# **IES-3073GC**



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

#### **Features**

- Fastest Redundant Ethernet Ring: **O-Ring** (recovery time < 10ms over 250 units of connection)
- **Open-Ring** supports the other vendor's ring technology in open architecture
- **0-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
- Supports **PTP Client** (Precision Time Protocol) clock synchronization
- Provided HTTPS/SSH protocol to enhance network security
- 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
- 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, and Console (CLI)
- Supports 3 Gigabit combo ports
- Rigid IP-30 housing design
- DIN-Rail and wall mounting enabled
- Supports LLDP Protocol
- Support TACACS+ and 802.1x User Authentication for security















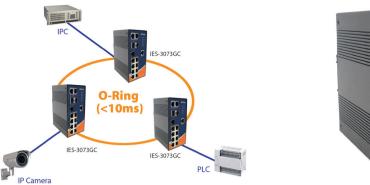


#### Introduction

IES-3073GC is managed Redundant Ring Ethernet switch with 7x10/100Base-T(X) ports and 3xGigabit combo ports. With complete support of Ethernet Redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection), Open-Ring, O-RSTP 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. All function of IES-3073GC can be managed centralized and convenient by a powerful windows utility — Open-Vision. IES-3073GC 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 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**

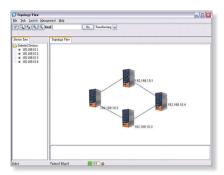
ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial network.



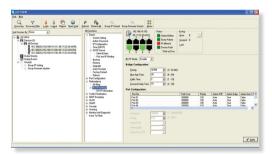


Network connection

DDM function

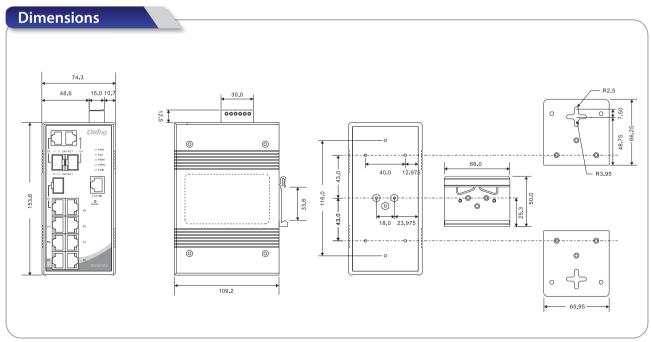


Topology View





Monitoring and Configuration interface



(Unit=mm)

## Specifications

| ORing Switch Model                                                       | IES-3073GC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical Ports                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 10/100Base-T(X) Port in RJ45<br>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 802.3x for Flow control IEEE 802.3u for LACP (Link Aggregation Control Protocol) IEEE 802.1p for COS (Class of Service) IEEE 802.10 for VLAN Tagging IEEE 802.1D for STP (Spanning Tree Protocol) IEEE 802.1D-2004 for RSTP:2004 (Rapid Spanning Tree Protocol) IEEE 802.1w for RSTP(Rapid Spanning Tree Protocol) IEEE 802.1x 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: 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 (0-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                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 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 0-Ring mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Fault Indicator                                                          | Amber: Indicates unexpected event occurred                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

<sup>\*</sup>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.)                 | 12 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)                               | 1045g                                                                                                                    |  |  |
| 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 AABCC



| Available<br>Model                                                                                             | Model Name | Description                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                | IES-3073GC | Industrial 10-port managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket                                                                                                                                                                                                                                                                                                                                           |
| Packing List  IES-3073GC  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  SDR-240-48, 240W DIN-Rail power supply  SDR-240-48, 240W DIN-Rail power supply |

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