

# Media Converters

## Fiber-Twist MIL-140 10Base-T to 10BaseFL Fiber-Twist Duplexer MIL-150 10Base-T to 10BaseFL

D A T A  
S H E E T



- Unique Bi-Directional Link Sentry feature
- Does not add to repeater budget
- Allows long fiber segments to be connected without optical attenuation
- Guarantees compatibility with all 10BaseFL, and non-10BaseT compliant 802.3 Ethernet equipment
- Fits easily into small spaces
- Potential doubling of Ethernet throughput up to 20 Mbps
- 5 year warranty

The Fiber•Twist is a UTP to fiber optic media converter designed to interconnect standard LAN-based Ethernet ports at distances of up to two kilometers. The Fiber•Twist converts Ethernet media without adding the delay associated with repeaters and won't add to your repeater budget.

The unit features LinkSentry™. Enabling this feature allows the 140 to pass through line failures when signals are lost, as well as looping back failures, in the event one strand is damaged in a cable.

The Fiber•Twist Converter is available with either ST or SMA connectors for fiber optic cabling. The twisted pair (RJ-45) shielded connector is capable of supporting unshielded twisted pair cabling.

The Fiber•Twist Duplexer is an Ethernet media converter designed to interconnect standard and full-duplex LAN-based Ethernet ports at distances of up to two kilometers without adding delay. Full-duplex Ethernet allows data to be simultaneously transmitted and received on the same port, providing a potential doubling of Ethernet traffic up to 20 Mbps throughput.

The Duplexer is ideally suited for connecting the high-speed, full-duplex ports or switching hubs such as the ones manufactured by Cisco, Bay Networks, Hewlett-Packard, Cabletron, 3Com and IBM.



# Features/Specifications

## Features

- Converts UTP to fiber optic cabling without adding delay
- Automatic sensing of low-light level conditions disables link upon detection
- Compliant with Ethernet IEEE 802.3 specifications
- Small form factor of 3.5" H x 2.9" L
- Internally Link selectable
- Switch selectable for cable configuration
- Full- or half-duplex transmissions

## Product Package

- Installation guide

## Connector

- Type: 8-position shielded, RJ-45 receptacle
- 1 - TX+ 4 - 7 -
- 2 - TX 5 - 8 -
- 3 - RX+ 6 - RX
- Wiring for 10Base-T ports  
To connect to a hub, wire 1, 2, 3, 6 straight
- To connect to another Fiber•Twist or to a workstation node, wire 1 to 3, 2 to 6, 3 to 1, and 6 to 2.

## Electrical

- (External Supply)
- -110/220 VAC input
  - --20 VAC 2amps output

## Standards Compliance

- UL
- CSA
- CE
- FCC Class A
- CISPR-22 Class B

## Fiber Characteristics and Budget Example

(all numbers are average dB/m)

### Fiber Characteristics Unit/Typical

- Attenuation dB/Km 3.7
- Diameter 62.5/125
- TX - RX Wavelength 850 n/m
- TC - Launch Power dB/m-19
- RX - Worst Case Receiver Sensitivity dB/m-34
- Fiber Budget dB/m15

To ensure a functional fiber link, the total attenuation loss in the link must be less than or equal to the dynamic range value. Hence you solve for the dynamic range minus attenuation minus loss per interconnects. For example, if the total cable length is 1.5 Km with three interconnects (typical attenuation 1dB/m) you solve this equation.

Dynamic range value -  
(Attenuation • cable length)  
- (number of interconnects • typical dBm value) > / = 0

In this case:

$$15 - [1.5(3.7)] - [3(1)] = 15 - (5.55) - (3) = 6.45 \text{ dB/m}$$

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## Dimensions

Height	Width	Depth	Weight
2.9 in. (7.36cm)	3.5 in. (8.89 cm)	0.9 in. (2.28cm)	Unit 8 oz. (.23 Kg) Shipping 14 oz.* (.39 Kg)

\*includes power supply

## Physical

The MIL 140T/150T are packaged in lightweight aluminum alloy with a satin-black finish for years of durable, maintenance-free use.

## Models and Part Numbers

Fiber Twist 10Base-T to 10BaseFL . . . . . MIL-140T  
Fiber Twist Duplexer 10Base-T to 10BaseFL . . . . . MIL-150T

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