

FO-SERIAL

FIBER OPTIC MODEM X21/V11, V35, RS232

Specifications

Extension of serial link over fiber optic :

- **FO-SE11** : X21/V11
- **FO-SE35** : V35
- Synchronous rate
n x 64kbps up to 2Mbps,
4, 6 and 8Mbps
- **FO-SE28** : V28/V24/
RS232
- Synchronous rate
from 1,2 to 128kbps
asynchronous
from DC to 115,2k
- Compatible with E1/T1
modem F-E1T1 or F080E1
in G704 n 64kbps mode
- Compatible with F08011,
F08035 and F08028 mo-
dems

Fixed FO Interfaces :

- Multimode 820nm
1310nm on demand
connector ST
- Singlemode 1310nm or
1550nm, connectors
SC/PC or FC/PC

Other

- Mode C37.94 with V11-
64K (SFP-STM1-MM-850)
- Tests V54
- Metal box with AC, DC 48 o
DC 24v power supply.
- Card for 19" AMS4 et
AMS16 SNMP chassis
- Windows GUI software
tools MX-CFG

OPTICAL LINK FOR N 64KBPS, 2-4-6-8MBPS SIGNAL

The FO-SERIAL is fiber optic modem used by Telco to deploy high rate Leased Line in Local Loop as well by enterprise or administration to extend this line customer premise or to interconnect router or unstructured applications like video codec, data from encrypted serial system in military domain.

The FO-Serial is working in framed mode at x 64Kbps or at fixed rates 2, 4, 6 or 8Mbps. One special software version, the FO-SECD allows a co-directional transmission of flow from DC to 8Mbps mainly used for satellite.



The installation of **FO-SERIAL** (or FO-SE11 in X21/V11, FO-SE35 in V35, FO-SE28 in V24/RS232) is very easy with the free tools Windows GUI MxCfg. From local device you can administrate the distant equipment on the other side of the fiber..

FO-SE11 is providing a synchronous transmission in X21/V11

FO-SE35 is providing a synchronous transmission in V35

Per default interfaces rate are fixed at 2 048 Kbps, but we can select framed mode with synchronous rate of 64K à 2048Kbps per 64Kbps step, then 4 096, 6 144 and 8 192 Kbps.

In n 64kbps or 2Mbps mode the FO-SERIAL can transmits data to a FO-E1T1 connected to a TDM/PDH or SDH transit network. In framed mode it is possible to select discontinue TS. Le Both are provide with cable to DTE device DB15F for FO-SE11 and M34F for FO-SE35. Cable to DCE equipment are delivered on order.



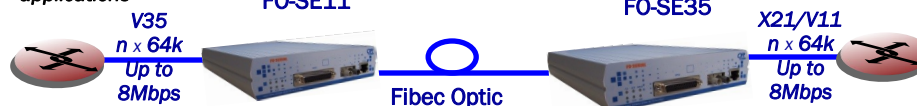
FO-SE28 provide a V28/V24/RS232 synchronous interface from 1,2 to 128 kbps and in asynchronous interfaces from DC to 112,5 kbps.

The **FO-SERIAL** can be synchronize by internal clock or from the DTE or the fiber optic line. The free GUI MxCfg is an easy tool to setup quickly the clock source and slope, the rate , the interfaces and permit to run test local loop in local and distant device, distant loop. You can access to the statistics of transmission with a vision of current and previous 15mn, 30mn, 1 and 24 hours. It is possible to create without equipment connected the configurations and send to the installation site through Internet, or to print it with comments.

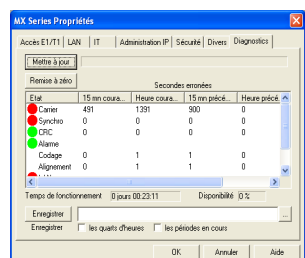
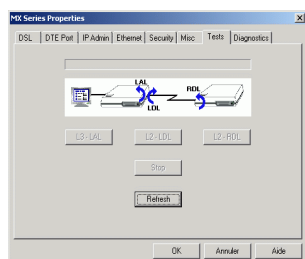
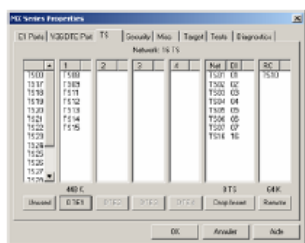
The **FO-SE11** include IEEE C37.94 specification , speed 64kbps on fiber.



Router or unstructured applications



Serial link Optical Extender



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SPECIFICATIONS



V11/X21, V35 Interfaces

- Synchronous mode, rate selection from 64 à 2048 kbps per step of 64 kbps, 4096, 6144 and 8192 kbps.
- Clock mode: internal, external DTE or line
- Connector BD25F, delivered with adapted cable
- FO-SE11** delivered with DB15F (CA601461) cable for X21/V11 DTE interfaces
- FO8035** delivered with M34F (CA601460) cable for V35 DTE interfaces, Special cable for V36 interface (CA 601619).
- Latency time : 125micro-sec (with standard framed 64k mode)
The co-directional interface of **FO-SECD** has a latency time of 600 nsec.

V28/V24/RS232 interface

- Synchronous V24 from 1,2 to 128 kbps
- Asynchronous RS232 from 0 to 112,5 kbps
- Clock mode: internal, external DTE or line

FO-SE28 with DB25F is delivered without cable.

Fibre Optic Interface Coding : CMI

Compatibility with:

FO-E1T1 or **FO80E1** E1 G703/G704

FO8011 X21/V11 n 64kbps synchronous

FO8035 V35 n 64kbps synchronous

FO8028 V28/RS232 Sync./asynch.

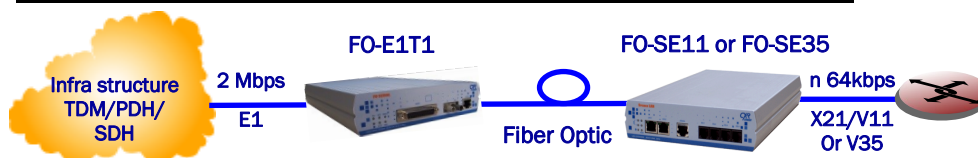
Administration

- Consol port RS232
- Per VT100 menu or with free GUI Windows MX-MFG
- Per CFIP card from AMS16
- Loop back test: V54, B2, B3
- LED: Power, DTE, FO reception, Error, Test, Data

Physical specifications

- Dimensions : 287 x 175 x 41 mm
- Power of desktop: AC 96 to 230V or DC 36 to 72V
- Power consumption : < 10 W
- Metal box : 1,5 kg
- Temperature in function : -5 to +50 °C
- Hygrometric : 10 - 90% without condensing
- MTBF = 120,000 H

FO-SERIAL	M8Tzw	SLCz SLFz	Z3Cz Z3Fz	Z5Cz Z5Fz
Type of transmitter	MM LED	SM ELED	SM LASER	SM LASER DBF
Wavelength	820 nm	1310 nm	1310 nm	1550 nm
Minimum optical Budget available	15 dB	14 dB	23 dB	29 dB
FO typical attenuation	3 dB/ km	0,35 dB/km	0,35 dB/ km	0,23 dB/ km
Distance with a fiber and 2 connectors	2 km	30 km	60 km	117 km



GAMME DE PRODUITS

FO-SEii - XX Y Z

I

i : copper serial DTE interface

11 : X21/V11 synchronous

35 : V35 synchronous

28 : RS232 asynchronous, V28 synchronous

CD : X21/V11 co-directional

(see special datasheet)

XX : standard optical interfaces

M8 : LED diode multimode 820nm, distance 2km

M3 : LED diode multimode 1310nm, distance 8km

SL : ELED singlemode 1310, distance 30km

Z3 : Laser singlemode 1310, distance 60km

Z5 : Laser DBF singlemode 1550, distance 110km

SFP : SFP module, either SFP-STM1-MM or SFP-

STM1-SM30

SFP-STM1-MM-850 : for C37.94 feature

Y : standard optical connectors

T : ST connector on M8

C : SC/PC connector on SL, Z3 & Z5

F : optional FC/PC connector on SL, Z3 & Z5

Z : conditionnng

I : desktop w internal AC power supply

C : desktop w internal DC 48 V converter

C2 : desktop w internal DC 24 V converter

R : 1 slot card for 19" AMS4/16 chassis

19" Chassis

RACK-2-UNIVERSAL rack mount for 2 desktop

AMS4-2 chassis for 4 cards

AMS16-PS16 chassis for 16 card .

Option CFIP-SNMP card for Telnet and SNMP administration.