



# BLACK BOX<sup>®</sup>

## NETWORK SERVICES

## 10/100 Device Servers for RS-232/422/485



### Key Features

#### Common Key Features

- ▶ Connect Native Windows COM or Unix/Linux TTY ports to your Ethernet.
- ▶ Switch Selectable EIA-232/422/485 for simple interfacing to any type of serial device.
- ▶ 10 pin RJ serial connector for full modem control.
- ▶ 9-30VDC power input + support for power over Ethernet.
- ▶ Low latency ideal for realtime applications.
- ▶ Easy Configuration through web interface.

#### Additional Key Features for 2- and 4-port versions

- ▶ Data security via SSH v2.
- ▶ Support Industrial Automation (IA) Modbus/TCP protocol.
- ▶ SNMP for easy network management.
- ▶ Modem Emulation.

The Black Box Multi-Protocol Device Servers make it easy to connect multiple serial devices to your network. It combines the inherent benefits of data networking with proven asynchronous connectivity to deliver powerful, yet simple Ethernet connectivity for all your serial devices. They are ideal for applications requiring COM ports, serial tunnelling, or where TCP Socket, UDP Socket, or UDP Multicast functionality is needed. With the choice between low latency mode for quick response in real-time applications and throughput mode for lower Ethernet traffic and higher transfer speed, these Device Servers will meet all your needs.

They are easy to install locally or remotely through a variety of IP addressing methods (DHCP, RARP, ARP-Ping) along with an application present on included installation CD that will automatically detect all Device Servers on your network, and a really helpful http wizard provided by the Server itself.

The Device Servers are also Power-over-Ethernet ready. This makes it possible to send your network data and power signals to the Server over one physical network cable. You won't need an

extra power outlet anymore for every installed Device Server.

Furthermore, the 10-pin RJ serial connector makes it possible to have full modem control. See the price block below for a complete range of 10-pin RJ cables

Last but not least, the 2- and 4-Port models support data security via SSH v2, port buffering and full SNMP management. Hence they can be used in applications where device management and monitoring are critical.

## Specifications

### Connections

#### **LAN interface** —

(1) 10/100Base-TX RJ-45 Port

#### **Serial Interface** —

LEB400A-1 : (1) male DB-9 port

LEB410A-2: (2) RJ-45 ports

LEB410A-4: (4) RJ-45 ports

### Management

#### **Indicators** — LEDs for Link and Power

**Software** — Remote management diagnostics and auto-discovery tool; HTTP; SNMP (for LEB410A-2/4)

### Engine (Serial Server)

**Port Access** — Telnet and Reverse Telnet; TCP/UDP Socket Services; UDP Multicast

#### **Serial Flow Control** —

RS-232/V.24 and RS-422/V.11: X-ON/X-OFF, RTS/CTS or None RS-485: ModBus, IA Protocol

**Security** — LEB410A-2/4: SSH v2

**Buffer** — LEB410A-2/4: Port buffering

#### **Other features LEB410A-2/4** —

Modem emulation; PPP, ModBus/TCP; IEEE802.3af compliant (power over Ethernet)

### **Supported Operating Systems** —

AIX, Compaq Tru 64, HP-UX, Linux, Microsoft® Windows XP®, Microsoft Windows 2000®, Microsoft Windows NT®, Microsoft Windows 98/ME, SCO® , OpenServer™, SCO UnixWare™, Solaris™ (Intel), Solaris (SPARC) TCP/UDP Socket Services are operating system independent

### Operating Environment

#### **Ambient Temperature** —

LEB400A-1: 10 – 45°C

LEB410A-2/4: 0 – 60°C

**Relative Humidity** — 5 to 90%

**Power** — external adapter 100 – 240 VAC primary, 9-30 VDC secondary.

#### **Size** —

LEB400A-1: 9,4 (L) x 4,3 (W) x 2,3 (D) cm

LEB410A-2/4: 13,31 (L) x 8,46 (W) x 2,42 (D) cm

**Weight** — LEB400A-1: 65 g

LEB410A-2/4: 200 g

### **Approvals** —

FCC Part 15, A, CE, EN5024-1, EN 50082-1, UL 1950, CSA 22.2 No 950

## What's included

### **LEB410A-2 and LEB410A-4**

- (1) Device Server
- (1) CD-ROM with Drivers, Application Software and Manual
- (1) RJ-45 Diagnostic Loop back Connector
- (1) DB-9 Female to 10-pin RJ-45 Cable, 1.2-m
- (1) External AC/DC Power adapter (with male IEC320)
- (1) Quick Start Guide

### **LEB400A-1**

- (1) Device Server
- (1) CD-ROM Software and Documentation
- (1) DB-9 female Diagnostic Loop back Connector
- (1) External AC/DC Power adapter (with male IEC320)
- (1) Quick Start Guide

Diagram 1: application

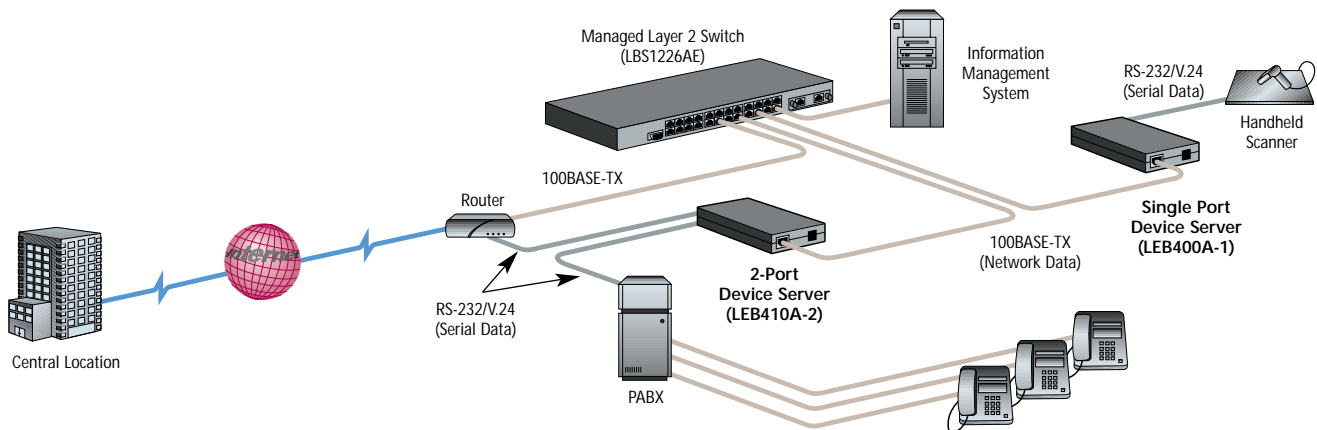


Diagram 2: Front View

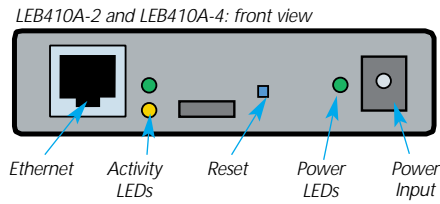
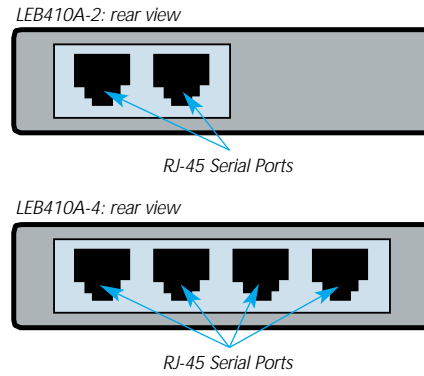


Diagram 3: Rear View



## Ordering information

▼ ITEM	CODE
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### Device Servers

Single-Port Device Server (RS-232/422/485) . . . . .	LEB400A-1
2-Port Device Server (232/422/485) . . . . .	LEB410A-2
4-Port Device Server (232/422/485) . . . . .	LEB410A-4

### Interface cables from Device Server to...

Modem and other DCE devices	
10-pin RJ-45 to BD-25 male (straight), 1,2-m . . . . .	CBB421
10-pin RJ-45 to DB-25 female (straight), 1,2-m . . . . .	CBB422
10-pin RJ-45 to DB-9 male (straight), 1,2-m . . . . .	CBB423
10-pin RJ-45 to DB-9 female (straight), 1,2-m . . . . .	CBB424
Sun Ultra, Sun parc and other DTE devices with DB-25 female ports	
10-pin RJ-45 to DB-25 male (crossover), 1,2-m . . . . .	CBB431
DTE devices with DB-9 female ports	
10-pin RJ-45 to DB-9 male (crossover), 1,2-m . . . . .	CBB441
Cisco, Sun Netra and other RJ-45 DTE devices	
8-pin RJ-45 to 8-pin RJ-45 (crossover), 1,8-m . . . . .	CBB451

## Black Box Network Services - The world's largest network services company

We are, with 25 years of experience, the world leader in network infrastructure services.

**On the Phone** — no charge, answer calls in less than 20 seconds, find the right product with our technical experts.

**On-site** — superior design and engineering, Certified installations, end-to-end service.

**On-line** — receive technical knowledge on-line, including technology overviews, Black Box Explains and the Knowledge Box.

**Most comprehensive TECHNICAL SUPPORT** — our best Product! Free hotline TECH SUPPORT!

**The world's best customer service** — Custom design services and products, the best warranties, money-saving discount programs.

**BLACK BOX exclusives** — Certification Plus. Guaranteed-for-life products and services.