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 LPH008A 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.

LPH008A, version 1

1. Overview

1.1 Introduction

The Hardened Gigabit PoE+ Switch has eight 10/100/1000BASE-TX RJ-45 Ethernet ports and two Power LEDs. It supports Power over Ethernet, which transmits electrical power, along with data, to remote devices over standard twisted-pair cable in an Ethernet network. The switch 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) Hardened Gigabit PoE+ 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 Gigabit PoE+ Switch's front panel. Table 1-1 describes its components.

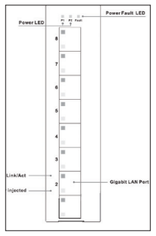


Figure 1-1. Front panel.

Table 1-1. LPH008A components.

Component	Description
(2) Power LEDs	Link to 10-/100-/1000-Mbps Ethernet devices
(1) Power Fault LED	Lights when power to the switch is on
(8) Link/Act. LEDs	Lights when the port is operating
(8) Power Injected LEDs	Lights when the port is using PoE+
(8) Gigabit LAN ports	Link to PoE+ devices

2. Hardware Installation

Step 1: Installing the Switch on a DIN Rail or Wall

Refer to the illustrations below to mount the switch on a DIN rail or wall.

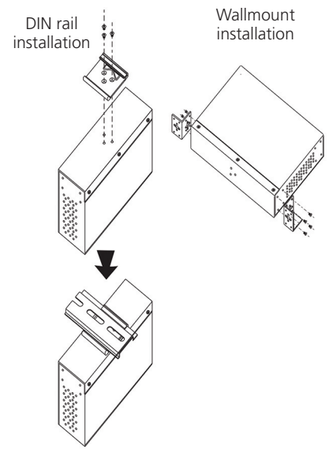
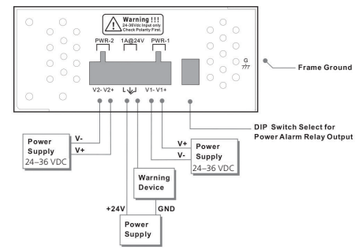


Figure 2-1. DIN rail or wallmount installation.

Step 2: Connecting the Power

Refer to the illustration below to connect the power to the switch.



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 24–36 VDC (5 A maximum at 24 VDC).

RJ-45 8-pin straight-through wiring		RJ-45 8-pin crossover wiring	
Switch	PC (NIC)	Switch	Switch
3	3	3	1
6	6	6	2
1	1	1	3
2	2	2	6
4	4	4	7
5	5	5	8
7	7	7	4
8	8	8	5

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

Table 3-2. PoE pin definition.

Pin	10/100BASE-T(X) PSE RJ-45 port	Pin	1000BASE-T PSE RJ-45 port
1	TD+ with PoE power input +	1	BI_DA+ with PoE power input +
2	TD- with PoE power input +	2	BI_DA- with PoE power input +
3	RD+ with PoE power input -	3	BI_DB+ with PoE power input -
6	RD- with PoE power input -	4	BI_DC+
4	Not used	5	BI_DC-
5	Not used	6	BI_DB- with PoE power input
7	Not used	7	BI_DD+
8	Not used	8	BI_DD-

3. Operation

3.1 LED Indicators

LED indicators are located on the front panel of the switch. See Table 1-1.

3.2 Configuration and Setting Methods

No configuration and setting methods are needed.

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-	—

RJ-45 connector

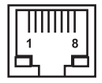


Figure 3-1. RJ-45 connector.

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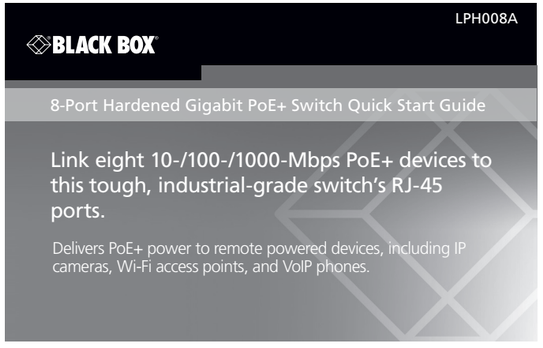

Customer Support Information

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