IES-2060/2042FX Series

ORing WEB-site

Industrial 6-port lite-managed Ethernet switch series

Features

- World's fastest Redundant Ethernet Ring: O-Ring (recovery time < 10ms over 250 units of connection)
- O-Chain allow multiple redundant network rings
- Provided Fast recovery technology for Ethernet multi-redundancy
- Support STP/RSTP standard redundant protocol
- SNMP v1/v2c/v3, http server, telnet server support
- Support LLDP protocol
- Web-based interface, telnet server and Windows utility (Open-Vision) configuration
- Event notification through Syslog, Email, SNMP trap and relay
- Two 100Base-FX fiber ports support for long distance connection
- Rigid IP-30 housing design
- DIN-Rail and wall mounting enabled

O-Ring | O-Chain | Redundant PWR | -40~75°C Temperature | ROHS | cULus LISTED | CE | FC

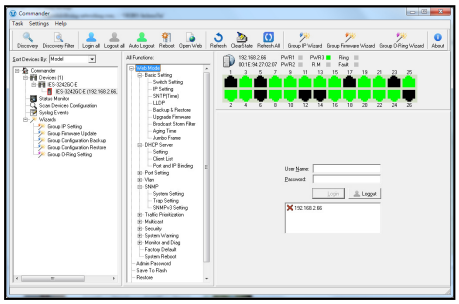
Introduction

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 completely support of Ethernet Redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection), O-Chain and STP/RSTP (IEEE802.1w/D) 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 75°C can satisfy most of operating environment. Therefore, these switches are one of the most reliable choice for easy managed Fiber Ethernet application.

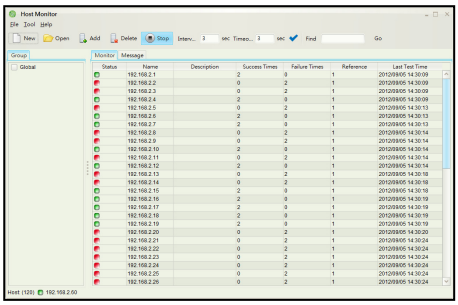
- **O-Ring:** O-Ring is ORing's proprietary redundant ring technology, with recovery time of less 10 milliseconds and up to 250 nodes. The O-Ring redundant ring technology can protect mission-critical application from network interruptions or temporary malfunction with its fast recover technology.
- **O-Chain:** 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.

Open-Vision

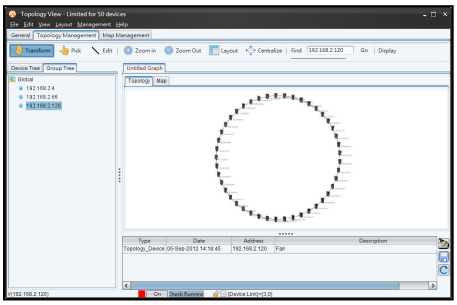
ORing's switches are intelligent switches. Different from other traditional redundant switches, ORing provides a set of Windows Utility (Open-Vision) for user to manage and monitor all industrial Ethernet switches on the industrial network.



Commander



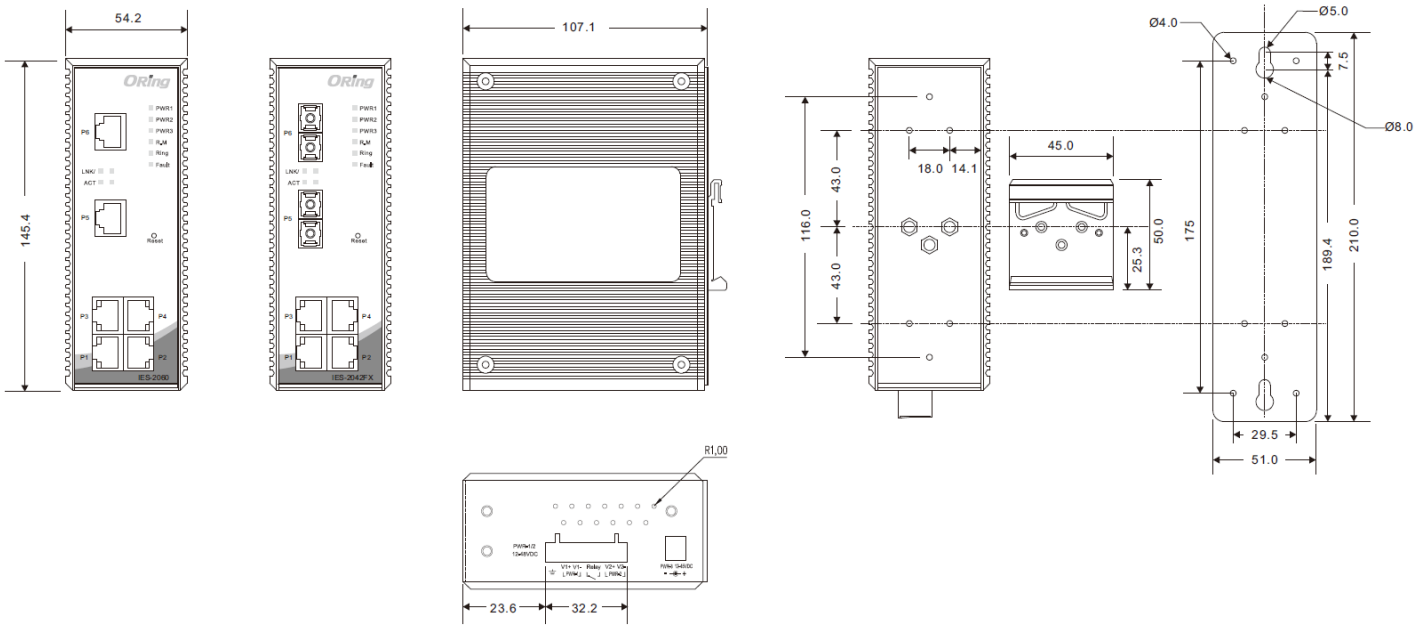
Host Monitor



Topology View

Dimensions

Unit=mm(Tolerance±0.5mm)



Specifications

ORing Switch Model		IES-2060	IES-2042FX-MM-SC	IES-2042FX-SS-SC
Physical Ports				
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 (Saturation)	-	-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 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	1K			
Packet Buffer Size	1Mbits			
Processing	Store-and-Forward			
Switch Properties	Switching latency: 7 µs	Switching latency: 5.05 µs	Switching latency: 7.45 µs	
	Switching bandwidth: 1.2Gbps			
	Throughput (packet per second): 892.8Kpps@64Bytes packet			
	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 O-Chain Fast recovery RSTP/STP			
LED Indicators				
Power Indicator (PWR)	Green: Power LED x 3			
Ring Master Indicator (R.M.)	Green: Indicates that the system is operating in O-Ring Master mode			
O-Ring Indicator (Ring)	Green: Indicates that the system operating in O-Ring mode Green Blinking: Indicates that the Ring is broken.			
Fault Indicator (Fault)	Amber: Indicate unexpected event occurred			
10/100Base-T(X) RJ45 Port Indicator	Green for Link/Act indicator: On for link-up, Off for link-down, Blinking for act. Amber for Link indicator: On for link-up, Off for link-down.			
100Base-FX Fiber Port Indicator	Green for Link/Act indicator: On for link-up, Off for link-down, Blinking for act. Amber for Link indicator: On for link-up, Off for link-down.			
Fault Contact				
Relay	Relay output to carry capacity of 1A at 24VDC			
Reset Function				
Reset Button	< 5 sec: System reboot, > 5 sec: Factory default			
Power				

Redundant Input Power	Triple DC inputs. 12~48VDC on 7-pin terminal block, 12~45VDC on power jack		
Power Consumption (Typ.)	≤6Watts, 12VDC/0.48A (6W), 24VDC/0.24A (6W), 48VDC/0.14A (6W)	≤7Watts, 12VDC/0.55A (7W), 24VDC/0.27A (6W), 48VDC/0.16A (7W)	≤6Watts, 12VDC/0.48A (6W), 24VDC/0.24A (6W), 48VDC/0.14A (6W)
Overload Current Protection	Present		
Reverse Polarity Protection	Present on terminal block		
Physical Characteristic			
Enclosure	IP-30 Aluminum		
Dimension (W x D x H)	54.2 (W) x 107.1 (D) x 145.4 (H)mm 2.13 (W) x 4.22 (D) x 5.72 (H) inch		
Weight (g)	657 g	670 g	670 g
Environmental			
Storage Temperature	-40 to 85°C (-40 to 185°F)		
Operating Temperature	-40 to 75°C (-40 to 167°F)		
Operating Humidity	5% to 95% Non-condensing		
Regulatory Approvals			
EMC	CE EMC (EN 55024, EN 55022), FCC Part 15 B	CE EMC (EN 55024, EN 55032), FCC Part 15 B	
EMI	EN 55022, CISPR32, EN 61000-3-2, EN 61000-3-3, VCCI class A, C-Tick class A, FCC Part 15 B class A	EN 55032, CISPR32, EN 61000-3-2, EN 61000-3-3, VCCI class A, C-Tick class A, FCC Part 15 B class A	
EMS	EN 55024 (IEC/EN 61000-4-2 (ESD), IEC/EN 61000-4-3 (RS), IEC/EN 61000-4-4 (EFT), IEC/EN 61000-4-5 (Surge), IEC/EN 61000-4-6 (CS), IEC/EN 61000-4-8(PFMF), IEC/EN 61000-4-11 (DIP))		
Shock	IEC60068-2-27		
Free Fall	IEC60068-2-31		
Vibration	IEC60068-2-6		
Safety	N/A	EN 62368-1 (LVD), UL 61010-1, UL 61010-2-201	
MTBF	1411775.2460 hrs.	595597.3384 hrs.	609551.4207 hrs.
Warranty	5 years		

Ordering Information

IES-2AABCC-DD-EE

Code Definition	10/100Base-T(X) Port Number	Additional Port Number	Additional Port Type	Fiber Optical Mode	Fiber Optical Connector
Option	**- 06:** 6 ports **- 04:** 4 ports	**- 0:** 0 ports **- 2:** 2 ports	**-FX:** 100Base-FX	**-MM:** Multi-mode **-SS:** Single-mode	**-SC:** SC Connector

Available Model	Model Name	Description
	IES-2060	Industrial 6-port lite-managed Ethernet switch with 6x10/100Base-T(X)

	IES-2062FX-MM-SC	Industrial 6-port lite-managed Ethernet switch with 4x10/100Base-T(X) and 2x100Base-FX, multi-mode, 2Km/1310nm, SC connector
	IES-2062FX-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/IES-2042FX Series x 1
- DIN-Rail Kit x 1
- Wall-mount Kit x 1
- ORing Tool CD x 1
- Quick Installation Guide x 1

Optional Accessories

- Open-Vision M500: Powerful Network Management Windows Utility Suit, 500 IP devices
- SDR/NDR Series DIN-Rail power supply