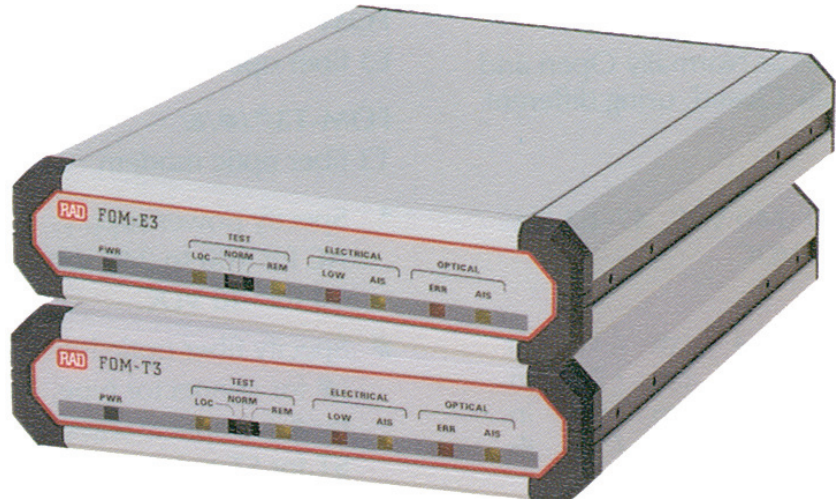


FOM-E3, FOM-T3

E3/T3 Fiber Optic Modems

Convert E3/T3 electrical signals into optical signals, extending the E3/T3 service range up to 110 km (68.3 miles)



- High-speed fiber optic modems, extend the range of E3/T3 services over fiber cables to up to 110 km (68.3 miles)
- Transparent to E3/T3 signals
- Available with laser diode option for extended ranges
- Operate over single mode or multimode fibers
- Conform to all relevant ITU series standards, including V.54 diagnostics support

The FOM-E3 and FOM-T3 fiber optic modems convert E3/T3 electrical signals into optical signals for transmission over fiber optic cable to extend the E3/T3 service range to up to 110 km (68.3 miles).

FOM-E3 and FOM-T3 support various optical interfaces:

- 850 nm VCSEL and 1310 nm LED for multimode fiber
- 1310 nm laser for single-mode fiber
- 1310 nm and 1550 nm long-haul lasers for extended range over single-mode fiber
- WDM laser for transmission over a single fiber.

The modems are compatible with RAD's DXC, Optimux-34, Optimux-45, FOM-E3/ETH, FOM-T3/ETH.

FOM-E3 and FOM-T3 support activation of local and remote loopbacks in compliance with ITU V.54.

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

An alarm relay port transmits the following alarm conditions:

- Minor alarm – AIS received at the electrical or fiber optic interface
- Major alarm – low level of E3/T3 electrical input or high bit error rate at the fiber optic interface.



data communications

Innovative Access Solutions

FOM-E3, FOM-T3

E3/T3 Fiber Optic Modems

Specifications

E3/T3 ELECTRICAL INTERFACE

Transmission Rate

- E3: 34.368 Mbps
- T3: 44.736 Mbps

Impedance

75Ω, unbalanced

Zero Suppression

- E3: HDB3
- T3: B3ZS

Connectors

Two BNC

FIBER OPTIC INTERFACE

Interface Characteristics

See Table 1

Connectors

ST, SC, or FC

GENERAL

Diagnostics

Comply with ITU V.54; local and remote loopbacks activated via slide switch

Alarm Relay Port

Dry contact via 9-pin, D-type, female connector. Operates as normally open and normally closed, using different pins.

Indicators

PWR (green): Power status

OPTICAL AIS (yellow): FO AIS status

OPTICAL ERR (red): FO bit error status

ELECTRICAL LOW (red): Electrical input status

ELECTRICAL AIS (yellow): Electrical AIS status

Physical

Height: 4.4 cm (1.7 in)

Width: 19.4 cm (7.6 in)

Depth: 24.3 cm (9.6 in)

Weight: 1.4 kg (3.0 lb)

Power

AC: 100–240 VAC, 47–63 Hz

DC: –48 VDC, 6.5W

Environment

Temperature: 0°–45°C/32°–113°F

Humidity: Up to 90%, non-condensing

Ordering

FOM-E3/~ab

E3 fiber optic modem

FOM-T3/~ab

T3 fiber optic modem

~ Specify power supply type:

AC for 100 to 240 VAC

48 for –20 to –72 VDC

a Specify connector type:

ST for ST type connector

SC for SC type connector

FC for FC type connector

b Specify optical wavelength and transmitter type:

85 for 850 nm, multimode, VCSEL

13MM for 1310 nm, multimode, LED

13L for 1310 nm, single mode, laser

15L for 1550 nm, single mode, laser

13LH for 1310 nm, single mode,

long-haul laser

15LH for 1550 nm, single mode,

long-haul laser

SF1 for Tx 1310 nm, Rx 1550 nm,

WDM laser

SF2 for Tx 1550 nm, Rx 310 nm,

WDM laser

SF3 for Tx/Rx 1310 nm, WDM laser

SUPPLIED ACCESSORIES

AC power cord

DC connection kit (if DC power supply is ordered)

OPTIONAL ACCESSORIES

RM-9

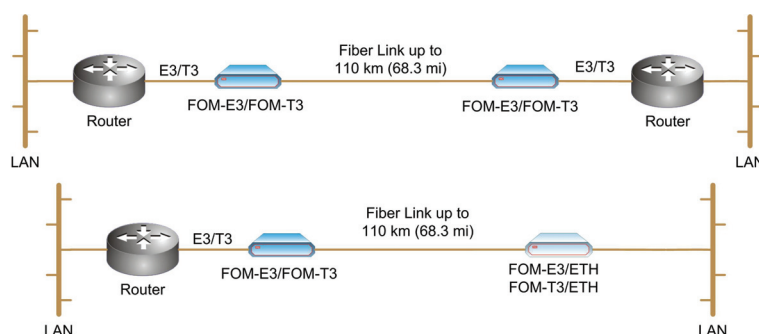
Hardware kit for mounting one or two FOM-E3 or FOM-T3 units in a 19-inch rack

Table 1. Fiber Optic Interface Characteristics

Wavelength	Fiber Type	Transmitter Type	Power	Receiver Sensitivity*	Typical Max. Range**	
[nm]	[μm]		[dBm]	[dBm]	[km]	[mi]
850	62.5/125 multimode	VCSEL	-15	-34	4.5	2.8
1310	62.5/125 multimode	LED	-18	-31	5.5	3.4
1310	9/125 single mode	Laser	-12	-31	38	23.6
1310	9/125 single mode	Laser (long haul)	-2	-34	70	43.4
1550	9/125 single mode	Laser	-12	-31	68	42.2
1550	9/125 single mode	Laser (long haul)	-1	-34	110	68.3
1310/1550	9/125 single mode	Laser (WDM), SF1, SF2	-12	-30	40	24.9
1310	9/125 single mode	Laser (WDM), SF3	-12	-27	24	14.9

* Receiver sensitivity is calculated for BER = 10E-9.

** Range is calculated according to the following typical attenuation rates: 3.5 dB/km for 850 nm MM, 0.5 dB/km for 1300 nm SM, 0.25 dB/km for 1550 nm SM. The max. range assumes a margin of 3 dB.



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