

# EKI-2541M/MI

# EKI-2541S/SI

**10/100-TX to Multi-Mode SC-Type Fiber Optic Hardened Medial converter**

**10/100-TX to Single-Mode SC-Type Fiber Optic Hardened Medial converter**



## Features

- 1 x 10/100 Mbps Ethernet port with RJ45 connector
- 1 x 100 Mbps multi-mode/single-mode SC-type fiber port
- Internal jumper for link fault pass-through
- Supports full/half duplex flow control
- Supports store and forward transmission
- Supports auto-negotiation
- Supports MDI/MDI-X auto-crossover
- Redundant 12 ~ 48 V<sub>DC</sub> power input
- Flexible mounting options: DIN rail and panel mount
- Wide operating temperatures range of -40 ~ 75°C (EKI-2541MI/SI)

## Introduction

The EKI-2541M/2541S are designed to transparently convert Ethernet networks to fiber networks. The advantages of fiber optics are the wide bandwidth, EMI immunity, and long-distance transmission. Therefore, the EKI-2541M/2541S are ideal for fiber-to-building applications at central offices or local sites. These converters support MDI/MDIX auto detection, thus eliminating the need to use crossover wires. Furthermore, they can operate normally at temperatures of -10 ~ 60°C and they accept a wide voltage range of 12 ~ 48 V<sub>DC</sub>. They also feature 3,000 V<sub>DC</sub> surge protection (EFT) against overvoltage, making them highly suitable for harsh operating environments. The EKI-2541M/2541S are enhanced Ethernet to fiber-optic converters. Aside from their standard features, these versatile converters also feature link fault pass-through. Typically, when one side of the link fails, the other side continues transmitting packets and waiting for a response that never arrives from the disconnected side. However, the EKI-2541M/2541S will force the link to shut down as soon as the link failure is detected, thus giving the application software a chance to correct the problem.

## Specifications

### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x
- **LAN** 10/100BASE-TX, 100BASE-FX
- **Transmission Distance** Ethernet: Up to 100 m  
Fiber: Multi-mode: up to 2 km  
Fiber: Single-mode: up to 30 km
- **Transmission Speed** Up to 100 Mbps
- **Optical Fiber**
  - Multi-mode (EKI-2541M/MI)
    - Wavelength: 1310 nm
    - Tx Power: -14/-20 dBm
    - Rx Sensitivity: -31 dBm
    - Parameters: 50/125 um, 62.5/125 um
  - Single-mode (EKI-2541S/SI)
    - Wavelength: 1310 nm
    - Tx Power: -8/-15 dBm
    - Rx Sensitivity: -34 dBm
    - Parameters: 9/125 um

### Interface

- **Connectors**
  - 1 x RJ45
  - 1 x SC type fiber connector
  - 6-pin removable screw terminal (power)
- **LED Indicators**
  - P1, P2, P-Fail
  - Ethernet: 10/100 m, LNK/ACT
  - Fiber: HDX/FDX, LNK/ACT
- **DIP Switch**
  - Port/Power Alarm, LFP
  - Fiber: HDX/FDX, Converter/Switch

### Power

- **Power Consumption** Max. 2.7 W
- **Power Input** 12 ~ 48 V<sub>DC</sub>, redundant dual inputs

### Mechanism

- **Dimensions (W x H x D)** 30 x 140 x 95 mm (1.18"x5.51"x3.74")
- **Mounting** DIN-rail, Wall (optional)
- **Enclosure** IP30, Metal shell with solid mounting

### Protection

- **Power Reverse** Present
- **Overload current** Present

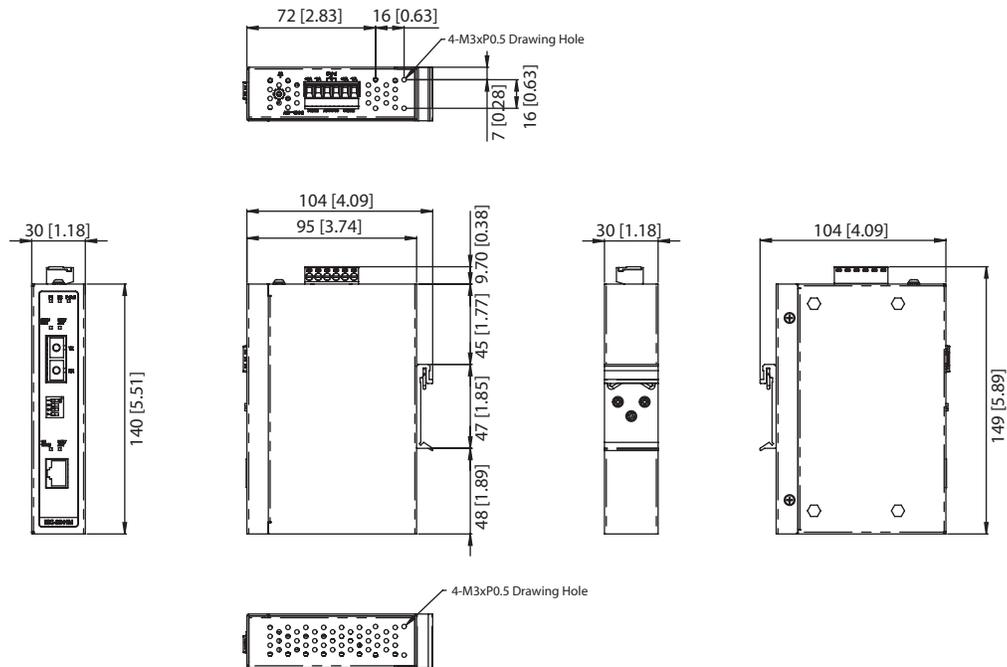
### Environment

- **Operating Temperature** -10 ~ 60°C (14 ~ 140°F)
- **Wide Temp. model** -40 ~ 75°C (-40 ~ 167°F)
- **Storage Temperature** -40 ~ 85°C (-40 ~ 185°F)
- **Operating Humidity** 5 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 577,175 hours

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## Dimensions

Unit: mm [inch]



**Panel Cut-out Dimensions: 30 x 140 x 95 mm (1.18 x 5.51 x 3.74)**

### Certification

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMI** FCC Part 15 Subpart B Class A, EN 55022 Class A
- **EMS** EN 61000-4-2  
EN 61000-4-3  
EN 61000-4-4  
EN 61000-4-5  
EN 61000-4-6  
EN 61000-4-8
- **Shock** IEC 60068-2-27
- **Freefall** IEC 60068-2-32
- **Vibration** IEC 60068-2-6

### Ordering Information

- **EKI-2541M-BE** Ethernet to Multi-mode Fiber Converter
- **EKI-2541MI-BE** Ethernet to Multi-mode Fiber Converter w/ Wide Temp.
- **EKI-2541S-BE** Ethernet to Single-mode Fiber Converter
- **EKI-2541SI-BE** Ethernet to Single-mode Fiber Converter w/ Wide Temp.