SWITCH INDUSTRIAL ORing

Quick Installation Guide

IES-1041/1042FX Series Industrial Unmanaged Switch

Introduction

IES-1041FX/1042FX series are unmanaged Ethernet switches with 4 x 10/100Base-T(X) and 100Base-FX ports. **IES-1041FX/1042FX series** support redundant power inputs, configurable relay output alarm and rigid IP-30 housing. In addition, the wide operating temperature range from -40 to 75oC can satisfy most of operating environment.

Features

- **IES-1041FX series provide 4x10/100Base-T(X) and 1x100Base-FX single/multi-mode fiber ports**
- **IES-1042FX series provide 4x10/100Base-T(X) and 2x100Base-FX single/multi-mode fiber ports**
- **Support auto-negotiation and auto-MDI/MDI-X**
- **Support store and forward transmission**
- **Support flow control**
- **Provide Relay output**
- **Compact size for easily installation**
- **Rigid IP-30 housing design**
- **DIN-Rail and wall mounting enable**

Package Contents

The device is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

Contents	Pictures	Number
IES-1080A		X 1
DIN-rail Kit		X 1
Wall-mount Kit		X 2
QIG		X 1
6-pin terminal block		X 1

Preparation

Before you begin installing the switch, make sure you have all of the package contents available and a PC with Microsoft Internet Explorer 6.0 or later, for using web-based system management tools.

Safety & Warnings

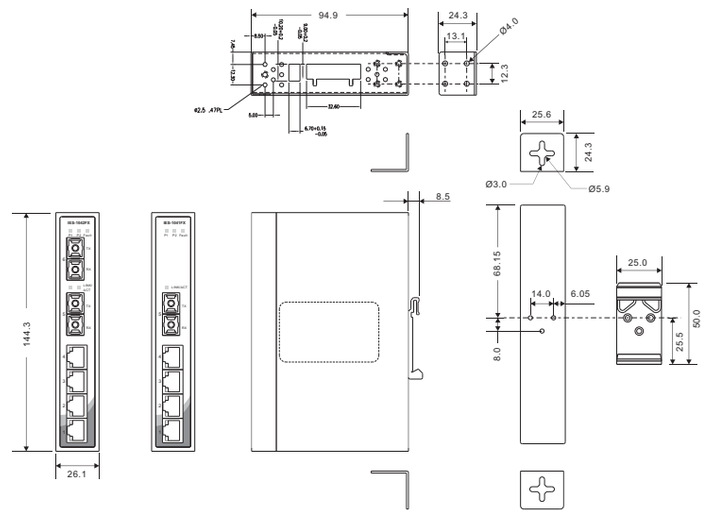
Elevated Operating Ambient: If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

Reduced Air Flow: Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

Mechanical Loading: Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

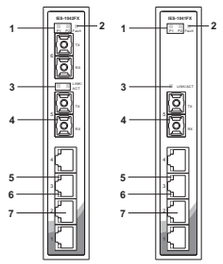
Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Dimension Unit =mm (Tolerance ±0.5mm)



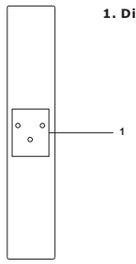
Panel Layouts

Front View



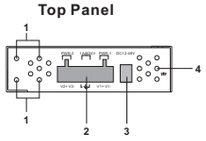
1. PWR indicators
2. Faulty relay indicator
3. Fiber port link/act indicator
4. Fiber port
5. LAN port link/act indicator
6. LAN port duplex indicator
7. LAN ports

Rear View



1. Din-rail screw holes

Top Panel

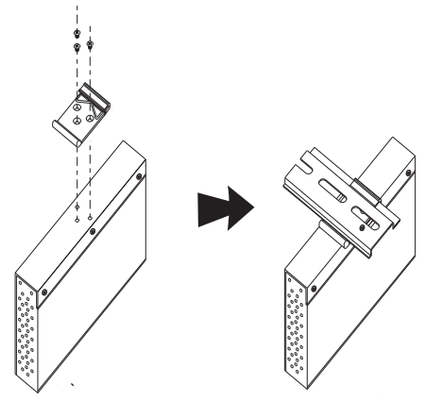


1. Wall-mount screw holes
2. Terminal blocks: PWR1, PWR2 , Relay
3. DIP Switch
4. Ground wire.

Installation

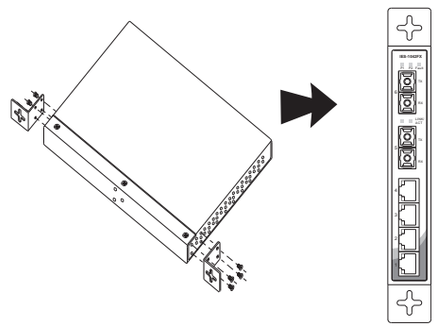
DIN-rail Installation

Step 1: Slant the switch and screw the Din-rail kit onto the back of the switch, right in the middle of the back panel.
Step 2: Slide the switch onto a DIN-rail from the Din-rail kit and make sure the switch clicks into the rail firmly.



Wall-mounting

Step 1: Screw the wall-mount kit onto the rear panel of the switch. A total of six screws are required, as shown below.
Step 2: Use the switch, with wall mount plates attached, as a guide to mark the correct locations of the four screws.
Step 3: Insert a screw head through the large parts of the keyhole-shaped apertures, and then slide the switch downwards. Tighten the screws for added stability.



Network Connection

The switch provides standard Ethernet ports. According to the link type, the switch uses CAT 3,4,5,5e UTP cables to connect to any other network devices (PCs, servers, switches, routers, or hubs). Please refer to the following table for cable specifications.

Cable Types and Specifications:

Cable	Type	Max. Length	Connector
10BASE-T	Cat. 3, 4, 5 100-ohm	UTP 100 m (328 ft)	RJ-45
100BASE-TX	Cat. 5 100-ohm UTP	UTP 100 m (328 ft)	RJ-45

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For pin assignments for different types of cables, please refer to the following tables.

10/100Base-T(X) RJ-45	
Pin Number	**Assignment**
1	TD+
2	TD-
3	RD+
4	Not used
5	Not used
6	RD-
7	Not used
8	Not used

10/100 Base-T(X) MDI/MDI-X		
Pin Number	**MDI port**	**MDI-X port**
1	TD+(transmit)	RD+(receive)
2	TD-(transmit)	RD-(receive)
3	RD+(receive)	TD+(transmit)
4	Not used	Not used
5	Not used	Not used
6	RD-(receive)	TD-(transmit)
7	Not used	Not used
8	Not used	Not used

Note: "+" and "-" signs represent the polarity of the wires that make up each wire pair.

DIP Switch Setting

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

Wiring

Power inputs

The switch supports dual redundant power supplies, Power Supply1 (PWR1) and Power Supply 2 (PWR2). The connections for PWR1, PWR2 and the RELAY are located on the terminal block.

STEP 1: Insert the negative/positive wires into the V-/V+ terminals, respectively.

STEP 2: To keep the DC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

Relay contact

The two sets of relay contacts of the 6-pin terminal block connector are used to detect user-configured events. The two wires attached to the fault contacts form an close circuit when a user-configured event is triggered. If a user-configured event does not occur, the fault circuit remains opened.

Grounding

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screws to the grounding surface prior to connecting devices.

Configurations

After installing the switch, the green power LED should turn on. Please refer to the following tablet for LED indication.

LED	Color	Status	Description
P1	Green	On	DC power 1 activated
P2	Green	On	DC power 2 activated
Fault	Amber	On	Power failure
10/100Base-T(X) Ethernet ports			
LNK/ACT	Green	On	Port is linked
Duplex	Amber	On	Port link up for full duplex
		Off	Port link up for half duplex
Fiber ports			
LNK/ACT	Green	On	Port is linked

Specifications

ORing Switch Model	**IES-1041FX-MM-SC**	**IES-1041FX-SS-SC**	**IES-1042FX-MM-SC**	**IES-1042FX-SS-SC**
Physical Ports				
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX	**4**	**4**	**4**	**4**
Fiber Port Specification: Fiber Ports Number	**1**	**1**	**2**	**2**
Fiber Ports Standard	100Base-FX	100Base-FX	100Base-FX	100Base-FX
Fiber Mode	Multi-mode	Single-mode	Multi-mode	Single-mode
Fiber Diameter (μm)	62.5/125 μm 50/125 μm	9/125 μm	62.5/125 μm 50/125 μm	9/125 μm
Fiber Optical Connector	SC	SC	SC	SC
Typical Distance (Km)	2 Km	30 Km	2 Km	30 Km
Wavelength (nm)	1310 nm	1310 nm	1310 nm	1310 nm
Max. Output Optical Power (dbm)	-14 dbm	-8 dbm	-14 dbm	-8 dbm
Min. Output Optical Power (dbm)	-23.5 dbm	-15 dbm	-23.5 dbm	-15 dbm
Max. Input Optical Power (Saturation)	0 dbm	0 dbm	0 dbm	0 dbm
Min. Input Optical Power (Sensitivity)	-31 dbm	-34 dbm	-31 dbm	-34 dbm
Link Budget (db)	7.5 db	19 db	7.5 db	19 db
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			
MAC Table	2048 MAC addresses			
Processing	Store-and-Forward			
Fault Contact				
Relay	Relay output to carry capacity of 1A at 24 VDC			
Power				
Redundant Input power	Dual DC inputs. 12~48VDC on 6-pin terminal block.			
Power consumption(Typ.)	5 Watts		7 Watts	
Overload current protection	Present			
Reverse polarity protection	Present			
Physical Characteristic				
Dimension (W x D x H)	6.1(W) x 94.9(D) x 144.3(H) mm (1.03 x 3.74 x 5.68 inch.)			
Weight (g)	378 g		382 g	
Environmental				
Storage Temperature	-40 to 85°C (-40 to 185°F)			
Operating Temperature	-40 to 75°C (-40 to 167°F)			
Operating Humidity	5% to 95% Non-condensing			
Regulatory Approvals				
EMC	EN 55032, EN 55024(CE EMC), FCC Part 15 B, EN 61000-3-2, EN 61000-3-3			
EMI	CISPR 32, EN 55032, FCC Part 15 B class A, C-Tick, VCCI			
EMS	IEC 61000-4-2 (ESD), IEC 61000-4-3 (RS), IEC 61000-4-4 (EFT), IEC 61000-4-5 (Surge), IEC 61000-4-6 (CS), IEC 61000-4-8 (PFMF), IEC 61000-4-11 (DIP)			
Shock	IEC60068-2-27			
Free Fall	IEC60068-2-31			
Vibration	IEC60068-2-6			
Safety	IEC 60950-1, UL 60950-1, EN60950-1			
Other	E-Mark			
MTBF	668,306 hours		712,104 hours	
Warranty	5 years			

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