

RS-232 Sync/Async Fiber Optic Modem with Internal Clock User's Manual

1. Description

Using a pair of fiber optic cables, the TC1100 can communicate at distances up to 3 km/30 km. The unit can be powered by either an external power adapter or by the incoming RS-232 signal (from the DB25 connector). The TC1100 allows the user to plug into a personal computer's COM port and, using popular software such as PC ANYWHERE, link two computers together over fiber. TC1100's design utilizes surface mount technology.

2. Electrical & Virtual Connection

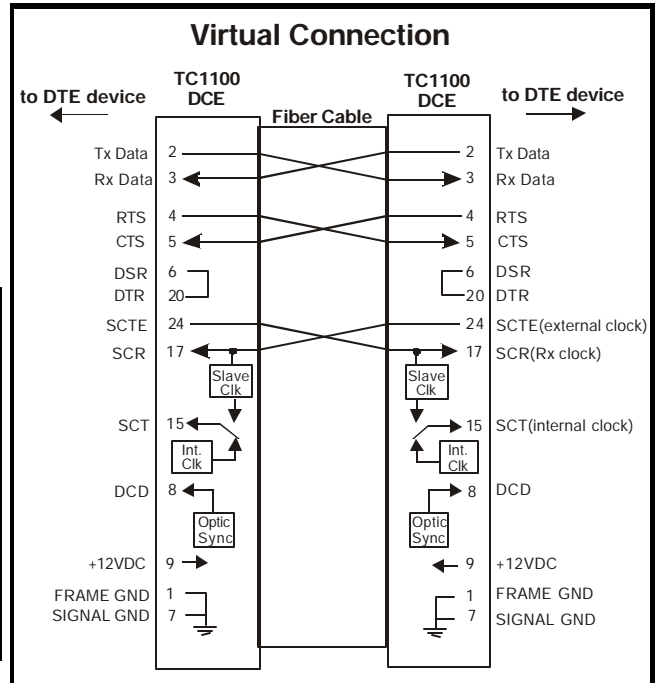
Interface: RS-232

Data Rates: Asynchronous to 115Kbps
Synchronous DC to 128Kbps

Connector: DB25 Female

Pinouts:

2	Tx Data:	Transmit Data
3	Rx Data:	Receive Data
4	RTS:	Request To Send
5	CTS:	Clear To Send
6	DSR:	Data Set Ready
20	DTR:	Data Terminal Ready
8	DCD:	Data Carrier Detect (Optic Signal Detect)
24	SCTE:	Transmit Clock
17	SCR:	Receive Clock
15	SCT:	Internal Clock from TC1100
9	+12V:	External Power supplied by User's Equipment
1	FRM GND:	Frame Ground
7	SIG GND:	Signal Ground



3. Optical Specifications

Transmitter: LED; typical Launch Power: -19dBm* (850nm/1310nm Multimode, @62.5/125µm)
-16dBm* (1310nm Single Mode, @9/125µm)

Receiver: PIN; typical Sensitivity: -34dBm* (850nm/1310nm Multimode, @62.5/125µm)
-36dBm* (1310nm Single Mode, @9/125µm)

Loss Budget: 850nm/1310nm MM, @62.5/125µm: 15dB
1310nm Single Mode, @9/125µm: 20dB

Distance: 850nm Multimode, @62.5/125µm: up to 3km distance*
1310nm Multimode, @62.5/125µm: up to 4km distance*
1310nm Single Mode, @9/125µm: up to 30km distance*

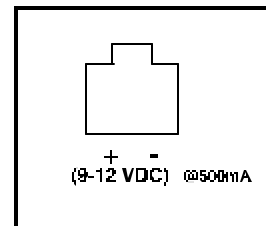
Wavelength: 850nm Multimode (Model TC1100-01-XX-XX-12)
1310nm Multimode (Model TC1100-03-XX-XX-12)
1310nm Single Mode (Model TC1100-L1-XX-XX-12)

Connector: ST (Model TC1100-XX-ST-XX-12)
FC (Model TC1100-XX-FC-XX-12)

*Launch power & sensitivity are listed for reference only. These numbers may vary.

4. Power Requirements

- A. The TC1100 consumes low power. The input DC voltage is from 9V to 14V and current is 200mA max.
- B. The user can provide a DC power of +12V (9 to 14VDC) to pin 9 or use an external power adapter with the following specifications: 12VDC @800mA connecting to terminal block connector. You may order it from TC Communications.



5. Connectors, Indicators & DIP Switches

Model TC1100
RS-232 SYNC/ASYNC
FIBER OPTIC MODEM

BAUD RATE
INT/EXT CLK
1 2 3 4

9-12V
DC
+ -

OPTIC
Tx Rx

DC Power Status

Pin 17: RxCLK (SCR)

Pin 24: TxCLK (SCTE)

Pin 3: RxD

Pin 2: TxD

SYNC (Optic Status Indicator):
Red LED lit (solid) when valid optic signal is received; flashes when optic signal is lost.

OPTIC RECEIVER:
Connect optic cable here to receive optic signal from remote unit.

OPTIC TRANSMITTER:
Connect optic cable here to transmit optic signal to remote unit.

POWER CONNECTOR:
9 to 12VDC @500mA

SYNC/ASYNC
EXTERNAL/INTERNAL CLOCK RATE SELECTION:

	1	2	3	4
EXTERNAL CLOCK	↑	↑	↑	↑
2.4KB	↓	↑	↑	↑
4.8KB	↑	↓	↑	↑
9.6KB	↓	↓	↑	↑
19.2KB	↑	↑	↓	↑
38.4KB	↓	↑	↓	↑
64KB	↑	↓	↓	↑
SLAVE CLK	↓	↓	↓	↑
LOCAL LOOPBACK	↑	↑	↑	↓

EXAMPLE

6. Physical Characteristics

Height: 0.75" (1.91 cm)
Width: 4.0" (10.16 cm)

Depth: 2.4" (6.10 cm)
Weight: 7 oz. (137 gm)

7. Temperature

Operating: -10 to 50 degree C
Storage: -40 to 90 degree C

Hi-Temp(optional): -20 to 70 degree C
Humidity: 95% non-condensing

8. Warranty & Return Policy

Return Policy

To return a product, you must first obtain a Return Material Authorization number from the Customer Service Department. If the product's warranty has expired, you will need to provide a purchase order to authorize the repair. When returning a product for a suspected failure, please provide a description of the problem and any results of diagnostic tests that have been conducted.

Warranty

Damages by lightning or power surges are not covered under this warranty.

All products manufactured by TC Communications, Inc. come with a five year (beginning 1-1-02) warranty. TC Communications, Inc. warrants to the Buyer that all goods sold will perform in accordance with the applicable data sheets, drawings or written specifications. It also warrants that, at the time of sale, the goods will be free from defects in material or workmanship. This warranty shall apply for a period of five years from the date of shipment, unless goods have been subject to misuse, neglect, altered or destroyed serial number labels, accidents (damages caused in whole or in part to accident, lightning, power surge, floods, fires, earthquakes, natural disasters, or Acts of God.), improper installation or maintenance, or alteration or repair by anyone other than Seller or its authorized representative.

Buyer should notify TC Communications, Inc. promptly in writing of any claim based upon warranty, and TC Communications, Inc., at its option, may first inspect such goods at the premises of the Buyer, or may give written authorization to Buyer to return the goods to TC Communications, Inc., transportation charges prepaid, for examination by TC Communications, Inc. Buyer shall bear the risk of loss until all goods authorized to be returned are delivered to TC Communications, Inc. TC Communications, Inc. shall not be liable for any inspection, packing or labor costs in connection with the return of goods.

In the event that TC Communications, Inc. breaches its obligation of warranty, the sole and exclusive remedy of the Buyer is limited to replacement, repair or credit of the purchase price, at TC Communications, Inc.'s option.

To return a product, you must first obtain a Return Material Authorization (RMA) number and RMA form from the Customer Service Department. If the product's warranty has expired, you will need to provide a purchase order to authorize the repair. When returning a product for a suspected failure, please fill out RMA form provided with a description of the problem(s) and any results of diagnostic tests that have been conducted. The shipping expense to TC Communications should be prepaid. The product should be properly packaged and insured. After the product is repaired, TC Communications will ship the product back to the shipper at TC's cost to U.S. domestic destinations. (Foreign customers are responsible for all shipping costs, duties and taxes [both ways]. We will reject any packages with airway bill indicating TC communications is responsible for Duties and Taxes. To avoid Customs Duties and Taxes, please include proper documents indicating the product(s) are returned for repair/retest).