



Single Channel Fiber Optic Converter

Product Description

The Single Channel Fiber Optic Converter is a full duplex, asynchronous RS-232C compatible optical converter that is fully compatible with all Perkin-Elmer asynchronous RS-232C interfaces. It is capable of communicating over a fiber cable at baud rates up to 19.2KB and at distances up to 1 KM.

Features

- Long distance transmissions up to one kilometer
- Immunity to electrical and atmospheric interferences
- RS-232C compatible
- Built-in test function
- Indicator lights to signal optical data traffic
- Electrical isolation
- Transmission security

System Description

Figure 1 shows a typical fiber optic link consisting of two Single Channel Fiber Optic Converters, one connected to an RS-232 interface in a host computer and the other to a remote terminal. The converter that is transmitting takes an electrical signal from the RS-232 interface and converts it to modulated photons. This light source is then efficiently coupled into a fiber optic cable. At the far end of this cable, the receiver reconverts the photon energy back to an electrical signal. This received electrical signal is now amplified and processed to be compatible with standard data communications electrical signal levels.

The fiber link is immune to electrical, atmospheric and other environmental interferences which would cause a wire link to be unusable. Since a fiber optic link transmits light instead of electrical pulses, it also provides a solution for high security applications.

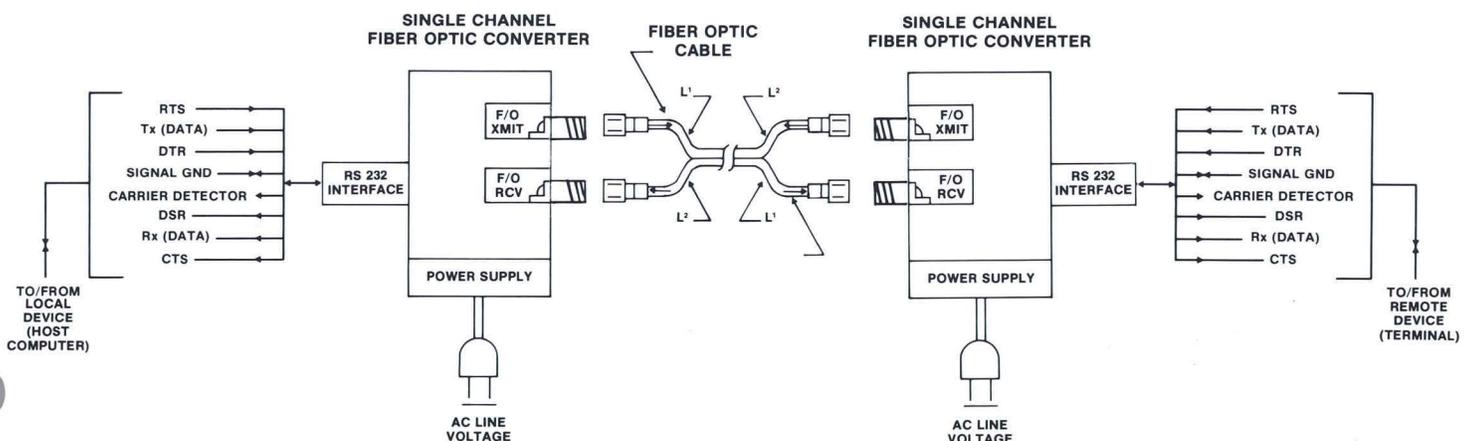


FIGURE 1. TYPICAL FIBER OPTIC LINK

SPECIFICATIONS

Physical Characteristics

Input Power	90-132 VAC/0.1 Amps/47-63 Hz 180-264 VAC/0.05 Amps/ 47-63 Hz
Operating Environment	0 - 50°C Operational -40 - 85°C Storage 0 - 90% Humidity (without Condensation)
Dimensions	20.3 cm (8") L x 16.8 cm (6 $\frac{5}{8}$ ")W x 8.57 cm (3 $\frac{3}{8}$ ")H
Weight	1.7 KG (3.75 lbs.)

System Characteristics

Mode of Operation	Full Duplex Asynchronous
Transmission Distance	1 kilometer
Baud Rate	110 bps - 19.2 kbps
Transmission Cable	Plastic Clad Silica

Optical Transmitter

Output Wavelength	820 \pm 35 nanometers
Minimum Output Power	12 Microwatts out of 30 meter in- terfaced cable
Emitter Type	Gallium Aluminum Arsenide LED
Optical Connector	AMP Type 530

Optical Receiver

Input Wavelength	700 to 900 nanometers
Minimum Input Signal	200 nanowatts
Maximum Input Overload	100 microwatts
Input Detector Type	Silicone PIN Photo-diode
Optical Connector	AMP Type 530

Input/Output

Interface Format	RS-232C
Input Impedance	4K ohms
Output Impedance	300 ohms
Input/output Connector	RS-232C subminiature "D" type 25-pin (female)

PRODUCT NUMBERS

M47-120	Single Channel Fiber Optic Converter Link, con- verts asynchronous RS-232C serial data to op- tical data for transmission over fiber optic cable. Consists of two converters, one host-end cable and one remote-end cable. (Link requires a Fiber Optic Cable).
M47-121	Same as M47-120 but for 110 VAC opera- tions.
M47-134	Fiber Optic Cable, 10 Meters
M47-135	Fiber Optic Cable, 30 Meters
M47-136	Fiber Optic Cable, 50 Meters
M47-137	Fiber Optic Cable, 75 Meters
M47-138	Fiber Optic Cable, 100 Meters
M47-139	Fiber Optic Cable, 150 Meters
M47-140	Fiber Optic Cable, 200 Meters
M47-141	Fiber Optic Cable, 250 Meters
M47-142	Fiber Optic Cable, 300 Meters
M47-143	Fiber Optic Cable, 400 Meters
M47-144	Fiber Optic Cable, 500 Meters
M47-145	Fiber Optic Cable, 600 Meters
M47-146	Fiber Optic Cable, 700 Meters
M47-147	Fiber Optic Cable, 800 Meters
M47-148	Fiber Optic Cable, 900 Meters
M47-149	Fiber Optic Cable, 1000 Meters

RELATED DOCUMENTS

47-018	Installation and Maintenance Manual
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The information contained herein is intended to be a general description and is subject to change with product enhancement.