# FTL1-S1A-MSE

# FTL1-S1B-BS

# User Manual

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# 1. Overview

## 1.1 Introduction

The FTL1-S1A-MSE/FTL1-S1B-BS Series 10/100M Auto-Sensing Ethernet single-mode Fiber Optic Transceiver is designed using advanced fiber optic technology. This series transmit and receive 10/100 Mbps (no adjustment is required) data over a single-mode optical fiber, extending the Ethernet transmission distance from its normal few hundred meters to 25 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 lighting, power surge and electromagnetic interference; substantial saving on lighting and power surge protection equipments if copper wires were used.

The FTL1-S1A-MSE/FTL1-S1B-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, Auto MDI/MDIX |

| **OPTICAL** | |
|---|---|
| Number of Fibers | 1 |
| Wavelength | 1550nm/1310nm |
| Fiber Type | 9/125μm(SM) |
| Distance | 0 ~ 25Km |
| Connector Type | ST/PC |

| GENERAL | |
|---|---|
| Operating Temperature | -40 ~ 70˚C / -40 ~ +158ºF |
| Relative Humidity | 0 ~ 95% non-condensing |
| Mean Time Between Failure (MTBF) | > 100,000hrs |
| Compact Transceiver Power Supply | Input: 100~240VAC, 50/60Hz,0.5A<br>Output: +12VDC, 2A |
| 3U Chassis Card Input Voltage | +5VDC |
| Enclosure Color | Silver |
| Dimensions (Compact, L×W×H ) | 76mm×70mm×28mm/2.98”×2.76”×1.10” |
| Dimensions (3U Chassis Card) | Standard 3U 19” chassis card |

### 1.3 Warranty

- 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.
- We will repair defective product under warranty free of charge to our customer.
- 5 years warranty for product only.
- Any unauthorized modification of hardware and software voids the warranty.
- 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.

## 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) Φ3 cross tip screwdriver
3) Φ5 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**

# 2 Installation

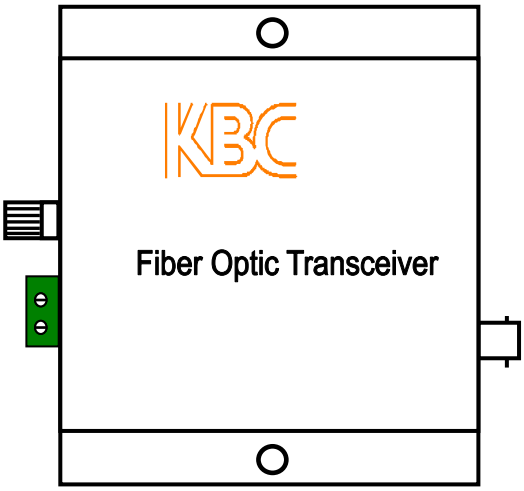
## 2.1 Package Contents

- One FTL1-S1A-MSE Transceiver ( Compact)
- One FTL1-S1B-BS Transceiver( 3U Chassis Card )
- One power supply adaptor
- LED label for 3U Chassis Card
- Two User Manuals

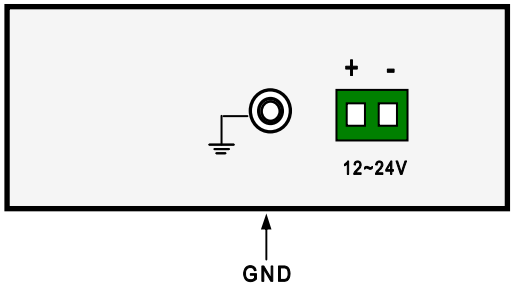
Please contact dealer or distributor if part is missing or damaged.

## 2.2 Transceiver Compact Enclosure

**Transceiver Top View**




**Transceiver Left View**




**Connectors:**

GND: Grounded pin

DC or AC Power Supply between 12V and 24V can be used on this product.

- DC:
  ＋: +12VDC~+24VDC
  －: Power Supply Ground
- AC:
  There is no difference between ＋/－; the power supply can be connected into the device directly.

**Transceiver Right View**


**Connectors:**

TX/RX: Fiber Optic ST

LAN: LAN RJ45

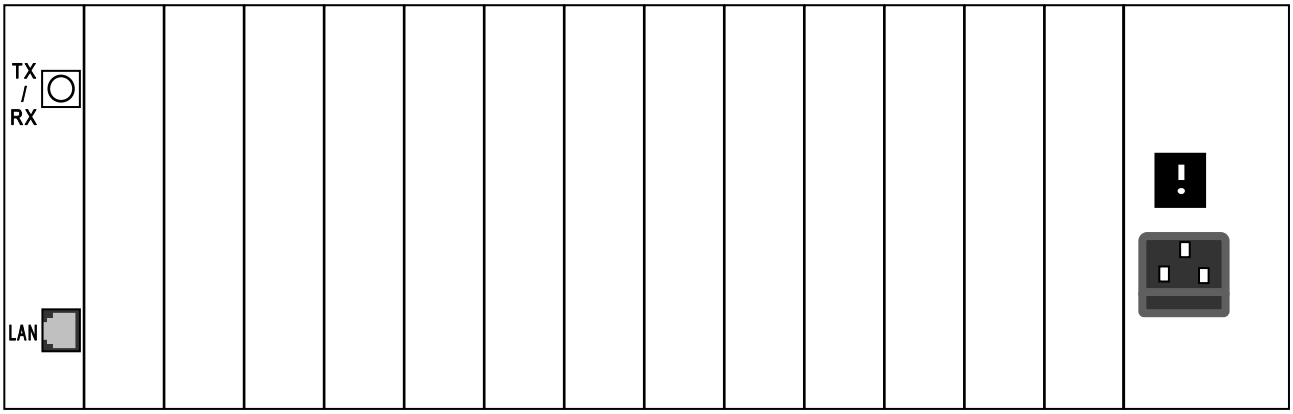
Beside the Ethernet RJ45, there are two LEDs:

The green LED: Ethernet Link. Flashing if the link is in OK

The yellow LED: Fiber Link. Flashing if the link is in OK

## 2.3 Transceiver 3U Chassis Card Enclosure

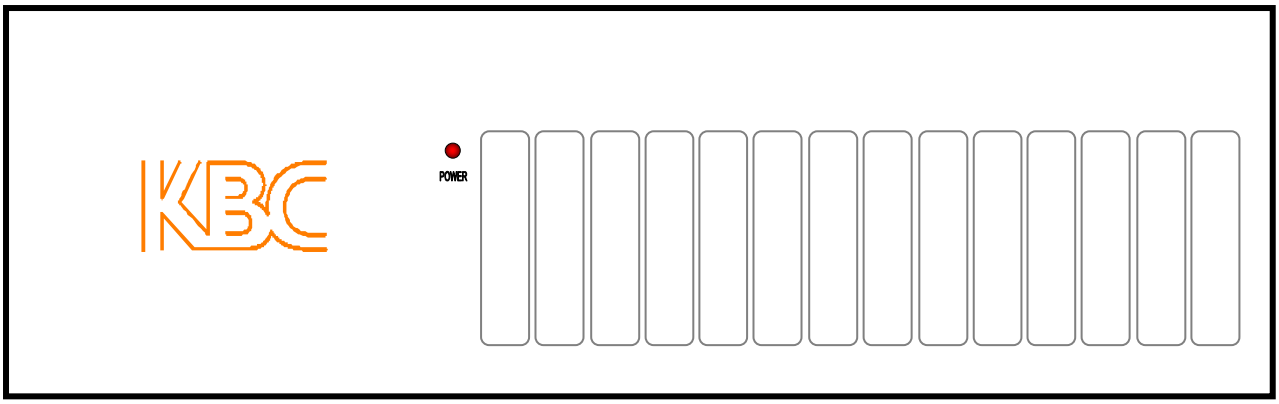
**Transceiver Back View**



**Connectors:**

FIB: Fiber Optic ST
LAN: LAN RJ45

**Transceiver Front View**




**LED Labeling:**

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

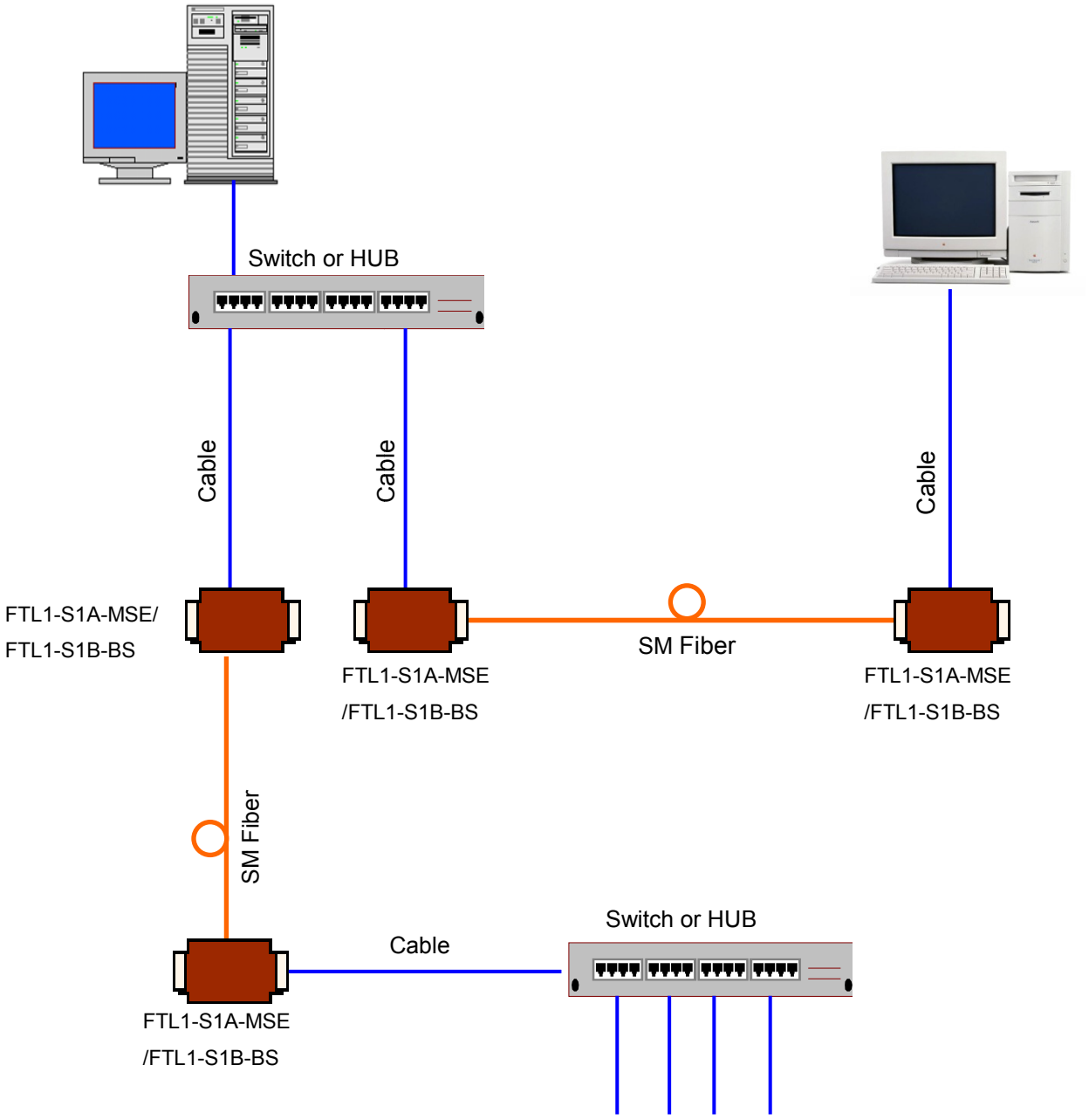

**LEDs Definition:**

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.

## 2.4 Caution

- Switch off all power supply before installation.
- Ensure fiber is properly aligned to the receiving connector. Avoid forcing in the fiber.
- The Ethernet interface is an auto-sensing interface.

## 2.5 Install Application



# 3 Dimensions (mm)

**Compact：**