T1/E1 Fiber Optic Multiplexer

Model TC8300

- 1 to 4 Channels of T1/E1 or Combo
- Multimode or Single Mode (850/1300/1550nm)
- Distances up to 100km
- Up to 8 Extra Data Channels
- Status & Control Management Software
- Built-in Power Redundancy
- Optional Optic Redundancy
- No Jitter
- Local Dry Contact Alarm Relay
- Individual Local & Remote Loopback

TC8300S

TC8300P

The TC8300 is a 1-to-4 channel T1/E1 Fiber Optic Multiplexer that offers several advanced features including extensive diagnostics, extra data channels, management software, power and optical redundancy, jitter removal and a replaceable Line Interface module. It is available both multimode and single mode and is compatible with all popular types and sizes of optic cable. Distances to more than 100km are possible with the single mode 1550nm option (34dB loss budget).

Diagnostics are extensive. Each channel offers six LED indicators to ease installation and troubleshooting - one each for RxD, Alarm, T1/E1 Signal Loss, BPV violations, Remote Loopback and Remote Signal Loss. Individual channels provide 4 DIP switches, accessible from the front panel, to control settings for line code, line length, local loopback or remote loopback. Local dry contacts relays are also provided.

The extra out-of-band data channels are intended for multi-purpose communications. Up to eight RS-232 channels are available in addition to the T1/E1 channels. Four data channels are available if the Management Software Module (TC6100) is used.

Power redundancy is standard; optical redundancy is optional. Both provide automatic switchover in the event of failure. The TC8300 is transparent to the framing format and supports all applicable standards and line codes including CCITT G.703 and AMI/B8ZS/HDB3 Line Codes. Line distances from 0 to 655 feet (for connecting to DSX-1 cross connects) are supported. Jitter is eliminated because of a built-in elastic buffer and jitter attenuator.

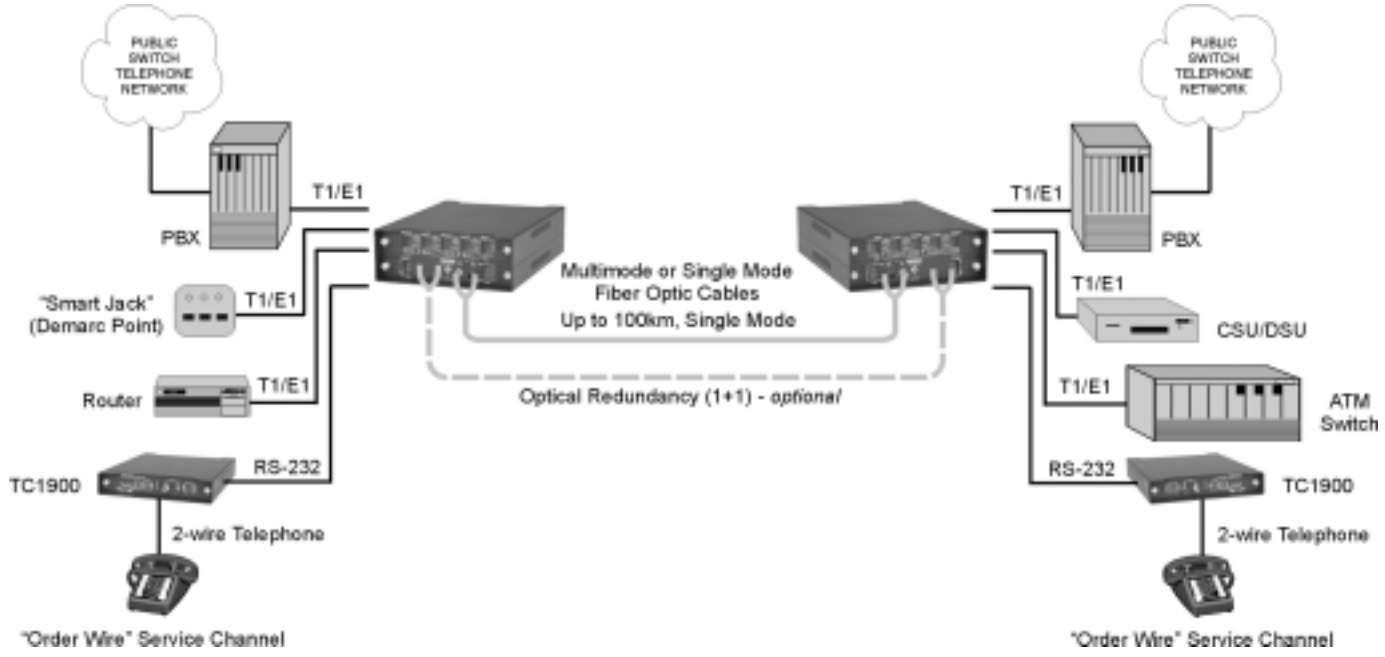
Fiber optic connectors are ST or FC. Input power is 12VDC (standard); optional 24VDC, -48VDC, or 115/230VAC with a built-in or external power supply. Special two-position feed-thru detachable terminals are provided for connecting the T1/E1 twisted pairs.

TC COMMUNICATIONS
FIBER OPTIC CONNECTIVITY

Applications

The TC8300 is a remarkably flexible one-to-four channel T1/E1 Fiber Optic Multiplexer that is frequently used to link PBXs, Channel Banks, Customer Premise Equipment and M13 Muxes to DSX-1 Cross Connects. The out-of-band RS-232 channels can be used for telephone service with the Model TC1900 “Quick-Talk” Telephone Extenders.

TC Communications, Inc.
17575 Cartwright Rd. Irvine, CA 92614 U.S.A.
Tel: (949) 852-1972, Fax: (949) 852-1948
Sales: (800) 569-4736
Web Site: www.tccomm.com
E-mail: info@tccomm.com



Typical point-to-point application using TC8300s in a local loop

Data Rates

T1 .....1.544 Mbps
E1 .....2.048 Mbps
RS-232, RS-422 Async .....56 Kbps

Channel Capacity

T1, E1, or any combination 4
RS-232, RS-422, TTL, Dry Contact ...8

Optical

Transmitter .....LED/ELED/LASER*
Receiver .....PIN Diode
Wavelength
.....850/1300nm MM
.....1300/1550nm SM
Fiber Optic Connectors..ST, FC or SC
Loss Budget* - 850/1300/1550nm
Multimode @ 62.5/125µm 15dB
Single Mode @ 9/125µm 15dB

Electrical

T1/E1 Connector (100/120 ohm)
.....Detachable Terminal Block
E1 Connector (75 ohm)
Terminal Block with BNC Adapter
Interface T1/E1 (G.703)

System

Bit Error Rate .....1 in 10^{10} or better

Alarm

Dry Contact.....Normal OPEN

Visual Indicators

Channel Status.....RxD, RLOS, LOS, RLPB, BPV, Alarm
System.....Power A & B, Vcc, VccA, VccB, Alarm
Optic .....SyncA, SyncB, Optic in Use
RxA & RxB, VLIN

Power

Standard .....12VDC @1.2 Amp
Optional .....24VDC, -48VDC, or 115/230VAC external or built-in

Temperature

Operating .....-10°C to 50°C
Hi-Temp (optional).....-20°C to 70°C
Storage .....-40°C to 90°C
Humidity .....95% non-condensing

Physical (TC8300S)

Height.....(6.71 cm) 2.7"
Width.....(18.2 cm) 7.2"
Depth.....(24.9 cm) 9.8"
Weight.....(1.36 kg) 3 lbs

Physical (TC8300P)

Height.....(4.5 cm) 1.75"
Width.....(48.3 cm) 19.0"
Depth.....(21.9 cm) 8.6"
Weight.....(2.0 kg) 4.3 lbs

**Contact factory for higher requirements (LASER)*

TC COMMUNICATIONS
FIBER OPTIC CONNECTIVITY

TC Communications, Inc.
17575 Cartwright Road
Irvine, CA 92614 U.S.A.
Factory Tel: (949) 852-1972
Fax: (949) 852-1948

Sales Office
U.S.A. Domestic: (800) 569-4736
International: (949) 852-1973

Web Site: www.tccomm.com
E-mail: info@tccomm.com

Note - Information contained in this data sheet is subject to change without prior notice.