



# IEC-1020

## 10/100 Industrial Media Converter, SC SM 20KM

### -40 to 75C

#### 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

#### 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.

#### 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

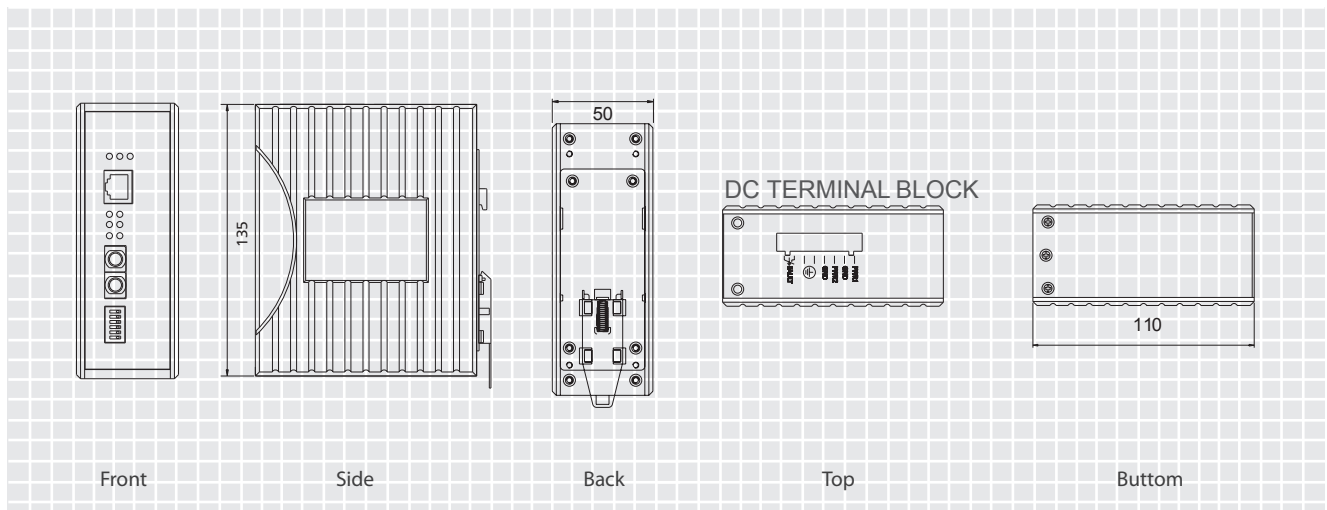
All components are built to withstand harsh environment applications without compromise where humidity, temperature variation and even shock vibration are concerns, including Electric & Utility, Critical Infrastructure, Transportation and Surveillance Security. This device operates under -40 to 75 Celsius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

#### Features

- 100Base-FX Single-mode fiber for the link up to 20 kilometers
- 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, tested for functional operation @ -40°C to 85°C (-40°F to 185°F)
- IP30 aluminum case
- Supports DIN-rail mounting installation

#### Diagrams

Unit: mm



## Specifications

Technology	
Standards	<ul style="list-style-type: none"> <li>IEEE802.3 10Base-T, IEEE802.3u 100Base-TX/100Base-FX, IEEE802.3x</li> </ul>
Forward and Filtering Rate	<ul style="list-style-type: none"> <li>14,880pps for 10Mbps</li> <li>148,810pps for 100Mbps</li> </ul>
Packet Buffer Memory	<ul style="list-style-type: none"> <li>128K bits</li> </ul>
Processing Type	<ul style="list-style-type: none"> <li>Store-and-Forward</li> <li>Half-duplex back-pressure and IEEE802.3x full-duplex flow control</li> </ul>

Power	
Input	<ul style="list-style-type: none"> <li>Input Voltage: 10 to 48VDC (DC Terminal Block) or 12VDC (DC Jack , optional)</li> </ul>
Power Consumption	<ul style="list-style-type: none"> <li>4.32W MAX. 0.36A @ 12VDC, 0.09A @ 48VDC</li> </ul>
Overload Current Protection	<ul style="list-style-type: none"> <li>Present</li> </ul>
Reverse Polarity Protection	<ul style="list-style-type: none"> <li>Present</li> </ul>

Mechanical	
Casing	<ul style="list-style-type: none"> <li>Aluminum case</li> <li>IP30</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>50mm (W) x 110mm (D) x 135mm (H) (1.97" (W) x 4.33" (D) x 5.31" (H))</li> </ul>
Weight	<ul style="list-style-type: none"> <li>0.8Kg (1.76lbs.)</li> </ul>
Installation	<ul style="list-style-type: none"> <li>DIN-Rail (Top hat type 35mm)</li> </ul>

Interface	
Ethernet Port	<ul style="list-style-type: none"> <li>10/100BASE-TX: 1 port</li> <li>100BASE-FX: 1 port</li> </ul>
LED Indicators	<ul style="list-style-type: none"> <li>Per Unit: Power Status (Power 1, Power 2, Fault), Link-Fault-Pass-Through</li> <li>Per Port: 10/100TX: Link/Activity, Full-duplex/Collision, Speed</li> <li>100FX: Link/Activity, Full-duplex/Collision</li> </ul>
Relay Contact	<ul style="list-style-type: none"> <li>Relay contact rating with current 1A @ 30VDC, 0.5A @ 120VAC</li> </ul>

Environment	
Operating Temperature	<ul style="list-style-type: none"> <li>-40°C to 75°C (-40°F to 167°F)</li> <li>Tested @ -40°C to 85°C (-40°F to 185°F)</li> </ul>
Storage Temperature	<ul style="list-style-type: none"> <li>-40°C to 85°C (-40°F to 185°F)</li> </ul>
Ambient Relative Humidity	<ul style="list-style-type: none"> <li>5% to 95% (non-condensing)</li> </ul>
MTBF	<ul style="list-style-type: none"> <li>108.88 years</li> </ul>

Regulatory Approvals	
ISO	<ul style="list-style-type: none"> <li>Manufactured in an ISO9001 facility</li> </ul>
Safety	<ul style="list-style-type: none"> <li>Hazardous locations: Class 1, Division 2 group A,B,C&amp;D UL60950-1, EN60950-1, IEC60950-1</li> </ul>
EMI	<ul style="list-style-type: none"> <li>FCC Part 15, Class A</li> <li>EN61000-6-3 <ul style="list-style-type: none"> <li>EN55022</li> <li>EN61000-3-2</li> <li>EN61000-3-3</li> </ul> </li> </ul>
EMS	<ul style="list-style-type: none"> <li>EN61000-6-2 <ul style="list-style-type: none"> <li>EN61000-4-2 (ESD Standards) Contact: + / - 4KV Air: + / - 8KV</li> <li>EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 1000MHz; 80% AM</li> <li>EN61000-4-4 (Burst Standards) Signal Ports: + / - 4KV D.C. Power Ports: + / - 4KV</li> <li>EN61000-4-5 (Surge Standards) Signal Ports: + / - 1KV; Line-to-Line D.C. Power Ports: + / - 0.5KV; Line-to-earth</li> <li>EN61000-4-6 (Induced RFI Standards) Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM</li> <li>EN61000-4-8 (Magnetic Field Standards) 30A/m @ 50, 60Hz</li> </ul> </li> </ul>
Environmental Test Compliance	<ul style="list-style-type: none"> <li>IEC60068-2-6 Fc (Vibration Resistance) 5g @ 10 - 150Hz, Amplitude 0.35mm (Operation/Storage/Transport)</li> <li>IEC60068-2-27 Ea (Shock) 25g @ 11ms (Half-Sine Shock Pulse; Operation) 50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)</li> <li>FED STD 101C Method 5007.1 (Free fall w/ package) -Tested with Cross Weight and Drop High standard table</li> <li>NEMA TS1/2 Environmental requirements for traffic control equipment</li> </ul>

## Order Information

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## Package Contents

IEC-1020

Quick Installation Guide