PoE SWITCH INDUSTRIAL

ORing

Quick Installation Guide

IPS-1042FX-24V Series

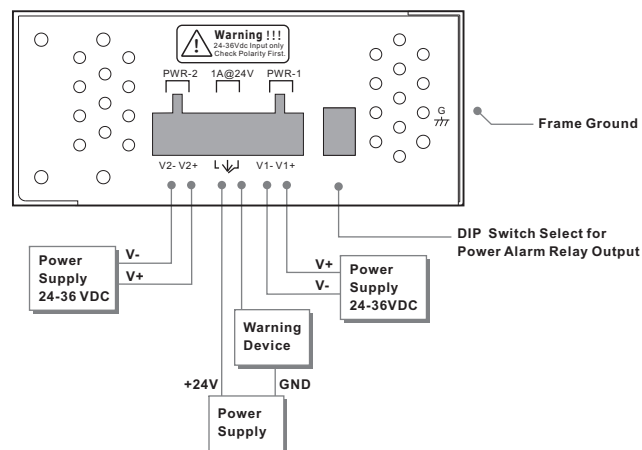## Industrial Unmanaged PoE Switch

Introduction

IPS-1042FX-24V series are unmanaged PoE Ethernet switches with 4x10/100Base-T(X) P.S.E. and 2x100Base-FX ports. **IPS-1042FX-24V series** supports 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-1042FX-24V series** 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. **IPS-1042FX-24V series** support redundant power inputs, configurable relay output alarm and rigid IP-30 housing. In addition, the wide operating temperature range from -40 to 70°C can satisfy most of operating environment.

Features

- I**PS-1042FX-24V series** provide 4x10/100Base-T(X) PoE (P.S.E.) and 2x100Base-FX single/multi-mode fiber ports
- **Supports IEEE 802.3at compliant PoE and total power budget is 120Watts with maximum 30Watts per port**
- **Support auto-negotiation and auto-MDI/MDI-X**
- **Support store and forward transmission**
- **Support flow control**
- **Support surge protection technology**
- **Warning system by relay output**
- **Slim type rigid IP-30 housing design**
- **DIN-Rail and wall mounting enabled**

Power Connection Guide

Warning !!!
24-36Vdc input only
Check Polarity First

PWR-2   1A@24V   PWR-1

V2- V2+   V1- V1+

Frame Ground

DIP Switch Select for Power Alarm Relay Output

Power Supply 24-36 VDC — V- / V+

V+ / V- — Power Supply 24-36VDC

+24V   GND

Warning Device

Power Supply

◉ DIP Switch Function

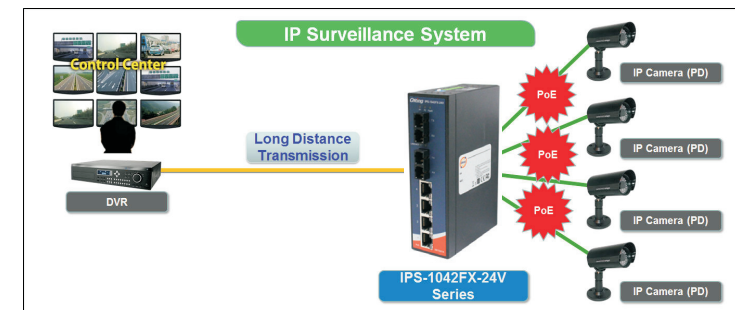| DIP-1	DIP-2	Description
OFF	OFF	Power failure relay alarm disabled
ON	OFF	PWR-1 failure, relay alarm enabled
OFF	ON	PWR-2 failure, relay alarm enabled
ON	ON	PWR-1 or PWR-2 failure, relay alarm enabled

Specifications

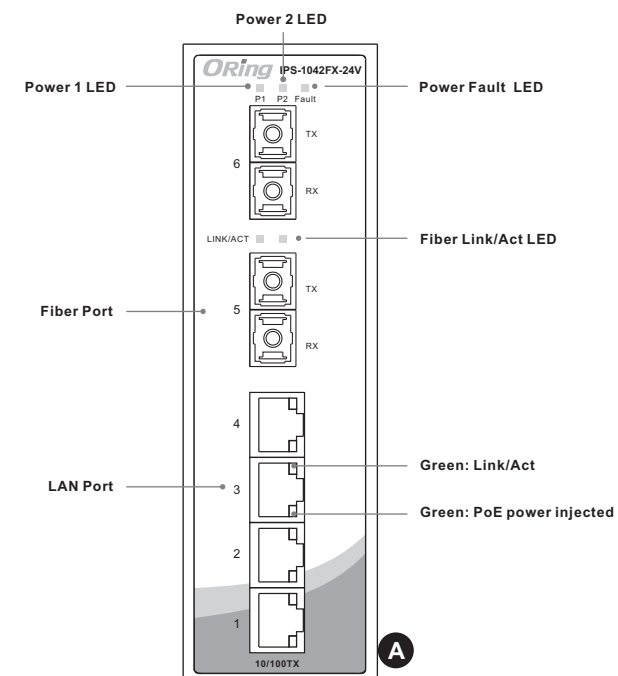| ORing Switch Model	IPS-1042FX-MM-SC-24V	IPS-1042FX-MM-SC-24V
Physical Ports		
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX with P.S.E.	4	
Fiber Ports Number	2	2
Fiber Ports standard	100Base-FX	100Base-FX
Fiber Mode	Multi-mode	Single-mode
Fiber Diameter (µm)	62.5/125 µm & 50/125 µm	9/125 µm
Fiber Optical 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 802.3at PoE specification (up to 30 Watts per port for P.S.E.)	
MAC Table	2048 MAC addresses	
Processing	Store-and-Forward	
LED Indicators		
Power indicator	Green: Power LED x2	
Fault indicator	Amber: Indicate PWR1 or PWR2 failure	
10/100Base-T(X)RJ45 Port Indicator	Green for port Link/Act. Green for PoE power injected.	
100Base-FX 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	Dual DC inputs 24~36VDC on 6-pin terminal block	
Power consumption(Typ.)	6.48 Watts (power consumption of P.S.E. is not included)	5.4 Watts (power consumption of P.S.E. is not included)
Overload current protection	Present	
Reverse polarity protection	Not Present	
Physical Characteristic		
Enclosure	IP-30	
Dimension (W x D x H)	41.0 (W) x 94.9 (D) x 144.3 (H) mm (1.61 x 3.74 x 5.68 inches)	
Weight (g)	395g	
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	

Practical Operation

IPS-1042FX-24V series can be used in connecting several Ethernet devices like Ethernet I/O, IP-Camera or other Ethernet switches. In addition, there are two redundant power inputs at terminal block to avoid interruption caused by power down. When the primary DC power input fails, the backup power input will take over immediately to guarantee a non-stop operation.
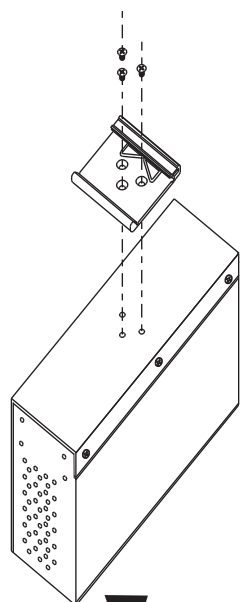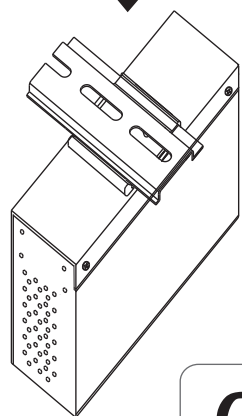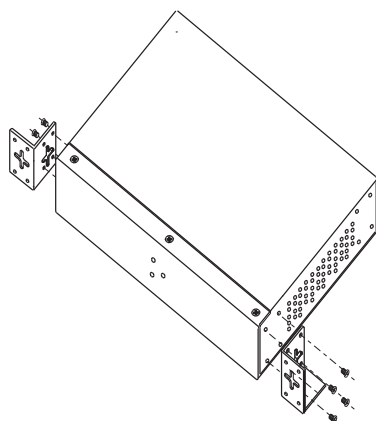
◉ Connections of Ethernet devices

IP Surveillance System
Control Center
Long Distance Transmission
DVR
PoE
IP Camera (PD)
IPS-1042FX-24V Series

Front Panel

Power 2 LED
Power 1 LED
Power Fault LED
Fiber Link/Act LED
Fiber Port
LAN Port
Green: Link/Act
Green: PoE power injected

ORing IPS-1042FX-24V
P1 P2 Fault
6 TX RX
LINK/ACT
5 TX RX
4
3
2
1
10/100TX
A

PoE SWITCH INDUSTRIAL

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Quick Installation Guide

IPS-1042FX-24V Series

Industrial Unmanaged PoE Switch

Installation

● **DIN-Rail Install Step**   ● **Wall-mounted Install Step**

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Accessory
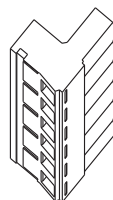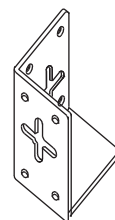
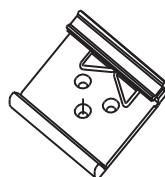① 6-Pin Terminal block   ② Dust Cover (RJ-45)

③ Round Screw (M3 X3)   ④ Wall-mounted kit

⑤ 40mm DIN-Rail kit   ⑥ QIG
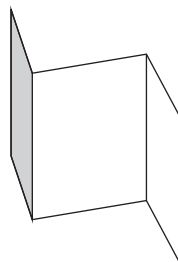
Packing list

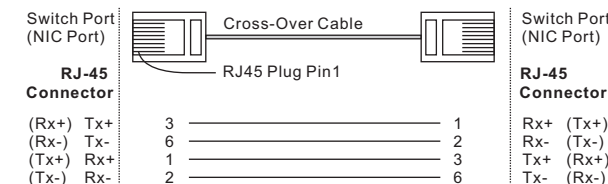| Model name	Front Panel	Model Description	Accessory
IPS-1042FX-MM-SC-24V	Ⓐ	Industrial 6-port unmanaged PoE Ethernet switch with 4x10/100Base-T(X) P.S.E. and 2x100Base-FX, multi-mode, 2Km/1310nm, SC connector, 24VDC power input	①X 1, ②X 4, ③X 8, ④X 2, ⑤X 1, ⑥X 1
IPS-1042FX-SS-SC-24V	Ⓐ	Industrial 6-port unmanaged PoE Ethernet switch with 4x10/100Base-T(X) P.S.E. and 2x100Base-FX, single-mode, 30Km/1310nm, SC connector, 24VDC power input	①X 1, ②X 4, ③X 8, ④X 2, ⑤X 1, ⑥X 1

Communication Connections

● **10/100Base-T(X) Ethernet Connection**

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

Switch Port   Straight-Through Cable   NIC Port

RJ-45 Connector   RJ45 Plug Pin1   **RJ-45 Connector**

Tx+	3	3	Rx+
Tx-	6	6	Rx-
Rx+	1	1	Tx+
Rx-	2	2	Tx-
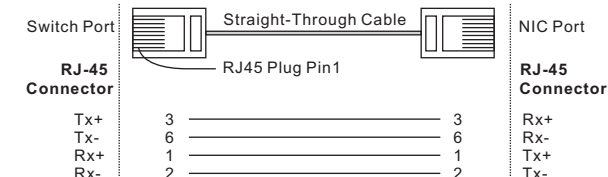
■ **RJ45 (8-pin) to RJ45 (8-Pin) Cross-Over Cable Wiring**

Switch Port (NIC Port)   Cross-Over Cable   Switch Port (NIC Port)

RJ-45 Connector   RJ45 Plug Pin1   **RJ-45 Connector**

(Rx+)	Tx+	3	1	Rx+	(Tx+)
(Rx-)	Tx-	6	2	Rx-	(Tx-)
(Tx+)	Rx+	1	3	Tx+	(Rx+)
(Tx-)	Rx-	2	6	Tx-	(Rx-)

● **100Base-FX Connection**

SC-Port Pinouts   SC-Port Pinouts

Tx   **SC-Port to SC-Port Cable Wiring**   Rx

Rx   Tx

SC-Port Pinouts

Tx	Cable Wiring	Rx
Rx		Tx

SC-Port Pinouts
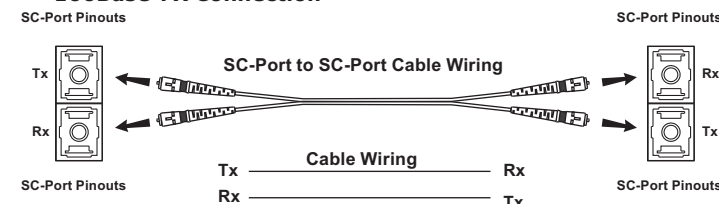
Pin Definition

● **10/100Base-T(X) PoE P.S.E. Port**

RJ45 Pin Definition	
Pin No.	**Description**
# 1	TD+ with PoE Power input +
# 2	TD- with PoE Power input +
# 3	RD+ with PoE Power input -
# 6	RD- with PoE Power input -