## Introduction

The EKI-2541M/2541S is designed to convert Ethernet networks to fiber networks by transparently converting Ethernet signals to optic signals. The advantages of fiber optics are wide bandwidth, EMI immunity and long-distance transmissions. Therefore, the EKI-2541M/2541S is an ideal solution for "fiber to building" applications at central offices or local sites. EKI-2541M/2541S supports MDI/MDIX auto detection, so you don’t need to use crossover wires. Furthermore, the EKI-2541M/2541S can work normally from -10 to 60°C and accepts a wide voltage range from 12 ~ 48 Vdc. Besides, it also provides 3,000 Vdc surge (EFT) protection against over-voltage, so it is suitable for harsh operating environments.

### Link Fault Pass-Through (LFP)

The EKI-2541M/2541S is an enhanced Ethernet to fiber-optic converter. Aside from its standard features, the versatile EKI-2541M/2541S also has the LFP (Link Fault Pass-through) feature. 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. Use the internal jumper to enable the LFP function, then the EKI-2541M/2541S will force the link to shut down as soon as noticed that the other link has failed, giving the application software a chance to react to the situation.

## Specifications

### Communications

- **Standard**: IEEE 802.3, 802.3u, 802.3x
- **LAN**: 10/100Base-T (X), 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: HDX/FDX, LNK/ACT
  - Fiber: HDX/FDX, LNK/ACT
  - Port/Power Alarm, LFP
  - Fiber: HDX/FDX, Converter/Switch
- **DIP Switch**
  - Port/Power Alarm, LFP
- **Power**
  - **Power Consumption**: Max. 2.7 W
  - **Power Input**: 12 ~ 48 Vdc, redundant dual inputs

### Mechanism

- **Dimensions (W x H x D)**: 37 x 140 x 95 mm (1.46” x 5.51” x 3.74”)
- **Mounting**: DIN-rail, Wall
- **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)
- **Operating Humidity**: 5 ~ 95% (non-condensing)
- **Storage Humidity**: 0 ~ 95% (non-condensing)
- **MTBF**: 577,175 hours

### 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 61000-4-4, 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
Dimensions

Panel Cut-out Dimensions: 104 x 140 x 36.6 mm (4.1" x 5.52" x 1.44")

Ordering Information

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