

ADAM-6541 Series

Ethernet to Fiber
Optic Converters



Features

- Provides 1 x 10/100 Mbps Ethernet port with RJ45 connector
- Provides 1 x 100 Mbps multi/single-mode fiber optic port
- Provides internal jumper for Link Fault Pass-through (LFP) setting (ADAM-6541P/6541S only)
- Supports full/half duplex flow control and internal jumper for setting
- Supports store and forward transmission
- Supports auto-negotiation
- Supports MDI/MDI-X auto crossover
- Provides surge protection (EFT) 3,000 VDC for power line
- Provides 4,000 VDC Ethernet ESD protection
- Supports +10 ~ 30 V_{DC} power input
- Provides flexible mounting : DIN-rail, Panel Mounting, Piggy-back
- Supports operating temperature from 0 ~ 60 °C

Introduction

ADAM-6541 is designed to convert Ethernet networks to fiber networks. It does so by transparently converting Ethernet signals to optic signals. The advantages of fiber optics are wide bandwidth, EMI immunity and long-distance transmission capability. Therefore, ADAM-6541 is an ideal solution for "fiber to building" applications at central offices or local sites.

ADAM-6541 supports MDI/MDIX auto detection, so you don't need to use crossover wires. It also includes a switch controller that can sense the transmission speed (10/100 Mbps) automatically. Both the Ethernet port and the fiber port have memory buffers that support store-and-forward mechanisms. This assures data can be transmitted properly.

ADAM-6541 is extremely compact and can be mounted in three different ways: DIN-rail, Wall and Stack. ADAM-6541 can work normally from 0 ~ 60 °C and accepts a wide voltage range from +10 ~ 30 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)

ADAM-6541P/6541S is an enhanced Ethernet to fiber-optic converter. Aside from its standard features, the versatile ADAM-6541P/6541S 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 ADAM-6541P/6541S 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-TX, 100Base-FX
- **Transmission Distance**
 - Ethernet : Up to 100 m
 - Fiber: Multi-mode : Up to 2 km
 - Single-mode : Up to 20 km
- **Transmission Speed** Up to 100 Mbps

Interface

- **Connectors**
 - 1 x RJ-45
 - 1 x SC type fiber connector (ADAM-6541, ADAM-6541P, ADAM-6541S) or 1 x ST type fiber connector (ADAM-6541/ST)
 - 2-pin removable screw terminal (power)
- **LED Indicators**
 - ADAM-6541, ADAM-6541/ST : Power, Full/Link (100BASE-FX), 100/10M (Ethernet)
 - ADAM-6541P, ADAM-6541S : Power, Link/Speed (Fiber), Link/Speed (Ethernet), LFS/Duplex(TX)

Power

- **Power Consumption** ADAM-6541, ADAM-6541/ST : Max. 3W
ADAM-6541P, ADAM-6541S : Max. 3.5W
- **Power Input** 1 x Unregulated 10 ~ 30 V_{DC}

Mechanism

- **Dimensions (W x H x D)** 70 x 112 x 27 mm
- **Enclosure** IP30, ABS+PC with solid mounting kits
- **Mounting** DIN 35 rail, Wall, Stack

Protection

- **ESD (Ethernet)** 4,000 V_{DC}
- **Isolation (Ethernet)** 1,500 V_{rms}
- **Surge (EFT for power)** 3,000 V_{DC}
- **Power Reverse** ADAM-6541P/6541S only
- **Overload** 1A/125V Replaceable Fuse (ADAM-6541P/6541S only)

Environment

- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
Stack: 0 ~ 55° C (32 ~ 131° F)
- **Storage Temperature** -10 ~ 70° C (-14 ~ 158° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 550,000 hrs

Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22
EU: EN55011, EN61000-6-4
EN55022 Class A,
EN61000-3-2/3
EN55024,
IEC61000-4-2/3/4/5/6/8/11
EN61000-6-2

Ordering Information

- **ADAM-6541** Ethernet to Multi-mode SC Type Fiber Optic Converter
- **ADAM-6541/ST** Ethernet to Multi-mode ST Type Fiber Optic Converter
- **ADAM-6541P** Ethernet to Multi-mode SC Type Fiber Optic Converter w/LFP
- **ADAM-6541S** Ethernet to Single-mode SC Type Fiber Optic Converter w/LFP