EKI-2541M/MI
10/100T (X) to Multi-Mode SC Type
Fiber Optic Industrial Media Converter

EKI-2541S/SI
10/100T (X) to Single-Mode SC Type
Fiber Optic Industrial Media Converter

EKI-2541M   **EKI-2541S**

Features

- Provides 1 x 10/100 Mbps Ethernet port with RJ45 connector
- Provides 1 x 100 Mbps Multi-mode/Single-mode SC type fiber port
- Provides internal jumper for Link Fault Pass-through (LFP) setting
- Supports full/half duplex flow control
- Supports store and forward transmission
- Supports Auto-Negotiation
- Supports MDI/MDI-X auto crossover
- Supports redundant 12-48 V_{DC} power input
- Provides flexible mounting: DIN-rail and Panel mount
- Supports wide operating temperatures from -40 to 75°C (EKI-2541MI/SI)

Introduction

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, 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 V_{DC}. Besides, it also provides 3,000 V_{DC} surge (EFT) protection against over-voltage, so it is suitable for harsh operating environments.

Link Fault Pass-Through (LFP)

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 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 — 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)** — 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)
- **Storage Temperature** — -40 ~ 85°C (-40 ~ 185°F)
- **Operating Humidity** — 5 ~ 95% (non-condensing)
- **Storage Humidity** — 0 ~ 95% (non-condensing)
- **MTBF** — 577,175 hours

Certifications

- **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** — 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.