FOM-E1/T1

E1/T1 Fiber Optic Modem

FEATURES

- Fiber optic modem, extending the range of E1/T1 services over fiber optic cables up to 100 km (62 miles)
- Transparent to E1/T1 framing (G.704)
- Operates opposite DXC cross-connect system, Megaplex access multiplexers and FCD access units
- Available with laser diode option for extended ranges
- Conforms to all relevant ITU series standards, including V.54 diagnostics support
- Operates over single mode or multimode fibers
- Relays minor and major alarm conditions
- Includes front panel LED indicators for status monitoring

DESCRIPTION

- The FOM-E1/T1 fiber optic modem converts an E1/T1 electrical signal into an optical signal. After the conversion, the signal is transmitted over fiber optic cable, extending the E1/T1 service range up to 100 km (62 miles).
- FOM-E1/T1 supports various optical interfaces:
  - 850 nm for multimode fiber
  - 1310 nm for single or multimode fiber
  - 1550 nm for extended range over single mode fiber.
- FOM-E1/T1 operation complies with ITU G.703 and G.955 standards.
- The modem supports activation of local and remote loopbacks in compliance with ITU V.54.
- 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.
- FOM-E1/T1 is also available as a plug-in card for ASM-MN-214, 19-inch card cage.

FOM-E1/T1

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SPECIFICATIONS

E1/T1 ELECTRICAL INTERFACE

- **Transmission Rate**
  - E1: 2.048 Mbps
  - T1: 1.544 Mbps
- **Zero Suppression**
  - E1: HDB3
  - T1: B8ZS
- **Impedance**
  - E1: 75Ω unbalanced or 120Ω balanced
  - T1: 100Ω balanced
- **Connectors**
  - Balanced: 15-pin D-type, female
  - Unbalanced: two BNC

FIBER OPTIC INTERFACE

- **Specifications and Ranges**
  See *Table 1*
- **Connectors**
  ST, SC or FC/PC (see *Ordering*)

GENERAL

- **Diagnostics**
  Complies with ITU V.54; local and remote loopbacks activated via front panel slide switch
- **Indicators**
  PWR – ON when the unit is powered up
  OPTICAL AIS – ON when "all 1s" string is received at fiber optic interface
  OPTICAL ERR – ON when bit error rate is 10^{-6} or worse
  ELECTRICAL LOW – ON when electrical interface input is below G.703 level
  ELECTRICAL AIS – ON when "all 1s" string is received at electrical interface
- **Alarm Relay Port**
  Dry contact via 15-pin, D-type, female connector.
  Operates as Normally Open and Normally Closed, using different pins.
- **Power**
  AC: 115 or 230 VAC (±10%), 47 to 63 Hz, 6W
  DC: 24 VDC (±10%) or -48 VDC (-36 to -72 VDC)
- **Physical**

Height:	4.4	cm / 1.7 in
Width:	17.9	cm / 7.0 in
Depth:	20.3	cm / 8.0 in
Weight:	1.1	kg / 3.0 lb

- **Environment**

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

ORDERING

FOM-E1/T1/*/#/&
E1/T1 fiber optic modem

FOM-E1/T1/R/#/&
E1/T1 fiber optic modem, card version for ASM-MN-214 card cage

* Specify power supply:
115 for 115 VAC
230 for 230 VAC
24 for 24 VDC
48 for -48 VDC

Specify fiber optic interface type (**#** for connector type, followed by **&** for optical wavelength):
ST for ST type connector
SC for SC type connector
FC for FC/PC type connector

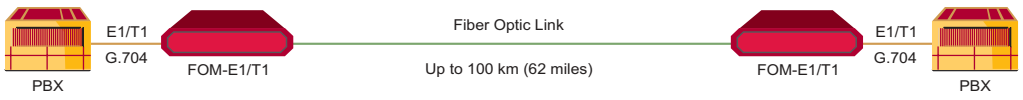
& **85** for 850 nm, multimode, VCSEL
13 for 1310 nm, single mode, LED
13L for 1310 nm, single mode, laser diode
15L for 1550 nm, single mode, laser diode

RM-9
Special hardware for mounting one or two FOM-E1/T1 units in a 19-inch rack

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

Wavelength [nm]	Fiber Type [µm]	Transmitter Type	Power [dBm]	Receiver Sensitivity [dBm]	Typical Max. Range [km/miles]
850	62.5/125 multimode	VCSEL	-18	-38	5/3
1310	9/125 single mode	LED	-18	-40	38/24
1310	9/125 single mode	Laser	-12	-40	50/31
1550	9/125 single mode	Laser	-12	-40	100/62

APPLICATION



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