EKI-2541M/MI
10/100-TX to Multi-Mode SC-Type Fiber Optic Hardened Medial converter

EKI-2541S/SI
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_{DC} power input
- Flexible mounting options: DIN rail and panel mount
- Wide operating temperatures range of -40 ~ 75°C (EKI-2541MI/SI)

EKI-2541M   EKI-2541S

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_{DC}. They also feature 3,000 V_{DC} 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   Wavelength: 1310 nm
  (EKI-2541M/MI)   Tx Power: -14/-20 dBm
  Rx Sensitivity: -31 dBm
  Parameters: 50/125 um,62.5/125 um

  Single-mode   Wavelength: 1310 nm
  (EKI-2541S/SI)   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_{DC}, 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
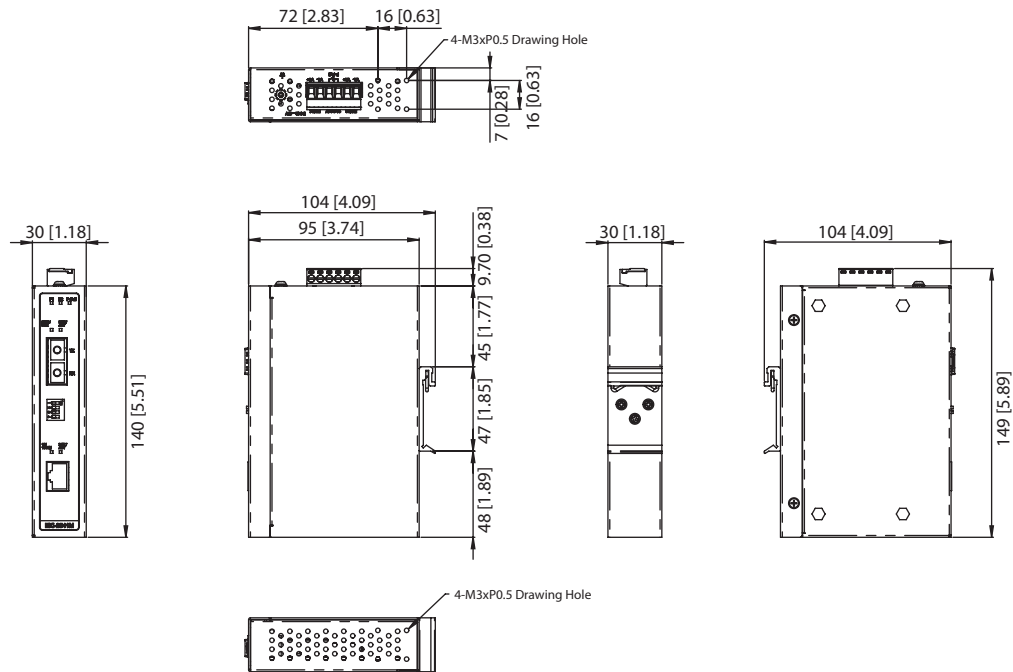- **Overload current**   Present

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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All product specifications are subject to change without notice.   Last updated: 25-Sep-2020

Dimensions

Unit: mm [inch]

72 [2.83] 16 [0.63]

4-M3xP0.5 Drawing Hole

16 [0.63]
7 [0.28]

104 [4.09]
95 [3.74]

9.70 [0.38]
45 [1.77]
47 [1.85]
48 [1.89]

30 [1.18]

140 [5.51]

30 [1.18]

104 [4.09]

149 [5.89]

4-M3xP0.5 Drawing Hole

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.

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