# ICS-4040

❯❯ *Industrial 4-port lite-managed PCI Ethernet switch card with 4x10/100Base-T(X)*

## Features

- 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
- Supports 4x10/100Base-T(X) ports
- Multiple Redundant Ethernet technology RSTP/STP, supported to protect your industrial network
- SNMP v1/v2/v3 support for secure network management
- Configurable by Web-based and Windows utility **(Open-Vision)**
- Event notification through Syslog, Email, and SNMP trap
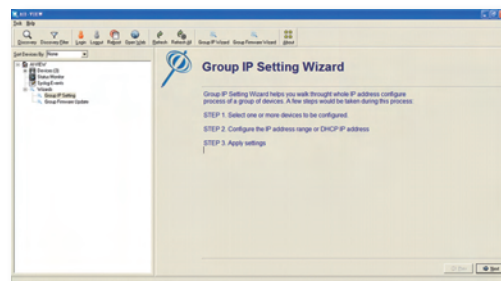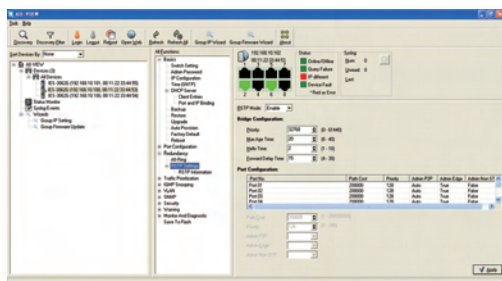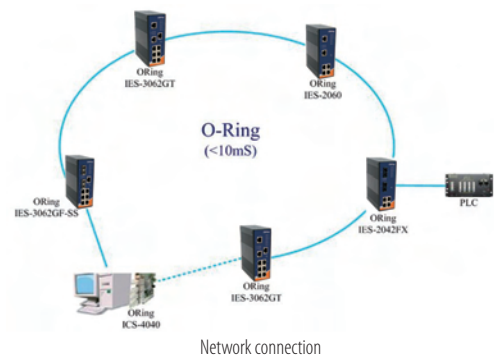- Complied with PCI Bus specification, Rev 2.2

## Introduction

ICS-4040 is a lite-managed redundant ring Ethernet switch card with PCI-Bus and 4x10/100Base-T(X) ports.   ICS-4040 could be installed on  any IPC motherboard with PCI socket to make the IPC/embedded system able to communicate the other devices redundantly.  Meanwhile, the network could feature Ethernet network redundancy by the fastest redundant ring protocol, O-Ring (recovery time < 10 ms over 250 units of connections ) and the standard redundant protocols, RSTP/STP (IEEE 802.1w/D).  Accordingly, the mission-critical communications could be protected from network any interruptions or malfunctions.  Further, ICS-4040 features an external redundant DC power input.  Hence, even if the IPC motherboard fails, the data transmission could bypass the failed IPC motherboard and the network will still work properly.  Therefore, ICS-4040 is the best solution to IPC/embedded systems to feature Ethernet network redundancy.
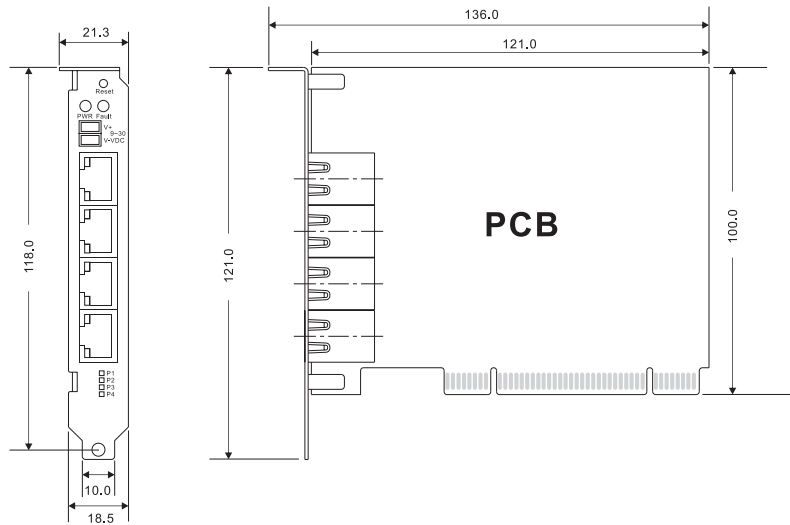
## Open-Vision

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

Network connection

Monitoring and Configuration interface

Industrial Ethernet Switch

Industrial Media Converter

Industrial Device Server

Industrial Wireless Access Point

Industrial Cellular VPN Router

Industrial M2M Gateway

Accessories

Network Management Software

## Dimensions



(Unit=mm)

## Specifications

| ORing Switch Model | ICS-4040 |
|---|---|
| **Physical Ports** | |
| 10/100Base-T(X) Ports in RJ45 Auto MDI/MDIX | 4 |
| **Technology** | |
| Ethernet Standards | IEEE 802.3 for 10Base-T<br>IEEE 802.3u for 100Base-TX<br>IEEE 802.3x for Flow control<br>IEEE 802.1D for STP (Spanning Tree Protocol)<br>IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol)<br>IEEE 802.1AB for LLDP (Link Layer Discovery Protocol) |
| MAC Table | 2048 MAC addresses |
| Priority Queues | 4 |
| Processing | Store-and-Forward |
| Switch Properties | Switching bandwidth : 1.0Gbps<br>VLAN : Port Based |
| Security Features | Enable/disable ports<br>VLAN to segregate and secure  network traffic<br>SNMPv3 encrypted authentication and access security |
| Software Features | STP/RSTP (IEEE 802.1D/w)<br>Redundant Ring (O-Ring) with recovery time less than 10ms over 250 units<br>Port configuration, status, statistics, monitoring, security<br>DHCP Client |
| Network Redundancy | O-Ring          Open-Ring<br>STP              RSTP<br>Fast recovery |
| **LED Indicators** | |
| Power / Ready Indicator | Green : Ready LED x 1 |
| Fault Indicator | Red : Indicates unexpected event occurred |
| 10/100Base-T(X) RJ45 Port Indicator | Green for port Link/Act.  Amber for O-Ring port indicator |
| **Fault contact** | |
| Relay | Relay output to carry capacity of 1A at 24VDC (Optional) |

| Power | |
|---|---|
| Input Power | PCI bus-powered and external 9~30 VDC on 2-pin terminal block |
| Power Consumption (Typ.) | 3.5 Watts |
| Overload Current Protection | Present |
| Reverse Polarity Protection | Present on terminal block |
| **Physical Characteristics** | |
| Dimensions (W x D x H) | 121(H) x 100(W) mm (4.76x3.94 inch.) |
| Weight (g) | 100 g |
| **Environmental** | |
| Operating Temperature | –10 to 60°C (14 to 140°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 |
| Warranty | 3 years |

## Ordering Information

**ICS-4 AA B**

| Code Definition | 10/100Base-T(X) Port Number | Additional Port Number |
|---|---|---|
| **Option** | **- 04:** 4 ports | **- 0:** 0 port |

| Available Model | Model Name | Description |
|---|---|---|
| | ICS-4040 | Industrial 4-port lite-managed PCI Ethernet switch card with 4x10/100Base-T(X) |

**Packing List**
- ICS-4040
- ORing Tool CD
- Quick Installation Guide

**Optional Accessories (Can be purchased separately)**
- Open-Vision M500, Powerful Network Management Windows Utility Suite, 500 IP devices
- DR-45 series, 45W DIN-Rail power supply
- DR-75-12/DR-75-24, 75W DIN-Rail power supply
- DR-120-12/DR-120-24, 120W DIN-Rail power supply

Industrial
Ethernet Switch

Industrial
Media Converter

Industrial
Device Server

Industrial Wireless
Access Point

Industrial Cellular
VPN Router

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M2M Gateway

Accessories

Network
Management Software

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