

# DES-3073GC-P



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➔ **Industrial 10-port desktop type managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket, power supply included**

## Features

- 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
- Support QoS (IEEE 802.1p and TOS/DiffServ) to increase determinism
- 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 TACACS+ and 802.1x User Authentication for security
- 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)
- Rigid IP-30 housing design



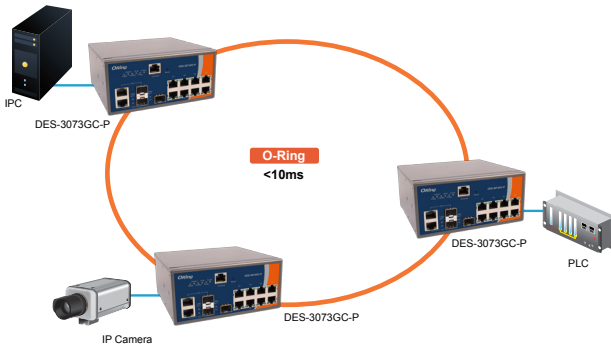
## Introduction

DES-3073GC-P is desktop type managed Redundant Ring Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports. With completely support of Ethernet Redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection), Open-Ring, O-Chain 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. All function of DES-3073GC-P can be managed centralized and convenient 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 choices for highly-managed Fiber Ethernet application.

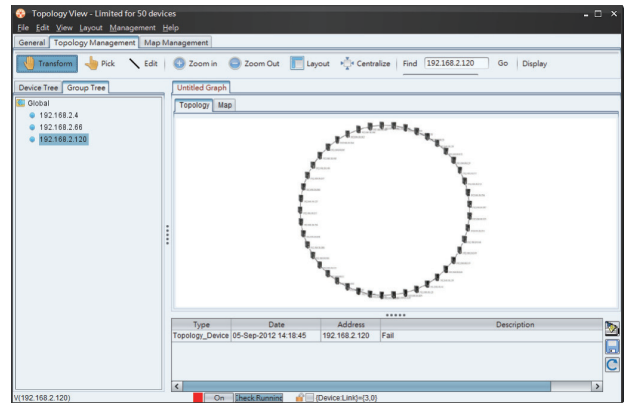
\*NOTE: This function is available by request only

## Open-Vision

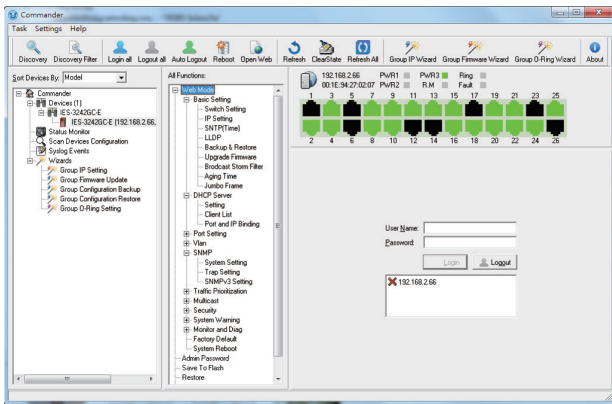
ORing's switches are intelligent switches. Different from other traditional redundant switches, Oring provides a set of Windows utility (Open-Vision) for user to manage and monitor all of industrial Ethernet switches on the industrial network.



Network connection



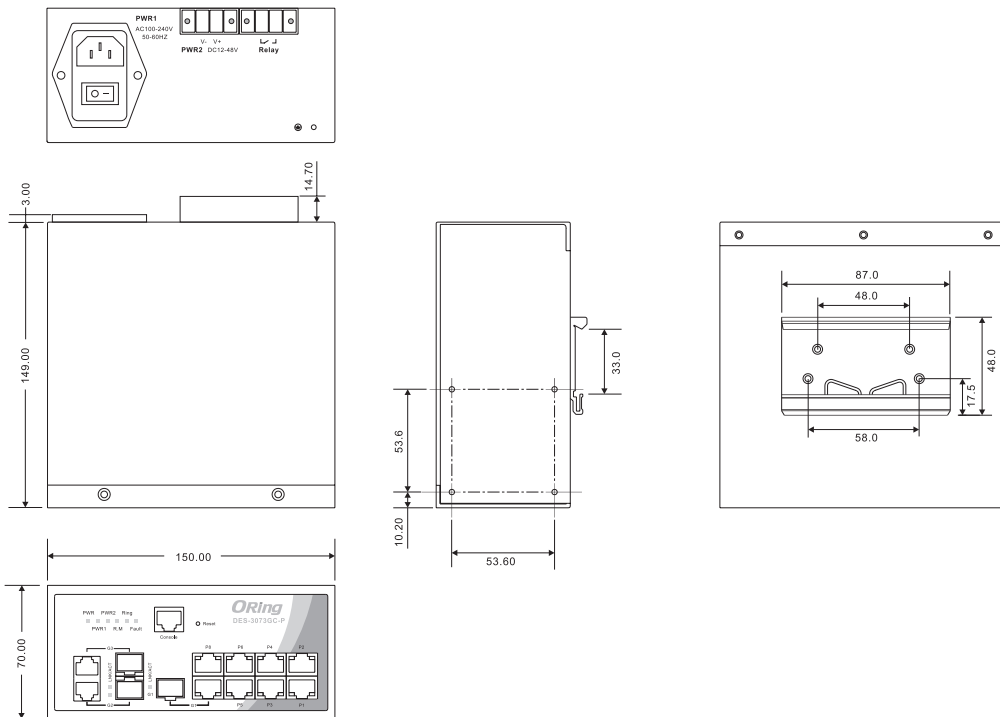
Topology View



Monitoring and Configuration interface

| Group  | Status | Name         | Description | Success Times | Failure Times | Reference | Last Test Time    |
|--------|--------|--------------|-------------|---------------|---------------|-----------|-------------------|
| Global | Green  | 192.168.2.1  |             | 2             | 0             | 1         | 20120905 14:30:09 |
| Global | Red    | 192.168.2.2  |             | 0             | 2             | 1         | 20120905 14:30:09 |
| Global | Red    | 192.168.2.3  |             | 0             | 2             | 1         | 20120905 14:30:09 |
| Global | Red    | 192.168.2.4  |             | 2             | 0             | 1         | 20120905 14:30:09 |
| Global | Red    | 192.168.2.5  |             | 0             | 2             | 1         | 20120905 14:30:13 |
| Global | Green  | 192.168.2.6  |             | 2             | 0             | 1         | 20120905 14:30:13 |
| Global | Green  | 192.168.2.7  |             | 2             | 0             | 1         | 20120905 14:30:13 |
| Global | Green  | 192.168.2.8  |             | 0             | 2             | 1         | 20120905 14:30:14 |
| Global | Green  | 192.168.2.9  |             | 0             | 2             | 1         | 20120905 14:30:14 |
| Global | Green  | 192.168.2.10 |             | 2             | 0             | 1         | 20120905 14:30:14 |
| Global | Green  | 192.168.2.11 |             | 0             | 2             | 1         | 20120905 14:30:14 |
| Global | Green  | 192.168.2.12 |             | 2             | 0             | 1         | 20120905 14:30:14 |
| Global | Green  | 192.168.2.13 |             | 0             | 2             | 1         | 20120905 14:30:18 |
| Global | Green  | 192.168.2.14 |             | 0             | 2             | 1         | 20120905 14:30:18 |
| Global | Green  | 192.168.2.15 |             | 2             | 0             | 1         | 20120905 14:30:18 |
| Global | Green  | 192.168.2.16 |             | 2             | 0             | 1         | 20120905 14:30:19 |
| Global | Green  | 192.168.2.17 |             | 2             | 0             | 1         | 20120905 14:30:19 |
| Global | Green  | 192.168.2.18 |             | 2             | 0             | 1         | 20120905 14:30:19 |
| Global | Green  | 192.168.2.19 |             | 2             | 0             | 1         | 20120905 14:30:19 |
| Global | Green  | 192.168.2.20 |             | 0             | 2             | 1         | 20120905 14:30:20 |
| Global | Green  | 192.168.2.21 |             | 0             | 2             | 1         | 20120905 14:30:24 |
| Global | Green  | 192.168.2.22 |             | 0             | 2             | 1         | 20120905 14:30:24 |
| Global | Green  | 192.168.2.23 |             | 0             | 2             | 1         | 20120905 14:30:24 |
| Global | Green  | 192.168.2.24 |             | 0             | 2             | 1         | 20120905 14:30:24 |
| Global | Green  | 192.168.2.25 |             | 0             | 2             | 1         | 20120905 14:30:24 |
| Global | Green  | 192.168.2.26 |             | 0             | 2             | 1         | 20120905 14:30:24 |

## Dimensions



(Unit=mm)

## Specifications

| ORing Switch Model  | DES-3073GC-P   |
|---|--|
| <b>Physical Ports</b>   |  |
| 10/100 Base-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  |
| <b>Technology</b>   |  |
| Ethernet Standards  | IEEE 802.3 for 10Base-T<br>IEEE 802.3u for 100Base-TX and 100Base-FX<br>IEEE 802.3z for 1000Base-X<br>IEEE 802.3ab for 1000Base-T<br>IEEE 802.3x for Flow control<br>IEEE 802.3ad for LACP (Link Aggregation Control Protocol )<br>IEEE 802.1p for COS (Class of Service)<br>IEEE 802.1Q for VLAN Tagging<br>IEEE 802.1D for STP (Spanning Tree Protocol)<br>IEEE 802.1D-2004 for RSTP:2004 (Rapid Spanning Tree Protocol 2004)<br>IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol)<br>IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol)<br>IEEE 802.1x for Authentication<br>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<br>Switching bandwidth: 7.4Gbps<br>Max. Number of Available VLANs: 4096<br>IGMP multicast groups: 1024<br>Port rate limiting: User Define  |
| Security Features   | Enable/disable ports, MAC based port security<br>Port based network access control (802.1x)<br>VLAN (802.1Q ) to segregate and secure network traffic<br>Supports Q-in-Q VLAN for performance & security to expand the VLAN space<br>Radius centralized password management<br>SNMP v1/v2c/v3 encrypted authentication and access security<br>Https / SSH enhance network security   |
| Software Features   | STP/RSTP:2004/MSTP (IEEE 802.1D/w/s)<br>Redundant Ring (O-Ring) with recovery time less than 10ms over 250 units<br>Modbus/TCP supported<br>QoS supported<br>TOS/Diffserv supported<br>Quality of Service (802.1p) for real-time traffic<br>VLAN (802.1Q) with VLAN tagging and GVRP supported<br>IGMP Snooping for multicast filtering<br>Port configuration, status, statistics, monitoring, security<br>SNTP for synchronizing of clocks over network<br>Support <b>PTP Client</b> (Precision Time Protocol) clock synchronization<br>DHCP Server / Client support<br>Port Trunk support<br>MVR (Multicast VLAN Registration) support<br>Modbus TCP |
| Network Redundancy  | O-Ring<br>Open-Ring<br>O-Chain<br>MRP**NOTE<br>STP/RSTP:2004/MSTP  |
| Warning / Monitoring System   | Relay output for fault event alarming<br>Syslog server / client to record and view events<br>Include SMTP for event warning notification via email<br>Event selection support  |
| RS-232 Serial Console Port  | RS-232 in DB9 connector with console cable. 9600bps, 8, N, 1   |
| <b>LED Indicators</b>   |  |
| Power Indicator   | Green : Power LED x 3  |
| R.M. Indicator  | Green : Indicate system operated in O-Ring master mode   |
| O-Ring Indicator  | Green : Indicate system operated in O-Ring mode  |

\*NOTE: This function is available by request only

|  |  |
|--|--|
| 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 port Link/Act. Amber for 100Mbps indicator   |
| 100/1000Base-X SFP Port Indicator        | Green for port Link/Act.   |
| <b>Fault contact</b>                     |  |
| Relay                                    | Relay output to carry capacity of 1A at 24VDC  |
| <b>Power</b>                             |  |
| Redundant Input Power                    | one 100~240VAC with power cord, one 12 ~ 48VDC power inputs at 2-pin terminal block                                      |
| Power Consumption (Typ.)                 | 12 Watts   |
| Overload Current Protection              | Present  |
| Reverse Polarity Protection              | Present on terminal block  |
| <b>Physical Characteristic</b>           |  |
| Enclosure                                | IP-30  |
| Dimension (W x D x H)                    | 150(W)x149(D)x70(H) mm (5.9 x 5.9 x 2.76 inch)   |
| Weight (g)                               | 1950 g   |
| <b>Environmental</b>                     |  |
| 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   |
| <b>Regulatory approvals</b>              |  |
| 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

DES-3 **AA** **B** **CC**-P



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

| Available Model | Model Name      | Description   |
|-----------------|-----------------|---|
|                 | DES-3073GC-P_US | Industrial 10-port desktop managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket, power supply included, US power cord |
|                 | DES-3073GC-P_EU | Industrial 10-port desktop managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket, power supply included, EU power cord |
|                 | DES-3073GC-P_UK | Industrial 10-port desktop managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket, power supply included, UK power cord |
|                 | DES-3073GC-P_JP | Industrial 10-port desktop managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket, power supply included, JP power cord |

**Packing List**

- DES-3073GC-P
- AC Power Cable
- ORing Tool CD
- Console Cable
- Quick Installation Guide

**Optional Accessories (Can be purchased separately)**

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