

# IES-2060/IES-2042FX Series

➤ Industrial 6-port lite-managed Ethernet switch

## Features

- Fastest Redundant Ethernet Ring: **O-Ring** (recovery time < 10ms over 250 units of connection)
- **Open-Ring** supports other vendor's ring technology in open architecture
- Multiple Redundant Ethernet technology RSTP/STP, O-Ring supported to protect your industrial network
- Provides **Fast recovery technology** for Ethernet multi-redundancy
- SNMP v1/v2c/v3, http server, telnet server support
- Supports LLDP protocol
- Configurable by Web-based and Windows utility (**Open-Vision**)
- Event notification through Syslog, Email, and SNMP trap
- Two 100Base-FX fiber ports support for long distance connection
- Rigid IP-30 housing design
- DIN-Rail and wall mounting enabled

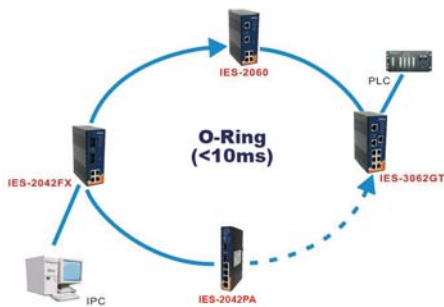


## Introduction

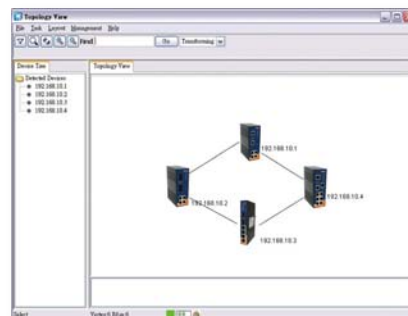
IES-2060/2042FX series are lite-Managed Redundant Ring Ethernet switches with 6x10/100Base-T(X) ports or 4x10/100Base-T(X) and 2x100Base-FX ports. With complete support of Ethernet Redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection) and Open-Ring can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. IES-2060/2042FX series can be managed centralized and convenient by a powerful windows utility — Open-Vision. In addition, the wide operating temperature range from -40°C to 70°C can satisfy most of operating environment. Therefore, these switch is one of the most reliable choice for easy managed Fiber Ethernet application.

## Open-Vision

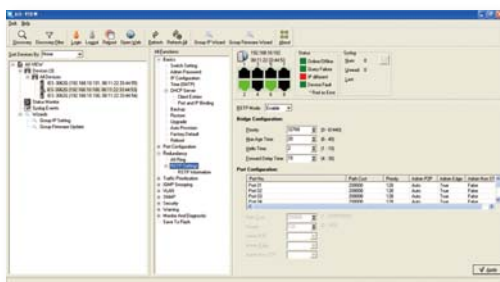
ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows utility (**Open-Vision**) for user to manage and monitor all of industrial Ethernet switches on the industrial network.



Network connection



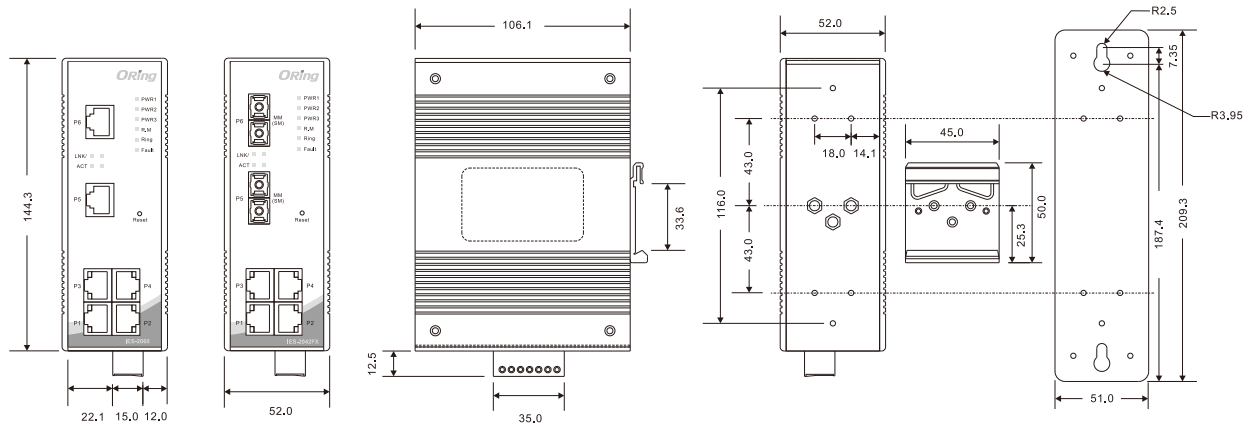
Topology View



Monitoring and Configuration interface



## Dimensions



(Unit=mm)

## Specifications

Oring Switch Model		IES-2060	IES-2042FX-MM-SC	IES-2042FX-SS-SC
<b>Physical Ports</b>				
10/100Base-T(X) Ports in RJ45 Auto MDI/MDIX		6	4	4
Fiber Ports Specifications	Fiber Ports Number	-	2	2
	Fiber Ports Standard	-	100Base-FX	100Base-FX
	Fiber Mode	-	Multi-mode	Single-mode
	Fiber Diameter (µm)	-	62.5/125 µm 50/125 µm	9/125 µm
	Fiber Optical Connector	-	SC	SC
	Typical Distance (km)	-	2 km	30 km
	Wavelength (nm)	-	1310 nm	1310 nm
	Max. Output Optical Power (dBm)	-	-14 dBm	-8 dBm
	Min. Output Optical Power (dBm)	-	-23.5 dBm	-15 dBm
	Max. Input Optical Power (Saturation)	-	0 dBm	0 dBm
	Min. Input Optical Power (Sensitivity)	-	-31 dBm	-34 dBm
	Link Budget (dB)	-	7.5 dB	19 dB

Technology			
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX and 100Base-FX IEEE 802.3x for Flow control IEEE 802.1D for STP (Spanning Tree Protocol) IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) 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 : 1.2Gbps VLAN : Port Based		
Security Features	Enable/disable ports VLAN to segregate and secure network traffic		
Software Features	STP/RSTP (IEEE 802.1D/w) Redundant Ring (O-Ring) with recovery time less than 10ms over 250 units DHCP Client Port base VLAN LLDP (Link Layer Discovery Protocol) Port configuration, status, statistics, monitoring, security SNMP v1/v2c/v3 and private MIB support		
Network Redundancy	O-Ring STP	Open-Ring RSTP	Fast recovery
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 O-Ring mode		
Fault Indicator	Amber : Indicates unexpected events occurred		
10/100Base-T(X) RJ45 Port Indicator	Green for port Link/Act. Amber for Link		
100 Base-FX Fiber Port Indicator	Green for port Link/Act. Amber for Link		
Fault contact			
Relay	Relay output to carry capacity of 1A at 24VDC		
Power			
Redundant Input Power	Triple DC inputs: 12 ~ 48 VDC on 7-pin terminal block, 12 ~ 45 VDC on power jack		
Power Consumption (Typ.)	5 Watts	7 Watts	7 Watts
Overload Current Protection	Present		
Reverse Polarity Protection	Present on terminal block		
Physical Characteristics			
Enclosure	IP-30		
Dimensions (W x D x H)	52(W)x106.1(D)x144.3(H) mm (2.05x4.18x5.68 inch.)		
Weight (g)	657 g	670 g	670 g
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		
MTBF (Hours) (MIL-HDBK-217F2, GB, GC, 25°C)	383,478	345,432	346,491
Warranty	5 years		

- Company Information
- 2011 Product Overview
- Vertical Market Applications
- Industrial Ethernet Switch**
- Industrial Media Converter
- Industrial Device Server
- Industrial Wireless Access Point
- Industrial Cellular VPN Router
- Industrial USB-Over-IP Server
- Accessories
- Network Management Utility

## Ordering Information

IES-2 **AA** **B** **CC** - **DD** - **EE**

Code Definition	10/100Base-T(X) Port Number	Additional Port Number	Additional Port Type	Fiber Optical Mode	Fiber Optical Connector
<b>Option</b>	- <b>6</b> : 6 ports - <b>4</b> : 4 ports	- <b>0</b> : 0 port - <b>2</b> : 2 ports	- <b>FX</b> : 100Base-FX	- <b>MM</b> : Multi-mode - <b>SS</b> : Single-mode	- <b>SC</b> : SC connector

	Model Name	Description
Available Model	IES-2060	Industrial 6-port lite-managed Ethernet switch with 6x10/100Base-T(X)
	IES-2042FX-MM-SC	Industrial 6-port lite-managed Ethernet switch with 4x10/100Base-T(X) and 2x100Base-FX, multi-mode, 2km/1310nm, SC connector
	IES-2042FX-SS-SC	Industrial 6-port lite-managed Ethernet switch with 4x10/100Base-T(X) and 2x100Base-FX, single-mode, 30km/1310nm, SC connector

### Packing List

- IES-2060 / 2042FX series
- DIN-Rail Kit
- Wall-mount Kit
- 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 series, 75W DIN-Rail power supply
- DR-120 series, 120W DIN-Rail power supply
- PAA-121000, 12VDC/1000mA 12W Power Adapter with universal 100 to 240VAC input, US plug
- PAE-121000, 12VDC/1000mA 12W Power Adapter with universal 100 to 240VAC input, EU plug