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Data Sheet

FOM-E1/T1

E1/T1 Fiber Optic Modem

- Extended range with optional laser diode
- Transparent to E1/T1 framing
- Compatible with RAD's DXC cross-connect systems, FCD access units, and Megaplex access multiplexers
- ITU standards compliant

The FOM-E1/T1 fiber optic modem converts E1/T1 electrical signals into optical signals for transmission over fiber optic cables to extend the E1/T1 service range of up to 144 km (89.4 miles).

FOM-E1/T1 features various optical interfaces:

- 850 nm for multimode fiber
- 1310 nm for multimode fiber
- 1310 nm for single-mode fiber
- 1550 nm for extended range over single-mode fiber.

FOM-E1/T1 operation complies with ITU G.703 and G.955 standards.

An alarm relay port transmits the following alarm conditions:

- Major alarm – Low level of E1/T1 electrical input or high bit error rate at the fiber optic interface
- Minor alarm – AIS received at electrical or fiber optic interface.

Front panel LEDs indicate system faults in the electrical and fiber optic circuits.

The modem features local and remote loopbacks.

Order from: Cutter Networks Ph: 727-398-5252 / Fax: 727-397-9610 www.bestdatasource.com

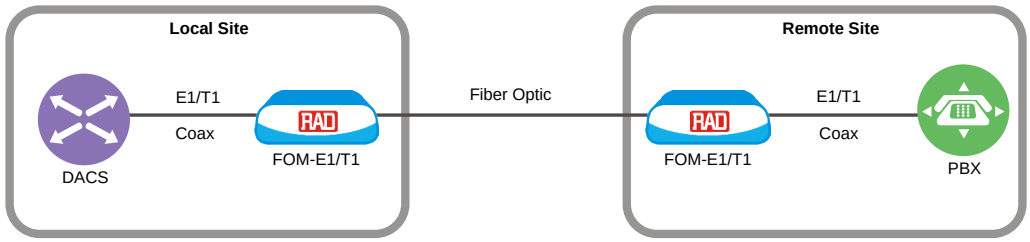

Figure 1. Point-to-Point Application

Table 1. FOM-E1/T1 Fiber Optic Interface Characteristics

Option	Wavelength [nm]	Fiber Type [µm]	Transmitter Type	Typical Power [dBm]	Receiver Sensitivity [dBm]	Connector	Typical Max. Range [km]	[mi]
85	850	62.5/125 multimode	VCSEL	-7	-32	FC	6.7	4.2
13MM	1310	62.5/125 multimode	LED	-18	-31	ST, SC	9.3	5.7
13L	1310	9/125 single mode	Laser	-12	-36	ST, SC, FC	42.0	26.1
13LH	1310	9/125 single mode	Laser (long haul)	-2	-40	ST, SC, FC	70.0	43.4
15L	1550	9/125 single mode	Laser	-12	-38	ST, SC, FC	92.0	57.0
15LH	1550	9/125 single mode	Laser (long haul)	-1	-40	ST, SC, FC	144.0	89.4
SF1	1310/1550	9/125 single mode	Laser (WDM), SF1	-12	-34	SC	38.0	23.6
SF2	1550/1310	9/125 single mode	Laser (WDM), SF2	-12	-34	SC	38.0	23.6
SF3	1310	9/125 single mode	Laser (single fiber), SF3	-12	-27	SC/APC	20.0	12.4

Specifications

E1/T1 ELECTRICAL INTERFACE

Transmission Rate

E1: 2.048 Mbps
T1: 1.544 Mbps

Zero Suppression

E1: HDB3
T1: B8ZS, AMI

Impedance

E1: 75Ω, unbalanced or
120Ω, balanced
T1: 100Ω, balanced

E1 Interface Connectors

RJ-45, balanced
BNC, unbalanced

FIBER OPTIC INTERFACE

See *Table 1*

GENERAL

Diagnostics

Local and remote loopbacks activated via back panel DIP switch

Alarm Relay Port

Dry contact via 9-pin, D-type, female connector

Indicators

PWR (green) – power status
LLB (yellow) – local loopback status
RLB (yellow) – remote loopback status
OPTICAL AIS (yellow) –**All 1s** string received at the fiber optic interface
OPTICAL LOSS (red) – BER is over 10^{-6}
ELEC LOSS (red) – electrical interface input is below G.703 level
ELEC LOSS (red) – electrical interface input is below G.703 level
ELEC AIS (yellow) – **All 1s** string received at the electrical interface

Power

Wide range: 100–240 VAC or
–40 to –60 VDC
DC only: 24 VDC

Power Consumption

AC: 8 VA max
DC: 4W max

Physical

Height: 4.37 cm (1.7 in)
Width: 24.0 cm (9.4 in)
Depth: 17.0 cm (6.7 in)
Weight: 0.5 kg (1.1 lb)

Environment

Temperature: 0°–50°C (32°–122°F)
Humidity: Up to 90%, non–condensing

FOM-E1/T1

E1/T1 Fiber Optic Modem

Ordering

SPECIAL CONFIGURATIONS

FOM-E1/T1/*/#&

E1/T1 standalone fiber optic modem

Legend

* Power supply:
- **AC** 100 to 240 VAC
- **48V** –40 to –60 VDC
- **24V** 24 VDC

Fiber optic connector:
- **ST** ST connector
- **SC** SC connector
- **FC** FC connector

& Optical wavelength, fiber and transmitter (see *Table 1*)
- **85** 850 nm, multimode, VCSEL

***Note**: Available with FC connector only.*

- **13MM** 1310 nm, multimode, LED
- **13L** 1310 nm, single mode, laser diode
- **13LH** 1310 nm, single mode, laser diode, long haul
- **15L** 1550 nm, single mode, laser diode
- **15LH** 1550 nm, single mode, laser diode, long haul (standalone only)
- **SF1** WDM single fiber, 1310 nm Tx
- **SF2** WDM single fiber, 1550 nm Tx
- **SF3** single fiber, 1310 nm Tx/Rx

***Note:** When ordering SFx options, do not specify the fiber optic connector type #.*

OPTIONAL ACCESSORY

RM-33-2

Hardware for mounting one or two FOM-E1/T1 standalone units in a 19-inch rack

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