

**FTL1-M2-BS
USER MANUAL**

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1. Overview

1.1 Introduction

The FTL1-M2-BS Series 10/100M Auto-Sensing Ethernet Fiber Optic Transceiver is designed using advanced fiber optic technology. This series transmit and receive 10/100 Mbps (no adjustment is required) data over two multi-mode optical fibers, extending the Ethernet transmission distance from its normal few hundred meters to 4 kilometers. By using optical fiber as transmission media, this series continue to perform its secured, high-speed and long-distance communication even under the adverse condition such as lightning, power surge and electromagnetic interference; substantial saving on lightning and power surge protection equipments if copper wires were used.

The FTL1-M2-BS Series is fully assembled using SMT components for stability and reliability.

1.2 Technical Specification

ETHERNET	
Supporting standards	IEEE802.3 10Base-T, 100Base-T
Data Rate	10/100Mbps auto-sensing, Full Duplex or Half Duplex
Physical Interface	RJ45, DCE interface

OPTICAL	
Number of Fibers	2
Wavelength	1310nm
Fiber Type	62.5/125 μ m(MM)
Distance	0 ~ 4km
Connector Type	ST/PC

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GENERAL	
Operating Temperature	-40 ~ 70°C / -40 ~ +158°F
Relative Humidity	0 ~ 95% non-condensing
Mean Time Between Failure (MTBF)	> 100,000hrs
3U Chassis Card Input Voltage	5VDC
Enclosure Color	Silver
Dimensions	Standard 3U 19" chassis card

1.3 Warranty

n Repair

- Please contact your local distributors when product is defective. Please apply RA in advance and prepay shipping cost when returning the defective product to us. We will pay the cost for sending it back to you.
- Please attach a statement clearly describing the problem.

n We will repair defective product under warranty free of charge to our customer.

n 5 years warranty for product only.

n Any unauthorized modification of hardware and software voids the warranty.

n Warranty does not cover mishandling and/or abuse of the product.

Products comply with the following Safety Label for International Fiber Communication Equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful Interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at this own expense.

Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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1.4 Instruction of Disassembly

Instruction of Disassembly of KBC Product (For EU Directive 2002/95/EEC—WEEE)

Tools Required:

- 1) 5 mm flat tip screwdriver
- 2) $\Phi 3$ cross tip screwdriver
- 3) $\Phi 5$ cross tip screwdriver
- 4) Size small snip nose pliers
- 5) 15 mm spanner

Steps for Disassembly:

- 1) Remove tightening screws of box cover (1 or 4-8 screws in general);
- 2) Remove lock nut for BNC with spanner;
- 3) Remove cover plate;
- 4) Remove tightening screws for printed circuit board (PCB);
- 5) In case the assembly has more than one PCB then continue removing the remain tightening screws until none left;
- 6) Use snip nose pliers to loose the nut of flange and then remove optic cable connector (jump wire);
- 7) Snip off power conducting cable and remove power switch /jack/etc.;
- 8) Take out all PCBs;
- 9) Disassembly of product completed.

Notice: When a product reaches the end of it's life—return to KBC

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2 Installation

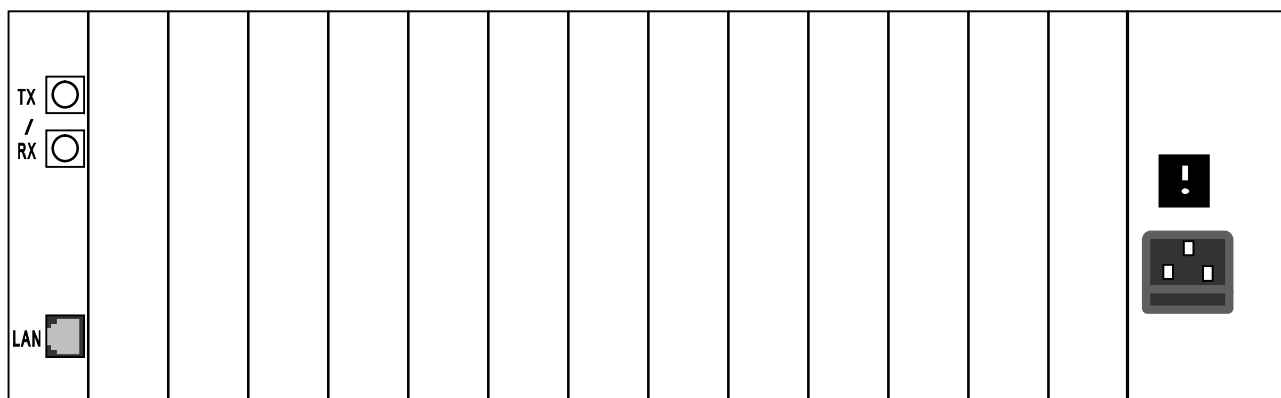
2.1 Package Contents

- One FTL1-M2-BS Transceiver
- LED label for 3U chassis card
- One User Manual

Please contact dealer or distributor if part is missing or damaged.

2.2 Transceiver Enclosure

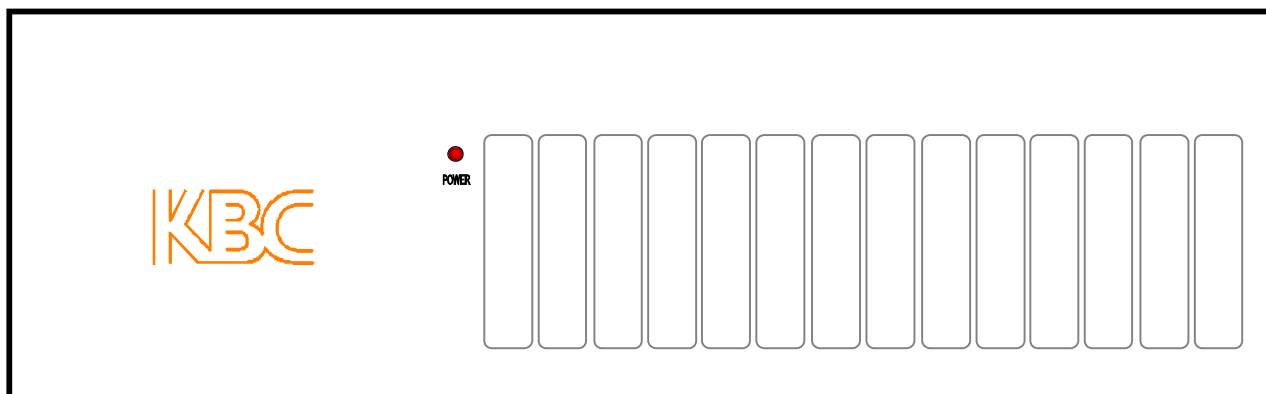
Transceiver Back View



Connectors:

TX: Fiber Optic ST(Transmit)
RX: Fiber Optic ST(Receive)
LAN: LAN RJ45

Transceiver Front View



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LED Labeling:

Please affix the provided LED labels to the slot to which the card is inserted.



LEDs Definition:

POWER: On if Power Supply is plugged in.
FIB: Link activity; on if link is OK; flashing if there is activity.
LAN: LAN activity; on if link is OK; flashing if there is activity.

2.3 Caution

- Switch off all power supply before installation.
- Ensure fiber is properly aligned to the receiving connector. Avoid forcing in the fiber.
- Connect the FIBER(TX) of the local Transceiver to the FIBER(RX) of the terminal Transceiver, and connect the FIBER(RX) to the FIBER(TX) by the optical fiber.
- The Ethernet interface is an auto-sensing interface.

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2.4 Install Application

