PoE SWITCH INDUSTRIAL

ORing

Quick Installation Guide

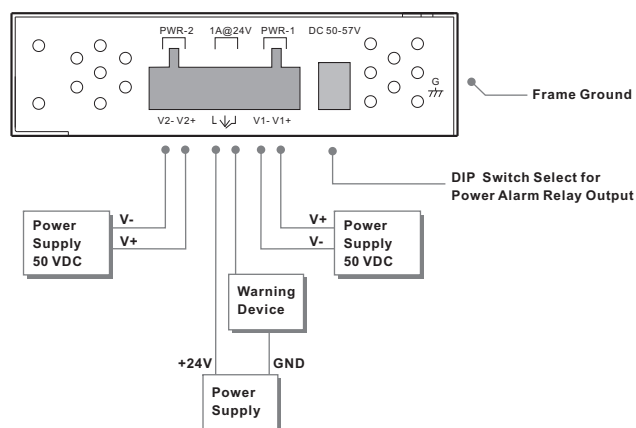# IPS-1042FA Series

Industrial Unmanaged PoE Switch

▪ Introduction

IPS-1042FA series are unmanaged PoE Ethernet switches with 4 x 10/100Base-T(X) P.S.E. and 2x100Base-FX ports. **IPS-1042FA 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-1042FA 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-1042FA 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℃ can satisfy most of operating environment.

▪ Features

▷ **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

PWR-2 1A@24V PWR-1 DC 50-57V

G ⏚ → Frame Ground

V2- V2+ L ⏚ V1- V1+

Power Supply 50 VDC V- V+

Power Supply 50 VDC V+ V-

DIP Switch Select for Power Alarm Relay Output

Warning Device

+24V GND

Power Supply

◉ DIP Switch Function

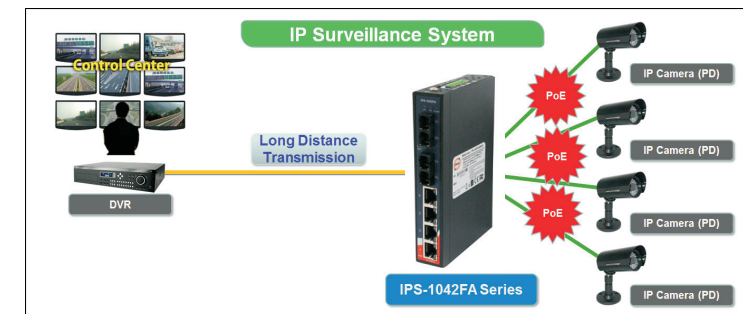| DIP-1	DIP-2	Description
OFF	OFF	Power failure relay alarm disabled
ON	OFF	PWR-1 failure, relay alarm enabled
OFF	ON	PWR-2 failure, relay alarm enabled
ON	ON	PWR-1 or PWR-2 failure, relay alarm enabled

▪ Specifications

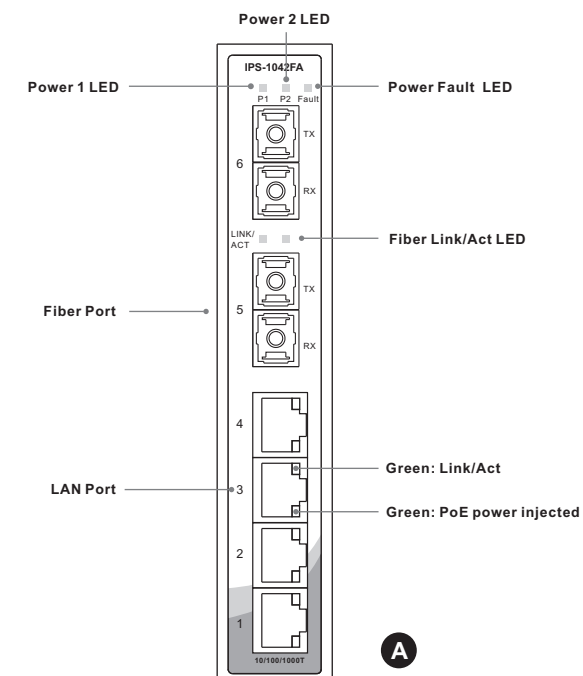| ORing Switch Model	IPS-1042FA-MM-SC	IPS-1042FA-SS-SC
Physical Ports		
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX with P.S.E.	4	
Fiber Ports Number	2	2
Fiber Ports standard	100Base-FX	100Base-FX
Fiber Mode	Multi-mode	Single-mode
Fiber Diameter (μm)	62.5/125 μm & 50/125 μm	9/125 μm
Fiber Optical Connector	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 50-57VDC on 6-pin terminal block	
Power consumption(Typ.)	6.78 Watts (power consumption of P.S.E. is not included)	5.65 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)	26.1 (W) x 94.9 (D) x 144.3 (H) mm (1.03 x 3.74 x 5.68 inches)	
Weight (g)	395g	
Environmental		
Storage Temperature	-40 to 85℃ (-40 to 185°F)	
Operating Temperature	-40 to 70℃ (-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-1042FA 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.
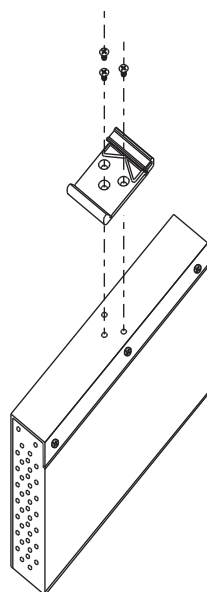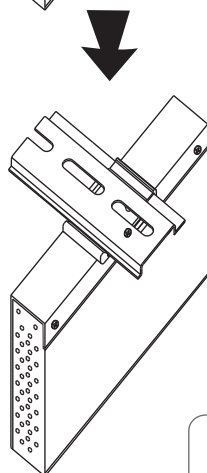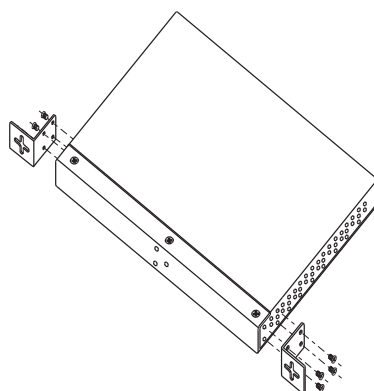
◉ Connections of Ethernet devices

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

▪ Front Panel

Power 2 LED

Power 1 LED

IPS-1042FA

P1 P2 Fault

Power Fault LED

TX
6
RX

LINK/ACT

Fiber Link/Act LED

Fiber Port

TX
5
RX

LAN Port

4

Green: Link/Act

3

Green: PoE power injected

2

1

10/100/1000T

Ⓐ

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Quick Installation Guide

IPS-1042FA Series

Industrial Unmanaged PoE Switch

▶ Installation

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

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TEL: +886-2-2218-1066   Website: www.oring-networking.com
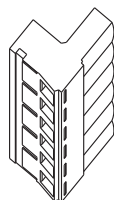FAX: +886-2-2218-1014   E-mail: support@oring-networking.com

▶ Accessory

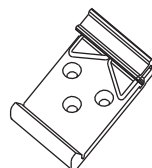① 6-Pin Terminal block

② Dust Cover (RJ-45)

③ Round Screw (M3 X3)

④ Wall-mounted kit (for Slim Type)

⑤ 25mm DIN-Rail kit
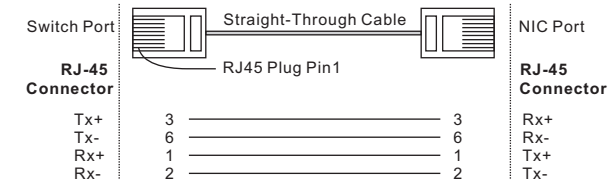
⑥ QIG

▶ Packing list

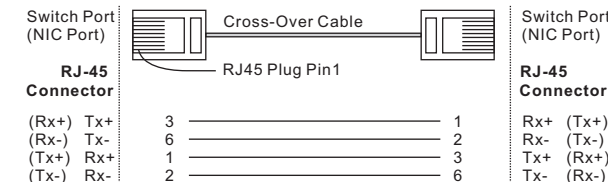| Model name	Front Panel	Model Description	Accessory
IPS-1042FA-MM-SC	Ⓐ	Industrial 6-port slim type unmanaged PoE Ethernet switch with 4x10/100Base-T(X) P.S.E. and 2x100Base-FX, multi-mode, 2Km/1310nm, SC connector	①X 1, ②X 4, ③X 8, ④X 2, ⑤X 1, ⑥X 1
IPS-1042FA-SS-SC	Ⓐ	Industrial 6-port slim type unmanaged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

	Cable Wiring	
Tx		Rx
Rx		Tx
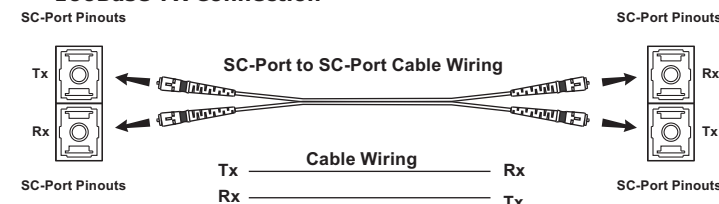
▶ Pin Definition

● 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 -