SWITCH INDUSTRIAL

ORing

Quick Installation Guide

IES-162FX-L Series Industrial Unmanaged Switch

Introduction

IES-162FX-L is an unmanaged Ethernet switch with six 10/100Base-T(X) ports and two 100Base-T(X) fiber ports in a compact form factor. The fiber ports enable the switch to provide long-haul connections. The easy-to-install switch comes with rigid IP-30 housing and can operate in harsh environments. The wide operating temperature range from -40°C to 75°C ensures the switch can operate reliably in extreme weather conditions.

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-162FX-MM-L or IES-162FX-SS-L		X 1
DIN-rail Kit		X 1
Wall-mount Kit		X 2
QIG		X 1

Preparation

Before you begin installing the switch, make sure you have all of the package contents available.

Safety & Warnings

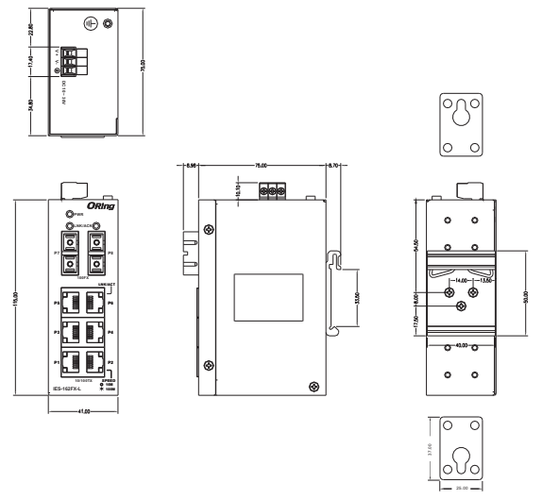
Elevated Operating Ambient: If installed in a closed cabinet, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified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

Reduced Air Flow: Installation of the equipment 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 din-rail should be such that a hazardous condition is not achieved due to uneven mechanical loading.

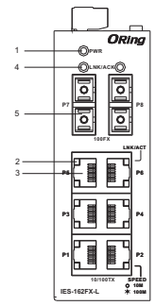
Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this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

Dimension (Unit: mm)



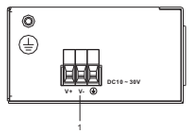
Panel Layouts

Front Panel



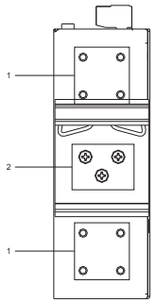
1. PWR LED
2. Link/Act indicator for LAN port
3. LAN port
4. Link/Act indicator for fiber ports
5. Fiber port

Top Panel



1. Terminal block

Real Panel

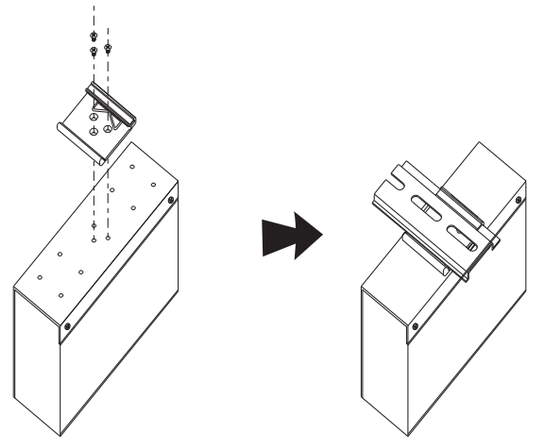


1. Wall-mount screw holes
2. Din-rail screw holes

Installation

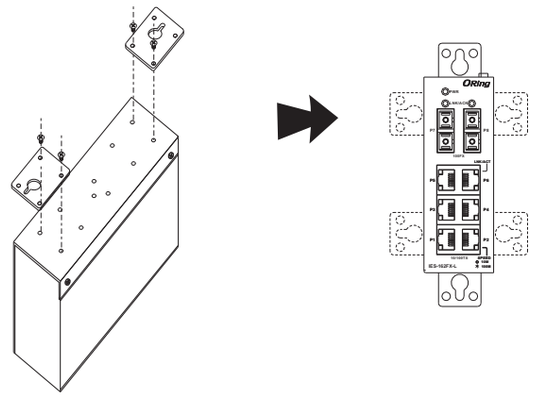
DIN-rail Installation

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 two pieces of wall-mount kits onto both sides of the switch. A total of eight 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 wall-mount screws.
Step 3: Insert screw through the large parts of the keyhole-shaped apertures, and then slide the switch downwards. Tighten the four screws for added stability.



SWITCH INDUSTRIAL

ORing

Quick Installation Guide

IES-162FX-L Series Industrial Unmanaged Switch

Network Connection

The device has 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

For pin assignments for the cables, please refer to the following table.

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

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

Wiring

Power inputs

The switch provides a 10~30 VDC voltage power input on a 3-pin terminal block. Follow the steps to connect the power.

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.

Configurations

After installing the switch and connecting cables, start the switch by turning on power. The green power and LEDs should turn on.

LED indication table

LED	Color	Status	Description
PWR	Green	On	DC power module activated
10/100Base-T(X) RJ45 Port			
LNK/ACT	Green	On	Port is linked
		Blinking	Transmitting data
	Amber	On	Port is running at 100Mbps
		Off	Port is running at 10Mbps
10/100Base-T(X) RJ45 Port			
LNK/ACT	Green	On	Port is linked
		Blinking	Transmitting data

Specifications

ORing Switch Model		IES-162FX-MM-SC-L	IES-162FX-SS-SC-L
Physical Ports			
10/100 Base-T(X) Ports in RJ45 Auto MDI/MDIX		4	4
Fiber Port Specification	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 IEEE 802.3x for Flow control	
MAC Table		2048 MAC addresses	
Packet Buffer		448Kbits	
Processing		Store-and-Forward	
Power			
Input power		10~30 VDC voltage power input on 3-pin terminal block	
Power consumption(Typ.)		3.6 Watts max.	3.6 Watts max.
Overload current protection		Present	
Reverse polarity protection		Present	
Physical Characteristic			
Enclosure		IP-30	
Dimension (W x D x H)		41 (W) x 75 (D) x 115 (H)mm (1.61 x 2.95 x 4.53 inch)	
Weight (g)		328 g	328 g
Environmental			
Storage Temperature		-40 to 85°C (-40 to 185°F)	
Operating Temperature		-20 to 60°C (-4 to 140°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	

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