LES422A

2 PORT HARDENED SERIAL SERVER
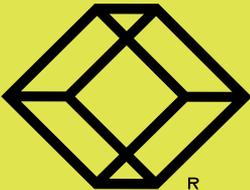
STEP 1 - Check for All Required Hardware

• 2-Port Hardened Serial Server

• This Quick Start Guide

• Network and serial cables (not included)

• Power supply (not included)

STEP 2 - UL C1/D2 Installation Information

UL CLASS 1 / DIVISION 2 WARNING INFORMATION

SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUPS A, B, C AND D HAZARDOUS LOCATIONS, OR NONHAZARDOUS LOCATIONS ONLY.
CONVENANT À L'EMPLOI DANS LES SITES DANGEREUX DE CLASSE I, DIVISION 2, GROUPES A, B, C ET D, OU DANS LES SITES NON HASARDEUX SEULEMENT

WARNING - EXPLOSION HAZARD - SUBSTITUTION OF ANY COMPONENT MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.
ATTENTION - DANGER D'EXPLOSION - LA SUBSTITUTION DE COMPOSANTS PEUT ENTRAÎNER UNE ADÉQUATION À LA CLASSE I, DIVISION 2.

THE UNIT IS TO BE POWERED BY A CLASS 2 POWER SOURCE, OF A GROUNDED-TYPE, WHEN POWER IS APPLIED TO THE BARREL CONNECTOR.
L'UNITÉ DOIT ÊTRE ALIMENTÉE PAR UNE SOURCE D'ALIMENTATION DE CLASSE 2, DE TYPE MISE À LA TERRE, LORSQUE LE CONNECTEUR DU CANON EST ALIMENTÉ.

THE POWER CABLE MUST HAVE A MINIMUM RATING OF 80°C.
LE CÂBLE D'ALIMENTATION DOIT AVOIR UNE INDICATION MINIMALE DE 80 °C.

POWER CANNOT BE APPLIED TO BOTH THE TERMINAL BLOCK AND BARREL CONNECTORS SIMULTANEOUSLY.
L'ALIMENTATION NE PEUT PAS ÊTRE APPLIQUÉE SIMULTANÉMENT AUX CONNECTEURS DU BORNIER ET DU BARILLET.

THE USE OF COAXIAL CABLE FOR THE FIELD WIRING SHALL BE IN ACCORDANCE WITH CLASS 2/CLASS 3 REQUIREMENTS IN ARTICLE 725 OF THE NEC.
L'UTILISATION D'UN CÂBLE COAXIAL POUR LE CÂBLAGE SUR SITE DOIT ÊTRE CONFORME AUX EXIGENCES DE CLASSE 2 / CLASSE 3 DE L'ARTICLE 725 DU NEC.

ONE CONDUCTOR PER TERMINAL
UN CONDUCTEUR PAR BORNE

USE COPPER WIRE ONLY
UTILISER UNIQUEMENT DU FIL DE CUIVRE

WIRE SIZE: 28 TO 16 AWG
TAILLE DE FIL: 28 À 16 AWG

TIGHTENING TORQUE: 5 KG-CM
COUPLE DE SERRAGE: 5 KG-CM

WIRE TEMPERATURE RATING: 105 °C MINIMUM (SIZED FOR 60 °C AMPACITY)
INDICE DE TEMPÉRATURE DU FIL: 105 °C MINIMUM (CALIBRÉ POUR 60 °C)

80 °C MAXIMUM SURROUNDING AMBIENT AIR TEMPERATURE
80 °C TEMPÉRATURE AMBIANTE AMBIANTE MAXIMALE

STEP 3 - Install the Hardware

1. Connect a 10 to 48 VDC (58 VDC max.) power supply (6.0 W required).

2. Connect the network cable from the hardened serial server to a network drop using a standard serial cable.

3. Connect the serial device(s) to the (2) RS-232 DB9 serial connectors with a straight-through cable for a DCE device or a null-modem cable for a DTE device.

NOTE: UL® requires one conductor per terminal, 28 to 16 AWG copper-wire, tightening torque of 5 kg-cm, and 105° C rating sized for 60° C ampacity.

STEP 4 - LED Status

LED	Status
Ready	Blinks if system is operating correctly.
Port 1	ON when port is open; blinks when data present on serial port.
Port 2	ON when port is open; blinks when data present on serial port.
Link	ON when device is operating in 100BASE-TX mode. Blinks when data is present on the Ethernet link.

STEP 5 - Mode Switch

Hold in Mode Switch for...	Result
0 to 2 seconds	Initiates a hardware reset.
2 to 10 seconds	Enters Console mode.
More than 10 seconds	Resets to factory defaults.

STEP 6 - Install Black Box Hardened Serial Server software

1. Insert the included CD and it should autostart.

2. Follow the prompts to install the software.

NOTE: Make sure you have administrative rights and disable firewalls.

STEP 7a - Set up Black Box Hardened Serial Server software

1. Open the software. Click "Start—>Programs—>Black Box—> Serial Server Software."

2. The "Discovery" page opens.
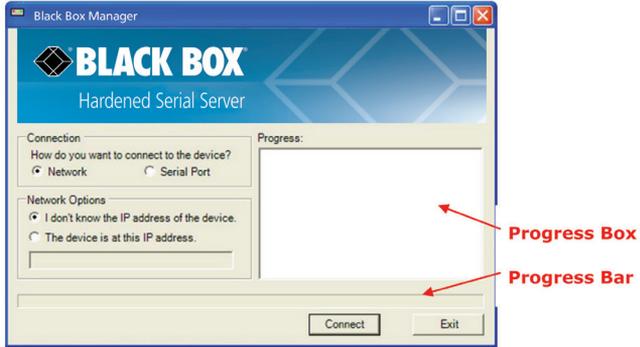
3. To configure via the network, select "Network."

4. If you know the IP address, select "The device is at this address." and type in the address. If not, select "I don't know the IP address of the device."

5. Click "Connect."

OR

STEP 7b - Set up the Web Interface

1. Open a browser and type the IP address of the Hardened Serial Server into the address bar.

2. When the serial server is found, the "Configuration" window appears.
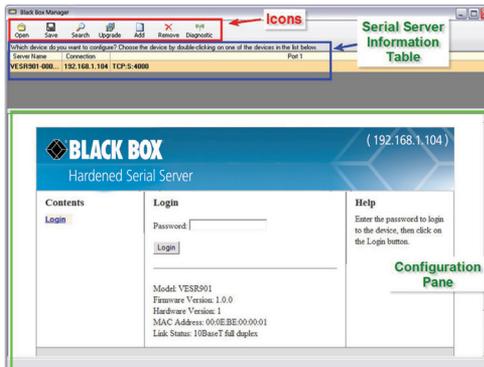
STEP 8 - Login

1. Click "Login." (The password is blank from the factory.) The "General" page appears.

STEP 9 - Set up the Network

1. The Hardened Serial Server is set at the factory to receive an IP assignment from a DHCP server. If a DHCP server is not available on your network, it will default to 169.254.102.39.

2. If this address does not work with your PC, change your network settings to:
    - IP Address = 169.254.102.1
    - Subnet Mask = 255.255.255.0
    - Default Gateway = 169.254.102.100

3. If you need to use different settings, refer to the user's manual for instructions.

STEP 10 - Set up the Serial Port Parameters

1. Click "Port 1 Serial" to open the Serial Port Parameters page. Select the type of serial connection between the serial server and the serial device (RS-232, RS-422, RS-485 2-wire, or RS-485 4-wire).

2. Select the baud rate, data bits, stop bits, parity, and flow control needed to communicate with the serial device.

STEP 11 - Set up the Port Network Parameters

1. Click "Port 1" network to open the "Port Network Parameters" page.

2. Select the type of network protocol you want to use: TCP, UDP, VCOM, or Paired Mode.

3. If you select TCP, choose whether the Hardened Serial Server will operate as a client or server, then configure the required IP address, port number, and other related parameters.

4. If you select UDP, configure the IP address, port and other related parameters for the device you want receive from and send to.

5. If you want the serial server to act as a virtual communications port for a computer, select VCOM. This allows your computer to connect to a serial device on the network as if it were connected to a physical COM port.

6. If you want the serial server to operate in Paired mode with another serial server, select "Paired," then configure it as a client or server and set up the IP address, port numbers, and other related parameters (similar to setting up TCP).

STEP 12 - Set up Advanced Parameters

1. If you want to set up Advanced parameters, click "Advanced" on the Port Network Parameters page.

2. If necessary for your application, select "I want to control how data packets are sent over the network," then set up the Character Count, Forced Transmit, Intercharacter Timeout, Delimiters, and Delimiter Removal as required.

3. Click "Next."

STEP 13 - Save and Logout

1. If you have completed the configuration, click "Save" to save the configuration to the serial server.

2. To logout, click the "Logout" button.
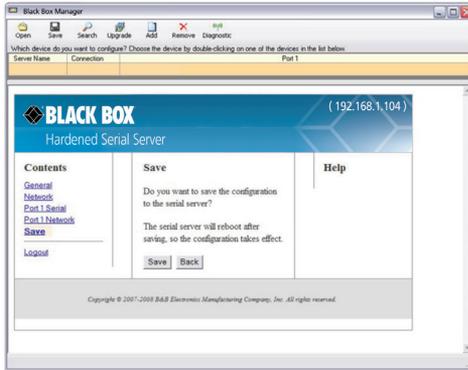
STEP 14 - Test and Verify Operation

1. Set up serial server as a TCP server on serial port 1.

2. Set serial port to RS-232 on serial port 1.

3. Set to 9600, 8, N, 1 on serial port 1.

4. Loopback serial port 1 by connecting TD to RD.

5. Open a DOS window and type "telnet x.x.x.x yyyy," where "x.x.x.x" is the IP address of the serial server and "yyyy" is the port number of the serial port.

6. Type characters on the keyboard. The characters should appear in the window. If not, double-check your settings.

NOTE: To download the user manual, go to **www.blackbox.com**

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