IES-P3073GC Series

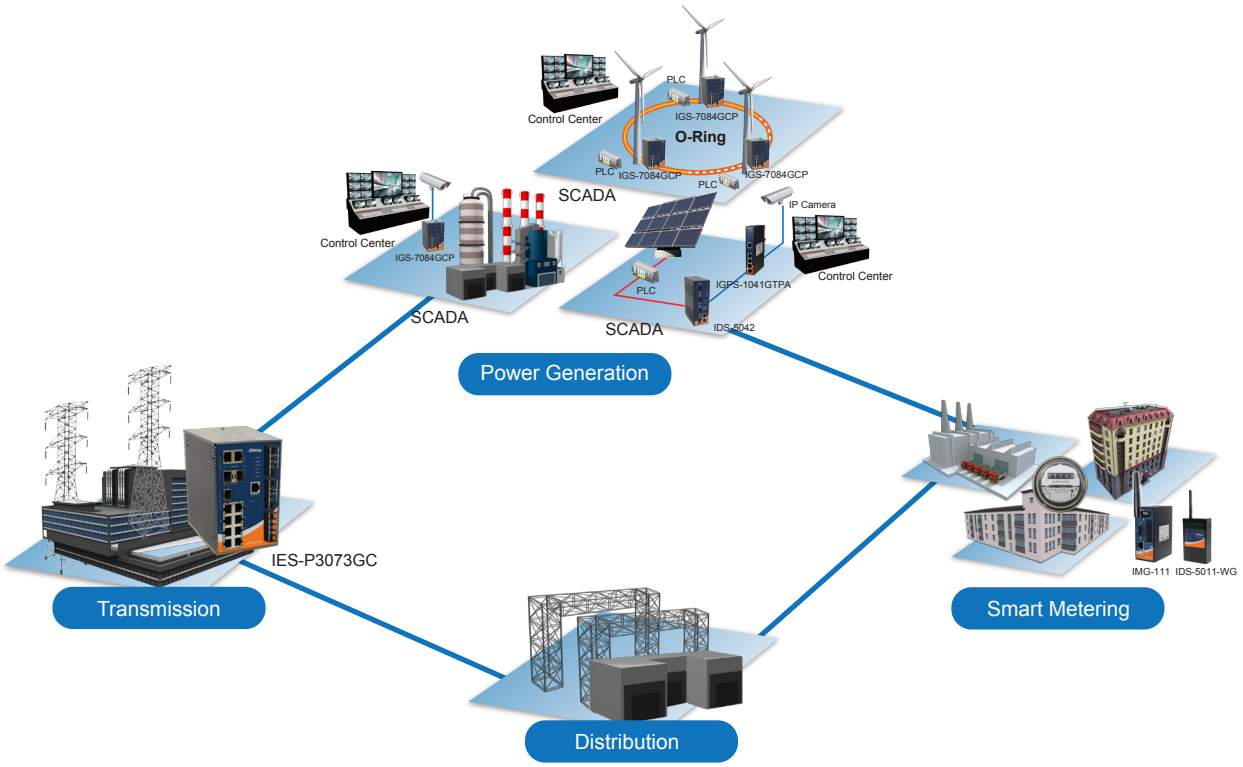
Industrial IEC 61850-3 10-port managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket

Features

- Designed for power substation / Railway application and fully compliant with the requirement of IEC 61850-3 and IEEE 1613
- 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 (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
- Supports **DDM** (Digital Diagnostic Monitoring) function
- Support LLDP protocol
- Port lock to prevent access from unauthorized MAC address
- Event notification through Syslog, Email, SNMP trap, and Relay Output
- Windows utility (**Open-Vision**) support centralized management and configurable by Web-based ,Telnet, Console(CLI)
- Support 3 Gigabit combo ports
- Rigid IP-30 housing design
- DIN-Rail and wall mounting enabled

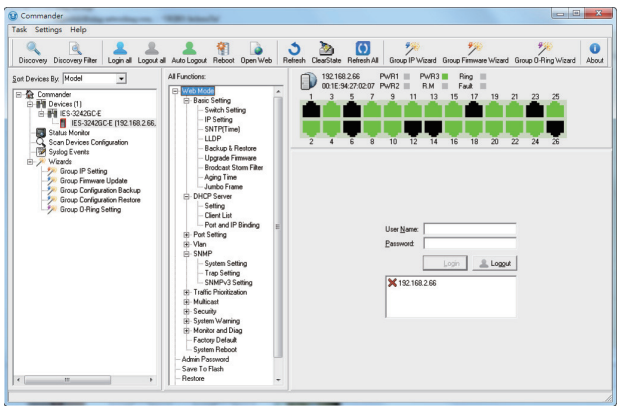
Introduction

IES-P3073GC series are IEC 61850-3 managed Redundant Ring Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports. These switches are designed for power substation application and rolling stock application, fully compliant with the requirement of IEC 61850-3 and IEEE 1613. And these switches designed for the toughest and fully compliant with EN50155 requirement. With completely support of Ethernet Redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection), Open-Ring, O-Chain, MRP 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 provided ease-of-use while maximizing fault-recovery swiftness, flexibility, compatibility, and cost-effectiveness in one set of network redundancy topology. All function of IES-P3073GC series can be managed centralized and convenient by a powerful windows utility — Open-Vision. IES-P3073GC series support new DDM (Digital Diagnostic Monitoring) function, which can monitor instantly the status of electrical voltage, current and temperature. In addition, the wide operating temperature range from -40 to 85°C can satisfy most of operating environment. Therefore, these switches are one of the most reliable choices for highly-managed Fiber Ethernet application.

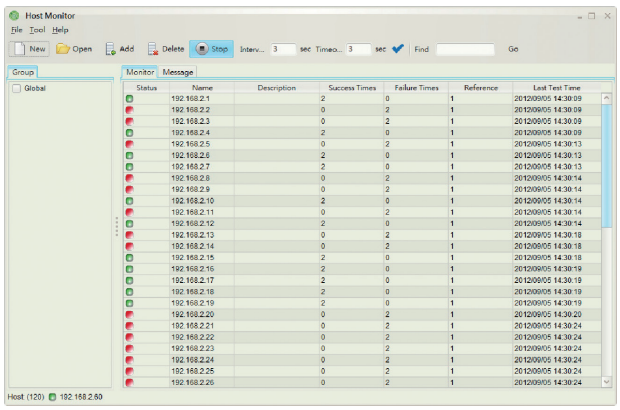


Open-Vision

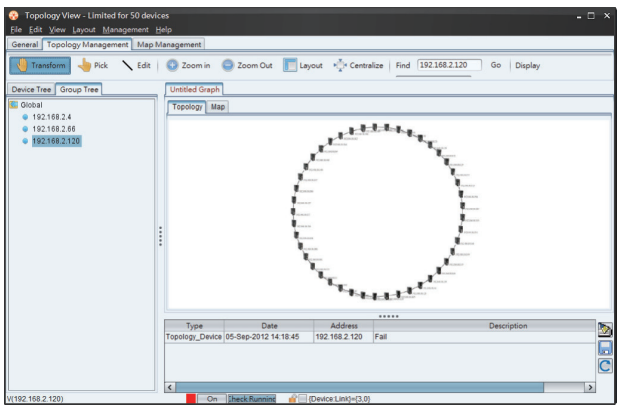
ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial network.



Commander

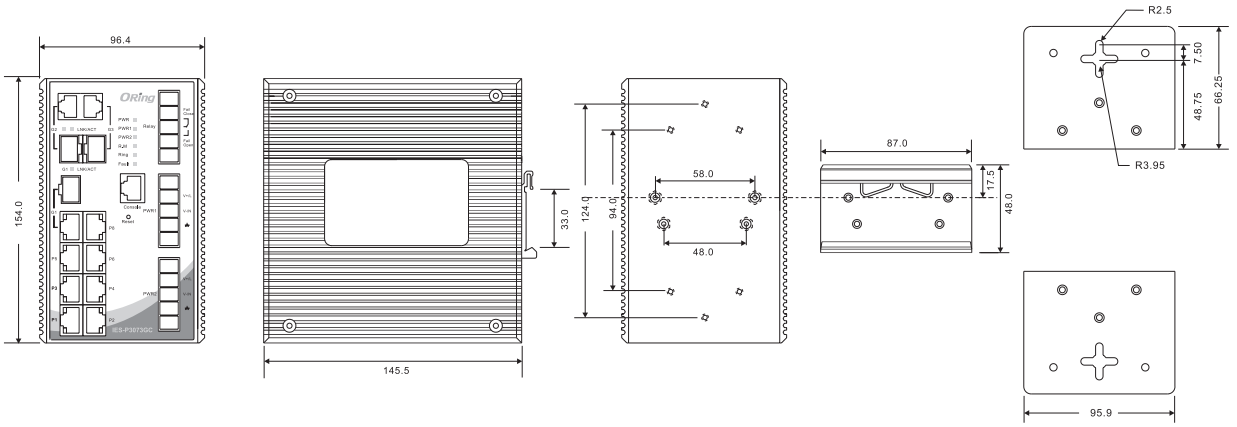


Host Monitor



Topology View

Dimensions



(Unit=mm)

Specifications

ORing Switch Model	IES-P3073GC-LV Preliminary	IES-P3073GC-HV
Physical Ports		
10/100Base-T(X) Port in RJ45 Auto MDI/MDIX	7	
Gigabit combo Port with 10/100/1000Base-T(X) and 100/1000Base-X SFP Port	3	
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: 7.4Gbps 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	
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	
Fault Indicator	Amber : Indicates 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 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	TBD (Preliminary)	Dual power inputs. 85~264VAC/88~373VDC on dual 3-pin terminal block
Power Consumption (Typ.)	TBD (Preliminary)	12 Watts
Overload Current Protection	Present	
Reverse Polarity Protection	Present on terminal block	
Physical Characteristics		
Enclosure	IP-30	
Dimensions (W x D x H)	TBD (Preliminary)	96.4 (W) x 145.5 (D) x 154 (H)mm 3.8 (W) x 5.73 (D) x 6.06 (H)inch
Weight (g)	TBD (Preliminary)	1935g
Environmental		
Storage Temperature	-40 to 85°C (-40 to 185°F)	
Operating Temperature	-40 to 85°C (-40 to 185°F)	
Operating Humidity	5% to 95% Non-condensing	
Regulatory Approvals		
Power Automation	IEC 61850-3, IEEE 1613	
EMI	FCC Part 15, CISPR (EN55022) class A, EN50155 (EN50121-3-2, EN55011, EN50121-4)	
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-P3 AA B CC

Code Definition	10/100Base-T(X) Port Number	Additional Port Number	Additional Port Type
Option	**- 07 :** 7 ports	**- 3 :** 3 ports	**- GC :** Gigabit combo port

	Model Name	Description
Available Model	IES-P3073GC-LV **Preliminary**	Industrial IEC 61850-3 10-port managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket, low-voltage power inputs
	IES-P3073GC-HV	Industrial IEC 61850-3 10-port managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket, high-voltage power inputs

Packing List

- IES-P3073GC
- 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