

Quick Installation Guide

IES-2000 Series

Industrial Lite-Managed Switch

Introduction

IES-2000 series are lite-Managed Redundant Ring Ethernet switches. With completely support of Ethernet Redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection) and RSTP/STP (IEEE 802.1w/D) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. **IES-2000 series** can be managed by a powerful windows utility: Open-Vision, which features centralized configuration and visualized monitoring. In addition, the wide operating temperature range from -40°C to 70°C can satisfy most of operating environment. Therefore, the switch is one of the most reliable choice for easy managed and Fiber Ethernet application.

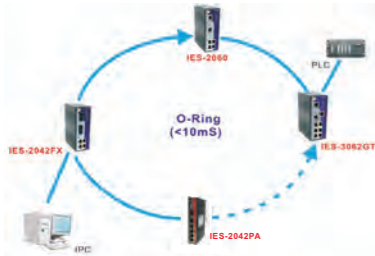
Features

- > **World's fastest Redundant Ethernet Ring: O-Ring (recovery time < 10ms over 250 units of connection)**
- > **Open-Ring support in open architecture (recovery time is depended on the other vendor's ring technology)**
- > **Multiple Redundant Ethernet technology RSTP/STP, O-Ring, Open-Ring supported to protect your industrial network**
- > **SNMP v1/v2c/v3 support for secured network management**
- > **Configurable by Web-based and Windows utility (Open-Vision)**
- > **Redundant DC power inputs available**
- > **Event notification through Syslog, Email, SNMP trap, and relay output.**
- > **Optional 100Base-FX fiber port support for long distance connection**
- > **Very wide operating temperature range from -40°C to 70°C**
- > **Rigid IP-30 housing design**
- > **DIN-Rail and panel mounting enabled**

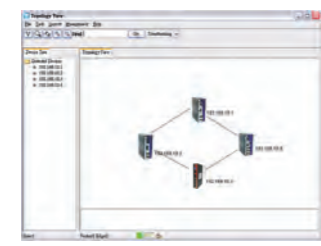
Features

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 for user to monitor all of industrial Ethernet switches on the industrial network.

Network connection



Topology View



Monitoring and Configuration interface



Specifications

6-port Lite-Managed Switches

ORing Switch Model	IES-2060	IES-2042FX-MM	IES-2042FX-SS	IES-2042PA
Physical Ports				
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX	6	4	4	4
100 Base-FX Multimode Port (2KM, 1310nm, SC connector)	-	2	-	-
100 Base-FX Singlemode Port (30KM, 1310nm, SC connector)	-	-	2	-
100 Base-FX SFP Port	-	-	-	2
Technology				
Ethernet Standards	IEEE 802.3 for 10Base-T, IEEE 802.3u for 100Base-T(X) 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			
Security Features	Enable/disable ports, VLAN to segregate and secure network traffic			
Software Features	STP/RSTP (IEEE 802.1D/w/s), Redundant Ring (O-Ring) with recovery time less than 10ms over 250 units, DHCP client, Port configuration, status, statistics, monitoring, security			
Switch Properties	Switching bandwidth: 1.2Gbps, VLAN: port Based			
SNMP	SNMP v1/v2c/v3 and private MIB support			
Network Redundancy	O-Ring, Open-Ring, STP, RSTP			
LED Indicators				
Power Indicator	Green: Power LED x3		Green: Power LED x2	
R.M. Indicator	Green: Flashing to indicate system operated in O-Ring Master mode			
O-Ring indicator	Green: Indicate system operated in O-Ring mode			
Fault Indicator	Amber: Indicate unexpected event occurred			
10/100Base-T(X) RJ45 Port Indicator	Green for port Link/Act. Amber for Link			
Fiber Port Indicator	Green for port Link/Act. Amber for Link		-	
100Base-FX SFP Port Indicator	-		Green for port Link/Act.	
Fault contact				
Relay	Relay output to carry capacity of 1A at 24 VDC			
Power				
Redundant Input power	Triple DC inputs, 12-48VDC on 7-pin terminal block, 12-45VDC on power jack		Dual DC inputs 12-48VDC 6-pin terminal block	
Power consumption(Typ.)	5 Watts	7 Watts	7 Watts	7 Watts
Overload current protection	Present			
Reverse polarity protection	Present on terminal block			
Physical Characteristic				
Enclosure	IP-30			
Dimension (W x D x H)	52(W)x106(D)x144(H) mm (2.05x4.17x5.67 inch.)		26.1(W)x95(D)x144.3(H) mm (1.02x3.75x5.68 inch.)	
Weight (g)	657 g	670 g	670 g	395 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			
Warranty	5 years			

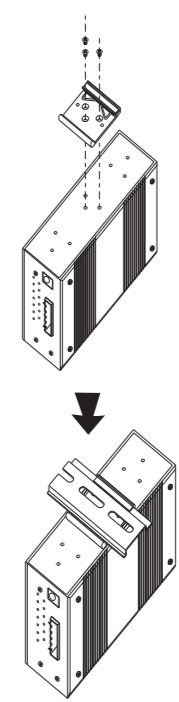
5-port Lite-Managed Switches

ORing Switch Model	IES-2050A
Physical Ports	
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX	5
100 Base-FX Multimode Port (2KM, 1310nm, SC connector)	-
100 Base-FX Singlemode Port (30KM, 1310nm, SC connector)	-
100 Base-FX SFP Port	-
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T, IEEE 802.3u for 100Base-T(X), 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
Security Features	Enable/disable ports, VLAN to segregate and secure network traffic
Software Features	STP/RSTP (IEEE 802.1D/w/s), Redundant Ring (O-Ring) with recovery time less than 10ms over 250 units, Port configuration, status, statistics, monitoring, security
Switch Properties	Switching bandwidth: 1.0Gbps, VLAN: port Based
SNMP	SNMP v1/v2c/v3 and private MIB support
Network Redundancy	O-Ring, Open-Ring, STP, RSTP
LED Indicators	
Power Indicator	Green: Power LED x2
R.M. Indicator	Green: Indicate system operated in O-Ring Master Mode
O-Ring indicator	Green: Indicate port operated in O-Ring mode
Fault Indicator	Amber: Indicate unexpected event occurred
10/100 Base-T(X) RJ45 Port Indicator	Green for port Link/Act. Amber for Link
Fiber Port Indicator	-
100Base-FX SFP Port Indicator	-
Fault contact	
Relay	Relay output to carry capacity of 1A at 24 VDC
Power	
Redundant Input power	12-48 VDC voltage power input at 6-pin terminal block
Power consumption(Typ.)	4 Watts
Overload current protection	Present
Reverse polarity protection	Present on terminal block
Physical Characteristic	
Enclosure	IP-30
Dimension (W x D x H)	26.1(W)x95(D)x144.3(H) mm (1.30 x 3.74 x 5.68 inch.)
Weight (g)	395 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
Warranty	5 years

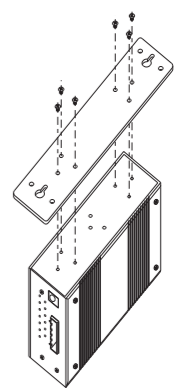
Installation

6-port Switches

DIN-Rail Install Step

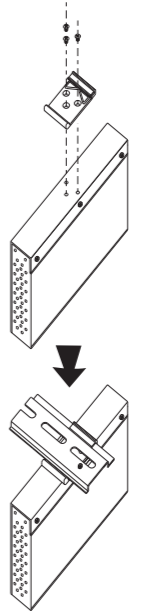


Wall-mounted Install Step

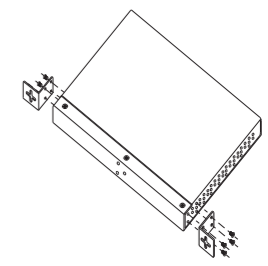


5/6-port Switches (Slim type)

DIN-Rail Install Step



Wall-mounted Install Step



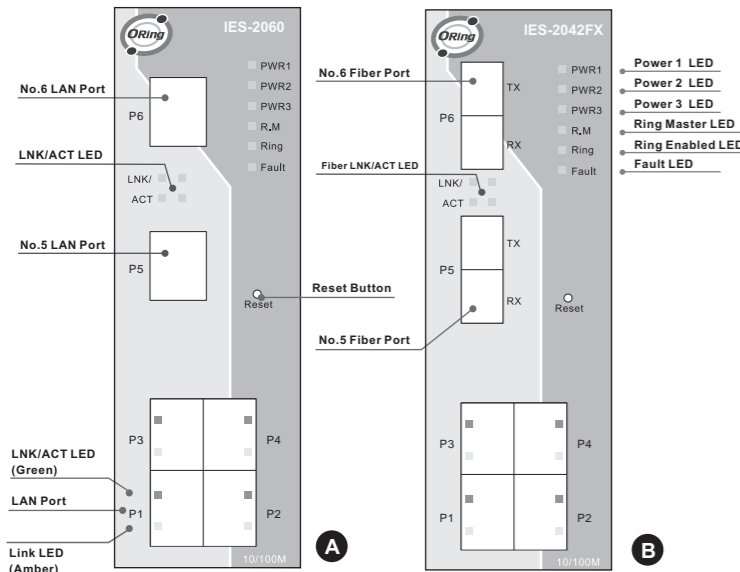
Quick Installation Guide

IES-2000 Series

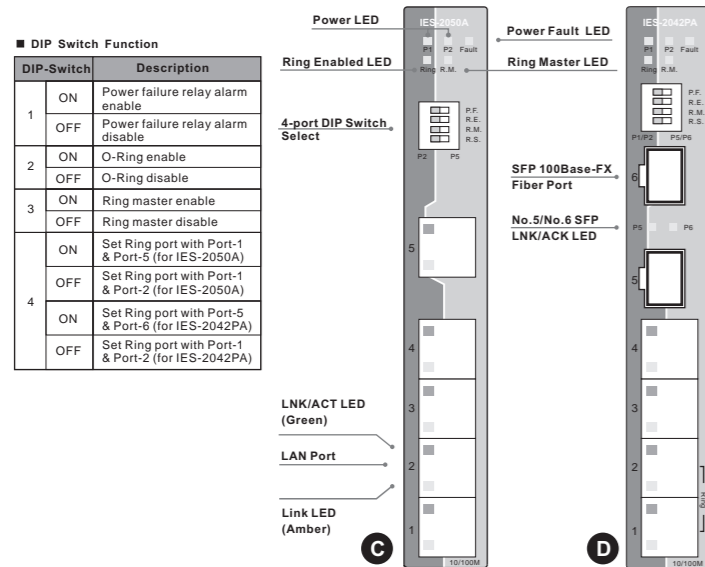
Industrial Lite-Managed Switch

Front Panel

- 6-port Switches

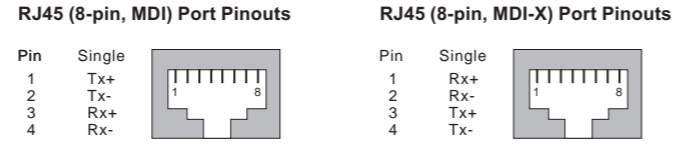


- 5/6-port Switches (Slim Type)

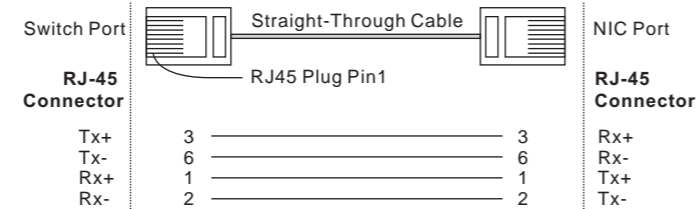


Communication Connections

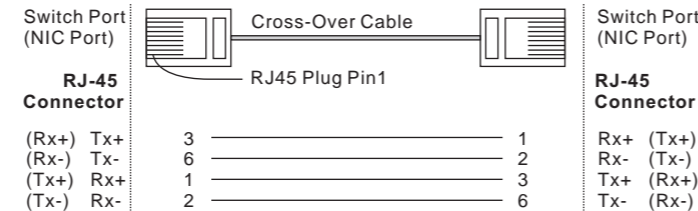
- 10/100BaseT(X) Ethernet Port Connection



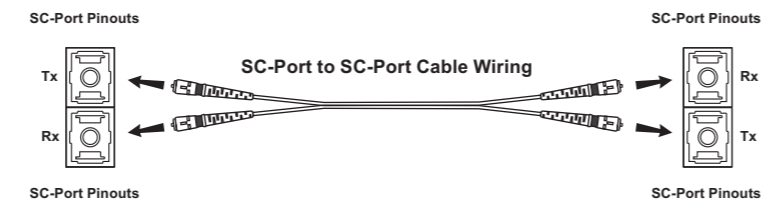
RJ45 (8-pin) to RJ45 (8-Pin) Straight-Through Cable Wiring



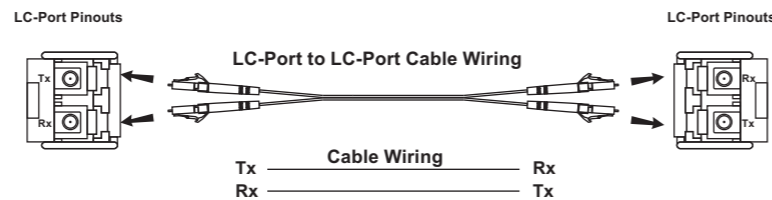
RJ45 (8-pin) to RJ45 (8-Pin) Cross-Over Cable Wiring



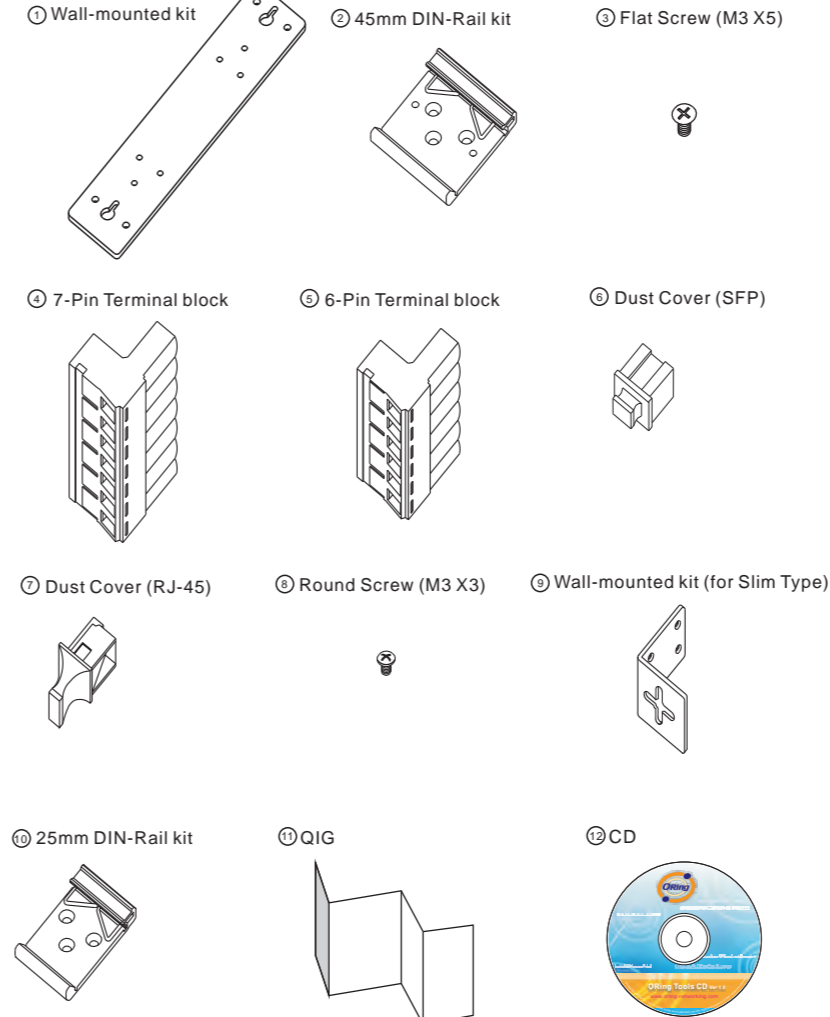
- 100Base-FX Port Connection



- 100Base-FX SFP Port Connection



Accessory



Packing list

- 6-port Switches

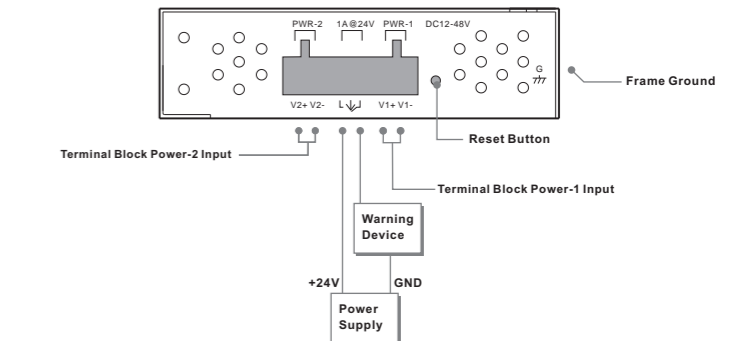
Model name	Front Panel:	Model Description	Accessory
IES-2060	A	Industrial 6-port lite-managed Ethernet switch with 6x10/100Base-T(X)	⊗ X 1, ⊗ X 1, ⊗ X 6, ⊗ X 1, ⊗ X 6, ⊗ X 1, ⊗ X 1
IES-2042FX-MM-SC	B	Industrial 6-port lite-managed Ethernet switch with 4x10/100Base-T(X) and 2x100Base-FX, multi-mode	⊗ X 1, ⊗ X 1, ⊗ X 6, ⊗ X 1, ⊗ X 4, ⊗ X 1, ⊗ X 1
IES-2042FX-SS-SC	B	Industrial 6-port lite-managed Ethernet switch with 4x10/100Base-T(X) and 2x100Base-FX, single-mode	⊗ X 1, ⊗ X 1, ⊗ X 6, ⊗ X 1, ⊗ X 4, ⊗ X 1, ⊗ X 1

- 5/6-port Switches

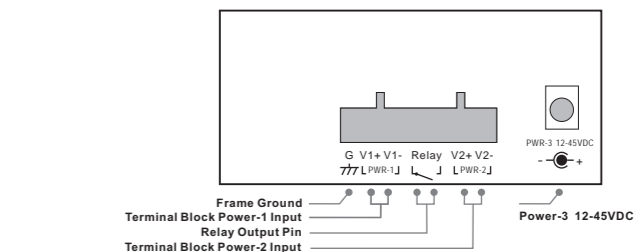
Model name	Front Panel:	Model Description	Accessory
IES-2050A	C	Industrial 5-port slim type lite-managed Ethernet switch with 5x10/100Base-T(X)	⊗ X 1, ⊗ X 5, ⊗ X 8, ⊗ X 2, ⊗ X 1, ⊗ X 1, ⊗ X 1
IES-2042PA	D	Industrial 6-port slim type lite-managed Ethernet switch with 4x10/100Base-T(X) and 2x100Base-FX, SFP socket	⊗ X 1, ⊗ X 2, ⊗ X 4, ⊗ X 8, ⊗ X 2, ⊗ X 1, ⊗ X 1, ⊗ X 1

Power Connection Guide

- 5/6-port Switches (Slim Type)



- 6-port Switches



ORing Industrial Networking Corp.

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TEL: +886-2-2918-3036 FAX: +886-2-2918-3084

Website: www.oring-networking.com E-mail: support@oring-networking.com

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