

# USER MANUAL

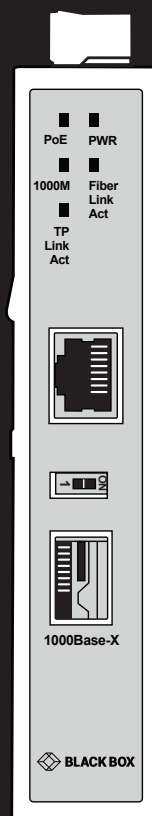
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LGC5400A

# UPOE CONVERTER

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# TABLE OF CONTENTS

|                                        |          |
|----------------------------------------|----------|
| <b>1. SPECIFICATIONS.....</b>          | <b>3</b> |
| 1.1 General .....                      | 3        |
| 1.2 Compatible SFPs.....               | 5        |
| <b>2. OVERVIEW.....</b>                | <b>6</b> |
| 2.1 Introduction.....                  | 6        |
| 2.2 Features .....                     | 6        |
| 2.3 What's Included.....               | 6        |
| 2.4 Hardware Description .....         | 7        |
| <b>3. REGULATORY INFORMATION .....</b> | <b>8</b> |
| 3.1 FCC Warning .....                  | 8        |
| 3.2 CE Warning .....                   | 8        |



## CHAPTER 1: SPECIFICATIONS

## 1.1 GENERAL

TABLE 1-1. GENERAL SPECIFICATIONS

| SPECIFICATION      | DESCRIPTION                                                                                                                                                                                 |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Approvals</b>   |                                                                                                                                                                                             |
| EMI                | CE Mark, commercial;<br>FCC Part 15 Class A;<br>VCCI Class A                                                                                                                                |
| EMS                | EN61000-4-2 (ESD);<br>EN61000-4-3 (RS);<br>EN61000-4-4 (EFT);<br>EN61000-4-5 (Surge);<br>EN61000-4-6 (CS);<br>EN61000-4-8;<br>EN61000-4-11                                                  |
| <b>General</b>     |                                                                                                                                                                                             |
| Connectors         | Twisted-pair: (1) 10/100/1000BaseT(X) RJ-45,<br>Fiber: (1) 1000Base-X SFP open slot<br><b>NOTE:</b> A compatible fiber SFP module installs in the SFP open slot. See Table 1-2 for details. |
| Data Transfer Rate | 2000 Mbps/full-duplex and 1000 Mbps/half-duplex                                                                                                                                             |
| Dimensions         | 5.1"H x 0.94"W x 3.8"D (13 x 2.4 x 9.6 cm)                                                                                                                                                  |
| Housing            | IP30                                                                                                                                                                                        |
| Jumbo Frames       | 9K bytes                                                                                                                                                                                    |
| Indicators         | (5) LEDs:<br>TX port:<br>(1) 1000 Mbps green LED,<br>(1) Link/Activity green LED,<br>(1) PoE ON green LED;<br>FX port:<br>(1) Link/Activity green LED;<br>Per unit:<br>(1) Power amber LED  |
| Mounting           | Via DIN rail kit installed on unit                                                                                                                                                          |
| Power              | Input: 44–57 VDC via (1) 2-pin terminal block or (1) optional 5-mm DC jack;<br>Includes 100–240 VAC, 50/60 Hz input, 56 VDC output, 1.2 A power adapter                                     |
| Standards          | IEEE 802.3ab 10Base-T;<br>IEEE 802.3u 100Base-TX;<br>IEEE 802.3ab 1000Base-T;<br>IEEE 802.3z 1000Base-X;<br>IEEE 802.3x Flow Control                                                        |



## CHAPTER 1: SPECIFICATIONS

**TABLE 1-1 (CONTINUED). GENERAL SPECIFICATIONS**

| SPECIFICATION              | DESCRIPTION                                                                                                  |
|----------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>General (continued)</b> |                                                                                                              |
| Transmission Media         | 1000BaseTX: CAT5 UTP/STP or above, up to 100 m                                                               |
|                            | 1000BaseX:                                                                                                   |
|                            | Multimode 50/125-μm or 62.5/125-μm fiber optic cable;<br>Single-mode 9/125-μm or 10/125-μm Fiber optic cable |
| User Controls              | (1) DIP switch:<br>ON: UPoE enable, LLDP enable:<br>OFF: UPoE disable, LLDP disable                          |
| Weight                     | 0.68 lb. (0.31 kg)                                                                                           |
| <b>Environmental</b>       |                                                                                                              |
| Temperature Tolerance      | Operating: -4 to +158° F (-20 to +70° C);<br>Storage: -40 to +185° F (-40 to +85° C)                         |
| Relative Humidity          | 10 to 90%, noncondensing                                                                                     |



## CHAPTER 1: SPECIFICATIONS

### 1.2 COMPATIBLE SFPS

**TABLE 1-2. COMPATIBLE SFPS SPECIFICATIONS**

| PRODUCT CODE | PRODUCT NAME                                                                                             | WAVELENGTH (NM) | DISTANCE         | TX POWER (DBM) | RX SENSITIVITY (DBM) | LINK BUDGET (DBM) |
|--------------|----------------------------------------------------------------------------------------------------------|-----------------|------------------|----------------|----------------------|-------------------|
| LFP411       | SFP, 1250-Mbps Fiber with Extended Diagnostics, 850-nm Multimode, LC, 550 m                              | 850 nm          | 1804 ft. (550 m) | -6.5 dBm       | -17 dBm              | 10.5 dBm          |
| LFP412       | SFP, 1250-Mbps Fiber with Extended Diagnostics, 1310-nm Multimode, LC, 2 km                              | 1310 nm         | 1.2 mi. (2 km)   | -5 dBm         | -19 dBm              | 14 dBm            |
| LFP413       | SFP, 1250-Mbps Fiber with Extended Diagnostics, 1310-nm Single-Mode, LC, 10 km                           | 1310 nm         | 6.2 mi. (10 km)  | -6.5 dBm       | -20 dBm              | 13.5 dBm          |
| LFP414       | SFP, 1250-Mbps Fiber with Extended Diagnostics, 1310-nm Single-Mode, LC, 30 km                           | 1310 nm         | 18.6 mi. (30 km) | 1 dBm          | -23 dBm              | 24 dBm            |
| LFP418       | SFP - 1250-Mbps Fiber with Extended Diagnostics, 1550-nm Single-Mode, LC, 80 km                          | 1550 nm         | 49.7 mi. (80 km) | 1 dBm          | -23 dBm              | 24 dBm            |
| LFP420       | SFP - Simplex, 1250-Mbps Fiber with Extended Diagnostics, 1550-nm TX, 1310-nm RX, Single-Mode, LC, 10 km | 1550 nm         | 6.2 mi. (10 km)  | -6 dBm         | -20 dBm              | 14 dBm            |

**NOTE:** One SFP module is required for operation of the unit.

## CHAPTER 2: OVERVIEW

### 2.1 INTRODUCTION

The Industrial UPoE Media Converter used with a multimode or single-mode SFP drives a twisted-pair signal over fiber cable up to 50 mi. (80 km).

### 2.2 FEATURES

- ♦ The RJ-45 Port complies with IEEE 802.3at PoE+ and supports Cisco UPoE, up to 60 W power delivery.
- ♦ Has one 10/100/1000Base-T(X) Gigabit RJ-45 port and one 1000Base-X SFP port.
- ♦ The Fiber Port supports either multimode or single-mode fiber.
- ♦ The twisted-pair port supports full-duplex, auto-MDI/MDI-X and auto-negotiation.
- ♦ Uses jumbo frame 9K bytes.
- ♦ Operating temperature ranges from -4 to +158° F (-20 to +70° C).
- ♦ Mounts on a DIN rail.

### 2.3 WHAT'S INCLUDED

Your package should include the following items. If anything is missing or damaged, contact Black Box Technical Support at 877-877-2269 or [info@blackbox.com](mailto:info@blackbox.com)

- ♦ One PoE Media converter (Including Terminal Block)
- ♦ One Quick Installation Guide
- ♦ One Power Adaptor (Optional)



## CHAPTER 2: OVERVIEW

### 2.4 HARDWARE DESCRIPTION

Figure 2-1 shows the Industrial UPoE Media Converter. Table 2-1 describes its components.

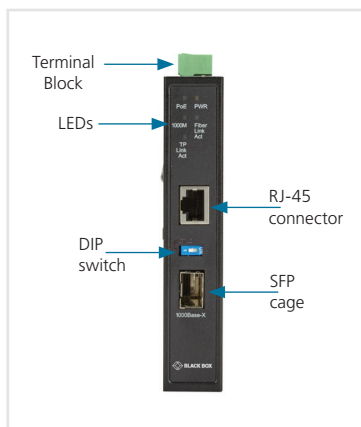


FIGURE 2-1. INDUSTRIAL UPOE MEDIA CONVERTER (LGC5400A)

TABLE 2-1. INDUSTRIAL UPOE MEDIA CONVERTER COMPONENTS

| COMPONENT IN FIGURE 2-1 | DESCRIPTION              | INDICATION                                                             |
|-------------------------|--------------------------|------------------------------------------------------------------------|
| <b>LEDS</b>             |                          |                                                                        |
|                         | (1) 1000 Mbps LED        | 1000 Mbps LED lights green when data is being transmitted at 1000 Mbps |
|                         | (1) TX Link Activity LED | Lights green when there is data activity on the twisted-pair link      |
|                         | (1) PoE ON LED           | Lights green when the unit is using Power over Ethernet                |
|                         | (1) FX Link/Activity LED | Lights green when there is data activity on the fiber link             |
|                         | (1) Power LED            | Lights amber when power to the unit is ON                              |
| <b>USER CONTROLS</b>    | (1) DIP switch           | ON: UPoE enable, LLDP enable:<br>OFF: UPoE disable, LLDP disable       |
| <b>CONNECTORS</b>       |                          |                                                                        |
|                         | RJ-45 connector          | Connects to twisted-pair link                                          |
|                         | SFP cage                 | Houses SFP module (required)                                           |
| <b>POWER</b>            |                          |                                                                        |
|                         | Power connector          | Links to power source                                                  |
|                         | Terminal block           | Links to power source                                                  |

**NOTE:** Use either the power connector or the terminal block for external power (not both at the same time).

## CHAPTER 3: REGULATORY INFORMATION

### 3.1 FCC WARNING

This device has been tested and found to comply with limits for a Class A digital device, pursuant to Part 15 of 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 and radiates radio frequency energy and, if not installed and used in accordance with the user's manual, it may cause interference in which case users will be required to correct interference at their own expenses.

### 3.2 CE 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.





NOTES

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