



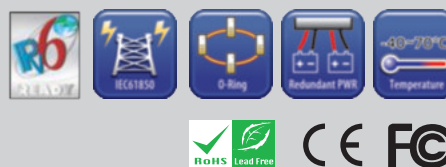
IES-P3073GC Series

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

Features

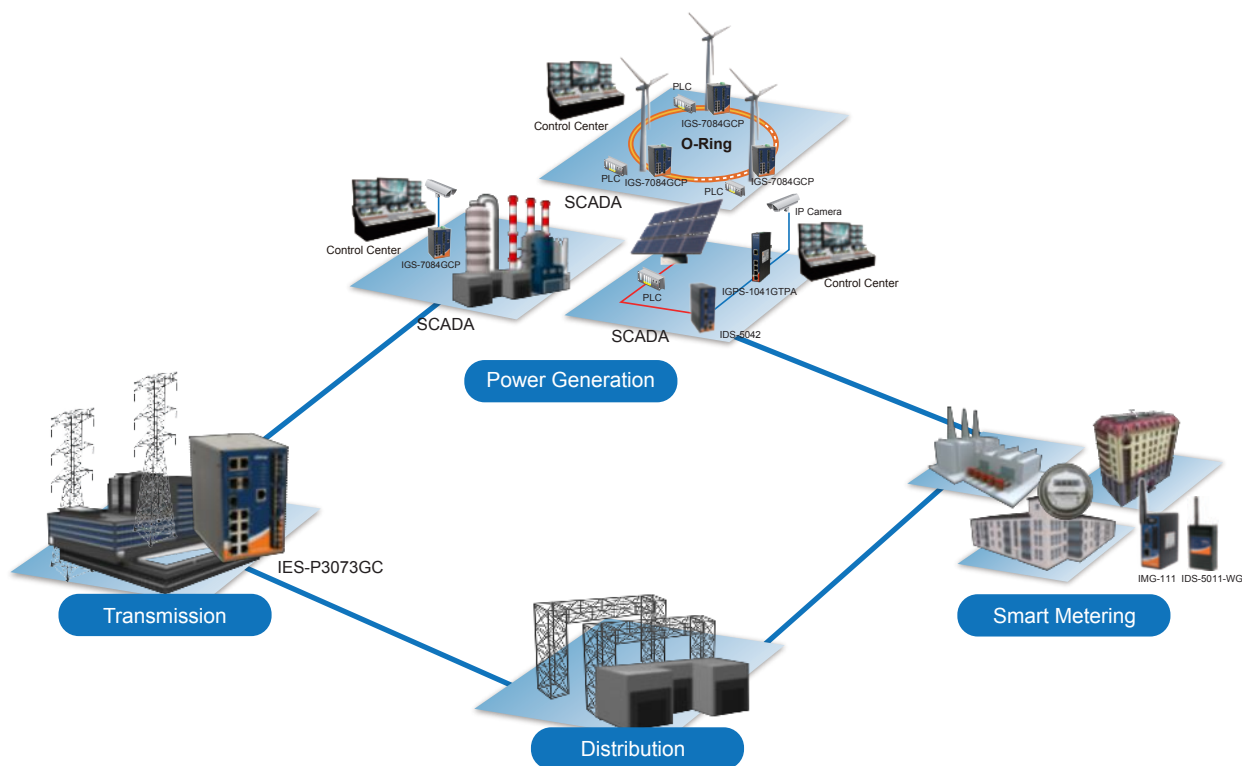
- Designed for power substation / Railway application and fully compliant with the requirement of IEC 61850-3 and IEEE 1613
- World's fastest Redundant Ethernet Ring: **O-Ring** (recovery time < 10ms over 250 units of connection)
- **Open-Ring** support the other vendor's ring technology in open architecture
- **O-Chain** allow multiple redundant network rings
- Support standard IEC 62439-2 **MRP^{*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 (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
- Support TACACS+ and 802.1x User Authentication for security
- 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



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

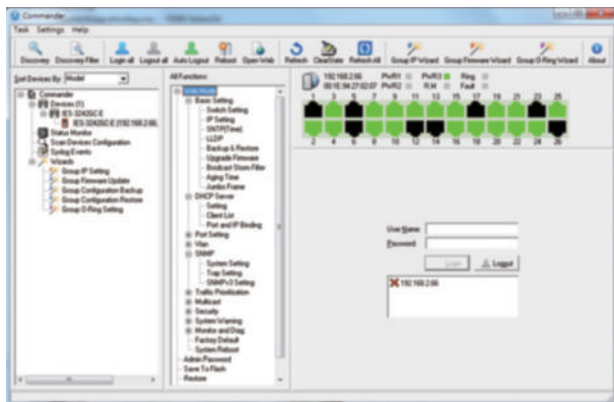
Introduction

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^{*NOTE} 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 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.

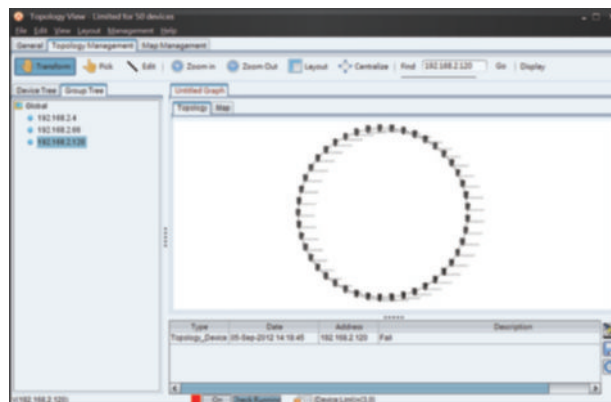


Open-Vision

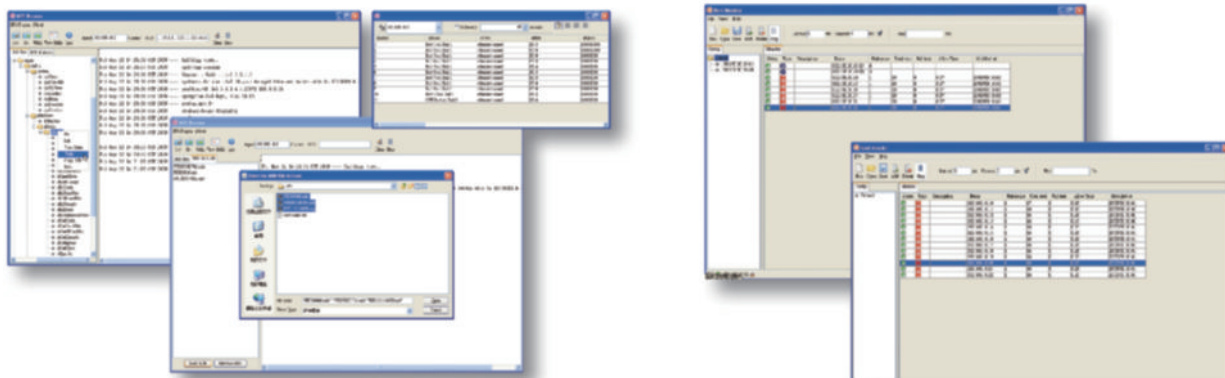
ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial network.



Commander



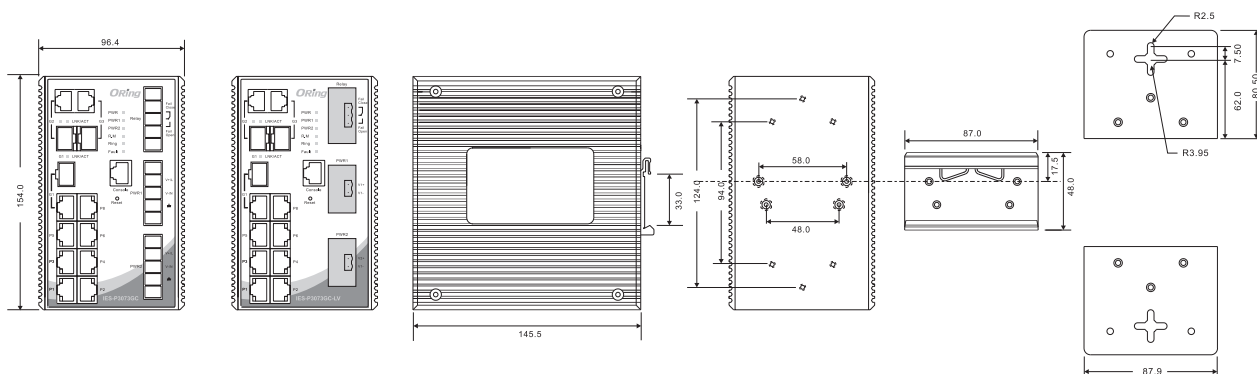
Topology View



Monitoring and Configuration interface

Dimensions

Dimension (Unit =mm)



(Unit=mm)

Specifications

| ORing Switch Model | IES-P3073GC-LV | IES-P3073GC-HV |
|--|--|----------------|
| Physical Ports | | |
| 10/100Base-T(X) Port in RJ45 Auto MDI/MDIX | 7 | |
| Gigabit combo Ports 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 802.1p for COS (Class of Service) IEEE 802.1Q for VLAN Tagging IEEE 802.1D for STP (Spanning Tree Protocol) IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) IEEE 802.1D-2004 for RSTP:2004 (Rapid Spanning Tree Protocol 2004) IEEE 802.1s for MSTP (Multiple Spanning Tree 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 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 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* NOTE STP / RSTP:2004 / 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 | Dual power inputs. 12~48VDC on dual 2-pin terminal block | Dual power inputs. 85~264VAC/88~373VDC on dual 3-pin terminal block |
| Power Consumption (Typ.) | 12 Watts | 12 Watts |
| Overload Current Protection | Present | |
| Reverse Polarity Protection | Present on terminal block | |
| Physical Characteristics | | |
| Enclosure | IP-30 | |
| Dimensions (W x D x H) | 96.4 (W) x 145.5 (D) x 154 (H)mm 3.8 (W) x 5.73 (D) x 6.06 (H)inch | 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) | 1415 g | 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 | |

*NOTE: This function is available by request only

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 | 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_US | Industrial IEC 61850-3 10-port managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket, high-voltage power inputs, US power cord |
| | IES-P3073GC-HV_UK | Industrial IEC 61850-3 10-port managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket, high-voltage power inputs, UK power cord |
| | IES-P3073GC-HV_EU | Industrial IEC 61850-3 10-port managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket, high-voltage power inputs, EU power cord |
| Packing List | | Optional Accessories (Can be purchased separately) |
| <ul style="list-style-type: none"> IES-P3073GC DIN-Rail Kit Wall-mount Kit Console Cable Power Cable ORing Tool CD Quick Installation Guide | | <ul style="list-style-type: none"> 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 |