



IEC-1020

10/100BASE-TX to 100FX Industrial Media Converter, SC SM 20km, -40 to 75C

Quick Installation Guide

v1.00 - 1209

Overview

LevelOne IEC-1020 is an industrial Fast Ethernet media converter with a rugged aluminium case which providing superb heat dissipation. This converter is designed to be mounted on an industrial standard DIN-rail, plus the clearly visible status LEDs provide simple monitoring of port link activity. It also features Link Fault Pass Through in order to alert remote location when link status changes

Fault Detection

Relay contact sends alert signal when the power failed or a port link disconnected, therefore the system operator can respond quickly. This relay contact can be easily configured with a simple DIP switch

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.

Safety

Complies with NEMA (National Manufacturers Association) TS1 & TS2 Environmental certified for the Traffic Control Equipment that withstand extreme temperatures, operating voltage and humidity fluctuation, vibration and shock commonly experienced in severe outdoor environments.

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Features

- 100Base-FX Single-mode fibre for the link up to 20 kilometres
- Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- ISA 12.12.01 (UL1604) Class I, Division 2 Classified for use in hazardous locations with DC Terminal Block power
- DIP switch configuration for "Link-Fault-Pass-Through," link down alarm, speed, duplex mode
- 128K bits buffer memory
- 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- Full wire-speed forwarding rate
- Alarms for power and port link failure by relay output
- -40°C to 75°C (-40°F to 167°F) operating temperature range
- IP30 aluminium case
- Supports DIN-rail mounting installation

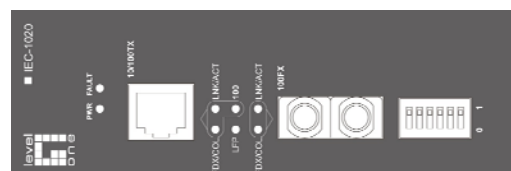
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LED Status



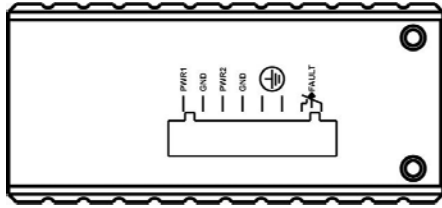
LED	Status	Description
PW 1,2	Steady	Power On
	Off	Power Off
FAULT	Steady	Redundant Power or Ports are failed
	Off	Redundant Power or Ports are normal
LNK/ACT	Steady	Network connection is established
	Flashing	Transmitting or Receiving data
	Off	No connection occurred
FDX/COL	Steady	Full duplex mode
	Flashing	Collision occurred
	Off	Half duplex mode
100 (Mbps)	Steady	Connection at 100Mbps speed
	Off	Connection at 10Mbps speed
LFPT	Steady	LFPT is enabled
	Off	LFPT is disabled

LFPT: Link Forward Pass Through

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Power Input



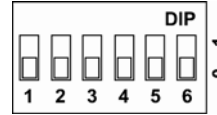
Terminal Block	PWR1	10 – 48VDC
	PWR2	10 – 48VDC
	GND	Power Ground
		Earth Ground
		Relay Output
	<ol style="list-style-type: none"> 1. The relay opens if PWR1 or PWR2 fails 2. The relay opens if the Port Link fails (Link Down Detection is enabled) 	

DC Terminal Block Power

There are two pairs of power inputs can be used to power up this device. You need to have two power inputs connected to run the media converter, but the FAULT LED indicator will light up to remind that the power redundant system functions abnormal in case either PWR1 or PWR2 is dead. Media Converter, however, continues working normally even fault LED indicator lights up.

DC JACK Power input: 12VDC (Optional)

DIP Switch

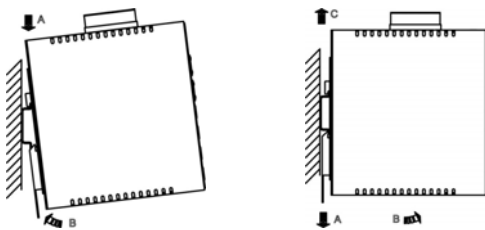


DIP	0	1
1	Disable LFPT	Enable LFPT
2	Enable auto negotiation for TX port	Enable forced mode for TX port
3	TX port forced to 100Mbps	TX port forced to 10Mbps
4	TX port forced to full duplex mode	TX port forced to half duplex mode
5	FX port forced to full duplex mode	FX port forced to half duplex mode
6	Disable link down alarm	Enable link down alarm

Note:

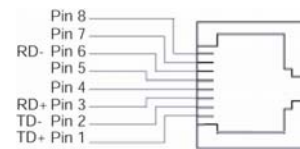
- **LFPT:** Link Forward Pass Through
- Disconnect the power before change the DIP switch settings

DIN Rail Mount



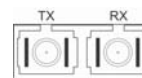
- **Assembly:** Place the switch on the DIN rail from above using the slot. Push the front of the switch toward the mounting surface until it audibly snaps into place
- **Start-up:** Connect the supply voltage to start up the switch via the terminal block (or DC JACK)
- **Dismantling:** Pull out the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

10/100Base-TX Connector



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.