Datasheet

T1 and E1 Fiber Modems

Features

- Fiber converter for T1 (ANSI T1.403) or E1 (G.703)
- Built-in elastic buffer to remove jitter
- 6 LED indicators to help troubleshooting
- AMI/B8ZS/HDB3 line code support
- Up to 100 km transmission on single-mode or 10 km on multi-mode fiber
- Local and remote loopback test
- Hot-swap support
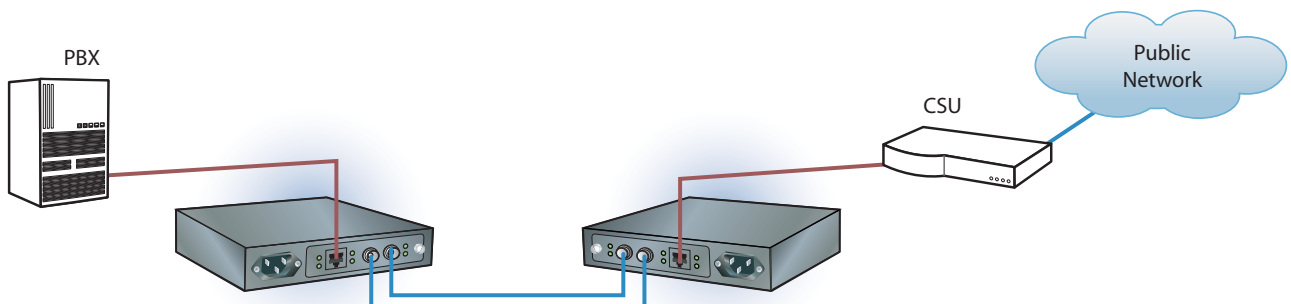- SNMP management
- Fiber Driver chassis compatibility

Overview

The Fiber Driver® family of EM316T1 and EM316E1 modules are designed to extend the distance and transmission reliability of T1 (1.544Mbps) or E1 (2.048Mbps) traffic. These units convert electrical signals to optical signals, and transmit them up to 10 km on multi-mode fiber or up to 100 km on single-mode fiber. The EM316T1 and EM316E1 are transparent to the framing format, and they support AMI or B8ZS (T1) and HDB3 (E1) line codes, respectively. They include an internal elastic buffer to remove jitter from the transmitted data and six LED indicators to aid in managing the module. A management agent is incorporated on the module for remote administration from the Fiber Driver Network Management Module (NMM). As part of the Fiber Driver family, the EM316T1 and EM316E1 modules fit in all Fiber Driver chassis types, support local and remote loopback tests, and may connect to any T1 or E1 device including PBXs, multiplexers, video CODECS, routers, network servers, and ATM/frame relay switches. Module benefits include extended distances, improved quality of transmission, better security, remote management capability, and high density.

For additional information including pricing and availability, contact your MRV Communications sales representative today.

Physical Specifications

Operating Temperature Range	0°C to 50°C (32°F to 122°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Relative Humidity	85% maximum, non-condensing
Physical Dimensions	25 mm x 75 mm x 175 mm deep (1" x 3" x 7" deep)
Weight	120-240 g (4.2 - 8.5 oz) depending on configuration
Regulatory Compliance	FCC Part 15 (Class A); IC (Class A); EMC Directive: Emission (Class A) and Immunity;
	RoHS Directive; China RoHS; WEEE Directive

T1 Electric Interface

Transmission Rate:	1.544Mbps
Line Code:	Supports both AMI and B8ZS
DS-1 Signal:	Conforms to ANSI T1.403
Connector:	RJ-48
Line Impedance:	100 Ohm

E1 Electric Interface

Transmission Rate:	2.048Mbps
Line Code:	HDB3
E1 Signal:	Conforms to ITU-T G.703
Connector:	BNC or RJ-45
Line Impedance:	Default setting: 75 Ohm for unbalanced coax (Selectable to 120 Ohm for RJ-45)
LEDs:	Power, Transmit, Receive, Fiber Signal Detect, Loss of Copper Signal, Alarm

Ordering Information

Model	Function	Protocol	Port Connectors[1]	Link Connector[1]	Wavelength (nm)	Min. Budget Loss (dB)	Approx. Range[2] (km)
EM316T1/M	T1 copper to MM fiber	T1	RJ-48/RJ-45	ST	820	DL[3]	0 - 4
EM316T1/MX	T1 copper to Extended MM fiber	T1	RJ-48/RJ-45	ST	1310	DL[3]	4 - 10
EM316T1/S1	T1 copper to SM fiber	T1	RJ-48/RJ-45	ST	1310	15	5 - 30
EM316T1/S2	T1 copper to SM fiber	T1	RJ-48/RJ-45	ST	1310	25	25 - 50
EM316T1/S3	T1 copper to SM fiber	T1	RJ-48/RJ-45	ST	1550	25	50 - 100
EM316E1/M	E1 copper to MM fiber	E1	Coax - BNC	ST	820	DL[3]	0 - 4
EM316E1/MX	E1 copper to Extended MM fiber	E1	Coax - BNC	ST	1310	DL[3]	4 - 10
EM316E1/S1	E1 copper to SM fiber	E1	Coax - BNC	ST	1310	15	5 - 30
EM316E1/S2	E1 copper to SM fiber	E1	Coax - BNC	ST	1310	25	25 - 50
EM316E1/S3	E1 copper to SM fiber	E1	Coax - BNC	ST	1550	25	50 - 100
EM316E1RJ/M	E1 copper to MM fiber	E1	RJ-45	ST	820	DL[3]	0 - 4
EM316E1RJ/S1	E1 copper to SM fiber	E1	RJ-45	ST	1310	15	5 - 30
EM316E1RJ/S2	E1 copper to SM fiber	E1	RJ-45	ST	1550	25	25 - 50
EM316E1RJ/S3	E1 copper to SM fiber	E1	RJ-45	ST	1550	25	50 - 10

[1] Default connectors listed, other connectors are optional.
[2] Distances are approximate and assume 9µ Singlemode and 62.5µ Multimode.
[3] Dispersion Limited

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