

# ADAM-6541 ADAM-6542

## Ethernet to Multi-mode Fiber Optic Converter Ethernet to Single Strand WDM Fiber Optic Converter



ADAM-6542

ADAM-6541



### Features

- Supports 1-port 100 Mbps multi-mode fiber optic (ADAM-6541)
- Supports 1-port 100 Mbps single strand fiber optic (ADAM-6542)
- Supports full/half duplex flow control
- Supports Integrated Loop-up engine
- Supports MDI/MDI-X auto crossover
- Provides broadcast storm protection
- Supports +10 ~ 30 V<sub>DC</sub> voltage power input
- Provides surge protection 3,000 V<sub>DC</sub> for power line
- Provides flexible mounting: DIN-rail, panel, piggyback
- Supports operating temperatures from -10 ~ 65° C
- Embedded a switch controller-supports auto-negotiation
- Embedded a memory buffer-supports store and forward transmission

### Introduction

ADAM-6541 and ADAM-6542 are industrial-grade converters 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 and ADAM-6542 are ideal solution for "fiber to building" applications at central offices or local sites.

ADAM-6542 uses WDM (Wavelength Division Multiplexing) technology, which increases the information-carrying capacity of fiber by multiplex transmission and reception of signals at different wavelengths on a singles strand cable. WDM technology is implemented in couples. One site uses an ADAM-6542/W15 where the transmission channel is 1550nm and the reception channel is 1310nm. The other site installs an ADAM-6542/W13 where the transmission channel is 1310nm and the reception channel is 1550nm. Both the transmission and reception channels of ADAM-6542/W15 and ADAM-6542/W13 are multiplexed to a single strand cable. This means that cabling costs are halved when you use ADAM-6542/W15 and ADAM-6542/W13 instead of a dual fiber converter.

ADAM-6541 and ADAM-6542 support 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.

### Specifications

#### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x
- LAN** 10/100Base-TX, 100Base-FX
- Transmission Distance**
  - Ethernet : 100 m
  - Fiber: ADAM-6541 2 km
  - ADAM-6542 20 km
- Transmission Speed**
  - Ethernet: up to 100 Mbps
  - Fiber: 100 Mbps

#### Interface

- Connectors**
  - 1 x RJ-45
  - 1 x SC type fiber optic connector (ADAM-6541, ADAM-6542/W13, ADAM-6542/W15)
  - 1 x ST type fiber optic connector (ADAM-6541/ST)
- LED Indicators**
  - ADAM-6541: Power, Full/Link (100Base-FX), 100/10 M (Ethernet)
  - ADAM-6542: Power, Link (100Base-FX), 100/10 M (Ethernet)

#### Power

- Power Connectors** 2-pin removable screw terminal
- Power Consumption** Max. 3 W
- Power Input** Unregulated 10 ~ 30 V<sub>DC</sub>

#### Mechanism

- Dimensions (WxHxD)**
  - ADAM-6541 : 70 x 112 x 27 mm
  - ADAM-6542 : 70 x 115 x 27 mm
- Enclosure** IP30, ABS+PC with solid mounting hardware
- Mounting** DIN 35 rail, stack, wall

#### Protection

- Isolation Protection** 1,500 V<sub>rms</sub> (Ethernet port)
- Surge (EFT) Protection** 3,000 V<sub>DC</sub> (Power)

#### Environment

- Operating Temperature**
  - 10 ~ 65° C (14 ~ 149° F)
  - stack : -10 ~ 60° C (14 ~ 140° F)
- Storage Temperature** -20 ~ 80° C (-4 ~ 176° 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
  - EN55022 Class A,
  - EN61000-3-2/3
  - EN55024
  - IEC61000-4-2/3/4/5/6/8/11

### Ordering Information

- ADAM-6541** 10/100 Base-TX Ethernet to 100 Base-FX Multi-mode SC Type Fiber Optic Converter
- ADAM-6541/ST** 10/100 Base-TX Ethernet to 100 Base-FX Multi-mode ST Type Fiber Optic Converter
- ADAM-6542/W15** 10/100Base-TX Ethernet to 100Base-FX WDM Single Strand Fiber Optic Converter (Tx:1550nm, Rx:1310nm)
- ADAM-6542/W13** 10/100Base-TX Ethernet to 100Base-FX WDM Single Strand Fiber Optic Converter (Tx:1310 nm, Rx:1550nm)