

Installation Guide Ethernet Fiber Optic Transceiver

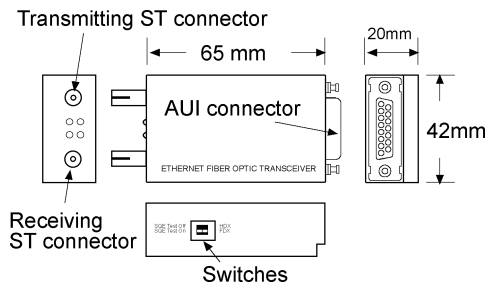
Model: KT-10F v2

DOC.G990126-KT10F-V2-K
P/N: 750-0125-001

General Description

The KT-10F Ethernet transceiver complies with IEEE 802.3 transceiver specifications and 10Mbps Ethernet CSMA/CD operation to extend the your existing Ethernet segment up to 2000 meters by using fiber optic cable.

The transceiver is attached to the AUI connector of an Ethernet device via standard AUI cable.



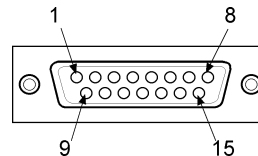
Features

- Complies with IEEE 802.3 10Base-FL standard.
- A complete interface of the AUI to fiber optic cable link.
- Flexible selection for half-duplex or full-duplex mode
- Supports data transfer rate up to 20Mbps for full-duplex
- Capability for driving the fiber optic cable segment up to 2000M (6560 ft.).
- Selectable SQE test function
- Link integrity test for automatic checking of fiber optic cable lines
- Supports LED indications for the Transmit, Receive, Link, and Collision status.
- Dimension: 42mm x 65mm x 20mm
- Input voltage: 10.2 to 15.75 VDC
- Input current: 250mA @12 VDC (typical)

Connectors & Cables

AUI connection: D-sub 15 pin male connector
AUI drop cable (50 meters max.)

The AUI connector is used for attaching the transceiver to the AUI port provided by an Ethernet device such as an Ethernet MAC controller, an Ethernet repeater, or an Ethernet concentrator via an AUI drop cable. The pin assignments are shown as below:



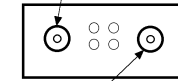
Pin Assignments of the AUI (DB15) Connector

Pin	Name	Pairs	Use
3	DO +	Transmit	Data Out (+)
10	DO -	Pair	Data Out (-)
11	DOS		Data Out Shield
5	DI +	Receive	Data In +
12	DI -	Pair	Data In -
4	DIS		Data In Shield
7	CO +	Optional	Control Out +
15	CO -	Pair	Control Out -
8	CO S		Control Shield
2	CI +	Collision	Control In +
9	CI -	Pair	Control In -
1	CIS		Control Shield
6	VC	Power	Voltage Common
13	VP	Pair	Voltage Plus
14	VS		Voltage Shield

Fiber connection: ST connectors
Fiber optic cable

Two ST style connectors are provided for connection to fiber optic cable. One is for transmitting and the other is for receiving. See the following figure:

Transmitting ST connector



Receiving ST connector

Fiber mode: multimode
Wavelength: 850µm

The transceiver can operate with a variety of fiber optic sizes, for example, 50/125µm, 62.5/125µm, and 100/140µm.

Setting Switches

There are two switches which are accessible on the side of the transceiver enclosure. The functions of these switches are:



SW#	Setting	Function
SW1	On	Enable SQE test (factory default)
	Off	Disable SQE test (for repeater device)
SW2	On	Full-duplex mode
	Off	Half-duplex mode (factory default)

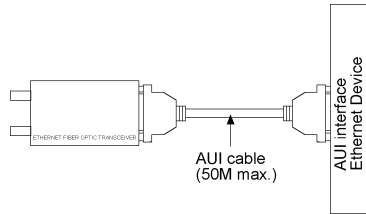
Important:

The transceiver is shipped from the factory with the SQE test enabled. If the transceiver is connected to an Ethernet repeater, a 10Base-T hub, or a wiring concentrator, the SQE test function should be disabled.

Installation

Attaching to an Ethernet device via an AUI cable

The Ethernet device can be a network interface controller, wiring concentrator, or repeater that provides an AUI port. For attaching to such device, an AUI cable of appropriate length is required. The following figure illustrates the connection of the transceiver and an Ethernet device via an AUI cable.



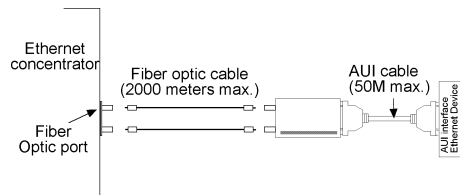
Important:

If the transceiver is attached to an Ethernet repeater, a 10Base-T hub, or a wiring concentrator, the SQE test function should be disabled.

Connecting to a fiber optic cable segment

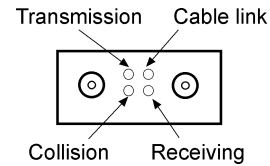
The transceiver has two ST female connectors for hooking up to a duplex fiber optic cable segment. One ST connector is used for transmitting data and the other one is used for receiving data. Two fiber optic cables are required to compose a duplex cable segment between the transceiver and the Fiber Optic port at the other end of the cables.

The Fiber Optic port at the other end of the cables must comply with IEEE 802.3 10Base-FL standard.



Interpreting LED Indicators

There are four diagnostic LED indicators provided on the transceiver to indicate the operation status as below:



LED	Operation status	State	Interpretation
Link	Cable link status	On	The cable link is ok
		Off	No cable link or the link is faulty.
		Blink	The cable link is faulty.
TRX	Transmission status	Blink	Transmission is in operation.
		Off	No transmission.
		On	Normal, if large transmission is in operation. Problem, if no transmission.
RCV	Receiving status	Blink	Receiving data packet
		Off	No packet is being received.
		On	Normal, if heavy traffic load. Problem, if no network traffic.
COL	Collision status	Off	No collision occurs.
		Blink	There is presence of collisions.