

# EL9020 Series

Hardened 10/100/1000BASE-TX to Gigabit SFP Media Converter



## Overview

The EL9020 Series provides media conversion between 10/100/1000BASE-TX and 1000BASE SFP Fiber. Built specifically for mission-critical applications in harsh environments, the EL9020's hardened design features high shock & vibration resistance, electrical noise immunity, wide operating temperature range from -40°C to 75°C, and ruggedized aluminum housing. With triple power inputs, link down alarming, Link-Fault-Pass-Through and a wide range of fiber connectivity options the EL9020 is the ideal media converter for environments where connectivity is crucial.

## Spotlight

- **Gigabit Connectivity**
  - Auto 10/100/1000BASE-TX and 1000BASE-SX/LX/BX Ethernet transmission conversion
  - 1000Mbps Full duplex, 10/100Mbps Full/Half duplex
  - SFP socket flexible for Gigabit fiber optic expansion
- **UL508 Certification**
  - Specific design for industrial communication applications with UL508 safety certification
- **Wide Operating Temperature**
  - -40°C to 75°C wide operating temperature range design is suitable for installation in outdoor cabinet

# Hardware Specifications

## Technology

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### Standards

- IEEE802.3, 10BASE-T
- IEEE802.3u 100BASE-TX
- IEEE802.3ab 1000BASE-T
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x Full duplex and flow control

### Forward and Filtering Rate

- 1,488,100pps for 1000Mbps

### Processing Type

- Auto Negotiation
- Half duplex back-pressure and IEEE802.3x full-duplex flow control
- Auto-MDI/MDIX

## Power

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### Input Voltage

- 12 to 48VDC (Terminal Block)
- 12VDC (DC Jack)

### Power Consumption

- 7.68W Max, 0.16A @ 48VDC

### Protection

- Overload current protection
- Reverse polarity protection

## Mechanical

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### Casing

- Aluminum Case
- IP30

### Dimensions

- 50mm (W) x 110mm (D) x 135mm (H)  
(1.97" (W) x 4.33" (D) x 5.31" (H))

### Weight

- 0.8Kg (1.76lbs.)

### Installation

- DIN-Rail (Top hat type 35mm), Panel, or Rack mounting

## Interface

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### Ethernet Port

- 10/100/1000BASE-TX: 1 port
- Gigabit SFP: 1 port

### LED Indicators

- Per Unit: Power1  
Power2  
Power3  
Fault  
LFPT
- Per 10/100/1000TX Port : Link/Act  
100M  
1000M  
Full-duplex/Collision
- Per Gigabit SFP Port : Link/Act

### DIP Switch

- No.1: LFPT on/off
- No.2: Alarm for copper port on/off
- No.3: Alarm for fiber port on/off
- No.4: Auto-negotiation for fiber port on/off

### Alarm Contact

- Relay contact rating with current 1A @ 30VDC, 0.5A @ 120VAC

## Environment

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### Operating Temperature

- -40°C to 75°C (-40°F to 167°F)  
Tested @ -40°C to 85°C (-40°F to 185°F)

### Storage Temperature

- -40°C to 85°C (-40°F to 185°F)

### Ambient Relative Humidity

- 5% to 95% (non-condensing)

## Regulatory Approvals

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### ISO

- Manufactured in an ISO9001 facility

### Safety

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### UL508

### EMI

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### FCC Part 15B, Class A

### EN61000-6-3

### EN55022

### EN61000-3-2

### EN61000-3-3

### EMS

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### EN61000-6-2

- EN61000-4-2 (ESD Standards)
- EN61000-4-3 (Radiated RFI Standards)
- EN61000-4-4 (Burst Standards)
- EN61000-4-5 (Surge Standards)
- EN61000-4-6 (Induced RFI Standards)
- EN61000-4-8 (Magnetic Field Standards)

### Environmental Test Compliance

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### IEC60068-2-6 Fc (Vibration Resistance)

### IEC60068-2-27 Ea (Shock)

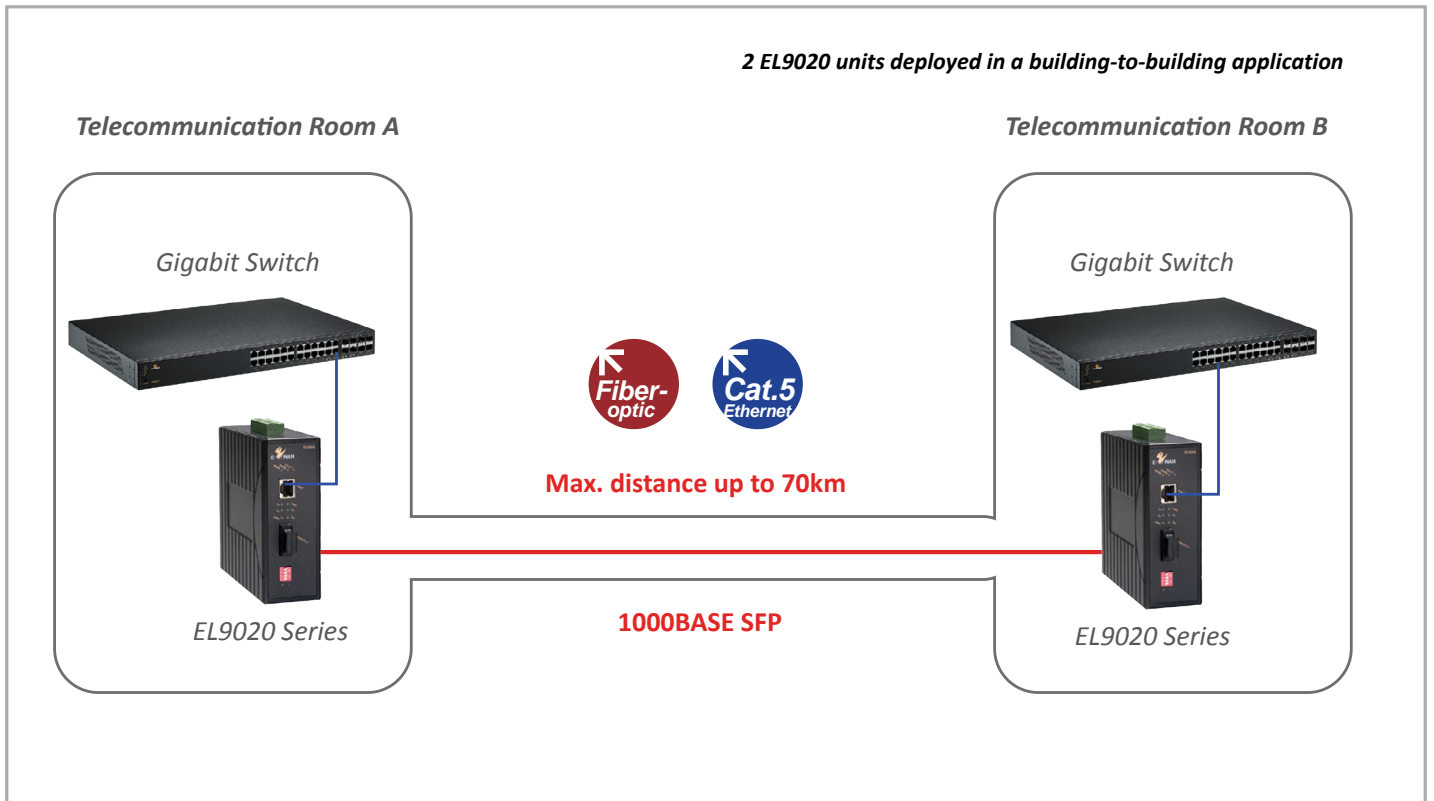
### FED STD 101C Method 5007.1 (Free fall w/ package)

### Industrial Compliance

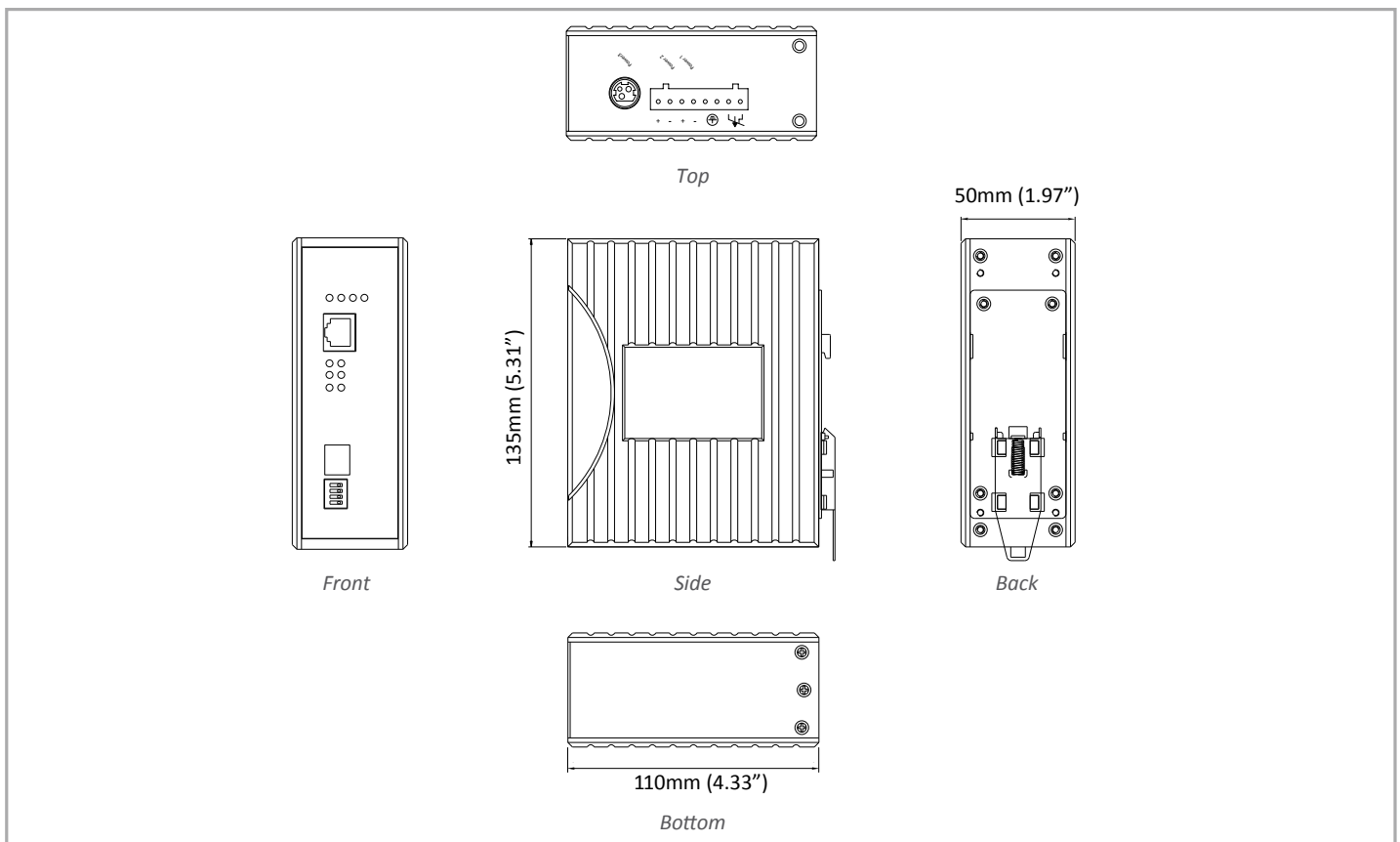
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### NEMA TS2

# Application Diagram



# Dimensions



## Ordering Information

### Model

<b>EL9020-00B</b>	10/100/1000BASE-TX to Gigabit SFP Hardened Media Converter
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\* DIN-Rail mounting kit included

### Optional Accessories

<b>KP-AA96-480</b>	Panel mounting kit
<b>DR-30-24</b>	30W/1.5A DIN-Rail 24VDC Industrial Power Supply (For Terminal Block)
<b>DR-60--24</b>	60W/2.5A DIN-Rail 24VDC Industrial Power Supply (For Terminal Block)
<b>DR-75-24</b>	75W/3.2A DIN-Rail 24VDC Industrial Power Supply (For Terminal Block)
<b>DR-120-24</b>	120W/5A DIN-Rail 24VDC Industrial Power Supply (For Terminal Block)
<b>41-136046-X</b>	36W/3A 12VDC hardened power adapter with open wire in aluminum housing (For Terminal Block); (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA
<b>41-136044-X</b>	36W/3A 12VDC hardened power adapter with latched DC jack in aluminum housing (For DC Jack); (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA

### Hardened SFP Gigabit Fiber Transceivers

Part Number	Typical Distance	Wavelength (nm)	Cable Type	Connector
<b>EX-1250NSP-SB1L-A</b>	275M/550M	850	MM	Duplex LC
<b>EX-1250TSP-MB4L-A</b>	10KM	1310	SM	Duplex LC
<b>EX-1250TSP-NB6L-A</b>	40KM	1310	SM	Duplex LC
<b>EX-1250TSP-KB8L-A</b>	70KM	1550	SM	Duplex LC
<b>EX-1250TBP-MB1L-A</b>	550M	TX:1310 / RX:1550	MM WDM-A	LC
<b>EX-1250TBP-LB1L-A</b>	550M	TX:1550 / RX:1310	MM WDM-B	LC
<b>EX-1250TBP-MB4L-A</b>	10KM	TX:1310 / RX:1550	SM WDM-A	LC
<b>EX-1250TBP-KB4L-A</b>	10KM	TX:1550 / RX:1310	SM WDM-B	LC
<b>EX-1250TBP-MB5L-A</b>	20KM	TX:1310 / RX:1550	SM WDM-A	LC
<b>EX-1250TBP-KB5L-A</b>	20KM	TX:1550 / RX:1310	SM WDM-B	LC

\*More SFP options also available upon request.