Universal Sync/Async Fiber Optic Modem

- Data Rates up to 256 Kbps
- Distances up to 80 km*
- Interchangeable Interfaces
- Multimode (850/1300nm) or Single Mode (1300/1550nm)
- Optional built-in WDM technology for full duplex through one fiber
- Local & Remote Loopback
- Supports five RS-232 Control Signals
- Built-In Power Redundancy
- Optical Redundancy (optional)
- Rackmount, Standalone or Wall Mount
- Hardened Temperature Version (optional)
- Modular design

TC1705S (Optical redundancy option shown)

3 X TC1705R (Housed in TCRM192 19" Rackmount Card Cage)

The TC1705 is the ultimate "configure-it-as-you-need-it" fiber optic modem. Ideal for applications requiring multiple interfaces, high data rates or full handshaking, it supports synchronous and asynchronous data rates up to 256Kbps.

It supports most popular electrical interfaces including RS-232, RS-422, RS-485 (2-wire or 4-wire), RS-530, V.35, and TTL. Electrical interfaces are modular and can be easily changed anytime.

Distances up to 80km* are possible depending on various factors including electrical interface, optical transmitter, number of fiber optic connectors and fiber type and quality. Power redundancy is standard. Optical redundancy is optional.

Diagnostics are extensive and include a built-in Test Signal Generator, local & remote loopback tests and LEDs for Power, Alarm, Tx, Rx and all applicable control signals. The Test Signal Generator verifies both device and fiber optic link operation.

Available for multimode (850/1300nm) or single mode (1300/1550nm), the TC1705 is compatible with all popular sizes and types of fiber optic cable. A special version includes built-in WDM technology for full duplex communications through just one fiber. Fiber optic connectors are ST, SC, or FC. Electrical connectors are DB25 female. Power is standard 12VDC, optional 24VDC, -48VDC, 125VDC or 115/230VAC with an external power cube.

The TC1705 is available in two versions: TC1705R Rackmount Card for installation in a 19" rack assembly (TCRM192 or TCRM196) or TC1705S Standalone version. Standalone or rackmount versions can be mixed or matched on either end. Optionally, the high-temp option operates -20°C to 70°C and the extreme - temp option operates -40°C to 80°C.

*Contact factory for higher requirements (Laser version)

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Applications

Because of its versatility, features and multiple interfaces, the TC1705 is often used to link a wide variety of synchronous or asynchronous devices to a central CPU in a campus or intra-building fiber optic network.
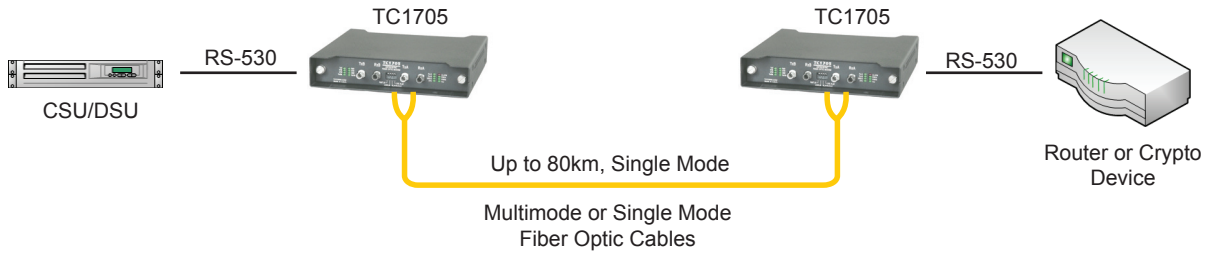
Typical Point-to-Point Application Using TC1705 Multi-Interface Fiber Optic Modems

RS-232 Virtual Connection
(connect two Sync/Async DTE devices)
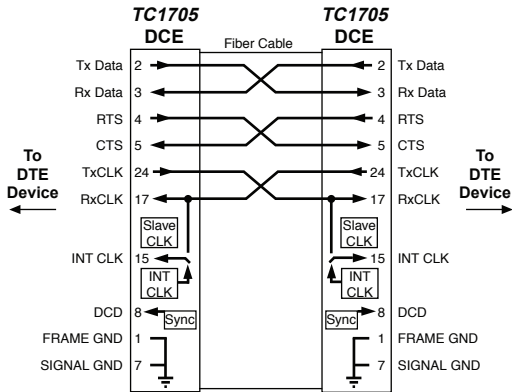
RS-530/V.35 Virtual Connection
(connect two Sync DTE devices with Slave Clk)
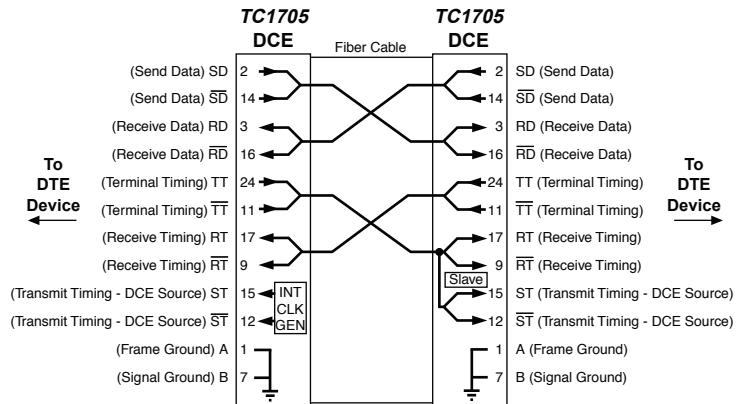
Data Rates

RS-232 (Async or Sync)

.....................................up to 128 Kbps

RS-422/485/530 (Async or Sync)

.....................................up to 256 Kbps

TTL, V.35 (Async or Sync)

.....................................up to 256 Kbps

Optical

Transmitter ....LED/ELED/LASER*

Receiver................................PIN Diode

Wavelength................850/1300nm MM

..............................1300/1550nm SM

Fiber Optic Connectors ......ST, FC, SC

Loss Budget* - 850/1300/1550nm

Multimode @ 62.5/125µm 15dB

Single Mode @ 9/125µm...........20dB

Electrical

Interfaces/Connector

RS-232, RS-422/530, RS-485, TTL,

V.35................................DB25 Female

System

Bit Error Rate ....1 in 10^9 or better

Dry Contact Alarm ....Normal OPEN

Diagnostic Functions

.................Local & Remote Loopback,

........Signal Generator, Disable Alarm

Visual Indicators

System Status ....PWRA, PWRB,

....Vcc, ALARM

Electrical Signal Status........TxD, RxD,

............DTE, "control & timing LEDs"

Optic Signal Status.............Rx-A, Rx-B

Power

Standard ....12VDC @300mA

Optional..........24Vdc, -48Vdc, 125Vdc

...........or 115/230VAC w/ power cube

Temperature

Operating ....−10°C to 50°C

Hi-Temp1 (option).........−20°C to 70°C

Hi-Temp2 (option).........−40°C to 80°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.......................(544 gm) 1.2 lbs

Contact factory for higher requirements (LASER)

TC COMMUNICATIONS®
FIBER OPTIC CONNECTIVITY

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