

Quick Installation Guide

IES-3000 Series

Industrial Managed Ethernet Switch

Introduction

IES-3000 Series are industrial managed Redundant Ethernet switches. With completely support of Ethernet Redundancy protocol, O-Ring (recovery time <10ms over 250 unit of connection), Open-Ring, O-RSTP and MSTP/RSTP/STP (IEEE 802.1s/w/D) can protect your mission-critical from network interruptions or temporary malfunctions with its fast recovery technology. Another Open-Ring technology is also supported with can applied for other vendor's proprietary ring. **IES-3000 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, the switch is one of the most reliable choice for highly-managed and Fiber Ethernet application.

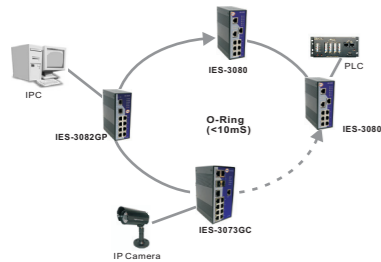
Features

- > **World's fastest Redundant Ethernet Ring: O-Ring (recovery time < 10ms over 250 units of connection)**
- > **Open-Ring support the other vendor's ring technology in open architecture**
- > **O-RSTP support applications with complex topology**
- > **STP/RSTP/MSTP supported**
- > **Support PTP Client (Precision Time Protocol) clock synchronization**
- > **IGMP snooping for filtering multicast traffic**
- > **Port Trunking for easy of bandwidth management**
- > **RMON for traffic monitoring**
- > **Event notification through Syslog, Email, SNMP trap, and Relay Output**
- > **Port lock to prevent access from unauthorized MAC address**
- > **Windows utility (Open-Vision) support centralized management and configurable by Web-based, Telnet, Console, CLI**
- > **Very wide operating temperature range from -40 to 70°C**
- > **Rigid IP-30 housing design**
- > **DIN-Rail and panel mounting enabled**

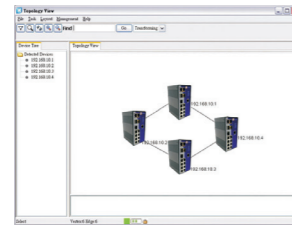
O-Ring Ethernet Redundant Technology

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.

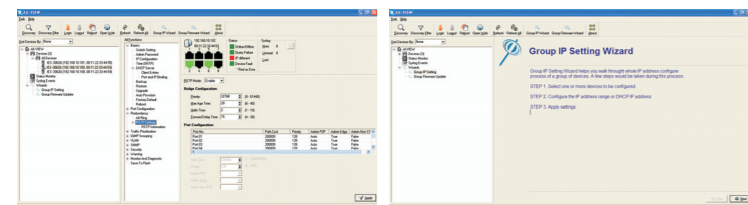
Redundant Ring (<10mS): O-Ring



Topology View



Monitoring and Configuration interface



Specifications

8-port Managed Switches

ORing Switch Model	IES-3080	IES-3062GT	IES-3062FX-MM	IES-3062FX-SS	IES-3062GF-MM	IES-3062GF-SS
Physical Ports						
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX	8	6	6	6	6	6
10/100/1000Base-T(X) Ports in RJ45 Auto MDI/MDIX	-	2	-	-	-	-
100Base-FX Multimode Port (2KM,1310nm,SC connector)	-	-	2	-	-	-
100Base-FX Singlemode Port (30KM,1310nm,SC connector)	-	-	-	2	-	-
1000Base-SX Multimode Port (550M,850nm,SC connector)	-	-	-	-	2	-
1000Base-LX Singlemode Port (10KM,1310nm,SC connector)	-	-	-	-	-	2
1000Base-X SFP Port	-	-	-	-	-	-
Gigabit combo in RJ-45 and SFP	-	-	-	-	-	-
Technology						
Ethernet Standards	IEEE 802.3 for 10Base-T, IEEE 802.3u for 100Base-T(X) and 100Base-FX, IEEE 802.3ab for 1000Base-T, IEEE 802.3ad for LACP (Link Aggregation Control Protocol), IEEE 802.3x for Flow control, IEEE 802.1D for STP (Spanning Tree Protocol), IEEE 802.1p for COS (Class of service), IEEE 802.1Q for VLAN Tagging, IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol), IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol), IEEE 802.1x for Authentication, IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)					
MAC Table	8192 MAC addresses					
Priority Queues	4					
Processing	Store-and-Forward					
Switch Properties	Switch latency: 7 us Switch bandwidth: 5.6Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 1024 Port rate limiting: User Define					
Security Features	Enable/disable ports, MAC based port security Port based network access control (802.1x) VLAN (802.1q) to segregate and secure network traffic Radius centralized password management SNMPv3 encrypted authentication and access security					
Software Features	STP/RSTP/MSTP (IEEE 802.1D/w/s) Redundant Ring (O-Ring) with recovery time less than 10ms over 250 units PTP Client (Precision Time Protocol) clock synchronizing function TOS/Diffserv supported Quality of Service (802.1p) for real-time traffic VLAN (802.1q) with VLAN tagging and GVRP supported IGMP Snooping for multicast filtering Port configuration, status, statistics, monitoring, security					
Network Redundancy	O-Ring, Open-Ring, O-RSTP, STP, RSTP, MSTP					
RS-232 Serial Console Port	RS-232in RJ45 connector with console cable. Baud rate setting: 9600bps, 8, N, 1					
LED indicators						
Power Indicator	Green: Power LED x3					
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 excepted event occurred					
10/100 Base-T(X)RJ45 Port Indicator	Green for port Link/Act. Amber for Duplex/Collision					
Fiber Port Indicator	Green for port Link/Act. Amber for Link					
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					
Power consumption(Typ.)	4 Watts	7 Watts	8 Watts	8 Watts	6 Watts	6 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.)					
Weight (g)	710 g	722 g	735 g	735 g	740 g	740 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

10-port/18-port Managed Switches

ORing Switch Model	IES-3082GP	IES-3162GC	IES-3073GC
Physical Ports			
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX	8	16	7
1000Base-X SFP Port	2	-	-
Gigabit combo in RJ-45 and SFP	-	2	3
Technology			
Ethernet Standards	IEEE 802.3 for 10Base-T, IEEE 802.3u for 100Base-T(X) and 100Base-FX, IEEE 802.3ad for LACP (Link Aggregation Control Protocol), IEEE 802.3x for Flow control, IEEE 802.1D for STP (Spanning Tree Protocol), IEEE 802.1p for COS (Class of service), IEEE 802.1Q for VLAN Tagging, IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol), IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol), IEEE 802.1x for Authentication, IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)	IEEE 802.3 for 10Base-T, IEEE 802.3u for 100Base-T(X) and 100Base-FX, IEEE 802.3ad for LACP (Link Aggregation Control Protocol), IEEE 802.3x for Flow control, IEEE 802.1D for STP (Spanning Tree Protocol), IEEE 802.1p for COS (Class of service), IEEE 802.1Q for VLAN Tagging, IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol), IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol), IEEE 802.1x for Authentication, IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)	IEEE 802.3 for 10Base-T, IEEE 802.3u for 100Base-T(X) and 100Base-FX, IEEE 802.3ad for LACP (Link Aggregation Control Protocol), IEEE 802.3x for Flow control, IEEE 802.1D for STP (Spanning Tree Protocol), IEEE 802.1p for COS (Class of service), IEEE 802.1Q for VLAN Tagging, IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol), IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol), IEEE 802.1x for Authentication, IEEE 802.1AB for LLDP (Link Layer Discovery Protocol)
MAC Table	8192 MAC addresses		
Priority Queues	4		
Processing	Store-and-Forward		
Switch Properties	Switch latency: 7 us Switch bandwidth: 5.6Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 1024 Port rate limiting: User Define	Switch latency: 7 us Switch bandwidth: 7.2Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 1024 Port rate limiting: User Define	Switch latency: 7 us Switch bandwidth: 7.4Gbps Max. Number of Available VLANs: 4096 IGMP multicast groups: 1024 Port rate limiting: User Define
Security Features	Enable/disable ports, MAC based port security Port based network access control (802.1x) VLAN (802.1q) to segregate and secure network traffic Radius centralized password management SNMPv3 encrypted authentication and access security		
Software Features	STP/RSTP/MSTP (IEEE 802.1D/w/s) Redundant Ring (O-Ring) with recovery time less than 10ms over 250 units PTP Client (Precision Time Protocol) clock synchronizing function TOS/Diffserv supported Quality of Service (802.1p) for real-time traffic VLAN (802.1q) with VLAN tagging and GVRP supported IGMP Snooping for multicast filtering Port configuration, status, statistics, monitoring, security		
Network Redundancy	O-Ring, Open-Ring, O-RSTP, STP, RSTP, MSTP		
RS-232 Serial Console Port	RS-232in RJ45 connector with console cable. Baud rate setting: 9600bps, 8, N, 1		
LED indicators			
Power Indicator	Green: Power LED x3		

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	
10/100 Base-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	
1000X/Fiber 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 input 12-48VDC on 6-pin terminal block
Power consumption(Typ.)	9 Watts	12 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.)	74.3(W)x109.2(D)x153.6(H) mm (2.93x4.3x6.05 inch.)
Weight (g)	730 g	1070 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	



Copyright© 2008 ORing
All rights reserved.



TEL: +886-2-2918-3036 Website: www.oring-networking.com
FAX: +886-2-2918-3084 E-mail: support@oring-networking.com

Quick Installation Guide

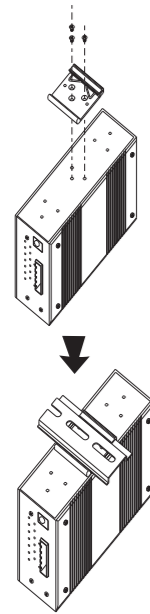
IES-3000 Series

Industrial Managed Ethernet Switch

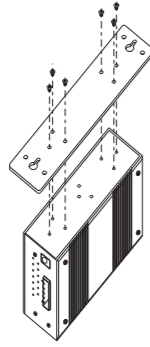
Installation

IES-3080 /3062 /3082 Series

DIN-Rail Install Step

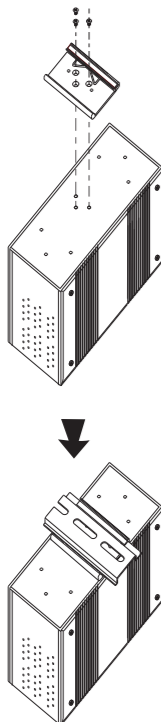


Wall-mounted Install Step

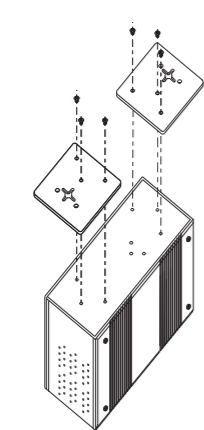


IES-3073GC / IES-3162GC

DIN-Rail Install Step

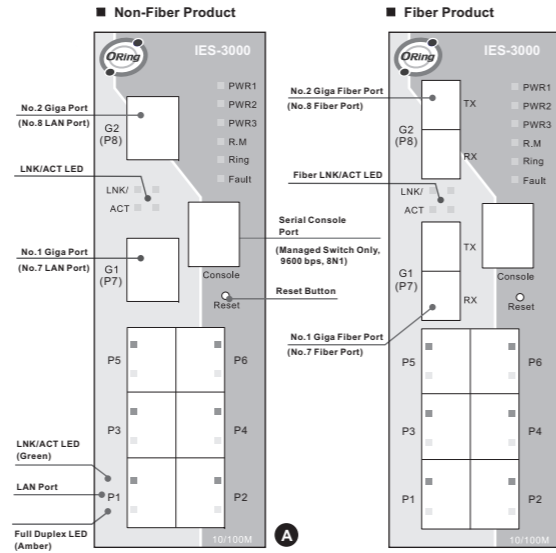


Wall-mounted Install Step

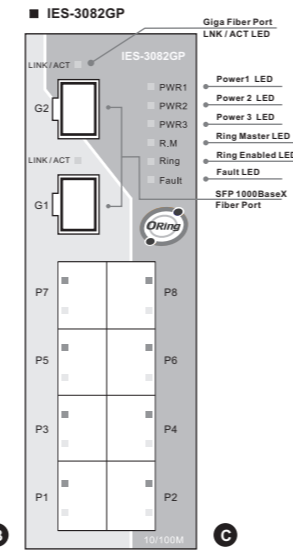


Front Panel

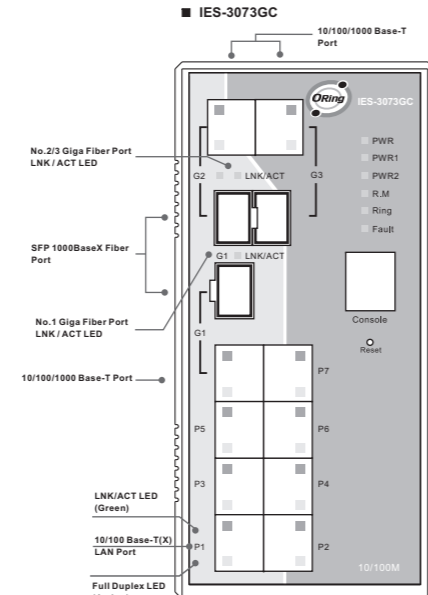
8-port Switches



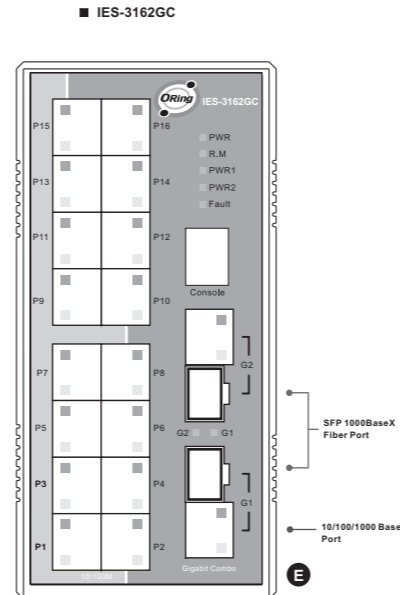
10-port Switches



10-port Switches

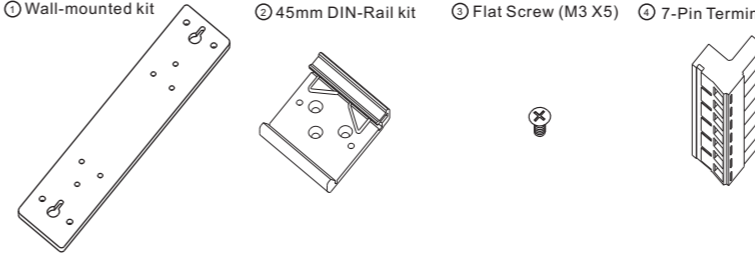


18-port Switches

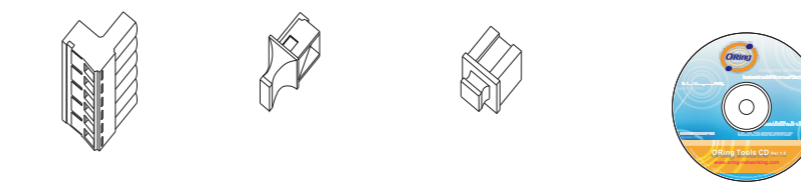


Accessory

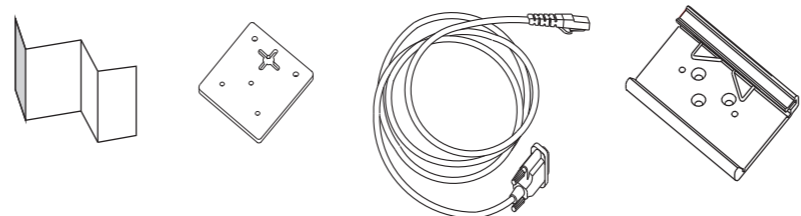
- 1 Wall-mounted kit
- 2 45mm DIN-Rail kit
- 3 Flat Screw (M3 X5)
- 4 7-Pin Terminal block



- 5 6-Pin Terminal block
- 6 Dust Cover (RJ-45)
- 7 Dust Cover (SFP)
- 8 CD



- 9 QIG
- 10 Wall-mounted kit
- 11 Console Cable
- 12 66mm DIN-Rail kit

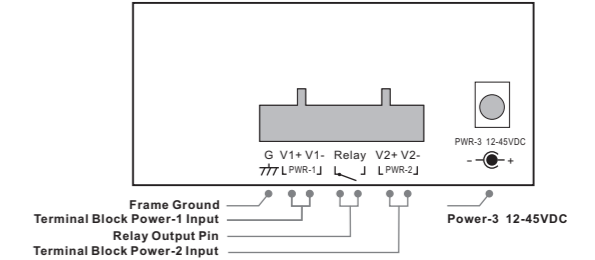


Packing list

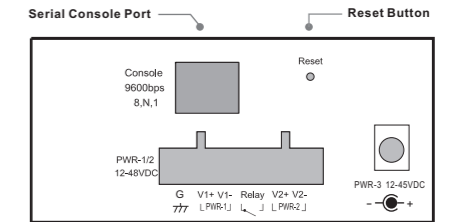
Model name	Front Panel	Model Description	Accessory
IES-3080	A	Industrial 8-port managed Ethernet switch with 8x10/100Base-T(X)	⊗X1, ⊗X1, ⊗X6, ⊗X1, ⊗X8, ⊗X1, ⊗X1, ⊗X1
IES-3062GT	A	Industrial 8-port managed Ethernet switch with 6x10/100Base-T(X) and 2x10/100/1000Base-T(X)	⊗X1, ⊗X1, ⊗X6, ⊗X1, ⊗X8, ⊗X1, ⊗X1, ⊗X1
IES-3062FX-MM	B	Industrial 8-port managed Ethernet switch with 6x10/100Base-T(X) and 2x100Base-FX, multi-mode	⊗X1, ⊗X1, ⊗X6, ⊗X1, ⊗X6, ⊗X1, ⊗X1, ⊗X1
IES-3062FX-SS	B	Industrial 8-port managed Ethernet switch with 6x10/100Base-T(X) and 2x100Base-LX, single-mode	⊗X1, ⊗X1, ⊗X6, ⊗X1, ⊗X6, ⊗X1, ⊗X1, ⊗X1
IES-3062GF-MM	B	Industrial 8-port managed Ethernet switch with 6x10/100Base-T(X) and 2x1000Base-SX, multi-mode	⊗X1, ⊗X1, ⊗X6, ⊗X1, ⊗X6, ⊗X1, ⊗X1, ⊗X1
IES-3062GF-SS	B	Industrial 8-port managed Ethernet switch with 6x10/100Base-T(X) and 2x1000Base-LX, single-mode	⊗X1, ⊗X1, ⊗X6, ⊗X1, ⊗X6, ⊗X1, ⊗X1, ⊗X1
IES-3082GP	C	Industrial 10-port managed Ethernet switch with 8x10/100Base-T(X) and 2x100/1000Base-X, SFP socket	⊗X1, ⊗X1, ⊗X6, ⊗X1, ⊗X8, ⊗X2, ⊗X1, ⊗X1, ⊗X1
IES-3073GC	D	Industrial 10-port managed Ethernet switch with 7x10/100Base-T(X) and 3xGigabit combo ports, SFP socket	⊗X6, ⊗X1, ⊗X10, ⊗X3, ⊗X1, ⊗X1, ⊗X2, ⊗X1, ⊗X1
IES-3162GC	E	Industrial 18-port managed Ethernet switch with 16x10/100Base-T(X) and 2xGigabit combo ports, SFP socket	⊗X6, ⊗X1, ⊗X18, ⊗X2, ⊗X1, ⊗X1, ⊗X2, ⊗X1, ⊗X1

Power Connection Guide

8-port Switches



IES-3082GP



IES-3073GC / IES-3162GC

