



**MCG1-S2-BS  
USER MANUAL**

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# MCG1-S2-BS USER MANUAL

## 1. Overview

### 1.1 Introduction

The MCG1-S2-BS Series 1000M auto-sensing Ethernet Fiber Optic Transceiver is designed using advanced fiber optic technology. This series transmit and receive 1000 Mbps (no adjustment is required) data over 2 single-mode optical fibers, extending the Ethernet transmission distance from its normal few hundred meters to 2 kilometers. The MCG1-S2-BS Series is auto-negotiation, port auto-negotiation mode is according to connection speed and duplex mode of the device on the other side, automatically adjust its speed to the highest public level, that the line ends can be made with the fastest speed and duplex mode. 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 MCG1-S2-BS Series is fully assembled using SMT components for stability and reliability.

### 1.2 Technical Specification

<b>ETHERNET</b>	
Supporting standards	IEEE802.3 1000Base-T
Data Rate	1000Mbps auto-sensing, Full Duplex or Half Duplex
Physical Interface	RJ45, Atuo MDI/MDIX

<b>OPTICAL</b>	
Number of Fibers	2
Wavelength	1310nm
Fiber Type	9/125 $\mu$ m(SM)
Distance	0 ~ 25Km
Connector Type	ST/PC

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<b>GENERAL</b>	
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

- 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.

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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

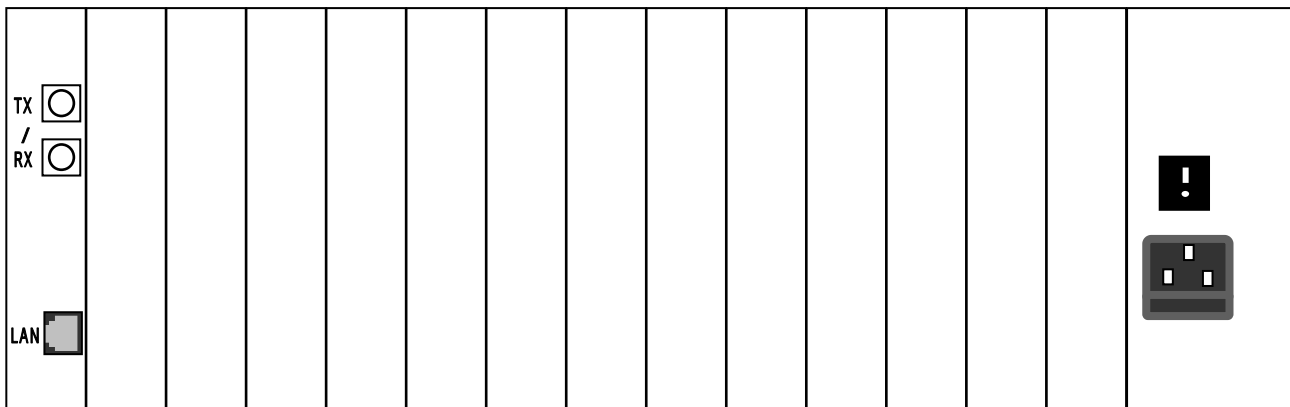
### 2.1 Package Contents

- One MCG1-S2-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

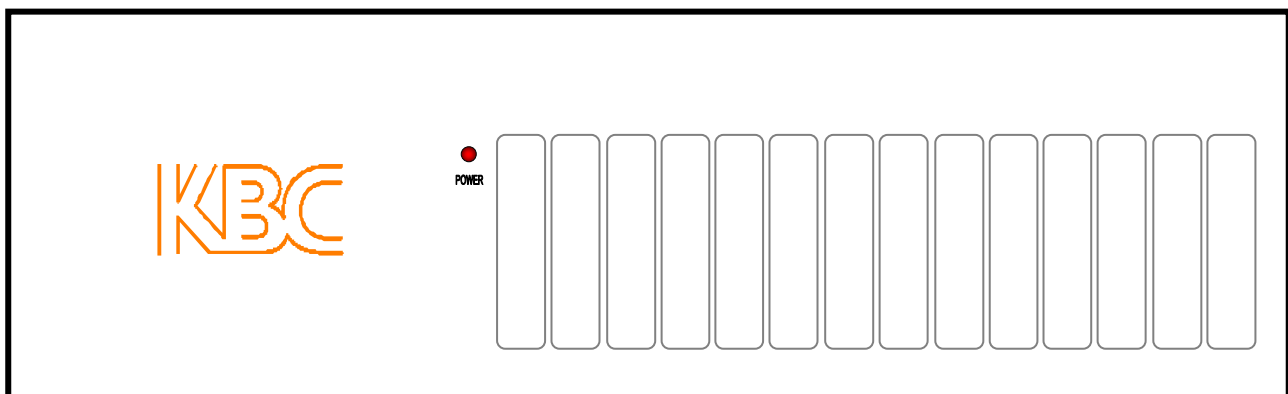
**Transceiver Back View**



#### 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:** Lit when fiber link is established and no traffic is detected.
- 100M:** LAN 100Mbps Speed Indicator. Lit only when link speed is 100Mbps.
- 1000M:** LAN 1000Mbps Speed Indicator. Lit only when link speed is 1000Mbps.
- L/A:** Lit when copper link is established and no traffic is detected.  
Blinks when copper link traffic is transmitted or received.
- DUP:** LAN Full duplex Indicator.  
An unlit LED means half duplex mode, and a lit LED means full duplex mode.

## 2.3 Caution

- Switch off all power supply before installation.
- Ensure fiber is properly aligned to the receiving connector. Avoid forcing in the fiber.
- The POWER LED is on if the device is under power and operational.

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## 2.4 Install Application

