



Industrial Ethernet Serial Servers – One, Two or Four Ports **Ethernet Enable Serial Ports** **on Industrial Equipment**

Models: LES401A, LES402A, LES404A

Overview

Industrial and commercial measurement and control systems often have standalone devices with unused serial ports. Black Box Serial Servers allow you to connect those ports into your existing LAN or WAN, giving you access to more information and the ability to configure, manage and troubleshoot those devices from a control room, office or even a distant location via a WAN. Save the cost, time and trouble of carrying a laptop out to devices located in distant, cold, dirty or uncomfortable environments.

Black Box Serial Servers are built for use in industrial environments, featuring an IP30 approved slim line DIN rail mountable case. They operate from a range of voltages using AC or DC power, feature terminal block power connectors and even support redundant DC power.

Connect your serial device to the serial port and connect the server to your LAN. Your networked computer 'sees' the device over the network as a virtual serial connection. Black Box serial servers support TCP or UDP protocols and allow transmitting to and receiving from multiple IP addresses. There are four methods of configuring serial servers: via Vlinx Management Software, Web Server, Telnet or via a direct RS-232 console connection using a terminal program.

Features

- LES401A – Single port, LES402A – Dual port, LES404A – Quad port
- Can be accessed and configured via web browser using Web Server
- Slim line DIN rail mountable case
- Supports and auto-selects 10/100 Mbps Ethernet
- Supports RS-232, RS-422 and RS-485 half and full-duplex serial interfaces
- LES401A available with terminal block or DB-9 serial connector
- Supports LAN and WAN communications
- In Server mode supports eight individual client sessions
- UDP mode allows broadcast to and from multiple IP addresses
- Management access password protected
- Virtual COM drivers for Windows NT/98/ME/2000/XP
- Accepts AC or DC power supplies over a wide range of voltages
- Terminal block power connectors for industrial installations
- Redundant DC power input

Applications

- Access remote devices with serial ports via your network
- Manage, configure, program devices remotely via web server
- Industrial devices such as PLCs, drives, motor controls, process analyzers
- Building/commercial /security – parking control, security, cameras
- Traffic management – lights, systems, cameras
- Retail/point of sale – cash registers, scanners, scales

Vlinx™ Manager Software

Vlinx Manager software allows easy access to the serial server to configure the server and its ports, upgrade server firmware and monitor port status and activity. When the Vlinx Manager opens it will search for and display all serial servers on the network.

The Monitor Port feature allows you to use any PC on the LAN/WAN to actively view and troubleshoot the communications status. It shows when there is a client connection to the server and the client IP address. It displays the number of bytes transmitted and received as well as the status of the hardware handshaking lines.

Web Server

Black Box serial servers can be accessed and configured from any web browser (such as Internet Explorer) on the LAN/WAN. This allows you to remotely manage the software and your serial device. It also allows off-site troubleshooting.

Heartbeat Connection Protection

Vlinx Serial Servers provide automatic resumption of the TCP data connection in case of a power failure or loss of an Ethernet connection on either the client or server. Once the Heartbeat connection is established, the server sends a signal to the client every five seconds until communication is re-established. Without this feature a device that loses a connection and stops communicating would not be able to reconnect without a person attending to the problem. The Heartbeat feature works with virtual COM and TCP direct IP connections.

Product Specifications

Serial Connections	LES401A: 1 (terminal block or DB-9 male) LES402A: 2 DB-9 male LES404A: 4 DB9 male - DTE configuration
Serial - Model LES401A	One RS-232, RS-422 or RS-485, half & full-duplex, software selectable
Serial - Model LES402A	Two RS-232, RS-422 or RS-485, half & full-duplex, software selectable
Serial - Model LES404A	Four RS-232, RS-422 or RS-485, half & full-duplex, software selectable
Ethernet Connection	Single RJ-45 female
Serial Connectors	LES401A: One 9-pin, D-type male (DB9m) and one removable terminal block , connector selectable using DB9/terminal switch, interface type software selectable as RS-232, RS-422, RS-485H or RS-485F LES402A: Two 9-pin D-type male (DB9m), interface type software selectable as RS-232, RS-422, RS-485H, RS485F LES404A: Four 9-pin D-type male (DB9m) DTE, interface type software selectable as RS-232, RS-422, RS485H, or RS-485F
LAN	10/100 Mbps Auto-detecting - 10 Base T, 100 Base TX
RS-232	TX, RX, RTS, CTS, DTR, DSR, DCD, GND
RS-422	TX+, TX-, RX+, RX-, RTS+, RTS-, CTS+, CTS-, GND
RS-485H	Data+, Data-, GND
RS-485F	TX+, TX-, RX+, RX-, GND
Data Rate	110 bps to 230.4 kbps
Protocols	TCP, IP, ARP, DHCP, Telnet, HTTP, UDP, ICMP
Management	Vlinx Manager, Web Server, Serial Console, Telnet

Power and Environment

Power Requirements	8VAC to 24VAC or 9VDC to 48VDC
Power Consumption	LES401A: 320mA @12VDC LES402A: 340mA @12VDC LES404A: 360mA @12VDC Power supply start-up time ≤24 ms
Power Connector	Terminal block
Operating Temperature	-10 to 80°C
Storage Temperature	-20 to 85°C
Humidity	5-98% R.H.
Approvals	CE, FCC, IP30
Indicators	Power: Red LED Link: Yellow or green LED (10 BaseT or 100 BaseTX) Ready: Flashing green LED
Dimensions	LES401A/LES402A: 4.46 x 15.52 x 10.46 cm (1.75 x 6.1 x 4.1 in) LES404A: 4.46 x 18.03 x 10.46 cm (1.75 x 7.1 x 4.1 in)

Ordering Information

LES401A	1-Port Ethernet Serial Server
LES402A	2-Port Ethernet Serial Server
LES404A	4-Port Ethernet Serial Server

Model Numbers:	LES401A, LES402A, LES404A
Description:	Industrial Ethernet Serial Servers
Type:	Light industrial ITE equipment
Standards:	EN 50082-1 (IEC 801-2, IEC 801-3, IEC 801-4) EN 50081-1 (EN 55022, IEC 1000-4-2) EN 61000 (-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11) ENV 50204 EN 55024

