IPS-2042TX/IPS-2042FX Series

Industrial 6-port lite-managed PoE Ethernet Switch

Features

- IPS-2042TX provides 4x10/100Base-T(X) P.S.E. and 2x10/100Base-T(X) ports
- IPS-2042FX series provide 4x10/100Base-T(X) P.S.E. and 2x100Base-FX single/multi mode fiber ports
- Fastest Redundant Ethernet Ring: **O-Ring** (Recovery time < 10ms over 250 units of connection)
- **Open-Ring** supports the other vendor's ring technology in open architecture
- Provides **Fast recovery technology** for Ethernet multi-redundancy
- STP/RSTP supported
- SNMP v1/v2c/v3 support for secured network management
- Supports LLDP (Link Layer Discovery Protocol)
- Configurable by Web-based and Windows utility **(Open-Vision)**
- Event notification through Syslog, Email, and SNMP trap
- Two 100Base-FX fiber port support for long distance connection
- Four P.S.E. ports based on IEEE 802.3af standard – up to 25 Watts per port
- Rigid IP-30 housing design
- DIN-Rail and wall mounting enabled

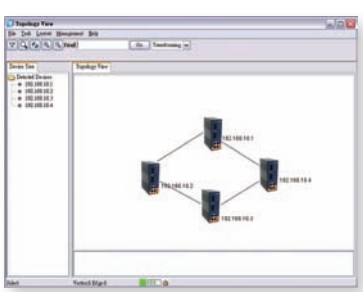
Introduction

IPS-2042TX/2042FX series are lite-managed redundant ring Ethernet switches with 4x10/100Base-T(X) ports with PoE P.S.E. function and 2x10/100Base-T(X) or 2x100Base-FX fiber ports. IPS series support Power over Ethernet, a system to transmit electrical power, along with data, to remote devices over standard twisted-pair cable in an Ethernet network. Each IPS switches has 4X10/100Base-T(X) P.S.E. (Power Sourcing Equipment) ports. P.S.E. is a device (switch or hub for instance) that will provide power in a PoE setup. 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. IPS-2042TX / 2042FX series can be managed centralized and convenient by a powerful windows utility — Open-Vision. 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.

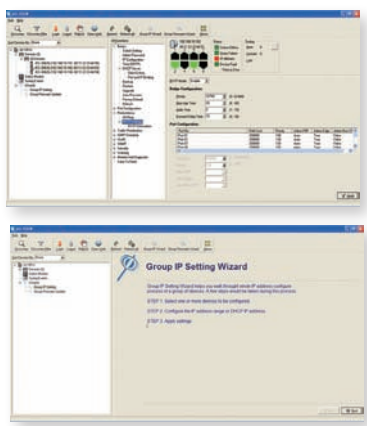
Open-Vision

ORing's switches are intelligent switches. Being different form 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

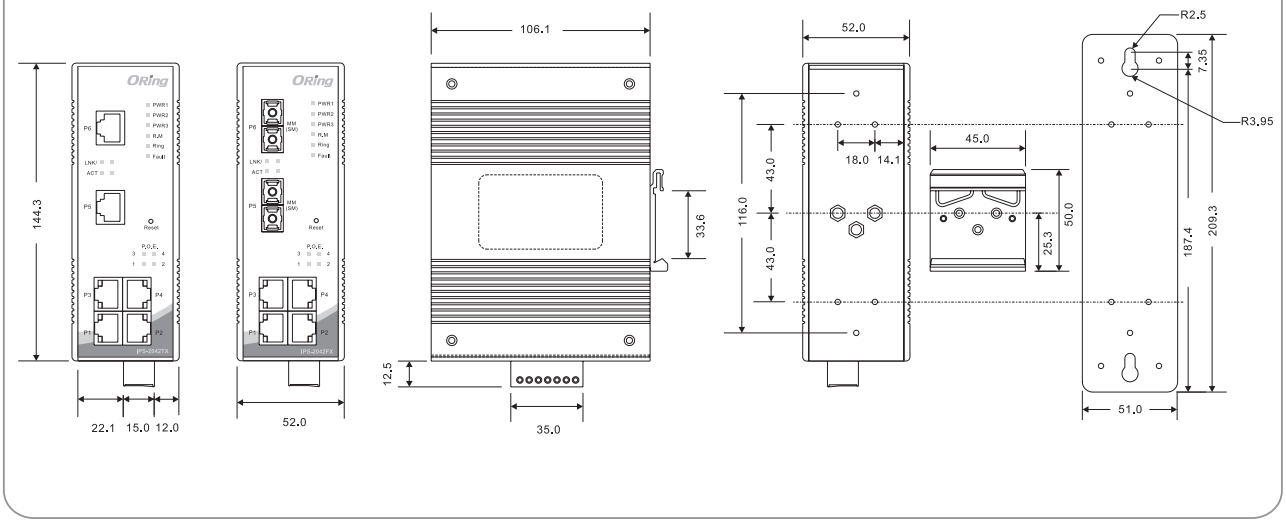


Topology View



Monitoring and Configuration interface

Dimensions



(Unit=mm)

PoE Pin Definition

RJ-45 Pin Definition	
Pin No.	Description
#1	TD+
#2	TD-
#3	RD+
#4	PoE Power input +

RJ-45 Pin Definition	
Pin No.	Description
#5	PoE Power input +
#6	RD-
#7	PoE Power input -
#8	PoE Power input -

Specifications

ORing Switch Model		IPS-2042TX	IPS-2042FX-MM-SC	IPS-2042FX-SS-SC
Physical Ports				
10/100Base-T(X) Ports in RJ45 Auto MDI/MDIX with P.S.E.		4	4	4
10/100Base-T(X) Ports in RJ45 Auto MDI/MDIX without P.S.E.		2	-	-
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) IEEE 802.3af PoE specification (up to 25 Watts per port for P.S.E.)		
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 Open-Ring support the other vendor's ring technology in open architecture Port configuration, status, statistics, monitoring, security DHCP Client		
Network Redundancy	O-Ring Open-Ring Fast recovery STP RSTP		
LED Indicators			
Power Indicator	Green : Power LED x 3, Green : PoE LED x 4		
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 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		
Fault contact			
Relay	Relay output to carry capacity of 1A at 24VDC		
Power			
Redundant Input Power	Triple DC inputs. 2x48VDC on 7-pin terminal block , 1x48VDC 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)	696 g	709 g	709 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)	304,333	269,978	270,625
Warranty	5 years		

Ordering Information

IPS-2 AA B CC - DD - EE

Code Definition	10/100Base-T(X) P.S.E. Port Number	Additional Port Number	Additional Port Type	Fiber Optical Mode	Fiber Optical Connector
Option	**- 04:** 4 ports	**- 2:** 2 ports	**- FX:** 100Base-FX **- TX:** 10/100Base-T(X)	**- MM:** Multi-mode **- SS:** Single-mode	**- SC:** SC connector

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

Packing List

- IPS-204TX/2042FX
- 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-75-48, 75W DIN-Rail power supply
- DR-120-48, 120W DIN-Rail power supply
- PAA-482500, 48VDC/2500mA 120W Power Adapter with universal 100 to 240VAC input, US power cord
- PAE-482500, 48VDC/2500mA 120W Power Adapter with universal 100 to 240VAC input, EU power cord

IPS-2042P

Industrial 6-port lite-managed PoE Ethernet switch with 4x10/100Base-T(X) P.S.E. and 2x100Base-FX, SFP socket

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
- RSTP/STP (IEEE 802.1w/D)
- SNMP v1/v2c/v3 support for secured network management
- Configurable by Web-based and Windows utility **(Open-Vision)**
- Support LLDP (Link Layer Discovery Protocol)
- Event notification through Syslog, Email, and SNMP trap.
- Two 100Base-FX SFP port support for long distance connection
- 4 ports support P.S.E. based on IEEE 802.3af standard up to 25 Watts per port
- Rigid IP-30 housing design
- DIN-Rail and wall mounting enabled

Introduction

IPS-2042P is a lite-managed redundant ring PoE Ethernet switch with 4x10/100Base-T(X) P.S.E. function and 2x100Base-FX SFP socket. IPS-2042P support Power over Ethernet, a system to transmit electrical power, along with data, to remote devices over standard twisted-pair cable in an Ethernet network. IPS-2042P switch has 4X10/100Base-T(X) P.S.E. (Power Sourcing Equipment) ports. P.S.E. is a device (switch or hub for instance) that will provide power in a PoE setup. With complete support of Ethernet Redundancy protocol, O-Ring (recovery time < 10ms over 250 units of connection) and Open-Ring/RSTP/STP (IEEE 802.1w/D) can protect your mission-critical applications from network interruptions or temporary malfunctions with its fast recovery technology. IPS-2042P can be managed centralized and convenient by a powerful windows utility — Open-Vision. The wide operating temperature range from -40 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.

Open-Vision

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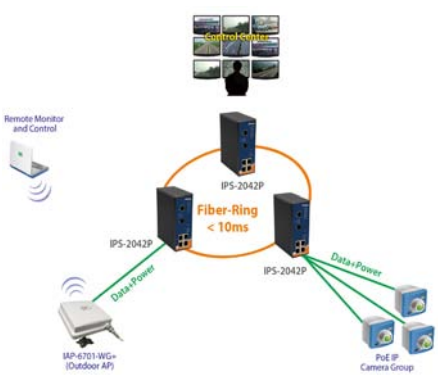
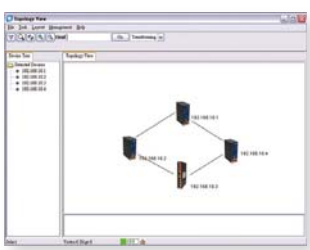
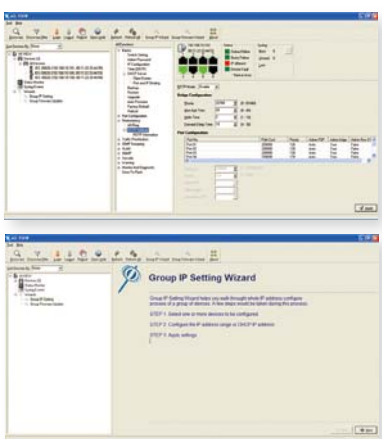


Network connection

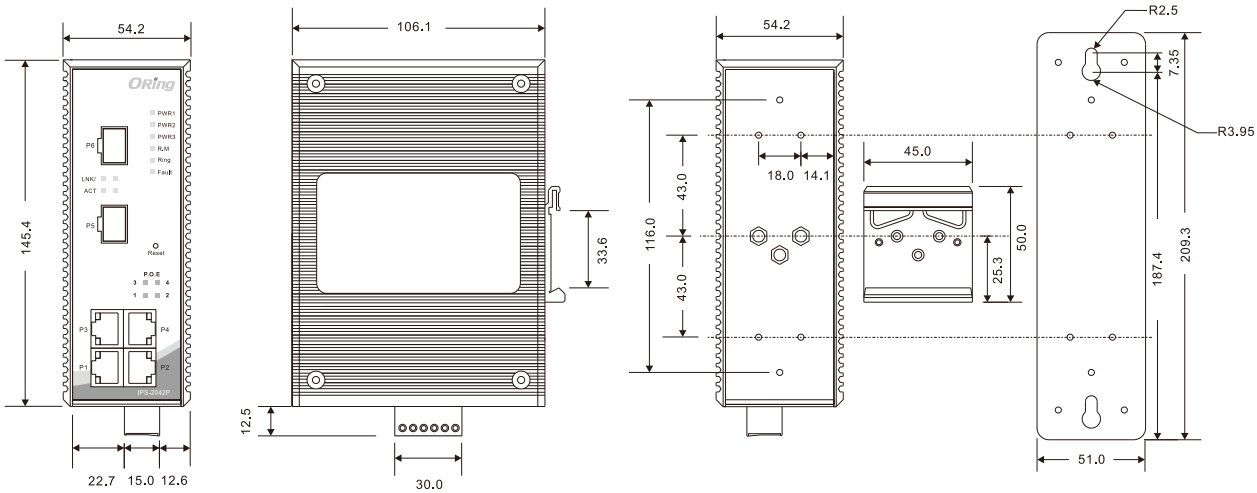


Topology View



Monitoring and Configuration interface

Dimensions



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Pin No.	Description
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#6	RD-
#7	PoE Power input -
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Specifications

ORing Switch Model	IPS-2042P
Physical Ports	
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX with P.S.E.	4
100Base-FX SFP Ports	2
Technology	
Ethernet Standards	IEEE 802.3 for 10Base-T IEEE 802.3u for 100BaseTX 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) IEEE 802.3af PoE specification (up to 25 Watts per port for P.S.E.)
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 SNMPv3 encrypted authentication and access security
Software Features	STP/RSTP (IEEE 802.1D/w) Redundant Ring (O-Ring) with recovery time less than 10ms over 250 units Open-Ring support the other vendor's ring technology in open architecture Port configuration, status, statistics, monitoring, security DHCP Client

Network Redundancy	O-Ring Open-Ring Fast recovery STP RSTP
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Power/PoE Indicator	Green : Power LED x 3. Green : PoE LED x 4
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 event occurred
10/100Base-T(X) RJ45 Port Indicator	Green for port Link/Act. Amber for Link
SFP Socket Indicator	Green for port Link/Act.
Fault contact	
Relay	Relay output to carry capacity of 1A at 24VDC
Power	
Redundant Input Power	Triple DC inputs. 2x48VDC on 7-pin terminal block , 1x48VDC on power jack
Power Consumption (Typ.)	7 Watts Max.
Overload Current Protection	Present
Reverse Polarity Protection	Present on terminal block
Physical Characteristics	
Enclosure	IP-30
Dimensions (W x D x H)	54.2(W) x 106.1(D) x 145.4(H) mm (2.13x4.18x5.72 inch.)
Weight (g)	700 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

Ordering Information

IPS-2 AA B C

Code Definition	10/100Base-T(X) w/ PoE Port Number	Additional Port Number	Additional Port Type
Option	**- 4:** 4 ports	**- 2:** 2 ports	**- P:** 100Base-FX SFP socket

Available Model	Model Name	Description
	IPS-2042P	Industrial 6-port lite-managed PoE Ethernet switch with 4x10/100Base-T(X) P.S.E. and 2x100Base-FX, SFP socket

Packing List

- IPS-2042P
- 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
- SFP100 series, 100Mbps SFP optical transceiver
- DR-75-48, 75W DIN-Rail power supply
- DR-120-48, 120W DIN-Rail power supply
- PAA-482500, 48VDC/2500mA 120W Power Adapter with universal 100 to 240VAC input, US power cord
- PAE-482500, 48VDC/2500mA 120W Power Adapter with universal 100 to 240VAC input, EU power cord