3x6.05 inch)
Weight (g)	1140g
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
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-3 AA B CC

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

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
- DIN-Rail Kit
- Wall-mount Kit
- Console Cable
- ORing Tool CD
- Quick Installation Guide

Optional Accessories (Can be purchased separately)

- Open-Vision M500, Powerful Network Management Windows Utility Suite, 500 IP devices
- SFP100 series, 100Mbps SFP optical transceiver
- SFP1G series, 1Gbps SFP optical transceiver
- DR-45 series, 45W DIN-Rail power supply
- DR-75 series, 75W DIN-Rail power supply
- DR-120 series, 120W DIN-Rail power supply