

FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

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

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.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

Warranty and Return Information

If you determine that your LGH008A is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including the nature and duration of the problem, when the problem occurs, and any particular application that, when used, appears to create the problem or make it worse.

© Copyright 2011. Black Box Corporation. All rights reserved. Black Box® and the Double Diamond logo are registered trademarks of BB Technologies, Inc. UL is a registered trademark of Underwriters Laboratories. Any third-party trademarks appearing in this manual are acknowledged to be the property of their respective owners.

LGH008A, version 1

FREE! Live, 24/7 Tech Support is just 30 seconds away.  
724-746-5500 | blackbox.com

Chapter 1: Overview

1. Overview

1.1 Introduction

The 8-Port Hardened Edge Switch has eight 10/100/1000BASE-TX RJ-45 Ethernet ports and two Power LEDs. It uses a 5-pin terminal block power connector.

NOTE: The switch should be mounted on a well-grounded place, such as a metal panel.

1.2 What's Included

Your package should include the following items. If anything is missing or damaged, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

- (1) 8-Port Hardened Edge Switch
- (1) 5-pin terminal block for power input
- This user's manual

Optional accessories:

- Wallmount kit (45.4" [2.3 cm] thick)

1.3 Hardware Description

Figure 1-1 shows the Hardened Edge Switch's front panel. Table 1-1 describes its components.

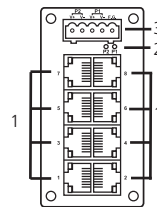


Figure 1-1. Front panel.

Chapter 3: Operation

3.3 Network Connector Pin Assignments

Table 3-2. RJ-45 connector pinout.

Pin	MDI (1000BASE-T)	MDI (10/100BASE-T)
1	TP1+	TX+
2	TP1-	TX-
3	TP2+	RX+
4	TP3+	—
5	TP3-	—
6	TP2-	RX-
7	TP4+	—
8	TP4-	—

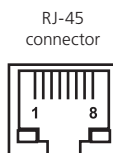


Figure 3-1. RJ-45 connector.

RJ-45 8-pin straight-through wiring

Switch	PC (NIC)
3-----3	
6-----6	
1-----1	
2-----2	
4-----4	
5-----5	
7-----7	
8-----8	

RJ-45 8-pin crossover wiring

Switch	Switch
3-----1	
6-----2	
1-----3	
2-----6	
4-----7	
5-----8	
7-----4	
8-----5	

Figure 3-2. RJ-45 straight-through and crossover wiring diagrams.

NOM Statement

Normas Oficiales Mexicanas (NOM) Electrical Safety Statement

INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico debe ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
  - A: El cable de poder o el contacto ha sido dañado; u
  - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
  - C: El aparato ha sido expuesto a la lluvia; o
  - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
  - E: El aparato ha sido tirado o su cubierta ha sido dañada.

**BLACK BOX**  
NETWORK SERVICES

LGH008A

8-Port Hardened Edge Switch

Link eight 10-/100-/1000-Mbps devices to this tough, industrial-grade switch's RJ-45 ports.

Includes two power LEDs and a 5-pin terminal block power connector.



**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

Chapter 1: Overview; Chapter 2: Hardware Installation

Table 1-1. LGH008A components.

Number	Component	Description
1	(8) RJ-45 ports	Link to 10-/100-/1000-Mbps Ethernet devices
2	(2) Power LEDs	Light when power to the switch is on
3	5-pin terminal block	Power connector

2. Hardware Installation

Step 1: Installation on DIN Rail

The Hardened Edge Switch has a DIN rail bracket attached to the rear panel. Follow the steps below to fasten the switch to the DIN rail correctly.

- Tip the switch forward and press it against the DIN rail after aligning the bracket springs to the DIN rail.
- Press the bracket against the upper ledge of the DIN rail until it clicks.

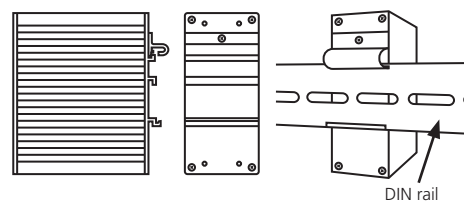


Figure 2-1. Installing the LGH008A on a DIN rail.

Chapter 2: Hardware Installation

Step 2: Connecting the Power

- Prepare a suitable 9-48 VDC power source and connect it to the switch via a 5-pin terminal block.
- You can connect two DC inputs into the switch power if auto-backup is needed.
- Check P1/P2 power LED. The LED(s) will light when the device is ready.

Table 2-1. 5-pin terminal block pinning.

Pin	V+	V-	F.G.
Signal	9-48 VDC	0 V	Frame Ground

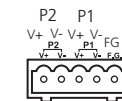


Figure 2-2. 5-pin terminal block connector.

WARNING: Before connecting the switch to the DC power input, make sure the DC voltage supplied by the power source is correct and stable.

Step 3: Connecting the Network Devices

- Connect your devices using standard UTP/STP cable with RJ-45 connectors to the switch. (For the cable wiring diagrams, refer to the pin assignment in Figure 3-2.)
- The corresponding RJ-45 LED will light if the Ethernet connection is linked successfully.
- The LED will blink while the switch transfers data.

UL® Notice for Power Supply

Use a power supply marked with "LPS," "Limited Power Source," or "Class 2" with output rate 9-48 VDC, 0.45 A maximum.

Chapter 3: Operation

3. Operation

3.1 LED Indicators

LED indicators are located on the front panel of the switch.

Table 3-1. LED indicators.

Name	LED	Status	Description
P1/P2	Green	Off	Power input 1/2 is not plugged in yet
		On	Power status is ready
RJ-45	Green	Off	Link is broken or no cable is plugged in
		Blinking	The device is transferring data through the port
		Yellow	
	Yellow	Off	The link is operating at a rate of 10/100 Mbps
	Yellow	On	The link is operating at a rate of 1000 Mbps

3.2 Configuration and Setting Methods

No configuration and setting methods are needed.