ORDERING

FOM-6AV/*/+/#
Asynchronous Fiber Optic Modem

* Specify DTE interface:
F for female 25-pin connector
M for male 25-pin connector

\+ Specify fiber optic connector:
ST for ST type optical connectors
FC for FC type optical connectors
SMA for SMA type optical connectors

Specify:
13 for 1300 nm single mode
(Default is 850 nm multimode)

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Specifications are subject to change without prior notice.

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FOM-6AV

RAD

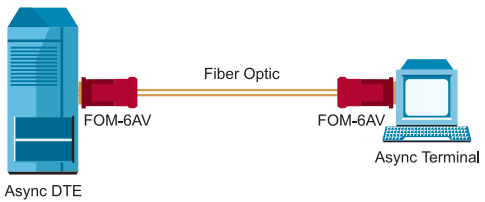
Asynchronous Fiber Optic Modem

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

FEATURES

- Asynchronous transmission up to 64 kbps
- Full or half duplex
- Operates over multimode or single mode fibers
- Transfers one control signal end-to-end
- Operates as DTE or DCE
- Plugs directly into V.24/RS-232 DTE connector
- LED indicator for data transfer
- No external power required
- Compact, lightweight, easy to install

APPLICATION



DESCRIPTION

- FOM-6AV, asynchronous fiber optic modem, is used for local data distribution connecting full or half duplex async DTEs. A pair of modems ensures integrity of data transmission over fiber optic cable at data rates up to 64 kbps.
- FOM-6AV can operate as DTE or DCE. When configured as DTE, FOM-6AV can be connected to a DCE such as a multiplexer port, eliminating the need for a cross-cable. The carrier can be set for continuous or switched operation controlled by the RTS signal for transfer of a control signal end-to-end. A LED indicator lights whenever data transmission takes place.
- Innovative circuitry allows FOM-6AV to operate without connection to the mains supply, by using ultra-low power from the data and control signals. FOM-6AV operates even if only Transmit Data is connected, i.e. no control signals or any other source of power are required.
- FOM-6AV is furnished in a miniature plastic enclosure.

- FOM-6AV incorporates all the advantages of a fiber optic system, providing:
  - Lower attenuation than with copper wire
  - EMI/RFI immunity, saving the cost of expensive and heavy shielding, and complex error checking routines
  - Almost absolute security and reduction in the cost of data encryption
  - Eavesdropping is virtually impossible as negligible power is radiated from the fiber
  - Safety and electrical isolation: no spark hazard and no ground-loop noise problems.

SPECIFICATIONS

- **Data Rate**
  Up to 64 kbps
- **Pulse Width Distortion**
  Less than 25%
- **Transmission Line**
  Duplex optical cable
- **Transmission Mode**
  Asynchronous, full or half duplex
- **Transmission Controls**
  - Carrier constantly ON or controlled by RTS
  - LED to indicate data transmission
- **Optical Output Levels**
  -28 dBm into 100/140 fiber at 850 nm
  -32 dBm into 62.5/125 fiber at 850 nm
  -36 dBm into 50/125 fiber at 850 nm
  -35 dBm into 9/125 fiber at 1300 nm
- **Receiver Sensitivity**
  45 dBm
- **Operating Wavelength**
  - 850 nm
  - 1300 nm
- **Operating Budget**
  - 100/140 fiber – 17 dBm at 850 nm
  - 62.5/125 fiber – 13 dBm at 850 nm
  - 50/125 fiber – 9 dBm at 850 nm
  - 9/125 fiber – 10 dBm at 1300 nm
- **Typical Fiber Attenuation**
  - 100/140 fiber – 4 dB/km
  - 62.5/125 fiber – 3.5 dB/km
  - 50/125 fiber – 3 dB/km
  - 9/125 fiber – 0.5 dB/km

- **Digital Interface**
  V.24/RS-232 integral 25-pin, male or female connector (see *Ordering*)
- **Fiber Optic Interface**
  Optical connectors:
  ST, FC or SMA (see *Ordering*)
- **Power**
  None required; uses the ultra-low power from the data and control signals.
  For proper operation, the following digital interface connectors (DB-25) must be active:
  - DCE mode: 2, 4, 20
  - DTE mode: 3, 6, 8.

  Typical power consumption drawn from these pins is 50 mW (at +6V signal level).
- **Physical**
  Length: 100 mm / 3.9 in
  Height: 23 mm / 0.9 in
  Width: 53 mm / 2.1 in
  Weight: 70g / 2.6 oz
- **Environment**
  Temperature: 0–50°C / 32–122°F
  Humidity: Up to 90%, non-condensing

Declaration of Conformity

Mfr. Name: RAD Data Communications Ltd.
Mfr. Address: 12 Hanechoshet St.
Tel Aviv 69710
Israel

declares that the product:

Product Name: FOM-6AV

Conforms to the following standard(s) or other normative document(s):

EMC: EN 55022 (1994): Limits and methods of measurement of radio disturbance characteristics of information technology equipment.
EN 50082-1 (1992): Electromagnetic compatibility – Generic immunity standards for residential, commercial and light industry.

Supplementary Information:
The product herewith complies with the requirements of the EMC Directive 89/336/EEC. The product was tested in a typical configuration.

Tel Aviv, September 10th, 1998

Haim Karshen
VP Quality

European Contact: RAD Data Communications GmbH, Berner Strasse 77, 60437 Frankfurt am Main, Germany

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INSTALLATION

Caution. *Be careful when setting jumpers or performing any actions within the product so that you do not bend or break any components.*

Installation of FOM-6AV is simple. Follow these instructions:

1. Open the unit by pressing the places marked on the sides to access the jumpers.
2. Set the jumpers according to *Figure 1* and *Table 1*.
3. Close the unit by pressing the two halves of the unit together.
4. Plug the modem directly into the 25-pin connector of the DTE port and tighten the screws on each side of the modem connector.
5. Remove the plastic dust caps from the fiber optic connectors and connect the cable to the unit. Observe the following directions:
   - TX on the local modem should be connected to RX on the remote modem.
   - RX on the local modem should be connected to TX on the remote modem.

FOM-6AV is now ready for operation. The red DATA LED lights when data transmission occurs.

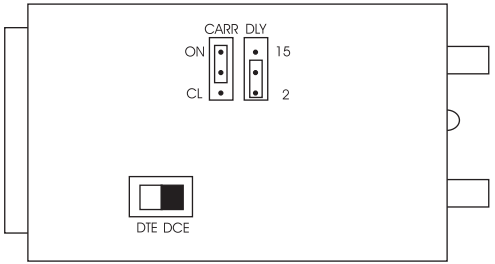

Figure 1. FOM-6AV Jumper Locations

Table 1. Jumper/Switch Selection

Jumper/ Switch	Function	Position	Factory Setting
CARR	Selects carrier constantly ON or controlled (CL) by RTS	On (ON) Controlled (CL)	ON
DLY	Selects RTS/CTS delay	2 msec 15 msec	2 msec
DCE/DTE Switch	Selects FOM-6AV interface: DCE or DTE	DTE DCE	DCE

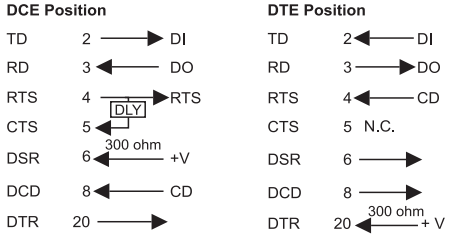

Figure 2. DTE/DCE Switch Operation

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