level one®

∞ Infinity

IES-0920

8 FE + 1 MM SC Unmanaged Switch -40 to 75, DIN-rail

Quick Installation Guide

Overview

LevelOne IES-0920 Industry Ethernet Switch provides 8 ports of 10/100Base-TX Ethernet plus 1 port of 100Base-FX MM SC fiber to enable high speed network at mission-critical environment. This device is designed to be mounted on an industry standard DIN-rail, plus the clearly visible status LEDs provide simple monitoring of port link activity.

High Reliability

All components are built to withstand harsh environment applications without compromise where humidity, temperature variation and even shock vibration are concerns, including Electric & Utility, Critical Infrastructure, Transportation and Surveillance Security. This device operates under -40 to 75 Celsius (-40 to 167 Fahrenheit) temperature.

Plug & Play

This unmanaged Industrial Ethernet Switch is designed for the demanding industrial environments at businesses in need of instant connectivity with no setup or configure required, truly plug and play.
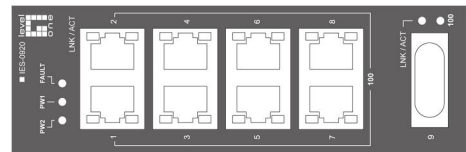
Features

- Meets NEMA TS1/TS2 Environmental requirements such as temperature, shock, and vibration for traffic control equipment.
- Meets EN61000-6-2 & EN61000-6-3 EMC Generic Standard Immunity for industrial environment.
- Supports 802.3/802.3u/802.3x. Auto-negotiation: 10/100Mbps, full/half-duplex. Auto MDI/MDIX.
- 100Base-FX: Multi mode/Single mode SC or ST type. 100Base-BX: WDM Multi mode/Single mode SC type.
- Supports 2048 MAC addresses. Provides 768K bits memory buffer.
- Alarms for power and port link failure by relay output 1.5A @ 24VDC.
- Operating voltage and Max. current consumption: 0.76A @ 12VDC, 0.38A @ 24VDC, 0.19A @ 48VDC. Power consumption: 9.12W Max.
- Power Supply: Redundant DC Terminal Block power inputs or 12VDC DC JACK with 100-240VAC external power supply.
- Field Wiring Terminal: Use Copper Conductors Only, 60/75℃, 12-24 AWG torque value 7 lb-in.
- -40℃ to 75℃ (-40°F to 167°F) operating temperature range. Tested for functional operation @ -40℃ to 85℃ (-40°F to 185°F). UL1604 Industrial Control Equipment certified Maximum Surrounding Air Temperature @ 74℃ (165°F).
- Supports DIN-Rail or Panel Mounting installation.
- UL1604 Class I, Division 2 Classified for use in hazardous locations (applicable to versions with terminal block power option).
  - This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D OR non-hazardous locations only.
  - WARNING – EXPLOSION HAZARD – Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.
  - WARNING – EXPLOSION HAZARD – Substitution of components may impair suitability for Class I, Division 2.
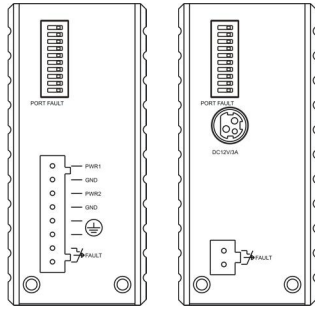
Package Contents

- IES-0920
- Quick Installation Guide
- CD User Manual

LED Status

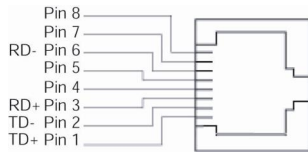| LED	Status	Description
PW 1,2 (Green)	Steady	Power On
	Off	Power Off
Fault		
FAULT (Red)	Steady	• Redundant power is failed or not being used • Port failure (When Port Fault Alarm is enabled)
	Off	• Redundant power is active • Port failure is not occurred • Port Fault Alarm is disabled
10/100Base-TX or 100Base-FX/BX		
LNK/ACT (Green)	Steady	Network connection is established
	Flashing	Transmitting or Receiving data
100 (Yellow)	Steady	Connection at 100Mbps speed
	Off	Connection at 10Mbps speed

Power Input

Terminal Block	PW1	**+**	10 – 48VDC
		–	Power Ground
	PW2	**+**	10 – 48VDC
		–	Power Ground
	⏚	**Earth Ground**	
	⏦	**Relay Output**	1A @ 24VDC

1. The relay contact opens if Power1 or Power2 falls
2. The relay contact opens if the Port Link is broken (When Link Down Detection is enabled)

Note: 12VDC DC Jack Input type is **optional**

DIP Switch

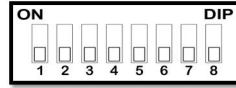This DIP Switch features the Port Fault Detection; once enabled, it sends fault signal (relay opens) when the port link is broken
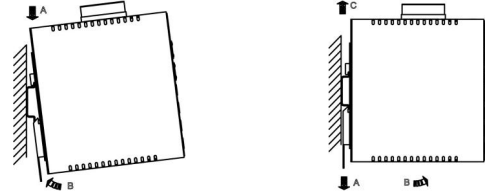

On: Enable Port Fault Detection

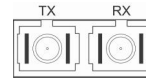**Off**: Disable Port Fault Detection

**Note:** Pin No. maps to Port No & extra Pin has no function

DIN Rail Mount

- Assembly: Place the switch on the DIN rail from above using the slot. Push the front of the switch toward the mounting surface until it audibly snaps into place
- Start-up: Connect the supply voltage to start up the switch via the terminal block (or DC JACK)
- Dismantling: Pull out the lower edge and then remove the switch from the DIN rail.

10/100Base-TX Connector

The following lists the pin-out of 10/100Base-TX ports.

Pin	Standard Port	Uplink Port
1	Output Transmit Data +	Input Receive Data +
2	Output Transmit Data -	Input Receive Data -
3	Input Receive Data +	Output Transmit Data +
4	NC	NC
5	NC	NC
6	Input Receive Data -	Output Transmit Data -
7	NC	NC
8	NC	NC

100Base-FX Connection

The Tx (transmit) port of device I is connected to the Rx (receive) port of device II, and the Rx (receive) port of device I to the Tx (transmit) port of device II.

WDM 100Base-BX Connection
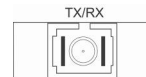
Only one optical fiber is required to transmit and receive data