

# 2/4-wire, Leased Line, E&M Copper to Fiber

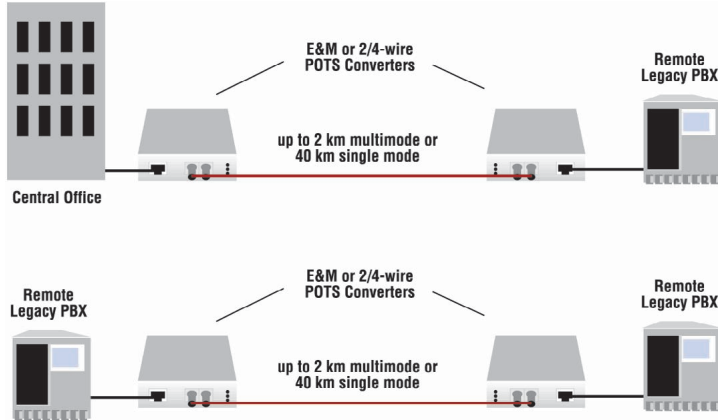
## Point System™ Slide-In-Module Media Converters

**CEMTF10xx-10x**



Convert Copper to Fiber

### ▶ Voice Grade Signal to Fiber



### Specifications

Analog Port Standards Compliance	TIA/EIA 464B, ANSI T1.409-1996, ANSI TR.5
Standards Compliance	FCC Part 68; EIA/TIA-464-B
E&M Signaling Types	I, II, III, IV and V by option Jumpers
Voice frequency	300Hz – 3KHz
E&M Analog copper port	RJ-45
Max. Loop Length	2000 ohms
Fiber Optic Connector Specs	
<b>CEMTF1011-100 &amp; CEMTF1013-100</b>	Min TX PWR: -19.0 dBm Max TX PWR: -14.0 dBm RX Sensitivity: -30.0 dBm Max In PWR: -14.0 dBm Link Budget: 11.0 dB
<b>CEMTF1014-100</b>	Min TX PWR: -15.0 dBm Max TX PWR: -8.0 dBm RX Sensitivity: -31.0 dBm Max In PWR: -8.0 dBm Link Budget: 16.0 dB
<b>CEMTF1015-100</b>	Min TX PWR: -8.0 dBm Max TX PWR: -2.0 dBm RX Sensitivity: -34.0 dBm Max In PWR: -7.0 dBm Link Budget: 26.0 dB
Single Fiber Products	
<b>CEMTF1029-100 &amp; CEMTF1029-101</b>	Min TX PWR: -13.0 dBm Max TX PWR: -6.0 dBm RX Sensitivity: -32.0 dBm Max In PWR: -3.0 dBm Link Budget: 19.0 dB
<b>CEMTF1029-102 &amp; CEMTF1029-103</b>	Min TX PWR: -8.0 dBm Max TX PWR: -3.0 dBm RX Sensitivity: -33.0 dBm Max In PWR: -3.0 dBm Link Budget: 25.0 dB
Status LEDs	LED colors are Green Fiber Link: On indicates fiber link up; Active: On indicates Local unit Off Hook; Power: On indicates power is on
Dimensions	Width: 2.9" [74 mm] Depth: 4.8" [122 mm] Height: 1.4" [36 mm]
Power Consumption	7 watts
Environment	See chassis specifications
Shipping Weight	1 lb. [0.45 kg]
Emissions Compliance	FCC Class A; VCCI Class A; EN 55022 (CISPR 22) Class A; ICES 003
Safety Compliance	CISPR A; CE Mark
Warranty	Lifetime

The Transition E&M or 2/4-wire phone line converter is intended to connect central-office voice grade signals to distant legacy PBX equipment utilizing E&M signaling.

The E&M control circuits enable the audio transmission and provide a contact closure at the distant end. The electrical interface is provided through an RJ-45 female connector. Supports 2 or 4 wire voice path and E&M signaling types I, II, III, IV and V. Settings can be changed via internal jumpers.

#### Features

- ▶ Supports E&M signaling types I, II, III, IV and V
- ▶ Signaling types selectable via internal jumpers
- ▶ Supports 2/4 wire voice path
- ▶ The electrical interface is provided through a RJ-45 female connector
- ▶ Remote Firmware Upgrade

see next page

### Ordering Info

Product Number	Port One	Port Two
<b>CEMTF1011-100</b>	Twisted Pair (RJ-45) [5 km 3.1 miles]	1300nm multimode (ST) [2 km/1.2 miles]
<b>CEMTF1013-100</b>	Twisted Pair (RJ-45) [5 km 3.1 miles]	1300nm multimode (SC) [2 km/1.2 miles]
<b>CEMTF1014-100</b>	Twisted Pair (RJ-45) [5 km 3.1 miles]	1310nm single mode (SC) [20 km/12.4 miles]
<b>CEMTF1015-100</b>	Twisted Pair (RJ-45) [5 km 3.1 miles]	1310nm single mode (SC) [40 km/24.9 miles]
Single Fiber Products <i>Note: Recommended use in pairs (see next page)</i>		
<b>CEMTF1029-100</b>	Twisted Pair (RJ-45) [5 km 3.1 miles]	1310nm TX / 1550nm RX single fiber single mode (SC) [20 km / 12.4 miles]
<b>CEMTF1029-101</b>	Twisted Pair (RJ-45) [5 km 3.1 miles]	1550nm TX / 1310nm RX single fiber single mode (SC) [20 km / 12.4 miles]
<b>CEMTF1029-102</b>	Twisted Pair (RJ-45) [5 km 3.1 miles]	1310nm TX / 1550nm RX single fiber single mode (SC) [40 km / 24.9 miles]
<b>CEMTF1029-103</b>	Twisted Pair (RJ-45) [5 km 3.1 miles]	1550nm TX / 1310nm RX single fiber single mode (SC) [40 km / 24.9 miles]

Note: CEMTF cards cannot be used with the 1-Slot Point System Chassis™

# ADVANCED PRODUCT FEATURES

## ► Remote Firmware Upgrade

New product features are continuously being added to Transition Networks's products. These improvements are also available for many products already installed in the field. Management modules and many media converters can be updated remotely via firmware upgrade. The remote upgrade feature eliminates the need to ship the products back to the manufacturer. The firmware upgrades can be performed by a user either locally via a Console port or remotely via TFTP.

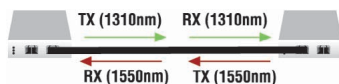
The upgrades do not require the reconfiguration of the SNMP management or converter feature settings.

## ► Single Fiber

**Single fiber technology offers a 50% savings** in fiber utilization. It is an attractive solution to maximize the usage of a limited number of fiber runs.

In a traditional optical link, a fiber pair consists of two uni-directional strands. The single fiber technology multiplexes two optical wavelengths of 1310nm and 1550nm into a single strand fiber. In a single fiber media converter each wavelength is responsible for either the transmit or receive function. Consequently, the bi-directional transmission is achieved by using a single strand. The converters in a single fiber scenario "match" each other's wavelengths. Converter A transmits at the wavelength of 1310nm and receives at 1550nm while the other converter transmits at 1550nm and receives at 1310nm. Therefore, converters are usually used in pairs.

### Single Fiber



Single fiber technology is available on all Transition Networks Media Converters in maximum distance ranges from 20 to 80km.

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.