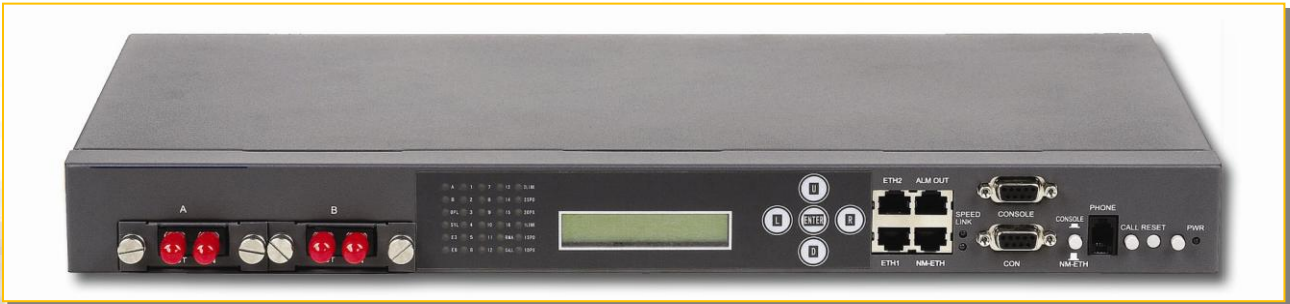


# AMX32FE

## Modular Optical Multiplexer



### Introduction

arcutronix AMX32FE is designed with a line capacity of 155Mbps to transmit 16xE1 plus 1x100Mbps full speed Ethernet. The equipment also provides various interface modules, such as E1 interface cards (4x G.703 ports, 75 Ohm/120 Ohm optional), V.35 interface cards (2-4x V.35 ports), FXO/FXS voice channel interface cards (4-8x loop interfaces) and data interface cards for 4-8x RS232 or RS485 data channels (They are used to transmit asynchronous data. Self-adaptation of speed can be up to 115.2K).

AMX32FE is a suitable and cost-effective choice to provide voice, data and video services for cities and industrial districts. Its optional interfaces support overall business transmission of large customers and customer groups such as medium-and-small-scale enterprises, governmental organizations, schools and intellectualized villages. Open standard interfaces are employed to guarantee prompt interlinking of various equipments.

The enhanced network management function and more friendly management GUI will make you feel comfortable to operation.

The AMX32FE is available in a 19"/1RU housing with capability for FO and power supply redundancy.

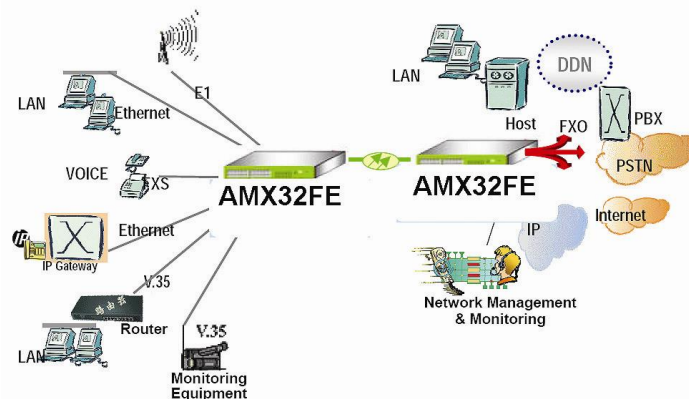
### Features

- ▶ **Optical path backup:** With the option of 1+1 Optical Redundancy (Protection Switching), in which the transmission automatically switches to a STANDBY optical link in the event of a failure of the PRIMARY optical link. Error-rate (10E-3 or 10E-6) switch or mandatory switch of optical path can be configured to meet requirements of network of high reliability.
- ▶ **Fixed User Ports:** 2x 10/100BaseT
  - ▶ MTU: 1916 Bytes
- ▶ **Various function modules:**
  - ▶ 4 slots for free choice of usage
  - ▶ User interface modules: E1, V.35, FXO/FXS, RS232/RS485.
- ▶ Order wire channel for end to end installation and maintenance
- ▶ **Network management:**
  - ▶ RS232 and 10/100BaseT interface.
  - ▶ Build-in SNMP-agent, capable to monitor and manage.
  - ▶ Inband management capability to remote site.
- ▶ Provides visible and audible **alarm** indication
- ▶ **Low power** consumption
- ▶ **Power redundancy:** AC or/and DC
- ▶ **Compact design:** EIA 19"/1RU ("Pizza Box")

## AMX32FE Modular Optical Multiplexer

### Application Example

AMX32FE multiplexes various TDM, serial and Ethernet interfaces onto one (!) fibre optic link with redundancy (hot standby). This making it to a real Multi-Service device over rare fibre optic cables. The AMX32FE fits well for access applications, campus installation and dark fibre providers.



### Specifications

#### Network I/F (Standard SM FO)

- Capacity: 2 x optical link (1+1 protection)
- Bit rate: 155 Mbit/s
- Line code: 4B5B
- Optical source: LD
- Transmitter power:  $\geq -9\text{dBm}$  (dual fibre)
- Receiver Type: PINFET
- Receiver sensitivity:  $\leq -35\text{dBm}$  ( $\text{BER} \leq 10^{-11}$ )
- Wavelength: 1310nm SM, 1550nm SM
- Optical connector: FC-PC conn.
- More detailed in "Backup FO Module"

#### Service I/F ports

- 2x 10/100BaseT (LAN)
  - IEEE 802.3
  - IEC 60870-5-104
  - Auto Negotiation
  - MTU (Maximum Transmission Unit): 1916 Bytes
  - Connector: RJ45
- Various User Interfaces (data on following pages)

#### Features

- 1+1 optical line protection
- Priority switching
- Mandatory switch of active/standby optical path
- Switching time of optical pass:  $\leq 50\text{ ms}$
- One active and one standby optical path
- ALS (Automatic Laser Shutdown function)
- Hot swappable optical interfaces and power supplies

#### Management

- Console port (front access):
  - RS232 (D-Sub9 female),
- Network Management port (front access):
  - 10/100BaseTx (RJ45)
- Alarm port (RJ45)
- Order wire module port

#### Environmental

- Operating:  $-5\text{ to }+40^\circ\text{C}$
- Storage:  $-25\text{ to }+55^\circ\text{C}$
- Humidity:  $< 85\%$  ( $30^\circ\text{C}$ ), non-condensing

#### Power

- Consumption:  $< 40\text{ VA}$
- Input Voltage:
  - 230 VAC (165...265 VAC)
  - Connector: IEC 60320-C14
  - $-48\text{ VDC}$  ( $-36\text{...}-72\text{ VDC}$ )
  - Connector: RIA (3 pin)
- Optional power redundancy

#### Physical

- Weight (full equipped):
  - $< 7,0\text{ kg}$
- Dimensions:
  - Standalone: 44mm H x 448mm W x 306mm D
  - 19" version: 44mm H x 483mm W x 306mm D
- Form Factor: EIA 19", 1RU
- Including kit for 19" rack mounting

## AMX32FE Modular Optical Multiplexer

### 4x G.703 User Interface

#### Specification

- Standard: ITU-T G.703
  - Data Rate: 2048 kbps ± 50ppm
  - Line Code: HDB3
  - Input Impedance: 120 Ohm (RJ45) or 75 Ohm (BNC)
- Connector: D-Sub37 female
- User connection via 4xE1 Interface Adapters:
  - Adapter DB37F-RJ45 (balanced 120 Ohm) or



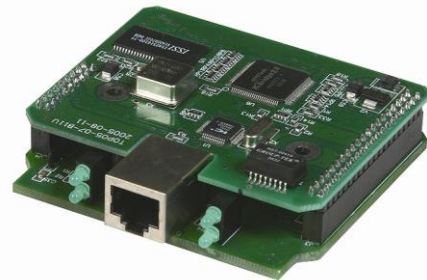
- Adapter DB37F-8G (unbalanced 75 Ohm)



### 1x 10/100BaseTX (FE) User Interface

#### Specification

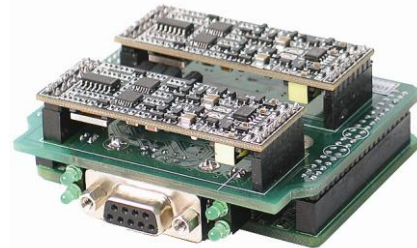
- Standard: IEEE 802.3 / 802.1D
- IEC 60870-5-104
- Interface Data Rate: 10/100 Mbps
  - Auto-Negotiation
- Payload rate: n x 64kbps, n= 1..32
- Connector: RJ45
- Cross-wired cable when connecting to PC
- Straight-wired cable when connecting to HUB



### FXO/FXS User Interface

#### Specification

- Capacity: 4 x FXO/FXS or 8 x FXO/FXS
- Connector: 1x (2x) D-Sub9 female
- FXO interface card provides 4 (8)-channel FXO interface connected to switch
- FXS interface card provides 4 (8)-channel FXS interface connected to ordinary telephone sets



### 4x Datacom User Interface

#### Specification

- Standard: EIA-232 or EIA-485
- IEC 60870-5-101
- Data Rate: max. 115,2 kbps
- Capacity: 4 x RS232 or EIA-485
- Connector: 4x RJ45
- Operation mode: Full Duplex (EIA-232)  
Full/ Half Duplex (EIA-485)



## AMX32FE Modular Optical Multiplexer

2x V.35 User Interface

### Specification

- Standard: CCITT V.35
- Data Rate: 2048 kbps or  
n x 64kbps, n= 1..32
- Capacity: 2 x V.35 or 4 x V.35
- Connector: 2x D-Sub25 female or  
2x D-Sub37 female
- Adapters: DB25M-DB34F or DB37M-2DM34F  
are available



### Backup Fibre Optic Module

#### Specification

- Optical source: LD
- Transmitter power:
  - Standard dual SM FO:  $\geq -9\text{dBm}$
  - Single Strand SM FO:  $\geq -10\text{dBm}$
- Receiver Type: PINFET
- Receiver sensitivity:  $\leq -35\text{dBm}$  ( $\text{BER} \leq 10^{-11}$ )
- Distance: 10...100km
- Wavelength:
  - Standard FO: 1310nm SM, 1550nm SM
  - Single Strand FO: 1310nm/1550nm SM
- Optical connector: FC-PC conn.
- Other optical connectors and power budget  
versions available on request



### Backup AC and DC Power Supply

#### Specification

- AC Module
  - Input Voltage: 230 VAC
  - Operating capacity: 165...265 VAC
  - Output Voltage: 5 VDC
- DC Module
  - Input Voltage: -48 VDC
  - Operating capacity: -36...-72 VDC
  - Output Voltage: 5 VDC



Specification may change without prior notice. Please refer to [www.arcutronix.com](http://www.arcutronix.com) for latest data-sheets.

For more information please contact arcutronix GmbH or visit us at [www.arcutronix.com](http://www.arcutronix.com).

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