

# LE2700 Series Switches Quick Start Guide

1. Launch the Internet Explorer and type in the IP address of the switch. The default static IP address is **192.168.10.1**.
2. Log in with the default user name and password (both are admin). After logging in, you should see the Information Message screen. For more information or configurations, refer to the user manual. For information on operating the switch using B-Ring's Open-Vision management utility, go to the Black Box Web site.

## Resetting

To reboot the switch, press and hold the Reset button for 5 seconds. To restore the switch configurations back to the factory defaults, press the Reset button for 5 seconds.

Ethernet Standards	See the user manual.
Jumbo Frames	Up to 9.6 KB
MAC Table	8 K
Network Redundancy	MRP, MSTP (RSTP/STP compatible)
Priority Queues	8
Processing	Store-and-forward
Security Features	See the user manual.
Software Features	See the user manual.
Connectors	LE2700A, LE2700AE, LE2700UK: RS-232 Serial Console Port: (1) RJ-45 via console cable, 115200 bps, 8, N, 1; Fault contact: 24-VDC, 1-A relay; LE2710C: (4) 100FX SC; LE2711C: (4) 100FX ST; LE2720C: (8) 10/100/1000BASE-T RJ-45; LE2721C: (8) slots for 10/100-Mbps SFP modules; LE2722C: (4) slots for 100/1000-Mbps SFP modules (for use in chassis slot 4); LE2731C: (4) slots for 10GE SFP+ modules (for use in chassis slot 4)
Power	Input: Dual 88–264 VAC/100–370 VDC power inputs at terminal block; Consumption (Typ.): 43.5 watts max.; Overload Current Protection: Present
Dimensions	1.73"H x 17.32"W x 12.8"D (4.4 x 44 x 32.5 cm), 19" rackmountable
Weight	14.5 lb. (6.6 kg)
Approvals	See the user manual.

To download the user manual from the Black Box Web site:

1. Go to [www.blackbox.com](http://www.blackbox.com)
2. Enter the part number (LE2700A) in the search box:
3. Click on the "Resources" tab on the product page, and select the document you wish to download.

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LED indicators.			
LED	Color	Status	Description
PWR	Green	On	DC power on
	Green	Blinking	Upgrading firmware
PW1	Green	On	DC power module 1 activated
PW2	Green	On	DC power module 2 activated
R.M.	Green	On	Ring Master
Ring	Green	On	Ring enabled
	Green	Slowly blinking	Ring structure is broken (i.e. part of the ring is disconnected)
	Green	Fast blinking	Ring disabled
Fault	Amber	On	Errors (power failure or port malfunctioning)
DEF	Green	On	System reset to default
RMT	Green	On	Accessed remotely

## Customer Support Information

Order toll-free in the U.S.:  
Call 877-877-BBOX  
(outside U.S. call 1-724-746-5500)

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](http://www.blackbox.com)

E-mail: [info@blackbox.com](mailto:info@blackbox.com)

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LE2700A QSG, rev. 1



LE2700A LE2710C LE2721C  
LE2700AE LE2711C LE2722C  
LE2700UK LE2720C LE2731C

## LE2700 Series Hardened Switches

### Quick Start Guide

This hardened managed modular Layer 2 switch holds 10/100/1000BASE-T RJ-45 and SFP modules, and/or 10GE SFP+ and 100-Mbps fiber ST and SC modules in four module slots.



## 1. Introduction

The LE2700 Series Hardened Managed Modular Switches are ideal for industrial Ethernet applications. Use them to control and monitor equipment at oil/gas wells transmission facilities, water/wastewater, IP security/surveillance cameras and alarms, utilities, or building HVAC systems.

The LE2700 Series Hardened Managed Modular Switches are scalable, flexible, cost-effective, and reliable. The 4-Slot Chassis is a Layer 2 modular rackmount managed Gigabit Ethernet switch with four module slots. 8-port 10/100/1000BASE-T RJ-45 and SFP modules, and 4-port 10GE SFP+ and 100-Mbps fiber ST and fiber SC modules are also available.

## 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](mailto:info@blackbox.com).

### LE2700A:

- LE2700 Series Hardened Managed Modular Switch with power supply
- U.S. power cord

### LE2700AE:

- LE2700 Series Hardened Managed Modular Switch with power supply

- EU. power cord

### LE2700UK:

- LE2700 Series Hardened Managed Modular Switch with power supply
- UK power cord

**LE2710C:**

4-port 100FX multimode 2 km SC module

**LE2711C:**

4-port 100FX multimode 2 km ST module

**LE2720C:**

8-port 10/100/1000BASE-T RJ-45 module

**LE2721C:**

8-port 100/1000 Mbps SFP module

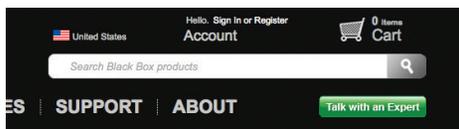
**LE2731C:**

4-port 10 GE SFP+ module

You can download the user manual from the Black Box Web site.

To download from the Web site:

1. Go to [www.blackbox.com](http://www.blackbox.com)
2. Enter the part number (LE2700A) in the search box:



3. Click on the “Resources” tab on the product page, and select the document you wish to download.

**3. Preparation**

Before you begin installing the switch, make sure you have all of the package contents available and a PC with Microsoft Internet Explorer 6.0 or later, for using Web-based system management tools.

**SAFETY AND WARNINGS:**

*Elevated Operating Ambient:* If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

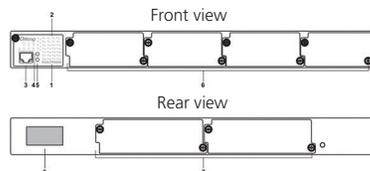
*Reduced Air Flow:* Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

*Mechanical Loading:* Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

*Circuit Overloading:* Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

*External metal parts of this equipment are extremely hot! Before touching the equipment, be sure to protect your hands and body from serious injury.*

**4. Panel Layouts**



1. Model name
2. Port status LEDs
3. Serial console port
4. Reset button
5. LED mode button
6. Ethernet module slots
7. Power input module slots
8. Terminal block

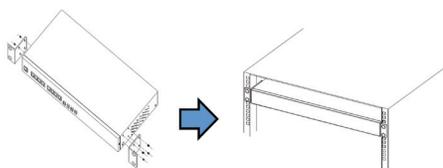
**5. Installation**

**5.1 Rackmounting**

**Step 1:** Install left and right front mounting brackets to the switch using four M3 screws on each side provided with switch.

**Step 2:** With front brackets orientated in front of the rack, nest front and rear brackets together. Fasten together using remaining M4 screws into counter sunk holes.

**Step 3:** Fasten the front mounting bracket to the front of the rack.



**5.2 Network Connection**

With 1000/100BASE-TX/10BASE-T cables, pins 1 and 2 are used for transmitting data, and pins 3 and 6 are used for receiving data.

10/100BASE-T RJ-45 pin assignments.	
Pin Number	Assignment
1	TD+
2	TD-
3	RD+
4	Not used
5	Not used
6	RD-
7	Not used
8	Not used

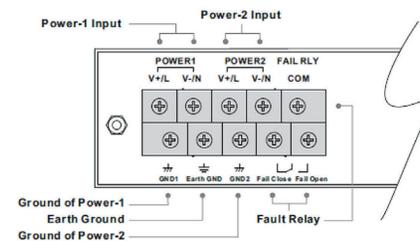
1000BASE-T RJ-45 pin assignments.	
Pin Number	Assignment
1	BL_DA+
2	BL_DA-
3	BL_DB+
4	BL_DC+
5	BL_DC-
6	BL_DB-
7	BL_DD+
8	BL_DD-

**5.3 Console Cable**

You can manage the LE2700 Series Switch via console ports using an RS-232 cable (included). Connect the port to a PC via the RS-232 cable with a DB9 female connector. The DB9 female connector of the RS-232 cable should be connected to the PC while the other end of the cable (RJ-45 connector) should be connected to the console port of the switch.

RS-232 port wiring.		
PC Pinout (Male) Assignment	RS-232 with DB9 Female Connector	DB9 to RJ-45
Pin #2 RD	Pin #2 TD	Pin #2
Pin #3 TD	Pin #3 RD	Pin #3
Pin #5 GD	Pin #5 GD	Pin #5

**5.4 Wiring**



**Power Inputs**

The LE2700 Series Hardened Managed Modular Switches support dual redundant power supplies, Power Supply 1 (PWR1) and Power Supply 2 (PWR2). The connections for PWR1, PWR2 and the RELAY are located on the terminal block.

**Step 1:** Insert the negative/positive DC wires into the V-/V+ terminals, respectively.

**Step 2:** To keep the DC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

**Step 3:** Insert the plastic terminal block connector prongs into the terminal block receptor.

**Fault Relay**

The relay contact of the 2-pin terminal block connector is used to detect user-configured events. The two wires attached to the fault contacts form an open circuit when a user-configured event is triggered. If a user-configured event does not occur, the fault circuit remains closed.

**Grounding**

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screws to the grounding surface prior to connecting devices.

**6. Configuration**

After installing the LE2700 Series Hardened Managed Modular Switch and connecting cables, start the switch by turning on the power. The green power LED should turn on.