

FlexPoint™ T1/E1

T1/E1 Copper to Fiber Media Converters

The FlexPoint T1/E1 media converter provides standard T1 (1.544Mbps) or E1 (2.048Mbps) copper to fiber conversion and can be used to extend the demarcation point between service provider and networking equipment. T1/E1 media converters operate in pairs, providing distance extension over fiber.

Designed as a transparent repeater, the FlexPoint T1/E1 supports standard T1, E1 and Primary Rate Interface (PRI), voice or data. The converter also supports AMI, B8ZS and HDB3 line codes. DIP-switches provide easy configuration of T1/E1 line codes and line build-out.

A crossover switch makes it simple to connect the FlexPoint T1/E1 converter to PBXs or CSUs and eliminates the need for a crossover cable.

The fiber port operates at 1310nm and supports SC or ST connectors. Multimode fiber models support distances of up to 5km, and single-mode fiber models support distances of up to 60km.

Diagnostic features include local loopback, remote loopback and all 1's insertion (AIS) modes for the copper or fiber segments. Local loopback validates connectivity to local T1/E1 lines, while remote loopback validates the entire fiber segment from one unit without having to make adjustments on both ends. Dry contact relay option allows a separate T1/E1 alarm circuit to be notified when a loss of power is detected.

The FlexPoint T1/E1 features descriptions of the LED indicators on the label for easy in-the-field configuration, installation and maintenance. The LEDs report the availability of power, connection status, diagnostic or loopback modes of operation and the detection of all 1's by the fiber and UTP ports.

FlexPoint modules can be mounted utilizing optional wall-mounting hardware or with DIN-rail mounting brackets. They can also be rack-mounted in a 5-Module shelf or in a high-density 14-Module, power-redundant Powered Chassis.

FlexPoint modules installed in the 5-Module shelf or used as standalone devices can be powered by an external AC to DC power adapter, or through the 5VDC chassis connector. Standalone modules can also be powered by attaching an external DC power supply (18-60VDC). When used in the 14-Module power-redundant Powered Chassis with any combination of AC and DC power supplies, the installed modules are powered via the 5VDC chassis connector.

FlexPoint unmanaged media converters are easy to use and provide dependable fiber connectivity in Enterprise and Government networks around the world.



KEY FEATURES

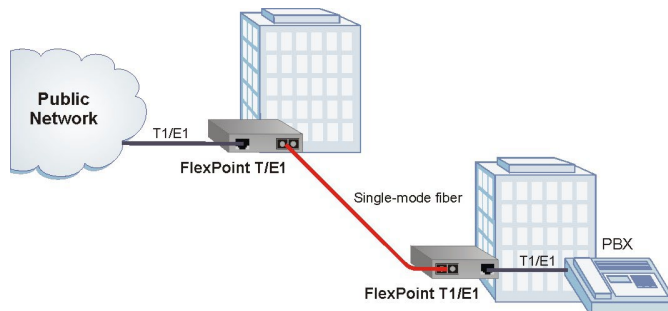
- The FlexPoint T1/E1 is a modular copper to fiber media converter that supports ANSI, AT&T, ITU and ETSI standards
- Supports T1, E1 and Primary Rate Interface voice or data
- Supports AMI, B8ZS and HDB3 line codes
- Fiber port supports multimode or single-mode fiber SC or ST connectors, and distances up to 60km
- Labeled status LEDs and switches for quick and easy installation
- Features a crossover switch for easy connections to PBXs or CSUs
- Local and remote fiber loopback switches with optional all 1's insertion (AIS) to facilitate easy installation
- Equipped with dry relay contacts for connection to alarm equipment
- Wall-mount or rack-mount on a 5-Module shelf or in a 14-Module power-redundant FlexPoint Powered Chassis
- Plug and play installation
- TAA, BAA and NDAA compliant, and Made in the USA
- Peace-of-mind reliability backed by a lifetime warranty and free 24/7 technical support

SPECIFICATIONS

Description	FlexPoint T1/E1 T1/E1 Copper to Fiber Media Converter		
Data Rates	T1 or ISDN PRI: E1:	1.544Mbps 2.048Mbps	
Standard Compliances	ANSI, AT&T, ITU AND ETSI		
Regulatory Compliances	Safety: EMI: ACT:	UL, CE, UKCA FCC Class A TAA, BAA, NDAA	
Environmental	RoHS, WEEE, REACH		
Port Types	Copper: Fiber:	T1/E1 (RJ-45/RJ-48) Proprietary (ST, SC)	
Cable Types	Copper: Fiber:	Category 3 or better (T1: 100 Ohm, E1: 120 Ohm) (Active Pairs are Pins 1, 2 and 4, 5) Multimode: 50/125µm, 62.5/125µm Single-mode: 9/125µm	
AC Power Requirements	AC Adapter:	100 - 240VAC/50 - 60Hz 0.05A @ 120VAC (typical)	
DC Power Requirements	Voltage Range: Nominal Voltage: Nominal Power:	Barrel Connector 6.0 to 15.0VDC 9VDC 0.5A @ 9VDC	Molex Connector 4.75 to 5.25VDC 5VDC 0.6A @ 5VDC
Dimensions W x D x H	3.0" x 4.0" x 1.0" (76.2 mm x 101.6 mm x 25.4 mm)		
Weight	Without AC Adapter:	6 oz. (170.1 grams)	
Temperature	Commercial: Storage:	0 to 50°C -40 to 80°C	
Humidity	5 to 95% (non-condensing)		
Altitude	-100m to 4,000m		
MTBF (hrs)	Without AC Adapter (-0): With AC Adapter (-1): With AC Adapter (-2):	680,000 250,000 100,000	
Warranty	Lifetime warranty with 24/7/365 free Technical Support		

APPLICATION EXAMPLE

FlexPoint T1/E1 provides a cost-effective solution for extending telecom demarcation points. A pair of FlexPoint T1/E1s are used to extend the demarcation between buildings via fiber. Multimode or single-mode fiber can be used, and fiber links can be extended up to 60km using single-mode fiber.



Use the 9140-3 RJ-48 to Coax Adapter cable (3 meters sold separately) to interface with types of equipment requiring a 75 Ohm coax connector.



Line Types / Descriptions		
Line Type	Copper Distance/Budget	Line Impedance
E1	2.37V / Standard	75 Ohm
E1	2.37V / Long Haul	75 Ohm
E1	3.0V / Standard	120 Ohm
E1	3.0V / Long Haul	120 Ohm
DSX-1	0' - 133'	100 Ohm
DSX-1	133' - 266'	100 Ohm
DSX-1	266' - 399'	100 Ohm
DSX-1	399' - 533'	100 Ohm
DSX-1	533' - 655'	100 Ohm
DS-1	-0 db	100 Ohm
DS-1	-7.5 db	100 Ohm
DS-1	-15 db	100 Ohm
DS-1	-22.5 db	100 Ohm

ORDERING INFORMATION

Step 1: Choose a Base Part Number (xxxx-p)

Fiber Type	Distance Copper/Fiber	Connector Type		Tx / Rx Lambda (nm)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Power (dBm)	Max. Rx Power (dBm)	Min. Attenuation (dB)	Link Budget (dB)
		ST	SC							
MM/DF	6,000 ft./5km	4472-p	4470-p	1310 / 1310	-24	-14	-31	-14	-	7
SM/DF	6,000 ft./30km	4473-p	4471-p	1310 / 1310	-15	-8	-31	-8	-	16
SM/DF	6,000 ft./60km	-	4474-p	1310 / 1310	-5	0	-31	-3	3	26

MM = Multimode, SM = Single-mode, DF = Dual Fiber
Contact Omnitron for other fiber options, operational temperature ranges and RoHS (5/6) compliant models.

Step 2: Choose a Power Option (xxxx-p)

-0 = Barrel Connector, No AC/DC Power Adapter
-1 = Barrel Connector and US AC/DC Power Adapter, 100-240 VAC, 50-60Hz
-2 = Barrel Connector and Universal AC/DC Power Adapter, 100-240VAC, 50-60Hz (requires AC power cord)

Operating Temperature

Commercial temperature (0 to 50°C)

ACCESSORIES

Chassis Options and Accessories			
Model Number	Description	Model Number	Description
4385	FlexPoint 14-Module Chassis with two 48VDC Power Supplies	4395	FlexPoint 14-Module Chassis with two AC Power Supplies
4386	FlexPoint 14-Module Chassis with one 48VDC Power Supply	4396	FlexPoint 14-Module Chassis with one AC Power Supply
4389	Spare 48VDC Power Supply	4399	Spare AC Power Supply
4392	FlexPoint 5-Module Rack-Mount Shelf	4380	FlexPoint Wall-Mounting Hardware Kit
4384	FlexPoint DC to DC Power Adapter Input: 18-60VDC Output: 5VDC	4384-W	FlexPoint DC to DC Power Adapter Input: 18-60VDC Output: 5VDC Wide Temperature Model (-40 to 60°C)
8250	FlexPoint DIN-Rail Mounting Kit	4381	Wall-Mounting Hardware Kit for DC to DC Power Adapter (4384)
9140-3	RJ-48 to Coax Adapter Cable (3 meters)	9142-1	Relay Breakout Adapter Cable

See all FlexPoint accessories at: www.omnitron-systems.com/flexpoint-chassis-options.php