Combination WDM & Fiber Optic Mode Converter/Repeater

Model TC3007

- Doubles Existing Fiber Cable Capacity
- Converts Multimode to Single Mode (and vice versa)
- Data Rates up to 200 Mbps
- Local Dry Contact Alarm Relay
- Test Signal Generator & 8 Indicators
- Local & Remote Loopback
- Built-In Audible Alarm Buzzer
- Built-In Redundant Power Supply
- Standalone or Rackmount (Interchangeable)

The TC3007 Multimode-to-Single Mode Fiber Optic Converter converts multimode formats to single mode formats, or vice versa, for data transmission up to 200 Mbps.

The TC3007 functions both as a Fiber Optic Mode Converter/Repeater and a 2-Channel Wave Division Multiplexer. This benefits users by effectively doubling existing fiber cable capacity in addition to its mode conversion/repeater functions.

The TC3007 will convert or repeat all popular wavelengths including 850nm, 1300nm or 1550nm. It is compatible with most communication technologies including Ethernet, Fast Ethernet, Token Ring, TAXI, OC1/OC3, ATM, FDDI and SONET. It is completely transparent to incoming data and protocols.

The TC3007 provides users with several key features including Local/Remote Loopback, Test Signal Generator, Dry Contact Alarm, Audible Alarm Buzzer, Power Redundancy, and Standalone or Rack Mount modularity.

The Test Signal Generator and Dry Contact Alarm are particularly beneficial. The Signal Generator (160Mbps) helps technicians conduct various installation tests including fiber link verifications. The Dry Contact Alarm, which includes an audible alarm buzzer, identifies Optical Signal Loss on either the multimode or single mode ends.

Power redundancy is load sharing and switches over automatically in the event of a failure. Power can be either 12VDC, 24VDC, -48VDC, or 115/230VAC with an external power cube. Standalone versions are modular, i.e. used either in a standalone case or in a rack mount assembly. Standard connectors are ST or FC type. A hardened temperature version (-20° to 70°C), Model TC3007T, is also available.

Applications

Because of its multiplexing capability, the TC3007 is often used to increase existing fiber optic cable capacity in LAN or Telephony environments that require connecting different fiber types or wavelengths, regenerating optical signals and/or extending transmission distances. Typical environments include PABX, Ethernet, Fast Ethernet, Token Ring, FDDI, ATM and SONET (OC1 & OC3).
**Single Mode Fiber (1300/1550nm)**

"One Fiber", Up to 50km

10/100Mbps Ethernet Switch

ATM Switch or Router

TC3007

Multimode or Single Mode

850 or 1300nm

TC3007

Multimode or Single Mode

850 or 1300nm

Typical application using TC3007 “Single Fiber” Fiber Optic Mode Converters

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**Data Rates**

..........................up to 200 Mbps

**Optical - Single Fiber Side**

Transmitter .........................LASER
Receiver ..............................PIN Diode
Wavelength* ......................1300/1550nm Single Mode
Fiber Optic Connectors .................ST, Optional FC
Loss Budgets - 1300/1550nm LASER..........20dB SM @9/125µm

**Optical - Dual Fiber Side**

Transmitter ..............................LED/ELED
Receiver ..............................PIN Diode
Wavelength ..................................850/1300nm Multimode
..................................................1300/1550nm Single Mode
Fiber Optic Connectors .................ST, Optional FC
Loss Budgets - 850/1300/1550nm Multimode @62.5/125µm.............15dB
Single Mode @9/125µm.............15dB

*Any two wavelengths are available on each unit
**Contact factory for higher requirements

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**System**

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

**Visual Indicators**

............PWRA, PWRB, VCCA, VCCB,
.............MM RX, MM TX, SM RX, SM TX,
.................LOCLB, RMTLB, SM LB,
..........................SIG GEN, LK TST

**Alarm**

Dry Contact.............Normal OPEN

**Power**

Standard..........12VDC @500mA (max)
Optional............24VDC, −48VDC, or
..........................115/230VAC with power cube
..........................125VDC with power cube

**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 (Standalone Unit)**

Height ......................(3.53 cm) 1.39"
Width ......................(18.13 cm) 7.14"
Depth ......................(16.59 cm) 6.53"
Weight .................(796.5 gm) 1.76 lb

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

**Reply Switch Specifications:**

Maximum Switch Voltage: 100VDC
Switch Current: 0.5 Amp
Maximum Carry Current: 1.2 Amp
Contact Resistance: 0.2 Ohm

**Dry Contact Alarm Relay Switch**

A terminal block connector on the TC3007 rear panel provides for the dry contact relay alarm. Normally in the OPEN position, any loss of optical signal will trigger an alarm condition and force the switch to the CLOSED position. This relay can be used in conjunction with an external device to monitor the condition of the link.