

Multi-Drop (String) Fiber Optic Multiplexer

Model TC2900/2901

- Bus or String Topologies
- Async Data Rates up to 38.4 Kbps
- Separate Broadcast & Respond Chls
- Multimode & Single Mode (850/1300/1550nm)
- Distances up to 100km
- 8 or 12 Channels RS-232/422/485
- Tx & Rx LEDs for Each Channel
- Anti-Streaming Capability
- Built-In Power Redundancy
- Local Dry Contact Alarm Relay
- Rackmount or Standalone



TC2900 Fiber Optic Multiplexer

Intended for Bus or String topologies, the TC2900 Multi-Drop Fiber Optic Multiplexer links up to 12 monitoring devices (RTUs or PLCs) fitted with RS-232, RS-422, or RS-485 (2 or 4-wire) interfaces to a Host controller or CPU. It supports asynchronous data rates up to 38.4 Kbps.

The TC2900 works in a “polled-response” (also called Slave/Master) type of communication network. Model TC2900 is the Master, TC2901 the Slave units. A wide-range temperature version (-20°C to 70°C), Model TC2900T, is available for extreme environment applications.

Each TC2900 unit provides two pairs of fiber interfaces and 8 or 12 independent RS-232 and/or RS-422/485 channels. Diagnostic LEDs include Tx and Rx for each channel, Power A, Power B, VccA, VccB, SyncA, SyncB, LP-A, and LP-B. An Anti-Streaming capability is provided to prevent a single node failure (e.g. “babbling”) from bringing down the entire network.

The TC2900 is compatible with all popular types and sizes of fiber optic cable and is available in multimode (850/1300nm) or single mode (1300/1550nm) versions. Fiber optic connectors are ST or FC. Electrical connectors are RJ-11 female. Power is 12VDC. Optional power sources are 24VDC, -48VDC, or 115/230VAC with an external power cube.

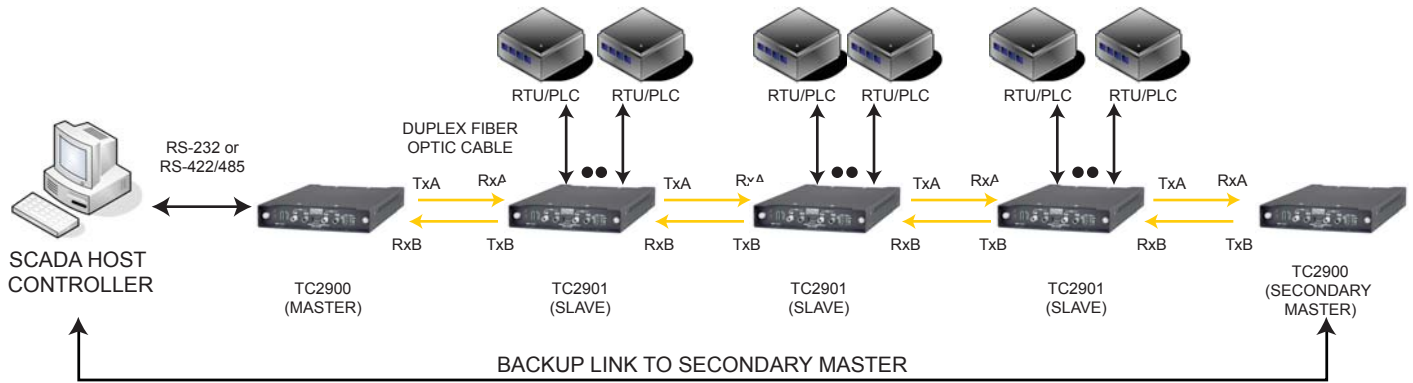
The TC2900 is available in a Single or Dual Master configuration. The Dual Master configuration is the most fault-tolerant. If a fiber link becomes broken or degraded in this topology, the Host controller can detect that an RTU is not responding to its broadcast message and re-route the message to the secondary (backup) Master unit through a backup link, thereby reaching the lost Slave unit(s) and terminals (RTUs).



Applications

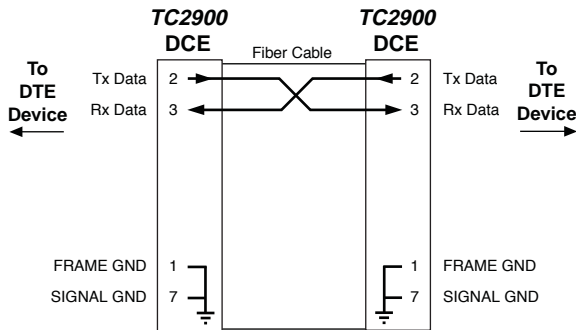
Designed for Bus or String topologies, the TC2900 is often used to interconnect Remote Terminal Units (RTUs) or Programmable Logic Controllers (PLCs) in Utility substation SCADA Networks that require multiple channels. It is also used for similar connectivity applications in Traffic Control, Industrial Process Control and Security System fiber optic networks.

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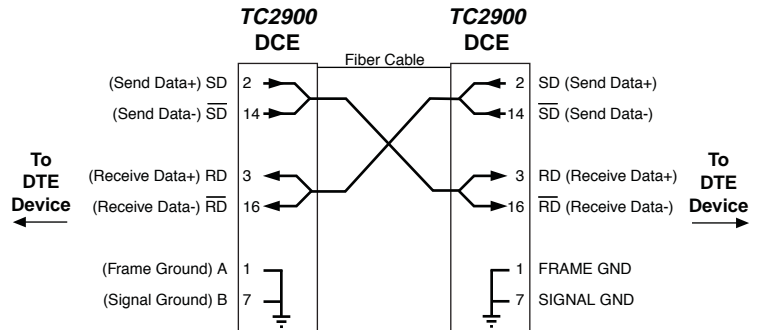


Typical "Dual Master" String Configuration Using Model TC2900 with Dual SCADA Host Controllers

RS-232 Virtual Connection
(connect two Async DTE devices)



4-Wire RS-422/485 Virtual Connection
(connect two Async DTE devices)



Data Rates

Async RS-232/422/485.....to 38.4 Kbps

Optical

Transmitter.....LED/ELED/LASER*

ReceiverPIN Diode

Wavelength

.....850/1300nm Multimode

.....1300/1550nm Single Mode

Fiber Optic Connectors.....ST or FC

Loss Budget* - 850/1300/1550nm

Multimode @62.5/125µm15dB

Single Mode @9/125µm.....20dB

Electrical

Connector.....RJ11 Female

Interface(DCE) RS-232,

.....RS-422, or RS-485 (2 or 4-wire)

Diagnostic Functions

.....Local & Remote Loopback,

.....Signal Generator, Master/Slave

Power

Standard12VDC @800mA

Optional.....00.....24VDC, -48VDC, or

.....115/230VAC with power cube

System

Bit Error Rate1 in 10⁹ or better

Alarm

Dry Contact.....Normal OPEN

Visual Indicators

System ...PWR A, PWR B, VccA, VccB

Electrical Signal

Tx Rx (for each channel)

Optic Signal.....TxA, RxA, TxB, RxB,

.....SYNC-A, SYNC-B, LP-A, LP-B

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 (Stand Alone Unit)

Height(6.71 cm) 2.6"

Width(18.10 cm) 7.1"

Depth(24.89 cm) 9.8"

Weight(1.82 kg) 4 lbs

*Contact factory for higher requirements (LASER)



ISO 9001
QMI-SAI Global
#1045959

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