◇ **BLACK BOX**

Gigabit Miniature Media Converters

Connect Gigabit Ethernet copper ports to fiber optic cable.

**Customer
Support
Information**

Order toll-free in the U.S.: Call 877-877-BBOX (outside U.S. call 724-746-5500)
FREE technical support 24 hours a day, 7 days a week: Call 877-877-2269 or fax
724-746-0746 • Mailing address: Black Box Corporation, 1000 Park Drive, Lawrence,
PA 15055-1018 • Web site: www.blackbox.com • E-mail: info@blackbox.com

FCC and Industry Canada RF Interference Statements
Class A Digital Device. This equipment has been tested and found to comply with the limits for a Class A computing device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. If this equipment does cause harmful interference to radio or telephone reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an experienced radio/TV technician for help.

CAUTION
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To meet FCC requirements, shielded cables and power cords are required to connect this device to a personal computer or other Class A certified device.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Certifications

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**Class 1 Laser product, Luokan 1 Laserlaite,
Laser Klasse 1, Appareil A'Laser de Classe**

European Directive 2002/96/EC (WEEE) requires that any equipment that bears this symbol on product or packaging must not be disposed of with unsorted municipal waste. This symbol indicates that the equipment should be disposed of separately from regular household waste. It is the consumer's responsibility to dispose of this and all equipment so marked through designated collection facilities appointed by government or local authorities. Following these steps through proper disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about proper disposal, please contact local authorities, waste disposal services, or the point of purchase for this equipment.

blackbox.com

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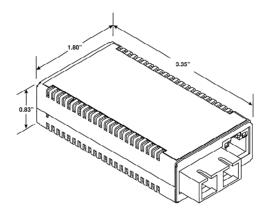
Part Numbers

Part Number	Description
LGC010A-R2	TX/SX-MM850-SC
LGC011A-R2	TX/LX-SM1310-SC
LGC012A-R2	TX/LX-SM1310/PLUS-SC
LGC013A-R2	TX/LX-SM1550/LONG-SC
LGC014A-R2	TX/SSLX-SM1310-SC (1310xmt/1550rcv) Single-Strand Fiber
LGC015A-R2	TX/SSLX-SM1550-SC (1550xmt/1310rcv) Single-Strand Fiber
LGC016A-R2	TX/SSLX-SM1310/PLUS-SC (1310xmt/1550rcv) Single-Strand Fiber
LGC017A-R2	TX/SSLX-SM1550/PLUS-SC (1550xmt/1310rcv) Single-Strand Fiber

1. Specifications

AC Wall Adapter	100 to 240 ±10% VAC input, 5 VDC output, 2A max.
Power Consumption (Typical)	600 mA @ 5V
Operating Temperature	+32°F to +122°F (0°C to +50°C)
Storage Temperature	-4°C to +158°F (-20°C to +70°C)
Humidity	5% to 90% (non-condensing); 0 to 10,000 ft. altitude
Dimensions	0.83"H x 1.80"W x 3.35"D (2.1cm x 4.6cm x 8.5cm)

2. Overview: About the Gigabit Miniature Media Converters

The Gigabit Miniature Media Converters are Gigabit Ethernet, miniature media converters. These devices convert 1000Base-SX (multi-mode) or LX (single-mode) fiber to 1000Base-T copper, and always operate at Full-Duplex. Single strand fiber versions are also available.

The Gigabit Miniature Media Converters offer plug-and-play operation, including the AutoCross feature which automatically selects between a crossover workstation or straight-through repeater hub connection depending on the connected device.

3. Install the Gigabit Miniature Media Converters

The Gigabit Miniature Media Converters install in a Black Box PowerTray 18-Slot DC or can be used as standalone media converters. As standalones, the Gigabit Miniature Media Converters use a universal external switching power cube with 100 to 240 ±10% VAC input and 5VDC output.

INSTALLATION TIP

Several models of the Gigabit Miniature Media Converters support single-strand fiber for operation. Since single-strand fiber products use optics that transmit and receive on two different wavelengths, single-strand fiber products must be deployed in pairs. For example, connect Gigabit Miniature Media Converter TX/SSLX-SM1310-SC, which transmits at 1310 nm and receives at 1550 nm, to a High Density Media Converter System II TX/SSLX-SM1550-SC, which transmits at 1550 nm and receives at 1310 nm. The two connected products must also have the same speed and distance capabilities (i.e. both are single-mode [15 Km] or both are single-mode/PLUS [40 km]).

NOTE

Use only the supplied Black Box power supply. Using a non-Black Box power source will void the warranty.

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4.   Operation

4.1 LED Operation

Gigabit Miniature Media Converters include two LEDs, located on the RJ-45 connector. LED functions are as follows:

FX LNK   Glows green when a link is established on the fiber port.

TX LNK/ACT   Glows amber when a link is established on the copper port; blinks amber when activity is detected on the copper port.

5. Contacting Black Box

Black Box Customer Service

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(outside U.S. call 724-746-5500)

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E-mail: info@blackbox.com

6. Fiber Optic Cleaning Guidelines

Fiber Optic transmitters and receivers are extremely susceptible to contamination by particles of dirt or dust, which can obstruct the optic path and cause performance degradation. Good system performance requires clean optics and connector ferrules.

1. Use fiber patch cords (or connectors, if you terminate your own fiber) only from a reputable supplier; low-quality components can cause many hard-to-diagnose problems in an installation.

2. Dust caps are installed at Black Box to ensure factory-clean optical devices. These protective caps should not be removed until the moment of connecting the fiber cable to the device. If you need to disconnect the fiber device, reinstall the protective dust caps.

3. Store spare caps in a dust-free environment such as a sealed plastic bag or box so that when reinstalled they do not introduce any contamination to the optics.

4. If you suspect that the optics have been contaminated, alternate between blasting with clean, dry, compressed air and flushing with methanol to remove particles of dirt.

7. Electrostatic Discharge Precautions

Electrostatic discharge (ESD) can cause damage to any product, add-in modules or stand alone units, containing electronic components. Always observe the following precautions when installing or handling these kinds of products.

1. Do not remove unit from its protective packaging until ready to install.

2. Wear an ESD wrist grounding strap before handling any module or component. If the wrist strap is not available, maintain grounded contact with the system unit throughout any procedure requiring ESD protection.

3. Hold the units by the edges; do not touch the electronic components or gold connectors.

4. After removal, always place the boards on a grounded, static-free surface, ESD pad or in a proper ESD bag. Do not slide the modules or stand alone units over any surface.

WARNING! Integrated circuits and fiber optic components are extremely susceptible to electrostatic discharge damage. Do not handle these components directly unless you are a qualified service technician and use tools and techniques that conform to accepted industry practices.

◇ **BLACK BOX**

About Black Box

Black Box Network Services is your source for more than 118,000 networking and infrastructure products. You'll find everything from cabinets and racks and power and surge protection products to media converters and Ethernet switches all supported by free, live 24/7 Tech support available in 30 seconds or less.

LGC010A-R2 Rev. 1   55-80730BB-00 Rev. B1