

Ethernet 10BASE-T to 10BASE-FL

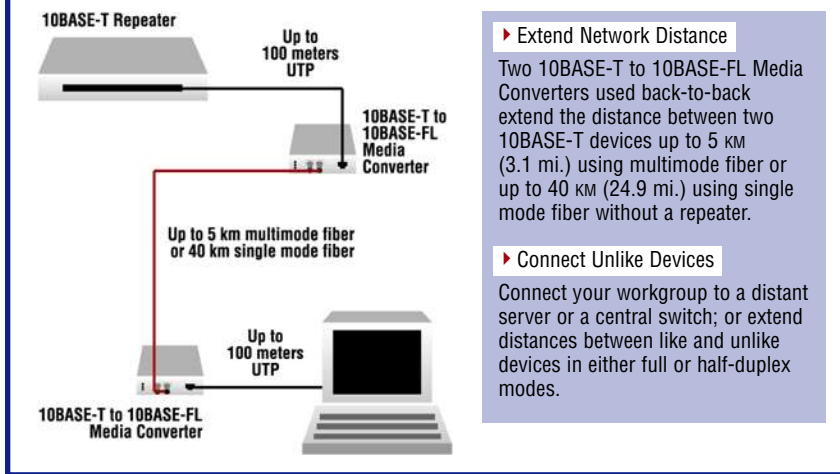
Stand-Alone Media Converters

E-TBT-FRL-05(xx)



Convert 10BASE-T to 10BASE-FL

▶ Extend Network Distance & Connect Unlike Devices



▶ Extend Network Distance

Two 10BASE-T to 10BASE-FL Media Converters used back-to-back extend the distance between two 10BASE-T devices up to 5 km (3.1 mi.) using multimode fiber or up to 40 km (24.9 mi.) using single mode fiber without a repeater.

▶ Connect Unlike Devices

Connect your workgroup to a distant server or a central switch; or extend distances between like and unlike devices in either full or half-duplex modes.

Specifications

Standards	IEEE Std 802.3™ 10BASE-T; 10BASE-FL
Fiber Optic Connector Specs	
E-TBT-FRL-05 & E-TBT-FRL-05(SC)	Min TX PWR: -19.0 dBm Max TX PWR: -14.0 dBm RX Sensitivity: -32.5 dBm Max In PWR: -14 dBm Link Budget: 13.5 dB
E-TBT-FRL-05(MT)	Min TX PWR: -16.0 dBm Max TX PWR: -10.0 dBm RX Sensitivity: -29.5 dBm Max In PWR: -7.2 dBm Link Budget: 13.5 dB
E-TBT-FRL-05(L)	Min TX PWR: -19.0 dBm Max TX PWR: -15.0 dBm RX Sensitivity: -32.5 dBm Max In PWR: -14.0 dBm Link Budget: 13.5 dB
E-TBT-FRL-05(SM) & E-TBT-FRL-05(XC)	Min TX PWR: -27.0 dBm Max TX PWR: -10.0 dBm RX Sensitivity: -34.0 dBm Max In PWR: -14.0 dBm Link Budget: 7.0 dB
E-TBT-FRL-05(LH)	Min TX PWR: -15.0 dBm Max TX PWR: -5.0 dBm RX Sensitivity: -34.0 dBm Max In PWR: -14.0 dBm Link Budget: 19.0 dB
Switch	S1: Enables/disables Link Pass Through
Status LEDs	PWR (Power): On indicates connection to external AC power Link: On indicates unit is receiving link pulses from a compliant device; RX (Receive): On indicates packets are being received
Dimensions	Width: 3.0" [76 mm] Depth: 3.9" [99 mm] Height: 1.0" [25 mm]
Power	External AC/DC required; 12VDC, 0.5A; unregulated; standard
Environment	0 – 50° C; 5% – 95% humidity non-condensing; 0 – 10,000 ft. altitude
Shipping Weight	2 lbs. [0.90 kg]
Safety Compliance	Wall Mount Power Supply: UL Listed, C-UL Listed (Canada)
Regulatory Compliance	FCC Class A, CISPR22/EN55022 Class A, EN55024, EN61000, CE Mark
Warranty	Lifetime

Features

- ▶ Integrate mixed cabling environments using either switched or shared Ethernet.
- ▶ AutoCross™ *see next page*
- ▶ Link Pass Through *see next page*
- ▶ Automatic Link Restoration *see next page*

Ordering Info

Product Number	Port One	Port Two
E-TBT-FRL-05	10BASE-T (RJ-45) [100 m/328 ft.]	10BASE-FL 850nm multimode (ST) [2 km / 1.2 miles]
E-TBT-FRL-05(SC)	10BASE-T (RJ-45) [100 m/328 ft.]	10BASE-FL 850nm multimode (SC) [2 km / 1.2 miles]
E-TBT-FRL-05(MT)	10BASE-T (RJ-45) [100 m/328 ft.]	10BASE-FL 850nm multimode (MT-RJ) [2 km / 1.2 miles]
E-TBT-FRL-05(L)	10BASE-T (RJ-45) [100 m/328 ft.]	10BASE-FL 1300nm multimode (ST) [5 km / 3.1 miles]
E-TBT-FRL-05(SM)	10BASE-T (RJ-45) [100 m/328 ft.]	10BASE-FL 1310nm single mode (ST) [20 km / 12.4 miles]
E-TBT-FRL-05(XC)	10BASE-T (RJ-45) [100 m/328 ft.]	10BASE-FL 1310nm single mode (SC) [20 km / 12.4 miles]
E-TBT-FRL-05(LH)	10BASE-T (RJ-45) [100 m/328 ft.]	10BASE-FL 1310nm single mode (ST) [40 km / 24.9 miles]

Optional Accessories (sold separately)

Product Number	Description
SPS-1872-CC	Wide Input (18-72VDC) Piggy Back Power Supply
SPS-1872-SA	Wide Input (18-72VDC) Stand-Alone Power Supply
E-MCR-04	12-slot Media Converter Rack
WMBD	DIN Rail Mount Bracket 5.0" [127 mm]
WMBD-FS	DIN Rail Mount Bracket (flat, small) 3.1" [79 mm]
WMB	Wall Mount Bracket 3.2" [81 mm]
WMBV	Vertical Wall Mount Bracket 5.0" [127 mm]

ADVANCED PRODUCT FEATURES

▶ AutoCross™

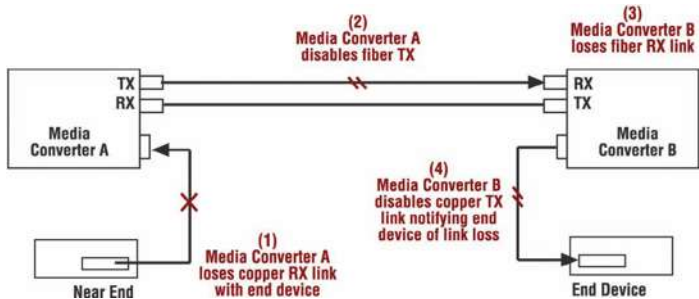
Automatically detects and configures the twisted pair port on the converter to the correct MDI or MDI-X configuration.

- ▶ Eliminates an entire category of troubleshooting
- ▶ No need to identify cable type—straight-through or crossover
- ▶ No user intervention required to determine correct button / switch settings

▶ Link Pass Through

Link Pass Through is a troubleshooting feature that allows the media converter to monitor both the fiber and copper RX ports for loss of signal. In the event of a loss of RX signal on one media port, the converter will automatically disable the TX signal of the other media port, thus "passing through" the link loss. (see diagram below)

- ▶ End device automatically notified of link loss
- ▶ Prevents loss of valuable data unknowingly transmitted over invalid link



▶ Automatic Link Restoration

Transition Networks's converters will automatically re-establish link in all network conditions.

- ▶ No need to reset devices

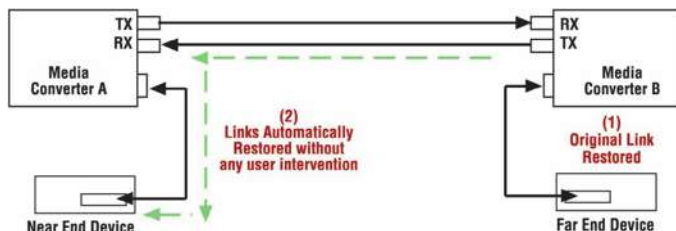
Transition Networks's converters will automatically re-establish link when connected to switches if link was lost. With other manufacturers' converters the user must reset the converter to re-establish the link.

- ▶ Auto-Negotiation Enabled

Automatic Link Restoration allows the users to continue using Auto-Negotiation with Link Loss Notification features. With other manufacturers' converters the user must disable Auto-Negotiation and hard set the link.

- ▶ Link Pass Through Activated in both directions

Automatic Link Restoration on Transition Networks's products allows users to continue using Link Loss Notification feature activated in both directions. Many competitive solutions allow for Link Loss Notification activation only in one direction. If Link Loss feature is activated in both directions, competitive products are put in a "deadly embrace" and they cannot restore the link without resetting the converters.



If someone tells you media conversion is a commodity product that anyone can bring to market, they probably haven't looked at the extensive product suite offered by Transition Networks. With the industry's most comprehensive offering of full-featured products, Transition's media converters stand out as "the choice" among industry IT professionals.

Generally, media converters are low-level OSI model devices with no IP or MAC addresses and therefore are transparent to the network. This "transparency" makes them very inexpensive and easy to use, but also can make troubleshooting the network very difficult. In an effort to overcome this difficulty and to make media converters "visible" to network managers, Transition has designed their full-featured products to include the most advanced features on the market today.