BLACK BOX NETWORK SERVICES

LGC120A-R2 LGC125A-R2 LGC129A-R2
LGC121A-R2 LGC126A-R2 LGC130A-R2
LGC122A-R2 LGC127A-R2
LGC124A-R2 LGC128A-R2

Miniature Media Converter 10/100/1000 Switching

# Connect Ethernet, Fast Ethernet, or Gigabit Ethernet copper ports to 1000-Mbps multimode duplex, single-mode duplex, or single-mode single-strand 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 724-746-5500 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

## TRADEMARKS USED IN THIS MANUAL

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## 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

CE

**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.

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## Part Numbers

| Part Number | Description |
|---|---|
| LGC120A-R2 | TX/SX-MM850-SC |
| LGC121A-R2 | TX/LX-SM1310-SC |
| LGC122A-R2 | TX/LX-SM1310/PLUS-SC |
| LGC124A-R2 | TX/LX-SM1550/LONG-SC |
| LGC125A-R2 | TX/SSLX-SM1310-SC (1310xmt/1550rcv) |
| LGC126A-R2 | TX/SSLX-SM1550-SC (1550xmt/1310rcv) |
| LGC127A-R2 | TX/SSLX-SM1310/PLUS-SC (1310xmt/1550rcv) |
| LGC128A-R2 | TX/SSLX-SM1550/PLUS-SC (1550xmt/1310rcv) |
| LGC129A-R2 | TX/SSLX-SM1490/LONG-SC (1490xmt/1550rcv) |
| LGC130A-R2 | TX/SSLX-SM1550/LONG-SC (1550xmt/1490rcv) |

## 1. Specifications

| | |
|---|---|
| AC Wall Adapter | 100 to 240 ±10% VAC input, 5 VDC output, 2A max. |
| Operating Temperature | +32°F to +122°F (0°C to +50°C) |
| Storage Temperature | -31°C to +167°F (-35°C to +75°C) |
| Humidity | 5% to 95% (non-condensing); 0 to 10,000 ft. altitude |
| Ethernet Connections | 10/100/1000 BaseT, Auto Negotiation, Auto-Cross, Flow Control, 1536 MTU, Full Line-Rate Forwarding |
| Dimensions | 0.83”H x 1.80”W x 3.35”D (2.11 x 4.57 x 8.51 cm) |

## 2. Overview: About the Miniature Media Converter 10/100/1000 Switching

The Miniature Media Converter 10/100/1000 Switching is a 10/100/1000 Auto Negotiating, switching miniature media converter. The fiber port always operates at 1000 Mbps FDX; the copper port Auto Negotiates the connected device's speed and duplex mode: 10 Mbps, 100 Mbps or 1000 Mbps, and HDX or FDX (including Flow Control).

The Miniature Media Converter 10/100/1000 Switching offers plug-and-play operation, including the AutoCross feature which automatically selects between a crossover work-station or pass-through repeater hub connection depending on the connected device.

## 3. Install the Miniature Media Converter 10/100/1000 Switching

The Miniature Media Converter 10/100/1000 Switching installs in a Black Box PowerTray 18-slot or can be used as a standalone media converter. As a standalone, the Miniature Media Converter 10/100/1000 Switching uses a universal external switching power cube with 100 – 240 ±10% VAC input and 5 VDC output.

### 3.1 Powering the Miniature Media Converter 10/100/1000 Switching

The Miniature Media Converter includes multiple powering options:

- A country-specific, high-reliability AC power adapter (included)
- The IEEE 802.3af Power over Ethernet standard; draws power from power sourcing equipment
- PowerTray 18-slot for Rackmounting

# 4. Operation

## 4.1 LED Operation

Each module features diagnostic LEDs that provide information on features and ports.

| | |
|---|---|
| **FX LNK/ACT** | Glows green when a link is established on the fiber port; blinks green when activity is detected 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**

**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:** 724-746-5500 or Fax: 724-746-0746

**Mail order:** Black Box Corporation
1000 Park Drive, Lawrence, PA 15055-1018

**Web site:** www.blackbox.com

**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.

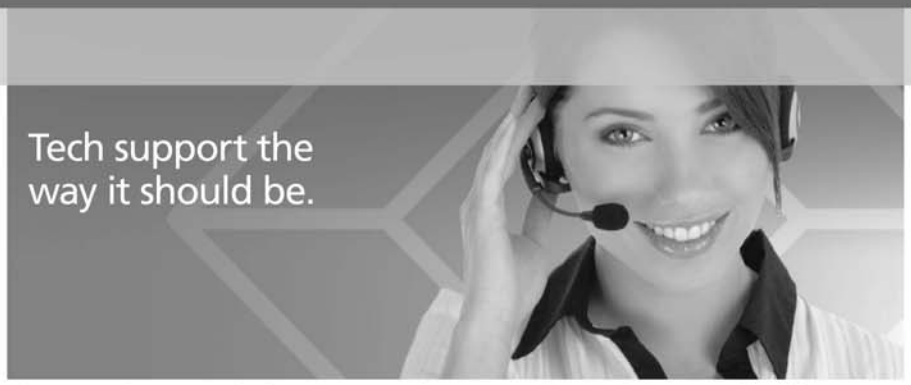
## 7. Electrostatic Discharge Precautions

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 Tech Support: FREE! Live. 24/7.




Great tech support is just 30 seconds away at 724-746-5500 or blackbox.com.

BLACK BOX®
NETWORK SERVICES

### 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.

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