

# Low Speed Fiber Optic Mode Converter/Repeater

# Series TC3020

- Data Rates from 30 bps to 10 Mbps
- Supports Burst Data
- Distances up to 30km\*
- Multimode & Single Mode (850/1300/1550nm)
- Multiple Diagnostic LED Indicators
- Test Signal Generator
- Built-In Loopback Functions
- Local Dry Contact Alarm Relay
- Stand Alone or Rackmount



TC3021S Standalone Unit



2 X TC3021R (Housed in TCRM196 19" Wide, 1U High Rackmount Card Cage)

Supporting data rates from 30 bps to 10 Mbps, the TC3020 Mode Converter Series convert, regenerate or extend 850nm, 1300nm or 1550nm wavelengths optical signals to distances up to 30 km\*.

Three models currently comprise the TC3020 Series. Both support Burst Data applications.

	MM	SM	Data Rates	Data Format	Single Pair
TC3021	850 ST 1300 SC, ST, FC	1300/1550 ST, SC, FC	30bps to 1Mbps	Bursty/ Continuous	Pair
TC3022	850 ST 1300 SC, ST, FC	1300/1550 ST, SC, FC	1Mbps to 10Mbps	Bursty/ Continuous	Single*/Pair
TC3023	850 ST	1300/1550 ST, SC, FC	1.2Kbps to 5Mbps	Bursty/ Continuous	Pair

\* Single standing units are capable of repeating MM to MM or SM to SM, any wavelength combination.

Eleven LEDs are provided for diagnostics, monitoring optic signals in both directions and indicating system status. A Test Signal Generator is available to help technicians conduct various installation tests including fiber link verifications. A Dry Contact Relay Alarm is also provided as a standard feature.

The TC3020 Series work with all popular types and sizes of fiber optic cable. Fiber optic connectors are ST or FC type. Power is 12VDC, optional 24VDC, -48VDC or 115/230VAC with an external power cube. Hardened temperature versions (-20°C to 70°C) are also available.

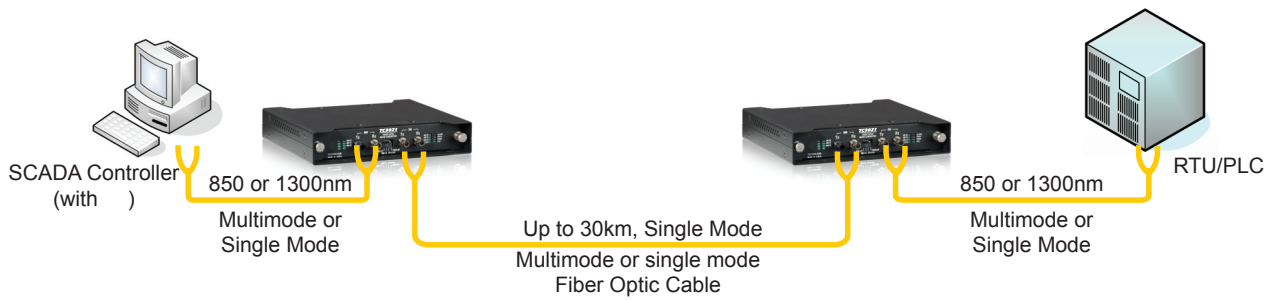


## Applications

The TC3020 Mode Converter Series is frequently used to convert multimode fiber optic cable to single mode, or vice versa, to connect various devices in Telephony or LAN communication environments. This conversion is done to cross-connect different fiber types, regenerate optical signals and/or extend transmission distances. It is also used for Burst Data applications.

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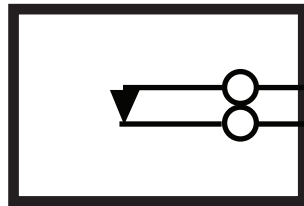
\* Contact factory for to inquire about longer distances.



Typical Application Using TC3022 Low Speed Fiber Optic Mode Converter/Repeater

Reply Switch Specifications:

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



to Remote Alarm Status Indicator

A terminal block connector on the TC3021/22/23 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.

Dry Contact Alarm Relay Switch

**Data Rates**

TC3021 .....30 bps to 1 Mbps  
 TC3022 ..... 1Mbps to 10 Mbps  
 TC3023 ..... 1.2Kbps to 5 Mbps

**Optical**

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

\*Any two wavelengths are available on each unit

**System**

Bit Error Rate.....1 in 10<sup>10</sup> or better

**Visual Indicators**

MM RX, MM TX, MM LB, SM RX, SM TX, SM LB, SIGGEN, ALARM, PWRA, PWRB, Vcc

**Diagnostic Functions**

.....SM & MM Loopback, Signal Generator, Disable Alarm

**Alarm**

Dry Contac .....Normal OPEN

**Power**

Standard .....12VDC @200mA  
 Optional .....24VDC, -48VDC, or .....115/230VAC (with external 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.....(512 gm) 1.5 lbs



ISO 9001  
 QMI-SAI Global  
 #1045959

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